FINAL

WATERDOG RECREATIONAL ANNEX SITE - TU044 SECOND SEMI-ANNUAL GROUNDWATER MONITORING REPORT - 2023

LUKE OPTIMIZED REMEDIATION CONTRACT

AT

LUKE AIR FORCE BASE, ARIZONA

Contract No. W912PP22D0015
Task Order No. W912PL23F0048

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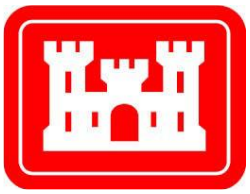

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☐ Revised SCR
☐ Corrective action plan (CAP)
☐ Tier 3 risk evaluation
☐ Corrective action completion report (LUST closure request)
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UST: ☐ UST Closure Report ☐ Baseline Assessment Report ☐ Other (describe): _____

Release Information

Assigned LUST number (if not available, put the date the release was reported to ADEQ): 1933.01, .02, & .03

Facility Information

ADEQ Facility ID: 0-0 05339 Facility Name: USAF - Williams AFB - Recreation Annex - Waterdog

Facility Street Address: Fish Creek (historical)

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Remedial Project Manager 3/24/2025

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WATERDOG RECREATIONAL ANNEX SITE - TU044 SECOND SEMI-ANNUAL GROUNDWATER MONITORING REPORT - 2023

LUKE AIR FORCE BASE, ARIZONA

Contract No. W912PP22D0015
Task Order No. W912PL23F0048

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ACRONYMS AND ABBREVIATIONS

<	less than
±	plus or minus
%	percent
µg/L	micrograms per liter
AAC	Arizona Administrative Code
ADEQ	Arizona Department of Environmental Quality
ADWR	Arizona Department of Water Resources
AECOM	AECOM Technical Services, Inc.
AFB	Air Force Base
amsl	above mean sea level
AFCEE	Air Force Center for Engineering and the Environment
AS	air sparging
AST	aboveground storage tank
AWQS	Aquifer Water Quality Standards
BG	background well
bgs	below ground surface
BH	borehole (sample identification prefix)
BSEI	Baseline Sampling Event Phase I
BSEII	Baseline Sampling Event Phase II
BTEX	benzene, toluene, ethylbenzene, and xylene
CD	compact disc
COC	contaminant of concern
CSM	conceptual site model
DD	Decision Document
DL	detection limit
DO	dissolved oxygen
DoD	Department of Defense
DOE	Department of Energy
DRO	diesel range organics
FAJV1	FPM Remediations, Inc. – AECOM Technical Services, Inc. JV1
FPM	FPM Remediations, Inc.

GRO	gasoline range organics
HBGL	Health-Based Guidance Levels
ID	identification
IDW	investigation derived waste
IP	injection point
IRP	Installation Restoration Program
ITIR	Information Technical Information Report
IW	injection well
LCS	laboratory control sample
LCSD	laboratory control sample duplicate
LNAPL	light non-aqueous phase liquid
LOD	limit of detection
LOQ	limit of quantitation
LTM	long-term monitoring
LUST	leaking underground storage tank
mg/kg	milligrams per kilogram
mg/L	milligrams per liter
MNA	monitored natural attenuation
MS/MSD	matrix spike/matrix spike duplicates
MTBE	methyl tert-butyl ether
MW	monitoring well (sample identification prefix)
NFA	No Further Action
No.	Number
ORC	Optimized Remediation Contract
ORO	oil range organics
ORP	oxidation-reduction potential
PAH	polynuclear aromatic hydrocarbon
ppmv	parts per million by volume
psi	pounds per square inch
QC	quality control
RDC	remedial design characterization
RIR	Remedy Implementation Report

ROI	radius of influence
RPD	relative percent difference
RPO	Remedial Process Optimization
SOP	Standard Operating Procedure
SRL	soil remediation levels
SVE	soil vapor extraction
The Site	Waterdog Recreational Annex Site, TU044
TMB	1,2,4 trimethylbenzene
TPE	two phase extraction
TPH	total petroleum hydrocarbons
TVH	total volatile hydrocarbons
TVPH	total volatile petroleum hydrocarbons
UFP-QAPP	Uniform Federal Policy Quality Assurance Project Plan
URS	URS Group, Inc.
U.S.	United States
USAF	United States Air Force
USEPA	United States Environmental Protection Agency
USFS	United States Forest Service
USGS	United States Geological Survey
UST	underground storage tank
Versar	Versar, Inc.
VOC	volatile organic compound(s)
VMP	vapor monitoring point
VMW	vapor monitoring well

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1.0 INTRODUCTION

FPM Remediations, Inc. (FPM) - AECOM Technical Services, Inc. (AECOM) JV1 (FAJV1) has prepared this *Second Semi Annual Groundwater Monitoring Report – 2023* for the Luke Air Force Base (AFB) Waterdog Recreational Annex Site, TU044 (the Site), in accordance with the Optimized Remediation Contract (ORC), Number (No.) W912PP22D0015 issued by the United States (U.S.) Army Corps of Engineers – Los Angeles, California to the FAJV1 group dated 19 September 2023. FAJV1 is a joint venture entity that includes FPM and AECOM. Luke AFB is located in Glendale, Arizona. Site TU044 is associated with Luke AFB, but is not physically located at Luke AFB. Site TU044 is located approximately 91 miles east of Luke AFB, or 17 miles east of Tortilla Flat, Maricopa County, Arizona. The Site is located on the shores of Apache Lake, which is the primary source of groundwater at the Site.

1.1 PROJECT SCOPE AND OBJECTIVE

The purpose of this Semi-Annual Groundwater Monitoring Report is to document the procedures and execution of groundwater monitoring activities performed for the second half of the 2023 sampling period at the Site. Groundwater monitoring is performed at the Site to monitor groundwater level and flow direction and the presence of gasoline-related contaminants. Groundwater monitoring activities were conducted in general accordance with the *TU044 Uniform Federal Policy Quality Assurance Project Plan Addendum, Luke Air Force Base, Arizona* (URS Group, Inc. [URS], 2021) and the recommendations of the approved Remedy Implementation Report (RIR) (URS, 2023).

1.2 REGULATORY FRAMEWORK

The Site is regulated under the Comprehensive Environmental Response, Compensation, and Liability Act, and is currently in the long-term monitoring (LTM) phase. The regulatory agency is the Arizona Department of Environmental Quality (ADEQ). The underground storage tank (UST) identification (ID) number associated with the Site is ADEQ Facility ID 0-005339. The leaking underground storage tank (LUST) ID numbers associated with the Site are 4715.1933.01, 1933.02, and 1933.03.

1.3 SITE CLEANUP GOALS

In April 1994, a field investigation was completed at the Site as part of the Installation Restoration Program (IRP) to determine the extent of soil impacts from historical use of the USTs and aboveground storage tanks (ASTs) at the Site. The IRP investigation consisted of a soil gas survey and soil borings at the UST and AST sites. The soil gas samples were analyzed for benzene, toluene, ethylbenzene, and xylene (BTEX), and total volatile hydrocarbons (TVH). The soil samples were analyzed for total petroleum hydrocarbons (TPH) and BTEX (Versar, Inc. [Versar], 2011a).

The cleanup goals for the Site are the ADEQ UST Tier 1 cleanup standards. These cleanup standards include the following:

- Arizona Aquifer Water Quality Standards (AWQS) set forth in Arizona Administrative Code (AAC) Title 18, Chapter 11, Article 5 (AAC, 2008).
- ADEQ Tier 1 Cleanup Standards - Petroleum Products (ADEQ, 2017).
- An AWQS has not been established for methyl tert-butyl ether (MTBE). The ADEQ UST program interim guidance policy for MTBE was utilized to determine an MTBE screening level. MTBE in groundwater is to be investigated to 20 micrograms per liter (µg/L) MTBE to protect sensitive individuals within the general population. To ensure human health is not endangered, a Tier 1 remedial level of 94 µg/L MTBE should be used when no drinking water receptor is threatened or impacted (ADEQ, 2017). While 94 µg/L has historically been utilized as the screening level for the Site, the ADEQ UST department has taken the position that the screening level should be 20 µg/L. For consistency with the UFP-QAPP under which this sampling event was completed, 94 µg/L was utilized for discussion purposes in the text of this report. Future reports will evaluate MTBE concentrations in accordance with screening levels specified in the revised UFP-QAPP approved by ADEQ in 2024.

1.4 REPORT ORGANIZATION

The sections of this report are organized as follows:

Section 1 presents the authority, project scope and objective, regulatory framework, cleanup goals, and report organization.

Section 2 summarizes the Site location, Site history, Site release and remediation history, and conceptual site model (CSM).

Section 3 summarizes the field activities and procedures conducted at the Site.

Section 4 summarizes the groundwater monitoring results.

Section 5 presents a report summary and recommendations.

Section 6 lists the references used to develop this report.

Appendix A – includes field forms.

Appendix B – includes analytical laboratory reports.

Appendix C – includes the data verification summary reports.

Appendix D – includes trend charts for selected monitoring wells at the Site.

2.0 SITE DESCRIPTION

This section summarizes the Site location, history, previous investigations and remedial activities, and the CSM.

2.1 SITE LOCATION

The Site is located in the Tonto National Forest on the southern shore of Apache Lake on Arizona State Route 88, approximately 17 miles east of Tortilla Flat, Maricopa County (**Figure 1**). The Site is located in the southeast ¼ of the southwest ¼ of the southeast ¼ of Section 15, Township 4 North, Range 11 East, latitude 33° 35' 45.5136", longitude -111° 13' 19.7394". The Site currently consists of vacant land adjoining Apache Lake. The Site was historically utilized as a recreational area for Williams AFB personnel. The Site was closed in 1993 and access to the Site via the roadways is restricted via locked gates; however, the Site is still accessible by boat on Apache Lake.

2.2 SITE HISTORY

Williams AFB received a special use permit for the Site from the United States Forest Service (USFS). It was originally constructed and operated by the United States Air Force (USAF) to provide access to Apache Lake for military and civilian USAF personnel from Williams AFB. A recreational building, 21 cabins, a maintenance building, two maintenance sheds, and a water treatment shed were constructed in 1958. A floating dock was constructed on the lake shore directly in front of the recreational building. A fuel pump was located near the floating dock for boat refueling (ADEQ, 2018).

Four USTs were installed between 1979 and 1984 at the Site to store and pre-mix gasoline for boating operations. The USTs were connected to the fuel pumps via piping to the boat dock. The USTs consisted of one 3,750-gallon regular gasoline tank, one 2,000-gallon mixed gas/oil tank, and two 550-gallon mixed gas/oil tanks (Versar, 2009). In addition to the USTs, two ASTs were installed approximately 500 feet east-southeast of the USTs. The volume and content of the ASTs is unknown (ADEQ, 2018).

The following changes to the Site occurred in the early 1980s (Versar, 2011a):

- Eighteen (18) of the 21 cabins were torn down and new slump block cabins were built in their place.
- The maintenance building was torn down and replaced with a new corrugated metal structure.
- The east maintenance storage shed was torn down.

The Site was closed in 1993 when Williams AFB was closed. The remaining structures and the boat dock were removed sometime after 1993. Following the closure of Williams AFB, as mandated by Congress in September 1993, the responsibility for the Site environmental issues was transferred to Luke AFB. The Site is now administered by the USFS (Versar, 2011b).

2.3 SITE RELEASE AND REMEDIATION HISTORY

2.3.1 1991 – Initial Detection and Removal Activities

On 12 June 1991, Williams AFB personnel observed a strong fuel odor and a sheen on Apache Lake. Additionally, stained soil was observed within the UST valve vault. Sorbent booms were installed to contain any fuel that may have leached into Apache Lake. On 13 June 1991, a release from the USTs at the Site was reported to the ADEQ (Report No. 91-056-A) and a LUST number was assigned to the Site (LUST 4715.1933.01 to .03). On 26 June 1991, the remaining product was removed from the USTs (Versar, 2011a). In July 1991, gasoline-related contamination, including light non aqueous phase liquids (LNAPL) and dissolved-phase hydrocarbons, were discovered in groundwater at the Site. The USTs and associated piping were removed from the Site in October 1991. In December 1991, approximately 135 cubic yards of soil were removed from the Site, disposed of at a disposal facility, and the excavation was backfilled with clean fill (Versar, 2012).

2.3.2 1994 – Installation Restoration Program Preliminary Site Characterization

In April 1994, a field investigation was completed at the Site as part of the IRP to determine the extent of soil impacts from historical use of the USTs and ASTs at TU044. The IRP investigation consisted of a soil gas survey and soil borings at the UST and AST sites. Twenty (20) soil gas survey points and four soil borings (BH-01, BH-02, BH-03, and background well [BG]-01) were completed at the USTs. Ten soil gas survey points and one soil boring (BH-04) were completed at the ASTs. The soil gas samples were analyzed for BTEX and TVH. The soil samples were analyzed for TPH and BTEX (Versar, 2011a). The results of the analysis and the conclusions of the report are included in the subsequent sections.

2.3.2.1 AST Characterization Conclusions

The soil gas survey at the ASTs indicated maximum concentrations of 17 µg/L for benzene; 246 µg/L for toluene; 87 µg/L for ethylbenzene; 708 µg/L for xylenes; and 2,074 µg/L for TVH. The one soil boring completed at the ASTs indicated no detections for all sample analyses. The soil results were below the ADEQ suggested soil cleanup levels. No Further Action (NFA) was recommended at the AST site.

In December 1994, a Decision Document (DD) was completed for the ASTs at the Site. The purpose of this DD was to provide the rationale for the NFA decision at the ASTs. The DD

concluded the ASTs posed no significant threat to public health or the surrounding environment and should, therefore, be removed from further IRP considerations (Versar, 2011a).

2.3.2.2 UST Characterization Conclusions

The soil gas survey indicated maximum concentrations of 13,160 µg/L for benzene; 30,280 µg/L for toluene; 10,320 µg/L for xylenes; 2,035 µg/L for ethylbenzene; and 674,500 µg/L for TVH. All maximum soil gas concentrations were located within the contaminant zone, which extended from 15 to 23 feet below ground surface (bgs). Hydrocarbon odor and green staining were encountered during the borehole investigation at the UST site. The soil sample analysis indicated maximum concentrations of 6.2 milligrams per kilogram (mg/kg) for benzene; 140 mg/kg for toluene; 360 mg/kg for xylenes; 63 mg/kg for ethylbenzene; and 1,500 mg/kg for TPH. The soil results were above the Arizona residential soil remediation levels (SRL) for benzene, xylenes, and TPH (Versar, 2011a).

2.3.3 1995 – Soil Bioventing

In order to remediate soil contamination identified at the Site, a soil bioventing system was installed. The bioventing system consisted of a single air injection well (IW) (IW-1 at borehole BH-01), two vapor monitoring wells (VMW) (VMW-01 at borehole BH-02 and VMW-02 at borehole BH-03), and one background well (BG) well at borehole BG-01. The VMWs consisted of two nested vapor monitoring points (VMP) described as follows:

- VMW-01: VMP-1 and VMP-2 were nested at VMW-01. VMP-1 extended to 8 feet bgs with the screened interval from 7 to 8 feet bgs. VMP-2 extended to 15 feet bgs with the screened interval from 14 to 15 feet bgs.
- VMW-02: VMP-3 and VMP-4 were nested at VMW-02. VMP-3 extended to 11 feet bgs with the screened interval from 10 to 11 feet bgs. VMP-4 extended to 22 feet bgs with the screened interval from 21 to 22 feet bgs.

The bioventing system operated from June 1995 to June 1996. Soil vapor samples were collected from VMP 1, VMP-2, and VMP-3 during the bioventing operation. Vapor samples were not collected from VMP 4, due to the screened interval being submerged during that time period.

Confirmation soil sampling was completed at boreholes BH-05, BH-06, BH-07, and BH-08 in June 1996. Boreholes BH-05 and BH-06 were drilled to 15.5 feet bgs. Boreholes BH-07 and BH-08 were drilled to 20.5 feet bgs. Soil samples were collected and analyzed for BTEX and TPH. Analytical results from the soil sampling were compared to the 1996 ADEQ soil remediation standards. All analytical results were below 1996 ADEQ Residential and Nonresidential Oral Health-Based Guidance Levels (HBGL). BH-07 was subsequently converted to MW-1 (Earth Tech, 1997).

Groundwater and surface water samples from Apache Lake were collected to determine if the BTEX levels were above applicable cleanup criteria for the Site. Water samples were collected from VMP-4, MW-1, and Apache Lake. Analytical results were compared to the 1992 Arizona Human HBGL for Ingestion of Contaminants in Drinking Water and Soil. Groundwater samples collected from MW-1 and VMP-4 exceeded applicable screening criteria. All surface water contaminant concentrations from Apache Lake were below applicable screening criteria and laboratory detection levels.

The results of the soil bioventing were presented in the 1997 Information Technical Information Report (ITIR) report (Earth Tech, 1997). The ITIR report concluded the following:

- BTEX levels in the shallow groundwater were identified at concentrations exceeding screening levels.
- A dye injection test was performed in February 1997 to determine the hydraulic connection between the contaminated Site groundwater and Apache Lake. After 50 hours of dye injection at MW-1, no indication of dye was detected in the lake water. The dye-injection testing indicated that contaminants in the groundwater at the Site do not have a detectable impact on the quality of water in Apache Lake.
- Vadose zone soil contamination was present at concentrations below HBGL. However, residual contamination appears to be present in the saturated soils.

A pump and treat system, combined with a soil vapor extraction (SVE) system, was recommended to be installed at the Site.

2.3.4 1997 – Soil Vapor Extraction System

In March 1997, the bioventing system was converted to a SVE system, which was operated until May 1997. Soil vapors were extracted from MW-1 at a rate of 34 standard cubic feet per minute for 35 days. After 35 days, vapor samples were collected from MW-1 and analyzed for volatiles with a flame ionization detector. No volatiles were detected and the SVE system was shut down (Versar, 2011a).

Following the shutdown of the SVE system, groundwater samples were collected and analyzed for BTEX and TPH. Groundwater sampling results for benzene continued to exceed the AWQS; however, soil vapor sampling results for BTEX and TPH compounds were significantly lower than previously recorded values.

In June 1999, wells IW-1, VMP-1, VMP-2, VMP-3, and VMP-4 were abandoned and three new groundwater monitoring wells (MW-2, MW-3, and MW-4) were installed at the Site. The locations of the newly installed monitoring wells are shown on **Figure 2**. Soil samples were collected during the installation of the wells and analyzed for BTEX and TPH. Concentrations of BTEX and TPH

were below the laboratory method of detection limits (DLs). Wells MW-1, MW-2, MW-3, and MW-4 were sampled quarterly between July 1999 and March 2000, for a total of four quarters of groundwater sampling. The analytical results indicated BTEX concentrations continued to exceed the AWQS (Versar, 2011a).

2.3.5 2001 – Passive Soil Gas Survey

A passive soil gas survey was completed in 2001. Forty-five (45) Gore Sorber modules were installed in a 200 foot by 200 foot grid on 20 February 2001. The modules were retrieved and submitted for analysis on 9 March 2001. The survey results indicated low levels of hydrocarbons in the soil gas and the potential for impacts outside the grid. Based on the results of the survey, three new groundwater monitoring wells (MW 5, MW-6, and MW-7) were installed. The monitoring wells are located outside the LNAPL source area and were designed for groundwater monitoring. The monitoring wells were installed and the groundwater was sampled for BTEX, total volatile petroleum hydrocarbons (TVPH)/gasoline range organics (GRO), and MTBE in April 2001. Analytical results for the groundwater sampling indicated benzene (1.3 µg/L) at MW-5. All remaining analytes at MW-5 were non-detect in April 2001. The analytical results for BTEX, TVPH/GRO, and MTBE were non-detect in MW-6 and MW-7 (Versar, 2011a). The locations of all monitoring wells are shown on **Figure 2**.

2.3.6 2001 – 2006 Pilot Test

A series of remedial pilot studies were completed to determine the feasibility of the following remedial alternatives:

- SVE
- Air sparging (AS)
- Two phase extraction (TPE)

2.3.6.1 Soil Vapor Extraction

The SVE system was operated in conjunction with groundwater pumping in order to influence the bedrock aquifer. Based on historical groundwater monitoring results and Apache Lake water levels, it was believed that hydrocarbons had become smeared in the weathered/fractured bedrock below the water table. This smear zone was acting as a continuing source of dissolved benzene. Groundwater pumping was completed to dewater the smear zone allowing the SVE system to remediate the continuing source (ADEQ, 2018).

The SVE system included wellheads, surface piping, and a system enclosure. Three monitoring wells, MW-2, MW-3, and MW-4, were connected to the SVE system through a manifold in the enclosure. Submersible stainless-steel pneumatic pumps (Controllerless Auto Pump AP 4) were

installed in monitoring wells MW-2, MW-3, and MW-4 to dewater the Site. In October 2001, a King Buck™ 100 fully electric catalytic oxidizer unit, an air compressor to provide air to the pneumatic pumps, and electrical service were installed at the Site. The system began operating in November 2001. Influent TVH air concentrations during the operation of the system ranged from 300 to 500 parts per million by volume (ppmv). Dewatering at the Site was effective, but limited by the depth of monitoring wells MW-2, MW-3, and MW 4; therefore, only a portion of the smear zone could be dewatered. The operation of this system was terminated during the second quarter of 2002 (Versar, 2011a, b).

2.3.6.2 Air Sparging

The SVE system was reconfigured to an AS system in the fall of 2002. AS was used to facilitate dewatering based on the assumption that it would dewater tight bedrock aquifers. AS was completed using 1-inch drop tubes installed and sealed in the wellheads of each well. Atmospheric air was drawn into the drop tube using formation vacuum. The initial response was an increase in influent vapor concentrations due to the temporary volatilization of dissolved phase contaminants; however, the sparge tubes could not be submerged deeper than 15 to 17 inches in each well due to the limited total vacuum provided by the oxidizer (Versar, 2011a).

Following the SVE and AS testing, a complex resistivity survey was conducted to determine groundwater distribution in the subsurface at the Site. The survey identified preferentially fractured zones near the former UST location (ADEQ, 2018). MW-8 and MW-9 were installed near the LNAPL source in the identified fractured zones. These wells were designed to allow greater penetration into the aquifer and provide greater potential for dewatering (Versar, 2011a).

2.3.6.3 Two Phase Extraction

In March 2003, the AS system was converted to a TPE system using the Air Force Center for Engineering and the Environment (AFCEE) Bioslurper technique. The TPE components included a 5-horsepower liquid ring pump, slurp tubes, surface piping, manifold, and controls. The liquid ring pump was a highly efficient blower capable of gas and fluid (water and LNAPL) extraction. This TPE system was operated from October 2003 through September 2005.

The nine groundwater monitoring wells at the Site were sampled in May, August, September, and December of 2004. Analytical results indicated BTEX remained present in the groundwater at concentrations exceeding the AWQS. Based on the results of the 2004 sampling, modifications were made to the TPE system. In 2005, monitoring wells MW-2, MW-3, MW-4, and MW-9 were plumbed to the SVE component of the system and MW-4 and MW-9 were plumbed to the TPE component of the system.

Groundwater sampling completed in January and May of 2006 indicated BTEX concentrations continued to exceed the AWQS. However, LNAPL was no longer accumulating in the monitoring

wells. Vapor sampling completed in February and May of 2005 indicated the system had oxidized 53 pounds of hydrocarbons. Vapor concentrations at the influent decreased from 800 ppmv in the first quarter of 2005 to 24 ppmv in the second quarter of 2005. The TPE system was shut down in September 2005 (Versar, 2011a).

2.3.7 2007 – Refraction Seismic Survey

Four (4) 120-foot long refraction seismic surveys were completed in February 2007. A Geometrics Smartseis 12-channel signal enhancement seismograph and geophone array consisting of 4.5 hertz vertical geophones deployed at 10-foot spacing was used to assess the Site. The results of the survey indicated the following:

- A layer of low velocity material (alluvium) is present across the Site to a depth range of 1 to 20 feet bgs.
- Beneath the low velocity material, a deeper horizon is present within the alluvium that is more highly weathered and fractured (granite) than the overlying portion of the weathered rock mass.

2.3.8 2007 – Blast Enhanced Fracturing

A blast-enhanced fracturing program was planned for implementation at the Site. The objective of this program was to increase the connectivity and conductivity of the fractured bedrock underlying the Site. After discussion with the ADEQ and Luke AFB, it was decided that a blast-enhanced fracturing program would not be executed and other remedial strategies would be evaluated for the Site (ADEQ, 2018).

2.3.9 2007 – Remedial Process Optimization Group Evaluation

In June 2007, AFCEE's Remedial Process Optimization (RPO) Group performed a comprehensive evaluation of remedial activities performed and data collected from the Site. The evaluation indicated that contamination at the Site does not extend into the deeper rock units and contaminants of concern (COCs) concentrations were progressing toward compliance levels. Site closure was recommended to be pursued through NFA with monitored natural attenuation (MNA) (AFCEE RPO Team, 2007).

2.3.10 2010 – Baseline Sampling Event Phase I

Luke AFB and ADEQ agreed on an NFA with MNA approach for the Site. The MNA would include two initial phases of Site characterization, followed by eight quarters of long-term groundwater monitoring.

In February and March 2010, the Baseline Sampling Event Phase I (BSEI) was completed to further define the horizontal nature and extent of contamination, and to evaluate whether

contaminant concentrations at the Site were decreasing due to the biodegradation process. The investigation included drilling and soil sampling from 10 borings (B-1 through B-10); installing groundwater monitoring wells in five of these borings (MW-10 at B-2, MW-11 at B-5, MW 12 at B-3, MW-13 at B-6, and MW-14 at B-9); collecting groundwater samples from MW-1, MW-2, MW-3, MW-5, MW-6, MW-7, MW-8, MW-9, MW-10, MW-11, MW-12, MW-13, and MW-14; measuring water levels in all Site monitoring wells; redeveloping and rehabilitating the existing monitoring wells (MW-4 was abandoned later); collecting 12 surface water samples to evaluate impact of Site contamination on surface water in Apache Lake; attempting to collect sediment samples; and surveying the boring/ monitoring well locations (Versar, 2012).

Soil samples were analyzed for volatile organic compounds (VOCs), polynuclear aromatic hydrocarbons (PAHs), GRO, diesel range organics (DRO), oil range organics (ORO), iron, lead, and manganese. Groundwater samples were analyzed for VOCs, PAHs, GRO, DRO, ORO, iron, lead, and manganese, as well as six natural attenuation indicator parameters: carbon dioxide, hardness, alkalinity, ammonia, biochemical oxygen demand, and chemical oxygen demand (Versar, 2012).

Data from the BSEI indicated the northeastern extent of BTEX contamination in groundwater and the extent immediately adjacent to Apache Lake was not defined. Based on low and non-detectable levels of VOCs and other petroleum-related compounds in the lake, surface water sampling demonstrated Apache Lake was not impacted by the groundwater. The BSEI investigation also identified additional groundwater contaminants detected above applicable water quality standards or UST cleanup levels. These contaminants included 1,2,4-trimethylbenzene (TMB); 1,2-dichloroethane; naphthalene; MTBE; manganese; and nitrate. The physiochemical data indicated biodegradation was contributing to reductions in BTEX concentrations in groundwater at the Site. The primary indicator parameters included dissolved oxygen (DO), oxidation-reduction potential (ORP), nitrate, and manganese. Soil was not impacted above residential screening levels; rather, any Site contamination above regulatory cleanup criteria exists either in the groundwater or in soil that is either below the water table or in the smear zone (Versar, 2012).

Based on the results of the BSEI investigation, all ADEQ criteria required to demonstrate MNA were met, with the exception of groundwater plume characterization. The ADEQ MNA program requirements are as follows: 1) groundwater plume is adequately characterized; 2) adequate period of water table elevation information that reflects historic and current hydrologic conditions (elevations and flow direction); 3) adequate period of groundwater sampling that reflects historic changes and trends in COCs concentrations; 4) groundwater samples analyzed for all appropriate COCs; 5) groundwater analytical results that indicate COCs concentrations over time are decreasing or at least stable; 6) groundwater analytical results that indicate COCs concentrations at a distance from release point are decreasing or at least stable; and 7) determination that decreasing COCs concentrations are due to natural attenuation and not to water table fluctuations (Versar, 2012).

The groundwater plume was not adequately characterized for the north and northeast boundaries; therefore, a second phase of baseline Site evaluation was planned to install additional soil borings and monitoring wells in this area to address these data gaps. Additionally, as a result of the BSEI activities, a recommendation was made for the abandonment of MW-4 due its poor condition. The components of MW-4 were removed in March 2010 and MW-4 was filled with cement grout in accordance with Arizona Department of Water Resources (ADWR) Well Abandonment Rule AAC R12 15-816 (ADWR, 2008).

2.3.11 2011 – Baseline Sampling Event Phase II

In July 2011, soil and groundwater sampling were completed as part of the Baseline Sampling Event Phase II (BSEII) investigation. The investigation included drilling and sampling two soil borings (B-11 and B-12). Soil samples were collected and analyzed for VOCs, PAHs, GRO, DRO, ORO, iron, lead, and manganese. Laboratory analysis detected benzene at concentrations exceeding the ADEQ nonresidential SRL for benzene of 1.4 mg/kg in soil samples collected from borings B-11 (6.7 mg/kg at 26 feet bgs) and B-12 (8.1 mg/kg at 29 feet bgs). Boreholes B-11 and B-12 were subsequently completed as groundwater monitoring wells MW-15 and MW-16, respectively.

It was noted in the well gauging data worksheet that depth to groundwater in MW-15 and MW-16 was 21.22 feet and 29.62 feet, respectively, as measured on 27 July 2011. The measured depth to groundwater indicated that the soil samples exceeding SRL for benzene in B-11 and B-12 were likely collected under saturated conditions. No other samples exhibited concentrations exceeding applicable regulatory cleanup criteria.

Groundwater samples were collected from MW-1, MW-2, MW-3, MW-5, MW-6, MW-7, MW-8, MW-9, MW-10, MW-11, MW-12, MW-13, MW-14, MW-15, and MW-16. Groundwater samples were analyzed for VOCs, PAHs, GRO, DRO, ORO, iron, lead, manganese, nitrate, and sulfate, as well as six natural attenuation indicator parameters: carbon dioxide, hardness, alkalinity, ammonia, biochemical oxygen demand, and chemical oxygen demand.

Analytes exceeding their applicable regulatory screening criteria during the BSEII groundwater investigation included TMB, benzene, ethylbenzene, naphthalene, toluene, and MTBE. These exceedances were detected in the following monitoring wells: MW-2 (benzene, MTBE); MW-3 (TMB, benzene); MW-9 (MTBE); MW-13 (TMB, benzene, ethylbenzene, naphthalene, toluene, MTBE); MW-15 (benzene, MTBE); and MW-16 (MTBE). With the exception of MTBE, the highest concentrations were detected in MW-13. There is no ADEQ water quality standard for MTBE; therefore, the ADEQ LUST Clean-up Standard of 94 µg/L was utilized as a screening level based on the absence of an impacted drinking water receptor (Versar, 2012).

No exceedances of regulatory screening criteria were observed for PAHs in groundwater. No regulatory cleanup criteria exists for TPH (GRO, DRO, and ORO); however, the highest TPH concentrations were identified in monitoring well MW-13 where concentrations of 29 milligrams per liter (mg/L) GRO and 37 mg/L ORO were observed.

Iron, manganese, nitrate, and sulfate were detected in the majority of the Site monitoring wells. Manganese, nitrates, and sulfate were detected at concentrations above the AWQS. Concentrations of manganese in eight of the monitoring wells exceeded the AWQS of 0.98 mg/L, with the highest concentration of 8.19 mg/L detected in MW-13. Nitrates in two monitoring wells exceeded the AWQS of 10 mg/L, with concentrations of 19.4 mg/L in MW-6 and 80.28 mg/L in MW-12.

A comprehensive evaluation of drinking water wells was completed with the original Site assessment work and was updated as recently as January 2012. This survey identified only one well in the vicinity of the Site (Well Registration No. 618439), owned by the City of Mesa. The City of Mesa indicated the well is not in use and ownership of the well was transferred to the City of Mesa by the former Williams AFB. It was formerly used for irrigation and related non-potable uses at the Site/Apache Lake when it was active. A monitoring well (Well Registration No. 557842) owned by Luke AFB and located over 0.5 mile east of the Site was also identified; however, the combined proximity of this well to the Site and its designation as a monitoring well indicates this well is not a drinking water source (Versar, 2012).

2.3.12 2014 – Remedial Design Characterization

Prior to implementation of the BOS-200® pilot test in 2016, a remedial design characterization (RDC) was completed by URS on behalf of the USAF in February 2014. Fieldwork was performed between 10 February 2014 and 14 February 2014 by Alpine Remediation, Inc. and Yellow Jacket Drilling under subcontract to URS.

The purpose of the RDC was to determine whether injections could be completed at TU044 and to perform a detailed Site investigation to fill in necessary data gaps. In order to design the pilot study and to assess the applicability of full-scale treatment, detailed information regarding contaminant concentration as a function of depth, position, and phase was needed. The RDC efforts were completed to assist with the design of the pilot test only. The analytical results were considered screening level data used for remedial design purposes and were not intended to be compared to applicable regulatory cleanup standards (URS, 2016).

The RDC field activities included the following:

- Soil lithology characterization.
- Nine boreholes completed at TU044: A-2, B-1, D-2, D-4, F-3, F-5, G-3, G-4, and H-3.
- Soil samples collected for analysis from nine completed boreholes.

- Groundwater level measurements collected from borehole locations D-2, D-4, F-3, F-5, G-4, and H-3. Groundwater was not encountered in borehole locations A-2, B-1, or G-3.
- Groundwater samples collected and analyzed from seven existing monitoring wells (MW-2, MW-3, MW-9, MW-12, MW-13, MW-15, and MW-16) and six boreholes (D-2, D-4, F-3, F-5, G-4, and H-3).
- Test injections (using water) completed to determine the feasibility of injecting BOS-200® at TU044.

2.3.13 2016 – Remedial Pilot Test

A pilot test using BOS-200® slurry was completed in 2016 (URS, 2019a). BOS-200® is a Trap & Treat® in situ remediation technology specifically designed to degrade petroleum hydrocarbons, related solvents, and oils. When properly deployed in an appropriate hydrogeological setting, BOS-200® can be effective in accelerating biodegradation of various organic compounds on an activated carbon platform that includes micronutrients and macronutrients, time-release terminal electron acceptors, and a blend of facultative organisms designed to flourish within the aerobic to anaerobic conditions present in the pore structure of the carbon (URS, 2016).

The pilot test field activities included baseline groundwater sampling, drilling of injection points (IP)-1 through IP-4, completing remedial injections of BOS-200® slurry, installing monitoring wells MW-21S, MW-21M, MW-21D, MW-22S, MW-22D, MW-23S, and MW-23D (in September/October 2016), and completing performance and quarterly groundwater sampling. Data generated during the pilot test injections and analytical data from the groundwater sampling were utilized to evaluate the results of the pilot test. The pilot test was completed in general conformance with the approved pilot test work plan (URS, 2016). The results of the pilot test are as follows:

- Injection testing was completed at IP-1, IP-2, IP-3, and IP-4 in September 2016. Water injections were successful at IP-1, IP-2, and IP-4. Water injections were not successful at IP-3. Based on the failure of water injections at IP-3, further injections at this location were not considered viable. Therefore, BOS 200® injections were completed at IP-1, IP-2, and IP-4, but not at IP-3. Injection testing indicated a radius of influence (ROI) of 12 feet at IP-1, 28 feet at IP-2, and 19 feet at IP-4.
- When BOS-200® is mixed with water, the resulting slurry has elevated concentrations of nitrate, sulfate, and chloride. Therefore, areas that have been impacted by the injections of BOS-200® would be anticipated to have elevated concentrations of sulfate and nitrate. monitoring wells at the Site were sampled for sulfate and nitrate and the results were evaluated to determine if BOS 200® impacted the groundwater at the monitoring wells. These results were compared with the ROI indicated by the water level tests.

The evaluation of water level response and sulfate and nitrate concentrations indicated monitoring wells MW-2, MW-5, MW-6, MW-7, MW-8, MW-10, MW-11, MW-12, MW-13, MW-14, MW-15, MW-16, MW-21S, MW-21M, MW-21D, MW-22S, and MW-23D were not impacted by the injections of BOS 200® completed at the Site. Therefore, concentrations of benzene and MTBE at these monitoring wells would not have been impacted by the injections completed as part of this pilot test.

The evaluation of water level response and sulfate and nitrate concentrations indicated monitoring wells MW-3, MW-9, MW-17, MW-18, MW-19, MW-20, MW-22D, and MW-23S were impacted by the injections of BOS-200® completed at the Site. Therefore, concentrations of benzene and MTBE at these monitoring wells would have been impacted by the injections completed as part of this pilot test.

- Performance and quarterly groundwater sampling did not identify reductions of contaminant concentrations in monitoring wells MW-2, MW-5, MW-6, MW-7, MW-8, MW-10, MW-11, MW-12, MW-13, MW-14, MW-15, MW-16, MW-21S, MW-21M, MW-21D, MW-22S, or MW-23D. These monitoring wells were not impacted by BOS 200®. Therefore, reductions in contaminant concentrations were not anticipated.
- Performance and quarterly groundwater sampling identified reductions of contaminant concentrations in monitoring wells MW-3, MW-9, MW-17, MW-18, MW-19, and MW-20. These MWs were impacted by BOS 200®. Injections of BOS-200® were completed at MW-18, MW-19, and MW-20. BOS-200® daylighted at MW-3 and MW-17, indicating a significant impact at these locations. Significant decreases were identified at MW-3 from historical benzene and MTBE concentrations. Benzene and MTBE concentrations at MW-17, MW-18, MW-19, and MW-20 remained below applicable screening levels from the initial performance monitoring in October 2016 through June 2018. Nitrate and sulfate concentrations increased at MW-9, as benzene and MTBE concentrations decreased. This indicated BOS-200® migrated through the subsurface to MW-9, resulting in decreased contaminant concentrations.
- Groundwater samples were collected at MW-22D from October 2016 to June 2018. Benzene concentrations at MW-22D ranged from 45 µg/L to 2,600 µg/L and MTBE concentrations ranged from 2,100 µg/L to 26,000 µg/L. Concentrations of sulfate and nitrate at MW-22D initially exceeded background concentrations, but gradually decreased to background levels. Benzene concentrations in MW-22D decreased from the initial concentration of 2,600 µg/L in October 2016 to a concentration of 45 µg/L in June 2018. MTBE concentration did not decrease during the sampling period. The sulfate and nitrate concentrations indicated a minimal impact at MW-22D. However, over time the concentrations returned to background, indicating the groundwater at this depth (30 to 40 feet bgs) was not significantly impacted by BOS-200®. The absence of significant reductions in benzene and MTBE indicate the concentrations of BOS-200® in the groundwater at this depth were insufficient to effectively reduce contaminant concentrations at MW-22D.

- Groundwater samples were collected at MW-23S from October 2016 to June 2018. Benzene concentrations at MW-23S ranged from 39 µg/L to 2,400 µg/L and MTBE concentrations ranged from 190 µg/L to 4,100 µg/L. Sulfate and nitrate concentrations at MW-23S were consistent with those identified at MW-18, MW-19, and MW-20, indicating that BOS-200® impacted the groundwater at MW-23S. However, contaminant concentrations did not decrease as anticipated. The absence of contaminant reduction may indicate one of the following:
  - The particle size of the carbon contained in the BOS-200® slurry was too large to migrate through the subsurface to MW-23S. The elevated sulfate and nitrate concentrations indicate migration is possible, but the carbon component may not have reached the monitoring well.
  - Additional testing of bacteria or amendments may be required to facilitate contaminant reduction.
- All identified subsurface migration effects are attributed to injections completed at IP-4 (MW-18). While water injection tests indicate water can be injected at IP-1 (MW-19) and IP-2 (MW-20), the sulfate and nitrate concentrations do not indicate BOS-200® was able to migrate through the bedrock from these IPs. This may be the result of the large particle size of BOS-200® that results in a slurry that must be injected under high pressures to achieve injection into the bedrock.
- The analytical results of the pilot test confirm that BOS-200® is effective at reducing contaminant concentrations when in direct contact with contaminated groundwater.
- The results of the pilot test confirm that preferential pathways exist within the bedrock that impact the direction and flow of BOS-200® within the aquifer. Therefore, it is not possible to inject the BOS 200® slurry uniformly at TU044 and facilitate predictable contact with existing contaminants.

2.3.14 2023 – Remedy Implementation Report

PetroFix® injections were completed at the Site in 2021/2022 (URS, 2023). PetroFix® is a colloidal suspension of micron-sized activated carbon particles in water. This allows for injection of PetroFix® into dedicated injection wells or via boreholes, at relatively low injection pressures in the range of 15 to 25 pounds per square inch (psi), which is significantly less than the 200 to 800 psi range required for BOS-200® slurry injection. The smaller particle size of PetroFix® (1 to 2 microns in diameter) facilitates migration through the bedrock at the Site under much lower pressure. The smaller size of the particles increases distribution of the material in fractures, thus achieving greater ROI, and reduction of contaminant concentrations. Based on the aforementioned reasons, PetroFix® (rather than BOS-200®) was injected into the groundwater at the Site to remediate petroleum contaminants in the groundwater.

Injections of PetroFix® were planned to be completed in open boreholes following the completion of borehole geophysics and packer testing. However, the boreholes consistently collapsed during the removal of the equipment, making it apparent that the boreholes would not remain open to complete the testing as planned in the work plan (URS, 2021). Based on the issues encountered, permanent injections wells were installed at the borehole locations: BH-1, BH-2, and BH-3.

The initial (pilot test) injections of PetroFix® were completed at BH-1, BH-2, and BH-3 in June 2021. Approximately 8,667 pounds of PetroFix® was planned to be injected in each injection well with a total of 26,000 pounds of PetroFix® to be injected during the pilot test. All 8,667 pounds of material was successfully injected at BH-1. However, daylighting issues were experienced during the injections at BH-2 and BH-3. Daylighting was observed on the ground surface surrounding MW-15, MW-22S, MW-22D, and MW-13, as well as preferential pathways along the hillside near BH-3. Injections were ceased for 24 hours and injection rates were reduced when injections resumed in an effort to address the issue. However, daylighting issues persisted in BH-2 and BH-3 during subsequent injection attempts.

Since not all of the planned PetroFix® material could be injected due to the daylighting issues, some of the surplus material was injected into BH-1. Additionally, permission was requested and received from Mr. Wayne Miller of ADEQ to inject the remaining surplus material into monitoring well MW-12. The total planned quantity of PetroFix® was injected during the pilot test; however, the volumes and locations varied from the initial plan.

PetroFix® injections were evaluated based on the results of the performance monitoring completed following the injections. PetroFix® injections were considered successful if PetroFix® was visibly observed in the groundwater at the monitoring wells and contaminant concentrations of benzene and MTBE were reduced by at least two orders of magnitude. Based on the ROI anticipated prior to the initial injections, contaminant reductions were expected to be observed at monitoring wells MW-13, MW-15, MW-16, MW-22D, and MW-22S. While PetroFix® was visibly observed in all of the aforementioned wells, contaminant reductions of two orders of magnitude were only observed in monitoring wells MW-15 and MW-16. The evaluation of the analytical data from the initial pilot test activities concluded that the injections were not successful.

As a result of the initial data evaluation and in accordance with the decision logic included in the UFP-QAPP (URS, 2021), follow-up secondary injections to prevent migration to Apache Lake were completed. The goal of the secondary injections was to provide an effective barrier to prevent migration of groundwater contaminants to Apache Lake. Injections were completed at BH-2, BH-3, and BH-6. PetroFix® was planned to be injected as follows: 4,800 pounds at BH-2; 6,800 pounds at BH-3; and 6,400 pounds at BH-6. However, daylighting issues were encountered at all three locations. Based on issues encountered during the field work, the injection quantities were reduced at all three locations and some of the remaining materials were injected into BH-1.

Injection quantities from the March 2022 injection event were as follows: 2,107 pounds at BH-2; 792 pounds at BH-3; 4,892 pounds at BH-6, and 209 pounds at BH-1.

Performance monitoring completed following the 2022 injections were evaluated. Concentration in monitoring wells bordering Apache Lake were specifically evaluated to determine the effectiveness of the barrier. Concentrations of MTBE and benzene in MW-15 and MW-16 were reduced to below regulatory standards, but concentrations of MTBE in MW-2 remain above regulatory standards. The RIR concluded that while concentrations at MW-2 have not been reduced to below regulatory standards, the injections completed at BH-6 between MW-2 and Apache Lake represent the best possible effort to provide an effective barrier to prevent migration of groundwater contaminants to Apache Lake. Additional injections were not recommended due to daylighting and refusal issues encountered during injection activities. Continued semi-annual groundwater monitoring was recommended. However, a revision to the groundwater sampling was recommended. ADEQ has approved this report, and a revised UFP-QAPP with the recommended revisions to the LTM program will be submitted.

2.4 CONCEPTUAL SITE MODEL

A CSM and its evolution following the discovery of the UST release was developed as part of the June 2007 RPO Review Report (AFCEE RPO Team, 2007). The CSM has been updated based on activities completed at the Site since 2007.

2.4.1 Current Surface Characteristics

The unpaved access road from Davis Wash to the Site shows visible signs of erosion and localized washouts. The access road is gated and locked by the USFS. The Site is located on a slightly terraced slope with restricted access. The former equipment building and SVE connex storage unit was removed from the Site upon completion of the SVE activities in 2011 (Versar, 2011c).

2.4.2 Geology and Hydrogeology

The Site is located within the Salt River Basin in Arizona, a Proterozoic Granitoid basin located along the western boundary of the Central Highlands Physiographic Province near the Basin and Range Physiographic Province. The Central Highlands Physiographic Province is a transition between the Basin and Range Physiographic Province and the Colorado Plateau, and is sometimes called the Transition Zone. It is characterized by northwest-southeast trending mountain ranges, similar to the Basin and Range Physiographic Province. However, the mountains are generally taller with shallower, narrower valleys. The valleys also contain less sediment infill than the Basin and Range Physiographic Province valleys. The mountains were formed by fault blocking. The upward block forms the mountains and the downward block forms the valleys. Over time, the mountains erode and deposit sediments in the valleys (Versar, 2009).

The subject Site is approximately 65 miles east of Phoenix and located on Apache Lake, which is formed from the damming of the Salt River by the Horse Mesa Dam. Elevations of the Salt River basin floor typically range from 1,000 to 2,500 feet above mean sea level (amsl). The normal pool elevation of the water surface of Apache Lake is approximately 1,914 feet amsl. The U.S. Geological Survey (USGS) Pinyon Mountain Quadrangle map (USGS, 1964) indicates that the Site is located at approximately 1,940 feet amsl. The Site is on a somewhat terraced slope with restricted access. Due to the substantial topographic relief, depth to groundwater ranges from approximately 17 to 56 feet bgs. In the vicinity of the lake shore, land surface features average about 20 feet above the surface of the lake. The Site slopes to the west-northwest and land surface features greater than 20 feet above the surface of the lake are found to the east-southeast (where depth to water of greater than 20 feet bgs is observed) (Versar, 2009).

The Site is situated on granitic bedrock. Based on numerous borehole drilling logs, the local geology exposed at the surface consists primarily of weathered granite. In some boreholes drilled at the southern and northern (lakeside) portions of the Site, sand and silty sand with gravel were encountered from ground surface to an average depth of 10 feet bgs. Some boreholes exhibited highly fractured lithologies.

Previous studies indicate groundwater level and flow direction likely fluctuate in response to changes in the water level in Apache Lake (Versar, 2009). The following is a list of the most relevant Site conditions and groundwater characteristics discerned from a series of remedial pilot studies performed by ARCADIS G&M, Inc. (2006):

- Groundwater occurs in fractured bedrock. The hydraulic conductivity of the bedrock aquifer has previously been estimated at approximately 0.001 feet per day.
- The groundwater gradient and flow direction are dynamic due to seasonal groundwater and lake level fluctuations.
- Groundwater elevations have historically fluctuated up to seven feet at the Site from December 2013 to the present, with the lowest levels in the winter (November through February) and the highest in the summer (March through October). This fluctuation correlates with lake level fluctuations, which can be affected by management activities related to the reservoir's dam. A summary of historical groundwater and lake elevation data is included in **Table 1**.
- LNAPL hydrocarbons formerly accumulated in monitoring wells during the seasonal low groundwater elevation period. The last observation of LNAPL in monitoring wells was documented in February of 2004. The LNAPL COCs are BTEX and MTBE.

2.4.3 Nature and Extent

Soil and groundwater contamination were initially identified at the Site in 1991. Subsequent investigations identified BTEX and TPH as COCs at the Site. All exposure pathways at the Site

have been eliminated through remediation or restricted access/use. No known public health impact risks are associated with the Site at this time.

A cross-section location map and three geologic cross-sections (i.e., A-A', B-B', and C-C') are shown on **Figures 3**, **4**, **5**, and **6**, respectively. The figures were developed using lithologic logs from boreholes converted to monitoring wells. Updates to the CSM are described below:

- Contamination was identified at concentrations exceeding regulatory screening criteria in the groundwater at the Site. Groundwater contamination was identified in the weathered granite and granite formations at the Site, and also in monitoring wells MW-15 and MW-16, which are completed in both alluvium and granite.
- The lithology at MW-15 and MW-16 indicates migration of contaminants between the monitoring well and Apache Lake could occur at higher rates than in other areas of the Site, where migration is dictated by the fractures and their connectivity.
- The extent of benzene and MTBE contamination has been vertically and laterally defined.
- Groundwater gradient and flow direction are dynamic, but have shown a general direction of south to southeast since 2013, when measured during semi-annual monitoring events.

Since the UST release was discovered in 1991, multiple remediation programs have been implemented for soil and groundwater at the Site and have included bioventing (June 1995 to January 1996); SVE (March to May 1997), SVE (November 2001 to 2nd quarter 2002); AS (Fall 2002 to March 2003); and TPE (October 2003 to September 2005). There was a 16-year period of MNA completed at the Site following the active remediation phase discontinued in September 2005. Groundwater conditions were monitored since that time with an expanded network of monitoring wells through August 2021.

A BOS 200® pilot test was completed in 2016 (URS, 2016) and PetroFix® injection activities were completed in six injection wells in 2021 and 2022. PetroFix® is a colloidal suspension of micron-sized activated carbon particles in water. The purpose of the PetroFix® injections was to reduce benzene and MTBE contaminant concentrations and provide a barrier between the groundwater contamination and Apache Lake. The PetroFix® injection results were documented in a RIR (URS, 2023) and the report concluded that the injections represent the best possible effort to provide an effective barrier to prevent migration of groundwater contaminants to Apache Lake. No LNAPL have been measured in any of the groundwater monitoring wells by the LTM sampling. However, dissolved-phase contamination remains at concentrations exceeding screening levels at the Site, suggesting that LNAPL may still be trapped in bedrock fractures and continues to diffuse into the groundwater.

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3.0 FIELD ACTIVITIES AND PROCEDURES

Groundwater monitoring was conducted at the Site in December 2023. Field activities began on 13 December 2023 and were completed on 14 December 2023. The following section documents the activities performed as part of the monitoring efforts. Field notes and water quality forms associated with the activities are included in **Appendix A**.

3.1 WATER LEVEL MEASUREMENTS

Water level measurements were collected prior to sampling each monitoring well. Depth to water was measured to determine groundwater elevations, by which the direction of groundwater flow may be inferred (**Table 2** and **Figure 7**). Static water level measurements were collected using a Geotech interface probe capable of measuring water and LNAPL depths to the nearest 0.01 foot, in accordance with Standard Operating Procedure (SOP)-8 (Measurement of Groundwater and Fluid Levels in Wells) and outlined in the UFP-QAPP (URS, 2021). LNAPL was not observed during sampling activities in December 2023. Groundwater elevation data obtained from these monitoring events are presented in **Table 2**.

3.2 MONITORING WELL SAMPLING

Groundwater sampling frequency was modified to semi-annual sampling in the *Second Semi-Annual Groundwater Monitoring Report – 2017* (URS, 2019c) and the *First Semi-Annual Groundwater Monitoring Report – 2018, TU044 – Waterdog Recreation Annex, Luke Air Force Base, Arizona* (URS, 2019d). Semi-annual sampling events are completed with one event conducted at higher water conditions (March through October) and one event conducted when water levels are anticipated to be lower (November through February).

Revisions to the sampling plan were included in the RIR report (URS, 2023). These revisions were to be formally proposed in a revised UFP-QAPP under the ORC. The sampling locations recommended in the approved RIR were sampled in accordance with the current (at the time of the sampling) approved UFP-QAPP (URS, 2021). These locations were consistent with the original UFP-QAPP that was submitted to ADEQ for review. Based on comments from ADEQ on the submitted UFP-QAPP, monitoring wells MW-6 and MW-10 will be added to the list of wells included in the groundwater monitoring plan for future (2024 and later) sampling events under the new UFP-QAPP (FPM, 2024).

Groundwater samples were collected from the Site monitoring well network between 13 December 2023 and 14 December 2023 (**Table 4**, **Figure 8** and **Figure 9**). A total of 18 primary groundwater samples, two field duplicate samples, and one matrix spike/matrix spike duplicates (MS/MSD) samples, were collected for evaluation and reporting in association with the December 2023 sampling event (**Table 3**).

A bladder pump and compressor/controller were used to purge and sample the monitoring wells using low-flow purging and sampling techniques during the December 2023 sampling event. The bladder pump was suspended near the middle of the saturated screened section of the monitoring wells during sampling activities. Prior to groundwater sample collection, groundwater was purged and monitored for water quality parameters (temperature, pH, specific conductivity, DO, ORP, and turbidity) until water quality parameter stabilization was achieved. Following stabilization, groundwater samples were collected by disconnecting the tubing from the flow-through cell and discharging directly into laboratory-supplied containers. Water quality parameter stabilization was achieved when three consecutive measurements met the following criteria summarized in SOP-11 (Monitoring Well Purging and Groundwater Sampling), and outlined in the UFP-QAPP (URS, 2021):

- Temperature: plus or minus (±) 1 degree Celsius;
- pH: ± 0.1 pH unit;
- Turbidity: less than or equal to 10 nephelometric turbidity units or ± 10 percent (%);
- Specific Conductivity: ± 5%;
- DO: ± 10%; and
- ORP: ± 10 millivolts.

A summary of the samples collected, the analytical parameters for each sample, and notes regarding the monitoring well disposition is included in **Table 3**. Field notes are included in **Appendix A**.

The interior and exterior of the bladder pump were decontaminated between monitoring wells using a non-phosphate detergent (i.e., Liquinox® or similar) and fresh rinse water. A new bladder and tubing were used for each well.

3.3 GROUNDWATER LABORATORY INFORMATION

Groundwater samples were prepared for transport to the laboratory following the methodology outlined in in SOP-11, summarized in the UFP-QAPP (URS, 2021). Groundwater samples collected during the December 2023 events were placed in coolers with ice and shipped under chain-of-custody to Eurofins Denver of Arvada, Colorado. Eurofins Denver is a Department of Defense (DoD) Environmental Laboratory Accreditation Program certified laboratory. Samples submitted to Eurofins Denver were analyzed for COCs using the following laboratory methods:

- VOCs via United States Environmental Protection Agency (USEPA) Method 8260B;
- Total lead via USEPA Method 6020B;

- Sulfate via USEPA Method SW846 9056A; and
- Nitrate-nitrite via USEPA Method SW846 353.2.

PAHs were removed from the sampling program in the *First Semi-Annual Groundwater Monitoring Report – 2017 TU044 – Waterdog Recreation Annex, Luke Air Force Base, Arizona* (URS, 2019b) due to the lack of detectable PAHs observed during previous sampling events above the AWQS (ADEQ, 2019). Sulfate and nitrate-nitrite analysis was first performed at the Site as part of performance monitoring associated with the 2016 remedial pilot test. This analysis was continued for future evaluation of the effectiveness of the remediation efforts. Laboratory procedures for sample analysis were performed in accordance with guidelines provided in the UFP-QAPP (URS, 2021).

3.4 DEVIATIONS FROM WORK PLAN

Some monitoring wells were unable to be purged/sampled using a bladder pump during the December 2023 sampling event; instead, the monitoring wells were sampled using a disposable bailer. MW-2, MW-3, MW-8, MW-9, MW-13, MW-15, MW-21M, MW-22S, MW-22D, MW-23S, MW-23D, and MW-24D were sampled using a bailer due to the following reasons:

- Water well measurements were not collected from MW-5 due to an obstruction in the well.
- Water level measurements were not collected from MW-20 due to an error by the field crew.
- MW-2 obstruction in the well did not allow the bladder pump to be inserted in the well.
- MW-3 well purges dry before stable parameters are reached.
- MW-21M well purges dry before stable parameters are reached.
- MW-8, MW-9, MW-13, MW-15, MW-22S, MW-22D, MW-23S, MW-23D, and MW-24D were sampled using bailers due to equipment malfunctions encountered as a result of carbon impacting the equipment during the attempted sampling at MW-16. Rather than delay the sampling event further, the decision was made to sample the wells using bailers in order to ensure all wells were sampled during one event.

Groundwater samples were not collected from MW-16 due to the large concentration of carbon present in the well at the time of the sampling event.

3.5 INVESTIGATION DERIVED WASTE

The investigation derived waste (IDW) from the December 2023 sampling event is stored on-Site and will be disposed during the next sampling event. Spent disposable items, including personal protective equipment and sampling equipment, were disposed of as solid waste.

3.6 FIELD QUALITY CONTROL

Field quality control (QC) procedures, as described in the UFP-QAPP (URS, 2021), were implemented during the December 2023 sampling event. QC procedures included the collection of equipment (rinsate) blank samples, field (ambient) blank samples, field duplicates, and MS/MSDs at a frequency provided in the UFP-QAPP. In addition, trip blank samples were submitted and analyzed for VOCs. Further information on the field QC results is provided in the associated data review summaries provided in **Appendix C**.

One trip blank sample was utilized in each of the shipping coolers containing VOCs from the December 2023 groundwater monitoring event. Trip blank samples were sealed containers filled with de-ionized water provided by the laboratory, which are placed in shipping coolers to accompany samples for evaluation of VOCs to evaluate contamination introduced during shipment.

Equipment blank rinsate samples were collected for the December 2023 groundwater monitoring event at a minimum frequency of 1 per 20 samples. Equipment rinsate blank samples were collected from each type of non-disposable, decontaminated sampling device to evaluate the efficacy of decontamination procedures. Equipment rinsate blank samples were analyzed for the analyses listed in **Section 3.3**.

Field blank samples were collected during the December 2023 groundwater monitoring event at a minimum frequency of 1 per 20 samples. Field blank sample containers were filled at a fixed location at the Site where groundwater samples were being collected from bladder pumps and/or bailers into laboratory-provided containers. Field blank samples were collected by pouring laboratory-provided deionized water directly into sample containers and were analyzed for VOCs, as listed in **Section 3.3**.

Field duplicate samples were collected from MW-11 and MW-21D in December 2023. Field duplicate samples were collected using the same methodology as the primary samples and at a minimum frequency of 1 per 10 samples. Field duplicates were used to assess sampling and analytical precision and were analyzed for the analyses listed in **Section 3.3**. The well locations where the field duplicate samples were obtained were selected randomly.

MS/MSDs were submitted at a minimum frequency of 1 per 20 samples. MS/MSDs were submitted on the sample collected from MW-14 in December 2023. Additional MS/MSDs were performed by the laboratory on Site samples to meet method requirements and are discussed in the Data Verification Summaries in **Appendix C**. The purpose of MS/MSDs was to assess accuracy and precision as it relates to the sample matrix. The MS/MSD samples were analyzed for the analyses listed in **Section 3.3**.

4.0 GROUNDWATER MONITORING RESULTS

Groundwater monitoring was conducted at the Site in December 2023. The following section presents the results of groundwater elevation measurements and analytical results for groundwater samples. Field notes and sample collection field sheets associated with the activities are included in **Appendix A**. Analytical laboratory reports and the associated data review summaries are provided in **Appendix B** (included on the enclosed compact disc [CD]) and **Appendix C**, respectively.

4.1 GROUNDWATER ELEVATIONS

This section presents results for groundwater elevation monitoring for December 2023. **Table 1** presents historical groundwater elevations at the Site, and **Table 2** presents a summary of groundwater elevations from the December 2023 sampling event. General observations at the Site during the monitoring period include the following:

- LNAPL was not observed in any monitoring wells during the December 2023 sampling event.
- MW-1, MW-17, MW-18, MW-19, MW-21S, MW-24S, and MW-25S were observed to be dry during the monitoring event.
- Groundwater measurements were not collected from MW-5 or MW-20 during the monitoring event. Groundwater levels in MW-5 were not collected due to an obstruction in the well. Groundwater levels in MW-20 were not collected due to an oversight by the field crew.

Depths to groundwater were measured at the time of the December 2023 event, groundwater elevations were then calculated using depth to groundwater measurements. Groundwater elevations varied by 2.77 feet across the Site between 1,905.58 feet amsl (MW-12) to 1,908.35 feet amsl (MW-6). For the purposes of determining the groundwater elevation and flow direction across the Site, groundwater elevation data at nested well locations was evaluated to determine which well screen at the nested location intersected with the groundwater table. The use of the data for the nested well where the screened interval intersected the water table represents the most accurate measurement of groundwater elevation. Therefore, this elevation was used to determine groundwater elevation across the Site and groundwater flow direction. The remaining groundwater elevation data were excluded for this purpose.

Data indicates the gradient across the Site at the time of the sampling event was relatively flat. The change in elevation was approximately 2.61 feet from the southeast portion of the Site (MW-6) to the northwest portion of the Site (MW-2). The groundwater flow at the time of the sampling event was to the northwest from the contaminant plume at the Site toward Apache Lake. A groundwater elevation map for the December 2023 sampling event is presented as **Figure 7**.

While the groundwater flow direction observed during this sampling event was identified as toward Apache Lake, the groundwater flow direction at the site has historically been known to vary from flowing toward and flowing away from the lake (see **Section 2.4.2**). Current and historical groundwater level measurements and elevation data are presented in **Table 1**. Groundwater level measurements and elevation data collected during the monitoring period are presented in **Table 2**.

4.2 ANALYTICAL RESULTS

This section presents analytical results from the groundwater sampling conducted during December 2023. A total of 18 primary, one MS/MSD, and two field duplicate samples were collected during the December 2023 monitoring event (**Table 3**). Field duplicates were collected at MW-11 and MW-21D. Regulatory screening criteria used for comparison to groundwater analytical results are discussed in **Section 1.3**. Analytical data was reviewed in accordance with guidance documents discussed in **Section 4.3** and appropriate data validation qualifiers were assigned to results, as needed. Validated analytical results for VOCs, lead, nitrate-nitrite as nitrogen, and sulfate are presented in **Table 4**. A summary of historical results for BTEX and MTBE is provided as **Table 5**. Laboratory analytical reports for the samples collected during this period are included in **Appendix B**. Trend graphs for benzene and MTBE in monitoring wells are presented in **Appendix D**. Trend charts were not developed for MW-24I, MW-24D, MW-25I, or MW-25D due to the limited data set available (**Table 5**). Trends for these wells will be evaluated starting in 2024 semi-annual reports.

4.2.1 Volatile Organic Compounds

Analytical results indicated detections of benzene exceeded the respective AWQS criterion of 5 µg/L in MW-13 (6,400 µg/L), MW-21M (19 µg/L), and MW-22D (1,200 µg/L). Benzene was below the limit of detection (LOD) for all other wells. It is noted however, that the LOD for benzene in the samples with non-detects collected from four wells (MW-2, MW-22S, MW-23S, and MW-23D) exceeded the AWQS for benzene, due to sample dilution required by the laboratory during the analysis. However, the LOD exceeding the AWQS for benzene in the following wells is not considered to represent a concern in three of the four wells based on the following:

- MW-2 – Historical concentrations of benzene (**Table 5**) have been consistently below the AWQS and/or LOD since August 2017, even when the LOD was below AWQS.
- MW-23S – Benzene has not been detected in analytical samples from MW-23S since December 2021, even when the LOD was 0.4 during the December 2021 event.
- MW-23D – Benzene has not been detected in analytical samples from MW-23D since December 2018, even when the LOD was 0.4 during the February 2019 event.

Benzene concentrations at MW-22S were below the LOD. However, this sample is considered to be a positive result based on the historical detections identified in this well from October 2016 to October 2023. The reduction in concentrations below detections may be attributable to past remedial activities, but the reduction in one event is not yet considered to represent a trend. Continued sampling will be needed to verify this reduction and demonstrate the absence of rebound. Therefore, the result of less than (<) 16 µg/L was considered to represent a positive result exceeding screening levels for the purposes of mapping contamination at the Site.

A summary of benzene results is provided in **Table 6**. An analytical results map of the December 2023 benzene concentrations is presented as **Figure 8**. For nested wells, the highest concentration of benzene was used to generate the contours to generate the worst case scenario for the concentrations at that well location on **Figure 8**.

Benzene concentrations are stable or decreasing for all sampled monitoring wells with the exception of MW-11. The trend for MW-11 is shown as increasing based on the use of the estimated concentrations of 2.5 µg/L in February 2023 and 3.8 µg/L in December 2023. However, additional data will be needed to determine if this is an actual trend or the result of anomalous data resulting from estimated concentrations from the last two sampling events. The overall concentrations of benzene at MW-11 remain below the AWQS criterion of 5 µg/L. MW-16 was not sampled in December 2023 due to the carbon in the well interfering with the collection of groundwater sample. However, the historical trend graph plotted for MW-16 in **Appendix D** shows an increasing trend. Laboratory dilution of previous MW-16 benzene samples (August and December 2021) increased the LOD of the non-detect results above the AWQS criterion of 5 µg/L, consequently skewing the results to show an increasing benzene trend. The most recent sample collected in October 2023 for MW-16 indicated benzene results were non-detect with a LOD exceeding the AWQS criterion of 5 µg/L. Based on the non-detect results and the historical decreasing trend observed when data using the high LOD from 2021 is excluded, the overall trend for MW-16 is considered to be decreasing.

Detections of MTBE exceeded the ADEQ Tier 1 remedial guidance level of 94 µg/L in MW-2, MW-13, MW-21M, MW-22S, MW-22D, and MW-23D. Detections of MTBE were identified at concentrations below the ADEQ Tier 1 remedial guidance level of 94 µg/L or non-detect with LODs below the ADEQ Tier 1 remedial guidance level of 94 µg/L in all other wells. Detected MTBE concentrations ranged from 1 µg/L to 15,000 µg/L. A summary of MTBE results is provided in **Table 7**. An analytical results map of December 2023 MTBE concentrations is presented as **Figure 9**. For nested wells, the highest concentration of MTBE was used to generate the contours to generate the worst case scenario for the concentrations at that well location on **Figure 9**.

Trends of MTBE concentration in individual wells are shown in **Appendix D**. In general, MTBE concentration trends vary at the Site since the pilot test study injections in August 2016. The

evaluation of water level response and sulfate and nitrate concentrations in the pilot test indicated that the impacts from the pilot test were limited to MW-3, MW-9, MW-17, MW-18, MW-19, MW-20, MW-22D, and MW-23S. Variations in contaminant concentrations observed in monitoring wells other than those impacted by the pilot test injections are not attributed to the remedial activities, but rather variations due to other factors (i.e., variations in groundwater depths, etc.). Trend charts are not included for MW-12, MW-17, MW-18, MW-19 or MW-20. These wells were not sampled during LTM because they were used as IWs for BOS-200® or PetroFix® and remained highly impacted with the injection substrate.

MTBE concentration trends are stable or decreasing at MW-2, MW-3, MW-5, MW-6, MW-7, MW-9, MW-15, MW-16, MW-21M, MW-21D, MW-22S, MW-23S, and MW-23D. Significant reductions in MTBE concentrations observed at MW-15 and MW-16 are attributed to the PetroFix® injections completed in May 2021 and March 2022. These injections are detailed in the *Remedy Implementation Report, TU044 – Waterdog Recreation Annex. Luke Air Force Base, Arizona* (URS, 2023). The MTBE concentration trends in MW-8, MW-10, MW-11, MW-13, MW-14, and MW-22D displayed increasing trends. While MTBE concentration trends were increasing at MW-8, MW-10, MW 11, and MW-14, the current concentrations of MTBE in these wells are below the ADEQ Tier 1 remedial guidance level of 94 µg/L (**Appendix D**).

Other detectable concentrations for VOC contaminants were below the AWQS, where established. The LODs for multiple VOCs were above their respective AWQS. The LODs above the AWQS were limited to monitoring wells where the samples required dilution, due to the high concentrations of MTBE. See **Table 4** for a full list of contaminants exhibiting detectable concentrations.

4.2.2 Inorganics

Detections of total lead were observed at the following wells: MW-2, MW-3, MW-11, MW-21M, MW-21D, MW-22S, MW-23D, MW-24I, MW-24D, and MW-25D. With the exception of lead concentrations at MW-3, all lead detections were below the AWQS lead criterion of 50 µg/L. Lead concentrations at MW-3 were detected at 51 µg/L. Total lead was non-detect for all other wells, with LODs below the AWQS lead criterion of 50 µg/L.

Groundwater samples were submitted for analysis of sulfate and nitrate-nitrite. This analysis was initially included as part of the remedial pilot study conducted during the second half of the 2016 calendar year, as discussed in the *Final Remedial Pilot Test Results Report for BOS-200® Slurry Injections – Site TU044* (URS, 2019a). Analysis of these contaminants continued during the December 2023 monitoring event. An AWQS has not been established for sulfate. However, the secondary drinking water standard guidance level for sulfate is 250 mg/L (USEPA, 2023). Sulfates were detected above the secondary guidance levels in MW-2, MW-3, MW-9, MW-15, and MW-22S. Nitrate-nitrites (as nitrogen) were detected above the AWQS of 10 mg/L in MW-8,

MW-9, and MW-15. The presence of the nitrates and sulfates in the groundwater is attributed to the historical BOS-200® injections. Nitrates and sulfates are not COCs for this site.

4.3 DATA VALIDATION

The data validation provides a system for the evaluation and documentation of the quality and usability of project data (i.e., to determine if the data are of sufficient quality to support their intended use in project decision making). Outliers in terms of precision and accuracy are assessed in accordance with the UFP-QAPP (URS, 2021), *Department of Defense (DoD), Department of Energy (DOE) Consolidated Quality Systems Manual for Environmental Laboratories, Version 5.4* (DoD, 2021), method requirements, and using guidance from USEPA National Functional Guidelines. Data may be qualified as estimated when QC results are outside of the QAPP defined measurement quality objectives, but are generally still of sufficient quality to support their use in project decision making. Data are rejected when QC results are unacceptable, and rejected data are not usable for project decision making.

The following summarizes the validation performed and the overall quality of the data through assessment of the various data quality objectives and the applicability to the precision, accuracy, representativeness, completeness, comparability, and sensitivity parameters. The individual validation reports are provided in **Appendix C**.

4.3.1 Precision

Precision is a measure of mutual agreement among replicate (or between duplicate) or co-located sample measurements of the same analyte. The closer the numerical values of the measurements are to each other, the more precise the measurement. Precision for a single analyte was expressed as a relative percent difference (RPD) of MS/MSD results. Laboratory precision was evaluated using the RPD between results in the laboratory control sample (LCS) and laboratory control sample duplicate (LCSD). Field duplicate results are discussed in the representativeness section below. No results were rejected based on the precision between the MS/MSD or LCS/LCSD results, indicating acceptable precision was attained with respect to the analytical method and sample matrix.

4.3.2 Accuracy

Accuracy is a measure of bias in a measurement system. The closer the value of the measurement agrees with the true value, the more accurate the measurement. Accuracy was evaluated through review of the LCS recoveries, MS/MSD recoveries, and surrogate recoveries, as applicable for the selected methods. No results were qualified as unusable based on the accuracy between the LCSs, MS/MSD, or surrogate recoveries, and are considered usable as qualified, indicating acceptable accuracy was attained with respect to the analytical method and sample matrix. Further information and qualification can be found in the validation report in **Appendix C**.

4.3.3 Representativeness

Representativeness is the degree to which data accurately and precisely represent a characteristic of a population, parameter variations at a sampling point, or an environmental condition. The design of, and rationale for, the sampling program (in terms of the purpose for sampling, selecting the sampling locations, the number of samples to be collected, the ambient conditions for sample collection, the frequencies and timing for sampling, and the sampling techniques) assures that the environmental condition has been sufficiently represented. Representativeness was maintained during the sampling effort by completing all sampling using similar sampling procedures and in accordance with the UFP-QAPP (URS, 2021). Field duplicates were collected from MW-21D and MW-11 for the October 2023 sampling event. The agreement between the field duplicate results was also used to assess representativeness. The close agreement between the field duplicate results is considered to indicate that the samples collected are adequately representative of the medium sampled.

4.3.4 Completeness

Completeness is a measure of the number of valid measurements obtained in relation to the total number of measurements planned. Completeness is expressed as the percentage of valid or usable measurements to planned measurements. The data are considered usable as qualified. The completeness for the samples analyzed was 100%, which satisfies the QAPP completeness goal of 90%.

4.3.5 Comparability

Comparability is a qualitative parameter expressing the confidence with which one data set can be compared to another. This goal was achieved through following SOPs to collect and then analyze representative samples and through reporting analytical results in appropriate and consistent units. Comparability was maintained by consistency in sampling conditions, selection of sampling procedures, sample preservation methods, analytical methods, and data reporting units.

4.3.6 Sensitivity

The DL represents the best fundamental measurement of instrument sensitivity and the basis for establishing limits of quantitation (LOQs). The DL is the smallest analyte concentration that can be demonstrated to be different from 0 with 99% confidence, with a 1% rate of false positives. The LOD is greater than the DL and is the smallest concentration of a substance that must be present in a sample in order to be detected at the DL with 99% confidence, with a 1% rate of false negatives. A LOD is used as the lowest concentration for reliably reporting a non-detect. LOQs are the smallest concentration that produce a quantitative result with known and recorded precision and bias. Because of the requirements on precision and bias, the LOQ is larger than the LOD. Therefore, the following is true: DL < LOD < LOQ. Detections between the DL and the LOQ

assure the presence of the analyte, but their numeric values are estimates; and are therefore, indicated as such on test reports.

Several samples were analyzed at dilutions due to matrix interference or high concentrations of target analytes, and the LODs were elevated accordingly. The laboratory reported detectable results between the DL and the LOQ.

Due to the dilutions noted above, or blank contamination, several samples were reported as non-detect at elevated LODs. The detected and non-detect results for these events are compared to the screening levels in **Table 4**.

For a full list of applied data qualifiers and explanations, refer to the notes page of **Table 4** and the associated data review summary provided in **Appendix C**.

The following general data qualifiers were applied during data validation. Potential impacts on project-specific data quality objectives are discussed in the data validation summary.

F The result is an estimated detection between the LOQ and LOD.

FJ The result is an estimated detection between the LOQ and LOD and further estimated due to related quality control being out of criteria.

J The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.

NJ The analysis indicates the presence of an analyte that has been identified as "tentatively identified" and the associated numerical value represent its approximate concentration.

U The analyte was analyzed for, but was not detected.

UJ The analyte was not detected. However, the reported LOQ is approximate and may or may not represent the actual LOQ necessary to accurately and precisely measure the analyte in the sample.

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5.0 CONCLUSIONS AND RECOMMENDATIONS

The following section provides a summary of conditions at the Site as it relates to groundwater impacted by petroleum hydrocarbons. Also included are recommendations based on groundwater analytical data from the December 2023 groundwater monitoring event.

5.1 CONCLUSIONS

5.1.1 Water Level Measurements

During the collection of water level measurements, the total depth of the well was also recorded (**Table 2**). The total depth was then compared to the original bottom of the screened interval to identify potential issues regarding sediment issues in monitoring wells. Based on the absence of sedimentation issues historically at the Site, the source of the "sediment" is anticipated to be the carbon from the BOS-200® and/or PetroFix® injections that is readily observed in the groundwater at the Site. Significant sedimentation was defined as reductions in monitoring well depths greater than two feet from the original bottom of the screened interval. These conditions were identified in the following monitoring wells: MW-5 – 14.6 feet reduction; MW-7 – 10.21 feet reduction; MW-12 – 7.41 feet reduction; MW-16 – 12.45 feet reduction; MW-17 – 16.78 feet reduction; MW-18 – 16.78 feet reduction; and MW-19 – 18.56 reduction. Of these wells, MW-16 is the only one planned to be sampled under the 2024 UFP-QAPP.

5.1.2 Volatile Organic Compounds

Groundwater monitoring conducted in December 2023 at the Site exhibited exceedances of the AWQS for benzene (5 µg/L) in groundwater samples collected from three of 18 monitoring wells (MW-13, MW-21M, and MW-22D). The benzene results for MW-2, MW-22S, MW-23S, and MW-23D were reported as non-detect at elevated LODs. The LOD for these samples exceeded the AWQS, due to sample dilutions necessary because of high MTBE concentrations in these wells. The exceedance of the LOD in MW-2, MW-23S, and MW-23D is not considered to represent a concern. Benzene concentrations at MW-22S were below the LOD. However, this sample is considered to be a positive result based on the historical detections identified in this well from October 2016 to October 2023.

Benzene concentrations are stable or decreasing for all sampled monitoring wells, with the exception of MW-11. The trend for MW-11 is shown as increasing based on the use of the estimated concentrations of 2.5 µg/L in February 2023 and 3.8 µg/L in December 2023. However, additional data will be needed to determine if this is an actual trend or the result of anomalous data resulting from estimated concentrations from the last two sampling events. Concentration trends for the wells are shown in the trend charts in **Appendix D**.

The size and shape of the benzene plume (**Figure 8**) appears to be consistent with the historical reports. Detected benzene concentrations exceeding the AWQS criterion of 5 µg/L are limited to MW-13, MW-21M, and MW-22D. Benzene concentrations at MW-22S were below the LOD. However, this sample is considered to be a positive result based on the historical detections identified in this well from October 2016 to October 2023. The extent of the benzene plume exceeding regulatory criteria at MW-21M remains delineated to the northeast by cross-gradient well MW-25I/MW-25D, southwest by cross-gradient well MW-24I and MW-24D, and north by downgradient well MW-3. Wells located to the west of MW-21M were not sampled during this event. However, benzene concentrations at MW-11 had not exceeded screening levels from at least February 2014 through February 2023 (see **Table 5**). Therefore, the absence of samples to the west of MW-21M is not considered to represent a data gap. The extent of the benzene plume exceeding regulatory criteria at MW-22S/MW-22D and MW-13 remains delineated to the northeast by cross-gradient well MW-16, south by upgradient wells MW-22S/MW-22D, southwest by cross-gradient wells MW-9 and MW-3, and northwest by downgradient well MW-15. There are no wells located to the west of MW-13 or MW-22S/MW-22D to address this data gap. This is due to the gradient of the site preventing the installation of wells in this area.

Groundwater monitoring conducted in December 2023 exhibited exceedances of the ADEQ Tier 1 remedial guidance level for MTBE (94 µg/L) in MW-2, MW-13, MW-21M, MW-22S, MW-22D, and MW-23D. In general, concentrations of MTBE tend to vary across the Site. Significant decreases in MTBE concentrations were observed at MW-15 and MW-16 between the December 2020 event and the December 2023 event. These decreases are attributed to the PetroFix® injections completed in May 2021 and March 2022. MTBE concentrations at MW-22D have shown an increasing concentration trend since October 2023 (Trend Chart MW-22D in **Appendix D**) due to the elevated detection in of 29,000 µg/L in October 2023. Concentrations in December 2023 (15,000 µg/L) returned to levels consistent with historical concentrations. Concentration trends for other wells are consistent with historical data observed at these monitoring wells (**Table 5**). When compared to the October 2023 MTBE plume maps (URS, 2023), the size, shape, and location of the December 2023 MTBE plume (**Figure 9**) appears to be relatively stable, with MTBE concentrations greater than 5,000 µg/L limited to the area within the central portion of the Site between MW-22S/MW-22D and MW-23S/MW-23D. MTBE concentrations and plume size will continue to be monitored to ensure Site conditions do not represent a change from historical trends.. The groundwater analytical data presented in this report are consistent with previous monitoring.

5.1.3 Other Contaminants

Detections of total lead were observed at the following wells: MW-2, MW-3, MW-11, MW-21M, MW-21D, MW-22S, MW-23D, MW-24I, MW-24D, and MW-25D. With the exception of lead concentrations at MW-3, all lead detections were below the AWQS lead criterion of 50 µg/L. Lead

concentrations at MW-3 were detected at 51 µg/L. Total lead was non-detect for all other wells, with LODs below the AWQS lead criterion of 50 µg/L.

Groundwater analysis for sulfate and nitrate-nitrite, which began as part of performance monitoring for the remedial pilot study implemented in September 2016, continued through the October 2023 sampling event. An AWQS has not been established for sulfate. However, the secondary drinking water standard guidance level for sulfate is 250 mg/L (USEPA, 2023). Sulfates were detected above the secondary guidance levels in MW-2, MW-3, MW-9, MW-15, and MW-22S. Nitrate-nitrites (as nitrogen) were detected above the AWQS of 10 mg/L in MW-8, MW-9, and MW-15.

5.2 RECOMMENDATIONS

The groundwater sampling frequency was reduced from quarterly to semi-annual in 2018. Semi-annual sampling has been completed from 2018 to 2023. Benzene concentration trends are stable or decreasing at all monitoring wells with the exception of MW-11, which has an uncertain trend due to slightly elevated LODs since 2022 (**Appendix D**). Benzene concentrations at MW-11 remain below the AWQS criterion of 5 µg/L. MTBE concentration trends in MW-8, MW-11, MW-13, MW-14, and MW-21M displayed increasing trends. A slightly increasing trend for MTBE is noted in the samples from well MW-22D. Current MTBE concentrations at MW-22D are consistent with historic concentrations. Therefore, the increasing trend is not considered to represent a concern. While MTBE concentration trends were increasing at MW-8, MW-10, MW-11, and MW-14, the current concentrations of MTBE in these wells are below the ADEQ Tier 1 remedial guidance level of 94 µg/L (**Appendix D**).

Benzene and MTBE contamination has been consistently identified in the central portion of the Site with concentrations being non-detect and/or below regulatory screening criteria in the surrounding wells to the north, east, south, and west of the Site. Based on the stability and/or reduction of the benzene and MTBE plumes and the relatively consistent contaminant concentrations identified during the semi-annual sampling events, it is recommended that groundwater monitoring continue on the established semi-annual basis (i.e., two events per year) with one event conducted at higher water conditions (March through October) and one event conducted when water levels are anticipated to be lower (November through February).

While no changes are recommended to the sampling frequency, the following changes were recommended to the sampling program in the 2022 Second Half LTM report (URS, 2024):

- Analysis for nitrates and sulfates have been completed to determine the effect on past injections of BOS-200® in 2016. The impact of the injections has been evaluated and further evaluation is not warranted. Lead has consistently been identified at concentrations below AWQS and is

not considered to represent a COC at the Site. Based on the aforementioned considerations, future sampling events should reduce the analytical parameters to analysis only for VOCs.

- The monitoring wells included in the current semi-annual sampling plan were evaluated in the RIR and reviewed and approved by ADEQ. Based on the approval, the plan should be revised to include the following wells in the semi-annual sampling beginning in 2023: MW-2, MW-3, MW-8, MW-9, MW 11, MW-13, MW-14, MW-15, MW-16, MW-21M, MW-21D, MW-22S, MW-22D, MW-23S, MW-23D, MW-24I, MW-24D, MW-25I, and MW-25D.

ADEQ approved the 2022 Second Half LTM report on 22 March 2024; however, this approval was not received before the completion of the first and second 2023 sampling events. These recommendations were formally proposed to ADEQ in a revised UFP-QAPP. The sampling program will be revised for future sampling events beginning in 2024, following ADEQ approval of the UFP-QAPP. Following approval of the monitoring wells to be included in future sampling events, statistical analysis of the sampling data will be completed for future reports (beginning in 2024) to evaluate the benzene and MTBE contamination trends.

Sedimentation issues were identified in a number of wells at the Site. Of these wells, MW-16 is the only one planned to be sampled under the 2024 UFP-QAPP. Methods to redevelop the well to remove the carbon and allow for sampling to continue will be explored.

6.0 REFERENCES

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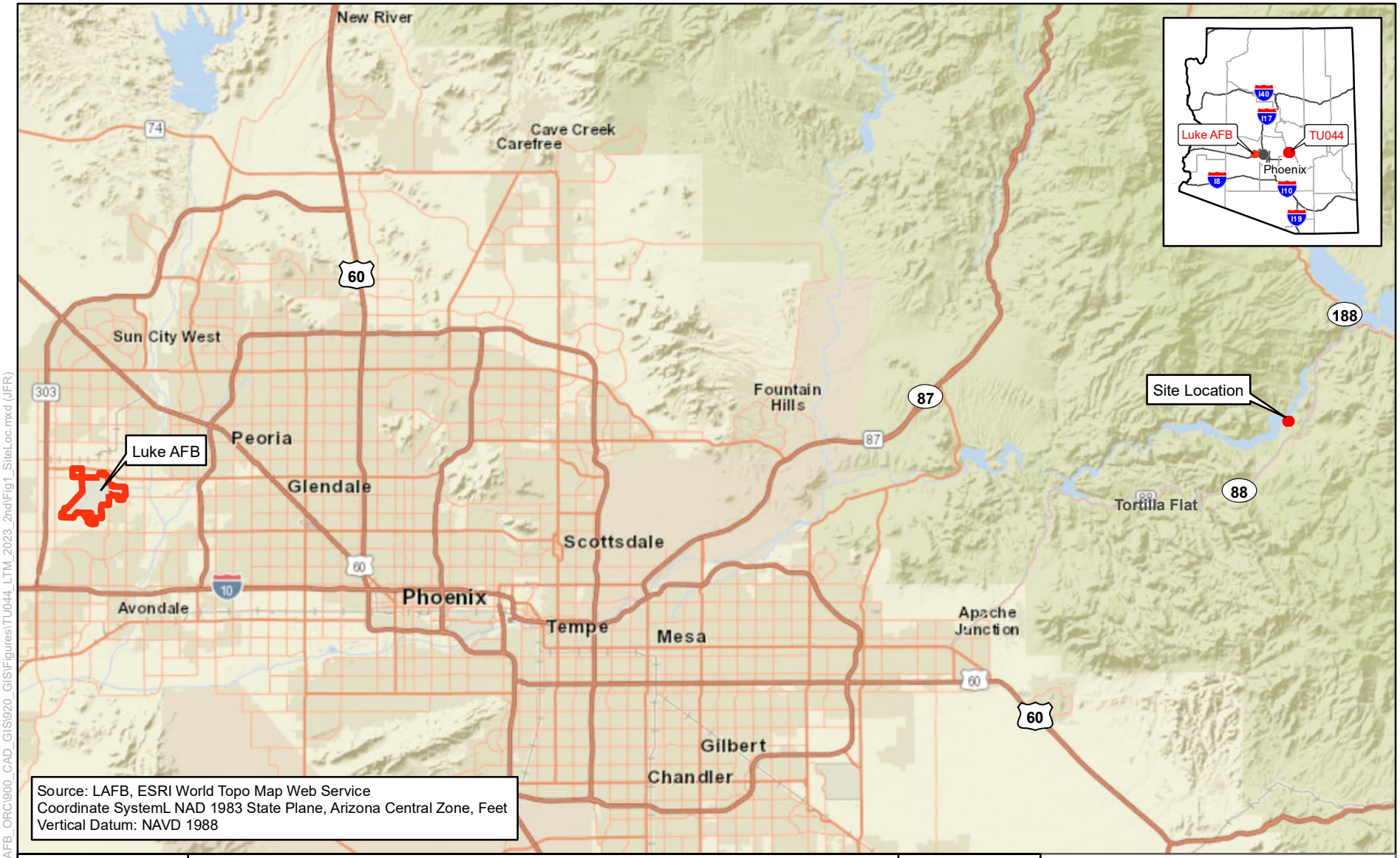
FIGURES



N

0 1 2 3 4 5

Miles

1:500,000

Legend

- Site Location

AFB = Air Force Base

FPM AECOM JV1

Designed:	NA
Drawn:	PM
Checked:	KWK
Project Number:	60718999
Date:	7/9/2024

FIGURE 1
SITE LOCATION MAP

SECOND SEMI-ANNUAL
GROUNDWATER MONITORING REPORT - 2023
TU044
WATERDOG RECREATIONAL ANNEX
TORTILLA FLATS, ARIZONA

O:\DCS\Projects\ENV\60718999_Luke_AFB_ORC\900_CAD_GIS\920_GIS\Figures\TU044_LTM_2023_2ndFig1_SiteLoc.mxd (JFR)

Apache Lake
MW-15
MW-22S
MW-22D
MW-16
MW-13
MW-1
IP-4
MW-18
IP-3
MW-17
MW-23S
MW-23D
MW-2
MW-3
MW-9
MW-11
IP-1
MW-19
MW-4
IP-2
MW-20
MW-8
MW-12
MW-10
MW-21S
MW-21M
MW-21D
MW-24S
MW-24I
MW-24D
MW-7
MW-6
MW-25S
MW-25I
MW-25D
MW-5
MW-14
FR-250
Source: LAFB, (c) 2010 Microsoft Corporation and its data suppliers
Coordinate System NAD 1983 State Plane, Arizona Central Zone, Feet
Vertical Datum: NVAD 1988
N
0
37.5
75
Scale in Feet
1 inch = 75 feet
Legend
Monitoring Well
Abandoned Monitoring Well
Road
Former Underground Storage Tank
FPM AECOM JV1
Designed: NA
Drawn: JZ
Checked: PW
Project Number: 60718999
Date: 7/12/2024
FIGURE 2
SITE FEATURES
SECOND SEMI-ANNUAL
GROUNDWATER MONITORING REPORT - 2023
TU044
WATERDOG RECREATIONAL ANNEX
TORTILLA FLATS, ARIZONA
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Source: LAFB, (c) 2010 Microsoft Corporation and its data suppliers
Coordinate System NAD 1983 State Plane, Arizona Central Zone, Feet
Vertical Datum: NVAD 1988

N

0 25 50

Scale in Feet
1 inch = 50 feet

Legend

- Monitoring Well
- Abandoned Monitoring Well
- Cross Section Line
- Former Underground Storage Tank

FPM AECOM JV1

Designed:	NA
Drawn:	JZ
Checked:	PW
Project Number:	60718999
Date:	7/12/2024

FIGURE 3
SITE MAP

SECOND SEMI-ANNUAL
GROUNDWATER MONITORING REPORT - 2023
TU044
WATERDOG RECREATIONAL ANNEX
TORTILLA FLATS, ARIZONA

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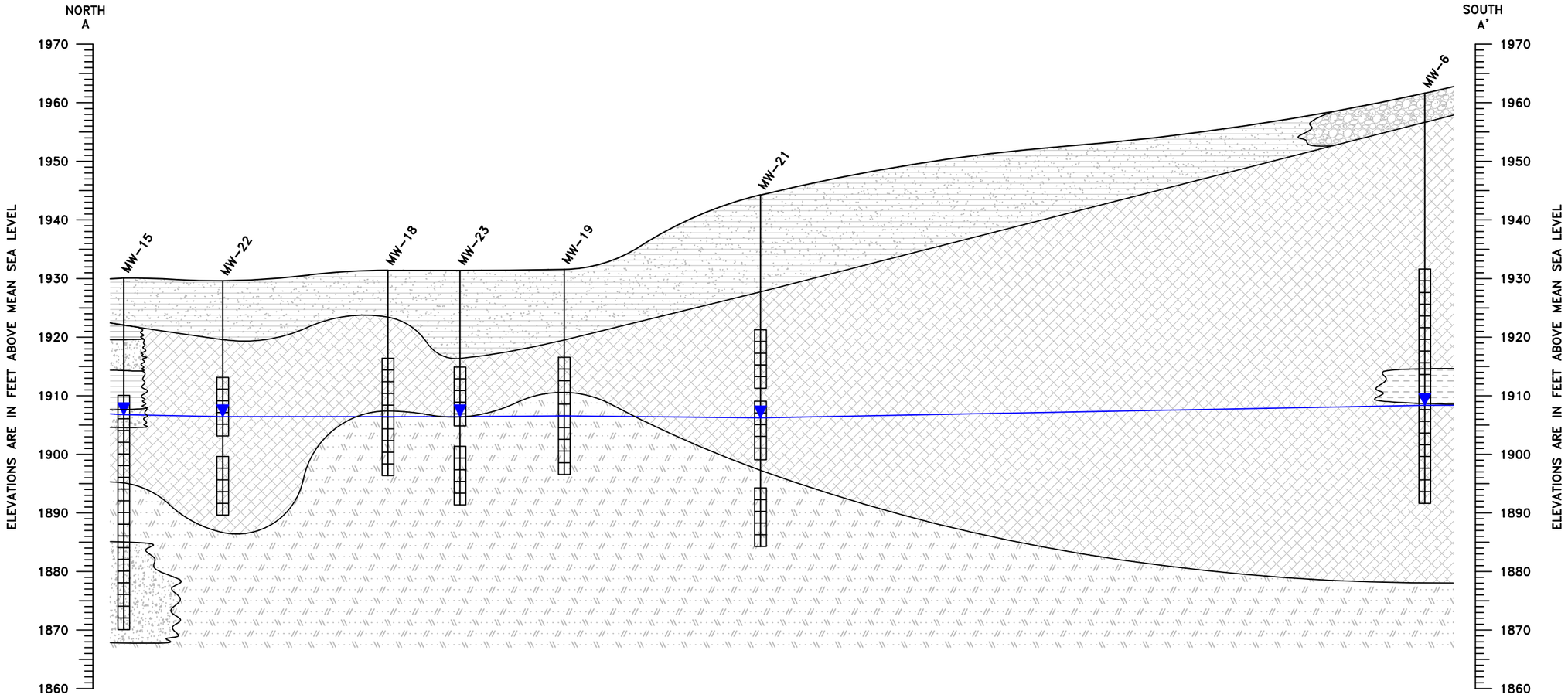

Legend

- Monitoring Well Screen Interval
- Measured Water Level
- Groundwater Elevation

- SP – Sand, Gravelly Sand
- SM – Silty Sand
- ML – Silt, Sandy Clay
- CL – Clay, Sandy Clay
- Weathered Granite
- Granite

Notes:

1. Lithologic boundaries and the water table are inferred between well borings. Actual subsurface conditions may vary.
2. Cross section was created using boring logs from different remedial investigations and done by different subcontractors.
3. Water levels were measured in December 2023. Water levels were not obtained from MW-18 or MW-19 in December 2023.

20 10 0 20
HORIZONTAL SCALE IN FEET

20 10 0 20
VERTICAL SCALE IN FEET

GEOLOGIC CROSS SECTION A–A'
TU044
(WATERDOG RECREATIONAL ANNEX)
LUKE AIR FORCE BASE, APACHE LAKE, ARIZONA

DRN. BY: DPG	DATE: 07/10/24	PROJECT NO. 60718999	FIG. NO. 4
CHK'D. BY: PW	REVISION: 0		

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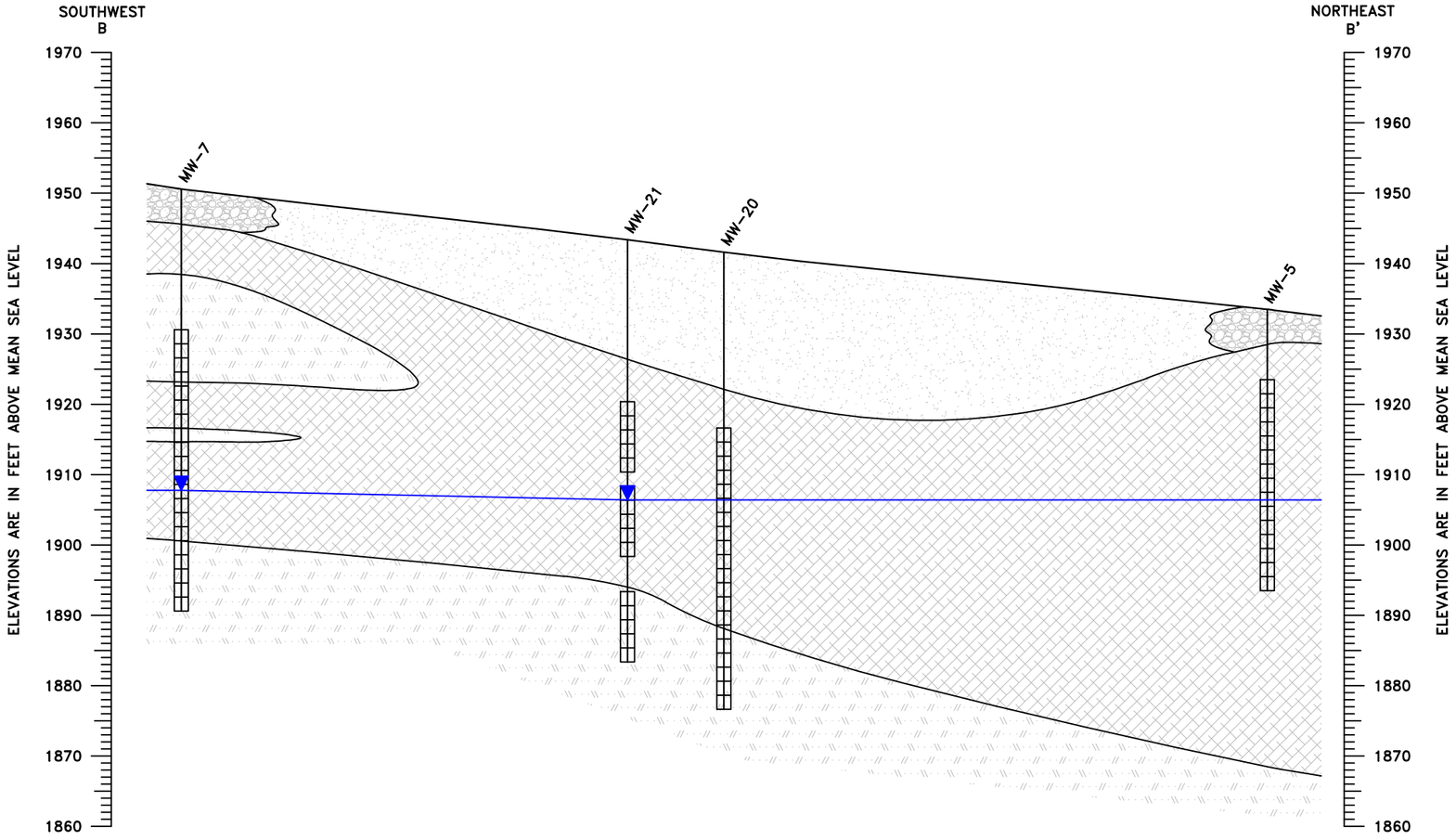

Legend

- Monitoring Well Screen Interval
- Measured Water Level
- Groundwater Elevation

- GW – Gravel
- SW – Gravelly Sand
- SM – Silty Sand
- Weathered Granite
- Granite

Notes:

1. Lithologic boundaries and the water table are inferred between well borings. Actual subsurface conditions may vary.
2. Cross section was created using boring logs from different remedial investigations and done by different subcontractors.
3. Water levels were measured in December 2023. Water levels were not obtained from MW-20 or MW-5 in December 2023.

40 20 0 40
HORIZONTAL SCALE IN FEET

20 10 0 20
VERTICAL SCALE IN FEET

GEOLOGIC CROSS SECTION B-B'
TU044
(WATERDOG RECREATIONAL ANNEX)
LUKE AIR FORCE BASE, APACHE LAKE, ARIZONA

DRN. BY: DPG	DATE: 07/10/24	PROJECT NO. 60718999	FIG. NO. 5
CHK'D. BY: PW	REVISION: 0		

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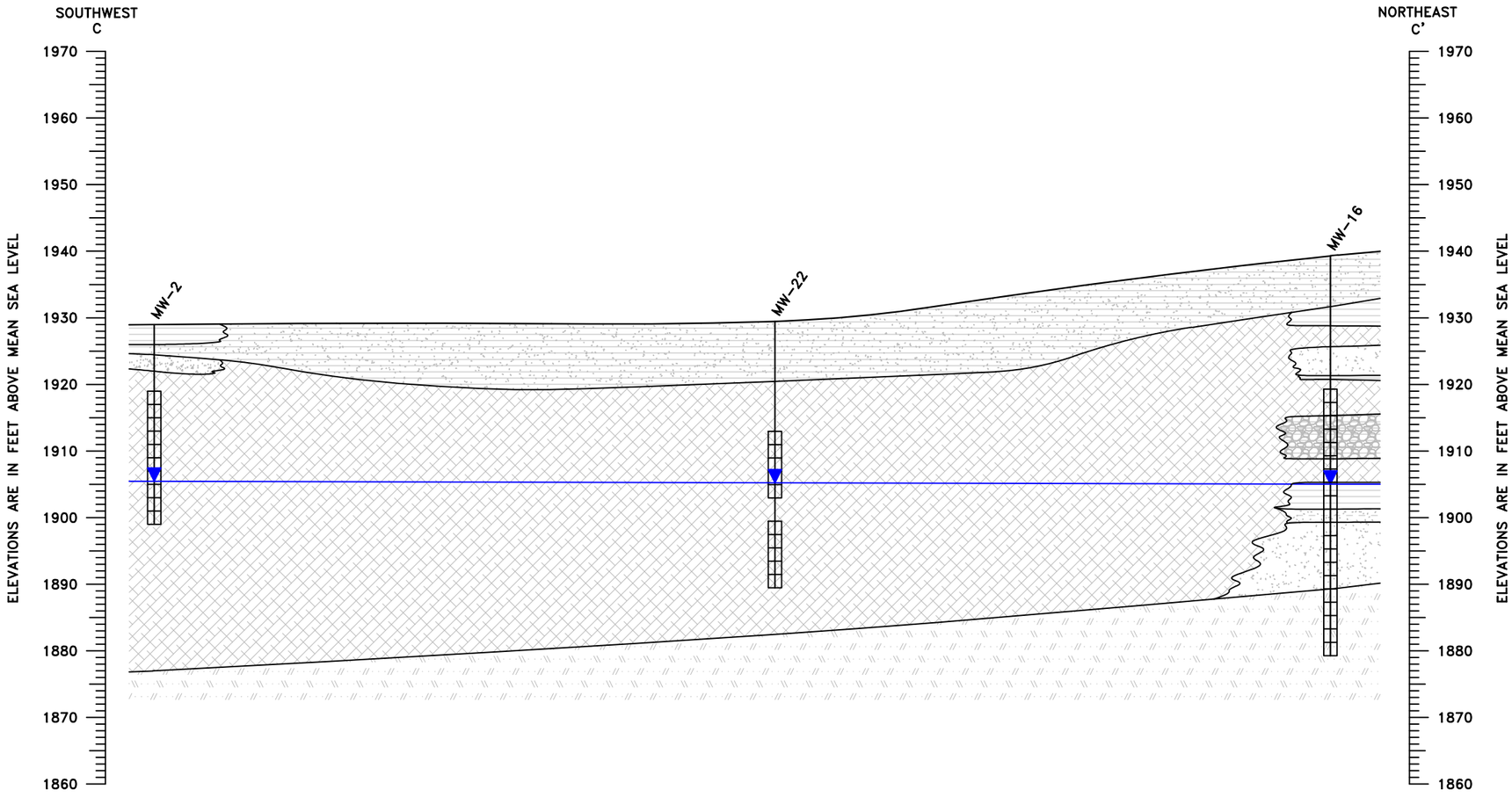

Legend

- Monitoring Well Screen Interval
- Measured Water Level
- Groundwater Elevation

- GM – Gravel
- SW – Well-Graded Sand
- SP – Poorly-Graded Sand
- SM – Silty Sand
- ML – Silt, Sandy Clay
- SC – Sandy Clay
- Weathered Granite
- Granite

Notes:
1. Lithologic boundaries and the water table are inferred between well borings. Actual subsurface conditions may vary.
2. Cross section was created using boring logs from different remedial investigations and done by different subcontractors.
3. Water levels were measured in December 2023.

40 20 0 40
HORIZONTAL SCALE IN FEET

20 10 0 20
VERTICAL SCALE IN FEET

GEOLOGIC CROSS SECTION C–C'
TU044
(WATERDOG RECREATIONAL ANNEX)
LUKE AIR FORCE BASE, APACHE LAKE, ARIZONA

DRN. BY: DPG	DATE: 07/10/24	PROJECT NO.	FIG. NO.
CHK'D. BY: PW	REVISION: 0	60718999	6

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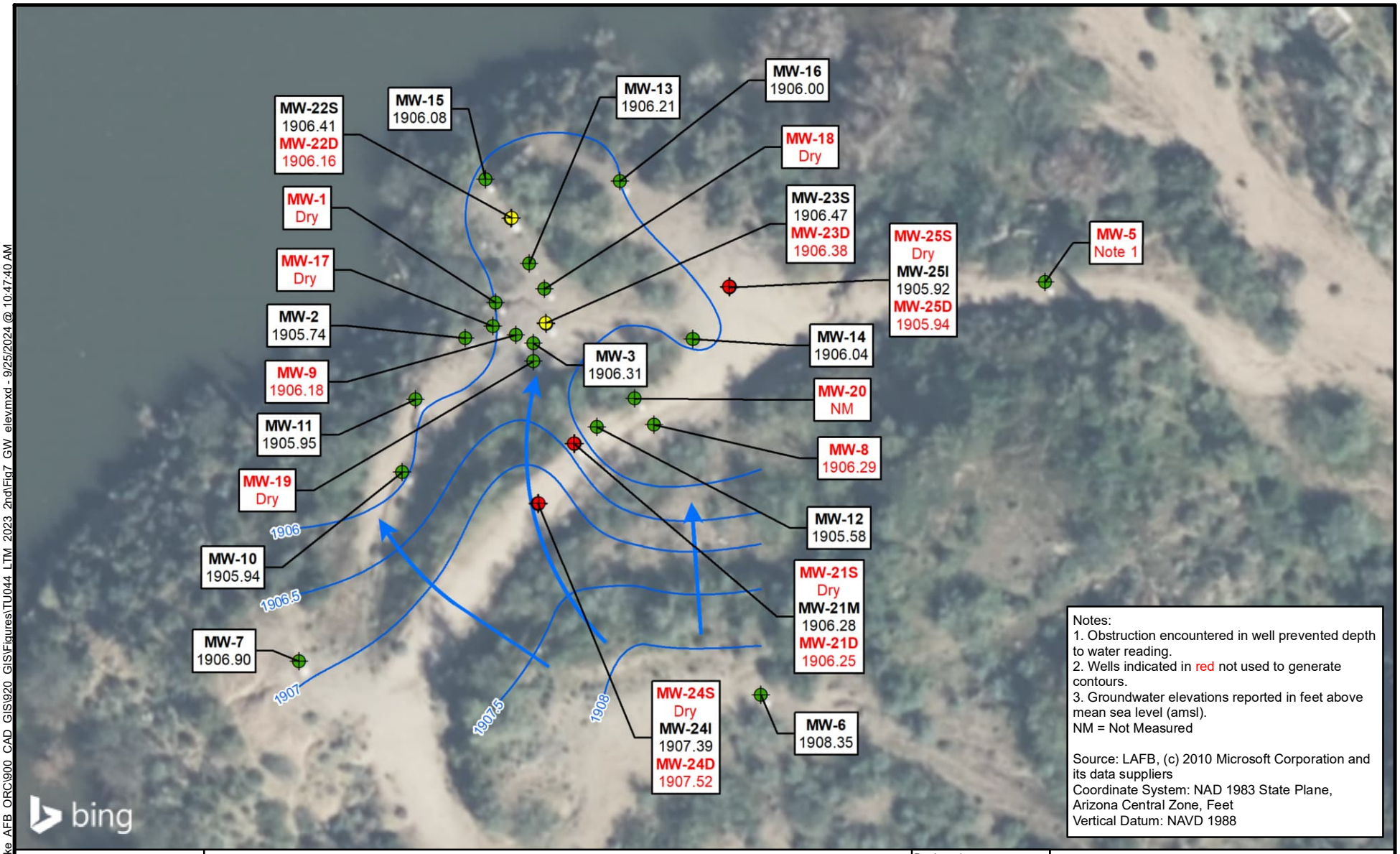

Notes:
1. Obstruction encountered in well prevented depth to water reading.
2. Wells indicated in red not used to generate contours.
3. Groundwater elevations reported in feet above mean sea level (amsl).
NM = Not Measured

Source: LAFB, (c) 2010 Microsoft Corporation and its data suppliers
Coordinate System: NAD 1983 State Plane, Arizona Central Zone, Feet
Vertical Datum: NAVD 1988

N

0 25 50

Scale in Feet
1 inch = 50 feet

Legend

- Monitoring Well
- Double Nested Monitoring Well
- Triple Nested Monitoring Well
- Groundwater Elevation Contour (feet amsl)
- General Groundwater Flow Direction

FPM AECOM JV1

Designed:	NA
Drawn:	JZ
Checked:	PW
Project Number:	60718999
Date:	9/25/2024

FIGURE 7
GROUNDWATER ELEVATION MAP - DECEMBER 2023

SECOND SEMI-ANNUAL GROUNDWATER MONITORING REPORT - 2023
TU044
WATERDOG RECREATIONAL ANNEX
TORTILLA FLATS, ARIZONA

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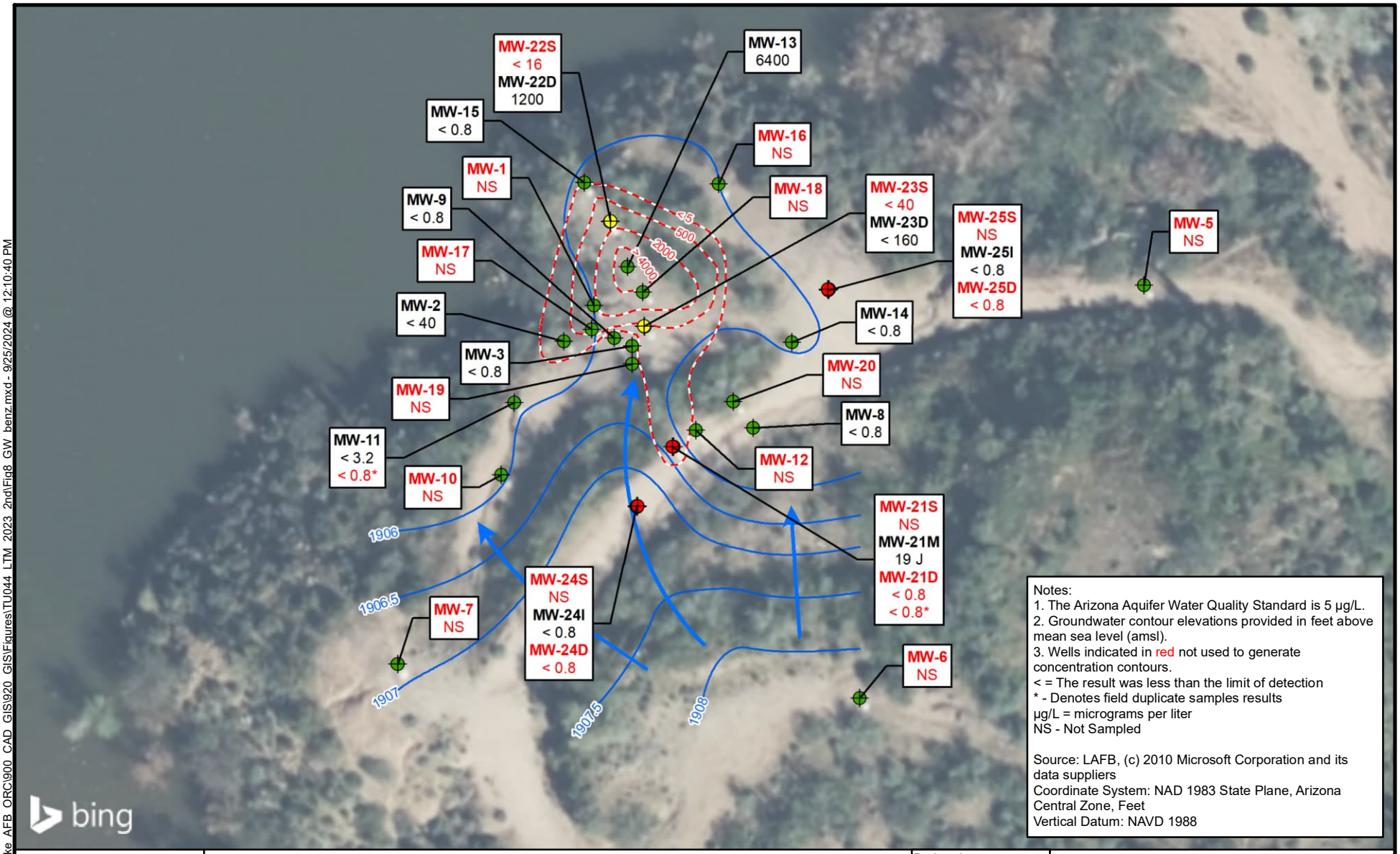

Notes:
1. The Arizona Aquifer Water Quality Standard is 5 µg/L.
2. Groundwater contour elevations provided in feet above mean sea level (amsl).
3. Wells indicated in red not used to generate concentration contours.
< = The result was less than the limit of detection
* - Denotes field duplicate samples results
µg/L = micrograms per liter
NS - Not Sampled

Source: LAFB, (c) 2010 Microsoft Corporation and its data suppliers
Coordinate System: NAD 1983 State Plane, Arizona Central Zone, Feet
Vertical Datum: NAVD 1988

N

0 25 50

Scale in Feet
1 inch = 50 feet

Legend

- Monitoring Well
- Double Nested Monitoring Well
- Triple Nested Monitoring Well
- Benzene Concentration Contour (µg/L)
- Groundwater Elevation Contour (feet amsl)
- General Groundwater Flow Direction

FPM AECOM JV1

Designed:	NA
Drawn:	JZ
Checked:	PW
Project Number:	60718999
Date:	9/25/2024

FIGURE 8
GROUNDWATER BENZENE ANALYTICAL RESULTS MAP - DECEMBER 2023

SECOND SEMI-ANNUAL GROUNDWATER MONITORING REPORT - 2023
TU044
WATERDOG RECREATIONAL ANNEX
TORTILLA FLATS, ARIZONA

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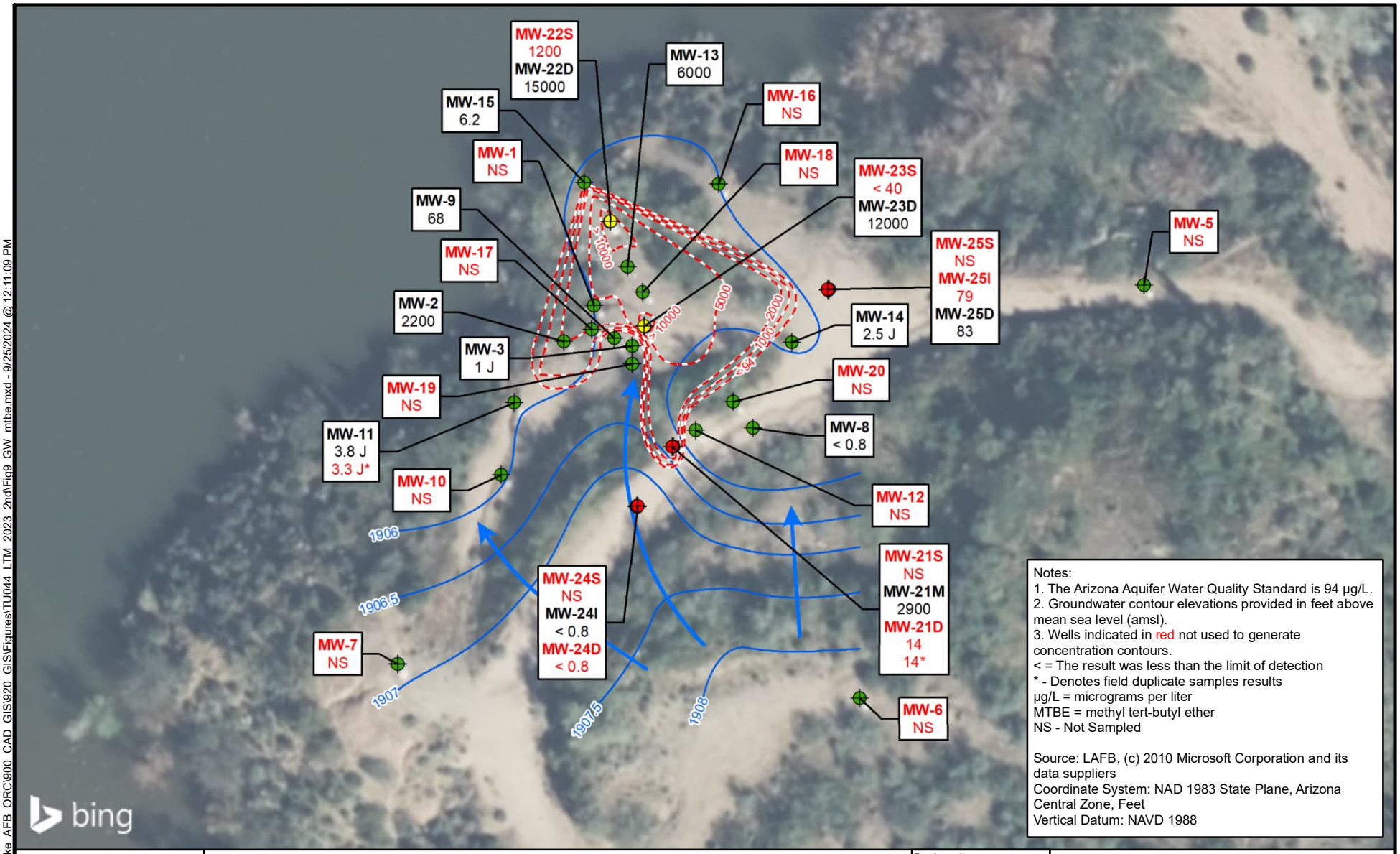

Notes:
1. The Arizona Aquifer Water Quality Standard is 94 µg/L.
2. Groundwater contour elevations provided in feet above mean sea level (amsl).
3. Wells indicated in red not used to generate concentration contours.
< = The result was less than the limit of detection
* - Denotes field duplicate samples results
µg/L = micrograms per liter
MTBE = methyl tert-butyl ether
NS - Not Sampled

Source: LAFB, (c) 2010 Microsoft Corporation and its data suppliers
Coordinate System: NAD 1983 State Plane, Arizona Central Zone, Feet
Vertical Datum: NAVD 1988

N

0 25 50

Scale in Feet
1 inch = 50 feet

Legend

- Monitoring Well
- Double Nested Monitoring Well
- Triple Nested Monitoring Well
- MTBE Concentration Contour (µg/L)
- Groundwater Elevation Contour (feet amsl)
- General Groundwater Flow Direction

FPM AECOM JV1

Designed:	NA
Drawn:	JZ
Checked:	PW
Project Number:	60718999
Date:	9/25/2024

FIGURE 9
GROUNDWATER MTBE ANALYTICAL RESULTS MAP - DECEMBER 2023

SECOND SEMI-ANNUAL GROUNDWATER MONITORING REPORT - 2023
TU044
WATERDOG RECREATIONAL ANNEX
TORTILLA FLATS, ARIZONA

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TABLES

Table 1 - Historical TU044 Groundwater Elevation Data and Apache Lake Surface Water Elevation Data
Second Semi-Annual Groundwater Monitoring Report - 2023
TU044 (Waterdog Recreational Annex), Luke AFB, Arizona

Monitoring Well	Minimum Depth	Maximum Depth	Difference of Minimum / Maximum	12/17/13	02/11/14	05/07/14	08/13/14	10/27/14	02/02/15	04/28/15	08/24/15	11/30/15	02/23/16	04/26/16	08/09/16	09/20/16	10/12/16	10/26/16	11/09/16	12/07/16	03/01/17	06/06/17	08/29/17	12/05/17	02/28/18
MW-1	1909.37	1912.41	3.04	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	1909.42	--	--	1909.47
MW-2	1905.74	1911.87	6.13	1909.05	1909.82	1908.40	1907.83	1909.20	1907.68	1907.32	1907.34	1905.87	1907.78	1907.74	1909.92	1906.80	1907.18	1907.10	1907.86	1907.43	1911.87	1907.91	1907.00	1910.54	1909.92
MW-3	1904.47	1910.67	6.20	1907.72	1908.38	1909.20	1906.75	1907.95	1906.89	1906.73	1905.27	1906.35	1906.42	1906.84	1904.71	1904.47	1908.34	1907.43	1908.02	1907.78	1910.67	1908.67	1907.10	1907.75	1908.36
MW-5	1903.49	1911.34	7.85	1908.17	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1903.49	1906.30	1907.13	1907.37	1910.22	1908.91	1907.53	1908.23	1908.38
MW-6	1905.03	1910.10	5.07	1907.44	1907.73	1908.03	1907.04	1907.05	1906.92	1906.95	1906.25	1905.78	1906.08	1906.29	1905.57	1905.40	1905.28	1905.24	1905.27	1905.26	1905.68	1906.76	1906.11	1905.31	1905.69
MW-7	1906.20	1910.52	4.32	1907.96	1908.67	1908.66	1907.52	1908.33	1907.55	1907.34	1907.09	1906.20	1906.97	1907.22	1907.92	1906.75	1906.40	1906.36	1906.77	1906.86	1908.84	1908.44	1907.28	1908.13	1908.76
MW-8	1906.29	1911.16	4.87	1908.49	1909.35	1908.89	1907.93	1909.04	1907.79	1907.56	1907.60	1906.51	1907.55	1907.75	1909.04	1906.97	1907.30	1907.25	1907.88	1907.67	1911.16	1908.32	1907.25	1909.92	1909.79
MW-9	1905.91	1911.69	5.78	1909.17	1909.73	1908.63	1909.35	1909.45	1907.78	1907.64	1908.14	1905.91	1907.66	1907.93	1910.25	1907.27	1907.26	1907.44	1908.23	1907.48	1911.69	1908.03	1907.24	1910.57	1909.92
MW-10	1905.89	1912.06	6.17	1909.49	1909.89	1908.40	1908.48	1909.51	1907.91	1907.76	1908.25	1905.89	1907.70	1908.03	1910.38	1907.04	1907.10	1907.35	1907.40	1907.45	1912.06	1907.84	1907.16	1910.88	1910.04
MW-11	1905.86	1912.06	6.20	1909.54	1909.89	1908.39	1908.49	1909.50	1907.90	1907.77	1908.26	1905.86	1907.69	1908.03	1910.38	1907.05	1907.11	1907.45	1908.45	1907.43	1912.06	1907.81	1907.16	1910.90	1910.04
MW-12	1905.58	1912.19	6.61	1908.81	1909.57	1908.80	1912.19	1909.29	NA	NA	NA	NA	NA	NA	NA	NA	1907.41	1907.34	1908.28	1907.65	1911.47	1908.16	1907.29	1910.26	1910.31
MW-13	1906.12	1911.56	5.44	1908.98	1908.75	1908.78	1908.25	1909.36	1907.78	1907.63	1908.09	1906.12	1907.70	1907.91	1910.06	1907.45	1907.44	1907.50	1908.24	1907.63	1911.56	1908.26	1907.41	1910.29	1909.89
MW-14	1906.04	1911.19	5.15	1908.96	1909.57	1908.68	1908.15	1909.23	1907.84	1907.67	1907.76	1906.22	1907.61	1907.82	1909.36	1906.87	1907.37	1907.22	1907.92	1907.57	1911.19	1908.18	1907.13	1909.84	1909.70
MW-15	1905.87	1912.03	6.16	1909.31	1909.91	1908.30	1908.30	1909.41	1907.75	1907.43	1908.00	1905.87	1907.70	1907.81	1910.41	1907.12	1907.24	1907.37	1908.27	1907.51	1912.03	1907.89	1907.20	1910.91	1910.03
MW-16	1905.98	1911.75	5.77	1909.31	1909.79	1908.51	1908.33	1909.40	1907.73	1907.62	1908.15	1905.98	1907.59	1907.85	1909.91	1907.11	1907.30	1907.52	1908.39	1907.44	1911.75	1907.93	1907.23	1910.64	1909.97
MW-17	1905.26	1911.81	6.55	--	--	--	--	--	--	--	--	--	--	--	--	--	1907.28	1907.63	1908.36	1907.33	1911.81	1907.87	1907.21	1910.65	1909.90
MW-18	1906.15	1911.20	5.05	--	--	--	--	--	--	--	--	--	--	--	--	--	1907.33	1907.58	1908.29	1907.65	1911.20	1908.02	1907.41	1909.63	1909.51
MW-19	1906.52	1911.80	5.28	--	--	--	--	--	--	--	--	--	--	--	--	--	1907.28	1907.65	1908.41	1907.33	1911.80	1907.88	1907.20	1910.53	1909.85
MW-20	1906.35	1911.33	4.98	--	--	--	--	--	--	--	--	--	--	--	--	--	1907.28	1907.44	1908.13	1907.52	1911.33	1908.08	1907.20	1910.17	1909.79
MW-21S	1909.52	1910.97	1.45	--	--	--	--	--	--	--	--	--	--	--	--	--	1910.97	1909.52	--	--	--	--	--	--	--
MW-21M	1906.28	1911.50	5.22	--	--	--	--	--	--	--	--	--	--	--	--	--	1907.40	1907.46	1907.96	1907.58	1911.50	1908.13	1907.39	1910.19	1909.83
MW-21D	1906.25	1911.46	5.21	--	--	--	--	--	--	--	--	--	--	--	--	--	1907.40	1907.59	1908.27	1907.61	1911.46	1908.13	1907.30	1910.27	1909.85
MW-22S	1906.32	1911.79	5.47	--	--	--	--	--	--	--	--	--	--	--	--	--	1906.32	1907.18	1907.92	1907.92	1911.79	1908.76	1907.62	1910.20	1909.95
MW-22D	1906.16	1910.85	4.69	--	--	--	--	--	--	--	--	--	--	--	--	--	1907.32	1907.55	1908.45	1907.42	1910.83	1908.44	1907.31	1910.54	1909.96
MW-23S	1906.47	1911.20	4.73	--	--	--	--	--	--	--	--	--	--	--	--	--	1906.93	1907.45	1908.25	1907.74	1911.20	1908.06	1907.59	1909.60	1909.50
MW-23D	1906.30	1911.27	4.97	--	--	--	--	--	--	--	--	--	--	--	--	--	1906.64	1907.56	1908.27	1908.00	1911.27	1908.34	1907.50	1909.64	1909.80
MW-24S	1913.56	1913.61	0.05	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-24I	1906.40	1908.14	1.74	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-24D	1906.52	1908.15	1.63	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-25S	1909.94	1910.43	0.49	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-25I	1905.92	1910.66	4.74	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-25D	1905.94	1910.66	4.72	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
HMD[1]	1903.90	1910.92	7.02	1908.57	1908.53	1907.28	1907.66	1908.29	1905.76	1906.41	1907.28	1903.90	1906.00	1906.79	1908.78	1906.04	1906.09	1907.92	1908.03	1904.85	1910.92	1906.36	1906.59	1909.88	1908.63

Notes:

Groundwater elevations data included above are measured in feet above mean sea level.

[1] = The elevation data cited is for Horse Mesa Dam located approximately 8 miles from TU044. The data was included to show the relative changes in surface water depths in Apache Lake over time relative to the changes at the site. Due to the distance of the measured surface water it is not suitable for use in determining groundwater flow.

[2] = Groundwater elevation could not be determined due to impacts from PetroFix injections.

= well did not exist at the time the data was collected

-- = well dry

NA = groundwater was not accessible due to damage and/or obstruction in well at the time the data was collected.

D = Deep well

S = Shallow well

M = Middle well

HMD = Apache Lake Horse Mesa Dam

NM = not measured

Table 1 - Historical TU044 Groundwater Elevation Data and Apache Lake Surface Water Elevation Data
Second Semi-Annual Groundwater Monitoring Report - 2023
TU044 (Waterdog Recreational Annex), Luke AFB, Arizona

Monitoring Well	Minimum Depth	Maximum Depth	Difference of Minimum / Maximum	06/11/18	12/04/18	02/18/19	12/09/19	06/16/20	07/27/20	12/07/20	04/19/21	08/09/21	12/06/21	05/23/22	02/20/23	10/24/23	12/14/23
MW-1	1909.37	1912.41	3.04	--	--	--	1911.34	1909.37	--	--	--	--	---	---	1912.41	---	---
MW-2	1905.74	1911.87	6.13	1907.31	1907.42	1907.44	1910.69	1908.29	1908.45	1907.68	1909.27	1908.42	1905.93	1907.28	1911.12	1907.04	1905.74
MW-3	1904.47	1910.67	6.20	1906.12	1906.98	1906.75	1909.10	1910.06	1908.83	1906.54	1907.21	1907.34	1905.96	1908.83	1908.40	1907.56	1906.31
MW-5	1903.49	1911.34	7.85	1906.94	1906.99	1906.92	1910.42	1910.72	1909.55	1907.76	1907.78	1907.63	1906.56	1908.60	1911.34	1908.01	NM
MW-6	1905.03	1910.10	5.07	1905.61	1905.03	1905.24	1906.18	1910.01	1910.10	1908.67	1907.93	NM	1907.04	1907.79	1906.58	1908.84	1908.35
MW-7	1906.20	1910.52	4.32	1907.26	1906.61	1906.83	1908.74	1910.52	1909.89	1908.04	1908.40	1907.70	1906.64	1908.70	1908.96	1907.87	1906.90
MW-8	1906.29	1911.16	4.87	1907.47	1907.19	1907.21	1909.96	1909.21	1909.07	1907.92	1908.99	1908.43	1906.34	1908.78	1910.40	1907.61	1906.29
MW-9	1905.91	1911.69	5.78	1907.72	1907.12	1907.33	1910.39	1908.66	1909.01	1908.14	1909.32	1908.80	1906.57	1908.82	1910.69	1907.20	1906.18
MW-10	1905.89	1912.06	6.17	1907.83	1907.35	1907.84	1910.64	1908.61	1908.92	1908.39	1909.87	1908.98	1906.78	1908.61	1910.90	1906.79	1905.94
MW-11	1905.86	1912.06	6.20	1907.87	1907.30	1907.90	1910.62	1908.20	1908.86	1908.38	1909.89	1908.94	1906.41	1908.63	1910.90	1906.93	1905.95
MW-12	1905.58	1912.19	6.61	1908.14	1906.68	1907.73	1910.73	1909.36	1909.49	1908.46	1909.63	1908.35	1906.46	1908.94	1910.46	1907.48	1905.58
MW-13	1906.12	1911.56	5.44	1907.69	1907.21	1907.33	1910.36	1908.93	1909.03	1907.88	1908.95	1908.63	1906.47	1908.86	1910.64	1907.40	1906.21
MW-14	1906.04	1911.19	5.15	1907.41	1907.26	1907.36	1910.21	1908.98	1908.92	1907.88	1909.15	1908.51	1906.24	1908.69	1910.55	1907.33	1906.04
MW-15	1905.87	1912.03	6.16	1907.41	1907.25	1907.57	1910.67	1908.36	1908.90	1908.18	1909.54	1909.92	1906.44	1908.63	1910.81	1906.93	1906.08
MW-16	1905.98	1911.75	5.77	1907.84	1907.26	1907.68	1910.50	1908.59	1908.98	1908.17	1909.51	1908.57	1906.23	1908.69	1910.61	1907.18	1906.00
MW-17	1905.26	1911.81	6.55	1907.74	1905.26	1907.81	1910.57	1908.40	1908.83	1908.06	1909.40	1908.80	1906.59	1910.25	1911.71	---	---
MW-18	1906.15	1911.20	5.05	1907.24	1907.65	1907.21	1909.73	1909.35	1909.00	1907.28	1908.24	1908.10	1906.15	1909.32	1910.60	---	---
MW-19	1906.52	1911.80	5.28	1907.70	1907.56	1907.78	1910.49	1908.59	1908.87	1908.02	1909.37	1908.48	1906.52	NM[2]	NM[2]	---	---
MW-20	1906.35	1911.33	4.98	1907.62	1907.18	1907.60	1910.29	1908.89	1909.01	1908.01	1909.15	1908.55	1906.35	1908.81	1910.43	1907.52	NM
MW-21S	1909.52	1910.97	1.45	--	--	--	--	--	--	--	--	--	---	---	---	---	---
MW-21M	1906.28	1911.50	5.22	1907.64	1907.15	1907.30	1910.13	1909.00	1909.09	1908.05	1909.12	1908.47	1906.38	1908.85	1910.41	1907.53	1906.28
MW-21D	1906.25	1911.46	5.21	1907.69	1907.34	1907.55	1910.28	1908.94	1909.19	1907.90	1909.19	1908.54	1906.38	1908.88	1910.41	1907.73	1906.25
MW-22S	1906.32	1911.79	5.47	1907.69	1907.46	1907.41	1910.42	1909.38	1909.02	1907.61	1908.77	1908.64	1906.67	1909.16	1910.85	1907.84	1906.41
MW-22D	1906.16	1910.85	4.69	1907.84	1907.33	1907.66	1910.65	1908.53	1908.95	1908.14	1909.40	1908.54	1907.73	1908.80	1910.85	1907.20	1906.16
MW-23S	1906.47	1911.20	4.73	1907.21	1907.26	1906.84	1909.63	1909.41	1908.96	1906.82	1908.24	1908.07	1906.48	1909.44	1908.43	1909.02	1906.47
MW-23D	1906.30	1911.27	4.97	1907.50	1907.47	1906.88	1909.92	1909.33	1909.10	1907.59	1908.65	1908.30	1906.30	1909.05	1909.52	1907.80	1906.38
MW-24S	1913.56	1913.61	0.05	--	--	--	--	--	--	--	--	1913.59	1913.56	1913.56	1913.57	1913.61	---
MW-24I	1906.40	1908.14	1.74	--	--	--	--	--	--	--	--	1906.82	1906.49	1907.63	1906.40	1908.14	1907.39
MW-24D	1906.52	1908.15	1.63	--	--	--	--	--	--	--	--	1906.98	1906.52	1907.57	1906.60	1908.15	1907.52
MW-25S	1909.94	1910.43	0.49	--	--	--	--	--	--	--	--	1910.21	1910.18	1910.25	1910.43	1909.94	---
MW-25I	1905.92	1910.66	4.74	--	--	--	--	--	--	--	--	1908.72	1906.32	1908.72	1910.66	1907.11	1905.92
MW-25D	1905.94	1910.66	4.72	--	--	--	--	--	--	--	--	1908.76	1906.38	1908.72	1910.66	1907.09	1905.94
HMD[1]	1903.90	1910.92	7.02	1907.27	1905.94	1907.25	1908.95	1906.49	1906.91	1906.83	1909.11	1907.69	1907.70	1907.87	1908.88	1904.69	1904.54

Notes:

Groundwater elevations data included above are measured in feet above mean sea level.

[1] = The elevation data cited is for Horse Mesa Dam located approximately 8 miles from TU044. The data was included to show the relative changes in surface water depths in Apache Lake over time relative to the changes at the site. Due to the distance of the measured surface water it is not suitable for use in determining groundwater flow.

[2] = Groundwater elevation could not be determined due to impacts from PetroFix injections.

= well did not exist at the time the data was collected

-- = well dry

NA = groundwater was not accessible due to damage and/or obstruction in well at the time the data was collected

D = Deep well

S = Shallow well

M = Middle well

HMD = Apache Lake Horse Mesa Dam

NM = not measured

Table 2 - Summary of Groundwater Elevations
Second Semi-Annual Groundwater Monitoring Report - 2023
TU044 (Waterdog Recreational Annex), Luke AFB, Arizona

Monitoring Well	Measurement Date	Measuring Point Elevation (feet amsl)	Top of Screen (feet amsl)	Bottom of Screen (feet amsl)	Depth to Water (feet btoc)	Groundwater Elevation (feet amsl)	Measured Total Depth	Measured Total Depth Elevation
MW-1	13-Dec-23	1929.09	1919.09	1909.09	Dry	---	20.36	1908.73
MW-2	13-Dec-23	1928.86	1918.86	1898.86	23.12	1905.74	30.35	1898.51
MW-3	13-Dec-23	1931.04	1921.04	1901.04	24.73	1906.31	26.98	1904.06
MW-5	13-Dec-23	1932.61	1922.61	1892.61	NM[1]	---	25.40	1907.21
MW-6	13-Dec-23	1961.36	1931.36	1891.36	53.01	1908.35	71.97	1889.39
MW-7	13-Dec-23	1949.97	1929.97	1889.97	43.07	1906.90	49.79	1900.18
MW-8	14-Dec-23	1940.86	1900.86	1885.86	34.57	1906.29	56.30	1884.56
MW-9	13-Dec-23	1930.68	1900.68	1875.68	24.50	1906.18	53.11	1877.57
MW-10	13-Dec-23	1934.01	1914.01	1874.01	28.07	1905.94	61.46	1872.55
MW-11	14-Dec-23	1930.51	1910.51	1870.51	24.56	1905.95	58.47	1872.04
MW-12	13-Dec-23	1942.19	1916.74	1876.74	36.61	1905.58	58.04	1884.15
MW-13	14-Dec-23	1930.11	1910.11	1870.11	23.90	1906.21	60.50	1869.61
MW-14	14-Dec-23	1940.54	1920.54	1880.54	34.50	1906.04	60.91	1879.63
MW-15	14-Dec-23	1929.76	1909.76	1869.76	23.68	1906.08	60.71	1869.05
MW-16	13-Dec-23	1939.03	1919.03	1879.03	33.03	1906.00	47.55	1891.48
MW-17	13-Dec-23	1929.39	1914.39	1894.39	Dry	---	18.22	1911.17
MW-18	13-Dec-23	1930.82	1915.82	1895.82	Dry	---	23.58	1907.24
MW-19	13-Dec-23	1931.20	1916.20	1896.20	Dry	---	16.44	1914.76
MW-20	---	1941.20	1916.20	1876.20	NM	---	---	---
MW-21S	13-Dec-23	1942.40	1919.41	1909.41	Dry	---	---	---
MW-21M	13-Dec-23	1942.39	1907.19	1897.19	36.11	1906.28	45.98	1896.41
MW-21D	13-Dec-23	1942.38	1892.58	1882.58	36.13	1906.25	59.55	1882.83
MW-22S	13-Dec-23	1929.29	1912.79	1902.79	22.88	1906.41	26.56	1902.73
MW-22D	14-Dec-23	1929.35	1899.35	1889.35	23.19	1906.16	40.03	1889.32
MW-23S	13-Dec-23	1931.48	1914.98	1904.98	25.01	1906.47	26.36	1905.12
MW-23D	14-Dec-23	1931.49	1901.49	1891.49	25.11	1906.38	40.06	1891.43
MW-24S	13-Dec-23	1943.23	1928.23	1913.23	Dry	---	---	---
MW-24I	13-Dec-23	1943.29	1908.29	1898.29	35.90	1907.39	45.22	1898.07
MW-24D	13-Dec-23	1943.23	1893.23	1883.23	35.71	1907.52	58.10	1885.13
MW-25S	13-Dec-23	1939.89	1924.89	1909.89	Dry	---	---	---
MW-25I	13-Dec-23	1939.88	1904.88	1894.88	33.96	1905.92	45.15	1894.73
MW-25D	13-Dec-23	1939.91	1889.91	1879.91	33.97	1905.94	64.07	1875.84

Notes:

[1] = obstruction encountered in well preventing depth to water reading

--- = No data (dry well)

amsl = above mean sea level

btoc = below top of casing (measuring point is top of casing)

S = Shallow

M = Intermediate

D = Deep

NM = not measured

Table 3 - Summary of Chemical Analysis Completed
Second Semi-Annual Groundwater Monitoring Report - 2023
TU044 (Waterdog Recreational Annex), Luke AFB, Arizona

Well Name	Sample Number	Sample Coordinates (Northing, Easting)[1]		Analytical Parameter December 2023						Notes
				VOCs[2]	Metals - Total Lead[3]	Nitrogen, Nitrate-Nitrite[4]	Sulfate[5]	Field Duplicate Samples[6]	MS/MSD Samples[7]	
MW-2	TU044-MW2	945070.5	911441.01	X	X	X	X			
MW-3	TU044-MW3	945068.75	911465.75	X	X	X	X			
MW-8	TU044-MW8	945039.21	911509.4	X	X	X	X			
MW-9	TU044-MW9	945071.65	911459.36	X	X	X	X			
MW-11	TU044-MW11	945048.31	911423.03	X	X	X	X	X		
MW-13	TU044-MW13	945097.53	911464.14	X	X	X	X			
MW-14	TU044-MW14	945070.17	911523.54	X	X	X	X		X	
MW-15	TU044-MW15	945127.98	911448.37	X	X	X	X			
MW-16	TU044-MW16	945127.4	911497							Carbon in well prevented collection of groundwater sample.
MW-21M	TU044-MW21M	945032.37	911480.72	X	X	X	X			
MW-21D	TU044-MW21D	945032.23	911480.55	X	X	X	X	X		
MW-22S	TU044-MW22S	945113.95	911457.86	X	X	X	X			
MW-22D	TU044-MW22D	945113.85	911457.59	X	X	X	X			
MW-23S	TU044-MW23S	945076.01	911470.14	X	X	X	X			
MW-23D	TU044-MW23D	945075.78	911470.3	X	X	X	X			
MW-24I	TU044-MW24I	945010.3815	911467.4731	X	X	X	X			
MW-24D	TU044-MW24D	945010.7476	911467.6477	X	X	X	X			
MW-25I	TU044-MW25I	945089.2581	911536.8977	X	X	X	X			
MW-25D	TU044-MW25D	945089.2463	911536.5395	X	X	X	X			
Totals				**18**	**18**	**18**	**18**	**2**	**1**	

Notes:

[1] Horizontal coordinates are in New Mexico East State Plane, North American Datum of 1983.

[2] VOC prep and analysis via USEPA Methods 5030B and 8260B

[3] Metals prep and analysis via USEPA Methods 3020A and 6020A

[4] Nitrate analysis via USEPA Method 353.2

[5] Sulfate analysis via USEPA Method 9056A

[6] Field duplicate samples will be collected at a rate of 10% (1 per 10 samples collected) for laboratory analysis.

[7] MS/MSD samples will be collected at a rate of 5% (1 per 20 samples collected) for laboratory analysis.

Laboratory analysis to be completed by Test America.

D = deep

I = intermediate

M = medium

MS/MSD = matrix spike/matrix spike duplicate

NS = Not Sampled

S = shallow

USEPA = United States Environmental Protection Agency

VOC = volatile organic compound

X = sample collected

Table 4 - Summary of Groundwater Analytical Results
Second Semi-Annual Groundwater Monitoring Report - 2023
TU044 (Waterdog Recreational Annex), Luke AFB, Arizona

			Location ID:	TU044-MW2	TU044-MW3	TU044-MW8	TU044-MW9	TU044-MW11	TU044-MW11	TU044-MW13	TU044-MW14	TU044-MW15	TU044-MW21M	TU044-MW21D	TU044-MW21D	TU044-MW22S	TU044-MW22D	TU044-MW23S
			Sample Date:	12/13/2023	12/13/2023	12/14/2023	12/14/2023	12/14/2023	12/14/2023	12/14/2023	12/14/2023	12/14/2023	12/13/2023	12/13/2023	12/13/2023	12/14/2023	12/14/2023	12/13/2023
			Sample Type:	N	N	N	N	N	FD	N	N	N	N	N	FD	N	N	N
Parameter	**Standard**	**Units**																
Inorganic E353.2																		
Nitrogen, Nitrate-Nitrite	10_{AWQS}	mg/L		< 0.08	1	***15***	***14***	< 0.08	< 0.08	< 0.08	< 0.044 U	***52***	< 0.08	< 0.08	< 0.08	< 0.08	< 0.08	< 0.08
SW9056A																		
Sulfate		mg/L		290	3900	54	310	160	200	< 2.5	170	2200	< 1 U	94	97	1500	< 1 U	---
Metals SW846 3020A and 6020A - Total																		
Lead	50_{AWQS}	µg/L		1.2	***51***	< 0.7	< 0.7	0.25 J	0.33 J	< 0.7	< 0.7	< 0.7	0.77 J	2.7	3.1	0.29 J	< 0.7	---
Volatile Organics SW846 5030B and 8260B																		
1,1,1-Trichloroethane	200_{AWQS}	µg/L		< 25	< 0.5	< 0.5	< 0.5	< 2	< 0.5	< 50	< 0.5	< 0.5	< 25	< 0.5	< 0.5	< 10	< 100	< 25
1,1,2,2-Tetrachloroethane	0.2_{AWQS}	µg/L		< 40	< 0.8	< 0.8	< 0.8	< 3.2	< 0.8	< 80	< 0.8	< 0.8	< 40	< 0.8	< 0.8	< 16	< 160	< 40
1,1,2-Trichloroethane	5_{AWQS}	µg/L		< 40	< 0.8	< 0.8	< 0.8	< 3.2	< 0.8	< 80	< 0.8	< 0.8	< 40	< 0.8	< 0.8	< 16	< 160	< 40
1,1-Dichloroethane		µg/L		< 40	< 0.8	< 0.8	< 0.8	< 3.2	< 0.8	< 80	< 0.8	< 0.8	< 40	< 0.8	< 0.8	< 16	< 160	< 40
1,1-Dichloroethene	7_{AWQS}	µg/L		< 40	< 0.8	< 0.8	< 0.8	< 3.2	< 0.8	< 80	< 0.8	< 0.8	< 40	< 0.8	< 0.8	< 16	< 160	< 40
1,1-Dichloropropene		µg/L		< 40	< 0.8	< 0.8	< 0.8	< 3.2	< 0.8	< 80	< 0.8	< 0.8	< 40	< 0.8	< 0.8	< 16	< 160	< 40
1,2,3-Trichlorobenzene		µg/L		< 40	< 0.8	< 0.8	< 0.8	< 3.2	< 0.8	< 80	< 0.8	< 0.8	< 40	< 0.8	< 0.8	< 16	< 160	< 40
1,2,3-Trichloropropane		µg/L		< 90	< 1.8	< 1.8	< 1.8	< 7.2	< 1.8	< 180	< 1.8	< 1.8	< 90	< 1.8	< 1.8	< 36	< 360	< 90
1,2,4-Trimethylbenzene		µg/L		< 20	< 0.4	< 0.4	< 0.4	< 1.6	< 0.4	60 J	< 0.4	< 0.4	< 20	< 0.4	< 0.4	< 8	< 80	< 20
1,2-Dibromoethane (1,2-EDB)	0.05_{AWQS}	µg/L		< 40	< 0.8	< 0.8	< 0.8	< 3.2	< 0.8	< 80	< 0.8	< 0.8	< 40	< 0.8	< 0.8	< 16	< 160	< 40
1,2-Dichlorobenzene	600_{AWQS}	µg/L		< 25	< 0.5	< 0.5	< 0.5	< 2	< 0.5	< 50	< 0.5	< 0.5	< 25	< 0.5	< 0.5	< 10	< 100	< 25
1,2-Dichloroethane	5_{AWQS}	µg/L		< 40	< 0.8	< 0.8	< 0.8	< 3.2	< 0.8	< 80	< 0.8	< 0.8	< 40	< 0.8	< 0.8	< 16	< 160	< 40
1,2-Dichloropropane	5_{AWQS}	µg/L		< 40	< 0.8	< 0.8	< 0.8	< 3.2	< 0.8	< 80	< 0.8	< 0.8	< 40	< 0.8	< 0.8	< 16	< 160	< 40
1,3,5-Trimethylbenzene		µg/L		< 25	< 0.5	< 0.5	< 0.5	< 2	< 0.5	< 50	< 0.5	< 0.5	< 25	< 0.5	< 0.5	< 10	< 100	< 25
1,3-Butadiene		µg/L		< 50 UJ	< 1 UJ	< 1 UJ	< 1 UJ	< 4 UJ	< 1 UJ	< 100 UJ	< 1 UJ	< 1 UJ	< 50 UJ	< 1 UJ	< 1 UJ	< 20 UJ	< 200 UJ	< 50 UJ
1,3-Dichlorobenzene		µg/L		< 20	< 0.4	< 0.4	< 0.4	< 1.6	< 0.4	< 40	< 0.4	< 0.4	< 20	< 0.4	< 0.4	< 8	< 80	< 20
1,3-Dichloropropane		µg/L		< 40	< 0.8	< 0.8	< 0.8	< 3.2	< 0.8	< 80	< 0.8	< 0.8	< 40	< 0.8	< 0.8	< 16	< 160	< 40
1,4-Dichlorobenzene	75_{AWQS}	µg/L		< 25	< 0.5	< 0.5	< 0.5	< 2	< 0.5	< 50	< 0.5	< 0.5	< 25	< 0.5	< 0.5	< 10	< 100	< 25
2,2-Dichloropropane		µg/L		< 40	< 0.8	< 0.8	< 0.8	< 3.2	< 0.8	< 80	< 0.8	< 0.8	< 40	< 0.8	< 0.8	< 16	< 160	< 40
2-Chloroethyl Vinyl Ether		µg/L		< 40	< 0.8	< 0.8	< 0.8	< 3.2	< 0.8	< 80	< 0.8	< 0.8	< 40	< 0.8	< 0.8	< 16	< 160	< 40
2-Chlorotoluene		µg/L		< 20	< 0.4	< 0.4	< 0.4	< 1.6	< 0.4	< 40	< 0.4	< 0.4	< 20	< 0.4	< 0.4	< 8	< 80	< 20
2-Hexanone		µg/L		< 200	< 4	< 4	< 4	< 16	< 4	< 400	< 4	< 4	< 200	< 4	< 4	< 80	< 800	< 200
4-Chlorotoluene		µg/L		< 40	< 0.8	< 0.8	< 0.8	< 3.2	< 0.8	< 80	< 0.8	< 0.8	< 40	< 0.8	< 0.8	< 16	< 160	< 40
4-Ethyltoluene		µg/L		< 50 UJ	< 1 UJ	< 1 UJ	< 1 UJ	< 4 UJ	< 1 UJ	< 100 UJ	< 1 UJ	< 1 UJ	< 50 UJ	< 1 UJ	< 1 UJ	< 20 UJ	< 200 UJ	< 50 UJ
Acetone		µg/L		< 400	< 8	< 8	< 8	< 32	< 8	< 800	< 8	< 8	< 400	< 8	< 8	< 160	< 1600	< 400
Benzene	5_{AWQS}	µg/L		< 40	< 0.8	< 0.8	< 0.8	< 3.2	< 0.8	***6400***	< 0.8	< 0.8	***19 J***	< 0.8	< 0.8	< 16	***1200***	< 40
Bromobenzene		µg/L		< 25	< 0.5	< 0.5	< 0.5	< 2	< 0.5	< 50	< 0.5	< 0.5	< 25	< 0.5	< 0.5	< 10	< 100	< 25
Bromochloromethane		µg/L		< 40	< 0.8	< 0.8	< 0.8	< 3.2	< 0.8	< 80	< 0.8	< 0.8	< 40	< 0.8	< 0.8	< 16	< 160	< 40
Bromodichloromethane	80_{AWQS-1}	µg/L		< 25	< 0.5	< 0.5	< 0.5	< 2	< 0.5	< 50	< 0.5	< 0.5	< 25	< 0.5	< 0.5	< 10	< 100	< 25
Bromoform	80_{AWQS-1}	µg/L		< 90	< 1.8	< 1.8	< 1.8	< 7.2	< 1.8	< 180	< 1.8	< 1.8	< 90	< 1.8	< 1.8	< 36	< 360	< 90
Carbon Disulfide		µg/L		< 40	< 0.8	< 0.8	< 0.8	< 3.2	< 0.8	< 80	< 0.8	< 0.8	< 40	< 0.8	< 0.8	< 16	< 160	< 40
Carbon Tetrachloride	5_{AWQS}	µg/L		< 40	< 0.8	< 0.8	< 0.8	< 3.2	< 0.8	< 80	< 0.8	< 0.8	< 40	< 0.8	< 0.8	< 16	< 160	< 40
Chlorobenzene	100_{AWQS}	µg/L		< 40	< 0.8	< 0.8	< 0.8	< 3.2	< 0.8	< 80	< 0.8	< 0.8	< 40	< 0.8	< 0.8	< 16	< 160	< 40
Chloroethane		µg/L		< 80	< 1.6	< 1.6	< 1.6	< 6.4	< 1.6	< 160	< 1.6	< 1.6	< 80	< 1.6	< 1.6	< 32	< 320	< 80
Chloroform	80_{AWQS-1}	µg/L		< 40	< 0.8	< 0.8	< 0.8	< 3.2	< 0.8	< 80	< 0.8	< 0.8	< 40	< 0.8	< 0.8	< 16	< 160	< 40
Chloromethane		µg/L		< 50 UJ	< 1 UJ	< 1	< 1	< 4	< 1	< 100	< 1	< 1	< 50 UJ	< 1 UJ	< 1 UJ	< 20	< 200	< 50 UJ
cis-1,2-Dichloroethylene	70_{AWQS}	µg/L		< 20	< 0.4	< 0.4	< 0.4	< 1.6	< 0.4	< 40	< 0.4	< 0.4	< 20	< 0.4	< 0.4	< 8	< 80	< 20
cis-1,3-Dichloropropene		µg/L		< 90	< 1.8	< 1.8	< 1.8	< 7.2	< 1.8	< 180	< 1.8	< 1.8	< 90	< 1.8	< 1.8	< 36	< 360	< 90
Cyclohexane		µg/L		< 40	< 0.8	< 0.8	< 0.8	< 3.2	< 0.8	130	< 0.8	< 0.8	330	< 0.8	< 0.8	< 16	150 J	< 40
Dibromochloromethane	80_{AWQS-1}	µg/L		< 90	< 1.8	< 1.8	< 1.8	< 7.2	< 1.8	< 180	< 1.8	< 1.8	< 90	< 1.8	< 1.8	< 36	< 360	< 90
Dichlorodifluoromethane		µg/L		< 130 UJ	< 2.5 UJ	< 2.5	< 2.5	< 10	< 2.5	< 250	< 2.5	< 2.5	< 130 UJ	< 2.5 UJ	< 2.5 UJ	< 50	< 500	< 130 UJ
Dicyclopentadiene		µg/L		< 50 UJ	< 1 UJ	< 1 UJ	< 1 UJ	< 4 UJ	< 1 UJ	< 100 UJ	< 1 UJ	< 1 UJ	< 50 UJ	< 1 UJ	< 1 UJ	< 20 UJ	< 200 UJ	< 50 UJ
Ethylbenzene	700_{AWQS}	µg/L		< 20	< 0.4	< 0.4	< 0.4	< 1.6	< 0.4	95 J	< 0.4	< 0.4	< 20	< 0.4	< 0.4	< 8	< 80	< 20
Isopropylbenzene		µg/L		< 25	< 0.5	< 0.5	< 0.5	< 2	< 0.5	< 50	< 0.5	< 0.5	< 25	< 0.5	< 0.5	< 10	< 100	< 25
Methyl Ethyl Ketone		µg/L		< 600	< 12	< 12	< 12	< 48	< 12	< 1200	< 12	< 12	< 600	< 12	< 12	< 240	< 2400	< 600
Methyl Isobutyl Ketone		µg/L		< 160	< 3.2	< 3.2	< 3.2	< 13	< 3.2	< 320	< 3.2	< 3.2	< 160	< 3.2	< 3.2	< 64	< 640	< 160
Methylcyclohexane		µg/L		< 20	< 0.4	< 0.4	< 0.4	< 1.6	< 0.4	240	< 0.4	< 0.4	980	< 0.4	< 0.4	< 8	310	< 20
Methylene Chloride	5_{AWQS}	µg/L		< 90	< 1.8	< 1.8	< 1.8	< 7.2	< 1.8	< 180	< 1.8	< 1.8	< 90	< 1.8	< 1.8	< 36	< 360	< 90
Naphthalene	140_{AWQS}	µg/L		< 40	< 0.8	< 0.8	< 0.8	< 3.2	< 0.8	96 J	< 0.8	< 0.8	< 40	< 0.8	< 0.8	< 16	< 160	< 40
n-Butylbenzene		µg/L		< 40	< 0.8	< 0.8	< 0.8	< 3.2	< 0.8	< 80	< 0.8	< 0.8	< 40	< 0.8	< 0.8	< 16	< 160	< 40
n-Hexane		µg/L		< 40	< 0.8	< 0.8	< 0.8	< 3.2	< 0.8	77 J	< 0.8	< 0.8	190	< 0.8	< 0.8	< 16	36 J	< 40

Table 4 - Summary of Groundwater Analytical Results
Second Semi-Annual Groundwater Monitoring Report - 2023
TU044 (Waterdog Recreational Annex), Luke AFB, Arizona

			Location ID:	TU044-MW2	TU044-MW3	TU044-MW8	TU044-MW9	TU044-MW11	TU044-MW11	TU044-MW13	TU044-MW14	TU044-MW15	TU044-MW21M	TU044-MW21D	TU044-MW21D	TU044-MW22S	TU044-MW22D	TU044-MW23S
			Sample Date:	12/13/2023	12/13/2023	12/14/2023	12/14/2023	12/14/2023	12/14/2023	12/14/2023	12/14/2023	12/14/2023	12/13/2023	12/13/2023	12/13/2023	12/14/2023	12/14/2023	12/13/2023
			Sample Type:	N	N	N	N	N	FD	N	N	N	N	N	FD	N	N	N
Parameter	**Standard**	**Units**																
n-Propylbenzene		µg/L		< 40	< 0.8	< 0.8	< 0.8	< 3.2	< 0.8	< 80	< 0.8	< 0.8	< 40	< 0.8	< 0.8	< 16	< 160	< 40
p-Cymene (p-Isopropyltoluene)		µg/L		< 40	< 0.8	< 0.8	< 0.8	< 3.2	< 0.8	< 80	< 0.8	< 0.8	< 40	< 0.8	< 0.8	< 16	< 160	< 40
Propylene		µg/L		< 50 UJ	< 1 UJ	< 1 UJ	< 1 UJ	< 4 UJ	< 1 UJ	< 100 UJ	< 1 UJ	< 1 UJ	< 50 UJ	< 1 UJ	< 1 UJ	< 20 UJ	< 200 UJ	< 50 UJ
sec-Butylbenzene		µg/L		< 40	< 0.8	< 0.8	< 0.8	< 3.2	< 0.8	< 80	< 0.8	< 0.8	< 40	< 0.8	< 0.8	< 16	< 160	< 40
Styrene	100_{AWQS}	µg/L		< 40	< 0.8	< 0.8	< 0.8	< 3.2	< 0.8	< 80	< 0.8	< 0.8	< 40	< 0.8	< 0.8	< 16	< 160	< 40
t-Butylbenzene		µg/L		< 40	< 0.8	< 0.8	< 0.8	< 3.2	< 0.8	< 80	< 0.8	< 0.8	< 40	< 0.8	< 0.8	< 16	< 160	< 40
Tert-Butyl Methyl Ether (MTBE)	94_{AWQS-2}	µg/L		***2200***	1 J	< 0.8	68	3.8 J	3.3 J	***6000***	2.5 J	6.2	***2900***	14	14	***1200***	***15000***	< 40
Tetrachloroethylene (PCE)	5_{AWQS}	µg/L		< 40	< 0.8	< 0.8	< 0.8	< 3.2	< 0.8	< 80	< 0.8	< 0.8	< 40	< 0.8	< 0.8	< 16	< 160	< 40
Toluene	1000_{AWQS}	µg/L		< 20	< 0.4	< 0.4	< 0.4	< 1.6	< 0.4	61 J	< 0.4	< 0.4	< 20	< 0.4	< 0.4	< 8	< 80	< 20
Total Xylenes	10000_{AWQS}	µg/L		< 40	< 0.8	< 0.8	< 0.8	< 3.2	< 0.8	70 J	< 0.8	< 0.8	< 40	< 0.8	< 0.8	< 16	77 J	< 40
trans-1,2-Dichloroethene	100_{AWQS}	µg/L		< 25	< 0.5	< 0.5	< 0.5	< 2	< 0.5	< 50	< 0.5	< 0.5	< 25	< 0.5	< 0.5	< 10	< 100	< 25
trans-1,3-Dichloropropene		µg/L		< 90	< 1.8	< 1.8	< 1.8	< 7.2	< 1.8	< 180	< 1.8	< 1.8	< 90	< 1.8	< 1.8	< 36	< 360	< 90
Trichloroethylene (TCE)	5_{AWQS}	µg/L		< 20	< 0.4	< 0.4	< 0.4	< 1.6	< 0.4	< 40	< 0.4	< 0.4	< 20	< 0.4	< 0.4	< 8	< 80	< 20
Trichlorofluoromethane		µg/L		< 40	< 0.8	< 0.8	< 0.8	< 3.2	< 0.8	< 80	< 0.8	< 0.8	< 40	< 0.8	< 0.8	< 16	< 160	< 40
Vinyl Acetate		µg/L		< 100	< 2	< 2	< 2	< 8	< 2	< 200	< 2	< 2	< 100	< 2	< 2	< 40	< 400	< 100
Vinyl Chloride	2_{AWQS}	µg/L		< 50	< 1	< 1	< 1	< 4	< 1	< 100	< 1	< 1	< 50	< 1	< 1	< 20	< 200	< 50

Qualifiers:
F = The result is an estimated detection between the LOQ and LOD.
FJ = The result is an estimated detection between the LOQ and LOD and further estimated due to related quality control being out of criteria.
J = The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.
U = The analyte was analyzed for, but was not detected.
UJ = The analyte was not detected. However, the reported LOQ is approximate and may or may not represent the actual LOQ necessary to accurately and precisely measure the analyte in the sample.
< = The result was less than the limit of detection
Sample Type:
N = Normal Sample
FD = Field Duplicate
Units:
mg/L = milligrams per liter
µg/L = micrograms per liter
Notes:
--- = no sample collected due to excess carbon in well
USEPA = United States Environmental Protection Agency
AWQS = Arizona Aquifer Water Quality Standard
LOD = Limit of Detection

Table 4 - Summary of Groundwater Analytical Results
Second Semi-Annual Groundwater Monitoring Report - 2023
TU044 (Waterdog Recreational Annex), Luke AFB, Arizona

			Location ID:	TU044-MW23D	TU044-MW24I	TU044-MW24D	TU044-MW25I	TU044-MW25D
			Sample Date:	12/14/2023	12/13/2023	12/13/2023	12/13/2023	12/13/2023
			Sample Type:	N	N	N	N	N
Parameter	**Standard**	**Units**						
Inorganic E353.2								
Nitrogen, Nitrate-Nitrite	10_{AWQS}	mg/L	< 0.08	< 0.044 U	< 0.08	< 0.08	0.16 J
SW9056A								
Sulfate		mg/L	160	140	5.4 J	97	120
Metals SW846 3020A and 6020A - Total								
Lead	50_{AWQS}	µg/L	0.3 J	0.36 J	0.25 J	< 0.7	0.42 J
Volatile Organics SW846 5030B and 8260B								
1,1,1-Trichloroethane	200_{AWQS}	µg/L	< 100	< 0.5	< 0.5	< 0.5	< 0.5
1,1,2,2-Tetrachloroethane	0.2_{AWQS}	µg/L	< 160	< 0.8	< 0.8	< 0.8	< 0.8
1,1,2-Trichloroethane	5_{AWQS}	µg/L	< 160	< 0.8	< 0.8	< 0.8	< 0.8
1,1-Dichloroethane		µg/L	< 160	< 0.8	< 0.8	< 0.8	< 0.8
1,1-Dichloroethene	7_{AWQS}	µg/L	< 160	< 0.8	< 0.8	< 0.8	< 0.8
1,1-Dichloropropene		µg/L	< 160	< 0.8	< 0.8	< 0.8	< 0.8
1,2,3-Trichlorobenzene		µg/L	< 160	< 0.8	< 0.8	< 0.8	< 0.8
1,2,3-Trichloropropane		µg/L	< 360	< 1.8	< 1.8	< 1.8	< 1.8
1,2,4-Trimethylbenzene		µg/L	< 80	< 0.4	< 0.4	< 0.4	< 0.4
1,2-Dibromoethane (1,2-EDB)	0.05_{AWQS}	µg/L	< 160	< 0.8	< 0.8	< 0.8	< 0.8
1,2-Dichlorobenzene	600_{AWQS}	µg/L	< 100	< 0.5	< 0.5	< 0.5	< 0.5
1,2-Dichloroethane	5_{AWQS}	µg/L	< 160	< 0.8	< 0.8	< 0.8	< 0.8
1,2-Dichloropropane	5_{AWQS}	µg/L	< 160	< 0.8	< 0.8	< 0.8	< 0.8
1,3,5-Trimethylbenzene		µg/L	< 100	< 0.5	< 0.5	< 0.5	< 0.5
1,3-Butadiene		µg/L	< 200 UJ	< 1 UJ	< 1 UJ	< 1 UJ	< 1 UJ
1,3-Dichlorobenzene		µg/L	< 80	< 0.4	< 0.4	< 0.4	< 0.4
1,3-Dichloropropane		µg/L	< 160	< 0.8	< 0.8	< 0.8	< 0.8
1,4-Dichlorobenzene	75_{AWQS}	µg/L	< 100	< 0.5	< 0.5	< 0.5	< 0.5
2,2-Dichloropropane		µg/L	< 160	< 0.8	< 0.8	< 0.8	< 0.8
2-Chloroethyl Vinyl Ether		µg/L	< 160	< 0.8	< 0.8	< 0.8	< 0.8
2-Chlorotoluene		µg/L	< 80	< 0.4	< 0.4	< 0.4	< 0.4
2-Hexanone		µg/L	< 800	< 4	< 4	< 4	< 4
4-Chlorotoluene		µg/L	< 160	< 0.8	< 0.8	< 0.8	< 0.8
4-Ethyltoluene		µg/L	< 200 UJ	< 1 UJ	< 1 UJ	< 1 UJ	< 1 UJ
Acetone		µg/L	< 1600	< 8	< 8	< 8	< 8
Benzene	5_{AWQS}	µg/L	< 160	< 0.8	< 0.8	< 0.8	< 0.8
Bromobenzene		µg/L	< 100	< 0.5	< 0.5	< 0.5	< 0.5
Bromochloromethane		µg/L	< 160	< 0.8	< 0.8	< 0.8	< 0.8
Bromodichloromethane	80_{AWQS-1}	µg/L	< 100	< 0.5	< 0.5	< 0.5	< 0.5
Bromoform	80_{AWQS-1}	µg/L	< 360	< 1.8	< 1.8	< 1.8	< 1.8
Carbon Disulfide		µg/L	< 160	< 0.8	< 0.8	< 0.8	< 0.8
Carbon Tetrachloride	5_{AWQS}	µg/L	< 160	< 0.8	< 0.8	< 0.8	< 0.8
Chlorobenzene	100_{AWQS}	µg/L	< 160	< 0.8	< 0.8	< 0.8	< 0.8
Chloroethane		µg/L	< 320	< 1.6	< 1.6	< 1.6	< 1.6
Chloroform	80_{AWQS-1}	µg/L	< 160	< 0.8	< 0.8	< 0.8	< 0.8
Chloromethane		µg/L	< 200	< 1 UJ	< 1 UJ	< 1 UJ	< 1 UJ
cis-1,2-Dichloroethylene	70_{AWQS}	µg/L	< 80	< 0.4	< 0.4	< 0.4	< 0.4
cis-1,3-Dichloropropene		µg/L	< 360	< 1.8	< 1.8	< 1.8	< 1.8
Cyclohexane		µg/L	< 160	< 0.8	< 0.8	< 0.8	< 0.8
Dibromochloromethane	80_{AWQS-1}	µg/L	< 360	< 1.8	< 1.8	< 1.8	< 1.8
Dichlorodifluoromethane		µg/L	< 500	< 2.5 UJ	< 2.5 UJ	< 2.5 UJ	< 2.5 UJ
Dicyclopentadiene		µg/L	< 200 UJ	< 1 UJ	< 1 UJ	< 1 UJ	< 1 UJ
Ethylbenzene	700_{AWQS}	µg/L	< 80	< 0.4	< 0.4	< 0.4	< 0.4
Isopropylbenzene		µg/L	< 100	< 0.5	< 0.5	< 0.5	< 0.5
Methyl Ethyl Ketone		µg/L	< 2400	< 12	< 12	< 12	< 12
Methyl Isobutyl Ketone		µg/L	< 640	< 3.2	< 3.2	< 3.2	< 3.2
Methylcyclohexane		µg/L	< 80	< 0.4	< 0.4	< 0.4	< 0.4
Methylene Chloride	5_{AWQS}	µg/L	< 360	< 1.8	< 1.8	< 1.8	< 1.8
Naphthalene	140_{AWQS}	µg/L	< 160	< 0.8	< 0.8	< 0.8	< 0.8
n-Butylbenzene		µg/L	< 160	< 0.8	< 0.8	< 0.8	< 0.8
n-Hexane		µg/L	< 160	< 0.8	< 0.8	< 0.8	< 0.8

Table 4 - Summary of Groundwater Analytical Results
Second Semi-Annual Groundwater Monitoring Report - 2023
TU044 (Waterdog Recreational Annex), Luke AFB, Arizona

			Location ID:	TU044-MW23D	TU044-MW24I	TU044-MW24D	TU044-MW25I	TU044-MW25D
			Sample Date:	12/14/2023	12/13/2023	12/13/2023	12/13/2023	12/13/2023
			Sample Type:	N	N	N	N	N
Parameter	Standard	Units						
n-Propylbenzene		µg/L		< 160	< 0.8	< 0.8	< 0.8	< 0.8
p-Cymene (p-Isopropyltoluene)		µg/L		< 160	< 0.8	< 0.8	< 0.8	< 0.8
Propylene		µg/L		< 200 UJ	< 1 UJ	< 1 UJ	< 1 UJ	< 1 UJ
sec-Butylbenzene		µg/L		< 160	< 0.8	< 0.8	< 0.8	< 0.8
Styrene	100_{AWQS}	µg/L		< 160	< 0.8	< 0.8	< 0.8	< 0.8
t-Butylbenzene		µg/L		< 160	< 0.8	< 0.8	< 0.8	< 0.8
Tert-Butyl Methyl Ether (MTBE)	94_{AWQS-2}	µg/L		***12000***	< 0.8	< 0.8	79	83
Tetrachloroethylene (PCE)	5_{AWQS}	µg/L		< 160	< 0.8	< 0.8	< 0.8	< 0.8
Toluene	1000_{AWQS}	µg/L		< 80	< 0.4	< 0.4	< 0.4	< 0.4
Total Xylenes	10000_{AWQS}	µg/L		< 160	< 0.8	< 0.8	< 0.8	0.37 J
trans-1,2-Dichloroethene	100_{AWQS}	µg/L		< 100	< 0.5	< 0.5	< 0.5	< 0.5
trans-1,3-Dichloropropene		µg/L		< 360	< 1.8	< 1.8	< 1.8	< 1.8
Trichloroethylene (TCE)	5_{AWQS}	µg/L		< 80	< 0.4	< 0.4	< 0.4	< 0.4
Trichlorofluoromethane		µg/L		< 160	< 0.8	< 0.8	< 0.8	< 0.8
Vinyl Acetate		µg/L		< 400	< 2	< 2	< 2	< 2
Vinyl Chloride	2_{AWQS}	µg/L		< 200	< 1	< 1	< 1	< 1

Qualifiers:
F = The result is an estimated detection between the LOQ and LOD.
FJ = The result is an estimated detection between the LOQ and LOD and further estimated due to related quality control being out of criteria.
J = The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.
U = The analyte was analyzed for, but was not detected.
UJ = The analyte was not detected. However, the reported LOQ is approximate and may or may not represent the actual LOQ necessary to accurately and precisely measure the analyte in the sample.
< = The result was less than the limit of detection
Sample Type:
N = Normal Sample
FD = Field Duplicate
Units:
mg/L = milligrams per liter
µg/L = micrograms per liter
Notes:
--- = no sample collected due to excess carbon in well
USEPA = United States Environmental Protection Agency
AWQS = Arizona Aquifer Water Quality Standard
LOD = Limit of Detection

Table 5 - Summary of Historical BTEX and MTBE Results
Second Semi-Annual Groundwater Monitoring Report - 2023
TU044 (Waterdog Recreational Annex), Luke AFB, Arizona

Location ID	Sample Type	Analyte Fraction Units Sample Date	Benzene µg/L	Ethylbenzene µg/L	MTBE µg/L	Toluene µg/L	Xylene, Total µg/L
MW-1							
TU044-MW1	N	12/11/2019	<0.4 UJ	<0.4 UJ	9.4	<0.4 UJ	<0.8 UJ
MW-2							
TU044-MW2	N	02/13/2014	<12	<12	1500	<62	<38
TU044-MW2	N	05/07/2014	<13	<13	1600	<63	<38
TU044-MW2	N	08/14/2014	<12	<12	4600	<62	<38
TU044-MW2	FD	08/14/2014	<12	<12	4700	<62	<38
TU044-MW2	N	10/28/2014	<13	<13	5000	<63	<38
TU044-MW2	N	02/03/2015	<13	<13	3800	<63	<38
TU044-MW2	N	05/05/2015	<130	<130	2500	<630	<380
TU044-MW2	N	08/25/2015	1.3	5.9	2400	<2.5	<1.5
TU044-MW2	N	12/01/2015	<50	<50	5700	<250	<150
TU044-MW2	N	02/24/2016	<8.8 UJ	<0.5 UJ	4400 J	<2.5 UJ	<1.5 UJ
TU044-MW2	FD	02/24/2016	<8.7 UJ	<0.5 UJ	4400 J	<2.5 UJ	<1.5 UJ
TU044-MW2	N	04/27/2016	1.6	<0.4	3200	<0.4	<0.8
TU044-MW2	N	08/10/2016	420	17 F	6600 J	9.2 F	39 F
TU044-MW2	FD	08/10/2016	420	19 F	6200	8.9 F	38 F
TU044-MW2	N	10/12/2016	<8 UJ	<8 UJ	7100 J	<8 UJ	<16 UJ
TU044-MW2	N	10/26/2016	<160	<160	6700 J	<160	<320
TU044-MW2	N	11/10/2016	<40	<40	6600	<40	<80
TU044-MW2	N	12/08/2016	<16	<16	5700	<16	<32
TU044-MW2	N	03/02/2017	20	<8	4300	<8	<16
TU044-MW2	N	06/06/2017	<4	<4	3400	<4	<8
TU044-MW2	N	08/29/2017	<4	<4	3900	<4	<8
TU044-MW2	N	12/05/2017	<8	4.1	4900	<8	<16
TU044-MW2	N	02/28/2018	<8	<8	4300 J	<8	<16
TU044-MW2	FD	02/28/2018	<8	<8	5600 J	<8	<16
TU044-MW2	N	06/14/2018	<16 UJ	<16 UJ	4900	<16	<32
TU044-MW2	N	12/11/2018	<20	<20	5800	<20	<40
TU044-MW2	FD	12/11/2018	<20	<20	5300	<20	<40
TU044-MW2	N	02/20/2019	1.6	<0.4	4800	<0.4	<0.8
TU044-MW2	N	12/12/2019	<20 UJ	<20 UJ	2600	<20 UJ	<40 UJ
TU044-MW2	N	07/27/2020	<4	<4	1900	<4	<8
TU044-MW2	N	12/09/2020	<20	<20	4100 J	<20	<40
TU044-MW2	FD	12/09/2020	<20	<20	4100 J	<20	<40
TU044-MW2	N	08/10/2021	<0.4	<0.4	3400	<0.4	<0.8
TU044-MW2	N	12/07/2021	< 16	< 16	3500	< 16	< 32
TU044-MW2	N	05/26/2022	< 8	< 8 UJ	2800 J	< 8 UJ	R
TU044-MW2	N	02/23/2023	< 40	< 20	2500 J	< 20	< 40
TU044-MW2	N	10/25/2023	< 16	< 8	2500	< 8	< 16
TU044-MW2	N	12/13/2023	< 40	< 20	2200	< 20	< 40
MW-3							
TU044-MW3	N	02/12/2014	16 J	<5	1400	<25	<15
TU044-MW3	N	05/08/2014	370	45	1400	18 J	140
TU044-MW3	N	08/14/2014	480	36	2500	<25	49
TU044-MW3	FD	08/14/2014	340	8.3	2400	<12	23
TU044-MW3	N	10/28/2014	300	13 J	2800	<63	<38
TU044-MW3	N	02/03/2015	97	84	1800	11	300
TU044-MW3	N	05/05/2015	170	<13	2100	<63	<38
TU044-MW3	N	08/24/2015	66	<5	1100	<25	<15
TU044-MW3	N	08/25/2015	7.4	<0.5	1500	<2.5	<1.5
TU044-MW3	N	12/01/2015	<50 UJ	<50	<50 UJ	<250	<150
TU044-MW3	N	02/23/2016	41 J	0.56 J	2500 J	<2.5 UJ	<1.5 UJ
TU044-MW3	N	04/27/2016	39	<2	1200	<2	<4
TU044-MW3	N	08/10/2016	<8	<8	4300	<8	<16
TU044-MW3	N	10/12/2016	<0.4 UJ	<0.4 UJ	0.55 FJ	<0.4 UJ	<0.8 UJ
TU044-MW3	N	10/27/2016	<0.4	<0.4 UJ	1 FJ	<0.4	<0.8 UJ
TU044-MW3	N	11/10/2016	<0.4 UJ	<0.4 UJ	1.1 FJ	<0.4 UJ	<0.8 UJ
TU044-MW3	N	12/07/2016	<0.4	<0.4	0.95 F	<0.4	<0.8
TU044-MW3	FD	12/07/2016	<0.4	<0.4	1.3 F	<0.4	<0.8
TU044-MW3	N	03/02/2017	<0.4	<0.4	0.96 F	<0.4	<0.8
TU044-MW3	N	06/06/2017	<0.4	<0.4	1.4 F	<0.4	<0.8
TU044-MW3	N	08/29/2017	<0.4	<0.4	2.8 F	<0.4	<0.8
TU044-MW3	N	12/05/2017	<0.4	<0.4	3	<0.4	<0.8
TU044-MW3	N	02/28/2018	<0.4	<0.4	14 J	<0.4	<0.8
TU044-MW3	N	06/22/2018	<0.4 UJ	<0.4 UJ	6	<0.4	<0.8
TU044-MW3	N	12/13/2018	<0.4 UJ	<0.4 UJ	65	<0.4 UJ	<0.8 UJ

Table 5 - Summary of Historical BTEX and MTBE Results
Second Semi-Annual Groundwater Monitoring Report - 2023
TU044 (Waterdog Recreational Annex), Luke AFB, Arizona

Location ID	Sample Type	Analyte Fraction Units Sample Date	Benzene µg/L	Ethylbenzene µg/L	MTBE µg/L	Toluene µg/L	Xylene, Total µg/L
TU044-MW3	N	02/20/2019	<0.4 UJ	<0.4 UJ	51 J	<0.4 UJ	<0.8 UJ
TU044-MW3	N	12/12/2019	<0.4 UJ	<0.4 UJ	21	<0.4 UJ	<0.8 UJ
TU044-MW3	N	07/29/2020	<0.4	<0.4	59	<0.4	<0.8
TU044-MW3	N	12/09/2020	<0.4	<0.4	50 J	<0.4	<0.8
TU044-MW3	N	08/09/2021	<0.4	<0.4	150	<0.4	<0.8
TU044-MW3	N	12/07/2021	< 0.4	< 0.4	2.9 F	< 0.4	< 0.8
TU044-MW3	N	05/25/2022	< 0.4	< 0.4 UJ	0.78 FJ	< 0.4 UJ	R
TU044-MW3	N	02/23/2023	< 0.8	< 0.4 UJ	4.7 FJ	< 0.4	< 0.8 UJ
TU044-MW3	N	10/25/2023	< 0.8	< 0.4	7.9	< 0.4	< 0.8
TU044-MW3	N	12/13/2023	< 0.8	< 0.4	1 J	< 0.4	< 0.8
MW-5							
TU044-MW5	N	02/12/2014	<0.5	<0.5	<0.5	<2.5	<1.5
TU044-MW5	N	05/07/2014	<0.5	<0.5	<0.5	<2.5	<1.5
TU044-MW5	N	08/13/2014	<0.5	1.6	<0.5	<2.5	<1.5
TU044-MW5	N	03/01/2017	2.5	<0.4	<0.8	0.19 F	<0.8
TU044-MW5	N	06/07/2017	1.5	<0.4	<0.8	<0.4	<0.8
TU044-MW5	N	08/29/2017	1.1	<0.4	<0.8	<0.4	<0.8
TU044-MW5	N	12/05/2017	0.69	<0.4	<0.8	<0.4	<0.8
TU044-MW5	N	02/28/2018	0.23 F	<0.4	<0.8	<0.4	<0.8
TU044-MW5	N	06/13/2018	<0.4	<0.4	<0.8	<0.4	<0.8
TU044-MW5	N	12/13/2018	<0.4	<0.4	0.97 F	<0.4	<0.8
TU044-MW5	N	02/20/2019	<0.4	<0.4	<0.8	<0.4	<0.8
TU044-MW5	FD	02/20/2019	<0.4	<0.4	<0.8	<0.4	<0.8
TU044-MW5	N	12/10/2019	<0.4 UJ	<0.4 UJ	<0.8	<0.4 UJ	<0.8 UJ
TU044-MW5	FD	12/10/2019	<0.4 UJ	<0.4 UJ	<0.8	<0.4 UJ	<0.8 UJ
TU044-MW5	N	06/16/2020	<0.4	<0.4	<0.8	<0.4	<0.8
TU044-MW5	N	12/07/2020	<0.4	<0.4	<0.8	<0.4	<0.8
TU044-MW5	FD	12/07/2020	<0.4	<0.4	<0.8	<0.4	<0.8
TU044-MW5	N	08/09/2021	<0.4	<0.4	<0.8	<0.4	<0.8
TU044-MW5	N	12/06/2021	< 0.4	< 0.4	< 0.8	< 0.4	< 0.8
TU044-MW5	N	05/24/2022	< 0.4	< 0.4 UJ	< 0.8 UJ	< 0.4 UJ	R
TU044-MW5	N	02/20/2023	< 0.8	< 0.4	< 0.8	< 0.4	< 0.8
MW-6							
TU044-MW6	N	02/11/2014	<0.5	<0.5	<0.5	<2.5	<1.5
TU044-MW6	N	05/07/2014	<0.5	<0.5	<0.5	<2.5	<1.5
TU044-MW6	N	08/13/2014	<0.5	<0.5	<0.5	<2.5	<1.5
TU044-MW6	N	10/27/2014	<0.5	<0.5	<0.5	<2.5	<1.5
TU044-MW6	N	02/02/2015	<0.5	<0.5	<0.5	<2.5	<1.5
TU044-MW6	N	05/04/2015	<0.5	<0.5	<0.5	<2.5	<1.5
TU044-MW6	N	08/24/2015	<0.5	<0.5	<0.5	<2.5	<1.5
TU044-MW6	N	11/30/2015	<0.5	<0.5	<0.5	<2.5	<1.5
TU044-MW6	N	02/23/2016	<0.5 UJ	<0.5 UJ	<0.5 UJ	<2.5 UJ	<1.5 UJ
TU044-MW6	N	04/26/2016	<0.4	<0.4	<0.8	<0.4	<0.8
TU044-MW6	N	08/09/2016	<0.4	<0.4	<0.8	<0.4	<0.8
TU044-MW6	N	03/02/2017	<0.4	<0.4	<0.8	<0.4	<0.8
TU044-MW6	N	06/07/2017	<0.4	<0.4	<0.8	<0.4	<0.8
TU044-MW6	N	08/29/2017	<0.4	<0.4	<0.8	<0.4	<0.8
TU044-MW6	N	12/06/2017	<0.4	<0.4	<0.8	<0.4	<0.8
TU044-MW6	N	03/01/2018	<0.4	<0.4	<0.8	<0.4	<0.8
TU044-MW6	N	06/11/2018	<0.4 UJ	<0.4 UJ	<0.8	<0.4	<0.8
TU044-MW6	N	12/05/2018	<0.4	<0.4	<0.8	<0.4	<0.8
TU044-MW6	N	02/18/2019	<0.4	<0.4	<0.8	<0.4	<0.8
TU044-MW6	N	12/09/2019	<0.4 UJ	<0.4 UJ	<0.8	<0.4 UJ	<0.8 UJ
TU044-MW6	N	07/29/2020	<0.4	<0.4	<0.8	<0.4	<0.8
TU044-MW6	N	12/07/2020	<0.4	<0.4	<0.8	<0.4	<0.8
TU044-MW6	N	12/06/2021	< 0.4	< 0.4	< 0.8	< 0.4	< 0.8
TU044-MW6	N	05/25/2022	< 0.4	< 0.4 UJ	< 0.8 UJ	< 0.4 UJ	R
TU044-MW6	N	02/20/2023	< 0.8	< 0.4	1.9 FJ	< 0.4	< 0.8

Table 5 - Summary of Historical BTEX and MTBE Results
Second Semi-Annual Groundwater Monitoring Report - 2023
TU044 (Waterdog Recreational Annex), Luke AFB, Arizona

Location ID	Sample Type	Analyte Fraction Units Sample Date	Benzene µg/L	Ethylbenzene µg/L	MTBE µg/L	Toluene µg/L	Xylene, Total µg/L
MW-7							
TU044-MW7	N	02/11/2014	<0.5	<0.5	<0.5	<2.5	<1.5
TU044-MW7	N	05/07/2014	<0.5	<0.5	<0.5	<2.5	<1.5
TU044-MW7	N	08/13/2014	<0.5	<0.5	<0.5	<2.5	<1.5
TU044-MW7	N	10/27/2014	<0.5	<0.5	<0.5	<2.5	<1.5
TU044-MW7	N	02/02/2015	<0.5	<0.5	<0.5	<2.5	<1.5
TU044-MW7	N	04/29/2015	<0.5	<0.5	<0.5	<2.5	<1.5
TU044-MW7	N	05/04/2015	<0.5	<0.5	<0.5	<2.5	<1.5
TU044-MW7	N	08/24/2015	<0.5	<0.5	<0.5	<2.5	<1.5
TU044-MW7	N	11/30/2015	<0.5	<0.5	<0.5	<2.5	<1.5
TU044-MW7	N	02/23/2016	<0.5 UJ	<0.5 UJ	<0.5 UJ	<2.5 UJ	<1.5 UJ
TU044-MW7	N	04/26/2016	<0.4	<0.4	<0.8	<0.4	<0.8
TU044-MW7	N	08/09/2016	<0.4	<0.4	<0.8	<0.4	<0.8
TU044-MW7	N	03/02/2017	<0.4	<0.4	<0.8	<0.4	<0.8
TU044-MW7	N	06/07/2017	<0.4	<0.4	<0.8	<0.4	<0.8
TU044-MW7	N	08/29/2017	<0.4	<0.4	<0.8	<0.4	<0.8
TU044-MW7	N	12/06/2017	<0.4	<0.4	<0.8	<0.4	<0.8
TU044-MW7	N	03/01/2018	<0.4	<0.4	<0.8	<0.4	<0.8
TU044-MW7	N	06/11/2018	<0.4 UJ	<0.4 UJ	<0.8	<0.4	<0.8
TU044-MW7	N	12/05/2018	<0.4	<0.4	<0.8	<0.4	<0.8
TU044-MW7	N	02/18/2019	<0.4	<0.4	<0.8	<0.4	<0.8
TU044-MW7	N	12/10/2019	<0.8 UJ	<0.8 UJ	<1.6	<0.8 UJ	<1.6 UJ
TU044-MW7	N	07/29/2020	<0.4	<0.4	<0.8	<0.4	<0.8
TU044-MW7	FD	07/29/2020	<0.4	<0.4	<0.8	<0.4	<0.8
TU044-MW7	N	12/07/2020	<0.4	<0.4	<0.8	<0.4	<0.8
TU044-MW7	N	08/09/2021	<0.4	<0.4	<0.8	<0.4	<0.8
TU044-MW7	N	12/06/2021	< 0.4	< 0.4	< 0.8	< 0.4	< 0.8
TU044-MW7(FD)	FD	12/06/2021	< 0.4	< 0.4	< 0.8	< 0.4	< 0.8
TU044-MW7	N	05/23/2022	< 0.4	< 0.4 UJ	< 0.8 UJ	< 0.4 UJ	R
TU044-MW7	N	02/20/2023	< 0.8	< 0.4	< 0.8	< 0.4	< 0.8
MW-8							
TU044-MW8	N	02/11/2014	<0.5	<0.5	<0.5	<2.5	<1.5
TU044-MW8	N	05/07/2014	<0.5	<0.5	<0.5	<2.5	<1.5
TU044-MW8	N	08/13/2014	<0.5	<0.5	<0.5	<2.5	<1.5
TU044-MW8	N	10/27/2014	<0.5	<0.5	<0.5	<2.5	<1.5
TU044-MW8	N	02/02/2015	<0.5	<0.5	<0.5	<2.5	<1.5
TU044-MW8	N	04/29/2015	<0.5	<0.5	<0.5	<2.5	<1.5
TU044-MW8	N	08/25/2015	<0.5	<0.5	<0.5	<2.5	<1.5
TU044-MW8	N	12/01/2015	<0.5	<0.5	<0.5	<2.5	<1.5
TU044-MW8	N	02/23/2016	<0.5 UJ	<0.5 UJ	<0.5 UJ	<2.5 UJ	<1.5 UJ
TU044-MW8	N	04/26/2016	<0.4	<0.4	<0.8	<0.4	<0.8
TU044-MW8	N	08/09/2016	<0.4	<0.4	<0.8	<0.4	<0.8
TU044-MW8	N	03/01/2017	<0.4	<0.4	<0.8	<0.4	<0.8
TU044-MW8	N	06/07/2017	<0.4	<0.4	<0.8	<0.4	<0.8
TU044-MW8	N	08/29/2017	<0.4	<0.4	<0.8	<0.4	<0.8
TU044-MW8	N	12/05/2017	<0.4	<0.4	<0.8	<0.4	<0.8
TU044-MW8	N	02/28/2018	<0.4	<0.4	<0.8	<0.4	<0.8
TU044-MW8	N	06/12/2018	<0.4 UJ	<0.4 UJ	2.8 FJ	1 J	<0.8
TU044-MW8	N	12/06/2018	<0.4	<0.4	4 F	<0.4	<0.8
TU044-MW8	FD	12/06/2018	<1	<1	3.1 F	<1	<1
TU044-MW8	N	02/18/2019	<0.4	<0.4	7	<0.4	<0.8
TU044-MW8	N	12/10/2019	<0.4 UJ	<0.4 UJ	29	<0.4 UJ	<0.8 UJ
TU044-MW8	N	07/28/2020	<0.4	<0.4	51	<0.4	<0.8
TU044-MW8	N	12/08/2020	<0.4	<0.4	<0.8	<0.4	<0.8
TU044-MW8	N	08/09/2021	<0.4	<0.4	<0.8	<0.4	<0.8
TU044-MW8	N	12/07/2021	< 0.4	< 0.4	11	< 0.4	< 0.8
TU044-MW8	N	05/23/2022	< 0.4	< 0.4 UJ	< 0.8 UJ	< 0.4 UJ	R
TU044-MW8	N	02/23/2023	< 0.8	< 0.4	65 J	< 0.4	< 0.8
TU044-MW8	N	12/14/2023	< 0.8	< 0.4	< 0.8	< 0.4	< 0.8

Table 5 - Summary of Historical BTEX and MTBE Results
Second Semi-Annual Groundwater Monitoring Report - 2023
TU044 (Waterdog Recreational Annex), Luke AFB, Arizona

Location ID	Sample Type	Analyte Fraction Units Sample Date	Benzene µg/L	Ethylbenzene µg/L	MTBE µg/L	Toluene µg/L	Xylene, Total µg/L
MW-9							
TU044-MW9	N	02/12/2014	<12	<12	3700	<62	<38
TU044-MW9	FD	02/12/2014	160 J	<12	1400	<62	<38
TU044-MW9	N	05/07/2014	<0.5	<0.5	6	<2.5	<1.5
TU044-MW9	N	08/13/2014	<0.5	<0.5	33 J	<2.5	<1.5
TU044-MW9	N	10/28/2014	<13	<13	4200	<63	<38
TU044-MW9	FD	10/28/2014	<13	<13	4000	<63	<38
TU044-MW9	N	02/03/2015	<13	<13	750	<63	<38
TU044-MW9	FD	02/03/2015	<13	<13	690	<63	<38
TU044-MW9	N	05/05/2015	<13	<13	3000	<63	<38
TU044-MW9	FD	05/05/2015	<10	<10	3400	<50	<30
TU044-MW9	N	08/25/2015	<0.5	<0.5	1000	<2.5	<1.5
TU044-MW9	FD	08/25/2015	<0.5	<0.5	640	<2.5	<1.5
TU044-MW9	N	11/30/2015	<0.5	<0.5	70	<2.5	<1.5
TU044-MW9	N	12/01/2015	<50 UJ	<50	<50 UJ	<250 UJ	<150
TU044-MW9	N	02/23/2016	<5 UJ	<0.5 UJ	310 J	<2.5 UJ	<1.5 UJ
TU044-MW9	N	02/24/2016	<0.5 UJ	<0.5 UJ	1500 J	<2.5 UJ	<1.5 UJ
TU044-MW9	N	04/26/2016	<1.6	<1.6	730	<1.6	<3.2
TU044-MW9	N	04/27/2016	<0.4	<0.4	670	<0.4	<0.8
TU044-MW9	N	08/09/2016	<4	<4	1100	<4	<8
TU044-MW9	N	08/10/2016	<4	<4	2000	<4	<8
TU044-MW9	N	10/13/2016	<4 UJ	<4 UJ	1800 J	<4 UJ	<8 UJ
TU044-MW9	N	10/26/2016	<0.4	<0.4	1400 J	<0.4	<0.8
TU044-MW9	N	11/10/2016	<4	<4	1500	<4	<8
TU044-MW9	N	12/08/2016	<4	<4	1100	<4	<8
TU044-MW9	N	03/02/2017	<0.8	<0.8	310	<0.8	<1.6
TU044-MW9	N	06/06/2017	<0.4	<0.4	240	<0.4	<0.8
TU044-MW9	FD	06/06/2017	<0.4	<0.4	260	<0.4	<0.8
TU044-MW9	N	08/29/2017	<0.8	<0.8	190	<0.8	<1.6
TU044-MW9	N	12/05/2017	<0.4	<0.4	100	<0.4	<0.8
TU044-MW9	N	02/28/2018	<0.4	<0.4	34 J	<0.4	<0.8
TU044-MW9	N	06/15/2018	---	---	34 J	---	---
TU044-MW9	N	12/11/2018	<0.4	<0.4	17 J	<0.4	<0.8
TU044-MW9	N	02/20/2019	<0.4	<0.4	240	<0.4	<0.8
TU044-MW9	N	12/11/2019	<0.4 UJ	<0.4 UJ	55	<0.4 UJ	<0.8 UJ
TU044-MW9	N	07/27/2020	<0.4	<0.4	46	<0.4	<0.8
TU044-MW9	N	12/08/2020	<0.4	<0.4	56 J	<0.4	<0.8
TU044-MW9	N	08/10/2021	<0.4	<0.4	97 J	<0.4	<0.8
TU044-MW9	N	12/07/2021	< 0.4	< 0.4	94	< 0.4	< 0.8
TU044-MW9	N	05/24/2022	< 0.4	< 0.4 UJ	70 J	< 0.4 UJ	R
TU044-MW9	N	02/23/2023	< 3.2	< 1.6	310 J	< 1.6	< 3.2
TU044-MW9	N	10/29/2023	< 0.8	< 0.4	110	< 0.4	< 0.8
TU044-MW9	N	12/14/2023	< 0.8	< 0.4	68	< 0.4	< 0.8
MW-10							
TU044-MW10	N	02/13/2014	<0.5	<0.5	2	<2.5	<1.5
TU044-MW10	N	05/07/2014	<0.5	<0.5	0.56 J	<2.5	<1.5
TU044-MW10	N	08/14/2014	<0.5	<0.5	2	<2.5	<1.5
TU044-MW10	N	10/27/2014	<0.5	<0.5	2	<2.5	<1.5
TU044-MW10	N	02/03/2015	<0.5	<0.5	1	<2.5	<1.5
TU044-MW10	N	05/05/2015	<0.5	<0.5	0.51 J	<2.5	<1.5
TU044-MW10	N	08/25/2015	<0.5	<0.5	0.57 J	<2.5	<1.5
TU044-MW10	N	12/01/2015	<0.5	<0.5	<0.5	<2.5	<1.5
TU044-MW10	N	02/24/2016	<0.5 UJ	<0.5 UJ	<0.72 UJ	<2.5 UJ	<1.5 UJ
TU044-MW10	N	04/27/2016	<0.4	<0.4	1.2 F	<0.4	<0.8
TU044-MW10	N	08/10/2016	<0.4	<0.4	0.75 F	<0.4	<0.8
TU044-MW10	N	03/02/2017	<0.4	<0.4 UJ	0.64 F	<0.4	<0.8
TU044-MW10	N	06/06/2017	<0.4	<0.4	<0.8	<0.4	<0.8
TU044-MW10	N	08/29/2017	<0.4	<0.4	0.37 F	<0.4	<0.8
TU044-MW10	N	12/05/2017	<0.4	<0.4	1	<0.4	<0.8
TU044-MW10	N	02/28/2018	<0.4	<0.4	0.36 FJ	<0.4	<0.8
TU044-MW10	N	06/12/2018	<0.4 UJ	<0.4 UJ	0.81 F	0.2 F	<0.8
TU044-MW10	N	12/05/2018	<0.4	<0.4	0.51 F	<0.4	<0.8
TU044-MW10	N	02/18/2019	<0.4	<0.4	0.47 F	<0.4	<0.8
TU044-MW10	N	12/10/2019	<0.4 UJ	<0.4 UJ	0.58 F	<0.4 UJ	<0.8 UJ

Table 5 - Summary of Historical BTEX and MTBE Results
Second Semi-Annual Groundwater Monitoring Report - 2023
TU044 (Waterdog Recreational Annex), Luke AFB, Arizona

Location ID	Sample Type	Analyte Fraction Units Sample Date	Benzene µg/L	Ethylbenzene µg/L	MTBE µg/L	Toluene µg/L	Xylene, Total µg/L
TU044-MW10	N	07/27/2020	<0.4	<0.4	0.37 F	<0.4	<0.8
TU044-MW10	N	12/08/2020	<0.4	<0.4	0.38 FJ	<0.4	<0.8
TU044-MW10	N	08/11/2021	<0.4	<0.4	<0.8	<0.4	<0.8
TU044-MW10	N	12/07/2021	< 0.4	< 0.4	< 0.8	< 0.4	< 0.8
TU044-MW10	N	05/25/2022	< 0.4	< 0.4 UJ	0.34 FJ	< 0.4 UJ	R
TU044-MW10	N	02/23/2023	< 0.8	< 0.4	< 0.8	< 0.4	< 0.8
MW-11							
TU044-MW11	N	02/13/2014	<0.5	<0.5	0.73 J	<2.5	<1.5
TU044-MW11	N	05/07/2014	<0.5	<0.5	0.69 J	<2.5	<1.5
TU044-MW11	N	08/14/2014	<0.5	<0.5	2	<2.5	<1.5
TU044-MW11	N	10/27/2014	<0.5	<0.5	3	<2.5	<1.5
TU044-MW11	N	02/02/2015	<0.5	<0.5	0	<2.5	<1.5
TU044-MW11	N	05/05/2015	<0.5	<0.5	0.64 J	<2.5	<1.5
TU044-MW11	N	08/25/2015	<0.5	<0.5	5	<2.5	<1.5
TU044-MW11	N	12/01/2015	<0.5	<0.5	3	<2.5	<1.5
TU044-MW11	FD	12/01/2015	<0.5	<0.5	3	<2.5	<1.5
TU044-MW11	N	02/24/2016	<0.5 UJ	<0.5 UJ	<0.61 UJ	<2.5 UJ	<1.5 UJ
TU044-MW11	N	04/27/2016	<0.4	<0.4	0.66 F	<0.4	<0.8
TU044-MW11	FD	04/27/2016	<0.4	<0.4	0.66 F	<0.4	<0.8
TU044-MW11	N	08/10/2016	<0.4	<0.4	0.3 F	<0.4	<0.8
TU044-MW11	N	03/02/2017	<0.4	<0.4	0.26 F	<0.4	<0.8
TU044-MW11	FD	03/02/2017	<0.4	<0.4	0.27 F	<0.4	<0.8
TU044-MW11	N	06/06/2017	<0.4	<0.4	0.33 F	<0.4	<0.8
TU044-MW11	N	08/29/2017	<0.4	<0.4	0.65 F	<0.4	<0.8
TU044-MW11	N	12/05/2017	<0.4	<0.4	0	<0.4	<0.8
TU044-MW11	N	02/28/2018	<0.4	<0.4	0.56 FJ	<0.4	<0.8
TU044-MW11	N	06/12/2018	<0.4 UJ	<0.4 UJ	0.99 F	0.31 F	<0.8
TU044-MW11	N	12/05/2018	<0.4	<0.4	5	<0.4	<0.8
TU044-MW11	N	02/18/2019	<0.4	<0.4	0.61 F	<0.4	<0.8
TU044-MW11	N	12/10/2019	<0.4 UJ	<0.4 UJ	1.5 F	<0.4 UJ	<0.8 UJ
TU044-MW11	N	07/27/2020	<0.4	<0.4	2.5 F	<0.4	<0.8
TU044-MW11	N	12/09/2020	<0.4	<0.4	3.5 F	<0.4	<0.8
TU044-MW11	N	08/10/2021	<0.4	<0.4	<2	<0.4	<0.8
TU044-MW11	N	12/07/2021	< 0.4	< 0.4	3.4 F	< 0.4	< 0.8
TU044-MW11	N	05/24/2022	< 0.4	< 0.4 UJ	0.36 FJ	< 0.4 UJ	R
TU044-MW11	N	02/23/2023	< 0.8	< 0.4	2.5 FJ	< 0.4	< 0.8
TU044-MW11	FD	02/23/2023	< 0.8	< 0.4	2.5 FJ	< 0.4	< 0.8
TU044-MW11	N	12/14/2023	< 3.2	< 1.6	3.8 J	< 1.6	< 3.2
TU044-MW11	FD	12/14/2023	< 0.8	< 0.4	3.3 J	< 0.4	< 0.8
MW-12							
TU044-MW12	N	02/12/2014	<10	<10	1500	<50	<30
TU044-MW12	FD	02/12/2014	15 J	14 J	780	<62	37 J
TU044-MW12	N	05/08/2014	<10	<10	1600	<50	<30
TU044-MW12	N	08/14/2014	<5	<5	2600	<25	<15
TU044-MW12	N	10/28/2014	<10	<10	3400	<50	<30
TU044-MW12	FD	10/28/2014	<10	<10	3300	<50	<30
TU044-MW12	N	10/12/2016	86 J	<16 UJ	7000 J	<16 UJ	<32 UJ
TU044-MW12	N	10/26/2016	59 F	<40	4600	<40	<80
TU044-MW12	N	11/09/2016	61 FJ	<80	4900	<80	<160
TU044-MW12	N	12/07/2016	38	<8	4100	<8	<16
TU044-MW12	N	03/01/2017	4.5 F	<4	3000	<4	<8
TU044-MW12	N	06/07/2017	1.9 F	<4	2000	<4	<8
TU044-MW12	FD	06/07/2017	1.8 F	<4	2000	<4	<8
TU044-MW12	N	08/29/2017	<0.8	<0.8	1400	<0.8	<1.6
TU044-MW12	FD	08/29/2017	<2	<2	1500	<2	<4
TU044-MW12	N	12/05/2017	<4	<4	3100	<4	<8
TU044-MW12	N	02/28/2018	<2	<2	1400 J	<2	<4
TU044-MW12	FD	02/28/2018	<2	<2	1300 J	<2	<4
TU044-MW12	N	06/18/2018	<16 UJ	<16 UJ	4200 J	<16 UJ	<32 UJ
TU044-MW12	N	12/06/2018	<8	<8	6400	<8	<16
TU044-MW12	N	02/18/2019	<0.4	<0.4	5800	<0.4	<0.8
TU044-MW12	N	12/13/2019	<20 UJ	<20 UJ	4600	<20 UJ	<40 UJ
TU044-MW12	N	07/28/2020	<8	<8	3600	<8	<16
TU044-MW12	FD	07/28/2020	<8	<8	3800	<8	<16
TU044-MW12	N	12/08/2020	<16	<0.4	4100 J	<0.4	<0.8

Table 5 - Summary of Historical BTEX and MTBE Results
Second Semi-Annual Groundwater Monitoring Report - 2023
TU044 (Waterdog Recreational Annex), Luke AFB, Arizona

Location ID	Sample Type	Analyte Fraction Units Sample Date	Benzene µg/L	Ethylbenzene µg/L	MTBE µg/L	Toluene µg/L	Xylene, Total µg/L
MW-13							
TU044-MW13	N	02/12/2014	3300	410	4200	690	790
TU044-MW13	N	02/13/2014	2200	310	3800	200	300
TU044-MW13	N	05/08/2014	4200	530	4800	910	1500
TU044-MW13	FD	05/08/2014	4200	540	5000	840	1400
TU044-MW13	N	08/14/2014	4000	200	6100	43 J	160
TU044-MW13	N	10/28/2014	2300	230	6000	<130	<75
TU044-MW13	N	02/03/2015	1900	220	3900	77	210
TU044-MW13	N	05/05/2015	1900	190	5000	46 J	84 J
TU044-MW13	N	08/24/2015	640	99	2200	33 J	<38
TU044-MW13	N	08/25/2015	480	95	2000	20	14
TU044-MW13	N	11/30/2015	7100	<25 UJ	7700	<120 UJ	<75 UJ
TU044-MW13	N	12/01/2015	8200	760	8000	720	1400
TU044-MW13	FD	12/01/2015	7600	710	7200	670	1200
TU044-MW13	N	02/23/2016	3300 J	250 J	7600 J	40 J	57 J
TU044-MW13	N	02/24/2016	3400 J	300 J	7000 J	42 J	70 J
TU044-MW13	N	04/26/2016	-	150	6400	62	110
TU044-MW13	N	04/27/2016	2300	170	6500 J	50	90 F
TU044-MW13	N	08/09/2016	660	16 F	7400	8.7 F	<32
TU044-MW13	N	08/10/2016	740	31	7600	9.4 F	17 F
TU044-MW13	N	10/13/2016	110000 J	1200 J	6800 J	6600 J	5100 J
TU044-MW13	N	10/27/2016	11000	760	5300	2900	3800
TU044-MW13	N	11/10/2016	8700 J	480	6900	540 J	2700
TU044-MW13	N	12/08/2016	3100	150	3200	120	550
TU044-MW13	N	03/02/2017	640	1.7 J	2000	17	34
TU044-MW13	FD	03/02/2017	650	7.8 J	2000	17	35
TU044-MW13	N	06/06/2017	11000	670	3900	5400	3800
TU044-MW13	N	08/29/2017	6600	<8	4100	1700	1900
TU044-MW13	N	12/05/2017	130 J	<4 UJ	3600	<4 UJ	1.9 FJ
TU044-MW13	FD	12/05/2017	35	<4	2600	<4	<8
TU044-MW13	N	02/28/2018	10 F	12 F	4200 J	<8	<16
TU044-MW13	N	06/19/2018	110 J	6.6 FJ	3200 J	8 F	<16
TU044-MW13	FD	06/19/2018	770 J	51 J	3800	220	190
TU044-MW13	N	12/11/2018	750	17 F	7700	18 F	33 F
TU044-MW13	N	02/20/2019	3100	130 F	11000	160 F	350 F
TU044-MW13	N	12/13/2019	680 J	<40 UJ	7100	<40 UJ	47 FJ
TU044-MW13	FD	12/13/2019	820 J	<40 UJ	7400	<40 UJ	57 FJ
TU044-MW13	N	06/16/2020	12000	600	3800	690	2600
TU044-MW13	N	12/08/2020	5300	<16	6300 J	22	65
TU044-MW13	FD	12/08/2020	5100	<16	6100 J	21	59
TU044-MW13	N	08/10/2021	1600	<40	5700	21 FJ	35 FJ
TU044-MW13	N	12/06/2021	360	< 40	5500	< 40	< 80
TU044-MW13	N	05/24/2022	< 40	< 40	4000	< 40	< 80
TU044-MW13	N	02/22/2023	< 40	< 20	3900 J	< 20	< 40
TU044-MW13	N	10/29/2023	5700	32	5500	< 40	< 80
TU044-MW13	N	12/14/2023	6400	95 J	6000	61 J	70 J
MW-14							
TU044-MW14	N	02/11/2014	<0.5	<0.5	0.86 J	<2.5	<1.5
TU044-MW14	N	05/07/2014	<0.5	<0.5	0.77 J	<2.5	<1.5
TU044-MW14	N	08/13/2014	<0.5	<0.5	2	<2.5	<1.5
TU044-MW14	N	10/28/2014	<0.5	<0.5	2	<2.5	<1.5
TU044-MW14	N	02/03/2015	<0.5	<0.5	1	<2.5	<1.5
TU044-MW14	N	05/05/2015	<0.5 UJ	<0.5	<0.5 UJ	<2.5	<1.5
TU044-MW14	N	08/25/2015	<0.5	<0.5	1	<2.5	<1.5
TU044-MW14	N	12/01/2015	<0.5	<0.5	<0.5	<2.5	<1.5
TU044-MW14	N	02/24/2016	<0.5 UJ	<0.5 UJ	<3.4 UJ	<2.5 UJ	<1.5 UJ
TU044-MW14	N	04/26/2016	<0.4	<0.4	0.25 F	<0.4	<0.8
TU044-MW14	N	08/10/2016	<0.4	<0.4	2.5 F	<0.4	<0.8
TU044-MW14	N	03/01/2017	<0.4	<0.4	8	<0.4	<0.8
TU044-MW14	N	06/07/2017	<0.4	<0.4	<0.8	<0.4	<0.8
TU044-MW14	N	08/29/2017	<0.4	<0.4	3.3 F	<0.4	<0.8
TU044-MW14	N	12/05/2017	<0.4	<0.4	21	<0.4	<0.8
TU044-MW14	N	02/28/2018	<0.4	<0.4	16 J	<0.4	<0.8
TU044-MW14	N	06/13/2018	<0.4 UJ	<0.4 UJ	7	0.18 F	<0.8
TU044-MW14	N	12/13/2018	<0.4	<0.4	31	0.42 F	<0.8
TU044-MW14	N	02/20/2019	<0.4	<0.4	24	<0.4	<0.8
TU044-MW14	N	12/11/2019	<0.4 UJ	<0.4 UJ	27	<0.4 UJ	<0.8 UJ

Table 5 - Summary of Historical BTEX and MTBE Results
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TU044 (Waterdog Recreational Annex), Luke AFB, Arizona

Location ID	Sample Type	Analyte Fraction Units Sample Date	Benzene µg/L	Ethylbenzene µg/L	MTBE µg/L	Toluene µg/L	Xylene, Total µg/L
TU044-MW14	N	07/28/2020	<0.4	<0.4	6	<0.4	<0.8
TU044-MW14	N	12/08/2020	<0.4	<0.4	13 J	<0.4	<0.8
TU044-MW14	N	08/09/2021	<0.4	<0.4	13	<0.4	<0.8
TU044-MW14	N	12/07/2021	< 0.4	< 0.4	0.8 F	< 0.4	< 0.8
TU044-MW14	N	05/23/2022	< 0.4	< 0.4 UJ	1.8 FJ	< 0.4 UJ	R
TU044-MW14	N	02/23/2023	< 0.8	< 0.4	36 J	< 0.4	< 0.8
TU044-MW14	N	12/14/2023	< 0.8	< 0.4	2.5 J	< 0.4	< 0.8
MW-15							
TU044-MW15	N	02/12/2014	<100	<100	18000	<500	<300
TU044-MW15	N	05/08/2014	<25	<25	16000	<130	<75
TU044-MW15	N	08/14/2014	<50	<50	19000	<250	<150
TU044-MW15	N	10/28/2014	<50	<50	18000	<250	<150
TU044-MW15	N	02/03/2015	<50	<50	12000	<250	<150
TU044-MW15	N	05/05/2015	4.4 J	<5	16000	<25	<15
TU044-MW15	N	08/24/2015	<50	<50	18000	<250	<150
TU044-MW15	N	08/25/2015	0.38 J	<0.5	6000	<2.5	<1.5
TU044-MW15	N	11/30/2015	<50	<50	12000	<250	<150
TU044-MW15	N	12/01/2015	<100	<100	13000	<500	<300
TU044-MW15	N	02/23/2016	6.9 J	<0.5 UJ	14000 J	<2.5 UJ	<1.5 UJ
TU044-MW15	N	02/24/2016	<8.3 UJ	<0.5 UJ	15000 J	<2.5 UJ	<1.5 UJ
TU044-MW15	FD	02/24/2016	<8 UJ	<0.5 UJ	14000 J	<2.5 UJ	<1.5 UJ
TU044-MW15	N	04/26/2016	<20	<20	14000	<20	<40
TU044-MW15	N	04/27/2016	1.6	<0.4	13000	<0.4	<0.8
TU044-MW15	N	08/09/2016	<40	<40	16000	<40	<80
TU044-MW15	N	08/10/2016	<20	<20	16000	<20	<40
TU044-MW15	N	10/12/2016	<40 UJ	<40 UJ	14000 J	<40 UJ	<80 UJ
TU044-MW15	N	10/27/2016	<200 UJ	<200 UJ	14000 J	<200 UJ	<400 UJ
TU044-MW15	N	11/09/2016	<400	<400	16000	<400	<800
TU044-MW15	N	12/07/2016	<40	<40	13000	<40	<80
TU044-MW15	N	03/02/2017	<40	<40	14000	<40	<80
TU044-MW15	FD	03/02/2017	<40	<40	14000	<40	<80
TU044-MW15	N	06/06/2017	<20	<20	13000	<20	<40
TU044-MW15	N	08/29/2017	<16	<16	9900	<16	<32
TU044-MW15	N	12/05/2017	<16	<16	10000	<16	<32
TU044-MW15	N	02/28/2018	<40	<40	14000 J	<40	<80
TU044-MW15	N	06/19/2018	<16 UJ	<16 UJ	14000 J	<16 UJ	<32 UJ
TU044-MW15	N	12/13/2018	<40	<40	11000	<40	<80
TU044-MW15	FD	12/13/2018	<100	<100	11000	<100	<100
TU044-MW15	N	02/20/2019	0.37 F	<0.4	21000	<0.4	<0.8
TU044-MW15	N	12/13/2019	<80 UJ	<80 UJ	12000	<80 UJ	<160 UJ
TU044-MW15	N	06/16/2020	<40	<40	11000	<40	48 F
TU044-MW15	N	12/07/2020	<40	<40	13000 J	<40	<80
TU044-MW15	N	08/09/2021	<40	<40	48 FJ	<40	<80
TU044-MW15	FD	08/09/2021	<40	<40	34 FJ	<40	<80
TU044-MW15	N	12/06/2021	< 40	< 40	< 80	< 40	< 80
TU044-MW15	FD	12/06/2021	< 40	< 40	< 80	< 40	< 80
TU044-MW15	N	05/23/2022	< 0.4	< 0.4 UJ	11 J	< 0.4 UJ	R
TU044-MW15	FD	05/23/2022	0.2 FJ	< 0.4 UJ	11 J	< 0.4 UJ	R
TU044-MW15	N	02/20/2023	< 0.8	< 0.4	14 J	< 0.4	< 0.8
TU044-MW15	FD	02/20/2023	< 0.8	< 0.4	15 J	< 0.4	< 0.8
TU044-MW15	N	10/27/2023	< 0.8	< 0.4	15	< 0.4	< 0.8
TU044-MW15	N	12/14/2023	< 0.8	< 0.4	6.2	< 0.4	< 0.8
MW-16							
TU044-MW16	N	02/12/2014	12	13	670	2.1 J	37
TU044-MW16	N	02/13/2014	6.8	7.5	770	1.1 J	8.4
TU044-MW16	N	05/08/2014	12	13	700 J	<25	31
TU044-MW16	FD	05/08/2014	7.2	8	430 J	<13	15 J
TU044-MW16	N	08/14/2014	<0.5	<0.5	28 J	<2.5	<1.5
TU044-MW16	N	10/28/2014	<5	<5	620	<25	<15
TU044-MW16	N	02/03/2015	26	42	520 J	<25	29
TU044-MW16	FD	02/03/2015	47	74	1000 J	<50	54
TU044-MW16	N	05/05/2015	<5	<5	640	<25	<15
TU044-MW16	FD	05/05/2015	<13	<13	750	<63	<38
TU044-MW16	N	08/25/2015	<0.5	<0.5	670	<2.5	<1.5
TU044-MW16	FD	08/25/2015	<0.5	<0.5	690	<2.5	<1.5
TU044-MW16	N	12/01/2015	25	20 J	450	<50	<30
TU044-MW16	N	02/24/2016	<0.56 UJ	<0.5 UJ	610 J	<2.5 UJ	<1.5 UJ

Table 5 - Summary of Historical BTEX and MTBE Results
Second Semi-Annual Groundwater Monitoring Report - 2023
TU044 (Waterdog Recreational Annex), Luke AFB, Arizona

Location ID	Sample Type	Analyte Fraction Units Sample Date	Benzene µg/L	Ethylbenzene µg/L	MTBE µg/L	Toluene µg/L	Xylene, Total µg/L
TU044-MW16	N	04/27/2016	0.34 F	<0.4	-	<0.4	<0.8
TU044-MW16	FD	04/27/2016	0.28 F	<0.4	780	<0.4	<0.8
TU044-MW16	N	08/10/2016	0.98 F	<1.6	1200	<1.6	<3.2
TU044-MW16	FD	08/10/2016	<4	<4	1100	<4	<8
TU044-MW16	N	10/12/2016	<4 UJ	<4 UJ	1100 J	<4 UJ	<8 UJ
TU044-MW16	N	10/26/2016	<8	<8	570	<8	<16
TU044-MW16	FD	10/26/2016	<8	<8	530	<8	<16
TU044-MW16	N	11/09/2016	<8	<8	600	<8	<16
TU044-MW16	N	12/07/2016	<0.4	<0.4	260	<0.4	<0.8
TU044-MW16	N	03/01/2017	<4	<4	1000	<4	<8
TU044-MW16	N	06/07/2017	13	5.3	680	1.1 F	6.3
TU044-MW16	N	08/29/2017	0.38 F	<0.4	140	<0.4	<0.8
TU044-MW16	N	12/05/2017	<1.6	<1.6	890	<1.6	<3.2
TU044-MW16	N	02/28/2018	<0.8	<0.8	590 J	<0.8	<1.6
TU044-MW16	N	06/14/2018	<0.4 UJ	<0.4 UJ	410	<0.4	<0.8
TU044-MW16	N	12/13/2018	<4	<4	1200	<4	<8
TU044-MW16	N	02/20/2019	<0.4	<0.4	1900	<0.4	<0.8
TU044-MW16	N	12/12/2019	<4 UJ	<4 UJ	420	<4 UJ	<8 UJ
TU044-MW16	N	07/29/2020	<0.8	<0.8	560	<0.8	<1.6
TU044-MW16	N	12/07/2020	<2	<2	680 J	<2	<4
TU044-MW16	N	08/09/2021	<80	<80 UJ	<160	<80	<160
TU044-MW16	N	12/07/2021	< 40 UJ	< 40 UJ	< 80 UJ	< 40 UJ	< 80 UJ
TU044-MW16	N	05/25/2022	< 0.4	< 0.4 UJ	< 0.8 UJ	< 0.4 UJ	R
TU044-MW16	N	02/23/2023	< 0.8	< 0.4	< 0.8	< 0.4	< 0.8
TU044-MW16	FD	10/29/2023	< 8	< 4	< 8	< 4	< 8
TU044-MW16	N	10/29/2023	< 8	< 4	< 8	< 4	< 8
MW-17							
TU044-MW17	N	10/13/2016	<0.4 UJ	<0.4 UJ	<0.8 UJ	<0.4 UJ	<0.8 UJ
TU044-MW17	N	11/10/2016	<0.4 UJ	<0.4 UJ	<0.8 UJ	<0.4 UJ	<0.8 UJ
TU044-MW17	N	12/08/2016	<0.4	<0.4	<0.8	<0.4	<0.8
TU044-MW17	N	03/02/2017	<0.4	<0.4	<0.8	<0.4	<0.8
TU044-MW17	N	06/06/2017	<0.4	<0.4	0.53 F	<0.4	<0.8
MW-18							
TU044-MW18	N	10/12/2016	<0.4 UJ	<0.4 UJ	1.6 FJ	<0.4 UJ	<0.8 UJ
TU044-MW18	N	10/27/2016	<0.4	<0.4	1.6 F	<0.4	<0.8
TU044-MW18	N	11/09/2016	<0.4	<0.4	1 F	<0.4	<0.8
TU044-MW18	FD	11/09/2016	<0.4 UJ	<0.4 UJ	1.2 FJ	<0.4 UJ	<0.8 UJ
TU044-MW18	N	12/08/2016	<0.4	<0.4	2.7 F	<0.4	<0.8
TU044-MW18	N	03/02/2017	0.18 FJ	<0.4	0.68 FJ	<0.4	<0.8
TU044-MW18	N	06/06/2017	<0.4	<0.4	2.6 F	<0.4	<0.8
MW-19							
TU044-MW19	N	10/12/2016	<0.4 UJ	<0.4 UJ	7.5 J	<0.4 UJ	<0.8 UJ
TU044-MW19	N	10/27/2016	<0.4	<0.4	7	<0.4	<0.8
TU044-MW19	N	11/10/2016	<0.4 UJ	<0.4 UJ	7.4 J	<0.4 UJ	<0.8 UJ
TU044-MW19	N	12/08/2016	<0.4	<0.4	30 J	<0.4	<0.8
TU044-MW19	FD	12/08/2016	<0.4	<0.4	28 J	<0.4	<0.8
TU044-MW19	N	03/02/2017	<0.4	<0.4	12	<0.4	<0.8
TU044-MW19	N	06/06/2017	<0.4	<0.4	23	<0.4	<0.8
MW-20							
TU044-MW20	N	10/12/2016	<0.4 UJ	<0.4 UJ	<0.8 UJ	<0.4 UJ	<0.8 UJ
TU044-MW20	N	10/26/2016	<0.4	<0.4	0.35 F	<0.4	<0.8
TU044-MW20	N	11/09/2016	<0.4	<0.4	0.3 FJ	<0.4	<0.8
TU044-MW20	N	12/07/2016	<0.4	<0.4	0.75 F	<0.4	<0.8
TU044-MW20	N	03/01/2017	<0.4	<0.4	4.4 F	<0.4	<0.8
TU044-MW20	N	06/07/2017	<0.4	<0.4	0.73 F	<0.4	<0.8
MW-21S							
TU044-MW21S	N	10/12/2016	30 J	32 J	1300 J	4.3 FJ	77 J

Table 5 - Summary of Historical BTEX and MTBE Results
Second Semi-Annual Groundwater Monitoring Report - 2023
TU044 (Waterdog Recreational Annex), Luke AFB, Arizona

Location ID	Sample Type	Analyte Fraction Units Sample Date	Benzene µg/L	Ethylbenzene µg/L	MTBE µg/L	Toluene µg/L	Xylene, Total µg/L
MW-21M							
TU044-MW21M	N	10/12/2016	1400 J	<8 UJ	3100 J	75 J	630 J
TU044-MW21M	N	10/26/2016	1200 J	51 FJ	3000 J	56 FJ	480 J
TU044-MW21M	N	11/09/2016	1800 J	190	3000	90 FJ	760
TU044-MW21M	N	12/07/2016	1500	190	2500	59	580
TU044-MW21M	N	03/01/2017	1700	270	3000	74	730
TU044-MW21M	N	06/07/2017	1700	3.8 F	2800	25	500
TU044-MW21M	N	08/30/2017	2100	130	2800	33	530
TU044-MW21M	N	12/06/2017	1500	25	3200	28	170
TU044-MW21M	N	03/01/2018	2200	200	3400 J	110	670
TU044-MW21M	N	06/21/2018	1900 J	180 J	3200 J	48	560
TU044-MW21M	N	12/07/2018	1600	210	3300	61	530
TU044-MW21M	N	02/20/2019	1500	240	3700	64 F	580
TU044-MW21M	N	12/14/2019	1300 J	260 J	3400	49 J	540 J
TU044-MW21M	N	07/29/2020	1000	<8	3600	9.5 F	190
TU044-MW21M	N	12/08/2020	980	190	3400 J	14	350
TU044-MW21M	N	08/11/2021	620	24 FJ	2500	<20	120
TU044-MW21M	N	12/07/2021	670	59	3300	< 16	130
TU044-MW21M	N	05/25/2022	670	34 FJ	2300 J	< 20 UJ	130 J
TU044-MW21M	N	02/23/2023	740	34 F	3000 J	< 16	46
TU044-MW21M	N	10/25/2023	< 40	< 20	2900	< 20	< 40
TU044-MW21M	N	12/13/2023	19 J	< 20	2900	< 20	< 40
MW-21D							
TU044-MW21D	N	10/12/2016	250 J	<8 UJ	4500 J	18 FJ	80 J
TU044-MW21D	N	10/26/2016	180	<40	4400	<40	27 F
TU044-MW21D	N	11/09/2016	140 FJ	<80	4400	<80	<160
TU044-MW21D	N	12/07/2016	73	<8	4000	<8	21 F
TU044-MW21D	N	03/01/2017	120	<8	4600	<8	<16
TU044-MW21D	N	06/07/2017	<8	<8	4000	<8	<16
TU044-MW21D	N	08/30/2017	4.3 F	<8	4600	<8	<16
TU044-MW21D	N	12/06/2017	<8	<8	4700	<8	<16
TU044-MW21D	N	03/01/2018	<4	<4	3100 J	<4	<8
TU044-MW21D	N	06/21/2018	<8 UJ	<8 UJ	4000 J	<8	<16
TU044-MW21D	N	12/06/2018	<8	<8	4400	<8	<16
TU044-MW21D	N	02/20/2019	<80	<80	4300	<80	<160
TU044-MW21D	FD	02/20/2019	<80	<80	4500	<80	<160
TU044-MW21D	N	12/12/2019	<20 UJ	<20 UJ	3600	<20 UJ	<40 UJ
TU044-MW21D	FD	12/12/2019	<20 UJ	<20 UJ	4100	<20 UJ	<40 UJ
TU044-MW21D	N	07/28/2020	15 F	<20	4700	<20	<40
TU044-MW21D	N	12/07/2020	<20	<20	4300 J	<20	<40
TU044-MW21D	N	08/11/2021	<2	<2	410 J	<2	<4
TU044-MW21D	FD	08/11/2021	<2	<2	430 J	<2	<4
TU044-MW21D	N	12/07/2021	< 0.8 UJ	< 0.8 UJ	170 J	< 0.8 UJ	< 1.6 UJ
TU044-MW21D	N	05/25/2022	< 4	< 4 UJ	620 J	< 4 UJ	R
TU044-MW21D	FD	05/25/2022	< 0.4	< 0.4 UJ	570 J	< 0.4 UJ	R
TU044-MW21D	N	02/23/2023	< 0.8	< 0.4	28 J	< 0.4	< 0.8
TU044-MW21D	N	10/29/2023	< 8	< 4	30	< 4	< 8
TU044-MW21D	N	12/13/2023	< 0.8	< 0.4	14	< 0.4	< 0.8
TU044-MW21D	FD	12/13/2023	< 0.8	< 0.4	14	< 0.4	< 0.8
MW-22S							
TU044-MW22S	N	10/12/2016	8900 J	1700 J	17000 J	3100 J	8100 J
TU044-MW22S	N	10/27/2016	18000 J	1900	20000 J	5100	9800
TU044-MW22S	N	11/10/2016	14000 J	1100	22000	3900 J	8100
TU044-MW22S	N	12/08/2016	11000	1200	13000	3600	9800
TU044-MW22S	N	03/02/2017	5900	1500	1900	2200	9900
TU044-MW22S	N	06/06/2017	8400	1800	3700	2500	12000
TU044-MW22S	N	08/30/2017	9400	1200	2900	1600	9400
TU044-MW22S	N	12/06/2017	10000	500	9500	680	3300
TU044-MW22S	N	03/01/2018	10000	1500	11000 J	1300	8800
TU044-MW22S	N	06/21/2018	18000 J	2000 J	29000	470	5800
TU044-MW22S	N	12/13/2018	17000	1700	38000	240	2700
TU044-MW22S	N	02/20/2019	16000	1400	34000	310 F	2900
TU044-MW22S	N	12/13/2019	4800 J	650 J	5700	610 J	3400 J
TU044-MW22S	N	06/16/2020	3600	2000	280	970	6400
TU044-MW22S	N	12/08/2020	3400	580	600 J	16	76

Table 5 - Summary of Historical BTEX and MTBE Results
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TU044 (Waterdog Recreational Annex), Luke AFB, Arizona

Location ID	Sample Type	Analyte Fraction Units Sample Date	Benzene µg/L	Ethylbenzene µg/L	MTBE µg/L	Toluene µg/L	Xylene, Total µg/L
TU044-MW22S	N	08/10/2021	310	3.7 FJ	2600	9.4 FJ	16 FJ
TU044-MW22S	N	12/06/2021	530	< 8	2400	10 F	8 F
TU044-MW22S	N	05/23/2022	< 40	< 40 UJ	4400 J	< 40 UJ	R
TU044-MW22S	N	02/20/2023	100	< 20	3900 J	< 20	< 40
TU044-MW22S	N	10/27/2023	18	< 8	870	< 8	< 16
TU044-MW22S	N	12/14/2023	< 16	< 8	1200	< 8	< 16
MW-22D							
TU044-MW22D	N	10/12/2016	2300 J	81 FJ	22000 J	750 J	1600 J
TU044-MW22D	FD	10/12/2016	2600 J	130 J	26000 J	790 J	1500 J
TU044-MW22D	N	10/27/2016	1900 J	<400 UJ	20000 J	<400 UJ	1200 FJ
TU044-MW22D	N	11/10/2016	180 J	<8	2200 J	9.4 FJ	72 J
TU044-MW22D	FD	11/10/2016	1800	<400	19000	94 FJ	1000 J
TU044-MW22D	N	12/08/2016	1100	<40	19000	38 F	110 F
TU044-MW22D	N	03/02/2017	1100	<40	18000	<40	<80
TU044-MW22D	N	06/06/2017	1100	<40	21000	31 F	<80
TU044-MW22D	N	08/30/2017	520	45 F	18000	<40	<80
TU044-MW22D	N	12/06/2017	<40	<40	22000	<40	<80
TU044-MW22D	FD	12/06/2017	70	17	22000	<40	79
TU044-MW22D	N	03/01/2018	89 F	<40	17000 J	<40	<80
TU044-MW22D	N	06/21/2018	45 FJ	11 FJ	20000 J	<20	68 F
TU044-MW22D	N	12/11/2018	<80	<80	17000	<80	<160
TU044-MW22D	N	02/20/2019	12	2.7	21000	<1.1	12
TU044-MW22D	N	12/14/2019	83 FJ	<80 UJ	21000	<80 UJ	39 FJ
TU044-MW22D	N	06/16/2020	520	<40	17000	<40	170
TU044-MW22D	FD	06/16/2020	420	<40	17000	<40	140
TU044-MW22D	N	12/07/2020	<80	<80	18000 J	<80	<160
TU044-MW22D	N	08/10/2021	450	33 FJ	21000	<80	39 FJ
TU044-MW22D	FD	08/10/2021	470	36 FJ	22000	<80	<160
TU044-MW22D	N	12/06/2021	100 F	< 80	17000	< 80	53 F
TU044-MW22D	FD	12/06/2021	49 F	< 80	16000	< 80	< 160
TU044-MW22D	N	05/25/2022	< 160	< 160 UJ	15000 J	< 160 UJ	R
TU044-MW22D	FD	05/25/2022	< 160	< 160 UJ	15000 J	< 160 UJ	R
TU044-MW22D	N	02/20/2023	830	< 80	16000 J	70 F	< 160
TU044-MW22D	FD	02/20/2023	850	< 80	16000 J	75 F	< 160
TU044-MW22D	FD	10/27/2023	1300	< 160	19000	< 160	< 320
TU044-MW22D	N	10/27/2023	1000	< 160	29000	< 160	< 320
TU044-MW22D	FD	10/27/2023	1300	< 160	19000	< 160	< 320
TU044-MW22D	FD	12/14/2023	1200	< 80	15000	< 80	77 J
MW-23S							
TU044-MW23S	N	10/13/2016	39 J	<8 UJ	2500 J	<8 UJ	<16 UJ
TU044-MW23S	N	10/27/2016	120 FJ	<80 UJ	<160 UJ	<80 UJ	<160 UJ
TU044-MW23S	N	11/10/2016	1600 J	<4	4100	27 J	26
TU044-MW23S	N	12/08/2016	2400	<16	2200	70	190
TU044-MW23S	N	03/02/2017	190	<1.6	670	15	180
TU044-MW23S	N	06/06/2017	720	<2	1500	14	52
TU044-MW23S	N	08/30/2017	2400	<8	1500	77	370
TU044-MW23S	N	12/06/2017	150	<1.6	280	6.1	79
TU044-MW23S	N	03/01/2018	86	3	190 J	0.23 F	0.22 F
TU044-MW23S	N	06/22/2018	180 J	3.5 J	310	1.9	1.8 F
TU044-MW23S	N	12/11/2018	53	0.44 F	400	<0.8	<1.6
TU044-MW23S	N	02/20/2019	120	<8	710	<8	9.5 F
TU044-MW23S	N	12/11/2019	8.1 J	<0.8 UJ	140	<0.8 UJ	<1.6 UJ
TU044-MW23S	N	07/28/2020	13	<0.4	130	<0.4	<0.8
TU044-MW23S	N	08/09/2021	6.4	<2	220	<2	<4
TU044-MW23S	N	12/07/2021	< 0.4	< 0.4	110	< 0.4	< 0.8
TU044-MW23S	N	10/25/2023	< 0.8	< 0.4	< 0.8	< 0.4	< 0.8
TU044-MW23S	N	12/13/2023	< 40	< 20	< 40	< 20	< 40

Table 5 - Summary of Historical BTEX and MTBE Results
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TU044 (Waterdog Recreational Annex), Luke AFB, Arizona

Location ID	Sample Type	Analyte Fraction Units Sample Date	Benzene µg/L	Ethylbenzene µg/L	MTBE µg/L	Toluene µg/L	Xylene, Total µg/L
MW-23D							
TU044-MW23D	N	10/13/2016	77 FJ	<40 UJ	25000 J	<40 UJ	<80 UJ
TU044-MW23D	FD	10/13/2016	97 FJ	<40 UJ	21000 J	<40 UJ	<80 UJ
TU044-MW23D	FD	10/26/2016	1500	<400	24000	<400	<800
TU044-MW23D	N	10/27/2016	1800 J	<400 UJ	23000 J	<400 UJ	<800 UJ
TU044-MW23D	N	11/10/2016	2000 J	<80	21000	<80	<160
TU044-MW23D	N	12/08/2016	1200	<80	23000	<80	<160
TU044-MW23D	N	03/02/2017	<40	<40	19000	<40	<80
TU044-MW23D	N	06/06/2017	<20	<20	16000	<20	<40
TU044-MW23D	N	08/30/2017	590	<40	15000	<40	<80
TU044-MW23D	FD	08/30/2017	560	<40	15000	<40	<80
TU044-MW23D	N	12/06/2017	260	<20	16000	<20	<40
TU044-MW23D	N	03/01/2018	8.8 F	<16	7100 J	<16	<32
TU044-MW23D	N	06/22/2018	7.9 FJ	<8 UJ	5200	<8	<16
TU044-MW23D	N	12/11/2018	<40	<40	7000	<40	<80
TU044-MW23D	N	02/20/2019	<0.4	<0.4	11000	<0.4	<0.8
TU044-MW23D	N	12/14/2019	<40 UJ	<40 UJ	9000	<40 UJ	<80 UJ
TU044-MW23D	N	07/29/2020	<40	<40	11000	<40	<80
TU044-MW23D	N	12/09/2020	<40	<40	8600 J	<40	<80
TU044-MW23D	N	08/09/2021	<40	<40	6700	<40	<80
TU044-MW23D	N	12/07/2021	< 40	< 40	6100	< 40	< 80
TU044-MW23D	N	05/24/2022	< 20	< 20 UJ	3200 J	< 20 UJ	R
TU044-MW23D	N	02/23/2023	< 40	< 20	4200 J	< 20	< 40
TU044-MW23D	N	10/29/2023	< 80	< 40	6400	< 40	< 80
TU044-MW23D	N	12/14/2023	< 160	< 80	12000	< 80	< 160
MW-24I							
TU044-MW24I	N	08/10/2021	2	0.25 FJ	< 0.8	1.4	0.47 FJ
TU044-MW24I	N	12/06/2021	0.59 F	< 0.4	< 0.8	0.36 F	< 0.8
TU044-MW24I	N	05/25/2022	< 0.4	< 0.4 UJ	< 0.8 UJ	< 0.4 UJ	R
TU044-MW24I	N	10/29/2023	< 0.8	< 0.4	< 0.8	< 0.4	< 0.8
TU044-MW24I	N	12/13/2023	< 0.8	< 0.4	< 0.8	< 0.4	< 0.8
MW-24D							
TU044-MW24D	N	08/10/2021	< 0.4	< 0.4	< 0.8	< 0.4	< 0.8
TU044-MW24D	N	12/06/2021	< 0.4	< 0.4	< 0.8	< 0.4	< 0.8
TU044-MW24D	N	05/25/2022	< 0.4	< 0.4 UJ	< 0.8 UJ	< 0.4 UJ	R
TU044-MW24D	N	10/29/2023	< 0.8	< 0.4	< 0.8	< 0.4	< 0.8
TU044-MW24D	N	12/13/2023	< 0.8	< 0.4	< 0.8	< 0.4	< 0.8
MW-25I							
TU044-MW25I	N	08/10/2021	0.18 FJ	< 0.4	56	0.25 FJ	< 0.8
TU044-MW25I	N	12/07/2021	< 0.4	< 0.4	47	< 0.4	< 0.8
TU044-MW25I	N	05/24/2022	< 0.4	< 0.4 UJ	60 J	< 0.4 UJ	R
TU044-MW25I	N	10/29/2023	< 0.8	< 0.4	74	< 0.4	< 0.8
TU044-MW25I	N	12/13/2023	< 0.8	< 0.4	79	< 0.4	< 0.8

Table 5 - Summary of Historical BTEX and MTBE Results
Second Semi-Annual Groundwater Monitoring Report - 2023
TU044 (Waterdog Recreational Annex), Luke AFB, Arizona

Location ID	Sample Type	Analyte Fraction Units Sample Date	Benzene µg/L	Ethylbenzene µg/L	MTBE µg/L	Toluene µg/L	Xylene, Total µg/L
MW-25D							
TU044-MW25D	N	08/10/2021	0.54 FJ	< 0.4	91	0.24 FJ	< 0.8
TU044-MW25D	N	12/07/2021	< 0.4	< 0.4	44	< 0.4	< 0.8
TU044-MW25D	N	05/24/2022	< 0.4	< 0.4 UJ	43 J	< 0.4 UJ	R
TU044-MW25D	N	10/29/2023	< 0.8	< 0.4	77	0.35	< 0.8
TU044-MW25D	FD	10/29/2023	< 0.8	< 0.4	72	0.47	< 0.8
TU044-MW25D	N	12/13/2023	< 0.8	< 0.4	83	< 0.4	0.37 J

Qualifiers:

--- = Not analyzed or historic data not available

< = The result was less than the limit of detection

DNR = Do not report, reported by alternate method

EXC = Do not report, reported by alternate method

F = The analyte was positively identified but the associated numerical value is between the detection limit and the limit of quantitation.

FJ = The result is an estimated detection between the LOQ and LOD and further estimated due to related quality control being out of criteria.

J = Result is estimated

U = The analyte was not detected above the limit of detection

UJ = The result is an estimated non-detect.

R = The result is rejected and not useable for project purposes

Sample Type:

N = Normal Sample

FD = Field Duplicate

Units: µg/L = micrograms per liter

Fraction: T = Total

Notes:

S = Shallow

M = Intermediate

D = Deep

MTBE = methyl tert-butyl ether

Table 6 – Summary of December 2023 Benzene Results
Second Semi-Annual Groundwater Monitoring Report – 2023
TU044 (Waterdog Recreational Annex), Luke AFB, Arizona

Analyte:	**Benzene**
Detected Concentration Range (µg/L)	19 – 6,400
Wells with Concentrations Detected above the AWQS (5 µg/L)	MW-13, MW-21M, MW-22S[1], and MW-22D
Wells with Concentrations Detected above the LOD but below the AWQS	---
Wells with Concentrations below the LOD	MW-2, MW-3, MW-9, MW-15, MW-16, MW-21D, MW-23S, MW-23D, MW-24I, MW-24D, MW-25I, and MW-25D

Notes:

[1]Benzene concentrations at MW-22S were below the LOD. However, this sample is considered to be a positive result based on the dilution completed for the sample and the historical detections identified in this well from October 2016 to October 2023.

µg/L = micrograms per liter

AWQS = Aquifer Water Quality Standard

LOD = limit of detection

MW = monitoring well

S = Shallow

M = Intermediate

D = Deep

Table 7 – Summary of December 2023 MTBE Results
Second Semi-Annual Groundwater Monitoring Report – 2023
TU044 (Waterdog Recreational Annex), Luke AFB, Arizona

Analyte:	**MTBE**
Concentration Range (µg/L)	1 – 15,000
Wells with Concentrations Detected above the ADEQ Tier 1 Remedial Guidance (94 µg/L)	MW-2, MW-13, MW-21M, MW-22S, MW-22D, and MW-23D
Wells with Concentrations Detected above the LOD but below the ADEQ Tier 1 Remedial Guidance	MW-3, MW-9, MW-11, MW-14, MW-15, MW-21D, MW-25I, and MW-25D
Wells with Concentrations below the LOD	MW-8, MW-23S, MW-24I, and MW-24D

Notes:
µg/L = micrograms per liter
ADEQ = Arizona Department of Environmental Quality
LOD = limit of detection
MW = monitoring well
MTBE = methyl tert-butyl ether
S = Shallow
M = Intermediate
D = Deep

APPENDIX A

DAILY LOGS, WATER QUALITY PARAMETER FORMS, WATER LEVEL FORMS, AND CHAIN OF CUSTODY

WELL PURGING & SAMPLING FORM
(LOW FLOW)

Project: Luke AFB Sampled by: Sara Kohl

Location and Site Code (**SITEID**): TU044 (Water Dog)

Well No. (**LOCID**): MW-2 Well Diameter (**SDIAM**): 2.0 in

Date (**LOGDATE**): 12/13/23 Weather: _____

CASING VOLUME INFORMATION:

Casing ID (inch)	1.0	1.5	2.0	2.2	3.0	4.0	4.3	5.0	6.0	7.0	8.0
Unit Casing Volume (A) (gal/ft)	0.04	0.09	0.16	0.2	0.37	0.65	0.75	1.0	1.5	2.0	2.6

PURGING INFORMATION:

Measured Well Depth (B) (**TOTDEPTH**) 30.35 ft. (optional)

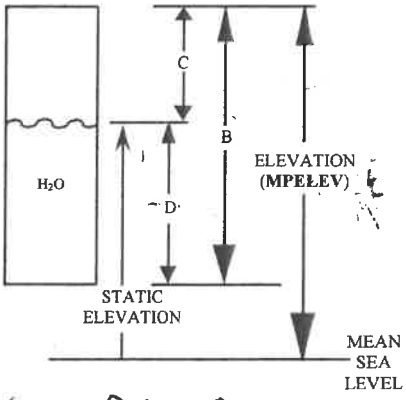
Measured Water Level Depth (C) (**STATDEP**) 23.12 ft.

Length of Static Water Column (D) = 30.35 (B) − 23.12 (C) = _____ (D) ft. (optional)

Pump Intake Depth (ft): —

Depth during Purging/Sampling: _____ ft (provide range) —

Comments (re: Depth during purging/sampling): _____



Purge Date and Method: ~~BLADDER PUMP~~ 12/13/23 BAILER

Physical Appearance/Comments: _____

Dissolved Ferrous Iron (mg/L): —

FIELD MEASUREMENTS:

Allowable Range:		± 0.1	± 3%		± 10%	± 10%	± 10mV	
Time	Depth to Water (ft BTOC)	pH	EC (mS/cm)	Temp. (F or C)	Turbidity (NTU)	D.O. (mg/L)	ORP (mV)	Flow Rate (mL/min)
1416	—	7.27	6.06	26.43	514	5.12	-39	+

Sample Time: 1420 Sample ID: TU044-MW21223A

Note: Maintain a flow rate of 200-500 mL/min during purging. Collect samples at a flow rate between 100-250 mL/min. VOC and gas sensitive (e.g. alkalinity, Fe^{2+}, CH_4, H_2S) parameters should be sampled first.

WELL PURGING & SAMPLING FORM
(LOW FLOW)

Project: Luke AFB Sampled by: Sara Kohl

Location and Site Code (**SITEID**): TW044 (Water Dog)

Well No. (**LOCID**): MW-3 Well Diameter (**SDIAM**): 2.0 in

Date (**LOGDATE**): 12/13/23 Weather: _____

CASING VOLUME INFORMATION:

Casing ID (inch)	1.0	1.5	2.0	2.2	3.0	4.0	4.3	5.0	6.0	7.0	8.0
Unit Casing Volume (A) (gal/ft)	0.04	0.09	0.16	0.2	0.37	0.65	0.75	1.0	1.5	2.0	2.6

PURGING INFORMATION:

Measured Well Depth (B) (**TOTDEPTH**) 26.98 ft. (optional)

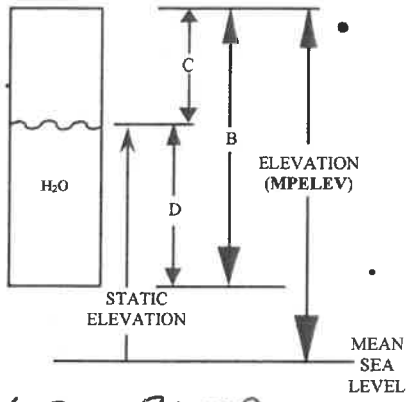
Measured Water Level Depth (C) (**STATDEP**) 24.73 ft.

Length of Static Water Column (D) = 26.98 (B) - 24.73 (C) = _____ (D) ft. (optional)

Pump Intake Depth (ft): _____

Depth during Purging/Sampling: _____ ft (provide range)

Comments (re: Depth during purging/sampling): _____



Purge Date and Method: ~~BLADDER PUMP~~ 12/13/23 BAILER

Physical Appearance/Comments: Black (carbon)

Dissolved Ferrous Iron (mg/L): _____

FIELD MEASUREMENTS:

Allowable Range:		± 0.1	± 3%		± 10%	± 10%	± 10mV	
Time	Depth to Water (ft)	pH	EC (mS/cm)	Temp. (F or C)	Turbidity (NTU)	D.O. (mg/L)	ORP (mV)	Flow Rate (mL/min)

Sample Time: 1310 Sample ID: TW044-MW31223A

Note: Maintain a flow rate of 200-500 mL/min during purging. Collect samples at a flow rate between 100-250 mL/min. VOC and gas sensitive (e.g. alkalinity, Fe^{2+}, CH_4, H_2S) parameters should be sampled first.

WELL PURGING & SAMPLING FORM
(LOW FLOW)

Project: Luke AFB Sampled by: Sara Krohl

Location and Site Code (**SITEID**): TU044 / Water Dog

Well No. (**LOCID**): MW-8 Well Diameter (**SDIAM**): ~~2.0 in~~ (SK) 4.0 in

Date (**LOGDATE**): 12/14/23 Weather: 50°F, clear, sunny

CASING VOLUME INFORMATION:

Casing ID (inch)	1.0	1.5	2.0	2.2	3.0	4.0	4.3	5.0	6.0	7.0	8.0
Unit Casing Volume (A) (gal/ft)	0.04	0.09	0.16	0.2	0.37	0.65	0.75	1.0	1.5	2.0	2.6

PURGING INFORMATION:

Measured Well Depth (B) (**TOTDEPTH**) ~~54.60~~ 53.60 (D) ft. (optional)

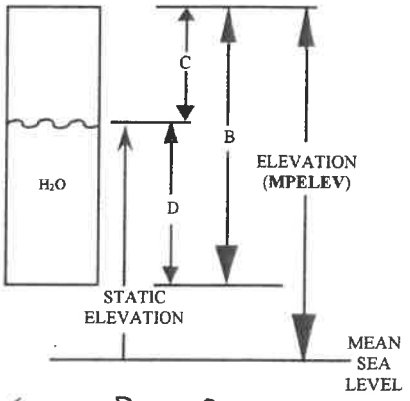
Measured Water Level Depth (C) (**STATDEP**) 34.57 ft.

Length of Static Water Column (D) = 53.60 (B) - 34.57 (C) = 19.03 (D) ft. (optional)

Pump Intake Depth (ft): —

Depth during Purging/Sampling: — ft (provide range)

Comments (re: Depth during purging/sampling): —



Purge Date and Method: ~~BLADDER PUMP~~ 12/14/23 BAILER

Physical Appearance/Comments: Yellow color

Dissolved Ferrous Iron (mg/L): —

FIELD MEASUREMENTS:

Allowable Range:		± 0.1	± 3%		± 10%	± 10%	± 10mV	
Time	Depth to Water (ft BTOC)	pH	EC (mS/cm)	Temp. (F or C)	Turbidity (NTU)	D.O. (mg/L)	ORP (mV)	Flow Rate (mL/min)
1027	—	7.98	0.837	14.39	4.00	32.56	106	—

Sample Time: 1030 Sample ID: TU044-MW8 1223A

Note: Maintain a flow rate of 200-500 mL/min during purging. Collect samples at a flow rate between 100-250 mL/min. VOC and gas sensitive (e.g. alkalinity, Fe^{2+}, CH_4, H_2S) parameters should be sampled first.

WELL PURGING & SAMPLING FORM
(LOW FLOW)

Project: Luke AFB Sampled by: Sara Krohl

Location and Site Code (**SITEID**): TU044 (Water Dog)

Well No. (**LOCID**): MW-9 Well Diameter (**SDIAM**): (SK) ~~2.0 in~~ 4.0 in

Date (**LOGDATE**): 12/14/23 Weather: 65°F, clear, sunny

CASING VOLUME INFORMATION:

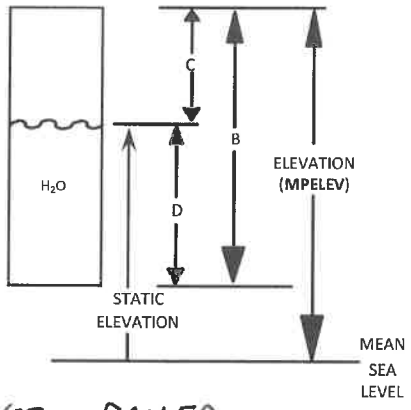
Casing ID (inch)	1.0	1.5	2.0	2.2	3.0	4.0	4.3	5.0	6.0	7.0	8.0
Unit Casing Volume (A) (gal/ft)	0.04	0.09	0.16	0.2	0.37	0.65	0.75	1.0	1.5	2.0	2.6

PURGING INFORMATION:

Measured Well Depth (B) (**TOTDEPTH**) (SK) 53.11 ~~60.71~~ ft. (optional)

Measured Water Level Depth (C) (**STATDEP**) (SK) 24.50 ~~23.68~~ ft.

Length of Static Water Column (D) = (SK) 53.11 − 24.50 = 28.61 ~~60.71 − 23.68 = 37.03~~ ft. (optional)
(B) (C) (D)



Purge Date and Method: ~~BLADDER PUMP~~ 12/14/23 BAILER

Physical Appearance/Comments: Clear

Dissolved Ferrous Iron (mg/L): —

FIELD MEASUREMENTS:

		± 0.01 mS/cm		± 10% or	± 0.3 mg/l	± 10 mV
Allowable Range:	± 0.1	or ± 3%	± 1 C	≤ 10 NTU	or ± 10%	or ± 10%

Time	Depth to Water (ft BTOC)	pH	EC (mS/cm)	Temp. (F or C)	Turbidity (NTU)	D.O. (mg/L)	ORP (mV)	Flow Rate (mL/min)
1327	—	7.29	2.13	25.18	0.00	0.00	50	—

Sample Time: 1330 Sample ID: TU044-MW9 1223A

Note: Maintain a flow rate of 100-500 mL/min during purging, unless drawdown exceeds 0.33 ft. Collect samples at a flow rate between 100-250 mL/min. VOC and gas sensitive (e.g. alkalinity, Fe^{2+}, CH_4, H_2S) parameters should be sampled first.

WELL PURGING & SAMPLING FORM
(LOW FLOW)

Project: Luke AFB Sampled by: Jason McDaniel

Location and Site Code (**SITEID**): ~~FW~~ TV044

Well No. (**LOCID**): MW-11 Well Diameter (**SDIAM**): 4.0

Date (**LOGDATE**): 12/14/23 Weather: Clear ≈ 70°

CASING VOLUME INFORMATION:

Casing ID (inch)	1.0	1.5	2.0	2.2	3.0	4.0	4.3	5.0	6.0	7.0	8.0
Unit Casing Volume (A) (gal/ft)	0.04	0.09	0.16	0.2	0.37	0.65	0.75	1.0	1.5	2.0	2.6

PURGING INFORMATION:

Measured Well Depth (B) (**TOTDEPTH**) 58.47 ft. (optional)

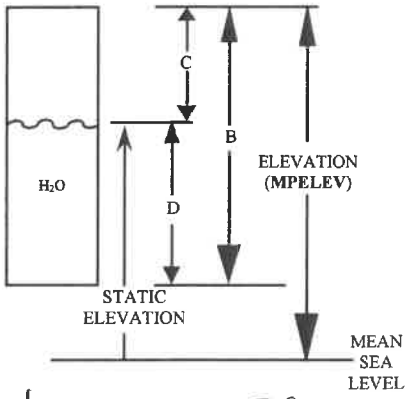
Measured Water Level Depth (C) (**STATDEP**) 24.56 ft.

Length of Static Water Column (D) = _____ (B) - _____ (C) = _____ (D) ft. (optional)

Pump Intake Depth (ft): 57.0

Depth during Purging/Sampling: _____ ft (provide range)

Comments (re: Depth during purging/sampling): _____



Purge Date and Method: BLADDER PUMP 12/14/23 low flow

Physical Appearance/Comments: Clear No odor

Dissolved Ferrous Iron (mg/L): N/A

FIELD MEASUREMENTS:

Allowable Range:		± 0.1	± 3%		± 10%	± 10%	± 10mV	
Time	Depth to Water (ft BTOC)	pH	EC (mS/cm)	Temp. (F or C)	Turbidity (NTU)	D.O. (mg/L)	ORP (mV)	Flow Rate (mL/min)
1215	24.56	7.28	3.65	72.2	—	4.55	62	100
1220	"	7.21	3.79	71.6	—	1.00	26	"
1225	"	7.20	3.80	71.7	—	0.75	20	"
1230	"	7.20	3.80	71.7	—	0.67	19	"
1235	"	7.21	3.80	71.9	—	0.66	20	"
1240	"	7.21	3.80	71.8	—	0.64	20	"

Sample Time: 1245 Sample ID: TV044-MW11122523 A/C

Note: Maintain a flow rate of 200-500 mL/min during purging. Collect samples at a flow rate between 100-250 mL/min. VOC and gas sensitive (e.g. alkalinity, Fe^{2+}, CH_4, H_2S) parameters should be sampled first.

WELL PURGING & SAMPLING FORM
(LOW FLOW)

Project: Luke AFB Sampled by: Sara Krohl

Location and Site Code (**SITEID**): TU044 (Water Dog)

Well No. (**LOCID**): MW-13 Well Diameter (**SDIAM**): 4.0 in

Date (**LOGDATE**): 12/14/23 Weather: 65°F, sunny, clear

CASING VOLUME INFORMATION:

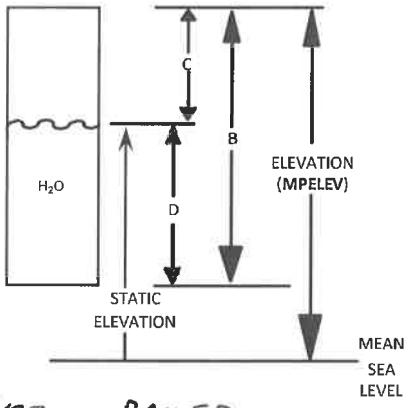
Casing ID (inch)	1.0	1.5	2.0	2.2	3.0	4.0	4.3	5.0	6.0	7.0	8.0
Unit Casing Volume (A) (gal/ft)	0.04	0.09	0.16	0.2	0.37	0.65	0.75	1.0	1.5	2.0	2.6

PURGING INFORMATION:

Measured Well Depth (B) (**TOTDEPTH**) 60.50 ft. (optional)

Measured Water Level Depth (C) (**STATDEP**) 23.90 ft.

Length of Static Water Column (D) = 60.50 (B) - 23.90 (C) = 36.60 ft. (optional) (D)



Purge Date and Method: ~~BLADDER PUMP~~ 12/14/23 BAILER

Physical Appearance/Comments: Clear

Dissolved Ferrous Iron (mg/L): —

FIELD MEASUREMENTS:

Allowable Range:	± 0.1	± 0.01 mS/cm or ± 3%	± 1 C	± 10% or ≤ 10 NTU	± 0.3 mg/l or ± 10%	± 10 mV or ± 10%	
Time	Depth to Water (ft BTOC)	pH	EC (mS/cm)	Temp. (F or C)	Turbidity (NTU)	D.O. (mg/L)	ORP (mV)	Flow Rate (mL/min)
1255	—	7.29	1.84	24.52	103	4.19	-81	—

Sample Time: 1300 Sample ID: TU044-MW13 1223A

Note: Maintain a flow rate of 100-500 mL/min during purging, unless drawdown exceeds 0.33 ft. Collect samples at a flow rate between 100-250 mL/min. VOC and gas sensitive (e.g. alkalinity, Fe^{2+}, CH_4, H_2S) parameters should be sampled first.

WELL PURGING & SAMPLING FORM
(LOW FLOW)

Project: Luke AFB Sampled by: Jason McDaniel

Location and Site Code (**SITEID**): TV044

Well No. (**LOCID**): MW-14 Well Diameter (**SDIAM**): 4.0

Date (**LOGDATE**): 12/14/23 Weather: Clear ≈ 55°

CASING VOLUME INFORMATION:

Casing ID (inch)	1.0	1.5	2.0	2.2	3.0	4.0	4.3	5.0	6.0	7.0	8.0
Unit Casing Volume (A) (gal/ft)	0.04	0.09	0.16	0.2	0.37	0.65	0.75	1.0	1.5	2.0	2.6

PURGING INFORMATION:

Measured Well Depth (B) (**TOTDEPTH**) 60.91 ft. (optional)

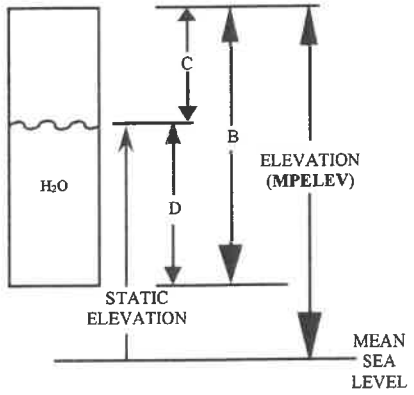
Measured Water Level Depth (C) (**STATDEP**) 34.50 ft.

Length of Static Water Column (D) = _____ (B) - _____ (C) = _____ (D) ft. (optional)

Pump Intake Depth (ft): 58.0

Depth during Purging/Sampling: _____ ft (provide range)

Comments (re: Depth during purging/sampling): _____



Purge Date and Method: BLADDER PUMP _____

Physical Appearance/Comments: slightly gray no odor. (Turbidity not working)

Dissolved Ferrous Iron (mg/L): _____

FIELD MEASUREMENTS:

Allowable Range:		± 0.1	± 3%		± 10%	± 10%	± 10mV	
Time	Depth to Water (ft BTOC)	pH	EC (mS/cm)	Temp. (F or C)	Turbidity (NTU)	D.O. (mg/L)	ORP (mV)	Flow Rate (mL/min)
1045	34.50	7.19	3.03	64.4	—	1.99	10	100
1050	"	6.93	2.82	70.2	—	2.63	23	"
1055	"	6.94	2.80	69.4	—	2.89	40	"
1100	"	6.96	2.80	70.1	—	2.81	43	"
1105	"	6.96	2.79	70.5	—	2.80	45	"

Sample Time: 1110 Sample ID: TV044-MW141223A/MS/MSD

Note: Maintain a flow rate of 200-500 mL/min during purging. Collect samples at a flow rate between 100-250 mL/min. VOC and gas sensitive (e.g. alkalinity, Fe^{2+}, CH_4, H_2S) parameters should be sampled first.

WELL PURGING & SAMPLING FORM
(LOW FLOW)

Project: Luke AFB Sampled by: Sara Krohl

Location and Site Code (**SITEID**): TUOHH (Water Dog)

Well No. (**LOCID**): MW-15 Well Diameter (**SDIAM**): 4.0 in

Date (**LOGDATE**): 12/14/23 Weather: 60°F, clear, sunny

CASING VOLUME INFORMATION:

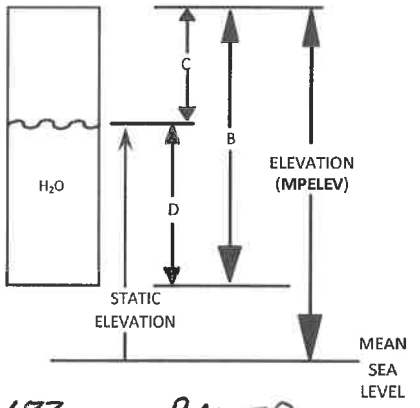
Casing ID (inch)	1.0	1.5	2.0	2.2	3.0	4.0	4.3	5.0	6.0	7.0	8.0
Unit Casing Volume (A) (gal/ft)	0.04	0.09	0.16	0.2	0.37	0.65	0.75	1.0	1.5	2.0	2.6

PURGING INFORMATION:

Measured Well Depth (B) (**TOTDEPTH**) 60.71 ft. (optional)

Measured Water Level Depth (C) (**STATDEP**) 23.68 ft.

Length of Static Water Column (D) = 60.71 (B) - 23.68 (C) = 37.03 (D) ft. (optional)



Purge Date and Method: ~~BLADDER PUMP~~ 12/14/23 BAILER

Physical Appearance/Comments: Light grey color due to carbon

Dissolved Ferrous Iron (mg/L): —

FIELD MEASUREMENTS:

Allowable Range:	± 0.1	± 0.01 mS/cm or ± 3%	± 1 C	± 10% or ≤ 10 NTU	± 0.3 mg/l or ± 10%	± 10 mV or ± 10%	
Time	Depth to Water (ft BTOC)	pH	EC (mS/cm)	Temp. (F or C)	Turbidity (NTU)	D.O. (mg/L)	ORP (mV)	Flow Rate (mL/min)
1122	—	7.54	6.67	19.48	474	17.18	154	—

Sample Time: 1130 Sample ID: TU044-MW15 1223A

Note: Maintain a flow rate of 100-500 mL/min during purging, unless drawdown exceeds 0.33 ft. Collect samples at a flow rate between 100-250 mL/min. VOC and gas sensitive (e.g. alkalinity, Fe^{2+}, CH_4, H_2S) parameters should be sampled first.

WELL PURGING & SAMPLING FORM
(LOW FLOW)

Project: Luke AFB Sampled by: Jason McDavid

Location and Site Code (**SITEID**): TW044

Well No. (**LOCID**): MW-16 Well Diameter (**SDIAM**): ___

Date (**LOGDATE**): 12/13/23 Weather: Clear ≈ 70°

CASING VOLUME INFORMATION:

Casing ID (inch)	1.0	1.5	2.0	2.2	3.0	4.0	4.3	5.0	6.0	7.0	8.0
Unit Casing Volume (A) (gal/ft)	0.04	0.09	0.16	0.2	0.37	0.65	0.75	1.0	1.5	2.0	2.6

PURGING INFORMATION:

Measured Well Depth (B) (**TOTDEPTH**) 47.55 ft. (optional)

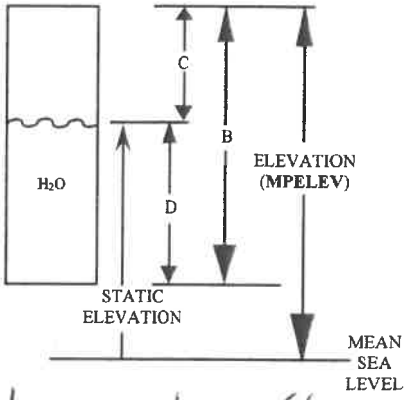
Measured Water Level Depth (C) (**STATDEP**) 33.03 ft.

Length of Static Water Column (D) = ___ (B) - ___ (C) = ___ (D) ft. (optional)

Pump Intake Depth (ft): ___

Depth during Purging/Sampling: ___ ft (provide range)

Comments (re: Depth during purging/sampling): ___



Purge Date and Method: BLADDER PUMP 12/13/23 low flow

Physical Appearance/Comments: Dark grey turbidity out of range

Dissolved Ferrous Iron (mg/L): N/A

FIELD MEASUREMENTS:

Allowable Range:		± 0.1	± 3%		± 10%	± 10%	± 10mV	
Time	Depth to Water (ft BTOC)	pH	EC (mS/cm)	Temp. (F or C)	Turbidity (NTU)	D.O. (mg/L)	ORP (mV)	Flow Rate (mL/min)
1520								

Sample Time: ___ Sample ID: ___

Unable to sample (thick carbon)

Note: Maintain a flow rate of 200-500 mL/min during purging. Collect samples at a flow rate between 100-250 mL/min. VOC and gas sensitive (e.g. alkalinity, Fe^{2+}, CH_4, H_2S) parameters should be sampled first.

WELL PURGING & SAMPLING FORM
(LOW FLOW)

Project: Luke AFB Sampled by: Sara Kohl

Location and Site Code (**SITEID**): TW014 (Water Dog)

Well No. (**LOCID**): MW21M Well Diameter (**SDIAM**): 2.0 inch

Date (**LOGDATE**): 12/13/23 Weather: ____

CASING VOLUME INFORMATION:

Casing ID (inch)	1.0	1.5	2.0	2.2	3.0	4.0	4.3	5.0	6.0	7.0	8.0
Unit Casing Volume (A) (gal/ft)	0.04	0.09	0.16	0.2	0.37	0.65	0.75	1.0	1.5	2.0	2.6

PURGING INFORMATION:

Measured Well Depth (B) (**TOTDEPTH**) 45.98 ft. (optional)

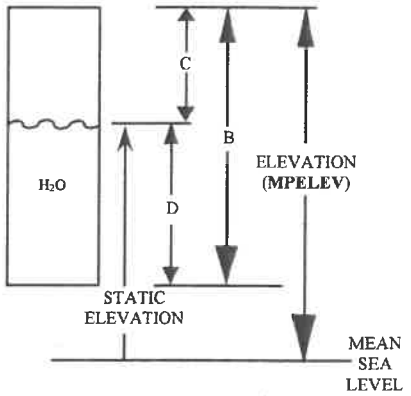
Measured Water Level Depth (C) (**STATDEP**) 36.11 ft.

Length of Static Water Column (D) = 45.98 (B) - 36.11 (C) = ____ (D) ft. (optional)

Pump Intake Depth (ft): —

Depth during Purging/Sampling: — ft (provide range)

Comments (re: Depth during purging/sampling): —



Purge Date and Method: ~~BLADDER PUMP~~ 12/13/23 BAILER

Physical Appearance/Comments: Light grey color

Dissolved Ferrous Iron (mg/L): —

FIELD MEASUREMENTS:

Allowable Range:		± 0.1	± 3%		± 10%	± 10%	± 10mV	
Time	Depth to Water (ft BTOC)	pH	EC (mS/cm)	Temp. (F or C)	Turbidity (NTU)	D.O. (mg/L)	ORP (mV)	Flow Rate (mL/min)
1125	—	6.92	2.06	19.57	425	0.00	-45	—

Sample Time: 1130 Sample ID: TW014-MW21M1223A

Note: Maintain a flow rate of 200-500 mL/min during purging. Collect samples at a flow rate between 100-250 mL/min. VOC and gas sensitive (e.g. alkalinity, Fe^{2+}, CH_4, H_2S) parameters should be sampled first.

WELL PURGING & SAMPLING FORM
(LOW FLOW)

Project: Luke AFB Sampled by: Jason McDonald

Location and Site Code (**SITEID**): TU044

Well No. (**LOCID**): MW21D Well Diameter (**SDIAM**): 2.0

Date (**LOGDATE**): 12/13/23 Weather: Clear ≈ 60°

CASING VOLUME INFORMATION:

Casing ID (inch)	1.0	1.5	2.0	2.2	3.0	4.0	4.3	5.0	6.0	7.0	8.0
Unit Casing Volume (A) (gal/ft)	0.04	0.09	0.16	0.2	0.37	0.65	0.75	1.0	1.5	2.0	2.6

PURGING INFORMATION:

Measured Well Depth (B) (**TOTDEPTH**) 59.55 ft. (optional)

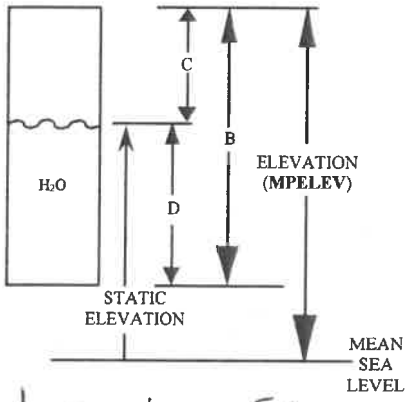
Measured Water Level Depth (C) (**STATDEP**) 36.13 ft.

Length of Static Water Column (D) = _____ (B) - _____ (C) = _____ (D) ft. (optional)

Pump Intake Depth (ft): _____

Depth during Purging/Sampling. _____ ft (provide range)

Comments (re: Depth during purging/sampling): _____



Purge Date and Method: BLADDER PUMP 12/13/23 low flow

Physical Appearance/Comments: Dark grey (Cajun) NTU out of range

Dissolved Ferrous Iron (mg/L): N/A

FIELD MEASUREMENTS:

Allowable Range:		± 0.1	± 3%		± 10%	± 10%	± 10mV	
Time	Depth to Water (ft BTOC)	pH	EC (mS/cm)	Temp. (F or C)	Turbidity (NTU)	D.O. (mg/L)	ORP (mV)	Flow Rate (mL/min)
1145	36.13	7.25	2.27	66.2	—	1.44	-2	75
1150	"	7.16	2.31	67.3	—	1.09	44	"
1155	"	7.14	2.32	68.6	—	0.77	64	"
1200	"	7.13	2.31	69.1	—	0.74	63	"
1203	"	7.14	2.30	69.3	—	0.74	61	"

Sample Time: _____ Sample ID: 1205 TU044-MW21D1223A/C

Note: Maintain a flow rate of 200-500 mL/min during purging. Collect samples at a flow rate between 100-250 mL/min. VOC and gas sensitive (e.g. alkalinity, Fe^{2+}, CH_4, H_2S) parameters should be sampled first.

WELL PURGING & SAMPLING FORM
(LOW FLOW)

Project: Luke AFB Sampled by: Sara Krohl

Location and Site Code (**SITEID**): TU044 (Water Dog)

Well No. (**LOCID**): MW-22S Well Diameter (**SDIAM**): 2.0 in

Date (**LOGDATE**): 12/14/23 Weather: 63°F, sunny, clear

CASING VOLUME INFORMATION:

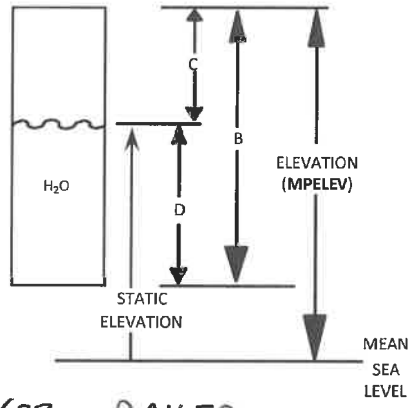
Casing ID (inch)	1.0	1.5	2.0	2.2	3.0	4.0	4.3	5.0	6.0	7.0	8.0
Unit Casing Volume (A) (gal/ft)	0.04	0.09	0.16	0.2	0.37	0.65	0.75	1.0	1.5	2.0	2.6

PURGING INFORMATION:

Measured Well Depth (B) (**TOTDEPTH**) 26.56 ft. (optional)

Measured Water Level Depth (C) (**STATDEP**) 22.88 ft.

Length of Static Water Column (D) = 26.56 (B) - 22.88 (C) = 3.68 (D) ft. (optional)



Purge Date and Method: ~~BLADDER PUMP~~ 12/14/23 BAILER

Physical Appearance/Comments: Light grey color (carbon)

Dissolved Ferrous Iron (mg/L): ____

FIELD MEASUREMENTS:

Allowable Range:	± 0.1	± 0.01 mS/cm or ± 3%	± 1 C	± 10% or ≤ 10 NTU	± 0.3 mg/l or ± 10%	± 10 mV or ± 10%	
Time	Depth to Water (ft BTOC)	pH	EC (mS/cm)	Temp. (F or C)	Turbidity (NTU)	D.O. (mg/L)	ORP (mV)	Flow Rate (mL/min)
1201	—	7.45	5.48	20.98	524	5.71	58	—

Sample Time: 1205 Sample ID: TU044-MW22S 1223A

Note: Maintain a flow rate of 100-500 mL/min during purging, unless drawdown exceeds 0.33 ft. Collect samples at a flow rate between 100-250 mL/min. VOC and gas sensitive (e.g. alkalinity, Fe^{2+}, CH_4, H_2S) parameters should be sampled first.

WELL PURGING & SAMPLING FORM
(LOW FLOW)

Project: Luke AFB Sampled by: Sara Krahl

Location and Site Code (**SITEID**): TU044 (Water Dog)

Well No. (**LOCID**): MW-22D Well Diameter (**SDIAM**): 2.0 in

Date (**LOGDATE**): 12/14/23 Weather: 63°F, sunny, clear

CASING VOLUME INFORMATION:

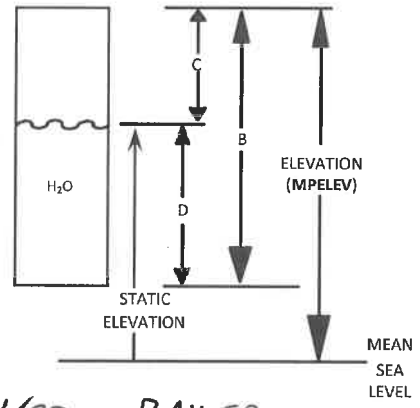
Casing ID (inch)	1.0	1.5	2.0	2.2	3.0	4.0	4.3	5.0	6.0	7.0	8.0
Unit Casing Volume (A) (gal/ft)	0.04	0.09	0.16	0.2	0.37	0.65	0.75	1.0	1.5	2.0	2.6

PURGING INFORMATION:

Measured Well Depth (B) (**TOTDEPTH**) 40.03 ft. (optional)

Measured Water Level Depth (C) (**STATDEP**) 23.19 ft.

Length of Static Water Column (D) = 40.03 (B) - 23.19 (C) = 16.84 (D) ft. (optional)



Purge Date and Method: ~~BLADDER PUMP~~ 12/14/23 BAILER

Physical Appearance/Comments: Light grey (carbon)

Dissolved Ferrous Iron (mg/L): ____

FIELD MEASUREMENTS:

Allowable Range:	± 0.1	± 0.01 mS/cm or ± 3%	± 1 C	± 10% or ≤ 10 NTU	± 0.3 mg/l or ± 10%	± 10 mV or ± 10%	
Time	Depth to Water (ft BTOC)	pH	EC (mS/cm)	Temp. (F or C)	Turbidity (NTU)	D.O. (mg/L)	ORP (mV)	Flow Rate (mL/min)
1233	—	7.39	3.46	22.65	503	1.31	-54	—

Sample Time: 1235 Sample ID: TU044-MW22D 12231

Note: Maintain a flow rate of 100-500 mL/min during purging, unless drawdown exceeds 0.33 ft. Collect samples at a flow rate between 100-250 mL/min. VOC and gas sensitive (e.g. alkalinity, Fe^{2+}, CH_4, H_2S) parameters should be sampled first.

WELL PURGING & SAMPLING FORM
(LOW FLOW)

Project: Luke AFB Sampled by: Sara Kahl

Location and Site Code (**SITEID**): TW044 (Water Dog)

Well No. (**LOCID**): MW 235 Well Diameter (**SDIAM**): 2.0 in

Date (**LOGDATE**): 12/13/23 Weather: _____

CASING VOLUME INFORMATION:

Casing ID (inch)	1.0	1.5	2.0	2.2	3.0	4.0	4.3	5.0	6.0	7.0	8.0
Unit Casing Volume (A) (gal/ft)	0.04	0.09	0.16	0.2	0.37	0.65	0.75	1.0	1.5	2.0	2.6

PURGING INFORMATION:

Measured Well Depth (B) (**TOTDEPTH**) 26.36 ft. (optional)

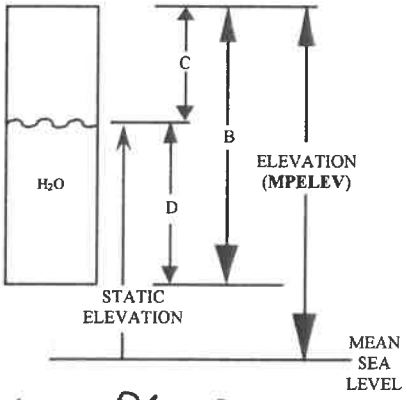
Measured Water Level Depth (C) (**STATDEP**) 25.01 ft.

Length of Static Water Column (D) = 26.36 (B) - 25.01 (C) = _____ (D) ft. (optional)

Pump Intake Depth (ft): _____

Depth during Purging/Sampling: _____ ft (provide range)

Comments (re: Depth during purging/sampling): _____



Purge Date and Method: ~~BLADDER PUMP~~ 12/13/23 BAILER

Physical Appearance/Comments: Black (carbon), collected only VOCs and Nitrate/Nitrite

Dissolved Ferrous Iron (mg/L): _____

FIELD MEASUREMENTS:

Allowable Range:		± 0.1	± 3%		± 10%	± 10%	± 10mV	
Time	Depth to Water (ft BTOC)	pH	EC (mS/cm)	Temp. (F or C)	Turbidity (NTU)	D.O. (mg/L)	ORP (mV)	Flow Rate (mL/min)

Sample Time: 1220 Sample ID: TW044-MW235 1223A

VOCs, Nitrate/Nitrite

Note: Maintain a flow rate of 200-500 mL/min during purging. Collect samples at a flow rate between 100-250 mL/min. VOC and gas sensitive (e.g. alkalinity, Fe^{2+}, CH_4, H_2S) parameters should be sampled first.

WELL PURGING & SAMPLING FORM
(LOW FLOW)

Project: Luke AFB Sampled by: Sara Krohl

Location and Site Code (**SITEID**): TV044 (Water Dog)

Well No. (**LOCID**): ~~MW-8~~ MW-23D Well Diameter (**SDIAM**): 2.0 in

Date (**LOGDATE**): 12/14/23 Weather: 70°F, sunny, clear

CASING VOLUME INFORMATION:

Casing ID (inch)	1.0	1.5	2.0	2.2	3.0	4.0	4.3	5.0	6.0	7.0	8.0
Unit Casing Volume (A) (gal/ft)	0.04	0.09	0.16	0.2	0.37	0.65	0.75	1.0	1.5	2.0	2.6

PURGING INFORMATION:

Measured Well Depth (B) (**TOTDEPTH**) 40.06 ft. (optional)

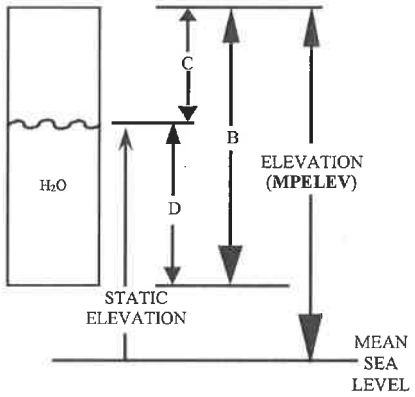
Measured Water Level Depth (C) (**STATDEP**) 25.11 ft.

Length of Static Water Column (D) = 40.06 (B) - 25.11 (C) = 14.95 (D) ft. (optional)

Pump Intake Depth (ft): —

Depth during Purging/Sampling: — ft (provide range)

Comments (re: Depth during purging/sampling): —



Purge Date and Method: ~~BLADDER PUMP~~ 12/14/23 BAILER

Physical Appearance/Comments: Clear

Dissolved Ferrous Iron (mg/L): —

FIELD MEASUREMENTS:

Allowable Range:		± 0.1	± 3%		± 10%	± 10%	± 10mV	
Time	Depth to Water (ft BTOC)	pH	EC (mS/cm)	Temp. (F or C)	Turbidity (NTU)	D.O. (mg/L)	ORP (mV)	Flow Rate (mL/min)

Sample Time: 1355 Sample ID: TV044-MW23D1223A

Note: Maintain a flow rate of 200-500 mL/min during purging. Collect samples at a flow rate between 100-250 mL/min. VOC and gas sensitive (e.g. alkalinity, Fe^{2+}, CH_4, H_2S) parameters should be sampled first.

Page ___ of ___

WELL PURGING & SAMPLING FORM
(LOW FLOW)

Project: Luke AFB Sampled by: Jason McDaniel

Location and Site Code (**SITEID**): TU044

Well No. (**LOCID**): MW24I Well Diameter (**SDIAM**): 2.0

Date (**LOGDATE**): 12/13/23 Weather: Clear ~50°

CASING VOLUME INFORMATION:

Casing ID (inch)	1.0	1.5	2.0	2.2	3.0	4.0	4.3	5.0	6.0	7.0	8.0
Unit Casing Volume (A) (gal/ft)	0.04	0.09	0.16	0.2	0.37	0.65	0.75	1.0	1.5	2.0	2.6

PURGING INFORMATION:

Measured Well Depth (B) (**TOTDEPTH**) 45.22 ft. (optional)

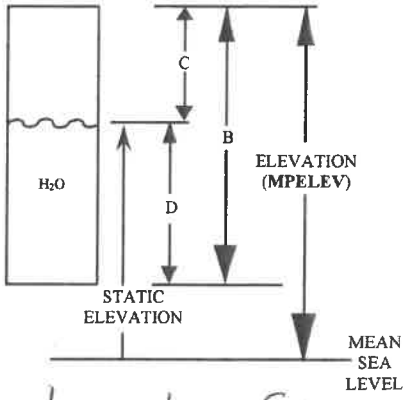
Measured Water Level Depth (C) (**STATDEP**) 35.90 ft.

Length of Static Water Column (D) = _____ (B) - _____ (C) = _____ (D) ft. (optional)

Pump Intake Depth (ft): 44.5

Depth during Purging/Sampling: _____ ft (provide range)

Comments (re: Depth during purging/sampling): _____



Purge Date and Method: BLADDER PUMP 12/13/23 low flow

Physical Appearance/Comments: slight grey color

Dissolved Ferrous Iron (mg/L): N/A

FIELD MEASUREMENTS:

Allowable Range:		± 0.1	± 3%		± 10%	± 10%	± 10mV	
Time	Depth to Water (ft BTOC)	pH	EC (mS/cm)	Temp. (F or C)	Turbidity (NTU)	D.O. (mg/L)	ORP (mV)	Flow Rate (mL/min)
1030	35.90	7.59	2.09	63.4	44.4	2.38	-79	75
1035	"	7.57	1.99	63.8	41.0	1.94	-24	"
1040	"	7.57	2.03	64.9	40.2	1.35	-24	"
1043	"	7.57	2.02	65.1	39.6	1.30	-24	"
1047	"	7.57	2.02	65.6	39.4	1.29	-24	"

Sample Time: 1050 Sample ID: ~~TU044-24I12223A~~ TU044-MW24I1223A

Note: Maintain a flow rate of 200-500 mL/min during purging. Collect samples at a flow rate between 100-250 mL/min. VOC and gas sensitive (e.g. alkalinity, Fe^{2+}, CH_4, H_2S) parameters should be sampled first.

WELL PURGING & SAMPLING FORM
(LOW FLOW)

Project: Luke AFB Sampled by: Sara Kohl

Location and Site Code (**SITEID**): TU044 (Water Dog)

Well No. (**LOCID**): MW-24D Well Diameter (**SDIAM**): 2.0 in

Date (**LOGDATE**): 12/13/23 Weather: 50°F, clear, sunny

CASING VOLUME INFORMATION:

Casing ID (inch)	1.0	1.5	(2.0)	2.2	3.0	4.0	4.3	5.0	6.0	7.0	8.0
Unit Casing Volume (A) (gal/ft)	0.04	0.09	0.16	0.2	0.37	0.65	0.75	1.0	1.5	2.0	2.6

PURGING INFORMATION:

Measured Well Depth (B) (**TOTDEPTH**) 58.10 ft. (optional)

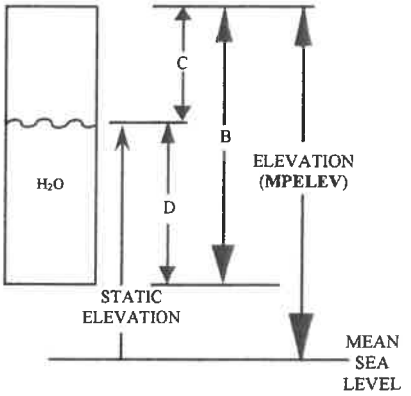
Measured Water Level Depth (C) (**STATDEP**) 35.71 ft.

Length of Static Water Column (D) = 58.10 (B) - 35.71 (C) = _____ (D) ft. (optional)

Pump Intake Depth (ft): —

Depth during Purging/Sampling: — ft (provide range)

Comments (re: Depth during purging/sampling): —



Purge Date and Method: ~~BLADDER PUMP~~ 12/13/23 BAILER

Physical Appearance/Comments: Clear

Dissolved Ferrous Iron (mg/L): —

FIELD MEASUREMENTS:

Allowable Range:		± 0.1	± 3%		± 10%	± 10%	± 10mV	
Time	Depth to Water (ft BTOC)	pH	EC (mS/cm)	Temp. (F or C)	Turbidity (NTU)	D.O. (mg/L)	ORP (mV)	Flow Rate (mL/min)
1027	—	7.24	~~0.381~~ SK 3.81	16.10	7.91	0.00	47	—

Sample Time: 1035 Sample ID: ~~TU044-MW-24D~~ SK TU044-MW24D1223A

Note: Maintain a flow rate of 200-500 mL/min during purging. Collect samples at a flow rate between 100-250 mL/min. VOC and gas sensitive (e.g. alkalinity, Fe^{2+}, CH_4, H_2S) parameters should be sampled first.

WELL PURGING & SAMPLING FORM
(LOW FLOW)

Project: Luke AFB Sampled by: Jason McDaniel

Location and Site Code (**SITEID**): TV044

Well No. (**LOCID**): MW25I Well Diameter (**SDIAM**): 2.0

Date (**LOGDATE**): 12/13/23 Weather: Clear = 70°

CASING VOLUME INFORMATION:

Casing ID (inch)	1.0	1.5	2.0	2.2	3.0	4.0	4.3	5.0	6.0	7.0	8.0
Unit Casing Volume (A) (gal/ft)	0.04	0.09	0.16	0.2	0.37	0.65	0.75	1.0	1.5	2.0	2.6

PURGING INFORMATION:

Measured Well Depth (B) (**TOTDEPTH**) 45.15 ft. (optional)

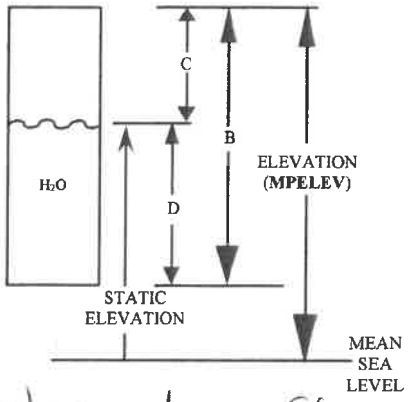
Measured Water Level Depth (C) (**STATDEP**) ~~30.92~~ @ 33.96 ft.

Length of Static Water Column (D) = _____ (B) - _____ (C) = _____ (D) ft. (optional)

Pump Intake Depth (ft): _____

Depth during Purging/Sampling: _____ ft (provide range)

Comments (re: Depth during purging/sampling): _____



Purge Date and Method: BLADDER PUMP 12/13/23 low flow

Physical Appearance/Comments: Clear No odor

Dissolved Ferrous Iron (mg/L): N/A

FIELD MEASUREMENTS:

Allowable Range:		± 0.1	± 3%		± 10%	± 10%	± 10mV	
Time	Depth to Water (ft BTOC)	pH	EC (mS/cm)	Temp. (F or C)	Turbidity (NTU)	D.O. (mg/L)	ORP (mV)	Flow Rate (mL/min)
1420	33.96	7.49	2.57	72.2	10.0	1.32	-99	100
1425	"	7.44	2.58	73.0	5.6	0.88	-106	"
1430	"	7.45	2.59	73.0	4.2	0.84	-108	"
1435	"	7.45	2.59	73.1	4.0	0.82	-110	"

Sample Time: 1440 Sample ID: TV044-MW25I1223A

Note: Maintain a flow rate of 200-500 mL/min during purging. Collect samples at a flow rate between 100-250 mL/min. VOC and gas sensitive (e.g. alkalinity, Fe^{2+}, CH_4, H_2S) parameters should be sampled first.

WELL PURGING & SAMPLING FORM
(LOW FLOW)

Project: Luke AFB Sampled by: Jason McQuinn

Location and Site Code (**SITEID**): TU044

Well No. (**LOCID**): MW25D Well Diameter (**SDIAM**): 2.0

Date (**LOGDATE**): 12/13/23 Weather: Clear ~70

CASING VOLUME INFORMATION:

Casing ID (inch)	1.0	1.5	2.0	2.2	3.0	4.0	4.3	5.0	6.0	7.0	8.0
Unit Casing Volume (A) (gal/ft)	0.04	0.09	0.16	0.2	0.37	0.65	0.75	1.0	1.5	2.0	2.6

PURGING INFORMATION:

Measured Well Depth (B) (**TOTDEPTH**) 60.07 ft. (optional)

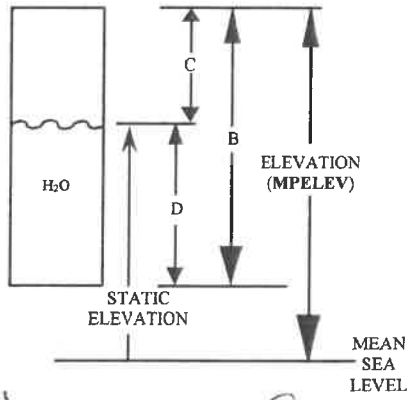
Measured Water Level Depth (C) (**STATDEP**) 33.97 ft.

Length of Static Water Column (D) = ____ (B) - ____ (C) = ____ (D) ft. (optional)

Pump Intake Depth (ft): ____

Depth during Purging/Sampling: ____ ft (provide range)

Comments (re: Depth during purging/sampling): ____



Purge Date and Method: BLADDER PUMP 12/13/23 low flow

Physical Appearance/Comments: clear no odor

Dissolved Ferrous Iron (mg/L): N/A

FIELD MEASUREMENTS:

Allowable Range:		± 0.1	± 3%		± 10%	± 10%	± 10mV	
Time	Depth to Water (ft BTOC)	pH	EC (mS/cm)	Temp. (F or C)	Turbidity (NTU)	D.O. (mg/L)	ORP (mV)	Flow Rate (mL/min)
1330	33.97	7.38	2.64	68.0	20.1	1.47	-67	100
1335	"	7.29	2.65	70.4	19.8	1.36	-76	"
1340	"	7.29	2.65	70.9	19.2	1.30	-77	"
1345	"	7.28	2.65	71.4	19.0	1.28	-77	"

Sample Time: 1350 Sample ID: Collect TU044-MW25D1223A

Note: Maintain a flow rate of 200-500 mL/min during purging. Collect samples at a flow rate between 100-250 mL/min. VOC and gas sensitive (e.g. alkalinity, Fe^{2+}, CH_4, H_2S) parameters should be sampled first.

FPM Remediations, Inc.
Construction and Remediation Services

Tailgate Safety Meeting

Division/Subsidiary: FPM Remediations Facility: Luke AFB JV044
Date: 12/13/23 Time: 0915 Job #:
Customer: AFCEC Address:
Specific Location: JV044
Type of Work: GW Sampling
Chemicals Used: HNO_3, HCL, H_2SO_4

SAFETY TOPICS PRESENTED

Protective Clothing/Equipment: ~~Skin eye contact~~ level D

Chemical Hazards: Skin eye contact

Physical Hazards: biological, fall hazards

Emergency Procedures: See HSP

Hospital/Clinic: Phone ( ) Paramedic Phone: ( )
Hospital Address:
Special Equipment:

Other:

ATTENDEES

NAME PRINTED	SIGNATURE
Jason P. McDaniel	
~~Sara Krohl~~	
Ava Cahill (Sara Krohl)	Ava Cahill

Meeting Conducted By:
Jason P. McDaniel
NAME PRINTED
SIGNATURE

Supervisor Signature:

Manager Signature:

FPM Remediations, Inc.
Construction and Remediation Services

Tailgate Safety Meeting

Division/Subsidiary: FPM Remediation Facility: Luke AFB TV044
Date: 12/14/2023 Time: 1000 Job #:
Customer: AFCEC Address:
Specific Location: TV044
Type of Work: GW Sampling
Chemicals Used: HNO_3 HCL H_2SO_4

SAFETY TOPICS PRESENTED

Protective Clothing/Equipment: Level D

Chemical Hazards: Skin eye contact

Physical Hazards: Slips trips falls, biological, driving safety

Emergency Procedures: See HSP

Hospital/Clinic: Phone ( ) Paramedic Phone: ( )
Hospital Address:
Special Equipment:

Other:

ATTENDEES

NAME PRINTED	SIGNATURE
Jason P. McDaniel	
Sara Krohl	

Meeting Conducted By:
Jason P. McDaniel
NAME PRINTED SIGNATURE

Supervisor Signature:

Manager Signature:

16

Location TV044 Date 12/13/23

Project / Client Luke AFB

JM | SK

0730 - leave hotel for storage area

0820 - leave for site.

0910 - arrive @ TV044

0915 - Safety meeting.

0920 - set up for GW sampling

0925 MW-6 DTW = 53.01
TD = 71.97

0930 MW-7 DTW = 43.07
TD = 49.79

Monitoring wells to be sampled via bailer

MW2, MW3, MW21M, MW23S, MW24D 0950 - Collect TB01

1000 - Set up on MW24 (Nested well)

MW24S DTW: 29.72 TD 29.95

1050 - Collect TV044-MW24D1223A

1035 - Collect TV044-MW24S1223A

1115 - arrive @ MW21 (Nested well)

MW21S DTW = N/A TD: 31.77

1130 - Collect TV044-MW21M1223A

1205 - Collect TV044-MW21D1223A/C

Water from MW21D: dark grey to black due to carbon from injections

17

Location TV044 Date 12/13/23

Project / Client Luke AFB

Scale JM | SK

Turbidity N/A

1220 - Collect TV044-MW23S1223A & VOC's and Nitrogen only, well ran dry via bailer and water is black (heavy carbon.)

1315 - arrive MW25 (nested well)

@ 1320 collect TV044-MW31223A

1350 - collect TV044-MW25D1223A

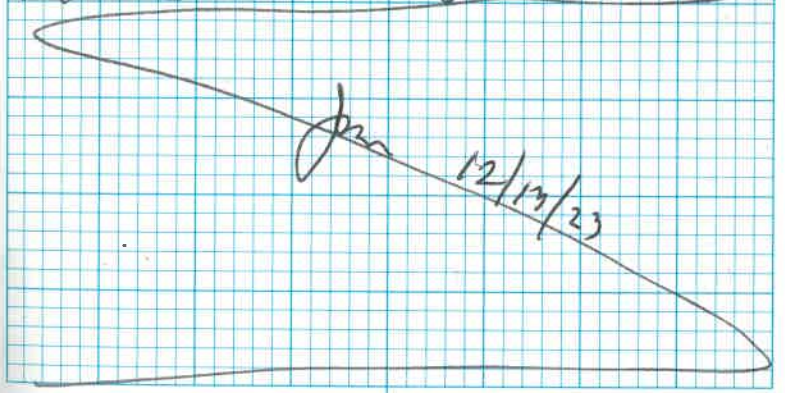
1440 - collect TV044-MW25I1223A

1420 - Collect TV044-MW21223A

1500 - finish bailing (gauging) wells

1630 - leave site

1845 - end of day



Rite in the Rain

18 Location TV044 Date 12/14/23

Project / Client Luke AFB

JM/SK

0730- leave hotel to pack coolers
0815- pick up supplies
0840- drop off yesterday's samples @ Fed-Ex
0850- leave for site
0955- arrive @ TV044
1000- Safety meeting
1010- Collect TV044-TB02122323
1020- collect TV044-EB01122323
1030- set up to sample via LF and bailers
1030- Collect TV044-MW81223A
1130- Collect TV044-MW15122 3A
1205- Collect TV044-MW22S122 3A
1110- Collect TV044-MW14122 3A
1235- Collect TV044-MW22D1223A
1300- Collect TV044-MW13122 3A
1330- Collect TV044-MW9122 3A
1245- Collect TV044-MW11122 3A
1355- Collect TV044-MW23D122 3A
1400- Collect TV044-EB02122 3
1500- Clean up and leave site
1630- end of day JM 12/14/23

Water Quality Equipment Calibration Log

Instrument Name: Horiba U-50

Model Number: 1379-A

Date	Temperature °C	pH	Conductivity	Dissolved Oxygen	Turbidity	ORP	Comments
12/14	25.6	7.01	0.454	—	—	190	Desired
12/14	24.4	6.99	0.451	—	—	186	Based

APPENDIX B

ANALYTICAL LAB REPORTS

eurofins | Environment Testing

ANALYTICAL REPORT

PREPARED FOR

Attn: Chris Coonfare
FPM Remediations Inc
181 Kenwood Ave
Oneida NY 13421

Generated 12/29/2023 10:48 AM

JOB DESCRIPTION

Luke AFB Waterdog TU044, AZ

JOB NUMBER

280-185797-1

Eurofins Denver
4955 Yarrow Street
Arvada CO 80002

See page two for job notes and contact information.

my EOL

Eurofins Denver

Job Notes

This report may not be reproduced except in full, and with written approval from the laboratory. The results relate only to the samples tested. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

The test results in this report relate only to the samples as received by the laboratory and will meet all requirements of the methodology, with any exceptions noted. This report shall not be reproduced except in full, without the express written approval of the laboratory. All questions should be directed to the Eurofins TestAmerica Project Manager.

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12/29/2023 10:48 AM

Authorized for release by
Megan E McElheny, Project Manager I
Megan.Mcelheny@et.eurofinsus.com

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Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
D	The reported value is from a dilution.
J	Estimated: The analyte was positively identified; the quantitation is an estimation
M	Manual integrated compound.
Q	One or more quality control criteria failed.
U	Undetected at the Limit of Detection.

GC/MS VOA TICs

Qualifier	Qualifier Description
U	Undetected at the Limit of Detection.

Metals

Qualifier	Qualifier Description
D	The reported value is from a dilution.
J	Estimated: The analyte was positively identified; the quantitation is an estimation
U	Undetected at the Limit of Detection.

General Chemistry

Qualifier	Qualifier Description
D	The reported value is from a dilution.
J	Estimated: The analyte was positively identified; the quantitation is an estimation
M	Manual integrated compound.
U	Undetected at the Limit of Detection.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)

Glossary (Continued)

Abbreviation	These commonly used abbreviations may or may not be present in this report.
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

CASE NARRATIVE

Client: FPM Remediations Inc

Project: Luke AFB Waterdog TU044, AZ

Report Number: 280-185797-1

With the exceptions noted as flags or footnotes, standard analytical protocols were followed in the analysis of the samples and no problems were encountered or anomalies observed. In addition all laboratory quality control samples were within established control limits, with any exceptions noted below. Each sample was analyzed to achieve the lowest possible reporting limit within the constraints of the method. In some cases, due to interference or analytes present at high concentrations, samples were diluted. For diluted samples, the reporting limits are adjusted relative to the dilution required.

Calculations are performed before rounding to avoid round-off errors in calculated results.

All holding times were met and proper preservation noted for the methods performed on these samples, unless otherwise detailed in the individual sections below.

RECEIPT

The samples were received on 12/15/2023 10:00 AM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperatures of the 2 coolers at receipt time were 0.5º C and 0.9º C.

VOLATILE ORGANIC COMPOUNDS (GC/MS)

Samples TB01 (280-185797-1), TV044-MW24D1223A (280-185797-2), TV044-MW24I1223A (280-185797-3), TV044-MW21M1223A (280-185797-4), TV044-MW21D1223A (280-185797-5), TV044-MW21D1223C (280-185797-6), TV044-MW23S1223A (280-185797-7), TV044-MW31223A (280-185797-8), TV044-MW25D1223A (280-185797-9), TV044-MW21223A (280-185797-10) and TV044-MW25I1223A (280-185797-11) were analyzed for volatile organic compounds (GC/MS) in accordance with SW-846 8260D. The samples were analyzed on 12/18/2023.

Samples TV044-MW21M1223A (280-185797-4)[50X], TV044-MW23S1223A (280-185797-7)[50X] and TV044-MW21223A (280-185797-10)[50X] required dilution prior to analysis. The reporting limits have been adjusted accordingly.

Surrogate recovery for the following samples was outside control limits: TV044-MW23S1223A (280-185797-7). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed. This sample had a deep black pigment and a strong odor.

The continuing calibration verification (CCV) associated with batch 280-637616 recovered above the upper control limit 20%D for Cyclohexanone 26.6%D. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported. TB01 (280-185797-1), TV044-MW24D1223A (280-185797-2), TV044-MW24I1223A (280-185797-3), TV044-MW21M1223A (280-185797-4), TV044-MW21D1223A (280-185797-5), TV044-MW21D1223C (280-185797-6), TV044-MW23S1223A (280-185797-7), TV044-MW31223A (280-185797-8), TV044-MW25D1223A (280-185797-9), TV044-MW21223A (280-185797-10), TV044-MW25I1223A (280-185797-11) and (CCV 280-637616/2).

The following compounds were outside control limits (20%D) in the continuing calibration verification (CCV) associated with batch 280-637616: Chloromethane and Dichlorodifluoromethane (-23.1%D and -29.3%D respectively). These compounds are considered poor performers. The LCS/LCSD recovered within control limits therefore the data have been qualified and reported. TB01 (280-185797-1), TV044-MW24D1223A (280-185797-2), TV044-MW24I1223A (280-185797-3), TV044-MW21M1223A (280-185797-4), TV044-MW21D1223A (280-185797-5), TV044-MW21D1223C (280-185797-6), TV044-MW23S1223A (280-185797-7), TV044-MW31223A (280-185797-8), TV044-MW25D1223A (280-185797-9), TV044-MW21223A (280-185797-10), TV044-MW25I1223A (280-185797-11) and (CCV 280-637616/2).

Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate/sample duplicate (MS/MSD/DUP) associated with analytical batch 280-637616. An LCS/LCSD pair was analyzed for batch precision and accuracy. TB01 (280-185797-1), TV044-MW24D1223A (280-185797-2), TV044-MW24I1223A (280-185797-3), TV044-MW21M1223A (280-185797-4), TV044-MW21D1223A (280-185797-5), TV044-MW21D1223C (280-185797-6), TV044-MW23S1223A (280-185797-7), TV044-MW31223A (280-185797-8), TV044-MW25D1223A

(280-185797-9), TV044-MW21223A (280-185797-10) and TV044-MW25I1223A (280-185797-11).

1,4-Dichlorobenzene-d4 internal standard (ISTD) response was outside of acceptance limits with a low bias.The samples were not re-analyzed as a low internal standard response will produce a high bias in target compounds and all compounds associated to this internal standard were non detect. Qualified data have been reported for the following samples: TV044-MW21D1223A (280-185797-5) and TV044-MW23S1223A (280-185797-7).

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

TOTAL METALS (ICP/MS)

Samples TV044-MW24D1223A (280-185797-2), TV044-MW24I1223A (280-185797-3), TV044-MW21M1223A (280-185797-4), TV044-MW21D1223A (280-185797-5), TV044-MW21D1223C (280-185797-6), TV044-MW31223A (280-185797-8), TV044-MW25D1223A (280-185797-9), TV044-MW21223A (280-185797-10) and TV044-MW25I1223A (280-185797-11) were analyzed for total metals (ICP/MS) in accordance with SW846 6020B. The samples were prepared on 12/19/2023 and analyzed on 12/20/2023.

The following sample was diluted due to the nature of the sample matrix: TV044-MW31223A (280-185797-8). Elevated reporting limits (RLs) are provided.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

NITRATE-NITRITE AS NITROGEN

Samples TV044-MW24D1223A (280-185797-2), TV044-MW24I1223A (280-185797-3), TV044-MW21M1223A (280-185797-4), TV044-MW21D1223A (280-185797-5), TV044-MW21D1223C (280-185797-6), TV044-MW23S1223A (280-185797-7), TV044-MW31223A (280-185797-8), TV044-MW25D1223A (280-185797-9), TV044-MW21223A (280-185797-10) and TV044-MW25I1223A (280-185797-11) were analyzed for nitrate-nitrite as nitrogen in accordance with EPA Method 353.2. The samples were analyzed on 12/28/2023.

No analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

ANIONS (28 DAYS)

Samples TV044-MW24D1223A (280-185797-2), TV044-MW24I1223A (280-185797-3), TV044-MW21M1223A (280-185797-4), TV044-MW21D1223A (280-185797-5), TV044-MW21D1223C (280-185797-6), TV044-MW31223A (280-185797-8), TV044-MW25D1223A (280-185797-9), TV044-MW21223A (280-185797-10) and TV044-MW25I1223A (280-185797-11) were analyzed for anions (28 days) in accordance with 9056A (28 Days). The samples were analyzed on 12/20/2023 and 12/21/2023.

Samples TV044-MW21D1223A (280-185797-5)[5X], TV044-MW21D1223C (280-185797-6)[5X], TV044-MW31223A (280-185797-8)[20X], TV044-MW25D1223A (280-185797-9)[5X], TV044-MW21223A (280-185797-10)[5X] and TV044-MW25I1223A (280-185797-11)[5X] required dilution prior to analysis. The reporting limits have been adjusted accordingly.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Detection Summary

Client: FPM Remediations Inc
Job ID: 280-185797-1
Project/Site: Luke AFB Waterdog TU044, AZ

Client Sample ID: TB01 — Lab Sample ID: 280-185797-1

No Detections.

Client Sample ID: TV044-MW24D1223A — Lab Sample ID: 280-185797-2

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	Dil Fac	D	Method	Prep Type
Lead	0.25	J	1.0	0.70	0.23	ug/L	1		6020B	Total/NA
Sulfate	5.4		5.0	2.5	1.0	mg/L	1		9056A	Total/NA

Client Sample ID: TV044-MW24I1223A — Lab Sample ID: 280-185797-3

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	Dil Fac	D	Method	Prep Type
Lead	0.36	J	1.0	0.70	0.23	ug/L	1		6020B	Total/NA
Nitrate Nitrite as N	0.049	J	0.10	0.080	0.044	mg/L	1		353.2	Total/NA
Sulfate	140	M	5.0	2.5	1.0	mg/L	1		9056A	Total/NA

Client Sample ID: TV044-MW21M1223A — Lab Sample ID: 280-185797-4

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	Dil Fac	D	Method	Prep Type
1,2,3-Trimethylbenzene	16	J D	100	40	14	ug/L	50		8260D	Total/NA
Benzene	19	J D	50	40	15	ug/L	50		8260D	Total/NA
Cyclohexane	330	D	50	40	22	ug/L	50		8260D	Total/NA
Methyl tert-butyl ether	2900	D	250	40	13	ug/L	50		8260D	Total/NA
Methylcyclohexane	980	D	50	20	16	ug/L	50		8260D	Total/NA
n-Hexane	190	D	100	40	8.2	ug/L	50		8260D	Total/NA
Lead	0.77	J	1.0	0.70	0.23	ug/L	1		6020B	Total/NA
Sulfate	2.5	J	5.0	2.5	1.0	mg/L	1		9056A	Total/NA

Client Sample ID: TV044-MW21D1223A — Lab Sample ID: 280-185797-5

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	Dil Fac	D	Method	Prep Type
Methyl tert-butyl ether	14		5.0	0.80	0.25	ug/L	1		8260D	Total/NA
Lead	2.7		1.0	0.70	0.23	ug/L	1		6020B	Total/NA
Sulfate	94	D M	25	13	5.2	mg/L	5		9056A	Total/NA

Client Sample ID: TV044-MW21D1223C — Lab Sample ID: 280-185797-6

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	Dil Fac	D	Method	Prep Type
Methyl tert-butyl ether	14		5.0	0.80	0.25	ug/L	1		8260D	Total/NA
Lead	3.1		1.0	0.70	0.23	ug/L	1		6020B	Total/NA
Sulfate	97	D	25	13	5.2	mg/L	5		9056A	Total/NA

Client Sample ID: TV044-MW23S1223A — Lab Sample ID: 280-185797-7

No Detections.

Client Sample ID: TV044-MW31223A — Lab Sample ID: 280-185797-8

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	Dil Fac	D	Method	Prep Type
Methyl tert-butyl ether	1.0	J	5.0	0.80	0.25	ug/L	1		8260D	Total/NA
Lead	51	D	10	7.0	2.3	ug/L	10		6020B	Total/NA
Nitrate Nitrite as N	1.0		0.10	0.080	0.044	mg/L	1		353.2	Total/NA
Sulfate	3900	D M	100	50	21	mg/L	20		9056A	Total/NA

This Detection Summary does not include radiochemical test results.

Detection Summary

Client: FPM Remediations Inc
Job ID: 280-185797-1
Project/Site: Luke AFB Waterdog TU044, AZ

Client Sample ID: TV044-MW25D1223A — Lab Sample ID: 280-185797-9

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	Dil Fac	D	Method	Prep Type
Methyl tert-butyl ether	83		5.0	0.80	0.25	ug/L	1		8260D	Total/NA
Xylenes, Total	0.37	J	1.0	0.80	0.33	ug/L	1		8260D	Total/NA
Lead	0.42	J	1.0	0.70	0.23	ug/L	1		6020B	Total/NA
Nitrate Nitrite as N	0.16		0.10	0.080	0.044	mg/L	1		353.2	Total/NA
Sulfate	120	D	25	13	5.2	mg/L	5		9056A	Total/NA

Client Sample ID: TV044-MW21223A — Lab Sample ID: 280-185797-10

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	Dil Fac	D	Method	Prep Type
Methyl tert-butyl ether	2200	D	250	40	13	ug/L	50		8260D	Total/NA
Lead	1.2		1.0	0.70	0.23	ug/L	1		6020B	Total/NA
Sulfate	290	D	25	13	5.2	mg/L	5		9056A	Total/NA

Client Sample ID: TV044-MW25I1223A — Lab Sample ID: 280-185797-11

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	Dil Fac	D	Method	Prep Type
Methyl tert-butyl ether	79		5.0	0.80	0.25	ug/L	1		8260D	Total/NA
Sulfate	97	D	25	13	5.2	mg/L	5		9056A	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample ID: TB01
Date Collected: 12/13/23 09:50
Date Received: 12/15/23 10:00

Lab Sample ID: 280-185797-1
Matrix: Water

Method: SW846 8260D - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
1,1,1-Trichloroethane	0.50	U	1.0	0.50	0.39	ug/L		12/18/23 11:03	1
1,1,2,2-Tetrachloroethane	0.80	U	1.0	0.80	0.21	ug/L		12/18/23 11:03	1
1,1,2-Trichloroethane	0.80	U	1.0	0.80	0.27	ug/L		12/18/23 11:03	1
1,1-Dichloroethane	0.80	U	1.0	0.80	0.22	ug/L		12/18/23 11:03	1
1,1-Dichloroethylene	0.80	U	1.0	0.80	0.23	ug/L		12/18/23 11:03	1
1,1-Dichloropropene	0.80	U	1.0	0.80	0.42	ug/L		12/18/23 11:03	1
1,2,3-Trichlorobenzene	0.80	U	2.0	0.80	0.70	ug/L		12/18/23 11:03	1
1,2,3-Trichloropropane	1.8	U	2.5	1.8	0.86	ug/L		12/18/23 11:03	1
1,2,3-Trimethylbenzene	0.80	U	2.0	0.80	0.27	ug/L		12/18/23 11:03	1
1,2,4-Trichlorobenzene	0.80	U	1.0	0.80	0.58	ug/L		12/18/23 11:03	1
1,2,4-Trimethylbenzene	0.40	U	1.0	0.40	0.15	ug/L		12/18/23 11:03	1
1,2-Dibromo-3-Chloropropane	4.0	U	5.0	4.0	1.8	ug/L		12/18/23 11:03	1
1,2-Dibromoethane	0.80	U	1.0	0.80	0.40	ug/L		12/18/23 11:03	1
1,2-Dichlorobenzene	0.50	U	1.0	0.50	0.37	ug/L		12/18/23 11:03	1
1,2-Dichloroethane	0.80	U	1.0	0.80	0.54	ug/L		12/18/23 11:03	1
1,2-Dichloropropane	0.80	U	1.0	0.80	0.52	ug/L		12/18/23 11:03	1
1,3,5-Trimethylbenzene	0.50	U	1.0	0.50	0.37	ug/L		12/18/23 11:03	1
1,3-Dichlorobenzene	0.40	U M	1.0	0.40	0.33	ug/L		12/18/23 11:03	1
1,3-Dichloropropane	0.80	U	1.0	0.80	0.38	ug/L		12/18/23 11:03	1
1,4-Dichlorobenzene	0.50	U	1.0	0.50	0.39	ug/L		12/18/23 11:03	1
2,2-Dichloropropane	0.80	U	1.0	0.80	0.38	ug/L		12/18/23 11:03	1
2-Butanone (MEK)	12	U	15	12	6.0	ug/L		12/18/23 11:03	1
2-Chloroethyl vinyl ether	0.80	U	3.0	0.80	0.44	ug/L		12/18/23 11:03	1
2-Hexanone	4.0	U	5.0	4.0	1.7	ug/L		12/18/23 11:03	1
4-Isopropyltoluene	0.80	U	1.0	0.80	0.43	ug/L		12/18/23 11:03	1
4-Methyl-2-pentanone (MIBK)	3.2	U	5.0	3.2	0.98	ug/L		12/18/23 11:03	1
Acetone	8.0	U M	15	8.0	6.6	ug/L		12/18/23 11:03	1
Acrylonitrile	8.0	U M	20	8.0	4.5	ug/L		12/18/23 11:03	1
Benzene	0.80	U	1.0	0.80	0.31	ug/L		12/18/23 11:03	1
Bromobenzene	0.50	U	1.0	0.50	0.40	ug/L		12/18/23 11:03	1
Bromochloromethane	0.80	U	1.0	0.80	0.40	ug/L		12/18/23 11:03	1
Bromodichloromethane	0.50	U	1.0	0.50	0.39	ug/L		12/18/23 11:03	1
Bromoform	1.8	U	2.0	1.8	1.2	ug/L		12/18/23 11:03	1
Carbon disulfide	0.80	U	2.0	0.80	0.63	ug/L		12/18/23 11:03	1
Carbon tetrachloride	0.80	U	1.0	0.80	0.57	ug/L		12/18/23 11:03	1
Chlorobenzene	0.80	U	1.0	0.80	0.42	ug/L		12/18/23 11:03	1
Chloroethane	1.6	U	4.0	1.6	1.4	ug/L		12/18/23 11:03	1
Chloroform	0.80	U	1.0	0.80	0.36	ug/L		12/18/23 11:03	1
Chloromethane	1.0	U Q	2.0	1.0	0.75	ug/L		12/18/23 11:03	1
cis-1,2-Dichloroethylene	0.40	U	1.0	0.40	0.32	ug/L		12/18/23 11:03	1
cis-1,3-Dichloropropene	1.8	U	2.0	1.8	0.63	ug/L		12/18/23 11:03	1
Cyclohexane	0.80	U	1.0	0.80	0.44	ug/L		12/18/23 11:03	1
Cyclohexanone	64	U M Q	100	64	32	ug/L		12/18/23 11:03	1
Dibromochloromethane	1.8	U	2.0	1.8	0.62	ug/L		12/18/23 11:03	1
Dibromomethane	0.40	U	1.0	0.40	0.34	ug/L		12/18/23 11:03	1
Dichlorodifluoromethane	2.5	U Q	3.0	2.5	0.96	ug/L		12/18/23 11:03	1
Ethylbenzene	0.40	U	1.0	0.40	0.30	ug/L		12/18/23 11:03	1
Hexachlorobutadiene	1.8	U	2.0	1.8	1.2	ug/L		12/18/23 11:03	1
Isopropyl ether	2.0	U	10	2.0	1.1	ug/L		12/18/23 11:03	1

Client Sample ID: TB01
Lab Sample ID: 280-185797-1

Date Collected: 12/13/23 09:50
Matrix: Water
Date Received: 12/15/23 10:00

Method: SW846 8260D - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Isopropylbenzene	0.50	U	1.0	0.50	0.36	ug/L		12/18/23 11:03	1
Methyl tert-butyl ether	0.80	U	5.0	0.80	0.25	ug/L		12/18/23 11:03	1
Methylcyclohexane	0.40	U	1.0	0.40	0.31	ug/L		12/18/23 11:03	1
Methylene Chloride	1.8	U	2.0	1.8	0.94	ug/L		12/18/23 11:03	1
Naphthalene	0.80	U	2.0	0.80	0.63	ug/L		12/18/23 11:03	1
n-Butylbenzene	0.80	U	1.0	0.80	0.48	ug/L		12/18/23 11:03	1
n-Hexane	0.80	U	2.0	0.80	0.16	ug/L		12/18/23 11:03	1
N-Propylbenzene	0.80	U	1.0	0.80	0.53	ug/L		12/18/23 11:03	1
o-Chlorotoluene	0.40	U	1.0	0.40	0.34	ug/L		12/18/23 11:03	1
p-Chlorotoluene	0.80	U	1.0	0.80	0.21	ug/L		12/18/23 11:03	1
sec-Butylbenzene	0.80	U	1.0	0.80	0.45	ug/L		12/18/23 11:03	1
Styrene	0.80	U	1.0	0.80	0.36	ug/L		12/18/23 11:03	1
tert-Butylbenzene	0.80	U	1.0	0.80	0.42	ug/L		12/18/23 11:03	1
Tetrachloroethene	0.80	U	1.0	0.80	0.40	ug/L		12/18/23 11:03	1
Toluene	0.40	U	1.0	0.40	0.32	ug/L		12/18/23 11:03	1
trans-1,2-Dichloroethylene	0.50	U	1.0	0.50	0.37	ug/L		12/18/23 11:03	1
trans-1,3-Dichloropropene	1.8	U	2.0	1.8	0.65	ug/L		12/18/23 11:03	1
Trichloroethene	0.40	U	1.0	0.40	0.30	ug/L		12/18/23 11:03	1
Trichlorofluoromethane	0.80	U	2.0	0.80	0.57	ug/L		12/18/23 11:03	1
Vinyl acetate	2.0	U	3.0	2.0	0.94	ug/L		12/18/23 11:03	1
Vinyl chloride	1.0	U	2.0	1.0	0.51	ug/L		12/18/23 11:03	1
Xylenes, Total	0.80	U	1.0	0.80	0.33	ug/L		12/18/23 11:03	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
1,3-Butadiene TIC	*1.0*	*U*	*ug/L*			*106-99-0*		*12/18/23 11:03*	*1*
4-Ethyltoluene TIC	*1.0*	*U*	*ug/L*			*622-96-8*		*12/18/23 11:03*	*1*
Dicyclopentadiene TIC	*1.0*	*U*	*ug/L*			*77-73-6*		*12/18/23 11:03*	*1*
Propene TIC	*1.0*	*U*	*ug/L*			*115-07-1*		*12/18/23 11:03*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*107*		*81 - 118*		*12/18/23 11:03*	*1*
4-Bromofluorobenzene (Surr)	*91*		*85 - 114*		*12/18/23 11:03*	*1*
Dibromofluoromethane (Surr)	*107*		*80 - 119*		*12/18/23 11:03*	*1*
Toluene-d8 (Surr)	*97*		*89 - 112*		*12/18/23 11:03*	*1*

Client Sample ID: TV044-MW24D1223A
Lab Sample ID: 280-185797-2

Date Collected: 12/13/23 10:35
Matrix: Water
Date Received: 12/15/23 10:00

Method: SW846 8260D - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
1,1,1-Trichloroethane	0.50	U	1.0	0.50	0.39	ug/L		12/18/23 11:25	1
1,1,2,2-Tetrachloroethane	0.80	U	1.0	0.80	0.21	ug/L		12/18/23 11:25	1
1,1,2-Trichloroethane	0.80	U	1.0	0.80	0.27	ug/L		12/18/23 11:25	1
1,1-Dichloroethane	0.80	U	1.0	0.80	0.22	ug/L		12/18/23 11:25	1
1,1-Dichloroethylene	0.80	U	1.0	0.80	0.23	ug/L		12/18/23 11:25	1
1,1-Dichloropropene	0.80	U	1.0	0.80	0.42	ug/L		12/18/23 11:25	1
1,2,3-Trichlorobenzene	0.80	U	2.0	0.80	0.70	ug/L		12/18/23 11:25	1
1,2,3-Trichloropropane	1.8	U	2.5	1.8	0.86	ug/L		12/18/23 11:25	1
1,2,3-Trimethylbenzene	0.80	U	2.0	0.80	0.27	ug/L		12/18/23 11:25	1

Client Sample ID: TV044-MW24D1223A
Lab Sample ID: 280-185797-2

Date Collected: 12/13/23 10:35
Matrix: Water
Date Received: 12/15/23 10:00

Method: SW846 8260D - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
1,2,4-Trichlorobenzene	0.80	U	1.0	0.80	0.58	ug/L		12/18/23 11:25	1
1,2,4-Trimethylbenzene	0.40	U	1.0	0.40	0.15	ug/L		12/18/23 11:25	1
1,2-Dibromo-3-Chloropropane	4.0	U	5.0	4.0	1.8	ug/L		12/18/23 11:25	1
1,2-Dibromoethane	0.80	U	1.0	0.80	0.40	ug/L		12/18/23 11:25	1
1,2-Dichlorobenzene	0.50	U	1.0	0.50	0.37	ug/L		12/18/23 11:25	1
1,2-Dichloroethane	0.80	U	1.0	0.80	0.54	ug/L		12/18/23 11:25	1
1,2-Dichloropropane	0.80	U	1.0	0.80	0.52	ug/L		12/18/23 11:25	1
1,3,5-Trimethylbenzene	0.50	U	1.0	0.50	0.37	ug/L		12/18/23 11:25	1
1,3-Dichlorobenzene	0.40	U	1.0	0.40	0.33	ug/L		12/18/23 11:25	1
1,3-Dichloropropane	0.80	U	1.0	0.80	0.38	ug/L		12/18/23 11:25	1
1,4-Dichlorobenzene	0.50	U	1.0	0.50	0.39	ug/L		12/18/23 11:25	1
2,2-Dichloropropane	0.80	U	1.0	0.80	0.38	ug/L		12/18/23 11:25	1
2-Butanone (MEK)	12	U	15	12	6.0	ug/L		12/18/23 11:25	1
2-Chloroethyl vinyl ether	0.80	U	3.0	0.80	0.44	ug/L		12/18/23 11:25	1
2-Hexanone	4.0	U	5.0	4.0	1.7	ug/L		12/18/23 11:25	1
4-Isopropyltoluene	0.80	U	1.0	0.80	0.43	ug/L		12/18/23 11:25	1
4-Methyl-2-pentanone (MIBK)	3.2	U	5.0	3.2	0.98	ug/L		12/18/23 11:25	1
Acetone	8.0	U	15	8.0	6.6	ug/L		12/18/23 11:25	1
Acrylonitrile	8.0	U	20	8.0	4.5	ug/L		12/18/23 11:25	1
Benzene	0.80	U	1.0	0.80	0.31	ug/L		12/18/23 11:25	1
Bromobenzene	0.50	U	1.0	0.50	0.40	ug/L		12/18/23 11:25	1
Bromochloromethane	0.80	U	1.0	0.80	0.40	ug/L		12/18/23 11:25	1
Bromodichloromethane	0.50	U	1.0	0.50	0.39	ug/L		12/18/23 11:25	1
Bromoform	1.8	U	2.0	1.8	1.2	ug/L		12/18/23 11:25	1
Carbon disulfide	0.80	U	2.0	0.80	0.63	ug/L		12/18/23 11:25	1
Carbon tetrachloride	0.80	U	1.0	0.80	0.57	ug/L		12/18/23 11:25	1
Chlorobenzene	0.80	U	1.0	0.80	0.42	ug/L		12/18/23 11:25	1
Chloroethane	1.6	U	4.0	1.6	1.4	ug/L		12/18/23 11:25	1
Chloroform	0.80	U	1.0	0.80	0.36	ug/L		12/18/23 11:25	1
Chloromethane	1.0	U Q	2.0	1.0	0.75	ug/L		12/18/23 11:25	1
cis-1,2-Dichloroethylene	0.40	U	1.0	0.40	0.32	ug/L		12/18/23 11:25	1
cis-1,3-Dichloropropene	1.8	U	2.0	1.8	0.63	ug/L		12/18/23 11:25	1
Cyclohexane	0.80	U	1.0	0.80	0.44	ug/L		12/18/23 11:25	1
Cyclohexanone	64	U M Q	100	64	32	ug/L		12/18/23 11:25	1
Dibromochloromethane	1.8	U	2.0	1.8	0.62	ug/L		12/18/23 11:25	1
Dibromomethane	0.40	U	1.0	0.40	0.34	ug/L		12/18/23 11:25	1
Dichlorodifluoromethane	2.5	U Q	3.0	2.5	0.96	ug/L		12/18/23 11:25	1
Ethylbenzene	0.40	U	1.0	0.40	0.30	ug/L		12/18/23 11:25	1
Hexachlorobutadiene	1.8	U	2.0	1.8	1.2	ug/L		12/18/23 11:25	1
Isopropyl ether	2.0	U	10	2.0	1.1	ug/L		12/18/23 11:25	1
Isopropylbenzene	0.50	U	1.0	0.50	0.36	ug/L		12/18/23 11:25	1
Methyl tert-butyl ether	0.80	U	5.0	0.80	0.25	ug/L		12/18/23 11:25	1
Methylcyclohexane	0.40	U	1.0	0.40	0.31	ug/L		12/18/23 11:25	1
Methylene Chloride	1.8	U	2.0	1.8	0.94	ug/L		12/18/23 11:25	1
Naphthalene	0.80	U	2.0	0.80	0.63	ug/L		12/18/23 11:25	1
n-Butylbenzene	0.80	U	1.0	0.80	0.48	ug/L		12/18/23 11:25	1
n-Hexane	0.80	U	2.0	0.80	0.16	ug/L		12/18/23 11:25	1
N-Propylbenzene	0.80	U	1.0	0.80	0.53	ug/L		12/18/23 11:25	1
o-Chlorotoluene	0.40	U	1.0	0.40	0.34	ug/L		12/18/23 11:25	1

Client Sample ID: TV044-MW24D1223A
Lab Sample ID: 280-185797-2

Date Collected: 12/13/23 10:35
Matrix: Water
Date Received: 12/15/23 10:00

Method: SW846 8260D - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
p-Chlorotoluene	0.80	U	1.0	0.80	0.21	ug/L		12/18/23 11:25	1
sec-Butylbenzene	0.80	U	1.0	0.80	0.45	ug/L		12/18/23 11:25	1
Styrene	0.80	U	1.0	0.80	0.36	ug/L		12/18/23 11:25	1
tert-Butylbenzene	0.80	U	1.0	0.80	0.42	ug/L		12/18/23 11:25	1
Tetrachloroethene	0.80	U	1.0	0.80	0.40	ug/L		12/18/23 11:25	1
Toluene	0.40	U	1.0	0.40	0.32	ug/L		12/18/23 11:25	1
trans-1,2-Dichloroethylene	0.50	U	1.0	0.50	0.37	ug/L		12/18/23 11:25	1
trans-1,3-Dichloropropene	1.8	U	2.0	1.8	0.65	ug/L		12/18/23 11:25	1
Trichloroethene	0.40	U	1.0	0.40	0.30	ug/L		12/18/23 11:25	1
Trichlorofluoromethane	0.80	U	2.0	0.80	0.57	ug/L		12/18/23 11:25	1
Vinyl acetate	2.0	U	3.0	2.0	0.94	ug/L		12/18/23 11:25	1
Vinyl chloride	1.0	U	2.0	1.0	0.51	ug/L		12/18/23 11:25	1
Xylenes, Total	0.80	U	1.0	0.80	0.33	ug/L		12/18/23 11:25	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
1,3-Butadiene TIC	*1.0*	*U*	*ug/L*			*106-99-0*		*12/18/23 11:25*	*1*
4-Ethyltoluene TIC	*1.0*	*U*	*ug/L*			*622-96-8*		*12/18/23 11:25*	*1*
Dicyclopentadiene TIC	*1.0*	*U*	*ug/L*			*77-73-6*		*12/18/23 11:25*	*1*
Propene TIC	*1.0*	*U*	*ug/L*			*115-07-1*		*12/18/23 11:25*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*104*		*81 - 118*		*12/18/23 11:25*	*1*
4-Bromofluorobenzene (Surr)	*91*		*85 - 114*		*12/18/23 11:25*	*1*
Dibromofluoromethane (Surr)	*107*		*80 - 119*		*12/18/23 11:25*	*1*
Toluene-d8 (Surr)	*98*		*89 - 112*		*12/18/23 11:25*	*1*

Method: SW846 6020B - Metals (ICP/MS)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Lead	**0.25**	**J**	1.0	0.70	0.23	ug/L		12/20/23 20:19	1

General Chemistry

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Nitrate Nitrite as N (EPA 353.2)	0.080	U	0.10	0.080	0.044	mg/L		12/28/23 13:09	1
Sulfate (SW846 9056A)	**5.4**		5.0	2.5	1.0	mg/L		12/20/23 22:42	1

Client Sample ID: TV044-MW24I1223A
Lab Sample ID: 280-185797-3

Date Collected: 12/13/23 10:50
Matrix: Water
Date Received: 12/15/23 10:00

Method: SW846 8260D - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
1,1,1-Trichloroethane	0.50	U	1.0	0.50	0.39	ug/L		12/18/23 11:47	1
1,1,2,2-Tetrachloroethane	0.80	U	1.0	0.80	0.21	ug/L		12/18/23 11:47	1
1,1,2-Trichloroethane	0.80	U	1.0	0.80	0.27	ug/L		12/18/23 11:47	1
1,1-Dichloroethane	0.80	U	1.0	0.80	0.22	ug/L		12/18/23 11:47	1
1,1-Dichloroethylene	0.80	U	1.0	0.80	0.23	ug/L		12/18/23 11:47	1
1,1-Dichloropropene	0.80	U	1.0	0.80	0.42	ug/L		12/18/23 11:47	1
1,2,3-Trichlorobenzene	0.80	U	2.0	0.80	0.70	ug/L		12/18/23 11:47	1
1,2,3-Trichloropropane	1.8	U	2.5	1.8	0.86	ug/L		12/18/23 11:47	1
1,2,3-Trimethylbenzene	0.80	U	2.0	0.80	0.27	ug/L		12/18/23 11:47	1
1,2,4-Trichlorobenzene	0.80	U	1.0	0.80	0.58	ug/L		12/18/23 11:47	1

Client Sample ID: TV044-MW24I1223A
Date Collected: 12/13/23 10:50
Date Received: 12/15/23 10:00

Lab Sample ID: 280-185797-3
Matrix: Water

Method: SW846 8260D - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
1,2,4-Trimethylbenzene	0.40	U	1.0	0.40	0.15	ug/L		12/18/23 11:47	1
1,2-Dibromo-3-Chloropropane	4.0	U	5.0	4.0	1.8	ug/L		12/18/23 11:47	1
1,2-Dibromoethane	0.80	U	1.0	0.80	0.40	ug/L		12/18/23 11:47	1
1,2-Dichlorobenzene	0.50	U	1.0	0.50	0.37	ug/L		12/18/23 11:47	1
1,2-Dichloroethane	0.80	U	1.0	0.80	0.54	ug/L		12/18/23 11:47	1
1,2-Dichloropropane	0.80	U	1.0	0.80	0.52	ug/L		12/18/23 11:47	1
1,3,5-Trimethylbenzene	0.50	U	1.0	0.50	0.37	ug/L		12/18/23 11:47	1
1,3-Dichlorobenzene	0.40	U	1.0	0.40	0.33	ug/L		12/18/23 11:47	1
1,3-Dichloropropane	0.80	U	1.0	0.80	0.38	ug/L		12/18/23 11:47	1
1,4-Dichlorobenzene	0.50	U	1.0	0.50	0.39	ug/L		12/18/23 11:47	1
2,2-Dichloropropane	0.80	U	1.0	0.80	0.38	ug/L		12/18/23 11:47	1
2-Butanone (MEK)	12	U	15	12	6.0	ug/L		12/18/23 11:47	1
2-Chloroethyl vinyl ether	0.80	U	3.0	0.80	0.44	ug/L		12/18/23 11:47	1
2-Hexanone	4.0	U	5.0	4.0	1.7	ug/L		12/18/23 11:47	1
4-Isopropyltoluene	0.80	U	1.0	0.80	0.43	ug/L		12/18/23 11:47	1
4-Methyl-2-pentanone (MIBK)	3.2	U	5.0	3.2	0.98	ug/L		12/18/23 11:47	1
Acetone	8.0	U M	15	8.0	6.6	ug/L		12/18/23 11:47	1
Acrylonitrile	8.0	U	20	8.0	4.5	ug/L		12/18/23 11:47	1
Benzene	0.80	U	1.0	0.80	0.31	ug/L		12/18/23 11:47	1
Bromobenzene	0.50	U	1.0	0.50	0.40	ug/L		12/18/23 11:47	1
Bromochloromethane	0.80	U	1.0	0.80	0.40	ug/L		12/18/23 11:47	1
Bromodichloromethane	0.50	U	1.0	0.50	0.39	ug/L		12/18/23 11:47	1
Bromoform	1.8	U	2.0	1.8	1.2	ug/L		12/18/23 11:47	1
Carbon disulfide	0.80	U	2.0	0.80	0.63	ug/L		12/18/23 11:47	1
Carbon tetrachloride	0.80	U	1.0	0.80	0.57	ug/L		12/18/23 11:47	1
Chlorobenzene	0.80	U	1.0	0.80	0.42	ug/L		12/18/23 11:47	1
Chloroethane	1.6	U	4.0	1.6	1.4	ug/L		12/18/23 11:47	1
Chloroform	0.80	U	1.0	0.80	0.36	ug/L		12/18/23 11:47	1
Chloromethane	1.0	U Q	2.0	1.0	0.75	ug/L		12/18/23 11:47	1
cis-1,2-Dichloroethylene	0.40	U	1.0	0.40	0.32	ug/L		12/18/23 11:47	1
cis-1,3-Dichloropropene	1.8	U	2.0	1.8	0.63	ug/L		12/18/23 11:47	1
Cyclohexane	0.80	U	1.0	0.80	0.44	ug/L		12/18/23 11:47	1
Cyclohexanone	64	U M Q	100	64	32	ug/L		12/18/23 11:47	1
Dibromochloromethane	1.8	U	2.0	1.8	0.62	ug/L		12/18/23 11:47	1
Dibromomethane	0.40	U	1.0	0.40	0.34	ug/L		12/18/23 11:47	1
Dichlorodifluoromethane	2.5	U Q	3.0	2.5	0.96	ug/L		12/18/23 11:47	1
Ethylbenzene	0.40	U	1.0	0.40	0.30	ug/L		12/18/23 11:47	1
Hexachlorobutadiene	1.8	U	2.0	1.8	1.2	ug/L		12/18/23 11:47	1
Isopropyl ether	2.0	U	10	2.0	1.1	ug/L		12/18/23 11:47	1
Isopropylbenzene	0.50	U	1.0	0.50	0.36	ug/L		12/18/23 11:47	1
Methyl tert-butyl ether	0.80	U	5.0	0.80	0.25	ug/L		12/18/23 11:47	1
Methylcyclohexane	0.40	U	1.0	0.40	0.31	ug/L		12/18/23 11:47	1
Methylene Chloride	1.8	U	2.0	1.8	0.94	ug/L		12/18/23 11:47	1
Naphthalene	0.80	U	2.0	0.80	0.63	ug/L		12/18/23 11:47	1
n-Butylbenzene	0.80	U	1.0	0.80	0.48	ug/L		12/18/23 11:47	1
n-Hexane	0.80	U	2.0	0.80	0.16	ug/L		12/18/23 11:47	1
N-Propylbenzene	0.80	U	1.0	0.80	0.53	ug/L		12/18/23 11:47	1
o-Chlorotoluene	0.40	U	1.0	0.40	0.34	ug/L		12/18/23 11:47	1
p-Chlorotoluene	0.80	U	1.0	0.80	0.21	ug/L		12/18/23 11:47	1

Client Sample ID: TV044-MW24I1223A
Lab Sample ID: 280-185797-3

Date Collected: 12/13/23 10:50
Matrix: Water
Date Received: 12/15/23 10:00

Method: SW846 8260D - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
sec-Butylbenzene	0.80	U	1.0	0.80	0.45	ug/L		12/18/23 11:47	1
Styrene	0.80	U	1.0	0.80	0.36	ug/L		12/18/23 11:47	1
tert-Butylbenzene	0.80	U	1.0	0.80	0.42	ug/L		12/18/23 11:47	1
Tetrachloroethene	0.80	U	1.0	0.80	0.40	ug/L		12/18/23 11:47	1
Toluene	0.40	U	1.0	0.40	0.32	ug/L		12/18/23 11:47	1
trans-1,2-Dichloroethylene	0.50	U	1.0	0.50	0.37	ug/L		12/18/23 11:47	1
trans-1,3-Dichloropropene	1.8	U	2.0	1.8	0.65	ug/L		12/18/23 11:47	1
Trichloroethene	0.40	U	1.0	0.40	0.30	ug/L		12/18/23 11:47	1
Trichlorofluoromethane	0.80	U	2.0	0.80	0.57	ug/L		12/18/23 11:47	1
Vinyl acetate	2.0	U	3.0	2.0	0.94	ug/L		12/18/23 11:47	1
Vinyl chloride	1.0	U	2.0	1.0	0.51	ug/L		12/18/23 11:47	1
Xylenes, Total	0.80	U	1.0	0.80	0.33	ug/L		12/18/23 11:47	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
1,3-Butadiene TIC	*1.0*	*U*	*ug/L*			*106-99-0*		*12/18/23 11:47*	*1*
4-Ethyltoluene TIC	*1.0*	*U*	*ug/L*			*622-96-8*		*12/18/23 11:47*	*1*
Dicyclopentadiene TIC	*1.0*	*U*	*ug/L*			*77-73-6*		*12/18/23 11:47*	*1*
Propene TIC	*1.0*	*U*	*ug/L*			*115-07-1*		*12/18/23 11:47*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*107*		*81 - 118*		*12/18/23 11:47*	*1*
4-Bromofluorobenzene (Surr)	*91*		*85 - 114*		*12/18/23 11:47*	*1*
Dibromofluoromethane (Surr)	*107*		*80 - 119*		*12/18/23 11:47*	*1*
Toluene-d8 (Surr)	*100*		*89 - 112*		*12/18/23 11:47*	*1*

Method: SW846 6020B - Metals (ICP/MS)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Lead	**0.36**	**J**	1.0	0.70	0.23	ug/L		12/20/23 20:23	1

General Chemistry

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Nitrate Nitrite as N (EPA 353.2)	**0.049**	**J**	0.10	0.080	0.044	mg/L		12/28/23 13:12	1
Sulfate (SW846 9056A)	**140**	**M**	5.0	2.5	1.0	mg/L		12/20/23 22:53	1

Client Sample ID: TV044-MW21M1223A
Lab Sample ID: 280-185797-4

Date Collected: 12/13/23 11:30
Matrix: Water
Date Received: 12/15/23 10:00

Method: SW846 8260D - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
1,1,1-Trichloroethane	25	U	50	25	20	ug/L		12/18/23 15:02	50
1,1,2,2-Tetrachloroethane	40	U	50	40	11	ug/L		12/18/23 15:02	50
1,1,2-Trichloroethane	40	U M	50	40	14	ug/L		12/18/23 15:02	50
1,1-Dichloroethane	40	U	50	40	11	ug/L		12/18/23 15:02	50
1,1-Dichloroethylene	40	U	50	40	12	ug/L		12/18/23 15:02	50
1,1-Dichloropropene	40	U	50	40	21	ug/L		12/18/23 15:02	50
1,2,3-Trichlorobenzene	40	U	100	40	35	ug/L		12/18/23 15:02	50
1,2,3-Trichloropropane	90	U	130	90	43	ug/L		12/18/23 15:02	50
1,2,3-Trimethylbenzene	**16**	**J D**	100	40	14	ug/L		12/18/23 15:02	50
1,2,4-Trichlorobenzene	40	U	50	40	29	ug/L		12/18/23 15:02	50
1,2,4-Trimethylbenzene	20	U	50	20	7.5	ug/L		12/18/23 15:02	50

Client Sample ID: TV044-MW21M1223A
Lab Sample ID: 280-185797-4

Date Collected: 12/13/23 11:30
Matrix: Water
Date Received: 12/15/23 10:00

Method: SW846 8260D - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
1,2-Dibromo-3-Chloropropane	200	U	250	200	88	ug/L		12/18/23 15:02	50
1,2-Dibromoethane	40	U	50	40	20	ug/L		12/18/23 15:02	50
1,2-Dichlorobenzene	25	U	50	25	19	ug/L		12/18/23 15:02	50
1,2-Dichloroethane	40	U M	50	40	27	ug/L		12/18/23 15:02	50
1,2-Dichloropropane	40	U	50	40	26	ug/L		12/18/23 15:02	50
1,3,5-Trimethylbenzene	25	U	50	25	18	ug/L		12/18/23 15:02	50
1,3-Dichlorobenzene	20	U	50	20	17	ug/L		12/18/23 15:02	50
1,3-Dichloropropane	40	U	50	40	19	ug/L		12/18/23 15:02	50
1,4-Dichlorobenzene	25	U	50	25	19	ug/L		12/18/23 15:02	50
2,2-Dichloropropane	40	U	50	40	19	ug/L		12/18/23 15:02	50
2-Butanone (MEK)	600	U	750	600	300	ug/L		12/18/23 15:02	50
2-Chloroethyl vinyl ether	40	U	150	40	22	ug/L		12/18/23 15:02	50
2-Hexanone	200	U	250	200	85	ug/L		12/18/23 15:02	50
4-Isopropyltoluene	40	U	50	40	21	ug/L		12/18/23 15:02	50
4-Methyl-2-pentanone (MIBK)	160	U	250	160	49	ug/L		12/18/23 15:02	50
Acetone	400	U	750	400	330	ug/L		12/18/23 15:02	50
Acrylonitrile	400	U M	1000	400	220	ug/L		12/18/23 15:02	50
Benzene	**19**	**J D**	50	40	15	ug/L		12/18/23 15:02	50
Bromobenzene	25	U	50	25	20	ug/L		12/18/23 15:02	50
Bromochloromethane	40	U	50	40	20	ug/L		12/18/23 15:02	50
Bromodichloromethane	25	U	50	25	19	ug/L		12/18/23 15:02	50
Bromoform	90	U	100	90	61	ug/L		12/18/23 15:02	50
Carbon disulfide	40	U	100	40	32	ug/L		12/18/23 15:02	50
Carbon tetrachloride	40	U	50	40	28	ug/L		12/18/23 15:02	50
Chlorobenzene	40	U	50	40	21	ug/L		12/18/23 15:02	50
Chloroethane	80	U	200	80	69	ug/L		12/18/23 15:02	50
Chloroform	40	U	50	40	18	ug/L		12/18/23 15:02	50
Chloromethane	50	U Q	100	50	38	ug/L		12/18/23 15:02	50
cis-1,2-Dichloroethylene	20	U	50	20	16	ug/L		12/18/23 15:02	50
cis-1,3-Dichloropropene	90	U	100	90	31	ug/L		12/18/23 15:02	50
Cyclohexane	**330**	**D**	50	40	22	ug/L		12/18/23 15:02	50
Cyclohexanone	3200	U M Q	5000	3200	1600	ug/L		12/18/23 15:02	50
Dibromochloromethane	90	U	100	90	31	ug/L		12/18/23 15:02	50
Dibromomethane	20	U	50	20	17	ug/L		12/18/23 15:02	50
Dichlorodifluoromethane	130	U Q	150	130	48	ug/L		12/18/23 15:02	50
Ethylbenzene	20	U	50	20	15	ug/L		12/18/23 15:02	50
Hexachlorobutadiene	90	U	100	90	59	ug/L		12/18/23 15:02	50
Isopropyl ether	100	U	500	100	55	ug/L		12/18/23 15:02	50
Isopropylbenzene	25	U	50	25	18	ug/L		12/18/23 15:02	50
Methyl tert-butyl ether	**2900**	**D**	250	40	13	ug/L		12/18/23 15:02	50
Methylcyclohexane	**980**	**D**	50	20	16	ug/L		12/18/23 15:02	50
Methylene Chloride	90	U	100	90	47	ug/L		12/18/23 15:02	50
Naphthalene	40	U	100	40	32	ug/L		12/18/23 15:02	50
n-Butylbenzene	40	U	50	40	24	ug/L		12/18/23 15:02	50
n-Hexane	**190**	**D**	100	40	8.2	ug/L		12/18/23 15:02	50
N-Propylbenzene	40	U	50	40	27	ug/L		12/18/23 15:02	50
o-Chlorotoluene	20	U	50	20	17	ug/L		12/18/23 15:02	50
p-Chlorotoluene	40	U	50	40	11	ug/L		12/18/23 15:02	50
sec-Butylbenzene	40	U	50	40	22	ug/L		12/18/23 15:02	50

Client Sample ID: TV044-MW21M1223A
Lab Sample ID: 280-185797-4

Date Collected: 12/13/23 11:30
Matrix: Water
Date Received: 12/15/23 10:00

Method: SW846 8260D - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Styrene	40	U	50	40	18	ug/L		12/18/23 15:02	50
tert-Butylbenzene	40	U	50	40	21	ug/L		12/18/23 15:02	50
Tetrachloroethene	40	U	50	40	20	ug/L		12/18/23 15:02	50
Toluene	20	U	50	20	16	ug/L		12/18/23 15:02	50
trans-1,2-Dichloroethylene	25	U	50	25	18	ug/L		12/18/23 15:02	50
trans-1,3-Dichloropropene	90	U	100	90	32	ug/L		12/18/23 15:02	50
Trichloroethene	20	U	50	20	15	ug/L		12/18/23 15:02	50
Trichlorofluoromethane	40	U	100	40	28	ug/L		12/18/23 15:02	50
Vinyl acetate	100	U	150	100	47	ug/L		12/18/23 15:02	50
Vinyl chloride	50	U	100	50	25	ug/L		12/18/23 15:02	50
Xylenes, Total	40	U	50	40	17	ug/L		12/18/23 15:02	50

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
1,3-Butadiene TIC	*50*	*U*	*ug/L*			*106-99-0*		*12/18/23 15:02*	*50*
4-Ethyltoluene TIC	*50*	*U*	*ug/L*			*622-96-8*		*12/18/23 15:02*	*50*
Dicyclopentadiene TIC	*50*	*U*	*ug/L*			*77-73-6*		*12/18/23 15:02*	*50*
Propene TIC	*50*	*U*	*ug/L*			*115-07-1*		*12/18/23 15:02*	*50*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*101*		*81 - 118*		*12/18/23 15:02*	*50*
4-Bromofluorobenzene (Surr)	*90*		*85 - 114*		*12/18/23 15:02*	*50*
Dibromofluoromethane (Surr)	*106*		*80 - 119*		*12/18/23 15:02*	*50*
Toluene-d8 (Surr)	*99*		*89 - 112*		*12/18/23 15:02*	*50*

Method: SW846 6020B - Metals (ICP/MS)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Lead	**0.77**	**J**	1.0	0.70	0.23	ug/L		12/20/23 20:33	1

General Chemistry

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Nitrate Nitrite as N (EPA 353.2)	0.080	U	0.10	0.080	0.044	mg/L		12/28/23 13:14	1
Sulfate (SW846 9056A)	**2.5**	**J**	5.0	2.5	1.0	mg/L		12/20/23 23:04	1

Client Sample ID: TV044-MW21D1223A
Lab Sample ID: 280-185797-5

Date Collected: 12/13/23 12:05
Matrix: Water
Date Received: 12/15/23 10:00

Method: SW846 8260D - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
1,1,1-Trichloroethane	0.50	U	1.0	0.50	0.39	ug/L		12/18/23 12:08	1
1,1,2,2-Tetrachloroethane	0.80	U Q	1.0	0.80	0.21	ug/L		12/18/23 12:08	1
1,1,2-Trichloroethane	0.80	U	1.0	0.80	0.27	ug/L		12/18/23 12:08	1
1,1-Dichloroethane	0.80	U	1.0	0.80	0.22	ug/L		12/18/23 12:08	1
1,1-Dichloroethylene	0.80	U	1.0	0.80	0.23	ug/L		12/18/23 12:08	1
1,1-Dichloropropene	0.80	U	1.0	0.80	0.42	ug/L		12/18/23 12:08	1
1,2,3-Trichlorobenzene	0.80	U Q	2.0	0.80	0.70	ug/L		12/18/23 12:08	1
1,2,3-Trichloropropane	1.8	U Q	2.5	1.8	0.86	ug/L		12/18/23 12:08	1
1,2,3-Trimethylbenzene	0.80	U Q	2.0	0.80	0.27	ug/L		12/18/23 12:08	1
1,2,4-Trichlorobenzene	0.80	U Q	1.0	0.80	0.58	ug/L		12/18/23 12:08	1
1,2,4-Trimethylbenzene	0.40	U Q	1.0	0.40	0.15	ug/L		12/18/23 12:08	1
1,2-Dibromo-3-Chloropropane	4.0	U Q	5.0	4.0	1.8	ug/L		12/18/23 12:08	1

Client Sample ID: TV044-MW21D1223A
Date Collected: 12/13/23 12:05
Date Received: 12/15/23 10:00

Lab Sample ID: 280-185797-5
Matrix: Water

Method: SW846 8260D - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
1,2-Dibromoethane	0.80	U	1.0	0.80	0.40	ug/L		12/18/23 12:08	1
1,2-Dichlorobenzene	0.50	U Q	1.0	0.50	0.37	ug/L		12/18/23 12:08	1
1,2-Dichloroethane	0.80	U	1.0	0.80	0.54	ug/L		12/18/23 12:08	1
1,2-Dichloropropane	0.80	U	1.0	0.80	0.52	ug/L		12/18/23 12:08	1
1,3,5-Trimethylbenzene	0.50	U Q	1.0	0.50	0.37	ug/L		12/18/23 12:08	1
1,3-Dichlorobenzene	0.40	U Q	1.0	0.40	0.33	ug/L		12/18/23 12:08	1
1,3-Dichloropropane	0.80	U	1.0	0.80	0.38	ug/L		12/18/23 12:08	1
1,4-Dichlorobenzene	0.50	U Q	1.0	0.50	0.39	ug/L		12/18/23 12:08	1
2,2-Dichloropropane	0.80	U	1.0	0.80	0.38	ug/L		12/18/23 12:08	1
2-Butanone (MEK)	12	U	15	12	6.0	ug/L		12/18/23 12:08	1
2-Chloroethyl vinyl ether	0.80	U	3.0	0.80	0.44	ug/L		12/18/23 12:08	1
2-Hexanone	4.0	U	5.0	4.0	1.7	ug/L		12/18/23 12:08	1
4-Isopropyltoluene	0.80	U Q	1.0	0.80	0.43	ug/L		12/18/23 12:08	1
4-Methyl-2-pentanone (MIBK)	3.2	U	5.0	3.2	0.98	ug/L		12/18/23 12:08	1
Acetone	8.0	U M	15	8.0	6.6	ug/L		12/18/23 12:08	1
Acrylonitrile	8.0	U	20	8.0	4.5	ug/L		12/18/23 12:08	1
Benzene	0.80	U	1.0	0.80	0.31	ug/L		12/18/23 12:08	1
Bromobenzene	0.50	U Q	1.0	0.50	0.40	ug/L		12/18/23 12:08	1
Bromochloromethane	0.80	U	1.0	0.80	0.40	ug/L		12/18/23 12:08	1
Bromodichloromethane	0.50	U	1.0	0.50	0.39	ug/L		12/18/23 12:08	1
Bromoform	1.8	U	2.0	1.8	1.2	ug/L		12/18/23 12:08	1
Carbon disulfide	0.80	U	2.0	0.80	0.63	ug/L		12/18/23 12:08	1
Carbon tetrachloride	0.80	U	1.0	0.80	0.57	ug/L		12/18/23 12:08	1
Chlorobenzene	0.80	U	1.0	0.80	0.42	ug/L		12/18/23 12:08	1
Chloroethane	1.6	U	4.0	1.6	1.4	ug/L		12/18/23 12:08	1
Chloroform	0.80	U	1.0	0.80	0.36	ug/L		12/18/23 12:08	1
Chloromethane	1.0	U Q	2.0	1.0	0.75	ug/L		12/18/23 12:08	1
cis-1,2-Dichloroethylene	0.40	U	1.0	0.40	0.32	ug/L		12/18/23 12:08	1
cis-1,3-Dichloropropene	1.8	U	2.0	1.8	0.63	ug/L		12/18/23 12:08	1
Cyclohexane	0.80	U	1.0	0.80	0.44	ug/L		12/18/23 12:08	1
Cyclohexanone	64	U Q	100	64	32	ug/L		12/18/23 12:08	1
Dibromochloromethane	1.8	U	2.0	1.8	0.62	ug/L		12/18/23 12:08	1
Dibromomethane	0.40	U	1.0	0.40	0.34	ug/L		12/18/23 12:08	1
Dichlorodifluoromethane	2.5	U Q	3.0	2.5	0.96	ug/L		12/18/23 12:08	1
Ethylbenzene	0.40	U	1.0	0.40	0.30	ug/L		12/18/23 12:08	1
Hexachlorobutadiene	1.8	U Q	2.0	1.8	1.2	ug/L		12/18/23 12:08	1
Isopropyl ether	2.0	U	10	2.0	1.1	ug/L		12/18/23 12:08	1
Isopropylbenzene	0.50	U Q	1.0	0.50	0.36	ug/L		12/18/23 12:08	1
Methyl tert-butyl ether	**14**		5.0	0.80	0.25	ug/L		12/18/23 12:08	1
Methylcyclohexane	0.40	U	1.0	0.40	0.31	ug/L		12/18/23 12:08	1
Methylene Chloride	1.8	U	2.0	1.8	0.94	ug/L		12/18/23 12:08	1
Naphthalene	0.80	U Q	2.0	0.80	0.63	ug/L		12/18/23 12:08	1
n-Butylbenzene	0.80	U Q	1.0	0.80	0.48	ug/L		12/18/23 12:08	1
n-Hexane	0.80	U	2.0	0.80	0.16	ug/L		12/18/23 12:08	1
N-Propylbenzene	0.80	U Q	1.0	0.80	0.53	ug/L		12/18/23 12:08	1
o-Chlorotoluene	0.40	U Q	1.0	0.40	0.34	ug/L		12/18/23 12:08	1
p-Chlorotoluene	0.80	U Q	1.0	0.80	0.21	ug/L		12/18/23 12:08	1
sec-Butylbenzene	0.80	U Q	1.0	0.80	0.45	ug/L		12/18/23 12:08	1
Styrene	0.80	U	1.0	0.80	0.36	ug/L		12/18/23 12:08	1

Client Sample ID: TV044-MW21D1223A
Lab Sample ID: 280-185797-5

Date Collected: 12/13/23 12:05
Matrix: Water
Date Received: 12/15/23 10:00

Method: SW846 8260D - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
tert-Butylbenzene	0.80	U Q	1.0	0.80	0.42	ug/L		12/18/23 12:08	1
Tetrachloroethene	0.80	U	1.0	0.80	0.40	ug/L		12/18/23 12:08	1
Toluene	0.40	U	1.0	0.40	0.32	ug/L		12/18/23 12:08	1
trans-1,2-Dichloroethylene	0.50	U	1.0	0.50	0.37	ug/L		12/18/23 12:08	1
trans-1,3-Dichloropropene	1.8	U	2.0	1.8	0.65	ug/L		12/18/23 12:08	1
Trichloroethene	0.40	U	1.0	0.40	0.30	ug/L		12/18/23 12:08	1
Trichlorofluoromethane	0.80	U	2.0	0.80	0.57	ug/L		12/18/23 12:08	1
Vinyl acetate	2.0	U	3.0	2.0	0.94	ug/L		12/18/23 12:08	1
Vinyl chloride	1.0	U	2.0	1.0	0.51	ug/L		12/18/23 12:08	1
Xylenes, Total	0.80	U	1.0	0.80	0.33	ug/L		12/18/23 12:08	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
1,3-Butadiene TIC	*1.0*	*U*	*ug/L*			*106-99-0*		*12/18/23 12:08*	*1*
4-Ethyltoluene TIC	*1.0*	*U*	*ug/L*			*622-96-8*		*12/18/23 12:08*	*1*
Dicyclopentadiene TIC	*1.0*	*U*	*ug/L*			*77-73-6*		*12/18/23 12:08*	*1*
Propene TIC	*1.0*	*U*	*ug/L*			*115-07-1*		*12/18/23 12:08*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*108*		*81 - 118*		*12/18/23 12:08*	*1*
4-Bromofluorobenzene (Surr)	*109*	*Q*	*85 - 114*		*12/18/23 12:08*	*1*
Dibromofluoromethane (Surr)	*112*		*80 - 119*		*12/18/23 12:08*	*1*
Toluene-d8 (Surr)	*110*		*89 - 112*		*12/18/23 12:08*	*1*

Method: SW846 6020B - Metals (ICP/MS)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Lead	**2.7**		1.0	0.70	0.23	ug/L		12/20/23 20:37	1

General Chemistry

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Nitrate Nitrite as N (EPA 353.2)	0.080	U	0.10	0.080	0.044	mg/L		12/28/23 13:15	1
Sulfate (SW846 9056A)	**94**	**D M**	25	13	5.2	mg/L		12/20/23 23:15	5

Client Sample ID: TV044-MW21D1223C
Lab Sample ID: 280-185797-6

Date Collected: 12/13/23 12:05
Matrix: Water
Date Received: 12/15/23 10:00

Method: SW846 8260D - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
1,1,1-Trichloroethane	0.50	U	1.0	0.50	0.39	ug/L		12/18/23 12:30	1
1,1,2,2-Tetrachloroethane	0.80	U	1.0	0.80	0.21	ug/L		12/18/23 12:30	1
1,1,2-Trichloroethane	0.80	U	1.0	0.80	0.27	ug/L		12/18/23 12:30	1
1,1-Dichloroethane	0.80	U	1.0	0.80	0.22	ug/L		12/18/23 12:30	1
1,1-Dichloroethylene	0.80	U	1.0	0.80	0.23	ug/L		12/18/23 12:30	1
1,1-Dichloropropene	0.80	U	1.0	0.80	0.42	ug/L		12/18/23 12:30	1
1,2,3-Trichlorobenzene	0.80	U	2.0	0.80	0.70	ug/L		12/18/23 12:30	1
1,2,3-Trichloropropane	1.8	U	2.5	1.8	0.86	ug/L		12/18/23 12:30	1
1,2,3-Trimethylbenzene	0.80	U	2.0	0.80	0.27	ug/L		12/18/23 12:30	1
1,2,4-Trichlorobenzene	0.80	U	1.0	0.80	0.58	ug/L		12/18/23 12:30	1
1,2,4-Trimethylbenzene	0.40	U	1.0	0.40	0.15	ug/L		12/18/23 12:30	1
1,2-Dibromo-3-Chloropropane	4.0	U	5.0	4.0	1.8	ug/L		12/18/23 12:30	1
1,2-Dibromoethane	0.80	U	1.0	0.80	0.40	ug/L		12/18/23 12:30	1

Client Sample ID: TV044-MW21D1223C
Lab Sample ID: 280-185797-6

Date Collected: 12/13/23 12:05
Matrix: Water
Date Received: 12/15/23 10:00

Method: SW846 8260D - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
1,2-Dichlorobenzene	0.50	U	1.0	0.50	0.37	ug/L		12/18/23 12:30	1
1,2-Dichloroethane	0.80	U	1.0	0.80	0.54	ug/L		12/18/23 12:30	1
1,2-Dichloropropane	0.80	U	1.0	0.80	0.52	ug/L		12/18/23 12:30	1
1,3,5-Trimethylbenzene	0.50	U	1.0	0.50	0.37	ug/L		12/18/23 12:30	1
1,3-Dichlorobenzene	0.40	U	1.0	0.40	0.33	ug/L		12/18/23 12:30	1
1,3-Dichloropropane	0.80	U	1.0	0.80	0.38	ug/L		12/18/23 12:30	1
1,4-Dichlorobenzene	0.50	U	1.0	0.50	0.39	ug/L		12/18/23 12:30	1
2,2-Dichloropropane	0.80	U	1.0	0.80	0.38	ug/L		12/18/23 12:30	1
2-Butanone (MEK)	12	U	15	12	6.0	ug/L		12/18/23 12:30	1
2-Chloroethyl vinyl ether	0.80	U	3.0	0.80	0.44	ug/L		12/18/23 12:30	1
2-Hexanone	4.0	U	5.0	4.0	1.7	ug/L		12/18/23 12:30	1
4-Isopropyltoluene	0.80	U	1.0	0.80	0.43	ug/L		12/18/23 12:30	1
4-Methyl-2-pentanone (MIBK)	3.2	U	5.0	3.2	0.98	ug/L		12/18/23 12:30	1
Acetone	8.0	U	15	8.0	6.6	ug/L		12/18/23 12:30	1
Acrylonitrile	8.0	U	20	8.0	4.5	ug/L		12/18/23 12:30	1
Benzene	0.80	U	1.0	0.80	0.31	ug/L		12/18/23 12:30	1
Bromobenzene	0.50	U	1.0	0.50	0.40	ug/L		12/18/23 12:30	1
Bromochloromethane	0.80	U	1.0	0.80	0.40	ug/L		12/18/23 12:30	1
Bromodichloromethane	0.50	U	1.0	0.50	0.39	ug/L		12/18/23 12:30	1
Bromoform	1.8	U	2.0	1.8	1.2	ug/L		12/18/23 12:30	1
Carbon disulfide	0.80	U	2.0	0.80	0.63	ug/L		12/18/23 12:30	1
Carbon tetrachloride	0.80	U	1.0	0.80	0.57	ug/L		12/18/23 12:30	1
Chlorobenzene	0.80	U	1.0	0.80	0.42	ug/L		12/18/23 12:30	1
Chloroethane	1.6	U	4.0	1.6	1.4	ug/L		12/18/23 12:30	1
Chloroform	0.80	U	1.0	0.80	0.36	ug/L		12/18/23 12:30	1
Chloromethane	1.0	U Q	2.0	1.0	0.75	ug/L		12/18/23 12:30	1
cis-1,2-Dichloroethylene	0.40	U	1.0	0.40	0.32	ug/L		12/18/23 12:30	1
cis-1,3-Dichloropropene	1.8	U	2.0	1.8	0.63	ug/L		12/18/23 12:30	1
Cyclohexane	0.80	U	1.0	0.80	0.44	ug/L		12/18/23 12:30	1
Cyclohexanone	64	U M Q	100	64	32	ug/L		12/18/23 12:30	1
Dibromochloromethane	1.8	U	2.0	1.8	0.62	ug/L		12/18/23 12:30	1
Dibromomethane	0.40	U	1.0	0.40	0.34	ug/L		12/18/23 12:30	1
Dichlorodifluoromethane	2.5	U Q	3.0	2.5	0.96	ug/L		12/18/23 12:30	1
Ethylbenzene	0.40	U	1.0	0.40	0.30	ug/L		12/18/23 12:30	1
Hexachlorobutadiene	1.8	U	2.0	1.8	1.2	ug/L		12/18/23 12:30	1
Isopropyl ether	2.0	U	10	2.0	1.1	ug/L		12/18/23 12:30	1
Isopropylbenzene	0.50	U	1.0	0.50	0.36	ug/L		12/18/23 12:30	1
Methyl tert-butyl ether	**14**		5.0	0.80	0.25	ug/L		12/18/23 12:30	1
Methylcyclohexane	0.40	U	1.0	0.40	0.31	ug/L		12/18/23 12:30	1
Methylene Chloride	1.8	U	2.0	1.8	0.94	ug/L		12/18/23 12:30	1
Naphthalene	0.80	U	2.0	0.80	0.63	ug/L		12/18/23 12:30	1
n-Butylbenzene	0.80	U	1.0	0.80	0.48	ug/L		12/18/23 12:30	1
n-Hexane	0.80	U	2.0	0.80	0.16	ug/L		12/18/23 12:30	1
N-Propylbenzene	0.80	U	1.0	0.80	0.53	ug/L		12/18/23 12:30	1
o-Chlorotoluene	0.40	U	1.0	0.40	0.34	ug/L		12/18/23 12:30	1
p-Chlorotoluene	0.80	U	1.0	0.80	0.21	ug/L		12/18/23 12:30	1
sec-Butylbenzene	0.80	U	1.0	0.80	0.45	ug/L		12/18/23 12:30	1
Styrene	0.80	U	1.0	0.80	0.36	ug/L		12/18/23 12:30	1
tert-Butylbenzene	0.80	U	1.0	0.80	0.42	ug/L		12/18/23 12:30	1

Client Sample ID: TV044-MW21D1223C
Lab Sample ID: 280-185797-6

Date Collected: 12/13/23 12:05
Matrix: Water
Date Received: 12/15/23 10:00

Method: SW846 8260D - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Tetrachloroethene	0.80	U	1.0	0.80	0.40	ug/L		12/18/23 12:30	1
Toluene	0.40	U	1.0	0.40	0.32	ug/L		12/18/23 12:30	1
trans-1,2-Dichloroethylene	0.50	U	1.0	0.50	0.37	ug/L		12/18/23 12:30	1
trans-1,3-Dichloropropene	1.8	U	2.0	1.8	0.65	ug/L		12/18/23 12:30	1
Trichloroethene	0.40	U	1.0	0.40	0.30	ug/L		12/18/23 12:30	1
Trichlorofluoromethane	0.80	U	2.0	0.80	0.57	ug/L		12/18/23 12:30	1
Vinyl acetate	2.0	U	3.0	2.0	0.94	ug/L		12/18/23 12:30	1
Vinyl chloride	1.0	U	2.0	1.0	0.51	ug/L		12/18/23 12:30	1
Xylenes, Total	0.80	U	1.0	0.80	0.33	ug/L		12/18/23 12:30	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
1,3-Butadiene TIC	*1.0*	*U*	*ug/L*			*106-99-0*		*12/18/23 12:30*	*1*
4-Ethyltoluene TIC	*1.0*	*U*	*ug/L*			*622-96-8*		*12/18/23 12:30*	*1*
Dicyclopentadiene TIC	*1.0*	*U*	*ug/L*			*77-73-6*		*12/18/23 12:30*	*1*
Propene TIC	*1.0*	*U*	*ug/L*			*115-07-1*		*12/18/23 12:30*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*110*		*81 - 118*		*12/18/23 12:30*	*1*
4-Bromofluorobenzene (Surr)	*114*		*85 - 114*		*12/18/23 12:30*	*1*
Dibromofluoromethane (Surr)	*110*		*80 - 119*		*12/18/23 12:30*	*1*
Toluene-d8 (Surr)	*111*		*89 - 112*		*12/18/23 12:30*	*1*

Method: SW846 6020B - Metals (ICP/MS)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Lead	**3.1**		1.0	0.70	0.23	ug/L		12/20/23 20:40	1

General Chemistry

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Nitrate Nitrite as N (EPA 353.2)	0.080	U	0.10	0.080	0.044	mg/L		12/28/23 13:16	1
Sulfate (SW846 9056A)	**97**	**D**	25	13	5.2	mg/L		12/20/23 23:48	5

Client Sample ID: TV044-MW23S1223A
Lab Sample ID: 280-185797-7

Date Collected: 12/13/23 12:20
Matrix: Water
Date Received: 12/15/23 10:00

Method: SW846 8260D - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
1,1,1-Trichloroethane	25	U Q	50	25	20	ug/L		12/18/23 15:23	50
1,1,2,2-Tetrachloroethane	40	U Q	50	40	11	ug/L		12/18/23 15:23	50
1,1,2-Trichloroethane	40	U Q	50	40	14	ug/L		12/18/23 15:23	50
1,1-Dichloroethane	40	U Q	50	40	11	ug/L		12/18/23 15:23	50
1,1-Dichloroethylene	40	U Q	50	40	12	ug/L		12/18/23 15:23	50
1,1-Dichloropropene	40	U Q	50	40	21	ug/L		12/18/23 15:23	50
1,2,3-Trichlorobenzene	40	U Q	100	40	35	ug/L		12/18/23 15:23	50
1,2,3-Trichloropropane	90	U Q	130	90	43	ug/L		12/18/23 15:23	50
1,2,3-Trimethylbenzene	40	U Q	100	40	14	ug/L		12/18/23 15:23	50
1,2,4-Trichlorobenzene	40	U Q	50	40	29	ug/L		12/18/23 15:23	50
1,2,4-Trimethylbenzene	20	U Q	50	20	7.5	ug/L		12/18/23 15:23	50
1,2-Dibromo-3-Chloropropane	200	U Q	250	200	88	ug/L		12/18/23 15:23	50
1,2-Dibromoethane	40	U Q	50	40	20	ug/L		12/18/23 15:23	50
1,2-Dichlorobenzene	25	U Q	50	25	19	ug/L		12/18/23 15:23	50

Client Sample ID: TV044-MW23S1223A
Lab Sample ID: 280-185797-7

Date Collected: 12/13/23 12:20
Matrix: Water
Date Received: 12/15/23 10:00

Method: SW846 8260D - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
1,2-Dichloroethane	40	U Q	50	40	27	ug/L		12/18/23 15:23	50
1,2-Dichloropropane	40	U Q	50	40	26	ug/L		12/18/23 15:23	50
1,3,5-Trimethylbenzene	25	U Q	50	25	18	ug/L		12/18/23 15:23	50
1,3-Dichlorobenzene	20	U Q	50	20	17	ug/L		12/18/23 15:23	50
1,3-Dichloropropane	40	U Q	50	40	19	ug/L		12/18/23 15:23	50
1,4-Dichlorobenzene	25	U Q	50	25	19	ug/L		12/18/23 15:23	50
2,2-Dichloropropane	40	U Q	50	40	19	ug/L		12/18/23 15:23	50
2-Butanone (MEK)	600	U Q	750	600	300	ug/L		12/18/23 15:23	50
2-Chloroethyl vinyl ether	40	U Q	150	40	22	ug/L		12/18/23 15:23	50
2-Hexanone	200	U Q	250	200	85	ug/L		12/18/23 15:23	50
4-Isopropyltoluene	40	U Q	50	40	21	ug/L		12/18/23 15:23	50
4-Methyl-2-pentanone (MIBK)	160	U Q	250	160	49	ug/L		12/18/23 15:23	50
Acetone	400	U Q	750	400	330	ug/L		12/18/23 15:23	50
Acrylonitrile	400	U Q	1000	400	220	ug/L		12/18/23 15:23	50
Benzene	40	U Q	50	40	15	ug/L		12/18/23 15:23	50
Bromobenzene	25	U Q	50	25	20	ug/L		12/18/23 15:23	50
Bromochloromethane	40	U Q	50	40	20	ug/L		12/18/23 15:23	50
Bromodichloromethane	25	U Q	50	25	19	ug/L		12/18/23 15:23	50
Bromoform	90	U Q	100	90	61	ug/L		12/18/23 15:23	50
Carbon disulfide	40	U Q	100	40	32	ug/L		12/18/23 15:23	50
Carbon tetrachloride	40	U Q	50	40	28	ug/L		12/18/23 15:23	50
Chlorobenzene	40	U Q	50	40	21	ug/L		12/18/23 15:23	50
Chloroethane	80	U M Q	200	80	69	ug/L		12/18/23 15:23	50
Chloroform	40	U Q	50	40	18	ug/L		12/18/23 15:23	50
Chloromethane	50	U Q	100	50	38	ug/L		12/18/23 15:23	50
cis-1,2-Dichloroethylene	20	U Q	50	20	16	ug/L		12/18/23 15:23	50
cis-1,3-Dichloropropene	90	U Q	100	90	31	ug/L		12/18/23 15:23	50
Cyclohexane	40	U Q	50	40	22	ug/L		12/18/23 15:23	50
Cyclohexanone	3200	U Q	5000	3200	1600	ug/L		12/18/23 15:23	50
Dibromochloromethane	90	U Q	100	90	31	ug/L		12/18/23 15:23	50
Dibromomethane	20	U Q	50	20	17	ug/L		12/18/23 15:23	50
Dichlorodifluoromethane	130	U Q	150	130	48	ug/L		12/18/23 15:23	50
Ethylbenzene	20	U Q	50	20	15	ug/L		12/18/23 15:23	50
Hexachlorobutadiene	90	U Q	100	90	59	ug/L		12/18/23 15:23	50
Isopropyl ether	100	U Q	500	100	55	ug/L		12/18/23 15:23	50
Isopropylbenzene	25	U Q	50	25	18	ug/L		12/18/23 15:23	50
Methyl tert-butyl ether	40	U Q	250	40	13	ug/L		12/18/23 15:23	50
Methylcyclohexane	20	U Q	50	20	16	ug/L		12/18/23 15:23	50
Methylene Chloride	90	U Q	100	90	47	ug/L		12/18/23 15:23	50
Naphthalene	40	U Q	100	40	32	ug/L		12/18/23 15:23	50
n-Butylbenzene	40	U Q	50	40	24	ug/L		12/18/23 15:23	50
n-Hexane	40	U Q	100	40	8.2	ug/L		12/18/23 15:23	50
N-Propylbenzene	40	U Q	50	40	27	ug/L		12/18/23 15:23	50
o-Chlorotoluene	20	U Q	50	20	17	ug/L		12/18/23 15:23	50
p-Chlorotoluene	40	U Q	50	40	11	ug/L		12/18/23 15:23	50
sec-Butylbenzene	40	U Q	50	40	22	ug/L		12/18/23 15:23	50
Styrene	40	U Q	50	40	18	ug/L		12/18/23 15:23	50
tert-Butylbenzene	40	U Q	50	40	21	ug/L		12/18/23 15:23	50
Tetrachloroethene	40	U Q	50	40	20	ug/L		12/18/23 15:23	50

Client Sample ID: TV044-MW23S1223A
Lab Sample ID: 280-185797-7

Date Collected: 12/13/23 12:20
Matrix: Water
Date Received: 12/15/23 10:00

Method: SW846 8260D - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Toluene	20	U Q	50	20	16	ug/L		12/18/23 15:23	50
trans-1,2-Dichloroethylene	25	U Q	50	25	18	ug/L		12/18/23 15:23	50
trans-1,3-Dichloropropene	90	U Q	100	90	32	ug/L		12/18/23 15:23	50
Trichloroethene	20	U Q	50	20	15	ug/L		12/18/23 15:23	50
Trichlorofluoromethane	40	U Q	100	40	28	ug/L		12/18/23 15:23	50
Vinyl acetate	100	U Q	150	100	47	ug/L		12/18/23 15:23	50
Vinyl chloride	50	U Q	100	50	25	ug/L		12/18/23 15:23	50
Xylenes, Total	40	U Q	50	40	17	ug/L		12/18/23 15:23	50

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
1,3-Butadiene TIC	*50*	*U*	*ug/L*			*106-99-0*		*12/18/23 15:23*	*50*
4-Ethyltoluene TIC	*50*	*U*	*ug/L*			*622-96-8*		*12/18/23 15:23*	*50*
Dicyclopentadiene TIC	*50*	*U*	*ug/L*			*77-73-6*		*12/18/23 15:23*	*50*
Propene TIC	*50*	*U*	*ug/L*			*115-07-1*		*12/18/23 15:23*	*50*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*121*	*Q*	*81 - 118*		*12/18/23 15:23*	*50*
4-Bromofluorobenzene (Surr)	*122*	*Q*	*85 - 114*		*12/18/23 15:23*	*50*
Dibromofluoromethane (Surr)	*123*	*Q*	*80 - 119*		*12/18/23 15:23*	*50*
Toluene-d8 (Surr)	*130*	*Q*	*89 - 112*		*12/18/23 15:23*	*50*

General Chemistry

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Nitrate Nitrite as N (EPA 353.2)	0.080	U	0.10	0.080	0.044	mg/L		12/28/23 13:17	1

Client Sample ID: TV044-MW31223A
Lab Sample ID: 280-185797-8

Date Collected: 12/13/23 13:10
Matrix: Water
Date Received: 12/15/23 10:00

Method: SW846 8260D - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
1,1,1-Trichloroethane	0.50	U	1.0	0.50	0.39	ug/L		12/18/23 12:52	1
1,1,2,2-Tetrachloroethane	0.80	U	1.0	0.80	0.21	ug/L		12/18/23 12:52	1
1,1,2-Trichloroethane	0.80	U	1.0	0.80	0.27	ug/L		12/18/23 12:52	1
1,1-Dichloroethane	0.80	U	1.0	0.80	0.22	ug/L		12/18/23 12:52	1
1,1-Dichloroethylene	0.80	U	1.0	0.80	0.23	ug/L		12/18/23 12:52	1
1,1-Dichloropropene	0.80	U	1.0	0.80	0.42	ug/L		12/18/23 12:52	1
1,2,3-Trichlorobenzene	0.80	U	2.0	0.80	0.70	ug/L		12/18/23 12:52	1
1,2,3-Trichloropropane	1.8	U	2.5	1.8	0.86	ug/L		12/18/23 12:52	1
1,2,3-Trimethylbenzene	0.80	U	2.0	0.80	0.27	ug/L		12/18/23 12:52	1
1,2,4-Trichlorobenzene	0.80	U	1.0	0.80	0.58	ug/L		12/18/23 12:52	1
1,2,4-Trimethylbenzene	0.40	U	1.0	0.40	0.15	ug/L		12/18/23 12:52	1
1,2-Dibromo-3-Chloropropane	4.0	U	5.0	4.0	1.8	ug/L		12/18/23 12:52	1
1,2-Dibromoethane	0.80	U	1.0	0.80	0.40	ug/L		12/18/23 12:52	1
1,2-Dichlorobenzene	0.50	U	1.0	0.50	0.37	ug/L		12/18/23 12:52	1
1,2-Dichloroethane	0.80	U	1.0	0.80	0.54	ug/L		12/18/23 12:52	1
1,2-Dichloropropane	0.80	U	1.0	0.80	0.52	ug/L		12/18/23 12:52	1
1,3,5-Trimethylbenzene	0.50	U	1.0	0.50	0.37	ug/L		12/18/23 12:52	1
1,3-Dichlorobenzene	0.40	U	1.0	0.40	0.33	ug/L		12/18/23 12:52	1
1,3-Dichloropropane	0.80	U	1.0	0.80	0.38	ug/L		12/18/23 12:52	1
1,4-Dichlorobenzene	0.50	U	1.0	0.50	0.39	ug/L		12/18/23 12:52	1

Client Sample ID: TV044-MW31223A
Lab Sample ID: 280-185797-8

Date Collected: 12/13/23 13:10
Matrix: Water
Date Received: 12/15/23 10:00

Method: SW846 8260D - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
2,2-Dichloropropane	0.80	U	1.0	0.80	0.38	ug/L		12/18/23 12:52	1
2-Butanone (MEK)	12	U	15	12	6.0	ug/L		12/18/23 12:52	1
2-Chloroethyl vinyl ether	0.80	U	3.0	0.80	0.44	ug/L		12/18/23 12:52	1
2-Hexanone	4.0	U	5.0	4.0	1.7	ug/L		12/18/23 12:52	1
4-Isopropyltoluene	0.80	U	1.0	0.80	0.43	ug/L		12/18/23 12:52	1
4-Methyl-2-pentanone (MIBK)	3.2	U	5.0	3.2	0.98	ug/L		12/18/23 12:52	1
Acetone	8.0	U M	15	8.0	6.6	ug/L		12/18/23 12:52	1
Acrylonitrile	8.0	U	20	8.0	4.5	ug/L		12/18/23 12:52	1
Benzene	0.80	U	1.0	0.80	0.31	ug/L		12/18/23 12:52	1
Bromobenzene	0.50	U	1.0	0.50	0.40	ug/L		12/18/23 12:52	1
Bromochloromethane	0.80	U	1.0	0.80	0.40	ug/L		12/18/23 12:52	1
Bromodichloromethane	0.50	U	1.0	0.50	0.39	ug/L		12/18/23 12:52	1
Bromoform	1.8	U	2.0	1.8	1.2	ug/L		12/18/23 12:52	1
Carbon disulfide	0.80	U	2.0	0.80	0.63	ug/L		12/18/23 12:52	1
Carbon tetrachloride	0.80	U	1.0	0.80	0.57	ug/L		12/18/23 12:52	1
Chlorobenzene	0.80	U	1.0	0.80	0.42	ug/L		12/18/23 12:52	1
Chloroethane	1.6	U	4.0	1.6	1.4	ug/L		12/18/23 12:52	1
Chloroform	0.80	U	1.0	0.80	0.36	ug/L		12/18/23 12:52	1
Chloromethane	1.0	U Q	2.0	1.0	0.75	ug/L		12/18/23 12:52	1
cis-1,2-Dichloroethylene	0.40	U	1.0	0.40	0.32	ug/L		12/18/23 12:52	1
cis-1,3-Dichloropropene	1.8	U	2.0	1.8	0.63	ug/L		12/18/23 12:52	1
Cyclohexane	0.80	U	1.0	0.80	0.44	ug/L		12/18/23 12:52	1
Cyclohexanone	64	U M Q	100	64	32	ug/L		12/18/23 12:52	1
Dibromochloromethane	1.8	U	2.0	1.8	0.62	ug/L		12/18/23 12:52	1
Dibromomethane	0.40	U	1.0	0.40	0.34	ug/L		12/18/23 12:52	1
Dichlorodifluoromethane	2.5	U Q	3.0	2.5	0.96	ug/L		12/18/23 12:52	1
Ethylbenzene	0.40	U	1.0	0.40	0.30	ug/L		12/18/23 12:52	1
Hexachlorobutadiene	1.8	U	2.0	1.8	1.2	ug/L		12/18/23 12:52	1
Isopropyl ether	2.0	U	10	2.0	1.1	ug/L		12/18/23 12:52	1
Isopropylbenzene	0.50	U	1.0	0.50	0.36	ug/L		12/18/23 12:52	1
Methyl tert-butyl ether	**1.0**	**J**	5.0	0.80	0.25	ug/L		12/18/23 12:52	1
Methylcyclohexane	0.40	U	1.0	0.40	0.31	ug/L		12/18/23 12:52	1
Methylene Chloride	1.8	U	2.0	1.8	0.94	ug/L		12/18/23 12:52	1
Naphthalene	0.80	U	2.0	0.80	0.63	ug/L		12/18/23 12:52	1
n-Butylbenzene	0.80	U	1.0	0.80	0.48	ug/L		12/18/23 12:52	1
n-Hexane	0.80	U	2.0	0.80	0.16	ug/L		12/18/23 12:52	1
N-Propylbenzene	0.80	U	1.0	0.80	0.53	ug/L		12/18/23 12:52	1
o-Chlorotoluene	0.40	U	1.0	0.40	0.34	ug/L		12/18/23 12:52	1
p-Chlorotoluene	0.80	U	1.0	0.80	0.21	ug/L		12/18/23 12:52	1
sec-Butylbenzene	0.80	U	1.0	0.80	0.45	ug/L		12/18/23 12:52	1
Styrene	0.80	U	1.0	0.80	0.36	ug/L		12/18/23 12:52	1
tert-Butylbenzene	0.80	U	1.0	0.80	0.42	ug/L		12/18/23 12:52	1
Tetrachloroethene	0.80	U	1.0	0.80	0.40	ug/L		12/18/23 12:52	1
Toluene	0.40	U	1.0	0.40	0.32	ug/L		12/18/23 12:52	1
trans-1,2-Dichloroethylene	0.50	U	1.0	0.50	0.37	ug/L		12/18/23 12:52	1
trans-1,3-Dichloropropene	1.8	U	2.0	1.8	0.65	ug/L		12/18/23 12:52	1
Trichloroethene	0.40	U	1.0	0.40	0.30	ug/L		12/18/23 12:52	1
Trichlorofluoromethane	0.80	U	2.0	0.80	0.57	ug/L		12/18/23 12:52	1
Vinyl acetate	2.0	U	3.0	2.0	0.94	ug/L		12/18/23 12:52	1

Client Sample ID: TV044-MW31223A
Lab Sample ID: 280-185797-8

Date Collected: 12/13/23 13:10
Matrix: Water
Date Received: 12/15/23 10:00

Method: SW846 8260D - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Vinyl chloride	1.0	U	2.0	1.0	0.51	ug/L		12/18/23 12:52	1
Xylenes, Total	0.80	U	1.0	0.80	0.33	ug/L		12/18/23 12:52	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
1,3-Butadiene TIC	*1.0*	*U*	*ug/L*			*106-99-0*		*12/18/23 12:52*	*1*
4-Ethyltoluene TIC	*1.0*	*U*	*ug/L*			*622-96-8*		*12/18/23 12:52*	*1*
Dicyclopentadiene TIC	*1.0*	*U*	*ug/L*			*77-73-6*		*12/18/23 12:52*	*1*
Propene TIC	*1.0*	*U*	*ug/L*			*115-07-1*		*12/18/23 12:52*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*107*		*81 - 118*		*12/18/23 12:52*	*1*
4-Bromofluorobenzene (Surr)	*109*		*85 - 114*		*12/18/23 12:52*	*1*
Dibromofluoromethane (Surr)	*109*		*80 - 119*		*12/18/23 12:52*	*1*
Toluene-d8 (Surr)	*103*		*89 - 112*		*12/18/23 12:52*	*1*

Method: SW846 6020B - Metals (ICP/MS)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Lead	**51**	**D**	10	7.0	2.3	ug/L		12/20/23 20:44	10

General Chemistry

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Nitrate Nitrite as N (EPA 353.2)	**1.0**		0.10	0.080	0.044	mg/L		12/28/23 13:19	1
Sulfate (SW846 9056A)	**3900**	**D M**	100	50	21	mg/L		12/20/23 23:59	20

Client Sample ID: TV044-MW25D1223A
Lab Sample ID: 280-185797-9

Date Collected: 12/13/23 13:50
Matrix: Water
Date Received: 12/15/23 10:00

Method: SW846 8260D - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
1,1,1-Trichloroethane	0.50	U	1.0	0.50	0.39	ug/L		12/18/23 13:13	1
1,1,2,2-Tetrachloroethane	0.80	U	1.0	0.80	0.21	ug/L		12/18/23 13:13	1
1,1,2-Trichloroethane	0.80	U	1.0	0.80	0.27	ug/L		12/18/23 13:13	1
1,1-Dichloroethane	0.80	U	1.0	0.80	0.22	ug/L		12/18/23 13:13	1
1,1-Dichloroethylene	0.80	U	1.0	0.80	0.23	ug/L		12/18/23 13:13	1
1,1-Dichloropropene	0.80	U	1.0	0.80	0.42	ug/L		12/18/23 13:13	1
1,2,3-Trichlorobenzene	0.80	U	2.0	0.80	0.70	ug/L		12/18/23 13:13	1
1,2,3-Trichloropropane	1.8	U	2.5	1.8	0.86	ug/L		12/18/23 13:13	1
1,2,3-Trimethylbenzene	0.80	U	2.0	0.80	0.27	ug/L		12/18/23 13:13	1
1,2,4-Trichlorobenzene	0.80	U	1.0	0.80	0.58	ug/L		12/18/23 13:13	1
1,2,4-Trimethylbenzene	0.40	U	1.0	0.40	0.15	ug/L		12/18/23 13:13	1
1,2-Dibromo-3-Chloropropane	4.0	U	5.0	4.0	1.8	ug/L		12/18/23 13:13	1
1,2-Dibromoethane	0.80	U	1.0	0.80	0.40	ug/L		12/18/23 13:13	1
1,2-Dichlorobenzene	0.50	U	1.0	0.50	0.37	ug/L		12/18/23 13:13	1
1,2-Dichloroethane	0.80	U	1.0	0.80	0.54	ug/L		12/18/23 13:13	1
1,2-Dichloropropane	0.80	U	1.0	0.80	0.52	ug/L		12/18/23 13:13	1
1,3,5-Trimethylbenzene	0.50	U	1.0	0.50	0.37	ug/L		12/18/23 13:13	1
1,3-Dichlorobenzene	0.40	U	1.0	0.40	0.33	ug/L		12/18/23 13:13	1
1,3-Dichloropropane	0.80	U	1.0	0.80	0.38	ug/L		12/18/23 13:13	1
1,4-Dichlorobenzene	0.50	U	1.0	0.50	0.39	ug/L		12/18/23 13:13	1
2,2-Dichloropropane	0.80	U	1.0	0.80	0.38	ug/L		12/18/23 13:13	1

Client Sample ID: TV044-MW25D1223A
Lab Sample ID: 280-185797-9

Date Collected: 12/13/23 13:50
Matrix: Water
Date Received: 12/15/23 10:00

Method: SW846 8260D - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
2-Butanone (MEK)	12	U	15	12	6.0	ug/L		12/18/23 13:13	1
2-Chloroethyl vinyl ether	0.80	U	3.0	0.80	0.44	ug/L		12/18/23 13:13	1
2-Hexanone	4.0	U	5.0	4.0	1.7	ug/L		12/18/23 13:13	1
4-Isopropyltoluene	0.80	U	1.0	0.80	0.43	ug/L		12/18/23 13:13	1
4-Methyl-2-pentanone (MIBK)	3.2	U	5.0	3.2	0.98	ug/L		12/18/23 13:13	1
Acetone	8.0	U M	15	8.0	6.6	ug/L		12/18/23 13:13	1
Acrylonitrile	8.0	U M	20	8.0	4.5	ug/L		12/18/23 13:13	1
Benzene	0.80	U	1.0	0.80	0.31	ug/L		12/18/23 13:13	1
Bromobenzene	0.50	U	1.0	0.50	0.40	ug/L		12/18/23 13:13	1
Bromochloromethane	0.80	U	1.0	0.80	0.40	ug/L		12/18/23 13:13	1
Bromodichloromethane	0.50	U	1.0	0.50	0.39	ug/L		12/18/23 13:13	1
Bromoform	1.8	U	2.0	1.8	1.2	ug/L		12/18/23 13:13	1
Carbon disulfide	0.80	U	2.0	0.80	0.63	ug/L		12/18/23 13:13	1
Carbon tetrachloride	0.80	U	1.0	0.80	0.57	ug/L		12/18/23 13:13	1
Chlorobenzene	0.80	U	1.0	0.80	0.42	ug/L		12/18/23 13:13	1
Chloroethane	1.6	U	4.0	1.6	1.4	ug/L		12/18/23 13:13	1
Chloroform	0.80	U	1.0	0.80	0.36	ug/L		12/18/23 13:13	1
Chloromethane	1.0	U Q	2.0	1.0	0.75	ug/L		12/18/23 13:13	1
cis-1,2-Dichloroethylene	0.40	U	1.0	0.40	0.32	ug/L		12/18/23 13:13	1
cis-1,3-Dichloropropene	1.8	U	2.0	1.8	0.63	ug/L		12/18/23 13:13	1
Cyclohexane	0.80	U	1.0	0.80	0.44	ug/L		12/18/23 13:13	1
Cyclohexanone	64	U M Q	100	64	32	ug/L		12/18/23 13:13	1
Dibromochloromethane	1.8	U	2.0	1.8	0.62	ug/L		12/18/23 13:13	1
Dibromomethane	0.40	U	1.0	0.40	0.34	ug/L		12/18/23 13:13	1
Dichlorodifluoromethane	2.5	U Q	3.0	2.5	0.96	ug/L		12/18/23 13:13	1
Ethylbenzene	0.40	U	1.0	0.40	0.30	ug/L		12/18/23 13:13	1
Hexachlorobutadiene	1.8	U	2.0	1.8	1.2	ug/L		12/18/23 13:13	1
Isopropyl ether	2.0	U	10	2.0	1.1	ug/L		12/18/23 13:13	1
Isopropylbenzene	0.50	U	1.0	0.50	0.36	ug/L		12/18/23 13:13	1
Methyl tert-butyl ether	**83**		5.0	0.80	0.25	ug/L		12/18/23 13:13	1
Methylcyclohexane	0.40	U	1.0	0.40	0.31	ug/L		12/18/23 13:13	1
Methylene Chloride	1.8	U	2.0	1.8	0.94	ug/L		12/18/23 13:13	1
Naphthalene	0.80	U	2.0	0.80	0.63	ug/L		12/18/23 13:13	1
n-Butylbenzene	0.80	U	1.0	0.80	0.48	ug/L		12/18/23 13:13	1
n-Hexane	0.80	U	2.0	0.80	0.16	ug/L		12/18/23 13:13	1
N-Propylbenzene	0.80	U	1.0	0.80	0.53	ug/L		12/18/23 13:13	1
o-Chlorotoluene	0.40	U	1.0	0.40	0.34	ug/L		12/18/23 13:13	1
p-Chlorotoluene	0.80	U	1.0	0.80	0.21	ug/L		12/18/23 13:13	1
sec-Butylbenzene	0.80	U	1.0	0.80	0.45	ug/L		12/18/23 13:13	1
Styrene	0.80	U	1.0	0.80	0.36	ug/L		12/18/23 13:13	1
tert-Butylbenzene	0.80	U	1.0	0.80	0.42	ug/L		12/18/23 13:13	1
Tetrachloroethene	0.80	U	1.0	0.80	0.40	ug/L		12/18/23 13:13	1
Toluene	0.40	U	1.0	0.40	0.32	ug/L		12/18/23 13:13	1
trans-1,2-Dichloroethylene	0.50	U	1.0	0.50	0.37	ug/L		12/18/23 13:13	1
trans-1,3-Dichloropropene	1.8	U	2.0	1.8	0.65	ug/L		12/18/23 13:13	1
Trichloroethene	0.40	U	1.0	0.40	0.30	ug/L		12/18/23 13:13	1
Trichlorofluoromethane	0.80	U	2.0	0.80	0.57	ug/L		12/18/23 13:13	1
Vinyl acetate	2.0	U	3.0	2.0	0.94	ug/L		12/18/23 13:13	1
Vinyl chloride	1.0	U	2.0	1.0	0.51	ug/L		12/18/23 13:13	1

Client Sample ID: TV044-MW25D1223A
Lab Sample ID: 280-185797-9

Date Collected: 12/13/23 13:50
Matrix: Water
Date Received: 12/15/23 10:00

Method: SW846 8260D - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Xylenes, Total	0.37	J	1.0	0.80	0.33	ug/L		12/18/23 13:13	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
1,3-Butadiene TIC	*1.0*	*U*	*ug/L*			*106-99-0*		*12/18/23 13:13*	*1*
4-Ethyltoluene TIC	*1.0*	*U*	*ug/L*			*622-96-8*		*12/18/23 13:13*	*1*
Dicyclopentadiene TIC	*1.0*	*U*	*ug/L*			*77-73-6*		*12/18/23 13:13*	*1*
Propene TIC	*1.0*	*U*	*ug/L*			*115-07-1*		*12/18/23 13:13*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*108*		*81 - 118*		*12/18/23 13:13*	*1*
4-Bromofluorobenzene (Surr)	*90*		*85 - 114*		*12/18/23 13:13*	*1*
Dibromofluoromethane (Surr)	*107*		*80 - 119*		*12/18/23 13:13*	*1*
Toluene-d8 (Surr)	*99*		*89 - 112*		*12/18/23 13:13*	*1*

Method: SW846 6020B - Metals (ICP/MS)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Lead	0.42	J	1.0	0.70	0.23	ug/L		12/20/23 20:48	1

General Chemistry

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Nitrate Nitrite as N (EPA 353.2)	0.16		0.10	0.080	0.044	mg/L		12/28/23 13:20	1
Sulfate (SW846 9056A)	120	D	25	13	5.2	mg/L		12/21/23 00:10	5

Client Sample ID: TV044-MW21223A
Lab Sample ID: 280-185797-10

Date Collected: 12/13/23 14:20
Matrix: Water
Date Received: 12/15/23 10:00

Method: SW846 8260D - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
1,1,1-Trichloroethane	25	U	50	25	20	ug/L		12/18/23 14:40	50
1,1,2,2-Tetrachloroethane	40	U	50	40	11	ug/L		12/18/23 14:40	50
1,1,2-Trichloroethane	40	U	50	40	14	ug/L		12/18/23 14:40	50
1,1-Dichloroethane	40	U	50	40	11	ug/L		12/18/23 14:40	50
1,1-Dichloroethylene	40	U	50	40	12	ug/L		12/18/23 14:40	50
1,1-Dichloropropene	40	U	50	40	21	ug/L		12/18/23 14:40	50
1,2,3-Trichlorobenzene	40	U	100	40	35	ug/L		12/18/23 14:40	50
1,2,3-Trichloropropane	90	U	130	90	43	ug/L		12/18/23 14:40	50
1,2,3-Trimethylbenzene	40	U	100	40	14	ug/L		12/18/23 14:40	50
1,2,4-Trichlorobenzene	40	U	50	40	29	ug/L		12/18/23 14:40	50
1,2,4-Trimethylbenzene	20	U	50	20	7.5	ug/L		12/18/23 14:40	50
1,2-Dibromo-3-Chloropropane	200	U	250	200	88	ug/L		12/18/23 14:40	50
1,2-Dibromoethane	40	U	50	40	20	ug/L		12/18/23 14:40	50
1,2-Dichlorobenzene	25	U	50	25	19	ug/L		12/18/23 14:40	50
1,2-Dichloroethane	40	U	50	40	27	ug/L		12/18/23 14:40	50
1,2-Dichloropropane	40	U	50	40	26	ug/L		12/18/23 14:40	50
1,3,5-Trimethylbenzene	25	U	50	25	18	ug/L		12/18/23 14:40	50
1,3-Dichlorobenzene	20	U	50	20	17	ug/L		12/18/23 14:40	50
1,3-Dichloropropane	40	U	50	40	19	ug/L		12/18/23 14:40	50
1,4-Dichlorobenzene	25	U	50	25	19	ug/L		12/18/23 14:40	50
2,2-Dichloropropane	40	U	50	40	19	ug/L		12/18/23 14:40	50
2-Butanone (MEK)	600	U	750	600	300	ug/L		12/18/23 14:40	50

Client Sample ID: TV044-MW21223A
Lab Sample ID: 280-185797-10

Date Collected: 12/13/23 14:20
Matrix: Water

Date Received: 12/15/23 10:00

Method: SW846 8260D - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
2-Chloroethyl vinyl ether	40	U	150	40	22	ug/L		12/18/23 14:40	50
2-Hexanone	200	U	250	200	85	ug/L		12/18/23 14:40	50
4-Isopropyltoluene	40	U	50	40	21	ug/L		12/18/23 14:40	50
4-Methyl-2-pentanone (MIBK)	160	U	250	160	49	ug/L		12/18/23 14:40	50
Acetone	400	U	750	400	330	ug/L		12/18/23 14:40	50
Acrylonitrile	400	U M	1000	400	220	ug/L		12/18/23 14:40	50
Benzene	40	U	50	40	15	ug/L		12/18/23 14:40	50
Bromobenzene	25	U	50	25	20	ug/L		12/18/23 14:40	50
Bromochloromethane	40	U	50	40	20	ug/L		12/18/23 14:40	50
Bromodichloromethane	25	U	50	25	19	ug/L		12/18/23 14:40	50
Bromoform	90	U	100	90	61	ug/L		12/18/23 14:40	50
Carbon disulfide	40	U	100	40	32	ug/L		12/18/23 14:40	50
Carbon tetrachloride	40	U	50	40	28	ug/L		12/18/23 14:40	50
Chlorobenzene	40	U	50	40	21	ug/L		12/18/23 14:40	50
Chloroethane	80	U	200	80	69	ug/L		12/18/23 14:40	50
Chloroform	40	U	50	40	18	ug/L		12/18/23 14:40	50
Chloromethane	50	U Q	100	50	38	ug/L		12/18/23 14:40	50
cis-1,2-Dichloroethylene	20	U	50	20	16	ug/L		12/18/23 14:40	50
cis-1,3-Dichloropropene	90	U	100	90	31	ug/L		12/18/23 14:40	50
Cyclohexane	40	U	50	40	22	ug/L		12/18/23 14:40	50
Cyclohexanone	3200	U Q	5000	3200	1600	ug/L		12/18/23 14:40	50
Dibromochloromethane	90	U	100	90	31	ug/L		12/18/23 14:40	50
Dibromomethane	20	U	50	20	17	ug/L		12/18/23 14:40	50
Dichlorodifluoromethane	130	U Q	150	130	48	ug/L		12/18/23 14:40	50
Ethylbenzene	20	U	50	20	15	ug/L		12/18/23 14:40	50
Hexachlorobutadiene	90	U	100	90	59	ug/L		12/18/23 14:40	50
Isopropyl ether	100	U	500	100	55	ug/L		12/18/23 14:40	50
Isopropylbenzene	25	U	50	25	18	ug/L		12/18/23 14:40	50
Methyl tert-butyl ether	**2200**	**D**	250	40	13	ug/L		12/18/23 14:40	50
Methylcyclohexane	20	U	50	20	16	ug/L		12/18/23 14:40	50
Methylene Chloride	90	U	100	90	47	ug/L		12/18/23 14:40	50
Naphthalene	40	U	100	40	32	ug/L		12/18/23 14:40	50
n-Butylbenzene	40	U	50	40	24	ug/L		12/18/23 14:40	50
n-Hexane	40	U	100	40	8.2	ug/L		12/18/23 14:40	50
N-Propylbenzene	40	U	50	40	27	ug/L		12/18/23 14:40	50
o-Chlorotoluene	20	U	50	20	17	ug/L		12/18/23 14:40	50
p-Chlorotoluene	40	U	50	40	11	ug/L		12/18/23 14:40	50
sec-Butylbenzene	40	U	50	40	22	ug/L		12/18/23 14:40	50
Styrene	40	U	50	40	18	ug/L		12/18/23 14:40	50
tert-Butylbenzene	40	U	50	40	21	ug/L		12/18/23 14:40	50
Tetrachloroethene	40	U	50	40	20	ug/L		12/18/23 14:40	50
Toluene	20	U	50	20	16	ug/L		12/18/23 14:40	50
trans-1,2-Dichloroethylene	25	U	50	25	18	ug/L		12/18/23 14:40	50
trans-1,3-Dichloropropene	90	U	100	90	32	ug/L		12/18/23 14:40	50
Trichloroethene	20	U	50	20	15	ug/L		12/18/23 14:40	50
Trichlorofluoromethane	40	U	100	40	28	ug/L		12/18/23 14:40	50
Vinyl acetate	100	U	150	100	47	ug/L		12/18/23 14:40	50
Vinyl chloride	50	U	100	50	25	ug/L		12/18/23 14:40	50
Xylenes, Total	40	U	50	40	17	ug/L		12/18/23 14:40	50

Client Sample ID: TV044-MW21223A
Lab Sample ID: 280-185797-10

Date Collected: 12/13/23 14:20
Matrix: Water
Date Received: 12/15/23 10:00

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
1,3-Butadiene TIC	*50*	*U*	*ug/L*			*106-99-0*		*12/18/23 14:40*	*50*
4-Ethyltoluene TIC	*50*	*U*	*ug/L*			*622-96-8*		*12/18/23 14:40*	*50*
Dicyclopentadiene TIC	*50*	*U*	*ug/L*			*77-73-6*		*12/18/23 14:40*	*50*
Propene TIC	*50*	*U*	*ug/L*			*115-07-1*		*12/18/23 14:40*	*50*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*106*		*81 - 118*		*12/18/23 14:40*	*50*
4-Bromofluorobenzene (Surr)	*91*		*85 - 114*		*12/18/23 14:40*	*50*
Dibromofluoromethane (Surr)	*107*		*80 - 119*		*12/18/23 14:40*	*50*
Toluene-d8 (Surr)	*100*		*89 - 112*		*12/18/23 14:40*	*50*

Method: SW846 6020B - Metals (ICP/MS)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Lead	**1.2**		1.0	0.70	0.23	ug/L		12/20/23 20:51	1

General Chemistry

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Nitrate Nitrite as N (EPA 353.2)	0.080	U	0.10	0.080	0.044	mg/L		12/28/23 13:30	1
Sulfate (SW846 9056A)	**290**	**D**	25	13	5.2	mg/L		12/21/23 00:21	5

Client Sample ID: TV044-MW25I1223A
Lab Sample ID: 280-185797-11

Date Collected: 12/13/23 14:40
Matrix: Water
Date Received: 12/15/23 10:00

Method: SW846 8260D - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
1,1,1-Trichloroethane	0.50	U	1.0	0.50	0.39	ug/L		12/18/23 13:35	1
1,1,2,2-Tetrachloroethane	0.80	U	1.0	0.80	0.21	ug/L		12/18/23 13:35	1
1,1,2-Trichloroethane	0.80	U	1.0	0.80	0.27	ug/L		12/18/23 13:35	1
1,1-Dichloroethane	0.80	U	1.0	0.80	0.22	ug/L		12/18/23 13:35	1
1,1-Dichloroethylene	0.80	U	1.0	0.80	0.23	ug/L		12/18/23 13:35	1
1,1-Dichloropropene	0.80	U	1.0	0.80	0.42	ug/L		12/18/23 13:35	1
1,2,3-Trichlorobenzene	0.80	U	2.0	0.80	0.70	ug/L		12/18/23 13:35	1
1,2,3-Trichloropropane	1.8	U	2.5	1.8	0.86	ug/L		12/18/23 13:35	1
1,2,3-Trimethylbenzene	0.80	U	2.0	0.80	0.27	ug/L		12/18/23 13:35	1
1,2,4-Trichlorobenzene	0.80	U	1.0	0.80	0.58	ug/L		12/18/23 13:35	1
1,2,4-Trimethylbenzene	0.40	U	1.0	0.40	0.15	ug/L		12/18/23 13:35	1
1,2-Dibromo-3-Chloropropane	4.0	U	5.0	4.0	1.8	ug/L		12/18/23 13:35	1
1,2-Dibromoethane	0.80	U	1.0	0.80	0.40	ug/L		12/18/23 13:35	1
1,2-Dichlorobenzene	0.50	U	1.0	0.50	0.37	ug/L		12/18/23 13:35	1
1,2-Dichloroethane	0.80	U	1.0	0.80	0.54	ug/L		12/18/23 13:35	1
1,2-Dichloropropane	0.80	U	1.0	0.80	0.52	ug/L		12/18/23 13:35	1
1,3,5-Trimethylbenzene	0.50	U	1.0	0.50	0.37	ug/L		12/18/23 13:35	1
1,3-Dichlorobenzene	0.40	U	1.0	0.40	0.33	ug/L		12/18/23 13:35	1
1,3-Dichloropropane	0.80	U	1.0	0.80	0.38	ug/L		12/18/23 13:35	1
1,4-Dichlorobenzene	0.50	U	1.0	0.50	0.39	ug/L		12/18/23 13:35	1
2,2-Dichloropropane	0.80	U	1.0	0.80	0.38	ug/L		12/18/23 13:35	1
2-Butanone (MEK)	12	U	15	12	6.0	ug/L		12/18/23 13:35	1
2-Chloroethyl vinyl ether	0.80	U	3.0	0.80	0.44	ug/L		12/18/23 13:35	1
2-Hexanone	4.0	U	5.0	4.0	1.7	ug/L		12/18/23 13:35	1
4-Isopropyltoluene	0.80	U	1.0	0.80	0.43	ug/L		12/18/23 13:35	1

Client Sample ID: TV044-MW25I1223A
Lab Sample ID: 280-185797-11

Date Collected: 12/13/23 14:40
Matrix: Water
Date Received: 12/15/23 10:00

Method: SW846 8260D - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
4-Methyl-2-pentanone (MIBK)	3.2	U	5.0	3.2	0.98	ug/L		12/18/23 13:35	1
Acetone	8.0	U	15	8.0	6.6	ug/L		12/18/23 13:35	1
Acrylonitrile	8.0	U M	20	8.0	4.5	ug/L		12/18/23 13:35	1
Benzene	0.80	U	1.0	0.80	0.31	ug/L		12/18/23 13:35	1
Bromobenzene	0.50	U	1.0	0.50	0.40	ug/L		12/18/23 13:35	1
Bromochloromethane	0.80	U	1.0	0.80	0.40	ug/L		12/18/23 13:35	1
Bromodichloromethane	0.50	U	1.0	0.50	0.39	ug/L		12/18/23 13:35	1
Bromoform	1.8	U	2.0	1.8	1.2	ug/L		12/18/23 13:35	1
Carbon disulfide	0.80	U	2.0	0.80	0.63	ug/L		12/18/23 13:35	1
Carbon tetrachloride	0.80	U	1.0	0.80	0.57	ug/L		12/18/23 13:35	1
Chlorobenzene	0.80	U	1.0	0.80	0.42	ug/L		12/18/23 13:35	1
Chloroethane	1.6	U	4.0	1.6	1.4	ug/L		12/18/23 13:35	1
Chloroform	0.80	U	1.0	0.80	0.36	ug/L		12/18/23 13:35	1
Chloromethane	1.0	U Q	2.0	1.0	0.75	ug/L		12/18/23 13:35	1
cis-1,2-Dichloroethylene	0.40	U	1.0	0.40	0.32	ug/L		12/18/23 13:35	1
cis-1,3-Dichloropropene	1.8	U	2.0	1.8	0.63	ug/L		12/18/23 13:35	1
Cyclohexane	0.80	U	1.0	0.80	0.44	ug/L		12/18/23 13:35	1
Cyclohexanone	64	U M Q	100	64	32	ug/L		12/18/23 13:35	1
Dibromochloromethane	1.8	U	2.0	1.8	0.62	ug/L		12/18/23 13:35	1
Dibromomethane	0.40	U	1.0	0.40	0.34	ug/L		12/18/23 13:35	1
Dichlorodifluoromethane	2.5	U Q	3.0	2.5	0.96	ug/L		12/18/23 13:35	1
Ethylbenzene	0.40	U	1.0	0.40	0.30	ug/L		12/18/23 13:35	1
Hexachlorobutadiene	1.8	U	2.0	1.8	1.2	ug/L		12/18/23 13:35	1
Isopropyl ether	2.0	U	10	2.0	1.1	ug/L		12/18/23 13:35	1
Isopropylbenzene	0.50	U	1.0	0.50	0.36	ug/L		12/18/23 13:35	1
Methyl tert-butyl ether	**79**		5.0	0.80	0.25	ug/L		12/18/23 13:35	1
Methylcyclohexane	0.40	U	1.0	0.40	0.31	ug/L		12/18/23 13:35	1
Methylene Chloride	1.8	U	2.0	1.8	0.94	ug/L		12/18/23 13:35	1
Naphthalene	0.80	U	2.0	0.80	0.63	ug/L		12/18/23 13:35	1
n-Butylbenzene	0.80	U	1.0	0.80	0.48	ug/L		12/18/23 13:35	1
n-Hexane	0.80	U	2.0	0.80	0.16	ug/L		12/18/23 13:35	1
N-Propylbenzene	0.80	U	1.0	0.80	0.53	ug/L		12/18/23 13:35	1
o-Chlorotoluene	0.40	U	1.0	0.40	0.34	ug/L		12/18/23 13:35	1
p-Chlorotoluene	0.80	U	1.0	0.80	0.21	ug/L		12/18/23 13:35	1
sec-Butylbenzene	0.80	U	1.0	0.80	0.45	ug/L		12/18/23 13:35	1
Styrene	0.80	U	1.0	0.80	0.36	ug/L		12/18/23 13:35	1
tert-Butylbenzene	0.80	U	1.0	0.80	0.42	ug/L		12/18/23 13:35	1
Tetrachloroethene	0.80	U	1.0	0.80	0.40	ug/L		12/18/23 13:35	1
Toluene	0.40	U	1.0	0.40	0.32	ug/L		12/18/23 13:35	1
trans-1,2-Dichloroethylene	0.50	U	1.0	0.50	0.37	ug/L		12/18/23 13:35	1
trans-1,3-Dichloropropene	1.8	U	2.0	1.8	0.65	ug/L		12/18/23 13:35	1
Trichloroethene	0.40	U	1.0	0.40	0.30	ug/L		12/18/23 13:35	1
Trichlorofluoromethane	0.80	U	2.0	0.80	0.57	ug/L		12/18/23 13:35	1
Vinyl acetate	2.0	U	3.0	2.0	0.94	ug/L		12/18/23 13:35	1
Vinyl chloride	1.0	U	2.0	1.0	0.51	ug/L		12/18/23 13:35	1
Xylenes, Total	0.80	U	1.0	0.80	0.33	ug/L		12/18/23 13:35	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
1,3-Butadiene TIC	*1.0*	*U*	*ug/L*			*106-99-0*		*12/18/23 13:35*	*1*
4-Ethyltoluene TIC	*1.0*	*U*	*ug/L*			*622-96-8*		*12/18/23 13:35*	*1*

Client Sample ID: TV044-MW25I1223A
Lab Sample ID: 280-185797-11

Date Collected: 12/13/23 14:40
Matrix: Water
Date Received: 12/15/23 10:00

Method: SW846 8260D - Volatile Organic Compounds (GC/MS) (Continued)

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Dicyclopentadiene TIC	*1.0*	*U*	*ug/L*			*77-73-6*		*12/18/23 13:35*	*1*
Propene TIC	*1.0*	*U*	*ug/L*			*115-07-1*		*12/18/23 13:35*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*110*		*81 - 118*		*12/18/23 13:35*	*1*
4-Bromofluorobenzene (Surr)	*92*		*85 - 114*		*12/18/23 13:35*	*1*
Dibromofluoromethane (Surr)	*109*		*80 - 119*		*12/18/23 13:35*	*1*
Toluene-d8 (Surr)	*100*		*89 - 112*		*12/18/23 13:35*	*1*

Method: SW846 6020B - Metals (ICP/MS)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Lead	0.70	U	1.0	0.70	0.23	ug/L		12/20/23 20:55	1

General Chemistry

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Nitrate Nitrite as N (EPA 353.2)	0.080	U	0.10	0.080	0.044	mg/L		12/28/23 13:31	1
Sulfate (SW846 9056A)	**97**	**D**	25	13	5.2	mg/L		12/21/23 00:32	5

Default Detection Limits

Client: FPM Remediations Inc
Job ID: 280-185797-1
Project/Site: Luke AFB Waterdog TU044, AZ

Method: 8260D - Volatile Organic Compounds (GC/MS)

Analyte	LOQ	DL	Units
1,1,1-Trichloroethane	1.0	0.39	ug/L
1,1,2,2-Tetrachloroethane	1.0	0.21	ug/L
1,1,2-Trichloroethane	1.0	0.27	ug/L
1,1-Dichloroethane	1.0	0.22	ug/L
1,1-Dichloroethylene	1.0	0.23	ug/L
1,1-Dichloropropene	1.0	0.42	ug/L
1,2,3-Trichlorobenzene	2.0	0.70	ug/L
1,2,3-Trichloropropane	2.5	0.86	ug/L
1,2,3-Trimethylbenzene	2.0	0.27	ug/L
1,2,4-Trichlorobenzene	1.0	0.58	ug/L
1,2,4-Trimethylbenzene	1.0	0.15	ug/L
1,2-Dibromo-3-Chloropropane	5.0	1.8	ug/L
1,2-Dibromoethane	1.0	0.40	ug/L
1,2-Dichlorobenzene	1.0	0.37	ug/L
1,2-Dichloroethane	1.0	0.54	ug/L
1,2-Dichloropropane	1.0	0.52	ug/L
1,3,5-Trimethylbenzene	1.0	0.37	ug/L
1,3-Dichlorobenzene	1.0	0.33	ug/L
1,3-Dichloropropane	1.0	0.38	ug/L
1,4-Dichlorobenzene	1.0	0.39	ug/L
2,2-Dichloropropane	1.0	0.38	ug/L
2-Butanone (MEK)	15	6.0	ug/L
2-Chloroethyl vinyl ether	3.0	0.44	ug/L
2-Hexanone	5.0	1.7	ug/L
4-Isopropyltoluene	1.0	0.43	ug/L
4-Methyl-2-pentanone (MIBK)	5.0	0.98	ug/L
Acetone	15	6.6	ug/L
Acrylonitrile	20	4.5	ug/L
Benzene	1.0	0.31	ug/L
Bromobenzene	1.0	0.40	ug/L
Bromochloromethane	1.0	0.40	ug/L
Bromodichloromethane	1.0	0.39	ug/L
Bromoform	2.0	1.2	ug/L
Carbon disulfide	2.0	0.63	ug/L
Carbon tetrachloride	1.0	0.57	ug/L
Chlorobenzene	1.0	0.42	ug/L
Chloroethane	4.0	1.4	ug/L
Chloroform	1.0	0.36	ug/L
Chloromethane	2.0	0.75	ug/L
cis-1,2-Dichloroethylene	1.0	0.32	ug/L
cis-1,3-Dichloropropene	2.0	0.63	ug/L
Cyclohexane	1.0	0.44	ug/L
Cyclohexanone	100	32	ug/L
Dibromochloromethane	2.0	0.62	ug/L
Dibromomethane	1.0	0.34	ug/L
Dichlorodifluoromethane	3.0	0.96	ug/L
Ethylbenzene	1.0	0.30	ug/L
Hexachlorobutadiene	2.0	1.2	ug/L
Isopropyl ether	10	1.1	ug/L
Isopropylbenzene	1.0	0.36	ug/L
Methyl tert-butyl ether	5.0	0.25	ug/L
Methylcyclohexane	1.0	0.31	ug/L
Methylene Chloride	2.0	0.94	ug/L

Method: 8260D - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	LOQ	DL	Units
Naphthalene	2.0	0.63	ug/L
n-Butylbenzene	1.0	0.48	ug/L
n-Hexane	2.0	0.16	ug/L
N-Propylbenzene	1.0	0.53	ug/L
o-Chlorotoluene	1.0	0.34	ug/L
p-Chlorotoluene	1.0	0.21	ug/L
sec-Butylbenzene	1.0	0.45	ug/L
Styrene	1.0	0.36	ug/L
tert-Butylbenzene	1.0	0.42	ug/L
Tetrachloroethene	1.0	0.40	ug/L
Toluene	1.0	0.32	ug/L
trans-1,2-Dichloroethylene	1.0	0.37	ug/L
trans-1,3-Dichloropropene	2.0	0.65	ug/L
Trichloroethene	1.0	0.30	ug/L
Trichlorofluoromethane	2.0	0.57	ug/L
Vinyl acetate	3.0	0.94	ug/L
Vinyl chloride	2.0	0.51	ug/L
Xylenes, Total	1.0	0.33	ug/L

Method: 6020B - Metals (ICP/MS)

Prep: 3020A

Analyte	LOQ	DL	Units
Lead	1.0	0.23	ug/L

General Chemistry

Analyte	LOQ	DL	Units
Nitrate Nitrite as N	0.10	0.044	mg/L
Sulfate	5.0	1.0	mg/L

Surrogate Summary

Client: FPM Remediations Inc
Job ID: 280-185797-1
Project/Site: Luke AFB Waterdog TU044, AZ

Method: 8260D - Volatile Organic Compounds (GC/MS)

Matrix: Water
Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)			
		DCA	BFB	DBFM	TOL
Lab Sample ID	Client Sample ID	(81-118)	(85-114)	(80-119)	(89-112)
280-185797-1	TB01	107	91	107	97
280-185797-2	TV044-MW24D1223A	104	91	107	98
280-185797-3	TV044-MW24I1223A	107	91	107	100
280-185797-4	TV044-MW21M1223A	101	90	106	99
280-185797-5	TV044-MW21D1223A	108	109 Q	112	110
280-185797-6	TV044-MW21D1223C	110	114	110	111
280-185797-7	TV044-MW23S1223A	121 Q	122 Q	123 Q	130 Q
280-185797-8	TV044-MW31223A	107	109	109	103
280-185797-9	TV044-MW25D1223A	108	90	107	99
280-185797-10	TV044-MW21223A	106	91	107	100
280-185797-11	TV044-MW25I1223A	110	92	109	100
LCS 280-637616/4	Lab Control Sample	101	90	102	100
LCS 280-637616/6	Lab Control Sample	104	92	104	98
LCSD 280-637616/5	Lab Control Sample Dup	103	93	104	98
LCSD 280-637616/7	Lab Control Sample Dup	104	92	104	97
MB 280-637616/9	Method Blank	104	91	106	97

Surrogate Legend

DCA = 1,2-Dichloroethane-d4 (Surr)
BFB = 4-Bromofluorobenzene (Surr)
DBFM = Dibromofluoromethane (Surr)
TOL = Toluene-d8 (Surr)

Method: 8260D - Volatile Organic Compounds (GC/MS)

Lab Sample ID: MB 280-637616/9
Matrix: Water
Analysis Batch: 637616

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
1,1,1-Trichloroethane	0.50	U	1.0	0.50	0.39	ug/L		12/18/23 10:20	1
1,1,2,2-Tetrachloroethane	0.80	U	1.0	0.80	0.21	ug/L		12/18/23 10:20	1
1,1,2-Trichloroethane	0.80	U	1.0	0.80	0.27	ug/L		12/18/23 10:20	1
1,1-Dichloroethane	0.80	U	1.0	0.80	0.22	ug/L		12/18/23 10:20	1
1,1-Dichloroethylene	0.80	U	1.0	0.80	0.23	ug/L		12/18/23 10:20	1
1,1-Dichloropropene	0.80	U	1.0	0.80	0.42	ug/L		12/18/23 10:20	1
1,2,3-Trichlorobenzene	0.80	U	2.0	0.80	0.70	ug/L		12/18/23 10:20	1
1,2,3-Trichloropropane	1.8	U	2.5	1.8	0.86	ug/L		12/18/23 10:20	1
1,2,3-Trimethylbenzene	0.80	U	2.0	0.80	0.27	ug/L		12/18/23 10:20	1
1,2,4-Trichlorobenzene	0.80	U	1.0	0.80	0.58	ug/L		12/18/23 10:20	1
1,2,4-Trimethylbenzene	0.40	U	1.0	0.40	0.15	ug/L		12/18/23 10:20	1
1,2-Dibromo-3-Chloropropane	4.0	U	5.0	4.0	1.8	ug/L		12/18/23 10:20	1
1,2-Dibromoethane	0.80	U	1.0	0.80	0.40	ug/L		12/18/23 10:20	1
1,2-Dichlorobenzene	0.50	U	1.0	0.50	0.37	ug/L		12/18/23 10:20	1
1,2-Dichloroethane	0.80	U	1.0	0.80	0.54	ug/L		12/18/23 10:20	1
1,2-Dichloropropane	0.80	U	1.0	0.80	0.52	ug/L		12/18/23 10:20	1
1,3,5-Trimethylbenzene	0.50	U	1.0	0.50	0.37	ug/L		12/18/23 10:20	1
1,3-Dichlorobenzene	0.40	U	1.0	0.40	0.33	ug/L		12/18/23 10:20	1
1,3-Dichloropropane	0.80	U	1.0	0.80	0.38	ug/L		12/18/23 10:20	1
1,4-Dichlorobenzene	0.50	U	1.0	0.50	0.39	ug/L		12/18/23 10:20	1
2,2-Dichloropropane	0.80	U	1.0	0.80	0.38	ug/L		12/18/23 10:20	1
2-Butanone (MEK)	12	U	15	12	6.0	ug/L		12/18/23 10:20	1
2-Chloroethyl vinyl ether	0.80	U	3.0	0.80	0.44	ug/L		12/18/23 10:20	1
2-Hexanone	4.0	U	5.0	4.0	1.7	ug/L		12/18/23 10:20	1
4-Isopropyltoluene	0.80	U	1.0	0.80	0.43	ug/L		12/18/23 10:20	1
4-Methyl-2-pentanone (MIBK)	3.2	U	5.0	3.2	0.98	ug/L		12/18/23 10:20	1
Acetone	8.0	U M	15	8.0	6.6	ug/L		12/18/23 10:20	1
Acrylonitrile	8.0	U	20	8.0	4.5	ug/L		12/18/23 10:20	1
Benzene	0.80	U	1.0	0.80	0.31	ug/L		12/18/23 10:20	1
Bromobenzene	0.50	U	1.0	0.50	0.40	ug/L		12/18/23 10:20	1
Bromochloromethane	0.80	U	1.0	0.80	0.40	ug/L		12/18/23 10:20	1
Bromodichloromethane	0.50	U	1.0	0.50	0.39	ug/L		12/18/23 10:20	1
Bromoform	1.8	U	2.0	1.8	1.2	ug/L		12/18/23 10:20	1
Carbon disulfide	0.80	U	2.0	0.80	0.63	ug/L		12/18/23 10:20	1
Carbon tetrachloride	0.80	U	1.0	0.80	0.57	ug/L		12/18/23 10:20	1
Chlorobenzene	0.80	U	1.0	0.80	0.42	ug/L		12/18/23 10:20	1
Chloroethane	1.6	U	4.0	1.6	1.4	ug/L		12/18/23 10:20	1
Chloroform	0.80	U	1.0	0.80	0.36	ug/L		12/18/23 10:20	1
Chloromethane	1.0	U	2.0	1.0	0.75	ug/L		12/18/23 10:20	1
cis-1,2-Dichloroethylene	0.40	U	1.0	0.40	0.32	ug/L		12/18/23 10:20	1
cis-1,3-Dichloropropene	1.8	U	2.0	1.8	0.63	ug/L		12/18/23 10:20	1
Cyclohexane	0.80	U	1.0	0.80	0.44	ug/L		12/18/23 10:20	1
Cyclohexanone	64	U M	100	64	32	ug/L		12/18/23 10:20	1
Dibromochloromethane	1.8	U	2.0	1.8	0.62	ug/L		12/18/23 10:20	1
Dibromomethane	0.40	U	1.0	0.40	0.34	ug/L		12/18/23 10:20	1
Dichlorodifluoromethane	2.5	U	3.0	2.5	0.96	ug/L		12/18/23 10:20	1
Ethylbenzene	0.40	U	1.0	0.40	0.30	ug/L		12/18/23 10:20	1
Hexachlorobutadiene	1.8	U	2.0	1.8	1.2	ug/L		12/18/23 10:20	1

Method: 8260D - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 280-637616/9
Matrix: Water
Analysis Batch: 637616

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Isopropyl ether	2.0	U	10	2.0	1.1	ug/L		12/18/23 10:20	1
Isopropylbenzene	0.50	U	1.0	0.50	0.36	ug/L		12/18/23 10:20	1
Methyl tert-butyl ether	0.80	U	5.0	0.80	0.25	ug/L		12/18/23 10:20	1
Methylcyclohexane	0.40	U	1.0	0.40	0.31	ug/L		12/18/23 10:20	1
Methylene Chloride	1.8	U	2.0	1.8	0.94	ug/L		12/18/23 10:20	1
Naphthalene	0.80	U	2.0	0.80	0.63	ug/L		12/18/23 10:20	1
n-Butylbenzene	0.80	U	1.0	0.80	0.48	ug/L		12/18/23 10:20	1
n-Hexane	0.80	U	2.0	0.80	0.16	ug/L		12/18/23 10:20	1
N-Propylbenzene	0.80	U	1.0	0.80	0.53	ug/L		12/18/23 10:20	1
o-Chlorotoluene	0.40	U	1.0	0.40	0.34	ug/L		12/18/23 10:20	1
p-Chlorotoluene	0.80	U	1.0	0.80	0.21	ug/L		12/18/23 10:20	1
sec-Butylbenzene	0.80	U	1.0	0.80	0.45	ug/L		12/18/23 10:20	1
Styrene	0.80	U	1.0	0.80	0.36	ug/L		12/18/23 10:20	1
tert-Butylbenzene	0.80	U	1.0	0.80	0.42	ug/L		12/18/23 10:20	1
Tetrachloroethene	0.80	U	1.0	0.80	0.40	ug/L		12/18/23 10:20	1
Toluene	0.40	U	1.0	0.40	0.32	ug/L		12/18/23 10:20	1
trans-1,2-Dichloroethylene	0.50	U	1.0	0.50	0.37	ug/L		12/18/23 10:20	1
trans-1,3-Dichloropropene	1.8	U	2.0	1.8	0.65	ug/L		12/18/23 10:20	1
Trichloroethene	0.40	U	1.0	0.40	0.30	ug/L		12/18/23 10:20	1
Trichlorofluoromethane	0.80	U	2.0	0.80	0.57	ug/L		12/18/23 10:20	1
Vinyl acetate	2.0	U	3.0	2.0	0.94	ug/L		12/18/23 10:20	1
Vinyl chloride	1.0	U	2.0	1.0	0.51	ug/L		12/18/23 10:20	1
Xylenes, Total	0.80	U	1.0	0.80	0.33	ug/L		12/18/23 10:20	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*104*		*81 - 118*		*12/18/23 10:20*	*1*
4-Bromofluorobenzene (Surr)	*91*		*85 - 114*		*12/18/23 10:20*	*1*
Dibromofluoromethane (Surr)	*106*		*80 - 119*		*12/18/23 10:20*	*1*
Toluene-d8 (Surr)	*97*		*89 - 112*		*12/18/23 10:20*	*1*

Lab Sample ID: LCS 280-637616/4
Matrix: Water
Analysis Batch: 637616

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
1,1,1-Trichloroethane	50.0	53.6		ug/L		107	74 - 131
1,1,2,2-Tetrachloroethane	50.0	45.8		ug/L		92	71 - 121
1,1,2-Trichloroethane	50.0	50.9		ug/L		102	80 - 119
1,1-Dichloroethane	50.0	47.8		ug/L		96	77 - 125
1,1-Dichloroethylene	50.0	49.2		ug/L		98	71 - 131
1,1-Dichloropropene	50.0	51.7		ug/L		103	79 - 125
1,2,3-Trichlorobenzene	50.0	48.5		ug/L		97	69 - 129
1,2,3-Trichloropropane	50.0	49.0		ug/L		98	73 - 122
1,2,4-Trichlorobenzene	50.0	50.8		ug/L		102	69 - 130
1,2,4-Trimethylbenzene	50.0	51.1		ug/L		102	76 - 124
1,2-Dibromo-3-Chloropropane	50.0	51.5		ug/L		103	62 - 128
1,2-Dibromoethane	50.0	48.4		ug/L		97	77 - 121
1,2-Dichlorobenzene	50.0	47.7		ug/L		95	80 - 119

Method: 8260D - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 280-637616/4
Matrix: Water
Analysis Batch: 637616

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
1,2-Dichloroethane	50.0	46.7		ug/L		93	73 - 128
1,2-Dichloropropane	50.0	48.5		ug/L		97	78 - 122
1,3,5-Trimethylbenzene	50.0	50.3		ug/L		101	75 - 124
1,3-Dichlorobenzene	50.0	50.7		ug/L		101	80 - 119
1,3-Dichloropropane	50.0	47.6		ug/L		95	80 - 119
1,4-Dichlorobenzene	50.0	47.6		ug/L		95	79 - 118
2,2-Dichloropropane	50.0	53.0		ug/L		106	60 - 139
2-Butanone (MEK)	200	183		ug/L		92	56 - 143
2-Chloroethyl vinyl ether	50.0	48.8		ug/L		98	51 - 139
2-Hexanone	200	186		ug/L		93	57 - 139
4-Isopropyltoluene	50.0	51.1		ug/L		102	77 - 127
4-Methyl-2-pentanone (MIBK)	200	201		ug/L		101	67 - 130
Acetone	200	173		ug/L		87	39 - 160
Acrylonitrile	500	458		ug/L		92	63 - 135
Benzene	50.0	49.7		ug/L		99	79 - 120
Bromobenzene	50.0	49.2		ug/L		98	80 - 120
Bromochloromethane	50.0	54.8		ug/L		110	78 - 123
Bromodichloromethane	50.0	53.2		ug/L		106	79 - 125
Bromoform	50.0	54.9		ug/L		110	66 - 130
Carbon disulfide	50.0	45.4		ug/L		91	64 - 133
Carbon tetrachloride	50.0	57.0		ug/L		114	72 - 136
Chlorobenzene	50.0	49.2		ug/L		98	82 - 118
Chloroethane	50.0	42.8		ug/L		86	60 - 138
Chloroform	50.0	49.0		ug/L		98	79 - 124
Chloromethane	50.0	38.5		ug/L		77	50 - 139
cis-1,2-Dichloroethylene	50.0	48.7		ug/L		97	78 - 123
cis-1,3-Dichloropropene	50.0	48.5		ug/L		97	75 - 124
Cyclohexane	50.0	50.2		ug/L		100	71 - 130
Cyclohexanone	1500	1900		ug/L		127	50 - 150
Dibromochloromethane	50.0	53.1		ug/L		106	74 - 126
Dibromomethane	50.0	47.7		ug/L		95	79 - 123
Dichlorodifluoromethane	50.0	35.4		ug/L		71	32 - 152
Ethylbenzene	50.0	51.7		ug/L		103	79 - 121
Hexachlorobutadiene	50.0	59.6		ug/L		119	66 - 134
Isopropylbenzene	50.0	49.6		ug/L		99	72 - 131
Methyl tert-butyl ether	50.0	50.8		ug/L		102	71 - 124
Methylcyclohexane	50.0	53.3		ug/L		107	72 - 132
Methylene Chloride	50.0	46.4		ug/L		93	74 - 124
Naphthalene	50.0	44.9		ug/L		90	61 - 128
n-Butylbenzene	50.0	50.9		ug/L		102	75 - 128
n-Hexane	50.0	45.4		ug/L		91	48 - 143
N-Propylbenzene	50.0	51.2		ug/L		102	76 - 126
o-Chlorotoluene	50.0	48.4		ug/L		97	79 - 122
p-Chlorotoluene	50.0	48.7		ug/L		97	78 - 122
sec-Butylbenzene	50.0	51.2		ug/L		102	77 - 126
Styrene	50.0	51.0		ug/L		102	78 - 123
tert-Butylbenzene	50.0	50.8		ug/L		102	78 - 124
Tetrachloroethene	50.0	52.1		ug/L		104	74 - 129
Toluene	50.0	50.4		ug/L		101	80 - 121

Method: 8260D - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 280-637616/4
Matrix: Water
Analysis Batch: 637616

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
trans-1,2-Dichloroethylene	50.0	50.2		ug/L		100	75 - 124
trans-1,3-Dichloropropene	50.0	52.7		ug/L		105	73 - 127
Trichloroethene	50.0	48.7		ug/L		97	79 - 123
Trichlorofluoromethane	50.0	46.1		ug/L		92	65 - 141
Vinyl acetate	100	107		ug/L		107	54 - 146
Vinyl chloride	50.0	42.8		ug/L		86	58 - 137
Xylenes, Total	100	99.6		ug/L		100	79 - 121

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*101*		*81 - 118*
4-Bromofluorobenzene (Surr)	*90*		*85 - 114*
Dibromofluoromethane (Surr)	*102*		*80 - 119*
Toluene-d8 (Surr)	*100*		*89 - 112*

Lab Sample ID: LCS 280-637616/6
Matrix: Water
Analysis Batch: 637616

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
1,2,3-Trimethylbenzene	25.0	23.5		ug/L		94	82 - 120
Isopropyl ether	25.0	24.0		ug/L		96	67 - 128

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*104*		*81 - 118*
4-Bromofluorobenzene (Surr)	*92*		*85 - 114*
Dibromofluoromethane (Surr)	*104*		*80 - 119*
Toluene-d8 (Surr)	*98*		*89 - 112*

Lab Sample ID: LCSD 280-637616/5
Matrix: Water
Analysis Batch: 637616

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
1,1,1-Trichloroethane	50.0	53.6		ug/L		107	74 - 131	0	20
1,1,2,2-Tetrachloroethane	50.0	48.1		ug/L		96	71 - 121	5	20
1,1,2-Trichloroethane	50.0	53.0		ug/L		106	80 - 119	4	20
1,1-Dichloroethane	50.0	48.9		ug/L		98	77 - 125	2	20
1,1-Dichloroethylene	50.0	48.4		ug/L		97	71 - 131	2	20
1,1-Dichloropropene	50.0	50.3		ug/L		101	79 - 125	3	20
1,2,3-Trichlorobenzene	50.0	51.9		ug/L		104	69 - 129	7	20
1,2,3-Trichloropropane	50.0	51.2		ug/L		102	73 - 122	4	20
1,2,4-Trichlorobenzene	50.0	52.1		ug/L		104	69 - 130	2	20
1,2,4-Trimethylbenzene	50.0	52.5		ug/L		105	76 - 124	3	20
1,2-Dibromo-3-Chloropropane	50.0	54.5		ug/L		109	62 - 128	5	20
1,2-Dibromoethane	50.0	49.3		ug/L		99	77 - 121	2	20
1,2-Dichlorobenzene	50.0	49.9		ug/L		100	80 - 119	4	20
1,2-Dichloroethane	50.0	47.5		ug/L		95	73 - 128	2	20
1,2-Dichloropropane	50.0	49.6		ug/L		99	78 - 122	2	20

Method: 8260D - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCSD 280-637616/5
Matrix: Water
Analysis Batch: 637616

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
1,3,5-Trimethylbenzene	50.0	51.7		ug/L		103	75 - 124	3	20
1,3-Dichlorobenzene	50.0	52.8		ug/L		106	80 - 119	4	20
1,3-Dichloropropane	50.0	49.0		ug/L		98	80 - 119	3	20
1,4-Dichlorobenzene	50.0	49.1		ug/L		98	79 - 118	3	20
2,2-Dichloropropane	50.0	53.0		ug/L		106	60 - 139	0	20
2-Butanone (MEK)	200	193		ug/L		97	56 - 143	5	20
2-Chloroethyl vinyl ether	50.0	49.8		ug/L		100	51 - 139	2	20
2-Hexanone	200	198		ug/L		99	57 - 139	6	20
4-Isopropyltoluene	50.0	52.4		ug/L		105	77 - 127	3	20
4-Methyl-2-pentanone (MIBK)	200	212		ug/L		106	67 - 130	5	20
Acetone	200	187		ug/L		93	39 - 160	7	20
Acrylonitrile	500	482		ug/L		96	63 - 135	5	20
Benzene	50.0	50.8		ug/L		102	79 - 120	2	20
Bromobenzene	50.0	51.4		ug/L		103	80 - 120	4	20
Bromochloromethane	50.0	57.3		ug/L		115	78 - 123	4	20
Bromodichloromethane	50.0	54.9		ug/L		110	79 - 125	3	20
Bromoform	50.0	56.9		ug/L		114	66 - 130	3	20
Carbon disulfide	50.0	45.2		ug/L		90	64 - 133	0	20
Carbon tetrachloride	50.0	56.1		ug/L		112	72 - 136	2	20
Chlorobenzene	50.0	51.2		ug/L		102	82 - 118	4	20
Chloroethane	50.0	47.6		ug/L		95	60 - 138	11	20
Chloroform	50.0	50.1		ug/L		100	79 - 124	2	20
Chloromethane	50.0	44.4		ug/L		89	50 - 139	14	20
cis-1,2-Dichloroethylene	50.0	53.1		ug/L		106	78 - 123	9	20
cis-1,3-Dichloropropene	50.0	49.7		ug/L		99	75 - 124	2	20
Cyclohexane	50.0	48.0		ug/L		96	71 - 130	4	20
Cyclohexanone	1500	1960		ug/L		131	50 - 150	3	20
Dibromochloromethane	50.0	54.7		ug/L		109	74 - 126	3	20
Dibromomethane	50.0	51.4		ug/L		103	79 - 123	8	20
Dichlorodifluoromethane	50.0	38.3		ug/L		77	32 - 152	8	20
Ethylbenzene	50.0	51.4		ug/L		103	79 - 121	1	20
Hexachlorobutadiene	50.0	58.3		ug/L		117	66 - 134	2	20
Isopropylbenzene	50.0	50.8		ug/L		102	72 - 131	2	20
Methyl tert-butyl ether	50.0	53.4		ug/L		107	71 - 124	5	20
Methylcyclohexane	50.0	50.7		ug/L		101	72 - 132	5	20
Methylene Chloride	50.0	48.4		ug/L		97	74 - 124	4	20
Naphthalene	50.0	49.4		ug/L		99	61 - 128	10	20
n-Butylbenzene	50.0	50.9		ug/L		102	75 - 128	0	20
n-Hexane	50.0	41.6		ug/L		83	48 - 143	9	20
N-Propylbenzene	50.0	54.4		ug/L		109	76 - 126	6	20
o-Chlorotoluene	50.0	51.7		ug/L		103	79 - 122	7	20
p-Chlorotoluene	50.0	50.3		ug/L		101	78 - 122	3	20
sec-Butylbenzene	50.0	52.2		ug/L		104	77 - 126	2	20
Styrene	50.0	52.8		ug/L		106	78 - 123	4	20
tert-Butylbenzene	50.0	52.1		ug/L		104	78 - 124	3	20
Tetrachloroethene	50.0	52.7		ug/L		105	74 - 129	1	20
Toluene	50.0	51.9		ug/L		104	80 - 121	3	20
trans-1,2-Dichloroethylene	50.0	50.8		ug/L		102	75 - 124	1	20
trans-1,3-Dichloropropene	50.0	54.7		ug/L		109	73 - 127	4	20

Method: 8260D - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCSD 280-637616/5
Matrix: Water
Analysis Batch: 637616

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Trichloroethene			50.0	48.9		ug/L		98	79 - 123	0	20
Trichlorofluoromethane			50.0	49.0		ug/L		98	65 - 141	6	20
Vinyl acetate			100	112		ug/L		112	54 - 146	5	20
Vinyl chloride			50.0	47.4		ug/L		95	58 - 137	10	20
Xylenes, Total			100	102		ug/L		102	79 - 121	3	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*103*		*81 - 118*
4-Bromofluorobenzene (Surr)	*93*		*85 - 114*
Dibromofluoromethane (Surr)	*104*		*80 - 119*
Toluene-d8 (Surr)	*98*		*89 - 112*

Lab Sample ID: LCSD 280-637616/7
Matrix: Water
Analysis Batch: 637616

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
1,2,3-Trimethylbenzene			25.0	24.6		ug/L		98	82 - 120	5	20
Isopropyl ether			25.0	24.8		ug/L		99	67 - 128	3	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*104*		*81 - 118*
4-Bromofluorobenzene (Surr)	*92*		*85 - 114*
Dibromofluoromethane (Surr)	*104*		*80 - 119*
Toluene-d8 (Surr)	*97*		*89 - 112*

Method: 6020B - Metals (ICP/MS)

Lab Sample ID: MB 280-637783/1-A
Matrix: Water
Analysis Batch: 638085

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 637783

Analyte	MB Result	MB Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Lead	0.70	U	1.0	0.70	0.23	ug/L		12/20/23 19:25	1

Lab Sample ID: LCS 280-637783/2-A
Matrix: Water
Analysis Batch: 638085

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 637783

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Lead			40.0	38.9		ug/L		97	88 - 115		

Lab Sample ID: LCSD 280-637783/3-A
Matrix: Water
Analysis Batch: 638085

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 637783

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Lead			40.0	37.3		ug/L		93	88 - 115	4	20

Method: 353.2 - Nitrogen, Nitrate-Nitrite

Lab Sample ID: MB 280-638644/21
Matrix: Water
Analysis Batch: 638644

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Nitrate Nitrite as N	0.080	U	0.10	0.080	0.044	mg/L		12/28/23 13:07	1

Lab Sample ID: LCS 280-638644/20
Matrix: Water
Analysis Batch: 638644

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Nitrate Nitrite as N			5.00	5.19		mg/L		104	90 - 110		

Lab Sample ID: 280-185797-2 MS
Matrix: Water
Analysis Batch: 638644

Client Sample ID: TV044-MW24D1223A
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Nitrate Nitrite as N	0.080	U	4.00	4.13		mg/L		103	90 - 110		

Lab Sample ID: 280-185797-2 MSD
Matrix: Water
Analysis Batch: 638644

Client Sample ID: TV044-MW24D1223A
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Nitrate Nitrite as N	0.080	U	4.00	3.82		mg/L		96	90 - 110	8	10

Method: 9056A - Anions, Ion Chromatography

Lab Sample ID: MB 280-637973/44
Matrix: Water
Analysis Batch: 637973

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Sulfate	2.5	U	5.0	2.5	1.0	mg/L		12/21/23 01:05	1

Lab Sample ID: MB 280-637973/6
Matrix: Water
Analysis Batch: 637973

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Sulfate	2.5	U	5.0	2.5	1.0	mg/L		12/20/23 11:38	1

Lab Sample ID: LCS 280-637973/4
Matrix: Water
Analysis Batch: 637973

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Sulfate			100	100		mg/L		100	87 - 112		

Method: 9056A - Anions, Ion Chromatography (Continued)

Lab Sample ID: LCS 280-637973/42
Matrix: Water
Analysis Batch: 637973

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Sulfate	100	103		mg/L		103	87 - 112

Lab Sample ID: LCSD 280-637973/43
Matrix: Water
Analysis Batch: 637973

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Sulfate	100	105		mg/L		105	87 - 112	2	10

Lab Sample ID: LCSD 280-637973/5
Matrix: Water
Analysis Batch: 637973

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Sulfate	100	98.2		mg/L		98	87 - 112	2	10

Lab Sample ID: MRL 280-637973/3
Matrix: Water
Analysis Batch: 637973

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
Sulfate	5.00	4.55	J	mg/L		91	50 - 150

GC/MS VOA

Analysis Batch: 637616

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-185797-1	TB01	Total/NA	Water	8260D	
280-185797-2	TV044-MW24D1223A	Total/NA	Water	8260D	
280-185797-3	TV044-MW24I1223A	Total/NA	Water	8260D	
280-185797-4	TV044-MW21M1223A	Total/NA	Water	8260D	
280-185797-5	TV044-MW21D1223A	Total/NA	Water	8260D	
280-185797-6	TV044-MW21D1223C	Total/NA	Water	8260D	
280-185797-7	TV044-MW23S1223A	Total/NA	Water	8260D	
280-185797-8	TV044-MW31223A	Total/NA	Water	8260D	
280-185797-9	TV044-MW25D1223A	Total/NA	Water	8260D	
280-185797-10	TV044-MW21223A	Total/NA	Water	8260D	
280-185797-11	TV044-MW25I1223A	Total/NA	Water	8260D	
MB 280-637616/9	Method Blank	Total/NA	Water	8260D	
LCS 280-637616/4	Lab Control Sample	Total/NA	Water	8260D	
LCS 280-637616/6	Lab Control Sample	Total/NA	Water	8260D	
LCSD 280-637616/5	Lab Control Sample Dup	Total/NA	Water	8260D	
LCSD 280-637616/7	Lab Control Sample Dup	Total/NA	Water	8260D	

Metals

Prep Batch: 637783

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-185797-2	TV044-MW24D1223A	Total/NA	Water	3020A	
280-185797-3	TV044-MW24I1223A	Total/NA	Water	3020A	
280-185797-4	TV044-MW21M1223A	Total/NA	Water	3020A	
280-185797-5	TV044-MW21D1223A	Total/NA	Water	3020A	
280-185797-6	TV044-MW21D1223C	Total/NA	Water	3020A	
280-185797-8	TV044-MW31223A	Total/NA	Water	3020A	
280-185797-9	TV044-MW25D1223A	Total/NA	Water	3020A	
280-185797-10	TV044-MW21223A	Total/NA	Water	3020A	
280-185797-11	TV044-MW25I1223A	Total/NA	Water	3020A	
MB 280-637783/1-A	Method Blank	Total/NA	Water	3020A	
LCS 280-637783/2-A	Lab Control Sample	Total/NA	Water	3020A	
LCSD 280-637783/3-A	Lab Control Sample Dup	Total/NA	Water	3020A	

Analysis Batch: 638085

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-185797-2	TV044-MW24D1223A	Total/NA	Water	6020B	637783
280-185797-3	TV044-MW24I1223A	Total/NA	Water	6020B	637783
280-185797-4	TV044-MW21M1223A	Total/NA	Water	6020B	637783
280-185797-5	TV044-MW21D1223A	Total/NA	Water	6020B	637783
280-185797-6	TV044-MW21D1223C	Total/NA	Water	6020B	637783
280-185797-8	TV044-MW31223A	Total/NA	Water	6020B	637783
280-185797-9	TV044-MW25D1223A	Total/NA	Water	6020B	637783
280-185797-10	TV044-MW21223A	Total/NA	Water	6020B	637783
280-185797-11	TV044-MW25I1223A	Total/NA	Water	6020B	637783
MB 280-637783/1-A	Method Blank	Total/NA	Water	6020B	637783
LCS 280-637783/2-A	Lab Control Sample	Total/NA	Water	6020B	637783
LCSD 280-637783/3-A	Lab Control Sample Dup	Total/NA	Water	6020B	637783

General Chemistry

Analysis Batch: 637973

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-185797-2	TV044-MW24D1223A	Total/NA	Water	9056A	
280-185797-3	TV044-MW24I1223A	Total/NA	Water	9056A	
280-185797-4	TV044-MW21M1223A	Total/NA	Water	9056A	
280-185797-5	TV044-MW21D1223A	Total/NA	Water	9056A	
280-185797-6	TV044-MW21D1223C	Total/NA	Water	9056A	
280-185797-8	TV044-MW31223A	Total/NA	Water	9056A	
280-185797-9	TV044-MW25D1223A	Total/NA	Water	9056A	
280-185797-10	TV044-MW21223A	Total/NA	Water	9056A	
280-185797-11	TV044-MW25I1223A	Total/NA	Water	9056A	
MB 280-637973/44	Method Blank	Total/NA	Water	9056A	
MB 280-637973/6	Method Blank	Total/NA	Water	9056A	
LCS 280-637973/4	Lab Control Sample	Total/NA	Water	9056A	
LCS 280-637973/42	Lab Control Sample	Total/NA	Water	9056A	
LCSD 280-637973/43	Lab Control Sample Dup	Total/NA	Water	9056A	
LCSD 280-637973/5	Lab Control Sample Dup	Total/NA	Water	9056A	
MRL 280-637973/3	Lab Control Sample	Total/NA	Water	9056A	

Analysis Batch: 638644

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-185797-2	TV044-MW24D1223A	Total/NA	Water	353.2	
280-185797-3	TV044-MW24I1223A	Total/NA	Water	353.2	
280-185797-4	TV044-MW21M1223A	Total/NA	Water	353.2	
280-185797-5	TV044-MW21D1223A	Total/NA	Water	353.2	
280-185797-6	TV044-MW21D1223C	Total/NA	Water	353.2	
280-185797-7	TV044-MW23S1223A	Total/NA	Water	353.2	
280-185797-8	TV044-MW31223A	Total/NA	Water	353.2	
280-185797-9	TV044-MW25D1223A	Total/NA	Water	353.2	
280-185797-10	TV044-MW21223A	Total/NA	Water	353.2	
280-185797-11	TV044-MW25I1223A	Total/NA	Water	353.2	
MB 280-638644/21	Method Blank	Total/NA	Water	353.2	
LCS 280-638644/20	Lab Control Sample	Total/NA	Water	353.2	
280-185797-2 MS	TV044-MW24D1223A	Total/NA	Water	353.2	
280-185797-2 MSD	TV044-MW24D1223A	Total/NA	Water	353.2	

Client Sample ID: TB01
Lab Sample ID: 280-185797-1
Date Collected: 12/13/23 09:50
Matrix: Water
Date Received: 12/15/23 10:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D		1	5 mL	5 mL	637616	12/18/23 11:03	DMC	EET DEN

Client Sample ID: TV044-MW24D1223A
Lab Sample ID: 280-185797-2
Date Collected: 12/13/23 10:35
Matrix: Water
Date Received: 12/15/23 10:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D		1	5 mL	5 mL	637616	12/18/23 11:25	DMC	EET DEN
Total/NA	Prep	3020A			50 mL	50 mL	637783	12/19/23 14:57	MSM	EET DEN
Total/NA	Analysis	6020B		1			638085	12/20/23 20:19	LMT	EET DEN
Total/NA	Analysis	353.2		1	100 mL	100 mL	638644	12/28/23 13:09	BCR	EET DEN
Total/NA	Analysis	9056A		1	10 mL	10 mL	637973	12/20/23 22:42	EJS	EET DEN

Client Sample ID: TV044-MW24I1223A
Lab Sample ID: 280-185797-3
Date Collected: 12/13/23 10:50
Matrix: Water
Date Received: 12/15/23 10:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D		1	5 mL	5 mL	637616	12/18/23 11:47	DMC	EET DEN
Total/NA	Prep	3020A			50 mL	50 mL	637783	12/19/23 14:57	MSM	EET DEN
Total/NA	Analysis	6020B		1			638085	12/20/23 20:23	LMT	EET DEN
Total/NA	Analysis	353.2		1	100 mL	100 mL	638644	12/28/23 13:12	BCR	EET DEN
Total/NA	Analysis	9056A		1	10 mL	10 mL	637973	12/20/23 22:53	EJS	EET DEN

Client Sample ID: TV044-MW21M1223A
Lab Sample ID: 280-185797-4
Date Collected: 12/13/23 11:30
Matrix: Water
Date Received: 12/15/23 10:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D		50	5 mL	5 mL	637616	12/18/23 15:02	DMC	EET DEN
Total/NA	Prep	3020A			50 mL	50 mL	637783	12/19/23 14:57	MSM	EET DEN
Total/NA	Analysis	6020B		1			638085	12/20/23 20:33	LMT	EET DEN
Total/NA	Analysis	353.2		1	100 mL	100 mL	638644	12/28/23 13:14	BCR	EET DEN
Total/NA	Analysis	9056A		1	10 mL	10 mL	637973	12/20/23 23:04	EJS	EET DEN

Client Sample ID: TV044-MW21D1223A
Lab Sample ID: 280-185797-5
Date Collected: 12/13/23 12:05
Matrix: Water
Date Received: 12/15/23 10:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D		1	5 mL	5 mL	637616	12/18/23 12:08	DMC	EET DEN
Total/NA	Prep	3020A			50 mL	50 mL	637783	12/19/23 14:57	MSM	EET DEN
Total/NA	Analysis	6020B		1			638085	12/20/23 20:37	LMT	EET DEN
Total/NA	Analysis	353.2		1	100 mL	100 mL	638644	12/28/23 13:15	BCR	EET DEN

Client Sample ID: TV044-MW21D1223A
Lab Sample ID: 280-185797-5
Date Collected: 12/13/23 12:05
Matrix: Water
Date Received: 12/15/23 10:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		5	10 mL	10 mL	637973	12/20/23 23:15	EJS	EET DEN

Client Sample ID: TV044-MW21D1223C
Lab Sample ID: 280-185797-6
Date Collected: 12/13/23 12:05
Matrix: Water
Date Received: 12/15/23 10:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D		1	5 mL	5 mL	637616	12/18/23 12:30	DMC	EET DEN
Total/NA	Prep	3020A			50 mL	50 mL	637783	12/19/23 14:57	MSM	EET DEN
Total/NA	Analysis	6020B		1			638085	12/20/23 20:40	LMT	EET DEN
Total/NA	Analysis	353.2		1	100 mL	100 mL	638644	12/28/23 13:16	BCR	EET DEN
Total/NA	Analysis	9056A		5	10 mL	10 mL	637973	12/20/23 23:48	EJS	EET DEN

Client Sample ID: TV044-MW23S1223A
Lab Sample ID: 280-185797-7
Date Collected: 12/13/23 12:20
Matrix: Water
Date Received: 12/15/23 10:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D		50	5 mL	5 mL	637616	12/18/23 15:23	DMC	EET DEN
Total/NA	Analysis	353.2		1	100 mL	100 mL	638644	12/28/23 13:17	BCR	EET DEN

Client Sample ID: TV044-MW31223A
Lab Sample ID: 280-185797-8
Date Collected: 12/13/23 13:10
Matrix: Water
Date Received: 12/15/23 10:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D		1	5 mL	5 mL	637616	12/18/23 12:52	DMC	EET DEN
Total/NA	Prep	3020A			50 mL	50 mL	637783	12/19/23 14:57	MSM	EET DEN
Total/NA	Analysis	6020B		10			638085	12/20/23 20:44	LMT	EET DEN
Total/NA	Analysis	353.2		1	100 mL	100 mL	638644	12/28/23 13:19	BCR	EET DEN
Total/NA	Analysis	9056A		20	10 mL	10 mL	637973	12/20/23 23:59	EJS	EET DEN

Client Sample ID: TV044-MW25D1223A
Lab Sample ID: 280-185797-9
Date Collected: 12/13/23 13:50
Matrix: Water
Date Received: 12/15/23 10:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D		1	5 mL	5 mL	637616	12/18/23 13:13	DMC	EET DEN
Total/NA	Prep	3020A			50 mL	50 mL	637783	12/19/23 14:57	MSM	EET DEN
Total/NA	Analysis	6020B		1			638085	12/20/23 20:48	LMT	EET DEN
Total/NA	Analysis	353.2		1	100 mL	100 mL	638644	12/28/23 13:20	BCR	EET DEN
Total/NA	Analysis	9056A		5	10 mL	10 mL	637973	12/21/23 00:10	EJS	EET DEN

Lab Chronicle

Client: FPM Remediations Inc
Job ID: 280-185797-1
Project/Site: Luke AFB Waterdog TU044, AZ

Client Sample ID: TV044-MW21223A
Lab Sample ID: 280-185797-10
Date Collected: 12/13/23 14:20
Matrix: Water
Date Received: 12/15/23 10:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D		50	5 mL	5 mL	637616	12/18/23 14:40	DMC	EET DEN
Total/NA	Prep	3020A			50 mL	50 mL	637783	12/19/23 14:57	MSM	EET DEN
Total/NA	Analysis	6020B		1			638085	12/20/23 20:51	LMT	EET DEN
Total/NA	Analysis	353.2		1	100 mL	100 mL	638644	12/28/23 13:30	BCR	EET DEN
Total/NA	Analysis	9056A		5	10 mL	10 mL	637973	12/21/23 00:21	EJS	EET DEN

Client Sample ID: TV044-MW25I1223A
Lab Sample ID: 280-185797-11
Date Collected: 12/13/23 14:40
Matrix: Water
Date Received: 12/15/23 10:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D		1	5 mL	5 mL	637616	12/18/23 13:35	DMC	EET DEN
Total/NA	Prep	3020A			50 mL	50 mL	637783	12/19/23 14:57	MSM	EET DEN
Total/NA	Analysis	6020B		1			638085	12/20/23 20:55	LMT	EET DEN
Total/NA	Analysis	353.2		1	100 mL	100 mL	638644	12/28/23 13:31	BCR	EET DEN
Total/NA	Analysis	9056A		5	10 mL	10 mL	637973	12/21/23 00:32	EJS	EET DEN

Laboratory References:

EET DEN = Eurofins Denver, 4955 Yarrow Street, Arvada, CO 80002, TEL (303)736-0100

Accreditation/Certification Summary

Client: FPM Remediations Inc
Job ID: 280-185797-1
Project/Site: Luke AFB Waterdog TU044, AZ

Laboratory: Eurofins Denver

The accreditations/certifications listed below are applicable to this report.

Authority	Program	Identification Number	Expiration Date
A2LA	Dept. of Defense ELAP	2907.01	10-31-24
Arizona	State	AZ0713	12-20-24

Method Summary

Client: FPM Remediations Inc
Job ID: 280-185797-1
Project/Site: Luke AFB Waterdog TU044, AZ

Method	Method Description	Protocol	Laboratory
8260D	Volatile Organic Compounds (GC/MS)	SW846	EET DEN
6020B	Metals (ICP/MS)	SW846	EET DEN
353.2	Nitrogen, Nitrate-Nitrite	EPA	EET DEN
9056A	Anions, Ion Chromatography	SW846	EET DEN
3020A	Preparation, Total Metals	SW846	EET DEN
5030B	Purge and Trap	SW846	EET DEN

Protocol References:

EPA = US Environmental Protection Agency

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

EET DEN = Eurofins Denver, 4955 Yarrow Street, Arvada, CO 80002, TEL (303)736-0100

Sample Summary

Client: FPM Remediations Inc
Job ID: 280-185797-1
Project/Site: Luke AFB Waterdog TU044, AZ

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
280-185797-1	TB01	Water	12/13/23 09:50	12/15/23 10:00
280-185797-2	TV044-MW24D1223A	Water	12/13/23 10:35	12/15/23 10:00
280-185797-3	TV044-MW24I1223A	Water	12/13/23 10:50	12/15/23 10:00
280-185797-4	TV044-MW21M1223A	Water	12/13/23 11:30	12/15/23 10:00
280-185797-5	TV044-MW21D1223A	Water	12/13/23 12:05	12/15/23 10:00
280-185797-6	TV044-MW21D1223C	Water	12/13/23 12:05	12/15/23 10:00
280-185797-7	TV044-MW23S1223A	Water	12/13/23 12:20	12/15/23 10:00
280-185797-8	TV044-MW31223A	Water	12/13/23 13:10	12/15/23 10:00
280-185797-9	TV044-MW25D1223A	Water	12/13/23 13:50	12/15/23 10:00
280-185797-10	TV044-MW21223A	Water	12/13/23 14:20	12/15/23 10:00
280-185797-11	TV044-MW25I1223A	Water	12/13/23 14:40	12/15/23 10:00

GC/MS VOA MANUAL INTEGRATION SUMMARY

Lab Name: Eurofins Denver Job No.: 280-185797-1

SDG No.:

Instrument ID: VMS_X4 Analysis Batch Number: 637616

Lab Sample ID: MB 280-637616/9 Client Sample ID:

Date Analyzed: 12/18/23 10:20 Lab File ID: X511938.D GC Column: RXI-624SilMS ID: 0.25(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Acetone		Invalid Compound ID	NNS5	12/18/23 11:37
Cyclohexanone		Invalid Compound ID	NNS5	12/18/23 11:38

Lab Sample ID: 280-185797-1 Client Sample ID: TB01

Date Analyzed: 12/18/23 11:03 Lab File ID: X511939.D GC Column: RXI-624SilMS ID: 0.25(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
1,3-Dichlorobenzene		Invalid Compound ID	AK2J	12/19/23 21:16
Acetone		Invalid Compound ID	AK2J	12/19/23 21:15
Acrylonitrile		Invalid Compound ID	AK2J	12/19/23 21:15
Cyclohexanone		Invalid Compound ID	AK2J	12/19/23 21:16

Lab Sample ID: 280-185797-2 Client Sample ID: TV044-MW24D1223A

Date Analyzed: 12/18/23 11:25 Lab File ID: X511940.D GC Column: RXI-624SilMS ID: 0.25(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Cyclohexanone		Invalid Compound ID	AK2J	12/19/23 21:18

Lab Sample ID: 280-185797-3 Client Sample ID: TV044-MW24I1223A

Date Analyzed: 12/18/23 11:47 Lab File ID: X511941.D GC Column: RXI-624SilMS ID: 0.25(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Acetone		Invalid Compound ID	AK2J	12/19/23 21:18
Cyclohexanone		Invalid Compound ID	AK2J	12/19/23 21:18

GC/MS VOA MANUAL INTEGRATION SUMMARY

Lab Name: Eurofins Denver Job No.: 280-185797-1

SDG No.:

Instrument ID: VMS_X4 Analysis Batch Number: 637616

Lab Sample ID: 280-185797-5 Client Sample ID: TV044-MW21D1223A

Date Analyzed: 12/18/23 12:08 Lab File ID: X511942.D GC Column: RXI-624SilMS ID: 0.25(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Acetone		Invalid Compound ID	AK2J	12/19/23 21:18

Lab Sample ID: 280-185797-6 Client Sample ID: TV044-MW21D1223C

Date Analyzed: 12/18/23 12:30 Lab File ID: X511943.D GC Column: RXI-624SilMS ID: 0.25(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Cyclohexanone		Invalid Compound ID	AK2J	12/19/23 21:19

Lab Sample ID: 280-185797-8 Client Sample ID: TV044-MW31223A

Date Analyzed: 12/18/23 12:52 Lab File ID: X511944.D GC Column: RXI-624SilMS ID: 0.25(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Acetone		Invalid Compound ID	AK2J	12/19/23 21:19
Cyclohexanone		Invalid Compound ID	AK2J	12/19/23 21:19

Lab Sample ID: 280-185797-9 Client Sample ID: TV044-MW25D1223A

Date Analyzed: 12/18/23 13:13 Lab File ID: X511945.D GC Column: RXI-624SilMS ID: 0.25(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Acetone		Invalid Compound ID	AK2J	12/19/23 21:19
Acrylonitrile		Invalid Compound ID	AK2J	12/19/23 21:19
Cyclohexanone		Invalid Compound ID	AK2J	12/19/23 21:20

GC/MS VOA MANUAL INTEGRATION SUMMARY

Lab Name: Eurofins Denver Job No.: 280-185797-1

SDG No.:

Instrument ID: VMS_X4 Analysis Batch Number: 637616

Lab Sample ID: 280-185797-11 Client Sample ID: TV044-MW25I1223A

Date Analyzed: 12/18/23 13:35 Lab File ID: X511946.D GC Column: RXI-624SilMS ID: 0.25(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Acrylonitrile		Invalid Compound ID	AK2J	12/19/23 21:20
Cyclohexanone		Invalid Compound ID	AK2J	12/19/23 21:20

Lab Sample ID: 280-185797-10 Client Sample ID: TV044-MW21223A

Date Analyzed: 12/18/23 14:40 Lab File ID: X511949.D GC Column: RXI-624SilMS ID: 0.25(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Acrylonitrile		Invalid Compound ID	AK2J	12/19/23 21:21

Lab Sample ID: 280-185797-4 Client Sample ID: TV044-MW21M1223A

Date Analyzed: 12/18/23 15:02 Lab File ID: X511950.D GC Column: RXI-624SilMS ID: 0.25(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
1,1,2-Trichloroethane		Invalid Compound ID	AK2J	12/19/23 21:22
1,2-Dichloroethane		Invalid Compound ID	AK2J	12/19/23 21:22
Acrylonitrile		Invalid Compound ID	AK2J	12/19/23 21:21
Cyclohexanone		Invalid Compound ID	AK2J	12/19/23 21:22

Lab Sample ID: 280-185797-7 Client Sample ID: TV044-MW23S1223A

Date Analyzed: 12/18/23 15:23 Lab File ID: X511951.D GC Column: RXI-624SilMS ID: 0.25(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Chloroethane		Invalid Compound ID	AK2J	12/19/23 21:22

GENERAL CHEMISTRY MANUAL INTEGRATION SUMMARY

Lab Name: Eurofins Denver Job No.: 280-185797-1

SDG No.:

Instrument ID: WC_IonChrom17 Analysis Batch Number: 637973

Lab Sample ID: 280-185797-3 Client Sample ID: TV044-MW24I1223A

Date Analyzed: 12/20/23 22:53 Lab File ID: 280-0128763-032_33_CD_1_ GC Column: Ion Pac AS18 ID:

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Sulfate	5.01	Baseline Smoothing	XAY4	12/21/23 15:01

Lab Sample ID: 280-185797-5 Client Sample ID: TV044-MW21D1223A

Date Analyzed: 12/20/23 23:15 Lab File ID: 280-0128763-034_35_CD_1_ GC Column: Ion Pac AS18 ID:

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Sulfate	5.17	Baseline Smoothing	XAY4	12/21/23 15:01

Lab Sample ID: 280-185797-8 Client Sample ID: TV044-MW31223A

Date Analyzed: 12/20/23 23:59 Lab File ID: 280-0128763-038_39_CD_1_ GC Column: Ion Pac AS18 ID:

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Sulfate	5.00	Baseline Smoothing	XAY4	12/21/23 15:04

Lab Name: Eurofins Denver Job No.: 280-185797-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
Cal Dil Std_00280	12/15/23	12/08/23	P&T Methanol, Lot ED137-US	100 uL	MV-Gas A_00174	2 uL	Bromomethane	5 ug/mL
							Chloroethane	5 ug/mL
							Chloromethane	5 ug/mL
							Dichlorodifluoromethane	5 ug/mL
							Dichlorofluoromethane	5 ug/mL
							Trichlorofluoromethane	5 ug/mL
							Vinyl chloride	5 ug/mL
							2-Chloroethyl vinyl ether	5 ug/mL
					MV-MegaMainA_00100	5 uL	Acrolein	49.375 ug/mL
							2-Butanone (MEK)	20 ug/mL
							2-Hexanone	20 ug/mL
							4-Methyl-2-pentanone (MIBK)	20 ug/mL
							Acetone	20 ug/mL
							Vinyl acetate	10 ug/mL
							Cyclohexanone	150 ug/mL
							1,1,1,2-Tetrachloroethane	5 ug/mL
							1,1,1-Trichloroethane	5 ug/mL
							1,1,2,2-Tetrachloroethane	5 ug/mL
							1,1,2-Trichloro-1,2,2-trifluoroethane	5 ug/mL
							1,1,2-Trichloroethane	5 ug/mL
							1,1-Dichloroethane	5 ug/mL
							1,1-Dichloroethylene	5 ug/mL
							1,1-Dichloropropene	5 ug/mL
							1,2,3-Trichlorobenzene	5 ug/mL
							1,2,3-Trichloropropane	5 ug/mL
							1,2,4-Trichlorobenzene	5 ug/mL
							1,2,4-Trimethylbenzene	5 ug/mL
							1,2-Dibromo-3-Chloropropane	5 ug/mL
							1,2-Dibromoethane	5 ug/mL
							1,2-Dichlorobenzene	5 ug/mL
							1,2-Dichloroethane	5 ug/mL
							1,2-Dichloropropane	5 ug/mL
							1,3,5-Trimethylbenzene	5 ug/mL
							1,3-Dichlorobenzene	5 ug/mL
							1,3-Dichloropropane	5 ug/mL
							1,4-Dichlorobenzene	5 ug/mL
							1,4-Dioxane	100 ug/mL
							2,2-Dichloropropane	5 ug/mL
							2-Methyl-2-propanol	50 ug/mL
							3-Chloro-1-propene	5 ug/mL
							4-Isopropyltoluene	5 ug/mL
							Acrylonitrile	50 ug/mL
							Benzene	5 ug/mL
							Bromobenzene	5 ug/mL
							Bromochloromethane	5 ug/mL

Lab Name: Eurofins Denver Job No.: 280-185797-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Bromodichloromethane	5 ug/mL
							Bromoform	5 ug/mL
							Carbon disulfide	5 ug/mL
							Carbon tetrachloride	5 ug/mL
							Chlorobenzene	5 ug/mL
							Chloroform	5 ug/mL
							cis-1,2-Dichloroethylene	5 ug/mL
							cis-1,3-Dichloropropene	5 ug/mL
							Cyclohexane	5 ug/mL
							Dibromochloromethane	5 ug/mL
							Dibromomethane	5 ug/mL
							Ethyl ether	5 ug/mL
							Ethyl methacrylate	5 ug/mL
							Ethylbenzene	5 ug/mL
							Hexachlorobutadiene	5 ug/mL
							Iodomethane	5 ug/mL
							Isobutyl alcohol	125 ug/mL
							Isopropylbenzene	5 ug/mL
							m-Xylene & p-Xylene	5 ug/mL
							Methyl acetate	10 ug/mL
							Methyl tert-butyl ether	5 ug/mL
							Methylcyclohexane	5 ug/mL
							Methylene Chloride	5 ug/mL
							n-Butylbenzene	5 ug/mL
							n-Heptane	5 ug/mL
							n-Hexane	5 ug/mL
							N-Propylbenzene	5 ug/mL
							Naphthalene	5 ug/mL
							o-Chlorotoluene	5 ug/mL
							o-Xylene	5 ug/mL
							p-Chlorotoluene	5 ug/mL
							sec-Butylbenzene	5 ug/mL
							Styrene	5 ug/mL
							tert-Butylbenzene	5 ug/mL
							Tetrachloroethene	5 ug/mL
							Tetrahydrofuran	10 ug/mL
							Toluene	5 ug/mL
							trans-1,2-Dichloroethylene	5 ug/mL
							trans-1,3-Dichloropropene	5 ug/mL
							trans-1,4-Dichloro-2-butene	5 ug/mL
							Trichloroethene	5 ug/mL
							1-Chlorohexane	4 ug/mL
							2-Pentanone	16 ug/mL
							sec-Butyl Alcohol	120 ug/mL
.MV-Gas A_00174	01/08/24	12/06/23	P&T Methanol, Lot 198123	12.5 mL	MV-569722_00023	1250 uL	Bromomethane	250 ug/mL
							Chloroethane	250 ug/mL
							Chloromethane	250 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins Denver Job No.: 280-185797-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Dichlorodifluoromethane	250 ug/mL
							Dichlorofluoromethane	250 ug/mL
							Trichlorofluoromethane	250 ug/mL
							Vinyl chloride	250 ug/mL
					MV-569723_00018	1250 uL	2-Chloroethyl vinyl ether	250 ug/mL
..MV-569722_00023	05/31/26		RESTEK, Lot A0198219		(Purchased Reagent)		Bromomethane	2500 ug/mL
							Chloroethane	2500 ug/mL
							Chloromethane	2500 ug/mL
							Dichlorodifluoromethane	2500 ug/mL
							Dichlorofluoromethane	2500 ug/mL
							Trichlorofluoromethane	2500 ug/mL
							Vinyl chloride	2500 ug/mL
..MV-569723_00018	01/31/26		RESTEK, Lot A0193735		(Purchased Reagent)		2-Chloroethyl vinyl ether	2500 ug/mL
.MV-MegaMainA_00100	01/11/24	12/06/23	P&T Methanol, Lot 181124	25 mL	MV-568720_00046	1250 uL	Acrolein	987.5 ug/mL
					MV-569721_00015	800 uL	2-Butanone (MEK)	400 ug/mL
							2-Hexanone	400 ug/mL
							4-Methyl-2-pentanone (MIBK)	400 ug/mL
							Acetone	400 ug/mL
					MV-569724_00037	1000 uL	Vinyl acetate	200 ug/mL
					MV-569727_00024	3000 uL	Cyclohexanone	3000 ug/mL
					MV-571992_00015	1000 uL	1,1,1,2-Tetrachloroethane	100 ug/mL
							1,1,1-Trichloroethane	100 ug/mL
							1,1,2,2-Tetrachloroethane	100 ug/mL
							1,1,2-Trichloro-1,2,2-trifluoroethane	100 ug/mL
							1,1,2-Trichloroethane	100 ug/mL
							1,1-Dichloroethane	100 ug/mL
							1,1-Dichloroethylene	100 ug/mL
							1,1-Dichloropropene	100 ug/mL
							1,2,3-Trichlorobenzene	100 ug/mL
							1,2,3-Trichloropropane	100 ug/mL
							1,2,4-Trichlorobenzene	100 ug/mL
							1,2,4-Trimethylbenzene	100 ug/mL
							1,2-Dibromo-3-Chloropropane	100 ug/mL
							1,2-Dibromoethane	100 ug/mL
							1,2-Dichlorobenzene	100 ug/mL
							1,2-Dichloroethane	100 ug/mL
							1,2-Dichloropropane	100 ug/mL
							1,3,5-Trimethylbenzene	100 ug/mL
							1,3-Dichlorobenzene	100 ug/mL
							1,3-Dichloropropane	100 ug/mL
							1,4-Dichlorobenzene	100 ug/mL
							1,4-Dioxane	2000 ug/mL
							2,2-Dichloropropane	100 ug/mL
							2-Methyl-2-propanol	1000 ug/mL
							3-Chloro-1-propene	100 ug/mL
							4-Isopropyltoluene	100 ug/mL

Lab Name: Eurofins Denver Job No.: 280-185797-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Acrylonitrile	1000 ug/mL
							Benzene	100 ug/mL
							Bromobenzene	100 ug/mL
							Bromochloromethane	100 ug/mL
							Bromodichloromethane	100 ug/mL
							Bromoform	100 ug/mL
							Carbon disulfide	100 ug/mL
							Carbon tetrachloride	100 ug/mL
							Chlorobenzene	100 ug/mL
							Chloroform	100 ug/mL
							cis-1,2-Dichloroethylene	100 ug/mL
							cis-1,3-Dichloropropene	100 ug/mL
							Cyclohexane	100 ug/mL
							Dibromochloromethane	100 ug/mL
							Dibromomethane	100 ug/mL
							Ethyl ether	100 ug/mL
							Ethyl methacrylate	100 ug/mL
							Ethylbenzene	100 ug/mL
							Hexachlorobutadiene	100 ug/mL
							Iodomethane	100 ug/mL
							Isobutyl alcohol	2500 ug/mL
							Isopropylbenzene	100 ug/mL
							m-Xylene & p-Xylene	100 ug/mL
							Methyl acetate	200 ug/mL
							Methyl tert-butyl ether	100 ug/mL
							Methylcyclohexane	100 ug/mL
							Methylene Chloride	100 ug/mL
							n-Butylbenzene	100 ug/mL
							n-Heptane	100 ug/mL
							n-Hexane	100 ug/mL
							N-Propylbenzene	100 ug/mL
							Naphthalene	100 ug/mL
							o-Chlorotoluene	100 ug/mL
							o-Xylene	100 ug/mL
							p-Chlorotoluene	100 ug/mL
							sec-Butylbenzene	100 ug/mL
							Styrene	100 ug/mL
							tert-Butylbenzene	100 ug/mL
							Tetrachloroethene	100 ug/mL
							Tetrahydrofuran	200 ug/mL
							Toluene	100 ug/mL
							trans-1,2-Dichloroethylene	100 ug/mL
							trans-1,3-Dichloropropene	100 ug/mL
							trans-1,4-Dichloro-2-butene	100 ug/mL
							Trichloroethene	100 ug/mL
					MV-CUS17739.s_00011	2000 uL	1-Chlorohexane	80 ug/mL
							2-Pentanone	320 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins Denver Job No.: 280-185797-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							sec-Butyl Alcohol	2400 ug/mL
..MV-568720_00046	07/31/24		RESTEK, Lot A0193730		(Purchased Reagent)		Acrolein	19750 ug/mL
..MV-569721_00015	01/31/26		RESTEK, Lot A0193494		(Purchased Reagent)		2-Butanone (MEK)	12500 ug/mL
							2-Hexanone	12500 ug/mL
							4-Methyl-2-pentanone (MIBK)	12500 ug/mL
							Acetone	12500 ug/mL
..MV-569724_00037	01/31/25		RESTEK, Lot A0200199		(Purchased Reagent)		Vinyl acetate	5000 ug/mL
..MV-569727_00024	04/30/26		RESTEK, Lot A0197009		(Purchased Reagent)		Cyclohexanone	25000 ug/mL
..MV-571992_00015	09/30/24		RESTEK, Lot A0183568		(Purchased Reagent)		1,1,1,2-Tetrachloroethane	2500 ug/mL
							1,1,1-Trichloroethane	2500 ug/mL
							1,1,2,2-Tetrachloroethane	2500 ug/mL
							1,1,2-Trichloro-1,2,2-trifluoroethane	2500 ug/mL
							1,1,2-Trichloroethane	2500 ug/mL
							1,1-Dichloroethane	2500 ug/mL
							1,1-Dichloroethylene	2500 ug/mL
							1,1-Dichloropropene	2500 ug/mL
							1,2,3-Trichlorobenzene	2500 ug/mL
							1,2,3-Trichloropropane	2500 ug/mL
							1,2,4-Trichlorobenzene	2500 ug/mL
							1,2,4-Trimethylbenzene	2500 ug/mL
							1,2-Dibromo-3-Chloropropane	2500 ug/mL
							1,2-Dibromoethane	2500 ug/mL
							1,2-Dichlorobenzene	2500 ug/mL
							1,2-Dichloroethane	2500 ug/mL
							1,2-Dichloropropane	2500 ug/mL
							1,3,5-Trimethylbenzene	2500 ug/mL
							1,3-Dichlorobenzene	2500 ug/mL
							1,3-Dichloropropane	2500 ug/mL
							1,4-Dichlorobenzene	2500 ug/mL
							1,4-Dioxane	50000 ug/mL
							2,2-Dichloropropane	2500 ug/mL
							2-Methyl-2-propanol	25000 ug/mL
							3-Chloro-1-propene	2500 ug/mL
							4-Isopropyltoluene	2500 ug/mL
							Acrylonitrile	25000 ug/mL
							Benzene	2500 ug/mL
							Bromobenzene	2500 ug/mL
							Bromochloromethane	2500 ug/mL
							Bromodichloromethane	2500 ug/mL
							Bromoform	2500 ug/mL
							Carbon disulfide	2500 ug/mL
							Carbon tetrachloride	2500 ug/mL
							Chlorobenzene	2500 ug/mL
							Chloroform	2500 ug/mL
							cis-1,2-Dichloroethylene	2500 ug/mL
							cis-1,3-Dichloropropene	2500 ug/mL
							Cyclohexane	2500 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins Denver Job No.: 280-185797-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Dibromochloromethane	2500 ug/mL
							Dibromomethane	2500 ug/mL
							Ethyl ether	2500 ug/mL
							Ethyl methacrylate	2500 ug/mL
							Ethylbenzene	2500 ug/mL
							Hexachlorobutadiene	2500 ug/mL
							Iodomethane	2500 ug/mL
							Isobutyl alcohol	62500 ug/mL
							Isopropylbenzene	2500 ug/mL
							m-Xylene & p-Xylene	2500 ug/mL
							Methyl acetate	5000 ug/mL
							Methyl tert-butyl ether	2500 ug/mL
							Methylcyclohexane	2500 ug/mL
							Methylene Chloride	2500 ug/mL
							n-Butylbenzene	2500 ug/mL
							n-Heptane	2500 ug/mL
							n-Hexane	2500 ug/mL
							N-Propylbenzene	2500 ug/mL
							Naphthalene	2500 ug/mL
							o-Chlorotoluene	2500 ug/mL
							o-Xylene	2500 ug/mL
							p-Chlorotoluene	2500 ug/mL
							sec-Butylbenzene	2500 ug/mL
							Styrene	2500 ug/mL
							tert-Butylbenzene	2500 ug/mL
							Tetrachloroethene	2500 ug/mL
							Tetrahydrofuran	5000 ug/mL
							Toluene	2500 ug/mL
							trans-1,2-Dichloroethylene	2500 ug/mL
							trans-1,3-Dichloropropene	2500 ug/mL
							trans-1,4-Dichloro-2-butene	2500 ug/mL
							Trichloroethene	2500 ug/mL
..MV-CUS17739.s_00011	05/31/24	Agilent, Lot 6676357.sec			(Purchased Reagent)		1-Chlorohexane	1000 ug/mL
							2-Pentanone	4000 ug/mL
							sec-Butyl Alcohol	30000 ug/mL
IC CAL cl/so4_00509	11/30/23	11/25/23	Di Water, Lot na	100 mL	IC CL cal_00076	25 mL	Chloride	250 mg/L
					IC SO4 Cal_00010	25 mL	Sulfate	250 mg/L
.IC CL cal_00076	11/30/23	SPEX CertiPrep, Lot 5-146CL-2X			(Purchased Reagent)		Chloride	1000 mg/L
.IC SO4 Cal_00010	11/30/23	SPEX CertiPrep, Lot 5-160SO4-2X			(Purchased Reagent)		Sulfate	1000 mg/L
IC CAL cl/so4_00515	12/27/23	12/20/23	Di Water, Lot na	100 mL	IC SO4 Cal_00011	25 mL	Sulfate	250 mg/L
.IC SO4 Cal_00011	10/30/24	SPEX CertiPrep, Lot 6-05SO4-2X			(Purchased Reagent)		Sulfate	1000 mg/L
IC Cal low_00739	11/30/23	11/25/23	Di Water, Lot NA	100 mL	IC BR ICV_00025	5 mL	Bromide	50 mg/L
					IC FL cal_00023	5 mL	Fluoride	50 mg/L
.IC BR ICV_00025	02/28/24	ricca, Lot 2208J60			(Purchased Reagent)		Bromide	1000 mg/L
.IC FL cal_00023	01/31/24	Ricca, Lot 2207H13			(Purchased Reagent)		Fluoride	1000 mg/L
IC CL cal_00077	08/30/24	SPEX CertiPrep, Lot 6-28-CL-2X			(Purchased Reagent)		Chloride	1000 mg/L

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins Denver Job No.: 280-185797-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
IC FL cal_00023	01/31/24	Ricca, Lot 2207H13			(Purchased Reagent)		Fluoride	1000 mg/L
IC LCS_01998	12/27/23	12/20/23	Di Water, Lot 27	200 mL	IC SO4 Cal_00011	20 mL	Sulfate	100 mg/L
.IC SO4 Cal_00011	10/30/24	SPEX CertiPrep, Lot 6-05SO4-2X			(Purchased Reagent)		Sulfate	1000 mg/L
IC SO4 Cal_00010	11/30/23	SPEX CertiPrep, Lot 5-160SO4-2X			(Purchased Reagent)		Sulfate	1000 mg/L
IC SO4 ICV_00025	07/13/24	ERA, Lot 080722m			(Purchased Reagent)		Sulfate	1000 mg/L
ms 77 cal std_03128	12/21/23	12/20/23	5%HNO3/5% HCl, Lot 232617/231497	250 mL	CALSTD-1_00004	0.25 mL	Lead	100 ug/L
.CALSTD-1_00004	11/02/24	CPI, Lot 1321095			(Purchased Reagent)		Lead	100 mg/L
ms 77 ccv_03135	12/21/23	12/20/23	5%HNO3/5% HCl, Lot 232617/231497	200 mL	ms 77 cal std_03128	100 mL	Lead	50 ug/L
.ms 77 cal std_03128	12/21/23	12/20/23	5%HNO3/5% HCl, Lot 232617/231497	250 mL	CALSTD-1_00004	0.25 mL	Lead	100 ug/L
..CALSTD-1_00004	11/02/24	CPI, Lot 1321095			(Purchased Reagent)		Lead	100 mg/L
ms 77 icsa_00712	12/27/23	12/20/23	5%HNO3/5% HCl, Lot 230665/'22c1662007	100 mL	MS ICSA STOCK_00051	5 mL	Al	100 mg/L
							Ca	100 mg/L
							Fe	100 mg/L
							K	100 mg/L
							Mg	100 mg/L
							Mo	2 mg/L
							Na	100 mg/L
					MS ICSA STOCK_00052	5 mL	Al	100 mg/L
							Ca	100 mg/L
							Fe	100 mg/L
							K	100 mg/L
							Mg	100 mg/L
							Mo	2 mg/L
							Na	100 mg/L
.MS ICSA STOCK_00051	04/20/24	CPI, Lot 1267033-1			(Purchased Reagent)		Al	1000 mg/L
							Ca	1000 mg/L
							Fe	1000 mg/L
							K	1000 mg/L
							Mg	1000 mg/L
							Mo	20 mg/L
							Na	1000 mg/L
.MS ICSA STOCK_00052	03/27/24	IV, Lot s2-meb706044			(Purchased Reagent)		Al	1000 mg/L
							Ca	1000 mg/L
							Fe	1000 mg/L
							K	1000 mg/L
							Mg	1000 mg/L
							Mo	20 mg/L
							Na	1000 mg/L
ms 77 icsab_00709	12/27/23	12/20/23	5%HNO3/5% HCl, Lot 230665/'22c1662007	100 mL	ICV MIX--3_00001	0.1 mL	U	0.1 mg/L
					ICV MIX-1a_00003	0.1 mL	As	0.1 mg/L
							Ba	0.1 mg/L

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins Denver Job No.: 280-185797-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Be	0.1 mg/L
							Cd	0.1 mg/L
							Co	0.1 mg/L
							Cr	0.1 mg/L
							Cu	0.1 mg/L
							Lead	0.1 mg/L
							Mn	0.1 mg/L
							Ni	0.1 mg/L
							Se	0.1 mg/L
							Sr	0.2 mg/L
							Tl	0.1 mg/L
							V	0.1 mg/L
					ICV MIX-1B_00003	0.1 mL	Mo	2.1 mg/L
							Sb	0.1 mg/L
							Sn	0.1 mg/L
					MS ICSA STOCK_00053	10 mL	Al	102 mg/L
							Ca	107 mg/L
							Fe	102 mg/L
							K	107 mg/L
							Mg	107 mg/L
							Mo	2.1 mg/L
							Na	107 mg/L
					MS ICVMIX--5_00003	0.1 mL	Ag	0.1 mg/L
							Ca	107 mg/L
							K	107 mg/L
							Mg	107 mg/L
							Na	107 mg/L
							Sr	0.2 mg/L
							Th	0.1 mg/L
							Zn	0.1 mg/L
					MS ICVMIX-2_00007	0.1 mL	Al	102 mg/L
							Ca	107 mg/L
							Fe	102 mg/L
							K	107 mg/L
							Mg	107 mg/L
							Na	107 mg/L
.ICV MIX--3_00001	04/24/24		IV, Lot u2-meb731885		(Purchased Reagent)		U	100 mg/L
.ICV MIX-1a_00003	07/31/24		IV, Lot u2-meb734729		(Purchased Reagent)		As	100 mg/L
							Ba	100 mg/L
							Be	100 mg/L
							Cd	100 mg/L
							Co	100 mg/L
							Cr	100 mg/L
							Cu	100 mg/L
							Lead	100 mg/L
							Mn	100 mg/L
							Ni	100 mg/L

Lab Name: Eurofins Denver Job No.: 280-185797-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Se	100 mg/L
							Sr	100 mg/L
							Tl	100 mg/L
							V	100 mg/L
.ICV MIX-1B_00003	07/31/24		IV, Lot u2-meb734068		(Purchased Reagent)		Mo	100 mg/L
							Sb	100 mg/L
							Sn	100 mg/L
.MS ICSA STOCK_00053	11/21/24		IV, Lot u2-meb735840		(Purchased Reagent)		Al	1000 mg/L
							Ca	1000 mg/L
							Fe	1000 mg/L
							K	1000 mg/L
							Mg	1000 mg/L
							Mo	20 mg/L
							Na	1000 mg/L
.MS ICVMIX--5_00003	01/24/24		IV, Lot t2-meb722096		(Purchased Reagent)		Ag	100 mg/L
							Ca	5000 mg/L
							K	5000 mg/L
							Mg	5000 mg/L
							Na	5000 mg/L
							Sr	100 mg/L
							Th	100 mg/L
							Zn	100 mg/L
.MS ICVMIX-2_00007	11/02/24		CPI, Lot 1294936-1		(Purchased Reagent)		Al	2000 mg/L
							Ca	2000 mg/L
							Fe	2000 mg/L
							K	2000 mg/L
							Mg	2000 mg/L
							Na	2000 mg/L
ms 77 icv_03139	12/21/23	12/20/23	5%HNO3/5% HCl, Lot 232617/231497	250 mL	ICV MIX-1a_00003	0.1 mL	Lead	40 ug/L
.ICV MIX-1a_00003	07/31/24		IV, Lot u2-meb734729		(Purchased Reagent)		Lead	100 mg/L
MS 77 LLCCV_02966	12/21/23	12/20/23	5%HNO3/5% HCl, Lot 232617/231497	100 mL	MS LLCCV_00010	1 mL	Lead	0.001 mg/L
.MS LLCCV_00010	11/19/24		IV, Lot t2-meb722097		(Purchased Reagent)		Lead	0.1 mg/L
ms spike 1_00021	05/01/24	11/01/23	1% HNO3, Lot 231496	500 mL	10000 Ca_00027	5 mL	Ca	500000 ug/L
					10000 K_00018	5 mL	K	500000 ug/L
					10000 Mg_00025	5 mL	Mg	500000 ug/L
					10000 Na_00093	5 mL	Na	500000 ug/L
					CALSTD-1_00003	100 mL	As	20000 ug/L
							Ba	20000 ug/L
							Be	20000 ug/L
							Cd	20000 ug/L
							Co	20000 ug/L
							Cr	20000 ug/L
							Cu	20000 ug/L
							Lead	20000 ug/L
							Li	20000 ug/L

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins Denver Job No.: 280-185797-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Mn	20000 ug/L
							Mo	20000 ug/L
							Ni	20000 ug/L
							Sb	20000 ug/L
							Se	20000 ug/L
							Si	200000 ug/L
							SiO2	428000 ug/L
							Sn	20000 ug/L
							Sr	20000 ug/L
							Tl	20000 ug/L
							V	20000 ug/L
					MS CALSTD-2_00104	100 mL	Al	400000 ug/L
							Ca	500000 ug/L
							Fe	400000 ug/L
							K	500000 ug/L
							Mg	500000 ug/L
							Na	500000 ug/L
.10000 Ca_00027	08/28/24		CPI, Lot 1268108-19		(Purchased Reagent)		Ca	10000 mg/L
.10000 K_00018	08/28/24		CPI, Lot 1137797-60		(Purchased Reagent)		K	10000 mg/L
.10000 Mg_00025	08/28/24		CPI, Lot 1303817-6		(Purchased Reagent)		Mg	10000 mg/L
.10000 Na_00093	03/06/26		CPI, Lot 1390063		(Purchased Reagent)		Na	10000 mg/L
.CALSTD-1_00003	07/10/24		CPI, Lot 1321095		(Purchased Reagent)		As	100 mg/L
							Ba	100 mg/L
							Be	100 mg/L
							Cd	100 mg/L
							Co	100 mg/L
							Cr	100 mg/L
							Cu	100 mg/L
							Lead	100 mg/L
							Li	100 mg/L
							Mn	100 mg/L
							Mo	100 mg/L
							Ni	100 mg/L
							Sb	100 mg/L
							Se	100 mg/L
							Si	1000 mg/L
							SiO2	2140 mg/L
							Sn	100 mg/L
							Sr	100 mg/L
							Tl	100 mg/L
							V	100 mg/L
.MS CALSTD-2_00104	05/30/24		CPI, Lot 1274823-1		(Purchased Reagent)		Al	2000 mg/L
							Ca	2000 mg/L
							Fe	2000 mg/L
							K	2000 mg/L
							Mg	2000 mg/L
							Na	2000 mg/L

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins Denver Job No.: 280-185797-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
MS spike 2_00110	03/27/24	11/04/23	1% HNO3, Lot 231496	500 mL	1000 Ag_00018	10 mL	Ag	20 mg/L
					1000 Sr_00017	10 mL	Sr	20 mg/L
					1000 U_00046	10 mL	U	20 mg/L
					1000 Zn_00031	10 mL	Zn	20 mg/L
					10000 Th_00030	1 mL	Th	20 mg/L
.1000 Ag_00018	03/27/24	CPI, Lot 1211976-35			(Purchased Reagent)		Ag	1000 mg/L
.1000 Sr_00017	07/13/24	CPI, Lot 1194650-27			(Purchased Reagent)		Sr	1000 mg/L
.1000 U_00046	07/13/24	CPI, Lot 1249254-2			(Purchased Reagent)		U	1000 mg/L
.1000 Zn_00031	03/05/26	CPI, Lot 1390097			(Purchased Reagent)		Zn	1000 mg/L
.10000 Th_00030	04/03/26	CPI, Lot 1396827			(Purchased Reagent)		Th	10000 mg/L
mv-Cent BFB_00007							1,2-Dichloroethene, Total	
							1,3-Dichloropropene, Total	
							Tentatively Identified Compound	
							Total BTEX	
							Trihalomethanes, Total	
							Xylenes, Total	
					mv-IS/SS Tune_00001	10 mL	BFB	50 ug/mL
.mv-IS/SS Tune_00001	11/30/23	Restek, Lot A0143593			(Purchased Reagent)		BFB	250 ug/mL
mv-Cent IS_00008	07/31/24	08/01/23	P&T Methanol, Lot 1996628	5 mL	mv-30241_00010	0.1 mL	1,4-Dichlorobenzene-d4	50 ug/mL
							Chlorobenzene-d5	50 ug/mL
							Fluorobenzene	50 ug/mL
.mv-30241_00010	01/31/27	Restek, Lot A0180349			(Purchased Reagent)		1,4-Dichlorobenzene-d4	2500 ug/mL
							Chlorobenzene-d5	2500 ug/mL
							Fluorobenzene	2500 ug/mL
MV-Gas A_00174	01/08/24	12/06/23	P&T Methanol, Lot 198123	12.5 mL	MV-569722_00023	1250 uL	Bromomethane	250 ug/mL
							Chloroethane	250 ug/mL
							Chloromethane	250 ug/mL
							Dichlorodifluoromethane	250 ug/mL
							Dichlorofluoromethane	250 ug/mL
							Trichlorofluoromethane	250 ug/mL
							Vinyl chloride	250 ug/mL
					MV-569723_00018	1250 uL	2-Chloroethyl vinyl ether	250 ug/mL
.MV-569722_00023	05/31/26	RESTEK, Lot A0198219			(Purchased Reagent)		Bromomethane	2500 ug/mL
							Chloroethane	2500 ug/mL
							Chloromethane	2500 ug/mL
							Dichlorodifluoromethane	2500 ug/mL
							Dichlorofluoromethane	2500 ug/mL
							Trichlorofluoromethane	2500 ug/mL
							Vinyl chloride	2500 ug/mL
.MV-569723_00018	01/31/26	RESTEK, Lot A0193735			(Purchased Reagent)		2-Chloroethyl vinyl ether	2500 ug/mL
MV-Gas B_00152	12/26/23	11/27/23	P&T Methanol, Lot ea1899-us	12.5 mL	MV-569722.sec_00017	1250 uL	Chloroethane	250 ug/mL
							Chloromethane	250 ug/mL
							Dichlorodifluoromethane	250 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins Denver Job No.: 280-185797-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Trichlorofluoromethane	250 ug/mL
							Vinyl chloride	250 ug/mL
					MV-569723.sec_00015	1250 uL	2-Chloroethyl vinyl ether	250 ug/mL
.MV-569722.sec_00017	05/31/26		RESTEK, Lot A0197640		(Purchased Reagent)		Chloroethane	2500 ug/mL
							Chloromethane	2500 ug/mL
							Dichlorodifluoromethane	2500 ug/mL
							Trichlorofluoromethane	2500 ug/mL
							Vinyl chloride	2500 ug/mL
.MV-569723.sec_00015	01/31/26		RESTEK, Lot A0193808		(Purchased Reagent)		2-Chloroethyl vinyl ether	2500 ug/mL
mv-IS_SS_00074	04/01/24	12/01/23	P&T Methanol, Lot 198123	50 mL	mv-30241_00012	1000 uL	1,4-Dichlorobenzene-d4	50 ug/mL
							Chlorobenzene-d5	50 ug/mL
							Fluorobenzene	50 ug/mL
					MV-567650_00030	1000 uL	1,2-Dichloroethane-d4 (Surr)	50 ug/mL
							4-Bromofluorobenzene (Surr)	50 ug/mL
							Dibromofluoromethane (Surr)	50 ug/mL
							Toluene-d8 (Surr)	50 ug/mL
.mv-30241_00012	05/31/27		Restek, Lot A0185733		(Purchased Reagent)		1,4-Dichlorobenzene-d4	2500 ug/mL
							Chlorobenzene-d5	2500 ug/mL
							Fluorobenzene	2500 ug/mL
.MV-567650_00030	05/31/26		Restek, Lot A0172587		(Purchased Reagent)		1,2-Dichloroethane-d4 (Surr)	2500 ug/mL
							4-Bromofluorobenzene (Surr)	2500 ug/mL
							Dibromofluoromethane (Surr)	2500 ug/mL
							Toluene-d8 (Surr)	2500 ug/mL
MV-MegaMain B_00094	12/18/23	11/16/23	P&T Methanol, Lot 181124	25 mL	MV-569721.sec_00011	800 uL	2-Butanone (MEK)	400 ug/mL
							2-Hexanone	400 ug/mL
							4-Methyl-2-pentanone (MIBK)	400 ug/mL
							Acetone	400 ug/mL
					MV-569724.sec_00037	1000 uL	Vinyl acetate	200 ug/mL
					MV-569727.sec_00013	3000 uL	Cyclohexanone	3000 ug/mL
					MV-571992.sec_00010	1000 uL	1,1,1-Trichloroethane	100 ug/mL
							1,1,2,2-Tetrachloroethane	100 ug/mL
							1,1,2-Trichloroethane	100 ug/mL
							1,1-Dichloroethane	100 ug/mL
							1,1-Dichloroethylene	100 ug/mL
							1,1-Dichloropropene	100 ug/mL
							1,2,3-Trichlorobenzene	100 ug/mL
							1,2,3-Trichloropropane	100 ug/mL
							1,2,4-Trichlorobenzene	100 ug/mL
							1,2,4-Trimethylbenzene	100 ug/mL
							1,2-Dibromo-3-Chloropropane	100 ug/mL
							1,2-Dibromoethane	100 ug/mL
							1,2-Dichlorobenzene	100 ug/mL
							1,2-Dichloroethane	100 ug/mL
							1,2-Dichloropropane	100 ug/mL
							1,3,5-Trimethylbenzene	100 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins Denver Job No.: 280-185797-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							1,3-Dichlorobenzene	100 ug/mL
							1,3-Dichloropropane	100 ug/mL
							1,4-Dichlorobenzene	100 ug/mL
							2,2-Dichloropropane	100 ug/mL
							4-Isopropyltoluene	100 ug/mL
							Acrylonitrile	1000 ug/mL
							Benzene	100 ug/mL
							Bromobenzene	100 ug/mL
							Bromochloromethane	100 ug/mL
							Bromodichloromethane	100 ug/mL
							Bromoform	100 ug/mL
							Carbon disulfide	100 ug/mL
							Carbon tetrachloride	100 ug/mL
							Chlorobenzene	100 ug/mL
							Chloroform	100 ug/mL
							cis-1,2-Dichloroethylene	100 ug/mL
							cis-1,3-Dichloropropene	100 ug/mL
							Cyclohexane	100 ug/mL
							Dibromochloromethane	100 ug/mL
							Dibromomethane	100 ug/mL
							Ethylbenzene	100 ug/mL
							Hexachlorobutadiene	100 ug/mL
							Isopropylbenzene	100 ug/mL
							Methyl tert-butyl ether	100 ug/mL
							Methylcyclohexane	100 ug/mL
							Methylene Chloride	100 ug/mL
							n-Butylbenzene	100 ug/mL
							n-Hexane	100 ug/mL
							N-Propylbenzene	100 ug/mL
							Naphthalene	100 ug/mL
							o-Chlorotoluene	100 ug/mL
							p-Chlorotoluene	100 ug/mL
							sec-Butylbenzene	100 ug/mL
							Styrene	100 ug/mL
							tert-Butylbenzene	100 ug/mL
							Tetrachloroethene	100 ug/mL
							Toluene	100 ug/mL
							trans-1,2-Dichloroethylene	100 ug/mL
							trans-1,3-Dichloropropene	100 ug/mL
							Trichloroethene	100 ug/mL
							Xylenes, Total	200 ug/mL
.MV-569721.sec_00011	02/28/26		RESTEK, Lot A0194631		(Purchased Reagent)		2-Butanone (MEK)	12500 ug/mL
							2-Hexanone	12500 ug/mL
							4-Methyl-2-pentanone (MIBK)	12500 ug/mL
							Acetone	12500 ug/mL
.MV-569724.sec_00037	11/30/24		RESTEK, Lot A0197959		(Purchased Reagent)		Vinyl acetate	5000 ug/mL
.MV-569727.sec_00013	03/31/26		RESTEK, Lot A0195344		(Purchased Reagent)		Cyclohexanone	25000 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins Denver Job No.: 280-185797-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
.MV-571992.sec_00010	08/31/25		RESTEK, Lot A0195252		(Purchased Reagent)		1,1,1-Trichloroethane	2500 ug/mL
							1,1,2,2-Tetrachloroethane	2500 ug/mL
							1,1,2-Trichloroethane	2500 ug/mL
							1,1-Dichloroethane	2500 ug/mL
							1,1-Dichloroethylene	2500 ug/mL
							1,1-Dichloropropene	2500 ug/mL
							1,2,3-Trichlorobenzene	2500 ug/mL
							1,2,3-Trichloropropane	2500 ug/mL
							1,2,4-Trichlorobenzene	2500 ug/mL
							1,2,4-Trimethylbenzene	2500 ug/mL
							1,2-Dibromo-3-Chloropropane	2500 ug/mL
							1,2-Dibromoethane	2500 ug/mL
							1,2-Dichlorobenzene	2500 ug/mL
							1,2-Dichloroethane	2500 ug/mL
							1,2-Dichloropropane	2500 ug/mL
							1,3,5-Trimethylbenzene	2500 ug/mL
							1,3-Dichlorobenzene	2500 ug/mL
							1,3-Dichloropropane	2500 ug/mL
							1,4-Dichlorobenzene	2500 ug/mL
							2,2-Dichloropropane	2500 ug/mL
							4-Isopropyltoluene	2500 ug/mL
							Acrylonitrile	25000 ug/mL
							Benzene	2500 ug/mL
							Bromobenzene	2500 ug/mL
							Bromochloromethane	2500 ug/mL
							Bromodichloromethane	2500 ug/mL
							Bromoform	2500 ug/mL
							Carbon disulfide	2500 ug/mL
							Carbon tetrachloride	2500 ug/mL
							Chlorobenzene	2500 ug/mL
							Chloroform	2500 ug/mL
							cis-1,2-Dichloroethylene	2500 ug/mL
							cis-1,3-Dichloropropene	2500 ug/mL
							Cyclohexane	2500 ug/mL
							Dibromochloromethane	2500 ug/mL
							Dibromomethane	2500 ug/mL
							Ethylbenzene	2500 ug/mL
							Hexachlorobutadiene	2500 ug/mL
							Isopropylbenzene	2500 ug/mL
							Methyl tert-butyl ether	2500 ug/mL
							Methylcyclohexane	2500 ug/mL
							Methylene Chloride	2500 ug/mL
							n-Butylbenzene	2500 ug/mL
							n-Hexane	2500 ug/mL
							N-Propylbenzene	2500 ug/mL
							Naphthalene	2500 ug/mL
							o-Chlorotoluene	2500 ug/mL

Lab Name: Eurofins Denver Job No.: 280-185797-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							p-Chlorotoluene	2500 ug/mL
							sec-Butylbenzene	2500 ug/mL
							Styrene	2500 ug/mL
							tert-Butylbenzene	2500 ug/mL
							Tetrachloroethene	2500 ug/mL
							Toluene	2500 ug/mL
							trans-1,2-Dichloroethylene	2500 ug/mL
							trans-1,3-Dichloropropene	2500 ug/mL
							Trichloroethene	2500 ug/mL
							Xylenes, Total	5000 ug/mL
MV-MegaMainA_00100	01/11/24	12/06/23	P&T Methanol, Lot 181124	25 mL	MV-568720_00046	1250 uL	Acrolein	987.5 ug/mL
					MV-569721_00015	800 uL	2-Butanone (MEK)	400 ug/mL
							2-Hexanone	400 ug/mL
							4-Methyl-2-pentanone (MIBK)	400 ug/mL
							Acetone	400 ug/mL
					MV-569724_00037	1000 uL	Vinyl acetate	200 ug/mL
					MV-569727_00024	3000 uL	Cyclohexanone	3000 ug/mL
					MV-571992_00015	1000 uL	1,1,1,2-Tetrachloroethane	100 ug/mL
							1,1,1-Trichloroethane	100 ug/mL
							1,1,2,2-Tetrachloroethane	100 ug/mL
							1,1,2-Trichloro-1,2,2-trifluoroethane	100 ug/mL
							1,1,2-Trichloroethane	100 ug/mL
							1,1-Dichloroethane	100 ug/mL
							1,1-Dichloroethylene	100 ug/mL
							1,1-Dichloropropene	100 ug/mL
							1,2,3-Trichlorobenzene	100 ug/mL
							1,2,3-Trichloropropane	100 ug/mL
							1,2,4-Trichlorobenzene	100 ug/mL
							1,2,4-Trimethylbenzene	100 ug/mL
							1,2-Dibromo-3-Chloropropane	100 ug/mL
							1,2-Dibromoethane	100 ug/mL
							1,2-Dichlorobenzene	100 ug/mL
							1,2-Dichloroethane	100 ug/mL
							1,2-Dichloropropane	100 ug/mL
							1,3,5-Trimethylbenzene	100 ug/mL
							1,3-Dichlorobenzene	100 ug/mL
							1,3-Dichloropropane	100 ug/mL
							1,4-Dichlorobenzene	100 ug/mL
							1,4-Dioxane	2000 ug/mL
							2,2-Dichloropropane	100 ug/mL
							2-Methyl-2-propanol	1000 ug/mL
							3-Chloro-1-propene	100 ug/mL
							4-Isopropyltoluene	100 ug/mL
							Acrylonitrile	1000 ug/mL
							Benzene	100 ug/mL

Lab Name: Eurofins Denver Job No.: 280-185797-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Bromobenzene	100 ug/mL
							Bromochloromethane	100 ug/mL
							Bromodichloromethane	100 ug/mL
							Bromoform	100 ug/mL
							Carbon disulfide	100 ug/mL
							Carbon tetrachloride	100 ug/mL
							Chlorobenzene	100 ug/mL
							Chloroform	100 ug/mL
							cis-1,2-Dichloroethylene	100 ug/mL
							cis-1,3-Dichloropropene	100 ug/mL
							Cyclohexane	100 ug/mL
							Dibromochloromethane	100 ug/mL
							Dibromomethane	100 ug/mL
							Ethyl ether	100 ug/mL
							Ethyl methacrylate	100 ug/mL
							Ethylbenzene	100 ug/mL
							Hexachlorobutadiene	100 ug/mL
							Iodomethane	100 ug/mL
							Isobutyl alcohol	2500 ug/mL
							Isopropylbenzene	100 ug/mL
							m-Xylene & p-Xylene	100 ug/mL
							Methyl acetate	200 ug/mL
							Methyl tert-butyl ether	100 ug/mL
							Methylcyclohexane	100 ug/mL
							Methylene Chloride	100 ug/mL
							n-Butylbenzene	100 ug/mL
							n-Heptane	100 ug/mL
							n-Hexane	100 ug/mL
							N-Propylbenzene	100 ug/mL
							Naphthalene	100 ug/mL
							o-Chlorotoluene	100 ug/mL
							o-Xylene	100 ug/mL
							p-Chlorotoluene	100 ug/mL
							sec-Butylbenzene	100 ug/mL
							Styrene	100 ug/mL
							tert-Butylbenzene	100 ug/mL
							Tetrachloroethene	100 ug/mL
							Tetrahydrofuran	200 ug/mL
							Toluene	100 ug/mL
							trans-1,2-Dichloroethylene	100 ug/mL
							trans-1,3-Dichloropropene	100 ug/mL
							trans-1,4-Dichloro-2-butene	100 ug/mL
							Trichloroethene	100 ug/mL
					MV-CUS17739.s_00011	2000 uL	1-Chlorohexane	80 ug/mL
							2-Pentanone	320 ug/mL
							sec-Butyl Alcohol	2400 ug/mL
.MV-568720_00046	07/31/24		RESTEK, Lot A0193730		(Purchased Reagent)		Acrolein	19750 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins Denver Job No.: 280-185797-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
.MV-569721_00015	01/31/26		RESTEK, Lot A0193494		(Purchased Reagent)		2-Butanone (MEK)	12500 ug/mL
							2-Hexanone	12500 ug/mL
							4-Methyl-2-pentanone (MIBK)	12500 ug/mL
							Acetone	12500 ug/mL
.MV-569724_00037	01/31/25		RESTEK, Lot A0200199		(Purchased Reagent)		Vinyl acetate	5000 ug/mL
.MV-569727_00024	04/30/26		RESTEK, Lot A0197009		(Purchased Reagent)		Cyclohexanone	25000 ug/mL
.MV-571992_00015	09/30/24		RESTEK, Lot A0183568		(Purchased Reagent)		1,1,1,2-Tetrachloroethane	2500 ug/mL
							1,1,1-Trichloroethane	2500 ug/mL
							1,1,2,2-Tetrachloroethane	2500 ug/mL
							1,1,2-Trichloro-1,2,2-trifluoroethane	2500 ug/mL
							1,1,2-Trichloroethane	2500 ug/mL
							1,1-Dichloroethane	2500 ug/mL
							1,1-Dichloroethylene	2500 ug/mL
							1,1-Dichloropropene	2500 ug/mL
							1,2,3-Trichlorobenzene	2500 ug/mL
							1,2,3-Trichloropropane	2500 ug/mL
							1,2,4-Trichlorobenzene	2500 ug/mL
							1,2,4-Trimethylbenzene	2500 ug/mL
							1,2-Dibromo-3-Chloropropane	2500 ug/mL
							1,2-Dibromoethane	2500 ug/mL
							1,2-Dichlorobenzene	2500 ug/mL
							1,2-Dichloroethane	2500 ug/mL
							1,2-Dichloropropane	2500 ug/mL
							1,3,5-Trimethylbenzene	2500 ug/mL
							1,3-Dichlorobenzene	2500 ug/mL
							1,3-Dichloropropane	2500 ug/mL
							1,4-Dichlorobenzene	2500 ug/mL
							1,4-Dioxane	50000 ug/mL
							2,2-Dichloropropane	2500 ug/mL
							2-Methyl-2-propanol	25000 ug/mL
							3-Chloro-1-propene	2500 ug/mL
							4-Isopropyltoluene	2500 ug/mL
							Acrylonitrile	25000 ug/mL
							Benzene	2500 ug/mL
							Bromobenzene	2500 ug/mL
							Bromochloromethane	2500 ug/mL
							Bromodichloromethane	2500 ug/mL
							Bromoform	2500 ug/mL
							Carbon disulfide	2500 ug/mL
							Carbon tetrachloride	2500 ug/mL
							Chlorobenzene	2500 ug/mL
							Chloroform	2500 ug/mL
							cis-1,2-Dichloroethylene	2500 ug/mL
							cis-1,3-Dichloropropene	2500 ug/mL
							Cyclohexane	2500 ug/mL
							Dibromochloromethane	2500 ug/mL
							Dibromomethane	2500 ug/mL

Lab Name: Eurofins Denver Job No.: 280-185797-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Ethyl ether	2500 ug/mL
							Ethyl methacrylate	2500 ug/mL
							Ethylbenzene	2500 ug/mL
							Hexachlorobutadiene	2500 ug/mL
							Iodomethane	2500 ug/mL
							Isobutyl alcohol	62500 ug/mL
							Isopropylbenzene	2500 ug/mL
							m-Xylene & p-Xylene	2500 ug/mL
							Methyl acetate	5000 ug/mL
							Methyl tert-butyl ether	2500 ug/mL
							Methylcyclohexane	2500 ug/mL
							Methylene Chloride	2500 ug/mL
							n-Butylbenzene	2500 ug/mL
							n-Heptane	2500 ug/mL
							n-Hexane	2500 ug/mL
							N-Propylbenzene	2500 ug/mL
							Naphthalene	2500 ug/mL
							o-Chlorotoluene	2500 ug/mL
							o-Xylene	2500 ug/mL
							p-Chlorotoluene	2500 ug/mL
							sec-Butylbenzene	2500 ug/mL
							Styrene	2500 ug/mL
							tert-Butylbenzene	2500 ug/mL
							Tetrachloroethene	2500 ug/mL
							Tetrahydrofuran	5000 ug/mL
							Toluene	2500 ug/mL
							trans-1,2-Dichloroethylene	2500 ug/mL
							trans-1,3-Dichloropropene	2500 ug/mL
							trans-1,4-Dichloro-2-butene	2500 ug/mL
							Trichloroethene	2500 ug/mL
.MV-CUS17739.s_00011	05/31/24	Agilent, Lot 6676357.sec			(Purchased Reagent)		1-Chlorohexane	1000 ug/mL
							2-Pentanone	4000 ug/mL
							sec-Butyl Alcohol	30000 ug/mL
MV-MegaMainA_00100	01/11/24	12/06/23	P&T Methanol, Lot 181124	25 mL	MV-571992_00015	1000 uL	Xylenes, Total	200 ug/mL
.MV-571992_00015	09/30/24	RESTEK, Lot A0183568			(Purchased Reagent)		Xylenes, Total	5000 ug/mL
MV-Supp A_00087	01/31/24	11/30/23	P&T Methanol, Lot 199628	20 mL	mv-570808_00016	400 uL	1,2,3-Trimethylbenzene	50 ug/mL
							1,3,5-Trichlorobenzene	50 ug/mL
							2-Chloro-1,3-butadiene	50 ug/mL
							2-Nitropropane	100 ug/mL
							Isopropyl alcohol	500 ug/mL
							Methacrylonitrile	500 ug/mL
							n-Butanol	1250 ug/mL
					mv-570809_00014	400 uL	Ethyl acetate	100 ug/mL
							Methyl methacrylate	100 ug/mL
					mv-571993_00010	400 uL	Acetonitrile	500 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins Denver Job No.: 280-185797-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Isopropyl ether	50 ug/mL
							Propionitrile	500 ug/mL
							Tert-amyl methyl ether	50 ug/mL
							Tert-butyl ethyl ether	50 ug/mL
					mv-571994_00009	600 uL	Ethanol	3000 ug/mL
					Z-020209-01_00004	2000 uL	cis-1,4-Dichloro-2-butene	100 ug/mL
.mv-570808_00016	09/30/24		Restek, Lot A0195733		(Purchased Reagent)		1,2,3-Trimethylbenzene	2500 ug/mL
							1,3,5-Trichlorobenzene	2500 ug/mL
							2-Chloro-1,3-butadiene	2500 ug/mL
							2-Nitropropane	5000 ug/mL
							Isopropyl alcohol	25000 ug/mL
							Methacrylonitrile	25000 ug/mL
							n-Butanol	62500 ug/mL
.mv-570809_00014	01/31/25		Restek, Lot A0200274		(Purchased Reagent)		Ethyl acetate	5000 ug/mL
							Methyl methacrylate	5000 ug/mL
.mv-571993_00010	02/28/25		RESTEK, Lot A0194786		(Purchased Reagent)		Acetonitrile	25000 ug/mL
							Isopropyl ether	2500 ug/mL
							Propionitrile	25000 ug/mL
							Tert-amyl methyl ether	2500 ug/mL
							Tert-butyl ethyl ether	2500 ug/mL
.mv-571994_00009	07/31/25		RESTEK, Lot A0187957		(Purchased Reagent)		Ethanol	100000 ug/mL
.Z-020209-01_00004	08/15/25		CPI, Lot 507909		(Purchased Reagent)		cis-1,4-Dichloro-2-butene	1000 ug/mL
MV-Supp B_00068	01/08/24	11/30/23	P&T Methanol, Lot 127999	20 mL	mv-570808.sec_00009	400 uL	1,2,3-Trimethylbenzene	50 ug/mL
					mv-571993.sec_00008	400 uL	Isopropyl ether	50 ug/mL
.mv-570808.sec_00009	07/31/24		Restek, Lot A0193865		(Purchased Reagent)		1,2,3-Trimethylbenzene	2500 ug/mL
.mv-571993.sec_00008	09/30/24		RESTEK, Lot A0189867		(Purchased Reagent)		Isopropyl ether	2500 ug/mL
NXN CAL INT_00699	01/03/24	12/27/23	Di Water, Lot NA	100 mL	NOXT Cal STD_00028	10 mL	Nitrate Nitrite as N	100 mg/L
.NOXT Cal STD_00028	10/30/24		RICCA, Lot 1304R00		(Purchased Reagent)		Nitrate Nitrite as N	1000 mg/L
NXN ICV INT_00676	01/03/24	12/27/23	Di Water, Lot NA	100 mL	NOXT ICV STD_00032	10 mL	Nitrate Nitrite as N	100 mg/L
.NOXT ICV STD_00032	08/30/24		RICCA, Lot 2302K34		(Purchased Reagent)		Nitrate Nitrite as N	1000 mg/L

Reagent

1000 Ag_00018

CPI INTERNATIONAL

7396303
ID: 1000 Ag_00018
Exp:03/27/24 Prpd:LRD Opn:10/06/22
1000 Ag CPI

CERTIFICATE OF ANALYSIS

Single-Element Aqueous CRM

Product #: TA-1000511

SE Std Silver (Ag) – 1000 µg/mL

Product Lot #: 1211976-35

Matrix: 5% HNO_3

Source Material Lot #: X24E070

Element	Certified Concentration & Uncertainty
Ag	1006 ± 2 µg/mL (w/v)
	999.0 ± 2.0 µg/g (w/w)

Intended Use: This solution is intended for use as a certified reference material (CRM) or calibration standard for inductively coupled plasma optical emission spectroscopy (ICP-OES), inductively coupled plasma mass spectrometry (ICP-MS), flame or furnace atomic absorption spectroscopy (AA or GFAA), and other techniques for elemental analysis.

Certification & Traceability: This CRM was manufactured, processed, and/or certified under a quality management system that is registered/accredited to **ISO 9001**, **ISO 17034**, and **ISO/IEC 17025**. This CRM was prepared to a nominal concentration of 1000 µg/mL by gravimetric methods using 99.999% pure silver (Ag) dissolved in high purity nitric acid (HNO_3) and diluted with filtered (0.22 µm), 18 M-ohm deionized water. The balances used in the preparation of this CRM are calibrated regularly with traceability to NIST, using a calibration provider that is accredited to ISO/IEC 17025 by a mutually recognized accreditation body. All volumetric dilutions are performed in Class A calibrated glassware. The certified concentration and uncertainty were determined using the "High Performance ICP-OES" protocol developed by NIST, and both the certified concentration and uncertainty values are traceable to **NIST SRM 3151, lot #160729**. The uncertainty associated with the certified concentration represents the expanded uncertainty at the 95% confidence level using a coverage factor of k=2.

Indicative Values: ICP-MS was used to determine trace metal concentrations for this product (nd = not determined).

Trace Concentrations (µg/L)

Ag	MAJOR	Co	<1	Ge	<0.5	Lu	<0.2	P	<100	Sb	<0.5	Te	<1
Al	<2	Cs	<0.5	Hf	<0.2	Mg	<5	Pb	<1	Sc	<5	Ti	<2
As	<2	Cr	<0.5	Hg	<0.5	Mn	<1	Pd	<0.5	Se	<2	Tl	<0.5
Au	<0.5	Cu	<1	Ho	<0.2	Mo	<0.5	Pr	<0.2	Si	<100	Tm	<0.2
B	<5	Dy	<0.2	In	nd	Na	<25	Pt	<0.5	Sm	<0.2	V	<1
Ba	<1	Er	<0.2	Ir	<0.2	Nb	<0.5	Rb	<0.5	Sn	<0.5	W	<0.5
Bi	0.6	Eu	<0.2	K	<25	Nd	<0.2	Re	<0.2	Sr	<1	Y	<0.5
Ca	<25	Fe	<10	La	<0.5	Ni	<2	Rh	<0.5	Ta	<0.5	Yb	<0.2
Cd	0.6	Ga	<0.5	Li	<2	Os	<0.5	Ru	<0.5	Tb	<0.5	Zn	<2
Ce	<0.2	Gd	<0.2										

Instructions for Use: We recommend that the solution be thoroughly mixed by repeated shaking or swirling of the bottle immediately prior to use. To achieve the highest accuracy, the analyst should: (1) use only pre-cleaned containers and transferware, (2) not pipette directly from the CRM's original container, (3) never pour used product back into the original container, (4) make dilutions using calibrated balances or certified class A volumetric flasks and pipettes, (5) use a minimum sub-sample size of 500 µL, and (6) dilute with the same matrix as the original CRM or other chemically suitable matrix. The solution should be kept tightly capped and stored under normal laboratory conditions. Do not freeze, heat, or immerse the bottle or its contents, and avoid exposure to direct sunlight or moisture.

Period of Validity: CPI International ensures the accuracy of this solution for **18 months** from the certification date shown below, provided the instructions for use are followed. During the period of validity, the purchaser will be notified if this product is recalled due to any significant changes in the stability of the solution.

Chuck Goudreau

Chuck Goudreau, Certifying Officer

September 27, 2022
Certification Date

CPI International waives all responsibility for any damages resulting from the usage and/or implementation of the products/data described herein.

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Health and Safety Information: Refer to the Safety Data Sheet (SDS).

Homogeneity: This solution was determined to be homogeneous by procedures consistent with the requirements of ISO 17034 and ISO Guide 35. Replicate samples of the finished solution were analyzed to confirm its homogeneity, in accordance with internal procedures for the assessment of homogeneity and stability. To ensure homogeneity, users should not take a smaller sub-sample than specified in the Instructions for Use, as doing so will invalidate the certified values and uncertainties.

Further Information: Please contact CPI International for further information about this material.

Quality Certifications: This material was prepared under a quality management system that is registered/accredited to the following:

- ISO 17034 Accredited: Reference Materials Producer, A2LA Certificate No. 2848.02 – General Requirements for the Competence of Reference Material Producers
    - ISO 17034 references additional requirements specified in ISO Guide 31 and ISO Guide 35
- ISO/IEC 17025 Accredited: Chemical Testing, A2LA Certificate No. 2848.01 – General Requirements for the Competence of Testing and Calibration Laboratories
- ISO 9001 Certified: Quality Management Systems, Certificate Registration No. 56 100 19560101 – Requirements *(Registrar: TUV NORD)*

Reagent

1000 Sr_00017

CPI INTERNATIONAL

CERTIFICATE OF ANALYSIS

Single-Element Aqueous CRM

Product #: TA-1000531

SE Std Strontium (Sr) – 1000 µg/mL

Lot #: 1194650-27

Matrix: 5% HNO_3

Source Material Lot #: SRZ082018A1/SRE082017A2

Element	Certified Concentration & Uncertainty
Sr	997.0 ± 6.0 µg/mL (w/v)
	992.0 ± 6.0 µg/g (w/w)

Intended Use: This solution is intended for use as a certified reference material (CRM) or calibration standard for inductively coupled plasma optical emission spectroscopy (ICP-OES), inductively coupled plasma mass spectrometry (ICP-MS), flame or furnace atomic absorption spectroscopy (AA or GFAA), and other techniques for elemental analysis.

Certification & Traceability: This CRM was manufactured, processed, and/or certified under a quality management system that is registered/accredited to **ISO 9001**, **ISO 17034**, and **ISO/IEC 17025**. This CRM was prepared to a nominal concentration of 1000 µg/mL by gravimetric methods using 99.9965% pure strontium nitrate [$Sr(NO_3)_2$] dissolved in high purity nitric acid (HNO_3) and diluted with filtered (0.22 µm), 18 M-ohm deionized water. The balances used in the preparation of this CRM are calibrated regularly with traceability to NIST, using a calibration provider that is accredited to ISO/IEC 17025 by a mutually recognized accreditation body. All volumetric dilutions are performed in Class A calibrated glassware. The certified concentration and uncertainty were determined using the "High Performance ICP-OES" protocol developed by NIST, and both the certified concentration and uncertainty values are traceable to **NIST SRM 3153a, lot #990906**. The uncertainty associated with the certified concentration represents the expanded uncertainty at the 95% confidence level using a coverage factor of k=2.

Indicative Values: ICP-MS was used to determine trace metal concentrations for this product (nd = not determined).

Trace Concentrations (µg/L)

Ag	<0.5	Co	<1	Ge	<0.5	Lu	<0.2	P	<100	Sb	<0.5	Te	<1
Al	<2	Cs	<0.5	Hf	<0.2	Mg	<5	Pb	<1	Sc	<5	Ti	<2
As	<2	Cr	<0.5	Hg	<0.5	Mn	<1	Pd	<0.5	Se	<2	Tl	<0.5
Au	<0.5	Cu	<1	Ho	<0.2	Mo	<0.5	Pr	<0.2	Si	<100	Tm	<0.2
B	<5	Dy	<0.2	In	nd	Na	<25	Pt	<0.5	Sm	<0.2	V	<1
Ba	64	Er	<0.2	Ir	<0.2	Nb	<0.5	Rb	<0.5	Sn	<0.5	W	<0.5
Bi	<0.2	Eu	<0.2	K	<25	Nd	<0.2	Re	<0.2	Sr	MAJOR	Y	1
Ca	277	Fe	<10	La	<0.5	Ni	<2	Rh	0.8	Ta	<0.5	Yb	<0.2
Cd	<0.5	Ga	<0.5	Li	<2	Os	<0.5	Ru	<0.5	Tb	<0.5	Zn	4
Ce	0.4	Gd	<0.2										

Instructions for Use: We recommend that the solution be thoroughly mixed by repeated shaking or swirling of the bottle immediately prior to use. To achieve the highest accuracy, the analyst should: (1) use only pre-cleaned containers and transferware, (2) not pipette directly from the CRM's original container, (3) never pour used product back into the original container, (4) make dilutions using calibrated balances or certified class A volumetric flasks and pipettes, (5) use a minimum sub-sample size of 500 µL, and (6) dilute with the same matrix as the original CRM or other chemically suitable matrix. The solution should be kept tightly capped and stored under normal laboratory conditions. Do not freeze, heat, or immerse the bottle or its contents, and avoid exposure to direct sunlight or moisture.

Period of Validity: CPI International ensures the accuracy of this solution for **18 months** from the certification date shown below, provided the instructions for use are followed. During the period of validity, the purchaser will be notified if this product is recalled due to any significant changes in the stability of the solution.

Chuck Goudreau

Chuck Goudreau, Certifying Officer

January 13, 2023
Certification Date

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www.cpiinternational.com

Health and Safety Information: Refer to the Safety Data Sheet (SDS).

Homogeneity: This solution was determined to be homogeneous by procedures consistent with the requirements of ISO 17034 and ISO Guide 35. Replicate samples of the finished solution were analyzed to confirm its homogeneity, in accordance with internal procedures for the assessment of homogeneity and stability. To ensure homogeneity, users should not take a smaller sub-sample than specified in the Instructions for Use, as doing so will invalidate the certified values and uncertainties.

Further Information: Please contact CPI International for further information about this material.

Quality Certifications: This material was prepared under a quality management system that is registered/accredited to the following:

- ISO 17034 Accredited: Reference Materials Producer, Certificate No. 2848.02 – General Requirements for the Competence of Reference Material Producers
    - ISO 17034 references additional requirements specified in ISO Guide 31 and ISO Guide 35
- ISO/IEC 17025 Accredited: Chemical Testing, Certificate No. 2848.01 – General Requirements for the Competence of Testing and Calibration Laboratories
- ISO 9001 Certified: Quality Management Systems, Certificate Registration No. 56 100 19560101 – Requirements *(Registrar: TUV NORD)*

This CRM is traceable to the following NIST SRMs:

Analyte	Aq. SRM	MO SRM	Analyte	Aq. SRM	MO SRM	Analyte	Aq. SRM	MO SRM
Ag	3151	-	Hf	3122	-	S	3154	2770
Al	3101a	-	Hg	3133	3133	Sb	3102a	3102a
As	3103a	3103a	Ho	3123a	-	Sc	3148a	3148a
Au	3121	-	In	3124a	3124a	Se	3149	3149
B	3107	3107	K	3141a	3141a	Si	3150	-
Ba	3104a	-	La	3127a	3127a	Sm	3147a	-
Be	3105a	3105a	Li	3129a	3129a	Sn	3161a	-
Bi	3106	3106	Lu	3130a	-	SO_4^{-2}	3181	-
Br	3184	-	Mg	3131a	3131a	Sr	3153a	3153a
Ca	3109a	3109a	Mn	3132	3132	Ta	3155	-
Cd	3108	-	Mo	3134	3134	Tb	3157a	-
Ce	3110	3110	Na	3152a	-	Te	3156	-
Cl	3182	1818a	Nb	3137	-	Th	-	-
Co	3113	3113	Nd	3135a	-	Ti	3162a	3162a
Cr	3112a	-	Ni	3136	-	Tl	3158	3158
Cs	3111a	-	NO_3^-	3185	-	Tm	3160a	-
Cu	3114	-	P	3139a	3139a	U	3164	-
Dy	3115a	-	Pb	3128	-	V	3165	-
Er	3116a	-	Pd	3138	-	W	3163	3163
Eu	3117a	-	PO_4^{-3}	3186	-	Y	3167a	3167a
F-	3183	-	Pr	3142a	-	Yb	3166a	-
Fe	3126a	-	Pt	3140	3140	Zn	3168a	3168a
Ga	3119a	-	Rb	3145a	-	Zr	3169	3169
Gd	3118a	-	Re	3143	-			
Ge	3120a	-	Rh	3144	3144			

Reagent

1000 u_00046

CPI INTERNATIONAL

7676362
ID: 1000 U_00046
Exp:07/13/24 Prpd:LMT Opn:04/11/23
1000 U CPI

CERTIFICATE OF ANALYSIS

Single-Element Aqueous CRM

SE Std Uranium (U) – 1000 µg/mL

Matrix: 5% HNO_3

Product #: TA-1000641

Product Lot #: 1249254-2

Source Material Lot #: 12030222-100

Element	Certified Concentration & Uncertainty
U	995.0 ± 5.0 µg/mL (w/v)
	990.0 ± 5.0 µg/g (w/w)

Intended Use: This solution is intended for use as a certified reference material (CRM) or calibration standard for inductively coupled plasma optical emission spectroscopy (ICP-OES), inductively coupled plasma mass spectrometry (ICP-MS), flame or furnace atomic absorption spectroscopy (AA or GFAA), and other techniques for elemental analysis.

Certification & Traceability: This CRM was manufactured, processed, and/or certified under a quality management system that is registered/accredited to **ISO 9001**, **ISO 17034**, and **ISO/IEC 17025**. This CRM was prepared to a nominal concentration of 1000 µg/mL by gravimetric methods using 99.99% pure uranyl nitrate hexahydrate [$UO_2(NO_3)_2{\cdot}6H_2O$] dissolved in high purity nitric acid (HNO_3) and diluted with filtered (0.22 µm), 18 M-ohm deionized water. The balances used in the preparation of this CRM are calibrated regularly with traceability to NIST, using a calibration provider that is accredited to ISO/IEC 17025 by a mutually recognized accreditation body. All volumetric dilutions are performed in Class A calibrated glassware. The certified concentration and uncertainty were determined using the "High Performance ICP-OES" protocol developed by NIST, and both the certified concentration and uncertainty values are traceable to **NIST SRM 3164, lot #080521**. The uncertainty associated with the certified concentration represents the expanded uncertainty at the 95% confidence level using a coverage factor of k=2.

Indicative Values: ICP-MS was used to determine trace metal concentrations for this product (nd = not determined).

Trace Concentrations (µg/L)

Ag	<0.5	Co	<1	Ge	<0.5	Lu	<0.2	P	<100	Sb	<0.5	Te	<1
Al	<2	Cs	<0.5	Hf	<0.2	Mg	<5	Pb	<1	Sc	<5	Ti	<2
As	<2	Cr	4	Hg	<0.5	Mn	<1	Pd	<0.5	Se	<2	Tl	<0.5
Au	<0.5	Cu	<1	Ho	<0.2	Mo	<0.5	Pr	<0.2	Si	<100	Tm	<0.2
B	<5	Dy	<0.2	In	nd	Na	<25	Pt	<0.5	Sm	<0.2	V	<1
Ba	<1	Er	<0.2	Ir	<0.2	Nb	<0.5	Rb	<0.5	Sn	<0.5	W	<0.5
Bi	<0.2	Eu	<0.2	K	<25	Nd	<0.2	Re	<0.2	Sr	<1	Y	<0.5
Ca	<25	Fe	<10	La	<0.5	Ni	3	Rh	<0.5	Ta	<0.5	Yb	<0.2
Cd	<0.5	Ga	<0.5	Li	<2	Os	<0.5	Ru	<0.5	Tb	<0.5	Zn	<2
Ce	<0.2	Gd	<0.2										

Instructions for Use: We recommend that the solution be thoroughly mixed by repeated shaking or swirling of the bottle immediately prior to use. To achieve the highest accuracy, the analyst should: (1) use only pre-cleaned containers and transferware, (2) not pipette directly from the CRM's original container, (3) never pour used product back into the original container, (4) make dilutions using calibrated balances or certified class A volumetric flasks and pipettes, (5) use a minimum sub-sample size of 500 µL, and (6) dilute with the same matrix as the original CRM or other chemically suitable matrix. The solution should be kept tightly capped and stored under normal laboratory conditions. Do not freeze, heat, or immerse the bottle or its contents, and avoid exposure to direct sunlight or moisture.

Period of Validity: CPI International ensures the accuracy of this solution for **18 months** from the certification date shown below, provided the instructions for use are followed. During the period of validity, the purchaser will be notified if this product is recalled due to any significant changes in the stability of the solution.

Chuck Goudreau

Chuck Goudreau, Certifying Officer

January 13, 2023
Certification Date

CPI International waives all responsibility for any damages resulting from the usage and/or implementation of the products/data described herein.

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Health and Safety Information: Refer to the Safety Data Sheet (SDS).

Homogeneity: This solution was determined to be homogeneous by procedures consistent with the requirements of ISO 17034 and ISO Guide 35. Replicate samples of the finished solution were analyzed to confirm its homogeneity, in accordance with internal procedures for the assessment of homogeneity and stability. To ensure homogeneity, users should not take a smaller sub-sample than specified in the Instructions for Use, as doing so will invalidate the certified values and uncertainties.

Further Information: Please contact CPI International for further information about this material.

Quality Certifications: This material was prepared under a quality management system that is registered/accredited to the following:

- ISO 17034 Accredited: Reference Materials Producer, A2LA Certificate No. 2848.02 – General Requirements for the Competence of Reference Material Producers
    - ISO 17034 references additional requirements specified in ISO Guide 31 and ISO Guide 35
- ISO/IEC 17025 Accredited: Chemical Testing, A2LA Certificate No. 2848.01 – General Requirements for the Competence of Testing and Calibration Laboratories
- ISO 9001 Certified: Quality Management Systems, Certificate Registration No. 56 100 19560101 – Requirements *(Registrar: TUV NORD)*

Reagent

1000 Zn_00031

logged in 9/20/23
logged in tracker
7951016
COA attached

CPI INTERNATIONAL

CERTIFICATE OF ANALYSIS

Single-Element Aqueous CRM

SE Std Zinc (Zn) – 1000 µg/mL

Matrix: 5% HNO_3

7951016
ID: 1000 Zn_00031
Exp: 03/05/26 Prpd:
1000 Zn CPI

Product #: TA-1000681

Lot #: 1390097

Source Material Lot #: Y28D045

*Expiration Date: 5 March 2026

Element	Certified Concentration & Uncertainty
Zn	998.0 ± 5.0 µg/mL (w/v)
	986.0 ± 5.0 µg/g (w/w)

Intended Use: This solution is intended for use as a certified reference material (CRM) or calibration standard for inductively coupled plasma optical emission spectroscopy (ICP-OES), inductively coupled plasma mass spectrometry (ICP-MS), flame or furnace atomic absorption spectroscopy (AA or GFAA), and other techniques for elemental analysis.

Certification & Traceability: This CRM was manufactured, processed, and/or certified under a quality management system that is registered/accredited to **ISO 9001**, **ISO 17034**, and **ISO/IEC 17025**. This CRM was prepared to a nominal concentration of 1000 µg/mL by gravimetric methods using 99.9999% pure zinc (Zn) dissolved in high purity nitric acid (HNO_3) and diluted with filtered (0.22 µm), 18 M-ohm deionized water. The balances used in the preparation of this CRM are calibrated regularly with traceability to NIST, using a calibration provider that is accredited to ISO/IEC 17025 by a mutually recognized accreditation body. All volumetric dilutions are performed in Class A calibrated glassware. The certified concentration and uncertainty were determined using the "High Performance ICP-OES" protocol developed by NIST, and both the certified concentration and uncertainty values are traceable to **NIST SRM 3168a**, **lot #120629**. The uncertainty associated with the certified concentration represents the expanded uncertainty at the 95% confidence level using a coverage factor of k=2.

Indicative Values: ICP-MS was used to determine trace metal concentrations for this product (nd = not determined).

Trace Concentrations (µg/L)

Ag	<0.5	Co	<1	Ge	<0.5	Lu	<0.2	P	<100	Sb	<0.5	Te	<1
Al	<2	Cs	<0.5	Hf	<0.2	Mg	<5	Pb	<1	Sc	<5	Ti	<2
As	<2	Cr	<0.5	Hg	<0.5	Mn	<1	Pd	<0.5	Se	<2	Tl	<0.5
Au	<0.5	Cu	<1	Ho	<0.2	Mo	<0.5	Pr	<0.2	Si	<100	Tm	<0.2
B	<5	Dy	<0.2	In	nd	Na	<25	Pt	<0.5	Sm	<0.2	V	<1
Ba	<1	Er	<0.2	Ir	<0.2	Nb	<0.5	Rb	<0.5	Sn	<0.5	W	<0.5
Bi	<0.2	Eu	<0.2	K	<25	Nd	<0.2	Re	<0.2	Sr	<1	Y	<0.5
Ca	<25	Fe	<10	La	<0.5	Ni	<2	Rh	<0.5	Ta	<0.5	Yb	<0.2
Cd	<0.5	Ga	<0.5	Li	<2	Os	<0.5	Ru	<0.5	Tb	<0.5	Zn	MAJOR
Ce	<0.2	Gd	<0.2										

Instructions for Use: We recommend that the solution be thoroughly mixed by repeated shaking or swirling of the bottle immediately prior to use. To achieve the highest accuracy, the analyst should: (1) use only pre-cleaned containers and transferware, (2) not pipette directly from the CRM's original container, (3) never pour used product back into the original container, (4) make dilutions using calibrated balances or certified class A volumetric flasks and pipettes, (5) use a minimum sub-sample size of 500 µL, and (6) dilute with the same matrix as the original CRM or other chemically suitable matrix. The solution should be kept tightly capped and stored under normal laboratory conditions. Do not freeze, heat, or immerse the bottle or its contents, and avoid exposure to direct sunlight or moisture.

Period of Validity: CPI International ensures the accuracy of this solution until the date shown above or ***12 Months** from the date opened, provided the instructions for use are followed. During the period of validity, the purchaser will be notified if this product is recalled due to any significant changes in the stability of the solution.

Chuck Goudreau

Chuck Goudreau, Certifying Officer

21 March 2023
Certification Date

Date Opened

CPI International waives all responsibility for any damages resulting from the usage and/or implementation of the products/data described herein.

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Health and Safety Information: Refer to the Safety Data Sheet (SDS).

Homogeneity: This solution was determined to be homogeneous by procedures consistent with the requirements of ISO 17034 and ISO Guide 35. Replicate samples of the finished solution were analyzed to confirm its homogeneity, in accordance with internal procedures for the assessment of homogeneity and stability. To ensure homogeneity, users should not take a smaller sub-sample than specified in the Instructions for Use, as doing so will invalidate the certified values and uncertainties.

Further Information: Please contact CPI International for further information about this material.

Quality Certifications: This material was prepared under a quality management system that is registered/accredited to the following:

- ISO 17034 Accredited: Reference Materials Producer, A2LA Certificate No. 2848.02 – General Requirements for the Competence of Reference Material Producers
    - ISO 17034 references additional requirements specified in ISO Guide 31 and ISO Guide 35
- ISO/IEC 17025 Accredited: Chemical Testing, A2LA Certificate No. 2848.01 – General Requirements for the Competence of Testing and Calibration Laboratories
- ISO 9001 Certified: Quality Management Systems, Certificate Registration No. 56 100 19560101 – Requirements *(Registrar: TUV NORD)*

This CRM is traceable to the following NIST SRMs:

Analyte	Aq. SRM	MO SRM	Analyte	Aq. SRM	MO SRM	Analyte	Aq. SRM	MO SRM
Ag	3151	-	Hf	3122	-	S	3154	2770
Al	3101a	-	Hg	3133	3133	Sb	3102a	3102a
As	3103a	3103a	Ho	3123a	-	Sc	3148a	3148a
Au	3121	-	In	3124a	3124a	Se	3149	3149
B	3107	3107	K	3141a	3141a	Si	3150	-
Ba	3104a	-	La	3127a	3127a	Sm	3147a	-
Be	3105a	3105a	Li	3129a	3129a	Sn	3161a	-
Bi	3106	3106	Lu	3130a	-	SO_4^{-2}	3181	-
Br^-	3184	-	Mg	3131a	3131a	Sr	3153a	3153a
Ca	3109a	3109a	Mn	3132	3132	Ta	3155	-
Cd	3108	-	Mo	3134	3134	Tb	3157a	-
Ce	3110	3110	Na	3152a	-	Te	3156	-
Cl^-	3182	1818a	Nb	3137	-	Th	-	-
Co	3113	3113	Nd	3135a	-	Ti	3162a	3162a
Cr	3112a	-	Ni	3136	-	Tl	3158	3158
Cs	3111a	-	NO_3^-	3185	-	Tm	3160a	-
Cu	3114	-	P	3139a	3139a	U	3164	-
Dy	3115a	-	Pb	3128	-	V	3165	-
Er	3116a	-	Pd	3138	-	W	3163	3163
Eu	3117a	-	PO_4^{-3}	3186	-	Y	3167a	3167a
F^-	3183	-	Pr	3142a	-	Yb	3166a	-
Fe	3126a	-	Pt	3140	3140	Zn	3168a	3168a
Ga	3119a	-	Rb	3145a	-	Zr	3169	3169
Gd	3118a	-	Re	3143	-			
Ge	3120a	-	Rh	3144	3144			

Reagent

10000 Ca_00027

CPI INTERNATIONAL

CERTIFICATE OF ANALYSIS

Single-Element Aqueous CRM

Product #: 4400-10M91-500

Calcium (Ca) – 10,000 µg/mL

Lot #: 1268108-19

Matrix: 4% HNO_3

Element	Certified Concentration & Uncertainty
Ca	9998 ± 23 µg/mL (w/v)
	9633 ± 22 µg/g (w/w)

Intended Use: This solution is intended for use as a certified reference material (CRM) or calibration standard for inductively coupled plasma optical emission spectroscopy (ICP-OES), inductively coupled plasma mass spectrometry (ICP-MS), flame or furnace atomic absorption spectroscopy (AA or GFAA), and other techniques for elemental analysis.

Certification & Traceability: This CRM was manufactured, processed, and/or certified under a quality management system that is registered/accredited to **ISO 17034, ISO/IEC 17025 and ISO 9001**. This CRM was prepared to a nominal concentration of 10,000 µg/mL by gravimetric methods using 99.999% pure calcium carbonate ($CaCO_3$). The solution was diluted with filtered (0.22um), 18 M-ohm water and stabilized with the appropriate high-purity acid as indicated in the listed matrix. The balances used in the preparation of this CRM are calibrated regularly with traceability to NIST, using a calibration provider that is accredited to ISO/IEC 17025 by a mutually recognized accreditation body. All volumetric dilutions are performed in Class A calibrated glassware. The certified concentration and uncertainty were determined using the "High Performance ICP-OES" protocol developed by NIST, and both the certified concentration and uncertainty values are traceable to **NIST SRM 3109a, lot #130213**. The uncertainty associated with the certified concentration represents the expanded uncertainty at the 95% confidence level using a coverage factor of k=2.

Indicative Values: ICP-MS was used to determine trace metal concentrations for this product (nd = not determined).

Trace Concentrations (µg/L)

Ag	<5	Co	<10	Ge	<5	Lu	<2	P	<1000	Sb	<5	Te	<10
Al	<20	Cs	<5	Hf	<2	Mg	175	Pb	<10	Sc	<50	Tl	<20
As	<20	Cr	<5	Hg	<5	Mn	<10	Pd	<5	Se	<20	Tl	<5
Au	<5	Cu	<10	Ho	<2	Mo	<5	Pr	<2	Si	<1000	Tm	<2
B	<50	Dy	<2	In	nd	Na	<250	Pt	<5	Sm	<2	V	<10
Ba	<10	Er	<2	Ir	<2	Nb	<5	Rb	<5	Sn	<5	W	<5
Bi	<2	Eu	<2	K	<250	Nd	<2	Re	<2	Sr	234	Y	<5
Ca	MAJOR	Fe	<100	La	<5	Ni	<20	Rh	<5	Ta	<5	Yb	<2
Cd	<5	Ga	<5	Li	<20	Os	<5	Ru	<5	Tb	<5	Zn	<20
Ce	<2	Gd	<2										

Instructions for Use: We recommend that the solution be thoroughly mixed by repeated shaking or swirling of the bottle immediately prior to use. To achieve the highest accuracy, the analyst should: (1) use only pre-cleaned containers and transferware, (2) not pipette directly from the CRM's original container, (3) never pour used product back into the original container, (4) make dilutions using calibrated balances or certified class A volumetric flasks and pipettes, (5) use a minimum sub-sample size of 500 µL, and (6) dilute with the same matrix as the original CRM or other chemically suitable matrix. The solution should be kept tightly capped and stored under normal laboratory conditions. Do not freeze, heat, or immerse the bottle or its contents, and avoid exposure to direct sunlight or moisture.

Period of Validity: CPI International ensures the accuracy of this solution for **18 months** from the certification date shown below, provided the instructions for use are followed. During the period of validity, the purchaser will be notified if this product is recalled due to any significant changes in the stability of the solution.

Chuck Goudreau

Chuck Goudreau, Certifying Officer

February 28, 2023
Certification Date

CPI International waives all responsibility for any damages resulting from the usage and/or implementation of the products/data described herein.

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Health and Safety Information: Refer to the Safety Data Sheet (SDS).

Homogeneity: This solution was determined to be homogeneous by procedures consistent with the requirements of ISO 17034 and ISO Guide 35. Replicate samples of the finished solution were analyzed to confirm its homogeneity, in accordance with internal procedures for the assessment of homogeneity and stability. To ensure homogeneity, users should not take a smaller sub-sample than specified in the Instructions for Use, as doing so will invalidate the certified values and uncertainties.

Further Information: Please contact CPI International for further information about this material.

Quality Certifications: This material was prepared under a quality management system that is registered/accredited to the following:

- ISO 17034 Accredited: Reference Materials Producer, A2LA Certificate No. 2848.02 – General Requirements for the Competence of Reference Material Producers
    - ISO 17034 references additional requirements specified in ISO Guide 31 and ISO Guide 35
- ISO/IEC 17025 Accredited: Chemical Testing, A2LA Certificate No. 2848.01 – General Requirements for the Competence of Testing and Calibration Laboratories
- ISO 9001 Certified: Quality Management Systems, Certificate Registration No. 56 100 19560101 – Requirements *(Registrar: TUV NORD)*

Reagent

10000 K_00018

CPI INTERNATIONAL

CERTIFICATE OF ANALYSIS

Single-Element Aqueous CRM

Product #: 4400-10M411-500

Potassium (K) – 10,000 µg/mL

Lot #: 1137797-60

Matrix: 5% HNO_3

Element	Certified Concentration & Uncertainty
K	10,092 ± 47 µg/mL (w/v)
	9893 ± 46 µg/g (w/w)

Intended Use: This solution is intended for use as a certified reference material (CRM) or calibration standard for inductively coupled plasma optical emission spectroscopy (ICP-OES), inductively coupled plasma mass spectrometry (ICP-MS), flame or furnace atomic absorption spectroscopy (AA or GFAA), and other techniques for elemental analysis.

Certification & Traceability: This CRM was manufactured, processed, and/or certified under a quality management system that is registered/accredited to **ISO 17034, ISO/IEC 17025 and ISO 9001**. This CRM was prepared to a nominal concentration of 10,000 µg/mL by gravimetric methods using 99.997% pure potassium nitrate (KNO_3). The solution was diluted with filtered (0.22um), 18 M-ohm water and stabilized with the appropriate high-purity acid as indicated in the listed matrix. The balances used in the preparation of this CRM are calibrated regularly with traceability to NIST, using a calibration provider that is accredited to ISO/IEC 17025 by a mutually recognized accreditation body. All volumetric dilutions are performed in Class A calibrated glassware. The certified concentration and uncertainty were determined using the "High Performance ICP-OES" protocol developed by NIST, and both the certified concentration and uncertainty values are traceable to **NIST SRM 3141a, lot #140813**. The uncertainty associated with the certified concentration represents the expanded uncertainty at the 95% confidence level using a coverage factor of k=2.

Indicative Values: ICP-MS was used to determine trace metal concentrations for this product (nd = not determined).

Trace Concentrations (µg/L)

Ag	<5	Co	<10	Ge	<5	Lu	<2	P	<1000	Sb	<5	Te	<10
Al	<20	Cs	<5	Hf	<2	Mg	<50	Pb	<10	Sc	<50	Ti	<20
As	<20	Cr	<5	Hg	<5	Mn	<10	Pd	<5	Se	<20	Tl	<5
Au	<5	Cu	<10	Ho	<2	Mo	<5	Pr	<2	Si	<1000	Tm	<2
B	<50	Dy	<2	In	nd	Na	<250	Pt	<5	Sm	<2	V	<10
Ba	<10	Er	<2	Ir	<2	Nb	<5	Rb	<5	Sn	<5	W	<5
Bi	<2	Eu	<2	K	MAJOR	Nd	<2	Re	<2	Sr	<10	Y	<5
Ca	<250	Fe	<100	La	<5	Ni	<20	Rh	<5	Ta	<5	Yb	<2
Cd	394	Ga	<5	Li	<20	Os	<5	Ru	<5	Tb	<5	Zn	<20
Ce	<2	Gd	<2										

Instructions for Use: We recommend that the solution be thoroughly mixed by repeated shaking or swirling of the bottle immediately prior to use. To achieve the highest accuracy, the analyst should: (1) use only pre-cleaned containers and transferware, (2) not pipette directly from the CRM's original container, (3) never pour used product back into the original container, (4) make dilutions using calibrated balances or certified class A volumetric flasks and pipettes, (5) use a minimum sub-sample size of 500 µL, and (6) dilute with the same matrix as the original CRM or other chemically suitable matrix. The solution should be kept tightly capped and stored under normal laboratory conditions. Do not freeze, heat, or immerse the bottle or its contents, and avoid exposure to direct sunlight or moisture.

Period of Validity: CPI International ensures the accuracy of this solution for **18 months** from the certification date shown below, provided the instructions for use are followed. During the period of validity, the purchaser will be notified if this product is recalled due to any significant changes in the stability of the solution.

Chuck Goudreau

Chuck Goudreau, Certifying Officer

February 28, 2023
Certification Date

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Health and Safety Information: Refer to the Safety Data Sheet (SDS).

Homogeneity: This solution was determined to be homogeneous by procedures consistent with the requirements of ISO 17034 and ISO Guide 35. Replicate samples of the finished solution were analyzed to confirm its homogeneity, in accordance with internal procedures for the assessment of homogeneity and stability. To ensure homogeneity, users should not take a smaller sub-sample than specified in the Instructions for Use, as doing so will invalidate the certified values and uncertainties.

Quality Manual Rev: No. 7, July 24, 2019

Further Information: Please contact CPI International for further information about this material.

Quality Certifications: This material was prepared under a quality management system that is registered/accredited to the following:

- ISO 17034 Accredited: Reference Materials Producer, A2LA Certificate No. 2848.02 – General Requirements for the Competence of Reference Material Producers
    - ISO 17034 references additional requirements specified in ISO Guide 31 and ISO Guide 35
- ISO/IEC 17025 Accredited: Chemical Testing, A2LA Certificate No. 2848.01 – General Requirements for the Competence of Testing and Calibration Laboratories
- ISO 9001 Certified: Quality Management Systems, Certificate Registration No. 56 100 19560101 – Requirements *(Registrar: TUV NORD)*

Reagent

10000 Mg_00025

CPI INTERNATIONAL

CERTIFICATE OF ANALYSIS

Single-Element Aqueous CRM

Product #: 4400-10M311-500

Magnesium (Mg) – 10,000 µg/mL

Lot #: 1303817-6

Matrix: 4% HNO_3

Element	Certified Concentration & Uncertainty
Mg	10,060 ± 21 µg/mL (w/v)
	9544 ± 20 µg/g (w/w)

Intended Use: This solution is intended for use as a certified reference material (CRM) or calibration standard for inductively coupled plasma optical emission spectroscopy (ICP-OES), inductively coupled plasma mass spectrometry (ICP-MS), flame or furnace atomic absorption spectroscopy (AA or GFAA), and other techniques for elemental analysis.

Certification & Traceability: This CRM was manufactured, processed, and/or certified under a quality management system that is registered/accredited to **ISO 17034, ISO/IEC 17025 and ISO 9001**. This CRM was prepared to a nominal concentration of 10,000 µg/mL by gravimetric methods using 99.999% pure magnesium nitrate [$Mg(NO_3)_2$]. The solution was diluted with filtered (0.22um), 18 M-ohm water and stabilized with the appropriate high-purity acid as indicated in the listed matrix. The balances used in the preparation of this CRM are calibrated regularly with traceability to NIST, using a calibration provider that is accredited to ISO/IEC 17025 by a mutually recognized accreditation body. All volumetric dilutions are performed in Class A calibrated glassware. The certified concentration and uncertainty were determined using the "High Performance ICP-OES" protocol developed by NIST, and both the certified concentration and uncertainty values are traceable to **NIST SRM 3131a, lot #140110**. The uncertainty associated with the certified concentration represents the expanded uncertainty at the 95% confidence level using a coverage factor of k=2.

Indicative Values: ICP-MS was used to determine trace metal concentrations for this product (nd = not determined).

Trace Concentrations (µg/L)

Ag	<5	Co	<10	Ge	<5	Lu	<2	P	<1000	Sb	9	Te	<10
Al	<20	Cs	<5	Hf	<2	Mg	MAJOR	Pb	11	Sc	<50	Ti	<20
As	<20	Cr	<5	Hg	<5	Mn	11	Pd	<5	Se	<20	Tl	<5
Au	<5	Cu	<10	Ho	<2	Mo	7	Pr	<2	Si	<1000	Tm	<2
B	<50	Dy	<2	In	nd	Na	<250	Pt	<5	Sm	<2	V	<10
Ba	232	Er	<2	Ir	<2	Nb	<5	Rb	<5	Sn	7	W	<5
Bi	<2	Eu	<2	K	<250	Nd	<2	Re	<2	Sr	<10	Y	<5
Ca	568	Fe	<100	La	<5	Ni	<20	Rh	<5	Ta	<5	Yb	<2
Cd	<5	Ga	<5	Li	<20	Os	<5	Ru	9	Tb	<5	Zn	<20
Ce	<2	Gd	<2										

Instructions for Use: We recommend that the solution be thoroughly mixed by repeated shaking or swirling of the bottle immediately prior to use. To achieve the highest accuracy, the analyst should: (1) use only pre-cleaned containers and transferware, (2) not pipette directly from the CRM's original container, (3) never pour used product back into the original container, (4) make dilutions using calibrated balances or certified class A volumetric flasks and pipettes, (5) use a minimum sub-sample size of 500 µL, and (6) dilute with the same matrix as the original CRM or other chemically suitable matrix. The solution should be kept tightly capped and stored under normal laboratory conditions. Do not freeze, heat, or immerse the bottle or its contents, and avoid exposure to direct sunlight or moisture.

Period of Validity: CPI International ensures the accuracy of this solution for **18 months** from the certification date shown below, provided the instructions for use are followed. During the period of validity, the purchaser will be notified if this product is recalled due to any significant changes in the stability of the solution.

Chuck Goudreau

Chuck Goudreau, Certifying Officer

February 28, 2023
Certification Date

CPI International waives all responsibility for any damages resulting from the usage and/or implementation of the products/data described herein.

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1013BG Amsterdam F: +31 20 420 28 36
The Netherlands

www.cpiinternational.com

Health and Safety Information: Refer to the Safety Data Sheet (SDS).

Homogeneity: This solution was determined to be homogeneous by procedures consistent with the requirements of ISO 17034 and ISO Guide 35. Replicate samples of the finished solution were analyzed to confirm its homogeneity, in accordance with internal procedures for the assessment of homogeneity and stability. To ensure homogeneity, users should not take a smaller sub-sample than specified in the Instructions for Use, as doing so will invalidate the certified values and uncertainties.

Further Information: Please contact CPI International for further information about this material.

Quality Certifications: This material was prepared under a quality management system that is registered/accredited to the following:

- ISO 17034 Accredited: Reference Materials Producer, A2LA Certificate No. 2848.02 – General Requirements for the Competence of Reference Material Producers
    - ISO 17034 references additional requirements specified in ISO Guide 31 and ISO Guide 35
- ISO/IEC 17025 Accredited: Chemical Testing, A2LA Certificate No. 2848.01 – General Requirements for the Competence of Testing and Calibration Laboratories
- ISO 9001 Certified: Quality Management Systems, Certificate Registration No. 56 100 19560101 – Requirements *(Registrar: TUV NORD)*

Reagent

10000 Na_00093

logged 9-14-23
logged in tracker
7941881
CoA attached

CPI INTERNATIONAL

CERTIFICATE OF ANALYSIS

Single-Element Aqueous CRM

Sodium (Na) – 10,000 µg/mL

Matrix: 3% HNO_3

7941881
ID: 10000 Na_00093
Exp: 03/06/26 Prpd:
10000 Na CPI

Product #: 4400-10M521-500

Lot #: 1390063

*Expiration Date: 6 March 2026

Element	Certified Concentration & Uncertainty
Na	10,050 ± 22 µg/mL (w/v)
	9758 ± 21 µg/g (w/w)

Intended Use: This solution is intended for use as a certified reference material (CRM) or calibration standard for inductively coupled plasma optical emission spectroscopy (ICP-OES), inductively coupled plasma mass spectrometry (ICP-MS), flame or furnace atomic absorption spectroscopy (AA or GFAA), and other techniques for elemental analysis.

Certification & Traceability: This CRM was manufactured, processed, and/or certified under a quality management system that is registered/accredited to **ISO 17034, ISO/IEC 17025 and ISO 9001**. This CRM was prepared to a nominal concentration of 10,000 µg/mL by gravimetric methods using 99.997% pure sodium carbonate (Na_2CO_3). The solution was diluted with filtered (0.22um), 18 M-ohm water and stabilized with the appropriate high-purity acid as indicated in the listed matrix. The balances used in the preparation of this CRM are calibrated regularly with traceability to NIST, using a calibration provider that is accredited to ISO/IEC 17025 by a mutually recognized accreditation body. All volumetric dilutions are performed in Class A calibrated glassware. The certified concentration and uncertainty were determined using the "High Performance ICP-OES" protocol developed by NIST, and both the certified concentration and uncertainty values are traceable to **NIST SRM 3152a, lot #200413.** The uncertainty associated with the certified concentration represents the expanded uncertainty at the 95% confidence level using a coverage factor of k=2.

Indicative Values: ICP-MS was used to determine trace metal concentrations for this product (nd = not determined).

Trace Concentrations (µg/L)

Ag	<5	Co	<10	Ge	<5	Lu	<2	P	<1000	Sb	<5	Te	<10
Al	<20	Cs	<5	Hf	<2	Mg	<50	Pb	<10	Sc	<50	Ti	<20
As	<20	Cr	<5	Hg	<5	Mn	<10	Pd	<5	Se	<20	Tl	<5
Au	<5	Cu	<10	Ho	<2	Mo	<5	Pr	<2	Si	<1000	Tm	<2
B	<50	Dy	<2	In	nd	Na	MAJOR	Pt	<5	Sm	<2	V	<10
Ba	<10	Er	<2	Ir	<2	Nb	<5	Rb	<5	Sn	<5	W	<5
Bi	<2	Eu	<2	K	<250	Nd	<2	Re	<2	Sr	<10	Y	<5
Ca	<250	Fe	<100	La	<5	Ni	<20	Rh	<5	Ta	<5	Yb	<2
Cd	<5	Ga	<5	Li	<20	Os	<5	Ru	<5	Tb	<5	Zn	<20
Ce	<2	Gd	<2										

Instructions for Use: We recommend that the solution be thoroughly mixed by repeated shaking or swirling of the bottle immediately prior to use. To achieve the highest accuracy, the analyst should: (1) use only pre-cleaned containers and transferware, (2) not pipette directly from the CRM's original container, (3) never pour used product back into the original container, (4) make dilutions using calibrated balances or certified class A volumetric flasks and pipettes, (5) use a minimum sub-sample size of 500 µL, and (6) dilute with the same matrix as the original CRM or other chemically suitable matrix. The solution should be kept tightly capped and stored under normal laboratory conditions. Do not freeze, heat, or immerse the bottle or its contents, and avoid exposure to direct sunlight or moisture.

Period of Validity: CPI International ensures the accuracy of this solution until the date shown above or ***12 Months** from the date opened, provided the instructions for use are followed. During the period of validity, the purchaser will be notified if this product is recalled due to any significant changes in the stability of the solution.

Chuck Goudreau

Chuck Goudreau, Certifying Officer

21 March 2023
Certification Date

Date Opened

CPI International waives all responsibility for any damages resulting from the usage and/or implementation of the products/data described herein.

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The Netherlands

Health and Safety Information: Refer to the Safety Data Sheet (SDS).

Homogeneity: This solution was determined to be homogeneous by procedures consistent with the requirements of ISO 17034 and ISO Guide 35. Replicate samples of the finished solution were analyzed to confirm its homogeneity, in accordance with internal procedures for assessment of homogeneity and stability. To ensure homogeneity, users should not take a smaller sub-sample than specified in the Instructions for Use, as doing so will invalidate the certified values and uncertainties.

Further Information: Please contact CPI International for further information about this material.

Quality Certifications: This material was prepared under a quality management system that is registered/accredited to the following:

- ISO 17034 Accredited: Reference Materials Producer, A2LA Certificate No. 2848.02 – General Requirements for the Competence of Reference Material Producers
  - ISO 17034 references additional requirements specified in ISO Guide 31 and ISO Guide 35
- ISO/IEC 17025 Accredited: Chemical Testing, A2LA Certificate No. 2848.01 – General Requirements for the Competence of Testing and Calibration Laboratories
- ISO 9001 Certified: Quality Management Systems, Certificate Registration No. 56 100 195601O1 – Requirements *(Registrar: TUV NORD)*

Reagent

10000 Th_00030

logged in 4/20/23
logged in tracker
7951024
CoA attached

CPI INTERNATIONAL

CERTIFICATE OF ANALYSIS

Single-Element Aqueous RM

Thorium (Th) – 10,000 µg/mL

Matrix: 3% HNO_3

7951024

ID: 10000 Th_00030

Exp:04/03/26 Prpd: Opn:09/20/23

10,000 Th CPI

Product #: S4400-10M591

Lot #: 1396827

*Expiration Date: 3 April 2026

Element	Certified Concentration & Uncertainty
Th	9954 ± 52 µg/mL (w/v)
	9054 ± 47 µg/g (w/w)

Intended Use: This solution is intended for use as a certified reference material (RM) or calibration standard for inductively coupled plasma optical emission spectroscopy (ICP-OES), inductively coupled plasma mass spectrometry (ICP-MS), flame or furnace atomic absorption spectroscopy (AA or GFAA), and other techniques for elemental analysis.

Certification & Traceability: This RM was manufactured, processed, and/or certified under a quality management system that is registered/accredited to, **ISO 17034**, **ISO/IEC 17025** and **ISO 9001**. This RM was prepared to a nominal concentration of 10,000 µg/mL by gravimetric methods using pure thorium nitrate [$Th(NO_3)_4$]. The solution was diluted with filtered (0.22um), 18 M-ohm water and stabilized with the appropriate high-purity acid as indicated in the listed matrix. The balances used in the preparation of this RM are calibrated regularly with traceability to NIST, using a calibration provider that is accredited to ISO/IEC 17025 by a mutually recognized accreditation body. All volumetric dilutions are performed in Class A calibrated glassware. The certified concentration and uncertainty were determined using the "High Performance ICP-OES" protocol developed by NIST, and both the certified concentration and uncertainty values are traceable method against an alternate lot as NIST SRM is not available. The uncertainty associated with the certified concentration represents the expanded uncertainty at the 95% confidence level using a coverage factor of k=2.

Indicative Values: ICP-MS was used to determine trace metal concentrations for this product (nd = not determined).

Trace Concentrations (µg/L)

Ag	<5	Co	<10	Ge	<5	Lu	<2	P	<1000	Sb	<5	Te	<10
Al	85	Cs	<5	Hf	<2	Mg	<50	Pb	<10	Sc	<50	Ti	<20
As	<20	Cr	14	Hg	<5	Mn	<10	Pd	<5	Se	<20	Tl	<5
Au	<5	Cu	<10	Ho	<2	Mo	<5	Pr	8	Si	<1000	Tm	<2
B	<50	Dy	<2	In	nd	Na	<250	Pt	<5	Sm	3	V	<10
Ba	<10	Er	<2	Ir	<2	Nb	<5	Rb	17	Sn	<5	W	<5
Bi	<2	Eu	<2	K	<250	Nd	3	Re	<2	Sr	<10	Y	<5
Ca	<250	Fe	<100	La	27	Ni	<20	Rh	<5	Ta	<5	Yb	<2
Cd	<5	Ga	<5	Li	<20	Os	<5	Ru	<5	Tb	<5	Zn	<20
Ce	51	Gd	<2										

Instructions for Use: We recommend that the solution be thoroughly mixed by repeated shaking or swirling of the bottle immediately prior to use. To achieve the highest accuracy, the analyst should: (1) use only pre-cleaned containers and transferware, (2) not pipette directly from the RM's original container, (3) never pour used product back into the original container, (4) make dilutions using calibrated balances or certified class A volumetric flasks and pipettes, (5) use a minimum sub-sample size of 500 µL, and (6) dilute with the same matrix as the original RM or other chemically suitable matrix. The solution should be kept tightly capped and stored under normal laboratory conditions. Do not freeze, heat, or immerse the bottle or its contents, and avoid exposure to direct sunlight or moisture.

Period of Validity: CPI International ensures the accuracy of this solution until the date shown above or ***12 Months** from the date opened, provided the instructions for use are followed. During the period of validity, the purchaser will be notified if this product is recalled due to any significant changes in the stability of the solution.

Chuck Goudreau

Chuck Goudreau, Certifying Officer

29 March 2023
Certification Date

Date Opened

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Nieuwe Hemweg 7P P: +31 20 638 05 97
1013BG Amsterdam F: +31 20 420 28 36
The Netherlands

Health and Safety Information: Refer to the Safety Data Sheet (SDS).

Homogeneity: This solution was determined to be homogeneous by procedures consistent with the requirements of ISO 17034 and ISO Guide 35. Replicate samples of the finished solution were analyzed to confirm its homogeneity, in accordance with internal procedures for the assessment of homogeneity and stability. To ensure homogeneity, users should not take a smaller sub-sample than specified in the Instructions for Use, as doing so will invalidate the certified values and uncertainties.

Further Information: Please contact CPI International for further information about this material.

Quality Certifications: This material was prepared under a quality management system that is registered/accredited to the following:

- ISO 17034:2016 Accredited: Reference Materials Producer, A2LA Certificate No. 2848.02 – General Requirements for the Competence of Reference Material Producers
    - ISO 17034 references additional requirements specified in ISO Guide 31 and ISO Guide 35
- ISO/IEC 17025:2017 Accredited: Chemical Testing, A2LA Certificate No. 2848.01 – General Requirements for the Competence of Testing and Calibration Laboratories
- ISO 9001:2015 Certified: Quality Management Systems, Certificate Registration No. 56 100 19560101 – Requirements *(Registrar: TUV NORD)*

Reagent

CALSTD-1_00003

CPI INTERNATIONAL

7555479

ID: CALSTD-1_00003

Exp:07/1/24 Prpd:LMT Opn:12/26/22

ICP MS C... Std 1 CPI new

CERTIFICATE OF ANALYSIS

Multi-Element Aqueous CRM

Product #: TA-CAL1

ICP ICPMS CAL Mix # 1

Lot #: 1321095-1

Matrix: 5% HNO_3/tr. HF

Element	Certified Concentration & Uncertainty	Element	Certified Concentration & Uncertainty	Element	Certified Concentration & Uncertainty
As	99.95 ± 0.50 mg/L	Li	99.98 ± 0.50 mg/L	Si	1000 ± 5 mg/L
Ba	100.1 ± 0.5 mg/L	Mn	99.99 ± 0.50 mg/L	Sn	99.99 ± 0.50 mg/L
Be	100.0 ± 0.5 mg/L	Mo	100.0 ± 0.5 mg/L	Sr	100.0 ± 0.5 mg/L
Cd	99.99 ± 0.50 mg/L	Ni	100.0 ± 0.5 mg/L	Ti	100.0 ± 0.5 mg/L
Co	99.95 ± 0.50 mg/L	Pb	100.0 ± 0.5 mg/L	Tl	100.0 ± 0.5 mg/L
Cr	100.0 ± 0.5 mg/L	Sb	99.99 ± 0.50 mg/L	V	99.99 ± 0.50 mg/L
Cu	100.0 ± 0.5 mg/L	Se	99.99 ± 0.50 mg/L		

Source Material Lot # Chart

Element	Source Material Lot #	Element	Source Material Lot #	Element	Source Material Lot #
As	1299133	Li	1195499	Si	1271053
Ba	1162561	Mn	1136846	Sn	1116280
Be	1270256	Mo	1205113	Sr	1123421
Cd	1240656	Ni	1084161	Ti	1237770
Co	1237802	Pb	1035677	Tl	1059794
Cr	1242583	Sb	978317	V	1139942
Cu	1207839	Se	1285040		

Intended Use: This solution is intended for use as a certified reference material (CRM) or calibration standard for inductively coupled plasma optical emission spectroscopy (ICP-OES), inductively coupled plasma mass spectrometry (ICP-MS), flame or furnace atomic absorption spectroscopy (AA or GFAA), and other techniques for elemental analysis.

Certification & Traceability: This CRM was manufactured, processed, and/or certified under a quality management system that is registered/accredited to **ISO 9001**, **ISO 17034**, and **ISO/IEC 17025**. This CRM was prepared to the certified concentrations shown above by gravimetric methods, using single-element concentrates that were certified using the "High Performance ICP-OES" protocol developed by NIST and are directly traceable to **NIST SRMs (see final page)**. The solution was stabilized using high purity nitric acid (HNO_3), trace hydrofluoric acid (HF) and diluted with filtered (0.22 µm), 18 M-ohm deionized water. The balances used in the preparation of this CRM are calibrated regularly with traceability to NIST, using a calibration provider that is accredited to ISO/IEC 17025 by a mutually recognized accreditation body. All volumetric dilutions are performed in Class A calibrated glassware. The certified concentrations were determined based upon gravimetric procedures. Secondary verification of the certified concentrations was performed using ICP-OES that was calibrated and/or referenced against **NIST SRMs (see final page)**. The uncertainty associated with each certified concentration represents the expanded uncertainty at the 95% confidence level using a coverage factor of k=2.

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1013BG Amsterdam F: +31 20 420 28 36
The Netherlands

www.cpiinternational.com

Instructions for Use: We recommend that the solution be thoroughly mixed by repeated shaking or swirling of the bottle immediately prior to use. To achieve the highest accuracy, the analyst should: (1) use only pre-cleaned containers and transferware, (2) not pipette directly from the CRM's original container, (3) never pour used product back into the original container, (4) make dilutions using calibrated balances or certified class A volumetric flasks and pipettes, (5) use a minimum sub-sample size of 500 µL, and (6) dilute with the same matrix as the original CRM or other chemically suitable matrix. The solution should be kept tightly capped and stored under normal laboratory conditions. Do not freeze, heat, or immerse the bottle or its contents, and avoid exposure to direct sunlight or moisture.

Period of Validity: CPI International ensures the accuracy of this solution for **18 months** from the certification date shown below, provided the instructions for use are followed. During the period of validity, the purchaser will be notified if this product is recalled due to any significant changes in the stability of the solution.

Chuck Goudreau

Chuck Goudreau, Certifying Officer

January 10, 2023
Certification Date

CPI International waives all responsibility for any damages resulting from the usage and/or implementation of the products/data described herein.

...h and Safety Information: Refer to the Safety Data Sheet (SDS).

Homogeneity: This solution was determined to be homogeneous by procedures consistent with the requirements of ISO 17034 and ISO Guide 35. Replicate samples of the finished solution were analyzed to confirm its homogeneity, in accordance with internal procedures for the assessment of homogeneity and stability. To ensure homogeneity, users should not take a smaller sub-sample than specified in the Instructions for Use, as doing so will invalidate the certified values and uncertainties.

Further Information: Please contact CPI International for further information about this material.

Quality Certifications: This material was prepared under a quality management system that is registered/accredited to the following:

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    - ISO 17034 references additional requirements specified in ISO Guide 31 and ISO Guide 35
- ISO/IEC 17025 Accredited: Chemical Testing, A2LA Certificate No. 2848.01 – General Requirements for the Competence of Testing and Calibration Laboratories
- ISO 9001 Certified: Quality Management Systems, Certificate Registration No. 56 100 19560101 – Requirements *(Registrar: TUV NORD)*

This CRM is traceable to the following NIST SRMs:

Analyte	Aq. SRM	MO SRM
Ag	3151	-
Al	3101a	-
As	3103a	3103a
Au	3121	-
B	3107	3107
Ba	3104a	-
Be	3105a	3105a
Bi	3106	3106
Br^-	3184	-
Ca	3109a	3109a
Cd	3108	-
Ce	3110	3110
Cl^-	3182	1818a
Co	3113	3113
Cr	3112a	-
Cs	3111a	-
Cu	3114	-
Dy	3115a	-
Er	3116a	-
Eu	3117a	-
F-	3183	-
Fe	3126a	-
Ga	3119a	-
Gd	3118a	-
Ge	3120a	-

Analyte	Aq. SRM	MO SRM
Hf	3122	-
Hg	3133	3133
Ho	3123a	-
In	3124a	3124a
K	3141a	3141a
La	3127a	3127a
Li	3129a	3129a
Lu	3130a	-
Mg	3131a	3131a
Mn	3132	3132
Mo	3134	3134
Na	3152a	-
Nb	3137	-
Nd	3135a	-
Ni	3136	-
NO_3^-	3185	-
P	3139a	3139a
Pb	3128	-
Pd	3138	-
PO_4^{-3}	3186	-
Pr	3142a	-
Pt	3140	3140
Rb	3145a	-
Re	3143	-
Rh	3144	3144

Analyte	Aq. SRM	MO SRM
S	3154	2770
Sb	3102a	3102a
Sc	3148a	3148a
Se	3149	3149
Si	3150	-
Sm	3147a	-
Sn	3161a	-
SO_4^{-2}	3181	-
Sr	3153a	3153a
Ta	3155	-
Tb	3157a	-
Te	3156	-
Th	-	-
Ti	3162a	3162a
Tl	3158	3158
Tm	3160a	-
U	3164	-
V	3165	-
W	3163	3163
Y	3167a	3167a
Yb	3166a	-
Zn	3168a	3168a
Zr	3169	3169

Reagent

CALSTD-1_00004

8020686
ID: CALSTD-1_00004
Exp:11/02/24 Prpd:LMT Opn:10/21/23
ICP-MS Cal Std 1 CPI new

CPI INTERNATIONAL

CERTIFICATE OF ANALYSIS

Product #: TA-CAL1

Lot #: 1321095-1

Multi-Element Aqueous CRM

ICP ICPMS CAL Mix # 1

Matrix: 5% HNO_3/tr. HF

Element	Certified Concentration & Uncertainty	Element	Certified Concentration & Uncertainty	Element	Certified Concentration & Uncertainty
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Ba	100.1 ± 0.5 mg/L	Mn	99.99 ± 0.50 mg/L	Sn	99.99 ± 0.50 mg/L
Be	100.0 ± 0.5 mg/L	Mo	100.0 ± 0.5 mg/L	Sr	100.0 ± 0.5 mg/L
Cd	99.99 ± 0.50 mg/L	Ni	100.0 ± 0.5 mg/L	Ti	100.0 ± 0.5 mg/L
Co	99.95 ± 0.50 mg/L	Pb	100.0 ± 0.5 mg/L	Tl	100.0 ± 0.5 mg/L
Cr	100.0 ± 0.5 mg/L	Sb	99.99 ± 0.50 mg/L	V	99.99 ± 0.50 mg/L
Cu	100.0 ± 0.5 mg/L	Se	99.99 ± 0.50 mg/L		

Source Material Lot # Chart

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Co	1237802	Pb	1035677	Tl	1059794
Cr	1242583	Sb	978317	V	1139942
Cu	1207839	Se	1285040		

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Instructions for Use: We recommend that the solution be thoroughly mixed by repeated shaking or swirling of the bottle immediately prior to use. To achieve the highest accuracy, the analyst should: (1) use only pre-cleaned containers and transferware, (2) not pipette directly from the CRM's original container, (3) never pour used product back into the original container, (4) make dilutions using calibrated balances or certified class A volumetric flasks and pipettes, (5) use a minimum sub-sample size of 500 µL, and (6) dilute with the same matrix as the original CRM or other chemically suitable matrix. The solution should be kept tightly capped and stored under normal laboratory conditions. Do not freeze, heat, or immerse the bottle or its contents, and avoid exposure to direct sunlight or moisture.

Period of Validity: CPI International ensures the accuracy of this solution for **18 months** from the certification date shown below, provided the instructions for use are followed. During the period of validity, the purchaser will be notified if this product is recalled due to any significant changes in the stability of the solution.

Chuck Goudreau

Chuck Goudreau, Certifying Officer

May 2, 2023
Certification Date

CPI International waives all responsibility for any damages resulting from the usage and/or implementation of the products/data described herein.

May 2, 2023
Certification Date

...n the usage and/or implementation of the product/data described herein.

...s from the certification date shown below, provided the ...ed if this product is recalled due to any significant changes in ...

...(2) not pipette directly from the CRM's ... calibrated balances or certified, class A ... same matrix as the original CRM or other ...atory conditions. Do not freeze, heat, or immerse ... the bottle immediately prior to use.

...d Safety Information: Refer to the Safety Data Sheet (SDS).

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Ag	3151	-
Al	3101a	-
As	3103a	3103a
Au	3121	-
B	3107	3107
Ba	3104a	-
Be	3105a	3105a
Bi	3106	3106
Br-	3184	-
Ca	3109a	3109a
Cd	3108	-
Ce	3110	3110
Cl-	3182	1818a
Co	3113	3113
Cr	3112a	-
Cs	3111a	-
Cu	3114	-
Dy	3115a	-
Er	3116a	-
Eu	3117a	-
F-	3183	-
Fe	3126a	-
Ga	3119a	-
Gd	3118a	-
Ge	3120a	-

Analyte	Aq. SRM	MO SRM
Hf	3122	-
Hg	3133	3133
Ho	3123a	-
In	3124a	3124a
K	3141a	3141a
La	3127a	3127a
Li	3129a	3129a
Lu	3130a	-
Mg	3131a	3131a
Mn	3132	3132
Mo	3134	3134
Na	3152a	-
Nb	3137	-
Nd	3135a	-
Ni	3136	-
NO_3^-	3185	-
P	3139a	3139a
Pb	3128	-
Pd	3138	-
PO_4^{-3}	3186	-
Pr	3142a	-
Pt	3140	3140
Rb	3145a	-
Re	3143	-
Rh	3144	3144

Analyte	Aq. SRM	MO SRM
S	3154	2770
Sb	3102a	3102a
Sc	3148a	3148a
Se	3149	3149
Si	3150	-
Sm	3147a	-
Sn	3161a	-
SO_4^{-2}	3181	-
Sr	3153a	3153a
Ta	3155	-
Tb	3157a	-
Te	3156	-
Th	-	-
Ti	3162a	3162a
Tl	3158	3158
Tm	3160a	-
U	3164	-
V	3165	-
W	3163	3163
Y	3167a	3167a
Yb	3166a	-
Zn	3168a	3168a
Zr	3169	3169

Reagent

IC BR ICV_00025

RICCA CHEMICAL COMPANY®

1841 Broad Street
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customerservice@riccachemical.com

Certificate of Analysis

Bromide Standard, 1000 ppm Br^-

Lot Number: 2208J60 **Product Number:** 1180

Manufacture Date: AUG 29, 2022
Expiration Date: FEB 2024

The certified value reported is the prepared value based upon the method of preparation of the material. The uncertainty in the prepared value is based upon the volumetric method of preparation.

Name	CAS#	Grade
Water	7732-18-5	ACS/ASTM/USP/EP
Sodium Bromide	7647-15-6	High Purity

Test	Specification	Result
Appearance	Colorless liquid	Passed
Bromide (Br)	995-1005 ppm	1000 ppm

Specification	Reference
Bromide Solution, Standard (1 mL = 1 mg Br-)	ASTM (D 3869 D)
Standard Bromide Solution, 1000 mg/L	APHA (4110 B)
Bromide Stock Solution (1.00 mL = 1.00 mg Br-)	EPA (SW-846) (9056)
Sodium Bromide Standard Solution, 1000 mg/L	ASTM (D 1246)
Bromide Stock Solution (1.00 mL = 1.00 mg Br?)	ASTM (D 4327)

Volumetric glassware complies with Class A tolerance requirements of ASTM E 288 and NIST Circular 434; it is calibrated before first use and recalibrated regularly in accordance with ASTM E 542 and NIST Procedure NBSIR 74-461. Balances are calibrated regularly with weights certified traceable to the NIST national mass standard. Thermometers and temperature probes are calibrated before first use and recalibrated regularly with a thermometer traceable to NIST standards. All products are prepared according to master documents that assure manufacture according to validated methods. Batch records document raw material traceability and production and testing history for each lot manufactured.

Part Number	Size / Package Type	Shelf Life (Unopened Container)
1180-16	500 mL natural poly	18 months

Recommended Storage: 15°C - 30°C (59°F - 86°F)

Myrlande Gilles (08/29/2022)
Quality Control

This Certificate of Analysis is designed to comply with ISO Guide 31 "Reference Materials -- Contents of Certificates and Labels."

This test report shall not be reproduced, except in full, without the written approval of Ricca Chemical Company.

Reagent

IC CL cal_00076

spex certiprep

ACCREDITED
Reference Materials Producer
Cert #2495.01

SPEXertificate®

Certificate of Reference Material

ilac-MRA ACCREDITED
Chemical Testing
Cert #2495.02

Catalog Number: AS-CL9-2X **Lot No.** 5-146CL-2X

Description: 1000 µg/mL Chloride

Matrix: H_2O

This **Ion Chromatography** Certified Reference Material, CRM, is intended primarily for use as a calibration standard or quality control standard for ion chromatography instrumentation. It can be employed in USEPA, ASTM and other methods relevant to the certified properties listed below.

Certified Value: 1000 µg/mL ±5 µg/mL

Certified Value is Traceable to: 3182*

* - indicates NIST SRM † - indicates SPEX CertiPrep CRM (when NIST SRM is not available) ‡ - prepared gravimetrically

The CRM is prepared gravimetrically using high purity Sodium Chloride, Lot# 09141H. The certified value listed is the average of values obtained by classical wet assay and ion chromatography analysis.

Refer to side 2 for details of measurement uncertainties.

Classical Wet Assay: 999 µg/mL

Method: Precipitation using Silver Nitrate. Filter, dry and weigh as AgCl.

Instrumental Analysis by Ion Chromatography: 1000 µg/mL

Uncertified Properties

Trace Ionic Impurities in the Actual Solution via IC Analysis:

Element	µg/mL	Element	µg/mL
Br^-	<0.01	NO_3^-	<0.06
F^-	<0.05	$PO4^{-3}$	<0.03
NO_2^-	<0.05	$SO4^{-2}$	<0.08

Balances are calibrated regularly with weight sets traceable to NIST #32856, #32867 and others. This CRM is guaranteed stable and accurate to +/- 0.5% of the certified value. This includes uncertainty components due to preparation, homogeneity by the most precise method, and short-term and long-term stability. This guarantee is valid for a period of one year from the date of certification only when the material is kept tightly capped and stored under ambient laboratory conditions.

Date of Certification: Nov--2022 Certifying Officer: Katherine Cullinan

Katherine Cullinan, QC Manager

Page 1 of 2
Rev. 0

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Report of Certification

This Certified Reference Material (CRM) has been prepared and certified under an ISO 9001 (certified by DQS), ISO/IEC 17025 (accredited by A2LA) and ISO 17034 (accredited by A2LA) quality system consistent with the following guides:

- ISO 9001: Quality management systems – Requirements
- ISO/IEC 17025: General requirements for the competence of testing and calibration laboratories
- ISO 17034: General requirements for the competence of reference material producers
- ISO Guide 30: Reference Materials – Selected terms and definitions
- ISO Guide 31: Reference Materials – Contents of certificates, labels, and accompanying documentation
- ISO Guide 35: Reference Materials – Guidance for characterization and assessment of homogeneity and stability
- Guide to the Expression of Uncertainty in Measurement, 2008
- EURACHEM/CITAC Guide: Qualifying Uncertainty in Analytical Measurement – Third Edition
- NIST Technical Note 1297

Material Source:
All analytes and matrix materials are obtained and verified by Spex CertiPrep from pre-qualified vendors as per ISO 9001, ISO/IEC 17025 and ISO 17034 guidelines. Vendor identifications are proprietary; however, sources of all materials used in the preparation and testing of Spex CertiPrep CRMs are tracked and documented. For further assistance, please contact Sales Support at USMet-CRMSales@antylia.com.

Instructions for Use:
Primary usage of this CRM is in neat form or diluted serially with matrix of a purity at or greater than the purity of the original matrix solution. If dilution is required, the diluent must be compatible with all certified analytes and contain stabilizers appropriate for the period of intended use. The CRM can also be used as a spike or with a spike, again with appropriate compatibility considerations. All solutions should be thoroughly mixed, by shaking, prior to use and never pipetted directly from the bottle. Do not return excess solution to the bottle. All surfaces that come in contact with the solution must be thoroughly cleaned and leached prior to use. Dilutions should be performed only with Class A volumetric glassware. See SDS for health and safety information.

Method of Preparation:
Clean laboratory procedures and techniques have been used throughout the preparation. All materials, equipment, analytical instrumentation and personnel have been qualified prior to use. The highest purity acids applicable, 18 megohm, double deionized water, acid-leached triple-rinsed bottles (where appropriate), and Class A/calibrated volumetrics have been used in all preparations.

Homogeneity:
The homogeneity of the CRM has been confirmed by procedures consistent with ISO/IEC 17025, ISO 17034, and ASTM D6362-98 Appendix X2. Random, replicate samples of the final, packaged material have been analyzed to prove homogeneity in accordance with our internal procedure 4600-HOMOGEN-1A. Since the product is highly homogeneous, any sample size taken for analysis would be within the uncertainty budget. This is consistent with the intended use of the CRM.

Statistical Estimator and Confidence Limits:
The certified value 'X' listed on the reverse of this document is at the 95% level of confidence and can be expressed as:

- $X = x \pm U$ where X = certified value, U = expanded uncertainty, x = property value
- $U = ku_c$ where k = 2 is the coverage factor at the 95% confidence level
- u_c = combined standard uncertainty obtained by combining the individual element standard uncertainty components u_i and $u_c = \sqrt{\Sigma u_i^2}$

Certification Report:
All certified values reported were derived from the Certification Report, Spex CertiPrep's traceability documentation, identified by the lot number of this CRM. During the stated period of validity, the purchaser will be notified if this product is recalled due to any significant changes in the stability of the solution. For further assistance, please contact Sales Support at USMet-CRMSales@antylia.com.

Legal Notice:
Spex CertiPrep reference materials are not for any cosmetic, drug or household application and are to be used only by qualified individuals who are trained in appropriate procedures. No claims against Spex CertiPrep, LLC. of any kind whatsoever, whether based on breach of warranty, alleged negligence, or otherwise, with respect to this Reference Material shall be greater than the purchase price. In no event shall Spex CertiPrep, LLC. be liable for any loss of profits or any incidental, special, or consequential damages.

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Accredited to 17025 & 17034 ISO Certified to 9001

Reagent

IC CL cal_00077

spex certiprep

ACCREDITED
Reference Materials Producer
Cert #2495.01

SPEXertificate®

Certificate of Reference Material

ilac-MRA ACCREDITED
Chemical Testing
Cert #2495.02

Catalog Number: AS-CL9-2X **Lot No.** 6-28CL-2X

Description: 1000 µg/mL Chloride

Matrix: H_2O

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NO_2^-	<0.05	$SO4^{-2}$	<0.08

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Date of Certification: AUG -- 2023 Certifying Officer: Katherine Cullinan

Katherine Cullinan, QC Manager

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Reagent

IC FL cal_00023

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Pocomoke City, MD 21851
http://www.riccachemical.com
1-888-GO-RICCA
customerservice@riccachemical.com

Certificate of Analysis

Fluoride Standard, 1000 ppm F^-

Lot Number: 2207H13 **Product Number:** 3173

Manufacture Date: JUL 29, 2022
Expiration Date: JAN 2024

The certified value reported is the prepared value based upon the method of preparation of the material. The uncertainty in the prepared value is based upon the volumetric method of preparation.
The concentration is confirmed by Fluoride ISE and is certified traceable to NIST SRM 2203.

Name	CAS#	Grade
Water	7732-18-5	ACS/ASTM/USP/EP
Sodium Fluoride	7681-49-4	High Purity

Test	Specification	Result
Appearance	Colorless liquid	Passed
Fluoride (F)	995-1005 ppm	1005 ppm

Specification	Reference
Fluoride Solution, Stock (1.00 mL = 1.00 mg F)	ASTM (D 5542)
Fluoride Stock Solution (1.00 mL = 1.00 mg F^-)	EPA (SW-846) (9056)
Fluoride Calibration Stock Solution (1,000 mg/L F^-)	EPA (SW-846) (9214)
Stock Solution, 1.0 mL = 1.0 mg F	EPA (340.3)
Fluoride Solution, Stock (1.00 mL = 1.00 mg F)	ASTM (D 5996)
Fluoride Stock Solution (1.00 mL = 1.00 mg F?)	ASTM (D 4327)
Fluoride Stock Standard Solution (1 mg of F in 1 mL)	ACS (N/A)

Volumetric glassware complies with Class A tolerance requirements of ASTM E 288 and NIST Circular 434; it is calibrated before first use and recalibrated regularly in accordance with ASTM E 542 and NIST Procedure NBSIR 74-461. Balances are calibrated regularly with weights certified traceable to the NIST national mass standard. Thermometers and temperature probes are calibrated before first use and recalibrated regularly with a thermometer traceable to NIST standards. All products are prepared according to master documents that assure manufacture according to validated methods. Batch records document raw material traceability and production and testing history for each lot manufactured.

Part Number	Size / Package Type	Shelf Life (Unopened Container)
3173-16	500 mL natural poly	18 months
3173-32	1 L natural poly	18 months

Recommended Storage: 15°C - 30°C (59°F - 86°F)

Myrlande Gilles (07/29/2022)
Quality Control
This Certificate of Analysis is designed to comply with ISO Guide 31 "Reference Materials -- Contents of Certificates and Labels."

This test report shall not be reproduced, except in full, without the written approval of Ricca Chemical Company.

Reagent

IC SO4 Cal_00010

spex certiprep

Reference Materials Producer
Cert #2495.01

SPEXertificate®

Certificate of Reference Material

Chemical Testing
Cert #2495.02

Catalog Number: AS-SO49-2X **Lot No.** 5-160SO4-2X

Description: 1000 µg/mL Sulfate

Matrix: H_2O

This **Ion Chromatography** Certified Reference Material, CRM, is intended primarily for use as a calibration standard or quality control standard for ion chromatography instrumentation. It can be employed in USEPA, ASTM and other methods relevant to the certified properties listed below.

Certified Value: 1000 µg/mL ±5 µg/mL

Certified Value is Traceable to: 3181*

* - indicates NIST SRM † - indicates SPEX CertiPrep CRM (when NIST SRM is not available) ‡ - prepared gravimetrically

The CRM is prepared gravimetrically using high purity Potassium Sulfate, Lot# AN07201A. The certified value listed is the average of values obtained by classical wet assay and ion chromatography analysis.

Refer to side 2 for details of measurement uncertainties.

Classical Wet Assay: 999 µg/mL

Method: Precipitation using Barium Chloride. Filter, ignite, and weigh as BaSO4.

Instrumental Analysis by Ion Chromatography: 1000 µg/mL

Uncertified Properties

Trace Ionic Impurities in the Actual Solution via IC Analysis:

Element	µg/mL	Element	µg/mL
Br^-	<0.01	NO_2^-	<0.01
Cl^-	<0.03	NO_3^-	<0.02
F^-	<0.003	$PO4^{-3}$	<0.08

Balances are calibrated regularly with weight sets traceable to NIST #32856, #32867 and others. This CRM is guaranteed stable and accurate to +/- 0.5% of the certified value. This includes uncertainty components due to preparation, homogeneity by the most precise method, and short-term and long-term stability. This guarantee is valid for a period of one year from the date of certification only when the material is kept tightly capped and stored under ambient laboratory conditions.

Date of Certification: Nov--2022 Certifying Officer: Katherine Cullinan, QC Manager

Page 1 of 2
Rev. 0

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Report of Certification

This Certified Reference Material (CRM) has been prepared and certified under an ISO 9001 (certified by DQS), ISO/IEC 17025 (accredited by A2LA) and ISO 17034 (accredited by A2LA) quality system consistent with the following guides:

- ISO 9001: Quality management systems – Requirements
- ISO/IEC 17025: General requirements for the competence of testing and calibration laboratories
- ISO 17034: General requirements for the competence of reference material producers
- ISO Guide 30: Reference Materials – Selected terms and definitions
- ISO Guide 31: Reference Materials – Contents of certificates, labels, and accompanying documentation
- ISO Guide 35: Reference Materials – Guidance for characterization and assessment of homogeneity and stability
- Guide to the Expression of Uncertainty in Measurement, 2008
- EURACHEM/CITAC Guide: Qualifying Uncertainty in Analytical Measurement – Third Edition
- NIST Technical Note 1297

Material Source:
All analytes and matrix materials are obtained and verified by Spex CertiPrep from pre-qualified vendors as per ISO 9001, ISO/IEC 17025 and ISO 17034 guidelines. Vendor identifications are proprietary; however, sources of all materials used in the preparation and testing of Spex CertiPrep CRMs are tracked and documented. For further assistance, please contact Sales Support at USMet-CRMSales@antylia.com.

Instructions for Use:
Primary usage of this CRM is in neat form or diluted serially with matrix of a purity at or greater than the purity of the original matrix solution. If dilution is required, the diluent must be compatible with all certified analytes and contain stabilizers appropriate for the period of intended use. The CRM can also be used as a spike or with a spike, again with appropriate compatibility considerations. All solutions should be thoroughly mixed, by shaking, prior to use and never pipetted directly from the bottle. Do not return excess solution to the bottle. All surfaces that come in contact with the solution must be thoroughly cleaned and leached prior to use. Dilutions should be performed only with Class A volumetric glassware. See SDS for health and safety information.

Method of Preparation:
Clean laboratory procedures and techniques have been used throughout the preparation. All materials, equipment, analytical instrumentation and personnel have been qualified prior to use. The highest purity acids applicable, 18 megohm, double deionized water, acid-leached triple-rinsed bottles (where appropriate), and Class A/calibrated volumetrics have been used in all preparations.

Homogeneity:
The homogeneity of the CRM has been confirmed by procedures consistent with ISO/IEC 17025, ISO 17034, and ASTM D6362-98 Appendix X2. Random, replicate samples of the final, packaged material have been analyzed to prove homogeneity in accordance with our internal procedure 4600-HOMOGEN-1A. Since the product is highly homogeneous, any sample size taken for analysis would be within the uncertainty budget. This is consistent with the intended use of the CRM.

Statistical Estimator and Confidence Limits:
The certified value 'X' listed on the reverse of this document is at the 95% level of confidence and can be expressed as:

- $X = x \pm U$ where X = certified value, U = expanded uncertainty, x = property value
- $U = ku_c$ where k = 2 is the coverage factor at the 95% confidence level
- u_c = combined standard uncertainty obtained by combining the individual element standard uncertainty components u_i and $u_c = \sqrt{\Sigma u_i^2}$

Certification Report:
All certified values reported were derived from the Certification Report, Spex CertiPrep's traceability documentation, identified by the lot number of this CRM. During the stated period of validity, the purchaser will be notified if this product is recalled due to any significant changes in the stability of the solution. For further assistance, please contact Sales Support at USMet-CRMSales@antylia.com.

Legal Notice:
Spex CertiPrep reference materials are not for any cosmetic, drug or household application and are to be used only by qualified individuals who are trained in appropriate procedures. No claims against Spex CertiPrep, LLC. of any kind whatsoever, whether based on breach of warranty, alleged negligence, or otherwise, with respect to this Reference Material shall be greater than the purchase price. In no event shall Spex CertiPrep, LLC. be liable for any loss of profits or any incidental, special, or consequential damages.

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Accredited to 17025 & 17034 ISO Certified to 9001

Reagent

IC SO4 Cal_00011

spex certiprep

Reference Materials Producer
Cert #2495.01

SPEXertificate®

Certificate of Reference Material

Chemical Testing
Cert #2495.02

Catalog Number: AS-SO49-2X **Lot No.** 6-05SO4-2X

Description: 1000 µg/mL Sulfate

Matrix: H_2O

This **Ion Chromatography** Certified Reference Material, CRM, is intended primarily for use as a calibration standard or quality control standard for ion chromatography instrumentation. It can be employed in USEPA, ASTM and other methods relevant to the certified properties listed below.

Certified Value: 1001 µg/mL ±5 µg/mL

Certified Value is Traceable to: 3181*

* - indicates NIST SRM † - indicates SPEX CertiPrep CRM (when NIST SRM is not available) ‡ - prepared gravimetrically

The CRM is prepared gravimetrically using high purity Potassium Sulfate, Lot# AN02221A. The certified value listed is the average of values obtained by classical wet assay and ion chromatography analysis.

Refer to side 2 for details of measurement uncertainties.

Classical Wet Assay: 999 µg/mL

Method: Precipitation using Barium Chloride. Filter, ignite, and weigh as BaSO4.

Instrumental Analysis by Ion Chromatography: 1003 µg/mL

Uncertified Properties

Trace Ionic Impurities in the Actual Solution via IC Analysis:

Element	µg/mL	Element	µg/mL
Br^-	<0.02	NO_2^-	<0.02
Cl^-	<0.02	NO_3^-	<0.02
F^-	<0.02	$PO4^{-3}$	<0.02

Balances are calibrated regularly with weight sets traceable to NIST #32856, #32867 and others. This CRM is guaranteed stable and accurate to +/- 0.5% of the certified value. This includes uncertainty components due to preparation, homogeneity by the most precise method, and short-term and long-term stability. This guarantee is valid for a period of one year from the date of certification only when the material is kept tightly capped and stored under ambient laboratory conditions.

Date of Certification: OCT - - 2023 Certifying Officer: Katherine Cullinan, QC Manager

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Rev. 0

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spex certiprep

Safety Data Sheet
acc. to OSHA HCS

Printing date 07/12/2023 Reviewed on 07/12/2023

1 Identification

· **Product identifier**

· **Product Name: 1000 µg/mL Sulfate**

· **Part Name:**
AS-SO49-2Y
AS-SO49-2X
· **Application of the substance / the mixture** Certified Reference Material

· **Details of the supplier of the safety data sheet**
· **Manufacturer/Supplier:**
Spex CertiPrep, LLC.
203 Norcross Ave, Metuchen,
NJ 08840 USA
732-549-7144
USMet-CRMSales@antylia.com

· **Information department:** product safety department
· **Emergency telephone number:**
Emergency Phone Number (24 hours)
CHEMTREC (800-424-9300)
Outside US: 703-527-3887

2 Hazard(s) identification

· **Classification of the substance or mixture** The product is not classified, according to the Globally Harmonized System (GHS).

· **Label elements**
· **GHS label elements** Not Regulated
· **Hazard pictograms** Not Regulated
· **Signal word** Not Regulated
· **Hazard statements** Not Regulated
· **Classification system:**
· **NFPA ratings (scale 0 - 4)**

Health = 0
Fire = 0
Reactivity = 0

· **HMIS-ratings (scale 0 - 4)**

HEALTH	0
FIRE	0
REACTIVITY	0

Health = 0
Fire = 0
Reactivity = 0

· **Other hazards**
· **Results of PBT and vPvB assessment**
· **PBT:** Not applicable.
· **vPvB:** Not applicable.

3 Composition/information on ingredients

· **Chemical characterization: Mixtures**
· **Description:** Mixture of the substances listed below with nonhazardous additions.

· **Dangerous components:** Not Regulated

· Chemical identification of the substance/preparation		99.87%
7732-18-5	water, distilled, conductivity or of similar purity	0.13%
7778-80-5	potassium sulfate	

4 First-aid measures

· **Description of first aid measures**
· **General information:** No special measures required.
· **After inhalation:** Supply fresh air; consult doctor in case of complaints.
· **After skin contact:** Generally the product does not irritate the skin.
· **After eye contact:** Rinse opened eye for several minutes under running water.
· **After swallowing:** Do not give anything to eat or drink - Do not induce vomiting
· **Information for Doctor:**
· **Most important symptoms and effects, both acute and delayed** No further relevant information available.

(Contd. on page 2)

spex certiprep

Safety Data Sheet
acc. to OSHA HCS

Printing date 07/12/2023 Reviewed on 07/12/2023

Product Name: 1000 µg/mL Sulfate

(Contd. of page 1)

· **Indication of any immediate medical attention and special treatment needed** No further relevant information available.

5 Fire-fighting measures

· **Extinguishing media**
· **Suitable extinguishing agents:** Use fire fighting measures that suit the environment.
· **Special hazards arising from the substance or mixture** No further relevant information available.
· **Advice for firefighters**
· **Protective equipment:** No special measures required.

6 Accidental release measures

· **Personal precautions, protective equipment and emergency procedures** Not required.
· **Environmental precautions:** Dilute with plenty of water.
· **Methods and material for containment and cleaning up:** Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).
· **Reference to other sections**
See Section 7 for information on safe handling.
See Section 8 for information on personal protection equipment.
See Section 13 for disposal information.
· **Protective Action Criteria for Chemicals**

· PAC-1:		20 mg/m³
7778-80-5	potassium sulfate	
· PAC-2:		220 mg/m³
7778-80-5	potassium sulfate	
· PAC-3:		1,300 mg/m³
7778-80-5	potassium sulfate	

7 Handling and storage

· **Handling:**
· **Precautions for safe handling**
No special measures required.
Follow good laboratory practices.
· **Information about protection against explosions and fires:** No special measures required.

· **Conditions for safe storage, including any incompatibilities**
· **Storage:**
· **Requirements to be met by storerooms and receptacles:** No special requirements.
· **Information about storage in one common storage facility:** Not required.
· **Further information about storage conditions:** None.
· **Specific end use(s)** No further relevant information available.

8 Exposure controls/personal protection

· **Additional information about design of technical systems:** No further data; see section 7.

· **Control parameters**
· **Components with limit values that require monitoring at the workplace:**
The product does not contain any relevant quantities of materials with critical values that have to be monitored at the workplace.
· **Additional information:** The lists that were valid during the creation were used as basis.

· **Exposure controls**
· **Personal protective equipment:**
· **General protective and hygienic measures:** The usual precautionary measures for handling chemicals should be followed.
· **Respiratory protection:** Not required.
· **Protection of hands:**
The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.
Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.
Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation
· **Material of gloves**
The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.
· **Penetration time of glove material** The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.
· **Eye protection:** Goggles recommended during refilling.

(Contd. on page 3)

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Safety Data Sheet
acc. to OSHA HCS

Printing date 07/12/2023 Reviewed on 07/12/2023

Product Name: 1000 µg/mL Sulfate

(Contd. of page 4)

· **Proposition 65**

· **Chemicals known to cause cancer:**
None of the ingredients is listed.

· **Chemicals known to cause reproductive toxicity for females:**
None of the ingredients is listed.

· **Chemicals known to cause reproductive toxicity for males:**
None of the ingredients is listed.

· **Chemicals known to cause developmental toxicity:**
None of the ingredients is listed.

· **Carcinogenic categories**

· **EPA (Environmental Protection Agency)**
None of the ingredients is listed.

· **TLV (Threshold Limit Value)**
None of the ingredients is listed.

· **NIOSH-Ca (National Institute for Occupational Safety and Health)**
None of the ingredients is listed.

· **GHS label elements** Not Regulated
· **Hazard pictograms** Not Regulated
· **Signal word** Not Regulated
· **Hazard statements** Not Regulated
· **Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

16 Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

· **Department issuing SDS:** product safety department
· **Contact:**
Spex CertiPrep, LLC.
1-732-549-7144
· **Date of preparation / last revision** 07/12/2023
· **Abbreviations and acronyms:**
ADR: Accord relatif au transport international des marchandises dangereuses par route (European Agreement Concerning the International Carriage of Dangerous Goods by Road)
IMDG: International Maritime Code for Dangerous Goods
DOT: US Department of Transportation
IATA: International Air Transport Association
EINECS: European Inventory of Existing Commercial Chemical Substances
ELINCS: European List of Notified Chemical Substances
CAS: Chemical Abstracts Service (division of the American Chemical Society)
NFPA: National Fire Protection Association (USA)
HMIS: Hazardous Materials Identification System (USA)
VOC: Volatile Organic Compounds (USA, EU)
PBT: Persistent, Bioaccumulative and Toxic
vPvB: very Persistent and very Bioaccumulative
NIOSH: National Institute for Occupational Safety
OSHA: Occupational Safety & Health
TLV: Threshold Limit Value
PEL: Permissible Exposure Limit
REL: Recommended Exposure Limit

12/29/2023
10:48 AM
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Reagent

IC SO4 ICV_00025

ERA

A Waters Company

Certified Reference Material

▪ Certificate of Analysis ▪

Product:	1000 mg/L Sulfate
Catalog Number:	062-125mL, 995-500mL
Lot No.	080722m
Starting Material:	Potassium Sulfate (K_2SO_4)
Matrix:	18 megohm deionized water
Density:	1.0028 ± 0.0003 g/mL 20.8 °C and 765 mm Hg
Verification Method:	Ion Chromatography
Certificate Issue Date:	August 11, 2022
Expiration Date:	July 13, 2024
Revision Number:	Original

CERTIFICATION

Parameter	Certified Value[1]	Uncertainty[2]	NIST Traceability	
	mg/L	%	SRM Number[3]	Recovery %
Sulfate	1000	0.984	3181	100

16341 Table Mountain Pkwy ▪ Golden, CO 80403 ▪ 800.372.0122 ▪ 303.431.8454 ▪ fax 303.421.0159 ▪ www.eraqc.com

1. The **Certified Value** is the actual gravimetric/volumetric "made-to" concentration confirmed by ERA analytical verification. The certified value is monitored and the purchasers will be notified of any significant changes resulting in recertification or withdrawal of this certified reference material during the period of validity of this certificate.

2. The **Uncertainty** represents an expanded uncertainty and approximates a 95% confidence interval. The uncertainty is based on the characterization, homogeneity and stability characteristics of the product, multiplied by a coverage factor (k=2). The uncertainty applies to the product as supplied and does not take into account any required or optional dilution and/or preparations the laboratory may perform while using this product. The formula used to calculate the expanded uncertainty is:
$U_{expanded} = k * SQRT((U_{char}^2) + (U_{homogen}^2) + (U_{LTS}^2) + (U_{STS}^2) + (U_{RSS}^2))$

Where:

$U_{expanded}$ = Expanded uncertainty.
k = Coverage factor.
U_{char} = Combined standard uncertainty of the manufacturing and/or analytical verification assessment.
$U_{homogen}$ = Standard uncertainty of the homogeneity assessment.
U_{LTS} = Standard uncertainty associated with long-term stability.
U_{STS} = Standard uncertainty associated with short-term (transport) stability.
U_{RSS} = Standard uncertainty associated with repeated sampling of the product (where permitted by product use instructions).

3. Where NIST Standard Reference Materials (SRMs) are available, each analyte has been analytically traced to the NIST SRM listed. **Analytical Traceability Recovery (%)** = [(% recovery ERA certified reference material)/(% recovery NIST SRM)]*100
The traceability data shown were compiled by analyzing this ERA certified reference material and/or it's associated stock solution(s) against the applicable NIST SRMs.

4. **Metrological Traceability.** This certified reference material is metrologically traceable to NIST mass reference materials through an unbroken chain of comparisons.

5. **Storage**: 20-25°C

6. **Intended Use**: This standard is intended to be used to calibrate your analytical process and/or as a quality control check of the entire process for the analytes/matrix included in the standard.

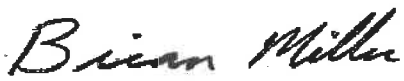
7. **Minimum Sample Size**: ERA suggests that when subsampling this product prior to analysis, you use a minimum sample size of at least 1 mL. Using a smaller sample size may invalidate the assigned value and/or uncertainty shown.

8. **Repeat Sampling**: Repeated Sampling of this product is permitted, provided minimum sample sizes and storage instructions are adhered to.

9. **Safety**: ERA products may be hazardous and are intended for use by professional laboratory personnel trained in the competent handling of such materials. Responsibility for the safe use of these products rests entirely with the buyer and/or user. Safety Data Sheets (SDS) for all ERA products are available through our website: www.eraqc.com

If you have any questions or need technical assistance, please call ERA technical assistance at 1-800-372-0122 or send an email to info@eraqc.com.

Certifying Officer
Brian Miller



Quality Officer
Matthew Seebeck

ISO 17034:2016 ACCREDITED Reference Material Producer CERT #1539.03

ISO/IEC 17025:2017 ACCREDITED Chemical Testing Laboratory CERT #1539.02

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Reagent

ICV MIX--3_00001

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Refine your results. Redefine your industry.

Certificate of Analysis

300 Technology Drive
Christiansburg, VA 24073 USA
inorganicventures.com

P: 800-669-6799/540-585-3030
F: 540-585-3012
info@inorganicventures.com

1.0 ACCREDITATION / REGISTRATION

INORGANIC VENTURES is accredited to ISO 17034, "General Requirements for the Competence of Reference Material Producers" and ISO/IEC 17025, "General Requirements for the Competence of Testing and Calibration Laboratories". Inorganic Ventures is also an ISO 9001 registered manufacturer (QSR Certificate Number QSR-1034).

ACCREDITED Testing Laboratory Certificate 883.01
ACCREDITED Reference Material Producer Certificate 883.02

2.0 PRODUCT DESCRIPTION

Product Code:	Multi Analyte Custom Grade Solution
Catalog Number:	ICP ICPMS CAL 3
Lot Number:	U2-MEB731885
Matrix:	5% (v/v) HNO3
Value / Analyte(s):	1 000 µg/mL ea: Phosphorus, Sulfur, 100 µg/mL ea: Uranium

3.0 CERTIFIED VALUES AND UNCERTAINTIES

ANALYTE	CERTIFIED VALUE	ANALYTE	CERTIFIED VALUE
Phosphorus, P	**1 000 ± 5 µg/mL**	**Sulfur, S**	**1 000 ± 5 µg/mL**
Uranium, U	**100.0 ± 0.5 µg/mL**		

Density: 1.027 g/mL (measured at 20 ± 4 ºC)

Assay Information:

ANALYTE	METHOD	NIST SRM#	SRM LOT#
P	ICP Assay	3139a	060717
P	Acidimetric	84L	84L
S	Acidimetric	84L	84L
S	ICP Assay	traceable to 3154	P2-S680745
U	ICP Assay	3164	080521
U	Calculated		See Sec. 4.2
U	X_U_CRM		See Sec. 4.2

The following equations are used in the calculation of the certified value and the uncertainty. Reported uncertainties represent expanded uncertainties expressed at approximately the 95% confidence level using a coverage factor of k = 2.

Characterization of CRM/RM by Two or More Methods

Certified Value, $X_{CRM/RM}$, where two or more methods of characterization are used is the weighted mean of the results:

$X_{CRM/RM} = \Sigma(w_i)(X_i)$

X_i = mean of Assay Method i with standard uncertainty $u_{char\ i}$

w_i = the weighting factors for each method calculated using the inverse square of the variance:

$w_i = (1/u_{char\ i})^2 / (\Sigma(1/(u_{char\ i})^2)$

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{½}$

k = coverage factor = 2

$u_{char} = [\Sigma((w_i)^2\,(u_{char\ i})^2)]^{½}$ where $u_{char\ i}$ are the errors from each characterization method

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{lts} = long term stability standard uncertainty (storage)

u_{ts} = transport stability standard uncertainty

Characterization of CRM/RM by One Method

Certified Value, $X_{CRM/RM}$, where one method of characterization is used is the mean of individual results:

$X_{CRM/RM} = (X_a)\,(u_{char\ a})$

X_a = mean of Assay Method A with

$u_{char\ a}$ = the standard uncertainty of characterization Method A

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char\ a} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{½}$

k = coverage factor = 2

$u_{char\ a}$ = the errors from characterization

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{lts} = long term stability standard uncertainty (storage)

u_{ts} = transport stability standard uncertainty

Certified Abundance:

IV's Certified Abundance

Isotope	Atom %
Uranium 238U	99.8 ± 0.1
Uranium 235U	0.19 ± 0.05

4.0 TRACEABILITY TO NIST

- This product is traceable to NIST via an unbroken chain of comparisons. The uncertainties for each certified value are reported, taking into account the SRM/RM uncertainty error and the measurement, weighing and volume dilution errors. In rare cases where no NIST SRM/RM are available, the term 'in-house std.' is specified.

4.1 Thermometer Calibration

- All thermometers are NIST traceable through thermometers that are calibrated by an accredited calibration laboratory.

4.2 Balance Calibration

- All analytical balances are calibrated by an accredited calibration laboratory and procedure. The weights used for testing are annually compared to master weights and are traceable to NIST.

4.3 Glassware Calibration

- An in-house procedure is used to calibrate all Class A glassware used in the manufacturing and quality control of CRM/RMs.

5.0 TRACE METALLIC IMPURITIES (TMI) DETERMINED BY ICP-MS AND ICP-OES (µg/mL)

N/A

6.0 INTENDED USE

6.1 This standard is intended for the calibration of analytical instruments and validation of analytical methods as appropriate. This CRM may be used in connection with EPA Methods 6010, 6020 (all versions), Standard Methods 3120 B and USP <232> / ICH Q3D.

6.2 For products attaining traceability through Inorganic Ventures' Primary Certified Reference Materials (PCRM™) see the Limited License to Use PCRM™ in the Inorganic Ventures Terms and Conditions of Sale, https://www.inorganicventures.com/terms-and-conditions-sale. The Terms and Conditions contain information on the use of materials traceable to PCRM™ certified reference materials. This Limited License agreement is especially pertinent for laboratories accredited under ISO:17034.

7.0 INSTRUCTIONS FOR THE CORRECT USE OF THIS REFERENCE MATERIAL

7.1 Storage and Handling Recommendations

- Store between approximately 4° - 30° C while in sealed TCT bag.

- While stored in the sealed TCT bag, transpiration of this CRM/RM is negligible. After opening the sealed TCT bag transpiration of the CRM/RM will occur, resulting in a gradual increase in the analyte concentration(s). It is the responsibility of the user to account for this effect. When the bottle is weighed both before and after being placed in storage, the mass difference observed will be a measure of transpiration mass loss.

- After opening the sealed TCT bag, keep cap tightly sealed when not in use and store between 4° - 24° C to minimize the effects of transpiration. Use at 20° ± 4° C to minimize volumetric dilution error when using the reported density. Do not pipette from the container. Do not return removed aliquots to container.

- For more information, visit **www.inorganicventures.com/TCT**

8.0 HAZARDOUS INFORMATION

- Please refer to the Safety Data Sheet for information regarding this CRM/RM.

9.0 HOMOGENEITY

- This solution was mixed according to an in-house procedure and is guaranteed to be homogeneous. Homogeneity data indicate that the end user should take a minimum sample size of 0.2 mL to assure homogeneity.

10.0 QUALITY STANDARD DOCUMENTATION

10.1 ISO 9001 Quality Management System Registration

- QSR Certificate Number QSR-1034

10.2 ISO/IEC 17025 "General Requirements for the Competence of Testing and Calibration Laboratories"

- Chemical Testing - Accredited / A2LA Certificate Number 883.01

10.3 ISO 17034 "General Requirements for the Competence of Reference Material Producers"

- Reference Material Producer - Accredited / A2LA Certificate Number 883.02

Inorganic Ventures, 300 Technology Drive, Christiansburg, Va. 24073, USA; Telephone: 800.669.6799; 540.585.3030, Fax: 540.585.3012; inorganicventures.com; info@inorganicventures.com

11.0 CERTIFICATION, LOT EXPIRATION AND PERIOD OF VALIDITY

11.1 Certification Issue Date

April 06, 2023

- The certification is valid within the measurement uncertainty specified provided the CRM/RM is stored and handled in accordance with instructions given in Sec 7.1. This certification is nullified if instructions in Sec 7.1 are not followed or if the CRM/RM is damaged, contaminated, or otherwise modified.

11.2 Lot Expiration Date

- **April 06, 2028**

- The date after which this CRM/RM should not be used.

- The lot expiration date reflects the period of time that the stability of a CRM/RM can be supported by long term stability studies conducted on properly stored and handled CRM/RMs. Lot expiration is limited primarily by transpiration (loss of water from the solution) and infrequently by chemical stability.

11.3 Period of Validity

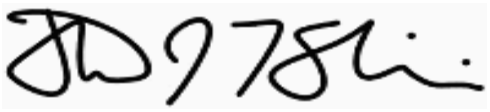
- Sealed TCT Bag Open Date: _____

- This CRM/RM should not be used longer than one year (or six months in the case of a 30 mL bottle) from the date of opening the aluminized bag or after the date given in Sec. 11.2, whichever comes first. This is contingent upon the CRM/RM being stored and handled in accordance with the instructions given in Sec. 7.1.

12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

Certificate Approved By:

Thomas Kozikowski
Manager, Quality Control



Certifying Officer:

Paul Gaines
Chairman / Senior Technical Director

Reagent

ICV MIX-1a_00003

INORGANIC VENTURES™
Refine your results. Redefine your industry.

Certificate of Analysis

300 Technology Drive
Christiansburg, VA 24073 USA
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info@inorganicventures.com

1.0 ACCREDITATION / REGISTRATION

INORGANIC VENTURES is accredited to ISO 17034, "General Requirements for the Competence of Reference Material Producers" and ISO/IEC 17025, "General Requirements for the Competence of Testing and Calibration Laboratories". Inorganic Ventures is also an ISO 9001 registered manufacturer (QSR Certificate Number QSR-1034).

ACCREDITED Testing Laboratory Certificate 883.01
ACCREDITED Reference Material Producer Certificate 883.02

2.0 PRODUCT DESCRIPTION

Product Code:	Multi Analyte Custom Grade Solution
Catalog Number:	IV-67795-A
Lot Number:	U2-MEB734729
Matrix:	5% (v/v) HNO3
Value / Analyte(s):	100 µg/mL ea:

Arsenic, Barium,
Beryllium, Cadmium,
Cobalt, Chromium,
Copper, Lithium,
Manganese, Nickel,
Lead, Selenium,
Strontium, Thallium,
Vanadium

3.0 CERTIFIED VALUES AND UNCERTAINTIES

ANALYTE	CERTIFIED VALUE	ANALYTE	CERTIFIED VALUE
Arsenic, As	**100.0 ± 0.7 µg/mL**	**Barium, Ba**	**100.0 ± 0.4 µg/mL**
Beryllium, Be	**100.0 ± 0.6 µg/mL**	**Cadmium, Cd**	**100.0 ± 0.4 µg/mL**
Chromium, Cr	**100.0 ± 0.6 µg/mL**	**Cobalt, Co**	**100.0 ± 0.5 µg/mL**
Copper, Cu	**100.1 ± 0.4 µg/mL**	**Lead, Pb**	**100.0 ± 0.5 µg/mL**
Lithium, Li	**100.1 ± 0.4 µg/mL**	**Manganese, Mn**	**100.0 ± 0.4 µg/mL**
Nickel, Ni	**100.0 ± 0.4 µg/mL**	**Selenium, Se**	**100.0 ± 0.6 µg/mL**
Strontium, Sr	**100.0 ± 0.4 µg/mL**	**Thallium, Tl**	**100.0 ± 0.5 µg/mL**
Vanadium, V	**100.0 ± 0.4 µg/mL**		

Density: 1.029 g/mL (measured at 20 ± 4 ºC)

Assay Information:

ANALYTE	METHOD	NIST SRM#	SRM LOT#
As	ICP Assay	3103a	100818
As	Calculated		See Sec. 4.2
Ba	ICP Assay	3104a	140909
Ba	Gravimetric		See Sec. 4.2
Be	ICP Assay	3105a	090514
Cd	ICP Assay	3108	130116
Cd	EDTA	928	928
Co	ICP Assay	3113	190630
Co	EDTA	928	928
Cr	ICP Assay	3112a	170630
Cu	ICP Assay	3114	121207
Cu	EDTA	928	928
Li	ICP Assay	3129a	100714
Li	Gravimetric		See Sec. 4.2
Mn	ICP Assay	3132	050429
Mn	EDTA	928	928
Ni	ICP Assay	3136	120619
Ni	EDTA	928	928
Pb	ICP Assay	3128	101026
Pb	EDTA	928	928
Se	ICP Assay	3149	100901
Sr	EDTA	928	928
Sr	ICP Assay	Traceable to 3153a	K2-SR650985
Sr	Calculated		See Sec. 4.2
Tl	ICP Assay	3158	151215
V	ICP Assay	3165	160906
V	EDTA	928	928

The following equations are used in the calculation of the certified value and the uncertainty. Reported uncertainties represent expanded uncertainties expressed at approximately the 95% confidence level using a coverage factor of k = 2.

Characterization of CRM/RM by Two or More Methods

Certified Value, $X_{CRM/RM}$, where two or more methods of characterization are used is the weighted mean of the results:

$X_{CRM/RM} = \Sigma(w_i)(X_i)$

X_i = mean of Assay Method i with standard uncertainty $u_{char\ i}$

w_i = the weighting factors for each method calculated using the inverse square of the variance:

$w_i = (1/u_{char\ i})^2 / (\Sigma(1/(u_{char\ i})^2)$

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{½}$

k = coverage factor = 2

$u_{char} = [\Sigma((w_i)^2\ (u_{char\ i})^2)]^{½}$ where $u_{char\ i}$ are the errors from each characterization method

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{lts} = long term stability standard uncertainty (storage)

u_{ts} = transport stability standard uncertainty

Characterization of CRM/RM by One Method

Certified Value, $X_{CRM/RM}$, where one method of characterization is used is the mean of individual results:

$X_{CRM/RM} = (X_a)(u_{char\ a})$

X_a = mean of Assay Method A with

$u_{char\ a}$ = the standard uncertainty of characterization Method A

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char\ a} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{½}$

k = coverage factor = 2

$u_{char\ a}$ = the errors from characterization

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{lts} = long term stability standard uncertainty (storage)

u_{ts} = transport stability standard uncertainty

4.0 TRACEABILITY TO NIST

- This product is traceable to NIST via an unbroken chain of comparisons. The uncertainties for each certified value are reported, taking into account the SRM/RM uncertainty error and the measurement, weighing and volume dilution errors. In rare cases where no NIST SRM/RM are available, the term 'in-house std.' is specified.

4.1 Thermometer Calibration

- All thermometers are NIST traceable through thermometers that are calibrated by an accredited calibration laboratory.

4.2 Balance Calibration

- All analytical balances are calibrated by an accredited calibration laboratory and procedure. The weights used for testing are annually compared to master weights and are traceable to NIST.

4.3 Glassware Calibration

- An in-house procedure is used to calibrate all Class A glassware used in the manufacturing and quality control of CRM/RMs.

5.0 TRACE METALLIC IMPURITIES (TMI) DETERMINED BY ICP-MS AND ICP-OES (µg/mL)

N/A

6.0 INTENDED USE

6.1 This standard is intended for the calibration of analytical instruments and validation of analytical methods as appropriate. This CRM may be used in connection with EPA Methods 6010, 6020 (all versions), Standard Methods 3120 B and USP <232> / ICH Q3D.

6.2 For products attaining traceability through Inorganic Ventures' Primary Certified Reference Materials (PCRM™) see the Limited License to Use PCRM™ in the Inorganic Ventures Terms and Conditions of Sale, https://www.inorganicventures.com/terms-and-conditions-sale. The Terms and Conditions contain information on the use of materials traceable to PCRM™ certified reference materials. This Limited License agreement is especially pertinent for laboratories accredited under ISO:17034.

7.0 INSTRUCTIONS FOR THE CORRECT USE OF THIS REFERENCE MATERIAL

7.1 Storage and Handling Recommendations

- Store between approximately 4° - 30° C while in sealed TCT bag.

- While stored in the sealed TCT bag, transpiration of this CRM/RM is negligible. After opening the sealed TCT bag transpiration of the CRM/RM will occur, resulting in a gradual increase in the analyte concentration(s). It is the responsibility of the user to account for this effect. When the bottle is weighed both before and after being placed in storage, the mass difference observed will be a measure of transpiration mass loss.

- After opening the sealed TCT bag, keep cap tightly sealed when not in use and store between 4° - 24° C to minimize the effects of transpiration. Use at 20° ± 4° C to minimize volumetric dilution error when using the reported density. Do not pipette from the container. Do not return removed aliquots to container.

- For more information, visit **www.inorganicventures.com/TCT**

8.0 HAZARDOUS INFORMATION

- Please refer to the Safety Data Sheet for information regarding this CRM/RM.

9.0 HOMOGENEITY

- This solution was mixed according to an in-house procedure and is guaranteed to be homogeneous. Homogeneity data indicate that the end user should take a minimum sample size of 0.2 mL to assure homogeneity.

10.0 QUALITY STANDARD DOCUMENTATION

10.1 ISO 9001 Quality Management System Registration

- QSR Certificate Number QSR-1034

10.2 ISO/IEC 17025 "General Requirements for the Competence of Testing and Calibration Laboratories"

- Chemical Testing - Accredited / A2LA Certificate Number 883.01

10.3 ISO 17034 "General Requirements for the Competence of Reference Material Producers"

- Reference Material Producer - Accredited / A2LA Certificate Number 883.02

Inorganic Ventures, 300 Technology Drive, Christiansburg, Va. 24073, USA; Telephone: 800.669.6799; 540.585.3030, Fax: 540.585.3012; inorganicventures.com; info@inorganicventures.com

11.0 CERTIFICATION, LOT EXPIRATION AND PERIOD OF VALIDITY

11.1 Certification Issue Date

July 12, 2023

- The certification is valid within the measurement uncertainty specified provided the CRM/RM is stored and handled in accordance with instructions given in Sec 7.1. This certification is nullified if instructions in Sec 7.1 are not followed or if the CRM/RM is damaged, contaminated, or otherwise modified.

11.2 Lot Expiration Date

- **July 12, 2028**

- The date after which this CRM/RM should not be used.

- The lot expiration date reflects the period of time that the stability of a CRM/RM can be supported by long term stability studies conducted on properly stored and handled CRM/RMs. Lot expiration is limited primarily by transpiration (loss of water from the solution) and infrequently by chemical stability.

11.3 Period of Validity

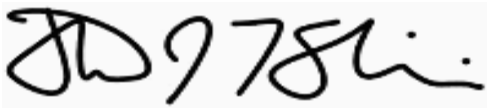
- Sealed TCT Bag Open Date: _____

- This CRM/RM should not be used longer than one year (or six months in the case of a 30 mL bottle) from the date of opening the aluminized bag or after the date given in Sec. 11.2, whichever comes first. This is contingent upon the CRM/RM being stored and handled in accordance with the instructions given in Sec. 7.1.

12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

Certificate Approved By:

Thomas Kozikowski
Stock VS Manager



Certifying Officer:

Paul Gaines
Chairman / Senior Technical Director

Reagent

MS CALSTD-2_00104

CPI INTERNATIONAL

7555501

ID: ICP CALSTD-2_00104

Exp: 10/24 Prpd:LM1

MS CAL STD 2

CERTIFICATE OF ANALYSIS

Multi-Element Aqueous CRM

Product #: TA-CAL2

ICP ICPMS CAL Mix # 2

Lot #: 1274823-1

Matrix: 5% HNO_3

Element	Certified Concentration & Uncertainty	Element	Certified Concentration & Uncertainty	Element	Certified Concentration & Uncertainty
Al	2000 ± 10 mg/L	Fe	2000 ± 10 mg/L	Mg	2000 ± 10 mg/L
Ca	2000 ± 10 mg/L	K	2000 ± 10 mg/L	Na	2000 ± 10 mg/L

Source Material Lot # Chart

Element	Source Material Lot #	Element	Source Material Lot #	Element	Source Material Lot #
Al	1249289	Fe	1249266	Mg	1222806
Ca	1232112	K	1287603	Na	1245609

Intended Use: This solution is intended for use as a certified reference material (CRM) or calibration standard for inductively coupled plasma optical emission spectroscopy (ICP-OES), inductively coupled plasma mass spectrometry (ICP-MS), flame or furnace atomic absorption spectroscopy (AA or GFAA), and other techniques for elemental analysis.

Certification & Traceability: This CRM was manufactured, processed, and/or certified under a quality management system that is registered/accredited to **ISO 9001**, **ISO 17034**, and **ISO/IEC 17025**. This CRM was prepared to the certified concentrations shown above by gravimetric methods, using single-element concentrates that were certified using the "High Performance ICP-OES" protocol developed by NIST and are directly traceable to **NIST SRMs (see reverse side)**. The solution was stabilized using high purity nitric acid (HNO_3) and diluted with filtered (0.22 µm), 18 M-ohm deionized water. The balances used in the preparation of this CRM are calibrated regularly with traceability to NIST, using a calibration provider that is accredited to ISO/IEC 17025 by a mutually recognized accreditation body. All volumetric dilutions are performed in Class A calibrated glassware. The certified concentrations were determined based upon gravimetric procedures. Secondary verification of the certified concentrations was performed using ICP-OES that was calibrated and/or referenced against **NIST SRMs (see reverse side)**. The uncertainty associated with each certified concentration represents the expanded uncertainty at the 95% confidence level using a coverage factor of k=2.

Instructions for Use: We recommend that the solution be thoroughly mixed by repeated shaking or swirling of the bottle immediately prior to use. To achieve the highest accuracy, the analyst should: (1) use only pre-cleaned containers and transferware, (2) not pipette directly from the CRM's original container, (3) never pour used product back into the original container, (4) make dilutions using calibrated balances or certified class A volumetric flasks and pipettes, (5) use a minimum sub-sample size of 500 µL, and (6) dilute with the same matrix as the original CRM or other chemically suitable matrix. The solution should be kept tightly capped and stored under normal laboratory conditions. Do not freeze, heat, or immerse the bottle or its contents, and avoid exposure to direct sunlight or moisture.

Period of Validity: CPI International ensures the accuracy of this solution for **18 months** from the certification date shown below, provided the instructions for use are followed. During the period of validity, the purchaser will be notified if this product is recalled due to any significant changes in the stability of the solution.

Chuck Goudreau

Chuck Goudreau, Certifying Officer

November 30, 2022
Certification Date

CPI International waives all responsibility for any damages resulting from the usage and/or implementation of the products/data described herein.

USA
5580 Skylane Boulevard P: 707.525.5788
Santa Rosa, CA 95403 P: 800.878.7654
F: 707.545.7901

Europe
Nieuwe Hemweg 7P P: +31 20 638 05 97
1013BG Amsterdam F: +31 20 420 28 36
The Netherlands

www.cpiinternational.com

Health and Safety Information: Refer to the Safety Data Sheet (SDS).

Homogeneity: This solution was determined to be homogeneous by procedures consistent with the requirements of ISO 17034 and ISO Guide 35. Replicate samples of the finished solution were analyzed to confirm its homogeneity, in accordance with internal procedures for the assessment of homogeneity and stability. To ensure homogeneity, users should not take a smaller sub-sample than specified in the Instructions for Use, as doing so will invalidate the certified values and uncertainties.

Further Information: Please contact CPI International for further information about this material.

Quality Certifications: This material was prepared under a quality management system that is registered/accredited to the following:

- ISO 17034 Accredited: Reference Materials Producer, A2LA Certificate No. 2848.02 – General Requirements for the Competence of Reference Material Producers
    - ISO 17034 references additional requirements specified in ISO Guide 31 and ISO Guide 35
- ISO/IEC 17025 Accredited: Chemical Testing, A2LA Certificate No. 2848.01 – General Requirements for the Competence of Testing and Calibration Laboratories
- ISO 9001 Certified: Quality Management Systems, Certificate Registration No. 56 100 19560101 – Requirements *(Registrar: TUV NORD)*

This CRM is traceable to the following NIST SRMs:

Analyte	Aq. SRM	MO SRM	Analyte	Aq. SRM	MO SRM	Analyte	Aq. SRM	MO SRM
Ag	3151	-	Hf	3122	-	S	3154	2770
Al	3101a	-	Hg	3133	3133	Sb	3102a	3102a
As	3103a	3103a	Ho	3123a	-	Sc	3148a	3148a
Au	3121	-	In	3124a	3124a	Se	3149	3149
B	3107	3107	K	3141a	3141a	Si	3150	-
Ba	3104a	-	La	3127a	3127a	Sm	3147a	-
Be	3105a	3105a	Li	3129a	3129a	Sn	3161a	-
Bi	3106	3106	Lu	3130a	-	SO_4^{-2}	3181	-
Br	3184	-	Mg	3131a	3131a	Sr	3153a	3153a
Ca	3109a	3109a	Mn	3132	3132	Ta	3155	-
Cd	3108	-	Mo	3134	3134	Tb	3157a	-
Ce	3110	3110	Na	3152a	-	Te	3156	-
Cl	3182	1818a	Nb	3137	-	Th	-	-
Co	3113	3113	Nd	3135a	-	Ti	3162a	3162a
Cr	3112a	-	Ni	3136	-	Tl	3158	3158
Cs	3111a	-	NO_3^-	3185	-	Tm	3160a	-
Cu	3114	-	P	3139a	3139a	U	3164	-
Dy	3115a	-	Pb	3128	-	V	3165	-
Er	3116a	-	Pd	3138	-	W	3163	3163
Eu	3117a	-	PO_4^{-3}	3186	-	Y	3167a	3167a
F-	3183	-	Pr	3142a	-	Yb	3166a	-
Fe	3126a	-	Pt	3140	3140	Zn	3168a	3168a
Ga	3119a	-	Rb	3145a	-	Zr	3169	3169
Gd	3118a	-	Re	3143	-			
Ge	3120a	-	Rh	3144	3144			

Reagent

MS ICSA STOCK_00051

CPI INTERNATIONAL

CERTIFICATE OF ANALYSIS

Multi-Element Aqueous CRM

ICPMS ICSA Mix

7510937
ID: MS ICSA STOCK_00051
Exp:04/20/24 Prpd:LRD Opn:12/13/22
ICP-MS ICS-0A STOCK SOLUT

Product #: TA-ICPMS-ICSA

Lot #: 1267033-1

Matrix: 2% HNO_3

Element	Certified Concentration & Uncertainty	Element	Certified Concentration & Uncertainty	Element	Certified Concentration & Uncertainty
Al	1000 ± 5 mg/L	Fe	1000 ± 5 mg/L	Na	1000 ± 5 mg/L
C	2000 ± 10 mg/L	K	1000 ± 5 mg/L	P	1000 ± 5 mg/L
Ca	1000 ± 5 mg/L	Mg	1000 ± 5 mg/L	S	1000 ± 5 mg/L
Cl	10,000 ± 50 mg/L	Mo	19.99 ± 0.10 mg/L	Ti	20.00 ± 0.10 mg/L

Source Material Lot # Chart

Element	Source Material Lot #	Element	Source Material Lot #	Element	Source Material Lot #
Al	1249289	Fe	1249266	Na	1245609
C	R11H037	K	1156013	P	1225600
Ca	1232112	Mg	1075231	S	1207779
Cl	220348	Mo	1207790	Ti	1094307

Intended Use: This solution is intended for use as a certified reference material (CRM) or calibration standard for inductively coupled plasma optical emission spectroscopy (ICP-OES), inductively coupled plasma mass spectrometry (ICP-MS), flame or furnace atomic absorption spectroscopy (AA or GFAA), and other techniques for elemental analysis.

Certification & Traceability: This CRM was manufactured, processed, and/or certified under a quality management system that is registered/accredited to **ISO 9001**, **ISO 17034**, and **ISO/IEC 17025**. This CRM was prepared to the certified concentrations shown above by gravimetric methods, using single-element concentrates that were certified using the "High Performance ICP-OES" protocol developed by NIST and are directly traceable to **NIST SRMs (see final page)**. The solution was stabilized using high purity nitric acid (HNO_3) and diluted with filtered (0.22 µm), 18 M-ohm deionized water. The balances used in the preparation of this CRM are calibrated regularly with traceability to NIST, using a calibration provider that is accredited to ISO/IEC 17025 by a mutually recognized accreditation body. All volumetric dilutions are performed in Class A calibrated glassware. The certified concentrations were determined based upon gravimetric procedures. Secondary verification of the certified concentrations was performed using ICP-OES that was calibrated and/or referenced against **NIST SRMs (see final page)**. The uncertainty associated with each certified concentration represents the expanded uncertainty at the 95% confidence level using a coverage factor of k=2.

Trace Concentrations (µg/L)

Ag	<0.5	Co	<1	Ge	<0.5	Lu	<0.2	P	MAJOR	Sb	<0.5	Te	<1
Al	MAJOR	Cs	<0.5	Hf	<0.2	Mg	MAJOR	Pb	<1	Sc	<5	Ti	MAJOR
As	<2	Cr	<0.5	Hg	<0.5	Mn	<1	Pd	<0.5	Se	<2	Tl	<0.5
Au	3	Cu	<1	Ho	<0.2	Mo	MAJOR	Pr	<0.2	Si	<100	Tm	<0.2
B	<5	Dy	<0.2	In	nd	Na	MAJOR	Pt	<0.5	Sm	<0.2	V	<1
Ba	22	Er	<0.2	Ir	<0.2	Nb	<0.5	Rb	<0.5	Sn	3	W	<0.5
Bi	<0.2	Eu	<0.2	K	MAJOR	Nd	<0.2	Re	<0.2	Sr	<1	Y	<0.5
Ca	MAJOR	Fe	MAJOR	La	<0.5	Ni	<2	Rh	<0.5	Ta	<0.5	Yb	<0.2
Cd	<0.5	Ga	18	Li	<2	Os	<0.5	Ru	<0.5	Tb	<0.5	Zn	<2
Ce	<0.2	Gd	<0.2										

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Santa Rosa, CA 95403 P: 800.878.7654
F: 707.545.7901

Europe
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1013BG Amsterdam F: +31 20 420 28 36
The Netherlands

Instructions for Use: We recommend that the solution be thoroughly mixed by repeated shaking or swirling of the bottle immediately prior to use. To achieve the highest accuracy, the analyst should: (1) use only pre-cleaned containers and transferware, (2) not pipette directly from the CRM's original container, (3) never pour used product back into the original container, (4) make dilutions using calibrated balances or certified class A volumetric flasks and pipettes, (5) use a minimum sub-sample size of 500 µL, and (6) dilute with the same matrix as the original CRM or other chemically suitable matrix. The solution should be kept tightly capped and stored under normal laboratory conditions. Do not freeze, heat, or immerse the bottle or its contents, and avoid exposure to direct sunlight or moisture.

Period of Validity: CPI International ensures the accuracy of this solution for **18 months** from the certification date shown below, provided the instructions for use are followed. During the period of validity, the purchaser will be notified if this product is recalled due to any significant changes in the stability of the solution.

Chuck Goudreau

Chuck Goudreau, Certifying Officer

October 20, 2022
Certification Date

CPI International waives all responsibility for any damages resulting from the usage and/or implementation of the products/data described herein.

Health and Safety Information: Refer to the Safety Data Sheet (SDS).

Homogeneity: This solution was determined to be homogeneous by procedures consistent with the requirements of ISO 17034 and ISO Guide 35. Replicate samples of the finished solution were analyzed to confirm its homogeneity, in accordance with internal procedures for the assessment of homogeneity and stability. To ensure homogeneity, users should not take a smaller sub-sample than specified in the Instructions for Use, as doing so will invalidate the certified values and uncertainties.

Further Information: Please contact CPI International for further information about this material.

Quality Certifications: This material was prepared under a quality management system that is registered/accredited to the following:

- ISO 17034 Accredited: Reference Materials Producer, A2LA Certificate No. 2848.02 – General Requirements for the Competence of Reference Material Producers
    - ISO 17034 references additional requirements specified in ISO Guide 31 and ISO Guide 35
- ISO/IEC 17025 Accredited: Chemical Testing, A2LA Certificate No. 2848.01 – General Requirements for the Competence of Testing and Calibration Laboratories
- ISO 9001 Certified: Quality Management Systems, Certificate Registration No. 56 100 19560101 – Requirements *(Registrar: TUV NORD)*

This CRM is traceable to the following NIST SRMs:

Analyte	Aq. SRM	MO SRM	Analyte	Aq. SRM	MO SRM	Analyte	Aq. SRM	MO SRM
Ag	3151	-	Hf	3122	-	S	3154	2770
Al	3101a	-	Hg	3133	3133	Sb	3102a	3102a
As	3103a	3103a	Ho	3123a	-	Sc	3148a	3148a
Au	3121	-	In	3124a	3124a	Se	3149	3149
B	3107	3107	K	3141a	3141a	Si	3150	-
Ba	3104a	-	La	3127a	3127a	Sm	3147a	-
Be	3105a	3105a	Li	3129a	3129a	Sn	3161a	-
Bi	3106	3106	Lu	3130a	-	SO_4^{-2}	3181	-
Br	3184	-	Mg	3131a	3131a	Sr	3153a	3153a
Ca	3109a	3109a	Mn	3132	3132	Ta	3155	-
Cd	3108	-	Mo	3134	3134	Tb	3157a	-
Ce	3110	3110	Na	3152a	-	Te	3156	-
Cl	3182	1818a	Nb	3137	-	Th	-	-
Co	3113	3113	Nd	3135a	-	Ti	3162a	3162a
Cr	3112a	-	Ni	3136	-	Tl	3158	3158
Cs	3111a	-	NO_3^-	3185	-	Tm	3160a	-
Cu	3114	-	P	3139a	3139a	U	3164	-
Dy	3115a	-	Pb	3128	-	V	3165	-
Er	3116a	-	Pd	3138	-	W	3163	3163
Eu	3117a	-	PO_4^{-3}	3186	-	Y	3167a	3167a
F	3183	-	Pr	3142a	-	Yb	3166a	-
Fe	3126a	-	Pt	3140	3140	Zn	3168a	3168a
Ga	3119a	-	Rb	3145a	-	Zr	3169	3169
Gd	3118a	-	Re	3143	-			
Ge	3120a	-	Rh	3144	3144			

Reagent

MS ICSA STOCK_00052

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1.0 ACCREDITATION / REGISTRATION

INORGANIC VENTURES is accredited to ISO 17034, "General Requirements for the Competence of Reference Material Producers" and ISO/IEC 17025, "General Requirements for the Competence of Testing and Calibration Laboratories". Inorganic Ventures is also an ISO 9001 registered manufacturer (QSR Certificate Number QSR-1034).

ACCREDITED Testing Laboratory Certificate 883.01
ACCREDITED Reference Material Producer Certificate 883.02

2.0 PRODUCT DESCRIPTION

Product Code:	Multi Analyte Custom Grade Solution
Catalog Number:	6020ICS-0A
Lot Number:	S2-MEB706044
Matrix:	1% (v/v) HNO3
Value / Analyte(s):	10 000 µg/mL ea: Chloride,
	2 000 µg/mL ea: Carbon,
	1 000 µg/mL ea: Calcium, Aluminum, Iron, Potassium, Magnesium, Sodium, Phosphorus, Sulfur,
	20 µg/mL ea: Titanium, Molybdenum

3.0 CERTIFIED VALUES AND UNCERTAINTIES

ANALYTE	CERTIFIED VALUE	ANALYTE	CERTIFIED VALUE
Aluminum, Al	**1 000 ± 3 µg/mL**	**Calcium, Ca**	**1 000 ± 4 µg/mL**
Carbon, C	**2 001 ± 4 µg/mL**	**Chloride, Cl**	**10 000.0 ± 50.0 µg/mL**
Iron, Fe	**1 000 ± 4 µg/mL**	**Magnesium, Mg**	**1 000 ± 4 µg/mL**
Molybdenum, Mo	**20.01 ± 0.12 µg/mL**	**Phosphorus, P**	**1 000 ± 6 µg/mL**
Potassium, K	**1 000 ± 4 µg/mL**	**Sodium, Na**	**1 000 ± 4 µg/mL**
Sulfur, S	**1 000 ± 4 µg/mL**	**Titanium, Ti**	**20.01 ± 0.14 µg/mL**

Density: 1.031 g/mL (measured at 20 ± 4 ºC)

Assay Information:

ANALYTE	METHOD	NIST SRM#	SRM LOT#
Al	ICP Assay	3101a	140903
Al	EDTA	928	928
C	Acidimetric	84L	84L
Ca	ICP Assay	3109a	130213
Ca	EDTA	928	928
Fe	ICP Assay	3126a	140812
Fe	EDTA	928	928
K	ICP Assay	3141a	140813
K	Gravimetric		See Sec. 4.2
Mg	ICP Assay	3131a	140110
Mg	EDTA	928	928
Mo	ICP Assay	3134	130418
Na	ICP Assay	3152a	120715
Na	Gravimetric		See Sec. 4.2
P	ICP Assay	3139a	060717
P	Acidimetric	84L	84L
S	Acidimetric	84L	84L
S	ICP Assay	traceable to 3154	P2-S680745
Ti	ICP Assay	3162a	130925

The following equations are used in the calculation of the certified value and the uncertainty. Reported uncertainties represent expanded uncertainties expressed at approximately the 95% confidence level using a coverage factor of k = 2.

Characterization of CRM/RM by Two or More Methods

Certified Value, $X_{CRM/RM}$, where two or more methods of characterization are used is the weighted mean of the results:

$X_{CRM/RM} = \Sigma(w_i)(X_i)$

X_i = mean of Assay Method i with standard uncertainty $u_{char\ i}$

w_i = the weighting factors for each method calculated using the inverse square of the variance:

$w_i = (1/u_{char\ i})^2 / (\Sigma(1/(u_{char\ i})^2)$

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{½}$

k = coverage factor = 2

$u_{char} = [\Sigma((w_i)^2\,(u_{char\ i})^2)]^{½}$ where $u_{char\ i}$ are the errors from each characterization method

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{lts} = long term stability standard uncertainty (storage)

u_{ts} = transport stability standard uncertainty

Characterization of CRM/RM by One Method

Certified Value, $X_{CRM/RM}$, where one method of characterization is used is the mean of individual results:

$X_{CRM/RM} = (X_a)\,(u_{char\ a})$

X_a = mean of Assay Method A with

$u_{char\ a}$ = the standard uncertainty of characterization Method A

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char\ a} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{½}$

k = coverage factor = 2

$u_{char\ a}$ = the errors from characterization

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{lts} = long term stability standard uncertainty (storage)

u_{ts} = transport stability standard uncertainty

4.0 TRACEABILITY TO NIST

- This product is traceable to NIST via an unbroken chain of comparisons. The uncertainties for each certified value are reported, taking into account the SRM/RM uncertainty error and the measurement, weighing and volume dilution errors. In rare cases where no NIST SRM/RM are available, the term 'in-house std.' is specified.

4.1 Thermometer Calibration

- All thermometers are NIST traceable through thermometers that are calibrated by an accredited calibration laboratory.

4.2 Balance Calibration

- All analytical balances are calibrated by an accredited calibration laboratory and procedure. The weights used for testing are annually compared to master weights and are traceable to NIST.

4.3 Glassware Calibration

- An in-house procedure is used to calibrate all Class A glassware used in the manufacturing and quality control of CRM/RMs.

5.0 TRACE METALLIC IMPURITIES (TMI) DETERMINED BY ICP-MS AND ICP-OES (µg/mL)

CRM/RMs are tested for trace metallic impurities by Axial ICP-OES and ICP-MS. The result from the most sensitive method for each element, is reported below. Solutions tested by ICP-MS were analyzed in an ULPA-Filtered Clean Room. An ULPA-Filter is 99.9985% efficient for the removal of particles down to 0.3 µm.

M	Ag	<	0.000260	O	Cu	<	0.007300	M	La	<	0.000120	M	Pr	<	0.000010	M	Ta		0.000230
s	Al	<		M	Dy	<	0.000360	O	Li		0.002200	M	Pt	<	0.000120	M	Tb	<	0.000040
O	As	<	0.029000	M	Er	<	0.000040	M	Lu	<	0.000010	M	Rb		0.052000	M	Te	<	0.000860
M	Au	<	0.000240	M	Eu	<	0.000010	s	Mg	<		M	Re	<	0.000040	M	Th	<	0.000060
M	B	<	0.007400	s	Fe	<		M	Mn		0.002400	M	Rh	<	0.000080	s	Ti	<	
M	Ba		0.004600	M	Ga		0.026000	s	Mo	<		M	Ru	<	0.000290	M	Tl	<	0.000050
M	Be	<	0.000070	M	Gd	<	0.000100	s	Na	<		s	S	<		M	Tm	<	0.000010
M	Bi	<	0.000220	M	Ge	<	0.003100	M	Nb	<	0.000100	M	Sb		0.000540	M	U		0.000180
s	Ca	<		M	Hf	<	0.000100	M	Nd	<	0.000040	O	Sc	<	0.000520	O	V	<	0.002900
O	Cd	<	0.001100	M	Hg	<	0.000260	O	Ni		0.002500	M	Se	<	0.002400	M	W		0.001600
M	Ce	<	0.000220	M	Ho	<	0.000100	M	Os	<	0.000020	M	Si	<	0.024000	M	Y	<	0.000120
M	Co		0.002200	M	In	<	0.000260	s	P	<		M	Sm	<	0.000080	M	Yb	<	0.000020
M	Cr		0.020000	M	Ir	<	0.000010	M	Pb		0.000480	M	Sn		0.000430	M	Zn		0.005600
M	Cs		0.000700	s	K	<		M	Pd	<	0.000060	O	Sr		0.005800	M	Zr		0.000960

M - Checked by ICP-MS O - Checked by ICP-OES i - Spectral Interference
n - Not Checked For s - Solution Standard Element

6.0 INTENDED USE

- For the calibration of analytical instruments and validation of analytical methods as appropriate.

7.0 INSTRUCTIONS FOR THE CORRECT USE OF THIS REFERENCE MATERIAL

7.1 Storage and Handling Recommendations

- Store between approximately 4° - 30° C while in sealed TCT bag.

- While stored in the sealed TCT bag, transpiration of this CRM/RM is negligible. After opening the sealed TCT bag transpiration of the CRM/RM will occur, resulting in a gradual increase in the analyte concentration(s). It is the responsibility of the user to account for this effect. When the bottle is weighed both before and after being placed in storage, the mass difference observed will be a measure of transpiration mass loss.

- After opening the sealed TCT bag, keep cap tightly sealed when not in use and store between 4° - 24° C to minimize the effects of transpiration. Use at 20° ± 4° C to minimize volumetric dilution error when using the reported density. Do not pipette from the container. Do not return removed aliquots to container.

- For more information, visit **www.inorganicventures.com/TCT**

8.0 HAZARDOUS INFORMATION

- Please refer to the Safety Data Sheet for information regarding this CRM/RM.

9.0 HOMOGENEITY

- This solution was mixed according to an in-house procedure and is guaranteed to be homogeneous. Homogeneity data indicate that the end user should take a minimum sample size of 0.2 mL to assure homogeneity.

10.0 QUALITY STANDARD DOCUMENTATION

10.1 ISO 9001 Quality Management System Registration

- QSR Certificate Number QSR-1034

10.2 ISO/IEC 17025 "General Requirements for the Competence of Testing and Calibration Laboratories"

- Chemical Testing - Accredited / A2LA Certificate Number 883.01

10.3 ISO 17034 "General Requirements for the Competence of Reference Material Producers"

- Reference Material Producer - Accredited / A2LA Certificate Number 883.02

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11.0 CERTIFICATION, LOT EXPIRATION AND PERIOD OF VALIDITY

11.1 Certification Issue Date

July 06, 2021

- The certification is valid within the measurement uncertainty specified provided the CRM/RM is stored and handled in accordance with instructions given in Sec 7.1. This certification is nullified if instructions in Sec 7.1 are not followed or if the CRM/RM is damaged, contaminated, or otherwise modified.

11.2 Lot Expiration Date

- **July 06, 2025**

- The date after which this CRM/RM should not be used.

- The lot expiration date reflects the period of time that the stability of a CRM/RM can be supported by long term stability studies conducted on properly stored and handled CRM/RMs. Lot expiration is limited primarily by transpiration (loss of water from the solution) and infrequently by chemical stability.

11.3 Period of Validity

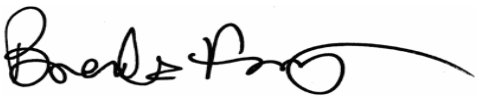
- Sealed TCT Bag Open Date: _____

- This CRM/RM should not be used longer than one year (or six months in the case of a 30 mL bottle) from the date of opening the aluminized bag or after the date given in Sec. 11.2, whichever comes first. This is contingent upon the CRM/RM being stored and handled in accordance with the instructions given in Sec. 7.1.

12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

Certificate Prepared By:

Brenda Francis
Product Documentation Technician



Certificate Approved By:

Michael Booth
Director, Quality Control

Certifying Officer:

Paul Gaines
Chairman / Senior Technical Director

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1.0 ACCREDITATION / REGISTRATION

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ACCREDITED Testing Laboratory Certificate 883.01
ACCREDITED Reference Material Producer Certificate 883.02

2.0 PRODUCT DESCRIPTION

Product Code:	Multi Analyte Custom Grade Solution
Catalog Number:	6020ICS-0A
Lot Number:	U2-MEB735840
Matrix:	1% (v/v) HNO3
Value / Analyte(s):	10 000 µg/mL ea: Chloride,
	2 000 µg/mL ea: Carbon,
	1 000 µg/mL ea: Calcium, Aluminum, Iron, Potassium, Magnesium, Sodium, Phosphorus, Sulfur,
	20 µg/mL ea: Titanium, Molybdenum

3.0 CERTIFIED VALUES AND UNCERTAINTIES

ANALYTE	CERTIFIED VALUE	ANALYTE	CERTIFIED VALUE
Aluminum, Al	**999 ± 3 µg/mL**	**Calcium, Ca**	**999 ± 3 µg/mL**
Carbon, C	**1 998 ± 4 µg/mL**	**Chloride, Cl**	**9 990.0 ± 30.0 µg/mL**
Iron, Fe	**999 ± 4 µg/mL**	**Magnesium, Mg**	**999 ± 4 µg/mL**
Molybdenum, Mo	**19.98 ± 0.11 µg/mL**	**Phosphorus, P**	**999 ± 5 µg/mL**
Potassium, K	**999 ± 4 µg/mL**	**Sodium, Na**	**999 ± 4 µg/mL**
Sulfur, S	**999 ± 5 µg/mL**	**Titanium, Ti**	**19.98 ± 0.15 µg/mL**

Density: 1.030 g/mL (measured at 20 ± 4 ºC)

Assay Information:

ANALYTE	METHOD	NIST SRM#	SRM LOT#
Al	ICP Assay	3101a	140903
Al	EDTA	928	928
C	Acidimetric	84L	84L
Ca	ICP Assay	3109a	130213
Ca	EDTA	928	928
Cl	Acidimetric	84L	84L
Fe	ICP Assay	3126a	140812
Fe	EDTA	928	928
K	ICP Assay	3141a	140813
K	Gravimetric		See Sec. 4.2
Mg	ICP Assay	3131a	140110
Mg	EDTA	928	928
Mo	ICP Assay	3134	130418
Na	ICP Assay	3152a	200413
Na	Gravimetric		See Sec. 4.2
P	ICP Assay	3139a	060717
P	Acidimetric	84L	84L
S	Acidimetric	84L	84L
S	ICP Assay	traceable to 3154	P2-S680745
Ti	ICP Assay	3162a	130925

The following equations are used in the calculation of the certified value and the uncertainty. Reported uncertainties represent expanded uncertainties expressed at approximately the 95% confidence level using a coverage factor of k = 2.

Characterization of CRM/RM by Two or More Methods

Certified Value, $X_{CRM/RM}$, where two or more methods of characterization are used is the weighted mean of the results:

$X_{CRM/RM} = \Sigma(w_i)(X_i)$

X_i = mean of Assay Method i with standard uncertainty $u_{char\ i}$

w_i = the weighting factors for each method calculated using the inverse square of the variance:

$w_i = (1/u_{char\ i})^2 / (\Sigma(1/(u_{char\ i})^2)$

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{½}$

k = coverage factor = 2

$u_{char} = [\Sigma((w_i)^2\ (u_{char\ i})^2)]^{½}$ where $u_{char\ i}$ are the errors from each characterization method

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{lts} = long term stability standard uncertainty (storage)

u_{ts} = transport stability standard uncertainty

Characterization of CRM/RM by One Method

Certified Value, $X_{CRM/RM}$, where one method of characterization is used is the mean of individual results:

$X_{CRM/RM} = (X_a)\ (u_{char\ a})$

X_a = mean of Assay Method A with

$u_{char\ a}$ = the standard uncertainty of characterization Method A

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char\ a} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{½}$

k = coverage factor = 2

$u_{char\ a}$ = the errors from characterization

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{lts} = long term stability standard uncertainty (storage)

u_{ts} = transport stability standard uncertainty

4.0 TRACEABILITY TO NIST

- This product is traceable to NIST via an unbroken chain of comparisons. The uncertainties for each certified value are reported, taking into account the SRM/RM uncertainty error and the measurement, weighing and volume dilution errors. In rare cases where no NIST SRM/RM are available, the term 'in-house std.' is specified.

4.1 Thermometer Calibration

- All thermometers are NIST traceable through thermometers that are calibrated by an accredited calibration laboratory.

4.2 Balance Calibration

- All analytical balances are calibrated by an accredited calibration laboratory and procedure. The weights used for testing are annually compared to master weights and are traceable to NIST.

4.3 Glassware Calibration

- An in-house procedure is used to calibrate all Class A glassware used in the manufacturing and quality control of CRM/RMs.

5.0 TRACE METALLIC IMPURITIES (TMI) DETERMINED BY ICP-MS AND ICP-OES (µg/mL)

CRM/RMs are tested for trace metallic impurities by Axial ICP-OES and ICP-MS. The result from the most sensitive method for each element, is reported below. Solutions tested by ICP-MS were analyzed in an ULPA-Filtered Clean Room. An ULPA-Filter is 99.9985% efficient for the removal of particles down to 0.3 µm.

M	Ag	<	0.000120	M	Er	<	0.000009	M	Mn		0.003100	s	S	<		O	V	<	0.004400
s	Al	<		M	Eu	<	0.000059	s	Mo	<		M	Sb		0.000940	M	W		0.003600
M	As		0.007300	s	Fe	<		s	Na	<		M	Sc	<	0.000810	M	Y	<	0.000079
M	Au	<	0.000081	M	Ga		0.028000	M	Nb	<	0.000079	M	Se	<	0.003600	M	Yb	<	0.000098
M	B	<	0.004700	M	Gd	<	0.000040	M	Nd	<	0.000030	O	Si	<	0.021000	M	Zn		0.003700
M	Ba		0.006300	M	Ge	<	0.001800	M	Ni		0.008800	M	Sm	<	0.000009	M	Zr		0.001400
O	Be	<	0.000310	M	Hf	<	0.000098	M	Os	<	0.000011	M	Sn		0.000510				
M	Bi	<	0.000630	M	Hg	<	0.000011	s	P	<		M	Sr		0.009200				
s	Ca	<		M	Ho	<	0.000009	M	Pb		0.000610	M	Ta		0.000200				
O	Cd	<	0.003900	M	In	<	0.000380	M	Pd	<	0.000040	M	Tb	<	0.000009				
M	Ce	<	0.000120	M	Ir	<	0.000011	M	Pr	<	0.000020	M	Te	<	0.000040				
M	Co		0.001900	s	K	<		M	Pt	<	0.000009	M	Th	<	0.000098				
M	Cr		0.013000	M	La	<	0.000300	M	Rb		0.040000	s	Ti	<					
M	Cs		0.000960	O	Li		0.001300	M	Re	<	0.000040	M	Tl	<	0.000020				
M	Cu		0.017000	M	Lu	<	0.000009	M	Rh	<	0.000030	M	Tm	<	0.000009				
M	Dy	<	0.000009	s	Mg	<		M	Ru	<	0.000110	M	U	<	0.000079				

M - Checked by ICP-MS O - Checked by ICP-OES i - Spectral Interference
n - Not Checked For s - Solution Standard Element

6.0 INTENDED USE

6.1 This standard is intended for the calibration of analytical instruments and validation of analytical methods as appropriate. This CRM may be used in connection with EPA Methods 6010, 6020 (all versions), Standard Methods 3120 B and USP <232> / ICH Q3D.

6.2 For products attaining traceability through Inorganic Ventures' Primary Certified Reference Materials (PCRM™) see the Limited License to Use PCRM™ in the Inorganic Ventures Terms and Conditions of Sale, https://www.inorganicventures.com/terms-and-conditions-sale. The Terms and Conditions contain information on the use of materials traceable to PCRM™ certified reference materials. This Limited License agreement is especially pertinent for laboratories accredited under ISO:17034.

7.0 INSTRUCTIONS FOR THE CORRECT USE OF THIS REFERENCE MATERIAL

7.1 Storage and Handling Recommendations

- Store between approximately 4° - 30° C while in sealed TCT bag.

- While stored in the sealed TCT bag, transpiration of this CRM/RM is negligible. After opening the sealed TCT bag transpiration of the CRM/RM will occur, resulting in a gradual increase in the analyte concentration(s). It is the responsibility of the user to account for this effect. When the bottle is weighed both before and after being placed in storage, the mass difference observed will be a measure of transpiration mass loss.

- After opening the sealed TCT bag, keep cap tightly sealed when not in use and store between 4° - 24° C to minimize the effects of transpiration. Use at 20° ± 4° C to minimize volumetric dilution error when using the reported density. Do not pipette from the container. Do not return removed aliquots to container.

- For more information, visit **www.inorganicventures.com/TCT**

8.0 HAZARDOUS INFORMATION

- Please refer to the Safety Data Sheet for information regarding this CRM/RM.

9.0 HOMOGENEITY

- This solution was mixed according to an in-house procedure and is guaranteed to be homogeneous. Homogeneity data indicate that the end user should take a minimum sample size of 0.2 mL to assure homogeneity.

10.0 QUALITY STANDARD DOCUMENTATION

10.1 ISO 9001 Quality Management System Registration

- QSR Certificate Number QSR-1034

10.2 ISO/IEC 17025 "General Requirements for the Competence of Testing and Calibration Laboratories"

- Chemical Testing - Accredited / A2LA Certificate Number 883.01

10.3 ISO 17034 "General Requirements for the Competence of Reference Material Producers"

- Reference Material Producer - Accredited / A2LA Certificate Number 883.02

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11.0 CERTIFICATION, LOT EXPIRATION AND PERIOD OF VALIDITY

11.1 Certification Issue Date

November 18, 2023

- The certification is valid within the measurement uncertainty specified provided the CRM/RM is stored and handled in accordance with instructions given in Sec 7.1. This certification is nullified if instructions in Sec 7.1 are not followed or if the CRM/RM is damaged, contaminated, or otherwise modified.

11.2 Lot Expiration Date

- **November 18, 2028**

- The date after which this CRM/RM should not be used.

- The lot expiration date reflects the period of time that the stability of a CRM/RM can be supported by long term stability studies conducted on properly stored and handled CRM/RMs. Lot expiration is limited primarily by transpiration (loss of water from the solution) and infrequently by chemical stability.

11.3 Period of Validity

- Sealed TCT Bag Open Date: _____

- This CRM/RM should not be used longer than one year (or six months in the case of a 30 mL bottle) from the date of opening the aluminized bag or after the date given in Sec. 11.2, whichever comes first. This is contingent upon the CRM/RM being stored and handled in accordance with the instructions given in Sec. 7.1.

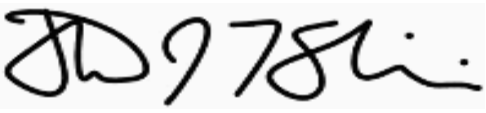
12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

Certificate Prepared By:

Uyen Truong
Custom Processing Supervisor

Certificate Approved By:

Thomas Kozikowski
Stock VS Manager



Certifying Officer:

Paul Gaines
Chairman / Senior Technical Director

Reagent

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1.0 ACCREDITATION / REGISTRATION

INORGANIC VENTURES is accredited to ISO 17034, "General Requirements for the Competence of Reference Material Producers" and ISO/IEC 17025, "General Requirements for the Competence of Testing and Calibration Laboratories". Inorganic Ventures is also an ISO 9001 registered manufacturer (QSR Certificate Number QSR-1034).

ACCREDITED Testing Laboratory Certificate 883.01
ACCREDITED Reference Material Producer Certificate 883.02

2.0 PRODUCT DESCRIPTION

Product Code:	Multi Analyte Custom Grade Solution
Catalog Number:	IV-67385
Lot Number:	T2-MEB722096
Matrix:	5% (v/v) HNO3
Value / Analyte(s):	5 000 µg/mL ea: Calcium, Potassium, Magnesium, Sodium, 1 000 µg/mL ea: Phosphorus, Boron, 100 µg/mL ea: Silver, Lithium, Strontium, Thorium, Zinc

3.0 CERTIFIED VALUES AND UNCERTAINTIES

ANALYTE	CERTIFIED VALUE	ANALYTE	CERTIFIED VALUE
Boron, B	**1 000 ± 6 µg/mL**	**Calcium, Ca**	**5 000 ± 22 µg/mL**
Lithium, Li	**100.0 ± 0.4 µg/mL**	**Magnesium, Mg**	**5 000 ± 20 µg/mL**
Phosphorus, P	**1 000 ± 4 µg/mL**	**Potassium, K**	**5 000 ± 22 µg/mL**
Silver, Ag	**100.0 ± 0.4 µg/mL**	**Sodium, Na**	**4 999 ± 23 µg/mL**
Strontium, Sr	**100.0 ± 0.4 µg/mL**	**Thorium, Th**	**100.0 ± 0.5 µg/mL**
Zinc, Zn	**100.0 ± 0.4 µg/mL**		

Density: 1.087 g/mL (measured at 20 ± 4 ºC)

Assay Information:

ANALYTE	METHOD	NIST SRM#	SRM LOT#
Ag	ICP Assay	3151	160729
Ag	Volhard	999c	999c
Ag	Calculated		See Sec. 4.2
B	ICP Assay	3107	190605
Ca	ICP Assay	3109a	130213
Ca	EDTA	928	928
K	ICP Assay	3141a	140813
K	Gravimetric		See Sec. 4.2
Li	ICP Assay	3129a	100714
Li	Calculated		See Sec. 4.2
Li	Gravimetric		See Sec. 4.2
Mg	ICP Assay	3131a	140110
Mg	EDTA	928	928
Na	ICP Assay	Traceable to 3152A	S2-NA700842
Na	Gravimetric		See Sec. 4.2
P	ICP Assay	3139a	060717
P	Acidimetric	84L	84L
Sr	EDTA	928	928
Sr	ICP Assay	Traceable to 3153a	K2-SR650985
Sr	Calculated		See Sec. 4.2
Th	EDTA	928	928
Th	Calculated		See Sec. 4.2
Zn	ICP Assay	3168a	120629
Zn	EDTA	928	928
Zn	Calculated		See Sec. 4.2

The following equations are used in the calculation of the certified value and the uncertainty. Reported uncertainties represent expanded uncertainties expressed at approximately the 95% confidence level using a coverage factor of k = 2.

Characterization of CRM/RM by Two or More Methods

Certified Value, $X_{CRM/RM}$, where two or more methods of characterization are used is the weighted mean of the results:

$X_{CRM/RM} = \Sigma(w_i)(X_i)$

X_i = mean of Assay Method i with standard uncertainty $u_{char\ i}$

w_i = the weighting factors for each method calculated using the inverse square of the variance:

$w_i = (1/u_{char\ i})^2 / (\Sigma(1/(u_{char\ i})^2)$

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{½}$

k = coverage factor = 2

$u_{char} = [\Sigma((w_i)^2\ (u_{char\ i})^2)]^{½}$ where $u_{char\ i}$ are the errors from each characterization method

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{lts} = long term stability standard uncertainty (storage)

u_{ts} = transport stability standard uncertainty

Characterization of CRM/RM by One Method

Certified Value, $X_{CRM/RM}$, where one method of characterization is used is the mean of individual results:

$X_{CRM/RM} = (X_a)(u_{char\ a})$

X_a = mean of Assay Method A with

$u_{char\ a}$ = the standard uncertainty of characterization Method A

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char\ a} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{½}$

k = coverage factor = 2

$u_{char\ a}$ = the errors from characterization

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{lts} = long term stability standard uncertainty (storage)

u_{ts} = transport stability standard uncertainty

4.0 TRACEABILITY TO NIST

- This product is traceable to NIST via an unbroken chain of comparisons. The uncertainties for each certified value are reported, taking into account the SRM/RM uncertainty error and the measurement, weighing and volume dilution errors. In rare cases where no NIST SRM/RM are available, the term 'in-house std.' is specified.

4.1 Thermometer Calibration

- All thermometers are NIST traceable through thermometers that are calibrated by an accredited calibration laboratory.

4.2 Balance Calibration

- All analytical balances are calibrated by an accredited calibration laboratory and procedure. The weights used for testing are annually compared to master weights and are traceable to NIST.

4.3 Glassware Calibration

- An in-house procedure is used to calibrate all Class A glassware used in the manufacturing and quality control of CRM/RMs.

5.0 TRACE METALLIC IMPURITIES (TMI) DETERMINED BY ICP-MS AND ICP-OES (µg/mL)

N/A

6.0 INTENDED USE

- For the calibration of analytical instruments and validation of analytical methods as appropriate.

7.0 INSTRUCTIONS FOR THE CORRECT USE OF THIS REFERENCE MATERIAL

7.1 Storage and Handling Recommendations

- Store between approximately 4° - 30° C while in sealed TCT bag.

- While stored in the sealed TCT bag, transpiration of this CRM/RM is negligible. After opening the sealed TCT bag transpiration of the CRM/RM will occur, resulting in a gradual increase in the analyte concentration(s). It is the responsibility of the user to account for this effect. When the bottle is weighed both before and after being placed in storage, the mass difference observed will be a measure of transpiration mass loss.

- After opening the sealed TCT bag, keep cap tightly sealed when not in use and store between 4° - 24° C to minimize the effects of transpiration. Use at 20° ± 4° C to minimize volumetric dilution error when using the reported density. Do not pipette from the container. Do not return removed aliquots to container.

- For more information, visit **www.inorganicventures.com/TCT**

Note: This solution contains Silver (Ag), please refer to our Sample Preparation Guide for more information.

https://www.inorganicventures.com/sample-preparation-guide/samples-containing-silver

8.0 HAZARDOUS INFORMATION

- Please refer to the Safety Data Sheet for information regarding this CRM/RM.

9.0 HOMOGENEITY

- This solution was mixed according to an in-house procedure and is guaranteed to be homogeneous. Homogeneity data indicate that the end user should take a minimum sample size of 0.2 mL to assure homogeneity.

10.0 QUALITY STANDARD DOCUMENTATION

10.1 ISO 9001 Quality Management System Registration

- QSR Certificate Number QSR-1034

10.2 ISO/IEC 17025 "General Requirements for the Competence of Testing and Calibration Laboratories"

- Chemical Testing - Accredited / A2LA Certificate Number 883.01

10.3 ISO 17034 "General Requirements for the Competence of Reference Material Producers"

- Reference Material Producer - Accredited / A2LA Certificate Number 883.02

11.0 CERTIFICATION, LOT EXPIRATION AND PERIOD OF VALIDITY

11.1 Certification Issue Date

July 28, 2022

- The certification is valid within the measurement uncertainty specified provided the CRM/RM is stored and handled in accordance with instructions given in Sec 7.1. This certification is nullified if instructions in Sec 7.1 are not followed or if the CRM/RM is damaged, contaminated, or otherwise modified.

11.2 Lot Expiration Date

- **July 28, 2027**

- The date after which this CRM/RM should not be used.

- The lot expiration date reflects the period of time that the stability of a CRM/RM can be supported by long term stability studies conducted on properly stored and handled CRM/RMs. Lot expiration is limited primarily by transpiration (loss of water from the solution) and infrequently by chemical stability.

11.3 Period of Validity

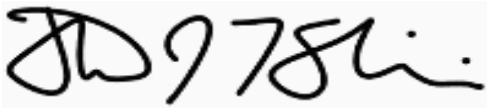
- Sealed TCT Bag Open Date: _____

- This CRM/RM should not be used longer than one year (or six months in the case of a 30 mL bottle) from the date of opening the aluminized bag or after the date given in Sec. 11.2, whichever comes first. This is contingent upon the CRM/RM being stored and handled in accordance with the instructions given in Sec. 7.1.

12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

Certificate Approved By:

Thomas Kozikowski
Manager, Quality Control



Certifying Officer:

Paul Gaines
Chairman / Senior Technical Director

Reagent

MS ICVMIX-2_00007

7759049
ID: MS ICVMIX-2_00007
Exp:11/02/24 Prpd:LMT Opn:05/22/23
ICP-MS ICV Std 2 CPI reve

CPI INTERNATIONAL

CERTIFICATE OF ANALYSIS

Multi-Element Aqueous CRM

Product #: TA-CAL2-SS

ICP ICPMS CAL Mix # 2

Lot #: 1294936-1

Matrix: 5% HNO_3

Element	Certified Concentration & Uncertainty	Element	Certified Concentration & Uncertainty	Element	Certified Concentration & Uncertainty
Al	2000 ± 10 mg/L	Fe	2000 ± 10 mg/L	Mg	2000 ± 10 mg/L
Ca	2000 ± 10 mg/L	K	2000 ± 10 mg/L	Na	2000 ± 10 mg/L

Source Material Lot # Chart

Element	Source Material Lot #	Element	Source Material Lot #	Element	Source Material Lot #
Al	AR19-12ALX	Fe	AS18-178FEX	Mg	AR19-13MGX
Ca	BB19-08CAX	K	AZ18-163KX	Na	AU18-172NAX

Intended Use: This solution is intended for use as a second source certified reference material (CRM) or calibration standard for inductively coupled plasma optical emission spectroscopy (ICP-OES), inductively coupled plasma mass spectrometry (ICP-MS), flame or furnace atomic absorption spectroscopy (AA or GFAA), and other techniques for elemental analysis.

Certification & Traceability: This CRM was manufactured, processed, and/or certified under a quality management system that is registered/accredited to **ISO 9001**, **ISO 17034**, and **ISO/IEC 17025**. This CRM was prepared to the certified concentrations shown above by gravimetric methods, using single-element concentrates that were certified using the "High Performance ICP-OES" protocol developed by NIST and are directly traceable to **NIST SRMs (see reverse side)**. The solution was stabilized using high purity nitric acid (HNO_3) and diluted with filtered (0.22 µm), 18 M-ohm deionized water. The balances used in the preparation of this CRM are calibrated regularly with traceability to NIST, using a calibration provider that is accredited to ISO/IEC 17025 by a mutually recognized accreditation body. All volumetric dilutions are performed in Class A calibrated glassware. The certified concentrations were determined based upon gravimetric procedures. Secondary verification of the certified concentrations was performed using ICP-OES that was calibrated and/or referenced against **NIST SRMs (see reverse side)**. The uncertainty associated with each certified concentration represents the expanded uncertainty at the 95% confidence level using a coverage factor of k=2.

Instructions for Use: We recommend that the solution be thoroughly mixed by repeated shaking or swirling of the bottle immediately prior to use. To achieve the highest accuracy, the analyst should: (1) use only pre-cleaned containers and transferware, (2) not pipette directly from the CRM's original container, (3) never pour used product back into the original container, (4) make dilutions using calibrated balances or certified class A volumetric flasks and pipettes, (5) use a minimum sub-sample size of 500 µL, and (6) dilute with the same matrix as the original CRM or other chemically suitable matrix. The solution should be kept tightly capped and stored under normal laboratory conditions. Do not freeze, heat, or immerse the bottle or its contents, and avoid exposure to direct sunlight or moisture.

Period of Validity: CPI International ensures the accuracy of this solution for **18 months** from the certification date shown below, provided the instructions for use are followed. During the period of validity, the purchaser will be notified if this product is recalled due to any significant changes in the stability of the solution.

Chuck Goudreau

Chuck Goudreau, Certifying Officer

May 2, 2023
Certification Date

CPI International waives all responsibility for any damages resulting from the usage and/or implementation of the products/data described herein.

USA
5580 Skylane Boulevard P: 707.525.5788
Santa Rosa, CA 95403 P: 800.878.7654
F: 707.545.7901

Europe
Nieuwe Hemweg 7P P: +31 20 638 05 97
1013BG Amsterdam F: +31 20 420 28 36
The Netherlands

www.cpiinternational.com

Health and Safety Information: Refer to the Safety Data Sheet (SDS).

Homogeneity: This solution was determined to be homogeneous by procedures consistent with the requirements of ISO 17034 and ISO Guide 35. Replicate samples of the finished solution were analyzed to confirm its homogeneity, in accordance with internal procedures for the assessment of homogeneity and stability. To ensure homogeneity, users should not take a smaller sub-sample than specified in the Instructions for Use, as doing so will invalidate the certified values and uncertainties.

Further Information: Please contact CPI International for further information about this material.

Quality Certifications: This material was prepared under a quality management system that is registered/accredited to the following:

- ISO 17034 Accredited: Reference Materials Producer, A2LA Certificate No. 2848.02 – General Requirements for the Competence of Reference Material Producers
  - ISO 17034 references additional requirements specified in ISO Guide 31 and ISO Guide 35
- ISO/IEC 17025 Accredited: Chemical Testing, A2LA Certificate No. 2848.01 – General Requirements for the Competence of Testing and Calibration Laboratories
- ISO 9001 Certified: Quality Management Systems, Certificate Registration No. 56 100 19560101 – Requirements *(Registrar: TUV NORD)*

This CRM is traceable to the following NIST SRMs:

Analyte	Aq. SRM	MO SRM	Analyte	Aq. SRM	MO SRM	Analyte	Aq. SRM	MO SRM
Ag	3151	-	Hf	3122	-	S	3154	2770
Al	3101a	-	Hg	3133	3133	Sb	3102a	3102a
As	3103a	3103a	Ho	3123a	-	Sc	3148a	3148a
Au	3121	-	In	3124a	3124a	Se	3149	3149
B	3107	3107	K	3141a	3141a	Si	3150	-
Ba	3104a	-	La	3127a	3127a	Sm	3147a	-
Be	3105a	3105a	Li	3129a	3129a	Sn	3161a	-
Bi	3106	3106	Lu	3130a	-	SO_4^{-2}	3181	-
Br	3184	-	Mg	3131a	3131a	Sr	3153a	3153a
Ca	3109a	3109a	Mn	3132	3132	Ta	3155	-
Cd	3108	-	Mo	3134	3134	Tb	3157a	-
Ce	3110	3110	Na	3152a	-	Te	3156	-
Cl	3182	1818a	Nb	3137	-	Th	-	-
Co	3113	3113	Nd	3135a	-	Ti	3162a	3162a
Cr	3112a	-	Ni	3136	-	Tl	3158	3158
Cs	3111a	-	NO_3^-	3185	-	Tm	3160a	-
Cu	3114	-	P	3139a	3139a	U	3164	-
Dy	3115a	-	Pb	3128	-	V	3165	-
Er	3116a	-	Pd	3138	-	W	3163	3163
Eu	3117a	-	PO_4^{-3}	3186	-	Y	3167a	3167a
F-	3183	-	Pr	3142a	-	Yb	3166a	-
Fe	3126a	-	Pt	3140	3140	Zn	3168a	3168a
Ga	3119a	-	Rb	3145a	-	Zr	3169	3169
Gd	3118a	-	Re	3143	-			
Ge	3120a	-	Rh	3144	3144			

Reagent

MS LLCCV_00010

INORGANIC VENTURES™
Refine your results. Redefine your industry.

Certificate of Analysis

300 Technology Drive
Christiansburg, VA 24073 USA
inorganicventures.com

P: 800-669-6799/540-585-3030
F: 540-585-3012
info@inorganicventures.com

1.0 ACCREDITATION / REGISTRATION

INORGANIC VENTURES is accredited to ISO 17034, "General Requirements for the Competence of Reference Material Producers" and ISO/IEC 17025, "General Requirements for the Competence of Testing and Calibration Laboratories". Inorganic Ventures is also an ISO 9001 registered manufacturer (QSR Certificate Number QSR-1034).

ACCREDITED Testing Laboratory Certificate 883.01
ACCREDITED Reference Material Producer Certificate 883.02

2.0 PRODUCT DESCRIPTION

Product Code:	Multi Analyte Custom Grade Solution
Catalog Number:	IV-67794
Lot Number:	T2-MEB722097
Matrix:	5% (v/v) HNO3 tr. HF
Value / Analyte(s):	30 µg/mL ea: Sodium,
	20 µg/mL ea: Calcium,
	12 µg/mL ea: Potassium,
	10 µg/mL ea: Boron, Phosphorus,
	5 µg/mL ea: Aluminum, Iron, Magnesium,
	1 µg/mL ea: Lithium, Tin, Zinc,
	0.5 µg/mL ea: Selenium, Vanadium, Strontium, Titanium, Arsenic,
	0.2 µg/mL ea: Chromium, Copper, Nickel, Molybdenum, Antimony,
	0.1 µg/mL ea: Lead, Thallium, Uranium, Thorium, Manganese, Silver, Cadmium, Cobalt, Barium, Beryllium

3.0 CERTIFIED VALUES AND UNCERTAINTIES

ANALYTE	CERTIFIED VALUE	ANALYTE	CERTIFIED VALUE
Aluminum, Al	4.997 ± 0.025 µg/mL	Antimony, Sb	0.2001 ± 0.0017 µg/mL
Arsenic, As	0.5003 ± 0.0030 µg/mL	Barium, Ba	0.1000 ± 0.0006 µg/mL
Beryllium, Be	0.1000 ± 0.0008 µg/mL	Boron, B	10.00 ± 0.06 µg/mL
Cadmium, Cd	0.1000 ± 0.0007 µg/mL	Calcium, Ca	20.00 ± 0.09 µg/mL
Chromium, Cr	0.2000 ± 0.0013 µg/mL	Cobalt, Co	0.1000 ± 0.0008 µg/mL
Copper, Cu	0.1998 ± 0.0009 µg/mL	Iron, Fe	4.995 ± 0.026 µg/mL
Lead, Pb	0.1000 ± 0.0007 µg/mL	Lithium, Li	1.000 ± 0.006 µg/mL
Magnesium, Mg	4.998 ± 0.026 µg/mL	Manganese, Mn	0.1000 ± 0.0008 µg/mL
Molybdenum, Mo	0.1998 ± 0.0013 µg/mL	Nickel, Ni	0.2002 ± 0.0010 µg/mL
Phosphorus, P	10.00 ± 0.05 µg/mL	Potassium, K	12.00 ± 0.06 µg/mL
Selenium, Se	0.5001 ± 0.0041 µg/mL	Silver, Ag	0.1000 ± 0.0009 µg/mL
Sodium, Na	29.98 ± 0.13 µg/mL	Strontium, Sr	0.4999 ± 0.0030 µg/mL
Thallium, Tl	0.1000 ± 0.0008 µg/mL	Thorium, Th	0.1000 ± 0.0006 µg/mL
Tin, Sn	1.000 ± 0.007 µg/mL	Titanium, Ti	0.4998 ± 0.0042 µg/mL
Uranium, U	0.1000 ± 0.0008 µg/mL	Vanadium, V	0.4996 ± 0.0029 µg/mL
Zinc, Zn	1.000 ± 0.006 µg/mL		

Density: 1.026 g/mL (measured at 20 ± 4 ºC)

Assay Information:

ANALYTE	METHOD	NIST SRM#	SRM LOT#
Ag	Calculated		See Sec. 4.2
Al	ICP Assay	3101a	140903
Al	EDTA	928	928
Al	Calculated		See Sec. 4.2
As	ICP Assay	3103a	100818
B	ICP Assay	3107	190605
B	Calculated		See Sec. 4.2
Ba	Calculated		See Sec. 4.2
Be	Calculated		See Sec. 4.2
Ca	ICP Assay	3109a	130213
Ca	EDTA	928	928
Ca	Calculated		See Sec. 4.2
Cd	Calculated		See Sec. 4.2
Co	Calculated		See Sec. 4.2
Cr	Calculated		See Sec. 4.2
Cu	Calculated		See Sec. 4.2
Fe	ICP Assay	3126a	140812
Fe	EDTA	928	928
Fe	Calculated		See Sec. 4.2
K	ICP Assay	3141a	140813
K	Calculated		See Sec. 4.2
K	Gravimetric		See Sec. 4.2
Li	Calculated		See Sec. 4.2
Mg	ICP Assay	3131a	140110
Mg	EDTA	928	928
Mg	Calculated		See Sec. 4.2
Mn	Calculated		See Sec. 4.2
Mo	Calculated		See Sec. 4.2
Na	ICP Assay	Traceable to 3152A	S2-NA700842
Na	Calculated		See Sec. 4.2
Na	Gravimetric		See Sec. 4.2
Ni	Calculated		See Sec. 4.2
P	ICP Assay	3139a	060717
P	Acidimetric	84L	84L
P	Calculated		See Sec. 4.2
Pb	Calculated		See Sec. 4.2
Sb	ICP Assay	3102a	140911
Se	Calculated		See Sec. 4.2
Sn	Calculated		See Sec. 4.2
Sr	Calculated		See Sec. 4.2
Th	Calculated		See Sec. 4.2
Ti	Calculated		See Sec. 4.2
Tl	Calculated		See Sec. 4.2
U	Calculated		See Sec. 4.2
V	Calculated		See Sec. 4.2
Zn	Calculated		See Sec. 4.2

The following equations are used in the calculation of the certified value and the uncertainty. Reported uncertainties represent expanded uncertainties expressed at approximately the 95% confidence level using a coverage factor of k = 2.

Characterization of CRM/RM by Two or More Methods

Certified Value, $X_{CRM/RM}$, where two or more methods of characterization are used is the weighted mean of the results:

$X_{CRM/RM} = \Sigma(w_i)(X_i)$

X_i = mean of Assay Method i with standard uncertainty $u_{char\ i}$

w_i = the weighting factors for each method calculated using the inverse square of the variance:

$w_i = (1/u_{char\ i})^2 / (\Sigma(1/(u_{char\ i})^2)$

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{½}$

k = coverage factor = 2

$u_{char} = [\Sigma((w_i)^2\,(u_{char\ i})^2)]^{½}$ where $u_{char\ i}$ are the errors from each characterization method

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{lts} = long term stability standard uncertainty (storage)

u_{ts} = transport stability standard uncertainty

Characterization of CRM/RM by One Method

Certified Value, $X_{CRM/RM}$, where one method of characterization is used is the mean of individual results:

$X_{CRM/RM} = (X_a)\,(u_{char\ a})$

X_a = mean of Assay Method A with

$u_{char\ a}$ = the standard uncertainty of characterization Method A

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char\ a} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{½}$

k = coverage factor = 2

$u_{char\ a}$ = the errors from characterization

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{lts} = long term stability standard uncertainty (storage)

u_{ts} = transport stability standard uncertainty

Certified Abundance:

IV's Certified Abundance

Isotope	Atom %
Uranium 238U	99.8 ± 0.1
Uranium 235U	0.24 ± 0.05

4.0 TRACEABILITY TO NIST

- This product is traceable to NIST via an unbroken chain of comparisons. The uncertainties for each certified value are reported, taking into account the SRM/RM uncertainty error and the measurement, weighing and volume dilution errors. In rare cases where no NIST SRM/RM are available, the term 'in-house std.' is specified.

4.1 Thermometer Calibration

- All thermometers are NIST traceable through thermometers that are calibrated by an accredited calibration laboratory.

4.2 Balance Calibration

- All analytical balances are calibrated by an accredited calibration laboratory and procedure. The weights used for testing are annually compared to master weights and are traceable to NIST.

4.3 Glassware Calibration

- An in-house procedure is used to calibrate all Class A glassware used in the manufacturing and quality control of CRM/RMs.

5.0 TRACE METALLIC IMPURITIES (TMI) DETERMINED BY ICP-MS AND ICP-OES (µg/mL)

N/A

6.0 INTENDED USE

- For the calibration of analytical instruments and validation of analytical methods as appropriate.

7.0 INSTRUCTIONS FOR THE CORRECT USE OF THIS REFERENCE MATERIAL

7.1 Storage and Handling Recommendations

- Store between approximately 4° - 30° C while in sealed TCT bag.

- While stored in the sealed TCT bag, transpiration of this CRM/RM is negligible. After opening the sealed TCT bag transpiration of the CRM/RM will occur, resulting in a gradual increase in the analyte concentration(s). It is the responsibility of the user to account for this effect. When the bottle is weighed both before and after being placed in storage, the mass difference observed will be a measure of transpiration mass loss.

- After opening the sealed TCT bag, keep cap tightly sealed when not in use and store between 4° - 24° C to minimize the effects of transpiration. Use at 20° ± 4° C to minimize volumetric dilution error when using the reported density. Do not pipette from the container. Do not return removed aliquots to container.

- For more information, visit **www.inorganicventures.com/TCT**

HF Note: This standard should not be prepared or stored in glass.

Note: This solution contains Silver (Ag), please refer to our Sample Preparation Guide for more information.

https://www.inorganicventures.com/sample-preparation-guide/samples-containing-silver

8.0 HAZARDOUS INFORMATION

- Please refer to the Safety Data Sheet for information regarding this CRM/RM.

9.0 HOMOGENEITY

- This solution was mixed according to an in-house procedure and is guaranteed to be homogeneous. Homogeneity data indicate that the end user should take a minimum sample size of 0.2 mL to assure homogeneity.

10.0 QUALITY STANDARD DOCUMENTATION

10.1 ISO 9001 Quality Management System Registration

- QSR Certificate Number QSR-1034

10.2 ISO/IEC 17025 "General Requirements for the Competence of Testing and Calibration Laboratories"

- Chemical Testing - Accredited / A2LA Certificate Number 883.01

10.3 ISO 17034 "General Requirements for the Competence of Reference Material Producers"

- Reference Material Producer - Accredited / A2LA Certificate Number 883.02

Inorganic Ventures, 300 Technology Drive, Christiansburg, Va. 24073, USA; Telephone: 800.669.6799; 540.585.3030, Fax: 540.585.3012; inorganicventures.com; info@inorganicventures.com

11.0 CERTIFICATION, LOT EXPIRATION AND PERIOD OF VALIDITY

11.1 Certification Issue Date

July 29, 2022

- The certification is valid within the measurement uncertainty specified provided the CRM/RM is stored and handled in accordance with instructions given in Sec 7.1. This certification is nullified if instructions in Sec 7.1 are not followed or if the CRM/RM is damaged, contaminated, or otherwise modified.

11.2 Lot Expiration Date

- **July 29, 2027**

- The date after which this CRM/RM should not be used.

- The lot expiration date reflects the period of time that the stability of a CRM/RM can be supported by long term stability studies conducted on properly stored and handled CRM/RMs. Lot expiration is limited primarily by transpiration (loss of water from the solution) and infrequently by chemical stability.

11.3 Period of Validity

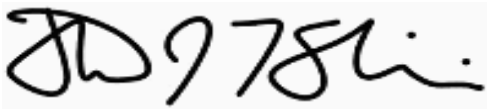
- Sealed TCT Bag Open Date: _____

- This CRM/RM should not be used longer than one year (or six months in the case of a 30 mL bottle) from the date of opening the aluminized bag or after the date given in Sec. 11.2, whichever comes first. This is contingent upon the CRM/RM being stored and handled in accordance with the instructions given in Sec. 7.1.

12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

Certificate Approved By:

Thomas Kozikowski
Manager, Quality Control



Certifying Officer:

Paul Gaines
Chairman / Senior Technical Director

Reagent

mv-30241_00010

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FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 30241 **Lot No.:** A0180349

Description : 8260A Internal Standard Mix

8260A Internal Standard Mix 2,500 µg/mL, P&T Methanol, 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : January 31, 2027 **Storage:** 0°C or colder

Ship: Ambient

CERTIFIED VALUES

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)	
1	Fluorobenzene **CAS #** 462-06-6 (Lot BCBZ5549) **Purity** 99%	2,500.6 µg/mL	+/- 14.5387 µg/mL +/- 140.2062 µg/mL +/- 143.4868 µg/mL	Gravimetric Unstressed Stressed
2	Chlorobenzene-d5 **CAS #** 3114-55-4 (Lot PR-29571) **Purity** 99%	2,500.8 µg/mL	+/- 14.5399 µg/mL +/- 140.2174 µg/mL +/- 143.4983 µg/mL	Gravimetric Unstressed Stressed
3	1,4-Dichlorobenzene-d4 **CAS #** 3855-82-1 (Lot PR-30447) **Purity** 99%	2,500.2 µg/mL	+/- 14.5364 µg/mL +/- 140.1837 µg/mL +/- 143.4639 µg/mL	Gravimetric Unstressed Stressed

Solvent: P&T Methanol
CAS # 67-56-1
Purity 99%

Revd 4/5/22

Column:
105m x 0.53mm x 3.0µm
Rtx-502.2 (cat.#10910)

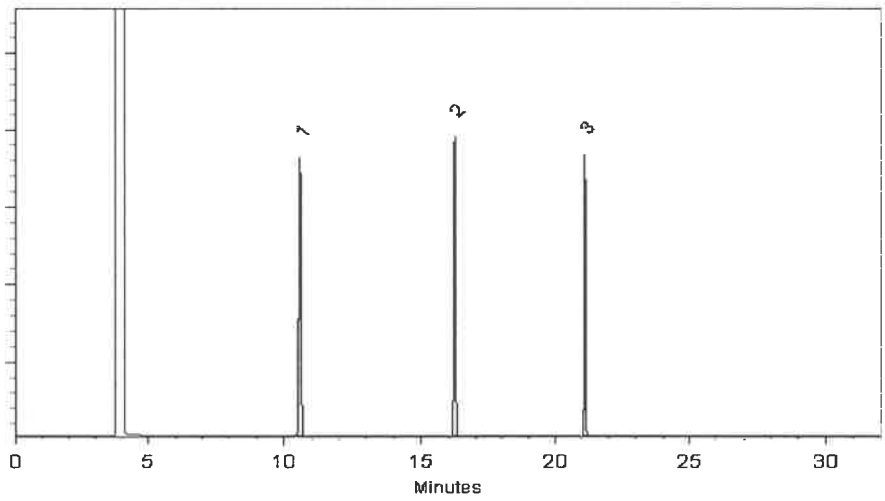
Carrier Gas:
hydrogen-constant pressure 11.0 psi.

Temp. Program:
40°C (hold 2 min.) to 240°C
@ 8°C/min. (hold 5 min.)

Inj. Temp:
200°C

Det. Temp:
250°C

Det. Type:
FID



This chromatogram represents a general set of testing conditions chosen for product acceptance. For optimal results in your lab, conditions should be adjusted for your specific instrument, method, and application.

Penelope Riglin - Operations Tech I

Date Mixed: 06-Jan-2022 **Balance:** B707717271

Marlina Cowan - Operations Tech I

Date Passed: 10-Jan-2022

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Reagent

mv-30241_00012

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This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 30241 **Lot No.:** A0185733

Description : 8260A Internal Standard Mix

8260A Internal Standard Mix 2,500 µg/mL, P&T Methanol, 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : May 31, 2027 **Storage:** 0°C or colder

Ship: Ambient

CERTIFIED VALUES

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)	
1	Fluorobenzene **CAS #** 462-06-6 (Lot BCBZ5549) **Purity** 99%	2,504.0 µg/mL	+/- 14.5585 µg/mL +/- 140.3968 µg/mL +/- 143.6819 µg/mL	Gravimetric Unstressed Stressed
2	Chlorobenzene-d5 **CAS #** 3114-55-4 (Lot PR-29571) **Purity** 99%	2,508.0 µg/mL	+/- 14.5817 µg/mL +/- 140.6211 µg/mL +/- 143.9114 µg/mL	Gravimetric Unstressed Stressed
3	1,4-Dichlorobenzene-d4 **CAS #** 3855-82-1 (Lot PR-30447) **Purity** 99%	2,500.6 µg/mL	+/- 14.5387 µg/mL +/- 140.2062 µg/mL +/- 143.4868 µg/mL	Gravimetric Unstressed Stressed

Solvent: P&T Methanol
CAS # 67-56-1
Purity 99%

Rcvd 8/11/22

Column:
105m x 0.53mm x 3.0µm
Rtx-502.2 (cat.#10910)

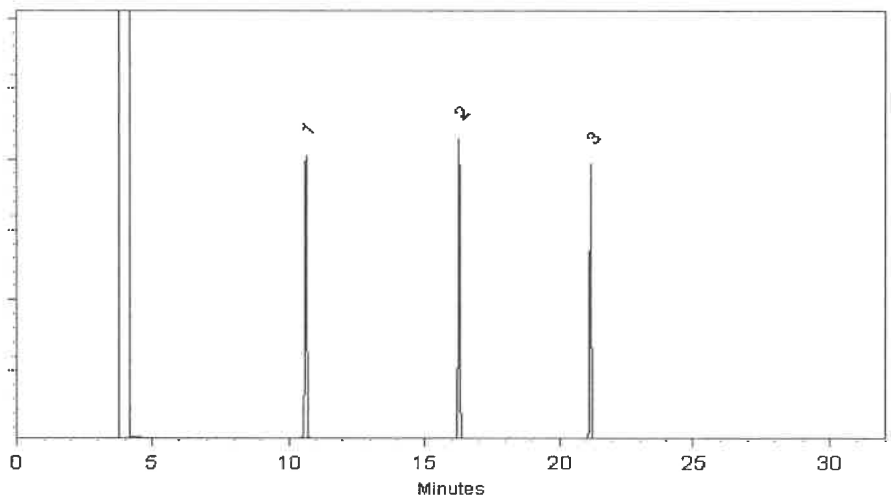
Carrier Gas:
hydrogen-constant pressure 11.0 psi.

Temp. Program:
40°C (hold 2 min.) to 240°C
@ 8°C/min. (hold 5 min.)

Inj. Temp:
200°C

Det. Temp:
250°C

Det. Type:
FID



This chromatogram represents a general set of testing conditions chosen for product acceptance. For optimal results in your lab, conditions should be adjusted for your specific instrument, method, and application.

Josh McCloskey - Operations Technician I

Date Mixed: 26-May-2022 **Balance:** B707717271

Jennifer Pollino - Operations Tech-ARM QC

Date Passed: 31-May-2022

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Reagent

MV-567650_00030

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This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 567650 **Lot No.:** A0172587

Description : 8260 Surrogate Standard

8260 Surrogate Standard 2,500µg/mL, P&T Methanol, 5mL/ampul

Container Size : 5 mL **Pkg Amt:** > 5 mL

Expiration Date : May 31, 2026 **Storage:** 0°C or colder

Ship: Ambient

CERTIFIED VALUES

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)	
1	Dibromofluoromethane **CAS #** 1868-53-7 (Lot 012021) **Purity** 99%	2,510.9 µg/mL	+/- 14.5983 µg/mL +/- 140.7809 µg/mL +/- 144.0750 µg/mL	Gravimetric Unstressed Stressed
2	1,2-Dichloroethane-d4 **CAS #** 17060-07-0 (Lot PR-29377) **Purity** 99%	2,518.0 µg/mL	+/- 14.6399 µg/mL +/- 141.1818 µg/mL +/- 144.4852 µg/mL	Gravimetric Unstressed Stressed
3	Toluene-d8 **CAS #** 2037-26-5 (Lot PR-31750) **Purity** 99%	2,500.4 µg/mL	+/- 14.5375 µg/mL +/- 140.1949 µg/mL +/- 143.4753 µg/mL	Gravimetric Unstressed Stressed
4	1-Bromo-4-fluorobenzene (BFB) **CAS #** 460-00-4 (Lot 20401KO) **Purity** 99%	2,520.9 µg/mL	+/- 14.6567 µg/mL +/- 141.3444 µg/mL +/- 144.6516 µg/mL	Gravimetric Unstressed Stressed

Solvent: P&T Methanol
CAS # 67-56-1
Purity 99%

Rcvd 4/6/20

Column:
105m x 0.53mm x 3.0µm
Rtx-502.2 (cat.#10910)

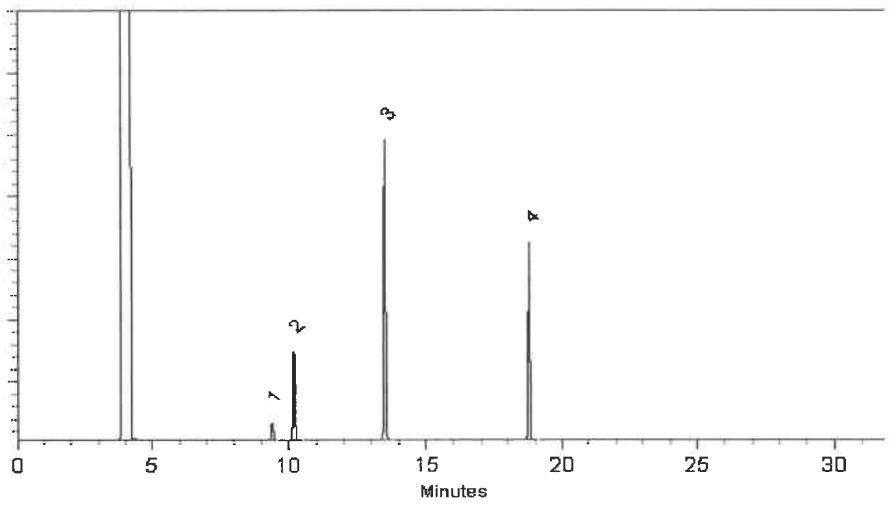
Carrier Gas:
hydrogen-constant pressure 11.0 psi.

Temp. Program:
40°C (hold 2 min.) to 240°C
@ 8°C/min. (hold 5 min.)

Inj. Temp:
200°C

Det. Temp:
250°C

Det. Type:
FID



This chromatogram represents a general set of testing conditions chosen for product acceptance. For optimal results in your lab, conditions should be adjusted for your specific instrument, method, and application.

Sam Moodler - Operations Tech I

Date Mixed: 19-May-2021 **Balance:** B707717271

Alexis Shelow - Operations Tech I

Date Passed: 21-May-2021

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Reagent

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This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 568720 **Lot No.:** A0193730

Description : 8260 List 1/Std #5 Acrolein High

8260 List 1/Std #5 Acrolein High 19,750µg/mL, Water, 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : July 31, 2024 **Storage:** -20°C or colder

Handling: This product is photosensitive. **Ship:** On Ice

CERTIFIED VALUES

Elution Order	Compound	CAS #	Lot #	Purity	Grav. Conc. (weight/volume)	Expanded Uncertainty * (95% C.L.; K=2)
1	Acrolein	107-02-8	RD221019	99%	19,924.7 µg/mL	+/- 585.3463

* Expanded Uncertainty displayed in same units as Grav. Conc.

Solvent: Water
CAS # 7732-18-5
Purity 99%

5/5/23

Quality Confirmation Test

Column:
105m x 0.53mm x 3.0µm
Rtx-502.2 (cat.#10910)

Carrier Gas:
hydrogen-constant pressure 11.0 psi.

Temp. Program:
40°C (hold 2 min.) to 240°C
@ 8°C/min. (hold 5 min.)

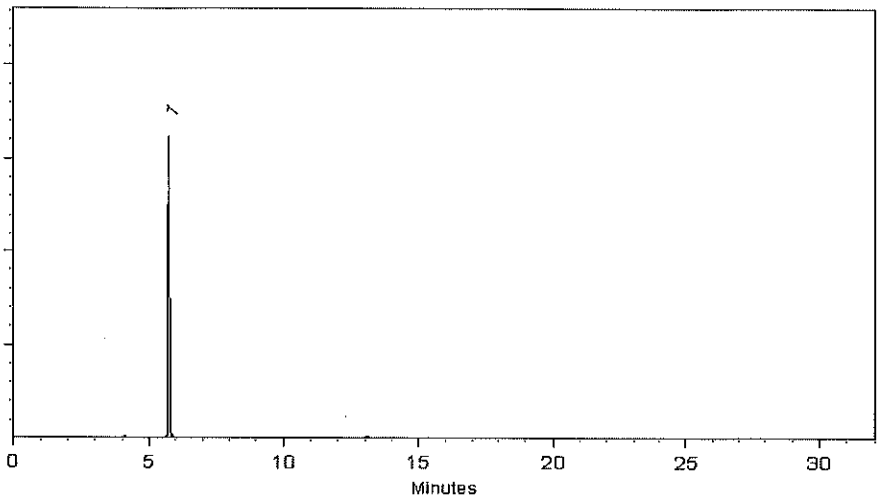
Inj. Temp:
200°C

Det. Temp:
250°C

Det. Type:
FID

Split Vent:
40 ml/min

Inj. Vol
1µl



This chromatogram represents a general set of testing conditions chosen for product acceptance. For optimal results in your lab, conditions should be adjusted for your specific instrument, method, and application.

Brittany Federinko - Operations Tech I — **Date Mixed:** 19-Jan-2023 — **Balance Serial #** 1128360905

Christie Mills - Operations Tech II - ARM QC — **Date Passed:** 20-Feb-2023

Manufactured under Restek's ISO 9001:2015 Registered Quality System Certificate #FM 80397

Reagent

MV-569721.sec_00011

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This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 569721.SEC **Lot No.:** A0194631

Description : 8260 List 1/ Std #2 Ketones (2015)

8260 List 1/ Std #2 Ketones (2015) 12,500µg/mL, P&T Methanol/Water (90:10), 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : February 28, 2026 **Storage:** 0°C or colder

Ship: Ambient

CERTIFIED VALUES

Elution Order	Compound	CAS #	Lot #	Purity	Grav. Conc. (weight/volume)	Expanded Uncertainty * (95% C.L.; K=2)
1	Acetone	67-64-1.SEC	S25F025	99%	12,530.8 µg/mL	+/- 433.0935
2	2-Butanone (MEK)	78-93-3.SEC	HDLUO	99%	12,522.8 µg/mL	+/- 432.8170
3	4-Methyl-2-pentanone (MIBK)	108-10-1.SEC	E29T040	99%	12,555.6 µg/mL	+/- 433.9507
4	2-Hexanone	591-78-6.SEC	Y3TUO	99%	12,580.4 µg/mL	+/- 434.8078

* Expanded Uncertainty displayed in same units as Grav. Conc.

Solvent: P&T Methanol/Water (90:10)
CAS # 67-56-1/7732-18-5
Purity 99%

Rev 12/26/23

Quality Confirmation Test

Column:
105m x 0.53mm x 3.0µm
Rtx-502.2 (cat.#10910)

Carrier Gas:
hydrogen-constant pressure 11.0 psi.

Temp. Program:
40°C (hold 2 min.) to 240°C
@ 8°C/min. (hold 5 min.)

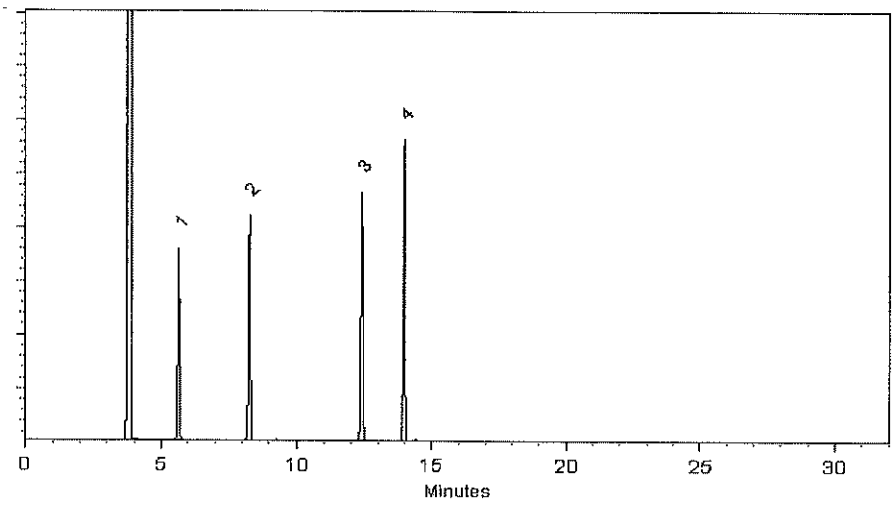
Inj. Temp:
200°C

Det. Temp:
250°C

Det. Type:
FID

Split Vent:
40 ml/min

Inj. Vol
0.2µl



This chromatogram represents a general set of testing conditions chosen for product acceptance. For optimal results in your lab, conditions should be adjusted for your specific instrument, method, and application.

Bryan Snyder - Operations Tech I

Date Mixed: 14-Feb-2023 **Balance Serial #** 1128342314

Jennifer Pollino - Operations Tech III - ARM QC

Date Passed: 16-Feb-2023

Manufactured under Restek's ISO 9001:2015 Registered Quality System Certificate #FM 80397

Reagent

MV-569721_00015

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This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 569721 **Lot No.:** A0193494

Description : 8260 List 1/ Std #2 Ketones (2015)

8260 List 1/ Std #2 Ketones (2015) 12,500µg/mL, P&T Methanol/Water (90:10), 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : January 31, 2026 **Storage:** 0°C or colder

Ship: Ambient

CERTIFIED VALUES

Elution Order	Compound	CAS #	Lot #	Purity	Grav. Conc. (weight/volume)	Expanded Uncertainty * (95% C.L.; K=2)
1	Acetone	67-64-1	SHBP8774	99%	12,581.8 µg/mL	+/- 434.7671
2	2-Butanone (MEK)	78-93-3	SHBL5543	99%	12,578.5 µg/mL	+/- 434.6548
3	4-Methyl-2-pentanone (MIBK)	108-10-1	SHBP4724	99%	12,602.3 µg/mL	+/- 435.4755
4	2-Hexanone	591-78-6	MKCQ6663	99%	12,587.5 µg/mL	+/- 434.9658

* Expanded Uncertainty displayed in same units as Grav. Conc.

Solvent: P&T Methanol/Water (90:10)
CAS # 67-56-1/7732-18-5
Purity 99%

5/16/23

Quality Confirmation Test

Column:
105m x 0.53mm x 3.0µm
Rtx-502.2 (cat.#10910)

Carrier Gas:
hydrogen-constant pressure 11.0 psi.

Temp. Program:
40°C (hold 2 min.) to 240°C
@ 8°C/min. (hold 5 min.)

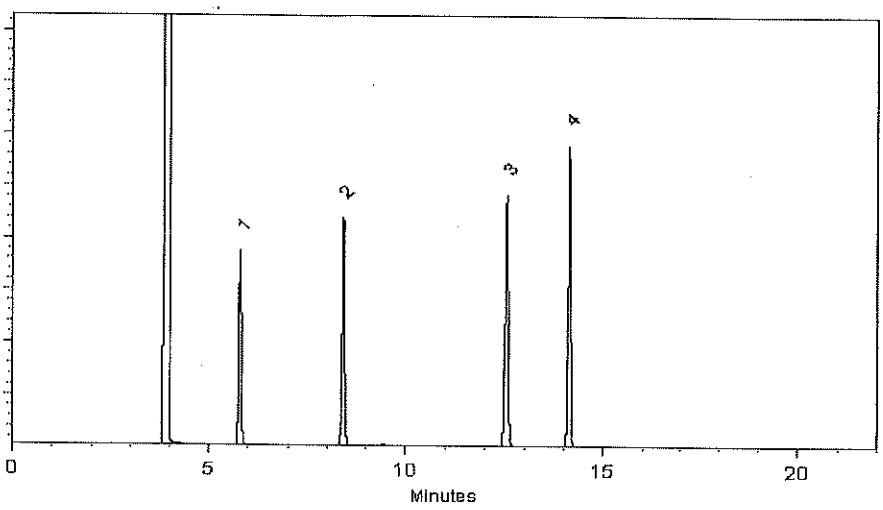
Inj. Temp:
200°C

Det. Temp:
250°C

Det. Type:
FID

Split Vent:
40 ml/min

Inj. Vol
0.2µl



This chromatogram represents a general set of testing conditions chosen for product acceptance. For optimal results in your lab, conditions should be adjusted for your specific instrument, method, and application.

Bethany Lowery - Operations Tech I

Date Mixed: 12-Jan-2023 **Balance Serial #** B251644995

Christie Mills - Operations Tech II - ARM QC

Date Passed: 16-Jan-2023

Manufactured under Restek's ISO 9001:2015
Registered Quality System
Certificate #FM 80397

Reagent

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This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 569722.SEC **Lot No.:** A0197640

Description : 8260 List 1 / Std #3 Gases (2015)

8260 List 1 / Std #3 Gases (2015) 2,500µg/mL, P&T Methanol, 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : May 31, 2026 **Storage:** 0°C or colder

Ship: Ambient

CERTIFIED VALUES

Elution Order	Compound	CAS #	Lot #	Purity	Grav. Conc. (weight/volume)	Expanded Uncertainty * (95% C.L.; K=2)
1	Dichlorodifluoromethane (CFC-12)	75-71-8.SEC	28302	99%	2,519.8 µg/mL	+/- 142.0069
2	Chloromethane (methyl chloride)	74-87-3.SEC	00016950	99%	2,503.3 µg/mL	+/- 142.0942
3	Vinyl chloride	75-01-4.SEC	MKBK6872V	99%	2,508.3 µg/mL	+/- 141.4767
4	1,3-Butadiene	106-99-0.SEC	26996	99%	2,521.0 µg/mL	+/- 142.1930
5	Bromomethane (methyl bromide)	74-83-9.SEC	00017022	99%	2,516.4 µg/mL	+/- 141.9614
6	Chloroethane (ethyl chloride)	75-00-3.SEC	00004202	98%	2,532.0 µg/mL	+/- 143.0282
7	Dichlorofluoromethane (CFC-21)	75-43-4 *	14150400	90%	2,502.0 µg/mL	+/- 140.5515
8	Trichlorofluoromethane (CFC-11)	75-69-4.SEC	00010739	99%	2,524.7 µg/mL	+/- 143.6054

* Expanded Uncertainty displayed in same units as Grav. Conc.

Solvent: P&T Methanol
CAS # 67-56-1
Purity 99%

*** Restek is unable to identify a reliable and/or acceptable second source for this material - the same batch of neat material may have been used to produce both the primary and secondary standard. The primary and secondary standards were prepared using different equipment and personnel.**

Rev'd 5/11/23

Tech Tips:
Raw material may contain trace amounts of tert-Butanol.

Quality Confirmation Test

Column:
60m x 0.25mm x 1.4µm
Rtx-502.2 (cat.#10916)

Carrier Gas:
helium-constant pressure 30 psi

Temp. Program:
40°C (hold 2 min.) to 240°C
@ 8°C/min. (hold 5 min.)

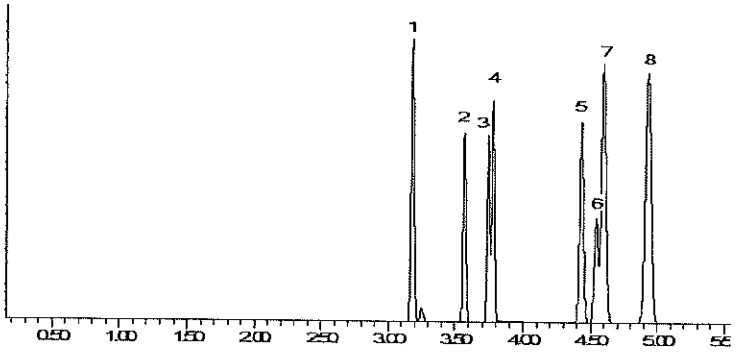
Inj. Temp:
200°C

Det. Temp:
250°C

Det. Type:
MSD

Split Vent:
25.0 ml/min.

Inj. Vol
1µl



This chromatogram represents a general set of testing conditions chosen for product acceptance. For optimal results in your lab, conditions should be adjusted for your specific instrument, method, and application.

Lane Kibe - Mix Technician **Date Mixed:** 02-May-2023 **Balance Serial #** 1128342314

Marlina Cowan – Operations Tech II ARM QC **Date Passed:** 09-May-2023

Manufactured under Restek's ISO 9001:2015 Registered Quality System Certificate #FM 80397

Reagent

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This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 569722 **Lot No.:** A0198219

Description : 8260 List 1 / Std #3 Gases (2015)

8260 List 1 / Std #3 Gases (2015) 2,500µg/mL, P&T Methanol, 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : May 31, 2026 **Storage:** 0°C or colder

Ship: Ambient

CERTIFIED VALUES

Elution Order	Compound	CAS #	Lot #	Purity	Grav. Conc. (weight/volume)	Expanded Uncertainty * (95% C.L.; K=2)
1	Dichlorodifluoromethane (CFC-12)	75-71-8	00012554	99%	2,501.0 µg/mL	+/- 141.1841
2	Chloromethane (methyl chloride)	74-87-3	SHBM9611	99%	2,503.5 µg/mL	+/- 141.4535
3	Vinyl chloride	75-01-4	00015559	99%	2,504.0 µg/mL	+/- 141.5201
4	1,3-Butadiene	106-99-0	00015314	99%	2,503.4 µg/mL	+/- 140.8433
5	Bromomethane (methyl bromide)	74-83-9	101604	99%	2,508.8 µg/mL	+/- 141.7591
6	Chloroethane (ethyl chloride)	75-00-3	107-401039114-1	99%	2,500.4 µg/mL	+/- 141.1450
7	Dichlorofluoromethane (CFC-21)	75-43-4	14150400	90%	2,502.0 µg/mL	+/- 140.5515
8	Trichlorofluoromethane (CFC-11)	75-69-4	MKCL8411	99%	2,504.2 µg/mL	+/- 141.6568

* Expanded Uncertainty displayed in same units as Grav. Conc.

Solvent: P&T Methanol
CAS # 67-56-1
Purity 99%

Rev 1
10/5/23

Tech Tips:
Raw material may contain trace amounts of tert-Butanol.

Quality Confirmation Test

Column:
60m x 0.25mm x 1.4µm
Rtx-502.2 (cat.#10916)

Carrier Gas:
helium-constant pressure 30 psi

Temp. Program:
40°C (hold 2 min.) to 240°C
@ 8°C/min. (hold 5 min.)

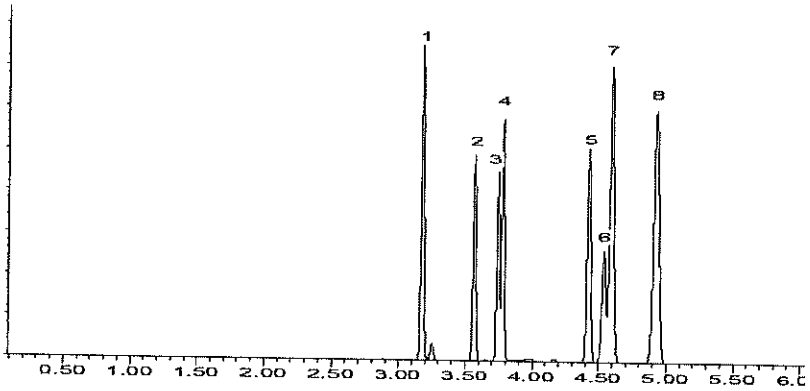
Inj. Temp:
200°C

Det. Temp:
250°C

Det. Type:
MSD

Split Vent:
25.0 ml/min.

Inj. Vol
1µl



This chromatogram represents a general set of testing conditions chosen for product acceptance. For optimal results in your lab, conditions should be adjusted for your specific instrument, method, and application.

Tom Suckar - Mix Technician **Date Mixed:** 18-May-2023 **Balance Serial #** B707717271

Marlina Cowan – Operations Tech II ARM QC **Date Passed:** 23-May-2023

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Reagent

MV-569723.sec_00015

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This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 569723.SEC **Lot No.:** A0193808

Description : 8260 List 1 / Std #4 2-CEVE (2015)

~~8260 List 1~~ / Std #4 2-CEVE (2015) 2,500µg/mL, P&T Methanol, ~~1mL/ampul~~

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : January 31, 2026 **Storage:** 0°C or colder

Ship: Ambient

CERTIFIED VALUES

Elution Order	Compound	CAS #	Lot #	Purity	Grav. Conc. (weight/volume)	Expanded Uncertainty * (95% C.L.; K=2)
1	2-Chloroethyl vinyl ether	110-75-8.SEC	AMBTF	99%	2,513.3 µg/mL	+/- 31.2789

* Expanded Uncertainty displayed in same units as Grav. Conc.

Solvent: P&T Methanol
CAS # 67-56-1
Purity 99%

rev 5/1/23

Tech Tips:
Degradation of tetrachloroethylene to pentachloroethane may occur if solutions containing 2-chloroethyl vinyl ether are combined with solutions that contain tetrachloroethylene.

Quality Confirmation Test

Column:
105m x 0.53mm x 3.0µm
Rtx-502.2 (cat.#10910)

Carrier Gas:
hydrogen-constant pressure 11.0 psi.

Temp. Program:
40°C (hold 2 min.) to 240°C
@ 8°C/min. (hold 5 min.)

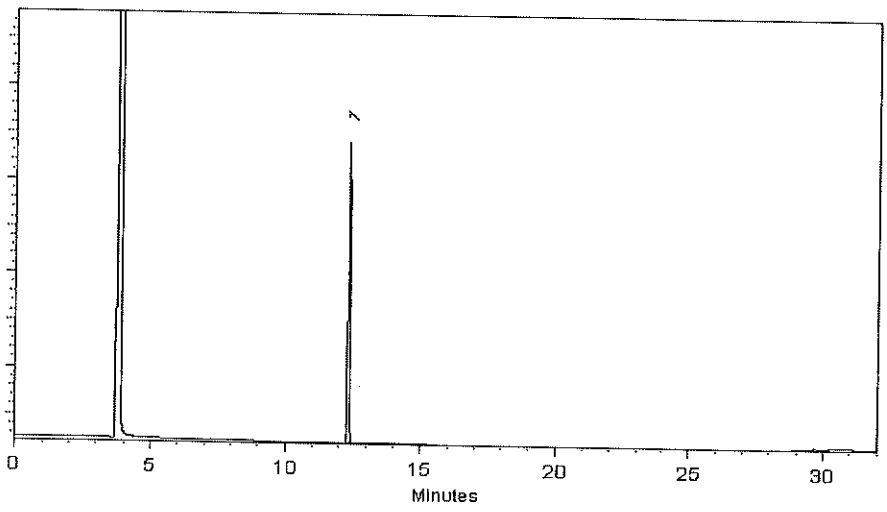
Inj. Temp:
200°C

Det. Temp:
250°C

Det. Type:
FID

Split Vent:
40 ml/min

Inj. Vol
0.2µl



This chromatogram represents a general set of testing conditions chosen for product acceptance. For optimal results in your lab, conditions should be adjusted for your specific instrument, method, and application.

Malina Homan - Operations Technician I

Date Mixed: 20-Jan-2023 **Balance Serial #** 1127510105

Jennifer Pollino - Operations Tech III - ARM QC

Date Passed: 24-Jan-2023

Manufactured under Restek's ISO 9001:2015 Registered Quality System Certificate #FM 80397

Reagent

MV-569723_00018

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Catalog No. : 569723 **Lot No.:** A0193735

Description : 8260 List 1 / Std #4 2-CEVE (2015)

8260 List 1 / Std #4 2-CEVE (2015) 2,500µg/mL, P&T Methanol, 1mL /ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : January 31, 2026 **Storage:** 0°C or colder

Ship: Ambient

CERTIFIED VALUES

Elution Order	Compound	CAS #	Lot #	Purity	Grav. Conc. (weight/volume)	Expanded Uncertainty * (95% C.L.; K=2)
1	2-Chloroethyl vinyl ether	110-75-8	MKCK6742	99%	2,500.0 µg/mL	+/- 31.1129

* Expanded Uncertainty displayed in same units as Grav. Conc.

Solvent: P&T Methanol
CAS # 67-56-1
Purity 99%

5/1/23 JW -00018

Tech Tips:
Degradation of tetrachloroethylene to pentachloroethane may occur if solutions containing 2-chloroethyl vinyl ether are combined with solutions that contain tetrachloroethylene.

Quality Confirmation Test

Column:
105m x 0.53mm x 3.0µm
Rtx-502.2 (cat.#10910)

Carrier Gas:
hydrogen-constant pressure 11.0 psi.

Temp. Program:
40°C (hold 2 min.) to 240°C
@ 8°C/min. (hold 5 min.)

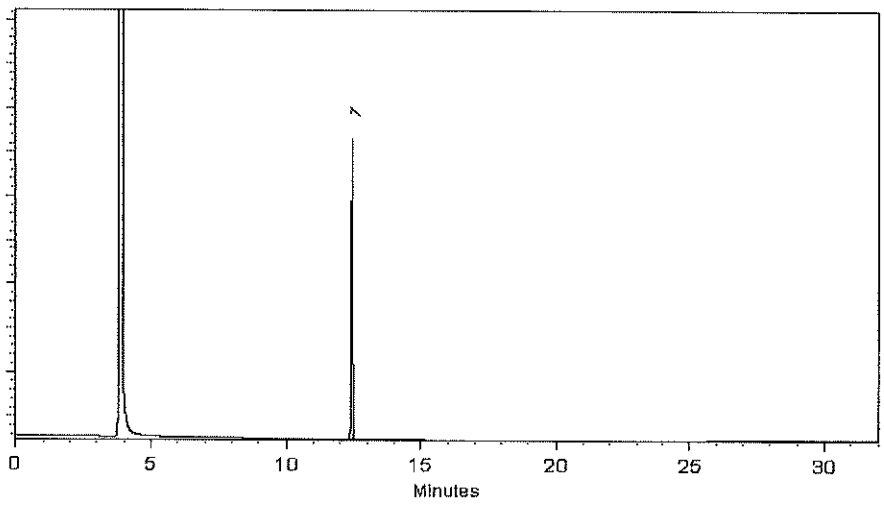
Inj. Temp:
200°C

Det. Temp:
250°C

Det. Type:
FID

Split Vent:
40 ml/min

Inj. Vol
0.2µl



This chromatogram represents a general set of testing conditions chosen for product acceptance. For optimal results in your lab, conditions should be adjusted for your specific instrument, method, and application.

Josh McCloskey - Operations Technician I

Date Mixed: 19-Jan-2023 **Balance Serial #** B707717271

Christie Mills - Operations Tech II - ARM QC

Date Passed: 23-Jan-2023

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This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 569724.SEC **Lot No.:** A0197959

Description : 8260 List 1 / Std #6 Vinyl Acetate (2015)

8260 List 1 / Std #6 Vinyl Acetate (2015) 5,000µg/mL, P&T Methanol, 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : November 30, 2024 **Storage:** -20°C or colder

Handling: This product is photosensitive. **Ship:** On Ice

CERTIFIED VALUES

Elution Order	Compound	CAS #	Lot #	Purity	Grav. Conc. (weight/volume)	Expanded Uncertainty * (95% C.L.; K=2)
1	Vinyl acetate	108-05-4	SEC RD230301RSRA	98%	5,044.4 µg/mL	+/- 174.3571

* Expanded Uncertainty displayed in same units as Grav. Conc.

Solvent: P&T Methanol
CAS # 67-56-1
Purity 99%

Tech Tips:

Vinyl acetate is a volatile organic ester included in the target lists of several US EPA and other methods . Under acidic conditions, esters react with alcohols to form new esters (transesterification). Methanol-based mixes containing halogenated compounds are slightly acidic, so it is important to minimize exposure of vinyl acetate to mixes of halogenated compounds in methanol. For this reason, we offer vinyl acetate in individual solution, and suggest that it be introduced into the working level calibration solution immediately before use. This will minimize problems and ensure more consistent results.

Quality Confirmation Test

Column:
105m x 0.53mm x 3.0µm
Rtx-502.2 (cat.#10910)

Carrier Gas:
hydrogen-constant pressure 11.0 psi.

Temp. Program:
40°C (hold 2 min.) to 240°C
@ 8°C/min. (hold 5 min.)

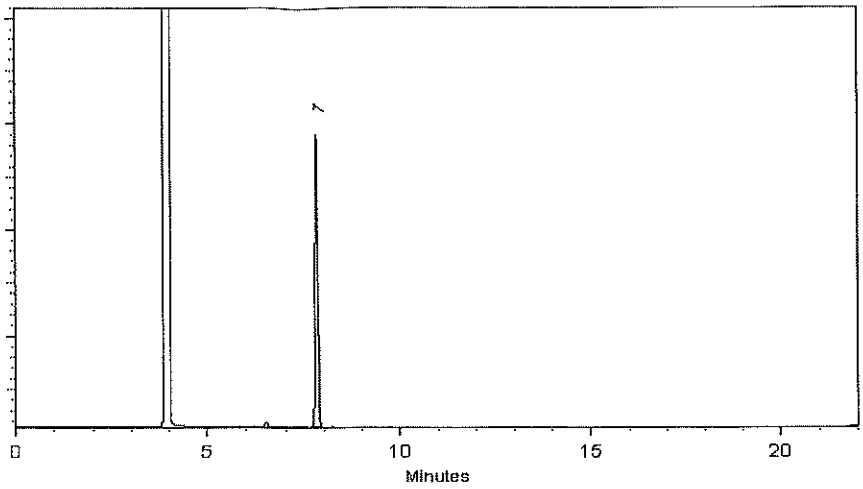
Inj. Temp:
200°C

Det. Temp:
250°C

Det. Type:
FID

Split Vent:
40 ml/min

Inj. Vol
0.2µl



This chromatogram represents a general set of testing conditions chosen for product acceptance. For optimal results in your lab, conditions should be adjusted for your specific instrument, method, and application.

John Friedline - Operations Technician I

Date Mixed: 11-May-2023 **Balance Serial #** 1128342314

Dillan Murphy - Operations Technician I

Date Passed: 17-May-2023

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Reagent

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This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 569724 **Lot No.:** A0200199

Description : 8260 List 1 / Std #6 Vinyl Acetate (2015)

8260 List 1 / Std #6 Vinyl Acetate (2015) 5,000µg/mL, P&T Methanol, 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : January 31, 2025 **Storage:** -20°C or colder

Handling: This product is photosensitive. **Ship:** On Ice

CERTIFIED VALUES

Elution Order	Compound	CAS #	Lot #	Purity	Grav. Conc. (weight/volume)	Expanded Uncertainty * (95% C.L.; K=2)
1	Vinyl acetate	108-05-4	RD220630	99%	5,036.0 µg/mL	+/- 174.0672

* Expanded Uncertainty displayed in same units as Grav. Conc.

Solvent: P&T Methanol
CAS # 67-56-1
Purity 99%

Tech Tips:
Vinyl acetate is a volatile organic ester included in the target lists of several US EPA and other methods . Under acidic conditions, esters react with alcohols to form new esters (transesterification). Methanol-based mixes containing halogenated compounds are slightly acidic, so it is important to minimize exposure of vinyl acetate to mixes of halogenated compounds in methanol. For this reason, we offer vinyl acetate in individual solution, and suggest that it be introduced into the working level calibration solution immediately before use. This will minimize problems and ensure more consistent results.

12/6/23
- 00037

Quality Confirmation Test

Column:
105m x 0.53mm x 3.0µm
Rtx-502.2 (cat.#10910)

Carrier Gas:
hydrogen-constant pressure 11.0 psi.

Temp. Program:
40°C (hold 2 min.) to 240°C
@ 8°C/min. (hold 5 min.)

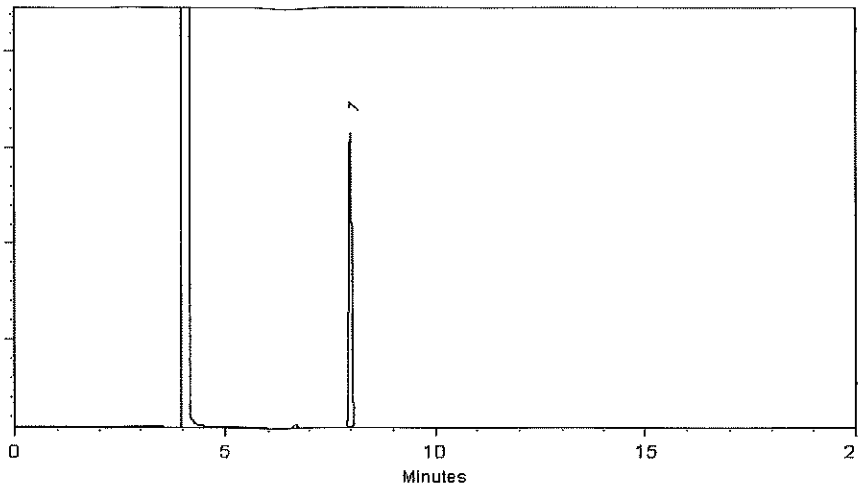
Inj. Temp:
200°C

Det. Temp:
250°C

Det. Type:
FID

Split Vent:
40 ml/min

Inj. Vol
0.2µl



This chromatogram represents a general set of testing conditions chosen for product acceptance. For optimal results in your lab, conditions should be adjusted for your specific instrument, method, and application.

Josh McCloskey - Operations Technician I

Date Mixed: 24-Jul-2023 **Balance Serial #** B707717271

Dillan Murphy - Operations Technician I

Date Passed: 26-Jul-2023

Manufactured under Restek's ISO 9001:2015 Registered Quality System Certificate #FM 80397

Reagent

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Catalog No. : 569727.SEC **Lot No.:** A0195344

Description : 8260 List 2/ Std #3 Cyclohexanone (2015)

8260 List 2/ Std #3 Cyclohexanone (2015) 25,000µg/mL, Water, 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : March 31, 2026 **Storage:** 10°C or colder

Ship: Ambient

CERTIFIED VALUES

Elution Order	Compound	CAS #	Lot #	Purity	Grav. Conc. (weight/volume)	Expanded Uncertainty * (95% C.L.; K=2)
1	Cyclohexanone	108-94-1.SEC	GA3TF	99%	25,205.1 µg/mL	+/- 871.1479

* Expanded Uncertainty displayed in same units as Grav. Conc.

Solvent: Water
CAS # 7732-18-5
Purity 99%

Rcvd 7/15/23

Quality Confirmation Test

Column:
105m x 0.53mm x 3.0µm
Rtx-502.2 (cat.#10910)

Carrier Gas:
hydrogen-constant pressure 11.0 psi.

Temp. Program:
40°C (hold 2 min.) to 240°C
@ 8°C/min. (hold 5 min.)

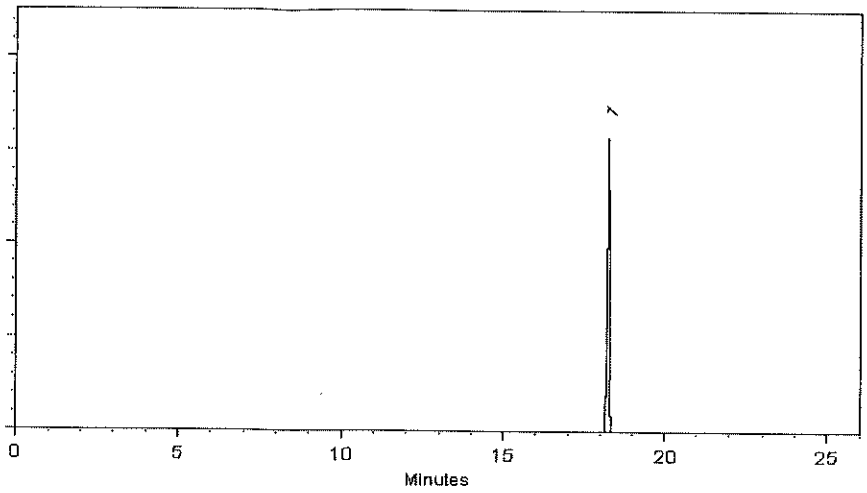
Inj. Temp:
200°C

Det. Temp:
250°C

Det. Type:
FID

Split Vent:
40 ml/min

Inj. Vol
1µl



This chromatogram represents a general set of testing conditions chosen for product acceptance. For optimal results in your lab, conditions should be adjusted for your specific instrument, method, and application.

Jess Hoy - Operations Tech I

Date Mixed: 01-Mar-2023 **Balance Serial #** 1128353505

Jennifer Pollino - Operations Tech III - ARM QC

Date Passed: 06-Mar-2023

Manufactured under Restek's ISO 9001:2015 Registered Quality System Certificate #FM 80397

Reagent

MV-569727_00024

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Catalog No. : 569727 **Lot No.:** A0197009

Description : 8260 List 2/ Std #3 Cyclohexanone (2015)

8260 List 2/ Std #3 Cyclohexanone (2015) 25,000µg/mL, Water, 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : April 30, 2026 **Storage:** 10°C or colder

Ship: Ambient

CERTIFIED VALUES

Elution Order	Compound	CAS #	Lot #	Purity	Grav. Conc. (weight/volume)	Expanded Uncertainty * (95% C.L.; K=2)
1	Cyclohexanone	108-94-1	MKCC7732	99%	25,006.5 µg/mL	+/- 864.2827

* Expanded Uncertainty displayed in same units as Grav. Conc.

Solvent: Water
CAS # 7732-18-5
Purity 99%

Rcvd 1/15/23

Quality Confirmation Test

Column:
105m x 0.53mm x 3.0µm
Rtx-502.2 (cat.#10910)

Carrier Gas:
hydrogen-constant pressure 11.0 psi.

Temp. Program:
40°C (hold 2 min.) to 240°C
@ 8°C/min. (hold 5 min.)

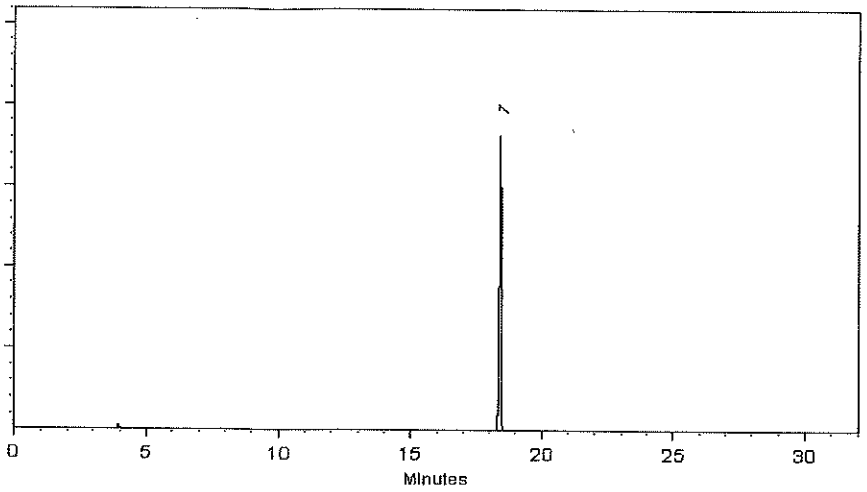
Inj. Temp:
200°C

Det. Temp:
250°C

Det. Type:
FID

Split Vent:
40 ml/min

Inj. Vol
1µl



This chromatogram represents a general set of testing conditions chosen for product acceptance. For optimal results in your lab, conditions should be adjusted for your specific instrument, method, and application.

Russ Bookhamer - Operations Technician I

Date Mixed: 14-Apr-2023 **Balance Serial #** B251644995

Jennifer Pollino - Operations Tech III - ARM QC

Date Passed: 18-Apr-2023

Manufactured under Restek's ISO 9001:2015 Registered Quality System Certificate #FM 80397

Reagent

mv-570808.sec_00009

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This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 570808.SEC **Lot No.:** A0193865

Description : 8260 List 2 / Std #6

8260 List 2 / Std #6 2,500-62,500µg/mL, P&T Methanol, 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : July 31, 2024 **Storage:** 0°C or colder

Ship: Ambient

CERTIFIED VALUES

Elution Order	Compound	CAS #	Lot #	Purity	Grav. Conc. (weight/volume)	Expanded Uncertainty * (95% C.L.; K=2)
1	2-Propanol (isopropanol)	67-63-0.SEC	G6HNF	99%	25,080.0 µg/mL	+/- 410.1061
2	Chloroprene (2-chloro-1,3-butadiene)	126-99-8 *	220712JLM	99%	2,519.0 µg/mL	+/- 41.2025
3	Methacrylonitrile	126-98-7 *	1012014	99%	25,106.0 µg/mL	+/- 410.5312
4	2,2,4-Trimethylpentane (Isooctane)	540-84-1.SEC	11566800	99%	2,513.0 µg/mL	+/- 41.1044
5	1-Butanol	71-36-3.SEC	RSHAH	99%	62,635.5 µg/mL	+/- 1,024.2037
6	2-Nitropropane	79-46-9.SEC	F431A	99%	5,037.0 µg/mL	+/- 82.3646
7	1-Chlorohexane	544-10-5.SEC	8171700	99%	2,507.0 µg/mL	+/- 41.0062
8	1,2,3-Trimethylbenzene	526-73-8.SEC	12203300	99%	2,512.0 µg/mL	+/- 41.0880
9	Benzyl chloride	100-44-7.SEC	H29N03	99%	2,515.5 µg/mL	+/- 41.1453
10	1,3,5-Trichlorobenzene	108-70-3.SEC	I28U021	99%	2,510.5 µg/mL	+/- 41.0635

* Expanded Uncertainty displayed in same units as Grav. Conc.

Solvent: P&T Methanol
CAS # 67-56-1
Purity 99%

*** Restek is unable to identify a reliable and/or acceptable second source for this material - the same batch of neat material may have been used to produce both the primary and secondary standard. The primary and secondary standards were prepared using different equipment and personnel.**

Revd 5/25/23

Quality Confirmation Test

Column:
105m x 0.53mm x 3.0µm
Rtx-502.2 (cat.#10910)

Carrier Gas:
hydrogen-constant pressure 11.0 psi.

Temp. Program:
40°C (hold 2 min.) to 240°C
@ 8°C/min. (hold 5 min.)

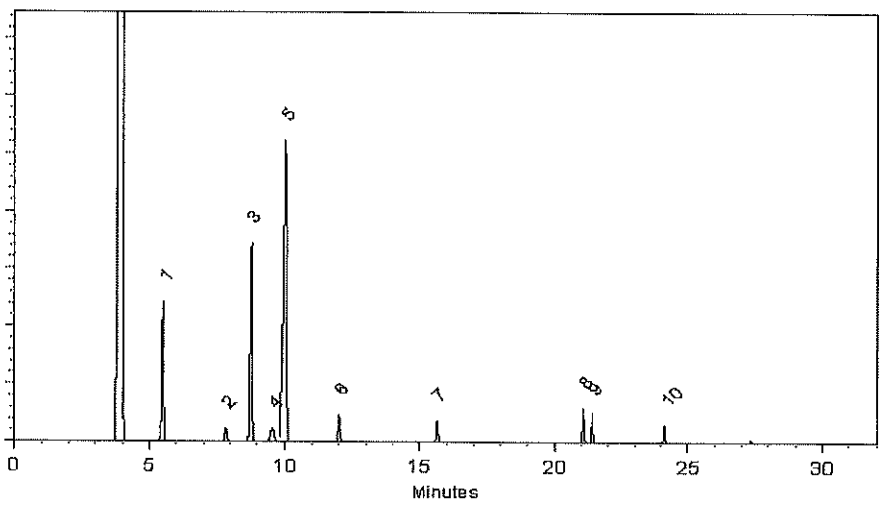
Inj. Temp:
200°C

Det. Temp:
250°C

Det. Type:
FID

Split Vent:
40 ml/min

Inj. Vol
1µl



This chromatogram represents a general set of testing conditions chosen for product acceptance. For optimal results in your lab, conditions should be adjusted for your specific instrument, method, and application.

Katelyn McGlinn - Operations Tech I

Date Mixed: 23-Jan-2023 **Balance Serial #** 1128342314

Christie Mills - Operations Tech II - ARM QC

Date Passed: 02-Feb-2023

Manufactured under Restek's ISO 9001:2015 Registered Quality System Certificate #FM 80397

Reagent

mv-570809_00014

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Catalog No. : 570809 **Lot No.:** A0200274

Description : 8260 List 2 / Std #7

8260 List 2 / Std #7 2,500-5,000µg/mL, P&T Methanol, 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : January 31, 2025 **Storage:** 0°C or colder

Ship: Ambient

CERTIFIED VALUES

Elution Order	Compound	CAS #	Lot #	Purity	Grav. Conc. (weight/volume)	Expanded Uncertainty * (95% C.L.; K=2)
1	Ethyl acetate	141-78-6	SHBP9289	99%	5,031.0 µg/mL	+/- 173.8830
2	Ethyl acrylate	140-88-5	10129902	99%	2,502.5 µg/mL	+/- 86.4979
3	Methyl methacrylate	80-62-6	MKCQ2756	99%	5,000.0 µg/mL	+/- 172.8116
4	Butyl acetate	123-86-4	SHBP6314	99%	2,506.0 µg/mL	+/- 86.6188

* Expanded Uncertainty displayed in same units as Grav. Conc.

Solvent: P&T Methanol
CAS # 67-56-1
Purity 99%

Quality Confirmation Test

Column:
105m x 0.53mm x 3.0µm
Rtx-502.2 (cat.#10910)

Carrier Gas:
hydrogen-constant pressure 11.0 psi.

Temp. Program:
40°C (hold 2 min.) to 240°C
@ 8°C/min. (hold 5 min.)

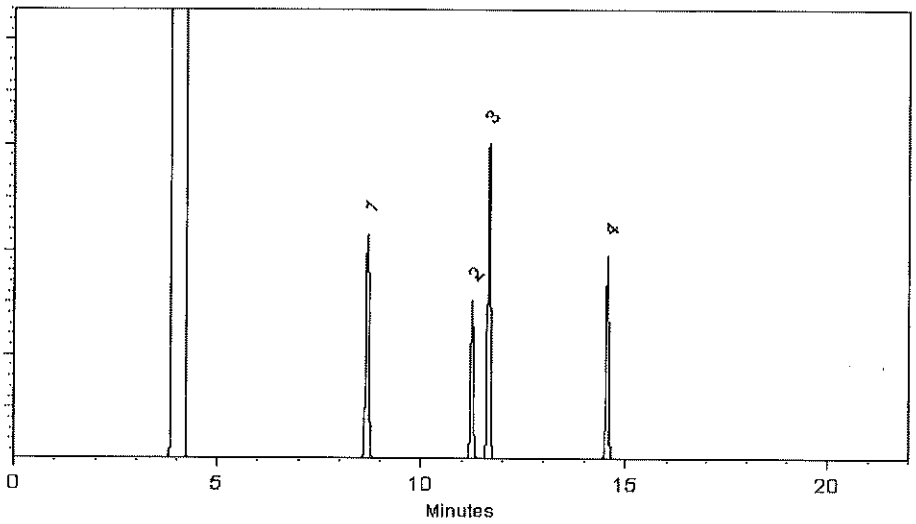
Inj. Temp:
200°C

Det. Temp:
250°C

Det. Type:
FID

Split Vent:
40 ml/min

Inj. Vol
1µl



This chromatogram represents a general set of testing conditions chosen for product acceptance. For optimal results in your lab, conditions should be adjusted for your specific instrument, method, and application.

Laith Clemente - Operations Technician I

Date Mixed: 25-Jul-2023 **Balance Serial #** B707717271

Jennifer Pollino - Operations Tech III - ARM QC

Date Passed: 31-Jul-2023

Manufactured under Restek's ISO 9001:2015 Registered Quality System Certificate #FM 80397

Reagent

MV-571992.sec_00010

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CERTIFIED REFERENCE MATERIAL

ilac-MRA ACCREDITED ISO 17034 Accredited Reference Material Producer Certificate #3222.01

ilac-MRA ACCREDITED ISO/IEC 17025 Accredited Testing Laboratory Certificate #3222.02

Certificate of Analysis

chromatographic plus

FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 571992.SEC **Lot No.:** A0195252

Description : 8260 List 1 / Std #1 MegaMix (2017)

8260 List 1 / Std #1 MegaMix (2017) 1,250-62,500µg/mL, P&T Methanol, 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : August 31, 2025 **Storage:** 0°C or colder

Ship: Ambient

CERTIFIED VALUES

Elution Order	Compound	CAS #	Lot #	Purity	Grav. Conc. (weight/volume)	Expanded Uncertainty * (95% C.L.; K=2)
1	Diethyl ether (ethyl ether)	60-29-7.SEC	F23X068	99%	2,516.7 µg/mL	+/- 86.9644
2	1,1,2-Trichlorotrifluoroethane (CFC-113)	76-13-1.SEC	18342	99%	2,520.0 µg/mL	+/- 87.0795
3	1,1-Dichloroethene	75-35-4.SEC	13896500	99%	2,525.0 µg/mL	+/- 87.2523
4	tert-Butanol (TBA)	75-65-0.SEC	DI34O	99%	25,129.5 µg/mL	+/- 868.3580
5	Methyl acetate	79-20-9.SEC	UCNEL	99%	5,029.0 µg/mL	+/- 173.7790
6	Iodomethane (methyl iodide)	74-88-4.SEC	Y25A027	99%	2,521.7 µg/mL	+/- 87.1371
7	Allyl chloride (3-chloropropene)	107-05-1.SEC	RD210329	99%	2,518.2 µg/mL	+/- 87.0162
8	Methylene chloride (dichloromethane)	75-09-2.SEC	FGM02	99%	2,516.7 µg/mL	+/- 86.9644
9	Carbon disulfide	75-15-0.SEC	MKBL1376V	99%	2,511.7 µg/mL	+/- 86.7916
10	Acrylonitrile	107-13-1.SEC	V54AD	99%	25,200.3 µg/mL	+/- 870.8057
11	Methyl-tert-butyl ether (MTBE)	1634-04-4.SEC	CDCQG	99%	2,517.3 µg/mL	+/- 86.9874
12	cis-1,2-Dichloroethene	156-59-2.SEC	YZO5O	99%	2,515.3 µg/mL	+/- 86.9183
13	n-Hexane (C6)	110-54-3.SEC	10188491	99%	2,514.7 µg/mL	+/- 86.8953
14	1,1-Dichloroethane	75-34-3.SEC	1026.30-3	98%	2,512.6 µg/mL	+/- 86.8223
15	2,2-Dichloropropane	594-20-7.SEC	GI01	99%	2,521.5 µg/mL	+/- 87.1314
16	trans-1,2-Dichloroethene	156-60-5.SEC	L5QOH	99%	2,525.0 µg/mL	+/- 87.2523

17	Isobutanol (2-Methyl-1-propanol)	78-83-1.SEC PH2XK	99%	62,830.8	µg/mL	+/- 2,171.1398
18	Chloroform	67-66-3.SEC 1297547	99%	2,511.7	µg/mL	+/- 86.7916
19	Bromochloromethane	74-97-5 * 230206JLM	99%	2,515.7	µg/mL	+/- 86.9298
20	Tetrahydrofuran	109-99-9.SEC 3NYHE	99%	5,018.5	µg/mL	+/- 173.4162
21	1,1,1-Trichloroethane	71-55-6.SEC 13891800	99%	2,506.5	µg/mL	+/- 86.6130
22	Cyclohexane	110-82-7.SEC YADRA	99%	2,523.3	µg/mL	+/- 87.1947
23	1,1-Dichloropropene	563-58-6.SEC 556500	99%	2,520.5	µg/mL	+/- 87.0968
24	Carbon tetrachloride	56-23-5.SEC 11466	99%	2,520.5	µg/mL	+/- 87.0968
25	n-Heptane (C7)	142-82-5.SEC TFHUC	99%	2,516.5	µg/mL	+/- 86.9586
26	1,2-Dichloroethane	107-06-2.SEC 00016165	99%	2,519.8	µg/mL	+/- 87.0738
27	Benzene	71-43-2.SEC 101960P29K	99%	2,518.8	µg/mL	+/- 87.0392
28	Trichloroethene	79-01-6.SEC H04X050	99%	2,524.3	µg/mL	+/- 87.2293
29	Methylcyclohexane	108-87-2.SEC Q02QG	99%	2,515.8	µg/mL	+/- 86.9356
30	1,2-Dichloropropane	78-87-5.SEC ERRBI-RH	99%	2,516.8	µg/mL	+/- 86.9701
31	1,4-Dioxane	123-91-1.SEC QHRWO	99%	50,137.2	µg/mL	+/- 1,732.5061
32	Dibromomethane	74-95-3.SEC MOKKJ	99%	2,516.3	µg/mL	+/- 86.9528
33	cis-1,3-Dichloropropene	10061-01-5.SEC ZLXJ-TJ	99%	2,502.8	µg/mL	+/- 86.4863
34	Toluene	108-88-3.SEC YND2B-BD	99%	2,522.2	µg/mL	+/- 87.1544
35	Ethyl methacrylate	97-63-2.SEC AQSPO	99%	2,510.8	µg/mL	+/- 86.7628
36	trans-1,3-Dichloropropene	10061-02-6.SEC DMSL	98%	2,517.1	µg/mL	+/- 86.9804
37	1,1,2-Trichloroethane	79-00-5.SEC 9245400	99%	2,512.2	µg/mL	+/- 86.8089
38	1,3-Dichloropropane	142-28-9.SEC IQCON	99%	2,519.3	µg/mL	+/- 87.0565
39	Tetrachloroethene	127-18-4.SEC F09W014	99%	2,521.3	µg/mL	+/- 87.1256
40	Dibromochloromethane	124-48-1.SEC 10234064	99%	2,517.5	µg/mL	+/- 86.9932
41	1,2-Dibromoethane (EDB)	106-93-4.SEC 050675P15E	99%	2,518.3	µg/mL	+/- 87.0220
42	Chlorobenzene	108-90-7.SEC 1161936	99%	2,515.8	µg/mL	+/- 86.9356
43	m-Xylene	108-38-3.SEC 7ZV6F	99%	1,255.3	µg/mL	+/- 43.3814
44	p-Xylene	106-42-3.SEC D6UOA	99%	1,260.3	µg/mL	+/- 43.5541
45	Ethylbenzene	100-41-4.SEC PI4SE	99%	2,517.7	µg/mL	+/- 86.9989
46	1,1,1,2-Tetrachloroethane	630-20-6.SEC 13789800	99%	2,517.5	µg/mL	+/- 86.9932
47	o-Xylene	95-47-6.SEC UJ6RI	99%	2,515.8	µg/mL	+/- 86.9356
48	Styrene	100-42-5.SEC QGQ7F	99%	2,521.3	µg/mL	+/- 87.1256
49	Isopropylbenzene (cumene)	98-82-8.SEC 7P24L	99%	2,515.0	µg/mL	+/- 86.9068
50	Bromoform	75-25-2.SEC 13723500	99%	2,522.5	µg/mL	+/- 87.1659
51	Bromodichloromethane	75-27-4.SEC 28128	99%	2,524.2	µg/mL	+/- 87.2235
52	1,1,2,2-Tetrachloroethane	79-34-5.SEC BCCD5088	99%	2,523.7	µg/mL	+/- 87.2063

53	1,2,3-Trichloropropane	96-18-4.SEC 6V2ED	99%	2,522.2	µg/mL	+/- 87.1544
54	trans-1,4-Dichloro-2-butene	110-57-6.SEC RD230316RSR	96%	2,517.0	µg/mL	+/- 86.9745
55	n-Propylbenzene	103-65-1.SEC XCGEC	99%	2,518.8	µg/mL	+/- 87.0392
56	Bromobenzene	108-86-1.SEC 2FUHG-EM	99%	2,518.3	µg/mL	+/- 87.0220
57	1,3,5-Trimethylbenzene	108-67-8.SEC GI2SM	99%	2,514.3	µg/mL	+/- 86.8837
58	2-Chlorotoluene	95-49-8.SEC BRHPM	99%	2,515.7	µg/mL	+/- 86.9298
59	4-Chlorotoluene	106-43-4.SEC S5SKD	99%	2,518.8	µg/mL	+/- 87.0392
60	tert-Butylbenzene	98-06-6.SEC D6OHC	99%	2,522.0	µg/mL	+/- 87.1487
61	1,2,4-Trimethylbenzene	95-63-6.SEC JHZDD	99%	2,517.3	µg/mL	+/- 86.9874
62	sec-Butylbenzene	135-98-8.SEC O4HRF	99%	2,522.0	µg/mL	+/- 87.1487
63	4-Isopropyltoluene (p-cymene)	99-87-6.SEC 13889300	98%	2,518.1	µg/mL	+/- 87.0142
64	1,3-Dichlorobenzene	541-73-1.SEC ZA2ZI	99%	2,515.0	µg/mL	+/- 86.9068
65	1,4-Dichlorobenzene	106-46-7.SEC J5GVD	99%	2,522.5	µg/mL	+/- 87.1659
66	n-Butylbenzene	104-51-8.SEC MMPGA	99%	2,523.7	µg/mL	+/- 87.2063
67	1,2-Dichlorobenzene	95-50-1.SEC R6QDM	99%	2,512.0	µg/mL	+/- 86.8031
68	1,2-Dibromo-3-chloropropane	96-12-8.SEC Q135-105	99%	2,517.7	µg/mL	+/- 86.9989
69	1,2,4-Trichlorobenzene	120-82-1.SEC IGLFA	99%	2,515.7	µg/mL	+/- 86.9298
70	Hexachlorobutadiene	87-68-3.SEC 13889400	97%	2,520.4	µg/mL	+/- 87.0928
71	Naphthalene	91-20-3.SEC AM5NG	99%	2,520.0	µg/mL	+/- 87.0795
72	1,2,3-Trichlorobenzene	87-61-6.SEC A0043055	99%	2,517.8	µg/mL	+/- 87.0047

* Expanded Uncertainty displayed in same units as Grav. Conc.

Solvent: P&T Methanol
CAS # 67-56-1
Purity 99%

*** Restek is unable to identify a reliable and/or acceptable second source for this material - the same batch of neat material may have been used to produce both the primary and secondary standard. The primary and secondary standards were prepared using different equipment and personnel.**

Quality Confirmation Test

Column:
60m x 0.25mm x 1.4µm
Rtx-502.2 (cat.#10916)

Carrier Gas:
hellum-constant pressure 30 psi

Temp. Program:
40°C (hold 6 min.) to 240°C
@ 6°C/min. (hold 10 min.)

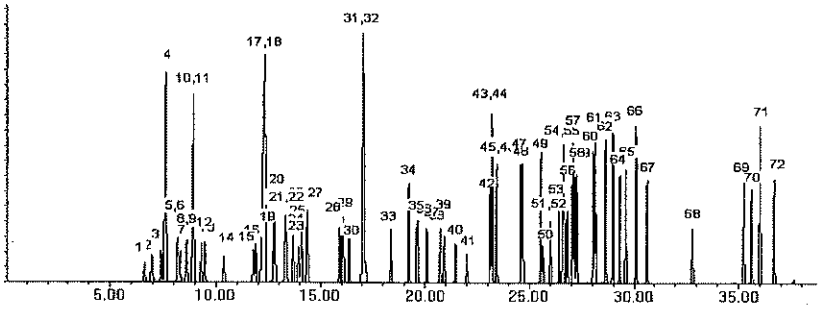
Inj. Temp:
200°C

Det. Temp:
250°C

Det. Type:
MSD

Split Vent:
20.0 ml/min.

Inj. Vol
0.2µl



This chromatogram represents a general set of testing conditions chosen for product acceptance. For optimal results in your lab, conditions should be adjusted for your specific instrument, method, and application.

John Friedline - Operations Technician I — **Date Mixed:** 28-Feb-2023 — **Balance Serial #** 1127510105

Christie Mills - Operations Tech II - ARM QC — **Date Passed:** 22-Mar-2023

Manufactured under Restek's ISO 9001:2015
Registered Quality System
Certificate #FM 80397

Reagent

MV-571992_00015

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CERTIFIED REFERENCE MATERIAL

Certificate of Analysis

ACCREDITED ISO 17034 Accredited Reference Material Producer Certificate #3222.01

ilac-MRA

ACCREDITED ISO/IEC 17025 Accredited Testing Laboratory Certificate #3222.02

FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 571992 **Lot No.:** A0183568

Description : 8260 List 1 / Std #1 MegaMix (2017)

8260 List 1 / Std #1 MegaMix (2017) 1,250-62,500µg/mL, P&T Methanol, 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : September 30, 2024 **Storage:** 0°C or colder

Ship: Ambient

CERTIFIED VALUES

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)	
1	Diethyl ether (ethyl ether) **CAS #** 60-29-7 (Lot SHBN4280) **Purity** 99%	2,506.6 µg/mL	+/- 14.5737 µg/mL +/- 151.2358 µg/mL +/- 151.5949 µg/mL	Gravimetric Unstressed Stressed
2	1,1,2-Trichlorotrifluoroethane (CFC-113) **CAS #** 76-13-1 (Lot 00016133) **Purity** 99%	2,514.5 µg/mL	+/- 14.6195 µg/mL +/- 151.7109 µg/mL +/- 152.0711 µg/mL	Gravimetric Unstressed Stressed
3	1,1-dichloroethene **CAS #** 75-35-4 (Lot SHBG8609V) **Purity** 99%	2,515.1 µg/mL	+/- 14.6232 µg/mL +/- 151.7486 µg/mL +/- 152.1089 µg/mL	Gravimetric Unstressed Stressed
4	tert-Butanol (TBA) **CAS #** 75-65-0 (Lot 101619K21F-1) **Purity** 99%	25,080.8 µg/mL	+/- 145.8140 µg/mL +/- 1,513.2321 µg/mL +/- 1,516.8247 µg/mL	Gravimetric Unstressed Stressed
5	Methyl acetate **CAS #** 79-20-9 (Lot SHBM1320) **Purity** 99%	5,026.6 µg/mL	+/- 29.2252 µg/mL +/- 303.2786 µg/mL +/- 303.9986 µg/mL	Gravimetric Unstressed Stressed
6	Iodomethane (methyl iodide) **CAS #** 74-88-4 (Lot RD220125) **Purity** 99%	2,505.3 µg/mL	+/- 14.5657 µg/mL +/- 151.1528 µg/mL +/- 151.5117 µg/mL	Gravimetric Unstressed Stressed
7	Allyl chloride (3-chloropropene) **CAS #** 107-05-1 (Lot RD211021) **Purity** 99%	2,509.1 µg/mL	+/- 14.5883 µg/mL +/- 151.3866 µg/mL +/- 151.7460 µg/mL	Gravimetric Unstressed Stressed

8	Methylene chloride (dichloromethane)		2,513.3	µg/mL	+/-	14.6123	µg/mL	Gravimetric
	CAS # 75-09-2	(Lot SHBP1417)			+/-	151.6355	µg/mL	Unstressed
	Purity 99%				+/-	151.9955	µg/mL	Stressed
9	Carbon disulfide		2,510.1	µg/mL	+/-	14.5941	µg/mL	Gravimetric
	CAS # 75-15-0	(Lot N28F701)			+/-	151.4470	µg/mL	Unstressed
	Purity 99%				+/-	151.8065	µg/mL	Stressed
10	Acrylonitrile		25,102.9	µg/mL	+/-	145.9426	µg/mL	Gravimetric
	CAS # 107-13-1	(Lot SHBK4954)			+/-	1,514.5670	µg/mL	Unstressed
	Purity 99%				+/-	1,518.1628	µg/mL	Stressed
11	Methyl-tert-butyl ether (MTBE)		2,513.8	µg/mL	+/-	14.6152	µg/mL	Gravimetric
	CAS # 1634-04-4	(Lot SHBN6497)			+/-	151.6657	µg/mL	Unstressed
	Purity 99%				+/-	152.0258	µg/mL	Stressed
12	cis-1,2-Dichloroethene		2,515.1	µg/mL	+/-	14.6232	µg/mL	Gravimetric
	CAS # 156-59-2	(Lot MKCP7830)			+/-	151.7486	µg/mL	Unstressed
	Purity 99%				+/-	152.1089	µg/mL	Stressed
13	n-Hexane (C6)		2,515.5	µg/mL	+/-	14.6253	µg/mL	Gravimetric
	CAS # 110-54-3	(Lot SHBL9879)			+/-	151.7713	µg/mL	Unstressed
	Purity 99%				+/-	152.1316	µg/mL	Stressed
14	1,1-Dichloroethane		2,517.9	µg/mL	+/-	14.6391	µg/mL	Gravimetric
	CAS # 75-34-3	(Lot 760200)			+/-	151.9146	µg/mL	Unstressed
	Purity 99%				+/-	152.2752	µg/mL	Stressed
15	2,2-Dichloropropane		2,517.9	µg/mL	+/-	14.6391	µg/mL	Gravimetric
	CAS # 594-20-7	(Lot RD211103)			+/-	151.9146	µg/mL	Unstressed
	Purity 99%				+/-	152.2752	µg/mL	Stressed
16	trans-1,2-Dichloroethene		2,511.4	µg/mL	+/-	14.6014	µg/mL	Gravimetric
	CAS # 156-60-5	(Lot MKBH9850V)			+/-	151.5224	µg/mL	Unstressed
	Purity 99%				+/-	151.8821	µg/mL	Stressed
17	Isobutanol (2-Methyl-1-propanol)		62,633.1	µg/mL	+/-	364.1354	µg/mL	Gravimetric
	CAS # 78-83-1	(Lot 098794J01H)			+/-	3,778.9321	µg/mL	Unstressed
	Purity 99%				+/-	3,787.9040	µg/mL	Stressed
18	chloroform		2,510.9	µg/mL	+/-	14.5984	µg/mL	Gravimetric
	CAS # 67-66-3	(Lot SHBN8469)			+/-	151.4922	µg/mL	Unstressed
	Purity 99%				+/-	151.8519	µg/mL	Stressed
19	Bromochloromethane		2,517.0	µg/mL	+/-	14.6341	µg/mL	Gravimetric
	CAS # 74-97-5	(Lot 00008541)			+/-	151.8618	µg/mL	Unstressed
	Purity 99%				+/-	152.2223	µg/mL	Stressed
20	Tetrahydrofuran		5,036.1	µg/mL	+/-	29.2805	µg/mL	Gravimetric
	CAS # 109-99-9	(Lot SHBN3757)			+/-	303.8517	µg/mL	Unstressed
	Purity 99%				+/-	304.5731	µg/mL	Stressed
21	1,1,1-trichloroethane		2,509.6	µg/mL	+/-	14.5912	µg/mL	Gravimetric
	CAS # 71-55-6	(Lot RD220215)			+/-	151.4168	µg/mL	Unstressed
	Purity 99%				+/-	151.7763	µg/mL	Stressed
22	Cyclohexane		2,510.0	µg/mL	+/-	14.5934	µg/mL	Gravimetric
	CAS # 110-82-7	(Lot EA003-US)			+/-	151.4394	µg/mL	Unstressed
	Purity 99%				+/-	151.7990	µg/mL	Stressed
23	1,1-Dichloropropene		2,513.8	µg/mL	+/-	14.6152	µg/mL	Gravimetric
	CAS # 563-58-6	(Lot 220217JLM)			+/-	151.6657	µg/mL	Unstressed
	Purity 99%				+/-	152.0258	µg/mL	Stressed

24	carbon tetrachloride		2,513.5	µg/mL	+/-	14.6137	µg/mL	Gravimetric
	CAS # 56-23-5	(Lot SHBL8097)			+/-	151.6506	µg/mL	Unstressed
	Purity 99%				+/-	152.0106	µg/mL	Stressed
25	n-Heptane (C7)		2,511.4	µg/mL	+/-	14.6014	µg/mL	Gravimetric
	CAS # 142-82-5	(Lot SGBL9221)			+/-	151.5224	µg/mL	Unstressed
	Purity 99%				+/-	151.8821	µg/mL	Stressed
26	1,2-Dichloroethane		2,514.4	µg/mL	+/-	14.6188	µg/mL	Gravimetric
	CAS # 107-06-2	(Lot MKCN9758)			+/-	151.7034	µg/mL	Unstressed
	Purity 99%				+/-	152.0636	µg/mL	Stressed
27	Benzene		2,509.3	µg/mL	+/-	14.5890	µg/mL	Gravimetric
	CAS # 71-43-2	(Lot MKCM9242)			+/-	151.3942	µg/mL	Unstressed
	Purity 99%				+/-	151.7536	µg/mL	Stressed
28	Trichloroethene		2,507.5	µg/mL	+/-	14.5788	µg/mL	Gravimetric
	CAS # 79-01-6	(Lot SHBL5816)			+/-	151.2886	µg/mL	Unstressed
	Purity 99%				+/-	151.6478	µg/mL	Stressed
29	Methylcyclohexane		2,510.3	µg/mL	+/-	14.5948	µg/mL	Gravimetric
	CAS # 108-87-2	(Lot SHBL0078)			+/-	151.4545	µg/mL	Unstressed
	Purity 99%				+/-	151.8141	µg/mL	Stressed
30	1,2-Dichloropropane		2,510.9	µg/mL	+/-	14.5984	µg/mL	Gravimetric
	CAS # 78-87-5	(Lot BCBR0882V)			+/-	151.4922	µg/mL	Unstressed
	Purity 99%				+/-	151.8519	µg/mL	Stressed
31	1,4-Dioxane		50,187.5	µg/mL	+/-	291.7792	µg/mL	Gravimetric
	CAS # 123-91-1	(Lot SHBM9675)			+/-	3,028.0328	µg/mL	Unstressed
	Purity 99%				+/-	3,035.2219	µg/mL	Stressed
32	Dibromomethane		2,511.0	µg/mL	+/-	14.5992	µg/mL	Gravimetric
	CAS # 74-95-3	(Lot 10201030)			+/-	151.4998	µg/mL	Unstressed
	Purity 99%				+/-	151.8594	µg/mL	Stressed
33	cis-1,3-Dichloropropene		2,513.8	µg/mL	+/-	14.6152	µg/mL	Gravimetric
	CAS # 10061-01-5	(Lot RD220311)			+/-	151.6657	µg/mL	Unstressed
	Purity 99%				+/-	152.0258	µg/mL	Stressed
34	Toluene		2,518.4	µg/mL	+/-	14.6420	µg/mL	Gravimetric
	CAS # 108-88-3	(Lot MKCQ2779)			+/-	151.9447	µg/mL	Unstressed
	Purity 99%				+/-	152.3055	µg/mL	Stressed
35	Ethyl methacrylate		2,511.4	µg/mL	+/-	14.6014	µg/mL	Gravimetric
	CAS # 97-63-2	(Lot MKCL0907)			+/-	151.5224	µg/mL	Unstressed
	Purity 99%				+/-	151.8821	µg/mL	Stressed
36	trans-1,3-Dichloropropene		2,504.5	µg/mL	+/-	14.5615	µg/mL	Gravimetric
	CAS # 10061-02-6	(Lot RD211104)			+/-	151.1083	µg/mL	Unstressed
	Purity 98%				+/-	151.4671	µg/mL	Stressed
37	1,1,2-Trichloroethane		2,513.6	µg/mL	+/-	14.6144	µg/mL	Gravimetric
	CAS # 79-00-5	(Lot FGB01)			+/-	151.6581	µg/mL	Unstressed
	Purity 99%				+/-	152.0182	µg/mL	Stressed
38	1,3-Dichloropropane		2,513.6	µg/mL	+/-	14.6144	µg/mL	Gravimetric
	CAS # 142-28-9	(Lot BCBC6265)			+/-	151.6581	µg/mL	Unstressed
	Purity 99%				+/-	152.0182	µg/mL	Stressed
39	Tetrachloroethene		2,507.5	µg/mL	+/-	14.5788	µg/mL	Gravimetric
	CAS # 127-18-4	(Lot SHBJ7422)			+/-	151.2886	µg/mL	Unstressed
	Purity 99%				+/-	151.6478	µg/mL	Stressed

40	dibromochloromethane		2,514.8	µg/mL	+/-	14.6210	µg/mL	Gravimetric
	CAS # 124-48-1	(Lot MKCM8659)			+/-	151.7260	µg/mL	Unstressed
	Purity 99%				+/-	152.0862	µg/mL	Stressed
41	1,2-Dibromoethane (EDB)		2,513.9	µg/mL	+/-	14.6159	µg/mL	Gravimetric
	CAS # 106-93-4	(Lot BCCF5058)			+/-	151.6732	µg/mL	Unstressed
	Purity 99%				+/-	152.0333	µg/mL	Stressed
42	Chlorobenzene		2,507.9	µg/mL	+/-	14.5810	µg/mL	Gravimetric
	CAS # 108-90-7	(Lot SHBL8110)			+/-	151.3112	µg/mL	Unstressed
	Purity 99%				+/-	151.6704	µg/mL	Stressed
43	m-Xylene		1,260.0	µg/mL	+/-	7.3257	µg/mL	Gravimetric
	CAS # 108-38-3	(Lot Q13G020)			+/-	76.0214	µg/mL	Unstressed
	Purity 99%				+/-	76.2019	µg/mL	Stressed
44	p-Xylene		1,258.6	µg/mL	+/-	7.3178	µg/mL	Gravimetric
	CAS # 106-42-3	(Lot 10234437)			+/-	75.9384	µg/mL	Unstressed
	Purity 99%				+/-	76.1187	µg/mL	Stressed
45	Ethylbenzene		2,516.0	µg/mL	+/-	14.6282	µg/mL	Gravimetric
	CAS # 100-41-4	(Lot SHBM4308)			+/-	151.8014	µg/mL	Unstressed
	Purity 99%				+/-	152.1618	µg/mL	Stressed
46	1,1,1,2-Tetrachloroethane		2,519.1	µg/mL	+/-	14.6464	µg/mL	Gravimetric
	CAS # 630-20-6	(Lot TMWGK)			+/-	151.9900	µg/mL	Unstressed
	Purity 99%				+/-	152.3508	µg/mL	Stressed
47	o-Xylene		2,513.5	µg/mL	+/-	14.6134	µg/mL	Gravimetric
	CAS # 95-47-6	(Lot SHBN5105)			+/-	151.6479	µg/mL	Unstressed
	Purity 98%				+/-	152.0079	µg/mL	Stressed
48	Styrene		2,509.1	µg/mL	+/-	14.5883	µg/mL	Gravimetric
	CAS # 100-42-5	(Lot MKCP3941)			+/-	151.3866	µg/mL	Unstressed
	Purity 99%				+/-	151.7460	µg/mL	Stressed
49	Isopropylbenzene (cumene)		2,518.5	µg/mL	+/-	14.6428	µg/mL	Gravimetric
	CAS # 98-82-8	(Lot Z20D022)			+/-	151.9523	µg/mL	Unstressed
	Purity 99%				+/-	152.3130	µg/mL	Stressed
50	bromoform		2,511.0	µg/mL	+/-	14.5992	µg/mL	Gravimetric
	CAS # 75-25-2	(Lot SHBK4455)			+/-	151.5001	µg/mL	Unstressed
	Purity 98%				+/-	151.8597	µg/mL	Stressed
51	bromodichloromethane		2,518.1	µg/mL	+/-	14.6406	µg/mL	Gravimetric
	CAS # 75-27-4	(Lot MKCM7156)			+/-	151.9296	µg/mL	Unstressed
	Purity 99%				+/-	152.2903	µg/mL	Stressed
52	1,1,2,2-Tetrachloroethane		2,515.5	µg/mL	+/-	14.6253	µg/mL	Gravimetric
	CAS # 79-34-5	(Lot CFA4D)			+/-	151.7713	µg/mL	Unstressed
	Purity 99%				+/-	152.1316	µg/mL	Stressed
53	1,2,3-Trichloropropane		2,512.5	µg/mL	+/-	14.6079	µg/mL	Gravimetric
	CAS # 96-18-4	(Lot 332900)			+/-	151.5903	µg/mL	Unstressed
	Purity 99%				+/-	151.9502	µg/mL	Stressed
54	trans-1,4-dichloro-2-butene		2,511.8	µg/mL	+/-	14.6038	µg/mL	Gravimetric
	CAS # 110-57-6	(Lot RD220405A)			+/-	151.5480	µg/mL	Unstressed
	Purity 95%				+/-	151.9078	µg/mL	Stressed
55	n-Propylbenzene		2,515.6	µg/mL	+/-	14.6261	µg/mL	Gravimetric
	CAS # 103-65-1	(Lot MKCN1126)			+/-	151.7788	µg/mL	Unstressed
	Purity 99%				+/-	152.1392	µg/mL	Stressed

56	Bromobenzene		2,516.9	µg/mL	+/-	14.6333	µg/mL	Gravimetric
	CAS # 108-86-1	(Lot MKBD4032V)			+/-	151.8542	µg/mL	Unstressed
	Purity 99%				+/-	152.2147	µg/mL	Stressed
57	1,3,5-Trimethylbenzene		2,512.3	µg/mL	+/-	14.6064	µg/mL	Gravimetric
	CAS # 108-67-8	(Lot BCCD0427)			+/-	151.5752	µg/mL	Unstressed
	Purity 99%				+/-	151.9350	µg/mL	Stressed
58	2-Chlorotoluene		2,510.9	µg/mL	+/-	14.5984	µg/mL	Gravimetric
	CAS # 95-49-8	(Lot MKCF5243)			+/-	151.4922	µg/mL	Unstressed
	Purity 99%				+/-	151.8519	µg/mL	Stressed
59	4-Chlorotoluene		2,513.1	µg/mL	+/-	14.6115	µg/mL	Gravimetric
	CAS # 106-43-4	(Lot MKCC8496)			+/-	151.6280	µg/mL	Unstressed
	Purity 99%				+/-	151.9880	µg/mL	Stressed
60	tert-Butylbenzene		2,514.6	µg/mL	+/-	14.6202	µg/mL	Gravimetric
	CAS # 98-06-6	(Lot STBD6954V)			+/-	151.7185	µg/mL	Unstressed
	Purity 99%				+/-	152.0787	µg/mL	Stressed
61	1,2,4-Trimethylbenzene		2,517.1	µg/mL	+/-	14.6348	µg/mL	Gravimetric
	CAS # 95-63-6	(Lot WXBC9428V)			+/-	151.8696	µg/mL	Unstressed
	Purity 98%				+/-	152.2302	µg/mL	Stressed
62	sec-Butylbenzene		2,519.3	µg/mL	+/-	14.6471	µg/mL	Gravimetric
	CAS # 135-98-8	(Lot MKCN2920)			+/-	151.9975	µg/mL	Unstressed
	Purity 99%				+/-	152.3584	µg/mL	Stressed
63	p-Isopropyltoluene (p-Cymene)		2,512.0	µg/mL	+/-	14.6050	µg/mL	Gravimetric
	CAS # 99-87-6	(Lot MKCP6638)			+/-	151.5601	µg/mL	Unstressed
	Purity 99%				+/-	151.9199	µg/mL	Stressed
64	1,3-Dichlorobenzene		2,515.5	µg/mL	+/-	14.6253	µg/mL	Gravimetric
	CAS # 541-73-1	(Lot BCBZ7498)			+/-	151.7713	µg/mL	Unstressed
	Purity 99%				+/-	152.1316	µg/mL	Stressed
65	1,4-Dichlorobenzene		2,513.4	µg/mL	+/-	14.6130	µg/mL	Gravimetric
	CAS # 106-46-7	(Lot MKBS4401V)			+/-	151.6431	µg/mL	Unstressed
	Purity 99%				+/-	152.0031	µg/mL	Stressed
66	n-Butylbenzene		2,511.0	µg/mL	+/-	14.5992	µg/mL	Gravimetric
	CAS # 104-51-8	(Lot 09418JJ)			+/-	151.4998	µg/mL	Unstressed
	Purity 99%				+/-	151.8594	µg/mL	Stressed
67	1,2-Dichlorobenzene		2,511.4	µg/mL	+/-	14.6014	µg/mL	Gravimetric
	CAS # 95-50-1	(Lot SHBN3835)			+/-	151.5224	µg/mL	Unstressed
	Purity 99%				+/-	151.8821	µg/mL	Stressed
68	1,2-Dibromo-3-chloropropane		2,512.4	µg/mL	+/-	14.6074	µg/mL	Gravimetric
	CAS # 96-12-8	(Lot HBMVB)			+/-	151.5855	µg/mL	Unstressed
	Purity 97%				+/-	151.9454	µg/mL	Stressed
69	1,2,4-Trichlorobenzene		2,510.4	µg/mL	+/-	14.5955	µg/mL	Gravimetric
	CAS # 120-82-1	(Lot SHBM0526)			+/-	151.4620	µg/mL	Unstressed
	Purity 99%				+/-	151.8216	µg/mL	Stressed
70	Hexachlorobutadiene		2,509.3	µg/mL	+/-	14.5890	µg/mL	Gravimetric
	CAS # 87-68-3	(Lot X05J)			+/-	151.3942	µg/mL	Unstressed
	Purity 99%				+/-	151.7536	µg/mL	Stressed
71	Naphthalene		2,520.6	µg/mL	+/-	14.6551	µg/mL	Gravimetric
	CAS # 91-20-3	(Lot MKCH0219)			+/-	152.0805	µg/mL	Unstressed
	Purity 99%				+/-	152.4415	µg/mL	Stressed

72	1,2,3-Trichlorobenzene		2,513.0	µg/mL	+/-	14.6108	µg/mL	Gravimetric
	CAS # 87-61-6	(Lot MKBX7627V)			+/-	151.6204	µg/mL	Unstressed
	Purity 99%				+/-	151.9804	µg/mL	Stressed

Solvent: P&T Methanol
CAS # 67-56-1
Purity 99%

Column:
60m x 0.25mm x 1.4µm
Rtx-502.2 (cat.#10916)

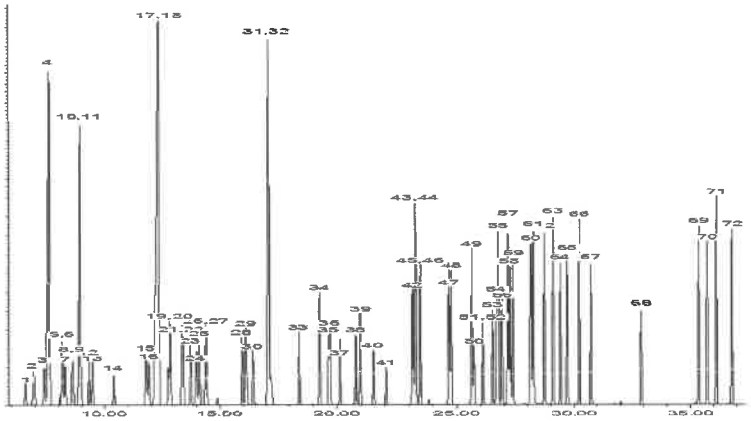
Carrier Gas:
helium-constant pressure 30 psi

Temp. Program:
40°C (hold 6 min.) to 240°C
@ 6°C/min. (hold 10 min.)

Inj. Temp:
200°C

Det. Temp:
250°C

Det. Type:
MSD



This chromatogram represents a general set of testing conditions chosen for product acceptance. For optimal results in your lab, conditions should be adjusted for your specific instrument, method, and application.

Tom Suckar - Mix Technician

Date Mixed: 31-Mar-2022 **Balance:** B707717271

Feng-Yun Lo - QC Analyst

Date Passed: 21-Apr-2022

Manufactured under Restek's ISO 9001:2015 Registered Quality System Certificate #FM 80397

Reagent

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mv-571993.sec_00008

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FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 571993.SEC **Lot No.:** A0189867

Description : 8260 List 3/ Std#1 Polar Additions (2017)

8260 List 3/ Std#1 Polar Additions (2017) 2,500-25,000µg/mL, P&T Methanol, 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : September 30, 2024 **Storage:** 0°C or colder

Ship: Ambient

CERTIFIED VALUES

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)	
1	Acetonitrile **CAS #** 75-05-8.SEC (Lot 3ZDOE) **Purity** 99%	25,064.5 µg/mL	+/- 146.7582 µg/mL +/- 1,240.0085 µg/mL +/- 1,270.8364 µg/mL	Gravimetric Unstressed Stressed
2	Diisopropyl ether (DIPE) **CAS #** 108-20-3.SEC (Lot LL7TN-SH) **Purity** 99%	2,511.0 µg/mL	+/- 14.7360 µg/mL +/- 124.2299 µg/mL +/- 127.3182 µg/mL	Gravimetric Unstressed Stressed
3	Ethyl-tert-butyl ether (ETBE) **CAS #** 637-92-3.SEC (Lot UCI5B) **Purity** 98%	2,499.2 µg/mL	+/- 14.6667 µg/mL +/- 123.6459 µg/mL +/- 126.7197 µg/mL	Gravimetric Unstressed Stressed
4	Propionitrile **CAS #** 107-12-0.SEC (Lot N44LF) **Purity** 99%	25,000.9 µg/mL	+/- 146.3858 µg/mL +/- 1,236.8620 µg/mL +/- 1,267.6117 µg/mL	Gravimetric Unstressed Stressed
5	tert-Amyl alcohol **CAS #** 75-85-4.SEC (Lot REJPI) **Purity** 99%	25,023.6 µg/mL	+/- 146.5187 µg/mL +/- 1,237.9850 µg/mL +/- 1,268.7627 µg/mL	Gravimetric Unstressed Stressed
6	tert-Amyl methyl ether (TAME) **CAS #** 994-05-8.SEC (Lot 12075100) **Purity** 98%	2,504.0 µg/mL	+/- 14.6949 µg/mL +/- 123.8835 µg/mL +/- 126.9632 µg/mL	Gravimetric Unstressed Stressed

12/5/22

Solvent: P&T Methanol
CAS # 67-56-1
Purity 99%

Column:
105m x 0.53mm x 3.0µm
Rtx-502.2 (cat.#10910)

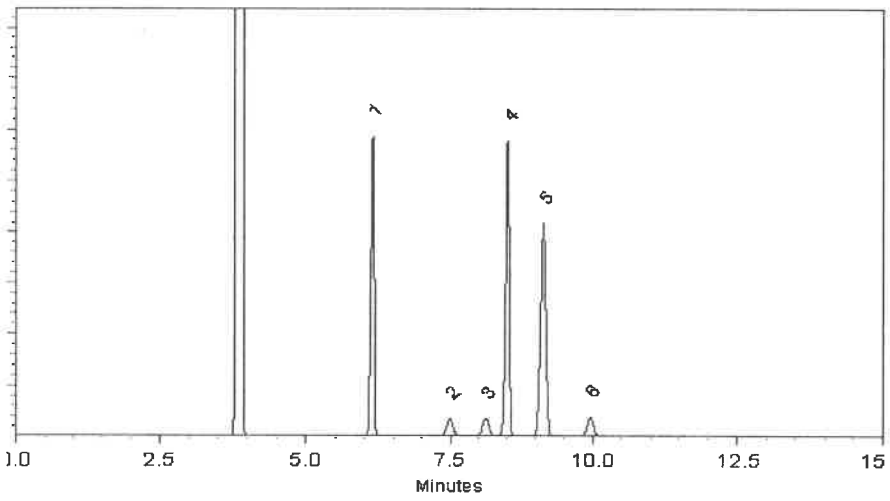
Carrier Gas:
hydrogen-constant pressure 11.0 psi.

Temp. Program:
40°C (hold 2 min.) to 240°C
@ 8°C/min. (hold 5 min.)

Inj. Temp:
200°C

Det. Temp:
250°C

Det. Type:
FID



This chromatogram represents a general set of testing conditions chosen for product acceptance. For optimal results in your lab, conditions should be adjusted for your specific instrument, method, and application.

Daniel Wasson - Operations Tech I **Date Mixed:** 22-Sep-2022 **Balance:** 1128342314

Marlina Cowan – Operations Tech II ARM QC **Date Passed:** 26-Sep-2022

Manufactured under Restek's ISO 9001:2015 Registered Quality System Certificate #FM 80397

Reagent

mv-571994_00009

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Certificate #3222.02

FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 571994 **Lot No.:** A0187957

Description : 8260 Ethanol Standard

8260 Ethanol Standard 100,000µg/mL, P&T Methanol, 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : July 31, 2025 **Storage:** 0°C or colder

Ship: Ambient

CERTIFIED VALUES

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)	
1	Ethanol	100,997.0 µg/mL	+/- 591.3291 µg/mL	Gravimetric
	CAS # 64-17-5 (Lot SHBN4889)		+/- 2,163.4813 µg/mL	Unstressed
	Purity 99%		+/- 2,226.3131 µg/mL	Stressed

Solvent: P&T Methanol
CAS # 67-56-1
Purity 99%

5/10/23

Column:
105m x 0.53mm x 3.0µm
Rtx-502.2 (cat.# 10910)

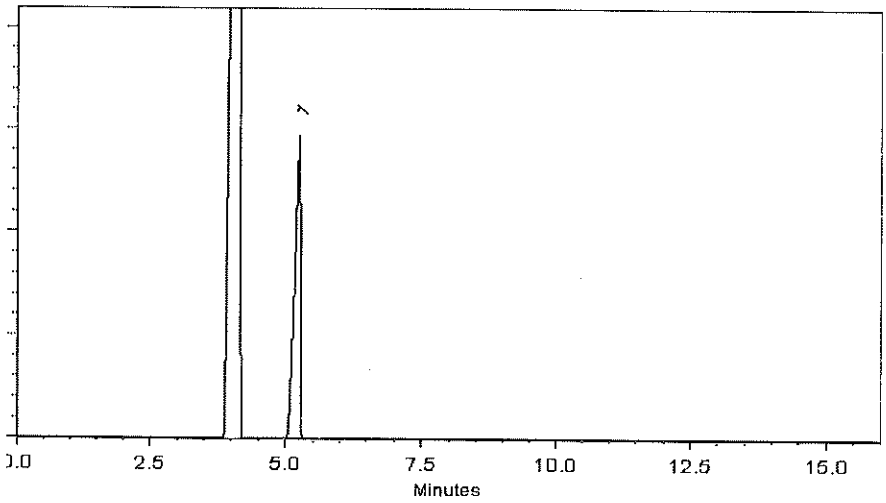
Carrier Gas:
hydrogen-constant pressure 11 psi.

Temp. Program:
40°C (hold 6 min.) to 100°C
@ 6°C/min.

Inj. Temp:
200°C

Det. Temp:
250°C

Det. Type:
FID



This chromatogram represents a general set of testing conditions chosen for product acceptance. For optimal results in your lab, conditions should be adjusted for your specific instrument, method, and application.

Sam Moodler - Operations Tech I

Date Mixed: 29-Jul-2022 **Balance:** B707717271

Fang-Yun Weaver - Operations Lead Tech - ARM QC

Date Passed: 04-Aug-2022

Manufactured under Restek's ISO 9001:2015 Registered Quality System Certificate #FM 80397

Reagent

MV-CUS17739.s_00011

ISO 17034

Agilent
Trusted Answers

Reference Material Certificate

Product Name: Custom Standard
Product Number: CUS-17739
Storage Conditions: Store Frozen (-25° to -10°C).

Lot Number: 0006676357
Lot Issue Date: 15-Apr-2022
Expiration Date: 31-May-2024

Component Name	CERTIFIED VALUES Concentration		Expanded Uncertainty	CAS#	Analyte Lot
1-chlorohexane	1004	±	5 µg/mL	000544-10-5	RM15291
2-pentanone	4019	±	20 µg/mL	000107-87-9	RM13478
sec-butanol	30105	±	151 µg/mL	000078-92-2	RM01299

Matrix: methanol (purge & trap grade)

Description:
This document is prepared in accordance with ISO 17034 and Guide 31. This analytical reference material standard was manufactured and verified in accordance with an ISO 9001 registered quality system and analyte concentrations were verified by an ISO 17025 accredited laboratory. The concentration and uncertainty value at the 95% confidence level for each analyte, determined gravimetrically, is listed above.

Traceability:
The balances used for these measurements are calibrated with weights traceable to NIST in compliance with ANSI/NCSL Z540.3, ISO 9001, ISO 17025, and ISO 17034. Calibrated Class A glassware is used for volumetric measurements. Thermometers are calibrated against a NIST traceable thermometer in accordance with NIST Special Publication 1088.

Homogeneity:
This analytical reference standard was unitized according to an in-house procedure and is guaranteed to be homogeneous. There is no minimum sub-sample size required.

Instructions for Use:
Sample aliquots for analysis should be withdrawn at 20°C to 25°C immediately after opening the container and should be processed without delay for the certified values to be valid within the stated uncertainties.

Safety:
Refer to the Safety Data Sheet on www.agilent.com for information regarding this analytical reference material.

Intended Use:
This analytical reference standard is intended for the preparation of working reference samples for use in routine laboratory analyses, calibration of instruments, validation of analytical methods, assessments of measurement methods, and continuing calibration verification.

Expiration of Certification:

Rcvd 7/4/22

The certification of this analytical reference standard is valid until the expiration date specified above, provided the material is handled and stored in accordance with the instructions given in this certificate. This certification is nullified if the material is damaged, contaminated, or otherwise modified.

Maintenance of Certification:
If substantive changes are noted that affect the certification before the expiration of this certificate, Agilent will notify the purchaser.

Sample lot approver:

Monica Bourgeois
QMS Representative

Reagent

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CERTIFIED REFERENCE MATERIAL

Certificate of Analysis

ISO 17034 Accredited
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Certificate #3222.01

ISO/IEC 17025 Accredited
Testing Laboratory
Certificate #3222.02

FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 570812 **Lot No.:** A0143593

Description : 8260 IS/Surrogate Mix (2016)

8260 IS/Surrogate Mix (2016) 250-5,000µg/mL, P&T Methanol, 5mL/ampul

Container Size : 5 mL **Pkg Amt:** > 5 mL

Expiration Date : November 30, 2023 **Storage:** 0°C or colder

CERTIFIED VALUES

Elution Order	Compound		Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)	
1	tert-Butyl-d9-alcohol		5,000.1 µg/mL	+/- 29.0694 µg/mL	Gravimetric
	CAS # 25725-11-5	(Lot CD-107)		+/- 107.0521 µg/mL	Unstressed
	Purity 98%			+/- 110.1643 µg/mL	Stressed
2	Dibromofluoromethane		250.2 µg/mL	+/- 1.4580 µg/mL	Gravimetric
	CAS # 1868-53-7	(Lot 0012017)		+/- 5.3577 µg/mL	Unstressed
	Purity 99%			+/- 5.5134 µg/mL	Stressed
3	1,2-Dichloroethane-d4		250.3 µg/mL	+/- 1.4584 µg/mL	Gravimetric
	CAS # 17060-07-0	(Lot PR-29377)		+/- 5.3592 µg/mL	Unstressed
	Purity 99%			+/- 5.5149 µg/mL	Stressed
4	1,4-Dioxane-d8		5,000.5 µg/mL	+/- 29.0716 µg/mL	Gravimetric
	CAS # 17647-74-4	(Lot I-19942)		+/- 107.0602 µg/mL	Unstressed
	Purity 99%			+/- 110.1726 µg/mL	Stressed
5	Fluorobenzene		250.1 µg/mL	+/- 1.4573 µg/mL	Gravimetric
	CAS # 462-06-6	(Lot BCBK8171V)		+/- 5.3549 µg/mL	Unstressed
	Purity 99%			+/- 5.5105 µg/mL	Stressed
6	Toluene-d8		250.1 µg/mL	+/- 1.4575 µg/mL	Gravimetric
	CAS # 2037-26-5	(Lot PR-27311)		+/- 5.3556 µg/mL	Unstressed
	Purity 99%			+/- 5.5112 µg/mL	Stressed
7	Chlorobenzene-d5		250.5 µg/mL	+/- 1.4600 µg/mL	Gravimetric
	CAS # 3114-55-4	(Lot PR-23926)		+/- 5.3649 µg/mL	Unstressed
	Purity 99%			+/- 5.5208 µg/mL	Stressed

8	1-Bromo-4-fluorobenzene (BFB)		250.1	µg/mL	+/-	1.4575	µg/mL	Gravimetric
	CAS # 460-00-4	(Lot 20401KO)			+/-	5.3556	µg/mL	Unstressed
	Purity 99%				+/-	5.5112	µg/mL	Stressed
9	1,4-Dichlorobenzene-d4		250.2	µg/mL	+/-	1.4580	µg/mL	Gravimetric
	CAS # 3855-82-1	(Lot PR-18488)			+/-	5.3577	µg/mL	Unstressed
	Purity 99%				+/-	5.5134	µg/mL	Stressed

Solvent: P&T Methanol
CAS # 67-56-1
Purity 99%

Column:
105m x 0.53mm x 3.0µm
Rtx-502.2 (cat.#10910)

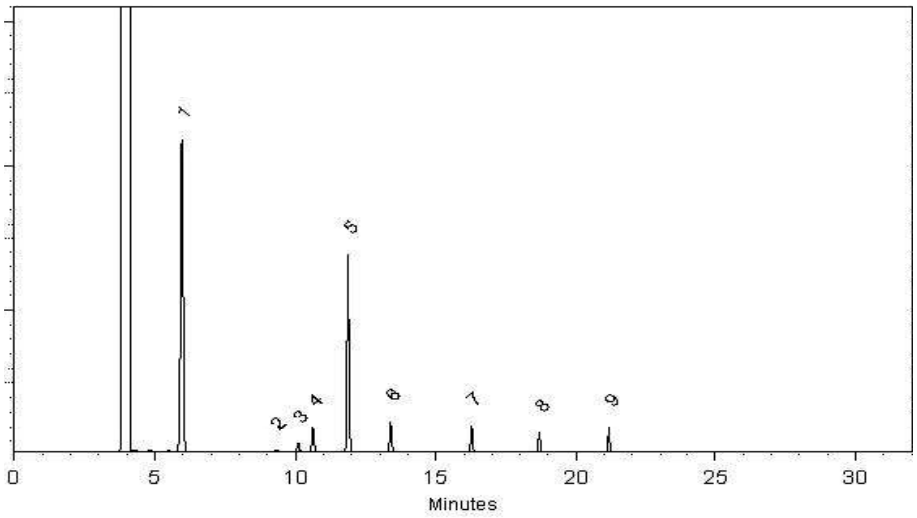
Carrier Gas:
hydrogen-constant pressure 11.0 psi.

Temp. Program:
40°C (hold 2 min.) to 240°C
@ 8°C/min. (hold 5 min.)

Inj. Temp:
200°C

Det. Temp:
250°C

Det. Type:
FID



This chromatogram represents a general set of testing conditions chosen for product acceptance. For optimal results in your lab, conditions should be adjusted for your specific instrument, method, and application.

F. Joseph Tallon - Mix Technician

Date Mixed: 29-Nov-2018 **Balance:** B251644995

Jennifer Pollino - Operations Tech-ARM QC

Date Passed: 18-Dec-2018

Manufactured under Restek's ISO 9001:2015 Registered Quality System Certificate #FM 80397

General Certified Reference Material Notes

Expiration Notes:

- Expiration date valid for unopened ampul stored in compliance with the recommended conditions.
- Uncertainty, concentration, and expiration of the CRM are based on the unopened product being stored according to the recommended condition found in the storage field.

Purity Notes:

- Purity and/or chemical identity are determined by one or more of the following techniques: GC/FID, HPLC, GC/μECD, GC/MS, LC/MS, RI, and/or melting point.
- Compounds with a listed purity of less than 99% have been weight corrected to compensate for impurities and/or salts. A correction factor is used to calculate the amount of compound necessary to achieve the desired concentration of the parent compound in solution.
- Purity of isomeric compounds is reported as the sum of the isomers.
- Purity values are rounded to the nearest whole number.

Certified Uncertainty Value Notes:

- The uncertainties are determined in accordance with ISO 17034 and Guide 35. The certified combined stressed uncertainty value (includes gravimetric uncertainty, homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty and were combined using the following formula:

$$U_{combined\ stressed} = k\sqrt{U^2_{gravimetric} + U^2_{homogeneity} + U^2_{storage\ stability} + U^2_{shipping\ stability}}$$

k is a coverage factor of 2, which gives a level of confidence of approximately 95%.

- It is important to note that the shipping stability uncertainty was obtained under temperature extremes for specific time intervals; therefore, the certified combined stressed uncertainty value should only be applied to the product if it was stored at non-standard temperature conditions up to and including 7 days. Contact Restek Technical Service at www.restek.com/Contact-Us for use recommendations if your shipment was in-transit for more than 7 days at non-standard temperature conditions.
- Apply the certified combined unstressed uncertainty value if the product was received under standard shipping conditions. Apply the certified combined stressed uncertainty value if the product was received under non-standard conditions as specified below.

Label Conditions	Standard Conditions	Non-Standard Conditions
25°C Nominal (Room Temperature)	< 60°C	≥ 60°C up to 7 days
10°C or colder (Refrigerate)	< 40°C	≥ 40°C up to 7 days
0°C or colder (Freezer)	< 25°C	≥ 25°C up to 7 days

- Separate (not combined) uncertainty values for gravimetric uncertainty are also displayed on the certificate, if needed, separate homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty values are available by contacting Restek Technical Service at www.restek.com/Contact-Us.
- The packaged amount is the minimum sample size for which uncertainty is valid. The ampules are over-filled to ensure that the minimum packaged amount can be sufficiently transferred.

Manufacturing Notes:

- Concentration is based upon gravimetric preparation using either a balance whose calibration has been verified daily using NIST traceable weights, and/or dilutions with Class A glassware.

Handling Notes:

- Stability of the unopened product, when stored in compliance with the recommended conditions, is guaranteed through the expiration displayed on the product label and certificate. Contact Restek for additional opened product stability information, with the knowledge/understanding that open product stability is subject to the specific handling and environmental conditions to which the product is exposed. For your convenience Restek supplies deactivated vials with most standards packed in 2mL ampules. Larger volume deactivated vials are available through Restek as a custom ordered item. Additionally, Restek sells DMDCS for the purpose of glassware deactivation as catalog number 31861, which includes complete instructions.
- If any undissolved material is visible inside the ampul, sonicate the unopened ampul until the material is completely dissolved.

Reagent

NOXT Cal STD_00028

RICCA CHEMICAL COMPANY®

448 West Fork Dr
Arlington, TX 76012
http://www.riccachemical.com
1-888-GO-RICCA
customerservice@riccachemical.com

Certificate of Analysis

Nitrate Nitrogen Standard, 1000 ppm N (4427 ppm NO_3^-)

Lot Number: 1304R00 **Product Number:** 5459

Manufacture Date: APR 27, 2023
Expiration Date: OCT 2024

The certified value reported is the prepared value based upon the method of preparation of the material. The uncertainty in the prepared value is based upon the volumetric method of preparation.

Name	CAS#	Grade
Water	7732-18-5	ACS/ASTM/USP/EP
Potassium Nitrate	7757-79-1	High Purity
Chloroform	67-66-3	

Test	Specification	Result
Appearance	Colorless liquid	Passed
Nitrogen (N)	995-1005 ppm	1000 ppm

Specification	Reference
Nitrate Solution, Stock (1.0 mL = 1.0 mg NO3-N)	ASTM (D 3867 A)
Nitrate Solution, Stock (1.0 mL = 1.0 mg NO3-N)	ASTM (D 3867 B)
Stock Nitrate Solution: 1 mL = 1.0 mg NO3-N	EPA (353.2)
Stock Nitrate Solution: 1.0 mL = 1.00 mg NO3-N	EPA (353.3)

Volumetric glassware complies with Class A tolerance requirements of ASTM E 288 and NIST Circular 434; it is calibrated before first use and recalibrated regularly in accordance with ASTM E 542 and NIST Procedure NBSIR 74-461. Balances are calibrated regularly with weights certified traceable to the NIST national mass standard. Thermometers and temperature probes are calibrated before first use and recalibrated regularly with a thermometer traceable to NIST standards. All products are prepared according to master documents that assure manufacture according to validated methods. Batch records document raw material traceability and production and testing history for each lot manufactured.

Part Number	Size / Package Type	Shelf Life (Unopened Container)
5459-16	500 mL natural poly	18 months
5459-4	120 mL natural poly	18 months

Recommended Storage: 15°C - 30°C (59°F - 86°F)

Heidi J Green (04/27/2023)
Operations Manager
This document is designed to comply with ISO Guide 31 "Reference Materials -- Contents of Certificates and Labels."

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Reagent

NOXT ICV STD_00032

RICCA CHEMICAL COMPANY®

1841 Broad Street
Pocomoke City, MD 21851
http://www.riccachemical.com
1-888-GO-RICCA
customerservice@riccachemical.com

Certificate of Analysis

Nitrate Nitrogen Standard, 1000 ppm N (4427 ppm NO_3^-)

Lot Number: 2302K34 **Product Number:** 5459

Manufacture Date: FEB 23, 2023
Expiration Date: AUG 2024

The certified value reported is the prepared value based upon the method of preparation of the material. The uncertainty in the prepared value is based upon the volumetric method of preparation.

Name	CAS#	Grade
Water	7732-18-5	ACS/ASTM/USP/EP
Chloroform	67-66-3	
Potassium Nitrate	7757-79-1	High Purity

Test	Specification	Result
Appearance	Colorless liquid	Passed
Nitrogen (N)	995-1005 ppm	1000 ppm

Specification	Reference
Nitrate Solution, Stock (1.0 mL = 1.0 mg NO3-N)	ASTM (D 3867 A)
Nitrate Solution, Stock (1.0 mL = 1.0 mg NO3-N)	ASTM (D 3867 B)
Stock Nitrate Solution: 1 mL = 1.0 mg NO3-N	EPA (353.2)
Stock Nitrate Solution: 1.0 mL = 1.00 mg NO3-N	EPA (353.3)

Volumetric glassware complies with Class A tolerance requirements of ASTM E 288 and NIST Circular 434; it is calibrated before first use and recalibrated regularly in accordance with ASTM E 542 and NIST Procedure NBSIR 74-461. Balances are calibrated regularly with weights certified traceable to the NIST national mass standard. Thermometers and temperature probes are calibrated before first use and recalibrated regularly with a thermometer traceable to NIST standards. All products are prepared according to master documents that assure manufacture according to validated methods. Batch records document raw material traceability and production and testing history for each lot manufactured.

Part Number	Size / Package Type	Shelf Life (Unopened Container)
5459-16	500 mL natural poly	18 months
5459-4	120 mL natural poly	18 months

Recommended Storage: 15°C - 30°C (59°F - 86°F)

Myrlande Gilles (02/23/2023)
Quality Control
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Reagent

Z-020209-01_00004

CPI INTERNATIONAL

5580 Skylane Blvd
Santa Rosa, CA 95403

(707)525-5788
(800)878-7654 Toll Free
(707)545-7901 Fax

Manufacturer's Quality System
Audited & Registered
by TUV USA to ISO 9001:2015

Date Received: 8/23

Certificate of Analysis

Rev 0

Catalog No.:	Lot No.:	Storage:	Solvent:	Exp. Date:	Description:
Z-020209-01	507909	-18°C +/- 4°C	P/T Methanol	8/15/2025	cis-1,4-Dichloro-2-butene Solution, 1000 mg/L, 1 ml

Compound	CAS No.	Purity (%)	Compound Lot No.	Concentration, mg/L
cis-1,4-dichloro-2-butene	1476-11-5	98	209.1.5P	992.4 ± 15.84

10/23/23

*Not a certified value

Certified By: Briana Smith

Briana Smith
Chemist

All weights are traceable through N. I. S. T. Test No. 822/264157-00.
Concentration (correct for purity) and uncertainty (95% confidence) values listed are determined gravimetrically.

Method 8260D DOD

Volatile Organic Compounds by GC/MS by Method 8260D DOD

FORM II
GC/MS VOA SURROGATE RECOVERY

Lab Name: Eurofins Denver Job No.: 280-185797-1

SDG No.:

Matrix: Water Level: Low

GC Column (1): RXI-624SilM ID: 0.25(mm)

Client Sample ID	Lab Sample ID	DBFM	#	DCA	#	TOL	#	BFB	#
TB01	280-185797-1	107		107		97		91	
TV044-MW24D1223A	280-185797-2	107		104		98		91	
TV044-MW24I1223A	280-185797-3	107		107		100		91	
TV044-MW21M1223A	280-185797-4	106		101		99		90	
TV044-MW21D1223A	280-185797-5	112		108		110		109	Q
TV044-MW21D1223C	280-185797-6	110		110		111		114	
TV044-MW23S1223A	280-185797-7	123	Q	121	Q	130	Q	122	Q
TV044-MW31223A	280-185797-8	109		107		103		109	
TV044-MW25D1223A	280-185797-9	107		108		99		90	
TV044-MW21223A	280-185797-10	107		106		100		91	
TV044-MW25I1223A	280-185797-11	109		110		100		92	
	MB 280-637616/9	106		104		97		91	
	LCS 280-637616/4	102		101		100		90	
	LCS 280-637616/6	104		104		98		92	
	LCSD 280-637616/5	104		103		98		93	
	LCSD 280-637616/7	104		104		97		92	

	QC LIMITS
DBFM = Dibromofluoromethane (Surr)	80-119
DCA = 1,2-Dichloroethane-d4 (Surr)	81-118
TOL = Toluene-d8 (Surr)	89-112
BFB = 4-Bromofluorobenzene (Surr)	85-114

Column to be used to flag recovery values

FORM II 8260D

FORM III
GC/MS VOA LAB CONTROL SAMPLE RECOVERY

Lab Name: Eurofins Denver Job No.: 280-185797-1

SDG No.:

Matrix: Water Level: Low Lab File ID: X511933A.D

Lab ID: LCS 280-637616/4 Client ID:

COMPOUND	SPIKE ADDED (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC	QC LIMITS REC	#
1,1,1-Trichloroethane	50.0	53.6	107	74-131	
1,1,2,2-Tetrachloroethane	50.0	45.8	92	71-121	
1,1,2-Trichloroethane	50.0	50.9	102	80-119	
1,1-Dichloroethane	50.0	47.8	96	77-125	
1,1-Dichloroethylene	50.0	49.2	98	71-131	
1,1-Dichloropropene	50.0	51.7	103	79-125	
1,2,3-Trichlorobenzene	50.0	48.5	97	69-129	
1,2,3-Trichloropropane	50.0	49.0	98	73-122	
1,2,4-Trichlorobenzene	50.0	50.8	102	69-130	
1,2,4-Trimethylbenzene	50.0	51.1	102	76-124	
1,2-Dibromo-3-Chloropropane	50.0	51.5	103	62-128	
1,2-Dibromoethane	50.0	48.4	97	77-121	
1,2-Dichlorobenzene	50.0	47.7	95	80-119	
1,2-Dichloroethane	50.0	46.7	93	73-128	
1,2-Dichloropropane	50.0	48.5	97	78-122	
1,3,5-Trimethylbenzene	50.0	50.3	101	75-124	
1,3-Dichlorobenzene	50.0	50.7	101	80-119	
1,3-Dichloropropane	50.0	47.6	95	80-119	
1,4-Dichlorobenzene	50.0	47.6	95	79-118	
2,2-Dichloropropane	50.0	53.0	106	60-139	
2-Butanone (MEK)	200	183	92	56-143	
2-Chloroethyl vinyl ether	50.0	48.8	98	51-139	
2-Hexanone	200	186	93	57-139	
4-Isopropyltoluene	50.0	51.1	102	77-127	
4-Methyl-2-pentanone (MIBK)	200	201	101	67-130	
Acetone	200	173	87	39-160	
Acrylonitrile	500	458	92	63-135	
Benzene	50.0	49.7	99	79-120	
Bromobenzene	50.0	49.2	98	80-120	
Bromochloromethane	50.0	54.8	110	78-123	
Bromodichloromethane	50.0	53.2	106	79-125	
Bromoform	50.0	54.9	110	66-130	
Carbon disulfide	50.0	45.4	91	64-133	
Carbon tetrachloride	50.0	57.0	114	72-136	
Chlorobenzene	50.0	49.2	98	82-118	
Chloroethane	50.0	42.8	86	60-138	
Chloroform	50.0	49.0	98	79-124	
Chloromethane	50.0	38.5	77	50-139	
cis-1,2-Dichloroethylene	50.0	48.7	97	78-123	
cis-1,3-Dichloropropene	50.0	48.5	97	75-124	
Cyclohexane	50.0	50.2	100	71-130	
Cyclohexanone	1500	1900	127	50-150	

Column to be used to flag recovery and RPD values

FORM III 8260D

FORM III
GC/MS VOA LAB CONTROL SAMPLE RECOVERY

Lab Name: Eurofins Denver Job No.: 280-185797-1

SDG No.:

Matrix: Water Level: Low Lab File ID: X511933A.D

Lab ID: LCS 280-637616/4 Client ID:

COMPOUND	SPIKE ADDED (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC	QC LIMITS REC	#
Dibromochloromethane	50.0	53.1	106	74-126	
Dibromomethane	50.0	47.7	95	79-123	
Dichlorodifluoromethane	50.0	35.4	71	32-152	
Ethylbenzene	50.0	51.7	103	79-121	
Hexachlorobutadiene	50.0	59.6	119	66-134	
Isopropylbenzene	50.0	49.6	99	72-131	
Methyl tert-butyl ether	50.0	50.8	102	71-124	
Methylcyclohexane	50.0	53.3	107	72-132	
Methylene Chloride	50.0	46.4	93	74-124	
Naphthalene	50.0	44.9	90	61-128	
n-Butylbenzene	50.0	50.9	102	75-128	
n-Hexane	50.0	45.4	91	48-143	
N-Propylbenzene	50.0	51.2	102	76-126	
o-Chlorotoluene	50.0	48.4	97	79-122	
p-Chlorotoluene	50.0	48.7	97	78-122	
sec-Butylbenzene	50.0	51.2	102	77-126	
Styrene	50.0	51.0	102	78-123	
tert-Butylbenzene	50.0	50.8	102	78-124	
Tetrachloroethene	50.0	52.1	104	74-129	
Toluene	50.0	50.4	101	80-121	
trans-1,2-Dichloroethylene	50.0	50.2	100	75-124	
trans-1,3-Dichloropropene	50.0	52.7	105	73-127	
Trichloroethene	50.0	48.7	97	79-123	
Trichlorofluoromethane	50.0	46.1	92	65-141	
Vinyl acetate	100	107	107	54-146	
Vinyl chloride	50.0	42.8	86	58-137	
Xylenes, Total	100	99.6	100	79-121	

Column to be used to flag recovery and RPD values

FORM III 8260D

FORM III
GC/MS VOA LAB CONTROL SAMPLE RECOVERY

Lab Name: Eurofins Denver Job No.: 280-185797-1

SDG No.:

Matrix: Water Level: Low Lab File ID: X511934A.D

Lab ID: LCS 280-637616/6 Client ID:

COMPOUND	SPIKE ADDED (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC	QC LIMITS REC	#
1,2,3-Trimethylbenzene	25.0	23.5	94	82-120	
Isopropyl ether	25.0	24.0	96	67-128	

Column to be used to flag recovery and RPD values

FORM III 8260D

FORM III
GC/MS VOA LAB CONTROL SAMPLE DUPLICATE RECOVERY

Lab Name: Eurofins Denver Job No.: 280-185797-1

SDG No.:

Matrix: Water Level: Low Lab File ID: X511935.D

Lab ID: LCSD 280-637616/5 Client ID:

COMPOUND	SPIKE ADDED (ug/L)	LCSD CONCENTRATION (ug/L)	LCSD % REC	% RPD	QC LIMITS RPD	QC LIMITS REC	#
1,1,1-Trichloroethane	50.0	53.6	107	0	20	74-131	
1,1,2,2-Tetrachloroethane	50.0	48.1	96	5	20	71-121	
1,1,2-Trichloroethane	50.0	53.0	106	4	20	80-119	
1,1-Dichloroethane	50.0	48.9	98	2	20	77-125	
1,1-Dichloroethylene	50.0	48.4	97	2	20	71-131	
1,1-Dichloropropene	50.0	50.3	101	3	20	79-125	
1,2,3-Trichlorobenzene	50.0	51.9	104	7	20	69-129	
1,2,3-Trichloropropane	50.0	51.2	102	4	20	73-122	
1,2,4-Trichlorobenzene	50.0	52.1	104	2	20	69-130	
1,2,4-Trimethylbenzene	50.0	52.5	105	3	20	76-124	
1,2-Dibromo-3-Chloropropane	50.0	54.5	109	5	20	62-128	
1,2-Dibromoethane	50.0	49.3	99	2	20	77-121	
1,2-Dichlorobenzene	50.0	49.9	100	4	20	80-119	
1,2-Dichloroethane	50.0	47.5	95	2	20	73-128	
1,2-Dichloropropane	50.0	49.6	99	2	20	78-122	
1,3,5-Trimethylbenzene	50.0	51.7	103	3	20	75-124	
1,3-Dichlorobenzene	50.0	52.8	106	4	20	80-119	
1,3-Dichloropropane	50.0	49.0	98	3	20	80-119	
1,4-Dichlorobenzene	50.0	49.1	98	3	20	79-118	
2,2-Dichloropropane	50.0	53.0	106	0	20	60-139	
2-Butanone (MEK)	200	193	97	5	20	56-143	
2-Chloroethyl vinyl ether	50.0	49.8	100	2	20	51-139	
2-Hexanone	200	198	99	6	20	57-139	
4-Isopropyltoluene	50.0	52.4	105	3	20	77-127	
4-Methyl-2-pentanone (MIBK)	200	212	106	5	20	67-130	
Acetone	200	187	93	7	20	39-160	
Acrylonitrile	500	482	96	5	20	63-135	
Benzene	50.0	50.8	102	2	20	79-120	
Bromobenzene	50.0	51.4	103	4	20	80-120	
Bromochloromethane	50.0	57.3	115	4	20	78-123	
Bromodichloromethane	50.0	54.9	110	3	20	79-125	
Bromoform	50.0	56.9	114	3	20	66-130	
Carbon disulfide	50.0	45.2	90	0	20	64-133	
Carbon tetrachloride	50.0	56.1	112	2	20	72-136	
Chlorobenzene	50.0	51.2	102	4	20	82-118	
Chloroethane	50.0	47.6	95	11	20	60-138	
Chloroform	50.0	50.1	100	2	20	79-124	
Chloromethane	50.0	44.4	89	14	20	50-139	
cis-1,2-Dichloroethylene	50.0	53.1	106	9	20	78-123	
cis-1,3-Dichloropropene	50.0	49.7	99	2	20	75-124	
Cyclohexane	50.0	48.0	96	4	20	71-130	
Cyclohexanone	1500	1960	131	3	20	50-150	

Column to be used to flag recovery and RPD values

FORM III 8260D

FORM III
GC/MS VOA LAB CONTROL SAMPLE DUPLICATE RECOVERY

Lab Name: Eurofins Denver Job No.: 280-185797-1

SDG No.:

Matrix: Water Level: Low Lab File ID: X511935.D

Lab ID: LCSD 280-637616/5 Client ID:

COMPOUND	SPIKE ADDED (ug/L)	LCSD CONCENTRATION (ug/L)	LCSD % REC	% RPD	QC LIMITS RPD	QC LIMITS REC	#
Dibromochloromethane	50.0	54.7	109	3	20	74-126	
Dibromomethane	50.0	51.4	103	8	20	79-123	
Dichlorodifluoromethane	50.0	38.3	77	8	20	32-152	
Ethylbenzene	50.0	51.4	103	1	20	79-121	
Hexachlorobutadiene	50.0	58.3	117	2	20	66-134	
Isopropylbenzene	50.0	50.8	102	2	20	72-131	
Methyl tert-butyl ether	50.0	53.4	107	5	20	71-124	
Methylcyclohexane	50.0	50.7	101	5	20	72-132	
Methylene Chloride	50.0	48.4	97	4	20	74-124	
Naphthalene	50.0	49.4	99	10	20	61-128	
n-Butylbenzene	50.0	50.9	102	0	20	75-128	
n-Hexane	50.0	41.6	83	9	20	48-143	
N-Propylbenzene	50.0	54.4	109	6	20	76-126	
o-Chlorotoluene	50.0	51.7	103	7	20	79-122	
p-Chlorotoluene	50.0	50.3	101	3	20	78-122	
sec-Butylbenzene	50.0	52.2	104	2	20	77-126	
Styrene	50.0	52.8	106	4	20	78-123	
tert-Butylbenzene	50.0	52.1	104	3	20	78-124	
Tetrachloroethene	50.0	52.7	105	1	20	74-129	
Toluene	50.0	51.9	104	3	20	80-121	
trans-1,2-Dichloroethylene	50.0	50.8	102	1	20	75-124	
trans-1,3-Dichloropropene	50.0	54.7	109	4	20	73-127	
Trichloroethene	50.0	48.9	98	0	20	79-123	
Trichlorofluoromethane	50.0	49.0	98	6	20	65-141	
Vinyl acetate	100	112	112	5	20	54-146	
Vinyl chloride	50.0	47.4	95	10	20	58-137	
Xylenes, Total	100	102	102	3	20	79-121	

Column to be used to flag recovery and RPD values

FORM III 8260D

FORM III
GC/MS VOA LAB CONTROL SAMPLE DUPLICATE RECOVERY

Lab Name: Eurofins Denver Job No.: 280-185797-1

SDG No.:

Matrix: Water Level: Low Lab File ID: X511936.D

Lab ID: LCSD 280-637616/7 Client ID:

COMPOUND	SPIKE ADDED (ug/L)	LCSD CONCENTRATION (ug/L)	LCSD % REC	% RPD	QC LIMITS RPD	QC LIMITS REC	#
1,2,3-Trimethylbenzene	25.0	24.6	98	5	20	82-120	
Isopropyl ether	25.0	24.8	99	3	20	67-128	

Column to be used to flag recovery and RPD values

FORM III 8260D

FORM IV
GC/MS VOA METHOD BLANK SUMMARY

Lab Name: Eurofins Denver Job No.: 280-185797-1

SDG No.:

Lab File ID: X511938.D Lab Sample ID: MB 280-637616/9

Matrix: Water Heated Purge:(Y/N) N

Instrument ID: VMS_X4 Date Analyzed: 12/18/2023 10:20

GC Column: RXI-624SilMS ID: 0.25(mm)

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES:

CLIENT SAMPLE ID	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED
	LCS 280-637616/4	X511933A.D	12/18/2023 08:33
	LCS 280-637616/6	X511934A.D	12/18/2023 08:54
	LCSD 280-637616/5	X511935.D	12/18/2023 09:16
	LCSD 280-637616/7	X511936.D	12/18/2023 09:37
TB01	280-185797-1	X511939.D	12/18/2023 11:03
TV044-MW24D1223A	280-185797-2	X511940.D	12/18/2023 11:25
TV044-MW24I1223A	280-185797-3	X511941.D	12/18/2023 11:47
TV044-MW21D1223A	280-185797-5	X511942.D	12/18/2023 12:08
TV044-MW21D1223C	280-185797-6	X511943.D	12/18/2023 12:30
TV044-MW31223A	280-185797-8	X511944.D	12/18/2023 12:52
TV044-MW25D1223A	280-185797-9	X511945.D	12/18/2023 13:13
TV044-MW25I1223A	280-185797-11	X511946.D	12/18/2023 13:35
TV044-MW21223A	280-185797-10	X511949.D	12/18/2023 14:40
TV044-MW21M1223A	280-185797-4	X511950.D	12/18/2023 15:02
TV044-MW23S1223A	280-185797-7	X511951.D	12/18/2023 15:23

FORM V
GC/MS VOA INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab Name: Eurofins Denver Job No.: 280-185797-1

SDG No.:

Lab File ID: X511646.D BFB Injection Date: 12/08/2023

Instrument ID: VMS_X4 BFB Injection Time: 21:16

Analysis Batch No.: 636738

M/E	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE	
50	15.0 - 40.0 % of mass 95	22.3	
75	30.0 - 60.0 % of mass 95	54.8	
95	Base Peak, 100% relative abundance	100.0	
96	5.0 - 9.0 % of mass 95	6.6	
173	Less than 2.0 % of mass 174	0.0	(0.0) 1
174	Greater than 50% of mass 95	76.4	
175	5.0 - 9.0 % of mass 174	6.6	(8.6) 1
176	95.0 - 101.0 % of mass 174	74.0	(96.8) 1
177	5.0 - 9.0 % of mass 176	5.0	(6.7) 2

1-Value is % mass 174 2-Value is % mass 176

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS AND STANDARDS:

CLIENT SAMPLE ID	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
	IC 280-636738/2	X511647.D	12/08/2023	21:49
	IC 280-636738/3	X511648.D	12/08/2023	22:09
	IC 280-636738/4	X511649.D	12/08/2023	22:30
	IC 280-636738/5	X511650.D	12/08/2023	22:50
	IC 280-636738/6	X511651.D	12/08/2023	23:11
	ICIS 280-636738/7	X511652.D	12/08/2023	23:31
	IC 280-636738/8	X511653.D	12/08/2023	23:52
	IC 280-636738/9	X511654.D	12/09/2023	0:13
	IC 280-636738/10	X511655.D	12/09/2023	0:33
	ICV 280-636738/11	X511657.D	12/09/2023	1:14

FORM V
GC/MS VOA INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab Name: Eurofins Denver Job No.: 280-185797-1

SDG No.:

Lab File ID: X511694.D BFB Injection Date: 12/11/2023

Instrument ID: VMS_X4 BFB Injection Time: 18:06

Analysis Batch No.: 636906

M/E	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE	
50	15.0 - 40.0 % of mass 95	21.7	
75	30.0 - 60.0 % of mass 95	53.9	
95	Base Peak, 100% relative abundance	100.0	
96	5.0 - 9.0 % of mass 95	6.4	
173	Less than 2.0 % of mass 174	0.0	(0.0) 1
174	Greater than 50% of mass 95	72.0	
175	5.0 - 9.0 % of mass 174	6.1	(8.4) 1
176	95.0 - 101.0 % of mass 174	70.1	(97.4) 1
177	5.0 - 9.0 % of mass 176	4.9	(7.0) 2

1-Value is % mass 174 2-Value is % mass 176

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS AND STANDARDS:

CLIENT SAMPLE ID	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
	IC 280-636906/2	X511695.D	12/11/2023	18:26
	IC 280-636906/3	X511696.D	12/11/2023	18:47
	IC 280-636906/4	X511697.D	12/11/2023	19:07
	IC 280-636906/5	X511698.D	12/11/2023	19:28
	IC 280-636906/6	X511699.D	12/11/2023	19:48
	IC 280-636906/7	X511700.D	12/11/2023	20:09
	IC 280-636906/8	X511701.D	12/11/2023	20:30
	IC 280-636906/9	X511702.D	12/11/2023	20:50
	ICV 280-636906/10	X511705.D	12/11/2023	21:52

FORM V
GC/MS VOA INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab Name: Eurofins Denver Job No.: 280-185797-1

SDG No.:

Lab File ID: X511932.D BFB Injection Date: 12/18/2023

Instrument ID: VMS_X4 BFB Injection Time: 08:01

Analysis Batch No.: 637616

M/E	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE	
50	15.0 - 40.0 % of mass 95	21.8	
75	30.0 - 60.0 % of mass 95	54.8	
95	Base Peak, 100% relative abundance	100.0	
96	5.0 - 9.0 % of mass 95	7.6	
173	Less than 2.0 % of mass 174	0.0	(0.0) 1
174	Greater than 50% of mass 95	88.6	
175	5.0 - 9.0 % of mass 174	7.1	(8.1) 1
176	95.0 - 101.0 % of mass 174	86.0	(97.1) 1
177	5.0 - 9.0 % of mass 176	7.3	(8.5) 2

1-Value is % mass 174 2-Value is % mass 176

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS AND STANDARDS:

CLIENT SAMPLE ID	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
	CCV 280-637616/2	X511933.D	12/18/2023	8:33
	LCS 280-637616/4	X511933A.D	12/18/2023	8:33
	CCV 280-637616/3	X511934.D	12/18/2023	8:54
	LCS 280-637616/6	X511934A.D	12/18/2023	8:54
	LCSD 280-637616/5	X511935.D	12/18/2023	9:16
	LCSD 280-637616/7	X511936.D	12/18/2023	9:37
	MB 280-637616/9	X511938.D	12/18/2023	10:20
TB01	280-185797-1	X511939.D	12/18/2023	11:03
TV044-MW24D1223A	280-185797-2	X511940.D	12/18/2023	11:25
TV044-MW24I1223A	280-185797-3	X511941.D	12/18/2023	11:47
TV044-MW21D1223A	280-185797-5	X511942.D	12/18/2023	12:08
TV044-MW21D1223C	280-185797-6	X511943.D	12/18/2023	12:30
TV044-MW31223A	280-185797-8	X511944.D	12/18/2023	12:52
TV044-MW25D1223A	280-185797-9	X511945.D	12/18/2023	13:13
TV044-MW25I1223A	280-185797-11	X511946.D	12/18/2023	13:35
TV044-MW21223A	280-185797-10	X511949.D	12/18/2023	14:40
TV044-MW21M1223A	280-185797-4	X511950.D	12/18/2023	15:02
TV044-MW23S1223A	280-185797-7	X511951.D	12/18/2023	15:23
	CCVC 280-637616/26	X511952.D	12/18/2023	15:45
	CCVC 280-637616/27	X511953.D	12/18/2023	16:07

FORM VIII
GC/MS VOA INTERNAL STANDARD AREA AND RETENTION TIME SUMMARY

Lab Name: Eurofins Denver Job No.: 280-185797-1

SDG No.:

Sample No.: ICIS 280-636738/7 Date Analyzed: 12/08/2023 23:31

Instrument ID: VMS_X4 GC Column: RXI-624SilMS ID: 0.25(mm)

Lab File ID (Standard): X511652.D Heated Purge: (Y/N) N

Calibration ID: 88018

		FB		CBNZd5		DCBd4	
		AREA #	RT #	AREA #	RT #	AREA #	RT #
INITIAL CALIBRATION MID-POINT		1927914	5.20	487237	7.72	803680	9.95
UPPER LIMIT		3855828	5.70	974474	8.22	1607360	10.45
LOWER LIMIT		963957	4.70	243619	7.22	401840	9.45
LAB SAMPLE ID	CLIENT SAMPLE ID						
ICV 280-636738/11		1909975	5.20	483338	7.72	787898	9.95
CCV 280-637616/2		1743216	5.20	467459	7.72	806436	9.95
LCS 280-637616/4		1743216	5.20	467459	7.72	806436	9.95
CCV 280-637616/3		1682118	5.20	446322	7.72	778986	9.95
LCS 280-637616/6		1682118	5.20	446322	7.72	778986	9.95
LCSD 280-637616/5		1747431	5.20	473643	7.72	797460	9.95
LCSD 280-637616/7		1698900	5.20	469838	7.73	793429	9.95
MB 280-637616/9		1700684	5.20	472468	7.73	809442	9.95
280-185797-1	TB01	1721694	5.20	467719	7.72	814218	9.95
280-185797-2	TV044-MW24D1223A	1697056	5.20	463217	7.72	802357	9.95
280-185797-3	TV044-MW24I1223A	1702313	5.20	457503	7.72	792033	9.95
280-185797-5	TV044-MW21D1223A	1643185	5.20	366607	7.72	399157Q	9.95
280-185797-6	TV044-MW21D1223C	1636826	5.20	373688	7.72	406693	9.95
280-185797-8	TV044-MW31223A	1684126	5.20	419823	7.73	485194	9.95
280-185797-9	TV044-MW25D1223A	1710329	5.20	458033	7.72	796435	9.95
280-185797-11	TV044-MW25I1223A	1702035	5.20	458899	7.73	800673	9.95
280-185797-10	TV044-MW21223A	1645716	5.20	450484	7.73	783973	9.95
280-185797-4	TV044-MW21M1223A	1672467	5.20	449211	7.73	776331	9.95
280-185797-7	TV044-MW23S1223A	1467664	5.20	245983	7.73	188442Q	9.95
CCVC 280-637616/26		1827665	5.20	482172	7.73	817373	9.95
CCVC 280-637616/27		1660505	5.20	452349	7.72	801172	9.95

FB = Fluorobenzene
CBNZd5 = Chlorobenzene-d5
DCBd4 = 1,4-Dichlorobenzene-d4

Area Limit = 50%-200% of internal standard area
RT Limit = ± 0.5 minutes of internal standard RT

Column used to flag values outside QC limits

Q=One or more quality control criteria failed.

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Denver | Job No.: 280-185797-1

SDG No.:

Client Sample ID: TB01 | Lab Sample ID: 280-185797-1

Matrix: Water | Lab File ID: X511939.D

Analysis Method: 8260D | Date Collected: 12/13/2023 09:50

Sample wt/vol: 5(mL) | Date Analyzed: 12/18/2023 11:03

Soil Aliquot Vol: | Dilution Factor: 1

Soil Extract Vol.: | GC Column: RXI-624SilMS ID: 0.25(mm)

Purge Volume: 5.0(mL) | Heated Purge: (Y/N) N pH: 5.0

% Moisture: % Solids: | Level: (low/med) Low

Analysis Batch No.: 637616 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
71-55-6	1,1,1-Trichloroethane	0.50	U	1.0	0.50	0.39
79-34-5	1,1,2,2-Tetrachloroethane	0.80	U	1.0	0.80	0.21
79-00-5	1,1,2-Trichloroethane	0.80	U	1.0	0.80	0.27
75-34-3	1,1-Dichloroethane	0.80	U	1.0	0.80	0.22
75-35-4	1,1-Dichloroethylene	0.80	U	1.0	0.80	0.23
563-58-6	1,1-Dichloropropene	0.80	U	1.0	0.80	0.42
87-61-6	1,2,3-Trichlorobenzene	0.80	U	2.0	0.80	0.70
96-18-4	1,2,3-Trichloropropane	1.8	U	2.5	1.8	0.86
526-73-8	1,2,3-Trimethylbenzene	0.80	U	2.0	0.80	0.27
120-82-1	1,2,4-Trichlorobenzene	0.80	U	1.0	0.80	0.58
95-63-6	1,2,4-Trimethylbenzene	0.40	U	1.0	0.40	0.15
96-12-8	1,2-Dibromo-3-Chloropropane	4.0	U	5.0	4.0	1.8
106-93-4	1,2-Dibromoethane	0.80	U	1.0	0.80	0.40
95-50-1	1,2-Dichlorobenzene	0.50	U	1.0	0.50	0.37
107-06-2	1,2-Dichloroethane	0.80	U	1.0	0.80	0.54
78-87-5	1,2-Dichloropropane	0.80	U	1.0	0.80	0.52
108-67-8	1,3,5-Trimethylbenzene	0.50	U	1.0	0.50	0.37
541-73-1	1,3-Dichlorobenzene	0.40	U M	1.0	0.40	0.33
142-28-9	1,3-Dichloropropane	0.80	U	1.0	0.80	0.38
106-46-7	1,4-Dichlorobenzene	0.50	U	1.0	0.50	0.39
594-20-7	2,2-Dichloropropane	0.80	U	1.0	0.80	0.38
78-93-3	2-Butanone (MEK)	12	U	15	12	6.0
110-75-8	2-Chloroethyl vinyl ether	0.80	U	3.0	0.80	0.44
591-78-6	2-Hexanone	4.0	U	5.0	4.0	1.7
99-87-6	4-Isopropyltoluene	0.80	U	1.0	0.80	0.43
108-10-1	4-Methyl-2-pentanone (MIBK)	3.2	U	5.0	3.2	0.98
67-64-1	Acetone	8.0	U M	15	8.0	6.6
107-13-1	Acrylonitrile	8.0	U M	20	8.0	4.5
71-43-2	Benzene	0.80	U	1.0	0.80	0.31
108-86-1	Bromobenzene	0.50	U	1.0	0.50	0.40
74-97-5	Bromochloromethane	0.80	U	1.0	0.80	0.40
75-27-4	Bromodichloromethane	0.50	U	1.0	0.50	0.39
75-25-2	Bromoform	1.8	U	2.0	1.8	1.2
75-15-0	Carbon disulfide	0.80	U	2.0	0.80	0.63

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Denver | Job No.: 280-185797-1

SDG No.:

Client Sample ID: TB01 | Lab Sample ID: 280-185797-1

Matrix: Water | Lab File ID: X511939.D

Analysis Method: 8260D | Date Collected: 12/13/2023 09:50

Sample wt/vol: 5(mL) | Date Analyzed: 12/18/2023 11:03

Soil Aliquot Vol: | Dilution Factor: 1

Soil Extract Vol.: | GC Column: RXI-624SilMS ID: 0.25(mm)

Purge Volume: 5.0(mL) | Heated Purge: (Y/N) N pH: 5.0

% Moisture: % Solids: | Level: (low/med) Low

Analysis Batch No.: 637616 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
56-23-5	Carbon tetrachloride	0.80	U	1.0	0.80	0.57
108-90-7	Chlorobenzene	0.80	U	1.0	0.80	0.42
75-00-3	Chloroethane	1.6	U	4.0	1.6	1.4
67-66-3	Chloroform	0.80	U	1.0	0.80	0.36
74-87-3	Chloromethane	1.0	U Q	2.0	1.0	0.75
156-59-2	cis-1,2-Dichloroethylene	0.40	U	1.0	0.40	0.32
10061-01-5	cis-1,3-Dichloropropene	1.8	U	2.0	1.8	0.63
110-82-7	Cyclohexane	0.80	U	1.0	0.80	0.44
108-94-1	Cyclohexanone	64	U M Q	100	64	32
124-48-1	Dibromochloromethane	1.8	U	2.0	1.8	0.62
74-95-3	Dibromomethane	0.40	U	1.0	0.40	0.34
75-71-8	Dichlorodifluoromethane	2.5	U Q	3.0	2.5	0.96
100-41-4	Ethylbenzene	0.40	U	1.0	0.40	0.30
87-68-3	Hexachlorobutadiene	1.8	U	2.0	1.8	1.2
108-20-3	Isopropyl ether	2.0	U	10	2.0	1.1
98-82-8	Isopropylbenzene	0.50	U	1.0	0.50	0.36
1634-04-4	Methyl tert-butyl ether	0.80	U	5.0	0.80	0.25
108-87-2	Methylcyclohexane	0.40	U	1.0	0.40	0.31
75-09-2	Methylene Chloride	1.8	U	2.0	1.8	0.94
91-20-3	Naphthalene	0.80	U	2.0	0.80	0.63
104-51-8	n-Butylbenzene	0.80	U	1.0	0.80	0.48
110-54-3	n-Hexane	0.80	U	2.0	0.80	0.16
103-65-1	N-Propylbenzene	0.80	U	1.0	0.80	0.53
95-49-8	o-Chlorotoluene	0.40	U	1.0	0.40	0.34
106-43-4	p-Chlorotoluene	0.80	U	1.0	0.80	0.21
135-98-8	sec-Butylbenzene	0.80	U	1.0	0.80	0.45
100-42-5	Styrene	0.80	U	1.0	0.80	0.36
98-06-6	tert-Butylbenzene	0.80	U	1.0	0.80	0.42
127-18-4	Tetrachloroethene	0.80	U	1.0	0.80	0.40
108-88-3	Toluene	0.40	U	1.0	0.40	0.32
156-60-5	trans-1,2-Dichloroethylene	0.50	U	1.0	0.50	0.37
10061-02-6	trans-1,3-Dichloropropene	1.8	U	2.0	1.8	0.65
79-01-6	Trichloroethene	0.40	U	1.0	0.40	0.30
75-69-4	Trichlorofluoromethane	0.80	U	2.0	0.80	0.57

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Denver | Job No.: 280-185797-1

SDG No.:

Client Sample ID: TB01 | Lab Sample ID: 280-185797-1

Matrix: Water | Lab File ID: X511939.D

Analysis Method: 8260D | Date Collected: 12/13/2023 09:50

Sample wt/vol: 5(mL) | Date Analyzed: 12/18/2023 11:03

Soil Aliquot Vol: | Dilution Factor: 1

Soil Extract Vol.: | GC Column: RXI-624SilMS ID: 0.25(mm)

Purge Volume: 5.0(mL) | Heated Purge: (Y/N) N pH: 5.0

% Moisture: % Solids: | Level: (low/med) Low

Analysis Batch No.: 637616 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
108-05-4	Vinyl acetate	2.0	U	3.0	2.0	0.94
75-01-4	Vinyl chloride	1.0	U	2.0	1.0	0.51
1330-20-7	Xylenes, Total	0.80	U	1.0	0.80	0.33

CAS NO.	SURROGATE	%REC	Q	LIMITS
17060-07-0	1,2-Dichloroethane-d4 (Surr)	107		81-118
460-00-4	4-Bromofluorobenzene (Surr)	91		85-114
1868-53-7	Dibromofluoromethane (Surr)	107		80-119
2037-26-5	Toluene-d8 (Surr)	97		89-112

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET
TARGETED TENATIVELY IDENTIFIED COMPOUNDS

Lab Name: Eurofins Denver | Job No.: 280-185797-1

SDG No.:

Client Sample ID: TB01 | Lab Sample ID: 280-185797-1

Matrix: Water | Lab File ID: X511939.D

Analysis Method: 8260D | Date Collected: 12/13/2023 09:50

Sample wt/vol: 5(mL) | Date Analyzed: 12/18/2023 11:03

Soil Aliquot Vol: | Dilution Factor: 1

Soil Extract Vol.: | GC Column: RXI-624SilMS ID: 0.25(mm)

Purge Volume: 5.0(mL) | Heated Purge: (Y/N) N pH: 5.0

% Moisture: % Solids: | Level: (low/med) Low

Analysis Batch No.: 637616 | Units: ug/L

CAS NO.	COMPOUND NAME	RT	RESULT	Q	MATCH QUALITY
106-99-0	1,3-Butadiene TIC		1.0	U	
622-96-8	4-Ethyltoluene TIC		1.0	U	
77-73-6	Dicyclopentadiene TIC		1.0	U	
115-07-1	Propene TIC		1.0	U	

Eurofins Denver
Target Compound Quantitation Report

Data File: \\chromfs\Denver\ChromData\VMS_X4\20231218-128669.b\X511939.D
Lims ID: 280-185797-B-1
Client ID: TB01
Sample Type: Client
Inject. Date: 18-Dec-2023 11:03:30 ALS Bottle#: 7 Worklist Smp#: 13
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Sample Info: 280-185797-b-1
Operator ID: COULTER Instrument ID: VMS_X4

Method: \\chromfs\Denver\ChromData\VMS_X4\20231218-128669.b\VMS_X4_8260.m
Limit Group: MSV - 8260B Water and Solid
Last Update: 19-Dec-2023 21:23:01 Calib Date: 11-Dec-2023 20:50:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Denver\ChromData\VMS_X4\20231211-128477.b\X511702.D

Column 1 : Rxi-624Sil MS (0.25 mm) Det: MS SCAN
Process Host: CTX1675

First Level Reviewer: AK2J Date: 19-Dec-2023 21:16:14

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	OnCol Amt ug/l	Flags
* 1 Fluorobenzene	96	5.199	5.199	0.000	97	1721694	50.0	
* 2 Chlorobenzene-d5	119	7.723	7.723	0.000	90	467719	50.0	
* 3 1,4-Dichlorobenzene-d4	152	9.947	9.947	0.000	97	814218	50.0	
$ 4 Dibromofluoromethane (Surr)	111	4.691	4.692	-0.001	93	470817	53.5	
$ 5 1,2-Dichloroethane-d4 (Surr)	65	4.956	4.956	0.000	0	609052	53.5	
$ 6 Toluene-d8 (Surr)	98	6.450	6.451	0.000	95	1957329	48.6	
$ 7 4-Bromofluorobenzene (Surr)	95	8.817	8.817	0.000	87	706196	45.4	
$ 8 BFB	95	8.817	8.817	0.000	85	706196	NR	
9 Dichlorodifluoromethane	85		1.760				ND	
10 Chloromethane	50		1.939				ND	
11 Vinyl chloride	62		2.039				ND	
12 Bromomethane	94		2.325				ND	U
13 Chloroethane	64		2.425				ND	
15 Propene oxide	58		2.504				ND	
14 Dichlorofluoromethane	67		2.597				ND	
16 Trichlorofluoromethane	101		2.632				ND	
17 Ethanol	45		2.754				ND	
18 Ethyl ether	59		2.847				ND	
19 Acrolein	56		2.961				ND	
20 1,1,2-Trichloro-1,2,2-trifluoroe	151		3.040				ND	
21 1,1-Dichloroethene	96		3.040				ND	
22 Acetone	43		3.061				ND	U
23 Isopropyl alcohol	45		3.147				ND	
24 Iodomethane	142		3.169				ND	
25 Carbon disulfide	76		3.226				ND	
26 Acetonitrile	41		3.276				ND	
27 Methyl acetate	43		3.290				ND	
28 3-Chloro-1-propene	41		3.312				ND	
29 Methylene Chloride	84		3.404				ND	
30 2-Methyl-2-propanol	59		3.447				ND	
31 Acrylonitrile	53		3.576				ND	U
32 Methyl tert-butyl ether	73		3.590				ND	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	OnCol Amt ug/l	Flags
33 trans-1,2-Dichloroethene	96		3.605				ND	
34 Hexane	57		3.798				ND	
35 Vinyl acetate	43		3.905				ND	7
36 1,1-Dichloroethane	63		3.926				ND	
37 Isopropyl ether	87		3.926				ND	
38 2-Chloro-1,3-butadiene	53		3.984				ND	
39 Tert-butyl ethyl ether	59		4.191				ND	
40 2-Butanone (MEK)	43		4.313				ND	
41 Ethyl acetate	43		4.327				ND	
42 cis-1,2-Dichloroethene	96		4.341				ND	
43 2,2-Dichloropropane	77		4.355				ND	
44 Propionitrile	54		4.370				ND	
45 sec-Butyl Alcohol	45		4.420				ND	
46 Methacrylonitrile	41		4.477				ND	
47 Chlorobromomethane	128		4.520				ND	
48 Tetrahydrofuran	42		4.527				ND	
49 Chloroform	83		4.577				ND	
50 1,1,1-Trichloroethane	97		4.720				ND	
51 Cyclohexane	56		4.777				ND	
52 1,1-Dichloropropene	75		4.835				ND	
53 Carbon tetrachloride	117		4.835				ND	
54 Isobutyl alcohol	41		4.842				ND	
55 Benzene	78		4.985				ND	
56 1,2-Dichloroethane	62	5.020	5.013	0.007	20	1992	0.1318	
57 Tert-amyl methyl ether	73		5.056				ND	
58 n-Heptane	43		5.163				ND	
59 n-Butanol	56		5.335				ND	
60 Trichloroethene	95		5.471				ND	
61 2-Pentanone	43		5.578				ND	
62 Methylcyclohexane	55		5.671				ND	
63 1,2-Dichloropropane	63		5.678				ND	
64 Methyl methacrylate	100		5.678				ND	
65 1,4-Dioxane	88		5.721				ND	
66 Dibromomethane	93		5.750				ND	
67 Dichlorobromomethane	83		5.871				ND	
68 2-Nitropropane	41		6.043				ND	
69 2-Chloroethyl vinyl ether	63		6.072				ND	
70 cis-1,3-Dichloropropene	75		6.222				ND	
71 4-Methyl-2-pentanone (MIBK)	43		6.322				ND	
72 Toluene	91		6.508				ND	
73 trans-1,3-Dichloropropene	75		6.679				ND	
74 Ethyl methacrylate	69		6.701				ND	
75 1,1,2-Trichloroethane	97		6.858				ND	
76 Tetrachloroethene	164		6.951				ND	
77 1,3-Dichloropropane	76		7.008				ND	
78 2-Hexanone	43		7.023				ND	
79 Chlorodibromomethane	129		7.201				ND	
80 Ethylene Dibromide	107		7.323				ND	
81 1-Chlorohexane	91		7.709				ND	U
82 Chlorobenzene	112		7.752				ND	
83 1,1,1,2-Tetrachloroethane	131		7.823				ND	
84 Ethylbenzene	106		7.830				ND	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	OnCol Amt ug/l	Flags
85 m-Xylene & p-Xylene	106		7.945				ND	
86 o-Xylene	106		8.302				ND	
87 Styrene	104		8.324				ND	
88 Bromoform	173		8.503				ND	
89 Isopropylbenzene	105		8.646				ND	7
90 cis-1,4-Dichloro-2-butene	53		8.696				ND	
91 Cyclohexanone	55		8.746				ND	U
92 1,1,2,2-Tetrachloroethane	83		8.932				ND	
94 trans-1,4-Dichloro-2-butene	53		8.967				ND	
93 Bromobenzene	156		8.967				ND	
95 1,2,3-Trichloropropane	110		8.996				ND	
96 N-Propylbenzene	120		9.046				ND	
97 2-Chlorotoluene	126		9.146				ND	
98 1,3,5-Trimethylbenzene	105		9.218				ND	
99 4-Chlorotoluene	126		9.261				ND	
101 Pentachloroethane	167		9.411				ND	
100 tert-Butylbenzene	119		9.525				ND	
102 1,2,4-Trimethylbenzene	105		9.582				ND	
103 sec-Butylbenzene	134		9.747				ND	
104 1,3-Dichlorobenzene	146		9.875				ND	U
105 4-Isopropyltoluene	119		9.890				ND	
106 1,4-Dichlorobenzene	146		9.976				ND	7
107 1,2,3-Trimethylbenzene	105		9.990				ND	
108 n-Butylbenzene	91		10.297				ND	7
109 1,2-Dichlorobenzene	146		10.333				ND	
110 1,2-Dibromo-3-Chloropropane	157		11.105				ND	
111 1,3,5-Trichlorobenzene	180		11.298				ND	
112 1,2,4-Trichlorobenzene	180	11.942	11.935	0.007	85	3106	0.2764	
113 Hexachlorobutadiene	225		12.071				ND	
114 Naphthalene	128	12.206	12.206	0.000	94	11633	0.3985	
115 1,2,3-Trichlorobenzene	180	12.428	12.428	0.000	90	3556	0.3900	
120 Tetrahydrothiophene TIC	1		0.000				ND	
119 1-Chloro-1-fluoroethane TIC	1		0.000				ND	
118 Ethyl acrylate	55		0.000				ND	
117 t-Amyl alcohol	1		0.000				ND	
116 Ethylene oxide TIC	1		0.000				ND	
121 Propene oxide TIC	58		5.334				ND	
S 122 1,2-Dichloroethene, Total (URS)	96		2.000				ND	7
S 129 1,2-Dichloroethene, Total	1		0.000				ND	7
S 124 1,3-Dichloropropene, Total	1		0.000				ND	7
S 123 Xylenes, Total (URS)	1		0.000				ND	7
S 127 Trihalomethanes, Total	1		0.000				ND	7
S 126 Total BTEX	1		0.000				ND	7
S 128 TAH	1				0		0	
S 125 Xylenes, Total	106		0.000				ND	7
T 130 Dichloroacetonitrile TIC	74		1.000				ND	
T 132 1-Chlorohexane TIC	1		0.000				ND	
T 131 Methyl cyclohexane TIC	1		0.000				ND	
T 140 2,3-Dichloro-1-propene TIC	75		0.000				ND	
T 139 Propene TIC	1		0.000				ND	
T 138 n-Nonane TIC	1		0.000				ND	
T 137 1,3-Butadiene TIC	1		0.000				ND	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	OnCol Amt ug/l	Flags
T 136 Cyclohexane TIC	1		0.000				ND	
T 135 4-Ethyltoluene TIC	1		0.000				ND	
T 134 2-Butoxyethanol TIC	1		0.000				ND	
T 133 Dicyclopentadiene TIC	1		0.000				ND	

QC Flag Legend

Processing Flags
- NR - Missing Quant Standard
- 7 - Failed Limit of Detection

Review Flags
- U - Marked Undetected

Reagents:

mv-IS_SS_00074 Amount Added: 5.00 Units: uL Run Reagent

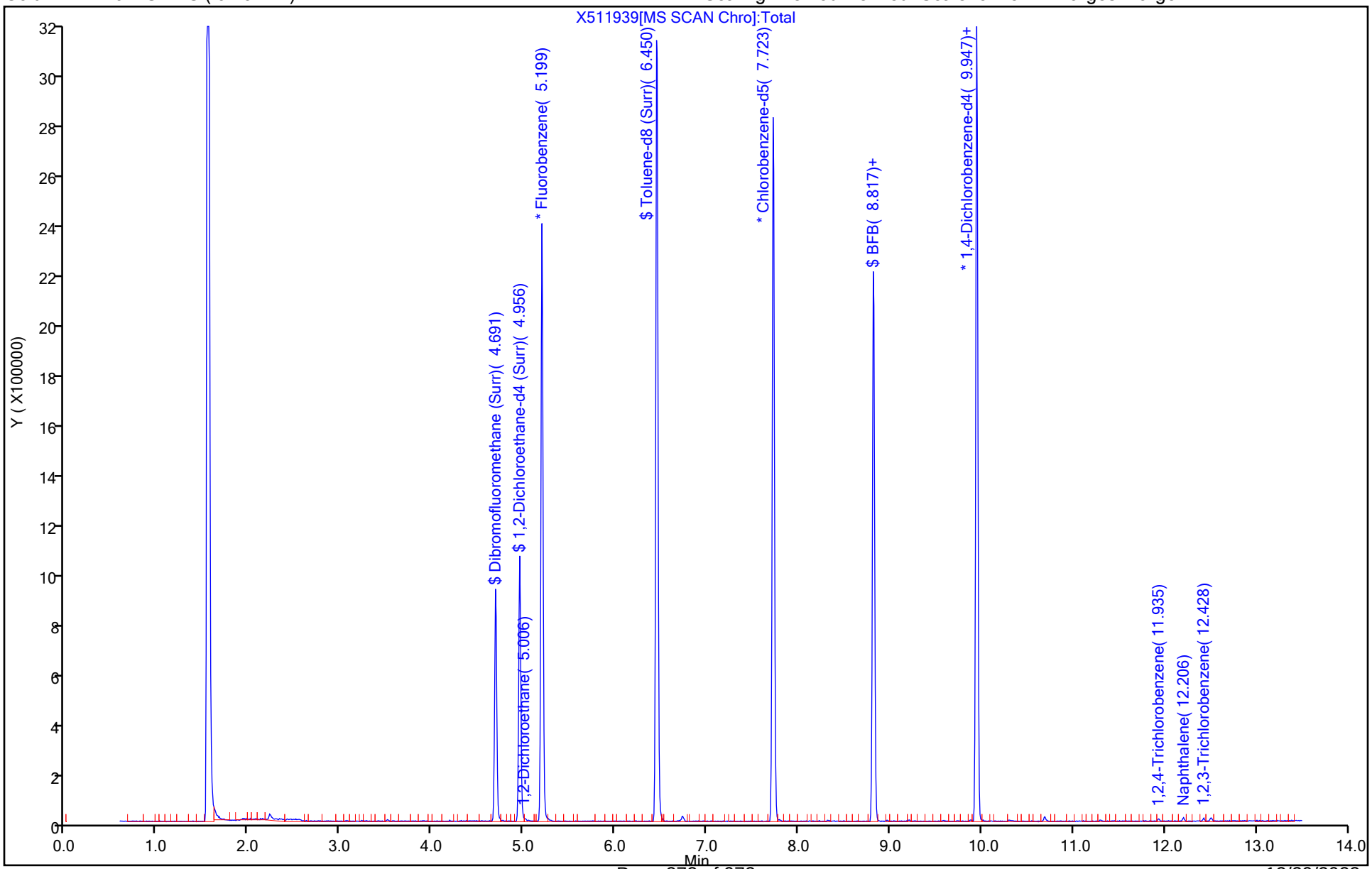
Report Date: 19-Dec-2023 21:23:11 Chrom Revision: 2.3 15-Nov-2023 20:54:34

Eurofins Denver

Data File: \\chromfs\Denver\ChromData\VMS_X4\20231218-128669.b\X511939.D

Injection Date:	18-Dec-2023 11:03:30	Instrument ID:	VMS_X4	Operator ID:	COULTER
Lims ID:	280-185797-B-1	Lab Sample ID:	280-185797-1	Worklist Smp#:	13
Client ID:	TB01				
Purge Vol:	5.000 mL	Dil. Factor:	1.0000	ALS Bottle#:	7
Method:	VMS_X4_8260	Limit Group:	MSV - 8260B Water and Solid		

Column: Rxi-624Sil MS (0.25 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 1



12/29/2023
10:48 AM

Eurofins Denver
Recovery Report

Data File:	\\chromfs\Denver\ChromData\VMS_X4\20231218-128669.b\X511939.D				
Lims ID:	280-185797-B-1				
Client ID:	TB01				
Sample Type:	Client				
Inject. Date:	18-Dec-2023 11:03:30	ALS Bottle#:	7	Worklist Smp#:	13
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Sample Info:	280-185797-b-1				
Operator ID:	COULTER	Instrument ID:	VMS_X4		
Method:	\\chromfs\Denver\ChromData\VMS_X4\20231218-128669.b\VMS_X4_8260.m				
Limit Group:	MSV - 8260B Water and Solid				
Last Update:	19-Dec-2023 21:23:01	Calib Date:	11-Dec-2023 20:50:30		
Integrator:	RTE	ID Type:	Deconvolution ID		
Quant Method:	Internal Standard	Quant By:	Initial Calibration		
Last ICal File:	\\chromfs\Denver\ChromData\VMS_X4\20231211-128477.b\X511702.D				
Column 1 :	Rxi-624Sil MS (0.25 mm)		Det: MS SCAN		
Process Host:	CTX1675				

First Level Reviewer: AK2J Date: 19-Dec-2023 21:16:14

Compound	Amount Added	Amount Recovered	% Rec.
$ 4 Dibromofluoromethane (Surr)	50.0	53.5	106.91
$ 5 1,2-Dichloroethane-d4 (Surr)	50.0	53.5	106.93
$ 6 Toluene-d8 (Surr)	50.0	48.6	97.21
$ 7 4-Bromofluorobenzene (Surr)	50.0	45.4	90.89

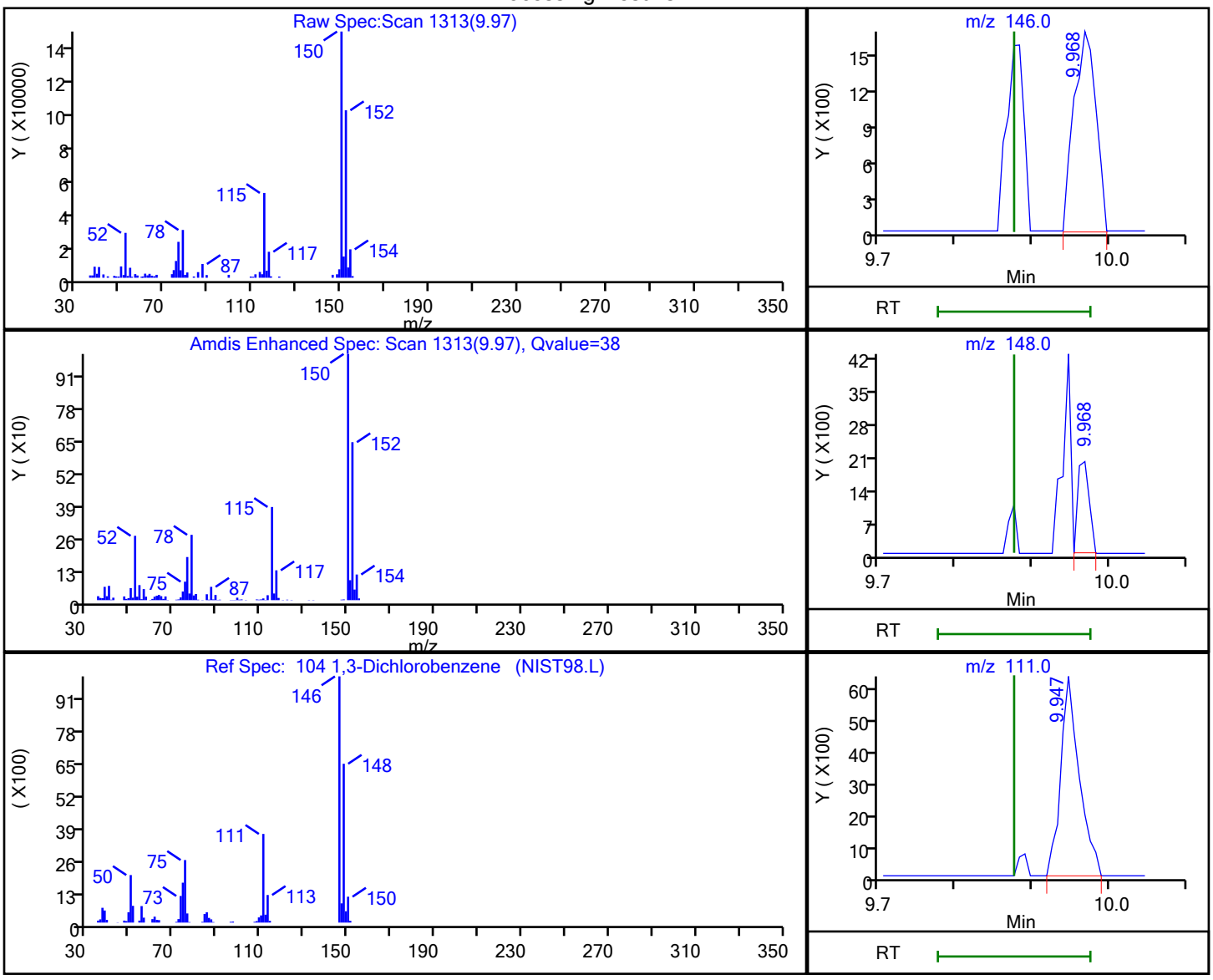
User Disabled Compound Report

Eurofins Denver

Data File:	\\chromfs\Denver\ChromData\VMS_X4\20231218-128669.b\X511939.D				
Injection Date:	18-Dec-2023 11:03:30	Instrument ID:	VMS_X4		
Lims ID:	280-185797-B-1	Lab Sample ID:	280-185797-1		
Client ID:	TB01				
Operator ID:	COULTER	ALS Bottle#:	7	Worklist Smp#:	13
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	VMS_X4_8260	Limit Group:	MSV - 8260B Water and Solid		
Column:	Rxi-624Sil MS (0.25 mm)	Detector	MS SCAN		

104 1,3-Dichlorobenzene, CAS: 541-73-1

Processing Results



RT	Mass	Response	Amount
9.97	146.00	3352	0.167447
9.97	148.00	2062	
9.95	111.00	10758	

Reviewer: AK2J, 19-Dec-2023 21:16:04 -07:00:00 (UTC)

Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

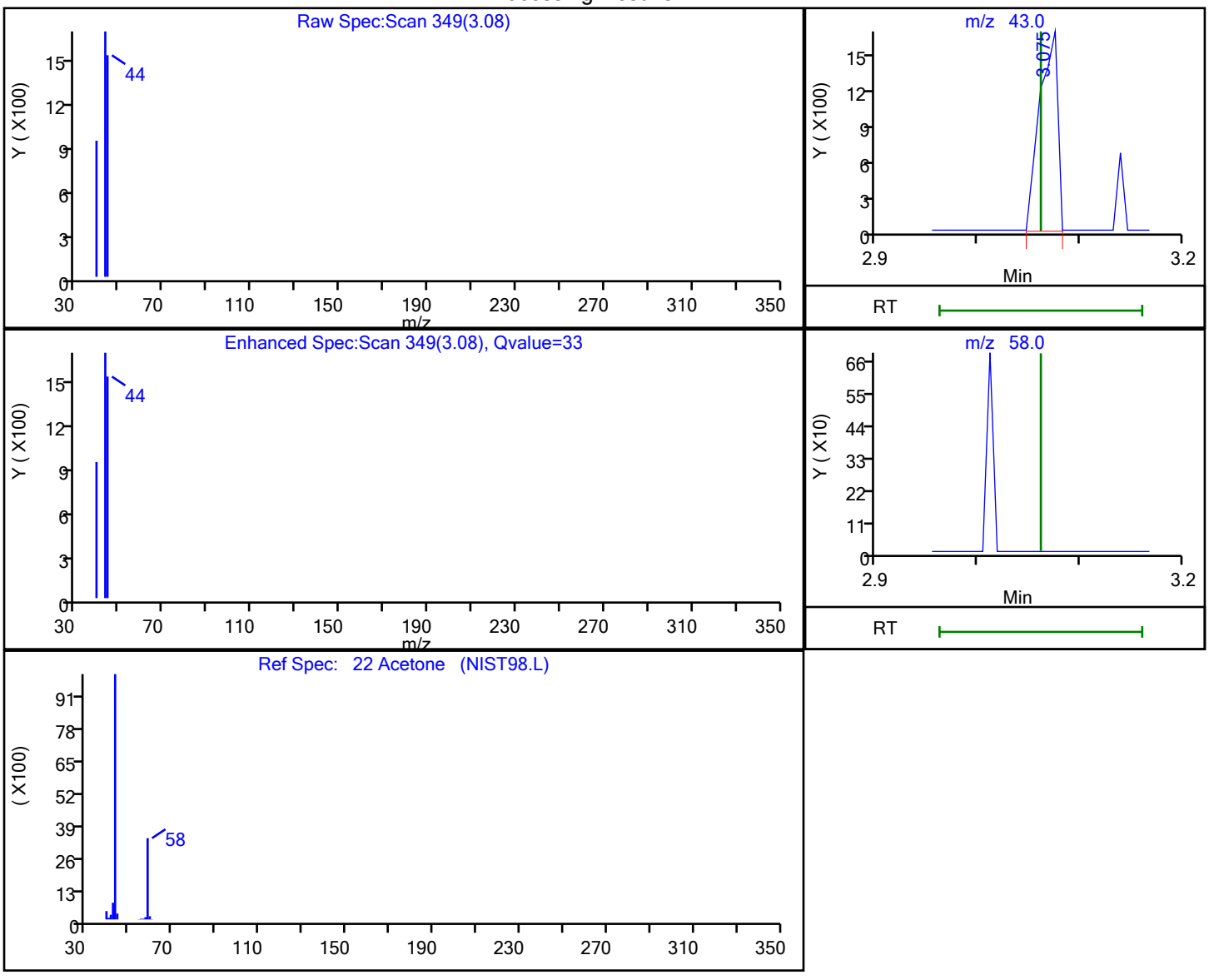
User Disabled Compound Report

Eurofins Denver

Data File:	\\chromfs\Denver\ChromData\VMS_X4\20231218-128669.b\X511939.D				
Injection Date:	18-Dec-2023 11:03:30	Instrument ID:	VMS_X4		
Lims ID:	280-185797-B-1	Lab Sample ID:	280-185797-1		
Client ID:	TB01				
Operator ID:	COULTER	ALS Bottle#:	7	Worklist Smp#:	13
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	VMS_X4_8260	Limit Group:	MSV - 8260B Water and Solid		
Column:	Rxi-624Sil MS (0.25 mm)	Detector	MS SCAN		

22 Acetone, CAS: 67-64-1

Processing Results



RT	Mass	Response	Amount
3.08	43.00	2001	0.595508
3.06	58.00	0	

Reviewer: AK2J, 19-Dec-2023 21:15:50 -07:00:00 (UTC)

Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

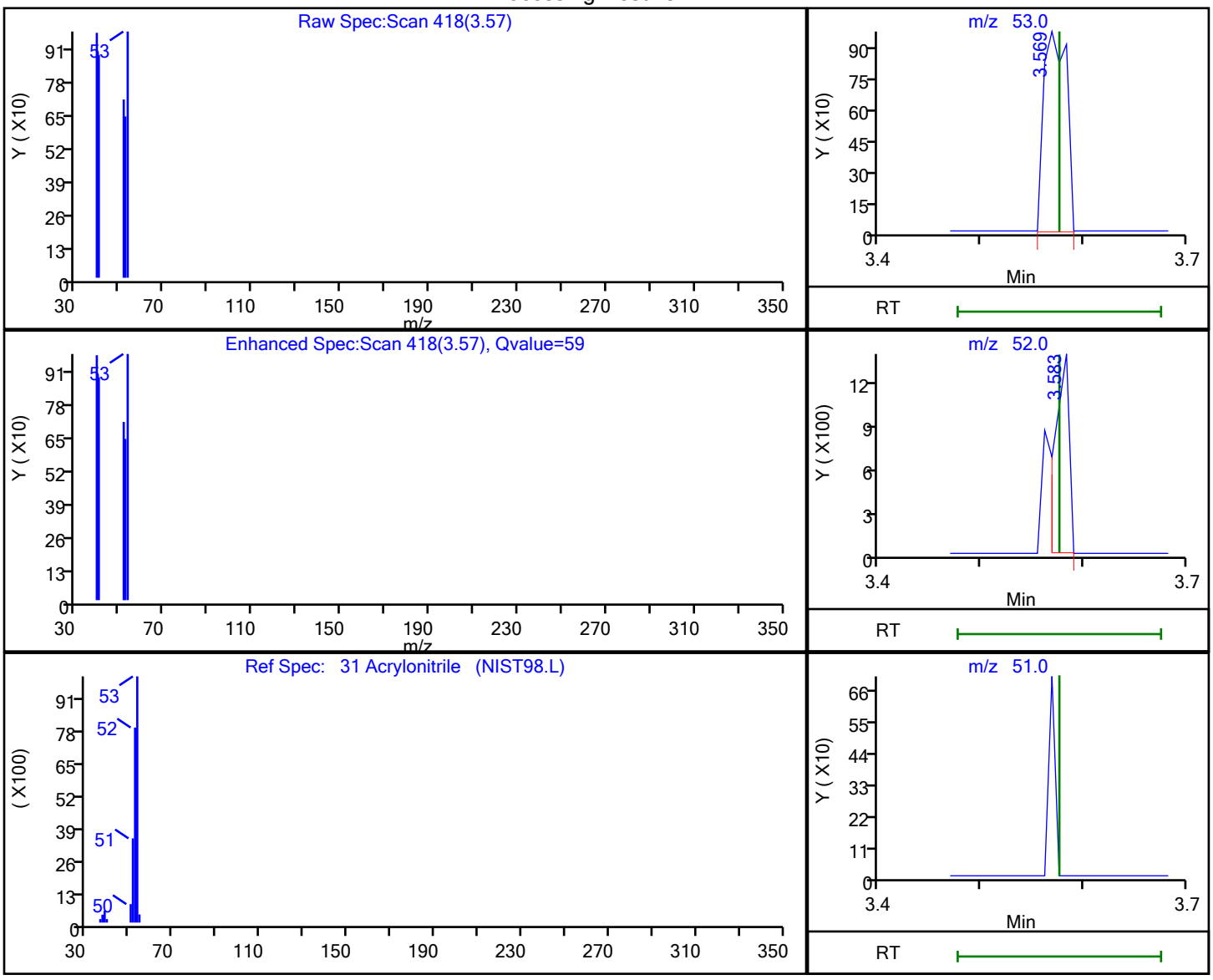
User Disabled Compound Report

Eurofins Denver

Data File:	\\chromfs\Denver\ChromData\VMS_X4\20231218-128669.b\X511939.D				
Injection Date:	18-Dec-2023 11:03:30	Instrument ID:	VMS_X4		
Lims ID:	280-185797-B-1	Lab Sample ID:	280-185797-1		
Client ID:	TB01				
Operator ID:	COULTER	ALS Bottle#:	7	Worklist Smp#:	13
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	VMS_X4_8260	Limit Group:	MSV - 8260B Water and Solid		
Column:	Rxi-624Sil MS (0.25 mm)	Detector	MS SCAN		

31 Acrylonitrile, CAS: 107-13-1

Processing Results



RT	Mass	Response	Amount
3.57	53.00	1511	0.354534
3.58	52.00	1255	
3.58	51.00	0	

Reviewer: AK2J, 19-Dec-2023 21:15:54 -07:00:00 (UTC)

Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

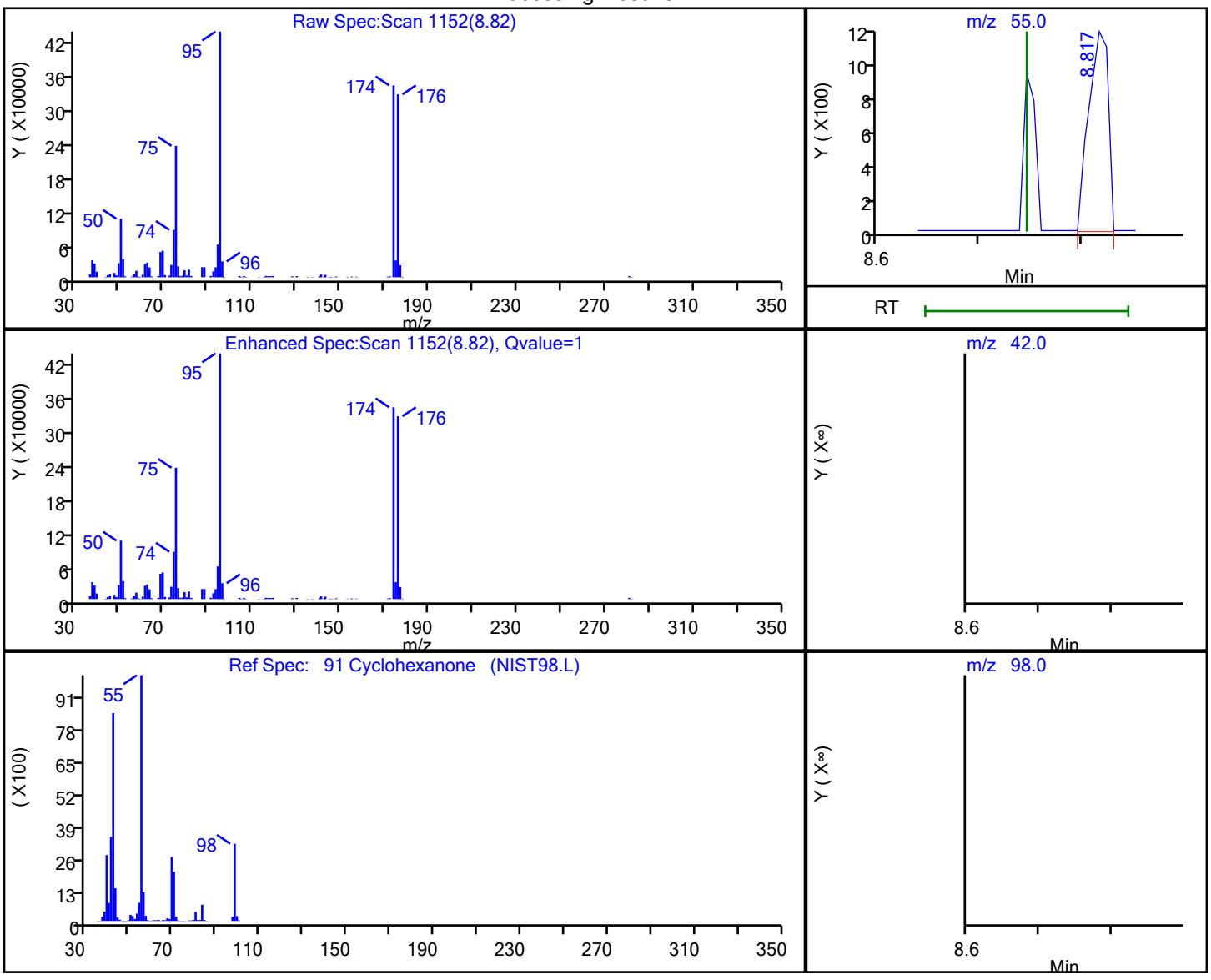
User Disabled Compound Report

Eurofins Denver

Data File:	\\chromfs\Denver\ChromData\VMS_X4\20231218-128669.b\X511939.D				
Injection Date:	18-Dec-2023 11:03:30	Instrument ID:	VMS_X4		
Lims ID:	280-185797-B-1	Lab Sample ID:	280-185797-1		
Client ID:	TB01				
Operator ID:	COULTER	ALS Bottle#:	7	Worklist Smp#:	13
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	VMS_X4_8260	Limit Group:	MSV - 8260B Water and Solid		
Column:	Rxi-624Sil MS (0.25 mm)	Detector	MS SCAN		

91 Cyclohexanone, CAS: 108-94-1

Processing Results



RT	Mass	Response	Amount
8.82	55.00	1528	3.196439
8.75	42.00	0	
8.75	98.00	0	

Reviewer: AK2J, 19-Dec-2023 21:16:02 -07:00:00 (UTC)

Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Denver | Job No.: 280-185797-1

SDG No.:

Client Sample ID: TV044-MW24D1223A | Lab Sample ID: 280-185797-2

Matrix: Water | Lab File ID: X511940.D

Analysis Method: 8260D | Date Collected: 12/13/2023 10:35

Sample wt/vol: 5(mL) | Date Analyzed: 12/18/2023 11:25

Soil Aliquot Vol: | Dilution Factor: 1

Soil Extract Vol.: | GC Column: RXI-624SilMS ID: 0.25(mm)

Purge Volume: 5.0(mL) | Heated Purge: (Y/N) N pH: 5.0

% Moisture: % Solids: | Level: (low/med) Low

Analysis Batch No.: 637616 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
71-55-6	1,1,1-Trichloroethane	0.50	U	1.0	0.50	0.39
79-34-5	1,1,2,2-Tetrachloroethane	0.80	U	1.0	0.80	0.21
79-00-5	1,1,2-Trichloroethane	0.80	U	1.0	0.80	0.27
75-34-3	1,1-Dichloroethane	0.80	U	1.0	0.80	0.22
75-35-4	1,1-Dichloroethylene	0.80	U	1.0	0.80	0.23
563-58-6	1,1-Dichloropropene	0.80	U	1.0	0.80	0.42
87-61-6	1,2,3-Trichlorobenzene	0.80	U	2.0	0.80	0.70
96-18-4	1,2,3-Trichloropropane	1.8	U	2.5	1.8	0.86
526-73-8	1,2,3-Trimethylbenzene	0.80	U	2.0	0.80	0.27
120-82-1	1,2,4-Trichlorobenzene	0.80	U	1.0	0.80	0.58
95-63-6	1,2,4-Trimethylbenzene	0.40	U	1.0	0.40	0.15
96-12-8	1,2-Dibromo-3-Chloropropane	4.0	U	5.0	4.0	1.8
106-93-4	1,2-Dibromoethane	0.80	U	1.0	0.80	0.40
95-50-1	1,2-Dichlorobenzene	0.50	U	1.0	0.50	0.37
107-06-2	1,2-Dichloroethane	0.80	U	1.0	0.80	0.54
78-87-5	1,2-Dichloropropane	0.80	U	1.0	0.80	0.52
108-67-8	1,3,5-Trimethylbenzene	0.50	U	1.0	0.50	0.37
541-73-1	1,3-Dichlorobenzene	0.40	U	1.0	0.40	0.33
142-28-9	1,3-Dichloropropane	0.80	U	1.0	0.80	0.38
106-46-7	1,4-Dichlorobenzene	0.50	U	1.0	0.50	0.39
594-20-7	2,2-Dichloropropane	0.80	U	1.0	0.80	0.38
78-93-3	2-Butanone (MEK)	12	U	15	12	6.0
110-75-8	2-Chloroethyl vinyl ether	0.80	U	3.0	0.80	0.44
591-78-6	2-Hexanone	4.0	U	5.0	4.0	1.7
99-87-6	4-Isopropyltoluene	0.80	U	1.0	0.80	0.43
108-10-1	4-Methyl-2-pentanone (MIBK)	3.2	U	5.0	3.2	0.98
67-64-1	Acetone	8.0	U	15	8.0	6.6
107-13-1	Acrylonitrile	8.0	U	20	8.0	4.5
71-43-2	Benzene	0.80	U	1.0	0.80	0.31
108-86-1	Bromobenzene	0.50	U	1.0	0.50	0.40
74-97-5	Bromochloromethane	0.80	U	1.0	0.80	0.40
75-27-4	Bromodichloromethane	0.50	U	1.0	0.50	0.39
75-25-2	Bromoform	1.8	U	2.0	1.8	1.2
75-15-0	Carbon disulfide	0.80	U	2.0	0.80	0.63

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Denver | Job No.: 280-185797-1

SDG No.:

Client Sample ID: TV044-MW24D1223A | Lab Sample ID: 280-185797-2

Matrix: Water | Lab File ID: X511940.D

Analysis Method: 8260D | Date Collected: 12/13/2023 10:35

Sample wt/vol: 5(mL) | Date Analyzed: 12/18/2023 11:25

Soil Aliquot Vol: | Dilution Factor: 1

Soil Extract Vol.: | GC Column: RXI-624SilMS ID: 0.25(mm)

Purge Volume: 5.0(mL) | Heated Purge: (Y/N) N pH: 5.0

% Moisture: % Solids: | Level: (low/med) Low

Analysis Batch No.: 637616 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
56-23-5	Carbon tetrachloride	0.80	U	1.0	0.80	0.57
108-90-7	Chlorobenzene	0.80	U	1.0	0.80	0.42
75-00-3	Chloroethane	1.6	U	4.0	1.6	1.4
67-66-3	Chloroform	0.80	U	1.0	0.80	0.36
74-87-3	Chloromethane	1.0	U Q	2.0	1.0	0.75
156-59-2	cis-1,2-Dichloroethylene	0.40	U	1.0	0.40	0.32
10061-01-5	cis-1,3-Dichloropropene	1.8	U	2.0	1.8	0.63
110-82-7	Cyclohexane	0.80	U	1.0	0.80	0.44
108-94-1	Cyclohexanone	64	U M Q	100	64	32
124-48-1	Dibromochloromethane	1.8	U	2.0	1.8	0.62
74-95-3	Dibromomethane	0.40	U	1.0	0.40	0.34
75-71-8	Dichlorodifluoromethane	2.5	U Q	3.0	2.5	0.96
100-41-4	Ethylbenzene	0.40	U	1.0	0.40	0.30
87-68-3	Hexachlorobutadiene	1.8	U	2.0	1.8	1.2
108-20-3	Isopropyl ether	2.0	U	10	2.0	1.1
98-82-8	Isopropylbenzene	0.50	U	1.0	0.50	0.36
1634-04-4	Methyl tert-butyl ether	0.80	U	5.0	0.80	0.25
108-87-2	Methylcyclohexane	0.40	U	1.0	0.40	0.31
75-09-2	Methylene Chloride	1.8	U	2.0	1.8	0.94
91-20-3	Naphthalene	0.80	U	2.0	0.80	0.63
104-51-8	n-Butylbenzene	0.80	U	1.0	0.80	0.48
110-54-3	n-Hexane	0.80	U	2.0	0.80	0.16
103-65-1	N-Propylbenzene	0.80	U	1.0	0.80	0.53
95-49-8	o-Chlorotoluene	0.40	U	1.0	0.40	0.34
106-43-4	p-Chlorotoluene	0.80	U	1.0	0.80	0.21
135-98-8	sec-Butylbenzene	0.80	U	1.0	0.80	0.45
100-42-5	Styrene	0.80	U	1.0	0.80	0.36
98-06-6	tert-Butylbenzene	0.80	U	1.0	0.80	0.42
127-18-4	Tetrachloroethene	0.80	U	1.0	0.80	0.40
108-88-3	Toluene	0.40	U	1.0	0.40	0.32
156-60-5	trans-1,2-Dichloroethylene	0.50	U	1.0	0.50	0.37
10061-02-6	trans-1,3-Dichloropropene	1.8	U	2.0	1.8	0.65
79-01-6	Trichloroethene	0.40	U	1.0	0.40	0.30
75-69-4	Trichlorofluoromethane	0.80	U	2.0	0.80	0.57

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Denver | Job No.: 280-185797-1

SDG No.:

Client Sample ID: TV044-MW24D1223A | Lab Sample ID: 280-185797-2

Matrix: Water | Lab File ID: X511940.D

Analysis Method: 8260D | Date Collected: 12/13/2023 10:35

Sample wt/vol: 5(mL) | Date Analyzed: 12/18/2023 11:25

Soil Aliquot Vol: | Dilution Factor: 1

Soil Extract Vol.: | GC Column: RXI-624SilMS ID: 0.25(mm)

Purge Volume: 5.0(mL) | Heated Purge: (Y/N) N pH: 5.0

% Moisture: % Solids: | Level: (low/med) Low

Analysis Batch No.: 637616 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
108-05-4	Vinyl acetate	2.0	U	3.0	2.0	0.94
75-01-4	Vinyl chloride	1.0	U	2.0	1.0	0.51
1330-20-7	Xylenes, Total	0.80	U	1.0	0.80	0.33

CAS NO.	SURROGATE	%REC	Q	LIMITS
17060-07-0	1,2-Dichloroethane-d4 (Surr)	104		81-118
460-00-4	4-Bromofluorobenzene (Surr)	91		85-114
1868-53-7	Dibromofluoromethane (Surr)	107		80-119
2037-26-5	Toluene-d8 (Surr)	98		89-112

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET
TARGETED TENATIVELY IDENTIFIED COMPOUNDS

Lab Name: Eurofins Denver | Job No.: 280-185797-1

SDG No.:

Client Sample ID: TV044-MW24D1223A | Lab Sample ID: 280-185797-2

Matrix: Water | Lab File ID: X511940.D

Analysis Method: 8260D | Date Collected: 12/13/2023 10:35

Sample wt/vol: 5(mL) | Date Analyzed: 12/18/2023 11:25

Soil Aliquot Vol: | Dilution Factor: 1

Soil Extract Vol.: | GC Column: RXI-624SilMS ID: 0.25(mm)

Purge Volume: 5.0(mL) | Heated Purge: (Y/N) N pH: 5.0

% Moisture: % Solids: | Level: (low/med) Low

Analysis Batch No.: 637616 | Units: ug/L

CAS NO.	COMPOUND NAME	RT	RESULT	Q	MATCH QUALITY
106-99-0	1,3-Butadiene TIC		1.0	U	
622-96-8	4-Ethyltoluene TIC		1.0	U	
77-73-6	Dicyclopentadiene TIC		1.0	U	
115-07-1	Propene TIC		1.0	U	

Eurofins Denver
Target Compound Quantitation Report

Data File: \\chromfs\Denver\ChromData\VMS_X4\20231218-128669.b\X511940.D
Lims ID: 280-185797-E-2
Client ID: TV044-MW24D1223A
Sample Type: Client
Inject. Date: 18-Dec-2023 11:25:30 ALS Bottle#: 8 Worklist Smp#: 14
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Sample Info: 280-185797-e-2
Operator ID: COULTER Instrument ID: VMS_X4

Method: \\chromfs\Denver\ChromData\VMS_X4\20231218-128669.b\VMS_X4_8260.m
Limit Group: MSV - 8260B Water and Solid
Last Update: 19-Dec-2023 21:23:01 Calib Date: 11-Dec-2023 20:50:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Denver\ChromData\VMS_X4\20231211-128477.b\X511702.D

Column 1 : Rxi-624Sil MS (0.25 mm) Det: MS SCAN
Process Host: CTX1675

First Level Reviewer: AK2J Date: 19-Dec-2023 21:18:11

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	OnCol Amt ug/l	Flags
* 1 Fluorobenzene	96	5.199	5.199	0.000	98	1697056	50.0	
* 2 Chlorobenzene-d5	119	7.723	7.723	0.000	90	463217	50.0	
* 3 1,4-Dichlorobenzene-d4	152	9.947	9.947	0.000	97	802357	50.0	
$ 4 Dibromofluoromethane (Surr)	111	4.692	4.692	0.000	92	464377	53.5	
$ 5 1,2-Dichloroethane-d4 (Surr)	65	4.956	4.956	0.000	0	583919	52.0	
$ 6 Toluene-d8 (Surr)	98	6.451	6.451	0.001	95	1962100	49.2	
$ 7 4-Bromofluorobenzene (Surr)	95	8.817	8.817	0.000	87	694864	45.4	
$ 8 BFB	95	8.817	8.817	0.000	86	694864	NR	
9 Dichlorodifluoromethane	85		1.760				ND	
10 Chloromethane	50		1.939				ND	
11 Vinyl chloride	62		2.039				ND	
12 Bromomethane	94		2.325				ND	U
13 Chloroethane	64		2.425				ND	
15 Propene oxide	58		2.504				ND	
14 Dichlorofluoromethane	67		2.597				ND	
16 Trichlorofluoromethane	101		2.632				ND	
17 Ethanol	45		2.754				ND	
18 Ethyl ether	59		2.847				ND	
19 Acrolein	56		2.961				ND	
20 1,1,2-Trichloro-1,2,2-trifluoroe	151		3.040				ND	
21 1,1-Dichloroethene	96		3.040				ND	
22 Acetone	43	3.061	3.061	0.000	97	6104	1.84	
23 Isopropyl alcohol	45		3.147				ND	
24 Iodomethane	142		3.169				ND	
25 Carbon disulfide	76		3.226				ND	
26 Acetonitrile	41		3.276				ND	
27 Methyl acetate	43		3.290				ND	
28 3-Chloro-1-propene	41		3.312				ND	
29 Methylene Chloride	84		3.404				ND	
30 2-Methyl-2-propanol	59		3.447				ND	
31 Acrylonitrile	53		3.576				ND	
32 Methyl tert-butyl ether	73		3.590				ND	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	OnCol Amt ug/l	Flags
33 trans-1,2-Dichloroethene	96		3.605				ND	
34 Hexane	57		3.798				ND	
35 Vinyl acetate	43		3.905				ND	
36 1,1-Dichloroethane	63		3.926				ND	
37 Isopropyl ether	87		3.926				ND	
38 2-Chloro-1,3-butadiene	53		3.984				ND	
39 Tert-butyl ethyl ether	59		4.191				ND	
40 2-Butanone (MEK)	43		4.313				ND	
41 Ethyl acetate	43		4.327				ND	
42 cis-1,2-Dichloroethene	96		4.341				ND	
43 2,2-Dichloropropane	77		4.355				ND	
44 Propionitrile	54		4.370				ND	
45 sec-Butyl Alcohol	45		4.420				ND	
46 Methacrylonitrile	41		4.477				ND	
47 Chlorobromomethane	128		4.520				ND	
48 Tetrahydrofuran	42		4.527				ND	
49 Chloroform	83		4.577				ND	
50 1,1,1-Trichloroethane	97		4.720				ND	
51 Cyclohexane	56		4.777				ND	
52 1,1-Dichloropropene	75		4.835				ND	
53 Carbon tetrachloride	117		4.835				ND	
54 Isobutyl alcohol	41		4.842				ND	
55 Benzene	78		4.985				ND	
56 1,2-Dichloroethane	62		5.013				ND	7
57 Tert-amyl methyl ether	73		5.056				ND	
58 n-Heptane	43		5.163				ND	
59 n-Butanol	56		5.335				ND	
60 Trichloroethene	95		5.471				ND	
61 2-Pentanone	43		5.578				ND	
62 Methylcyclohexane	55		5.671				ND	
63 1,2-Dichloropropane	63		5.678				ND	
64 Methyl methacrylate	100		5.678				ND	
65 1,4-Dioxane	88		5.721				ND	
66 Dibromomethane	93		5.750				ND	
67 Dichlorobromomethane	83		5.871				ND	
68 2-Nitropropane	41		6.043				ND	
69 2-Chloroethyl vinyl ether	63		6.072				ND	
70 cis-1,3-Dichloropropene	75		6.222				ND	
71 4-Methyl-2-pentanone (MIBK)	43		6.322				ND	
72 Toluene	91		6.508				ND	
73 trans-1,3-Dichloropropene	75		6.679				ND	
74 Ethyl methacrylate	69		6.701				ND	
75 1,1,2-Trichloroethane	97		6.858				ND	
76 Tetrachloroethene	164		6.951				ND	
77 1,3-Dichloropropane	76		7.008				ND	
78 2-Hexanone	43		7.023				ND	
79 Chlorodibromomethane	129		7.201				ND	
80 Ethylene Dibromide	107		7.323				ND	
81 1-Chlorohexane	91		7.709				ND	
82 Chlorobenzene	112		7.752				ND	
83 1,1,1,2-Tetrachloroethane	131		7.823				ND	
84 Ethylbenzene	106		7.830				ND	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	OnCol Amt ug/l	Flags
85 m-Xylene & p-Xylene	106		7.945			ND		
86 o-Xylene	106		8.302			ND		
87 Styrene	104		8.324			ND		
88 Bromoform	173		8.503			ND		
89 Isopropylbenzene	105		8.646			ND		
90 cis-1,4-Dichloro-2-butene	53		8.696			ND		
91 Cyclohexanone	55		8.746			ND		U
92 1,1,2,2-Tetrachloroethane	83		8.932			ND		
94 trans-1,4-Dichloro-2-butene	53		8.967			ND		
93 Bromobenzene	156		8.967			ND		
95 1,2,3-Trichloropropane	110		8.996			ND		
96 N-Propylbenzene	120		9.046			ND		
97 2-Chlorotoluene	126		9.146			ND		
98 1,3,5-Trimethylbenzene	105		9.218			ND		
99 4-Chlorotoluene	126		9.261			ND		
101 Pentachloroethane	167		9.411			ND		
100 tert-Butylbenzene	119		9.525			ND		
102 1,2,4-Trimethylbenzene	105		9.582			ND		
103 sec-Butylbenzene	134		9.747			ND		
104 1,3-Dichlorobenzene	146		9.875			ND		
105 4-Isopropyltoluene	119		9.890			ND		
106 1,4-Dichlorobenzene	146		9.976			ND		
107 1,2,3-Trimethylbenzene	105		9.990			ND		
108 n-Butylbenzene	91		10.297			ND		
109 1,2-Dichlorobenzene	146		10.333			ND		
110 1,2-Dibromo-3-Chloropropane	157		11.105			ND		
111 1,3,5-Trichlorobenzene	180		11.298			ND		
112 1,2,4-Trichlorobenzene	180		11.935			ND		
113 Hexachlorobutadiene	225		12.071			ND		
114 Naphthalene	128		12.206			ND		
115 1,2,3-Trichlorobenzene	180		12.428			ND		
120 Tetrahydrothiophene TIC	1		0.000			ND		
119 1-Chloro-1-fluoroethane TIC	1		0.000			ND		
118 Ethyl acrylate	55		0.000			ND		
117 t-Amyl alcohol	1		0.000			ND		
116 Ethylene oxide TIC	1		0.000			ND		
121 Propene oxide TIC	58		5.334			ND		
S 122 1,2-Dichloroethene, Total (URS)	96		2.000			ND		7
S 129 1,2-Dichloroethene, Total	1		0.000			ND		7
S 124 1,3-Dichloropropene, Total	1		0.000			ND		7
S 123 Xylenes, Total (URS)	1		0.000			ND		7
S 127 Trihalomethanes, Total	1		0.000			ND		7
S 126 Total BTEX	1		0.000			ND		7
S 128 TAH	1				0		0	
S 125 Xylenes, Total	106		0.000			ND		7
T 130 Dichloroacetonitrile TIC	74		1.000			ND		
T 132 1-Chlorohexane TIC	1		0.000			ND		
T 131 Methyl cyclohexane TIC	1		0.000			ND		
T 140 2,3-Dichloro-1-propene TIC	75		0.000			ND		
T 139 Propene TIC	1		0.000			ND		
T 138 n-Nonane TIC	1		0.000			ND		
T 137 1,3-Butadiene TIC	1		0.000			ND		

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	OnCol Amt ug/l	Flags
T 136 Cyclohexane TIC	1		0.000				ND	
T 135 4-Ethyltoluene TIC	1		0.000				ND	
T 134 2-Butoxyethanol TIC	1		0.000				ND	
T 133 Dicyclopentadiene TIC	1		0.000				ND	

QC Flag Legend

Processing Flags
- NR - Missing Quant Standard
- 7 - Failed Limit of Detection

Review Flags
- U - Marked Undetected

Reagents:

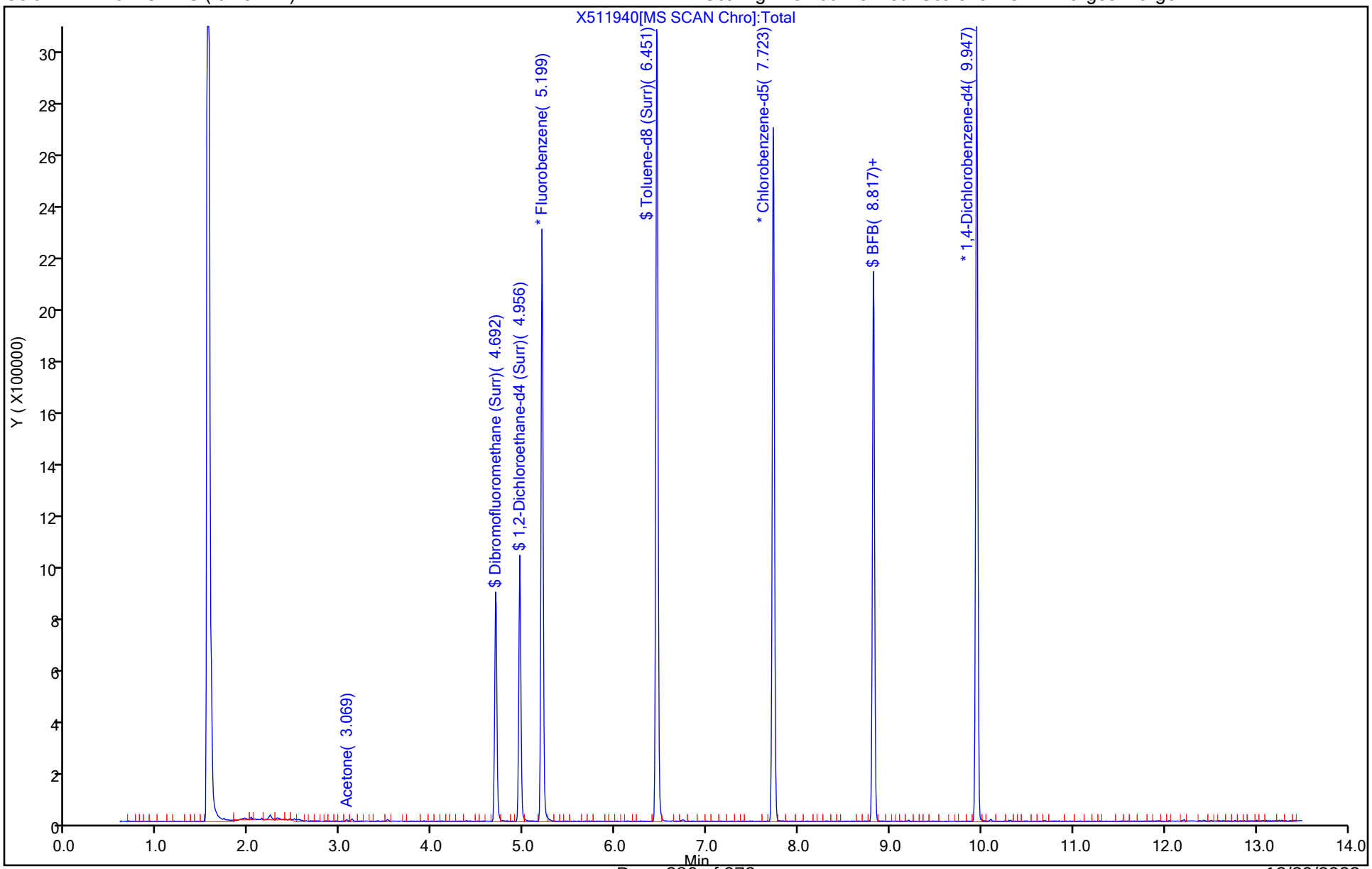
mv-IS_SS_00074 Amount Added: 5.00 Units: uL Run Reagent

Report Date: 19-Dec-2023 21:23:13 Chrom Revision: 2.3 15-Nov-2023 20:54:34

Eurofins Denver

Data File:	\\chromfs\Denver\ChromData\VMS_X4\20231218-128669.b\X511940.D				
Injection Date:	18-Dec-2023 11:25:30	Instrument ID:	VMS_X4	Operator ID:	COULTER
Lims ID:	280-185797-E-2	Lab Sample ID:	280-185797-2	Worklist Smp#:	14
Client ID:	TV044-MW24D1223A				
Purge Vol:	5.000 mL	Dil. Factor:	1.0000	ALS Bottle#:	8
Method:	VMS_X4_8260	Limit Group:	MSV - 8260B Water and Solid		

Column: Rxi-624Sil MS (0.25 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 1



Eurofins Denver
Recovery Report

Data File:	\\chromfs\Denver\ChromData\VMS_X4\20231218-128669.b\X511940.D				
Lims ID:	280-185797-E-2				
Client ID:	TV044-MW24D1223A				
Sample Type:	Client				
Inject. Date:	18-Dec-2023 11:25:30	ALS Bottle#:	8	Worklist Smp#:	14
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Sample Info:	280-185797-e-2				
Operator ID:	COULTER	Instrument ID:	VMS_X4		
Method:	\\chromfs\Denver\ChromData\VMS_X4\20231218-128669.b\VMS_X4_8260.m				
Limit Group:	MSV - 8260B Water and Solid				
Last Update:	19-Dec-2023 21:23:01	Calib Date:	11-Dec-2023 20:50:30		
Integrator:	RTE	ID Type:	Deconvolution ID		
Quant Method:	Internal Standard	Quant By:	Initial Calibration		
Last ICal File:	\\chromfs\Denver\ChromData\VMS_X4\20231211-128477.b\X511702.D				
Column 1 :	Rxi-624Sil MS (0.25 mm)		Det: MS SCAN		
Process Host:	CTX1675				

First Level Reviewer: AK2J Date: 19-Dec-2023 21:18:11

Compound	Amount Added	Amount Recovered	% Rec.
$ 4 Dibromofluoromethane (Surr)	50.0	53.5	106.98
$ 5 1,2-Dichloroethane-d4 (Surr)	50.0	52.0	104.00
$ 6 Toluene-d8 (Surr)	50.0	49.2	98.39
$ 7 4-Bromofluorobenzene (Surr)	50.0	45.4	90.75

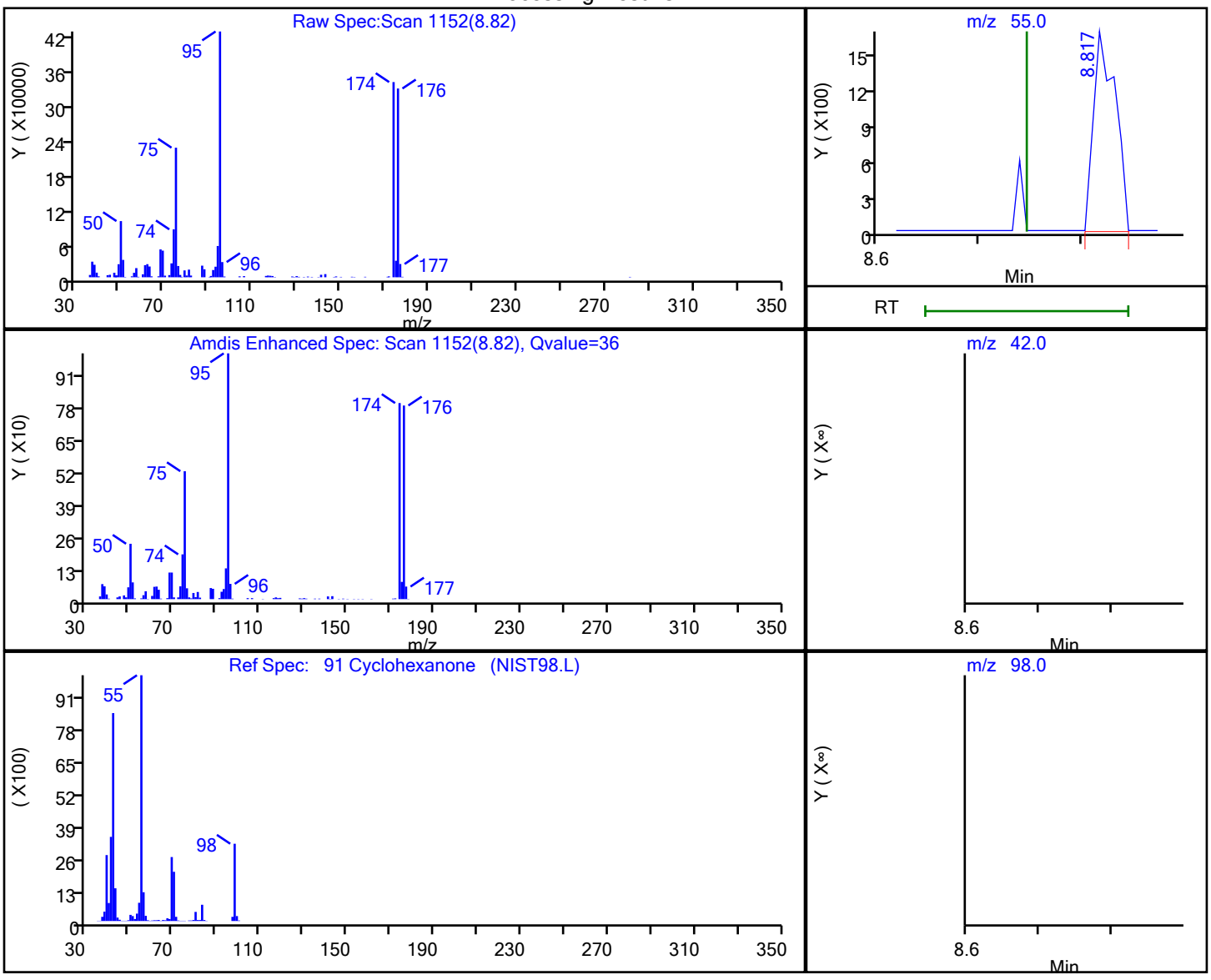
User Disabled Compound Report

Eurofins Denver

Data File:	\\chromfs\Denver\ChromData\VMS_X4\20231218-128669.b\X511940.D				
Injection Date:	18-Dec-2023 11:25:30	Instrument ID:	VMS_X4		
Lims ID:	280-185797-E-2	Lab Sample ID:	280-185797-2		
Client ID:	TV044-MW24D1223A				
Operator ID:	COULTER	ALS Bottle#:	8	Worklist Smp#:	14
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	VMS_X4_8260	Limit Group:	MSV - 8260B Water and Solid		
Column:	Rxi-624Sil MS (0.25 mm)	Detector	MS SCAN		

91 Cyclohexanone, CAS: 108-94-1

Processing Results



RT	Mass	Response	Amount
8.82	55.00	2435	5.143308
8.75	42.00	0	
8.75	98.00	0	

Reviewer: AK2J, 19-Dec-2023 21:18:07 -07:00:00 (UTC)

Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Denver | Job No.: 280-185797-1

SDG No.:

Client Sample ID: TV044-MW24I1223A | Lab Sample ID: 280-185797-3

Matrix: Water | Lab File ID: X511941.D

Analysis Method: 8260D | Date Collected: 12/13/2023 10:50

Sample wt/vol: 5(mL) | Date Analyzed: 12/18/2023 11:47

Soil Aliquot Vol: | Dilution Factor: 1

Soil Extract Vol.: | GC Column: RXI-624SilMS ID: 0.25(mm)

Purge Volume: 5.0(mL) | Heated Purge: (Y/N) N pH: 5.0

% Moisture: % Solids: | Level: (low/med) Low

Analysis Batch No.: 637616 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
71-55-6	1,1,1-Trichloroethane	0.50	U	1.0	0.50	0.39
79-34-5	1,1,2,2-Tetrachloroethane	0.80	U	1.0	0.80	0.21
79-00-5	1,1,2-Trichloroethane	0.80	U	1.0	0.80	0.27
75-34-3	1,1-Dichloroethane	0.80	U	1.0	0.80	0.22
75-35-4	1,1-Dichloroethylene	0.80	U	1.0	0.80	0.23
563-58-6	1,1-Dichloropropene	0.80	U	1.0	0.80	0.42
87-61-6	1,2,3-Trichlorobenzene	0.80	U	2.0	0.80	0.70
96-18-4	1,2,3-Trichloropropane	1.8	U	2.5	1.8	0.86
526-73-8	1,2,3-Trimethylbenzene	0.80	U	2.0	0.80	0.27
120-82-1	1,2,4-Trichlorobenzene	0.80	U	1.0	0.80	0.58
95-63-6	1,2,4-Trimethylbenzene	0.40	U	1.0	0.40	0.15
96-12-8	1,2-Dibromo-3-Chloropropane	4.0	U	5.0	4.0	1.8
106-93-4	1,2-Dibromoethane	0.80	U	1.0	0.80	0.40
95-50-1	1,2-Dichlorobenzene	0.50	U	1.0	0.50	0.37
107-06-2	1,2-Dichloroethane	0.80	U	1.0	0.80	0.54
78-87-5	1,2-Dichloropropane	0.80	U	1.0	0.80	0.52
108-67-8	1,3,5-Trimethylbenzene	0.50	U	1.0	0.50	0.37
541-73-1	1,3-Dichlorobenzene	0.40	U	1.0	0.40	0.33
142-28-9	1,3-Dichloropropane	0.80	U	1.0	0.80	0.38
106-46-7	1,4-Dichlorobenzene	0.50	U	1.0	0.50	0.39
594-20-7	2,2-Dichloropropane	0.80	U	1.0	0.80	0.38
78-93-3	2-Butanone (MEK)	12	U	15	12	6.0
110-75-8	2-Chloroethyl vinyl ether	0.80	U	3.0	0.80	0.44
591-78-6	2-Hexanone	4.0	U	5.0	4.0	1.7
99-87-6	4-Isopropyltoluene	0.80	U	1.0	0.80	0.43
108-10-1	4-Methyl-2-pentanone (MIBK)	3.2	U	5.0	3.2	0.98
67-64-1	Acetone	8.0	U M	15	8.0	6.6
107-13-1	Acrylonitrile	8.0	U	20	8.0	4.5
71-43-2	Benzene	0.80	U	1.0	0.80	0.31
108-86-1	Bromobenzene	0.50	U	1.0	0.50	0.40
74-97-5	Bromochloromethane	0.80	U	1.0	0.80	0.40
75-27-4	Bromodichloromethane	0.50	U	1.0	0.50	0.39
75-25-2	Bromoform	1.8	U	2.0	1.8	1.2
75-15-0	Carbon disulfide	0.80	U	2.0	0.80	0.63

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Denver | Job No.: 280-185797-1

SDG No.:

Client Sample ID: TV044-MW24I1223A | Lab Sample ID: 280-185797-3

Matrix: Water | Lab File ID: X511941.D

Analysis Method: 8260D | Date Collected: 12/13/2023 10:50

Sample wt/vol: 5(mL) | Date Analyzed: 12/18/2023 11:47

Soil Aliquot Vol: | Dilution Factor: 1

Soil Extract Vol.: | GC Column: RXI-624SilMS ID: 0.25(mm)

Purge Volume: 5.0(mL) | Heated Purge: (Y/N) N pH: 5.0

% Moisture: % Solids: | Level: (low/med) Low

Analysis Batch No.: 637616 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
56-23-5	Carbon tetrachloride	0.80	U	1.0	0.80	0.57
108-90-7	Chlorobenzene	0.80	U	1.0	0.80	0.42
75-00-3	Chloroethane	1.6	U	4.0	1.6	1.4
67-66-3	Chloroform	0.80	U	1.0	0.80	0.36
74-87-3	Chloromethane	1.0	U Q	2.0	1.0	0.75
156-59-2	cis-1,2-Dichloroethylene	0.40	U	1.0	0.40	0.32
10061-01-5	cis-1,3-Dichloropropene	1.8	U	2.0	1.8	0.63
110-82-7	Cyclohexane	0.80	U	1.0	0.80	0.44
108-94-1	Cyclohexanone	64	U M Q	100	64	32
124-48-1	Dibromochloromethane	1.8	U	2.0	1.8	0.62
74-95-3	Dibromomethane	0.40	U	1.0	0.40	0.34
75-71-8	Dichlorodifluoromethane	2.5	U Q	3.0	2.5	0.96
100-41-4	Ethylbenzene	0.40	U	1.0	0.40	0.30
87-68-3	Hexachlorobutadiene	1.8	U	2.0	1.8	1.2
108-20-3	Isopropyl ether	2.0	U	10	2.0	1.1
98-82-8	Isopropylbenzene	0.50	U	1.0	0.50	0.36
1634-04-4	Methyl tert-butyl ether	0.80	U	5.0	0.80	0.25
108-87-2	Methylcyclohexane	0.40	U	1.0	0.40	0.31
75-09-2	Methylene Chloride	1.8	U	2.0	1.8	0.94
91-20-3	Naphthalene	0.80	U	2.0	0.80	0.63
104-51-8	n-Butylbenzene	0.80	U	1.0	0.80	0.48
110-54-3	n-Hexane	0.80	U	2.0	0.80	0.16
103-65-1	N-Propylbenzene	0.80	U	1.0	0.80	0.53
95-49-8	o-Chlorotoluene	0.40	U	1.0	0.40	0.34
106-43-4	p-Chlorotoluene	0.80	U	1.0	0.80	0.21
135-98-8	sec-Butylbenzene	0.80	U	1.0	0.80	0.45
100-42-5	Styrene	0.80	U	1.0	0.80	0.36
98-06-6	tert-Butylbenzene	0.80	U	1.0	0.80	0.42
127-18-4	Tetrachloroethene	0.80	U	1.0	0.80	0.40
108-88-3	Toluene	0.40	U	1.0	0.40	0.32
156-60-5	trans-1,2-Dichloroethylene	0.50	U	1.0	0.50	0.37
10061-02-6	trans-1,3-Dichloropropene	1.8	U	2.0	1.8	0.65
79-01-6	Trichloroethene	0.40	U	1.0	0.40	0.30
75-69-4	Trichlorofluoromethane	0.80	U	2.0	0.80	0.57

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Denver | Job No.: 280-185797-1

SDG No.:

Client Sample ID: TV044-MW24I1223A | Lab Sample ID: 280-185797-3

Matrix: Water | Lab File ID: X511941.D

Analysis Method: 8260D | Date Collected: 12/13/2023 10:50

Sample wt/vol: 5(mL) | Date Analyzed: 12/18/2023 11:47

Soil Aliquot Vol: | Dilution Factor: 1

Soil Extract Vol.: | GC Column: RXI-624SilMS ID: 0.25(mm)

Purge Volume: 5.0(mL) | Heated Purge: (Y/N) N pH: 5.0

% Moisture: % Solids: | Level: (low/med) Low

Analysis Batch No.: 637616 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
108-05-4	Vinyl acetate	2.0	U	3.0	2.0	0.94
75-01-4	Vinyl chloride	1.0	U	2.0	1.0	0.51
1330-20-7	Xylenes, Total	0.80	U	1.0	0.80	0.33

CAS NO.	SURROGATE	%REC	Q	LIMITS
17060-07-0	1,2-Dichloroethane-d4 (Surr)	107		81-118
460-00-4	4-Bromofluorobenzene (Surr)	91		85-114
1868-53-7	Dibromofluoromethane (Surr)	107		80-119
2037-26-5	Toluene-d8 (Surr)	100		89-112

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET
TARGETED TENATIVELY IDENTIFIED COMPOUNDS

Lab Name: Eurofins Denver | Job No.: 280-185797-1

SDG No.:

Client Sample ID: TV044-MW24I1223A | Lab Sample ID: 280-185797-3

Matrix: Water | Lab File ID: X511941.D

Analysis Method: 8260D | Date Collected: 12/13/2023 10:50

Sample wt/vol: 5(mL) | Date Analyzed: 12/18/2023 11:47

Soil Aliquot Vol: | Dilution Factor: 1

Soil Extract Vol.: | GC Column: RXI-624SilMS ID: 0.25(mm)

Purge Volume: 5.0(mL) | Heated Purge: (Y/N) N pH: 5.0

% Moisture: % Solids: | Level: (low/med) Low

Analysis Batch No.: 637616 | Units: ug/L

CAS NO.	COMPOUND NAME	RT	RESULT	Q	MATCH QUALITY
106-99-0	1,3-Butadiene TIC		1.0	U	
622-96-8	4-Ethyltoluene TIC		1.0	U	
77-73-6	Dicyclopentadiene TIC		1.0	U	
115-07-1	Propene TIC		1.0	U	

Eurofins Denver
Target Compound Quantitation Report

Data File: \\chromfs\Denver\ChromData\VMS_X4\20231218-128669.b\X511941.D
Lims ID: 280-185797-F-3
Client ID: TV044-MW24I1223A
Sample Type: Client
Inject. Date: 18-Dec-2023 11:47:30 ALS Bottle#: 9 Worklist Smp#: 15
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Sample Info: 280-185797-f-3
Operator ID: COULTER Instrument ID: VMS_X4

Method: \\chromfs\Denver\ChromData\VMS_X4\20231218-128669.b\VMS_X4_8260.m
Limit Group: MSV - 8260B Water and Solid
Last Update: 19-Dec-2023 21:23:01 Calib Date: 11-Dec-2023 20:50:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Denver\ChromData\VMS_X4\20231211-128477.b\X511702.D

Column 1 : Rxi-624Sil MS (0.25 mm) Det: MS SCAN
Process Host: CTX1675

First Level Reviewer: AK2J Date: 19-Dec-2023 21:18:35

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	OnCol Amt ug/l	Flags
* 1 Fluorobenzene	96	5.199	5.199	0.000	98	1702313	50.0	
* 2 Chlorobenzene-d5	119	7.723	7.723	0.000	90	457503	50.0	
* 3 1,4-Dichlorobenzene-d4	152	9.947	9.947	0.000	97	792033	50.0	
$ 4 Dibromofluoromethane (Surr)	111	4.692	4.692	0.000	93	467464	53.7	
$ 5 1,2-Dichloroethane-d4 (Surr)	65	4.956	4.956	0.000	0	603568	53.6	
$ 6 Toluene-d8 (Surr)	98	6.458	6.451	0.008	95	1970848	50.0	
$ 7 4-Bromofluorobenzene (Surr)	95	8.817	8.817	0.000	88	685427	45.3	
$ 8 BFB	95	8.817	8.817	0.000	85	685427	NR	
9 Dichlorodifluoromethane	85		1.760				ND	
10 Chloromethane	50		1.939				ND	
11 Vinyl chloride	62		2.039				ND	
12 Bromomethane	94		2.325				ND	7
13 Chloroethane	64		2.425				ND	
15 Propene oxide	58		2.504				ND	
14 Dichlorofluoromethane	67		2.597				ND	
16 Trichlorofluoromethane	101		2.632				ND	
17 Ethanol	45		2.754				ND	
18 Ethyl ether	59		2.847				ND	
19 Acrolein	56		2.961				ND	
20 1,1,2-Trichloro-1,2,2-trifluoroe	151		3.040				ND	
21 1,1-Dichloroethene	96		3.040				ND	
22 Acetone	43		3.061				ND	U
23 Isopropyl alcohol	45		3.147				ND	
24 Iodomethane	142		3.169				ND	
25 Carbon disulfide	76		3.226				ND	
26 Acetonitrile	41		3.276				ND	
27 Methyl acetate	43		3.290				ND	
28 3-Chloro-1-propene	41		3.312				ND	
29 Methylene Chloride	84		3.404				ND	
30 2-Methyl-2-propanol	59		3.447				ND	
31 Acrylonitrile	53		3.576				ND	
32 Methyl tert-butyl ether	73		3.590				ND	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	OnCol Amt ug/l	Flags
33 trans-1,2-Dichloroethene	96		3.605				ND	
34 Hexane	57		3.798				ND	
35 Vinyl acetate	43		3.905				ND	
36 1,1-Dichloroethane	63		3.926				ND	
37 Isopropyl ether	87		3.926				ND	
38 2-Chloro-1,3-butadiene	53		3.984				ND	
39 Tert-butyl ethyl ether	59		4.191				ND	
40 2-Butanone (MEK)	43		4.313				ND	
41 Ethyl acetate	43		4.327				ND	
42 cis-1,2-Dichloroethene	96		4.341				ND	
43 2,2-Dichloropropane	77		4.355				ND	
44 Propionitrile	54		4.370				ND	
45 sec-Butyl Alcohol	45		4.420				ND	
46 Methacrylonitrile	41		4.477				ND	
47 Chlorobromomethane	128		4.520				ND	
48 Tetrahydrofuran	42		4.527				ND	
49 Chloroform	83		4.577				ND	
50 1,1,1-Trichloroethane	97		4.720				ND	
51 Cyclohexane	56		4.777				ND	
52 1,1-Dichloropropene	75		4.835				ND	
53 Carbon tetrachloride	117		4.835				ND	
54 Isobutyl alcohol	41		4.842				ND	
55 Benzene	78		4.985				ND	7
56 1,2-Dichloroethane	62		5.013				ND	7
57 Tert-amyl methyl ether	73		5.056				ND	
58 n-Heptane	43		5.163				ND	
59 n-Butanol	56		5.335				ND	
60 Trichloroethene	95		5.471				ND	
61 2-Pentanone	43		5.578				ND	
62 Methylcyclohexane	55		5.671				ND	
63 1,2-Dichloropropane	63		5.678				ND	
64 Methyl methacrylate	100		5.678				ND	
65 1,4-Dioxane	88		5.721				ND	
66 Dibromomethane	93		5.750				ND	
67 Dichlorobromomethane	83		5.871				ND	
68 2-Nitropropane	41		6.043				ND	
69 2-Chloroethyl vinyl ether	63		6.072				ND	
70 cis-1,3-Dichloropropene	75		6.222				ND	
71 4-Methyl-2-pentanone (MIBK)	43		6.322				ND	
72 Toluene	91		6.508				ND	
73 trans-1,3-Dichloropropene	75		6.679				ND	
74 Ethyl methacrylate	69		6.701				ND	
75 1,1,2-Trichloroethane	97		6.858				ND	
76 Tetrachloroethene	164		6.951				ND	
77 1,3-Dichloropropane	76		7.008				ND	
78 2-Hexanone	43		7.023				ND	
79 Chlorodibromomethane	129		7.201				ND	
80 Ethylene Dibromide	107		7.323				ND	
81 1-Chlorohexane	91		7.709				ND	U
82 Chlorobenzene	112		7.752				ND	
83 1,1,1,2-Tetrachloroethane	131		7.823				ND	
84 Ethylbenzene	106		7.830				ND	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	OnCol Amt ug/l	Flags
85 m-Xylene & p-Xylene	106	7.938	7.945	-0.007	0	5371	0.3016	
86 o-Xylene	106	8.295	8.302	-0.007	92	3737	0.2153	
87 Styrene	104		8.324				ND	7
88 Bromoform	173		8.503				ND	
89 Isopropylbenzene	105		8.646				ND	
90 cis-1,4-Dichloro-2-butene	53		8.696				ND	
91 Cyclohexanone	55		8.746				ND	U
92 1,1,2,2-Tetrachloroethane	83		8.932				ND	
94 trans-1,4-Dichloro-2-butene	53		8.967				ND	
93 Bromobenzene	156		8.967				ND	
95 1,2,3-Trichloropropane	110		8.996				ND	
96 N-Propylbenzene	120		9.046				ND	
97 2-Chlorotoluene	126		9.146				ND	
98 1,3,5-Trimethylbenzene	105		9.218				ND	
99 4-Chlorotoluene	126		9.261				ND	
101 Pentachloroethane	167		9.411				ND	
100 tert-Butylbenzene	119		9.525				ND	
102 1,2,4-Trimethylbenzene	105		9.582				ND	
103 sec-Butylbenzene	134		9.747				ND	
104 1,3-Dichlorobenzene	146		9.875				ND	
105 4-Isopropyltoluene	119		9.890				ND	
106 1,4-Dichlorobenzene	146		9.976				ND	
107 1,2,3-Trimethylbenzene	105		9.990				ND	
108 n-Butylbenzene	91		10.297				ND	
109 1,2-Dichlorobenzene	146		10.333				ND	
110 1,2-Dibromo-3-Chloropropane	157		11.105				ND	
111 1,3,5-Trichlorobenzene	180		11.298				ND	
112 1,2,4-Trichlorobenzene	180		11.935				ND	
113 Hexachlorobutadiene	225		12.071				ND	
114 Naphthalene	128	12.199	12.206	-0.007	1	6196	0.2182	
115 1,2,3-Trichlorobenzene	180		12.428				ND	
120 Tetrahydrothiophene TIC	1		0.000				ND	
119 1-Chloro-1-fluoroethane TIC	1		0.000				ND	
118 Ethyl acrylate	55		0.000				ND	
117 t-Amyl alcohol	1		0.000				ND	
116 Ethylene oxide TIC	1		0.000				ND	
121 Propene oxide TIC	58		5.334				ND	
S 122 1,2-Dichloroethene, Total (URS)	96		2.000				ND	7
S 129 1,2-Dichloroethene, Total	1		0.000				ND	7
S 124 1,3-Dichloropropene, Total	1		0.000				ND	7
S 123 Xylenes, Total (URS)	1				0		0.5168	
S 127 Trihalomethanes, Total	1		0.000				ND	7
S 126 Total BTEX	1				0		0.5168	
S 128 TAH	1				0		0	
S 125 Xylenes, Total	106				0		0.5168	
T 130 Dichloroacetonitrile TIC	74		1.000				ND	
T 132 1-Chlorohexane TIC	1		0.000				ND	
T 131 Methyl cyclohexane TIC	1		0.000				ND	
T 140 2,3-Dichloro-1-propene TIC	75		0.000				ND	
T 139 Propene TIC	1		0.000				ND	
T 138 n-Nonane TIC	1		0.000				ND	
T 137 1,3-Butadiene TIC	1		0.000				ND	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	OnCol Amt ug/l	Flags
T 136 Cyclohexane TIC	1		0.000				ND	
T 135 4-Ethyltoluene TIC	1		0.000				ND	
T 134 2-Butoxyethanol TIC	1		0.000				ND	
T 133 Dicyclopentadiene TIC	1		0.000				ND	

QC Flag Legend

Processing Flags
- NR - Missing Quant Standard
- 7 - Failed Limit of Detection

Review Flags
- U - Marked Undetected

Reagents:

mv-IS_SS_00074 Amount Added: 5.00 Units: uL Run Reagent

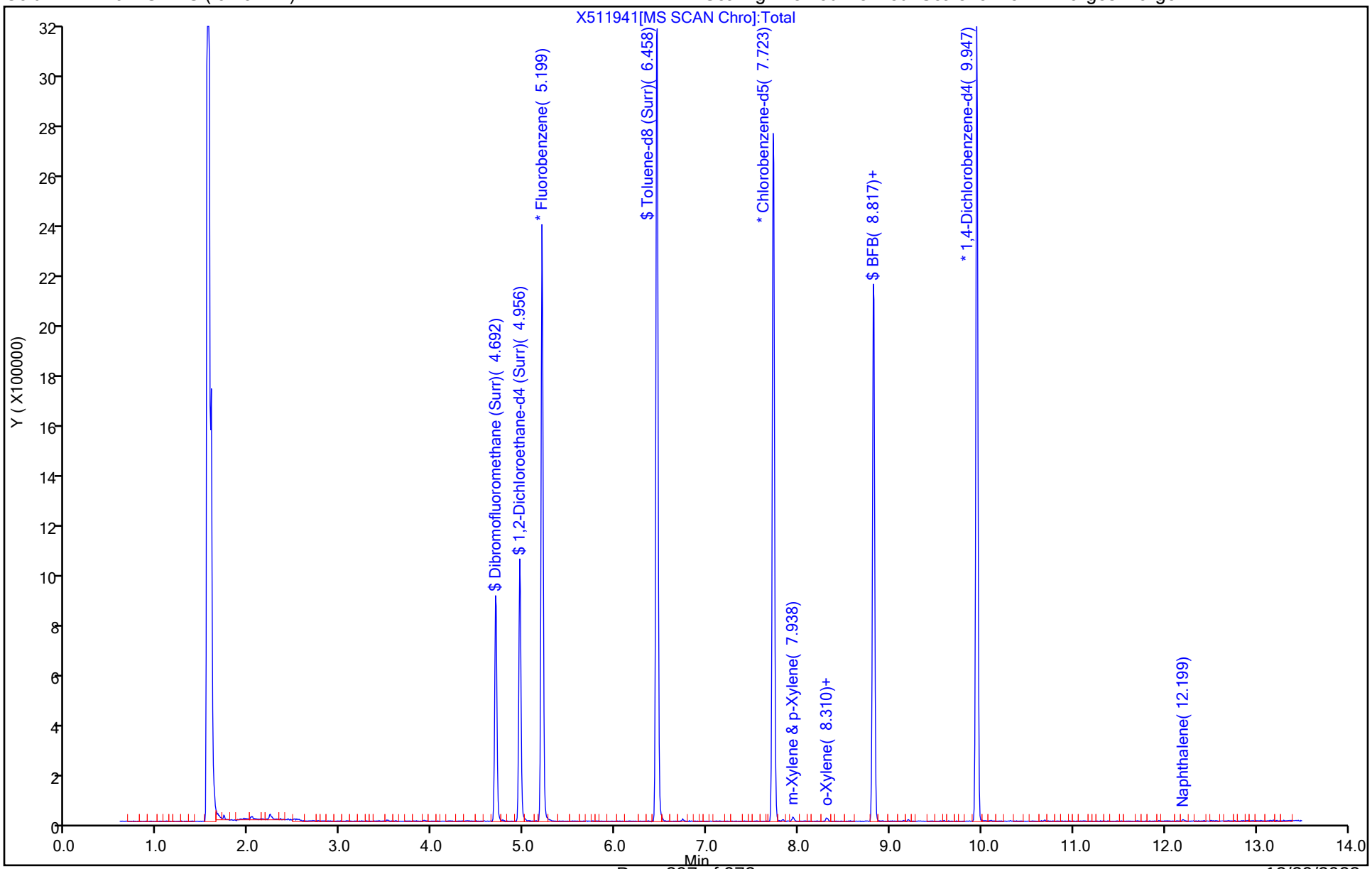
Report Date: 19-Dec-2023 21:23:14 Chrom Revision: 2.3 15-Nov-2023 20:54:34

Eurofins Denver

Data File: \\chromfs\Denver\ChromData\VMS_X4\20231218-128669.b\X511941.D

Injection Date:	18-Dec-2023 11:47:30	Instrument ID:	VMS_X4	Operator ID:	COULTER
Lims ID:	280-185797-F-3	Lab Sample ID:	280-185797-3	Worklist Smp#:	15
Client ID:	TV044-MW24I1223A				
Purge Vol:	5.000 mL	Dil. Factor:	1.0000	ALS Bottle#:	9
Method:	VMS_X4_8260	Limit Group:	MSV - 8260B Water and Solid		

Column: Rxi-624Sil MS (0.25 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 1



12/29/2023
10:48 AM

Eurofins Denver
Recovery Report

Data File:	\\chromfs\Denver\ChromData\VMS_X4\20231218-128669.b\X511941.D				
Lims ID:	280-185797-F-3				
Client ID:	TV044-MW24I1223A				
Sample Type:	Client				
Inject. Date:	18-Dec-2023 11:47:30	ALS Bottle#:	9	Worklist Smp#:	15
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Sample Info:	280-185797-f-3				
Operator ID:	COULTER	Instrument ID:	VMS_X4		
Method:	\\chromfs\Denver\ChromData\VMS_X4\20231218-128669.b\VMS_X4_8260.m				
Limit Group:	MSV - 8260B Water and Solid				
Last Update:	19-Dec-2023 21:23:01	Calib Date:	11-Dec-2023 20:50:30		
Integrator:	RTE	ID Type:	Deconvolution ID		
Quant Method:	Internal Standard	Quant By:	Initial Calibration		
Last ICal File:	\\chromfs\Denver\ChromData\VMS_X4\20231211-128477.b\X511702.D				
Column 1 :	Rxi-624Sil MS (0.25 mm)		Det: MS SCAN		
Process Host:	CTX1675				

First Level Reviewer: AK2J Date: 19-Dec-2023 21:18:35

Compound	Amount Added	Amount Recovered	% Rec.
$ 4 Dibromofluoromethane (Surr)	50.0	53.7	107.35
$ 5 1,2-Dichloroethane-d4 (Surr)	50.0	53.6	107.17
$ 6 Toluene-d8 (Surr)	50.0	50.0	100.07
$ 7 4-Bromofluorobenzene (Surr)	50.0	45.3	90.69

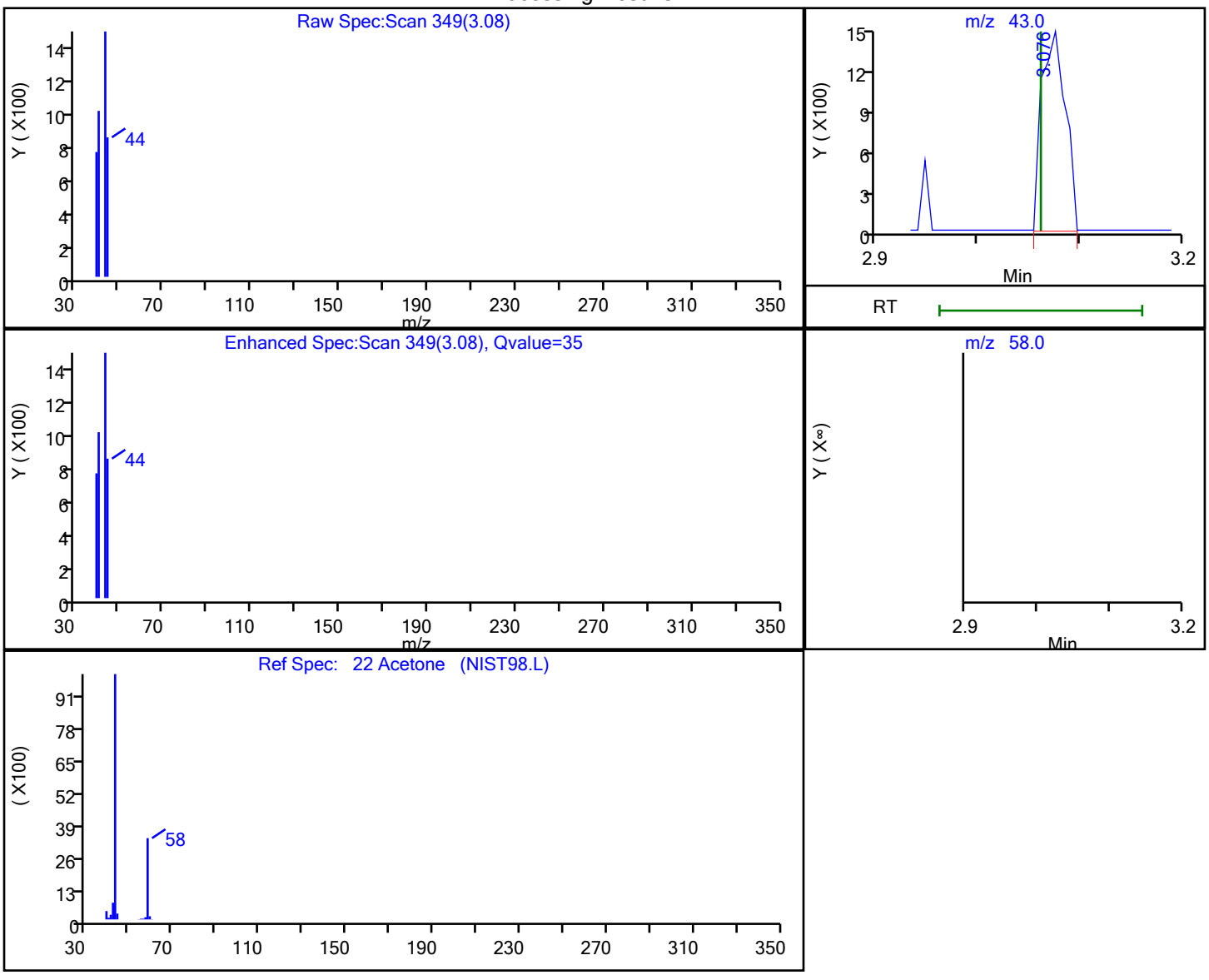
User Disabled Compound Report

Eurofins Denver

Data File:	\\chromfs\Denver\ChromData\VMS_X4\20231218-128669.b\X511941.D				
Injection Date:	18-Dec-2023 11:47:30	Instrument ID:	VMS_X4		
Lims ID:	280-185797-F-3	Lab Sample ID:	280-185797-3		
Client ID:	TV044-MW24I1223A				
Operator ID:	COULTER	ALS Bottle#:	9	Worklist Smp#:	15
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	VMS_X4_8260	Limit Group:	MSV - 8260B Water and Solid		
Column:	Rxi-624Sil MS (0.25 mm)	Detector	MS SCAN		

22 Acetone, CAS: 67-64-1

Processing Results



RT	Mass	Response	Amount
3.08	43.00	2372	0.713957
3.06	58.00	0	

Reviewer: AK2J, 19-Dec-2023 21:18:32 -07:00:00 (UTC)

Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

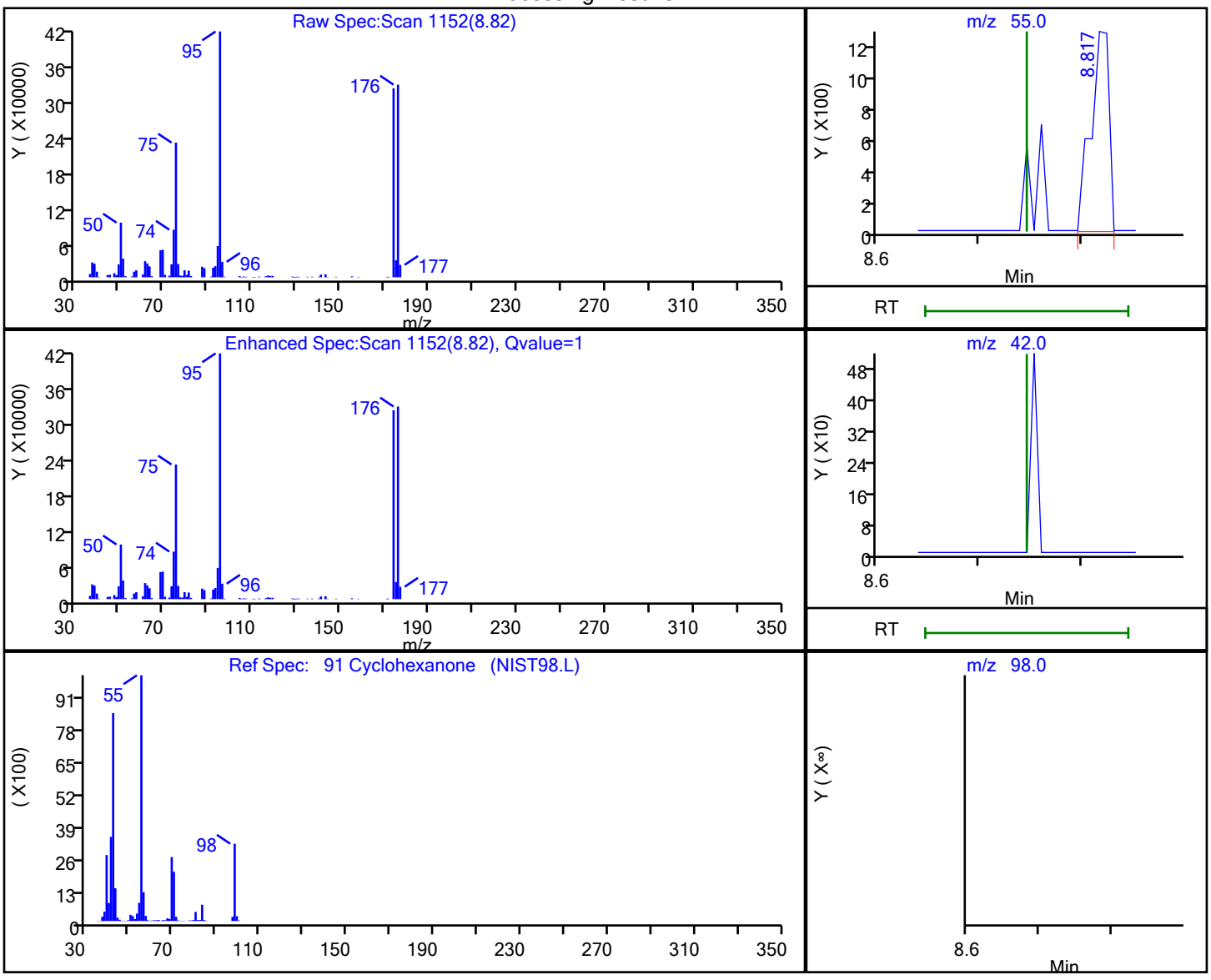
User Disabled Compound Report

Eurofins Denver

Data File:	\\chromfs\Denver\ChromData\VMS_X4\20231218-128669.b\X511941.D				
Injection Date:	18-Dec-2023 11:47:30	Instrument ID:	VMS_X4		
Lims ID:	280-185797-F-3	Lab Sample ID:	280-185797-3		
Client ID:	TV044-MW24I1223A				
Operator ID:	COULTER	ALS Bottle#:	9	Worklist Smp#:	15
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	VMS_X4_8260	Limit Group:	MSV - 8260B Water and Solid		
Column:	Rxi-624Sil MS (0.25 mm)	Detector	MS SCAN		

91 Cyclohexanone, CAS: 108-94-1

Processing Results



RT	Mass	Response	Amount
8.82	55.00	1618	3.460291
8.75	42.00	0	
8.75	98.00	0	

Reviewer: AK2J, 19-Dec-2023 21:18:22 -07:00:00 (UTC)

Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Denver | Job No.: 280-185797-1

SDG No.:

Client Sample ID: TV044-MW21M1223A | Lab Sample ID: 280-185797-4

Matrix: Water | Lab File ID: X511950.D

Analysis Method: 8260D | Date Collected: 12/13/2023 11:30

Sample wt/vol: 5(mL) | Date Analyzed: 12/18/2023 15:02

Soil Aliquot Vol: | Dilution Factor: 50

Soil Extract Vol.: | GC Column: RXI-624SilMS ID: 0.25(mm)

Purge Volume: 5.0(mL) | Heated Purge: (Y/N) N pH: 5.0

% Moisture: % Solids: | Level: (low/med) Low

Analysis Batch No.: 637616 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
71-55-6	1,1,1-Trichloroethane	25	U	50	25	20
79-34-5	1,1,2,2-Tetrachloroethane	40	U	50	40	11
79-00-5	1,1,2-Trichloroethane	40	U M	50	40	14
75-34-3	1,1-Dichloroethane	40	U	50	40	11
75-35-4	1,1-Dichloroethylene	40	U	50	40	12
563-58-6	1,1-Dichloropropene	40	U	50	40	21
87-61-6	1,2,3-Trichlorobenzene	40	U	100	40	35
96-18-4	1,2,3-Trichloropropane	90	U	130	90	43
526-73-8	1,2,3-Trimethylbenzene	16	J D	100	40	14
120-82-1	1,2,4-Trichlorobenzene	40	U	50	40	29
95-63-6	1,2,4-Trimethylbenzene	20	U	50	20	7.5
96-12-8	1,2-Dibromo-3-Chloropropane	200	U	250	200	88
106-93-4	1,2-Dibromoethane	40	U	50	40	20
95-50-1	1,2-Dichlorobenzene	25	U	50	25	19
107-06-2	1,2-Dichloroethane	40	U M	50	40	27
78-87-5	1,2-Dichloropropane	40	U	50	40	26
108-67-8	1,3,5-Trimethylbenzene	25	U	50	25	18
541-73-1	1,3-Dichlorobenzene	20	U	50	20	17
142-28-9	1,3-Dichloropropane	40	U	50	40	19
106-46-7	1,4-Dichlorobenzene	25	U	50	25	19
594-20-7	2,2-Dichloropropane	40	U	50	40	19
78-93-3	2-Butanone (MEK)	600	U	750	600	300
110-75-8	2-Chloroethyl vinyl ether	40	U	150	40	22
591-78-6	2-Hexanone	200	U	250	200	85
99-87-6	4-Isopropyltoluene	40	U	50	40	21
108-10-1	4-Methyl-2-pentanone (MIBK)	160	U	250	160	49
67-64-1	Acetone	400	U	750	400	330
107-13-1	Acrylonitrile	400	U M	1000	400	220
71-43-2	Benzene	19	J D	50	40	15
108-86-1	Bromobenzene	25	U	50	25	20
74-97-5	Bromochloromethane	40	U	50	40	20
75-27-4	Bromodichloromethane	25	U	50	25	19
75-25-2	Bromoform	90	U	100	90	61
75-15-0	Carbon disulfide	40	U	100	40	32

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Denver | Job No.: 280-185797-1

SDG No.:

Client Sample ID: TV044-MW21M1223A | Lab Sample ID: 280-185797-4

Matrix: Water | Lab File ID: X511950.D

Analysis Method: 8260D | Date Collected: 12/13/2023 11:30

Sample wt/vol: 5(mL) | Date Analyzed: 12/18/2023 15:02

Soil Aliquot Vol: | Dilution Factor: 50

Soil Extract Vol.: | GC Column: RXI-624SilMS ID: 0.25(mm)

Purge Volume: 5.0(mL) | Heated Purge: (Y/N) N pH: 5.0

% Moisture: % Solids: | Level: (low/med) Low

Analysis Batch No.: 637616 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
56-23-5	Carbon tetrachloride	40	U	50	40	28
108-90-7	Chlorobenzene	40	U	50	40	21
75-00-3	Chloroethane	80	U	200	80	69
67-66-3	Chloroform	40	U	50	40	18
74-87-3	Chloromethane	50	U Q	100	50	38
156-59-2	cis-1,2-Dichloroethylene	20	U	50	20	16
10061-01-5	cis-1,3-Dichloropropene	90	U	100	90	31
110-82-7	Cyclohexane	330	D	50	40	22
108-94-1	Cyclohexanone	3200	U M Q	5000	3200	1600
124-48-1	Dibromochloromethane	90	U	100	90	31
74-95-3	Dibromomethane	20	U	50	20	17
75-71-8	Dichlorodifluoromethane	130	U Q	150	130	48
100-41-4	Ethylbenzene	20	U	50	20	15
87-68-3	Hexachlorobutadiene	90	U	100	90	59
108-20-3	Isopropyl ether	100	U	500	100	55
98-82-8	Isopropylbenzene	25	U	50	25	18
1634-04-4	Methyl tert-butyl ether	2900	D	250	40	13
108-87-2	Methylcyclohexane	980	D	50	20	16
75-09-2	Methylene Chloride	90	U	100	90	47
91-20-3	Naphthalene	40	U	100	40	32
104-51-8	n-Butylbenzene	40	U	50	40	24
110-54-3	n-Hexane	190	D	100	40	8.2
103-65-1	N-Propylbenzene	40	U	50	40	27
95-49-8	o-Chlorotoluene	20	U	50	20	17
106-43-4	p-Chlorotoluene	40	U	50	40	11
135-98-8	sec-Butylbenzene	40	U	50	40	22
100-42-5	Styrene	40	U	50	40	18
98-06-6	tert-Butylbenzene	40	U	50	40	21
127-18-4	Tetrachloroethene	40	U	50	40	20
108-88-3	Toluene	20	U	50	20	16
156-60-5	trans-1,2-Dichloroethylene	25	U	50	25	18
10061-02-6	trans-1,3-Dichloropropene	90	U	100	90	32
79-01-6	Trichloroethene	20	U	50	20	15
75-69-4	Trichlorofluoromethane	40	U	100	40	28

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Denver | Job No.: 280-185797-1

SDG No.:

Client Sample ID: TV044-MW21M1223A | Lab Sample ID: 280-185797-4

Matrix: Water | Lab File ID: X511950.D

Analysis Method: 8260D | Date Collected: 12/13/2023 11:30

Sample wt/vol: 5(mL) | Date Analyzed: 12/18/2023 15:02

Soil Aliquot Vol: | Dilution Factor: 50

Soil Extract Vol.: | GC Column: RXI-624SilMS ID: 0.25(mm)

Purge Volume: 5.0(mL) | Heated Purge: (Y/N) N pH: 5.0

% Moisture: % Solids: | Level: (low/med) Low

Analysis Batch No.: 637616 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
108-05-4	Vinyl acetate	100	U	150	100	47
75-01-4	Vinyl chloride	50	U	100	50	25
1330-20-7	Xylenes, Total	40	U	50	40	17

CAS NO.	SURROGATE	%REC	Q	LIMITS
17060-07-0	1,2-Dichloroethane-d4 (Surr)	101		81-118
460-00-4	4-Bromofluorobenzene (Surr)	90		85-114
1868-53-7	Dibromofluoromethane (Surr)	106		80-119
2037-26-5	Toluene-d8 (Surr)	99		89-112

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET
TARGETED TENATIVELY IDENTIFIED COMPOUNDS

Lab Name: Eurofins Denver | Job No.: 280-185797-1

SDG No.:

Client Sample ID: TV044-MW21M1223A | Lab Sample ID: 280-185797-4

Matrix: Water | Lab File ID: X511950.D

Analysis Method: 8260D | Date Collected: 12/13/2023 11:30

Sample wt/vol: 5(mL) | Date Analyzed: 12/18/2023 15:02

Soil Aliquot Vol: | Dilution Factor: 50

Soil Extract Vol.: | GC Column: RXI-624SilMS ID: 0.25(mm)

Purge Volume: 5.0(mL) | Heated Purge: (Y/N) N pH: 5.0

% Moisture: % Solids: | Level: (low/med) Low

Analysis Batch No.: 637616 | Units: ug/L

CAS NO.	COMPOUND NAME	RT	RESULT	Q	MATCH QUALITY
106-99-0	1,3-Butadiene TIC		50	U	
622-96-8	4-Ethyltoluene TIC		50	U	
77-73-6	Dicyclopentadiene TIC		50	U	
115-07-1	Propene TIC		50	U	

Eurofins Denver
Target Compound Quantitation Report

Data File: \\chromfs\Denver\ChromData\VMS_X4\20231218-128669.b\X511950.D
Lims ID: 280-185797-F-4
Client ID: TV044-MW21M1223A
Sample Type: Client
Inject. Date: 18-Dec-2023 15:02:30 ALS Bottle#: 18 Worklist Smp#: 24
Purge Vol: 5.000 mL Dil. Factor: 50.0000
Sample Info: 280-185797-f-4
Misc. Info.: 50X
Operator ID: COULTER Instrument ID: VMS_X4

Method: \\chromfs\Denver\ChromData\VMS_X4\20231218-128669.b\VMS_X4_8260.m
Limit Group: MSV - 8260B Water and Solid
Last Update: 19-Dec-2023 21:23:01 Calib Date: 11-Dec-2023 20:50:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Denver\ChromData\VMS_X4\20231211-128477.b\X511702.D

Column 1 : Rxi-624Sil MS (0.25 mm) Det: MS SCAN
Process Host: CTX1675

First Level Reviewer: AK2J Date: 19-Dec-2023 21:22:27

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	OnCol Amt ug/l	Flags
* 1 Fluorobenzene	96	5.199	5.199	0.000	98	1672467	50.0	
* 2 Chlorobenzene-d5	119	7.730	7.723	0.007	90	449211	50.0	
* 3 1,4-Dichlorobenzene-d4	152	9.947	9.947	0.000	97	776331	50.0	
$ 4 Dibromofluoromethane (Surr)	111	4.699	4.692	0.007	93	455576	53.2	
$ 5 1,2-Dichloroethane-d4 (Surr)	65	4.956	4.956	0.000	0	559543	50.6	
$ 6 Toluene-d8 (Surr)	98	6.458	6.451	0.008	95	1918234	49.6	
$ 7 4-Bromofluorobenzene (Surr)	95	8.824	8.817	0.007	87	667859	45.1	
$ 8 BFB	95	8.824	8.817	0.007	87	667859	NR	
9 Dichlorodifluoromethane	85		1.760				ND	
10 Chloromethane	50		1.939				ND	
11 Vinyl chloride	62		2.039				ND	
12 Bromomethane	94		2.325				ND	7
13 Chloroethane	64		2.425				ND	
15 Propene oxide	58	2.496	2.504	-0.008	9	4818	NC	
14 Dichlorofluoromethane	67		2.597				ND	
16 Trichlorofluoromethane	101		2.632				ND	
17 Ethanol	45		2.754				ND	
18 Ethyl ether	59		2.847				ND	
19 Acrolein	56		2.961				ND	
20 1,1,2-Trichloro-1,2,2-trifluoroe	151		3.040				ND	
21 1,1-Dichloroethene	96		3.040				ND	
22 Acetone	43	3.068	3.061	0.007	95	7834	2.40	
23 Isopropyl alcohol	45		3.147				ND	
24 Iodomethane	142		3.169				ND	
25 Carbon disulfide	76		3.226				ND	
26 Acetonitrile	41		3.276				ND	
27 Methyl acetate	43		3.290				ND	
28 3-Chloro-1-propene	41		3.312				ND	
29 Methylene Chloride	84		3.404				ND	
30 2-Methyl-2-propanol	59		3.447				ND	U
31 Acrylonitrile	53		3.576				ND	U

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	OnCol Amt ug/l	Flags
32 Methyl tert-butyl ether	73	3.597	3.590	0.007	98	1477295	57.8	
33 trans-1,2-Dichloroethene	96		3.605				ND	
34 Hexane	57	3.805	3.798	0.007	98	52915	3.84	
35 Vinyl acetate	43		3.905				ND	
36 1,1-Dichloroethane	63		3.926				ND	
37 Isopropyl ether	87		3.926				ND	
38 2-Chloro-1,3-butadiene	53		3.984				ND	
39 Tert-butyl ethyl ether	59		4.191				ND	
40 2-Butanone (MEK)	43		4.313				ND	
41 Ethyl acetate	43		4.327				ND	U
42 cis-1,2-Dichloroethene	96		4.341				ND	
43 2,2-Dichloropropane	77		4.355				ND	
44 Propionitrile	54		4.370				ND	U
45 sec-Butyl Alcohol	45		4.420				ND	
46 Methacrylonitrile	41		4.477				ND	
47 Chlorobromomethane	128		4.520				ND	
48 Tetrahydrofuran	42		4.527				ND	
49 Chloroform	83		4.577				ND	
50 1,1,1-Trichloroethane	97		4.720				ND	
51 Cyclohexane	56	4.784	4.777	0.007	95	118037	6.57	
52 1,1-Dichloropropene	75		4.835				ND	
53 Carbon tetrachloride	117		4.835				ND	
54 Isobutyl alcohol	41	4.849	4.842	0.007	79	12858	38.6	
55 Benzene	78	4.992	4.985	0.007	89	15058	0.3786	
56 1,2-Dichloroethane	62		5.013				ND	U
57 Tert-amyl methyl ether	73		5.056				ND	7
58 n-Heptane	43		5.163				ND	
59 n-Butanol	56		5.335				ND	
60 Trichloroethene	95		5.471				ND	
61 2-Pentanone	43		5.578				ND	
62 Methylcyclohexane	55	5.671	5.671	0.000	95	241666	19.5	
63 1,2-Dichloropropane	63	5.664	5.678	-0.014	50	1967	0.1776	
64 Methyl methacrylate	100		5.678				ND	
65 1,4-Dioxane	88		5.721				ND	
66 Dibromomethane	93		5.750				ND	
67 Dichlorobromomethane	83		5.871				ND	
68 2-Nitropropane	41		6.043				ND	U
69 2-Chloroethyl vinyl ether	63		6.072				ND	
70 cis-1,3-Dichloropropene	75		6.222				ND	
71 4-Methyl-2-pentanone (MIBK)	43		6.322				ND	
72 Toluene	91		6.508				ND	
73 trans-1,3-Dichloropropene	75		6.679				ND	
74 Ethyl methacrylate	69		6.701				ND	U
75 1,1,2-Trichloroethane	97		6.858				ND	U
76 Tetrachloroethene	164		6.951				ND	
77 1,3-Dichloropropane	76		7.008				ND	
78 2-Hexanone	43		7.023				ND	
79 Chlorodibromomethane	129		7.201				ND	
80 Ethylene Dibromide	107		7.323				ND	
81 1-Chlorohexane	91		7.709				ND	U
82 Chlorobenzene	112		7.752				ND	
83 1,1,1,2-Tetrachloroethane	131		7.823				ND	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	OnCol Amt ug/l	Flags
84 Ethylbenzene	106		7.830				ND	
85 m-Xylene & p-Xylene	106		7.945				ND	7
86 o-Xylene	106		8.302				ND	
87 Styrene	104		8.324				ND	
88 Bromoform	173		8.503				ND	
89 Isopropylbenzene	105		8.646				ND	
90 cis-1,4-Dichloro-2-butene	53		8.696				ND	
91 Cyclohexanone	55		8.746				ND	U
92 1,1,2,2-Tetrachloroethane	83		8.932				ND	
94 trans-1,4-Dichloro-2-butene	53		8.967				ND	
93 Bromobenzene	156		8.967				ND	
95 1,2,3-Trichloropropane	110		8.996				ND	
96 N-Propylbenzene	120		9.046				ND	
97 2-Chlorotoluene	126		9.146				ND	
98 1,3,5-Trimethylbenzene	105		9.218				ND	
99 4-Chlorotoluene	126		9.261				ND	
101 Pentachloroethane	167		9.411				ND	
100 tert-Butylbenzene	119		9.525				ND	
102 1,2,4-Trimethylbenzene	105		9.582				ND	
103 sec-Butylbenzene	134		9.747				ND	
104 1,3-Dichlorobenzene	146		9.875				ND	
105 4-Isopropyltoluene	119		9.890				ND	
106 1,4-Dichlorobenzene	146		9.976				ND	
107 1,2,3-Trimethylbenzene	105	9.997	9.990	0.007	93	12825	0.3276	
108 n-Butylbenzene	91		10.297				ND	
109 1,2-Dichlorobenzene	146		10.333				ND	
110 1,2-Dibromo-3-Chloropropane	157		11.105				ND	
111 1,3,5-Trichlorobenzene	180		11.298				ND	
112 1,2,4-Trichlorobenzene	180		11.935				ND	
113 Hexachlorobutadiene	225		12.071				ND	
114 Naphthalene	128		12.206				ND	
115 1,2,3-Trichlorobenzene	180		12.428				ND	
120 Tetrahydrothiophene TIC	1		0.000				ND	
119 1-Chloro-1-fluoroethane TIC	1		0.000				ND	
118 Ethyl acrylate	55		0.000				ND	
117 t-Amyl alcohol	1		0.000				ND	
116 Ethylene oxide TIC	1		0.000				ND	
121 Propene oxide TIC	58		5.334				ND	
S 122 1,2-Dichloroethene, Total (URS)	96		2.000				ND	7
S 129 1,2-Dichloroethene, Total	1		0.000				ND	7
S 124 1,3-Dichloropropene, Total	1		0.000				ND	7
S 123 Xylenes, Total (URS)	1		0.000				ND	7
S 127 Trihalomethanes, Total	1		0.000				ND	7
S 126 Total BTEX	1				0		0.3786	
S 128 TAH	1				0		0	
S 125 Xylenes, Total	106		0.000				ND	7
T 130 Dichloroacetonitrile TIC	74		1.000				ND	
T 132 1-Chlorohexane TIC	1		0.000				ND	
T 131 Methyl cyclohexane TIC	1		0.000				ND	
T 140 2,3-Dichloro-1-propene TIC	75		0.000				ND	
T 139 Propene TIC	1		0.000				ND	
T 138 n-Nonane TIC	1		0.000				ND	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	OnCol Amt ug/l	Flags
T 137 1,3-Butadiene TIC	1		0.000				ND	
T 136 Cyclohexane TIC	1		0.000				ND	
T 135 4-Ethyltoluene TIC	1		0.000				ND	
T 134 2-Butoxyethanol TIC	1		0.000				ND	
T 133 Dicyclopentadiene TIC	1		0.000				ND	

QC Flag Legend

Processing Flags
- NR - Missing Quant Standard
- NC - Not Calibrated
- 7 - Failed Limit of Detection

Review Flags
- U - Marked Undetected

Reagents:

mv-IS_SS_00074 Amount Added: 5.00 Units: uL Run Reagent

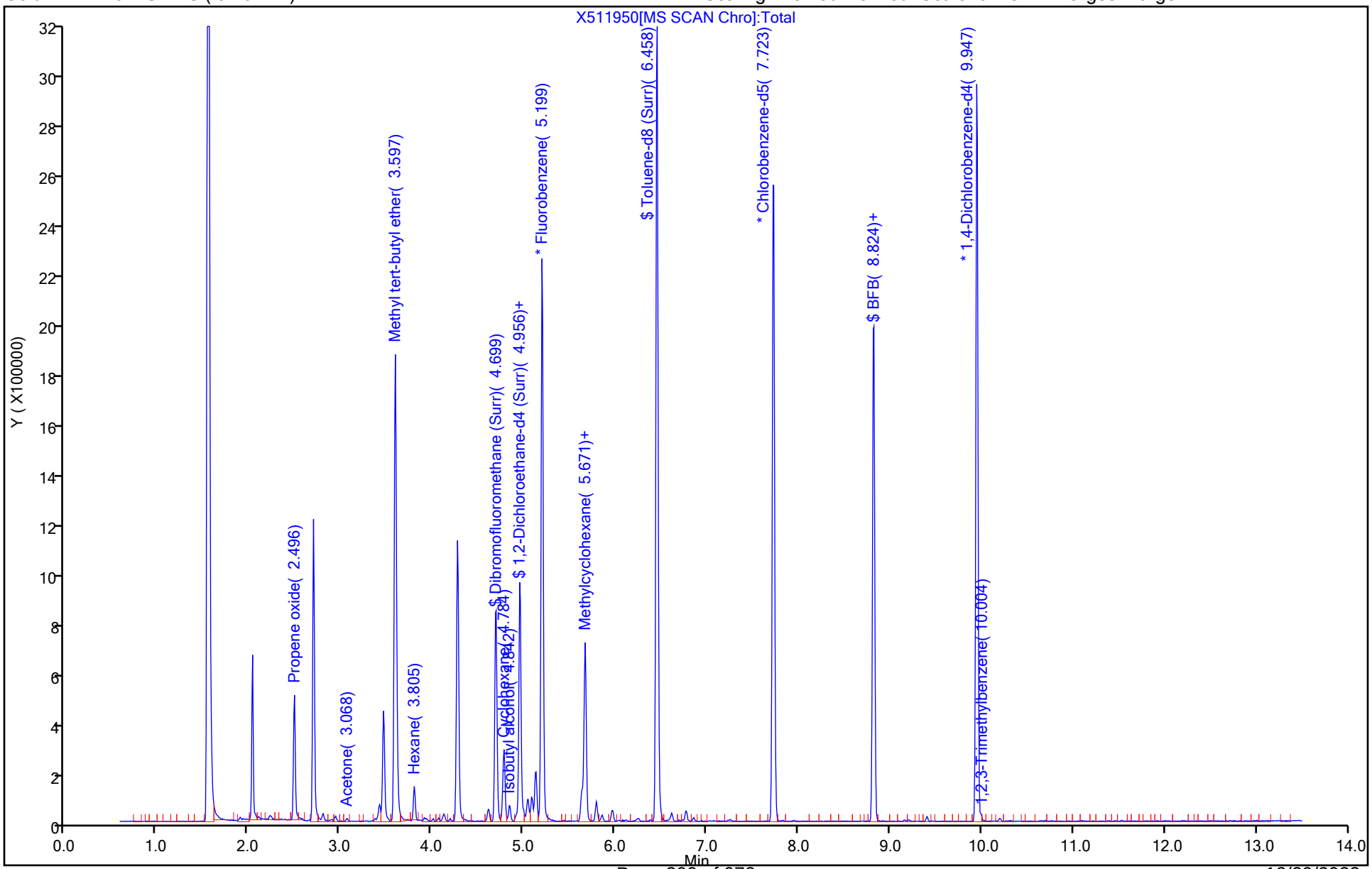
Report Date: 19-Dec-2023 21:23:28 Chrom Revision: 2.3 15-Nov-2023 20:54:34

Eurofins Denver

Data File: \\chromfs\Denver\ChromData\VMS_X4\20231218-128669.b\X511950.D

Injection Date:	18-Dec-2023 15:02:30	Instrument ID:	VMS_X4	Operator ID:	COULTER
Lims ID:	280-185797-F-4	Lab Sample ID:	280-185797-4	Worklist Smp#:	24
Client ID:	TV044-MW21M1223A				
Purge Vol:	5.000 mL	Dil. Factor:	50.0000	ALS Bottle#:	18
Method:	VMS_X4_8260	Limit Group:	MSV - 8260B Water and Solid		

Column: Rxi-624Sil MS (0.25 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 1



Eurofins Denver
Recovery Report

Data File:	\\chromfs\Denver\ChromData\VMS_X4\20231218-128669.b\X511950.D				
Lims ID:	280-185797-F-4				
Client ID:	TV044-MW21M1223A				
Sample Type:	Client				
Inject. Date:	18-Dec-2023 15:02:30	ALS Bottle#:	18	Worklist Smp#:	24
Purge Vol:	5.000 mL	Dil. Factor:	50.0000		
Sample Info:	280-185797-f-4				
Misc. Info.:	50X				
Operator ID:	COULTER	Instrument ID:	VMS_X4		
Method:	\\chromfs\Denver\ChromData\VMS_X4\20231218-128669.b\VMS_X4_8260.m				
Limit Group:	MSV - 8260B Water and Solid				
Last Update:	19-Dec-2023 21:23:01	Calib Date:	11-Dec-2023 20:50:30		
Integrator:	RTE	ID Type:	Deconvolution ID		
Quant Method:	Internal Standard	Quant By:	Initial Calibration		
Last ICal File:	\\chromfs\Denver\ChromData\VMS_X4\20231211-128477.b\X511702.D				
Column 1 :	Rxi-624Sil MS (0.25 mm)		Det: MS SCAN		
Process Host:	CTX1675				

First Level Reviewer: AK2J Date: 19-Dec-2023 21:22:27

Compound	Amount Added	Amount Recovered	% Rec.
$ 4 Dibromofluoromethane (Surr)	50.0	53.2	5324.55
$ 5 1,2-Dichloroethane-d4 (Surr)	50.0	50.6	5056.40
$ 6 Toluene-d8 (Surr)	50.0	49.6	4959.70
$ 7 4-Bromofluorobenzene (Surr)	50.0	45.1	4507.47

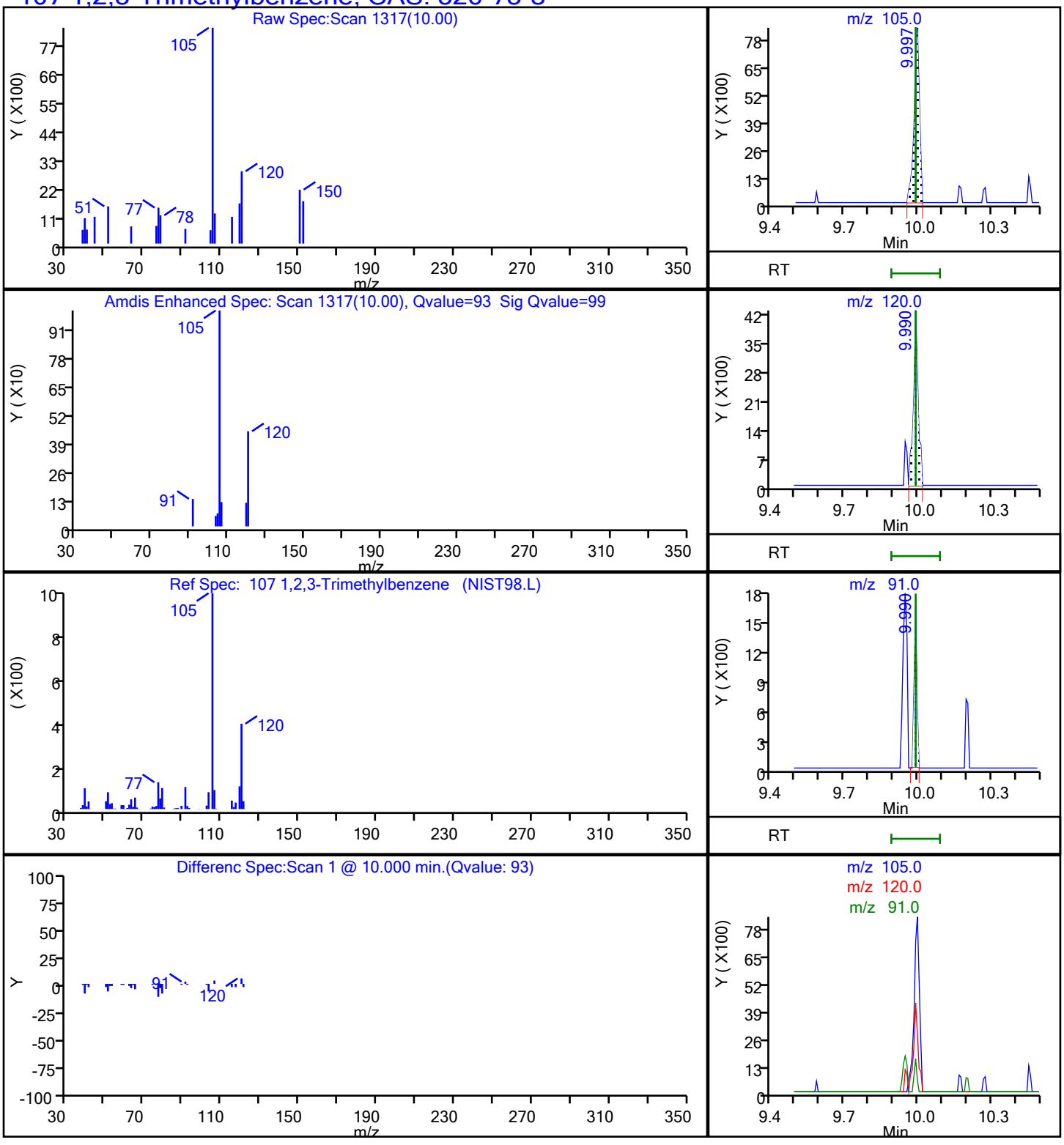
Report Date: 19-Dec-2023 21:23:28 Chrom Revision: 2.3 15-Nov-2023 20:54:34

Eurofins Denver

Data File: \\chromfs\Denver\ChromData\VMS_X4\20231218-128669.b\X511950.D

Injection Date:	18-Dec-2023 15:02:30	Instrument ID:	VMS_X4		
Lims ID:	280-185797-F-4	Lab Sample ID:	280-185797-4		
Client ID:	TV044-MW21M1223A				
Operator ID:	COULTER	ALS Bottle#:	18	Worklist Smp#:	24
Purge Vol:	5.000 mL	Dil. Factor:	50.0000		
Method:	VMS_X4_8260	Limit Group:	MSV - 8260B Water and Solid		
Column:	Rxi-624Sil MS (0.25 mm)	Detector	MS SCAN		

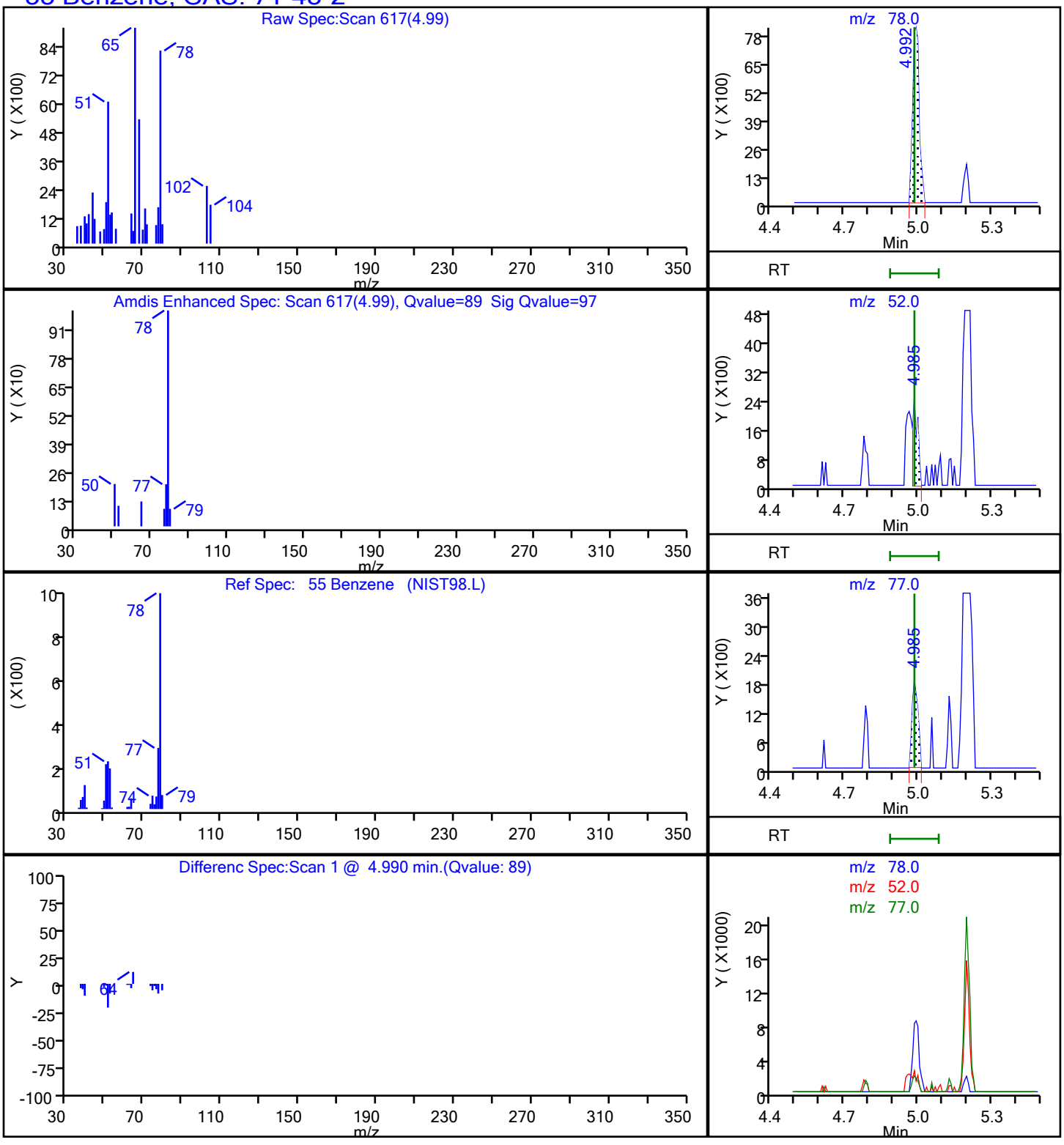
107 1,2,3-Trimethylbenzene, CAS: 526-73-8



Eurofins Denver

Data File:	\\chromfs\Denver\ChromData\VMS_X4\20231218-128669.b\X511950.D		
Injection Date:	18-Dec-2023 15:02:30	Instrument ID:	VMS_X4
Lims ID:	280-185797-F-4	Lab Sample ID:	280-185797-4
Client ID:	TV044-MW21M1223A		
Operator ID:	COULTER	ALS Bottle#:	18 Worklist Smp#: 24
Purge Vol:	5.000 mL	Dil. Factor:	50.0000
Method:	VMS_X4_8260	Limit Group:	MSV - 8260B Water and Solid
Column:	Rxi-624Sil MS (0.25 mm)	Detector	MS SCAN

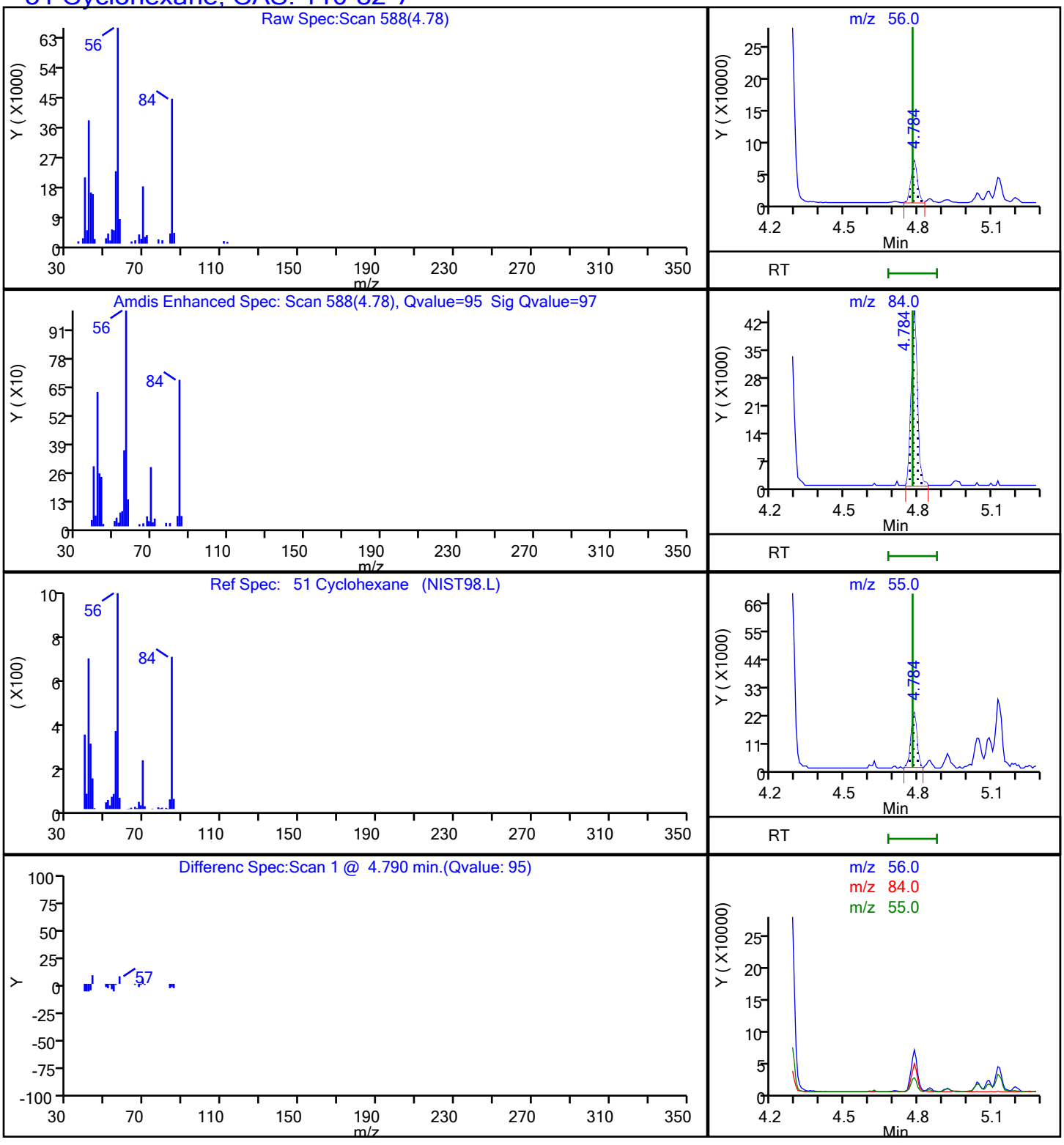
55 Benzene, CAS: 71-43-2



Eurofins Denver

Data File: \\chromfs\Denver\ChromData\VMS_X4\20231218-128669.b\X511950.D
Injection Date: 18-Dec-2023 15:02:30 Instrument ID: VMS_X4
Lims ID: 280-185797-F-4 Lab Sample ID: 280-185797-4
Client ID: TV044-MW21M1223A
Operator ID: COULTER ALS Bottle#: 18 Worklist Smp#: 24
Purge Vol: 5.000 mL Dil. Factor: 50.0000
Method: VMS_X4_8260 Limit Group: MSV - 8260B Water and Solid
Column: Rxi-624Sil MS (0.25 mm) Detector MS SCAN

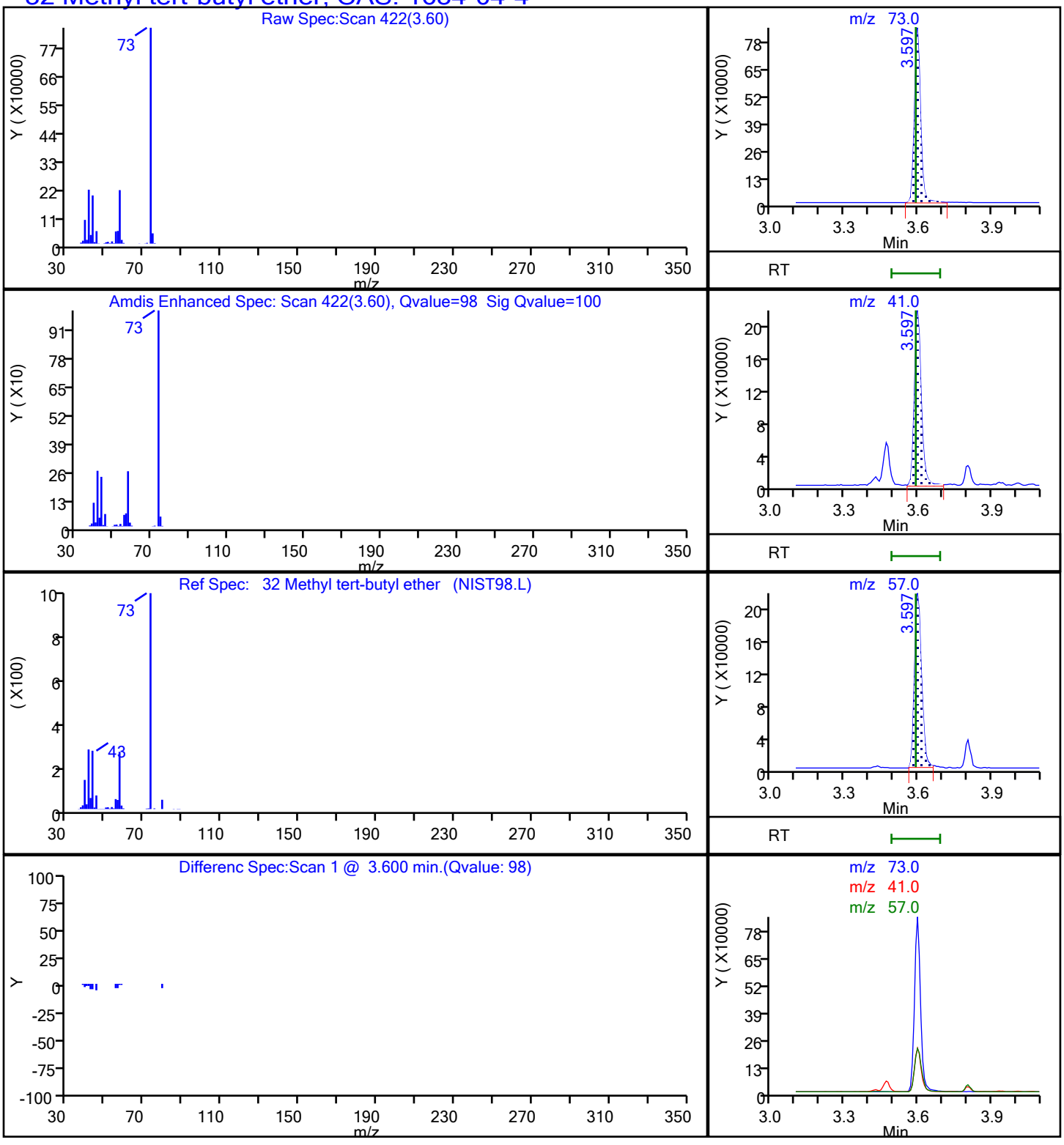
51 Cyclohexane, CAS: 110-82-7



Eurofins Denver

Data File: \\chromfs\Denver\ChromData\VMS_X4\20231218-128669.b\X511950.D
Injection Date: 18-Dec-2023 15:02:30 Instrument ID: VMS_X4
Lims ID: 280-185797-F-4 Lab Sample ID: 280-185797-4
Client ID: TV044-MW21M1223A
Operator ID: COULTER ALS Bottle#: 18 Worklist Smp#: 24
Purge Vol: 5.000 mL Dil. Factor: 50.0000
Method: VMS_X4_8260 Limit Group: MSV - 8260B Water and Solid
Column: Rxi-624Sil MS (0.25 mm) Detector MS SCAN

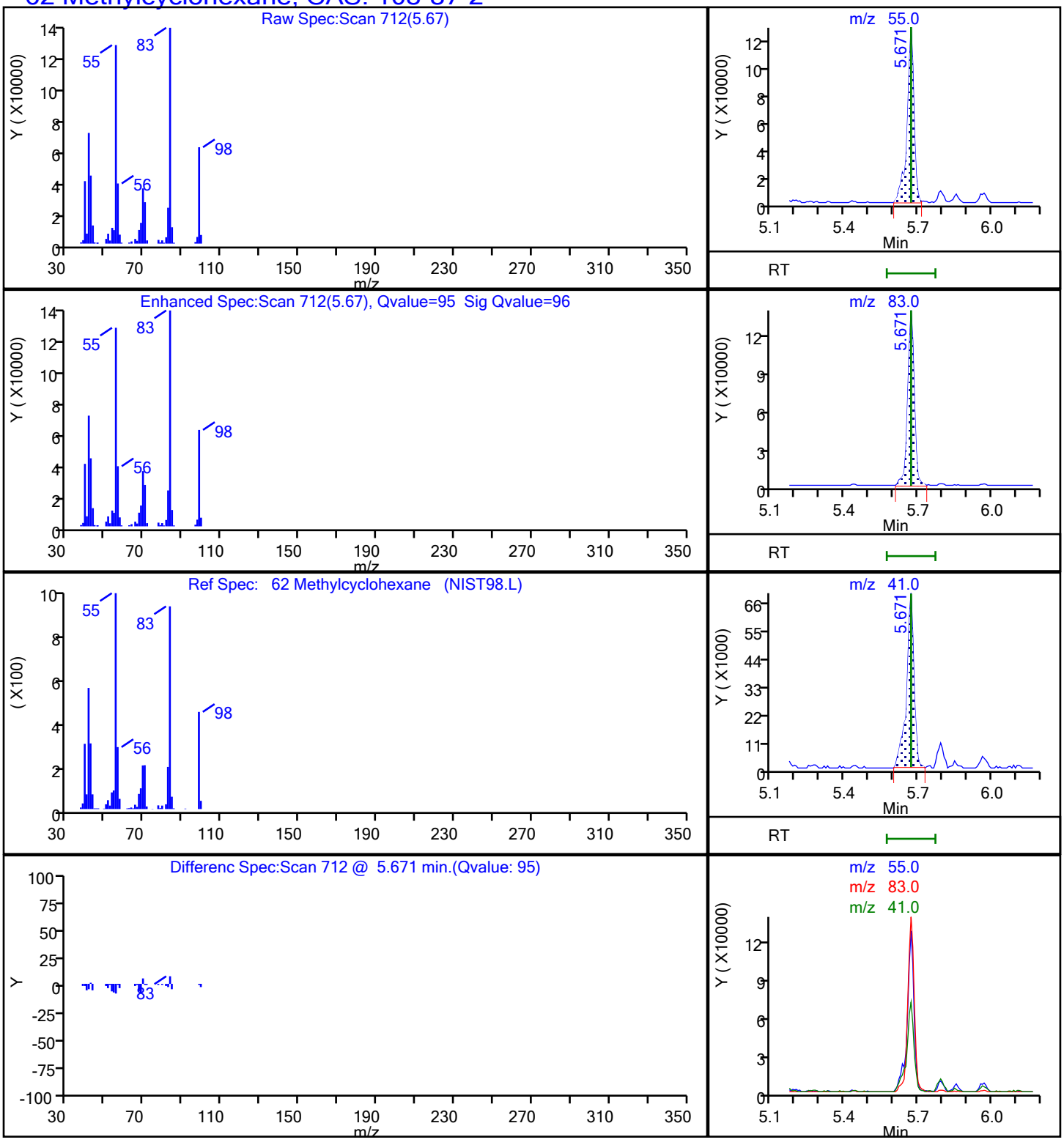
32 Methyl tert-butyl ether, CAS: 1634-04-4



Eurofins Denver

Data File:	\\chromfs\Denver\ChromData\VMS_X4\20231218-128669.b\X511950.D				
Injection Date:	18-Dec-2023 15:02:30	Instrument ID:	VMS_X4		
Lims ID:	280-185797-F-4	Lab Sample ID:	280-185797-4		
Client ID:	TV044-MW21M1223A				
Operator ID:	COULTER	ALS Bottle#:	18	Worklist Smp#:	24
Purge Vol:	5.000 mL	Dil. Factor:	50.0000		
Method:	VMS_X4_8260	Limit Group:	MSV - 8260B Water and Solid		
Column:	Rxi-624Sil MS (0.25 mm)	Detector	MS SCAN		

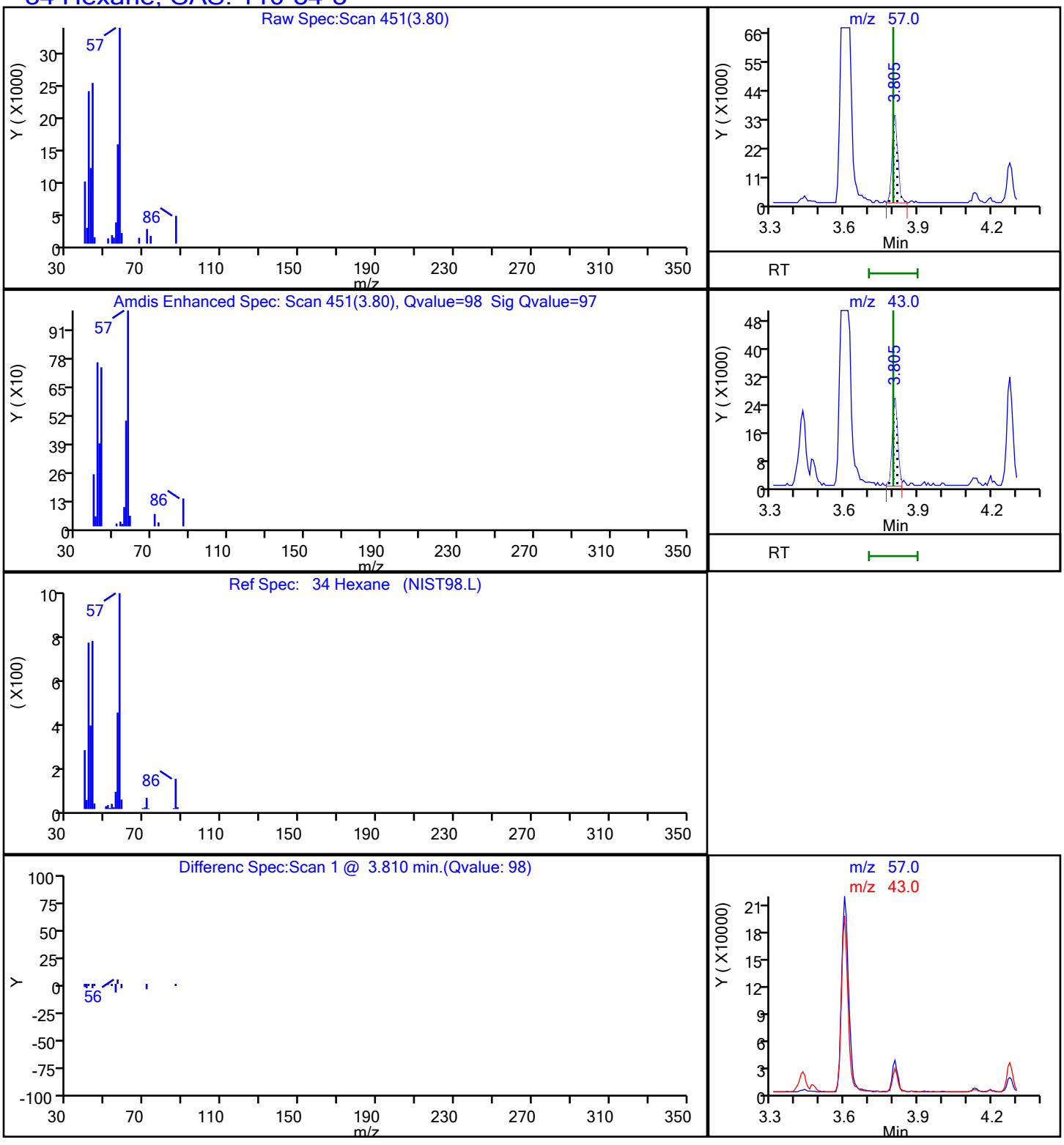
62 Methylcyclohexane, CAS: 108-87-2



Eurofins Denver

Data File:	\\chromfs\Denver\ChromData\VMS_X4\20231218-128669.b\X511950.D				
Injection Date:	18-Dec-2023 15:02:30	Instrument ID:	VMS_X4		
Lims ID:	280-185797-F-4	Lab Sample ID:	280-185797-4		
Client ID:	TV044-MW21M1223A				
Operator ID:	COULTER	ALS Bottle#:	18	Worklist Smp#:	24
Purge Vol:	5.000 mL	Dil. Factor:	50.0000		
Method:	VMS_X4_8260	Limit Group:	MSV - 8260B Water and Solid		
Column:	Rxi-624Sil MS (0.25 mm)	Detector	MS SCAN		

34 Hexane, CAS: 110-54-3



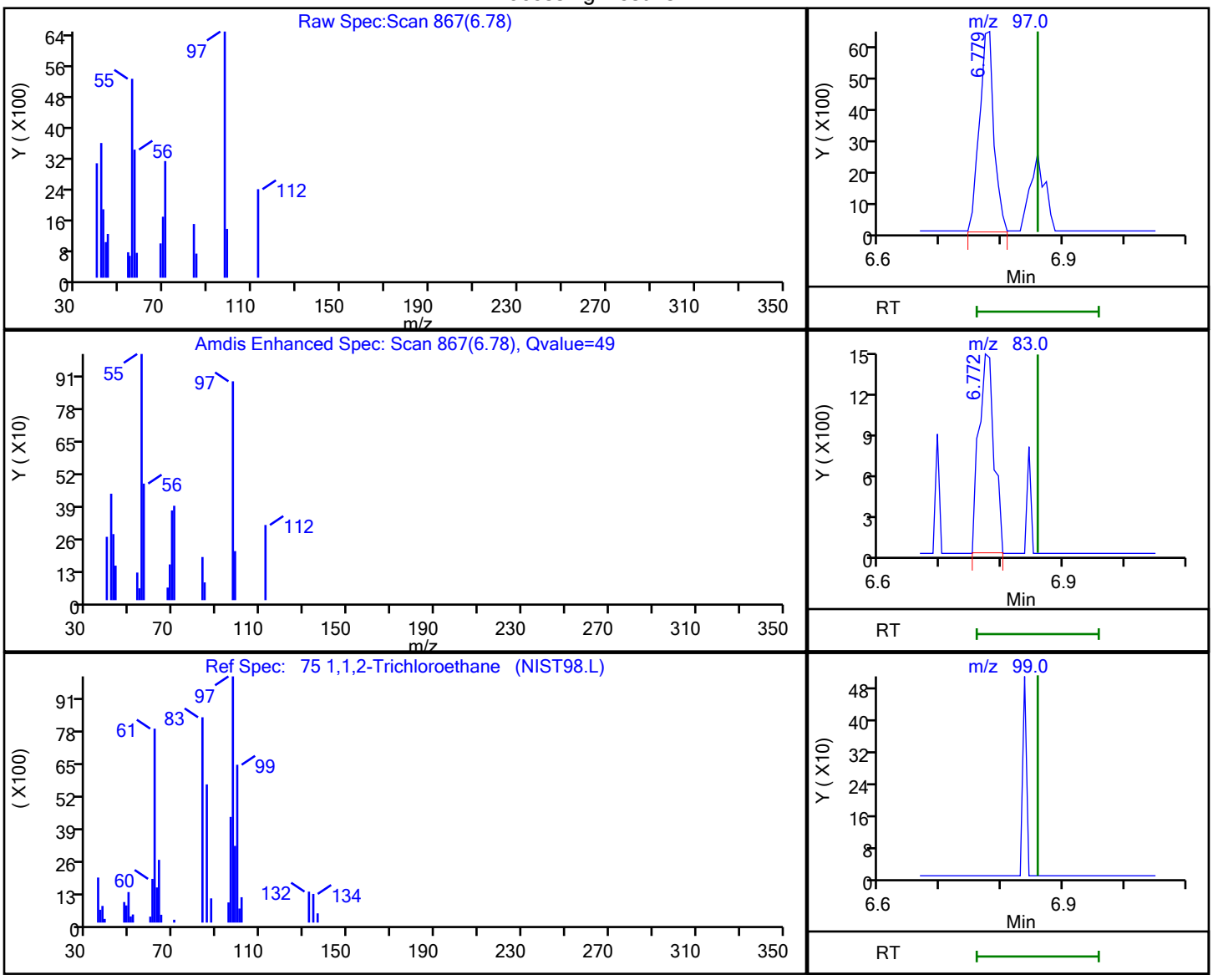
User Disabled Compound Report

Eurofins Denver

Data File:	\\chromfs\Denver\ChromData\VMS_X4\20231218-128669.b\X511950.D				
Injection Date:	18-Dec-2023 15:02:30	Instrument ID:	VMS_X4		
Lims ID:	280-185797-F-4	Lab Sample ID:	280-185797-4		
Client ID:	TV044-MW21M1223A				
Operator ID:	COULTER	ALS Bottle#:	18	Worklist Smp#:	24
Purge Vol:	5.000 mL	Dil. Factor:	50.0000		
Method:	VMS_X4_8260	Limit Group:	MSV - 8260B Water and Solid		
Column:	Rxi-624Sil MS (0.25 mm)	Detector	MS SCAN		

75 1,1,2-Trichloroethane, CAS: 79-00-5

Processing Results



RT	Mass	Response	Amount
6.78	97.00	10599	1.364673
6.77	83.00	2476	
6.86	99.00	0	

Reviewer: AK2J, 19-Dec-2023 21:22:16 -07:00:00 (UTC)

Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

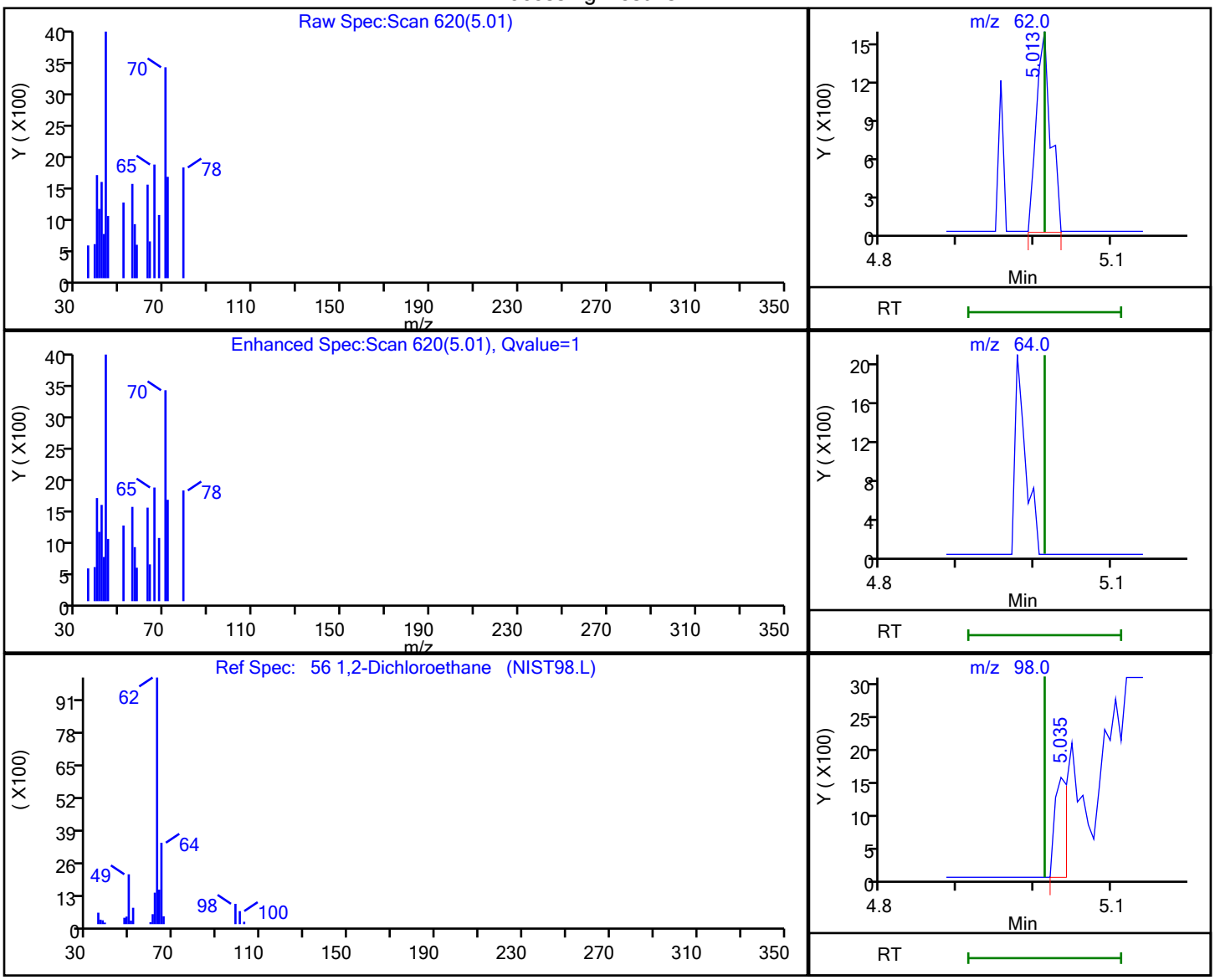
User Disabled Compound Report

Eurofins Denver

Data File:	\\chromfs\Denver\ChromData\VMS_X4\20231218-128669.b\X511950.D				
Injection Date:	18-Dec-2023 15:02:30	Instrument ID:	VMS_X4		
Lims ID:	280-185797-F-4	Lab Sample ID:	280-185797-4		
Client ID:	TV044-MW21M1223A				
Operator ID:	COULTER	ALS Bottle#:	18	Worklist Smp#:	24
Purge Vol:	5.000 mL	Dil. Factor:	50.0000		
Method:	VMS_X4_8260	Limit Group:	MSV - 8260B Water and Solid		
Column:	Rxi-624Sil MS (0.25 mm)	Detector	MS SCAN		

56 1,2-Dichloroethane, CAS: 107-06-2

Processing Results



RT	Mass	Response	Amount
5.01	62.00	1948	0.132638
5.01	64.00	0	
5.03	98.00	1756	

Reviewer: AK2J, 19-Dec-2023 21:22:06 -07:00:00 (UTC)

Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

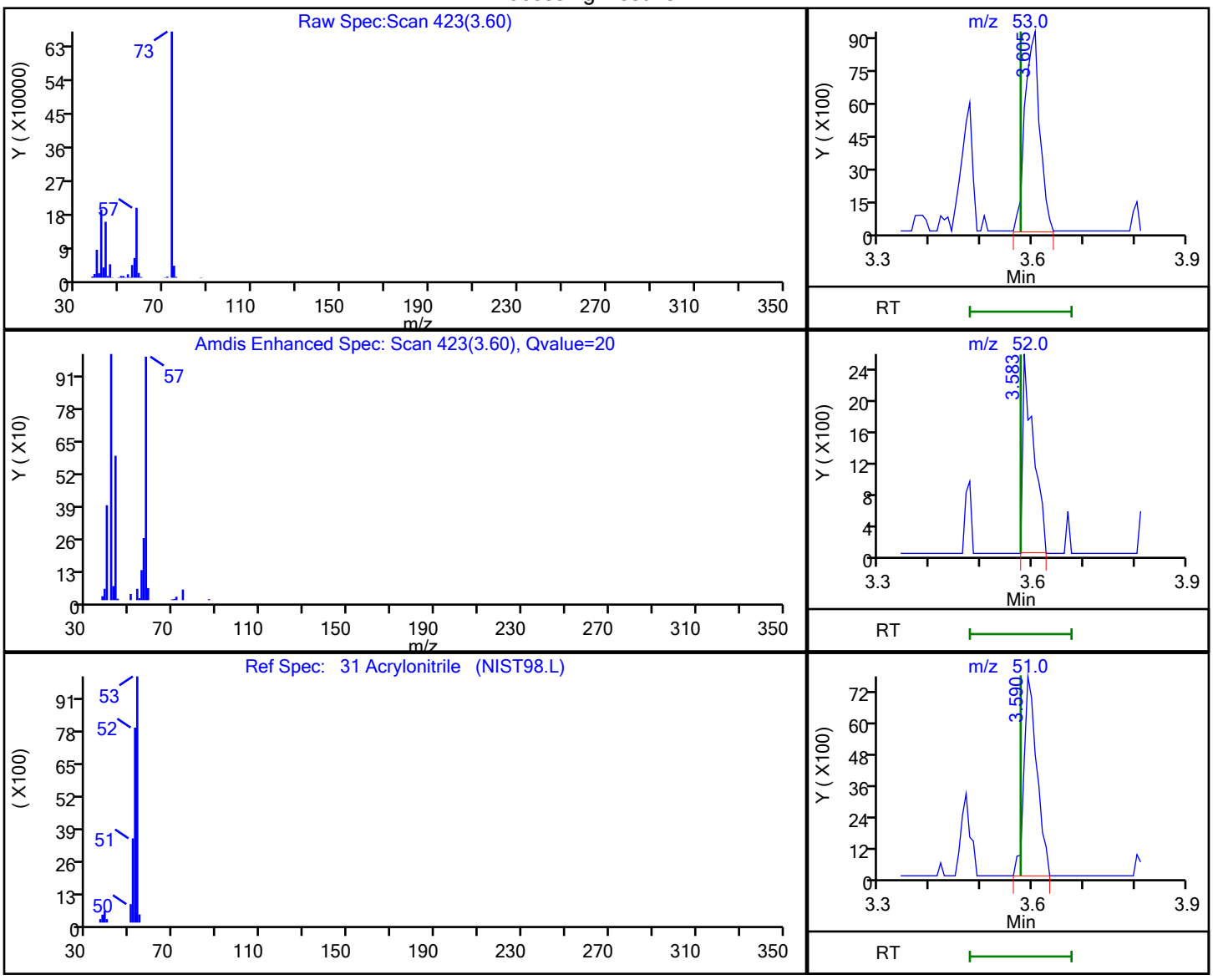
User Disabled Compound Report

Eurofins Denver

Data File:	\\chromfs\Denver\ChromData\VMS_X4\20231218-128669.b\X511950.D				
Injection Date:	18-Dec-2023 15:02:30	Instrument ID:	VMS_X4		
Lims ID:	280-185797-F-4	Lab Sample ID:	280-185797-4		
Client ID:	TV044-MW21M1223A				
Operator ID:	COULTER	ALS Bottle#:	18	Worklist Smp#:	24
Purge Vol:	5.000 mL	Dil. Factor:	50.0000		
Method:	VMS_X4_8260	Limit Group:	MSV - 8260B Water and Solid		
Column:	Rxi-624Sil MS (0.25 mm)	Detector	MS SCAN		

31 Acrylonitrile, CAS: 107-13-1

Processing Results



RT	Mass	Response	Amount
3.60	53.00	18646	4.503780
3.58	52.00	3692	
3.59	51.00	13637	

Reviewer: AK2J, 19-Dec-2023 21:21:53 -07:00:00 (UTC)

Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

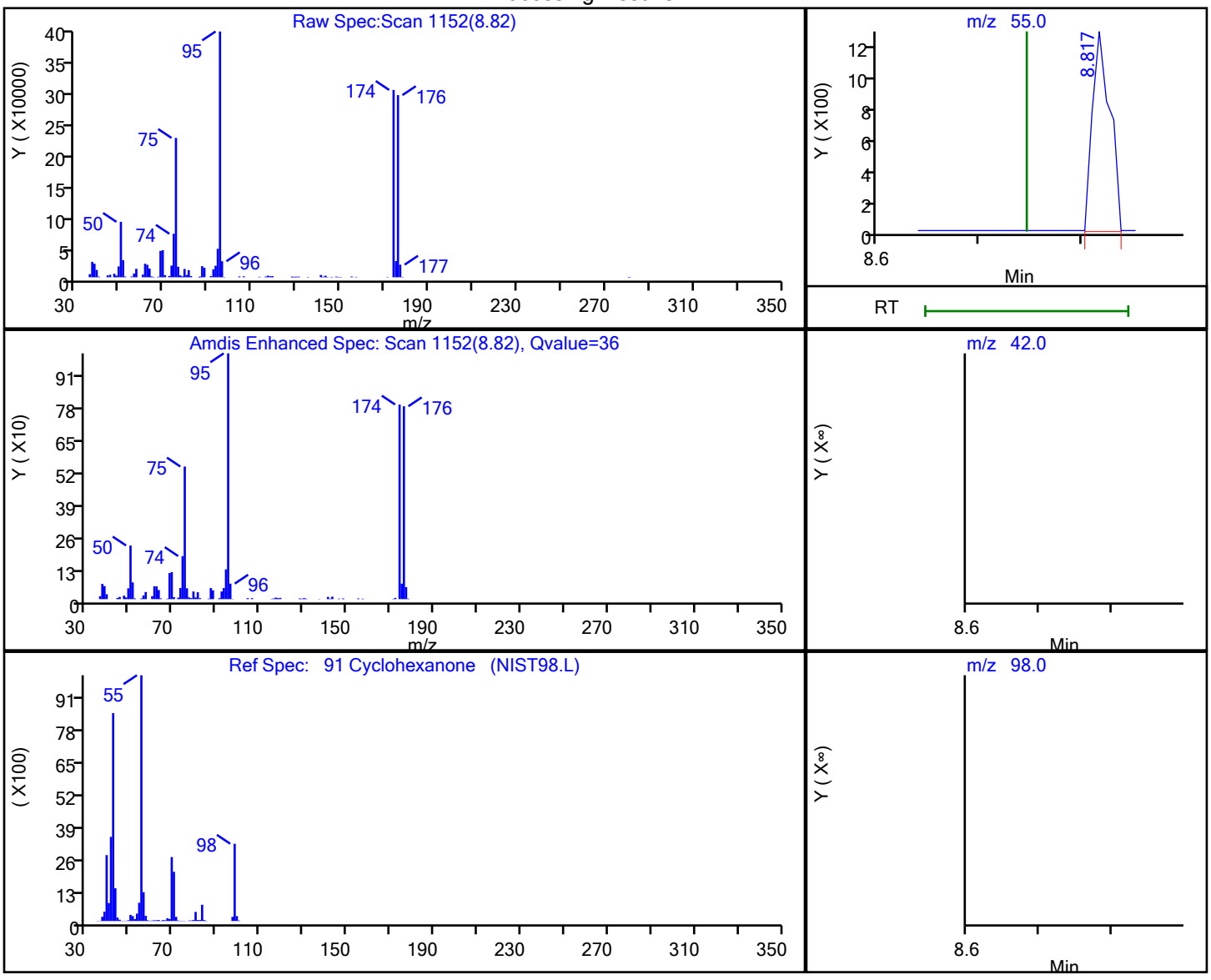
User Disabled Compound Report

Eurofins Denver

Data File:	\\chromfs\Denver\ChromData\VMS_X4\20231218-128669.b\X511950.D				
Injection Date:	18-Dec-2023 15:02:30	Instrument ID:	VMS_X4		
Lims ID:	280-185797-F-4	Lab Sample ID:	280-185797-4		
Client ID:	TV044-MW21M1223A				
Operator ID:	COULTER	ALS Bottle#:	18	Worklist Smp#:	24
Purge Vol:	5.000 mL	Dil. Factor:	50.0000		
Method:	VMS_X4_8260	Limit Group:	MSV - 8260B Water and Solid		
Column:	Rxi-624Sil MS (0.25 mm)	Detector	MS SCAN		

91 Cyclohexanone, CAS: 108-94-1

Processing Results



RT	Mass	Response	Amount
8.82	55.00	1515	3.299820
8.75	42.00	0	
8.75	98.00	0	

Reviewer: AK2J, 19-Dec-2023 21:22:20 -07:00:00 (UTC)

Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Denver | Job No.: 280-185797-1

SDG No.:

Client Sample ID: TV044-MW21D1223A | Lab Sample ID: 280-185797-5

Matrix: Water | Lab File ID: X511942.D

Analysis Method: 8260D | Date Collected: 12/13/2023 12:05

Sample wt/vol: 5(mL) | Date Analyzed: 12/18/2023 12:08

Soil Aliquot Vol: | Dilution Factor: 1

Soil Extract Vol.: | GC Column: RXI-624SilMS ID: 0.25(mm)

Purge Volume: 5.0(mL) | Heated Purge: (Y/N) N pH: 5.0

% Moisture: % Solids: | Level: (low/med) Low

Analysis Batch No.: 637616 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
71-55-6	1,1,1-Trichloroethane	0.50	U	1.0	0.50	0.39
79-34-5	1,1,2,2-Tetrachloroethane	0.80	U Q	1.0	0.80	0.21
79-00-5	1,1,2-Trichloroethane	0.80	U	1.0	0.80	0.27
75-34-3	1,1-Dichloroethane	0.80	U	1.0	0.80	0.22
75-35-4	1,1-Dichloroethylene	0.80	U	1.0	0.80	0.23
563-58-6	1,1-Dichloropropene	0.80	U	1.0	0.80	0.42
87-61-6	1,2,3-Trichlorobenzene	0.80	U Q	2.0	0.80	0.70
96-18-4	1,2,3-Trichloropropane	1.8	U Q	2.5	1.8	0.86
526-73-8	1,2,3-Trimethylbenzene	0.80	U Q	2.0	0.80	0.27
120-82-1	1,2,4-Trichlorobenzene	0.80	U Q	1.0	0.80	0.58
95-63-6	1,2,4-Trimethylbenzene	0.40	U Q	1.0	0.40	0.15
96-12-8	1,2-Dibromo-3-Chloropropane	4.0	U Q	5.0	4.0	1.8
106-93-4	1,2-Dibromoethane	0.80	U	1.0	0.80	0.40
95-50-1	1,2-Dichlorobenzene	0.50	U Q	1.0	0.50	0.37
107-06-2	1,2-Dichloroethane	0.80	U	1.0	0.80	0.54
78-87-5	1,2-Dichloropropane	0.80	U	1.0	0.80	0.52
108-67-8	1,3,5-Trimethylbenzene	0.50	U Q	1.0	0.50	0.37
541-73-1	1,3-Dichlorobenzene	0.40	U Q	1.0	0.40	0.33
142-28-9	1,3-Dichloropropane	0.80	U	1.0	0.80	0.38
106-46-7	1,4-Dichlorobenzene	0.50	U Q	1.0	0.50	0.39
594-20-7	2,2-Dichloropropane	0.80	U	1.0	0.80	0.38
78-93-3	2-Butanone (MEK)	12	U	15	12	6.0
110-75-8	2-Chloroethyl vinyl ether	0.80	U	3.0	0.80	0.44
591-78-6	2-Hexanone	4.0	U	5.0	4.0	1.7
99-87-6	4-Isopropyltoluene	0.80	U Q	1.0	0.80	0.43
108-10-1	4-Methyl-2-pentanone (MIBK)	3.2	U	5.0	3.2	0.98
67-64-1	Acetone	8.0	U M	15	8.0	6.6
107-13-1	Acrylonitrile	8.0	U	20	8.0	4.5
71-43-2	Benzene	0.80	U	1.0	0.80	0.31
108-86-1	Bromobenzene	0.50	U Q	1.0	0.50	0.40
74-97-5	Bromochloromethane	0.80	U	1.0	0.80	0.40
75-27-4	Bromodichloromethane	0.50	U	1.0	0.50	0.39
75-25-2	Bromoform	1.8	U	2.0	1.8	1.2
75-15-0	Carbon disulfide	0.80	U	2.0	0.80	0.63

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Denver | Job No.: 280-185797-1

SDG No.:

Client Sample ID: TV044-MW21D1223A | Lab Sample ID: 280-185797-5

Matrix: Water | Lab File ID: X511942.D

Analysis Method: 8260D | Date Collected: 12/13/2023 12:05

Sample wt/vol: 5(mL) | Date Analyzed: 12/18/2023 12:08

Soil Aliquot Vol: | Dilution Factor: 1

Soil Extract Vol.: | GC Column: RXI-624SilMS ID: 0.25(mm)

Purge Volume: 5.0(mL) | Heated Purge: (Y/N) N pH: 5.0

% Moisture: % Solids: | Level: (low/med) Low

Analysis Batch No.: 637616 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
56-23-5	Carbon tetrachloride	0.80	U	1.0	0.80	0.57
108-90-7	Chlorobenzene	0.80	U	1.0	0.80	0.42
75-00-3	Chloroethane	1.6	U	4.0	1.6	1.4
67-66-3	Chloroform	0.80	U	1.0	0.80	0.36
74-87-3	Chloromethane	1.0	U Q	2.0	1.0	0.75
156-59-2	cis-1,2-Dichloroethylene	0.40	U	1.0	0.40	0.32
10061-01-5	cis-1,3-Dichloropropene	1.8	U	2.0	1.8	0.63
110-82-7	Cyclohexane	0.80	U	1.0	0.80	0.44
108-94-1	Cyclohexanone	64	U Q	100	64	32
124-48-1	Dibromochloromethane	1.8	U	2.0	1.8	0.62
74-95-3	Dibromomethane	0.40	U	1.0	0.40	0.34
75-71-8	Dichlorodifluoromethane	2.5	U Q	3.0	2.5	0.96
100-41-4	Ethylbenzene	0.40	U	1.0	0.40	0.30
87-68-3	Hexachlorobutadiene	1.8	U Q	2.0	1.8	1.2
108-20-3	Isopropyl ether	2.0	U	10	2.0	1.1
98-82-8	Isopropylbenzene	0.50	U Q	1.0	0.50	0.36
1634-04-4	Methyl tert-butyl ether	14		5.0	0.80	0.25
108-87-2	Methylcyclohexane	0.40	U	1.0	0.40	0.31
75-09-2	Methylene Chloride	1.8	U	2.0	1.8	0.94
91-20-3	Naphthalene	0.80	U Q	2.0	0.80	0.63
104-51-8	n-Butylbenzene	0.80	U Q	1.0	0.80	0.48
110-54-3	n-Hexane	0.80	U	2.0	0.80	0.16
103-65-1	N-Propylbenzene	0.80	U Q	1.0	0.80	0.53
95-49-8	o-Chlorotoluene	0.40	U Q	1.0	0.40	0.34
106-43-4	p-Chlorotoluene	0.80	U Q	1.0	0.80	0.21
135-98-8	sec-Butylbenzene	0.80	U Q	1.0	0.80	0.45
100-42-5	Styrene	0.80	U	1.0	0.80	0.36
98-06-6	tert-Butylbenzene	0.80	U Q	1.0	0.80	0.42
127-18-4	Tetrachloroethene	0.80	U	1.0	0.80	0.40
108-88-3	Toluene	0.40	U	1.0	0.40	0.32
156-60-5	trans-1,2-Dichloroethylene	0.50	U	1.0	0.50	0.37
10061-02-6	trans-1,3-Dichloropropene	1.8	U	2.0	1.8	0.65
79-01-6	Trichloroethene	0.40	U	1.0	0.40	0.30
75-69-4	Trichlorofluoromethane	0.80	U	2.0	0.80	0.57

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Denver | Job No.: 280-185797-1

SDG No.:

Client Sample ID: TV044-MW21D1223A | Lab Sample ID: 280-185797-5

Matrix: Water | Lab File ID: X511942.D

Analysis Method: 8260D | Date Collected: 12/13/2023 12:05

Sample wt/vol: 5(mL) | Date Analyzed: 12/18/2023 12:08

Soil Aliquot Vol: | Dilution Factor: 1

Soil Extract Vol.: | GC Column: RXI-624SilMS ID: 0.25(mm)

Purge Volume: 5.0(mL) | Heated Purge: (Y/N) N pH: 5.0

% Moisture: % Solids: | Level: (low/med) Low

Analysis Batch No.: 637616 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
108-05-4	Vinyl acetate	2.0	U	3.0	2.0	0.94
75-01-4	Vinyl chloride	1.0	U	2.0	1.0	0.51
1330-20-7	Xylenes, Total	0.80	U	1.0	0.80	0.33

CAS NO.	SURROGATE	%REC	Q	LIMITS
17060-07-0	1,2-Dichloroethane-d4 (Surr)	108		81-118
460-00-4	4-Bromofluorobenzene (Surr)	109	Q	85-114
1868-53-7	Dibromofluoromethane (Surr)	112		80-119
2037-26-5	Toluene-d8 (Surr)	110		89-112

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET
TARGETED TENATIVELY IDENTIFIED COMPOUNDS

Lab Name: Eurofins Denver | Job No.: 280-185797-1

SDG No.:

Client Sample ID: TV044-MW21D1223A | Lab Sample ID: 280-185797-5

Matrix: Water | Lab File ID: X511942.D

Analysis Method: 8260D | Date Collected: 12/13/2023 12:05

Sample wt/vol: 5(mL) | Date Analyzed: 12/18/2023 12:08

Soil Aliquot Vol: | Dilution Factor: 1

Soil Extract Vol.: | GC Column: RXI-624SilMS ID: 0.25(mm)

Purge Volume: 5.0(mL) | Heated Purge: (Y/N) N pH: 5.0

% Moisture: % Solids: | Level: (low/med) Low

Analysis Batch No.: 637616 | Units: ug/L

CAS NO.	COMPOUND NAME	RT	RESULT	Q	MATCH QUALITY
106-99-0	1,3-Butadiene TIC		1.0	U	
622-96-8	4-Ethyltoluene TIC		1.0	U	
77-73-6	Dicyclopentadiene TIC		1.0	U	
115-07-1	Propene TIC		1.0	U	

Eurofins Denver
Target Compound Quantitation Report

Data File: \\chromfs\Denver\ChromData\VMS_X4\20231218-128669.b\X511942.D
Lims ID: 280-185797-D-5
Client ID: TV044-MW21D1223A
Sample Type: Client
Inject. Date: 18-Dec-2023 12:08:30 ALS Bottle#: 10 Worklist Smp#: 16
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Sample Info: 280-185797-d-5
Operator ID: COULTER Instrument ID: VMS_X4

Method: \\chromfs\Denver\ChromData\VMS_X4\20231218-128669.b\VMS_X4_8260.m
Limit Group: MSV - 8260B Water and Solid
Last Update: 19-Dec-2023 21:23:01 Calib Date: 11-Dec-2023 20:50:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Denver\ChromData\VMS_X4\20231211-128477.b\X511702.D

Column 1 : Rxi-624Sil MS (0.25 mm) Det: MS SCAN
Process Host: CTX1675

First Level Reviewer: AK2J Date: 19-Dec-2023 21:18:52

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	OnCol Amt ug/l	Flags
* 1 Fluorobenzene	96	5.199	5.199	0.000	98	1643185	50.0	
* 2 Chlorobenzene-d5	119	7.723	7.723	0.000	89	366607	50.0	
* 3 1,4-Dichlorobenzene-d4	152	9.947	9.947	0.000	97	399157	50.0	s
$ 4 Dibromofluoromethane (Surr)	111	4.692	4.692	0.000	93	468777	55.8	
$ 5 1,2-Dichloroethane-d4 (Surr)	65	4.956	4.956	0.000	0	588333	54.1	
$ 6 Toluene-d8 (Surr)	98	6.458	6.451	0.008	95	1742296	55.2	
$ 7 4-Bromofluorobenzene (Surr)	95	8.817	8.817	0.000	87	414176	54.4	
$ 8 BFB	95	8.817	8.817	0.000	84	414176	NR	
9 Dichlorodifluoromethane	85		1.760				ND	
10 Chloromethane	50		1.939				ND	
11 Vinyl chloride	62		2.039				ND	
12 Bromomethane	94		2.325				ND	7
13 Chloroethane	64		2.425				ND	
15 Propene oxide	58		2.504				ND	
14 Dichlorofluoromethane	67		2.597				ND	
16 Trichlorofluoromethane	101		2.632				ND	
17 Ethanol	45		2.754				ND	
18 Ethyl ether	59		2.847				ND	
19 Acrolein	56		2.961				ND	
20 1,1,2-Trichloro-1,2,2-trifluoroe	151		3.040				ND	
21 1,1-Dichloroethene	96		3.040				ND	
22 Acetone	43		3.061				ND	U
23 Isopropyl alcohol	45		3.147				ND	
24 Iodomethane	142		3.169				ND	
25 Carbon disulfide	76		3.226				ND	
26 Acetonitrile	41		3.276				ND	
27 Methyl acetate	43		3.290				ND	
28 3-Chloro-1-propene	41		3.312				ND	
29 Methylene Chloride	84		3.404				ND	
30 2-Methyl-2-propanol	59	3.447	3.447	0.000	99	28800	33.3	
31 Acrylonitrile	53		3.576				ND	
32 Methyl tert-butyl ether	73	3.598	3.590	0.008	97	355552	14.2	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	OnCol Amt ug/l	Flags
33 trans-1,2-Dichloroethene	96		3.605				ND	
34 Hexane	57		3.798				ND	
35 Vinyl acetate	43		3.905				ND	
36 1,1-Dichloroethane	63		3.926				ND	
37 Isopropyl ether	87		3.926				ND	
38 2-Chloro-1,3-butadiene	53		3.984				ND	
39 Tert-butyl ethyl ether	59		4.191				ND	
40 2-Butanone (MEK)	43		4.313				ND	
41 Ethyl acetate	43		4.327				ND	
42 cis-1,2-Dichloroethene	96		4.341				ND	
43 2,2-Dichloropropane	77		4.355				ND	
44 Propionitrile	54		4.370				ND	
45 sec-Butyl Alcohol	45		4.420				ND	
46 Methacrylonitrile	41		4.477				ND	
47 Chlorobromomethane	128		4.520				ND	
48 Tetrahydrofuran	42		4.527				ND	
49 Chloroform	83		4.577				ND	
50 1,1,1-Trichloroethane	97		4.720				ND	
51 Cyclohexane	56		4.777				ND	
52 1,1-Dichloropropene	75		4.835				ND	
53 Carbon tetrachloride	117		4.835				ND	
54 Isobutyl alcohol	41		4.842				ND	
55 Benzene	78		4.985				ND	7
56 1,2-Dichloroethane	62		5.013				ND	7
57 Tert-amyl methyl ether	73		5.056				ND	
58 n-Heptane	43		5.163				ND	
59 n-Butanol	56		5.335				ND	
60 Trichloroethene	95		5.471				ND	
61 2-Pentanone	43		5.578				ND	
62 Methylcyclohexane	55		5.671				ND	
63 1,2-Dichloropropane	63		5.678				ND	
64 Methyl methacrylate	100		5.678				ND	
65 1,4-Dioxane	88		5.721				ND	
66 Dibromomethane	93		5.750				ND	
67 Dichlorobromomethane	83		5.871				ND	
68 2-Nitropropane	41		6.043				ND	
69 2-Chloroethyl vinyl ether	63		6.072				ND	
70 cis-1,3-Dichloropropene	75		6.222				ND	
71 4-Methyl-2-pentanone (MIBK)	43		6.322				ND	
72 Toluene	91		6.508				ND	
73 trans-1,3-Dichloropropene	75		6.679				ND	
74 Ethyl methacrylate	69		6.701				ND	
75 1,1,2-Trichloroethane	97		6.858				ND	
76 Tetrachloroethene	164		6.951				ND	
77 1,3-Dichloropropane	76		7.008				ND	
78 2-Hexanone	43		7.023				ND	
79 Chlorodibromomethane	129		7.201				ND	
80 Ethylene Dibromide	107		7.323				ND	
81 1-Chlorohexane	91		7.709				ND	
82 Chlorobenzene	112		7.752				ND	
83 1,1,1,2-Tetrachloroethane	131		7.823				ND	
84 Ethylbenzene	106		7.830				ND	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	OnCol Amt ug/l	Flags
85 m-Xylene & p-Xylene	106		7.945				ND	
86 o-Xylene	106		8.302				ND	
87 Styrene	104		8.324				ND	
88 Bromoform	173		8.503				ND	
89 Isopropylbenzene	105		8.646				ND	
90 cis-1,4-Dichloro-2-butene	53		8.696				ND	
91 Cyclohexanone	55		8.746				ND	
92 1,1,2,2-Tetrachloroethane	83		8.932				ND	
94 trans-1,4-Dichloro-2-butene	53		8.967				ND	
93 Bromobenzene	156		8.967				ND	
95 1,2,3-Trichloropropane	110		8.996				ND	
96 N-Propylbenzene	120		9.046				ND	
97 2-Chlorotoluene	126		9.146				ND	
98 1,3,5-Trimethylbenzene	105		9.218				ND	
99 4-Chlorotoluene	126		9.261				ND	
101 Pentachloroethane	167		9.411				ND	
100 tert-Butylbenzene	119		9.525				ND	
102 1,2,4-Trimethylbenzene	105		9.582				ND	
103 sec-Butylbenzene	134		9.747				ND	
104 1,3-Dichlorobenzene	146		9.875				ND	
105 4-Isopropyltoluene	119		9.890				ND	
106 1,4-Dichlorobenzene	146		9.976				ND	
107 1,2,3-Trimethylbenzene	105		9.990				ND	
108 n-Butylbenzene	91		10.297				ND	
109 1,2-Dichlorobenzene	146		10.333				ND	
110 1,2-Dibromo-3-Chloropropane	157		11.105				ND	
111 1,3,5-Trichlorobenzene	180		11.298				ND	
112 1,2,4-Trichlorobenzene	180		11.935				ND	
113 Hexachlorobutadiene	225		12.071				ND	
114 Naphthalene	128		12.206				ND	
115 1,2,3-Trichlorobenzene	180		12.428				ND	
120 Tetrahydrothiophene TIC	1		0.000				ND	
119 1-Chloro-1-fluoroethane TIC	1		0.000				ND	
118 Ethyl acrylate	55		0.000				ND	
117 t-Amyl alcohol	1		0.000				ND	
116 Ethylene oxide TIC	1		0.000				ND	
121 Propene oxide TIC	58		5.334				ND	
S 122 1,2-Dichloroethene, Total (URS)	96		2.000				ND	7
S 129 1,2-Dichloroethene, Total	1		0.000				ND	7
S 124 1,3-Dichloropropene, Total	1		0.000				ND	7
S 123 Xylenes, Total (URS)	1		0.000				ND	7
S 127 Trihalomethanes, Total	1		0.000				ND	7
S 126 Total BTEX	1		0.000				ND	7
S 128 TAH	1				0		0	
S 125 Xylenes, Total	106		0.000				ND	7
T 130 Dichloroacetonitrile TIC	74		1.000				ND	
T 132 1-Chlorohexane TIC	1		0.000				ND	
T 131 Methyl cyclohexane TIC	1		0.000				ND	
T 140 2,3-Dichloro-1-propene TIC	75		0.000				ND	
T 139 Propene TIC	1		0.000				ND	
T 138 n-Nonane TIC	1		0.000				ND	
T 137 1,3-Butadiene TIC	1		0.000				ND	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	OnCol Amt ug/l	Flags
T 136 Cyclohexane TIC	1		0.000				ND	
T 135 4-Ethyltoluene TIC	1		0.000				ND	
T 134 2-Butoxyethanol TIC	1		0.000				ND	
T 133 Dicyclopentadiene TIC	1		0.000				ND	

QC Flag Legend

Processing Flags
- NR - Missing Quant Standard
- 7 - Failed Limit of Detection
- s - Failed ISTD Recovery Test

Review Flags
- U - Marked Undetected

Reagents:

mv-IS_SS_00074 Amount Added: 5.00 Units: uL Run Reagent

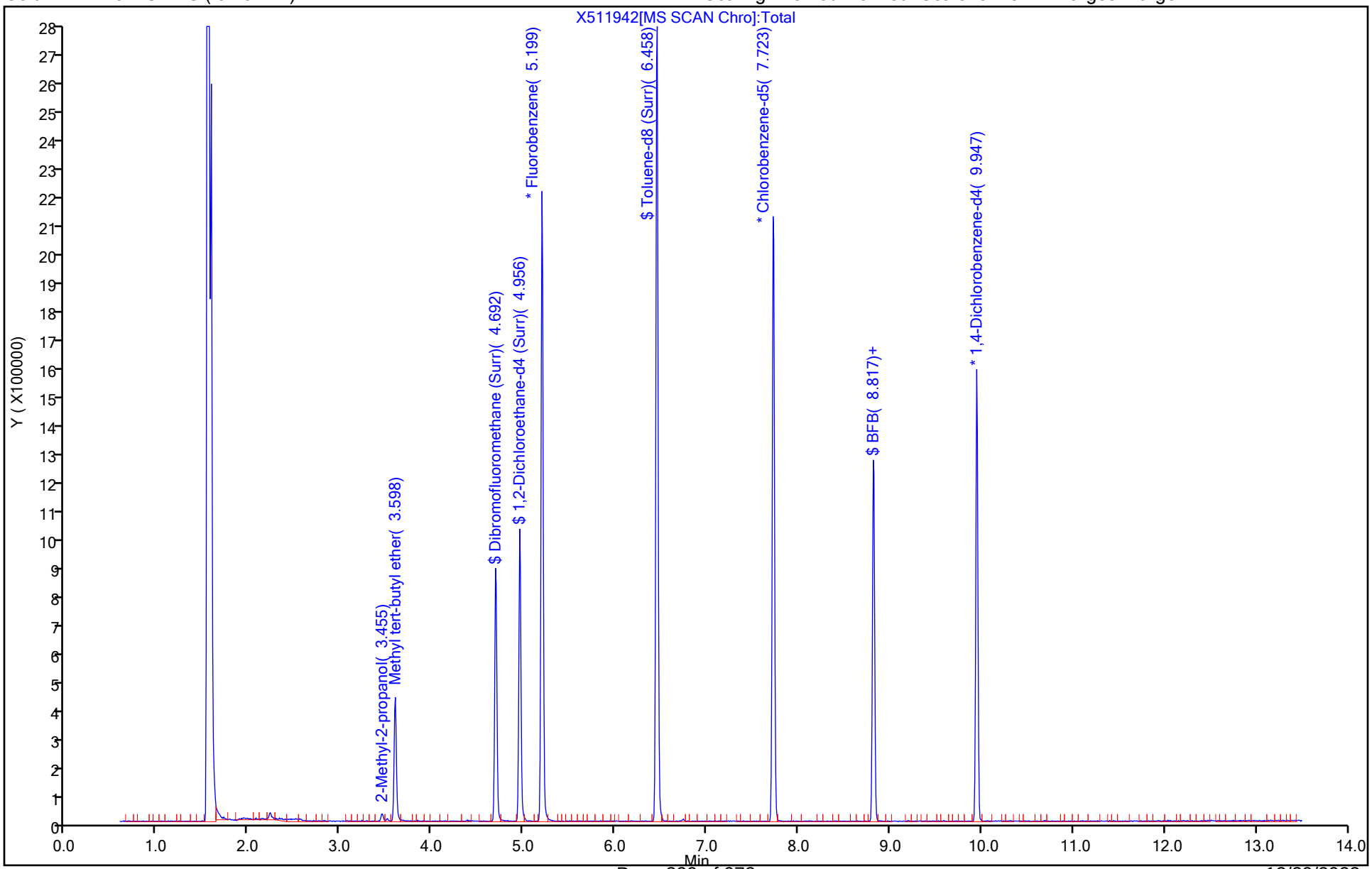
Report Date: 19-Dec-2023 21:23:16 Chrom Revision: 2.3 15-Nov-2023 20:54:34

Eurofins Denver

Data File: \\chromfs\Denver\ChromData\VMS_X4\20231218-128669.b\X511942.D

Injection Date:	18-Dec-2023 12:08:30	Instrument ID:	VMS_X4	Operator ID:	COULTER
Lims ID:	280-185797-D-5	Lab Sample ID:	280-185797-5	Worklist Smp#:	16
Client ID:	TV044-MW21D1223A				
Purge Vol:	5.000 mL	Dil. Factor:	1.0000	ALS Bottle#:	10
Method:	VMS_X4_8260	Limit Group:	MSV - 8260B Water and Solid		

Column: Rxi-624Sil MS (0.25 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 1



Eurofins Denver
Recovery Report

Data File:	\\chromfs\Denver\ChromData\VMS_X4\20231218-128669.b\X511942.D				
Lims ID:	280-185797-D-5				
Client ID:	TV044-MW21D1223A				
Sample Type:	Client				
Inject. Date:	18-Dec-2023 12:08:30	ALS Bottle#:	10	Worklist Smp#:	16
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Sample Info:	280-185797-d-5				
Operator ID:	COULTER	Instrument ID:	VMS_X4		
Method:	\\chromfs\Denver\ChromData\VMS_X4\20231218-128669.b\VMS_X4_8260.m				
Limit Group:	MSV - 8260B Water and Solid				
Last Update:	19-Dec-2023 21:23:01	Calib Date:	11-Dec-2023 20:50:30		
Integrator:	RTE	ID Type:	Deconvolution ID		
Quant Method:	Internal Standard	Quant By:	Initial Calibration		
Last ICal File:	\\chromfs\Denver\ChromData\VMS_X4\20231211-128477.b\X511702.D				
Column 1 :	Rxi-624Sil MS (0.25 mm)		Det: MS SCAN		
Process Host:	CTX1675				

First Level Reviewer: AK2J Date: 19-Dec-2023 21:18:52

Compound	Amount Added	Amount Recovered	% Rec.
$ 4 Dibromofluoromethane (Surr)	50.0	55.8	111.53
$ 5 1,2-Dichloroethane-d4 (Surr)	50.0	54.1	108.23
$ 6 Toluene-d8 (Surr)	50.0	55.2	110.40
$ 7 4-Bromofluorobenzene (Surr)	50.0	54.4	108.73

Report Date: 19-Dec-2023 21:23:16 Chrom Revision: 2.3 15-Nov-2023 20:54:34

Eurofins Denver

Data File: \\chromfs\Denver\ChromData\VMS_X4\20231218-128669.b\X511942.D

Injection Date: 18-Dec-2023 12:08:30 Instrument ID: VMS_X4

Lims ID: 280-185797-D-5 Lab Sample ID: 280-185797-5

Client ID: TV044-MW21D1223A

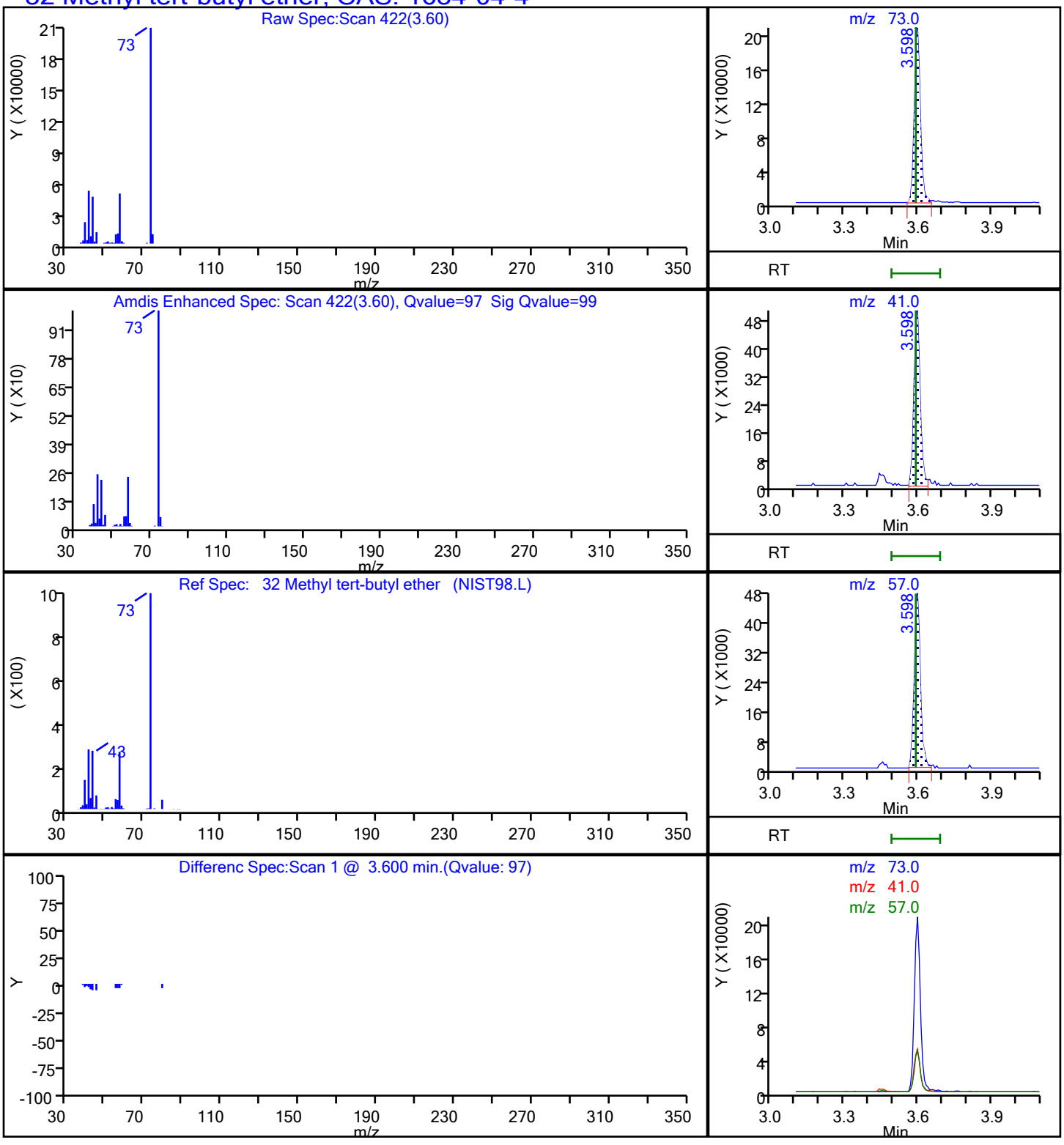
Operator ID: COULTER ALS Bottle#: 10 Worklist Smp#: 16

Purge Vol: 5.000 mL Dil. Factor: 1.0000

Method: VMS_X4_8260 Limit Group: MSV - 8260B Water and Solid

Column: Rxi-624Sil MS (0.25 mm) Detector MS SCAN

32 Methyl tert-butyl ether, CAS: 1634-04-4



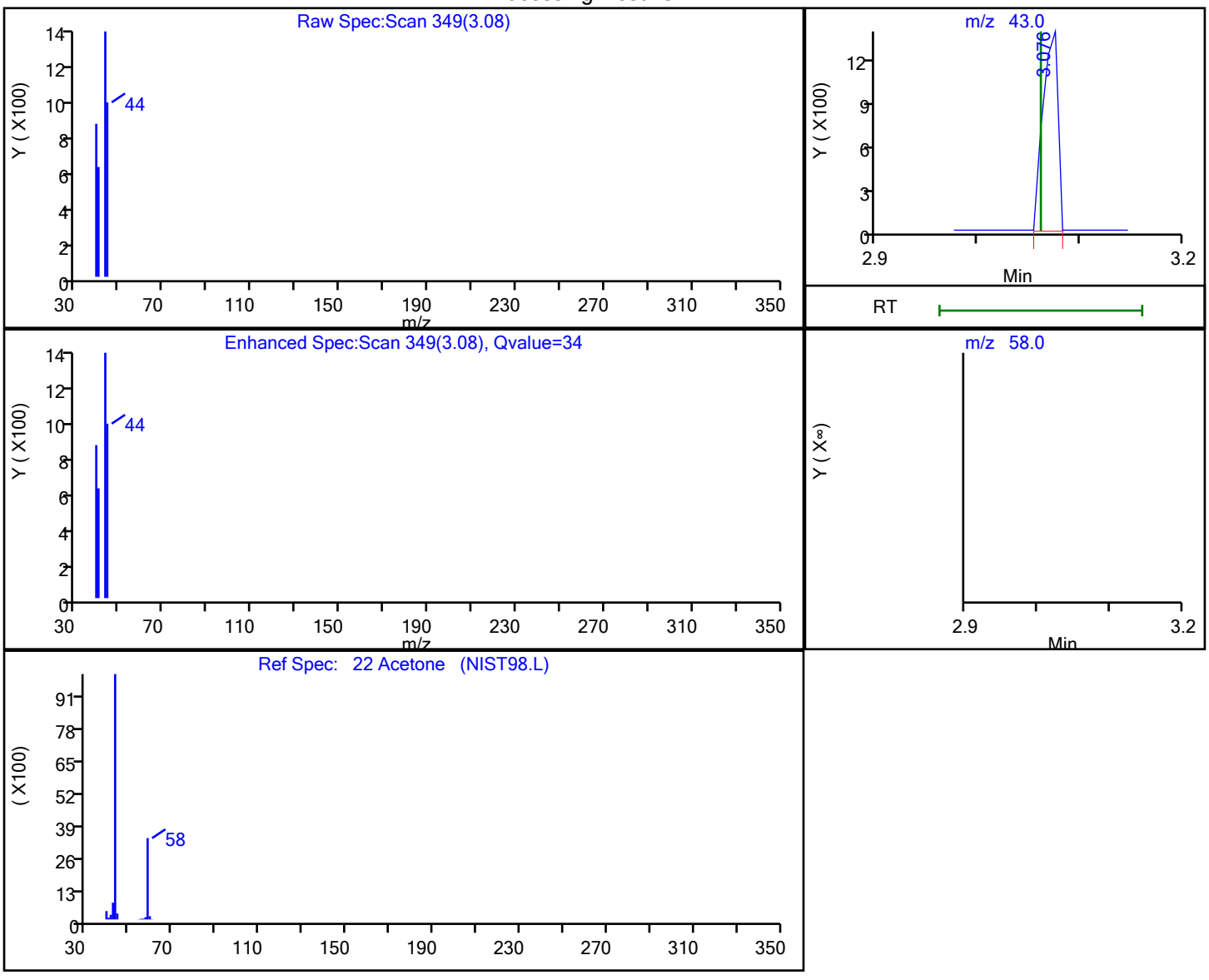
User Disabled Compound Report

Eurofins Denver

Data File:	\\chromfs\Denver\ChromData\VMS_X4\20231218-128669.b\X511942.D				
Injection Date:	18-Dec-2023 12:08:30	Instrument ID:	VMS_X4		
Lims ID:	280-185797-D-5	Lab Sample ID:	280-185797-5		
Client ID:	TV044-MW21D1223A				
Operator ID:	COULTER	ALS Bottle#:	10	Worklist Smp#:	16
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	VMS_X4_8260	Limit Group:	MSV - 8260B Water and Solid		
Column:	Rxi-624Sil MS (0.25 mm)	Detector	MS SCAN		

22 Acetone, CAS: 67-64-1

Processing Results



RT	Mass	Response	Amount
3.08	43.00	1377	0.429382
3.06	58.00	0	

Reviewer: AK2J, 19-Dec-2023 21:18:40 -07:00:00 (UTC)

Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Denver | Job No.: 280-185797-1

SDG No.:

Client Sample ID: TV044-MW21D1223C | Lab Sample ID: 280-185797-6

Matrix: Water | Lab File ID: X511943.D

Analysis Method: 8260D | Date Collected: 12/13/2023 12:05

Sample wt/vol: 5(mL) | Date Analyzed: 12/18/2023 12:30

Soil Aliquot Vol: | Dilution Factor: 1

Soil Extract Vol.: | GC Column: RXI-624SilMS ID: 0.25(mm)

Purge Volume: 5.0(mL) | Heated Purge: (Y/N) N pH: 5.0

% Moisture: % Solids: | Level: (low/med) Low

Analysis Batch No.: 637616 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
71-55-6	1,1,1-Trichloroethane	0.50	U	1.0	0.50	0.39
79-34-5	1,1,2,2-Tetrachloroethane	0.80	U	1.0	0.80	0.21
79-00-5	1,1,2-Trichloroethane	0.80	U	1.0	0.80	0.27
75-34-3	1,1-Dichloroethane	0.80	U	1.0	0.80	0.22
75-35-4	1,1-Dichloroethylene	0.80	U	1.0	0.80	0.23
563-58-6	1,1-Dichloropropene	0.80	U	1.0	0.80	0.42
87-61-6	1,2,3-Trichlorobenzene	0.80	U	2.0	0.80	0.70
96-18-4	1,2,3-Trichloropropane	1.8	U	2.5	1.8	0.86
526-73-8	1,2,3-Trimethylbenzene	0.80	U	2.0	0.80	0.27
120-82-1	1,2,4-Trichlorobenzene	0.80	U	1.0	0.80	0.58
95-63-6	1,2,4-Trimethylbenzene	0.40	U	1.0	0.40	0.15
96-12-8	1,2-Dibromo-3-Chloropropane	4.0	U	5.0	4.0	1.8
106-93-4	1,2-Dibromoethane	0.80	U	1.0	0.80	0.40
95-50-1	1,2-Dichlorobenzene	0.50	U	1.0	0.50	0.37
107-06-2	1,2-Dichloroethane	0.80	U	1.0	0.80	0.54
78-87-5	1,2-Dichloropropane	0.80	U	1.0	0.80	0.52
108-67-8	1,3,5-Trimethylbenzene	0.50	U	1.0	0.50	0.37
541-73-1	1,3-Dichlorobenzene	0.40	U	1.0	0.40	0.33
142-28-9	1,3-Dichloropropane	0.80	U	1.0	0.80	0.38
106-46-7	1,4-Dichlorobenzene	0.50	U	1.0	0.50	0.39
594-20-7	2,2-Dichloropropane	0.80	U	1.0	0.80	0.38
78-93-3	2-Butanone (MEK)	12	U	15	12	6.0
110-75-8	2-Chloroethyl vinyl ether	0.80	U	3.0	0.80	0.44
591-78-6	2-Hexanone	4.0	U	5.0	4.0	1.7
99-87-6	4-Isopropyltoluene	0.80	U	1.0	0.80	0.43
108-10-1	4-Methyl-2-pentanone (MIBK)	3.2	U	5.0	3.2	0.98
67-64-1	Acetone	8.0	U	15	8.0	6.6
107-13-1	Acrylonitrile	8.0	U	20	8.0	4.5
71-43-2	Benzene	0.80	U	1.0	0.80	0.31
108-86-1	Bromobenzene	0.50	U	1.0	0.50	0.40
74-97-5	Bromochloromethane	0.80	U	1.0	0.80	0.40
75-27-4	Bromodichloromethane	0.50	U	1.0	0.50	0.39
75-25-2	Bromoform	1.8	U	2.0	1.8	1.2
75-15-0	Carbon disulfide	0.80	U	2.0	0.80	0.63

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Denver | Job No.: 280-185797-1

SDG No.:

Client Sample ID: TV044-MW21D1223C | Lab Sample ID: 280-185797-6

Matrix: Water | Lab File ID: X511943.D

Analysis Method: 8260D | Date Collected: 12/13/2023 12:05

Sample wt/vol: 5(mL) | Date Analyzed: 12/18/2023 12:30

Soil Aliquot Vol: | Dilution Factor: 1

Soil Extract Vol.: | GC Column: RXI-624SilMS ID: 0.25(mm)

Purge Volume: 5.0(mL) | Heated Purge: (Y/N) N pH: 5.0

% Moisture: % Solids: | Level: (low/med) Low

Analysis Batch No.: 637616 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
56-23-5	Carbon tetrachloride	0.80	U	1.0	0.80	0.57
108-90-7	Chlorobenzene	0.80	U	1.0	0.80	0.42
75-00-3	Chloroethane	1.6	U	4.0	1.6	1.4
67-66-3	Chloroform	0.80	U	1.0	0.80	0.36
74-87-3	Chloromethane	1.0	U Q	2.0	1.0	0.75
156-59-2	cis-1,2-Dichloroethylene	0.40	U	1.0	0.40	0.32
10061-01-5	cis-1,3-Dichloropropene	1.8	U	2.0	1.8	0.63
110-82-7	Cyclohexane	0.80	U	1.0	0.80	0.44
108-94-1	Cyclohexanone	64	U M Q	100	64	32
124-48-1	Dibromochloromethane	1.8	U	2.0	1.8	0.62
74-95-3	Dibromomethane	0.40	U	1.0	0.40	0.34
75-71-8	Dichlorodifluoromethane	2.5	U Q	3.0	2.5	0.96
100-41-4	Ethylbenzene	0.40	U	1.0	0.40	0.30
87-68-3	Hexachlorobutadiene	1.8	U	2.0	1.8	1.2
108-20-3	Isopropyl ether	2.0	U	10	2.0	1.1
98-82-8	Isopropylbenzene	0.50	U	1.0	0.50	0.36
1634-04-4	Methyl tert-butyl ether	14		5.0	0.80	0.25
108-87-2	Methylcyclohexane	0.40	U	1.0	0.40	0.31
75-09-2	Methylene Chloride	1.8	U	2.0	1.8	0.94
91-20-3	Naphthalene	0.80	U	2.0	0.80	0.63
104-51-8	n-Butylbenzene	0.80	U	1.0	0.80	0.48
110-54-3	n-Hexane	0.80	U	2.0	0.80	0.16
103-65-1	N-Propylbenzene	0.80	U	1.0	0.80	0.53
95-49-8	o-Chlorotoluene	0.40	U	1.0	0.40	0.34
106-43-4	p-Chlorotoluene	0.80	U	1.0	0.80	0.21
135-98-8	sec-Butylbenzene	0.80	U	1.0	0.80	0.45
100-42-5	Styrene	0.80	U	1.0	0.80	0.36
98-06-6	tert-Butylbenzene	0.80	U	1.0	0.80	0.42
127-18-4	Tetrachloroethene	0.80	U	1.0	0.80	0.40
108-88-3	Toluene	0.40	U	1.0	0.40	0.32
156-60-5	trans-1,2-Dichloroethylene	0.50	U	1.0	0.50	0.37
10061-02-6	trans-1,3-Dichloropropene	1.8	U	2.0	1.8	0.65
79-01-6	Trichloroethene	0.40	U	1.0	0.40	0.30
75-69-4	Trichlorofluoromethane	0.80	U	2.0	0.80	0.57

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Denver | Job No.: 280-185797-1

SDG No.:

Client Sample ID: TV044-MW21D1223C | Lab Sample ID: 280-185797-6

Matrix: Water | Lab File ID: X511943.D

Analysis Method: 8260D | Date Collected: 12/13/2023 12:05

Sample wt/vol: 5(mL) | Date Analyzed: 12/18/2023 12:30

Soil Aliquot Vol: | Dilution Factor: 1

Soil Extract Vol.: | GC Column: RXI-624SilMS ID: 0.25(mm)

Purge Volume: 5.0(mL) | Heated Purge: (Y/N) N pH: 5.0

% Moisture: % Solids: | Level: (low/med) Low

Analysis Batch No.: 637616 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
108-05-4	Vinyl acetate	2.0	U	3.0	2.0	0.94
75-01-4	Vinyl chloride	1.0	U	2.0	1.0	0.51
1330-20-7	Xylenes, Total	0.80	U	1.0	0.80	0.33

CAS NO.	SURROGATE	%REC	Q	LIMITS
17060-07-0	1,2-Dichloroethane-d4 (Surr)	110		81-118
460-00-4	4-Bromofluorobenzene (Surr)	114		85-114
1868-53-7	Dibromofluoromethane (Surr)	110		80-119
2037-26-5	Toluene-d8 (Surr)	111		89-112

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET
TARGETED TENATIVELY IDENTIFIED COMPOUNDS

Lab Name: Eurofins Denver | Job No.: 280-185797-1

SDG No.:

Client Sample ID: TV044-MW21D1223C | Lab Sample ID: 280-185797-6

Matrix: Water | Lab File ID: X511943.D

Analysis Method: 8260D | Date Collected: 12/13/2023 12:05

Sample wt/vol: 5(mL) | Date Analyzed: 12/18/2023 12:30

Soil Aliquot Vol: | Dilution Factor: 1

Soil Extract Vol.: | GC Column: RXI-624SilMS ID: 0.25(mm)

Purge Volume: 5.0(mL) | Heated Purge: (Y/N) N pH: 5.0

% Moisture: % Solids: | Level: (low/med) Low

Analysis Batch No.: 637616 | Units: ug/L

CAS NO.	COMPOUND NAME	RT	RESULT	Q	MATCH QUALITY
106-99-0	1,3-Butadiene TIC		1.0	U	
622-96-8	4-Ethyltoluene TIC		1.0	U	
77-73-6	Dicyclopentadiene TIC		1.0	U	
115-07-1	Propene TIC		1.0	U	

Eurofins Denver
Target Compound Quantitation Report

Data File: \\chromfs\Denver\ChromData\VMS_X4\20231218-128669.b\X511943.D
Lims ID: 280-185797-E-6
Client ID: TV044-MW21D1223C
Sample Type: Client
Inject. Date: 18-Dec-2023 12:30:30 ALS Bottle#: 11 Worklist Smp#: 17
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Sample Info: 280-185797-e-6
Operator ID: COULTER Instrument ID: VMS_X4

Method: \\chromfs\Denver\ChromData\VMS_X4\20231218-128669.b\VMS_X4_8260.m
Limit Group: MSV - 8260B Water and Solid
Last Update: 19-Dec-2023 21:23:01 Calib Date: 11-Dec-2023 20:50:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Denver\ChromData\VMS_X4\20231211-128477.b\X511702.D

Column 1 : Rxi-624Sil MS (0.25 mm) Det: MS SCAN
Process Host: CTX1675

First Level Reviewer: AK2J Date: 19-Dec-2023 21:19:12

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	OnCol Amt ug/l	Flags
* 1 Fluorobenzene	96	5.199	5.199	0.000	97	1636826	50.0	
* 2 Chlorobenzene-d5	119	7.723	7.723	0.000	90	373688	50.0	
* 3 1,4-Dichlorobenzene-d4	152	9.947	9.947	0.000	97	406693	50.0	
$ 4 Dibromofluoromethane (Surr)	111	4.691	4.692	-0.001	92	461465	55.1	
$ 5 1,2-Dichloroethane-d4 (Surr)	65	4.956	4.956	0.000	0	595251	55.0	
$ 6 Toluene-d8 (Surr)	98	6.458	6.451	0.008	95	1787336	55.6	
$ 7 4-Bromofluorobenzene (Surr)	95	8.817	8.817	0.000	87	441970	56.9	
$ 8 BFB	95	8.817	8.817	0.000	84	441970	NR	
9 Dichlorodifluoromethane	85		1.760				ND	
10 Chloromethane	50		1.939				ND	
11 Vinyl chloride	62		2.039				ND	
12 Bromomethane	94		2.325				ND	
13 Chloroethane	64		2.425				ND	
15 Propene oxide	58		2.504				ND	
14 Dichlorofluoromethane	67		2.597				ND	
16 Trichlorofluoromethane	101		2.632				ND	
17 Ethanol	45		2.754				ND	
18 Ethyl ether	59		2.847				ND	
19 Acrolein	56		2.961				ND	
20 1,1,2-Trichloro-1,2,2-trifluoroe	151		3.040				ND	
21 1,1-Dichloroethene	96		3.040				ND	
22 Acetone	43	3.068	3.061	0.007	54	1303	0.4079	
23 Isopropyl alcohol	45		3.147				ND	
24 Iodomethane	142		3.169				ND	
25 Carbon disulfide	76		3.226				ND	
26 Acetonitrile	41		3.276				ND	
27 Methyl acetate	43		3.290				ND	
28 3-Chloro-1-propene	41		3.312				ND	
29 Methylene Chloride	84		3.404				ND	
30 2-Methyl-2-propanol	59	3.454	3.447	0.007	98	30226	35.1	
31 Acrylonitrile	53		3.576				ND	
32 Methyl tert-butyl ether	73	3.597	3.590	0.007	97	342402	13.7	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	OnCol Amt ug/l	Flags
33 trans-1,2-Dichloroethene	96		3.605				ND	
34 Hexane	57		3.798				ND	
35 Vinyl acetate	43		3.905				ND	
36 1,1-Dichloroethane	63		3.926				ND	
37 Isopropyl ether	87		3.926				ND	
38 2-Chloro-1,3-butadiene	53		3.984				ND	
39 Tert-butyl ethyl ether	59		4.191				ND	
40 2-Butanone (MEK)	43		4.313				ND	
41 Ethyl acetate	43		4.327				ND	
42 cis-1,2-Dichloroethene	96		4.341				ND	
43 2,2-Dichloropropane	77		4.355				ND	
44 Propionitrile	54		4.370				ND	
45 sec-Butyl Alcohol	45		4.420				ND	
46 Methacrylonitrile	41		4.477				ND	
47 Chlorobromomethane	128		4.520				ND	
48 Tetrahydrofuran	42		4.527				ND	
49 Chloroform	83		4.577				ND	
50 1,1,1-Trichloroethane	97		4.720				ND	
51 Cyclohexane	56		4.777				ND	
52 1,1-Dichloropropene	75		4.835				ND	
53 Carbon tetrachloride	117		4.835				ND	
54 Isobutyl alcohol	41		4.842				ND	
55 Benzene	78		4.985				ND	7
56 1,2-Dichloroethane	62		5.013				ND	7
57 Tert-amyl methyl ether	73		5.056				ND	
58 n-Heptane	43		5.163				ND	
59 n-Butanol	56		5.335				ND	
60 Trichloroethene	95		5.471				ND	
61 2-Pentanone	43		5.578				ND	
62 Methylcyclohexane	55		5.671				ND	
63 1,2-Dichloropropane	63		5.678				ND	
64 Methyl methacrylate	100		5.678				ND	
65 1,4-Dioxane	88		5.721				ND	
66 Dibromomethane	93		5.750				ND	
67 Dichlorobromomethane	83		5.871				ND	
68 2-Nitropropane	41		6.043				ND	
69 2-Chloroethyl vinyl ether	63		6.072				ND	
70 cis-1,3-Dichloropropene	75		6.222				ND	
71 4-Methyl-2-pentanone (MIBK)	43		6.322				ND	
72 Toluene	91		6.508				ND	
73 trans-1,3-Dichloropropene	75		6.679				ND	
74 Ethyl methacrylate	69		6.701				ND	
75 1,1,2-Trichloroethane	97		6.858				ND	
76 Tetrachloroethene	164		6.951				ND	
77 1,3-Dichloropropane	76		7.008				ND	
78 2-Hexanone	43		7.023				ND	
79 Chlorodibromomethane	129		7.201				ND	
80 Ethylene Dibromide	107		7.323				ND	
81 1-Chlorohexane	91		7.709				ND	U
82 Chlorobenzene	112		7.752				ND	
83 1,1,1,2-Tetrachloroethane	131		7.823				ND	
84 Ethylbenzene	106		7.830				ND	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	OnCol Amt ug/l	Flags
85 m-Xylene & p-Xylene	106		7.945				ND	
86 o-Xylene	106		8.302				ND	
87 Styrene	104		8.324				ND	
88 Bromoform	173		8.503				ND	
89 Isopropylbenzene	105		8.646				ND	
90 cis-1,4-Dichloro-2-butene	53		8.696				ND	
91 Cyclohexanone	55		8.746				ND	U
92 1,1,2,2-Tetrachloroethane	83		8.932				ND	
94 trans-1,4-Dichloro-2-butene	53		8.967				ND	
93 Bromobenzene	156		8.967				ND	
95 1,2,3-Trichloropropane	110		8.996				ND	
96 N-Propylbenzene	120		9.046				ND	
97 2-Chlorotoluene	126		9.146				ND	
98 1,3,5-Trimethylbenzene	105		9.218				ND	
99 4-Chlorotoluene	126		9.261				ND	
101 Pentachloroethane	167		9.411				ND	
100 tert-Butylbenzene	119		9.525				ND	
102 1,2,4-Trimethylbenzene	105		9.582				ND	
103 sec-Butylbenzene	134		9.747				ND	
104 1,3-Dichlorobenzene	146		9.875				ND	
105 4-Isopropyltoluene	119		9.890				ND	
106 1,4-Dichlorobenzene	146		9.976				ND	
107 1,2,3-Trimethylbenzene	105		9.990				ND	
108 n-Butylbenzene	91		10.297				ND	
109 1,2-Dichlorobenzene	146		10.333				ND	
110 1,2-Dibromo-3-Chloropropane	157		11.105				ND	
111 1,3,5-Trichlorobenzene	180		11.298				ND	
112 1,2,4-Trichlorobenzene	180		11.935				ND	
113 Hexachlorobutadiene	225		12.071				ND	
114 Naphthalene	128		12.206				ND	
115 1,2,3-Trichlorobenzene	180		12.428				ND	
120 Tetrahydrothiophene TIC	1		0.000				ND	
119 1-Chloro-1-fluoroethane TIC	1		0.000				ND	
118 Ethyl acrylate	55		0.000				ND	
117 t-Amyl alcohol	1		0.000				ND	
116 Ethylene oxide TIC	1		0.000				ND	
121 Propene oxide TIC	58		5.334				ND	
S 122 1,2-Dichloroethene, Total (URS)	96		2.000				ND	7
S 129 1,2-Dichloroethene, Total	1		0.000				ND	7
S 124 1,3-Dichloropropene, Total	1		0.000				ND	7
S 123 Xylenes, Total (URS)	1		0.000				ND	7
S 127 Trihalomethanes, Total	1		0.000				ND	7
S 126 Total BTEX	1		0.000				ND	7
S 128 TAH	1				0		0	
S 125 Xylenes, Total	106		0.000				ND	7
T 130 Dichloroacetonitrile TIC	74		1.000				ND	
T 132 1-Chlorohexane TIC	1		0.000				ND	
T 131 Methyl cyclohexane TIC	1		0.000				ND	
T 140 2,3-Dichloro-1-propene TIC	75		0.000				ND	
T 139 Propene TIC	1		0.000				ND	
T 138 n-Nonane TIC	1		0.000				ND	
T 137 1,3-Butadiene TIC	1		0.000				ND	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	OnCol Amt ug/l	Flags
T 136 Cyclohexane TIC	1		0.000				ND	
T 135 4-Ethyltoluene TIC	1		0.000				ND	
T 134 2-Butoxyethanol TIC	1		0.000				ND	
T 133 Dicyclopentadiene TIC	1		0.000				ND	

QC Flag Legend

Processing Flags
- NR - Missing Quant Standard
- 7 - Failed Limit of Detection

Review Flags
- U - Marked Undetected

Reagents:

mv-IS_SS_00074 Amount Added: 5.00 Units: uL Run Reagent

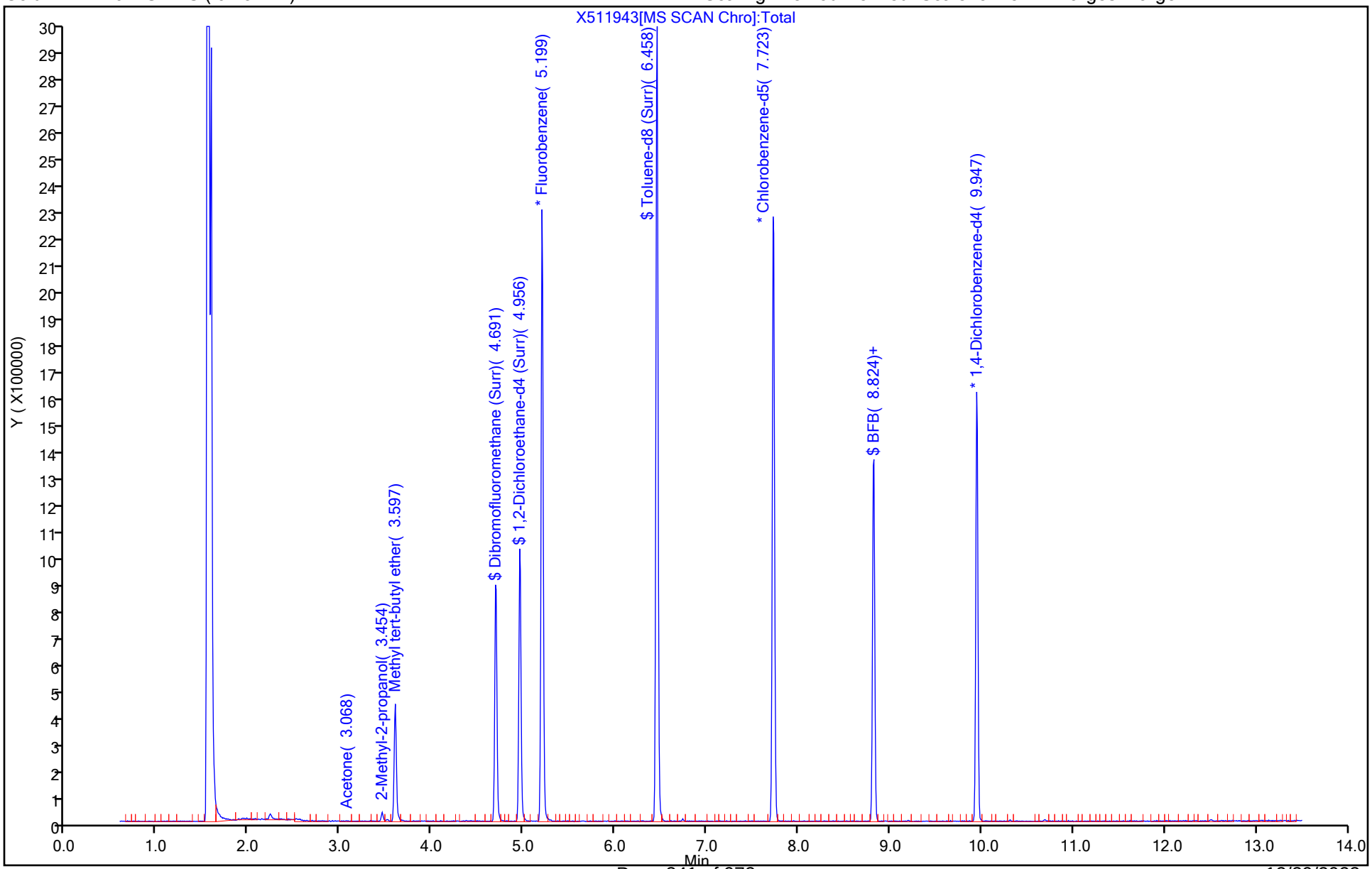
Report Date: 19-Dec-2023 21:23:17 Chrom Revision: 2.3 15-Nov-2023 20:54:34

Eurofins Denver

Data File: \\chromfs\Denver\ChromData\VMS_X4\20231218-128669.b\X511943.D

Injection Date:	18-Dec-2023 12:30:30	Instrument ID:	VMS_X4	Operator ID:	COULTER
Lims ID:	280-185797-E-6	Lab Sample ID:	280-185797-6	Worklist Smp#:	17
Client ID:	TV044-MW21D1223C				
Purge Vol:	5.000 mL	Dil. Factor:	1.0000	ALS Bottle#:	11
Method:	VMS_X4_8260	Limit Group:	MSV - 8260B Water and Solid		

Column: Rxi-624Sil MS (0.25 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 1



12/29/2023
10:48 AM

Eurofins Denver
Recovery Report

Data File:	\\chromfs\Denver\ChromData\VMS_X4\20231218-128669.b\X511943.D				
Lims ID:	280-185797-E-6				
Client ID:	TV044-MW21D1223C				
Sample Type:	Client				
Inject. Date:	18-Dec-2023 12:30:30	ALS Bottle#:	11	Worklist Smp#:	17
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Sample Info:	280-185797-e-6				
Operator ID:	COULTER	Instrument ID:	VMS_X4		
Method:	\\chromfs\Denver\ChromData\VMS_X4\20231218-128669.b\VMS_X4_8260.m				
Limit Group:	MSV - 8260B Water and Solid				
Last Update:	19-Dec-2023 21:23:01	Calib Date:	11-Dec-2023 20:50:30		
Integrator:	RTE	ID Type:	Deconvolution ID		
Quant Method:	Internal Standard	Quant By:	Initial Calibration		
Last ICal File:	\\chromfs\Denver\ChromData\VMS_X4\20231211-128477.b\X511702.D				
Column 1 :	Rxi-624Sil MS (0.25 mm)		Det: MS SCAN		
Process Host:	CTX1675				

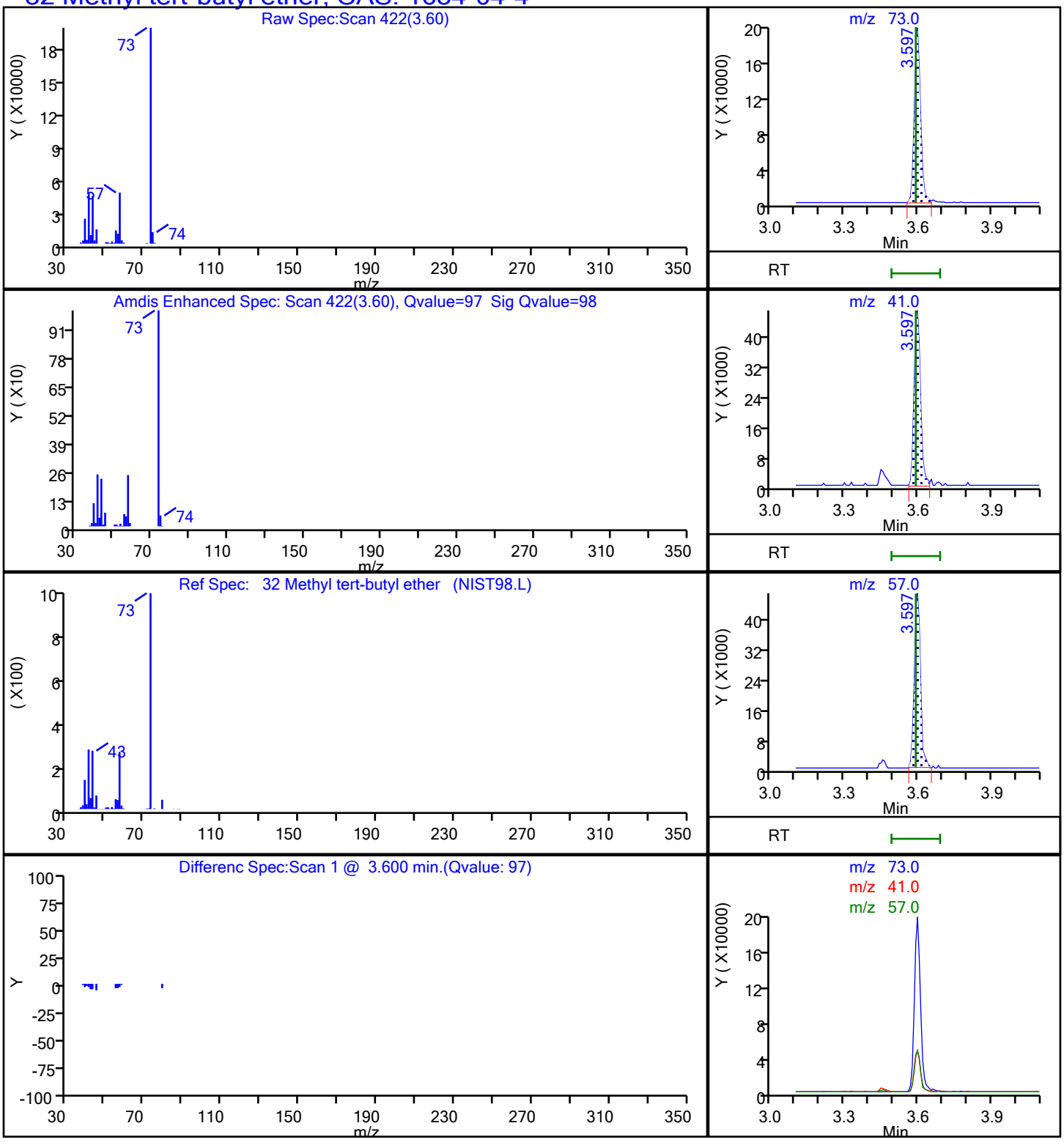
First Level Reviewer: AK2J Date: 19-Dec-2023 21:19:12

Compound	Amount Added	Amount Recovered	% Rec.
$ 4 Dibromofluoromethane (Surr)	50.0	55.1	110.22
$ 5 1,2-Dichloroethane-d4 (Surr)	50.0	55.0	109.92
$ 6 Toluene-d8 (Surr)	50.0	55.6	111.10
$ 7 4-Bromofluorobenzene (Surr)	50.0	56.9	113.88

Eurofins Denver

Data File:	\\chromfs\Denver\ChromData\VMS_X4\20231218-128669.b\X511943.D				
Injection Date:	18-Dec-2023 12:30:30	Instrument ID:	VMS_X4		
Lims ID:	280-185797-E-6	Lab Sample ID:	280-185797-6		
Client ID:	TV044-MW21D1223C				
Operator ID:	COULTER	ALS Bottle#:	11	Worklist Smp#:	17
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	VMS_X4_8260	Limit Group:	MSV - 8260B Water and Solid		
Column:	Rxi-624Sil MS (0.25 mm)	Detector	MS SCAN		

32 Methyl tert-butyl ether, CAS: 1634-04-4



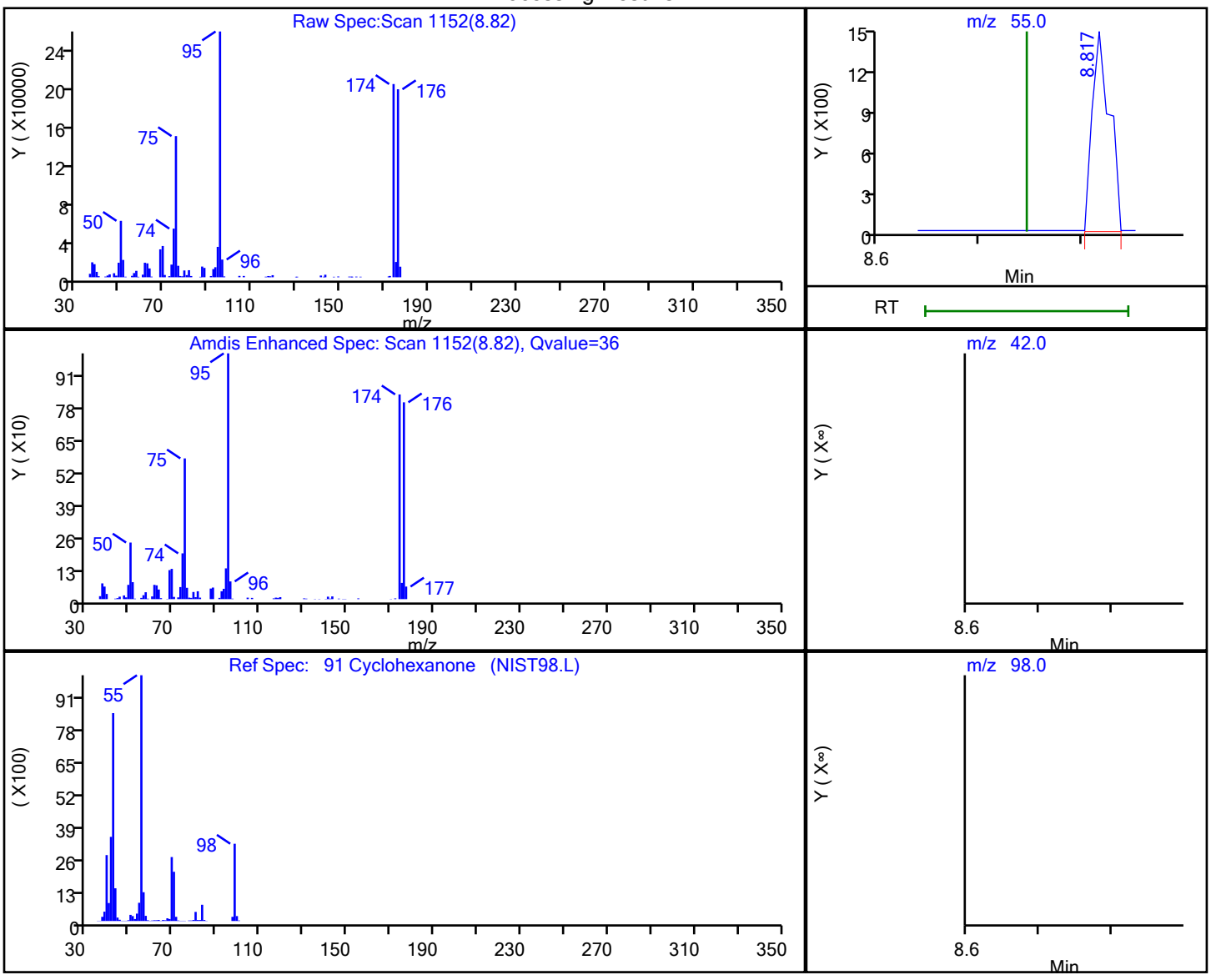
User Disabled Compound Report

Eurofins Denver

Data File:	\\chromfs\Denver\ChromData\VMS_X4\20231218-128669.b\X511943.D				
Injection Date:	18-Dec-2023 12:30:30	Instrument ID:	VMS_X4		
Lims ID:	280-185797-E-6	Lab Sample ID:	280-185797-6		
Client ID:	TV044-MW21D1223C				
Operator ID:	COULTER	ALS Bottle#:	11	Worklist Smp#:	17
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	VMS_X4_8260	Limit Group:	MSV - 8260B Water and Solid		
Column:	Rxi-624Sil MS (0.25 mm)	Detector	MS SCAN		

91 Cyclohexanone, CAS: 108-94-1

Processing Results



RT	Mass	Response	Amount
8.82	55.00	1759	4.605584
8.75	42.00	0	
8.75	98.00	0	

Reviewer: AK2J, 19-Dec-2023 21:19:08 -07:00:00 (UTC)

Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Denver | Job No.: 280-185797-1

SDG No.:

Client Sample ID: TV044-MW23S1223A | Lab Sample ID: 280-185797-7

Matrix: Water | Lab File ID: X511951.D

Analysis Method: 8260D | Date Collected: 12/13/2023 12:20

Sample wt/vol: 5(mL) | Date Analyzed: 12/18/2023 15:23

Soil Aliquot Vol: | Dilution Factor: 50

Soil Extract Vol.: | GC Column: RXI-624SilMS ID: 0.25(mm)

Purge Volume: 5.0(mL) | Heated Purge: (Y/N) N pH: 5.0

% Moisture: % Solids: | Level: (low/med) Low

Analysis Batch No.: 637616 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
71-55-6	1,1,1-Trichloroethane	25	U Q	50	25	20
79-34-5	1,1,2,2-Tetrachloroethane	40	U Q	50	40	11
79-00-5	1,1,2-Trichloroethane	40	U Q	50	40	14
75-34-3	1,1-Dichloroethane	40	U Q	50	40	11
75-35-4	1,1-Dichloroethylene	40	U Q	50	40	12
563-58-6	1,1-Dichloropropene	40	U Q	50	40	21
87-61-6	1,2,3-Trichlorobenzene	40	U Q	100	40	35
96-18-4	1,2,3-Trichloropropane	90	U Q	130	90	43
526-73-8	1,2,3-Trimethylbenzene	40	U Q	100	40	14
120-82-1	1,2,4-Trichlorobenzene	40	U Q	50	40	29
95-63-6	1,2,4-Trimethylbenzene	20	U Q	50	20	7.5
96-12-8	1,2-Dibromo-3-Chloropropane	200	U Q	250	200	88
106-93-4	1,2-Dibromoethane	40	U Q	50	40	20
95-50-1	1,2-Dichlorobenzene	25	U Q	50	25	19
107-06-2	1,2-Dichloroethane	40	U Q	50	40	27
78-87-5	1,2-Dichloropropane	40	U Q	50	40	26
108-67-8	1,3,5-Trimethylbenzene	25	U Q	50	25	18
541-73-1	1,3-Dichlorobenzene	20	U Q	50	20	17
142-28-9	1,3-Dichloropropane	40	U Q	50	40	19
106-46-7	1,4-Dichlorobenzene	25	U Q	50	25	19
594-20-7	2,2-Dichloropropane	40	U Q	50	40	19
78-93-3	2-Butanone (MEK)	600	U Q	750	600	300
110-75-8	2-Chloroethyl vinyl ether	40	U Q	150	40	22
591-78-6	2-Hexanone	200	U Q	250	200	85
99-87-6	4-Isopropyltoluene	40	U Q	50	40	21
108-10-1	4-Methyl-2-pentanone (MIBK)	160	U Q	250	160	49
67-64-1	Acetone	400	U Q	750	400	330
107-13-1	Acrylonitrile	400	U Q	1000	400	220
71-43-2	Benzene	40	U Q	50	40	15
108-86-1	Bromobenzene	25	U Q	50	25	20
74-97-5	Bromochloromethane	40	U Q	50	40	20
75-27-4	Bromodichloromethane	25	U Q	50	25	19
75-25-2	Bromoform	90	U Q	100	90	61
75-15-0	Carbon disulfide	40	U Q	100	40	32

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Denver | Job No.: 280-185797-1

SDG No.:

Client Sample ID: TV044-MW23S1223A | Lab Sample ID: 280-185797-7

Matrix: Water | Lab File ID: X511951.D

Analysis Method: 8260D | Date Collected: 12/13/2023 12:20

Sample wt/vol: 5(mL) | Date Analyzed: 12/18/2023 15:23

Soil Aliquot Vol: | Dilution Factor: 50

Soil Extract Vol.: | GC Column: RXI-624SilMS ID: 0.25(mm)

Purge Volume: 5.0(mL) | Heated Purge: (Y/N) N pH: 5.0

% Moisture: % Solids: | Level: (low/med) Low

Analysis Batch No.: 637616 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
56-23-5	Carbon tetrachloride	40	U Q	50	40	28
108-90-7	Chlorobenzene	40	U Q	50	40	21
75-00-3	Chloroethane	80	U M Q	200	80	69
67-66-3	Chloroform	40	U Q	50	40	18
74-87-3	Chloromethane	50	U Q	100	50	38
156-59-2	cis-1,2-Dichloroethylene	20	U Q	50	20	16
10061-01-5	cis-1,3-Dichloropropene	90	U Q	100	90	31
110-82-7	Cyclohexane	40	U Q	50	40	22
108-94-1	Cyclohexanone	3200	U Q	5000	3200	1600
124-48-1	Dibromochloromethane	90	U Q	100	90	31
74-95-3	Dibromomethane	20	U Q	50	20	17
75-71-8	Dichlorodifluoromethane	130	U Q	150	130	48
100-41-4	Ethylbenzene	20	U Q	50	20	15
87-68-3	Hexachlorobutadiene	90	U Q	100	90	59
108-20-3	Isopropyl ether	100	U Q	500	100	55
98-82-8	Isopropylbenzene	25	U Q	50	25	18
1634-04-4	Methyl tert-butyl ether	40	U Q	250	40	13
108-87-2	Methylcyclohexane	20	U Q	50	20	16
75-09-2	Methylene Chloride	90	U Q	100	90	47
91-20-3	Naphthalene	40	U Q	100	40	32
104-51-8	n-Butylbenzene	40	U Q	50	40	24
110-54-3	n-Hexane	40	U Q	100	40	8.2
103-65-1	N-Propylbenzene	40	U Q	50	40	27
95-49-8	o-Chlorotoluene	20	U Q	50	20	17
106-43-4	p-Chlorotoluene	40	U Q	50	40	11
135-98-8	sec-Butylbenzene	40	U Q	50	40	22
100-42-5	Styrene	40	U Q	50	40	18
98-06-6	tert-Butylbenzene	40	U Q	50	40	21
127-18-4	Tetrachloroethene	40	U Q	50	40	20
108-88-3	Toluene	20	U Q	50	20	16
156-60-5	trans-1,2-Dichloroethylene	25	U Q	50	25	18
10061-02-6	trans-1,3-Dichloropropene	90	U Q	100	90	32
79-01-6	Trichloroethene	20	U Q	50	20	15
75-69-4	Trichlorofluoromethane	40	U Q	100	40	28

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Denver | Job No.: 280-185797-1

SDG No.:

Client Sample ID: TV044-MW23S1223A | Lab Sample ID: 280-185797-7

Matrix: Water | Lab File ID: X511951.D

Analysis Method: 8260D | Date Collected: 12/13/2023 12:20

Sample wt/vol: 5(mL) | Date Analyzed: 12/18/2023 15:23

Soil Aliquot Vol: | Dilution Factor: 50

Soil Extract Vol.: | GC Column: RXI-624SilMS ID: 0.25(mm)

Purge Volume: 5.0(mL) | Heated Purge: (Y/N) N pH: 5.0

% Moisture: % Solids: | Level: (low/med) Low

Analysis Batch No.: 637616 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
108-05-4	Vinyl acetate	100	U Q	150	100	47
75-01-4	Vinyl chloride	50	U Q	100	50	25
1330-20-7	Xylenes, Total	40	U Q	50	40	17

CAS NO.	SURROGATE	%REC	Q	LIMITS
17060-07-0	1,2-Dichloroethane-d4 (Surr)	121	Q	81-118
460-00-4	4-Bromofluorobenzene (Surr)	122	Q	85-114
1868-53-7	Dibromofluoromethane (Surr)	123	Q	80-119
2037-26-5	Toluene-d8 (Surr)	130	Q	89-112

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET
TARGETED TENATIVELY IDENTIFIED COMPOUNDS

Lab Name: Eurofins Denver | Job No.: 280-185797-1

SDG No.:

Client Sample ID: TV044-MW23S1223A | Lab Sample ID: 280-185797-7

Matrix: Water | Lab File ID: X511951.D

Analysis Method: 8260D | Date Collected: 12/13/2023 12:20

Sample wt/vol: 5(mL) | Date Analyzed: 12/18/2023 15:23

Soil Aliquot Vol: | Dilution Factor: 50

Soil Extract Vol.: | GC Column: RXI-624SilMS ID: 0.25(mm)

Purge Volume: 5.0(mL) | Heated Purge: (Y/N) N pH: 5.0

% Moisture: % Solids: | Level: (low/med) Low

Analysis Batch No.: 637616 | Units: ug/L

CAS NO.	COMPOUND NAME	RT	RESULT	Q	MATCH QUALITY
106-99-0	1,3-Butadiene TIC		50	U	
622-96-8	4-Ethyltoluene TIC		50	U	
77-73-6	Dicyclopentadiene TIC		50	U	
115-07-1	Propene TIC		50	U	

Eurofins Denver
Target Compound Quantitation Report

Data File: \\chromfs\Denver\ChromData\VMS_X4\20231218-128669.b\X511951.D
Lims ID: 280-185797-D-7
Client ID: TV044-MW23S1223A
Sample Type: Client
Inject. Date: 18-Dec-2023 15:23:30 ALS Bottle#: 19 Worklist Smp#: 25
Purge Vol: 5.000 mL Dil. Factor: 50.0000
Sample Info: 280-185797-d-7
Misc. Info.: 50X
Operator ID: COULTER Instrument ID: VMS_X4

Method: \\chromfs\Denver\ChromData\VMS_X4\20231218-128669.b\VMS_X4_8260.m
Limit Group: MSV - 8260B Water and Solid
Last Update: 19-Dec-2023 21:23:01 Calib Date: 11-Dec-2023 20:50:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Denver\ChromData\VMS_X4\20231211-128477.b\X511702.D

Column 1 : Rxi-624Sil MS (0.25 mm) Det: MS SCAN
Process Host: CTX1675

First Level Reviewer: AK2J Date: 19-Dec-2023 21:23:01

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	OnCol Amt ug/l	Flags
* 1 Fluorobenzene	96	5.199	5.199	0.000	98	1467664	50.0	
* 2 Chlorobenzene-d5	119	7.730	7.723	0.007	89	245983	50.0	
* 3 1,4-Dichlorobenzene-d4	152	9.947	9.947	0.000	97	188442	50.0	s
$ 4 Dibromofluoromethane (Surr)	111	4.691	4.692	-0.001	93	463299	61.7	
$ 5 1,2-Dichloroethane-d4 (Surr)	65	4.956	4.956	0.000	0	586946	60.4	
$ 6 Toluene-d8 (Surr)	98	6.458	6.451	0.008	94	1378767	65.1	
$ 7 4-Bromofluorobenzene (Surr)	95	8.824	8.817	0.007	89	219148	60.9	
$ 8 BFB	95	8.824	8.817	0.007	89	219148	NR	
9 Dichlorodifluoromethane	85		1.760				ND	
10 Chloromethane	50	1.946	1.939	0.007	93	6699	0.4661	
11 Vinyl chloride	62	2.046	2.039	0.007	10	4233	0.3417	
12 Bromomethane	94	2.325	2.325	0.000	4	2656	0.4282	
13 Chloroethane	64		2.425				ND	U
15 Propene oxide	58		2.504				ND	
14 Dichlorofluoromethane	67		2.597				ND	
16 Trichlorofluoromethane	101		2.632				ND	
17 Ethanol	45		2.754				ND	
18 Ethyl ether	59		2.847				ND	
19 Acrolein	56		2.961				ND	
20 1,1,2-Trichloro-1,2,2-trifluoroe	151		3.040				ND	
21 1,1-Dichloroethene	96		3.040				ND	
22 Acetone	43	3.068	3.061	0.007	95	7485	2.61	
23 Isopropyl alcohol	45		3.147				ND	
24 Iodomethane	142		3.169				ND	
25 Carbon disulfide	76		3.226				ND	
26 Acetonitrile	41	3.283	3.276	0.007	95	11772	7.41	
27 Methyl acetate	43		3.290				ND	
28 3-Chloro-1-propene	41		3.312				ND	
29 Methylene Chloride	84	3.412	3.404	0.008	86	4214	0.4769	
30 2-Methyl-2-propanol	59		3.447				ND	
31 Acrylonitrile	53		3.576				ND	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	OnCol Amt ug/l	Flags
32 Methyl tert-butyl ether	73		3.590				ND	7
33 trans-1,2-Dichloroethene	96		3.605				ND	
34 Hexane	57		3.798				ND	
35 Vinyl acetate	43		3.905				ND	
36 1,1-Dichloroethane	63		3.926				ND	
37 Isopropyl ether	87		3.926				ND	
38 2-Chloro-1,3-butadiene	53		3.984				ND	
39 Tert-butyl ethyl ether	59		4.191				ND	
40 2-Butanone (MEK)	43	4.312	4.313	-0.001	96	8745	1.91	
41 Ethyl acetate	43		4.327				ND	
42 cis-1,2-Dichloroethene	96		4.341				ND	
43 2,2-Dichloropropane	77		4.355				ND	
44 Propionitrile	54		4.370				ND	
45 sec-Butyl Alcohol	45		4.420				ND	
46 Methacrylonitrile	41		4.477				ND	
47 Chlorobromomethane	128		4.520				ND	
48 Tetrahydrofuran	42		4.527				ND	
49 Chloroform	83		4.577				ND	
50 1,1,1-Trichloroethane	97		4.720				ND	
51 Cyclohexane	56		4.777				ND	
52 1,1-Dichloropropene	75		4.835				ND	
53 Carbon tetrachloride	117		4.835				ND	
54 Isobutyl alcohol	41		4.842				ND	
55 Benzene	78		4.985				ND	7
56 1,2-Dichloroethane	62	5.020	5.013	0.007	4	2053	0.1593	
57 Tert-amyl methyl ether	73		5.056				ND	
58 n-Heptane	43		5.163				ND	
59 n-Butanol	56		5.335				ND	
60 Trichloroethene	95		5.471				ND	
61 2-Pentanone	43		5.578				ND	
62 Methylcyclohexane	55		5.671				ND	
63 1,2-Dichloropropane	63		5.678				ND	
64 Methyl methacrylate	100		5.678				ND	
65 1,4-Dioxane	88		5.721				ND	
66 Dibromomethane	93		5.750				ND	
67 Dichlorobromomethane	83		5.871				ND	
68 2-Nitropropane	41		6.043				ND	
69 2-Chloroethyl vinyl ether	63		6.072				ND	
70 cis-1,3-Dichloropropene	75		6.222				ND	
71 4-Methyl-2-pentanone (MIBK)	43		6.322				ND	
72 Toluene	91		6.508				ND	
73 trans-1,3-Dichloropropene	75		6.679				ND	
74 Ethyl methacrylate	69		6.701				ND	
75 1,1,2-Trichloroethane	97		6.858				ND	
76 Tetrachloroethene	164		6.951				ND	
77 1,3-Dichloropropane	76		7.008				ND	
78 2-Hexanone	43		7.023				ND	
79 Chlorodibromomethane	129		7.201				ND	
80 Ethylene Dibromide	107		7.323				ND	
81 1-Chlorohexane	91		7.709				ND	7
82 Chlorobenzene	112		7.752				ND	
83 1,1,1,2-Tetrachloroethane	131		7.823				ND	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	OnCol Amt ug/l	Flags
84 Ethylbenzene	106		7.830			ND		
85 m-Xylene & p-Xylene	106		7.945			ND		
86 o-Xylene	106		8.302			ND		
87 Styrene	104		8.324			ND		
88 Bromoform	173		8.503			ND		
89 Isopropylbenzene	105		8.646			ND		
90 cis-1,4-Dichloro-2-butene	53		8.696			ND		
91 Cyclohexanone	55		8.746			ND		
92 1,1,2,2-Tetrachloroethane	83		8.932			ND		
94 trans-1,4-Dichloro-2-butene	53		8.967			ND		
93 Bromobenzene	156		8.967			ND		
95 1,2,3-Trichloropropane	110		8.996			ND		
96 N-Propylbenzene	120		9.046			ND		
97 2-Chlorotoluene	126		9.146			ND		
98 1,3,5-Trimethylbenzene	105		9.218			ND		
99 4-Chlorotoluene	126		9.261			ND		
101 Pentachloroethane	167		9.411			ND		
100 tert-Butylbenzene	119		9.525			ND		
102 1,2,4-Trimethylbenzene	105		9.582			ND		
103 sec-Butylbenzene	134		9.747			ND		
104 1,3-Dichlorobenzene	146		9.875			ND		
105 4-Isopropyltoluene	119		9.890			ND		
106 1,4-Dichlorobenzene	146		9.976			ND		
107 1,2,3-Trimethylbenzene	105		9.990			ND		
108 n-Butylbenzene	91		10.297			ND		
109 1,2-Dichlorobenzene	146		10.333			ND		
110 1,2-Dibromo-3-Chloropropane	157		11.105			ND		
111 1,3,5-Trichlorobenzene	180		11.298			ND		
112 1,2,4-Trichlorobenzene	180		11.935			ND		
113 Hexachlorobutadiene	225		12.071			ND		
114 Naphthalene	128		12.206			ND		
115 1,2,3-Trichlorobenzene	180		12.428			ND		
120 Tetrahydrothiophene TIC	1		0.000			ND		
119 1-Chloro-1-fluoroethane TIC	1		0.000			ND		
118 Ethyl acrylate	55		0.000			ND		
117 t-Amyl alcohol	1		0.000			ND		
116 Ethylene oxide TIC	1		0.000			ND		
121 Propene oxide TIC	58		5.334			ND		
S 122 1,2-Dichloroethene, Total (URS)	96		2.000			ND		7
S 129 1,2-Dichloroethene, Total	1		0.000			ND		7
S 124 1,3-Dichloropropene, Total	1		0.000			ND		7
S 123 Xylenes, Total (URS)	1		0.000			ND		7
S 127 Trihalomethanes, Total	1		0.000			ND		7
S 126 Total BTEX	1		0.000			ND		7
S 128 TAH	1				0		0	
S 125 Xylenes, Total	106		0.000			ND		7
T 130 Dichloroacetonitrile TIC	74		1.000			ND		
T 132 1-Chlorohexane TIC	1		0.000			ND		
T 131 Methyl cyclohexane TIC	1		0.000			ND		
T 140 2,3-Dichloro-1-propene TIC	75		0.000			ND		
T 139 Propene TIC	1		0.000			ND		
T 138 n-Nonane TIC	1		0.000			ND		

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	OnCol Amt ug/l	Flags
T 137 1,3-Butadiene TIC	1		0.000				ND	
T 136 Cyclohexane TIC	1		0.000				ND	
T 135 4-Ethyltoluene TIC	1		0.000				ND	
T 134 2-Butoxyethanol TIC	1		0.000				ND	
T 133 Dicyclopentadiene TIC	1		0.000				ND	

QC Flag Legend

Processing Flags
- NR - Missing Quant Standard
- 7 - Failed Limit of Detection
- s - Failed ISTD Recovery Test

Review Flags
- U - Marked Undetected

Reagents:

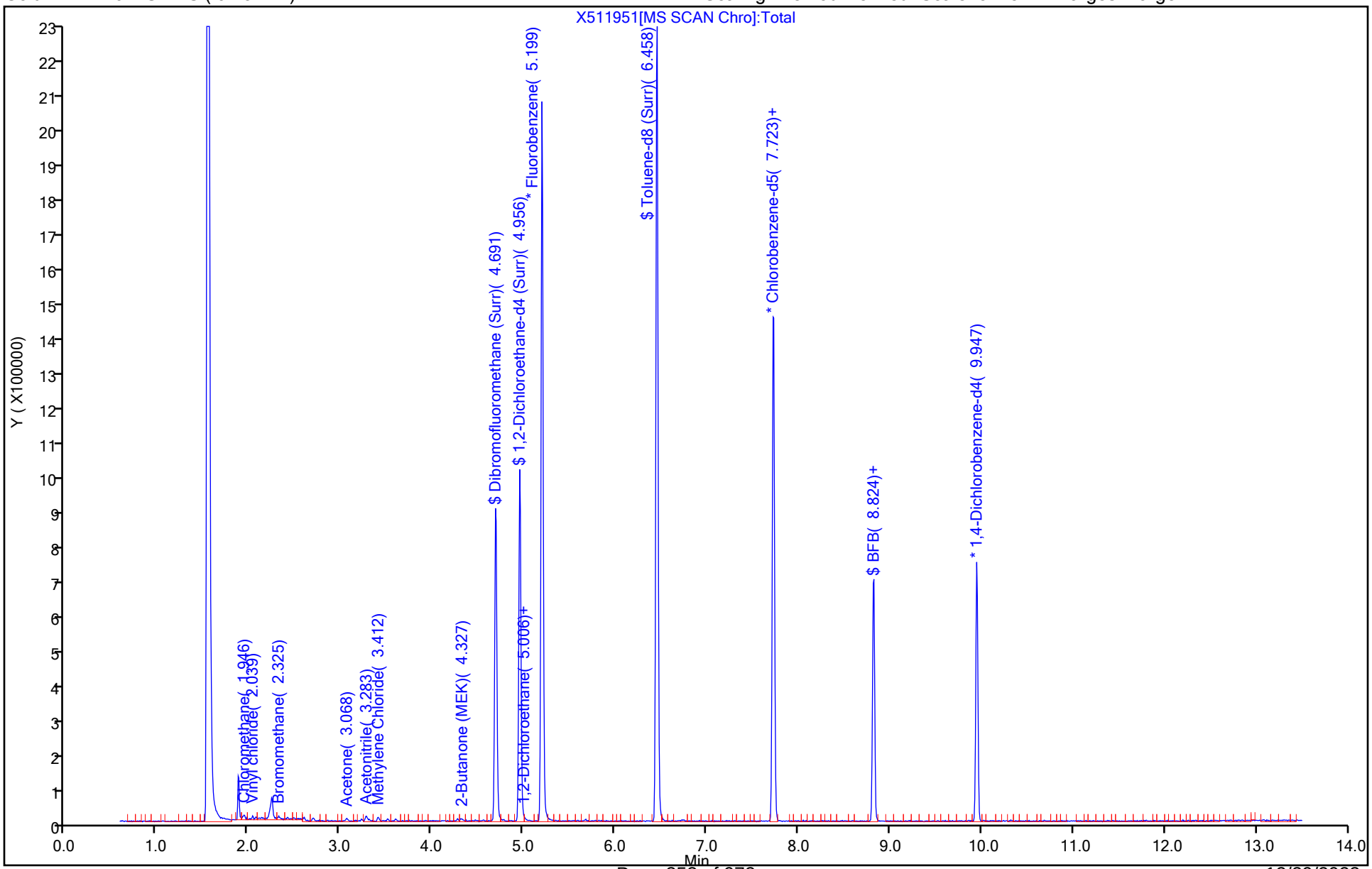
mv-IS_SS_00074 Amount Added: 5.00 Units: uL Run Reagent

Report Date: 19-Dec-2023 21:23:30 Chrom Revision: 2.3 15-Nov-2023 20:54:34

Eurofins Denver

Data File:	\\chromfs\Denver\ChromData\VMS_X4\20231218-128669.b\X511951.D				
Injection Date:	18-Dec-2023 15:23:30	Instrument ID:	VMS_X4	Operator ID:	COULTER
Lims ID:	280-185797-D-7	Lab Sample ID:	280-185797-7	Worklist Smp#:	25
Client ID:	TV044-MW23S1223A				
Purge Vol:	5.000 mL	Dil. Factor:	50.0000	ALS Bottle#:	19
Method:	VMS_X4_8260	Limit Group:	MSV - 8260B Water and Solid		

Column: Rxi-624Sil MS (0.25 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 1



Eurofins Denver
Recovery Report

Data File:	\\chromfs\Denver\ChromData\VMS_X4\20231218-128669.b\X511951.D				
Lims ID:	280-185797-D-7				
Client ID:	TV044-MW23S1223A				
Sample Type:	Client				
Inject. Date:	18-Dec-2023 15:23:30	ALS Bottle#:	19	Worklist Smp#:	25
Purge Vol:	5.000 mL	Dil. Factor:	50.0000		
Sample Info:	280-185797-d-7				
Misc. Info.:	50X				
Operator ID:	COULTER	Instrument ID:	VMS_X4		
Method:	\\chromfs\Denver\ChromData\VMS_X4\20231218-128669.b\VMS_X4_8260.m				
Limit Group:	MSV - 8260B Water and Solid				
Last Update:	19-Dec-2023 21:23:01	Calib Date:	11-Dec-2023 20:50:30		
Integrator:	RTE	ID Type:	Deconvolution ID		
Quant Method:	Internal Standard	Quant By:	Initial Calibration		
Last ICal File:	\\chromfs\Denver\ChromData\VMS_X4\20231211-128477.b\X511702.D				
Column 1 :	Rxi-624Sil MS (0.25 mm)		Det: MS SCAN		
Process Host:	CTX1675				

First Level Reviewer: AK2J Date: 19-Dec-2023 21:23:01

Compound	Amount Added	Amount Recovered	% Rec.
$ 4 Dibromofluoromethane (Surr)	50.0	61.7	6170.41
$ 5 1,2-Dichloroethane-d4 (Surr)	50.0	60.4	6044.17
$ 6 Toluene-d8 (Surr)	50.0	65.1	6510.14
$ 7 4-Bromofluorobenzene (Surr)	50.0	60.9	6093.34

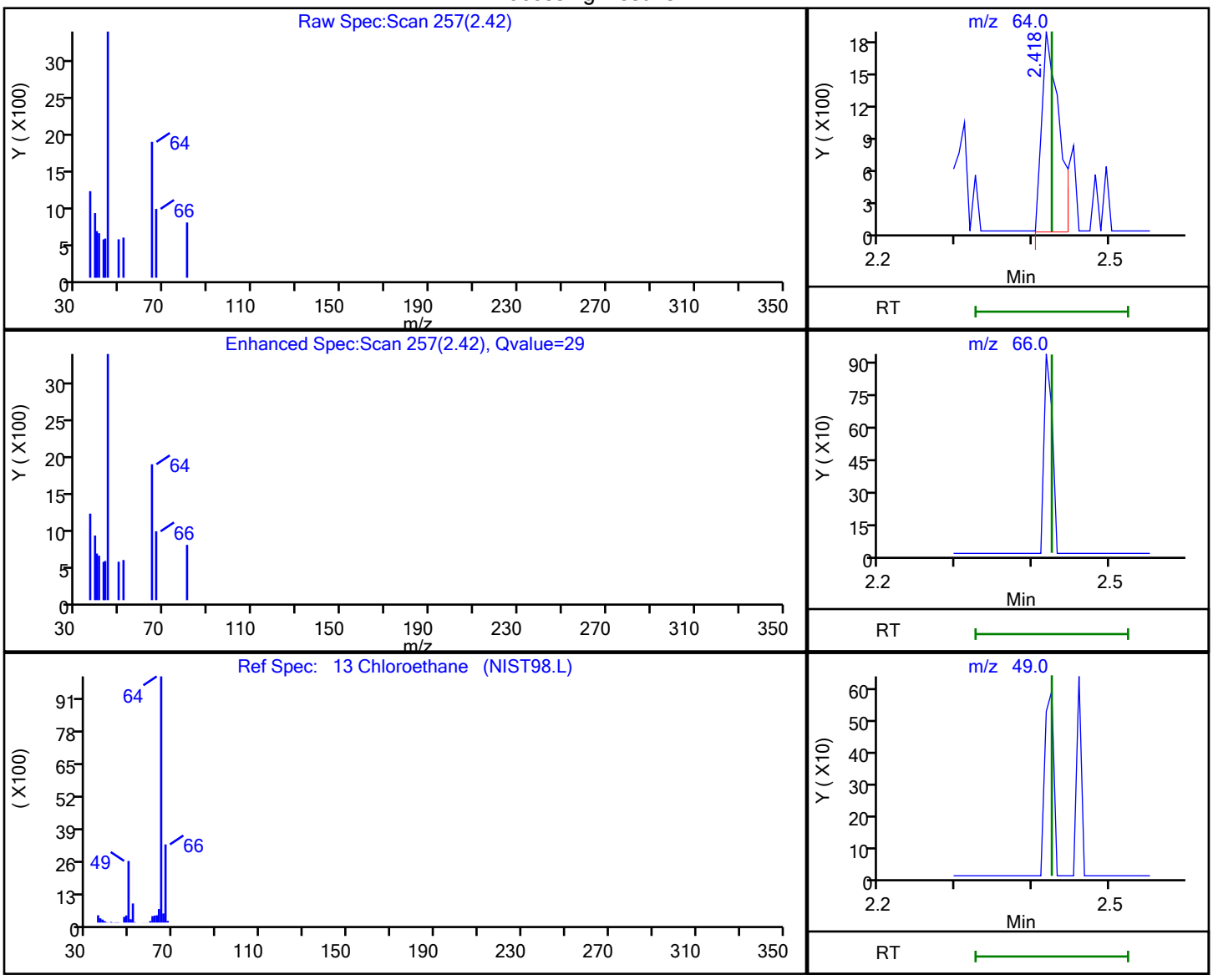
User Disabled Compound Report

Eurofins Denver

Data File:	\\chromfs\Denver\ChromData\VMS_X4\20231218-128669.b\X511951.D				
Injection Date:	18-Dec-2023 15:23:30	Instrument ID:	VMS_X4		
Lims ID:	280-185797-D-7	Lab Sample ID:	280-185797-7		
Client ID:	TV044-MW23S1223A				
Operator ID:	COULTER	ALS Bottle#:	19	Worklist Smp#:	25
Purge Vol:	5.000 mL	Dil. Factor:	50.0000		
Method:	VMS_X4_8260	Limit Group:	MSV - 8260B Water and Solid		
Column:	Rxi-624Sil MS (0.25 mm)	Detector	MS SCAN		

13 Chloroethane, CAS: 75-00-3

Processing Results



RT	Mass	Response	Amount
2.42	64.00	2860	0.367159
2.42	66.00	0	
2.42	49.00	0	

Reviewer: AK2J, 19-Dec-2023 21:22:57 -07:00:00 (UTC)

Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Denver | Job No.: 280-185797-1

SDG No.:

Client Sample ID: TV044-MW31223A | Lab Sample ID: 280-185797-8

Matrix: Water | Lab File ID: X511944.D

Analysis Method: 8260D | Date Collected: 12/13/2023 13:10

Sample wt/vol: 5(mL) | Date Analyzed: 12/18/2023 12:52

Soil Aliquot Vol: | Dilution Factor: 1

Soil Extract Vol.: | GC Column: RXI-624SilMS ID: 0.25(mm)

Purge Volume: 5.0(mL) | Heated Purge: (Y/N) N pH: 5.0

% Moisture: % Solids: | Level: (low/med) Low

Analysis Batch No.: 637616 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
71-55-6	1,1,1-Trichloroethane	0.50	U	1.0	0.50	0.39
79-34-5	1,1,2,2-Tetrachloroethane	0.80	U	1.0	0.80	0.21
79-00-5	1,1,2-Trichloroethane	0.80	U	1.0	0.80	0.27
75-34-3	1,1-Dichloroethane	0.80	U	1.0	0.80	0.22
75-35-4	1,1-Dichloroethylene	0.80	U	1.0	0.80	0.23
563-58-6	1,1-Dichloropropene	0.80	U	1.0	0.80	0.42
87-61-6	1,2,3-Trichlorobenzene	0.80	U	2.0	0.80	0.70
96-18-4	1,2,3-Trichloropropane	1.8	U	2.5	1.8	0.86
526-73-8	1,2,3-Trimethylbenzene	0.80	U	2.0	0.80	0.27
120-82-1	1,2,4-Trichlorobenzene	0.80	U	1.0	0.80	0.58
95-63-6	1,2,4-Trimethylbenzene	0.40	U	1.0	0.40	0.15
96-12-8	1,2-Dibromo-3-Chloropropane	4.0	U	5.0	4.0	1.8
106-93-4	1,2-Dibromoethane	0.80	U	1.0	0.80	0.40
95-50-1	1,2-Dichlorobenzene	0.50	U	1.0	0.50	0.37
107-06-2	1,2-Dichloroethane	0.80	U	1.0	0.80	0.54
78-87-5	1,2-Dichloropropane	0.80	U	1.0	0.80	0.52
108-67-8	1,3,5-Trimethylbenzene	0.50	U	1.0	0.50	0.37
541-73-1	1,3-Dichlorobenzene	0.40	U	1.0	0.40	0.33
142-28-9	1,3-Dichloropropane	0.80	U	1.0	0.80	0.38
106-46-7	1,4-Dichlorobenzene	0.50	U	1.0	0.50	0.39
594-20-7	2,2-Dichloropropane	0.80	U	1.0	0.80	0.38
78-93-3	2-Butanone (MEK)	12	U	15	12	6.0
110-75-8	2-Chloroethyl vinyl ether	0.80	U	3.0	0.80	0.44
591-78-6	2-Hexanone	4.0	U	5.0	4.0	1.7
99-87-6	4-Isopropyltoluene	0.80	U	1.0	0.80	0.43
108-10-1	4-Methyl-2-pentanone (MIBK)	3.2	U	5.0	3.2	0.98
67-64-1	Acetone	8.0	U M	15	8.0	6.6
107-13-1	Acrylonitrile	8.0	U	20	8.0	4.5
71-43-2	Benzene	0.80	U	1.0	0.80	0.31
108-86-1	Bromobenzene	0.50	U	1.0	0.50	0.40
74-97-5	Bromochloromethane	0.80	U	1.0	0.80	0.40
75-27-4	Bromodichloromethane	0.50	U	1.0	0.50	0.39
75-25-2	Bromoform	1.8	U	2.0	1.8	1.2
75-15-0	Carbon disulfide	0.80	U	2.0	0.80	0.63

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Denver | Job No.: 280-185797-1

SDG No.:

Client Sample ID: TV044-MW31223A | Lab Sample ID: 280-185797-8

Matrix: Water | Lab File ID: X511944.D

Analysis Method: 8260D | Date Collected: 12/13/2023 13:10

Sample wt/vol: 5(mL) | Date Analyzed: 12/18/2023 12:52

Soil Aliquot Vol: | Dilution Factor: 1

Soil Extract Vol.: | GC Column: RXI-624SilMS ID: 0.25(mm)

Purge Volume: 5.0(mL) | Heated Purge: (Y/N) N pH: 5.0

% Moisture: % Solids: | Level: (low/med) Low

Analysis Batch No.: 637616 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
56-23-5	Carbon tetrachloride	0.80	U	1.0	0.80	0.57
108-90-7	Chlorobenzene	0.80	U	1.0	0.80	0.42
75-00-3	Chloroethane	1.6	U	4.0	1.6	1.4
67-66-3	Chloroform	0.80	U	1.0	0.80	0.36
74-87-3	Chloromethane	1.0	U Q	2.0	1.0	0.75
156-59-2	cis-1,2-Dichloroethylene	0.40	U	1.0	0.40	0.32
10061-01-5	cis-1,3-Dichloropropene	1.8	U	2.0	1.8	0.63
110-82-7	Cyclohexane	0.80	U	1.0	0.80	0.44
108-94-1	Cyclohexanone	64	U M Q	100	64	32
124-48-1	Dibromochloromethane	1.8	U	2.0	1.8	0.62
74-95-3	Dibromomethane	0.40	U	1.0	0.40	0.34
75-71-8	Dichlorodifluoromethane	2.5	U Q	3.0	2.5	0.96
100-41-4	Ethylbenzene	0.40	U	1.0	0.40	0.30
87-68-3	Hexachlorobutadiene	1.8	U	2.0	1.8	1.2
108-20-3	Isopropyl ether	2.0	U	10	2.0	1.1
98-82-8	Isopropylbenzene	0.50	U	1.0	0.50	0.36
1634-04-4	Methyl tert-butyl ether	1.0	J	5.0	0.80	0.25
108-87-2	Methylcyclohexane	0.40	U	1.0	0.40	0.31
75-09-2	Methylene Chloride	1.8	U	2.0	1.8	0.94
91-20-3	Naphthalene	0.80	U	2.0	0.80	0.63
104-51-8	n-Butylbenzene	0.80	U	1.0	0.80	0.48
110-54-3	n-Hexane	0.80	U	2.0	0.80	0.16
103-65-1	N-Propylbenzene	0.80	U	1.0	0.80	0.53
95-49-8	o-Chlorotoluene	0.40	U	1.0	0.40	0.34
106-43-4	p-Chlorotoluene	0.80	U	1.0	0.80	0.21
135-98-8	sec-Butylbenzene	0.80	U	1.0	0.80	0.45
100-42-5	Styrene	0.80	U	1.0	0.80	0.36
98-06-6	tert-Butylbenzene	0.80	U	1.0	0.80	0.42
127-18-4	Tetrachloroethene	0.80	U	1.0	0.80	0.40
108-88-3	Toluene	0.40	U	1.0	0.40	0.32
156-60-5	trans-1,2-Dichloroethylene	0.50	U	1.0	0.50	0.37
10061-02-6	trans-1,3-Dichloropropene	1.8	U	2.0	1.8	0.65
79-01-6	Trichloroethene	0.40	U	1.0	0.40	0.30
75-69-4	Trichlorofluoromethane	0.80	U	2.0	0.80	0.57

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Denver | Job No.: 280-185797-1

SDG No.:

Client Sample ID: TV044-MW31223A | Lab Sample ID: 280-185797-8

Matrix: Water | Lab File ID: X511944.D

Analysis Method: 8260D | Date Collected: 12/13/2023 13:10

Sample wt/vol: 5(mL) | Date Analyzed: 12/18/2023 12:52

Soil Aliquot Vol: | Dilution Factor: 1

Soil Extract Vol.: | GC Column: RXI-624SilMS ID: 0.25(mm)

Purge Volume: 5.0(mL) | Heated Purge: (Y/N) N pH: 5.0

% Moisture: % Solids: | Level: (low/med) Low

Analysis Batch No.: 637616 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
108-05-4	Vinyl acetate	2.0	U	3.0	2.0	0.94
75-01-4	Vinyl chloride	1.0	U	2.0	1.0	0.51
1330-20-7	Xylenes, Total	0.80	U	1.0	0.80	0.33

CAS NO.	SURROGATE	%REC	Q	LIMITS
17060-07-0	1,2-Dichloroethane-d4 (Surr)	107		81-118
460-00-4	4-Bromofluorobenzene (Surr)	109		85-114
1868-53-7	Dibromofluoromethane (Surr)	109		80-119
2037-26-5	Toluene-d8 (Surr)	103		89-112

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET
TARGETED TENATIVELY IDENTIFIED COMPOUNDS

Lab Name: Eurofins Denver | Job No.: 280-185797-1

SDG No.:

Client Sample ID: TV044-MW31223A | Lab Sample ID: 280-185797-8

Matrix: Water | Lab File ID: X511944.D

Analysis Method: 8260D | Date Collected: 12/13/2023 13:10

Sample wt/vol: 5(mL) | Date Analyzed: 12/18/2023 12:52

Soil Aliquot Vol: | Dilution Factor: 1

Soil Extract Vol.: | GC Column: RXI-624SilMS ID: 0.25(mm)

Purge Volume: 5.0(mL) | Heated Purge: (Y/N) N pH: 5.0

% Moisture: % Solids: | Level: (low/med) Low

Analysis Batch No.: 637616 | Units: ug/L

CAS NO.	COMPOUND NAME	RT	RESULT	Q	MATCH QUALITY
106-99-0	1,3-Butadiene TIC		1.0	U	
622-96-8	4-Ethyltoluene TIC		1.0	U	
77-73-6	Dicyclopentadiene TIC		1.0	U	
115-07-1	Propene TIC		1.0	U	

Eurofins Denver
Target Compound Quantitation Report

Data File: \\chromfs\Denver\ChromData\VMS_X4\20231218-128669.b\X511944.D
Lims ID: 280-185797-F-8
Client ID: TV044-MW31223A
Sample Type: Client
Inject. Date: 18-Dec-2023 12:52:30 ALS Bottle#: 12 Worklist Smp#: 18
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Sample Info: 280-185797-f-8
Operator ID: COULTER Instrument ID: VMS_X4

Method: \\chromfs\Denver\ChromData\VMS_X4\20231218-128669.b\VMS_X4_8260.m
Limit Group: MSV - 8260B Water and Solid
Last Update: 19-Dec-2023 21:23:01 Calib Date: 11-Dec-2023 20:50:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Denver\ChromData\VMS_X4\20231211-128477.b\X511702.D

Column 1 : Rxi-624Sil MS (0.25 mm) Det: MS SCAN
Process Host: CTX1675

First Level Reviewer: AK2J Date: 19-Dec-2023 21:19:42

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	OnCol Amt ug/l	Flags
* 1 Fluorobenzene	96	5.199	5.199	0.000	98	1684126	50.0	
* 2 Chlorobenzene-d5	119	7.730	7.723	0.007	89	419823	50.0	
* 3 1,4-Dichlorobenzene-d4	152	9.947	9.947	0.000	97	485194	50.0	
$ 4 Dibromofluoromethane (Surr)	111	4.692	4.692	0.000	92	467676	54.3	
$ 5 1,2-Dichloroethane-d4 (Surr)	65	4.956	4.956	0.000	0	597703	53.6	
$ 6 Toluene-d8 (Surr)	98	6.458	6.451	0.008	95	1861084	51.5	
$ 7 4-Bromofluorobenzene (Surr)	95	8.817	8.817	0.000	87	506890	54.7	
$ 8 BFB	95	8.817	8.817	0.000	85	506890	NR	
9 Dichlorodifluoromethane	85		1.760				ND	
10 Chloromethane	50		1.939				ND	
11 Vinyl chloride	62		2.039				ND	
12 Bromomethane	94		2.325				ND	7
13 Chloroethane	64		2.425				ND	
15 Propene oxide	58		2.504				ND	
14 Dichlorofluoromethane	67		2.597				ND	
16 Trichlorofluoromethane	101		2.632				ND	
17 Ethanol	45		2.754				ND	
18 Ethyl ether	59		2.847				ND	
19 Acrolein	56		2.961				ND	
20 1,1,2-Trichloro-1,2,2-trifluoroe	151		3.040				ND	
21 1,1-Dichloroethene	96		3.040				ND	
22 Acetone	43		3.061				ND	U
23 Isopropyl alcohol	45		3.147				ND	
24 Iodomethane	142		3.169				ND	
25 Carbon disulfide	76		3.226				ND	
26 Acetonitrile	41		3.276				ND	
27 Methyl acetate	43		3.290				ND	
28 3-Chloro-1-propene	41		3.312				ND	
29 Methylene Chloride	84		3.404				ND	
30 2-Methyl-2-propanol	59	3.447	3.447	0.000	97	10717	12.1	
31 Acrylonitrile	53		3.576				ND	
32 Methyl tert-butyl ether	73	3.598	3.590	0.008	96	26323	1.02	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	OnCol Amt ug/l	Flags
33 trans-1,2-Dichloroethene	96		3.605				ND	
34 Hexane	57		3.798				ND	
35 Vinyl acetate	43		3.905				ND	
36 1,1-Dichloroethane	63		3.926				ND	
37 Isopropyl ether	87		3.926				ND	
38 2-Chloro-1,3-butadiene	53		3.984				ND	
39 Tert-butyl ethyl ether	59		4.191				ND	
40 2-Butanone (MEK)	43		4.313				ND	
41 Ethyl acetate	43		4.327				ND	
42 cis-1,2-Dichloroethene	96		4.341				ND	
43 2,2-Dichloropropane	77		4.355				ND	
44 Propionitrile	54		4.370				ND	
45 sec-Butyl Alcohol	45		4.420				ND	
46 Methacrylonitrile	41		4.477				ND	
47 Chlorobromomethane	128		4.520				ND	
48 Tetrahydrofuran	42		4.527				ND	
49 Chloroform	83		4.577				ND	
50 1,1,1-Trichloroethane	97		4.720				ND	
51 Cyclohexane	56		4.777				ND	
52 1,1-Dichloropropene	75		4.835				ND	
53 Carbon tetrachloride	117		4.835				ND	
54 Isobutyl alcohol	41		4.842				ND	
55 Benzene	78		4.985				ND	
56 1,2-Dichloroethane	62		5.013				ND	7
57 Tert-amyl methyl ether	73		5.056				ND	
58 n-Heptane	43		5.163				ND	
59 n-Butanol	56		5.335				ND	
60 Trichloroethene	95		5.471				ND	
61 2-Pentanone	43		5.578				ND	
62 Methylcyclohexane	55		5.671				ND	
63 1,2-Dichloropropane	63		5.678				ND	
64 Methyl methacrylate	100		5.678				ND	
65 1,4-Dioxane	88		5.721				ND	
66 Dibromomethane	93		5.750				ND	
67 Dichlorobromomethane	83		5.871				ND	
68 2-Nitropropane	41		6.043				ND	
69 2-Chloroethyl vinyl ether	63		6.072				ND	
70 cis-1,3-Dichloropropene	75		6.222				ND	
71 4-Methyl-2-pentanone (MIBK)	43		6.322				ND	
72 Toluene	91		6.508				ND	
73 trans-1,3-Dichloropropene	75		6.679				ND	
74 Ethyl methacrylate	69		6.701				ND	
75 1,1,2-Trichloroethane	97		6.858				ND	
76 Tetrachloroethene	164		6.951				ND	
77 1,3-Dichloropropane	76		7.008				ND	
78 2-Hexanone	43		7.023				ND	
79 Chlorodibromomethane	129		7.201				ND	
80 Ethylene Dibromide	107		7.323				ND	
81 1-Chlorohexane	91		7.709				ND	
82 Chlorobenzene	112		7.752				ND	
83 1,1,1,2-Tetrachloroethane	131		7.823				ND	
84 Ethylbenzene	106		7.830				ND	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	OnCol Amt ug/l	Flags
85 m-Xylene & p-Xylene	106		7.945				ND	
86 o-Xylene	106		8.302				ND	
87 Styrene	104		8.324				ND	
88 Bromoform	173		8.503				ND	
89 Isopropylbenzene	105		8.646				ND	
90 cis-1,4-Dichloro-2-butene	53		8.696				ND	
91 Cyclohexanone	55		8.746				ND	U
92 1,1,2,2-Tetrachloroethane	83		8.932				ND	
94 trans-1,4-Dichloro-2-butene	53		8.967				ND	
93 Bromobenzene	156		8.967				ND	
95 1,2,3-Trichloropropane	110		8.996				ND	
96 N-Propylbenzene	120		9.046				ND	
97 2-Chlorotoluene	126		9.146				ND	
98 1,3,5-Trimethylbenzene	105		9.218				ND	
99 4-Chlorotoluene	126		9.261				ND	
101 Pentachloroethane	167		9.411				ND	
100 tert-Butylbenzene	119		9.525				ND	
102 1,2,4-Trimethylbenzene	105		9.582				ND	
103 sec-Butylbenzene	134		9.747				ND	
104 1,3-Dichlorobenzene	146		9.875				ND	
105 4-Isopropyltoluene	119		9.890				ND	
106 1,4-Dichlorobenzene	146		9.976				ND	
107 1,2,3-Trimethylbenzene	105		9.990				ND	
108 n-Butylbenzene	91		10.297				ND	
109 1,2-Dichlorobenzene	146		10.333				ND	
110 1,2-Dibromo-3-Chloropropane	157		11.105				ND	
111 1,3,5-Trichlorobenzene	180		11.298				ND	
112 1,2,4-Trichlorobenzene	180		11.935				ND	
113 Hexachlorobutadiene	225		12.071				ND	
114 Naphthalene	128		12.206				ND	
115 1,2,3-Trichlorobenzene	180		12.428				ND	
120 Tetrahydrothiophene TIC	1		0.000				ND	
119 1-Chloro-1-fluoroethane TIC	1		0.000				ND	
118 Ethyl acrylate	55		0.000				ND	
117 t-Amyl alcohol	1		0.000				ND	
116 Ethylene oxide TIC	1		0.000				ND	
121 Propene oxide TIC	58		5.334				ND	
S 122 1,2-Dichloroethene, Total (URS)	96		2.000				ND	7
S 129 1,2-Dichloroethene, Total	1		0.000				ND	7
S 124 1,3-Dichloropropene, Total	1		0.000				ND	7
S 123 Xylenes, Total (URS)	1		0.000				ND	7
S 127 Trihalomethanes, Total	1		0.000				ND	7
S 126 Total BTEX	1		0.000				ND	7
S 128 TAH	1				0		0	
S 125 Xylenes, Total	106		0.000				ND	7
T 130 Dichloroacetonitrile TIC	74		1.000				ND	
T 132 1-Chlorohexane TIC	1		0.000				ND	
T 131 Methyl cyclohexane TIC	1		0.000				ND	
T 140 2,3-Dichloro-1-propene TIC	75		0.000				ND	
T 139 Propene TIC	1		0.000				ND	
T 138 n-Nonane TIC	1		0.000				ND	
T 137 1,3-Butadiene TIC	1		0.000				ND	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	OnCol Amt ug/l	Flags
T 136 Cyclohexane TIC	1		0.000				ND	
T 135 4-Ethyltoluene TIC	1		0.000				ND	
T 134 2-Butoxyethanol TIC	1		0.000				ND	
T 133 Dicyclopentadiene TIC	1		0.000				ND	

QC Flag Legend

Processing Flags
- NR - Missing Quant Standard
- 7 - Failed Limit of Detection

Review Flags
- U - Marked Undetected

Reagents:

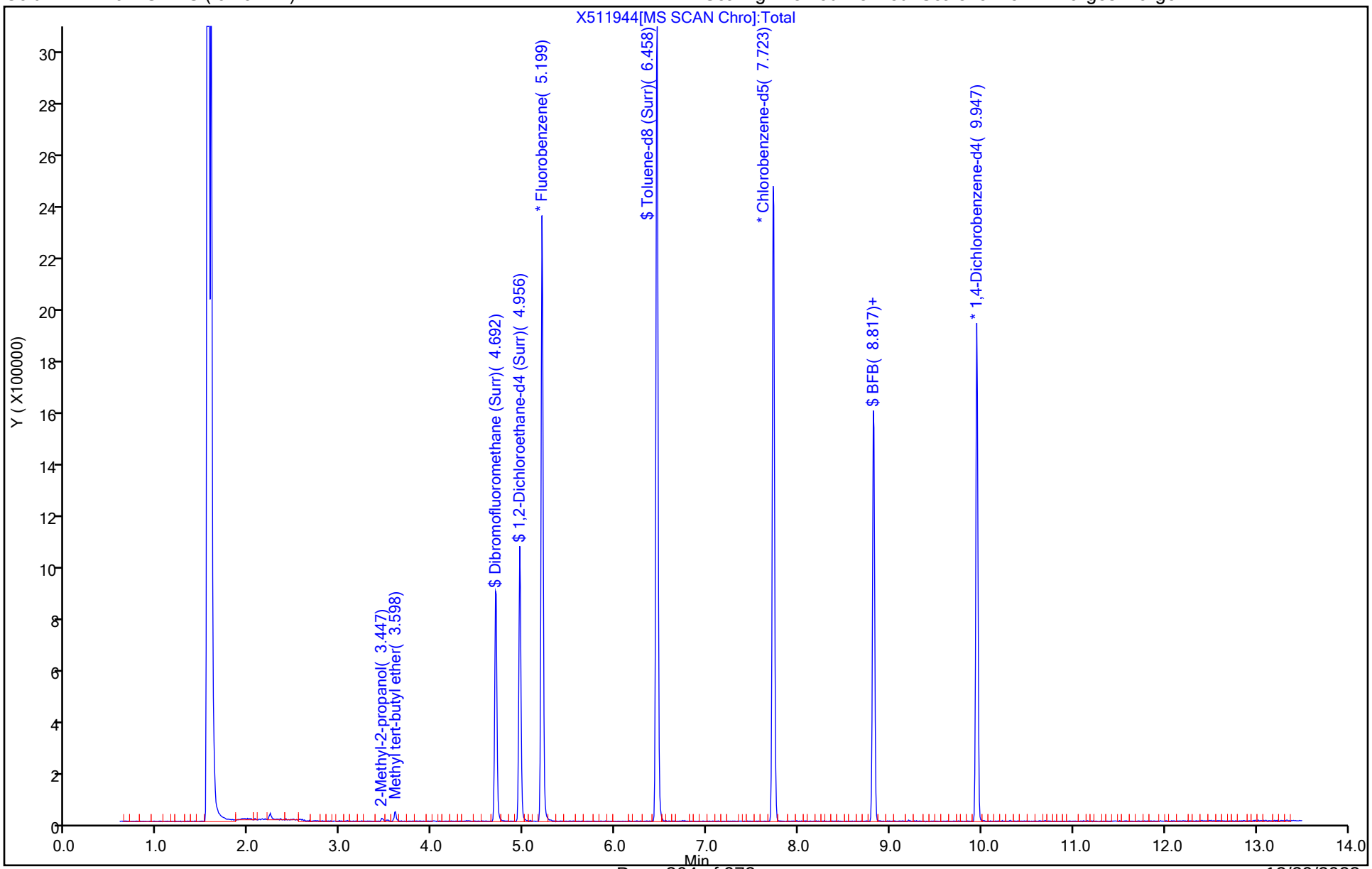
mv-IS_SS_00074 Amount Added: 5.00 Units: uL Run Reagent

Report Date: 19-Dec-2023 21:23:18 Chrom Revision: 2.3 15-Nov-2023 20:54:34

Eurofins Denver

Data File:	\\chromfs\Denver\ChromData\VMS_X4\20231218-128669.b\X511944.D				
Injection Date:	18-Dec-2023 12:52:30	Instrument ID:	VMS_X4	Operator ID:	COULTER
Lims ID:	280-185797-F-8	Lab Sample ID:	280-185797-8	Worklist Smp#:	18
Client ID:	TV044-MW31223A				
Purge Vol:	5.000 mL	Dil. Factor:	1.0000	ALS Bottle#:	12
Method:	VMS_X4_8260	Limit Group:	MSV - 8260B Water and Solid		

Column: Rxi-624Sil MS (0.25 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 1



12/29/2023
10:48 AM

Eurofins Denver
Recovery Report

Data File:	\\chromfs\Denver\ChromData\VMS_X4\20231218-128669.b\X511944.D				
Lims ID:	280-185797-F-8				
Client ID:	TV044-MW31223A				
Sample Type:	Client				
Inject. Date:	18-Dec-2023 12:52:30	ALS Bottle#:	12	Worklist Smp#:	18
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Sample Info:	280-185797-f-8				
Operator ID:	COULTER	Instrument ID:	VMS_X4		
Method:	\\chromfs\Denver\ChromData\VMS_X4\20231218-128669.b\VMS_X4_8260.m				
Limit Group:	MSV - 8260B Water and Solid				
Last Update:	19-Dec-2023 21:23:01	Calib Date:	11-Dec-2023 20:50:30		
Integrator:	RTE	ID Type:	Deconvolution ID		
Quant Method:	Internal Standard	Quant By:	Initial Calibration		
Last ICal File:	\\chromfs\Denver\ChromData\VMS_X4\20231211-128477.b\X511702.D				
Column 1 :	Rxi-624Sil MS (0.25 mm)		Det: MS SCAN		
Process Host:	CTX1675				

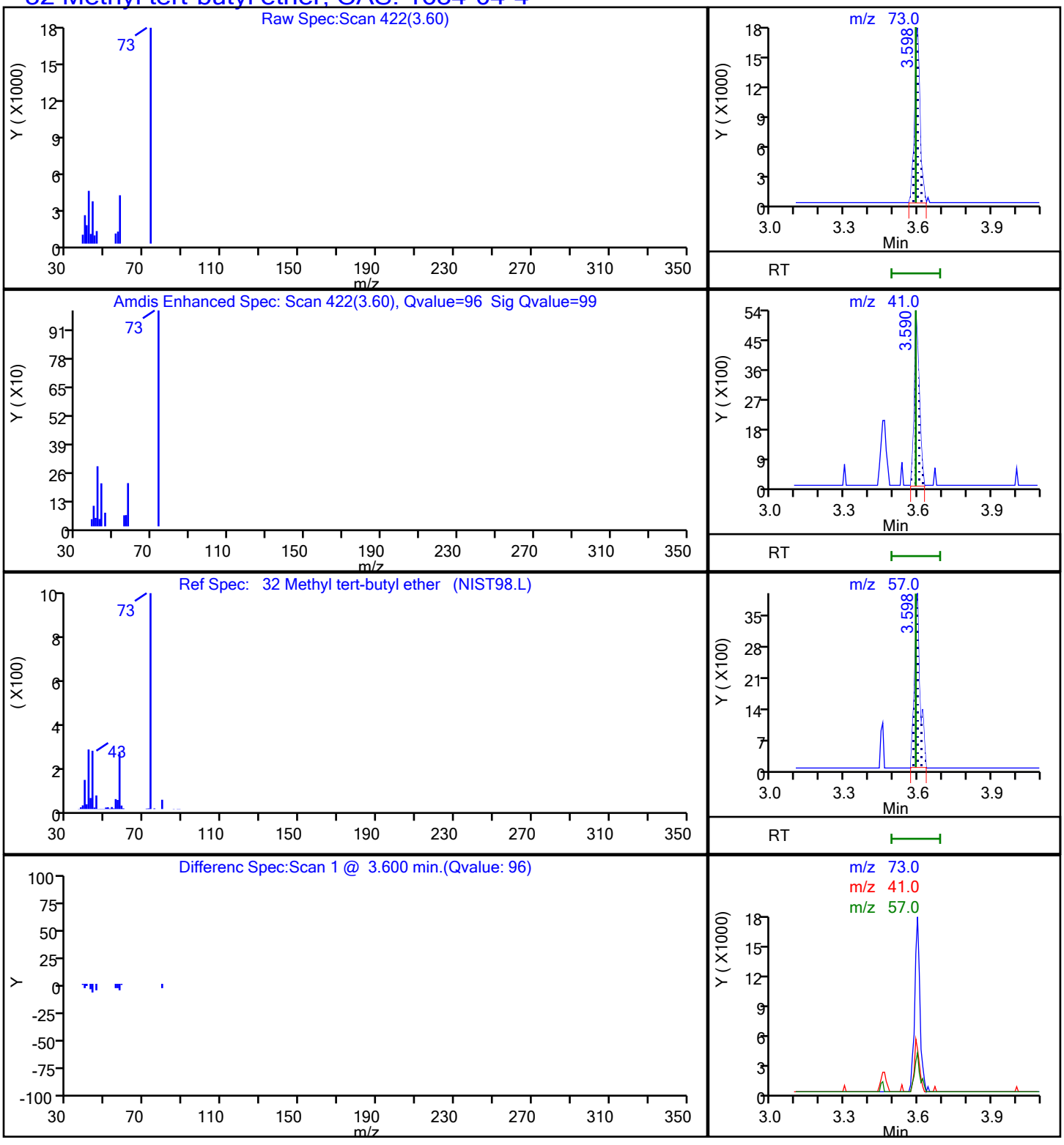
First Level Reviewer: AK2J Date: 19-Dec-2023 21:19:42

Compound	Amount Added	Amount Recovered	% Rec.
$ 4 Dibromofluoromethane (Surr)	50.0	54.3	108.56
$ 5 1,2-Dichloroethane-d4 (Surr)	50.0	53.6	107.28
$ 6 Toluene-d8 (Surr)	50.0	51.5	102.98
$ 7 4-Bromofluorobenzene (Surr)	50.0	54.7	109.48

Eurofins Denver

Data File:	\\chromfs\Denver\ChromData\VMS_X4\20231218-128669.b\X511944.D				
Injection Date:	18-Dec-2023 12:52:30	Instrument ID:	VMS_X4		
Lims ID:	280-185797-F-8	Lab Sample ID:	280-185797-8		
Client ID:	TV044-MW31223A				
Operator ID:	COULTER	ALS Bottle#:	12	Worklist Smp#:	18
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	VMS_X4_8260	Limit Group:	MSV - 8260B Water and Solid		
Column:	Rxi-624Sil MS (0.25 mm)	Detector	MS SCAN		

32 Methyl tert-butyl ether, CAS: 1634-04-4



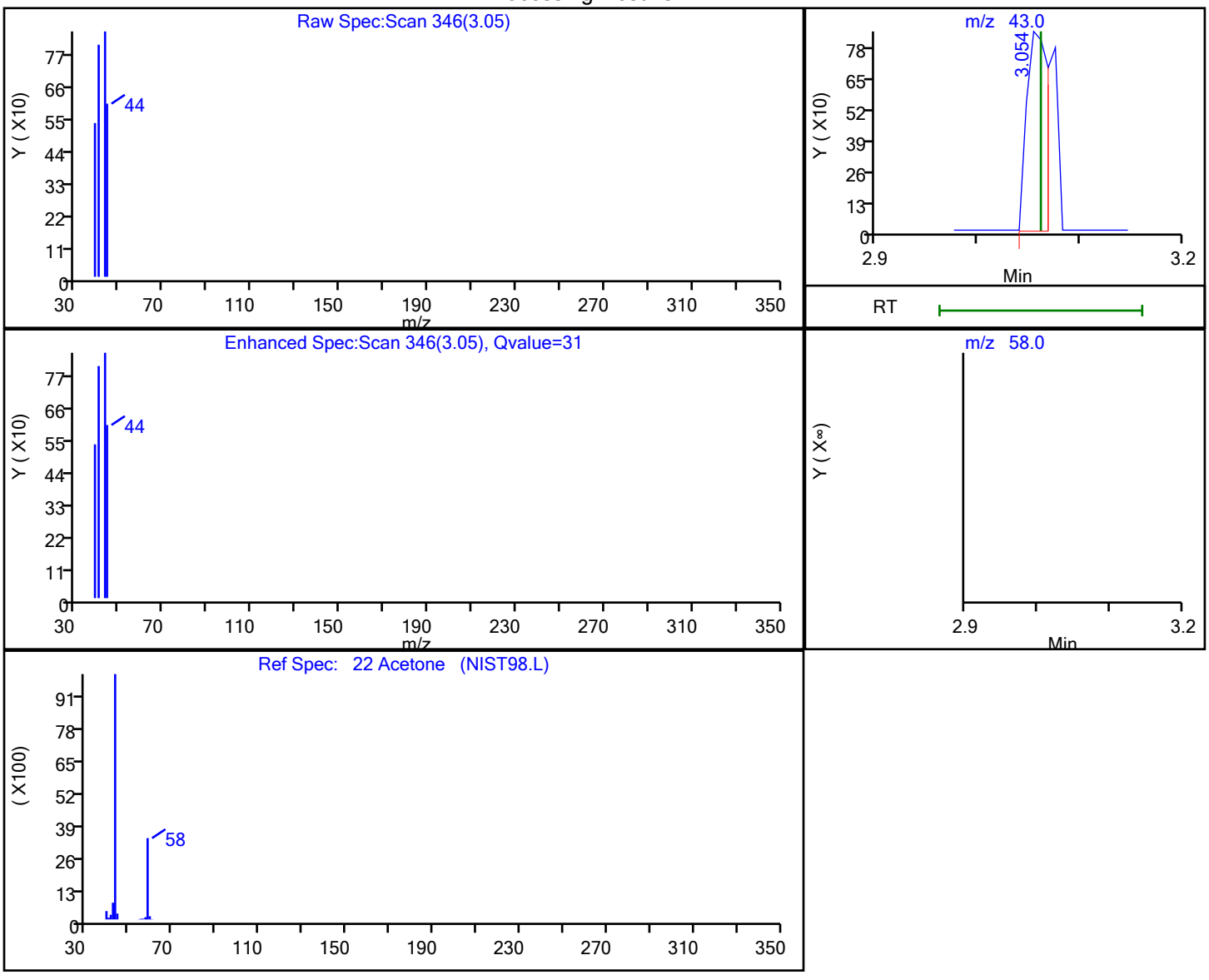
User Disabled Compound Report

Eurofins Denver

Data File:	\\chromfs\Denver\ChromData\VMS_X4\20231218-128669.b\X511944.D				
Injection Date:	18-Dec-2023 12:52:30	Instrument ID:	VMS_X4		
Lims ID:	280-185797-F-8	Lab Sample ID:	280-185797-8		
Client ID:	TV044-MW31223A				
Operator ID:	COULTER	ALS Bottle#:	12	Worklist Smp#:	18
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	VMS_X4_8260	Limit Group:	MSV - 8260B Water and Solid		
Column:	Rxi-624Sil MS (0.25 mm)	Detector	MS SCAN		

22 Acetone, CAS: 67-64-1

Processing Results



RT	Mass	Response	Amount
3.05	43.00	1245	0.378784
3.06	58.00	0	

Reviewer: AK2J, 19-Dec-2023 21:19:31 -07:00:00 (UTC)

Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

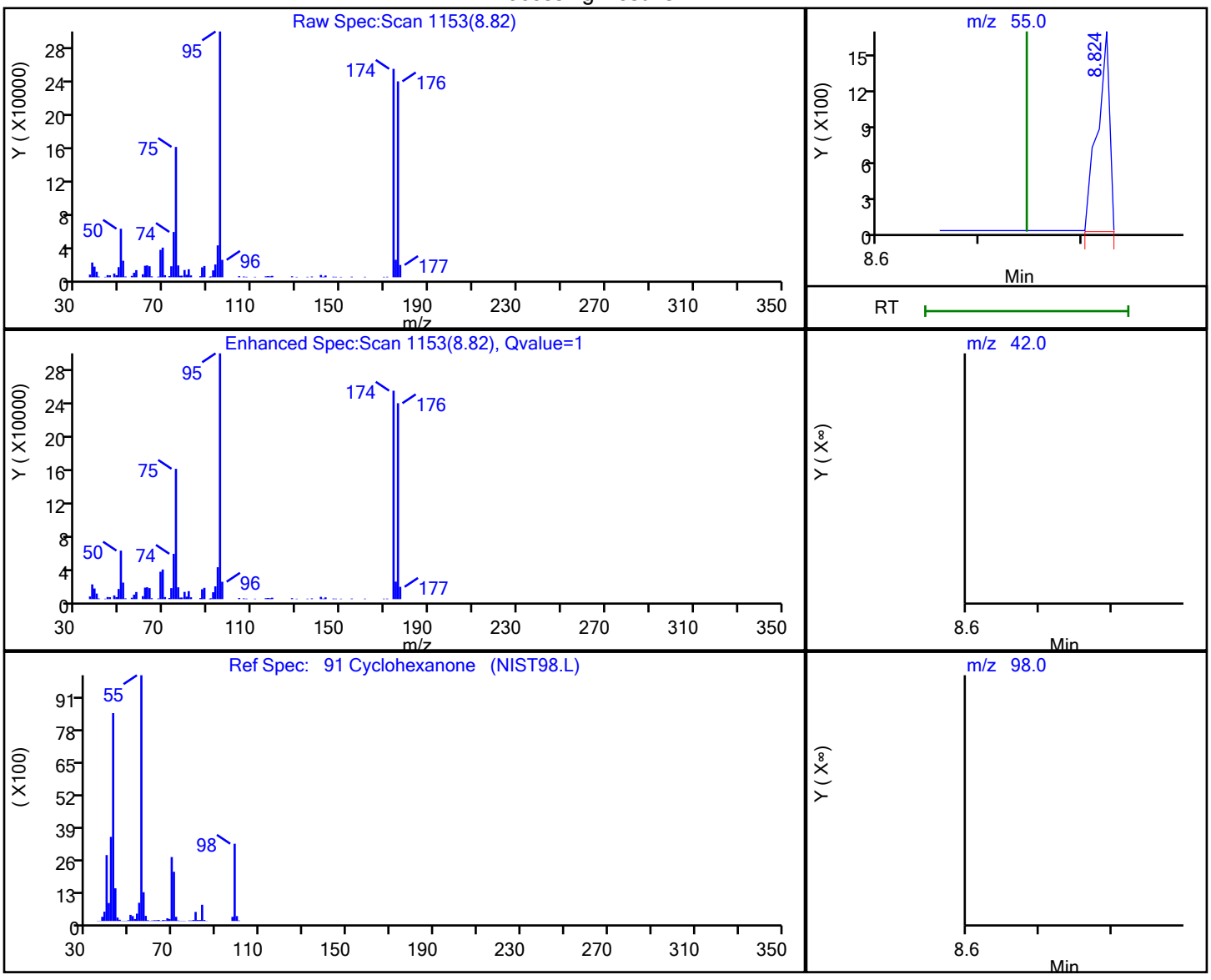
User Disabled Compound Report

Eurofins Denver

Data File:	\\chromfs\Denver\ChromData\VMS_X4\20231218-128669.b\X511944.D				
Injection Date:	18-Dec-2023 12:52:30	Instrument ID:	VMS_X4		
Lims ID:	280-185797-F-8	Lab Sample ID:	280-185797-8		
Client ID:	TV044-MW31223A				
Operator ID:	COULTER	ALS Bottle#:	12	Worklist Smp#:	18
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	VMS_X4_8260	Limit Group:	MSV - 8260B Water and Solid		
Column:	Rxi-624Sil MS (0.25 mm)	Detector	MS SCAN		

91 Cyclohexanone, CAS: 108-94-1

Processing Results



RT	Mass	Response	Amount
8.82	55.00	1373	3.199870
8.75	42.00	0	
8.75	98.00	0	

Reviewer: AK2J, 19-Dec-2023 21:19:37 -07:00:00 (UTC)

Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Denver | Job No.: 280-185797-1

SDG No.:

Client Sample ID: TV044-MW25D1223A | Lab Sample ID: 280-185797-9

Matrix: Water | Lab File ID: X511945.D

Analysis Method: 8260D | Date Collected: 12/13/2023 13:50

Sample wt/vol: 5(mL) | Date Analyzed: 12/18/2023 13:13

Soil Aliquot Vol: | Dilution Factor: 1

Soil Extract Vol.: | GC Column: RXI-624SilMS ID: 0.25(mm)

Purge Volume: 5.0(mL) | Heated Purge: (Y/N) N pH: 5.0

% Moisture: % Solids: | Level: (low/med) Low

Analysis Batch No.: 637616 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
71-55-6	1,1,1-Trichloroethane	0.50	U	1.0	0.50	0.39
79-34-5	1,1,2,2-Tetrachloroethane	0.80	U	1.0	0.80	0.21
79-00-5	1,1,2-Trichloroethane	0.80	U	1.0	0.80	0.27
75-34-3	1,1-Dichloroethane	0.80	U	1.0	0.80	0.22
75-35-4	1,1-Dichloroethylene	0.80	U	1.0	0.80	0.23
563-58-6	1,1-Dichloropropene	0.80	U	1.0	0.80	0.42
87-61-6	1,2,3-Trichlorobenzene	0.80	U	2.0	0.80	0.70
96-18-4	1,2,3-Trichloropropane	1.8	U	2.5	1.8	0.86
526-73-8	1,2,3-Trimethylbenzene	0.80	U	2.0	0.80	0.27
120-82-1	1,2,4-Trichlorobenzene	0.80	U	1.0	0.80	0.58
95-63-6	1,2,4-Trimethylbenzene	0.40	U	1.0	0.40	0.15
96-12-8	1,2-Dibromo-3-Chloropropane	4.0	U	5.0	4.0	1.8
106-93-4	1,2-Dibromoethane	0.80	U	1.0	0.80	0.40
95-50-1	1,2-Dichlorobenzene	0.50	U	1.0	0.50	0.37
107-06-2	1,2-Dichloroethane	0.80	U	1.0	0.80	0.54
78-87-5	1,2-Dichloropropane	0.80	U	1.0	0.80	0.52
108-67-8	1,3,5-Trimethylbenzene	0.50	U	1.0	0.50	0.37
541-73-1	1,3-Dichlorobenzene	0.40	U	1.0	0.40	0.33
142-28-9	1,3-Dichloropropane	0.80	U	1.0	0.80	0.38
106-46-7	1,4-Dichlorobenzene	0.50	U	1.0	0.50	0.39
594-20-7	2,2-Dichloropropane	0.80	U	1.0	0.80	0.38
78-93-3	2-Butanone (MEK)	12	U	15	12	6.0
110-75-8	2-Chloroethyl vinyl ether	0.80	U	3.0	0.80	0.44
591-78-6	2-Hexanone	4.0	U	5.0	4.0	1.7
99-87-6	4-Isopropyltoluene	0.80	U	1.0	0.80	0.43
108-10-1	4-Methyl-2-pentanone (MIBK)	3.2	U	5.0	3.2	0.98
67-64-1	Acetone	8.0	U M	15	8.0	6.6
107-13-1	Acrylonitrile	8.0	U M	20	8.0	4.5
71-43-2	Benzene	0.80	U	1.0	0.80	0.31
108-86-1	Bromobenzene	0.50	U	1.0	0.50	0.40
74-97-5	Bromochloromethane	0.80	U	1.0	0.80	0.40
75-27-4	Bromodichloromethane	0.50	U	1.0	0.50	0.39
75-25-2	Bromoform	1.8	U	2.0	1.8	1.2
75-15-0	Carbon disulfide	0.80	U	2.0	0.80	0.63

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Denver | Job No.: 280-185797-1

SDG No.:

Client Sample ID: TV044-MW25D1223A | Lab Sample ID: 280-185797-9

Matrix: Water | Lab File ID: X511945.D

Analysis Method: 8260D | Date Collected: 12/13/2023 13:50

Sample wt/vol: 5(mL) | Date Analyzed: 12/18/2023 13:13

Soil Aliquot Vol: | Dilution Factor: 1

Soil Extract Vol.: | GC Column: RXI-624SilMS ID: 0.25(mm)

Purge Volume: 5.0(mL) | Heated Purge: (Y/N) N pH: 5.0

% Moisture: % Solids: | Level: (low/med) Low

Analysis Batch No.: 637616 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
56-23-5	Carbon tetrachloride	0.80	U	1.0	0.80	0.57
108-90-7	Chlorobenzene	0.80	U	1.0	0.80	0.42
75-00-3	Chloroethane	1.6	U	4.0	1.6	1.4
67-66-3	Chloroform	0.80	U	1.0	0.80	0.36
74-87-3	Chloromethane	1.0	U Q	2.0	1.0	0.75
156-59-2	cis-1,2-Dichloroethylene	0.40	U	1.0	0.40	0.32
10061-01-5	cis-1,3-Dichloropropene	1.8	U	2.0	1.8	0.63
110-82-7	Cyclohexane	0.80	U	1.0	0.80	0.44
108-94-1	Cyclohexanone	64	U M Q	100	64	32
124-48-1	Dibromochloromethane	1.8	U	2.0	1.8	0.62
74-95-3	Dibromomethane	0.40	U	1.0	0.40	0.34
75-71-8	Dichlorodifluoromethane	2.5	U Q	3.0	2.5	0.96
100-41-4	Ethylbenzene	0.40	U	1.0	0.40	0.30
87-68-3	Hexachlorobutadiene	1.8	U	2.0	1.8	1.2
108-20-3	Isopropyl ether	2.0	U	10	2.0	1.1
98-82-8	Isopropylbenzene	0.50	U	1.0	0.50	0.36
1634-04-4	Methyl tert-butyl ether	83		5.0	0.80	0.25
108-87-2	Methylcyclohexane	0.40	U	1.0	0.40	0.31
75-09-2	Methylene Chloride	1.8	U	2.0	1.8	0.94
91-20-3	Naphthalene	0.80	U	2.0	0.80	0.63
104-51-8	n-Butylbenzene	0.80	U	1.0	0.80	0.48
110-54-3	n-Hexane	0.80	U	2.0	0.80	0.16
103-65-1	N-Propylbenzene	0.80	U	1.0	0.80	0.53
95-49-8	o-Chlorotoluene	0.40	U	1.0	0.40	0.34
106-43-4	p-Chlorotoluene	0.80	U	1.0	0.80	0.21
135-98-8	sec-Butylbenzene	0.80	U	1.0	0.80	0.45
100-42-5	Styrene	0.80	U	1.0	0.80	0.36
98-06-6	tert-Butylbenzene	0.80	U	1.0	0.80	0.42
127-18-4	Tetrachloroethene	0.80	U	1.0	0.80	0.40
108-88-3	Toluene	0.40	U	1.0	0.40	0.32
156-60-5	trans-1,2-Dichloroethylene	0.50	U	1.0	0.50	0.37
10061-02-6	trans-1,3-Dichloropropene	1.8	U	2.0	1.8	0.65
79-01-6	Trichloroethene	0.40	U	1.0	0.40	0.30
75-69-4	Trichlorofluoromethane	0.80	U	2.0	0.80	0.57

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Denver | Job No.: 280-185797-1

SDG No.:

Client Sample ID: TV044-MW25D1223A | Lab Sample ID: 280-185797-9

Matrix: Water | Lab File ID: X511945.D

Analysis Method: 8260D | Date Collected: 12/13/2023 13:50

Sample wt/vol: 5(mL) | Date Analyzed: 12/18/2023 13:13

Soil Aliquot Vol: | Dilution Factor: 1

Soil Extract Vol.: | GC Column: RXI-624SilMS ID: 0.25(mm)

Purge Volume: 5.0(mL) | Heated Purge: (Y/N) N pH: 5.0

% Moisture: % Solids: | Level: (low/med) Low

Analysis Batch No.: 637616 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
108-05-4	Vinyl acetate	2.0	U	3.0	2.0	0.94
75-01-4	Vinyl chloride	1.0	U	2.0	1.0	0.51
1330-20-7	Xylenes, Total	0.37	J	1.0	0.80	0.33

CAS NO.	SURROGATE	%REC	Q	LIMITS
17060-07-0	1,2-Dichloroethane-d4 (Surr)	108		81-118
460-00-4	4-Bromofluorobenzene (Surr)	90		85-114
1868-53-7	Dibromofluoromethane (Surr)	107		80-119
2037-26-5	Toluene-d8 (Surr)	99		89-112

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET
TARGETED TENATIVELY IDENTIFIED COMPOUNDS

Lab Name: Eurofins Denver | Job No.: 280-185797-1

SDG No.:

Client Sample ID: TV044-MW25D1223A | Lab Sample ID: 280-185797-9

Matrix: Water | Lab File ID: X511945.D

Analysis Method: 8260D | Date Collected: 12/13/2023 13:50

Sample wt/vol: 5(mL) | Date Analyzed: 12/18/2023 13:13

Soil Aliquot Vol: | Dilution Factor: 1

Soil Extract Vol.: | GC Column: RXI-624SilMS ID: 0.25(mm)

Purge Volume: 5.0(mL) | Heated Purge: (Y/N) N pH: 5.0

% Moisture: % Solids: | Level: (low/med) Low

Analysis Batch No.: 637616 | Units: ug/L

CAS NO.	COMPOUND NAME	RT	RESULT	Q	MATCH QUALITY
106-99-0	1,3-Butadiene TIC		1.0	U	
622-96-8	4-Ethyltoluene TIC		1.0	U	
77-73-6	Dicyclopentadiene TIC		1.0	U	
115-07-1	Propene TIC		1.0	U	

Eurofins Denver
Target Compound Quantitation Report

Data File: \\chromfs\Denver\ChromData\VMS_X4\20231218-128669.b\X511945.D
Lims ID: 280-185797-F-9
Client ID: TV044-MW25D1223A
Sample Type: Client
Inject. Date: 18-Dec-2023 13:13:30 ALS Bottle#: 13 Worklist Smp#: 19
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Sample Info: 280-185797-f-9
Operator ID: COULTER Instrument ID: VMS_X4

Method: \\chromfs\Denver\ChromData\VMS_X4\20231218-128669.b\VMS_X4_8260.m
Limit Group: MSV - 8260B Water and Solid
Last Update: 19-Dec-2023 21:23:01 Calib Date: 11-Dec-2023 20:50:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Denver\ChromData\VMS_X4\20231211-128477.b\X511702.D

Column 1 : Rxi-624Sil MS (0.25 mm) Det: MS SCAN
Process Host: CTX1675

First Level Reviewer: AK2J Date: 19-Dec-2023 21:20:05

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	OnCol Amt ug/l	Flags
* 1 Fluorobenzene	96	5.199	5.199	0.000	98	1710329	50.0	
* 2 Chlorobenzene-d5	119	7.723	7.723	0.000	90	458033	50.0	
* 3 1,4-Dichlorobenzene-d4	152	9.947	9.947	0.000	97	796435	50.0	
$ 4 Dibromofluoromethane (Surr)	111	4.692	4.692	0.000	93	468025	53.5	
$ 5 1,2-Dichloroethane-d4 (Surr)	65	4.956	4.956	0.000	0	610061	53.9	
$ 6 Toluene-d8 (Surr)	98	6.458	6.451	0.008	94	1942525	49.3	
$ 7 4-Bromofluorobenzene (Surr)	95	8.817	8.817	0.000	88	686241	45.1	
$ 8 BFB	95	8.817	8.817	0.000	85	686241	NR	
9 Dichlorodifluoromethane	85		1.760				ND	
10 Chloromethane	50		1.939				ND	
11 Vinyl chloride	62		2.039				ND	
12 Bromomethane	94		2.325				ND	7
13 Chloroethane	64		2.425				ND	
15 Propene oxide	58		2.504				ND	
14 Dichlorofluoromethane	67		2.597				ND	
16 Trichlorofluoromethane	101		2.632				ND	
17 Ethanol	45		2.754				ND	
18 Ethyl ether	59		2.847				ND	
19 Acrolein	56		2.961				ND	
20 1,1,2-Trichloro-1,2,2-trifluoroe	151		3.040				ND	
21 1,1-Dichloroethene	96		3.040				ND	
22 Acetone	43		3.061				ND	U
23 Isopropyl alcohol	45		3.147				ND	
24 Iodomethane	142		3.169				ND	
25 Carbon disulfide	76		3.226				ND	
26 Acetonitrile	41		3.276				ND	
27 Methyl acetate	43		3.290				ND	
28 3-Chloro-1-propene	41		3.312				ND	
29 Methylene Chloride	84		3.404				ND	
30 2-Methyl-2-propanol	59		3.447				ND	
31 Acrylonitrile	53		3.576				ND	U
32 Methyl tert-butyl ether	73	3.598	3.590	0.008	97	2179606	83.4	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	OnCol Amt ug/l	Flags
33 trans-1,2-Dichloroethene	96		3.605				ND	
34 Hexane	57		3.798				ND	
35 Vinyl acetate	43		3.905				ND	
36 1,1-Dichloroethane	63		3.926				ND	
37 Isopropyl ether	87		3.926				ND	
38 2-Chloro-1,3-butadiene	53		3.984				ND	
39 Tert-butyl ethyl ether	59		4.191				ND	
40 2-Butanone (MEK)	43		4.313				ND	
41 Ethyl acetate	43		4.327				ND	
42 cis-1,2-Dichloroethene	96		4.341				ND	
43 2,2-Dichloropropane	77		4.355				ND	
44 Propionitrile	54		4.370				ND	
45 sec-Butyl Alcohol	45		4.420				ND	
46 Methacrylonitrile	41		4.477				ND	
47 Chlorobromomethane	128		4.520				ND	
48 Tetrahydrofuran	42		4.527				ND	
49 Chloroform	83		4.577				ND	
50 1,1,1-Trichloroethane	97		4.720				ND	
51 Cyclohexane	56		4.777				ND	
52 1,1-Dichloropropene	75		4.835				ND	
53 Carbon tetrachloride	117		4.835				ND	
54 Isobutyl alcohol	41		4.842				ND	
55 Benzene	78		4.985				ND	
56 1,2-Dichloroethane	62		5.013				ND	7
57 Tert-amyl methyl ether	73		5.056				ND	
58 n-Heptane	43		5.163				ND	
59 n-Butanol	56		5.335				ND	
60 Trichloroethene	95		5.471				ND	
61 2-Pentanone	43		5.578				ND	
62 Methylcyclohexane	55		5.671				ND	
63 1,2-Dichloropropane	63		5.678				ND	
64 Methyl methacrylate	100		5.678				ND	
65 1,4-Dioxane	88		5.721				ND	
66 Dibromomethane	93		5.750				ND	
67 Dichlorobromomethane	83		5.871				ND	
68 2-Nitropropane	41		6.043				ND	
69 2-Chloroethyl vinyl ether	63		6.072				ND	
70 cis-1,3-Dichloropropene	75		6.222				ND	
71 4-Methyl-2-pentanone (MIBK)	43		6.322				ND	
72 Toluene	91		6.508				ND	
73 trans-1,3-Dichloropropene	75		6.679				ND	
74 Ethyl methacrylate	69		6.701				ND	
75 1,1,2-Trichloroethane	97		6.858				ND	
76 Tetrachloroethene	164		6.951				ND	
77 1,3-Dichloropropane	76		7.008				ND	
78 2-Hexanone	43		7.023				ND	
79 Chlorodibromomethane	129		7.201				ND	
80 Ethylene Dibromide	107		7.323				ND	
81 1-Chlorohexane	91		7.709				ND	U
82 Chlorobenzene	112		7.752				ND	
83 1,1,1,2-Tetrachloroethane	131		7.823				ND	
84 Ethylbenzene	106		7.830				ND	7

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	OnCol Amt ug/l	Flags
85 m-Xylene & p-Xylene	106	7.945	7.945	0.000	0	6622	0.3714	
86 o-Xylene	106	8.302	8.302	0.000	93	4622	0.2659	
87 Styrene	104		8.324				ND	7
88 Bromoform	173		8.503				ND	
89 Isopropylbenzene	105		8.646				ND	
90 cis-1,4-Dichloro-2-butene	53		8.696				ND	
91 Cyclohexanone	55		8.746				ND	U
92 1,1,2,2-Tetrachloroethane	83		8.932				ND	
94 trans-1,4-Dichloro-2-butene	53		8.967				ND	
93 Bromobenzene	156		8.967				ND	
95 1,2,3-Trichloropropane	110		8.996				ND	
96 N-Propylbenzene	120		9.046				ND	
97 2-Chlorotoluene	126		9.146				ND	
98 1,3,5-Trimethylbenzene	105		9.218				ND	
99 4-Chlorotoluene	126		9.261				ND	
101 Pentachloroethane	167		9.411				ND	
100 tert-Butylbenzene	119		9.525				ND	
102 1,2,4-Trimethylbenzene	105		9.582				ND	
103 sec-Butylbenzene	134		9.747				ND	
104 1,3-Dichlorobenzene	146		9.875				ND	
105 4-Isopropyltoluene	119		9.890				ND	
106 1,4-Dichlorobenzene	146		9.976				ND	
107 1,2,3-Trimethylbenzene	105		9.990				ND	
108 n-Butylbenzene	91		10.297				ND	
109 1,2-Dichlorobenzene	146		10.333				ND	
110 1,2-Dibromo-3-Chloropropane	157		11.105				ND	
111 1,3,5-Trichlorobenzene	180		11.298				ND	
112 1,2,4-Trichlorobenzene	180		11.935				ND	
113 Hexachlorobutadiene	225		12.071				ND	
114 Naphthalene	128		12.206				ND	
115 1,2,3-Trichlorobenzene	180		12.428				ND	
120 Tetrahydrothiophene TIC	1		0.000				ND	
119 1-Chloro-1-fluoroethane TIC	1		0.000				ND	
118 Ethyl acrylate	55		0.000				ND	
117 t-Amyl alcohol	1		0.000				ND	
116 Ethylene oxide TIC	1		0.000				ND	
121 Propene oxide TIC	58		5.334				ND	
S 122 1,2-Dichloroethene, Total (URS)	96		2.000				ND	7
S 129 1,2-Dichloroethene, Total	1		0.000				ND	7
S 124 1,3-Dichloropropene, Total	1		0.000				ND	7
S 123 Xylenes, Total (URS)	1				0		0.6373	
S 127 Trihalomethanes, Total	1		0.000				ND	7
S 126 Total BTEX	1				0		0.6373	
S 128 TAH	1				0		0	
S 125 Xylenes, Total	106				0		0.6373	
T 130 Dichloroacetonitrile TIC	74		1.000				ND	
T 132 1-Chlorohexane TIC	1		0.000				ND	
T 131 Methyl cyclohexane TIC	1		0.000				ND	
T 140 2,3-Dichloro-1-propene TIC	75		0.000				ND	
T 139 Propene TIC	1		0.000				ND	
T 138 n-Nonane TIC	1		0.000				ND	
T 137 1,3-Butadiene TIC	1		0.000				ND	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	OnCol Amt ug/l	Flags
T 136 Cyclohexane TIC	1		0.000				ND	
T 135 4-Ethyltoluene TIC	1		0.000				ND	
T 134 2-Butoxyethanol TIC	1		0.000				ND	
T 133 Dicyclopentadiene TIC	1		0.000				ND	

QC Flag Legend

Processing Flags
- NR - Missing Quant Standard
- 7 - Failed Limit of Detection

Review Flags
- U - Marked Undetected

Reagents:

mv-IS_SS_00074 Amount Added: 5.00 Units: uL Run Reagent

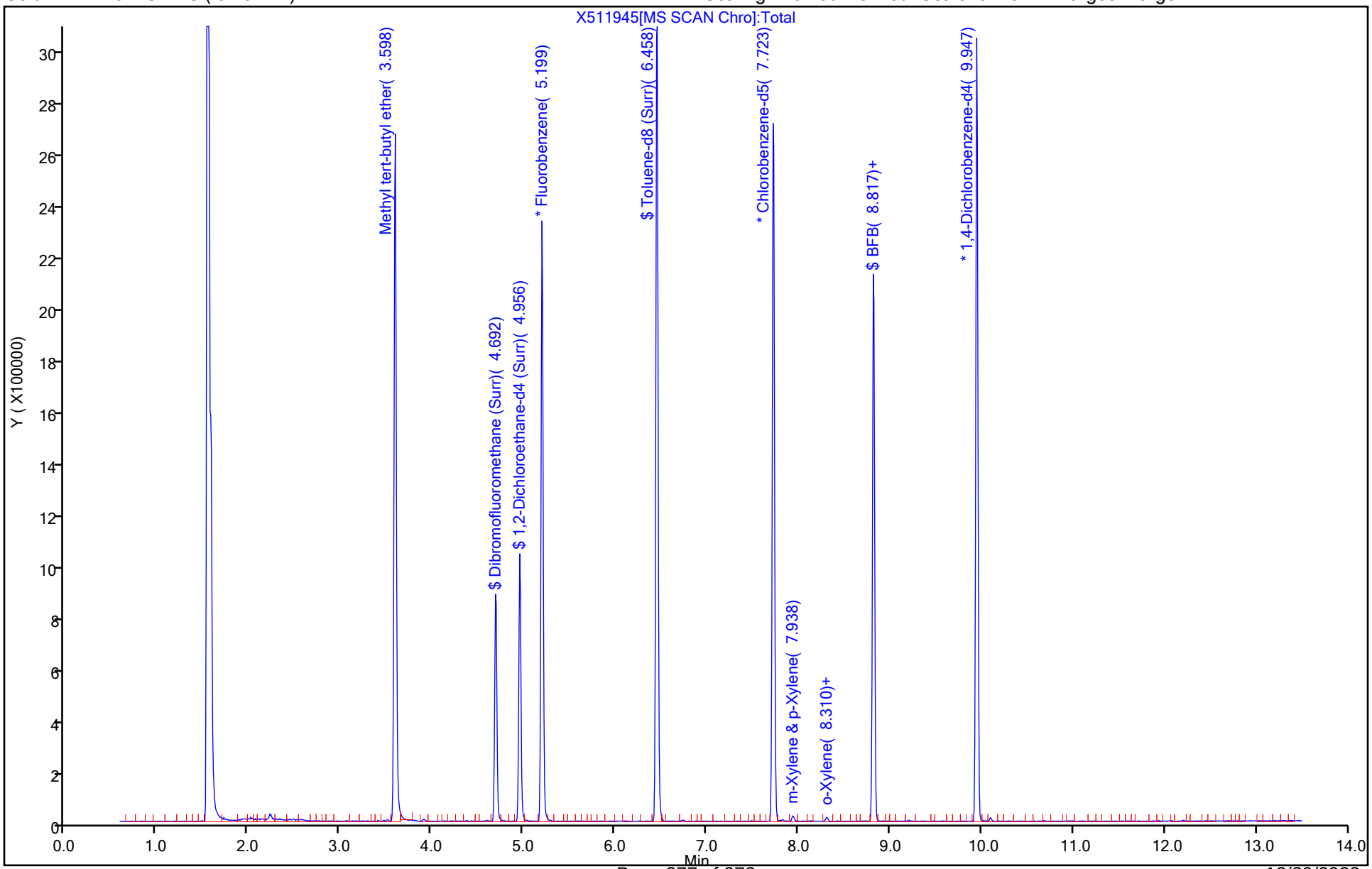
Report Date: 19-Dec-2023 21:23:20 Chrom Revision: 2.3 15-Nov-2023 20:54:34

Eurofins Denver

Data File: \\chromfs\Denver\ChromData\VMS_X4\20231218-128669.b\X511945.D

Injection Date:	18-Dec-2023 13:13:30	Instrument ID:	VMS_X4	Operator ID:	COULTER
Lims ID:	280-185797-F-9	Lab Sample ID:	280-185797-9	Worklist Smp#:	19
Client ID:	TV044-MW25D1223A				
Purge Vol:	5.000 mL	Dil. Factor:	1.0000	ALS Bottle#:	13
Method:	VMS_X4_8260	Limit Group:	MSV - 8260B Water and Solid		

Column: Rxi-624Sil MS (0.25 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 1



12/29/2023
10:48 AM

Eurofins Denver
Recovery Report

Data File:	\\chromfs\Denver\ChromData\VMS_X4\20231218-128669.b\X511945.D				
Lims ID:	280-185797-F-9				
Client ID:	TV044-MW25D1223A				
Sample Type:	Client				
Inject. Date:	18-Dec-2023 13:13:30	ALS Bottle#:	13	Worklist Smp#:	19
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Sample Info:	280-185797-f-9				
Operator ID:	COULTER	Instrument ID:	VMS_X4		
Method:	\\chromfs\Denver\ChromData\VMS_X4\20231218-128669.b\VMS_X4_8260.m				
Limit Group:	MSV - 8260B Water and Solid				
Last Update:	19-Dec-2023 21:23:01	Calib Date:	11-Dec-2023 20:50:30		
Integrator:	RTE	ID Type:	Deconvolution ID		
Quant Method:	Internal Standard	Quant By:	Initial Calibration		
Last ICal File:	\\chromfs\Denver\ChromData\VMS_X4\20231211-128477.b\X511702.D				
Column 1 :	Rxi-624Sil MS (0.25 mm)		Det: MS SCAN		
Process Host:	CTX1675				

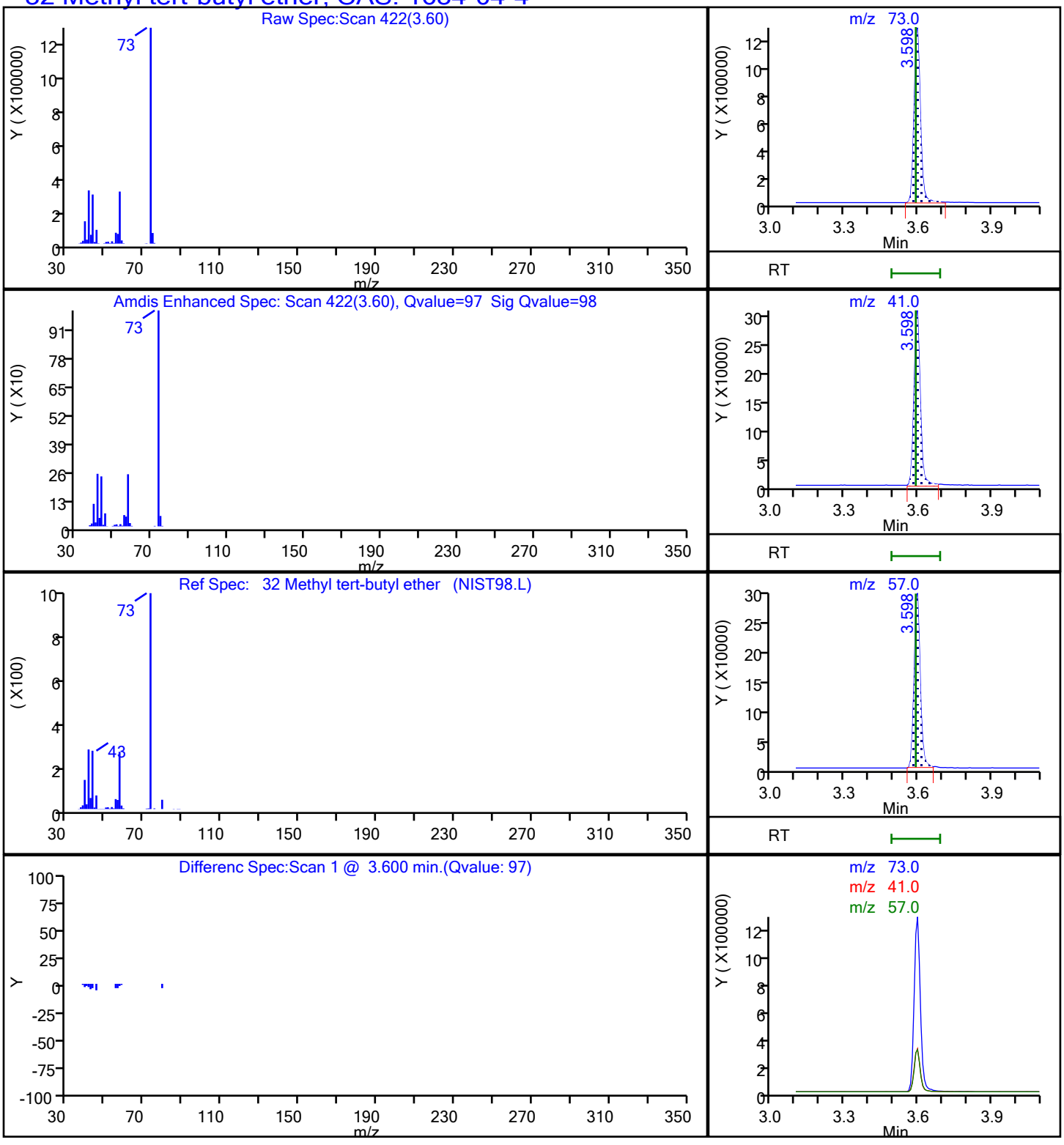
First Level Reviewer: AK2J Date: 19-Dec-2023 21:20:05

Compound	Amount Added	Amount Recovered	% Rec.
$ 4 Dibromofluoromethane (Surr)	50.0	53.5	106.98
$ 5 1,2-Dichloroethane-d4 (Surr)	50.0	53.9	107.82
$ 6 Toluene-d8 (Surr)	50.0	49.3	98.52
$ 7 4-Bromofluorobenzene (Surr)	50.0	45.1	90.29

Eurofins Denver

Data File:	\\chromfs\Denver\ChromData\VMS_X4\20231218-128669.b\X511945.D				
Injection Date:	18-Dec-2023 13:13:30	Instrument ID:	VMS_X4		
Lims ID:	280-185797-F-9	Lab Sample ID:	280-185797-9		
Client ID:	TV044-MW25D1223A				
Operator ID:	COULTER	ALS Bottle#:	13	Worklist Smp#:	19
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	VMS_X4_8260	Limit Group:	MSV - 8260B Water and Solid		
Column:	Rxi-624Sil MS (0.25 mm)	Detector	MS SCAN		

32 Methyl tert-butyl ether, CAS: 1634-04-4



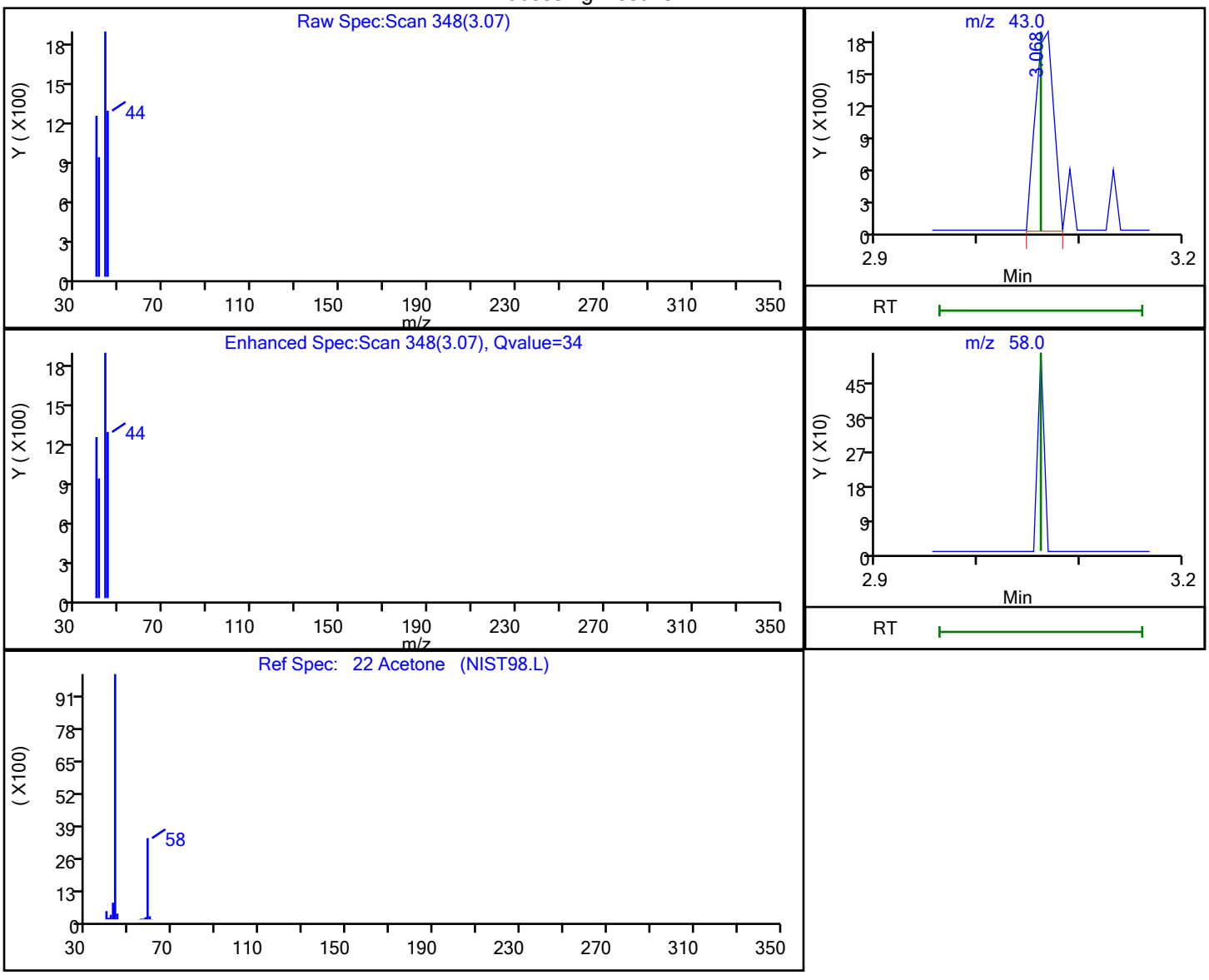
User Disabled Compound Report

Eurofins Denver

Data File:	\\chromfs\Denver\ChromData\VMS_X4\20231218-128669.b\X511945.D				
Injection Date:	18-Dec-2023 13:13:30	Instrument ID:	VMS_X4		
Lims ID:	280-185797-F-9	Lab Sample ID:	280-185797-9		
Client ID:	TV044-MW25D1223A				
Operator ID:	COULTER	ALS Bottle#:	13	Worklist Smp#:	19
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	VMS_X4_8260	Limit Group:	MSV - 8260B Water and Solid		
Column:	Rxi-624Sil MS (0.25 mm)	Detector	MS SCAN		

22 Acetone, CAS: 67-64-1

Processing Results



RT	Mass	Response	Amount
3.07	43.00	2273	0.680952
3.06	58.00	0	

Reviewer: AK2J, 19-Dec-2023 21:19:48 -07:00:00 (UTC)

Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

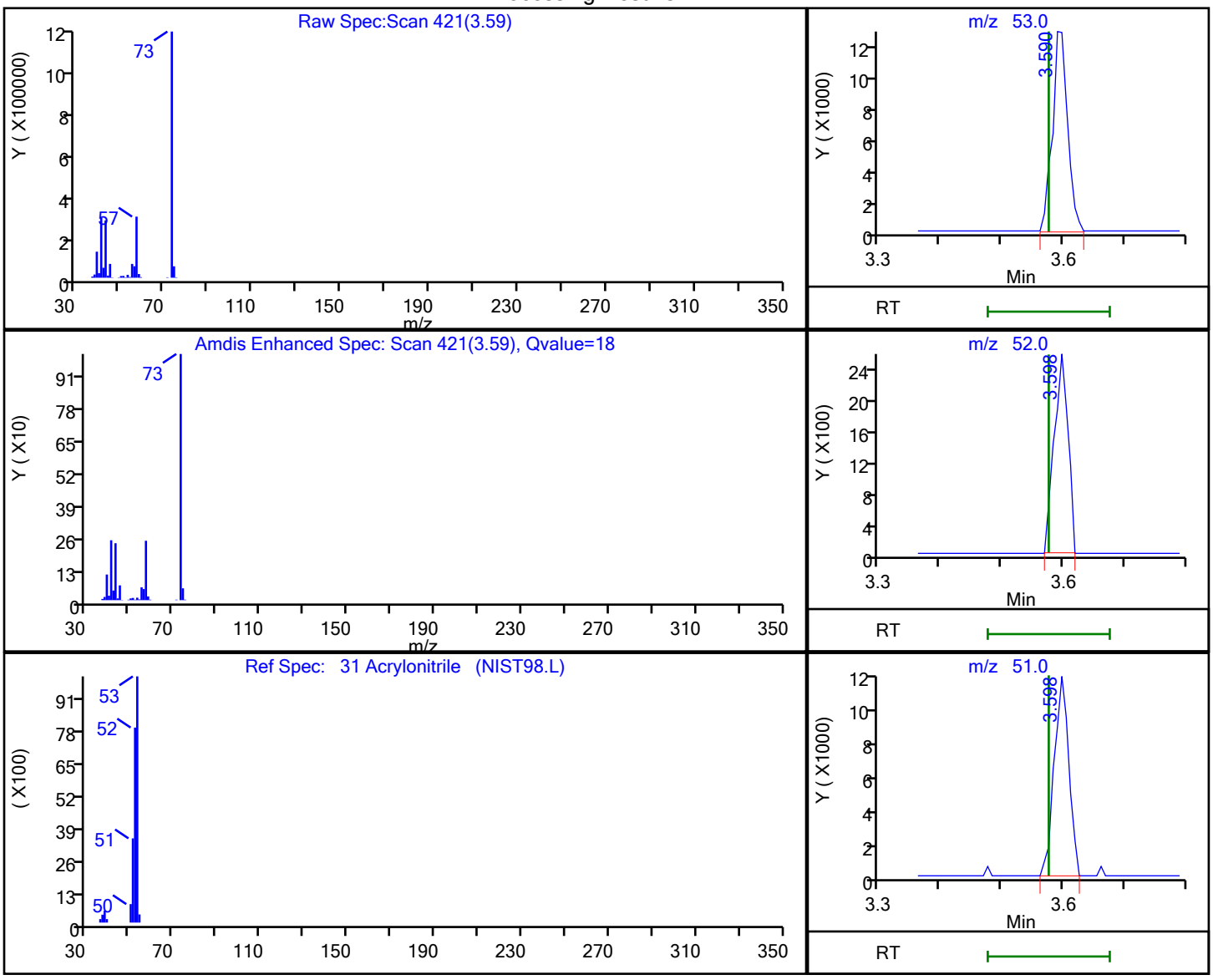
User Disabled Compound Report

Eurofins Denver

Data File:	\\chromfs\Denver\ChromData\VMS_X4\20231218-128669.b\X511945.D				
Injection Date:	18-Dec-2023 13:13:30	Instrument ID:	VMS_X4		
Lims ID:	280-185797-F-9	Lab Sample ID:	280-185797-9		
Client ID:	TV044-MW25D1223A				
Operator ID:	COULTER	ALS Bottle#:	13	Worklist Smp#:	19
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	VMS_X4_8260	Limit Group:	MSV - 8260B Water and Solid		
Column:	Rxi-624Sil MS (0.25 mm)	Detector	MS SCAN		

31 Acrylonitrile, CAS: 107-13-1

Processing Results



RT	Mass	Response	Amount
3.59	53.00	22488	5.311537
3.60	52.00	4053	
3.60	51.00	18405	

Reviewer: AK2J, 19-Dec-2023 21:19:51 -07:00:00 (UTC)

Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

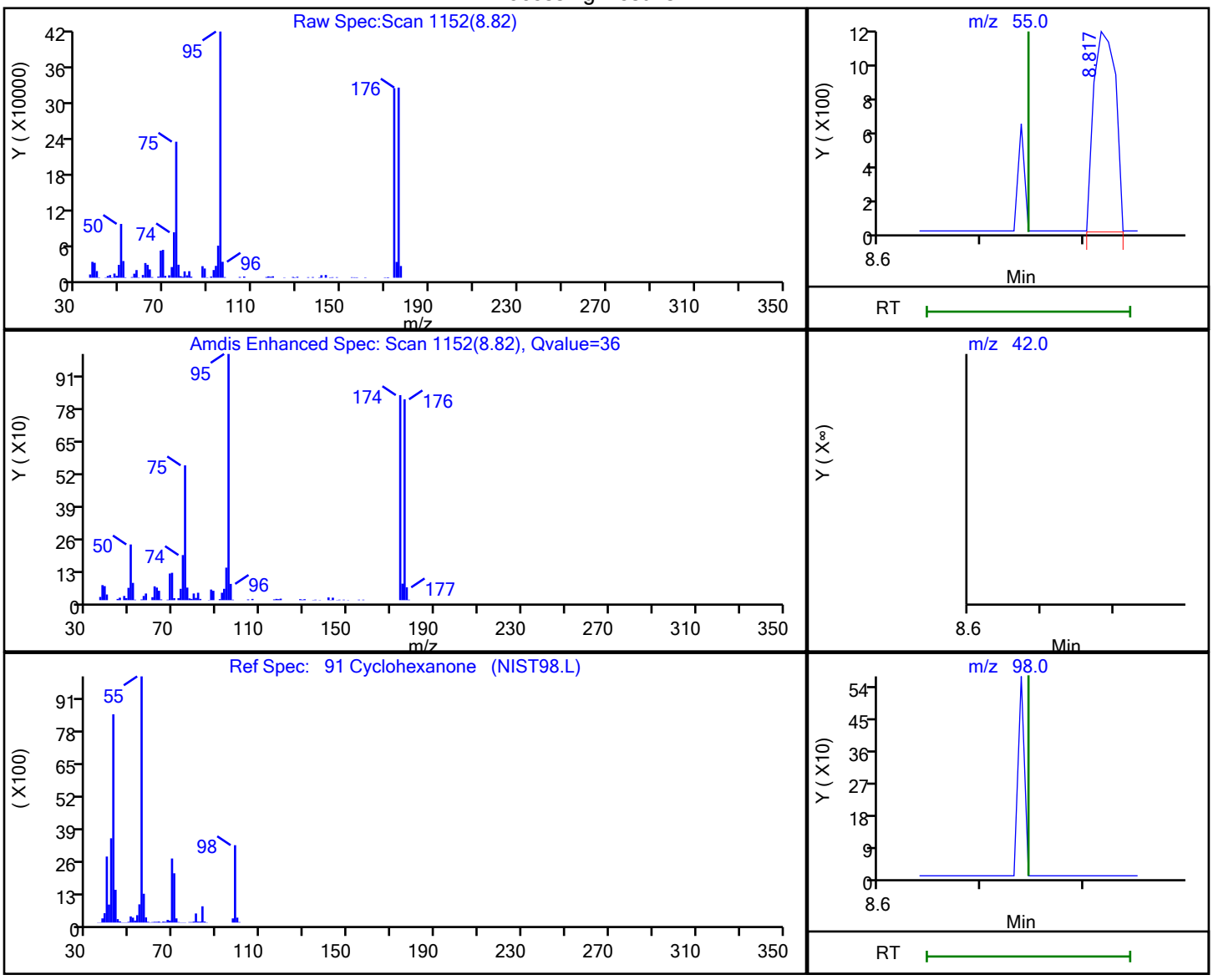
User Disabled Compound Report

Eurofins Denver

Data File:	\\chromfs\Denver\ChromData\VMS_X4\20231218-128669.b\X511945.D				
Injection Date:	18-Dec-2023 13:13:30	Instrument ID:	VMS_X4		
Lims ID:	280-185797-F-9	Lab Sample ID:	280-185797-9		
Client ID:	TV044-MW25D1223A				
Operator ID:	COULTER	ALS Bottle#:	13	Worklist Smp#:	19
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	VMS_X4_8260	Limit Group:	MSV - 8260B Water and Solid		
Column:	Rxi-624Sil MS (0.25 mm)	Detector	MS SCAN		

91 Cyclohexanone, CAS: 108-94-1

Processing Results



RT	Mass	Response	Amount
8.82	55.00	1728	3.691263
8.75	42.00	0	
8.75	98.00	0	

Reviewer: AK2J, 19-Dec-2023 21:20:00 -07:00:00 (UTC)

Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Denver | Job No.: 280-185797-1

SDG No.:

Client Sample ID: TV044-MW21223A | Lab Sample ID: 280-185797-10

Matrix: Water | Lab File ID: X511949.D

Analysis Method: 8260D | Date Collected: 12/13/2023 14:20

Sample wt/vol: 5(mL) | Date Analyzed: 12/18/2023 14:40

Soil Aliquot Vol: | Dilution Factor: 50

Soil Extract Vol.: | GC Column: RXI-624SilMS ID: 0.25(mm)

Purge Volume: 5.0(mL) | Heated Purge: (Y/N) N pH: 5.0

% Moisture: % Solids: | Level: (low/med) Low

Analysis Batch No.: 637616 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
71-55-6	1,1,1-Trichloroethane	25	U	50	25	20
79-34-5	1,1,2,2-Tetrachloroethane	40	U	50	40	11
79-00-5	1,1,2-Trichloroethane	40	U	50	40	14
75-34-3	1,1-Dichloroethane	40	U	50	40	11
75-35-4	1,1-Dichloroethylene	40	U	50	40	12
563-58-6	1,1-Dichloropropene	40	U	50	40	21
87-61-6	1,2,3-Trichlorobenzene	40	U	100	40	35
96-18-4	1,2,3-Trichloropropane	90	U	130	90	43
526-73-8	1,2,3-Trimethylbenzene	40	U	100	40	14
120-82-1	1,2,4-Trichlorobenzene	40	U	50	40	29
95-63-6	1,2,4-Trimethylbenzene	20	U	50	20	7.5
96-12-8	1,2-Dibromo-3-Chloropropane	200	U	250	200	88
106-93-4	1,2-Dibromoethane	40	U	50	40	20
95-50-1	1,2-Dichlorobenzene	25	U	50	25	19
107-06-2	1,2-Dichloroethane	40	U	50	40	27
78-87-5	1,2-Dichloropropane	40	U	50	40	26
108-67-8	1,3,5-Trimethylbenzene	25	U	50	25	18
541-73-1	1,3-Dichlorobenzene	20	U	50	20	17
142-28-9	1,3-Dichloropropane	40	U	50	40	19
106-46-7	1,4-Dichlorobenzene	25	U	50	25	19
594-20-7	2,2-Dichloropropane	40	U	50	40	19
78-93-3	2-Butanone (MEK)	600	U	750	600	300
110-75-8	2-Chloroethyl vinyl ether	40	U	150	40	22
591-78-6	2-Hexanone	200	U	250	200	85
99-87-6	4-Isopropyltoluene	40	U	50	40	21
108-10-1	4-Methyl-2-pentanone (MIBK)	160	U	250	160	49
67-64-1	Acetone	400	U	750	400	330
107-13-1	Acrylonitrile	400	U M	1000	400	220
71-43-2	Benzene	40	U	50	40	15
108-86-1	Bromobenzene	25	U	50	25	20
74-97-5	Bromochloromethane	40	U	50	40	20
75-27-4	Bromodichloromethane	25	U	50	25	19
75-25-2	Bromoform	90	U	100	90	61
75-15-0	Carbon disulfide	40	U	100	40	32

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Denver | Job No.: 280-185797-1

SDG No.:

Client Sample ID: TV044-MW21223A | Lab Sample ID: 280-185797-10

Matrix: Water | Lab File ID: X511949.D

Analysis Method: 8260D | Date Collected: 12/13/2023 14:20

Sample wt/vol: 5(mL) | Date Analyzed: 12/18/2023 14:40

Soil Aliquot Vol: | Dilution Factor: 50

Soil Extract Vol.: | GC Column: RXI-624SilMS ID: 0.25(mm)

Purge Volume: 5.0(mL) | Heated Purge: (Y/N) N pH: 5.0

% Moisture: % Solids: | Level: (low/med) Low

Analysis Batch No.: 637616 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
56-23-5	Carbon tetrachloride	40	U	50	40	28
108-90-7	Chlorobenzene	40	U	50	40	21
75-00-3	Chloroethane	80	U	200	80	69
67-66-3	Chloroform	40	U	50	40	18
74-87-3	Chloromethane	50	U Q	100	50	38
156-59-2	cis-1,2-Dichloroethylene	20	U	50	20	16
10061-01-5	cis-1,3-Dichloropropene	90	U	100	90	31
110-82-7	Cyclohexane	40	U	50	40	22
108-94-1	Cyclohexanone	3200	U Q	5000	3200	1600
124-48-1	Dibromochloromethane	90	U	100	90	31
74-95-3	Dibromomethane	20	U	50	20	17
75-71-8	Dichlorodifluoromethane	130	U Q	150	130	48
100-41-4	Ethylbenzene	20	U	50	20	15
87-68-3	Hexachlorobutadiene	90	U	100	90	59
108-20-3	Isopropyl ether	100	U	500	100	55
98-82-8	Isopropylbenzene	25	U	50	25	18
1634-04-4	Methyl tert-butyl ether	2200	D	250	40	13
108-87-2	Methylcyclohexane	20	U	50	20	16
75-09-2	Methylene Chloride	90	U	100	90	47
91-20-3	Naphthalene	40	U	100	40	32
104-51-8	n-Butylbenzene	40	U	50	40	24
110-54-3	n-Hexane	40	U	100	40	8.2
103-65-1	N-Propylbenzene	40	U	50	40	27
95-49-8	o-Chlorotoluene	20	U	50	20	17
106-43-4	p-Chlorotoluene	40	U	50	40	11
135-98-8	sec-Butylbenzene	40	U	50	40	22
100-42-5	Styrene	40	U	50	40	18
98-06-6	tert-Butylbenzene	40	U	50	40	21
127-18-4	Tetrachloroethene	40	U	50	40	20
108-88-3	Toluene	20	U	50	20	16
156-60-5	trans-1,2-Dichloroethylene	25	U	50	25	18
10061-02-6	trans-1,3-Dichloropropene	90	U	100	90	32
79-01-6	Trichloroethene	20	U	50	20	15
75-69-4	Trichlorofluoromethane	40	U	100	40	28

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Denver | Job No.: 280-185797-1

SDG No.:

Client Sample ID: TV044-MW21223A | Lab Sample ID: 280-185797-10

Matrix: Water | Lab File ID: X511949.D

Analysis Method: 8260D | Date Collected: 12/13/2023 14:20

Sample wt/vol: 5(mL) | Date Analyzed: 12/18/2023 14:40

Soil Aliquot Vol: | Dilution Factor: 50

Soil Extract Vol.: | GC Column: RXI-624SilMS ID: 0.25(mm)

Purge Volume: 5.0(mL) | Heated Purge: (Y/N) N pH: 5.0

% Moisture: % Solids: | Level: (low/med) Low

Analysis Batch No.: 637616 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
108-05-4	Vinyl acetate	100	U	150	100	47
75-01-4	Vinyl chloride	50	U	100	50	25
1330-20-7	Xylenes, Total	40	U	50	40	17

CAS NO.	SURROGATE	%REC	Q	LIMITS
17060-07-0	1,2-Dichloroethane-d4 (Surr)	106		81-118
460-00-4	4-Bromofluorobenzene (Surr)	91		85-114
1868-53-7	Dibromofluoromethane (Surr)	107		80-119
2037-26-5	Toluene-d8 (Surr)	100		89-112

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET
TARGETED TENATIVELY IDENTIFIED COMPOUNDS

Lab Name: Eurofins Denver | Job No.: 280-185797-1

SDG No.:

Client Sample ID: TV044-MW21223A | Lab Sample ID: 280-185797-10

Matrix: Water | Lab File ID: X511949.D

Analysis Method: 8260D | Date Collected: 12/13/2023 14:20

Sample wt/vol: 5(mL) | Date Analyzed: 12/18/2023 14:40

Soil Aliquot Vol: | Dilution Factor: 50

Soil Extract Vol.: | GC Column: RXI-624SilMS ID: 0.25(mm)

Purge Volume: 5.0(mL) | Heated Purge: (Y/N) N pH: 5.0

% Moisture: % Solids: | Level: (low/med) Low

Analysis Batch No.: 637616 | Units: ug/L

CAS NO.	COMPOUND NAME	RT	RESULT	Q	MATCH QUALITY
106-99-0	1,3-Butadiene TIC		50	U	
622-96-8	4-Ethyltoluene TIC		50	U	
77-73-6	Dicyclopentadiene TIC		50	U	
115-07-1	Propene TIC		50	U	

Eurofins Denver
Target Compound Quantitation Report

Data File: \\chromfs\Denver\ChromData\VMS_X4\20231218-128669.b\X511949.D
Lims ID: 280-185797-E-10
Client ID: TV044-MW21223A
Sample Type: Client
Inject. Date: 18-Dec-2023 14:40:30 ALS Bottle#: 17 Worklist Smp#: 23
Purge Vol: 5.000 mL Dil. Factor: 50.0000
Sample Info: 280-185797-e-10
Misc. Info.: 50X
Operator ID: COULTER Instrument ID: VMS_X4

Method: \\chromfs\Denver\ChromData\VMS_X4\20231218-128669.b\VMS_X4_8260.m
Limit Group: MSV - 8260B Water and Solid
Last Update: 19-Dec-2023 21:23:01 Calib Date: 11-Dec-2023 20:50:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Denver\ChromData\VMS_X4\20231211-128477.b\X511702.D

Column 1 : Rxi-624Sil MS (0.25 mm) Det: MS SCAN
Process Host: CTX1675

First Level Reviewer: AK2J Date: 19-Dec-2023 21:21:38

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	OnCol Amt ug/l	Flags
* 1 Fluorobenzene	96	5.199	5.199	0.000	98	1645716	50.0	
* 2 Chlorobenzene-d5	119	7.730	7.723	0.007	90	450484	50.0	
* 3 1,4-Dichlorobenzene-d4	152	9.947	9.947	0.000	97	783973	50.0	
$ 4 Dibromofluoromethane (Surr)	111	4.691	4.692	-0.001	93	452009	53.7	
$ 5 1,2-Dichloroethane-d4 (Surr)	65	4.956	4.956	0.000	0	577868	53.1	
$ 6 Toluene-d8 (Surr)	98	6.458	6.451	0.008	95	1930508	49.8	
$ 7 4-Bromofluorobenzene (Surr)	95	8.817	8.817	0.000	87	677663	45.3	
$ 8 BFB	95	8.817	8.817	0.000	84	677663	NR	
9 Dichlorodifluoromethane	85		1.760				ND	
10 Chloromethane	50		1.939				ND	
11 Vinyl chloride	62		2.039				ND	
12 Bromomethane	94		2.325				ND	7
13 Chloroethane	64		2.425				ND	
15 Propene oxide	58		2.504				ND	
14 Dichlorofluoromethane	67		2.597				ND	
16 Trichlorofluoromethane	101		2.632				ND	
17 Ethanol	45		2.754				ND	
18 Ethyl ether	59		2.847				ND	
19 Acrolein	56		2.961				ND	
20 1,1,2-Trichloro-1,2,2-trifluoroe	151		3.040				ND	
21 1,1-Dichloroethene	96		3.040				ND	
22 Acetone	43	3.068	3.061	0.007	74	4943	1.54	
23 Isopropyl alcohol	45		3.147				ND	
24 Iodomethane	142		3.169				ND	
25 Carbon disulfide	76		3.226				ND	
26 Acetonitrile	41		3.276				ND	
27 Methyl acetate	43		3.290				ND	
28 3-Chloro-1-propene	41		3.312				ND	
29 Methylene Chloride	84		3.404				ND	
30 2-Methyl-2-propanol	59	3.447	3.447	0.000	7	1218	1.41	
31 Acrylonitrile	53		3.576				ND	U

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	OnCol Amt ug/l	Flags
32 Methyl tert-butyl ether	73	3.597	3.590	0.007	97	1108693	44.1	
33 trans-1,2-Dichloroethene	96		3.605				ND	
34 Hexane	57		3.798				ND	
35 Vinyl acetate	43		3.905				ND	
36 1,1-Dichloroethane	63		3.926				ND	
37 Isopropyl ether	87		3.926				ND	
38 2-Chloro-1,3-butadiene	53		3.984				ND	
39 Tert-butyl ethyl ether	59		4.191				ND	
40 2-Butanone (MEK)	43		4.313				ND	
41 Ethyl acetate	43		4.327				ND	
42 cis-1,2-Dichloroethene	96		4.341				ND	
43 2,2-Dichloropropane	77		4.355				ND	
44 Propionitrile	54		4.370				ND	
45 sec-Butyl Alcohol	45		4.420				ND	
46 Methacrylonitrile	41		4.477				ND	
47 Chlorobromomethane	128		4.520				ND	
48 Tetrahydrofuran	42		4.527				ND	
49 Chloroform	83		4.577				ND	
50 1,1,1-Trichloroethane	97		4.720				ND	
51 Cyclohexane	56		4.777				ND	
52 1,1-Dichloropropene	75		4.835				ND	
53 Carbon tetrachloride	117		4.835				ND	
54 Isobutyl alcohol	41		4.842				ND	
55 Benzene	78		4.985				ND	
56 1,2-Dichloroethane	62		5.013				ND	7
57 Tert-amyl methyl ether	73		5.056				ND	
58 n-Heptane	43		5.163				ND	
59 n-Butanol	56		5.335				ND	
60 Trichloroethene	95		5.471				ND	
61 2-Pentanone	43		5.578				ND	
62 Methylcyclohexane	55		5.671				ND	
63 1,2-Dichloropropane	63		5.678				ND	
64 Methyl methacrylate	100		5.678				ND	
65 1,4-Dioxane	88		5.721				ND	
66 Dibromomethane	93		5.750				ND	
67 Dichlorobromomethane	83		5.871				ND	
68 2-Nitropropane	41		6.043				ND	
69 2-Chloroethyl vinyl ether	63		6.072				ND	
70 cis-1,3-Dichloropropene	75		6.222				ND	
71 4-Methyl-2-pentanone (MIBK)	43		6.322				ND	
72 Toluene	91		6.508				ND	
73 trans-1,3-Dichloropropene	75		6.679				ND	
74 Ethyl methacrylate	69		6.701				ND	
75 1,1,2-Trichloroethane	97		6.858				ND	
76 Tetrachloroethene	164		6.951				ND	
77 1,3-Dichloropropane	76		7.008				ND	
78 2-Hexanone	43		7.023				ND	
79 Chlorodibromomethane	129		7.201				ND	
80 Ethylene Dibromide	107		7.323				ND	
81 1-Chlorohexane	91		7.709				ND	U
82 Chlorobenzene	112		7.752				ND	
83 1,1,1,2-Tetrachloroethane	131		7.823				ND	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	OnCol Amt ug/l	Flags
84 Ethylbenzene	106		7.830			ND		
85 m-Xylene & p-Xylene	106		7.945			ND		
86 o-Xylene	106		8.302			ND		
87 Styrene	104		8.324			ND		
88 Bromoform	173		8.503			ND		
89 Isopropylbenzene	105		8.646			ND		
90 cis-1,4-Dichloro-2-butene	53		8.696			ND		
91 Cyclohexanone	55		8.746			ND		
92 1,1,2,2-Tetrachloroethane	83		8.932			ND		
94 trans-1,4-Dichloro-2-butene	53		8.967			ND		
93 Bromobenzene	156		8.967			ND		
95 1,2,3-Trichloropropane	110		8.996			ND		
96 N-Propylbenzene	120		9.046			ND		
97 2-Chlorotoluene	126		9.146			ND		
98 1,3,5-Trimethylbenzene	105		9.218			ND		
99 4-Chlorotoluene	126		9.261			ND		
101 Pentachloroethane	167		9.411			ND		
100 tert-Butylbenzene	119		9.525			ND		
102 1,2,4-Trimethylbenzene	105		9.582			ND		
103 sec-Butylbenzene	134		9.747			ND		
104 1,3-Dichlorobenzene	146		9.875			ND		
105 4-Isopropyltoluene	119		9.890			ND		
106 1,4-Dichlorobenzene	146		9.976			ND		
107 1,2,3-Trimethylbenzene	105		9.990			ND		
108 n-Butylbenzene	91		10.297			ND		
109 1,2-Dichlorobenzene	146		10.333			ND		
110 1,2-Dibromo-3-Chloropropane	157		11.105			ND		
111 1,3,5-Trichlorobenzene	180		11.298			ND		
112 1,2,4-Trichlorobenzene	180		11.935			ND		
113 Hexachlorobutadiene	225		12.071			ND		
114 Naphthalene	128		12.206			ND		
115 1,2,3-Trichlorobenzene	180		12.428			ND		
120 Tetrahydrothiophene TIC	1		0.000			ND		
119 1-Chloro-1-fluoroethane TIC	1		0.000			ND		
118 Ethyl acrylate	55		0.000			ND		
117 t-Amyl alcohol	1		0.000			ND		
116 Ethylene oxide TIC	1		0.000			ND		
121 Propene oxide TIC	58		5.334			ND		
S 122 1,2-Dichloroethene, Total (URS)	96		2.000			ND		7
S 129 1,2-Dichloroethene, Total	1		0.000			ND		7
S 124 1,3-Dichloropropene, Total	1		0.000			ND		7
S 123 Xylenes, Total (URS)	1		0.000			ND		7
S 127 Trihalomethanes, Total	1		0.000			ND		7
S 126 Total BTEX	1		0.000			ND		7
S 128 TAH	1				0		0	
S 125 Xylenes, Total	106		0.000			ND		7
T 130 Dichloroacetonitrile TIC	74		1.000			ND		
T 132 1-Chlorohexane TIC	1		0.000			ND		
T 131 Methyl cyclohexane TIC	1		0.000			ND		
T 140 2,3-Dichloro-1-propene TIC	75		0.000			ND		
T 139 Propene TIC	1		0.000			ND		
T 138 n-Nonane TIC	1		0.000			ND		

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	OnCol Amt ug/l	Flags
T 137 1,3-Butadiene TIC	1		0.000				ND	
T 136 Cyclohexane TIC	1		0.000				ND	
T 135 4-Ethyltoluene TIC	1		0.000				ND	
T 134 2-Butoxyethanol TIC	1		0.000				ND	
T 133 Dicyclopentadiene TIC	1		0.000				ND	

QC Flag Legend

Processing Flags
- NR - Missing Quant Standard
- 7 - Failed Limit of Detection

Review Flags
- U - Marked Undetected

Reagents:

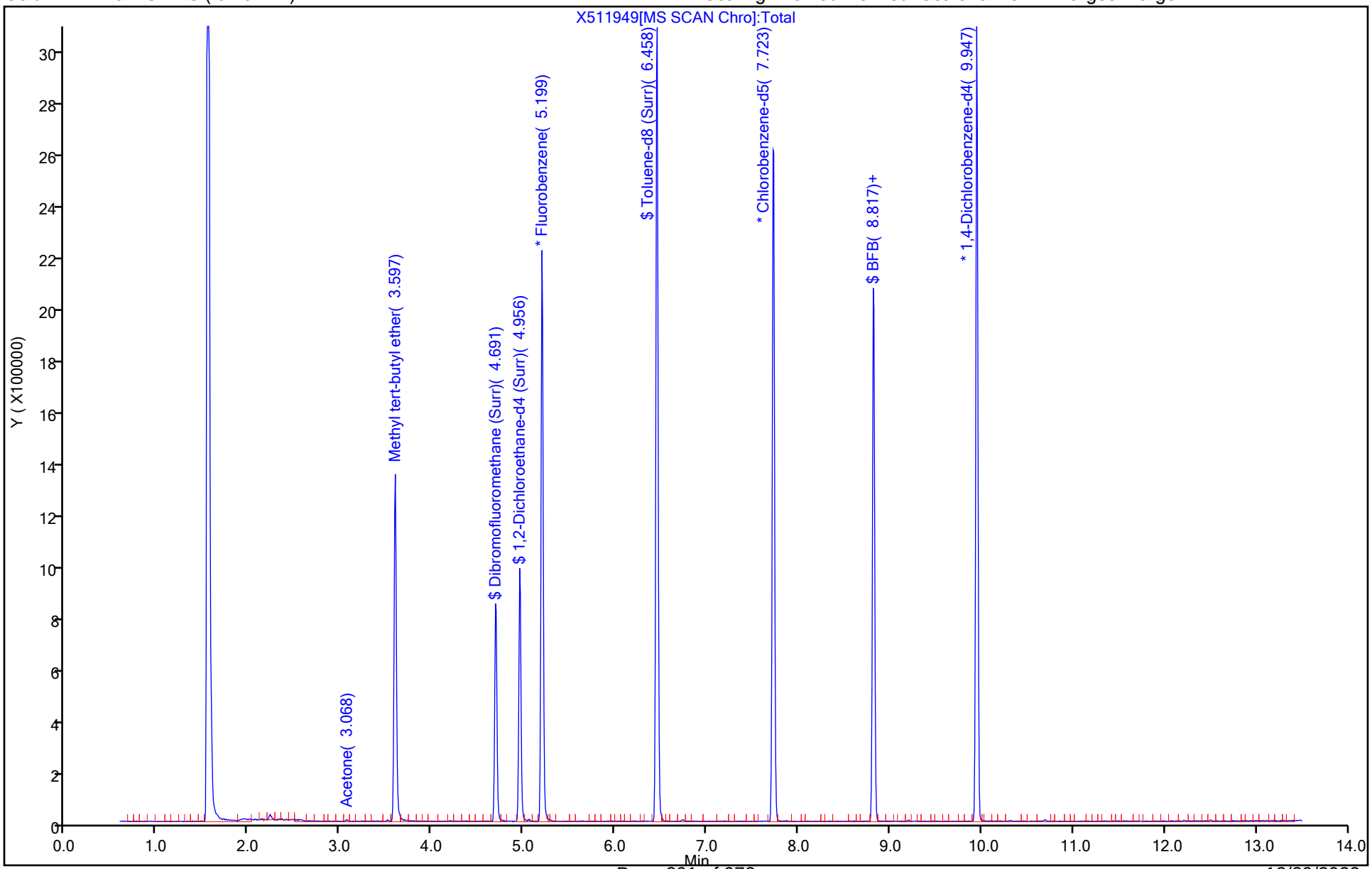
mv-IS_SS_00074 Amount Added: 5.00 Units: uL Run Reagent

Report Date: 19-Dec-2023 21:23:27 Chrom Revision: 2.3 15-Nov-2023 20:54:34

Eurofins Denver

Data File:	\\chromfs\Denver\ChromData\VMS_X4\20231218-128669.b\X511949.D				
Injection Date:	18-Dec-2023 14:40:30	Instrument ID:	VMS_X4	Operator ID:	COULTER
Lims ID:	280-185797-E-10	Lab Sample ID:	280-185797-10	Worklist Smp#:	23
Client ID:	TV044-MW21223A				
Purge Vol:	5.000 mL	Dil. Factor:	50.0000	ALS Bottle#:	17
Method:	VMS_X4_8260	Limit Group:	MSV - 8260B Water and Solid		

Column: Rxi-624Sil MS (0.25 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 1



12/29/2023
10:48 AM

Eurofins Denver
Recovery Report

Data File:	\\chromfs\Denver\ChromData\VMS_X4\20231218-128669.b\X511949.D				
Lims ID:	280-185797-E-10				
Client ID:	TV044-MW21223A				
Sample Type:	Client				
Inject. Date:	18-Dec-2023 14:40:30	ALS Bottle#:	17	Worklist Smp#:	23
Purge Vol:	5.000 mL	Dil. Factor:	50.0000		
Sample Info:	280-185797-e-10				
Misc. Info.:	50X				
Operator ID:	COULTER	Instrument ID:	VMS_X4		
Method:	\\chromfs\Denver\ChromData\VMS_X4\20231218-128669.b\VMS_X4_8260.m				
Limit Group:	MSV - 8260B Water and Solid				
Last Update:	19-Dec-2023 21:23:01	Calib Date:	11-Dec-2023 20:50:30		
Integrator:	RTE	ID Type:	Deconvolution ID		
Quant Method:	Internal Standard	Quant By:	Initial Calibration		
Last ICal File:	\\chromfs\Denver\ChromData\VMS_X4\20231211-128477.b\X511702.D				
Column 1 :	Rxi-624Sil MS (0.25 mm)		Det: MS SCAN		
Process Host:	CTX1675				

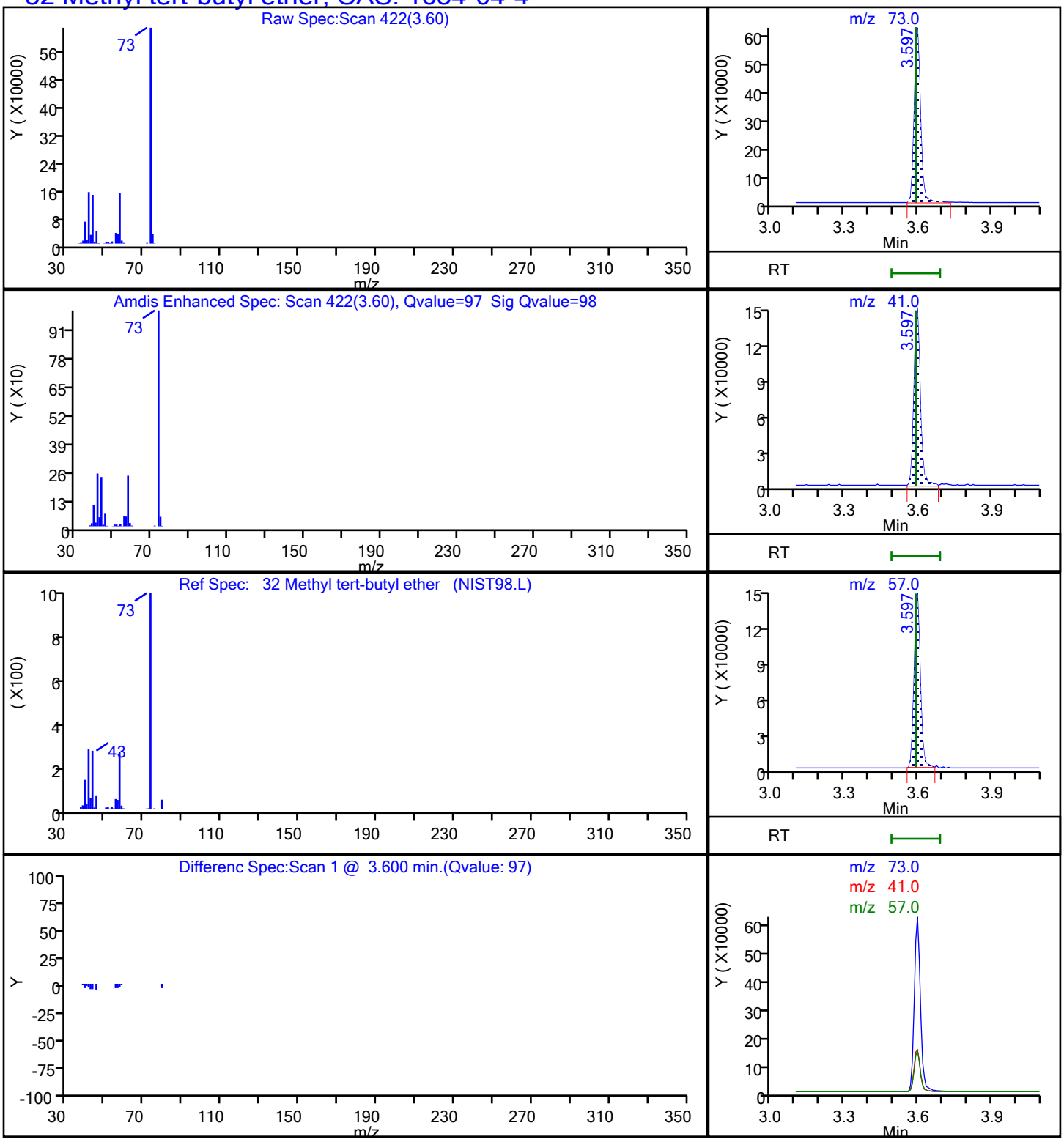
First Level Reviewer: AK2J Date: 19-Dec-2023 21:21:38

Compound	Amount Added	Amount Recovered	% Rec.
$ 4 Dibromofluoromethane (Surr)	50.0	53.7	5368.73
$ 5 1,2-Dichloroethane-d4 (Surr)	50.0	53.1	5306.88
$ 6 Toluene-d8 (Surr)	50.0	49.8	4977.33
$ 7 4-Bromofluorobenzene (Surr)	50.0	45.3	4529.06

Eurofins Denver

Data File: \\chromfs\Denver\ChromData\VMS_X4\20231218-128669.b\X511949.D
Injection Date: 18-Dec-2023 14:40:30 Instrument ID: VMS_X4
Lims ID: 280-185797-E-10 Lab Sample ID: 280-185797-10
Client ID: TV044-MW21223A
Operator ID: COULTER ALS Bottle#: 17 Worklist Smp#: 23
Purge Vol: 5.000 mL Dil. Factor: 50.0000
Method: VMS_X4_8260 Limit Group: MSV - 8260B Water and Solid
Column: Rxi-624Sil MS (0.25 mm) Detector MS SCAN

32 Methyl tert-butyl ether, CAS: 1634-04-4



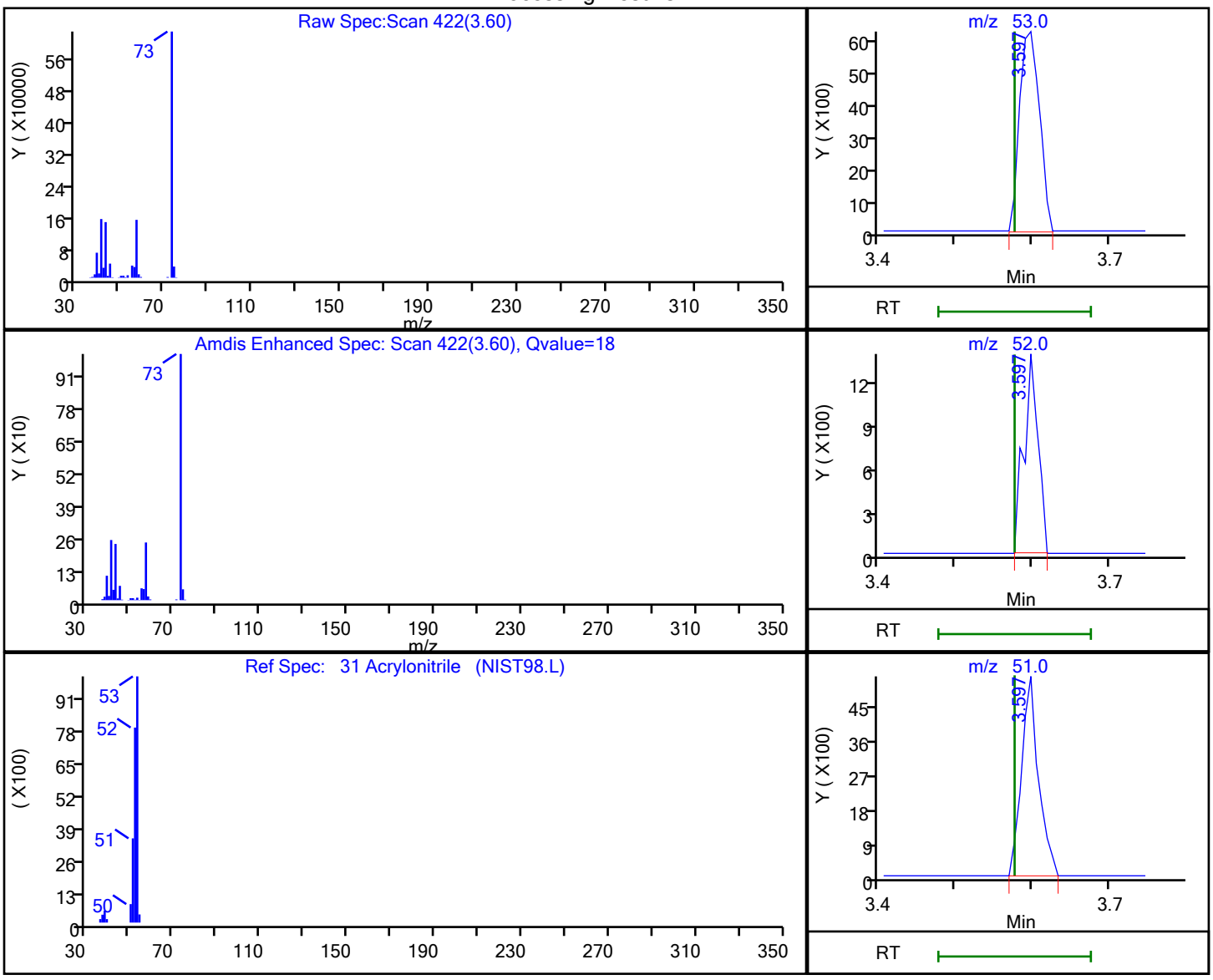
User Disabled Compound Report

Eurofins Denver

Data File:	\\chromfs\Denver\ChromData\VMS_X4\20231218-128669.b\X511949.D				
Injection Date:	18-Dec-2023 14:40:30	Instrument ID:	VMS_X4		
Lims ID:	280-185797-E-10	Lab Sample ID:	280-185797-10		
Client ID:	TV044-MW21223A				
Operator ID:	COULTER	ALS Bottle#:	17	Worklist Smp#:	23
Purge Vol:	5.000 mL	Dil. Factor:	50.0000		
Method:	VMS_X4_8260	Limit Group:	MSV - 8260B Water and Solid		
Column:	Rxi-624Sil MS (0.25 mm)	Detector	MS SCAN		

31 Acrylonitrile, CAS: 107-13-1

Processing Results



RT	Mass	Response	Amount
3.60	53.00	11334	2.782129
3.60	52.00	1744	
3.60	51.00	8151	

Reviewer: AK2J, 19-Dec-2023 21:21:23 -07:00:00 (UTC)

Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Denver | Job No.: 280-185797-1

SDG No.:

Client Sample ID: TV044-MW25I1223A | Lab Sample ID: 280-185797-11

Matrix: Water | Lab File ID: X511946.D

Analysis Method: 8260D | Date Collected: 12/13/2023 14:40

Sample wt/vol: 5(mL) | Date Analyzed: 12/18/2023 13:35

Soil Aliquot Vol: | Dilution Factor: 1

Soil Extract Vol.: | GC Column: RXI-624SilMS ID: 0.25(mm)

Purge Volume: 5.0(mL) | Heated Purge: (Y/N) N pH: 5.0

% Moisture: % Solids: | Level: (low/med) Low

Analysis Batch No.: 637616 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
71-55-6	1,1,1-Trichloroethane	0.50	U	1.0	0.50	0.39
79-34-5	1,1,2,2-Tetrachloroethane	0.80	U	1.0	0.80	0.21
79-00-5	1,1,2-Trichloroethane	0.80	U	1.0	0.80	0.27
75-34-3	1,1-Dichloroethane	0.80	U	1.0	0.80	0.22
75-35-4	1,1-Dichloroethylene	0.80	U	1.0	0.80	0.23
563-58-6	1,1-Dichloropropene	0.80	U	1.0	0.80	0.42
87-61-6	1,2,3-Trichlorobenzene	0.80	U	2.0	0.80	0.70
96-18-4	1,2,3-Trichloropropane	1.8	U	2.5	1.8	0.86
526-73-8	1,2,3-Trimethylbenzene	0.80	U	2.0	0.80	0.27
120-82-1	1,2,4-Trichlorobenzene	0.80	U	1.0	0.80	0.58
95-63-6	1,2,4-Trimethylbenzene	0.40	U	1.0	0.40	0.15
96-12-8	1,2-Dibromo-3-Chloropropane	4.0	U	5.0	4.0	1.8
106-93-4	1,2-Dibromoethane	0.80	U	1.0	0.80	0.40
95-50-1	1,2-Dichlorobenzene	0.50	U	1.0	0.50	0.37
107-06-2	1,2-Dichloroethane	0.80	U	1.0	0.80	0.54
78-87-5	1,2-Dichloropropane	0.80	U	1.0	0.80	0.52
108-67-8	1,3,5-Trimethylbenzene	0.50	U	1.0	0.50	0.37
541-73-1	1,3-Dichlorobenzene	0.40	U	1.0	0.40	0.33
142-28-9	1,3-Dichloropropane	0.80	U	1.0	0.80	0.38
106-46-7	1,4-Dichlorobenzene	0.50	U	1.0	0.50	0.39
594-20-7	2,2-Dichloropropane	0.80	U	1.0	0.80	0.38
78-93-3	2-Butanone (MEK)	12	U	15	12	6.0
110-75-8	2-Chloroethyl vinyl ether	0.80	U	3.0	0.80	0.44
591-78-6	2-Hexanone	4.0	U	5.0	4.0	1.7
99-87-6	4-Isopropyltoluene	0.80	U	1.0	0.80	0.43
108-10-1	4-Methyl-2-pentanone (MIBK)	3.2	U	5.0	3.2	0.98
67-64-1	Acetone	8.0	U	15	8.0	6.6
107-13-1	Acrylonitrile	8.0	U M	20	8.0	4.5
71-43-2	Benzene	0.80	U	1.0	0.80	0.31
108-86-1	Bromobenzene	0.50	U	1.0	0.50	0.40
74-97-5	Bromochloromethane	0.80	U	1.0	0.80	0.40
75-27-4	Bromodichloromethane	0.50	U	1.0	0.50	0.39
75-25-2	Bromoform	1.8	U	2.0	1.8	1.2
75-15-0	Carbon disulfide	0.80	U	2.0	0.80	0.63

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Denver | Job No.: 280-185797-1

SDG No.:

Client Sample ID: TV044-MW25I1223A | Lab Sample ID: 280-185797-11

Matrix: Water | Lab File ID: X511946.D

Analysis Method: 8260D | Date Collected: 12/13/2023 14:40

Sample wt/vol: 5(mL) | Date Analyzed: 12/18/2023 13:35

Soil Aliquot Vol: | Dilution Factor: 1

Soil Extract Vol.: | GC Column: RXI-624SilMS ID: 0.25(mm)

Purge Volume: 5.0(mL) | Heated Purge: (Y/N) N pH: 5.0

% Moisture: % Solids: | Level: (low/med) Low

Analysis Batch No.: 637616 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
56-23-5	Carbon tetrachloride	0.80	U	1.0	0.80	0.57
108-90-7	Chlorobenzene	0.80	U	1.0	0.80	0.42
75-00-3	Chloroethane	1.6	U	4.0	1.6	1.4
67-66-3	Chloroform	0.80	U	1.0	0.80	0.36
74-87-3	Chloromethane	1.0	U Q	2.0	1.0	0.75
156-59-2	cis-1,2-Dichloroethylene	0.40	U	1.0	0.40	0.32
10061-01-5	cis-1,3-Dichloropropene	1.8	U	2.0	1.8	0.63
110-82-7	Cyclohexane	0.80	U	1.0	0.80	0.44
108-94-1	Cyclohexanone	64	U M Q	100	64	32
124-48-1	Dibromochloromethane	1.8	U	2.0	1.8	0.62
74-95-3	Dibromomethane	0.40	U	1.0	0.40	0.34
75-71-8	Dichlorodifluoromethane	2.5	U Q	3.0	2.5	0.96
100-41-4	Ethylbenzene	0.40	U	1.0	0.40	0.30
87-68-3	Hexachlorobutadiene	1.8	U	2.0	1.8	1.2
108-20-3	Isopropyl ether	2.0	U	10	2.0	1.1
98-82-8	Isopropylbenzene	0.50	U	1.0	0.50	0.36
1634-04-4	Methyl tert-butyl ether	79		5.0	0.80	0.25
108-87-2	Methylcyclohexane	0.40	U	1.0	0.40	0.31
75-09-2	Methylene Chloride	1.8	U	2.0	1.8	0.94
91-20-3	Naphthalene	0.80	U	2.0	0.80	0.63
104-51-8	n-Butylbenzene	0.80	U	1.0	0.80	0.48
110-54-3	n-Hexane	0.80	U	2.0	0.80	0.16
103-65-1	N-Propylbenzene	0.80	U	1.0	0.80	0.53
95-49-8	o-Chlorotoluene	0.40	U	1.0	0.40	0.34
106-43-4	p-Chlorotoluene	0.80	U	1.0	0.80	0.21
135-98-8	sec-Butylbenzene	0.80	U	1.0	0.80	0.45
100-42-5	Styrene	0.80	U	1.0	0.80	0.36
98-06-6	tert-Butylbenzene	0.80	U	1.0	0.80	0.42
127-18-4	Tetrachloroethene	0.80	U	1.0	0.80	0.40
108-88-3	Toluene	0.40	U	1.0	0.40	0.32
156-60-5	trans-1,2-Dichloroethylene	0.50	U	1.0	0.50	0.37
10061-02-6	trans-1,3-Dichloropropene	1.8	U	2.0	1.8	0.65
79-01-6	Trichloroethene	0.40	U	1.0	0.40	0.30
75-69-4	Trichlorofluoromethane	0.80	U	2.0	0.80	0.57

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Denver | Job No.: 280-185797-1

SDG No.:

Client Sample ID: TV044-MW25I1223A | Lab Sample ID: 280-185797-11

Matrix: Water | Lab File ID: X511946.D

Analysis Method: 8260D | Date Collected: 12/13/2023 14:40

Sample wt/vol: 5(mL) | Date Analyzed: 12/18/2023 13:35

Soil Aliquot Vol: | Dilution Factor: 1

Soil Extract Vol.: | GC Column: RXI-624SilMS ID: 0.25(mm)

Purge Volume: 5.0(mL) | Heated Purge: (Y/N) N pH: 5.0

% Moisture: % Solids: | Level: (low/med) Low

Analysis Batch No.: 637616 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
108-05-4	Vinyl acetate	2.0	U	3.0	2.0	0.94
75-01-4	Vinyl chloride	1.0	U	2.0	1.0	0.51
1330-20-7	Xylenes, Total	0.80	U	1.0	0.80	0.33

CAS NO.	SURROGATE	%REC	Q	LIMITS
17060-07-0	1,2-Dichloroethane-d4 (Surr)	110		81-118
460-00-4	4-Bromofluorobenzene (Surr)	92		85-114
1868-53-7	Dibromofluoromethane (Surr)	109		80-119
2037-26-5	Toluene-d8 (Surr)	100		89-112

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET
TARGETED TENATIVELY IDENTIFIED COMPOUNDS

Lab Name: Eurofins Denver | Job No.: 280-185797-1

SDG No.:

Client Sample ID: TV044-MW25I1223A | Lab Sample ID: 280-185797-11

Matrix: Water | Lab File ID: X511946.D

Analysis Method: 8260D | Date Collected: 12/13/2023 14:40

Sample wt/vol: 5(mL) | Date Analyzed: 12/18/2023 13:35

Soil Aliquot Vol: | Dilution Factor: 1

Soil Extract Vol.: | GC Column: RXI-624SilMS ID: 0.25(mm)

Purge Volume: 5.0(mL) | Heated Purge: (Y/N) N pH: 5.0

% Moisture: % Solids: | Level: (low/med) Low

Analysis Batch No.: 637616 | Units: ug/L

CAS NO.	COMPOUND NAME	RT	RESULT	Q	MATCH QUALITY
106-99-0	1,3-Butadiene TIC		1.0	U	
622-96-8	4-Ethyltoluene TIC		1.0	U	
77-73-6	Dicyclopentadiene TIC		1.0	U	
115-07-1	Propene TIC		1.0	U	

Eurofins Denver
Target Compound Quantitation Report

Data File: \\chromfs\Denver\ChromData\VMS_X4\20231218-128669.b\X511946.D
Lims ID: 280-185797-D-11
Client ID: TV044-MW25I1223A
Sample Type: Client
Inject. Date: 18-Dec-2023 13:35:30 ALS Bottle#: 14 Worklist Smp#: 20
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Sample Info: 280-185797-d-11
Operator ID: COULTER Instrument ID: VMS_X4

Method: \\chromfs\Denver\ChromData\VMS_X4\20231218-128669.b\VMS_X4_8260.m
Limit Group: MSV - 8260B Water and Solid
Last Update: 19-Dec-2023 21:23:01 Calib Date: 11-Dec-2023 20:50:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Denver\ChromData\VMS_X4\20231211-128477.b\X511702.D

Column 1 : Rxi-624Sil MS (0.25 mm) Det: MS SCAN
Process Host: CTX1675

First Level Reviewer: AK2J Date: 19-Dec-2023 21:20:28

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	OnCol Amt ug/l	Flags
* 1 Fluorobenzene	96	5.199	5.199	0.000	98	1702035	50.0	
* 2 Chlorobenzene-d5	119	7.730	7.723	0.007	89	458899	50.0	
* 3 1,4-Dichlorobenzene-d4	152	9.947	9.947	0.000	97	800673	50.0	
$ 4 Dibromofluoromethane (Surr)	111	4.691	4.692	-0.001	93	474532	54.5	
$ 5 1,2-Dichloroethane-d4 (Surr)	65	4.956	4.956	0.000	0	620956	55.1	
$ 6 Toluene-d8 (Surr)	98	6.458	6.451	0.008	94	1974652	50.0	
$ 7 4-Bromofluorobenzene (Surr)	95	8.817	8.817	0.000	87	700626	45.8	
$ 8 BFB	95	8.817	8.817	0.000	85	700626	NR	
9 Dichlorodifluoromethane	85		1.760				ND	
10 Chloromethane	50		1.939				ND	
11 Vinyl chloride	62		2.039				ND	
12 Bromomethane	94		2.325				ND	7
13 Chloroethane	64		2.425				ND	
15 Propene oxide	58		2.504				ND	
14 Dichlorofluoromethane	67		2.597				ND	
16 Trichlorofluoromethane	101		2.632				ND	
17 Ethanol	45		2.754				ND	
18 Ethyl ether	59		2.847				ND	
19 Acrolein	56		2.961				ND	
20 1,1,2-Trichloro-1,2,2-trifluoroe	151		3.040				ND	
21 1,1-Dichloroethene	96		3.040				ND	
22 Acetone	43	3.061	3.061	0.000	75	1832	0.5515	
23 Isopropyl alcohol	45		3.147				ND	
24 Iodomethane	142		3.169				ND	
25 Carbon disulfide	76		3.226				ND	
26 Acetonitrile	41		3.276				ND	
27 Methyl acetate	43		3.290				ND	
28 3-Chloro-1-propene	41		3.312				ND	
29 Methylene Chloride	84		3.404				ND	7
30 2-Methyl-2-propanol	59		3.447				ND	
31 Acrylonitrile	53		3.576				ND	U
32 Methyl tert-butyl ether	73	3.597	3.590	0.007	98	2058257	79.2	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	OnCol Amt ug/l	Flags
33 trans-1,2-Dichloroethene	96		3.605				ND	
34 Hexane	57		3.798				ND	
35 Vinyl acetate	43		3.905				ND	
36 1,1-Dichloroethane	63		3.926				ND	
37 Isopropyl ether	87		3.926				ND	
38 2-Chloro-1,3-butadiene	53		3.984				ND	
39 Tert-butyl ethyl ether	59		4.191				ND	
40 2-Butanone (MEK)	43		4.313				ND	
41 Ethyl acetate	43		4.327				ND	
42 cis-1,2-Dichloroethene	96		4.341				ND	
43 2,2-Dichloropropane	77		4.355				ND	
44 Propionitrile	54		4.370				ND	
45 sec-Butyl Alcohol	45		4.420				ND	
46 Methacrylonitrile	41		4.477				ND	
47 Chlorobromomethane	128		4.520				ND	
48 Tetrahydrofuran	42		4.527				ND	
49 Chloroform	83		4.577				ND	
50 1,1,1-Trichloroethane	97		4.720				ND	
51 Cyclohexane	56		4.777				ND	
52 1,1-Dichloropropene	75		4.835				ND	
53 Carbon tetrachloride	117		4.835				ND	
54 Isobutyl alcohol	41		4.842				ND	
55 Benzene	78		4.985				ND	
56 1,2-Dichloroethane	62		5.013				ND	7
57 Tert-amyl methyl ether	73		5.056				ND	
58 n-Heptane	43		5.163				ND	
59 n-Butanol	56		5.335				ND	
60 Trichloroethene	95		5.471				ND	
61 2-Pentanone	43		5.578				ND	
62 Methylcyclohexane	55		5.671				ND	
63 1,2-Dichloropropane	63		5.678				ND	
64 Methyl methacrylate	100		5.678				ND	
65 1,4-Dioxane	88		5.721				ND	
66 Dibromomethane	93		5.750				ND	
67 Dichlorobromomethane	83		5.871				ND	
68 2-Nitropropane	41		6.043				ND	
69 2-Chloroethyl vinyl ether	63		6.072				ND	
70 cis-1,3-Dichloropropene	75		6.222				ND	
71 4-Methyl-2-pentanone (MIBK)	43		6.322				ND	
72 Toluene	91		6.508				ND	
73 trans-1,3-Dichloropropene	75		6.679				ND	
74 Ethyl methacrylate	69		6.701				ND	
75 1,1,2-Trichloroethane	97		6.858				ND	
76 Tetrachloroethene	164		6.951				ND	
77 1,3-Dichloropropane	76		7.008				ND	
78 2-Hexanone	43		7.023				ND	
79 Chlorodibromomethane	129		7.201				ND	
80 Ethylene Dibromide	107		7.323				ND	
81 1-Chlorohexane	91		7.709				ND	U
82 Chlorobenzene	112		7.752				ND	
83 1,1,1,2-Tetrachloroethane	131		7.823				ND	
84 Ethylbenzene	106		7.830				ND	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	OnCol Amt ug/l	Flags
85 m-Xylene & p-Xylene	106	7.945	7.945	0.000	0	4764	0.2667	
86 o-Xylene	106	8.317	8.302	0.015	93	2875	0.1651	
87 Styrene	104		8.324				ND	
88 Bromoform	173		8.503				ND	
89 Isopropylbenzene	105		8.646				ND	
90 cis-1,4-Dichloro-2-butene	53		8.696				ND	
91 Cyclohexanone	55		8.746				ND	U
92 1,1,2,2-Tetrachloroethane	83		8.932				ND	
94 trans-1,4-Dichloro-2-butene	53		8.967				ND	
93 Bromobenzene	156		8.967				ND	
95 1,2,3-Trichloropropane	110		8.996				ND	
96 N-Propylbenzene	120		9.046				ND	
97 2-Chlorotoluene	126		9.146				ND	
98 1,3,5-Trimethylbenzene	105		9.218				ND	
99 4-Chlorotoluene	126		9.261				ND	
101 Pentachloroethane	167		9.411				ND	
100 tert-Butylbenzene	119		9.525				ND	
102 1,2,4-Trimethylbenzene	105		9.582				ND	
103 sec-Butylbenzene	134		9.747				ND	
104 1,3-Dichlorobenzene	146		9.875				ND	
105 4-Isopropyltoluene	119		9.890				ND	
106 1,4-Dichlorobenzene	146		9.976				ND	
107 1,2,3-Trimethylbenzene	105		9.990				ND	
108 n-Butylbenzene	91		10.297				ND	
109 1,2-Dichlorobenzene	146		10.333				ND	
110 1,2-Dibromo-3-Chloropropane	157		11.105				ND	
111 1,3,5-Trichlorobenzene	180		11.298				ND	
112 1,2,4-Trichlorobenzene	180		11.935				ND	
113 Hexachlorobutadiene	225		12.071				ND	
114 Naphthalene	128		12.206				ND	
115 1,2,3-Trichlorobenzene	180		12.428				ND	
120 Tetrahydrothiophene TIC	1		0.000				ND	
119 1-Chloro-1-fluoroethane TIC	1		0.000				ND	
118 Ethyl acrylate	55		0.000				ND	
117 t-Amyl alcohol	1		0.000				ND	
116 Ethylene oxide TIC	1		0.000				ND	
121 Propene oxide TIC	58		5.334				ND	
S 122 1,2-Dichloroethene, Total (URS)	96		2.000				ND	7
S 129 1,2-Dichloroethene, Total	1		0.000				ND	7
S 124 1,3-Dichloropropene, Total	1		0.000				ND	7
S 123 Xylenes, Total (URS)	1				0		0.4318	
S 127 Trihalomethanes, Total	1		0.000				ND	7
S 126 Total BTEX	1				0		0.4318	
S 128 TAH	1				0		0	
S 125 Xylenes, Total	106				0		0.4318	
T 130 Dichloroacetonitrile TIC	74		1.000				ND	
T 132 1-Chlorohexane TIC	1		0.000				ND	
T 131 Methyl cyclohexane TIC	1		0.000				ND	
T 140 2,3-Dichloro-1-propene TIC	75		0.000				ND	
T 139 Propene TIC	1		0.000				ND	
T 138 n-Nonane TIC	1		0.000				ND	
T 137 1,3-Butadiene TIC	1		0.000				ND	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	OnCol Amt ug/l	Flags
T 136 Cyclohexane TIC	1		0.000				ND	
T 135 4-Ethyltoluene TIC	1		0.000				ND	
T 134 2-Butoxyethanol TIC	1		0.000				ND	
T 133 Dicyclopentadiene TIC	1		0.000				ND	

QC Flag Legend

Processing Flags
- NR - Missing Quant Standard
- 7 - Failed Limit of Detection

Review Flags
- U - Marked Undetected

Reagents:

mv-IS_SS_00074 Amount Added: 5.00 Units: uL Run Reagent

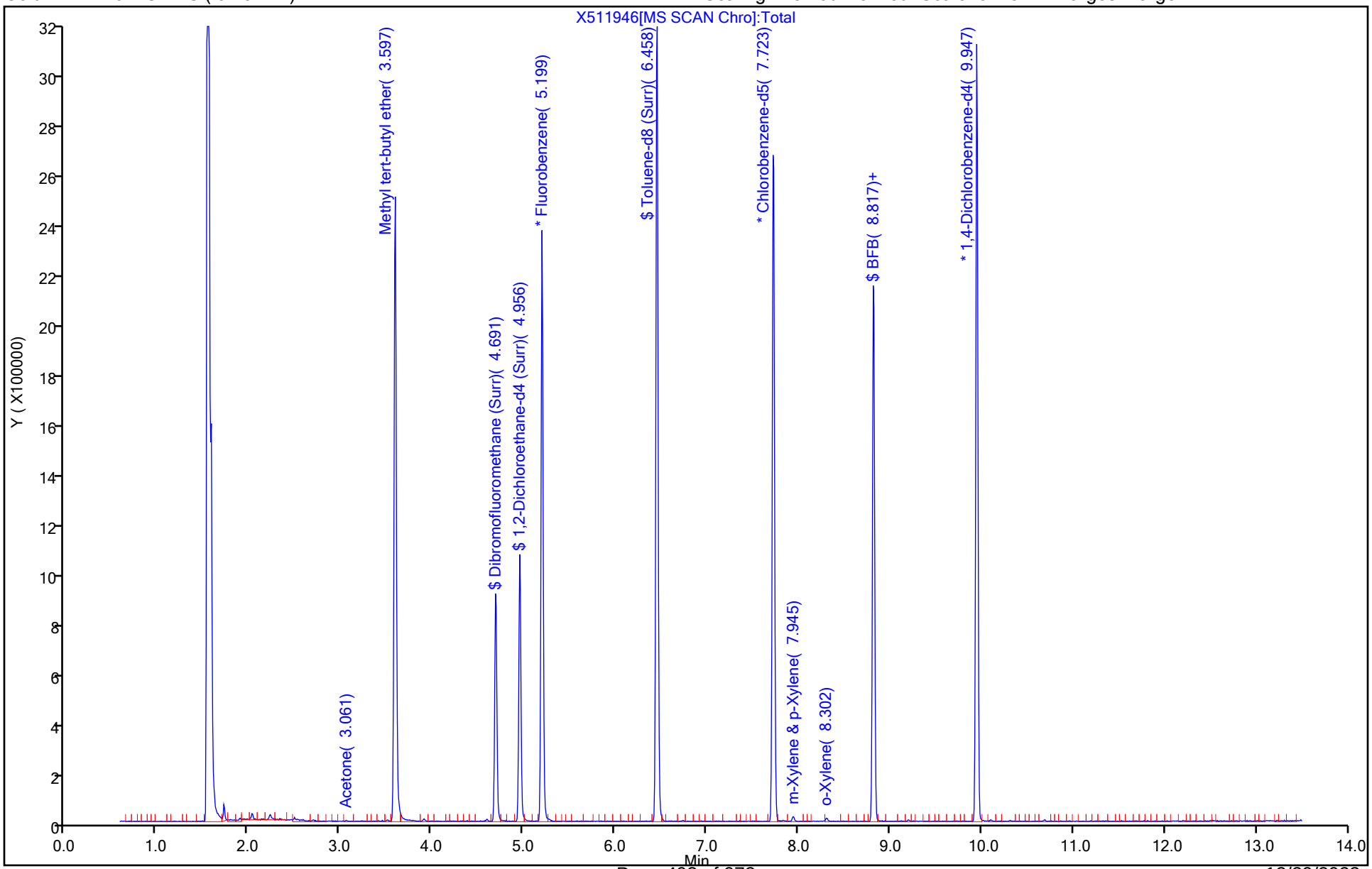
Report Date: 19-Dec-2023 21:23:22 Chrom Revision: 2.3 15-Nov-2023 20:54:34

Eurofins Denver

Data File: \\chromfs\Denver\ChromData\VMS_X4\20231218-128669.b\X511946.D

Injection Date:	18-Dec-2023 13:35:30	Instrument ID:	VMS_X4	Operator ID:	COULTER
Lims ID:	280-185797-D-11	Lab Sample ID:	280-185797-11	Worklist Smp#:	20
Client ID:	TV044-MW25I1223A				
Purge Vol:	5.000 mL	Dil. Factor:	1.0000	ALS Bottle#:	14
Method:	VMS_X4_8260	Limit Group:	MSV - 8260B Water and Solid		

Column: Rxi-624Sil MS (0.25 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 1



Eurofins Denver
Recovery Report

Data File:	\\chromfs\Denver\ChromData\VMS_X4\20231218-128669.b\X511946.D				
Lims ID:	280-185797-D-11				
Client ID:	TV044-MW25I1223A				
Sample Type:	Client				
Inject. Date:	18-Dec-2023 13:35:30	ALS Bottle#:	14	Worklist Smp#:	20
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Sample Info:	280-185797-d-11				
Operator ID:	COULTER	Instrument ID:	VMS_X4		
Method:	\\chromfs\Denver\ChromData\VMS_X4\20231218-128669.b\VMS_X4_8260.m				
Limit Group:	MSV - 8260B Water and Solid				
Last Update:	19-Dec-2023 21:23:01	Calib Date:	11-Dec-2023 20:50:30		
Integrator:	RTE	ID Type:	Deconvolution ID		
Quant Method:	Internal Standard	Quant By:	Initial Calibration		
Last ICal File:	\\chromfs\Denver\ChromData\VMS_X4\20231211-128477.b\X511702.D				
Column 1 :	Rxi-624Sil MS (0.25 mm)		Det: MS SCAN		
Process Host:	CTX1675				

First Level Reviewer: AK2J Date: 19-Dec-2023 21:20:28

Compound	Amount Added	Amount Recovered	% Rec.
$ 4 Dibromofluoromethane (Surr)	50.0	54.5	109.00
$ 5 1,2-Dichloroethane-d4 (Surr)	50.0	55.1	110.28
$ 6 Toluene-d8 (Surr)	50.0	50.0	99.96
$ 7 4-Bromofluorobenzene (Surr)	50.0	45.8	91.70

Report Date: 19-Dec-2023 21:23:22 Chrom Revision: 2.3 15-Nov-2023 20:54:34

Eurofins Denver

Data File: \\chromfs\Denver\ChromData\VMS_X4\20231218-128669.b\X511946.D

Injection Date: 18-Dec-2023 13:35:30 Instrument ID: VMS_X4

Lims ID: 280-185797-D-11 Lab Sample ID: 280-185797-11

Client ID: TV044-MW25I1223A

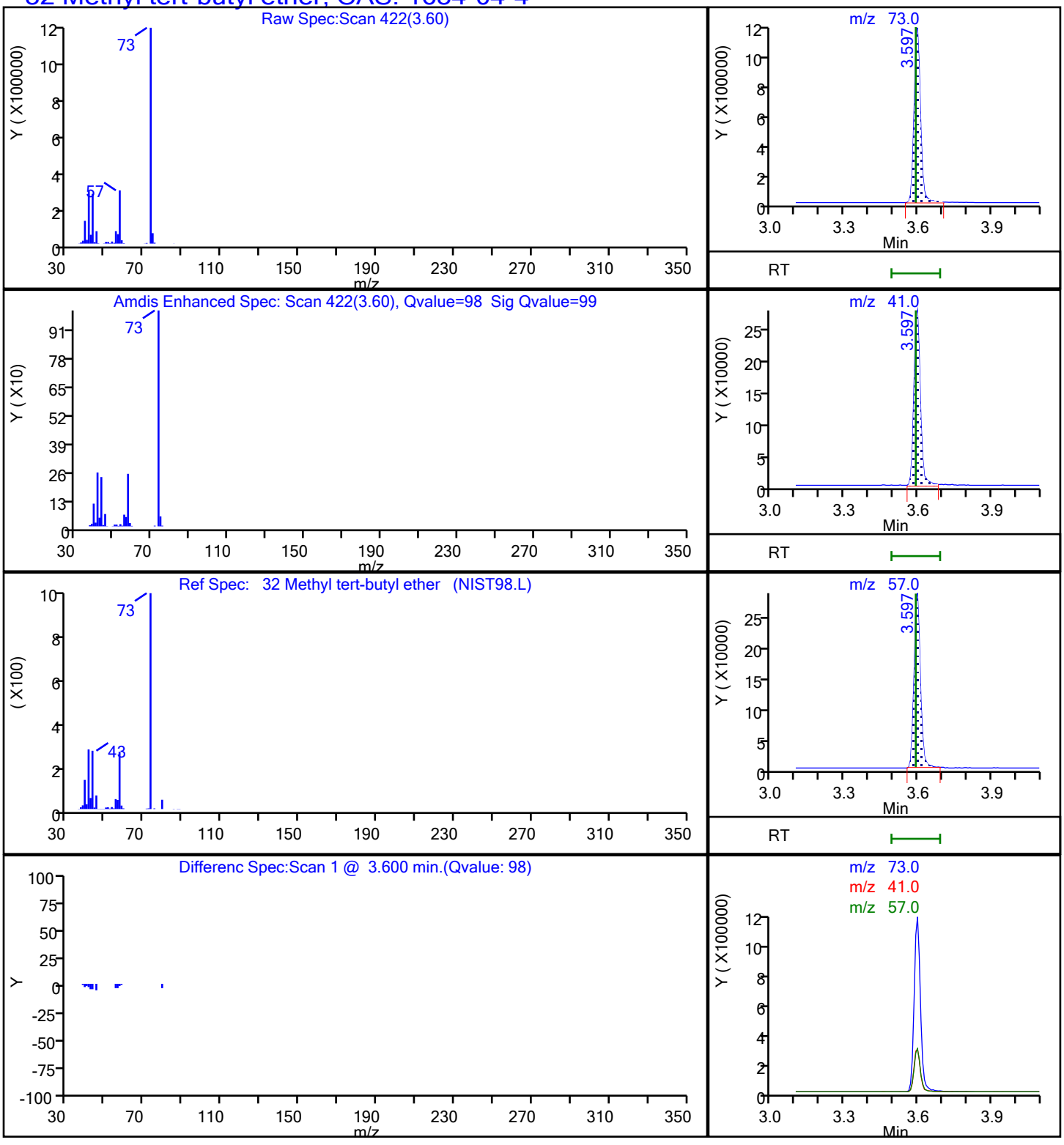
Operator ID: COULTER ALS Bottle#: 14 Worklist Smp#: 20

Purge Vol: 5.000 mL Dil. Factor: 1.0000

Method: VMS_X4_8260 Limit Group: MSV - 8260B Water and Solid

Column: Rxi-624Sil MS (0.25 mm) Detector MS SCAN

32 Methyl tert-butyl ether, CAS: 1634-04-4



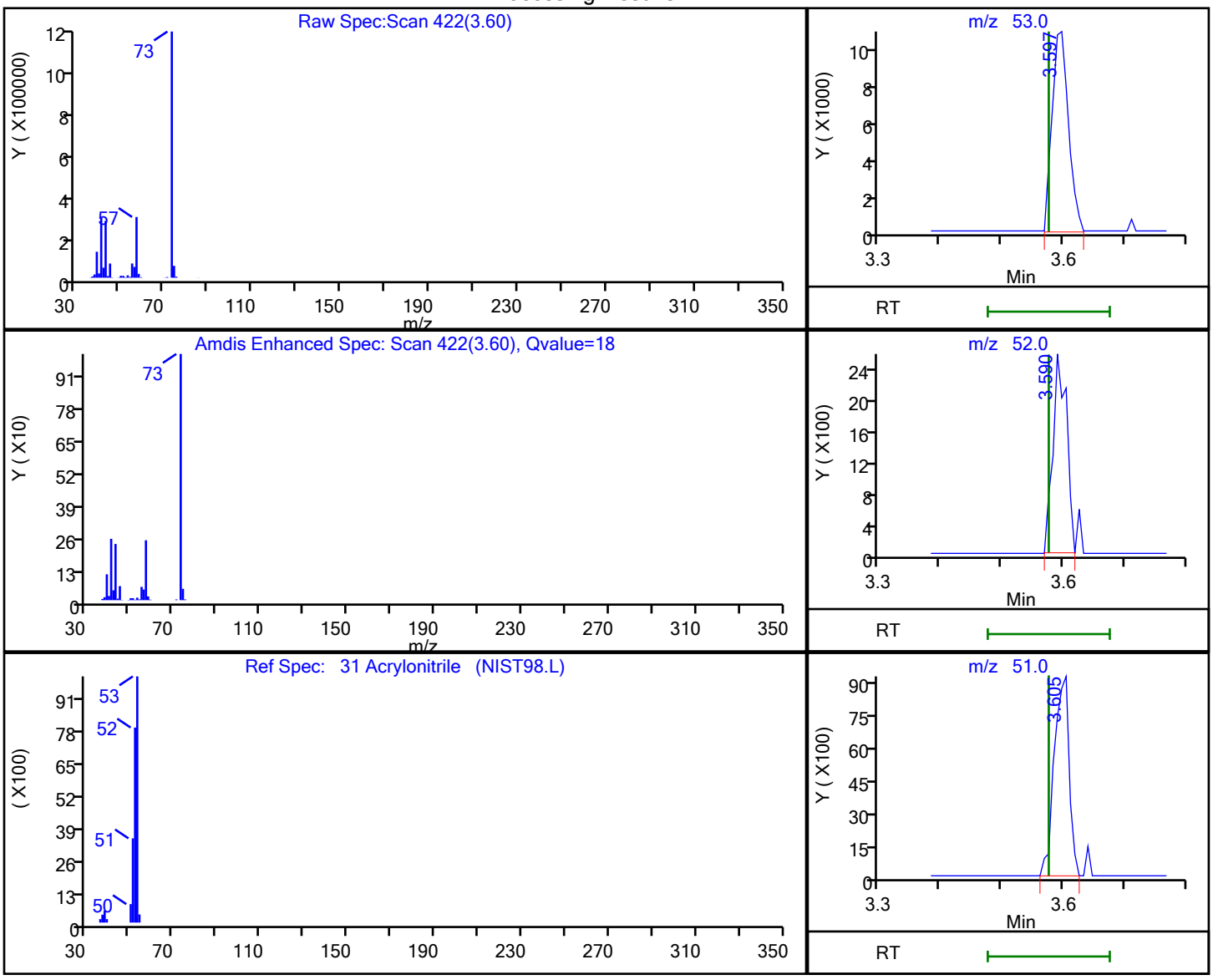
User Disabled Compound Report

Eurofins Denver

Data File:	\\chromfs\Denver\ChromData\VMS_X4\20231218-128669.b\X511946.D				
Injection Date:	18-Dec-2023 13:35:30	Instrument ID:	VMS_X4		
Lims ID:	280-185797-D-11	Lab Sample ID:	280-185797-11		
Client ID:	TV044-MW25I1223A				
Operator ID:	COULTER	ALS Bottle#:	14	Worklist Smp#:	20
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	VMS_X4_8260	Limit Group:	MSV - 8260B Water and Solid		
Column:	Rxi-624Sil MS (0.25 mm)	Detector	MS SCAN		

31 Acrylonitrile, CAS: 107-13-1

Processing Results



RT	Mass	Response	Amount
3.60	53.00	20317	4.822143
3.59	52.00	3994	
3.60	51.00	15789	

Reviewer: AK2J, 19-Dec-2023 21:20:14 -07:00:00 (UTC)

Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

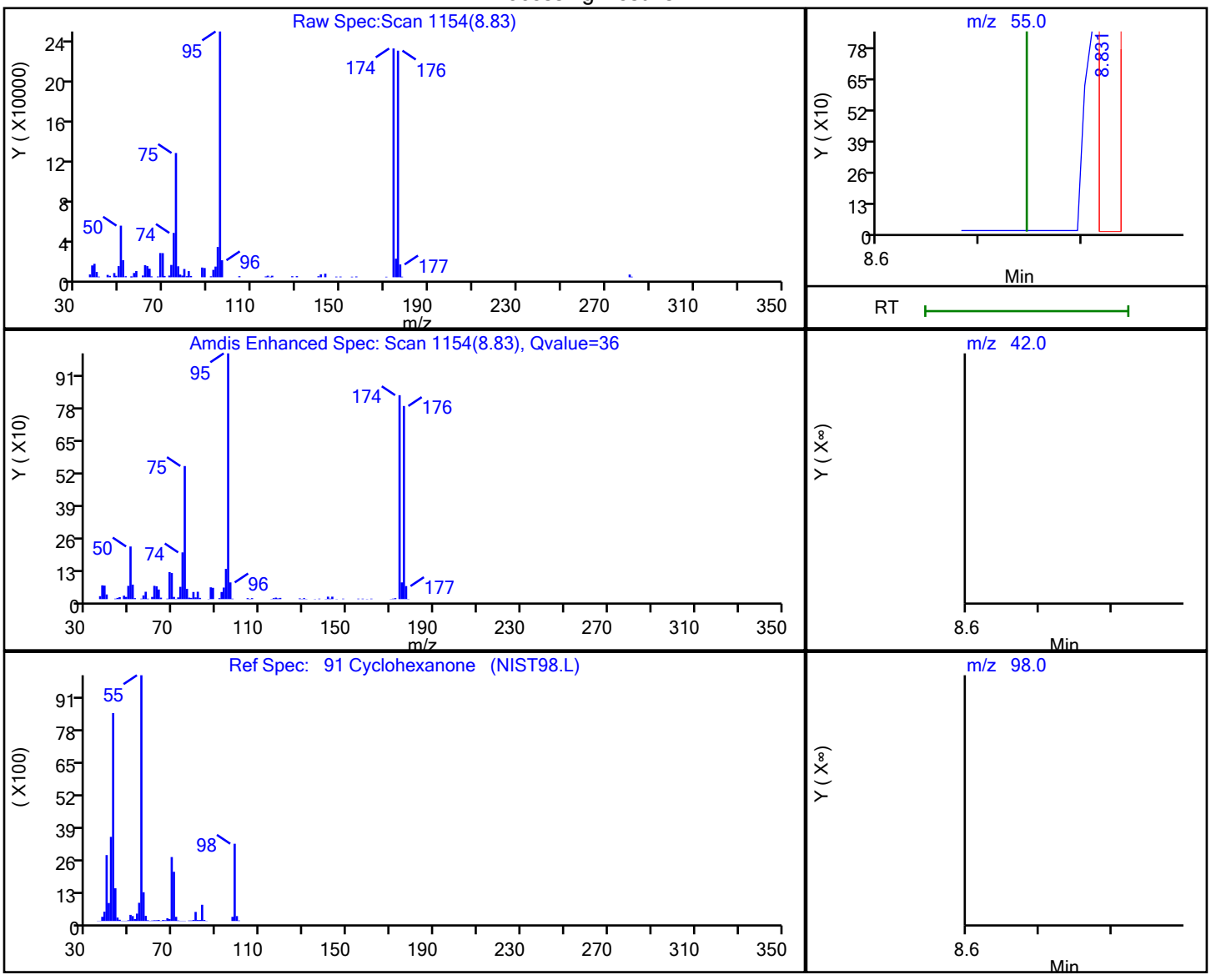
User Disabled Compound Report

Eurofins Denver

Data File:	\\chromfs\Denver\ChromData\VMS_X4\20231218-128669.b\X511946.D				
Injection Date:	18-Dec-2023 13:35:30	Instrument ID:	VMS_X4		
Lims ID:	280-185797-D-11	Lab Sample ID:	280-185797-11		
Client ID:	TV044-MW25I1223A				
Operator ID:	COULTER	ALS Bottle#:	14	Worklist Smp#:	20
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	VMS_X4_8260	Limit Group:	MSV - 8260B Water and Solid		
Column:	Rxi-624Sil MS (0.25 mm)	Detector	MS SCAN		

91 Cyclohexanone, CAS: 108-94-1

Processing Results



RT	Mass	Response	Amount
8.83	55.00	1384	2.950849
8.75	42.00	0	
8.75	98.00	0	

Reviewer: AK2J, 19-Dec-2023 21:20:23 -07:00:00 (UTC)

Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

FORM VI
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: Eurofins Denver Job No.: 280-185797-1 Analy Batch No.: 636738

SDG No.:

Instrument ID: VMS_X4 GC Column: RXI-624SilM ID: 0.25(mm) Heated Purge: (Y/N) N

Calibration Start Date: 12/08/2023 21:49 Calibration End Date: 12/09/2023 00:33 Calibration ID: 88018

Calibration Files

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 280-636738/2	X511647.D
Level 2	IC 280-636738/3	X511648.D
Level 3	IC 280-636738/4	X511649.D
Level 4	IC 280-636738/5	X511650.D
Level 5	IC 280-636738/6	X511651.D
Level 6	ICIS 280-636738/7	X511652.D
Level 7	IC 280-636738/8	X511653.D
Level 8	IC 280-636738/9	X511654.D
Level 9	IC 280-636738/10	X511655.D

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD /RSE	#	MAX %RSD /RSE	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4 LVL 9	LVL 5		B	M1	M2								
Dichlorodifluoromethane	0.3176 0.3439	0.3794 0.3274	0.3731 0.3530	0.3920 0.3204	0.3799	Ave		0.3541				8.0		15.0			
Chloromethane	0.5055 0.4668	0.5438 0.4551	0.5057 0.4638	0.5207 0.4283	0.5174	Ave		0.4897			0.1000	7.7		15.0			
Vinyl chloride	0.4142 0.4019	0.4685 0.3857	0.4326 0.4208	0.4546 0.3869	0.4335	Ave		0.4221				6.7		30.0			
Bromomethane	+++++ 0.1969	+++++ 0.2067	0.2322 0.2150	0.2157 0.1916	0.2213	Ave		0.2113				6.7		15.0			
Chloroethane	0.3250 0.2436	0.2656 0.2389	0.2963 0.2432	0.2782 0.2245	0.2729	Ave		0.2654				12.0		15.0			
Dichlorofluoromethane	0.6761 0.6133	0.7026 0.5968	0.6549 0.6124	0.6753 0.5686	0.6723	Ave		0.6414				7.0		15.0			
Trichlorofluoromethane	0.4924 0.4005	0.4737 0.3893	0.4571 0.4132	0.4784 0.3947	0.4522	Ave		0.4390				9.1		15.0			
Ethyl ether	0.2820 0.2398	0.2277 0.2517	0.2473 0.2485	0.2564 0.2426	0.2560	Ave		0.2502				5.9		15.0			
Acrolein	0.0437 0.0377	0.0448 0.0404	0.0357 0.0390	0.0410 0.0388	0.0406	Ave		0.0402				7.0		15.0			
1,1,2-Trichloro-1,2,2-trifluoroethane	0.1435 0.1651	0.1429 0.1715	0.1752 0.1744	0.1699 0.1695	0.1816	Ave		0.1660				8.2		15.0			
1,1-Dichloroethylene	0.2382 0.2196	0.2320 0.2270	0.2190 0.2288	0.2318 0.2277	0.2302	Ave		0.2283				2.6		30.0			
Acetone	+++++ 0.0899	+++++ 0.0942	0.1172 0.0926	0.0949 0.0938	0.1006	Ave		0.0976				9.5		15.0			

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type. RSD is calculated for Ave curve types. RSE is used for all other types.

FORM VI
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: Eurofins Denver Job No.: 280-185797-1 Analy Batch No.: 636738

SDG No.:

Instrument ID: VMS_X4 GC Column: RXI-624SilM ID: 0.25(mm) Heated Purge: (Y/N) N

Calibration Start Date: 12/08/2023 21:49 Calibration End Date: 12/09/2023 00:33 Calibration ID: 88018

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD /RSE	#	MAX %RSD /RSE	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4 LVL 9	LVL 5		B	M1	M2								
Iodomethane	+++++ 0.2835	0.2224 0.3099	0.1862 0.3124	0.2304 0.3015	0.2573	Lin1	-0.178	0.3041							0.9980		0.9900
Carbon disulfide	1.0316 0.7735	0.8529 0.8125	0.8767 0.8165	0.8603 0.7741	0.8477	Ave		0.8495				9.1		15.0			
Methyl acetate	0.2482 0.2239	0.2576 0.2414	0.2163 0.2332	0.2300 0.2372	0.2357	Ave		0.2359				5.2		15.0			
3-Chloro-1-propene	0.5632 0.5144	0.5421 0.5245	0.5837 0.5144	0.5745 0.4435	0.5678	Ave		0.5365				8.1		15.0			
Methylene Chloride	+++++ 0.2659	+++++ 0.2820	0.3738 0.2778	0.3296 0.2716	0.3064	Ave		0.3010				13.0		15.0			
2-Methyl-2-propanol	0.0264 0.0275	0.0246 0.0291	0.0236 0.0279	0.0219 0.0304	0.0254	Ave		0.0263				10.4		15.0			
Acrylonitrile	0.1336 0.1189	0.1286 0.1240	0.1195 0.1181	0.1267 0.1159	0.1286	Ave		0.1238				4.9		15.0			
Methyl tert-butyl ether	0.7407 0.7661	0.7557 0.8165	0.6992 0.8078	0.7060 0.7940	0.7864	Ave		0.7636				5.5		15.0			
trans-1,2-Dichloroethylene	0.2475 0.2566	0.2601 0.2661	0.2543 0.2600	0.2693 0.2565	0.2755	Ave		0.2606				3.2		15.0			
n-Hexane	1.6164 1.5375	1.4593 1.5959	1.4621 1.5910	1.5494 1.5427	1.4564	Ave		1.5345				4.1		15.0			
Vinyl acetate	0.6066 0.5992	0.6158 0.6198	0.5510 0.5777	0.5886 0.5640	0.5958	Ave		0.5909				3.9		15.0			
1,1-Dichloroethane	0.5805 0.5326	0.5981 0.5636	0.5638 0.5547	0.5778 0.5345	0.5828	Ave		0.5654			0.1000	3.9		15.0			
2-Butanone (MEK)	0.2103 0.1493	0.1576 0.1560	0.1334 0.1485	0.1465 0.1521	0.1510	Ave		0.1561				13.8		15.0			
cis-1,2-Dichloroethylene	0.3069 0.2763	0.3036 0.2901	0.2744 0.2897	0.2886 0.2838	0.3131	Ave		0.2918				4.6		15.0			
2,2-Dichloropropane	0.4519 0.4081	0.4584 0.4334	0.4123 0.4359	0.4246 0.4245	0.4350	Ave		0.4316				3.8		15.0			
sec-Butyl Alcohol	+++++ 0.0238	0.0198 0.0259	0.0184 0.0253	0.0195 0.0270	0.0218	Ave		0.0227				14.5		15.0			
Bromochloromethane	0.0967 0.1146	0.1066 0.1220	0.1180 0.1202	0.1304 0.1161	0.1292	Ave		0.1171				9.0		15.0			
Tetrahydrofuran	0.1101 0.1027	0.1195 0.1065	0.1006 0.1033	0.0951 0.1052	0.1086	Ave		0.1057				6.4		15.0			

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type. RSD is calculated for Ave curve types. RSE is used for all other types.

FORM VI
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: Eurofins Denver Job No.: 280-185797-1 Analy Batch No.: 636738

SDG No.:

Instrument ID: VMS_X4 GC Column: RXI-624SilM ID: 0.25(mm) Heated Purge: (Y/N) N

Calibration Start Date: 12/08/2023 21:49 Calibration End Date: 12/09/2023 00:33 Calibration ID: 88018

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD /RSE	#	MAX %RSD /RSE	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4 LVL 9	LVL 5		B	M1	M2								
Chloroform	0.5582 0.4692	0.5636 0.4984	0.4930 0.4959	0.5085 0.4748	0.5263	Ave		0.5098				6.6		30.0			
1,1,1-Trichloroethane	0.4087 0.4004	0.4368 0.4266	0.4001 0.4211	0.4116 0.4132	0.4131	Ave		0.4146				2.9		15.0			
Cyclohexane	0.5441 0.5300	0.5280 0.5497	0.5296 0.5457	0.5538 0.5248	0.5264	Ave		0.5369				2.1		15.0			
1,1-Dichloropropene	0.4177 0.3922	0.4415 0.4089	0.3818 0.4147	0.3881 0.4045	0.4084	Ave		0.4064				4.4		15.0			
Carbon tetrachloride	0.3390 0.3263	0.3042 0.3410	0.2949 0.3458	0.3267 0.3427	0.3372	Ave		0.3286				5.5		15.0			
Isobutyl alcohol	0.0099 0.0103	0.0104 0.0110	0.0082 0.0108	0.0076 0.0115	0.0099	Ave		0.0099				13.0		15.0			
Benzene	1.3009 1.1228	1.2808 1.1717	1.1385 1.1651	1.2047 1.0989	1.2167	Ave		1.1889				5.8		15.0			
1,2-Dichloroethane	0.5324 0.3957	0.5160 0.4174	0.4384 0.4038	0.4379 0.3939	0.4160	Ave		0.4391				11.6		15.0			
n-Heptane	0.4122 0.3459	0.3792 0.3555	0.3256 0.3506	0.3638 0.3378	0.3573	Ave		0.3586				7.0		15.0			
Trichloroethene	1.1003 1.0643	1.0702 1.1261	1.0066 1.1440	1.1066 1.1064	1.0545	Ave		1.0866				3.9		15.0			
2-Pentanone	0.2214 0.2307	0.2175 0.2458	0.1960 0.2343	0.2184 0.2366	0.2257	Ave		0.2252				6.4		15.0			
Methylcyclohexane	0.4070 0.3679	0.3217 0.3822	0.3476 0.3866	0.3712 0.3795	0.3674	Ave		0.3701				6.6		15.0			
1,2-Dichloropropane	0.3864 0.3117	0.3455 0.3285	0.3028 0.3292	0.3207 0.3212	0.3347	Ave		0.3312				7.3		30.0			
1,4-Dioxane	+++++ 0.0037	0.0038 0.0038	0.0030 0.0036	0.0038 0.0037	0.0036	Ave		0.0036				7.6		15.0			
Dibromomethane	0.1802 0.1588	0.1985 0.1683	0.1484 0.1643	0.1698 0.1626	0.1722	Ave		0.1692				8.4		15.0			
Bromodichloromethane	0.3791 0.3530	0.3214 0.3792	0.3558 0.3822	0.3613 0.3739	0.3680	Ave		0.3638				5.2		15.0			
2-Chloroethyl vinyl ether	0.1478 0.1924	0.1917 0.1890	0.1354 0.1850	0.1735 0.1850	0.1933	Ave		0.1770				12.0		15.0			
cis-1,3-Dichloropropene	2.2073 1.7555	1.6597 1.9012	1.7144 1.8979	1.7720 1.8645	1.7465	Ave		1.8354				8.9		15.0			

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type. RSD is calculated for Ave curve types. RSE is used for all other types.

FORM VI
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: Eurofins Denver Job No.: 280-185797-1 Analy Batch No.: 636738

SDG No.:

Instrument ID: VMS_X4 GC Column: RXI-624SilM ID: 0.25(mm) Heated Purge: (Y/N) N

Calibration Start Date: 12/08/2023 21:49 Calibration End Date: 12/09/2023 00:33 Calibration ID: 88018

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD /RSE	#	MAX %RSD /RSE	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4 LVL 9	LVL 5		B	M1	M2								
4-Methyl-2-pentanone (MIBK)	0.2957 0.2994	0.2882 0.3182	0.2650 0.3036	0.2786 0.2962	0.2973	Ave		0.2936				5.2		15.0			
Toluene	1.3649 1.1545	1.2892 1.2125	1.2053 1.1990	1.2928 1.1318	1.2666	Ave		1.2352				6.0		30.0			
trans-1,3-Dichloropropene	0.4833 0.4034	0.3920 0.4415	0.3549 0.4369	0.3801 0.4329	0.4117	Ave		0.4152				9.2		15.0			
Ethyl methacrylate	1.5183 1.3812	1.1386 1.4693	1.1980 1.4527	1.3514 1.4569	1.3496	Ave		1.3685				9.3		15.0			
1,1,2-Trichloroethane	0.2294 0.2227	0.2593 0.2411	0.2156 0.2299	0.2303 0.2283	0.2331	Ave		0.2322				5.3		15.0			
Tetrachloroethene	0.8155 0.7565	0.7195 0.7822	0.7825 0.7737	0.7819 0.7693	0.7436	Ave		0.7694				3.5		15.0			
1,3-Dichloropropane	1.7167 1.7357	1.7111 1.7926	1.6428 1.7935	1.6796 1.7344	1.7297	Ave		1.7262				2.8		15.0			
2-Hexanone	0.8740 0.8459	0.7761 0.8641	0.7289 0.8482	0.8140 0.8307	0.8154	Ave		0.8219				5.6		15.0			
Dibromochloromethane	0.9755 0.9244	0.9285 0.9744	0.8130 0.9902	0.8584 0.9854	0.9141	Ave		0.9293				6.6		15.0			
1,2-Dibromoethane	0.9800 0.9005	0.9939 0.9533	0.8243 0.9488	0.8941 0.9261	0.9155	Ave		0.9263				5.5		15.0			
1-Chlorohexane	+++++ 1.3484	1.5793 1.4245	1.3513 1.4528	1.4174 1.4010	1.3510	Ave		1.4157				5.4		15.0			
Chlorobenzene	3.0164 2.6503	2.9959 2.7883	2.7861 2.7960	2.7920 2.6653	2.8345	Ave		2.8139			0.3000	4.5		15.0			
1,1,1,2-Tetrachloroethane	0.8884 0.8775	0.8380 0.9426	0.8300 0.9605	0.8327 0.9452	0.8943	Ave		0.8899				5.7		15.0			
Ethylbenzene	1.5772 1.5193	1.4981 1.6025	1.4288 1.5919	1.5689 1.5454	1.5934	Ave		1.5473				3.7		30.0			
m-Xylene & p-Xylene	2.1935 1.8800	1.8454 1.9531	1.9373 1.9600	1.9415 1.8867	1.9210	Ave		1.9465				5.1		15.0			
o-Xylene	2.1375 1.8367	1.9389 1.9006	1.7711 1.9090	1.8302 1.8505	1.9005	Ave		1.8972				5.5		15.0			
Styrene	3.0492 3.0712	3.3569 3.1981	2.8290 3.2338	3.0715 3.0664	3.0381	Ave		3.1016				4.8		15.0			
Bromoform	0.6334 0.5882	0.5811 0.6300	0.5263 0.6380	0.5632 0.6509	0.5661	Ave		0.5975			0.1000	7.1		15.0			

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type. RSD is calculated for Ave curve types. RSE is used for all other types.

FORM VI
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: Eurofins Denver Job No.: 280-185797-1 Analy Batch No.: 636738

SDG No.:

Instrument ID: VMS_X4 GC Column: RXI-624SilM ID: 0.25(mm) Heated Purge: (Y/N) N

Calibration Start Date: 12/08/2023 21:49 Calibration End Date: 12/09/2023 00:33 Calibration ID: 88018

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD /RSE	#	MAX %RSD /RSE	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4 LVL 9	LVL 5		B	M1	M2								
Isopropylbenzene	3.0720 2.7708	2.7923 2.9097	2.7293 2.9311	2.9077 2.6996	2.9384	Ave		2.8612				4.2		15.0			
Cyclohexanone	0.0488 0.0523	0.0490 0.0556	0.0470 0.0533	0.0484 0.0550	0.0505	Ave		0.0511				6.1		15.0			
1,1,2,2-Tetrachloroethane	0.8673 0.7377	0.7658 0.7825	0.7243 0.7689	0.7673 0.7430	0.7572	Ave		0.7682			0.3000	5.4		15.0			
Bromobenzene	0.7056 0.6342	0.7193 0.6779	0.7146 0.6823	0.6645 0.6469	0.6861	Ave		0.6813				4.3		15.0			
trans-1,4-Dichloro-2-butene	0.2142 0.2525	0.2301 0.2732	0.2287 0.2620	0.2350 0.2648	0.2461	Ave		0.2452				8.0		15.0			
1,2,3-Trichloropropane	0.1961 0.2170	0.1988 0.2266	0.1971 0.2226	0.1893 0.2216	0.2153	Ave		0.2094				6.7		15.0			
N-Propylbenzene	0.6037 0.7274	0.7634 0.7798	0.6807 0.7916	0.7439 0.7552	0.7581	Ave		0.7338				8.0		15.0			
o-Chlorotoluene	0.7079 0.6199	0.7268 0.6733	0.6528 0.6690	0.6252 0.6297	0.6429	Ave		0.6608				5.6		15.0			
1,3,5-Trimethylbenzene	2.2243 2.3313	2.4334 2.4497	2.3357 2.4417	2.4221 2.2874	2.4467	Ave		2.3747				3.5		15.0			
p-Chlorotoluene	0.8249 0.6573	0.6664 0.6927	0.6806 0.6960	0.6976 0.6595	0.6568	Ave		0.6924				7.6		15.0			
tert-Butylbenzene	2.1414 1.8531	1.8722 1.9478	1.8667 1.9705	1.9106 1.8642	1.9398	Ave		1.9296				4.7		15.0			
1,2,4-Trimethylbenzene	2.4525 2.4280	2.5216 2.5700	2.3729 2.5410	2.5148 2.3635	2.4626	Ave		2.4697				3.0		15.0			
sec-Butylbenzene	0.6110 0.5177	0.5196 0.5443	0.5244 0.5424	0.5463 0.5352	0.5292	Ave		0.5411				5.2		15.0			
1,3-Dichlorobenzene	1.2984 1.1799	1.2300 1.2625	1.1694 1.2717	1.2232 1.2058	1.2227	Ave		1.2293				3.4		15.0			
4-Isopropyltoluene	2.6025 2.3384	2.3570 2.4294	2.2948 2.4449	2.3232 2.2822	2.3324	Ave		2.3783				4.2		15.0			
1,4-Dichlorobenzene	1.5731 1.2257	1.3829 1.3041	1.3551 1.2983	1.3214 1.2354	1.2743	Ave		1.3300				7.9		15.0			
n-Butylbenzene	2.3417 2.1478	2.0916 2.2975	2.1218 2.2841	2.2079 2.1204	2.2169	Ave		2.2033				4.1		15.0			
1,2-Dichlorobenzene	1.5352 1.1300	1.2304 1.1932	1.0967 1.2042	1.1785 1.1292	1.2169	Ave		1.2127				10.6		15.0			

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type. RSD is calculated for Ave curve types. RSE is used for all other types.

FORM VI
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: Eurofins Denver Job No.: 280-185797-1 Analy Batch No.: 636738

SDG No.:

Instrument ID: VMS_X4 GC Column: RXI-624SilM ID: 0.25(mm) Heated Purge: (Y/N) N

Calibration Start Date: 12/08/2023 21:49 Calibration End Date: 12/09/2023 00:33 Calibration ID: 88018

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD /RSE	#	MAX %RSD /RSE	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4 LVL 9	LVL 5		B	M1	M2								
1,2-Dibromo-3-Chloropropane	0.1502 0.1370	0.1259 0.1474	0.1186 0.1474	0.1366 0.1488	0.1307	Ave		0.1381				8.2		15.0			
1,2,4-Trichlorobenzene	0.8505 0.6419	0.6230 0.7011	0.6684 0.6931	0.6990 0.6616	0.6710	Ave		0.6900				9.5		15.0			
Hexachlorobutadiene	0.2172 0.2694	0.2632 0.2989	0.2868 0.2910	0.2646 0.2693	0.2706	Ave		0.2701				8.7		15.0			
Naphthalene	2.2427 1.6674	1.8584 1.8129	1.6477 1.8337	1.6313 1.7281	1.7109	Ave		1.7925				10.5		15.0			
1,2,3-Trichlorobenzene	0.6230 0.5240	0.6631 0.5623	0.4901 0.5651	0.5362 0.5349	0.5404	Ave		0.5599				9.5		15.0			
Dibromofluoromethane (Surr)	0.2553 0.2496	0.2643 0.2533	0.2590 0.2519	0.2579 0.2511	0.2597	Ave		0.2558				1.9		15.0			
1,2-Dichloroethane-d4 (Surr)	0.3250 0.3284	0.3394 0.3245	0.3298 0.3264	0.3396 0.3228	0.3415	Ave		0.3308				2.2		15.0			
Toluene-d8 (Surr)	4.3319 4.3507	4.2543 4.2601	4.3509 4.3347	4.3340 4.2873	4.2404	Ave		4.3049				1.0		15.0			
4-Bromofluorobenzene (Surr)	0.9355 0.9369	0.9657 0.9521	0.9527 0.9797	0.9763 0.9439	0.9457	Ave		0.9543				1.7		15.0			

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type. RSD is calculated for Ave curve types. RSE is used for all other types.

FORM VI
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: Eurofins Denver | Job No.: 280-185797-1 | Analy Batch No.: 636738

SDG No.:

Instrument ID: VMS_X4 | GC Column: RXI-624Sil ID: 0.25(mm) | Heated Purge: (Y/N) N

Calibration Start Date: 12/08/2023 21:49 | Calibration End Date: 12/09/2023 00:33 | Calibration ID: 88018

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 280-636738/2	X511647.D
Level 2	IC 280-636738/3	X511648.D
Level 3	IC 280-636738/4	X511649.D
Level 4	IC 280-636738/5	X511650.D
Level 5	IC 280-636738/6	X511651.D
Level 6	ICIS 280-636738/7	X511652.D
Level 7	IC 280-636738/8	X511653.D
Level 8	IC 280-636738/9	X511654.D
Level 9	IC 280-636738/10	X511655.D

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (UG/L)				
			LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4 LVL 9	LVL 5	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4 LVL 9	LVL 5
Dichlorodifluoromethane	FB	Ave	5795 662986	13744 973899	26990 1409272	72071 2621778	139024	0.500 50.0	1.00 75.0	2.00 100	5.00 200	10.0
Chloromethane	FB	Ave	9225 900046	19698 1353876	36576 1851743	95726 3504175	189319	0.500 50.0	1.00 75.0	2.00 100	5.00 200	10.0
Vinyl chloride	FB	Ave	7559 774767	16969 1147558	31293 1680142	83572 3165693	158612	0.500 50.0	1.00 75.0	2.00 100	5.00 200	10.0
Bromomethane	FB	Ave	+++++ 379671	+++++ 614849	16792 858543	39649 1567406	80987	+++++ 50.0	+++++ 75.0	2.00 100	5.00 200	10.0
Chloroethane	FB	Ave	5931 469728	9619 710830	21435 971130	51141 1837183	99866	0.500 50.0	1.00 75.0	2.00 100	5.00 200	10.0
Dichlorofluoromethane	FB	Ave	12338 1182351	25449 1775419	47368 2445101	124155 4652017	246015	0.500 50.0	1.00 75.0	2.00 100	5.00 200	10.0
Trichlorofluoromethane	FB	Ave	8985 772064	17158 1158093	33066 1649692	87959 3229350	165460	0.500 50.0	1.00 75.0	2.00 100	5.00 200	10.0
Ethyl ether	FB	Ave	5146 462289	8247 748852	17885 992238	47142 1984673	93664	0.500 50.0	1.00 75.0	2.00 100	5.00 200	10.0
Acrolein	FB	Ave	7872 718330	16030 1187883	25502 1536959	74512 3133248	146608	4.94 494	9.88 741	19.8 988	49.4 1975	98.8
1,1,2-Trichloro-1,2,2-trifluoroethane	FB	Ave	2619 318245	5177 510084	12673 696434	31245 1386874	66446	0.500 50.0	1.00 75.0	2.00 100	5.00 200	10.0
1,1-Dichloroethylene	FB	Ave	4347 423348	8404 675423	15840 913693	42617 1863380	84223	0.500 50.0	1.00 75.0	2.00 100	5.00 200	10.0
Acetone	FB	Ave	+++++ 693043	+++++ 1120700	33907 1479095	69795 3068471	147193	+++++ 200	+++++ 300	8.00 400	20.0 800	40.0
Iodomethane	FB	Lin1	+++++ 546545	8057 921887	13466 1247496	42366 2467122	94138	+++++ 50.0	1.00 75.0	2.00 100	5.00 200	10.0
Carbon disulfide	FB	Ave	18826 1491254	30894 2417341	63416 3259987	158170 6333345	310167	0.500 50.0	1.00 75.0	2.00 100	5.00 200	10.0

FORM VI
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: Eurofins Denver | Job No.: 280-185797-1 | Analy Batch No.: 636738

SDG No.:

Instrument ID: VMS_X4 | GC Column: RXI-624Sil ID: 0.25(mm) | Heated Purge: (Y/N) N

Calibration Start Date: 12/08/2023 21:49 | Calibration End Date: 12/09/2023 00:33 | Calibration ID: 88018

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (UG/L)				
			LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4 LVL 9	LVL 5	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4 LVL 9	LVL 5
Methyl acetate	FB	Ave	9057 863266	18660 1436290	31284 1862400	84582 3881525	172491	1.00 100	2.00 150	4.00 200	10.0 400	20.0
3-Chloro-1-propene	FB	Ave	10277 991770	19634 1560442	42223 2053980	105621 3628658	207751	0.500 50.0	1.00 75.0	2.00 100	5.00 200	10.0
Methylene Chloride	FB	Ave	+++++ 512619	+++++ 839041	27039 1109068	60595 2221969	112126	+++++ 50.0	+++++ 75.0	2.00 100	5.00 200	10.0
2-Methyl-2-propanol	FB	Ave	4821 530329	8895 866773	17037 1113579	40282 2487770	92886	5.00 500	10.0 750	20.0 1000	50.0 2000	100
Acrylonitrile	FB	Ave	24386 2292677	46587 3688744	86444 4715071	232892 9483511	470564	5.00 500	10.0 750	20.0 1000	50.0 2000	100
Methyl tert-butyl ether	FB	Ave	13516 1477040	27373 2429040	50576 3225474	129790 6496255	287747	0.500 50.0	1.00 75.0	2.00 100	5.00 200	10.0
trans-1,2-Dichloroethylene	FB	Ave	4517 494789	9421 791573	18391 1038295	49503 2098639	100790	0.500 50.0	1.00 75.0	2.00 100	5.00 200	10.0
n-Hexane	CBNZd5	Ave	7498 749122	13782 1209578	27055 1600243	73088 3206323	140322	0.500 50.0	1.00 75.0	2.00 100	5.00 200	10.0
Vinyl acetate	FB	Ave	22140 2310547	44607 3687636	79706 4613455	216419 9229147	436007	1.00 100	2.00 150	4.00 200	10.0 400	20.0
1,1-Dichloroethane	FB	Ave	10594 1026882	21663 1676790	40784 2214703	106227 4372965	213239	0.500 50.0	1.00 75.0	2.00 100	5.00 200	10.0
2-Butanone (MEK)	FB	Ave	15349 1151344	22837 1856643	38596 2371046	107733 4977182	221023	2.00 200	4.00 300	8.00 400	20.0 800	40.0
cis-1,2-Dichloroethylene	FB	Ave	5601 532702	10997 863186	19850 1156585	53056 2322316	114576	0.500 50.0	1.00 75.0	2.00 100	5.00 200	10.0
2,2-Dichloropropane	FB	Ave	8247 786877	16603 1289427	29822 1740504	78071 3473524	159159	0.500 50.0	1.00 75.0	2.00 100	5.00 200	10.0
sec-Butyl Alcohol	FB	Ave	+++++ 1099694	17174 1849533	31914 2426975	85856 5311473	191315	+++++ 1200	24.0 1800	48.0 2400	120 4800	240
Bromochloromethane	FB	Ave	1764 220951	3860 363025	8535 480038	23970 949668	47269	0.500 50.0	1.00 75.0	2.00 100	5.00 200	10.0
Tetrahydrofuran	FB	Ave	4020 396170	8656 633643	14551 825023	34968 1721902	79464	1.00 100	2.00 150	4.00 200	10.0 400	20.0
Chloroform	FB	Ave	10187 904556	20413 1482724	35660 1979908	93487 3884602	192585	0.500 50.0	1.00 75.0	2.00 100	5.00 200	10.0
1,1,1-Trichloroethane	FB	Ave	7459 771864	15820 1269271	28941 1681500	75679 3381129	151144	0.500 50.0	1.00 75.0	2.00 100	5.00 200	10.0
Cyclohexane	FB	Ave	9929 1021709	19125 1635343	38304 2179017	101821 4294175	192606	0.500 50.0	1.00 75.0	2.00 100	5.00 200	10.0
1,1-Dichloropropene	FB	Ave	7623 756074	15992 1216541	27613 1655650	71355 3309804	149428	0.500 50.0	1.00 75.0	2.00 100	5.00 200	10.0

FORM VI
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: Eurofins Denver | Job No.: 280-185797-1 | Analy Batch No.: 636738

SDG No.:

Instrument ID: VMS_X4 | GC Column: RXI-624Sil ID: 0.25(mm) | Heated Purge: (Y/N) N

Calibration Start Date: 12/08/2023 21:49 | Calibration End Date: 12/09/2023 00:33 | Calibration ID: 88018

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (UG/L)				
			LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4 LVL 9	LVL 5	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4 LVL 9	LVL 5
Carbon tetrachloride	FB	Ave	6187 629064	11018 1014502	21332 1380610	60057 2803918	123394	0.500 50.0	1.00 75.0	2.00 100	5.00 200	10.0
Isobutyl alcohol	FB	Ave	4501 495087	9441 819824	14756 1073299	34947 2357768	90545	12.5 1250	25.0 1875	50.0 2500	125 5000	250
Benzene	FB	Ave	23739 2164669	46393 3485867	82350 4652151	221485 8990639	445213	0.500 50.0	1.00 75.0	2.00 100	5.00 200	10.0
1,2-Dichloroethane	FB	Ave	9716 762902	18689 1241882	31712 1612305	80515 3222735	152226	0.500 50.0	1.00 75.0	2.00 100	5.00 200	10.0
n-Heptane	FB	Ave	7522 666914	13734 1057618	23549 1399858	66885 2763824	130726	0.500 50.0	1.00 75.0	2.00 100	5.00 200	10.0
Trichloroethene	CBNZd 5	Ave	5104 518544	10107 853508	18626 1150694	52200 2299614	101597	0.500 50.0	1.00 75.0	2.00 100	5.00 200	10.0
2-Pentanone	FB	Ave	12930 1423338	25215 2340500	45366 2993645	128509 6193403	264285	1.60 160	3.20 240	6.40 320	16.0 640	32.0
Methylcyclohexane	FB	Ave	7427 709314	11652 1136976	25144 1543726	68237 3104765	134420	0.500 50.0	1.00 75.0	2.00 100	5.00 200	10.0
1,2-Dichloropropane	FB	Ave	7051 600946	12516 977268	21900 1314480	58963 2628338	122451	0.500 50.0	1.00 75.0	2.00 100	5.00 200	10.0
1,4-Dioxane	FB	Ave	+++++ 141264	2774 223916	4296 289214	13910 602877	26160	+++++ 1000	20.0 1500	40.0 2000	100 4000	200
Dibromomethane	FB	Ave	3288 306098	7191 500710	10736 656066	31226 1330394	63007	0.500 50.0	1.00 75.0	2.00 100	5.00 200	10.0
Bromodichloromethane	FB	Ave	6918 680598	11642 1128217	25739 1526039	66425 3058785	134646	0.500 50.0	1.00 75.0	2.00 100	5.00 200	10.0
2-Chloroethyl vinyl ether	FB	Ave	2698 370943	6944 562318	9796 738525	31905 1513331	70740	0.500 50.0	1.00 75.0	2.00 100	5.00 200	10.0
cis-1,3-Dichloropropene	CBNZd 5	Ave	10239 855325	15674 1440970	31723 1908924	83588 3875150	168271	0.500 50.0	1.00 75.0	2.00 100	5.00 200	10.0
4-Methyl-2-pentanone (MIBK)	FB	Ave	21583 2308703	41757 3786327	76674 4849186	204853 9693502	435182	2.00 200	4.00 300	8.00 400	20.0 800	40.0
Toluene	FB	Ave	24907 2225868	46697 3607150	87183 4787545	237673 9260574	463466	0.500 50.0	1.00 75.0	2.00 100	5.00 200	10.0
trans-1,3-Dichloropropene	FB	Ave	8819 777679	14199 1313434	25672 1744642	69876 3542079	150657	0.500 50.0	1.00 75.0	2.00 100	5.00 200	10.0
Ethyl methacrylate	CBNZd 5	Ave	7043 672957	10753 1113636	22168 1461196	63749 3028071	130029	0.500 50.0	1.00 75.0	2.00 100	5.00 200	10.0
1,1,2-Trichloroethane	FB	Ave	4187 429367	9392 717428	15593 917969	42334 1867560	85307	0.500 50.0	1.00 75.0	2.00 100	5.00 200	10.0

FORM VI
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: Eurofins Denver | Job No.: 280-185797-1 | Analy Batch No.: 636738

SDG No.:

Instrument ID: VMS_X4 | GC Column: RXI-624Sil ID: 0.25(mm) | Heated Purge: (Y/N) N

Calibration Start Date: 12/08/2023 21:49 | Calibration End Date: 12/09/2023 00:33 | Calibration ID: 88018

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (UG/L)				
			LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4 LVL 9	LVL 5	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4 LVL 9	LVL 5
Tetrachloroethene	CBNZd5	Ave	3783 368577	6795 592844	14479 778225	36884 1598859	71647	0.500 50.0	1.00 75.0	2.00 100	5.00 200	10.0
1,3-Dichloropropane	CBNZd5	Ave	7963 845717	16160 1358706	30399 1803964	79227 3604823	166655	0.500 50.0	1.00 75.0	2.00 100	5.00 200	10.0
2-Hexanone	CBNZd5	Ave	16217 1648692	29317 2619666	53947 3412672	153596 6906153	314267	2.00 200	4.00 300	8.00 400	20.0 800	40.0
Dibromochloromethane	CBNZd5	Ave	4525 450395	8769 738572	15044 995925	40492 2048092	88069	0.500 50.0	1.00 75.0	2.00 100	5.00 200	10.0
1,2-Dibromoethane	CBNZd5	Ave	4546 438780	9386 722531	15253 954315	42178 1924875	88207	0.500 50.0	1.00 75.0	2.00 100	5.00 200	10.0
1-Chlorohexane	CBNZd5	Ave	+++++ 525599	11932 863745	20003 1169030	53489 2329470	104135	+++++ 40.0	0.800 60.0	1.60 80.0	4.00 160	8.00
Chlorobenzene	CBNZd5	Ave	13992 1291335	28293 2113392	51553 2812304	131703 5539547	273103	0.500 50.0	1.00 75.0	2.00 100	5.00 200	10.0
1,1,1,2-Tetrachloroethane	CBNZd5	Ave	4121 427561	7914 714447	15359 966126	39281 1964455	86167	0.500 50.0	1.00 75.0	2.00 100	5.00 200	10.0
Ethylbenzene	CBNZd5	Ave	7316 740282	14148 1214601	26438 1601198	74006 3211834	153524	0.500 50.0	1.00 75.0	2.00 100	5.00 200	10.0
m-Xylene & p-Xylene	CBNZd5	Ave	10175 915999	17428 1480309	35848 1971421	91582 3921260	185084	0.500 50.0	1.00 75.0	2.00 100	5.00 200	10.0
o-Xylene	CBNZd5	Ave	9915 894904	18311 1440572	32773 1920090	86335 3846024	183113	0.500 50.0	1.00 75.0	2.00 100	5.00 200	10.0
Styrene	CBNZd5	Ave	14144 1496418	31703 2424000	52348 3252587	144885 6373202	292716	0.500 50.0	1.00 75.0	2.00 100	5.00 200	10.0
Bromoform	CBNZd5	Ave	2938 286574	5488 477532	9739 641757	26569 1352889	54547	0.500 50.0	1.00 75.0	2.00 100	5.00 200	10.0
Isopropylbenzene	DCBd4	Ave	23559 2226840	43016 3606947	82186 4817445	224602 9322314	464988	0.500 50.0	1.00 75.0	2.00 100	5.00 200	10.0
Cyclohexanone	CBNZd5	Ave	6785	13874	26070	68552	146091	15.0	30.0	60.0	150	300

FORM VI
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: Eurofins Denver | Job No.: 280-185797-1 | Analy Batch No.: 636738

SDG No.:

Instrument ID: VMS_X4 | GC Column: RXI-624Sil ID: 0.25(mm) | Heated Purge: (Y/N) N

Calibration Start Date: 12/08/2023 21:49 | Calibration End Date: 12/09/2023 00:33 | Calibration ID: 88018

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (UG/L)				
			LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4 LVL 9	LVL 5	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4 LVL 9	LVL 5
			764749	1264337	1608490	3430562		1500	2250	3000	6000	
1,1,2,2-Tetrachloroethane	DCBd4	Ave	6651 592846	11798 970013	21812 1263671	59270 2565654	119829	0.500 50.0	1.00 75.0	2.00 100	5.00 200	10.0
Bromobenzene	DCBd4	Ave	5411 509718	11081 840381	21519 1121367	51330 2233939	108571	0.500 50.0	1.00 75.0	2.00 100	5.00 200	10.0
trans-1,4-Dichloro-2-butene	DCBd4	Ave	1643 202923	3544 338634	6887 430574	18156 914291	38940	0.500 50.0	1.00 75.0	2.00 100	5.00 200	10.0
1,2,3-Trichloropropane	DCBd4	Ave	1504 174436	3062 280855	5936 365935	14619 765100	34078	0.500 50.0	1.00 75.0	2.00 100	5.00 200	10.0
N-Propylbenzene	DCBd4	Ave	4630 584633	11760 966623	20499 1300992	57462 2607813	119964	0.500 50.0	1.00 75.0	2.00 100	5.00 200	10.0
o-Chlorotoluene	DCBd4	Ave	5429 498210	11196 834673	19658 1099560	48295 2174390	101738	0.500 50.0	1.00 75.0	2.00 100	5.00 200	10.0
1,3,5-Trimethylbenzene	DCBd4	Ave	17058 1873615	37487 3036689	70335 4013068	187095 7898899	387180	0.500 50.0	1.00 75.0	2.00 100	5.00 200	10.0
p-Chlorotoluene	DCBd4	Ave	6326 528244	10266 858746	20496 1143931	53889 2277283	103933	0.500 50.0	1.00 75.0	2.00 100	5.00 200	10.0
tert-Butylbenzene	DCBd4	Ave	16422 1489289	28842 2414586	56211 3238732	147581 6437417	306965	0.500 50.0	1.00 75.0	2.00 100	5.00 200	10.0
1,2,4-Trimethylbenzene	DCBd4	Ave	18808 1951347	38846 3185853	71455 4176369	194256 8161601	389698	0.500 50.0	1.00 75.0	2.00 100	5.00 200	10.0
sec-Butylbenzene	DCBd4	Ave	4686 416055	8004 674704	15791 891537	42197 1848290	83746	0.500 50.0	1.00 75.0	2.00 100	5.00 200	10.0
1,3-Dichlorobenzene	DCBd4	Ave	9957 948292	18948 1565084	35215 2090161	94481 4163961	193491	0.500 50.0	1.00 75.0	2.00 100	5.00 200	10.0
4-Isopropyltoluene	DCBd4	Ave	19958 1879346	36310 3011584	69102 4018351	179450 7880910	369088	0.500 50.0	1.00 75.0	2.00 100	5.00 200	10.0
1,4-Dichlorobenzene	DCBd4	Ave	12064 985043	21304 1616628	40806 2133830	102070 4266166	201661	0.500 50.0	1.00 75.0	2.00 100	5.00 200	10.0
n-Butylbenzene	DCBd4	Ave	17958 1726145	32221 2848008	63893 3754069	170546 7322150	350811	0.500 50.0	1.00 75.0	2.00 100	5.00 200	10.0
1,2-Dichlorobenzene	DCBd4	Ave	11773 908194	18954 1479083	33026 1979251	91030 3899480	192564	0.500 50.0	1.00 75.0	2.00 100	5.00 200	10.0
1,2-Dibromo-3-Chloropropane	DCBd4	Ave	1152 110133	1940 182729	3570 242191	10550 513677	20683	0.500 50.0	1.00 75.0	2.00 100	5.00 200	10.0
1,2,4-Trichlorobenzene	DCBd4	Ave	6522 515920	9597 869149	20128 1139191	53992 2284772	106189	0.500 50.0	1.00 75.0	2.00 100	5.00 200	10.0
Hexachlorobutadiene	DCBd4	Ave	1666 216527	4055 370557	8637 478282	20440 929930	42821	0.500 50.0	1.00 75.0	2.00 100	5.00 200	10.0
Naphthalene	DCBd4	Ave	17199 1340029	28629 2247268	49616 3013787	126008 5967310	270744	0.500 50.0	1.00 75.0	2.00 100	5.00 200	10.0

FORM VI
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: Eurofins Denver Job No.: 280-185797-1 Analy Batch No.: 636738

SDG No.:

Instrument ID: VMS_X4 GC Column: RXI-624Sil ID: 0.25(mm) Heated Purge: (Y/N) N

Calibration Start Date: 12/08/2023 21:49 Calibration End Date: 12/09/2023 00:33 Calibration ID: 88018

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (UG/L)				
			LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4 LVL 9	LVL 5	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4 LVL 9	LVL 5
1,2,3-Trichlorobenzene	DCBd4	Ave	4778 421119	10215 697064	14758 928778	41419 1847012	85512	0.500 50.0	1.00 75.0	2.00 100	5.00 200	10.0
Dibromofluoromethane (Surr)	FB	Ave	465948 481211	478634 502408	468414 502826	474181 513617	475128	50.0 50.0	50.0 50.0	50.0 50.0	50.0 50.0	50.0
1,2-Dichloroethane-d4 (Surr)	FB	Ave	593087 633202	614683 643695	596345 651566	624279 660318	624868	50.0 50.0	50.0 50.0	50.0 50.0	50.0 50.0	50.0
Toluene-d8 (Surr)	CBNZd5	Ave	2009403 2119806	2008909 2152589	2012702 2179997	2044426 2227669	2042764	50.0 50.0	50.0 50.0	50.0 50.0	50.0 50.0	50.0
4-Bromofluorobenzene (Surr)	DCBd4	Ave	717396 752976	743856 786822	717206 805062	754136 814904	748291	50.0 50.0	50.0 50.0	50.0 50.0	50.0 50.0	50.0

Curve Type Legend:

Ave = Average ISTD
Lin1 = Linear 1/conc ISTD

Eurofins Denver
Target Compound Quantitation Report

Data File: \\chromfs\Denver\ChromData\VMS_X4\20231208-128432.b\X511647.D
Lims ID: IC
Client ID:
Sample Type: IC Calib Level: 1
Inject. Date: 08-Dec-2023 21:49:30 ALS Bottle#: 1 Worklist Smp#: 2
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Sample Info: std
Operator ID: CF Instrument ID: VMS_X4
Sublist: chrom-VMS_X4_8260*sub1

Method: \\chromfs\Denver\ChromData\VMS_X4\20231208-128432.b\VMS_X4_8260.m
Limit Group: MSV - 8260B Water and Solid
Last Update: 11-Dec-2023 03:13:13 Calib Date: 09-Dec-2023 00:33:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Denver\ChromData\VMS_X4\20231208-128432.b\X511655.D

Column 1 : Rxi-624Sil MS (0.25 mm) Det: MS SCAN
Process Host: CTX1656

First Level Reviewer: BX8N Date: 11-Dec-2023 03:03:54

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
* 1 Fluorobenzene	96	5.199	5.199	0.000	97	1824881	50.0	50.0	
* 2 Chlorobenzene-d5	119	7.730	7.730	0.000	90	463863	50.0	50.0	
* 3 1,4-Dichlorobenzene-d4	152	9.947	9.947	0.000	97	766886	50.0	50.0	
$ 4 Dibromofluoromethane (Surr)	111	4.692	4.692	0.000	93	465948	50.0	49.9	
$ 5 1,2-Dichloroethane-d4 (Surr)	65	4.956	4.956	0.000	0	593087	50.0	49.1	
$ 6 Toluene-d8 (Surr)	98	6.458	6.458	0.000	95	2009403	50.0	50.3	
$ 7 4-Bromofluorobenzene (Surr)	95	8.817	8.817	0.000	84	717396	50.0	49.0	
9 Dichlorodifluoromethane	85	1.760	1.760	0.000	97	5795	0.5000	0.4484	
10 Chloromethane	50	1.939	1.939	0.000	95	9225	0.5000	0.5162	
11 Vinyl chloride	62	2.039	2.039	0.000	94	7559	0.5000	0.4907	
12 Bromomethane	94	2.332	2.325	0.007	87	5764	0.5000	0.7473	
13 Chloroethane	64	2.425	2.425	0.000	92	5931	0.5000	0.6124	
14 Dichlorofluoromethane	67	2.604	2.597	0.007	95	12338	0.5000	0.5271	
16 Trichlorofluoromethane	101	2.639	2.632	0.007	97	8985	0.5000	0.5607	
18 Ethyl ether	59	2.854	2.847	0.007	97	5146	0.5000	0.5635	
19 Acrolein	56	2.961	2.961	0.000	91	7872	4.94	5.37	
20 1,1,2-Trichloro-1,2,2-trifluoroe	151	3.047	3.040	0.007	70	2619	0.5000	0.4324	
21 1,1-Dichloroethene	96	3.047	3.047	0.000	91	4347	0.5000	0.5218	
22 Acetone	43	3.068	3.068	0.000	100	17431	2.00	4.89	
24 Iodomethane	142	3.169	3.169	0.000	92	3946	0.5000	0.9409	
25 Carbon disulfide	76	3.233	3.233	0.000	99	18826	0.5000	0.6072	
27 Methyl acetate	43	3.290	3.290	0.000	98	9057	1.00	1.05	
28 3-Chloro-1-propene	41	3.319	3.312	0.007	91	10277	0.5000	0.5249	
29 Methylene Chloride	84	3.412	3.412	0.000	93	11865	0.5000	1.08	
30 2-Methyl-2-propanol	59	3.455	3.455	0.000	91	4821	5.00	5.02	
31 Acrylonitrile	53	3.576	3.576	0.000	99	24386	5.00	5.40	
32 Methyl tert-butyl ether	73	3.598	3.598	0.000	75	13516	0.5000	0.4850	
33 trans-1,2-Dichloroethene	96	3.619	3.612	0.007	95	4517	0.5000	0.4748	
34 Hexane	57	3.805	3.805	0.000	89	7498	0.5000	0.5267	
35 Vinyl acetate	43	3.905	3.905	0.000	98	22140	1.00	1.03	
36 1,1-Dichloroethane	63	3.934	3.934	0.000	93	10594	0.5000	0.5134	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
40 2-Butanone (MEK)	43	4.320	4.320	0.000	99	15349	2.00	2.69	
42 cis-1,2-Dichloroethene	96	4.348	4.341	0.007	84	5601	0.5000	0.5258	
43 2,2-Dichloropropane	77	4.355	4.355	0.000	64	8247	0.5000	0.5236	
45 sec-Butyl Alcohol	45	4.420	4.427	-0.007	95	8256	12.0	9.97	
47 Chlorobromomethane	128	4.520	4.520	0.000	90	1764	0.5000	0.4128	
48 Tetrahydrofuran	42	4.527	4.527	0.000	68	4020	1.00	1.04	
49 Chloroform	83	4.584	4.577	0.007	92	10187	0.5000	0.5475	
50 1,1,1-Trichloroethane	97	4.720	4.727	-0.007	95	7459	0.5000	0.4929	
51 Cyclohexane	56	4.784	4.784	0.000	94	9929	0.5000	0.5067	
52 1,1-Dichloropropene	75	4.835	4.835	0.000	90	7623	0.5000	0.5139	
53 Carbon tetrachloride	117	4.842	4.842	0.000	79	6187	0.5000	0.5158	
54 Isobutyl alcohol	41	4.842	4.842	0.000	59	4501	12.5	12.4	
55 Benzene	78	4.992	4.992	0.000	89	23739	0.5000	0.5471	
56 1,2-Dichloroethane	62	5.013	5.013	0.000	91	9716	0.5000	0.6063	
58 n-Heptane	43	5.171	5.171	0.000	78	7522	0.5000	0.5746	
60 Trichloroethene	95	5.478	5.478	0.000	87	5104	0.5000	0.5063	
61 2-Pentanone	43	5.578	5.578	0.000	98	12930	1.60	1.57	
62 Methylcyclohexane	55	5.671	5.671	0.000	86	7427	0.5000	0.5498	
63 1,2-Dichloropropane	63	5.678	5.685	-0.007	68	7051	0.5000	0.5833	
65 1,4-Dioxane	88		5.721				ND	ND	
66 Dibromomethane	93	5.750	5.757	-0.007	90	3288	0.5000	0.5323	
67 Dichlorobromomethane	83	5.864	5.878	-0.014	95	6918	0.5000	0.5211	
69 2-Chloroethyl vinyl ether	63	6.072	6.072	0.000	83	2698	0.5000	0.4176	
70 cis-1,3-Dichloropropene	75	6.222	6.222	0.000	89	10239	0.5000	0.6013	
71 4-Methyl-2-pentanone (MIBK)	43	6.329	6.329	0.000	98	21583	2.00	2.01	
72 Toluene	91	6.515	6.515	0.000	96	24907	0.5000	0.5525	
73 trans-1,3-Dichloropropene	75	6.686	6.686	0.000	94	8819	0.5000	0.5820	
74 Ethyl methacrylate	69	6.708	6.701	0.007	83	7043	0.5000	0.5548	
75 1,1,2-Trichloroethane	97	6.858	6.865	-0.007	82	4187	0.5000	0.4941	
76 Tetrachloroethene	164	6.958	6.958	0.000	89	3783	0.5000	0.5300	
77 1,3-Dichloropropane	76	7.008	7.008	0.000	91	7963	0.5000	0.4972	
78 2-Hexanone	43	7.030	7.030	0.000	95	16217	2.00	2.13	
79 Chlorodibromomethane	129	7.201	7.201	0.000	91	4525	0.5000	0.5248	
80 Ethylene Dibromide	107	7.323	7.323	0.000	96	4546	0.5000	0.5290	
81 1-Chlorohexane	91	7.709	7.709	0.000	33	8238	0.4000	0.6272	
82 Chlorobenzene	112	7.759	7.752	0.007	93	13992	0.5000	0.5360	
83 1,1,1,2-Tetrachloroethane	131	7.823	7.823	0.000	40	4121	0.5000	0.4991	
84 Ethylbenzene	106	7.830	7.830	0.000	98	7316	0.5000	0.5097	
85 m-Xylene & p-Xylene	106	7.945	7.945	0.000	0	10175	0.5000	0.5635	
86 o-Xylene	106	8.310	8.310	0.000	94	9915	0.5000	0.5633	
87 Styrene	104	8.324	8.324	0.000	87	14144	0.5000	0.4916	
88 Bromoform	173	8.503	8.503	0.000	30	2938	0.5000	0.5300	
89 Isopropylbenzene	105	8.646	8.646	0.000	95	23559	0.5000	0.5368	
91 Cyclohexanone	55	8.753	8.746	0.007	95	6785	15.0	14.3	
92 1,1,2,2-Tetrachloroethane	83	8.924	8.932	-0.008	88	6651	0.5000	0.5645	
94 trans-1,4-Dichloro-2-butene	53	8.967	8.967	0.000	45	1643	0.5000	0.4369	
93 Bromobenzene	156	8.967	8.967	0.000	92	5411	0.5000	0.5178	
95 1,2,3-Trichloropropane	110	8.996	8.996	0.000	82	1504	0.5000	0.4683	
96 N-Propylbenzene	120	9.046	9.046	0.000	98	4630	0.5000	0.4114	
97 2-Chlorotoluene	126	9.139	9.146	-0.007	94	5429	0.5000	0.5356	
98 1,3,5-Trimethylbenzene	105	9.218	9.218	0.000	90	17058	0.5000	0.4683	
99 4-Chlorotoluene	126	9.261	9.261	0.000	96	6326	0.5000	0.5957	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
100 tert-Butylbenzene	119	9.525	9.532	-0.007	93	16422	0.5000	0.5549	
102 1,2,4-Trimethylbenzene	105	9.589	9.582	0.007	96	18808	0.5000	0.4965	
103 sec-Butylbenzene	134	9.747	9.747	0.000	93	4686	0.5000	0.5646	
104 1,3-Dichlorobenzene	146	9.875	9.875	0.000	80	9957	0.5000	0.5281	
105 4-Isopropyltoluene	119	9.890	9.890	0.000	96	19958	0.5000	0.5471	
106 1,4-Dichlorobenzene	146	9.968	9.976	-0.008	83	12064	0.5000	0.5914	
108 n-Butylbenzene	91	10.304	10.297	0.007	97	17958	0.5000	0.5314	
109 1,2-Dichlorobenzene	146	10.340	10.333	0.007	93	11773	0.5000	0.6330	
110 1,2-Dibromo-3-Chloropropane	157	11.112	11.112	0.000	1	1152	0.5000	0.5440	
112 1,2,4-Trichlorobenzene	180	11.935	11.935	0.000	86	6522	0.5000	0.6163	
113 Hexachlorobutadiene	225	12.071	12.071	0.000	78	1666	0.5000	0.4021	
114 Naphthalene	128	12.206	12.206	0.000	95	17199	0.5000	0.6256	
115 1,2,3-Trichlorobenzene	180	12.428	12.428	0.000	89	4778	0.5000	0.5564	
S 122 1,2-Dichloroethene, Total (URS)	96				0		1.00	1.00	
S 127 Trihalomethanes, Total	1				0		2.00	2.12	
S 125 Xylenes, Total	106				0		1.00	1.13	
S 123 Xylenes, Total (URS)	1				0		1.00	1.13	
S 124 1,3-Dichloropropene, Total	1				0		1.00	1.18	
S 129 1,2-Dichloroethene, Total	1				0		1.00	1.00	
S 126 Total BTEX	1				0			2.74	

QC Flag Legend

Processing Flags

ND - Not Detected or Marked ND

Reagents:

Cal Dil Std_00280	Amount Added:	5.00	Units: uL	
mv-IS_SS_00074	Amount Added:	5.00	Units: uL	Run Reagent

Report Date: 11-Dec-2023 03:13:14 Chrom Revision: 2.3 15-Nov-2023 20:54:34

Eurofins Denver

Data File: \\chromfs\Denver\ChromData\VMS_X4\20231208-128432.b\X511647.D

Injection Date: 08-Dec-2023 21:49:30 Instrument ID: VMS_X4 Operator ID: CF

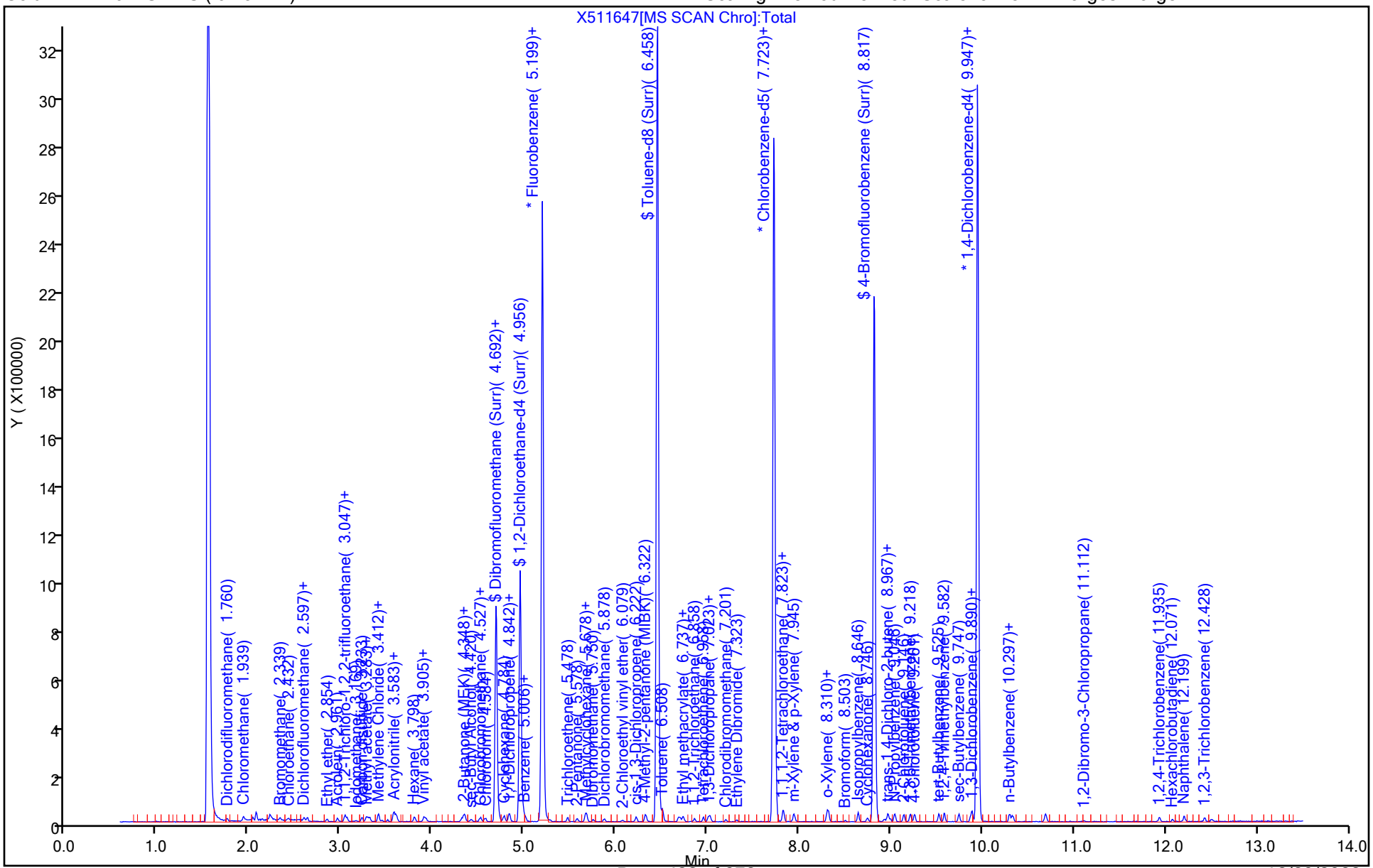
Lims ID: IC Worklist Smp#: 2

Client ID:

Purge Vol: 5.000 mL Dil. Factor: 1.0000 ALS Bottle#: 1

Method: VMS_X4_8260 Limit Group: MSV - 8260B Water and Solid

Column: Rxi-624Sil MS (0.25 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 1



Eurofins Denver
Target Compound Quantitation Report

Data File: \\chromfs\Denver\ChromData\VMS_X4\20231208-128432.b\X511648.D
Lims ID: IC
Client ID:
Sample Type: IC Calib Level: 2
Inject. Date: 08-Dec-2023 22:09:30 ALS Bottle#: 2 Worklist Smp#: 3
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Sample Info: std
Operator ID: CF Instrument ID: VMS_X4
Sublist: chrom-VMS_X4_8260*sub1

Method: \\chromfs\Denver\ChromData\VMS_X4\20231208-128432.b\VMS_X4_8260.m
Limit Group: MSV - 8260B Water and Solid
Last Update: 11-Dec-2023 03:13:17 Calib Date: 09-Dec-2023 00:33:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Denver\ChromData\VMS_X4\20231208-128432.b\X511655.D

Column 1 : Rxi-624Sil MS (0.25 mm) Det: MS SCAN
Process Host: CTX1656

First Level Reviewer: BX8N Date: 11-Dec-2023 03:04:13

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
* 1 Fluorobenzene	96	5.199	5.199	0.000	97	1811045	50.0	50.0	
* 2 Chlorobenzene-d5	119	7.723	7.730	-0.007	90	472203	50.0	50.0	
* 3 1,4-Dichlorobenzene-d4	152	9.947	9.947	0.000	98	770262	50.0	50.0	
$ 4 Dibromofluoromethane (Surr)	111	4.691	4.692	-0.001	92	478634	50.0	51.7	
$ 5 1,2-Dichloroethane-d4 (Surr)	65	4.956	4.956	0.000	0	614683	50.0	51.3	
$ 6 Toluene-d8 (Surr)	98	6.458	6.458	0.000	95	2008909	50.0	49.4	
$ 7 4-Bromofluorobenzene (Surr)	95	8.817	8.817	0.000	84	743856	50.0	50.6	
9 Dichlorodifluoromethane	85	1.760	1.760	0.000	97	13744	1.00	1.07	
10 Chloromethane	50	1.939	1.939	0.000	99	19698	1.00	1.11	
11 Vinyl chloride	62	2.039	2.039	0.000	97	16969	1.00	1.11	
12 Bromomethane	94	2.339	2.325	0.014	88	11508	1.00	1.50	
13 Chloroethane	64	2.425	2.425	0.000	96	9619	1.00	1.00	
14 Dichlorofluoromethane	67	2.604	2.597	0.007	98	25449	1.00	1.10	
16 Trichlorofluoromethane	101	2.639	2.632	0.007	98	17158	1.00	1.08	
18 Ethyl ether	59	2.847	2.847	0.000	89	8247	1.00	0.9100	
19 Acrolein	56	2.961	2.961	0.000	98	16030	9.88	11.0	
20 1,1,2-Trichloro-1,2,2-trifluoroe	151	3.047	3.040	0.007	66	5177	1.00	0.8612	
21 1,1-Dichloroethene	96	3.040	3.047	-0.007	93	8404	1.00	1.02	
22 Acetone	43	3.068	3.068	0.000	95	24137	4.00	6.83	
24 Iodomethane	142	3.168	3.169	-0.001	95	8057	1.00	1.32	
25 Carbon disulfide	76	3.226	3.233	-0.007	99	30894	1.00	1.00	
27 Methyl acetate	43	3.297	3.290	0.007	100	18660	2.00	2.18	
28 3-Chloro-1-propene	41	3.311	3.312	-0.001	88	19634	1.00	1.01	
29 Methylene Chloride	84	3.412	3.412	0.000	97	16762	1.00	1.54	
30 2-Methyl-2-propanol	59	3.454	3.455	-0.001	97	8895	10.0	9.34	
31 Acrylonitrile	53	3.576	3.576	0.000	97	46587	10.0	10.4	
32 Methyl tert-butyl ether	73	3.598	3.598	0.000	81	27373	1.00	0.9897	
33 trans-1,2-Dichloroethene	96	3.612	3.612	0.000	97	9421	1.00	1.00	
34 Hexane	57	3.805	3.805	0.000	94	13782	1.00	0.9510	
35 Vinyl acetate	43	3.905	3.905	0.000	97	44607	2.00	2.08	
36 1,1-Dichloroethane	63	3.934	3.934	0.000	94	21663	1.00	1.06	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
40 2-Butanone (MEK)	43	4.313	4.320	-0.007	97	22837	4.00	4.04	
42 cis-1,2-Dichloroethene	96	4.341	4.341	0.000	87	10997	1.00	1.04	
43 2,2-Dichloropropane	77	4.355	4.355	0.000	90	16603	1.00	1.06	
45 sec-Butyl Alcohol	45	4.420	4.427	-0.007	96	17174	24.0	20.9	
47 Chlorobromomethane	128	4.520	4.520	0.000	88	3860	1.00	0.9102	
48 Tetrahydrofuran	42	4.534	4.527	0.007	95	8656	2.00	2.26	
49 Chloroform	83	4.577	4.577	0.000	93	20413	1.00	1.11	
50 1,1,1-Trichloroethane	97	4.720	4.727	-0.007	95	15820	1.00	1.05	
51 Cyclohexane	56	4.784	4.784	0.000	94	19125	1.00	0.9834	
52 1,1-Dichloropropene	75	4.834	4.835	-0.001	88	15992	1.00	1.09	
53 Carbon tetrachloride	117	4.842	4.842	0.000	80	11018	1.00	0.9256	
54 Isobutyl alcohol	41	4.834	4.842	-0.008	61	9441	25.0	26.2	
55 Benzene	78	4.985	4.992	-0.007	95	46393	1.00	1.08	
56 1,2-Dichloroethane	62	5.013	5.013	0.000	94	18689	1.00	1.18	
58 n-Heptane	43	5.171	5.171	0.000	82	13734	1.00	1.06	
60 Trichloroethene	95	5.478	5.478	0.000	94	10107	1.00	0.9849	
61 2-Pentanone	43	5.578	5.578	0.000	96	25215	3.20	3.09	
62 Methylcyclohexane	55	5.671	5.671	0.000	87	11652	1.00	0.8692	
63 1,2-Dichloropropane	63	5.685	5.685	0.000	91	12516	1.00	1.04	
65 1,4-Dioxane	88	5.714	5.721	-0.007	24	2774	20.0	21.2	
66 Dibromomethane	93	5.757	5.757	0.000	93	7191	1.00	1.17	
67 Dichlorobromomethane	83	5.871	5.878	-0.007	91	11642	1.00	0.8836	
69 2-Chloroethyl vinyl ether	63	6.079	6.072	0.007	84	6944	1.00	1.08	
70 cis-1,3-Dichloropropene	75	6.222	6.222	0.000	91	15674	1.00	0.9042	
71 4-Methyl-2-pentanone (MIBK)	43	6.322	6.329	-0.007	96	41757	4.00	3.93	
72 Toluene	91	6.515	6.515	0.000	97	46697	1.00	1.04	
73 trans-1,3-Dichloropropene	75	6.686	6.686	0.000	94	14199	1.00	0.9442	
74 Ethyl methacrylate	69	6.708	6.701	0.007	94	10753	1.00	0.8320	
75 1,1,2-Trichloroethane	97	6.865	6.865	0.000	92	9392	1.00	1.12	
76 Tetrachloroethene	164	6.958	6.958	0.000	94	6795	1.00	0.9351	
77 1,3-Dichloropropane	76	7.008	7.008	0.000	69	16160	1.00	0.99	
78 2-Hexanone	43	7.022	7.030	-0.008	94	29317	4.00	3.78	
79 Chlorodibromomethane	129	7.201	7.201	0.000	83	8769	1.00	1.00	
80 Ethylene Dibromide	107	7.323	7.323	0.000	87	9386	1.00	1.07	
81 1-Chlorohexane	91	7.709	7.709	0.000	33	11932	0.8000	0.8924	
82 Chlorobenzene	112	7.752	7.752	0.000	93	28293	1.00	1.06	
83 1,1,1,2-Tetrachloroethane	131	7.823	7.823	0.000	69	7914	1.00	0.9416	
84 Ethylbenzene	106	7.830	7.830	0.000	98	14148	1.00	0.9682	
85 m-Xylene & p-Xylene	106	7.945	7.945	0.000	0	17428	1.00	0.9481	
86 o-Xylene	106	8.302	8.310	-0.008	97	18311	1.00	1.02	
87 Styrene	104	8.324	8.324	0.000	95	31703	1.00	1.08	
88 Bromoform	173	8.503	8.503	0.000	90	5488	1.00	0.9726	
89 Isopropylbenzene	105	8.646	8.646	0.000	96	43016	1.00	0.9759	
91 Cyclohexanone	55	8.746	8.746	0.000	93	13874	30.0	28.7	
92 1,1,2,2-Tetrachloroethane	83	8.932	8.932	0.000	91	11798	1.00	1.00	
94 trans-1,4-Dichloro-2-butene	53	8.960	8.967	-0.007	44	3544	1.00	0.9383	
93 Bromobenzene	156	8.967	8.967	0.000	94	11081	1.00	1.06	
95 1,2,3-Trichloropropane	110	8.996	8.996	0.000	79	3062	1.00	0.9493	
96 N-Propylbenzene	120	9.046	9.046	0.000	99	11760	1.00	1.04	
97 2-Chlorotoluene	126	9.146	9.146	0.000	94	11196	1.00	1.10	
98 1,3,5-Trimethylbenzene	105	9.218	9.218	0.000	95	37487	1.00	1.02	
99 4-Chlorotoluene	126	9.260	9.261	-0.001	98	10266	1.00	0.9624	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
100 tert-Butylbenzene	119	9.525	9.532	-0.007	93	28842	1.00	0.9703	
102 1,2,4-Trimethylbenzene	105	9.582	9.582	0.000	97	38846	1.00	1.02	
103 sec-Butylbenzene	134	9.740	9.747	-0.007	94	8004	1.00	0.9602	
104 1,3-Dichlorobenzene	146	9.868	9.875	-0.007	95	18948	1.00	1.00	
105 4-Isopropyltoluene	119	9.890	9.890	0.000	96	36310	1.00	0.99	
106 1,4-Dichlorobenzene	146	9.976	9.976	0.000	88	21304	1.00	1.04	
108 n-Butylbenzene	91	10.297	10.297	0.000	98	32221	1.00	0.9493	
109 1,2-Dichlorobenzene	146	10.333	10.333	0.000	93	18954	1.00	1.01	
110 1,2-Dibromo-3-Chloropropane	157	11.112	11.112	0.000	64	1940	1.00	0.9121	
112 1,2,4-Trichlorobenzene	180	11.935	11.935	0.000	92	9597	1.00	0.9029	
113 Hexachlorobutadiene	225	12.078	12.071	0.007	84	4055	1.00	0.9744	
114 Naphthalene	128	12.206	12.206	0.000	97	28629	1.00	1.04	
115 1,2,3-Trichlorobenzene	180	12.428	12.428	0.000	90	10215	1.00	1.18	
S 122 1,2-Dichloroethene, Total (URS)	96				0		2.00	2.04	
S 127 Trihalomethanes, Total	1				0		4.00	3.96	
S 125 Xylenes, Total	106				0		2.00	1.97	
S 123 Xylenes, Total (URS)	1				0		2.00	1.97	
S 124 1,3-Dichloropropene, Total	1				0		2.00	1.85	
S 129 1,2-Dichloroethene, Total	1				0		2.00	2.04	
S 126 Total BTEX	1				0			5.06	

QC Flag Legend

Processing Flags

Reagents:

Cal Dil Std_00280	Amount Added: 10.00	Units: uL	
mv-IS_SS_00074	Amount Added: 5.00	Units: uL	Run Reagent

Report Date: 11-Dec-2023 03:13:17 Chrom Revision: 2.3 15-Nov-2023 20:54:34

Eurofins Denver

Data File: \\chromfs\Denver\ChromData\VMS_X4\20231208-128432.b\X511648.D

Injection Date: 08-Dec-2023 22:09:30 Instrument ID: VMS_X4 Operator ID: CF

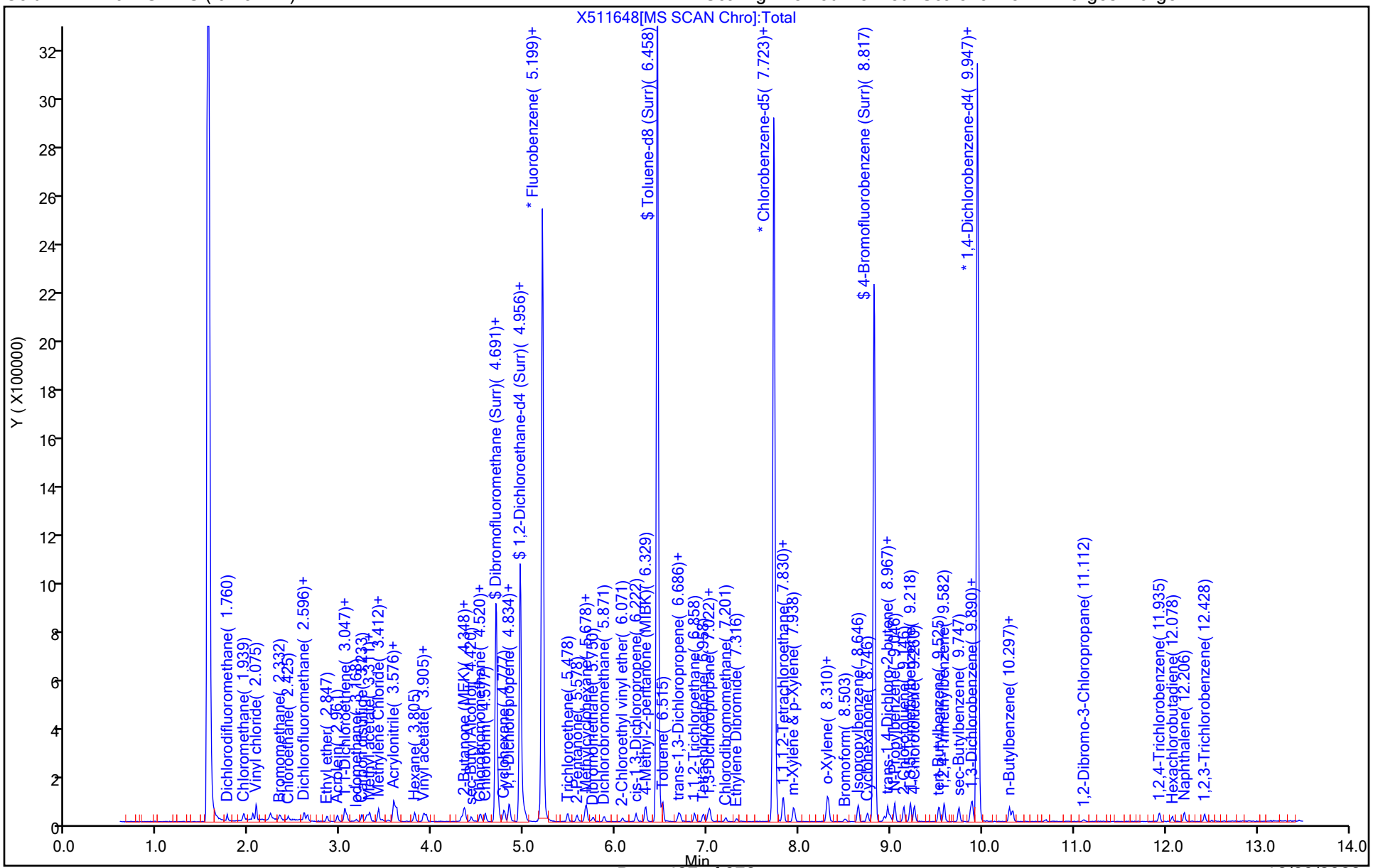
Lims ID: IC Worklist Smp#: 3

Client ID:

Purge Vol: 5.000 mL Dil. Factor: 1.0000 ALS Bottle#: 2

Method: VMS_X4_8260 Limit Group: MSV - 8260B Water and Solid

Column: Rxi-624Sil MS (0.25 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 1



Eurofins Denver
Target Compound Quantitation Report

Data File: \\chromfs\Denver\ChromData\VMS_X4\20231208-128432.b\X511649.D
Lims ID: IC
Client ID:
Sample Type: IC Calib Level: 3
Inject. Date: 08-Dec-2023 22:30:30 ALS Bottle#: 3 Worklist Smp#: 4
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Sample Info: std
Operator ID: CF Instrument ID: VMS_X4
Sublist: chrom-VMS_X4_8260*sub1

Method: \\chromfs\Denver\ChromData\VMS_X4\20231208-128432.b\VMS_X4_8260.m
Limit Group: MSV - 8260B Water and Solid
Last Update: 11-Dec-2023 03:13:21 Calib Date: 09-Dec-2023 00:33:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Denver\ChromData\VMS_X4\20231208-128432.b\X511655.D

Column 1 : Rxi-624Sil MS (0.25 mm) Det: MS SCAN
Process Host: CTX1656

First Level Reviewer: BX8N Date: 11-Dec-2023 03:04:25

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
* 1 Fluorobenzene	96	5.199	5.199	0.000	97	1808310	50.0	50.0	
* 2 Chlorobenzene-d5	119	7.730	7.730	0.000	90	462596	50.0	50.0	
* 3 1,4-Dichlorobenzene-d4	152	9.947	9.947	0.000	98	752823	50.0	50.0	
$ 4 Dibromofluoromethane (Surr)	111	4.691	4.692	-0.001	92	468414	50.0	50.6	
$ 5 1,2-Dichloroethane-d4 (Surr)	65	4.956	4.956	0.000	0	596345	50.0	49.8	
$ 6 Toluene-d8 (Surr)	98	6.458	6.458	0.000	95	2012702	50.0	50.5	
$ 7 4-Bromofluorobenzene (Surr)	95	8.817	8.817	0.000	84	717206	50.0	49.9	
9 Dichlorodifluoromethane	85	1.760	1.760	0.000	99	26990	2.00	2.11	
10 Chloromethane	50	1.939	1.939	0.000	98	36576	2.00	2.07	
11 Vinyl chloride	62	2.039	2.039	0.000	98	31293	2.00	2.05	
12 Bromomethane	94	2.332	2.325	0.007	89	16792	2.00	2.20	
13 Chloroethane	64	2.425	2.425	0.000	99	21435	2.00	2.23	
14 Dichlorofluoromethane	67	2.596	2.597	-0.001	98	47368	2.00	2.04	
16 Trichlorofluoromethane	101	2.632	2.632	0.000	95	33066	2.00	2.08	
18 Ethyl ether	59	2.854	2.847	0.007	95	17885	2.00	1.98	
19 Acrolein	56	2.961	2.961	0.000	98	25502	19.8	17.5	
20 1,1,2-Trichloro-1,2,2-trifluoroe	151	3.040	3.040	0.000	67	12673	2.00	2.11	
21 1,1-Dichloroethene	96	3.047	3.047	0.000	93	15840	2.00	1.92	
22 Acetone	43	3.068	3.068	0.000	100	33907	8.00	9.61	
24 Iodomethane	142	3.168	3.169	-0.001	98	13466	2.00	1.81	
25 Carbon disulfide	76	3.233	3.233	0.000	100	63416	2.00	2.06	
27 Methyl acetate	43	3.290	3.290	0.000	100	31284	4.00	3.67	
28 3-Chloro-1-propene	41	3.311	3.312	-0.001	89	42223	2.00	2.18	
29 Methylene Chloride	84	3.412	3.412	0.000	97	27039	2.00	2.48	
30 2-Methyl-2-propanol	59	3.454	3.455	-0.001	98	17037	20.0	17.9	
31 Acrylonitrile	53	3.576	3.576	0.000	98	86444	20.0	19.3	
32 Methyl tert-butyl ether	73	3.590	3.598	-0.008	99	50576	2.00	1.83	
33 trans-1,2-Dichloroethene	96	3.612	3.612	0.000	92	18391	2.00	1.95	
34 Hexane	57	3.805	3.805	0.000	95	27055	2.00	1.91	
35 Vinyl acetate	43	3.905	3.905	0.000	97	79706	4.00	3.73	
36 1,1-Dichloroethane	63	3.934	3.934	0.000	96	40784	2.00	1.99	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
40 2-Butanone (MEK)	43	4.320	4.320	0.000	100	38596	8.00	6.84	
42 cis-1,2-Dichloroethene	96	4.341	4.341	0.000	87	19850	2.00	1.88	
43 2,2-Dichloropropane	77	4.355	4.355	0.000	76	29822	2.00	1.91	
45 sec-Butyl Alcohol	45	4.427	4.427	0.000	98	31914	48.0	38.9	
47 Chlorobromomethane	128	4.520	4.520	0.000	92	8535	2.00	2.02	
48 Tetrahydrofuran	42	4.527	4.527	0.000	97	14551	4.00	3.80	
49 Chloroform	83	4.577	4.577	0.000	94	35660	2.00	1.93	
50 1,1,1-Trichloroethane	97	4.727	4.727	0.000	97	28941	2.00	1.93	
51 Cyclohexane	56	4.784	4.784	0.000	91	38304	2.00	1.97	
52 1,1-Dichloropropene	75	4.834	4.835	-0.001	87	27613	2.00	1.88	
53 Carbon tetrachloride	117	4.834	4.842	-0.008	77	21332	2.00	1.79	
54 Isobutyl alcohol	41	4.849	4.842	0.007	59	14756	50.0	41.0	
55 Benzene	78	4.985	4.992	-0.007	95	82350	2.00	1.92	
56 1,2-Dichloroethane	62	5.013	5.013	0.000	94	31712	2.00	2.00	
58 n-Heptane	43	5.171	5.171	-0.001	81	23549	2.00	1.82	
60 Trichloroethene	95	5.478	5.478	0.000	97	18626	2.00	1.85	
61 2-Pentanone	43	5.578	5.578	0.000	98	45366	6.40	5.57	
62 Methylcyclohexane	55	5.671	5.671	0.000	91	25144	2.00	1.88	
63 1,2-Dichloropropane	63	5.678	5.685	-0.007	88	21900	2.00	1.83	
65 1,4-Dioxane	88	5.721	5.721	0.000	83	4296	40.0	32.9	
66 Dibromomethane	93	5.757	5.757	0.000	92	10736	2.00	1.75	
67 Dichlorobromomethane	83	5.871	5.878	-0.007	98	25739	2.00	1.96	
69 2-Chloroethyl vinyl ether	63	6.079	6.072	0.007	88	9796	2.00	1.53	
70 cis-1,3-Dichloropropene	75	6.229	6.222	0.007	88	31723	2.00	1.87	
71 4-Methyl-2-pentanone (MIBK)	43	6.322	6.329	-0.007	98	76674	8.00	7.22	
72 Toluene	91	6.515	6.515	0.000	97	87183	2.00	1.95	
73 trans-1,3-Dichloropropene	75	6.686	6.686	0.000	96	25672	2.00	1.71	
74 Ethyl methacrylate	69	6.701	6.701	0.000	90	22168	2.00	1.75	
75 1,1,2-Trichloroethane	97	6.865	6.865	0.000	92	15593	2.00	1.86	
76 Tetrachloroethene	164	6.958	6.958	0.000	95	14479	2.00	2.03	
77 1,3-Dichloropropane	76	7.008	7.008	0.000	93	30399	2.00	1.90	
78 2-Hexanone	43	7.030	7.030	0.000	98	53947	8.00	7.09	
79 Chlorodibromomethane	129	7.201	7.201	0.000	87	15044	2.00	1.75	
80 Ethylene Dibromide	107	7.323	7.323	0.000	96	15253	2.00	1.78	
81 1-Chlorohexane	91	7.709	7.709	0.000	84	20003	1.60	1.53	
82 Chlorobenzene	112	7.752	7.752	0.000	94	51553	2.00	1.98	
83 1,1,1,2-Tetrachloroethane	131	7.823	7.823	0.000	84	15359	2.00	1.87	
84 Ethylbenzene	106	7.830	7.830	0.000	99	26438	2.00	1.85	
85 m-Xylene & p-Xylene	106	7.945	7.945	0.000	0	35848	2.00	1.99	
86 o-Xylene	106	8.309	8.310	-0.001	98	32773	2.00	1.87	
87 Styrene	104	8.324	8.324	0.000	93	52348	2.00	1.82	
88 Bromoform	173	8.510	8.503	0.007	92	9739	2.00	1.76	
89 Isopropylbenzene	105	8.646	8.646	0.000	96	82186	2.00	1.91	
91 Cyclohexanone	55	8.753	8.746	0.007	96	26070	60.0	55.1	
92 1,1,2,2-Tetrachloroethane	83	8.932	8.932	0.000	95	21812	2.00	1.89	
94 trans-1,4-Dichloro-2-butene	53	8.974	8.967	0.007	49	6887	2.00	1.87	
93 Bromobenzene	156	8.967	8.967	0.000	96	21519	2.00	2.10	
95 1,2,3-Trichloropropane	110	8.996	8.996	0.000	77	5936	2.00	1.88	
96 N-Propylbenzene	120	9.046	9.046	0.000	99	20499	2.00	1.86	
97 2-Chlorotoluene	126	9.146	9.146	0.000	94	19658	2.00	1.98	
98 1,3,5-Trimethylbenzene	105	9.218	9.218	0.000	94	70335	2.00	1.97	
99 4-Chlorotoluene	126	9.260	9.261	-0.001	97	20496	2.00	1.97	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
100 tert-Butylbenzene	119	9.525	9.532	-0.007	92	56211	2.00	1.93	
102 1,2,4-Trimethylbenzene	105	9.589	9.582	0.007	98	71455	2.00	1.92	
103 sec-Butylbenzene	134	9.747	9.747	0.000	95	15791	2.00	1.94	
104 1,3-Dichlorobenzene	146	9.875	9.875	0.000	94	35215	2.00	1.90	
105 4-Isopropyltoluene	119	9.897	9.890	0.007	96	69102	2.00	1.93	
106 1,4-Dichlorobenzene	146	9.975	9.976	-0.001	90	40806	2.00	2.04	
108 n-Butylbenzene	91	10.297	10.297	0.000	98	63893	2.00	1.93	
109 1,2-Dichlorobenzene	146	10.333	10.333	0.000	95	33026	2.00	1.81	
110 1,2-Dibromo-3-Chloropropane	157	11.112	11.112	0.000	76	3570	2.00	1.72	
112 1,2,4-Trichlorobenzene	180	11.935	11.935	0.000	90	20128	2.00	1.94	
113 Hexachlorobutadiene	225	12.070	12.071	-0.001	91	8637	2.00	2.12	
114 Naphthalene	128	12.206	12.206	0.000	97	49616	2.00	1.84	
115 1,2,3-Trichlorobenzene	180	12.428	12.428	0.000	91	14758	2.00	1.75	
S 122 1,2-Dichloroethene, Total (URS)	96				0		4.00	3.83	
S 127 Trihalomethanes, Total	1				0		8.00	7.40	
S 125 Xylenes, Total	106				0		4.00	3.86	
S 123 Xylenes, Total (URS)	1				0		4.00	3.86	
S 124 1,3-Dichloropropene, Total	1				0		4.00	3.58	
S 129 1,2-Dichloroethene, Total	1				0		4.00	3.83	
S 126 Total BTEX	1				0			9.57	

QC Flag Legend

Processing Flags

Reagents:

Cal Dil Std_00280	Amount Added: 20.00	Units: uL	
mv-IS_SS_00074	Amount Added: 5.00	Units: uL	Run Reagent

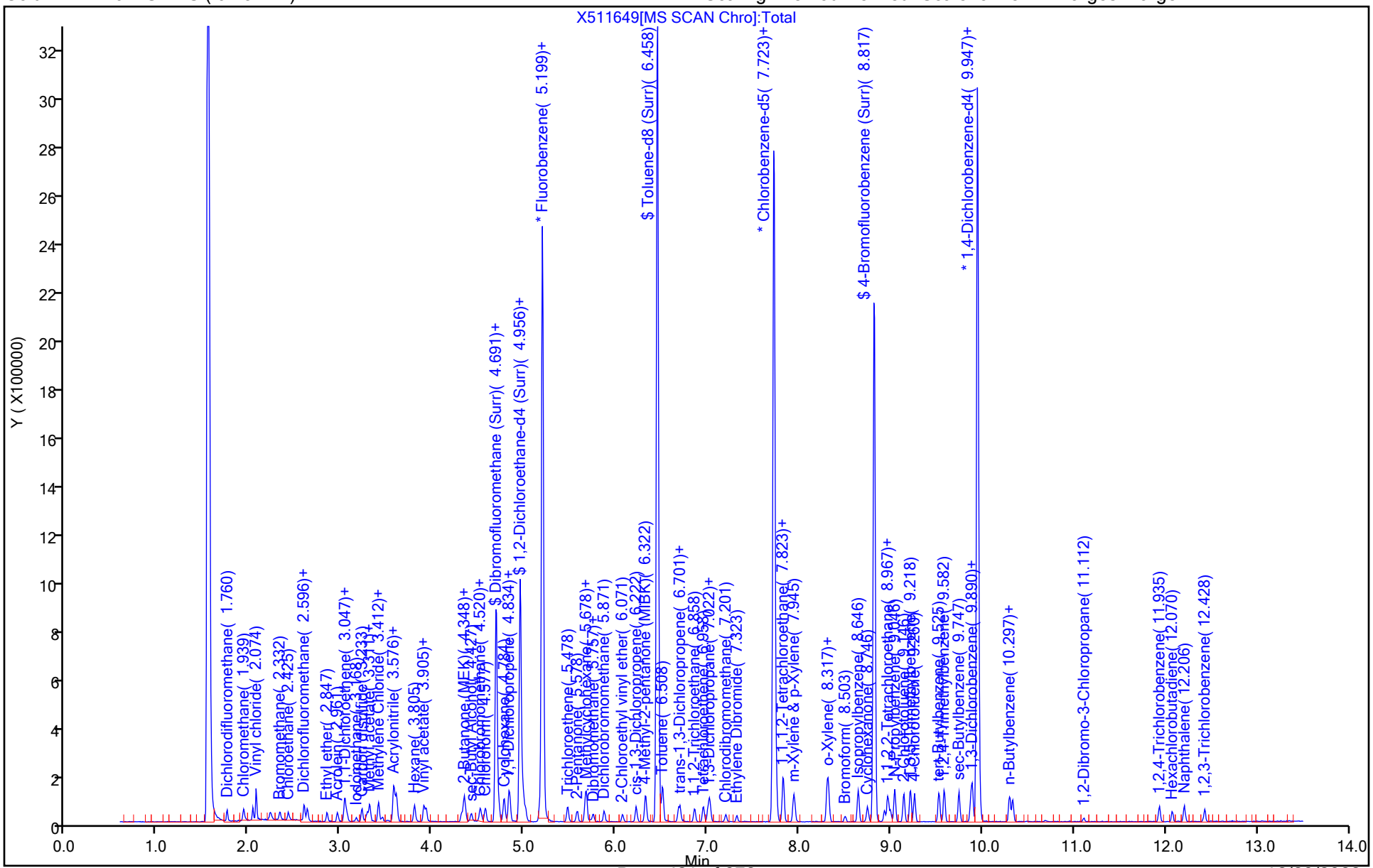
Report Date: 11-Dec-2023 03:13:21 Chrom Revision: 2.3 15-Nov-2023 20:54:34

Eurofins Denver

Data File: \\chromfs\Denver\ChromData\VMS_X4\20231208-128432.b\X511649.D

Injection Date:	08-Dec-2023 22:30:30	Instrument ID:	VMS_X4	Operator ID:	CF
Lims ID:	IC			Worklist Smp#:	4
Client ID:					
Purge Vol:	5.000 mL	Dil. Factor:	1.0000	ALS Bottle#:	3
Method:	VMS_X4_8260	Limit Group:	MSV - 8260B Water and Solid		

Column: Rxi-624Sil MS (0.25 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 1



Eurofins Denver
Target Compound Quantitation Report

Data File: \\chromfs\Denver\ChromData\VMS_X4\20231208-128432.b\X511650.D
Lims ID: IC
Client ID:
Sample Type: IC Calib Level: 4
Inject. Date: 08-Dec-2023 22:50:30 ALS Bottle#: 4 Worklist Smp#: 5
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Sample Info: std
Operator ID: CF Instrument ID: VMS_X4
Sublist: chrom-VMS_X4_8260*sub1

Method: \\chromfs\Denver\ChromData\VMS_X4\20231208-128432.b\VMS_X4_8260.m
Limit Group: MSV - 8260B Water and Solid
Last Update: 11-Dec-2023 03:13:25 Calib Date: 09-Dec-2023 00:33:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Denver\ChromData\VMS_X4\20231208-128432.b\X511655.D

Column 1 : Rxi-624Sil MS (0.25 mm) Det: MS SCAN
Process Host: CTX1656

First Level Reviewer: BX8N Date: 11-Dec-2023 03:04:35

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
* 1 Fluorobenzene	96	5.199	5.199	0.000	98	1838496	50.0	50.0	
* 2 Chlorobenzene-d5	119	7.731	7.730	0.000	91	471713	50.0	50.0	
* 3 1,4-Dichlorobenzene-d4	152	9.947	9.947	0.000	98	772438	50.0	50.0	
$ 4 Dibromofluoromethane (Surr)	111	4.699	4.692	0.007	92	474181	50.0	50.4	
$ 5 1,2-Dichloroethane-d4 (Surr)	65	4.956	4.956	0.000	0	624279	50.0	51.3	
$ 6 Toluene-d8 (Surr)	98	6.458	6.458	0.000	95	2044426	50.0	50.3	
$ 7 4-Bromofluorobenzene (Surr)	95	8.817	8.817	0.000	84	754136	50.0	51.2	
9 Dichlorodifluoromethane	85	1.760	1.760	0.000	98	72071	5.00	5.54	
10 Chloromethane	50	1.939	1.939	0.000	100	95726	5.00	5.32	
11 Vinyl chloride	62	2.039	2.039	0.000	98	83572	5.00	5.38	
12 Bromomethane	94	2.332	2.325	0.007	92	39649	5.00	5.10	
13 Chloroethane	64	2.425	2.425	0.000	99	51141	5.00	5.24	
14 Dichlorofluoromethane	67	2.597	2.597	0.000	98	124155	5.00	5.26	
16 Trichlorofluoromethane	101	2.640	2.632	0.008	97	87959	5.00	5.45	
18 Ethyl ether	59	2.847	2.847	0.000	95	47142	5.00	5.12	
19 Acrolein	56	2.961	2.961	0.000	98	74512	49.4	50.4	
20 1,1,2-Trichloro-1,2,2-trifluoroe	151	3.040	3.040	0.000	64	31245	5.00	5.12	
21 1,1-Dichloroethene	96	3.047	3.047	0.000	94	42617	5.00	5.08	
22 Acetone	43	3.069	3.068	0.001	99	69795	20.0	19.5	
24 Iodomethane	142	3.169	3.169	0.000	98	42366	5.00	4.37	
25 Carbon disulfide	76	3.233	3.233	0.000	100	158170	5.00	5.06	
27 Methyl acetate	43	3.297	3.290	0.007	99	84582	10.0	9.75	
28 3-Chloro-1-propene	41	3.312	3.312	0.000	89	105621	5.00	5.35	
29 Methylene Chloride	84	3.412	3.412	0.000	98	60595	5.00	5.47	
30 2-Methyl-2-propanol	59	3.455	3.455	0.000	98	40282	50.0	41.6	
31 Acrylonitrile	53	3.576	3.576	0.000	99	232892	50.0	51.2	
32 Methyl tert-butyl ether	73	3.598	3.598	0.000	98	129790	5.00	4.62	
33 trans-1,2-Dichloroethene	96	3.612	3.612	0.000	93	49503	5.00	5.17	
34 Hexane	57	3.805	3.805	0.000	96	73088	5.00	5.05	
35 Vinyl acetate	43	3.905	3.905	0.000	97	216419	10.0	9.96	
36 1,1-Dichloroethane	63	3.934	3.934	0.000	96	106227	5.00	5.11	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
40 2-Butanone (MEK)	43	4.320	4.320	0.000	100	107733	20.0	18.8	
42 cis-1,2-Dichloroethene	96	4.341	4.341	0.000	88	53056	5.00	4.94	
43 2,2-Dichloropropane	77	4.356	4.355	0.001	91	78071	5.00	4.92	
45 sec-Butyl Alcohol	45	4.420	4.427	-0.007	99	85856	120.0	103.0	
47 Chlorobromomethane	128	4.520	4.520	0.000	92	23970	5.00	5.57	
48 Tetrahydrofuran	42	4.527	4.527	0.000	88	34968	10.0	8.99	
49 Chloroform	83	4.577	4.577	0.000	94	93487	5.00	4.99	
50 1,1,1-Trichloroethane	97	4.720	4.727	-0.007	97	75679	5.00	4.96	
51 Cyclohexane	56	4.785	4.784	0.001	94	101821	5.00	5.16	
52 1,1-Dichloropropene	75	4.835	4.835	0.000	93	71355	5.00	4.77	
53 Carbon tetrachloride	117	4.842	4.842	0.000	92	60057	5.00	4.97	
54 Isobutyl alcohol	41	4.842	4.842	0.000	89	34947	125.0	95.5	
55 Benzene	78	4.992	4.992	0.000	98	221485	5.00	5.07	
56 1,2-Dichloroethane	62	5.013	5.013	0.000	95	80515	5.00	4.99	
58 n-Heptane	43	5.171	5.171	0.000	95	66885	5.00	5.07	
60 Trichloroethene	95	5.478	5.478	0.000	97	52200	5.00	5.09	
61 2-Pentanone	43	5.578	5.578	0.000	98	128509	16.0	15.5	
62 Methylcyclohexane	55	5.671	5.671	0.000	94	68237	5.00	5.01	
63 1,2-Dichloropropane	63	5.678	5.685	-0.007	95	58963	5.00	4.84	
65 1,4-Dioxane	88	5.728	5.721	0.007	95	13910	100.0	104.8	
66 Dibromomethane	93	5.750	5.757	-0.007	92	31226	5.00	5.02	
67 Dichlorobromomethane	83	5.879	5.878	0.001	98	66425	5.00	4.97	
69 2-Chloroethyl vinyl ether	63	6.072	6.072	0.000	91	31905	5.00	4.90	
70 cis-1,3-Dichloropropene	75	6.222	6.222	0.000	92	83588	5.00	4.83	
71 4-Methyl-2-pentanone (MIBK)	43	6.322	6.329	-0.007	98	204853	20.0	19.0	
72 Toluene	91	6.515	6.515	0.000	96	237673	5.00	5.23	
73 trans-1,3-Dichloropropene	75	6.687	6.686	0.001	98	69876	5.00	4.58	
74 Ethyl methacrylate	69	6.701	6.701	0.000	89	63749	5.00	4.94	
75 1,1,2-Trichloroethane	97	6.858	6.865	-0.007	90	42334	5.00	4.96	
76 Tetrachloroethene	164	6.958	6.958	0.000	88	36884	5.00	5.08	
77 1,3-Dichloropropane	76	7.008	7.008	0.000	95	79227	5.00	4.86	
78 2-Hexanone	43	7.030	7.030	0.000	99	153596	20.0	19.8	
79 Chlorodibromomethane	129	7.201	7.201	0.000	92	40492	5.00	4.62	
80 Ethylene Dibromide	107	7.323	7.323	0.000	99	42178	5.00	4.83	
81 1-Chlorohexane	91	7.709	7.709	0.000	88	53489	4.00	4.00	
82 Chlorobenzene	112	7.752	7.752	0.000	91	131703	5.00	4.96	
83 1,1,1,2-Tetrachloroethane	131	7.823	7.823	0.000	90	39281	5.00	4.68	
84 Ethylbenzene	106	7.831	7.830	0.001	99	74006	5.00	5.07	
85 m-Xylene & p-Xylene	106	7.945	7.945	0.000	0	91582	5.00	4.99	
86 o-Xylene	106	8.310	8.310	0.000	97	86335	5.00	4.82	
87 Styrene	104	8.324	8.324	0.000	96	144885	5.00	4.95	
88 Bromoform	173	8.503	8.503	0.000	93	26569	5.00	4.71	
89 Isopropylbenzene	105	8.646	8.646	0.000	96	224602	5.00	5.08	
91 Cyclohexanone	55	8.746	8.746	0.000	97	68552	150.0	142.2	
92 1,1,2,2-Tetrachloroethane	83	8.932	8.932	0.000	94	59270	5.00	4.99	
94 trans-1,4-Dichloro-2-butene	53	8.967	8.967	0.000	48	18156	5.00	4.79	
93 Bromobenzene	156	8.967	8.967	0.000	97	51330	5.00	4.88	
95 1,2,3-Trichloropropane	110	8.996	8.996	0.000	84	14619	5.00	4.52	
96 N-Propylbenzene	120	9.046	9.046	0.000	99	57462	5.00	5.07	
97 2-Chlorotoluene	126	9.146	9.146	0.000	95	48295	5.00	4.73	
98 1,3,5-Trimethylbenzene	105	9.218	9.218	0.000	95	187095	5.00	5.10	
99 4-Chlorotoluene	126	9.261	9.261	0.000	99	53889	5.00	5.04	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
100 tert-Butylbenzene	119	9.525	9.532	-0.007	94	147581	5.00	4.95	
102 1,2,4-Trimethylbenzene	105	9.582	9.582	0.000	98	194256	5.00	5.09	
103 sec-Butylbenzene	134	9.747	9.747	0.000	95	42197	5.00	5.05	
104 1,3-Dichlorobenzene	146	9.876	9.875	0.001	96	94481	5.00	4.98	
105 4-Isopropyltoluene	119	9.890	9.890	0.000	97	179450	5.00	4.88	
106 1,4-Dichlorobenzene	146	9.976	9.976	0.000	91	102070	5.00	4.97	
108 n-Butylbenzene	91	10.297	10.297	0.000	98	170546	5.00	5.01	
109 1,2-Dichlorobenzene	146	10.333	10.333	0.000	95	91030	5.00	4.86	
110 1,2-Dibromo-3-Chloropropane	157	11.113	11.112	0.001	75	10550	5.00	4.95	
112 1,2,4-Trichlorobenzene	180	11.935	11.935	0.000	90	53992	5.00	5.07	
113 Hexachlorobutadiene	225	12.071	12.071	0.000	93	20440	5.00	4.90	
114 Naphthalene	128	12.207	12.206	0.001	98	126008	5.00	4.55	
115 1,2,3-Trichlorobenzene	180	12.428	12.428	0.000	94	41419	5.00	4.79	
S 122 1,2-Dichloroethene, Total (URS)	96				0		10.0	10.1	
S 127 Trihalomethanes, Total	1				0		20.0	19.3	
S 125 Xylenes, Total	106				0		10.0	9.81	
S 123 Xylenes, Total (URS)	1				0		10.0	9.81	
S 124 1,3-Dichloropropene, Total	1				0		10.0	9.40	
S 129 1,2-Dichloroethene, Total	1				0		10.0	10.1	
S 126 Total BTEX	1				0			25.2	

QC Flag Legend

Processing Flags

Reagents:

Cal Dil Std_00280	Amount Added: 50.00	Units: uL	
mv-IS_SS_00074	Amount Added: 5.00	Units: uL	Run Reagent

Report Date: 11-Dec-2023 03:13:25 Chrom Revision: 2.3 15-Nov-2023 20:54:34

Eurofins Denver

Data File: \\chromfs\Denver\ChromData\VMS_X4\20231208-128432.b\X511650.D

Injection Date: 08-Dec-2023 22:50:30 Instrument ID: VMS_X4 Operator ID: CF

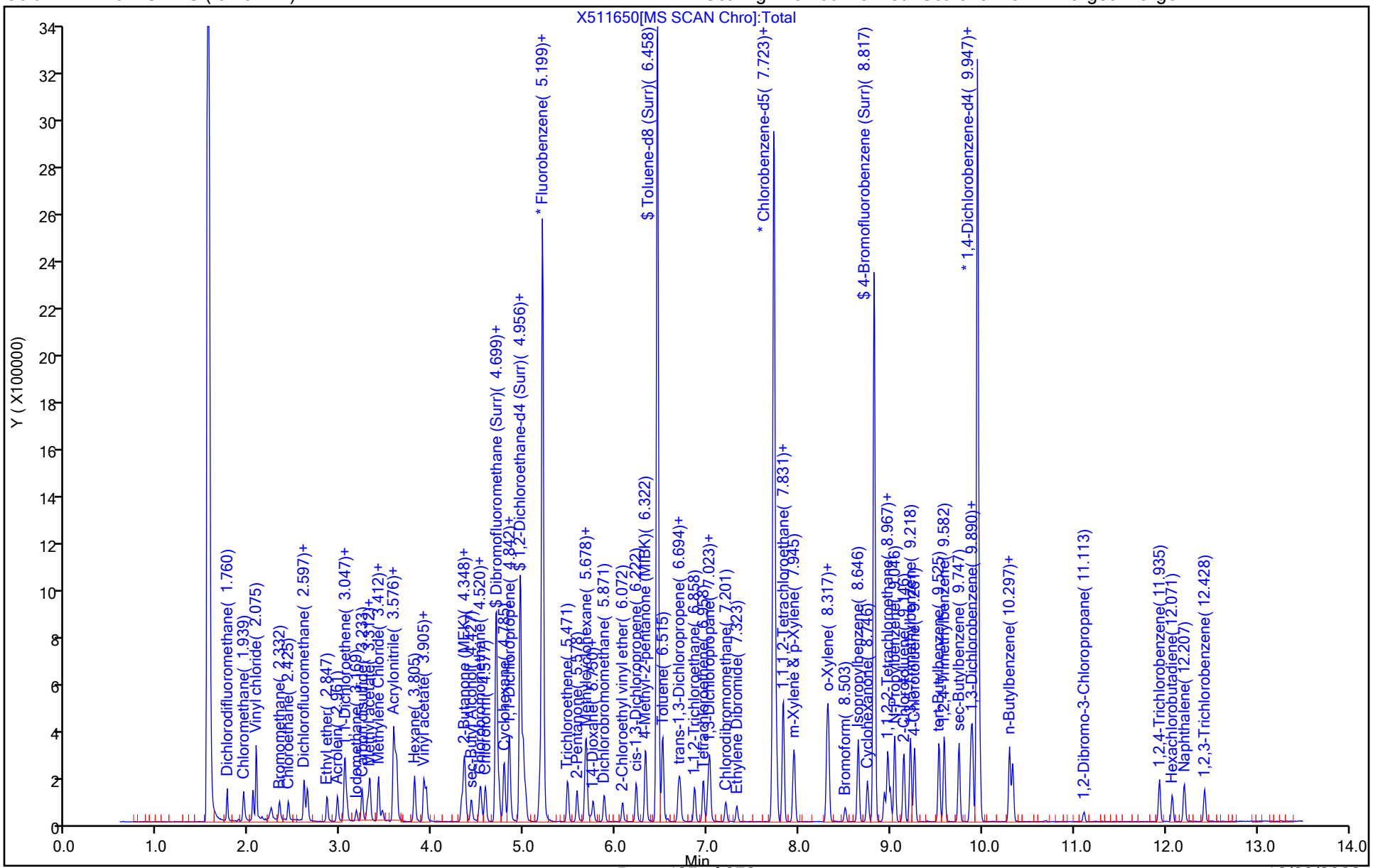
Lims ID: IC Worklist Smp#: 5

Client ID:

Purge Vol: 5.000 mL Dil. Factor: 1.0000 ALS Bottle#: 4

Method: VMS_X4_8260 Limit Group: MSV - 8260B Water and Solid

Column: Rxi-624Sil MS (0.25 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 1



Eurofins Denver
Target Compound Quantitation Report

Data File: \\chromfs\Denver\ChromData\VMS_X4\20231208-128432.b\X511651.D
Lims ID: IC
Client ID:
Sample Type: IC Calib Level: 5
Inject. Date: 08-Dec-2023 23:11:30 ALS Bottle#: 5 Worklist Smp#: 6
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Sample Info: std
Operator ID: CF Instrument ID: VMS_X4
Sublist: chrom-VMS_X4_8260*sub1

Method: \\chromfs\Denver\ChromData\VMS_X4\20231208-128432.b\VMS_X4_8260.m
Limit Group: MSV - 8260B Water and Solid
Last Update: 11-Dec-2023 03:13:29 Calib Date: 09-Dec-2023 00:33:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Denver\ChromData\VMS_X4\20231208-128432.b\X511655.D

Column 1 : Rxi-624Sil MS (0.25 mm) Det: MS SCAN
Process Host: CTX1656

First Level Reviewer: BX8N Date: 11-Dec-2023 03:04:46

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
* 1 Fluorobenzene	96	5.199	5.199	0.000	98	1829520	50.0	50.0	
* 2 Chlorobenzene-d5	119	7.730	7.730	0.000	90	481740	50.0	50.0	
* 3 1,4-Dichlorobenzene-d4	152	9.947	9.947	0.000	97	791235	50.0	50.0	
$ 4 Dibromofluoromethane (Surr)	111	4.692	4.692	0.000	92	475128	50.0	50.8	
$ 5 1,2-Dichloroethane-d4 (Surr)	65	4.956	4.956	0.000	0	624868	50.0	51.6	
$ 6 Toluene-d8 (Surr)	98	6.458	6.458	0.000	95	2042764	50.0	49.3	
$ 7 4-Bromofluorobenzene (Surr)	95	8.817	8.817	0.000	83	748291	50.0	49.6	
9 Dichlorodifluoromethane	85	1.760	1.760	0.000	99	139024	10.0	10.7	
10 Chloromethane	50	1.939	1.939	0.000	100	189319	10.0	10.6	
11 Vinyl chloride	62	2.039	2.039	0.000	99	158612	10.0	10.3	
12 Bromomethane	94	2.325	2.325	0.000	92	80987	10.0	10.5	
13 Chloroethane	64	2.425	2.425	0.000	99	99866	10.0	10.3	
14 Dichlorofluoromethane	67	2.597	2.597	0.000	99	246015	10.0	10.5	
16 Trichlorofluoromethane	101	2.632	2.632	0.000	98	165460	10.0	10.3	
18 Ethyl ether	59	2.847	2.847	0.000	95	93664	10.0	10.2	
19 Acrolein	56	2.961	2.961	0.000	99	146608	98.8	99.7	
20 1,1,2-Trichloro-1,2,2-trifluoroe	151	3.040	3.040	0.000	91	66446	10.0	10.9	
21 1,1-Dichloroethene	96	3.047	3.047	0.000	96	84223	10.0	10.1	
22 Acetone	43	3.068	3.068	0.000	99	147193	40.0	41.2	
24 Iodomethane	142	3.169	3.169	0.000	98	94138	10.0	9.05	
25 Carbon disulfide	76	3.233	3.233	0.000	100	310167	10.0	9.98	
27 Methyl acetate	43	3.290	3.290	0.000	99	172491	20.0	20.0	
28 3-Chloro-1-propene	41	3.312	3.312	0.000	89	207751	10.0	10.6	
29 Methylene Chloride	84	3.412	3.412	0.000	98	112126	10.0	10.2	
30 2-Methyl-2-propanol	59	3.455	3.455	0.000	98	92886	100.0	96.5	
31 Acrylonitrile	53	3.576	3.576	0.000	97	470564	100.0	103.9	
32 Methyl tert-butyl ether	73	3.598	3.598	0.000	97	287747	10.0	10.3	
33 trans-1,2-Dichloroethene	96	3.612	3.612	0.000	96	100790	10.0	10.6	
34 Hexane	57	3.805	3.805	0.000	96	140322	10.0	9.49	
35 Vinyl acetate	43	3.905	3.905	0.000	97	436007	20.0	20.2	
36 1,1-Dichloroethane	63	3.934	3.934	0.000	97	213239	10.0	10.3	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
40 2-Butanone (MEK)	43	4.320	4.320	0.000	98	221023	40.0	38.7	
42 cis-1,2-Dichloroethene	96	4.341	4.341	0.000	87	114576	10.0	10.7	
43 2,2-Dichloropropane	77	4.355	4.355	0.000	91	159159	10.0	10.1	
45 sec-Butyl Alcohol	45	4.427	4.427	0.000	99	191315	240.0	230.5	
47 Chlorobromomethane	128	4.520	4.520	0.000	92	47269	10.0	11.0	
48 Tetrahydrofuran	42	4.527	4.527	0.000	93	79464	20.0	20.5	
49 Chloroform	83	4.577	4.577	0.000	96	192585	10.0	10.3	
50 1,1,1-Trichloroethane	97	4.727	4.727	0.000	97	151144	10.0	9.96	
51 Cyclohexane	56	4.784	4.784	0.000	95	192606	10.0	9.80	
52 1,1-Dichloropropene	75	4.835	4.835	0.000	92	149428	10.0	10.0	
53 Carbon tetrachloride	117	4.842	4.842	0.000	94	123394	10.0	10.3	
54 Isobutyl alcohol	41	4.842	4.842	0.000	94	90545	250.0	248.8	
55 Benzene	78	4.992	4.992	0.000	98	445213	10.0	10.2	
56 1,2-Dichloroethane	62	5.013	5.013	0.000	96	152226	10.0	9.48	
58 n-Heptane	43	5.171	5.171	0.000	96	130726	10.0	9.96	
60 Trichloroethene	95	5.478	5.478	0.000	97	101597	10.0	9.70	
61 2-Pentanone	43	5.578	5.578	0.000	98	264285	32.0	32.1	
62 Methylcyclohexane	55	5.671	5.671	0.000	93	134420	10.0	9.93	
63 1,2-Dichloropropane	63	5.685	5.685	0.000	94	122451	10.0	10.1	
65 1,4-Dioxane	88	5.721	5.721	0.000	96	26160	200.0	198.0	
66 Dibromomethane	93	5.757	5.757	0.000	91	63007	10.0	10.2	
67 Dichlorobromomethane	83	5.878	5.878	0.000	98	134646	10.0	10.1	
69 2-Chloroethyl vinyl ether	63	6.072	6.072	0.000	91	70740	10.0	10.9	
70 cis-1,3-Dichloropropene	75	6.222	6.222	0.000	92	168271	10.0	9.52	
71 4-Methyl-2-pentanone (MIBK)	43	6.329	6.329	0.000	99	435182	40.0	40.5	
72 Toluene	91	6.515	6.515	0.000	97	463466	10.0	10.3	
73 trans-1,3-Dichloropropene	75	6.686	6.686	0.000	99	150657	10.0	9.92	
74 Ethyl methacrylate	69	6.701	6.701	0.000	91	130029	10.0	9.86	
75 1,1,2-Trichloroethane	97	6.865	6.865	0.000	94	85307	10.0	10.0	
76 Tetrachloroethene	164	6.958	6.958	0.000	91	71647	10.0	9.66	
77 1,3-Dichloropropane	76	7.008	7.008	0.000	98	166655	10.0	10.0	
78 2-Hexanone	43	7.030	7.030	0.000	97	314267	40.0	39.7	
79 Chlorodibromomethane	129	7.201	7.201	0.000	89	88069	10.0	9.84	
80 Ethylene Dibromide	107	7.323	7.323	0.000	98	88207	10.0	9.88	
81 1-Chlorohexane	91	7.709	7.709	0.000	88	104135	8.00	7.63	
82 Chlorobenzene	112	7.752	7.752	0.000	92	273103	10.0	10.1	
83 1,1,1,2-Tetrachloroethane	131	7.823	7.823	0.000	90	86167	10.0	10.0	
84 Ethylbenzene	106	7.830	7.830	0.000	99	153524	10.0	10.3	
85 m-Xylene & p-Xylene	106	7.945	7.945	0.000	0	185084	10.0	9.87	
86 o-Xylene	106	8.310	8.310	0.000	98	183113	10.0	10.0	
87 Styrene	104	8.324	8.324	0.000	94	292716	10.0	9.80	
88 Bromoform	173	8.503	8.503	0.000	95	54547	10.0	9.48	
89 Isopropylbenzene	105	8.646	8.646	0.000	96	464988	10.0	10.3	
91 Cyclohexanone	55	8.746	8.746	0.000	96	146091	300.0	296.7	
92 1,1,2,2-Tetrachloroethane	83	8.932	8.932	0.000	94	119829	10.0	9.86	
94 trans-1,4-Dichloro-2-butene	53	8.967	8.967	0.000	49	38940	10.0	10.0	
93 Bromobenzene	156	8.967	8.967	0.000	97	108571	10.0	10.1	
95 1,2,3-Trichloropropane	110	8.996	8.996	0.000	87	34078	10.0	10.3	
96 N-Propylbenzene	120	9.046	9.046	0.000	100	119964	10.0	10.3	
97 2-Chlorotoluene	126	9.146	9.146	0.000	94	101738	10.0	9.73	
98 1,3,5-Trimethylbenzene	105	9.218	9.218	0.000	93	387180	10.0	10.3	
99 4-Chlorotoluene	126	9.261	9.261	0.000	99	103933	10.0	9.49	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
100 tert-Butylbenzene	119	9.532	9.532	0.000	94	306965	10.0	10.1	
102 1,2,4-Trimethylbenzene	105	9.582	9.582	0.000	98	389698	10.0	9.97	
103 sec-Butylbenzene	134	9.747	9.747	0.000	95	83746	10.0	9.78	
104 1,3-Dichlorobenzene	146	9.875	9.875	0.000	95	193491	10.0	9.95	
105 4-Isopropyltoluene	119	9.890	9.890	0.000	97	369088	10.0	9.81	
106 1,4-Dichlorobenzene	146	9.976	9.976	0.000	89	201661	10.0	9.58	
108 n-Butylbenzene	91	10.297	10.297	0.000	99	350811	10.0	10.1	
109 1,2-Dichlorobenzene	146	10.333	10.333	0.000	95	192564	10.0	10.0	
110 1,2-Dibromo-3-Chloropropane	157	11.112	11.112	0.000	74	20683	10.0	9.47	
112 1,2,4-Trichlorobenzene	180	11.935	11.935	0.000	94	106189	10.0	9.73	
113 Hexachlorobutadiene	225	12.071	12.071	0.000	96	42821	10.0	10.0	
114 Naphthalene	128	12.206	12.206	0.000	98	270744	10.0	9.54	
115 1,2,3-Trichlorobenzene	180	12.428	12.428	0.000	92	85512	10.0	9.65	
S 122 1,2-Dichloroethene, Total (URS)	96				0		20.0	21.3	
S 127 Trihalomethanes, Total	1				0		40.0	39.8	
S 125 Xylenes, Total	106				0		20.0	19.9	
S 123 Xylenes, Total (URS)	1				0		20.0	19.9	
S 124 1,3-Dichloropropene, Total	1				0		20.0	19.4	
S 129 1,2-Dichloroethene, Total	1				0		20.0	21.3	
S 126 Total BTEX	1				0			50.7	

QC Flag Legend

Processing Flags

Reagents:

MV-MegaMainA_00100	Amount Added:	5.00	Units: uL	
MV-Gas A_00174	Amount Added:	2.00	Units: uL	
mv-IS_SS_00074	Amount Added:	5.00	Units: uL	Run Reagent

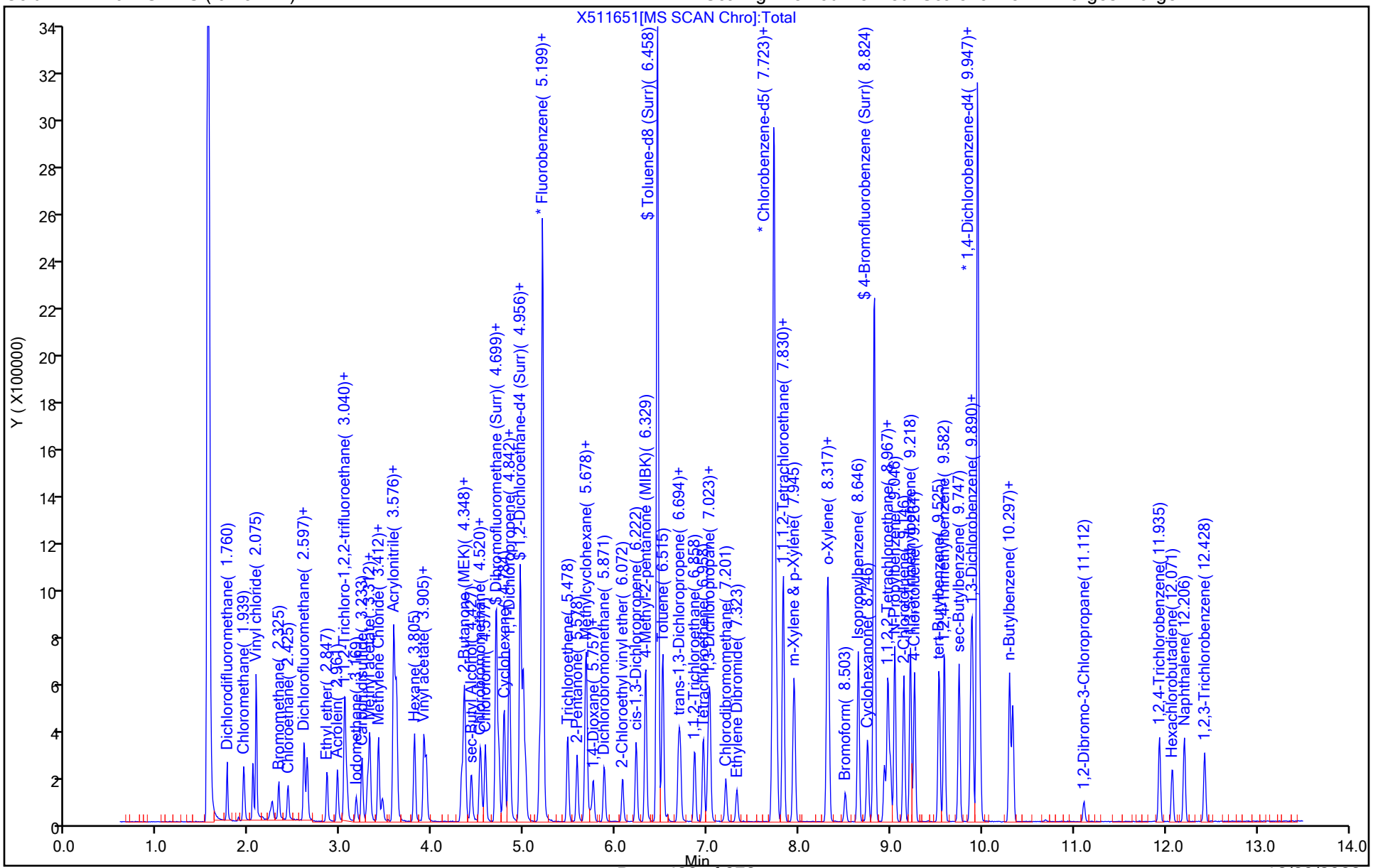
Report Date: 11-Dec-2023 03:13:29 Chrom Revision: 2.3 15-Nov-2023 20:54:34

Eurofins Denver

Data File: \\chromfs\Denver\ChromData\VMS_X4\20231208-128432.b\X511651.D

Injection Date:	08-Dec-2023 23:11:30	Instrument ID:	VMS_X4	Operator ID:	CF
Lims ID:	IC			Worklist Smp#:	6
Client ID:					
Purge Vol:	5.000 mL	Dil. Factor:	1.0000	ALS Bottle#:	5
Method:	VMS_X4_8260	Limit Group:	MSV - 8260B Water and Solid		

Column: Rxi-624Sil MS (0.25 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 1



Eurofins Denver
Target Compound Quantitation Report

Data File: \\chromfs\Denver\ChromData\VMS_X4\20231208-128432.b\X511652.D
Lims ID: ICIS
Client ID:
Sample Type: ICIS Calib Level: 6
Inject. Date: 08-Dec-2023 23:31:30 ALS Bottle#: 6 Worklist Smp#: 7
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Sample Info: icis
Operator ID: CF Instrument ID: VMS_X4
Sublist: chrom-VMS_X4_8260*sub1

Method: \\chromfs\Denver\ChromData\VMS_X4\20231208-128432.b\VMS_X4_8260.m
Limit Group: MSV - 8260B Water and Solid
Last Update: 11-Dec-2023 03:13:33 Calib Date: 09-Dec-2023 00:33:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Denver\ChromData\VMS_X4\20231208-128432.b\X511655.D

Column 1 : Rxi-624Sil MS (0.25 mm) Det: MS SCAN
Process Host: CTX1656

First Level Reviewer: BX8N Date: 11-Dec-2023 03:01:53

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
* 1 Fluorobenzene	96	5.199	5.199	0.000	98	1927914	50.0	50.0	
* 2 Chlorobenzene-d5	119	7.723	7.723	0.000	91	487237	50.0	50.0	
* 3 1,4-Dichlorobenzene-d4	152	9.947	9.947	0.000	97	803680	50.0	50.0	
$ 4 Dibromofluoromethane (Surr)	111	4.691	4.691	0.000	92	481211	50.0	48.8	
$ 5 1,2-Dichloroethane-d4 (Surr)	65	4.956	4.956	0.000	0	633202	50.0	49.6	
$ 6 Toluene-d8 (Surr)	98	6.458	6.458	0.000	95	2119806	50.0	50.5	
$ 7 4-Bromofluorobenzene (Surr)	95	8.817	8.817	0.000	85	752976	50.0	49.1	
9 Dichlorodifluoromethane	85	1.760	1.760	0.000	100	662986	50.0	48.6	
10 Chloromethane	50	1.939	1.939	0.000	99	900046	50.0	47.7	
11 Vinyl chloride	62	2.039	2.039	0.000	99	774767	50.0	47.6	
12 Bromomethane	94	2.332	2.332	0.000	92	379671	50.0	46.6	
13 Chloroethane	64	2.425	2.425	0.000	99	469728	50.0	45.9	
14 Dichlorofluoromethane	67	2.604	2.604	0.000	99	1182351	50.0	47.8	
16 Trichlorofluoromethane	101	2.632	2.632	0.000	100	772064	50.0	45.6	
18 Ethyl ether	59	2.847	2.847	0.000	96	462289	50.0	47.9	
19 Acrolein	56	2.961	2.961	0.000	99	718330	493.8	463.5	
20 1,1,2-Trichloro-1,2,2-trifluoroe	151	3.047	3.047	0.000	98	318245	50.0	49.7	
21 1,1-Dichloroethene	96	3.047	3.047	0.000	95	423348	50.0	48.1	
22 Acetone	43	3.068	3.068	0.000	99	693043	200.0	184.2	
24 Iodomethane	142	3.168	3.168	0.000	100	546545	50.0	47.2	
25 Carbon disulfide	76	3.233	3.233	0.000	100	1491254	50.0	45.5	
27 Methyl acetate	43	3.290	3.290	0.000	99	863266	100.0	94.9	
28 3-Chloro-1-propene	41	3.319	3.319	0.000	90	991770	50.0	47.9	
29 Methylene Chloride	84	3.412	3.412	0.000	99	512619	50.0	44.2	
30 2-Methyl-2-propanol	59	3.454	3.454	0.000	99	530329	500.0	522.8	
31 Acrylonitrile	53	3.576	3.576	0.000	98	2292677	500.0	480.4	
32 Methyl tert-butyl ether	73	3.597	3.597	0.000	97	1477040	50.0	50.2	
33 trans-1,2-Dichloroethene	96	3.612	3.612	0.000	95	494789	50.0	49.2	
34 Hexane	57	3.805	3.805	0.000	97	749122	50.0	50.1	
35 Vinyl acetate	43	3.905	3.905	0.000	97	2310547	100.0	101.4	
36 1,1-Dichloroethane	63	3.933	3.933	0.000	97	1026882	50.0	47.1	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
40 2-Butanone (MEK)	43	4.320	4.320	0.000	99	1151344	200.0	191.3	
42 cis-1,2-Dichloroethene	96	4.341	4.341	0.000	88	532702	50.0	47.3	
43 2,2-Dichloropropane	77	4.355	4.355	0.000	90	786877	50.0	47.3	
45 sec-Butyl Alcohol	45	4.427	4.427	0.000	100	1099694	1200.0	1257.6	
47 Chlorobromomethane	128	4.520	4.520	0.000	92	220951	50.0	48.9	
48 Tetrahydrofuran	42	4.527	4.527	0.000	90	396170	100.0	97.2	
49 Chloroform	83	4.577	4.577	0.000	97	904556	50.0	46.0	
50 1,1,1-Trichloroethane	97	4.720	4.720	0.000	97	771864	50.0	48.3	
51 Cyclohexane	56	4.784	4.784	0.000	95	1021709	50.0	49.4	
52 1,1-Dichloropropene	75	4.834	4.834	0.000	97	756074	50.0	48.2	
53 Carbon tetrachloride	117	4.842	4.842	0.000	94	629064	50.0	49.6	
54 Isobutyl alcohol	41	4.842	4.842	0.000	93	495087	1250.0	1290.8	
55 Benzene	78	4.992	4.992	0.000	98	2164669	50.0	47.2	
56 1,2-Dichloroethane	62	5.013	5.013	0.000	97	762902	50.0	45.1	
58 n-Heptane	43	5.170	5.170	0.000	97	666914	50.0	48.2	
60 Trichloroethene	95	5.471	5.471	0.000	96	518544	50.0	49.0	
61 2-Pentanone	43	5.578	5.578	0.000	98	1423338	160.0	163.9	
62 Methylcyclohexane	55	5.671	5.671	0.000	95	709314	50.0	49.7	
63 1,2-Dichloropropane	63	5.685	5.685	0.000	95	600946	50.0	47.1	
65 1,4-Dioxane	88	5.721	5.721	0.000	96	141264	1000.0	1014.5	
66 Dibromomethane	93	5.750	5.750	0.000	92	306098	50.0	46.9	
67 Dichlorobromomethane	83	5.871	5.871	0.000	98	680598	50.0	48.5	
69 2-Chloroethyl vinyl ether	63	6.071	6.071	0.000	92	370943	50.0	54.3	
70 cis-1,3-Dichloropropene	75	6.222	6.222	0.000	92	855325	50.0	47.8	
71 4-Methyl-2-pentanone (MIBK)	43	6.329	6.329	0.000	98	2308703	200.0	204.0	
72 Toluene	91	6.515	6.515	0.000	97	2225868	50.0	46.7	
73 trans-1,3-Dichloropropene	75	6.686	6.686	0.000	99	777679	50.0	48.6	
74 Ethyl methacrylate	69	6.701	6.701	0.000	93	672957	50.0	50.5	
75 1,1,2-Trichloroethane	97	6.858	6.858	0.000	94	429367	50.0	48.0	
76 Tetrachloroethene	164	6.958	6.958	0.000	92	368577	50.0	49.2	
77 1,3-Dichloropropane	76	7.008	7.008	0.000	98	845717	50.0	50.3	
78 2-Hexanone	43	7.030	7.030	0.000	99	1648692	200.0	205.8	
79 Chlorodibromomethane	129	7.201	7.201	0.000	91	450395	50.0	49.7	
80 Ethylene Dibromide	107	7.323	7.323	0.000	98	438780	50.0	48.6	
81 1-Chlorohexane	91	7.709	7.709	0.000	90	525599	40.0	38.1	
82 Chlorobenzene	112	7.752	7.752	0.000	91	1291335	50.0	47.1	
83 1,1,1,2-Tetrachloroethane	131	7.823	7.823	0.000	94	427561	50.0	49.3	
84 Ethylbenzene	106	7.830	7.830	0.000	99	740282	50.0	49.1	
85 m-Xylene & p-Xylene	106	7.945	7.945	0.000	0	915999	50.0	48.3	
86 o-Xylene	106	8.309	8.309	0.000	98	894904	50.0	48.4	
87 Styrene	104	8.324	8.324	0.000	94	1496418	50.0	49.5	
88 Bromoform	173	8.502	8.502	0.000	94	286574	50.0	49.2	
89 Isopropylbenzene	105	8.645	8.645	0.000	97	2226840	50.0	48.4	
91 Cyclohexanone	55	8.746	8.746	0.000	96	764749	1500.0	1535.7	
92 1,1,2,2-Tetrachloroethane	83	8.932	8.932	0.000	95	592846	50.0	48.0	
94 trans-1,4-Dichloro-2-butene	53	8.967	8.967	0.000	75	202923	50.0	51.5	
93 Bromobenzene	156	8.967	8.967	0.000	96	509718	50.0	46.5	
95 1,2,3-Trichloropropane	110	8.996	8.996	0.000	87	174436	50.0	51.8	
96 N-Propylbenzene	120	9.046	9.046	0.000	100	584633	50.0	49.6	
97 2-Chlorotoluene	126	9.146	9.146	0.000	95	498210	50.0	46.9	
98 1,3,5-Trimethylbenzene	105	9.218	9.218	0.000	94	1873615	50.0	49.1	
99 4-Chlorotoluene	126	9.260	9.260	0.000	99	528244	50.0	47.5	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
100 tert-Butylbenzene	119	9.525	9.525	0.000	94	1489289	50.0	48.0	
102 1,2,4-Trimethylbenzene	105	9.582	9.582	0.000	99	1951347	50.0	49.2	
103 sec-Butylbenzene	134	9.747	9.747	0.000	95	416055	50.0	47.8	
104 1,3-Dichlorobenzene	146	9.875	9.875	0.000	96	948292	50.0	48.0	
105 4-Isopropyltoluene	119	9.890	9.890	0.000	97	1879346	50.0	49.2	
106 1,4-Dichlorobenzene	146	9.975	9.975	0.000	91	985043	50.0	46.1	
108 n-Butylbenzene	91	10.297	10.297	0.000	98	1726145	50.0	48.7	
109 1,2-Dichlorobenzene	146	10.333	10.333	0.000	96	908194	50.0	46.6	
110 1,2-Dibromo-3-Chloropropane	157	11.112	11.112	0.000	78	110133	50.0	49.6	
112 1,2,4-Trichlorobenzene	180	11.935	11.935	0.000	94	515920	50.0	46.5	
113 Hexachlorobutadiene	225	12.078	12.078	0.000	97	216527	50.0	49.9	
114 Naphthalene	128	12.206	12.206	0.000	98	1340029	50.0	46.5	
115 1,2,3-Trichlorobenzene	180	12.428	12.428	0.000	95	421119	50.0	46.8	
S 122 1,2-Dichloroethene, Total (URS)	96				0		100.0	96.6	
S 127 Trihalomethanes, Total	1				0		200.0	193.5	
S 125 Xylenes, Total	106				0		100.0	96.7	
S 123 Xylenes, Total (URS)	1				0		100.0	96.7	
S 124 1,3-Dichloropropene, Total	1				0		100.0	96.4	
S 129 1,2-Dichloroethene, Total	1				0		100.0	96.6	

QC Flag Legend

Processing Flags

Reagents:

MV-MegaMainA_00100	Amount Added: 25.00	Units: uL	
MV-Gas A_00174	Amount Added: 10.00	Units: uL	
mv-IS_SS_00074	Amount Added: 5.00	Units: uL	Run Reagent

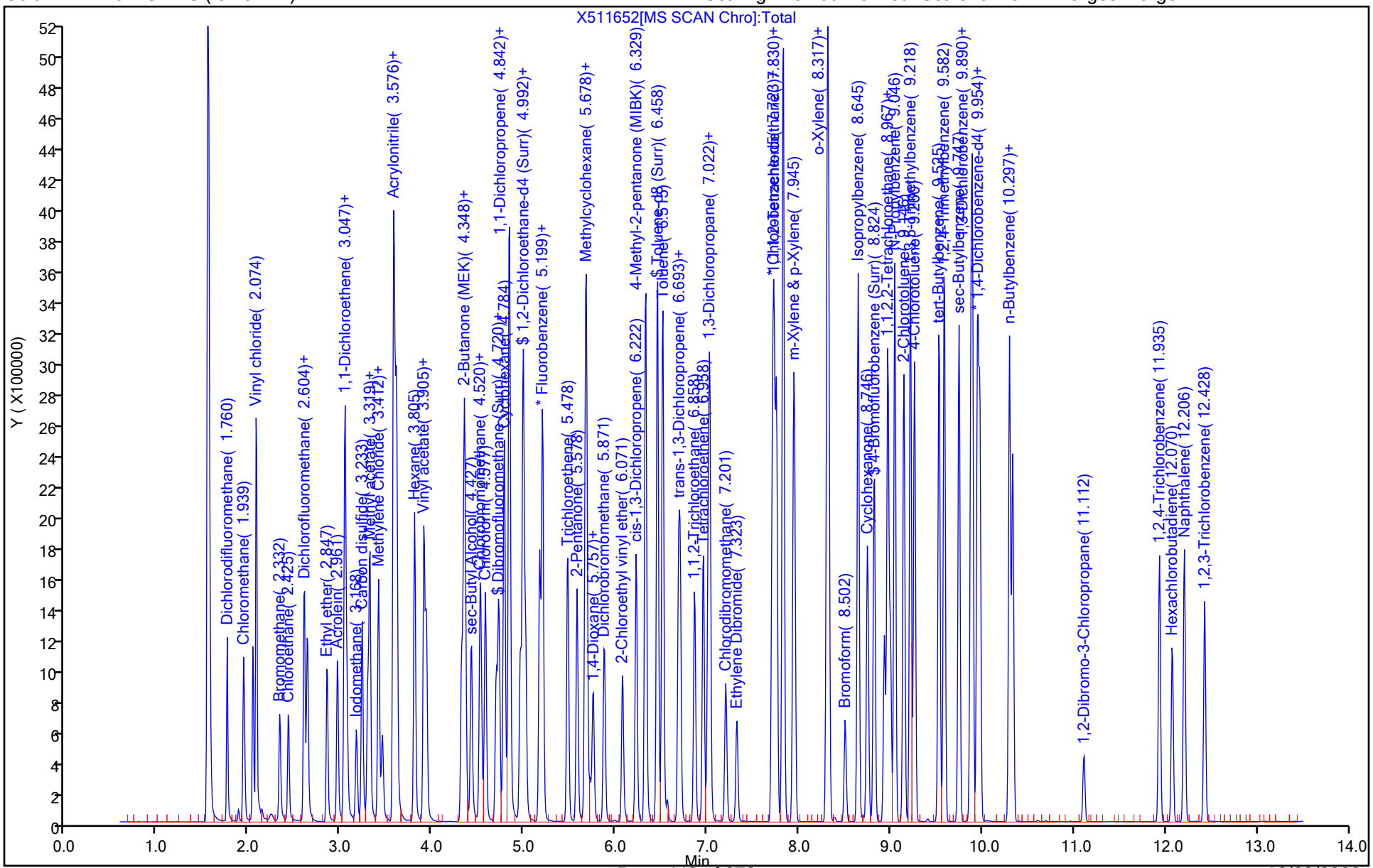
Report Date: 11-Dec-2023 03:13:34 Chrom Revision: 2.3 15-Nov-2023 20:54:34

Eurofins Denver

Data File: \\chromfs\Denver\ChromData\VMS_X4\20231208-128432.b\X511652.D

Injection Date:	08-Dec-2023 23:31:30	Instrument ID:	VMS_X4	Operator ID:	CF
Lims ID:	ICIS			Worklist Smp#:	7
Client ID:					
Purge Vol:	5.000 mL	Dil. Factor:	1.0000	ALS Bottle#:	6
Method:	VMS_X4_8260	Limit Group:	MSV - 8260B Water and Solid		

Column: Rxi-624Sil MS (0.25 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 1



Eurofins Denver
Target Compound Quantitation Report

Data File: \\chromfs\Denver\ChromData\VMS_X4\20231208-128432.b\X511653.D
Lims ID: IC
Client ID:
Sample Type: IC Calib Level: 7
Inject. Date: 08-Dec-2023 23:52:30 ALS Bottle#: 7 Worklist Smp#: 8
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Sample Info: std
Operator ID: CF Instrument ID: VMS_X4
Sublist: chrom-VMS_X4_8260*sub1

Method: \\chromfs\Denver\ChromData\VMS_X4\20231208-128432.b\VMS_X4_8260.m
Limit Group: MSV - 8260B Water and Solid
Last Update: 11-Dec-2023 03:13:38 Calib Date: 09-Dec-2023 00:33:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Denver\ChromData\VMS_X4\20231208-128432.b\X511655.D

Column 1 : Rxi-624Sil MS (0.25 mm) Det: MS SCAN
Process Host: CTX1656

First Level Reviewer: BX8N Date: 11-Dec-2023 03:04:56

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
* 1 Fluorobenzene	96	5.199	5.199	0.000	98	1983388	50.0	50.0	
* 2 Chlorobenzene-d5	119	7.730	7.723	0.007	90	505296	50.0	50.0	
* 3 1,4-Dichlorobenzene-d4	152	9.947	9.947	0.000	98	826417	50.0	50.0	
$ 4 Dibromofluoromethane (Surr)	111	4.699	4.691	0.008	92	502408	50.0	49.5	
$ 5 1,2-Dichloroethane-d4 (Surr)	65	4.956	4.956	0.000	0	643695	50.0	49.0	
$ 6 Toluene-d8 (Surr)	98	6.458	6.458	0.000	95	2152589	50.0	49.5	
$ 7 4-Bromofluorobenzene (Surr)	95	8.817	8.817	0.000	85	786822	50.0	49.9	
9 Dichlorodifluoromethane	85	1.760	1.760	0.000	100	973899	75.0	69.3	
10 Chloromethane	50	1.939	1.939	0.000	100	1353876	75.0	69.7	
11 Vinyl chloride	62	2.039	2.039	0.000	99	1147558	75.0	68.5	
12 Bromomethane	94	2.332	2.332	0.000	92	614849	75.0	73.3	
13 Chloroethane	64	2.425	2.425	0.000	99	710830	75.0	67.5	
14 Dichlorofluoromethane	67	2.604	2.604	0.000	99	1775419	75.0	69.8	
16 Trichlorofluoromethane	101	2.632	2.632	0.000	100	1158093	75.0	66.5	
18 Ethyl ether	59	2.847	2.847	0.000	97	748852	75.0	75.4	
19 Acrolein	56	2.961	2.961	0.000	99	1187883	740.6	745.0	
21 1,1-Dichloroethene	96	3.047	3.047	0.000	95	675423	75.0	74.6	
20 1,1,2-Trichloro-1,2,2-trifluoroe	151	3.047	3.047	0.000	98	510084	75.0	77.5	
22 Acetone	43	3.068	3.068	0.000	99	1120700	300.0	289.5	
24 Iodomethane	142	3.168	3.168	0.000	99	921887	75.0	77.0	
25 Carbon disulfide	76	3.233	3.233	0.000	100	2417341	75.0	71.7	
27 Methyl acetate	43	3.290	3.290	0.000	99	1436290	150.0	153.5	
28 3-Chloro-1-propene	41	3.319	3.319	0.000	90	1560442	75.0	73.3	
29 Methylene Chloride	84	3.412	3.412	0.000	99	839041	75.0	70.3	
30 2-Methyl-2-propanol	59	3.454	3.454	0.000	99	866773	750.0	830.6	
31 Acrylonitrile	53	3.576	3.576	0.000	97	3688744	750.0	751.3	
32 Methyl tert-butyl ether	73	3.597	3.597	0.000	97	2429040	75.0	80.2	
33 trans-1,2-Dichloroethene	96	3.612	3.612	0.000	94	791573	75.0	76.6	
34 Hexane	57	3.805	3.805	0.000	96	1209578	75.0	78.0	
35 Vinyl acetate	43	3.905	3.905	0.000	97	3687636	150.0	157.3	
36 1,1-Dichloroethane	63	3.934	3.933	0.001	97	1676790	75.0	74.8	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
40 2-Butanone (MEK)	43	4.320	4.320	0.000	99	1856643	300.0	299.9	
42 cis-1,2-Dichloroethene	96	4.341	4.341	0.000	88	863186	75.0	74.6	
43 2,2-Dichloropropane	77	4.355	4.355	0.000	90	1289427	75.0	75.3	
45 sec-Butyl Alcohol	45	4.427	4.427	0.000	100	1849533	1800.0	2055.9	
47 Chlorobromomethane	128	4.520	4.520	0.000	92	363025	75.0	78.2	
48 Tetrahydrofuran	42	4.534	4.527	0.007	92	633643	150.0	151.1	
49 Chloroform	83	4.577	4.577	0.000	97	1482724	75.0	73.3	
50 1,1,1-Trichloroethane	97	4.727	4.720	0.007	98	1269271	75.0	77.2	
51 Cyclohexane	56	4.784	4.784	0.000	95	1635343	75.0	76.8	
52 1,1-Dichloropropene	75	4.834	4.834	0.000	97	1216541	75.0	75.5	
53 Carbon tetrachloride	117	4.842	4.842	0.000	93	1014502	75.0	77.8	
54 Isobutyl alcohol	41	4.842	4.842	0.000	95	819824	1875.0	2077.6	
55 Benzene	78	4.992	4.992	0.000	98	3485867	75.0	73.9	
56 1,2-Dichloroethane	62	5.020	5.013	0.007	97	1241882	75.0	71.3	
58 n-Heptane	43	5.171	5.170	0.000	96	1057618	75.0	74.3	
60 Trichloroethene	95	5.478	5.471	0.007	96	853508	75.0	77.7	
61 2-Pentanone	43	5.578	5.578	0.000	98	2340500	240.0	262.0	
62 Methylcyclohexane	55	5.671	5.671	0.000	95	1136976	75.0	77.4	
63 1,2-Dichloropropane	63	5.685	5.685	0.000	95	977268	75.0	74.4	
65 1,4-Dioxane	88	5.721	5.721	0.000	98	223916	1500.0	1563.1	
66 Dibromomethane	93	5.757	5.750	0.007	91	500710	75.0	74.6	
67 Dichlorobromomethane	83	5.871	5.871	0.000	98	1128217	75.0	78.2	
69 2-Chloroethyl vinyl ether	63	6.071	6.071	0.000	92	562318	75.0	80.1	
70 cis-1,3-Dichloropropene	75	6.222	6.222	0.000	93	1440970	75.0	77.7	
71 4-Methyl-2-pentanone (MIBK)	43	6.329	6.329	0.000	98	3786327	300.0	325.1	
72 Toluene	91	6.515	6.515	0.000	97	3607150	75.0	73.6	
73 trans-1,3-Dichloropropene	75	6.686	6.686	0.000	100	1313434	75.0	79.7	
74 Ethyl methacrylate	69	6.708	6.701	0.007	93	1113636	75.0	80.5	
75 1,1,2-Trichloroethane	97	6.858	6.858	0.000	93	717428	75.0	77.9	
76 Tetrachloroethene	164	6.958	6.958	0.000	95	592844	75.0	76.2	
77 1,3-Dichloropropane	76	7.008	7.008	0.000	99	1358706	75.0	77.9	
78 2-Hexanone	43	7.030	7.030	0.000	99	2619666	300.0	315.4	
79 Chlorodibromomethane	129	7.201	7.201	0.000	91	738572	75.0	78.6	
80 Ethylene Dibromide	107	7.323	7.323	0.000	98	722531	75.0	77.2	
81 1-Chlorohexane	91	7.709	7.709	0.000	91	863745	60.0	60.4	
82 Chlorobenzene	112	7.752	7.752	0.000	91	2113392	75.0	74.3	
83 1,1,1,2-Tetrachloroethane	131	7.823	7.823	0.000	94	714447	75.0	79.4	
84 Ethylbenzene	106	7.830	7.830	0.000	99	1214601	75.0	77.7	
85 m-Xylene & p-Xylene	106	7.945	7.945	0.000	0	1480309	75.0	75.3	
86 o-Xylene	106	8.309	8.309	0.000	98	1440572	75.0	75.1	
87 Styrene	104	8.324	8.324	0.000	94	2424000	75.0	77.3	
88 Bromoform	173	8.503	8.502	0.001	95	477532	75.0	79.1	
89 Isopropylbenzene	105	8.646	8.645	0.001	97	3606947	75.0	76.3	
91 Cyclohexanone	55	8.746	8.746	0.000	96	1264337	2250.0	2448.2	
92 1,1,2,2-Tetrachloroethane	83	8.932	8.932	0.000	94	970013	75.0	76.4	
94 trans-1,4-Dichloro-2-butene	53	8.967	8.967	0.000	74	338634	75.0	83.6	
93 Bromobenzene	156	8.967	8.967	0.000	97	840381	75.0	74.6	
95 1,2,3-Trichloropropane	110	8.996	8.996	0.000	87	280855	75.0	81.2	
96 N-Propylbenzene	120	9.046	9.046	0.000	99	966623	75.0	79.7	
97 2-Chlorotoluene	126	9.146	9.146	0.000	95	834673	75.0	76.4	
98 1,3,5-Trimethylbenzene	105	9.218	9.218	0.000	95	3036689	75.0	77.4	
99 4-Chlorotoluene	126	9.260	9.260	0.000	99	858746	75.0	75.0	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
100 tert-Butylbenzene	119	9.532	9.525	0.007	94	2414586	75.0	75.7	
102 1,2,4-Trimethylbenzene	105	9.582	9.582	0.000	98	3185853	75.0	78.0	
103 sec-Butylbenzene	134	9.747	9.747	0.000	96	674704	75.0	75.4	
104 1,3-Dichlorobenzene	146	9.875	9.875	0.000	96	1565084	75.0	77.0	
105 4-Isopropyltoluene	119	9.890	9.890	0.000	97	3011584	75.0	76.6	
106 1,4-Dichlorobenzene	146	9.975	9.975	0.000	92	1616628	75.0	73.5	
108 n-Butylbenzene	91	10.297	10.297	0.000	98	2848008	75.0	78.2	
109 1,2-Dichlorobenzene	146	10.333	10.333	0.000	96	1479083	75.0	73.8	
110 1,2-Dibromo-3-Chloropropane	157	11.112	11.112	0.000	78	182729	75.0	80.1	
112 1,2,4-Trichlorobenzene	180	11.935	11.935	0.000	94	869149	75.0	76.2	
113 Hexachlorobutadiene	225	12.078	12.078	0.000	96	370557	75.0	83.0	
114 Naphthalene	128	12.206	12.206	0.000	98	2247268	75.0	75.8	
115 1,2,3-Trichlorobenzene	180	12.428	12.428	0.000	94	697064	75.0	75.3	
S 122 1,2-Dichloroethene, Total (URS)	96				0		150.0	151.1	
S 127 Trihalomethanes, Total	1				0		300.0	309.2	
S 125 Xylenes, Total	106				0		150.0	150.4	
S 123 Xylenes, Total (URS)	1				0		150.0	150.4	
S 124 1,3-Dichloropropene, Total	1				0		150.0	157.4	
S 129 1,2-Dichloroethene, Total	1				0		150.0	151.1	
S 126 Total BTEX	1				0			375.6	

QC Flag Legend

Processing Flags

Reagents:

MV-MegaMainA_00100	Amount Added:	37.50	Units: uL	
MV-Gas A_00174	Amount Added:	15.00	Units: uL	
mv-IS_SS_00074	Amount Added:	5.00	Units: uL	Run Reagent

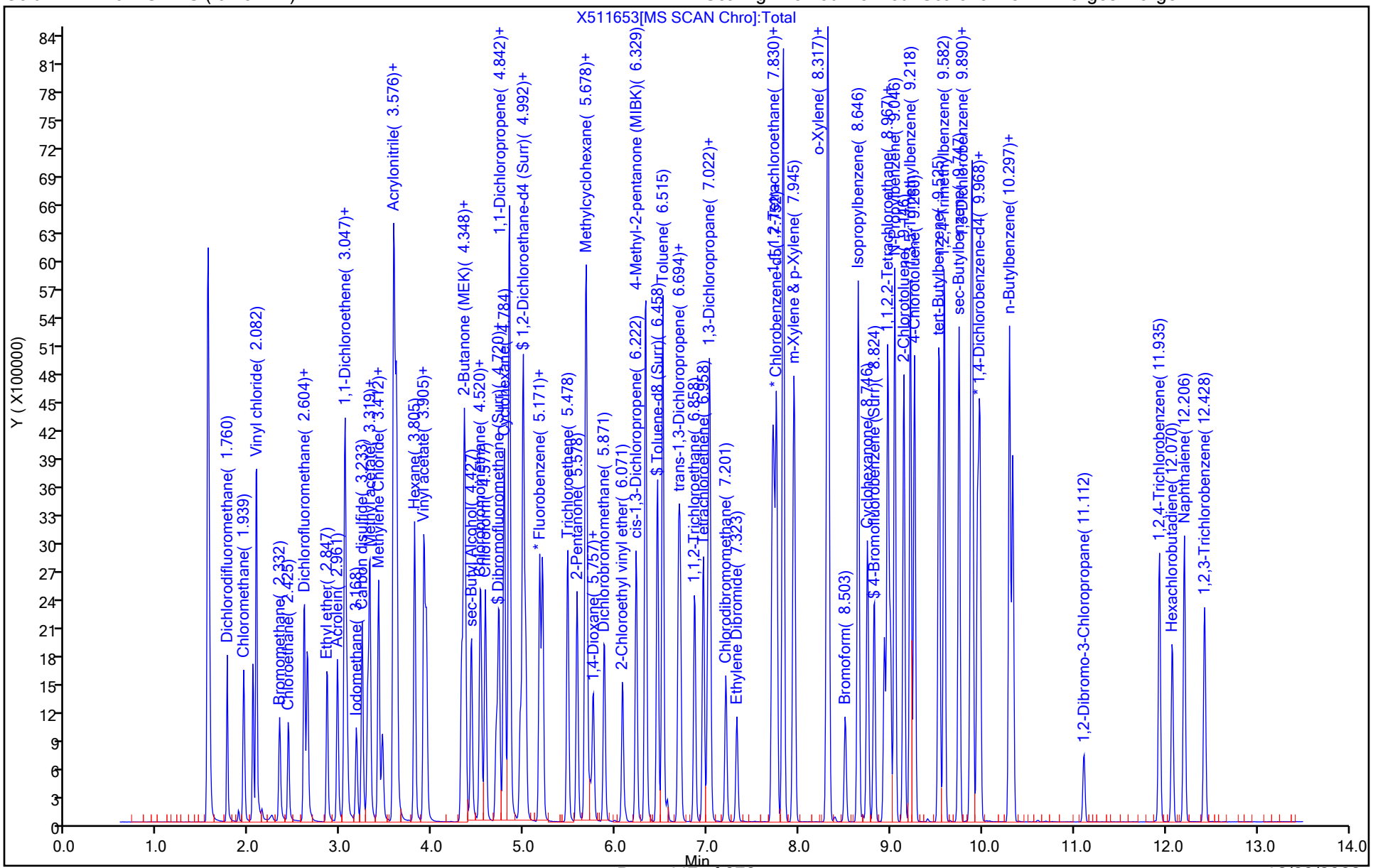
Report Date: 11-Dec-2023 03:13:38 Chrom Revision: 2.3 15-Nov-2023 20:54:34

Eurofins Denver

Data File: \\chromfs\Denver\ChromData\VMS_X4\20231208-128432.b\X511653.D

Injection Date:	08-Dec-2023 23:52:30	Instrument ID:	VMS_X4	Operator ID:	CF
Lims ID:	IC			Worklist Smp#:	8
Client ID:					
Purge Vol:	5.000 mL	Dil. Factor:	1.0000	ALS Bottle#:	7
Method:	VMS_X4_8260	Limit Group:	MSV - 8260B Water and Solid		

Column: Rxi-624Sil MS (0.25 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 1



Eurofins Denver
Target Compound Quantitation Report

Data File: \\chromfs\Denver\ChromData\VMS_X4\20231208-128432.b\X511654.D
Lims ID: IC
Client ID:
Sample Type: IC Calib Level: 8
Inject. Date: 09-Dec-2023 00:13:30 ALS Bottle#: 8 Worklist Smp#: 9
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Sample Info: std
Operator ID: CF Instrument ID: VMS_X4
Sublist: chrom-VMS_X4_8260*sub1

Method: \\chromfs\Denver\ChromData\VMS_X4\20231208-128432.b\VMS_X4_8260.m
Limit Group: MSV - 8260B Water and Solid
Last Update: 11-Dec-2023 03:13:42 Calib Date: 09-Dec-2023 00:33:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Denver\ChromData\VMS_X4\20231208-128432.b\X511655.D

Column 1 : Rxi-624Sil MS (0.25 mm) Det: MS SCAN
Process Host: CTX1656

First Level Reviewer: BX8N Date: 11-Dec-2023 03:05:08

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
* 1 Fluorobenzene	96	5.199	5.199	0.000	98	1996396	50.0	50.0	
* 2 Chlorobenzene-d5	119	7.730	7.723	0.007	90	502912	50.0	50.0	
* 3 1,4-Dichlorobenzene-d4	152	9.947	9.947	0.000	97	821785	50.0	50.0	
$ 4 Dibromofluoromethane (Surr)	111	4.699	4.691	0.008	92	502826	50.0	49.2	
$ 5 1,2-Dichloroethane-d4 (Surr)	65	4.956	4.956	0.000	0	651566	50.0	49.3	
$ 6 Toluene-d8 (Surr)	98	6.458	6.458	0.000	95	2179997	50.0	50.3	
$ 7 4-Bromofluorobenzene (Surr)	95	8.817	8.817	0.000	91	805062	50.0	51.3	
9 Dichlorodifluoromethane	85	1.760	1.760	0.000	100	1409272	100.0	99.7	
10 Chloromethane	50	1.939	1.939	0.000	100	1851743	100.0	94.7	
11 Vinyl chloride	62	2.039	2.039	0.000	99	1680142	100.0	99.7	
12 Bromomethane	94	2.332	2.332	0.000	92	858543	100.0	101.7	
13 Chloroethane	64	2.425	2.425	0.000	99	971130	100.0	91.7	
14 Dichlorofluoromethane	67	2.597	2.604	-0.007	99	2445101	100.0	95.5	
16 Trichlorofluoromethane	101	2.632	2.632	0.000	99	1649692	100.0	94.1	
18 Ethyl ether	59	2.847	2.847	0.000	96	992238	100.0	99.3	
19 Acrolein	56	2.961	2.961	0.000	99	1536959	987.5	957.7	
21 1,1-Dichloroethene	96	3.047	3.047	0.000	95	913693	100.0	100.2	
20 1,1,2-Trichloro-1,2,2-trifluoroe	151	3.040	3.047	-0.007	97	696434	100.0	105.1	
22 Acetone	43	3.069	3.068	0.001	99	1479095	400.0	379.6	
24 Iodomethane	142	3.169	3.168	0.001	100	1247496	100.0	103.3	
25 Carbon disulfide	76	3.233	3.233	0.000	100	3259987	100.0	96.1	
27 Methyl acetate	43	3.290	3.290	0.000	99	1862400	200.0	197.7	
28 3-Chloro-1-propene	41	3.319	3.319	0.000	90	2053980	100.0	95.9	
29 Methylene Chloride	84	3.412	3.412	0.000	99	1109068	100.0	92.3	
30 2-Methyl-2-propanol	59	3.455	3.454	0.001	99	1113579	1000.0	1060.2	
31 Acrylonitrile	53	3.576	3.576	0.000	97	4715071	1000.0	954.1	
32 Methyl tert-butyl ether	73	3.598	3.597	0.001	98	3225474	100.0	105.8	
33 trans-1,2-Dichloroethene	96	3.612	3.612	0.000	94	1038295	100.0	99.8	
34 Hexane	57	3.805	3.805	0.000	97	1600243	100.0	103.7	
35 Vinyl acetate	43	3.905	3.905	0.000	97	4613455	200.0	195.5	
36 1,1-Dichloroethane	63	3.934	3.933	0.001	97	2214703	100.0	98.1	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
40 2-Butanone (MEK)	43	4.320	4.320	0.000	100	2371046	400.0	380.5	
42 cis-1,2-Dichloroethene	96	4.341	4.341	0.000	88	1156585	100.0	99.3	
43 2,2-Dichloropropane	77	4.356	4.355	0.001	90	1740504	100.0	101.0	
45 sec-Butyl Alcohol	45	4.420	4.427	-0.007	100	2426975	2400.0	2680.2	
47 Chlorobromomethane	128	4.520	4.520	0.000	92	480038	100.0	102.7	
48 Tetrahydrofuran	42	4.527	4.527	0.000	91	825023	200.0	195.4	
49 Chloroform	83	4.577	4.577	0.000	97	1979908	100.0	97.3	
50 1,1,1-Trichloroethane	97	4.720	4.720	0.000	98	1681500	100.0	101.6	
51 Cyclohexane	56	4.785	4.784	0.001	95	2179017	100.0	101.6	
52 1,1-Dichloropropene	75	4.835	4.834	0.001	96	1655650	100.0	102.0	
53 Carbon tetrachloride	117	4.842	4.842	0.000	93	1380610	100.0	105.2	
54 Isobutyl alcohol	41	4.842	4.842	0.000	95	1073299	2500.0	2702.3	
55 Benzene	78	4.992	4.992	0.000	98	4652151	100.0	98.0	
56 1,2-Dichloroethane	62	5.013	5.013	0.000	97	1612305	100.0	92.0	
58 n-Heptane	43	5.171	5.170	0.001	97	1399858	100.0	97.8	
60 Trichloroethene	95	5.478	5.471	0.007	96	1150694	100.0	105.3	
61 2-Pentanone	43	5.578	5.578	0.000	98	2993645	320.0	333.0	
62 Methylcyclohexane	55	5.671	5.671	0.000	95	1543726	100.0	104.5	
63 1,2-Dichloropropane	63	5.678	5.685	-0.007	94	1314480	100.0	99.4	
65 1,4-Dioxane	88	5.721	5.721	0.000	98	289214	2000.0	2005.8	
66 Dibromomethane	93	5.750	5.750	0.000	93	656066	100.0	97.1	
67 Dichlorobromomethane	83	5.871	5.871	0.000	99	1526039	100.0	105.1	
69 2-Chloroethyl vinyl ether	63	6.072	6.071	0.001	92	738525	100.0	104.5	
70 cis-1,3-Dichloropropene	75	6.222	6.222	0.000	92	1908924	100.0	103.4	
71 4-Methyl-2-pentanone (MIBK)	43	6.329	6.329	0.000	99	4849186	400.0	413.7	
72 Toluene	91	6.515	6.515	0.000	97	4787545	100.0	97.1	
73 trans-1,3-Dichloropropene	75	6.687	6.686	0.001	99	1744642	100.0	105.2	
74 Ethyl methacrylate	69	6.708	6.701	0.007	92	1461196	100.0	106.2	
75 1,1,2-Trichloroethane	97	6.858	6.858	0.000	93	917969	100.0	99.0	
76 Tetrachloroethene	164	6.958	6.958	0.000	96	778225	100.0	100.6	
77 1,3-Dichloropropane	76	7.008	7.008	0.000	98	1803964	100.0	103.9	
78 2-Hexanone	43	7.030	7.030	0.000	99	3412672	400.0	412.8	
79 Chlorodibromomethane	129	7.201	7.201	0.000	91	995925	100.0	106.5	
80 Ethylene Dibromide	107	7.323	7.323	0.000	98	954315	100.0	102.4	
81 1-Chlorohexane	91	7.709	7.709	0.000	92	1169030	80.0	82.1	
82 Chlorobenzene	112	7.752	7.752	0.000	90	2812304	100.0	99.4	
83 1,1,1,2-Tetrachloroethane	131	7.823	7.823	0.000	94	966126	100.0	107.9	
84 Ethylbenzene	106	7.831	7.830	0.001	99	1601198	100.0	102.9	
85 m-Xylene & p-Xylene	106	7.945	7.945	0.000	0	1971421	100.0	100.7	
86 o-Xylene	106	8.310	8.309	0.001	98	1920090	100.0	100.6	
87 Styrene	104	8.324	8.324	0.000	92	3252587	100.0	104.3	
88 Bromoform	173	8.503	8.502	0.001	95	641757	100.0	106.8	
89 Isopropylbenzene	105	8.646	8.645	0.001	98	4817445	100.0	102.4	
91 Cyclohexanone	55	8.746	8.746	0.000	96	1608490	3000.0	3129.4	
92 1,1,2,2-Tetrachloroethane	83	8.932	8.932	0.000	95	1263671	100.0	100.1	
94 trans-1,4-Dichloro-2-butene	53	8.967	8.967	0.000	69	430574	100.0	106.9	
93 Bromobenzene	156	8.967	8.967	0.000	98	1121367	100.0	100.1	
95 1,2,3-Trichloropropane	110	8.996	8.996	0.000	88	365935	100.0	106.3	
96 N-Propylbenzene	120	9.046	9.046	0.000	99	1300992	100.0	107.9	
97 2-Chlorotoluene	126	9.146	9.146	0.000	95	1099560	100.0	101.2	
98 1,3,5-Trimethylbenzene	105	9.218	9.218	0.000	95	4013068	100.0	102.8	
99 4-Chlorotoluene	126	9.261	9.260	0.001	99	1143931	100.0	100.5	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
100 tert-Butylbenzene	119	9.525	9.525	0.000	94	3238732	100.0	102.1	
102 1,2,4-Trimethylbenzene	105	9.582	9.582	0.000	99	4176369	100.0	102.9	
103 sec-Butylbenzene	134	9.747	9.747	0.000	96	891537	100.0	100.2	
104 1,3-Dichlorobenzene	146	9.876	9.875	0.001	96	2090161	100.0	103.5	
105 4-Isopropyltoluene	119	9.890	9.890	0.000	97	4018351	100.0	102.8	
106 1,4-Dichlorobenzene	146	9.976	9.975	0.001	91	2133830	100.0	97.6	
108 n-Butylbenzene	91	10.297	10.297	0.000	99	3754069	100.0	103.7	
109 1,2-Dichlorobenzene	146	10.333	10.333	0.000	95	1979251	100.0	99.3	
110 1,2-Dibromo-3-Chloropropane	157	11.113	11.112	0.001	79	242191	100.0	106.7	
112 1,2,4-Trichlorobenzene	180	11.935	11.935	0.000	93	1139191	100.0	100.5	
113 Hexachlorobutadiene	225	12.071	12.078	-0.007	97	478282	100.0	107.7	
114 Naphthalene	128	12.207	12.206	0.001	98	3013787	100.0	102.3	
115 1,2,3-Trichlorobenzene	180	12.428	12.428	0.000	94	928778	100.0	100.9	
S 122 1,2-Dichloroethene, Total (URS)	96				0		200.0	199.0	
S 127 Trihalomethanes, Total	1				0		400.0	415.7	
S 125 Xylenes, Total	106				0		200.0	201.3	
S 123 Xylenes, Total (URS)	1				0		200.0	201.3	
S 124 1,3-Dichloropropene, Total	1				0		200.0	208.6	
S 129 1,2-Dichloroethene, Total	1				0		200.0	199.0	
S 126 Total BTEX	1				0			499.3	

QC Flag Legend

Processing Flags

Reagents:

MV-MegaMainA_00100	Amount Added:	50.00	Units: uL	
MV-Gas A_00174	Amount Added:	20.00	Units: uL	
mv-IS_SS_00074	Amount Added:	5.00	Units: uL	Run Reagent

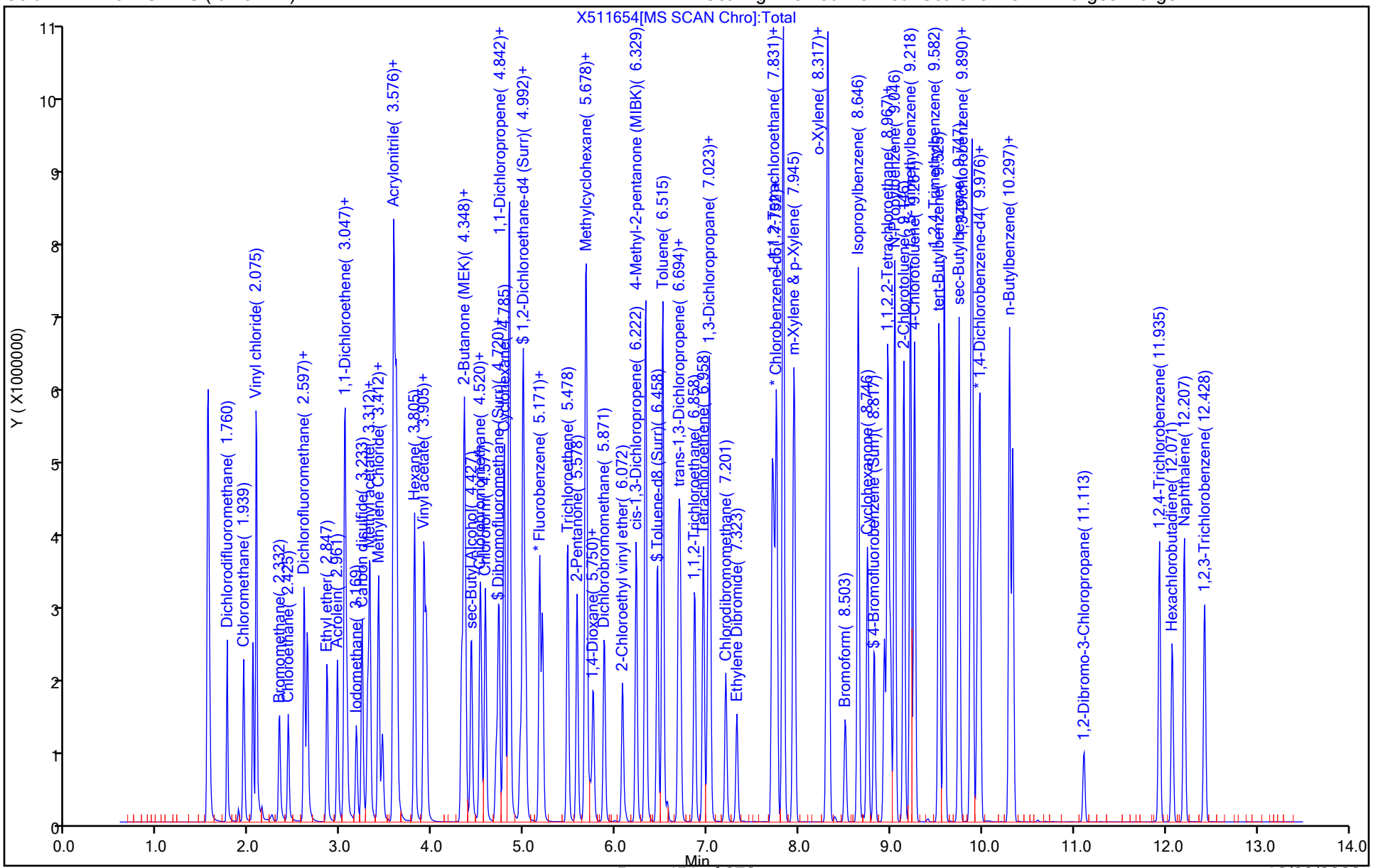
Report Date: 11-Dec-2023 03:13:42 Chrom Revision: 2.3 15-Nov-2023 20:54:34

Eurofins Denver

Data File: \\chromfs\Denver\ChromData\VMS_X4\20231208-128432.b\X511654.D

Injection Date:	09-Dec-2023 00:13:30	Instrument ID:	VMS_X4	Operator ID:	CF
Lims ID:	IC			Worklist Smp#:	9
Client ID:					
Purge Vol:	5.000 mL	Dil. Factor:	1.0000	ALS Bottle#:	8
Method:	VMS_X4_8260	Limit Group:	MSV - 8260B Water and Solid		

Column: Rxi-624Sil MS (0.25 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 1



Eurofins Denver
Target Compound Quantitation Report

Data File: \\chromfs\Denver\ChromData\VMS_X4\20231208-128432.b\X511655.D
Lims ID: IC
Client ID:
Sample Type: IC Calib Level: 9
Inject. Date: 09-Dec-2023 00:33:30 ALS Bottle#: 9 Worklist Smp#: 10
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Sample Info: std
Operator ID: CF Instrument ID: VMS_X4
Sublist: chrom-VMS_X4_8260*sub1

Method: \\chromfs\Denver\ChromData\VMS_X4\20231208-128432.b\VMS_X4_8260.m
Limit Group: MSV - 8260B Water and Solid
Last Update: 11-Dec-2023 03:13:46 Calib Date: 09-Dec-2023 00:33:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Denver\ChromData\VMS_X4\20231208-128432.b\X511655.D

Column 1 : Rxi-624Sil MS (0.25 mm) Det: MS SCAN
Process Host: CTX1656

First Level Reviewer: BX8N Date: 11-Dec-2023 03:11:03

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
* 1 Fluorobenzene	96	5.199	5.199	0.000	98	2045461	50.0	50.0	
* 2 Chlorobenzene-d5	119	7.723	7.723	0.000	90	519596	50.0	50.0	
* 3 1,4-Dichlorobenzene-d4	152	9.947	9.947	0.000	97	863296	50.0	50.0	
$ 4 Dibromofluoromethane (Surr)	111	4.692	4.691	0.001	93	513617	50.0	49.1	
$ 5 1,2-Dichloroethane-d4 (Surr)	65	4.956	4.956	0.000	0	660318	50.0	48.8	
$ 6 Toluene-d8 (Surr)	98	6.458	6.458	0.000	95	2227669	50.0	49.8	
$ 7 4-Bromofluorobenzene (Surr)	95	8.817	8.817	0.000	84	814904	50.0	49.5	
9 Dichlorodifluoromethane	85	1.760	1.760	0.000	100	2621778	200.0	181.0	
10 Chloromethane	50	1.939	1.939	0.000	99	3504175	200.0	174.9	
11 Vinyl chloride	62	2.039	2.039	0.000	99	3165693	200.0	183.3	
12 Bromomethane	94	2.318	2.332	-0.014	92	1567406	200.0	181.3	
13 Chloroethane	64	2.418	2.425	-0.007	99	1837183	200.0	169.2	
14 Dichlorofluoromethane	67	2.597	2.604	-0.007	98	4652017	200.0	177.3	
16 Trichlorofluoromethane	101	2.632	2.632	0.000	99	3229350	200.0	179.8	
18 Ethyl ether	59	2.847	2.847	0.000	96	1984673	200.0	193.9	
19 Acrolein	56	2.961	2.961	0.000	99	3133248	1975.0	1905.5	
21 1,1-Dichloroethene	96	3.047	3.047	0.000	96	1863380	200.0	199.5	
20 1,1,2-Trichloro-1,2,2-trifluoroe	151	3.040	3.047	-0.007	98	1386874	200.0	204.3	
22 Acetone	43	3.069	3.068	0.001	99	3068471	800.0	768.6	
24 Iodomethane	142	3.169	3.168	0.001	100	2467122	200.0	198.9	
25 Carbon disulfide	76	3.233	3.233	0.000	100	6333345	200.0	182.2	
27 Methyl acetate	43	3.290	3.290	0.000	99	3881525	400.0	402.1	
28 3-Chloro-1-propene	41	3.312	3.319	-0.007	90	3628658	200.0	165.3	
29 Methylene Chloride	84	3.412	3.412	0.000	98	2221969	200.0	180.4	
30 2-Methyl-2-propanol	59	3.455	3.454	0.001	99	2487770	2000.0	2311.6	
31 Acrylonitrile	53	3.576	3.576	0.000	96	9483511	2000.0	1873.0	
32 Methyl tert-butyl ether	73	3.598	3.597	0.001	98	6496255	200.0	208.0	
33 trans-1,2-Dichloroethene	96	3.612	3.612	0.000	95	2098639	200.0	196.8	
34 Hexane	57	3.805	3.805	0.000	96	3206323	200.0	201.1	
35 Vinyl acetate	43	3.905	3.905	0.000	97	9229147	400.0	381.8	
36 1,1-Dichloroethane	63	3.934	3.933	0.001	97	4372965	200.0	189.1	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
40 2-Butanone (MEK)	43	4.320	4.320	0.000	99	4977182	800.0	779.5	
42 cis-1,2-Dichloroethene	96	4.341	4.341	0.000	88	2322316	200.0	194.5	
43 2,2-Dichloropropane	77	4.356	4.355	0.001	92	3473524	200.0	196.7	
45 sec-Butyl Alcohol	45	4.427	4.427	0.000	100	5311473	4800.0	5725.0	
47 Chlorobromomethane	128	4.520	4.520	0.000	92	949668	200.0	198.3	
48 Tetrahydrofuran	42	4.527	4.527	0.000	91	1721902	400.0	398.1	
49 Chloroform	83	4.577	4.577	0.000	96	3884602	200.0	186.3	
50 1,1,1-Trichloroethane	97	4.720	4.720	0.000	98	3381129	200.0	199.3	
51 Cyclohexane	56	4.785	4.784	0.001	95	4294175	200.0	195.5	
52 1,1-Dichloropropene	75	4.835	4.834	0.001	96	3309804	200.0	199.1	
53 Carbon tetrachloride	117	4.842	4.842	0.000	91	2803918	200.0	208.6	
54 Isobutyl alcohol	41	4.842	4.842	0.000	96	2357768	5000.0	5793.8	
55 Benzene	78	4.992	4.992	0.000	99	8990639	200.0	184.9	
56 1,2-Dichloroethane	62	5.013	5.013	0.000	97	3222735	200.0	179.4	
58 n-Heptane	43	5.171	5.170	0.001	97	2763824	200.0	188.4	
60 Trichloroethene	95	5.478	5.471	0.007	97	2299614	200.0	203.7	
61 2-Pentanone	43	5.578	5.578	0.000	98	6193403	640.0	672.4	
62 Methylcyclohexane	55	5.671	5.671	0.000	95	3104765	200.0	205.1	
63 1,2-Dichloropropane	63	5.686	5.685	0.001	95	2628338	200.0	194.0	
65 1,4-Dioxane	88	5.721	5.721	0.000	98	602877	4000.0	4080.9	
66 Dibromomethane	93	5.750	5.750	0.000	93	1330394	200.0	192.2	
67 Dichlorobromomethane	83	5.871	5.871	0.000	99	3058785	200.0	205.5	
69 2-Chloroethyl vinyl ether	63	6.072	6.071	0.001	92	1513331	200.0	209.0	
70 cis-1,3-Dichloropropene	75	6.222	6.222	0.000	92	3875150	200.0	203.2	
71 4-Methyl-2-pentanone (MIBK)	43	6.329	6.329	0.000	98	9693502	800.0	807.1	
72 Toluene	91	6.515	6.515	0.000	98	9260574	200.0	183.3	
73 trans-1,3-Dichloropropene	75	6.687	6.686	0.001	99	3542079	200.0	208.5	
74 Ethyl methacrylate	69	6.708	6.701	0.007	92	3028071	200.0	212.9	
75 1,1,2-Trichloroethane	97	6.858	6.858	0.000	94	1867560	200.0	196.6	
76 Tetrachloroethene	164	6.958	6.958	0.000	95	1598859	200.0	200.0	
77 1,3-Dichloropropane	76	7.008	7.008	0.000	98	3604823	200.0	200.9	
78 2-Hexanone	43	7.030	7.030	0.000	98	6906153	800.0	808.5	
79 Chlorodibromomethane	129	7.201	7.201	0.000	91	2048092	200.0	212.1	
80 Ethylene Dibromide	107	7.323	7.323	0.000	98	1924875	200.0	200.0	
81 1-Chlorohexane	91	7.709	7.709	0.000	91	2329470	160.0	158.3	
82 Chlorobenzene	112	7.752	7.752	0.000	90	5539547	200.0	189.4	
83 1,1,1,2-Tetrachloroethane	131	7.823	7.823	0.000	95	1964455	200.0	212.4	
84 Ethylbenzene	106	7.831	7.830	0.001	99	3211834	200.0	199.8	
85 m-Xylene & p-Xylene	106	7.945	7.945	0.000	0	3921260	200.0	193.9	
86 o-Xylene	106	8.310	8.309	0.001	98	3846024	200.0	195.1	
87 Styrene	104	8.324	8.324	0.000	93	6373202	200.0	197.7	
88 Bromoform	173	8.503	8.502	0.001	94	1352889	200.0	217.9	
89 Isopropylbenzene	105	8.646	8.645	0.001	98	9322314	200.0	188.7	
91 Cyclohexanone	55	8.746	8.746	0.000	96	3430562	6000.0	6459.9	
92 1,1,2,2-Tetrachloroethane	83	8.932	8.932	0.000	95	2565654	200.0	193.4	
94 trans-1,4-Dichloro-2-butene	53	8.968	8.967	0.001	76	914291	200.0	216.0	
93 Bromobenzene	156	8.968	8.967	0.001	98	2233939	200.0	189.9	
95 1,2,3-Trichloropropane	110	8.996	8.996	0.000	88	765100	200.0	211.6	
96 N-Propylbenzene	120	9.046	9.046	0.000	98	2607813	200.0	205.8	
97 2-Chlorotoluene	126	9.146	9.146	0.000	95	2174390	200.0	190.6	
98 1,3,5-Trimethylbenzene	105	9.218	9.218	0.000	95	7898899	200.0	192.6	
99 4-Chlorotoluene	126	9.261	9.260	0.001	99	2277283	200.0	190.5	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
100 tert-Butylbenzene	119	9.525	9.525	0.000	94	6437417	200.0	193.2	
102 1,2,4-Trimethylbenzene	105	9.590	9.582	0.008	99	8161601	200.0	191.4	
103 sec-Butylbenzene	134	9.747	9.747	0.000	96	1848290	200.0	197.8	
104 1,3-Dichlorobenzene	146	9.876	9.875	0.001	96	4163961	200.0	196.2	
105 4-Isopropyltoluene	119	9.897	9.890	0.007	96	7880910	200.0	191.9	
106 1,4-Dichlorobenzene	146	9.976	9.975	0.001	91	4266166	200.0	185.8	
108 n-Butylbenzene	91	10.297	10.297	0.000	98	7322150	200.0	192.5	
109 1,2-Dichlorobenzene	146	10.333	10.333	0.000	95	3899480	200.0	186.2	
110 1,2-Dibromo-3-Chloropropane	157	11.113	11.112	0.001	82	513677	200.0	215.5	
112 1,2,4-Trichlorobenzene	180	11.935	11.935	0.000	94	2284772	200.0	191.8	
113 Hexachlorobutadiene	225	12.078	12.078	0.000	97	929930	200.0	199.4	
114 Naphthalene	128	12.207	12.206	0.001	98	5967310	200.0	192.8	
115 1,2,3-Trichlorobenzene	180	12.428	12.428	0.000	94	1847012	200.0	191.1	
S 122 1,2-Dichloroethene, Total (URS)	96				0		400.0	391.3	
S 127 Trihalomethanes, Total	1				0		800.0	821.8	
S 125 Xylenes, Total	106				0		400.0	388.9	
S 123 Xylenes, Total (URS)	1				0		400.0	388.9	
S 124 1,3-Dichloropropene, Total	1				0		400.0	411.7	
S 129 1,2-Dichloroethene, Total	1				0		400.0	391.3	
S 126 Total BTEX	1				0			956.8	

QC Flag Legend

Processing Flags

Reagents:

MV-MegaMainA_00100	Amount Added: 100.00	Units: uL	
MV-Gas A_00174	Amount Added: 40.00	Units: uL	
mv-IS_SS_00074	Amount Added: 5.00	Units: uL	Run Reagent

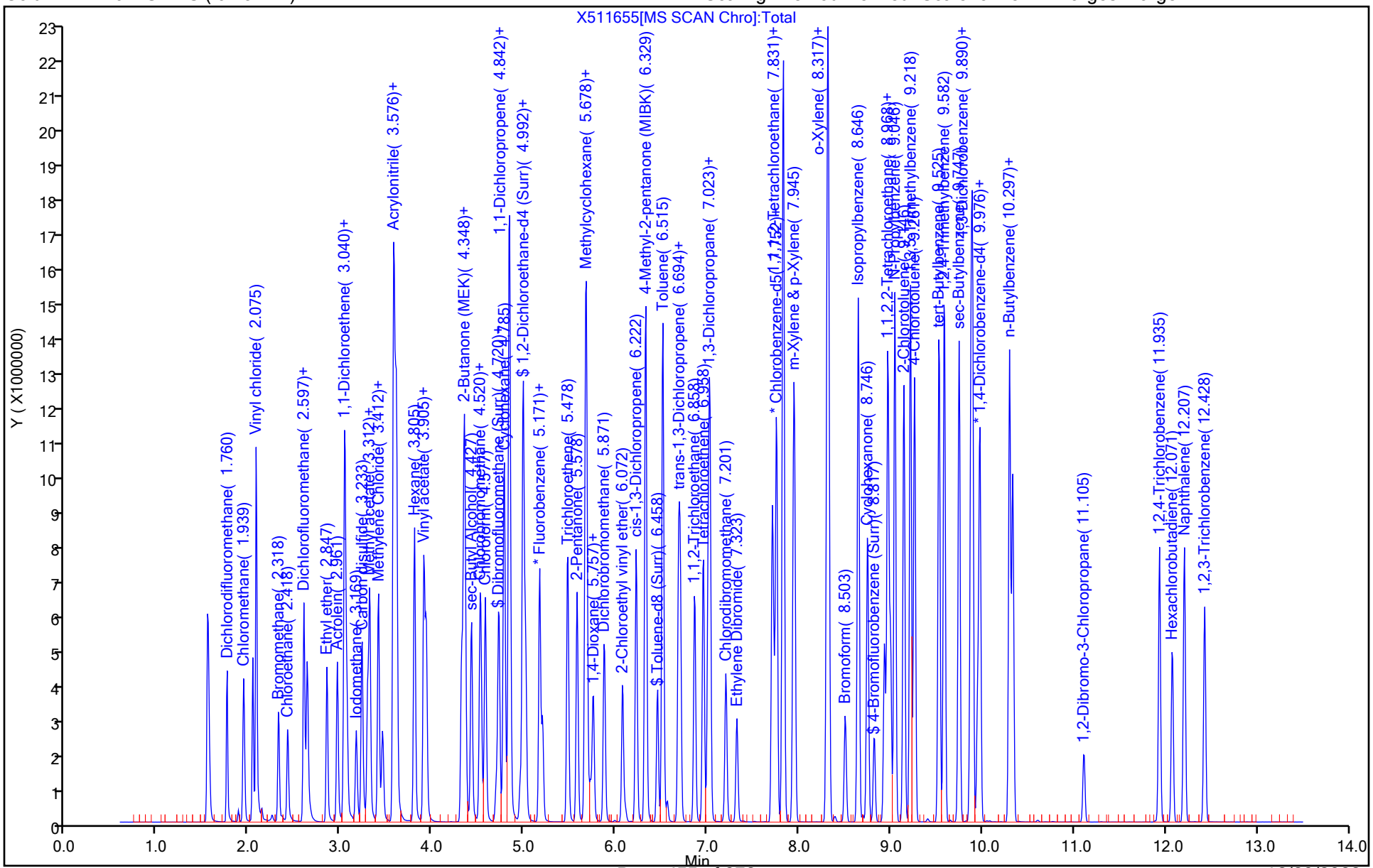
Report Date: 11-Dec-2023 03:13:47 Chrom Revision: 2.3 15-Nov-2023 20:54:34

Eurofins Denver

Data File: \\chromfs\Denver\ChromData\VMS_X4\20231208-128432.b\X511655.D

Injection Date:	09-Dec-2023 00:33:30	Instrument ID:	VMS_X4	Operator ID:	CF
Lims ID:	IC			Worklist Smp#:	10
Client ID:					
Purge Vol:	5.000 mL	Dil. Factor:	1.0000	ALS Bottle#:	9
Method:	VMS_X4_8260	Limit Group:	MSV - 8260B Water and Solid		

Column: Rxi-624Sil MS (0.25 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 1



Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	ISTD
Response Base:	AREA
RF Rounding:	0

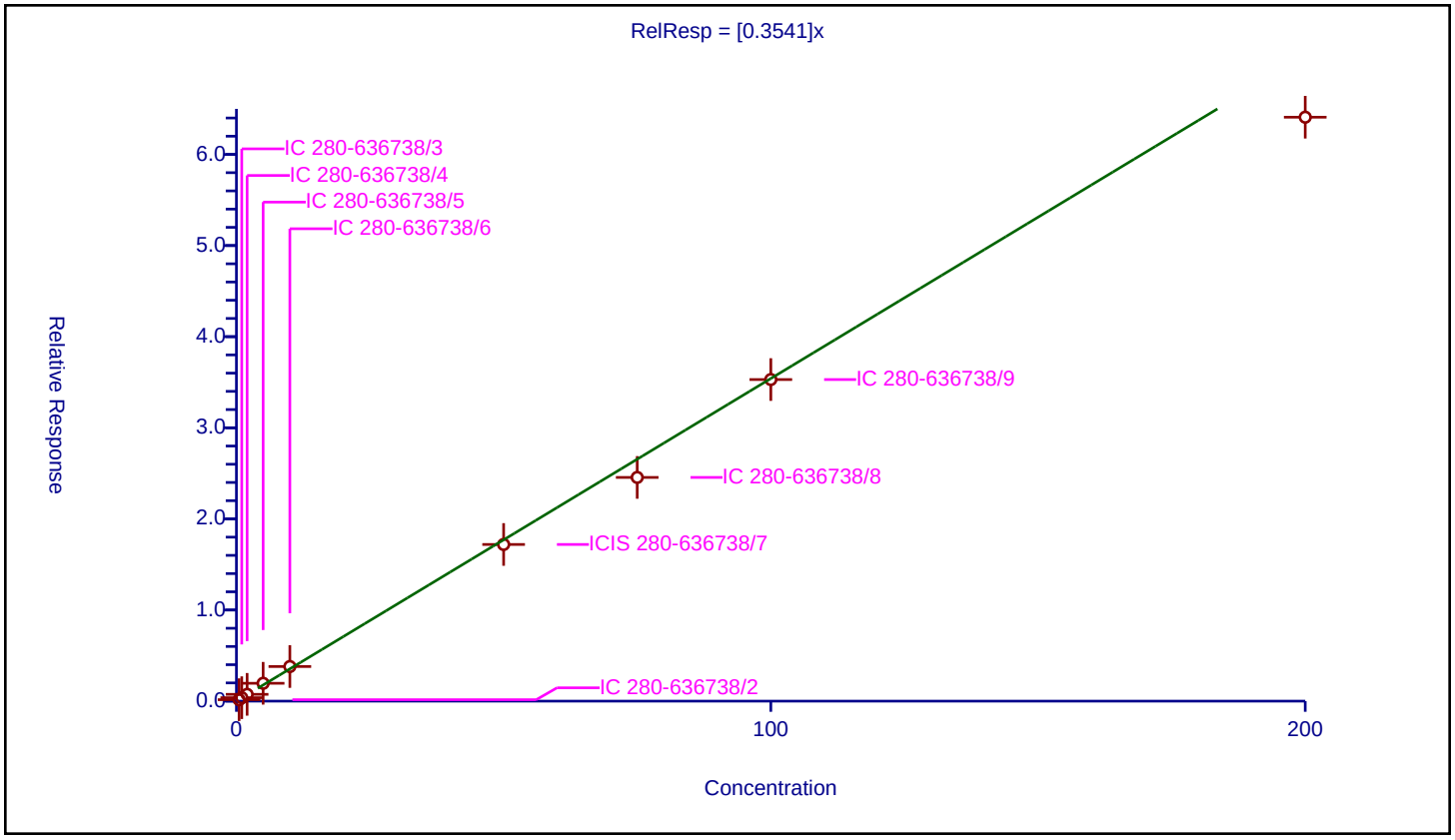
Curve Coefficients

Intercept:	0
Slope:	0.3541

Error Coefficients

Standard Error:	1130000
Relative Standard Error:	8.0
Correlation Coefficient:	0.999
Coefficient of Determination (Adjusted):	0.992

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 280-636738/2	0.5	0.158777	50.0	1824881.0	0.317555	Y
2	IC 280-636738/3	1.0	0.379449	50.0	1811045.0	0.379449	Y
3	IC 280-636738/4	2.0	0.746277	50.0	1808310.0	0.373138	Y
4	IC 280-636738/5	5.0	1.960053	50.0	1838496.0	0.392011	Y
5	IC 280-636738/6	10.0	3.799467	50.0	1829520.0	0.379947	Y
6	ICIS 280-636738/7	50.0	17.194387	50.0	1927914.0	0.343888	Y
7	IC 280-636738/8	75.0	24.551399	50.0	1983388.0	0.327352	Y
8	IC 280-636738/9	100.0	35.295402	50.0	1996396.0	0.352954	Y
9	IC 280-636738/10	200.0	64.087704	50.0	2045461.0	0.320439	Y



Calibration / Chloromethane

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	ISTD
Response Base:	AREA
RF Rounding:	0

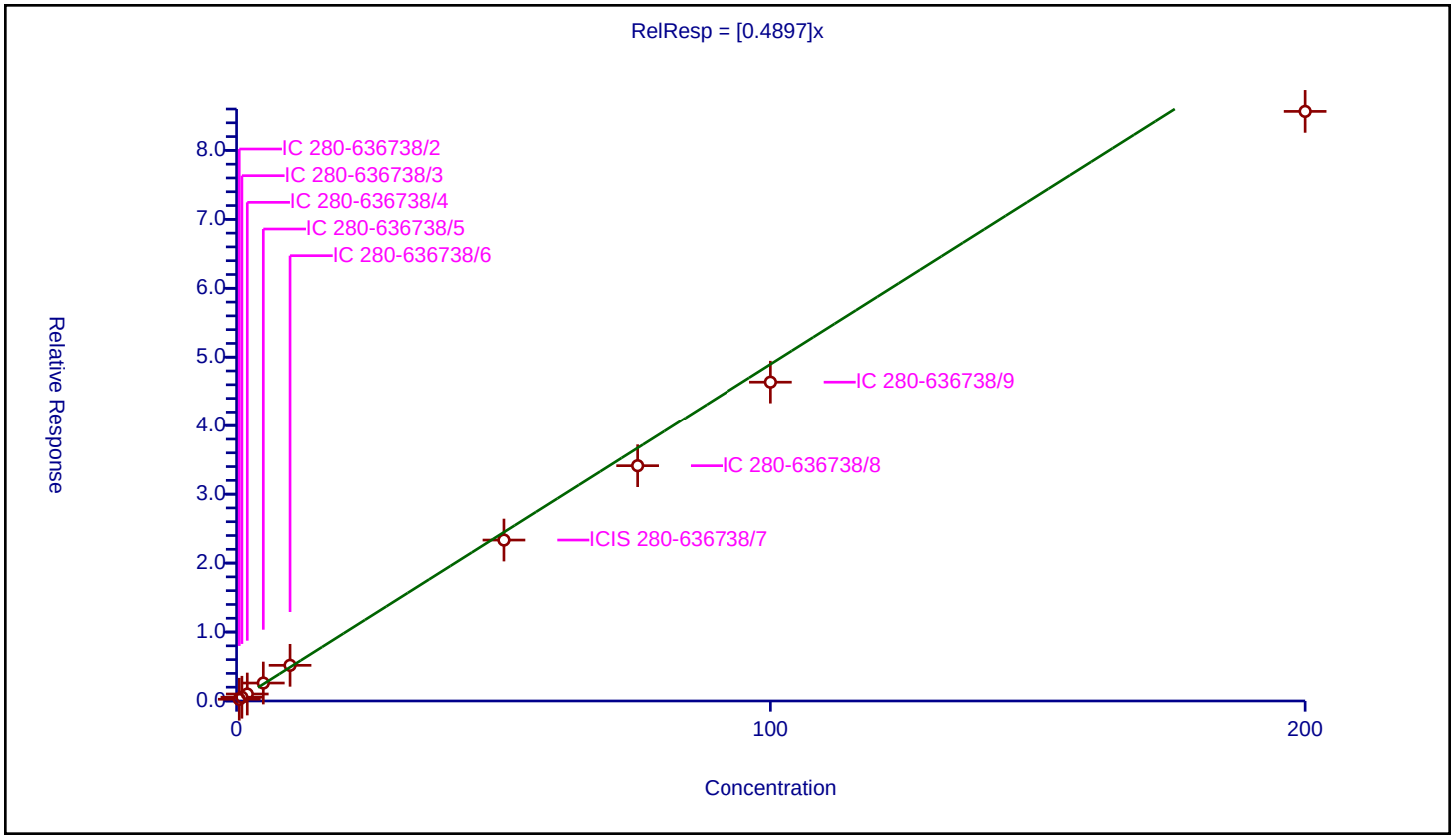
Curve Coefficients

Intercept:	0
Slope:	0.4897

Error Coefficients

Standard Error:	1520000
Relative Standard Error:	7.7
Correlation Coefficient:	0.999
Coefficient of Determination (Adjusted):	0.992

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 280-636738/2	0.5	0.252756	50.0	1824881.0	0.505512	Y
2	IC 280-636738/3	1.0	0.54383	50.0	1811045.0	0.54383	Y
3	IC 280-636738/4	2.0	1.011331	50.0	1808310.0	0.505666	Y
4	IC 280-636738/5	5.0	2.603378	50.0	1838496.0	0.520676	Y
5	IC 280-636738/6	10.0	5.174007	50.0	1829520.0	0.517401	Y
6	ICIS 280-636738/7	50.0	23.342483	50.0	1927914.0	0.46685	Y
7	IC 280-636738/8	75.0	34.130387	50.0	1983388.0	0.455072	Y
8	IC 280-636738/9	100.0	46.377147	50.0	1996396.0	0.463771	Y
9	IC 280-636738/10	200.0	85.657341	50.0	2045461.0	0.428287	Y



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Calibration / Vinyl chloride

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	ISTD
Response Base:	AREA
RF Rounding:	0

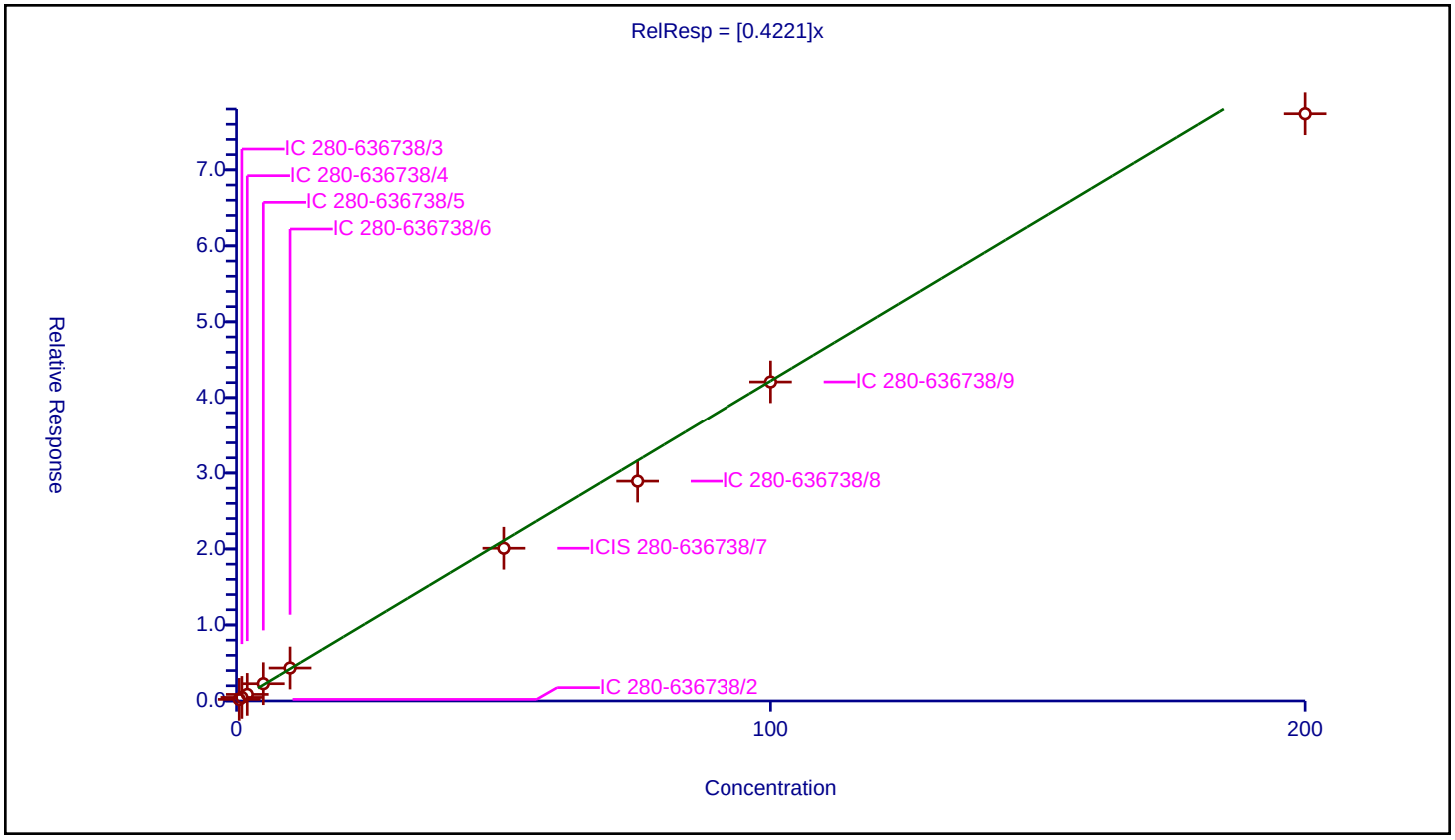
Curve Coefficients

Intercept:	0
Slope:	0.4221

Error Coefficients

Standard Error:	1360000
Relative Standard Error:	6.7
Correlation Coefficient:	0.999
Coefficient of Determination (Adjusted):	0.994

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 280-636738/2	0.5	0.207109	50.0	1824881.0	0.414219	Y
2	IC 280-636738/3	1.0	0.468486	50.0	1811045.0	0.468486	Y
3	IC 280-636738/4	2.0	0.865255	50.0	1808310.0	0.432628	Y
4	IC 280-636738/5	5.0	2.272836	50.0	1838496.0	0.454567	Y
5	IC 280-636738/6	10.0	4.334798	50.0	1829520.0	0.43348	Y
6	ICIS 280-636738/7	50.0	20.093401	50.0	1927914.0	0.401868	Y
7	IC 280-636738/8	75.0	28.929236	50.0	1983388.0	0.385723	Y
8	IC 280-636738/9	100.0	42.079377	50.0	1996396.0	0.420794	Y
9	IC 280-636738/10	200.0	77.383362	50.0	2045461.0	0.386917	Y



Calibration / Bromomethane

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	ISTD
Response Base:	AREA
RF Rounding:	0

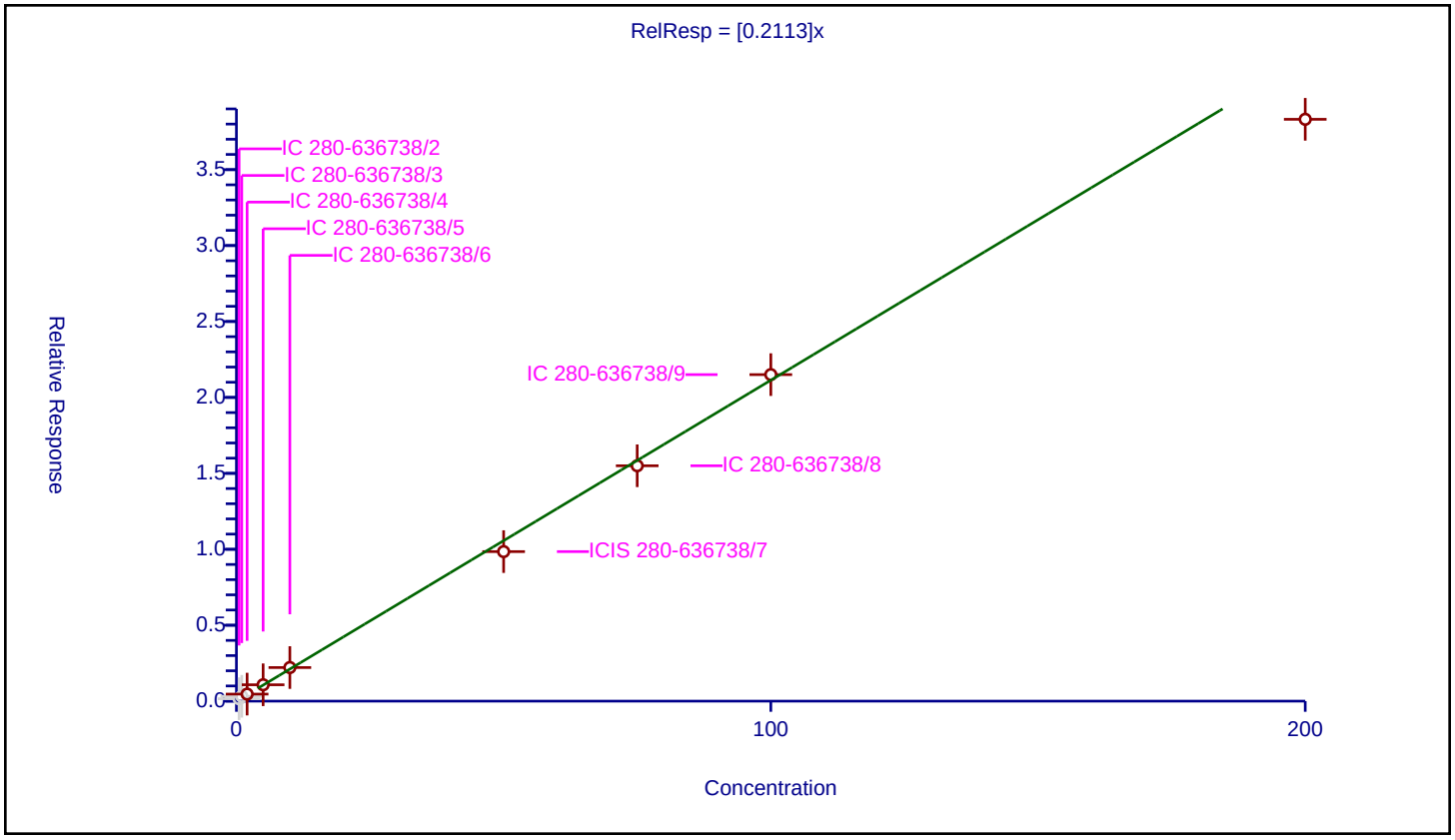
Curve Coefficients

Intercept:	0
Slope:	0.2113

Error Coefficients

Standard Error:	788000
Relative Standard Error:	6.7
Correlation Coefficient:	0.997
Coefficient of Determination (Adjusted):	0.994

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 280-636738/2	0.5	0.157928	50.0	1824881.0	0.315856	N
2	IC 280-636738/3	1.0	0.317717	50.0	1811045.0	0.317717	N
3	IC 280-636738/4	2.0	0.464301	50.0	1808310.0	0.23215	Y
4	IC 280-636738/5	5.0	1.0783	50.0	1838496.0	0.21566	Y
5	IC 280-636738/6	10.0	2.21334	50.0	1829520.0	0.221334	Y
6	ICIS 280-636738/7	50.0	9.846679	50.0	1927914.0	0.196934	Y
7	IC 280-636738/8	75.0	15.499968	50.0	1983388.0	0.206666	Y
8	IC 280-636738/9	100.0	21.502322	50.0	1996396.0	0.215023	Y
9	IC 280-636738/10	200.0	38.314248	50.0	2045461.0	0.191571	Y



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Calibration / Chloroethane

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	ISTD
Response Base:	AREA
RF Rounding:	0

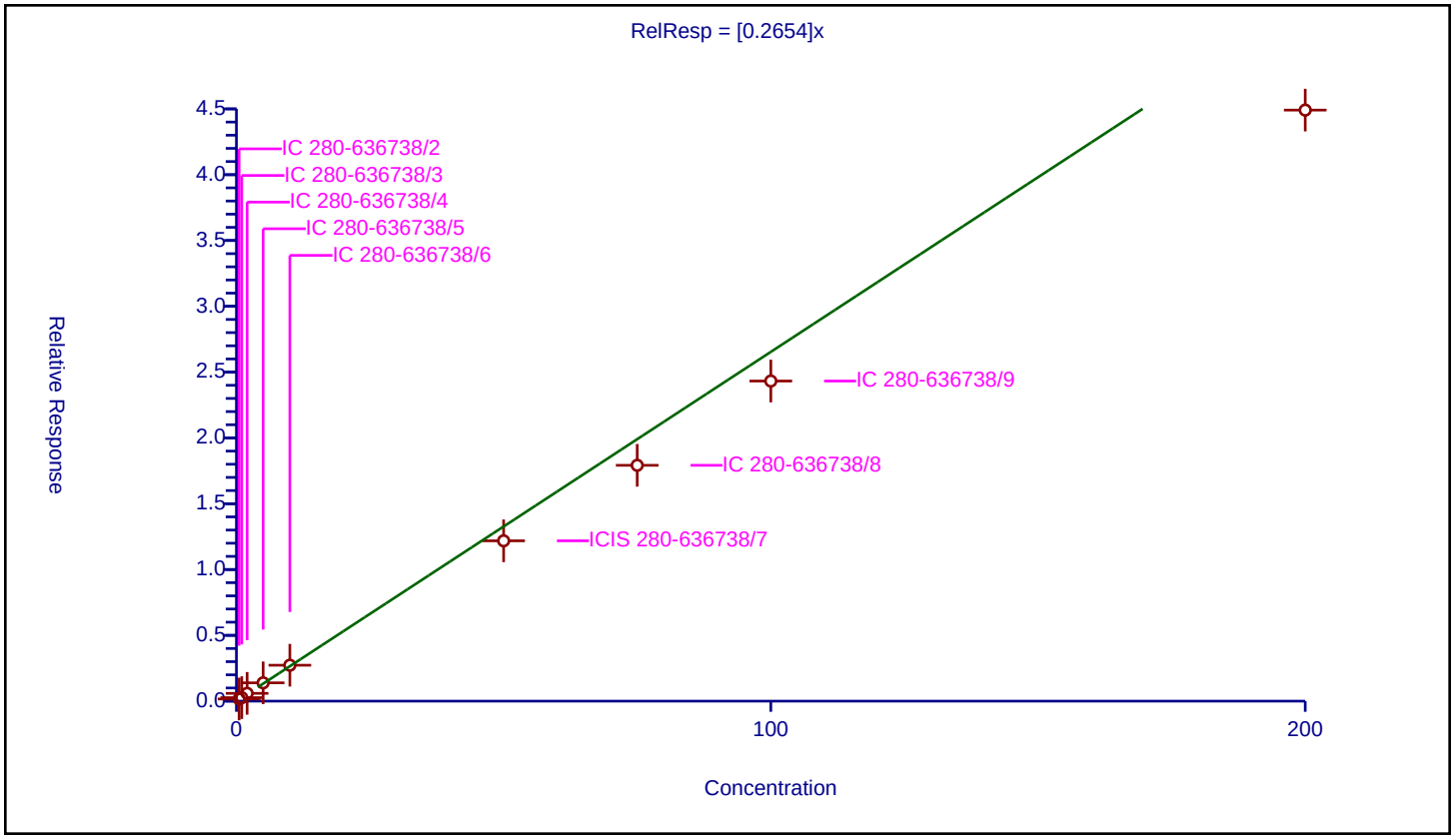
Curve Coefficients

Intercept:	0
Slope:	0.2654

Error Coefficients

Standard Error:	795000
Relative Standard Error:	12.0
Correlation Coefficient:	0.999
Coefficient of Determination (Adjusted):	0.979

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 280-636738/2	0.5	0.162504	50.0	1824881.0	0.325007	Y
2	IC 280-636738/3	1.0	0.265565	50.0	1811045.0	0.265565	Y
3	IC 280-636738/4	2.0	0.59268	50.0	1808310.0	0.29634	Y
4	IC 280-636738/5	5.0	1.390838	50.0	1838496.0	0.278168	Y
5	IC 280-636738/6	10.0	2.729295	50.0	1829520.0	0.27293	Y
6	ICIS 280-636738/7	50.0	12.182286	50.0	1927914.0	0.243646	Y
7	IC 280-636738/8	75.0	17.91959	50.0	1983388.0	0.238928	Y
8	IC 280-636738/9	100.0	24.322078	50.0	1996396.0	0.243221	Y
9	IC 280-636738/10	200.0	44.908776	50.0	2045461.0	0.224544	Y



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Calibration / Dichlorofluoromethane

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	ISTD
Response Base:	AREA
RF Rounding:	0

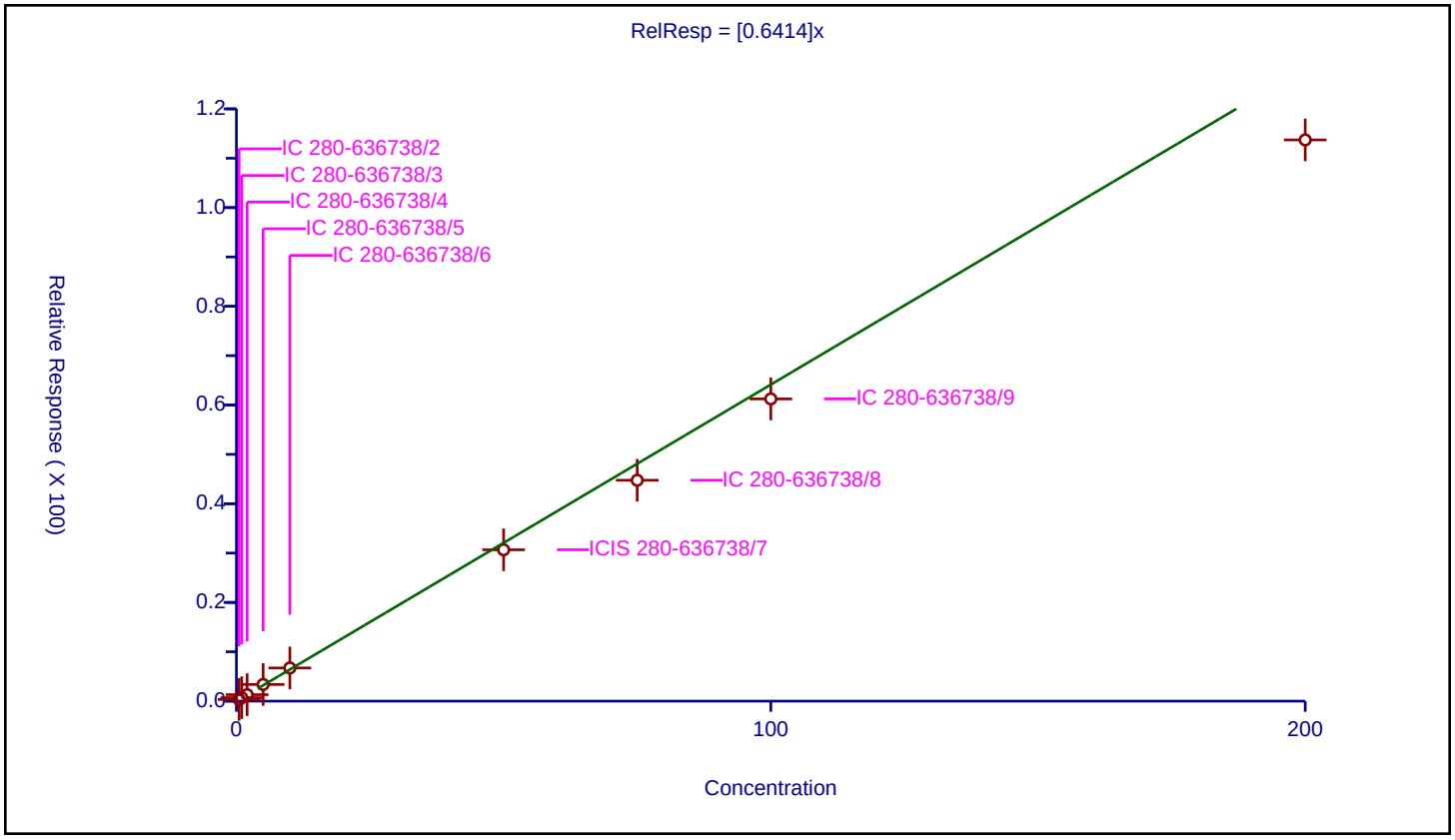
Curve Coefficients

Intercept:	0
Slope:	0.6414

Error Coefficients

Standard Error:	2010000
Relative Standard Error:	7.0
Correlation Coefficient:	0.999
Coefficient of Determination (Adjusted):	0.993

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 280-636738/2	0.5	0.338049	50.0	1824881.0	0.676099	Y
2	IC 280-636738/3	1.0	0.702605	50.0	1811045.0	0.702605	Y
3	IC 280-636738/4	2.0	1.309731	50.0	1808310.0	0.654866	Y
4	IC 280-636738/5	5.0	3.376537	50.0	1838496.0	0.675307	Y
5	IC 280-636738/6	10.0	6.723485	50.0	1829520.0	0.672348	Y
6	ICIS 280-636738/7	50.0	30.663997	50.0	1927914.0	0.61328	Y
7	IC 280-636738/8	75.0	44.757229	50.0	1983388.0	0.596763	Y
8	IC 280-636738/9	100.0	61.237876	50.0	1996396.0	0.612379	Y
9	IC 280-636738/10	200.0	113.715612	50.0	2045461.0	0.568578	Y



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Calibration / Trichlorofluoromethane

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	ISTD
Response Base:	AREA
RF Rounding:	0

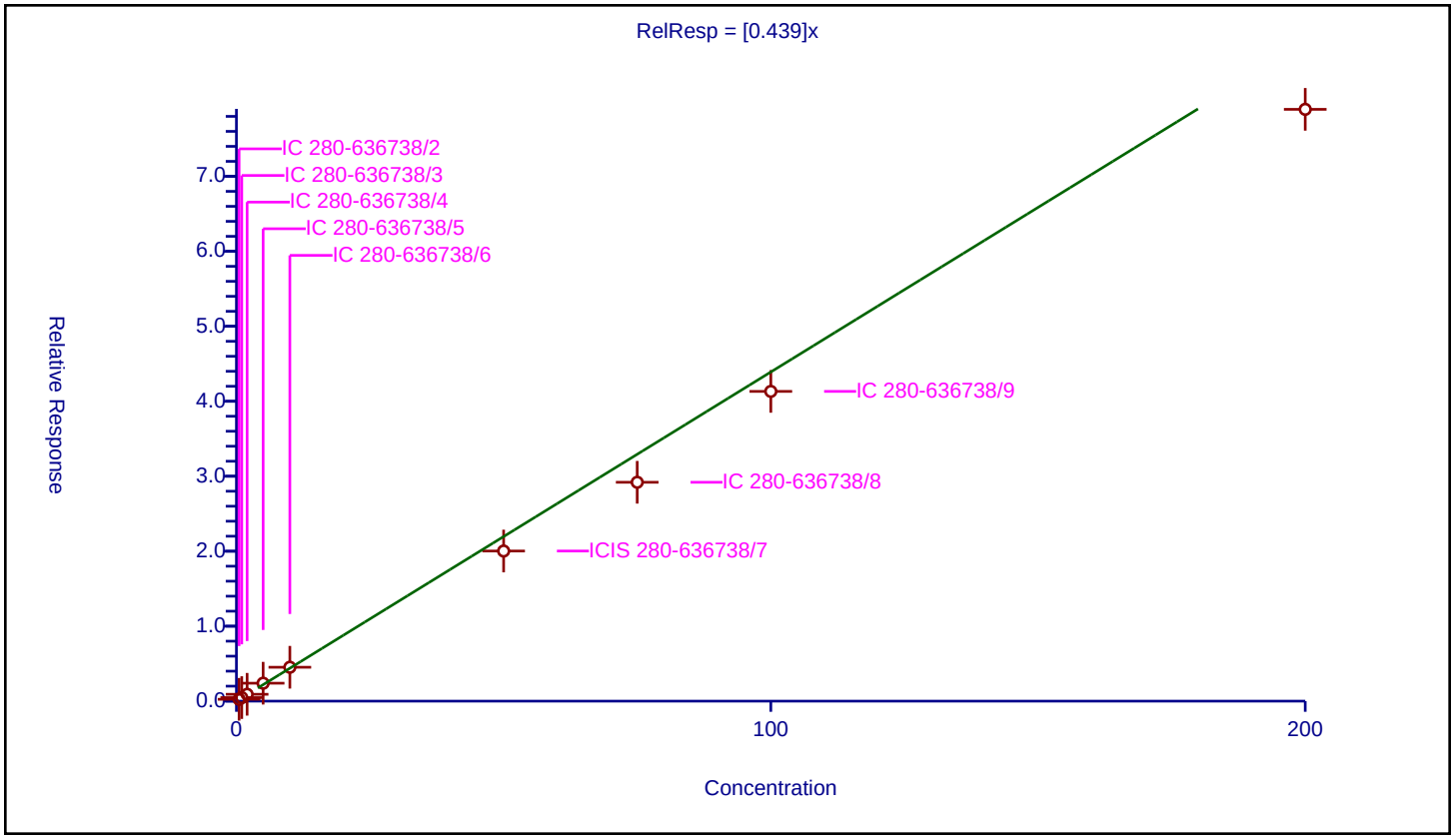
Curve Coefficients

Intercept:	0
Slope:	0.439

Error Coefficients

Standard Error:	1370000
Relative Standard Error:	9.1
Correlation Coefficient:	0.999
Coefficient of Determination (Adjusted):	0.988

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 280-636738/2	0.5	0.24618	50.0	1824881.0	0.492361	Y
2	IC 280-636738/3	1.0	0.473704	50.0	1811045.0	0.473704	Y
3	IC 280-636738/4	2.0	0.914279	50.0	1808310.0	0.45714	Y
4	IC 280-636738/5	5.0	2.392146	50.0	1838496.0	0.478429	Y
5	IC 280-636738/6	10.0	4.521951	50.0	1829520.0	0.452195	Y
6	ICIS 280-636738/7	50.0	20.0233	50.0	1927914.0	0.400466	Y
7	IC 280-636738/8	75.0	29.194817	50.0	1983388.0	0.389264	Y
8	IC 280-636738/9	100.0	41.316753	50.0	1996396.0	0.413168	Y
9	IC 280-636738/10	200.0	78.939418	50.0	2045461.0	0.394697	Y



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Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	ISTD
Response Base:	AREA
RF Rounding:	0

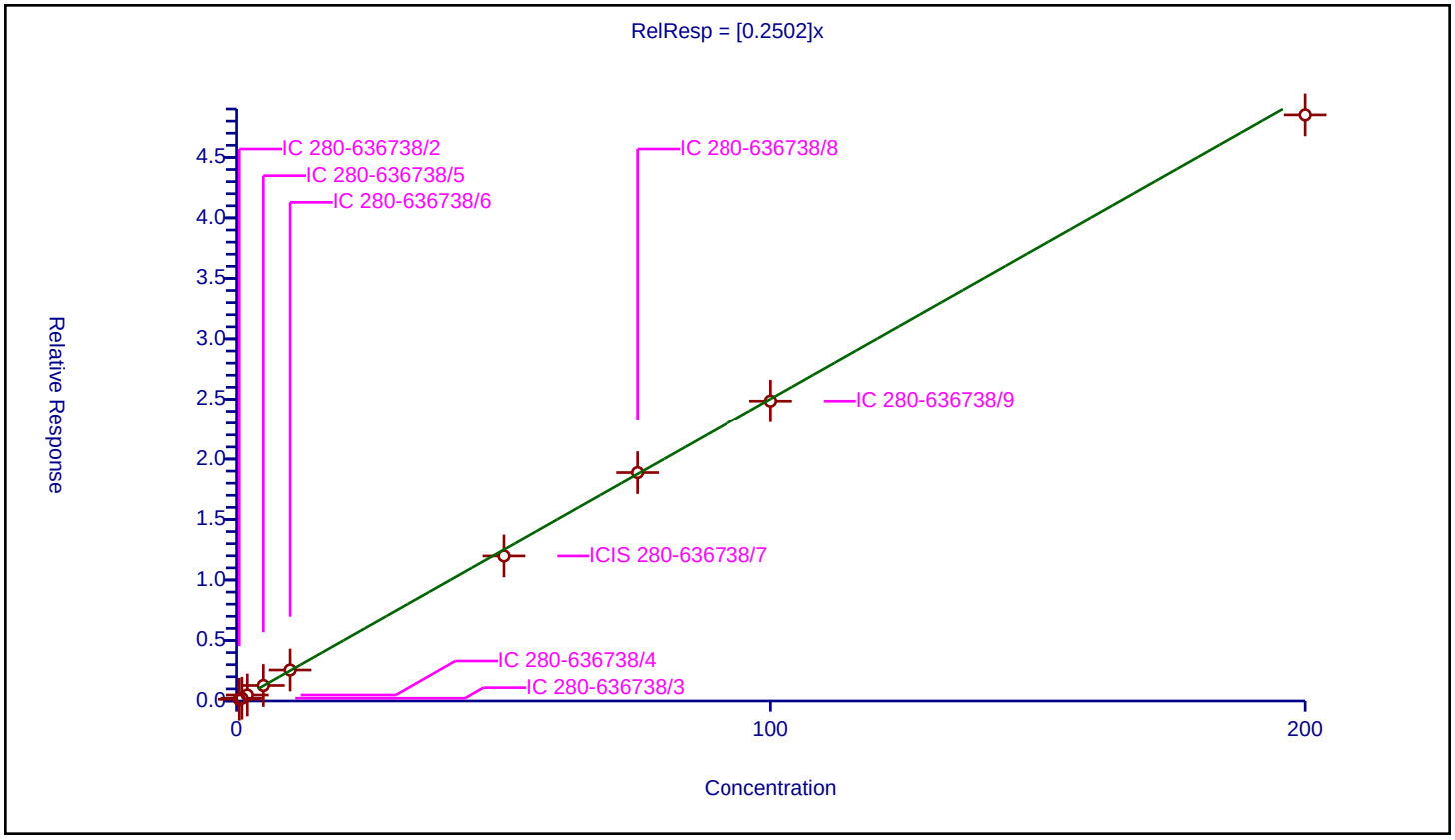
Curve Coefficients

Intercept:	0
Slope:	0.2502

Error Coefficients

Standard Error:	845000
Relative Standard Error:	5.9
Correlation Coefficient:	1.000
Coefficient of Determination (Adjusted):	0.995

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 280-636738/2	0.5	0.140995	50.0	1824881.0	0.281991	Y
2	IC 280-636738/3	1.0	0.227686	50.0	1811045.0	0.227686	Y
3	IC 280-636738/4	2.0	0.494523	50.0	1808310.0	0.247261	Y
4	IC 280-636738/5	5.0	1.282081	50.0	1838496.0	0.256416	Y
5	IC 280-636738/6	10.0	2.559797	50.0	1829520.0	0.25598	Y
6	ICIS 280-636738/7	50.0	11.989357	50.0	1927914.0	0.239787	Y
7	IC 280-636738/8	75.0	18.878102	50.0	1983388.0	0.251708	Y
8	IC 280-636738/9	100.0	24.850731	50.0	1996396.0	0.248507	Y
9	IC 280-636738/10	200.0	48.514076	50.0	2045461.0	0.24257	Y



Calibration / Acrolein

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	ISTD
Response Base:	AREA
RF Rounding:	0

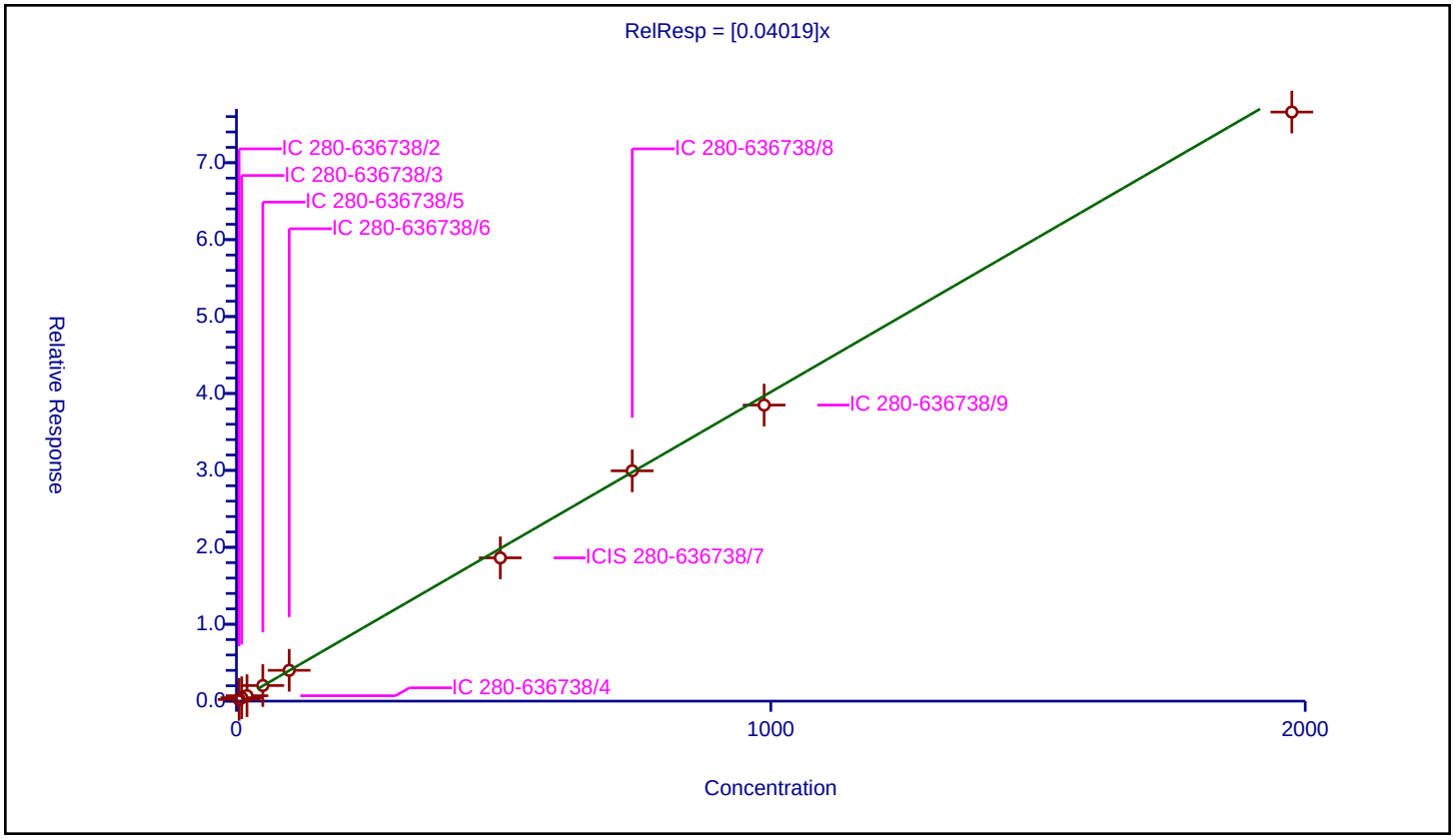
Curve Coefficients

Intercept:	0
Slope:	0.04019

Error Coefficients

Standard Error:	1330000
Relative Standard Error:	7.0
Correlation Coefficient:	1.000
Coefficient of Determination (Adjusted):	0.993

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 280-636738/2	4.9375	0.215685	50.0	1824881.0	0.043683	Y
2	IC 280-636738/3	9.875	0.442562	50.0	1811045.0	0.044816	Y
3	IC 280-636738/4	19.75	0.705134	50.0	1808310.0	0.035703	Y
4	IC 280-636738/5	49.375	2.026439	50.0	1838496.0	0.041042	Y
5	IC 280-636738/6	98.75	4.006734	50.0	1829520.0	0.040575	Y
6	ICIS 280-636738/7	493.75	18.629721	50.0	1927914.0	0.037731	Y
7	IC 280-636738/8	740.625	29.945805	50.0	1983388.0	0.040433	Y
8	IC 280-636738/9	987.5	38.49334	50.0	1996396.0	0.038981	Y
9	IC 280-636738/10	1975.0	76.590265	50.0	2045461.0	0.03878	Y



Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	ISTD
Response Base:	AREA
RF Rounding:	0

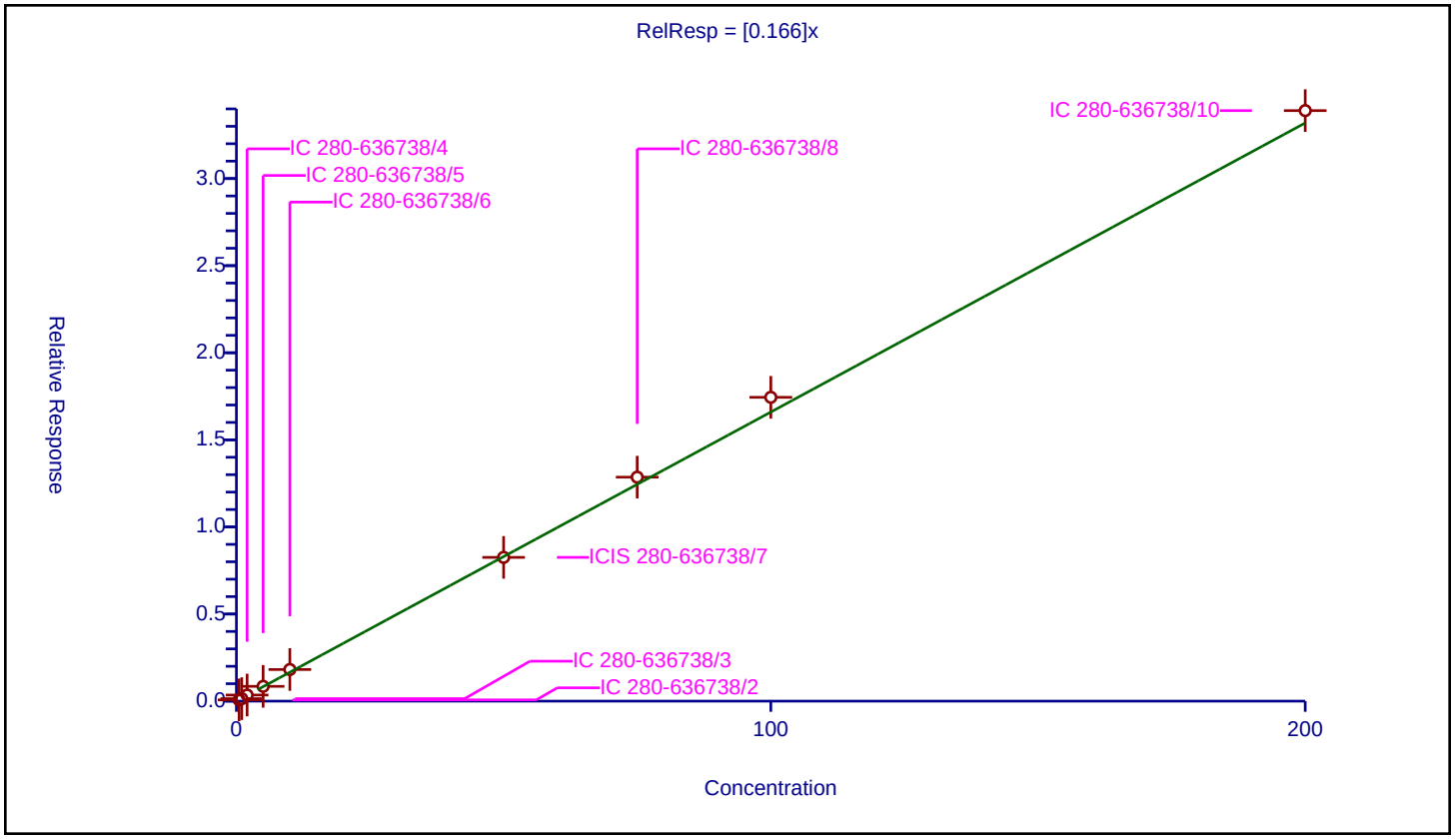
Curve Coefficients

Intercept:	0
Slope:	0.166

Error Coefficients

Standard Error:	589000
Relative Standard Error:	8.2
Correlation Coefficient:	1.000
Coefficient of Determination (Adjusted):	0.992

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 280-636738/2	0.5	0.071758	50.0	1824881.0	0.143516	Y
2	IC 280-636738/3	1.0	0.142929	50.0	1811045.0	0.142929	Y
3	IC 280-636738/4	2.0	0.35041	50.0	1808310.0	0.175205	Y
4	IC 280-636738/5	5.0	0.849743	50.0	1838496.0	0.169949	Y
5	IC 280-636738/6	10.0	1.815941	50.0	1829520.0	0.181594	Y
6	ICIS 280-636738/7	50.0	8.25361	50.0	1927914.0	0.165072	Y
7	IC 280-636738/8	75.0	12.858906	50.0	1983388.0	0.171452	Y
8	IC 280-636738/9	100.0	17.442281	50.0	1996396.0	0.174423	Y
9	IC 280-636738/10	200.0	33.901257	50.0	2045461.0	0.169506	Y



Calibration / 1,1-Dichloroethene

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	ISTD
Response Base:	AREA
RF Rounding:	0

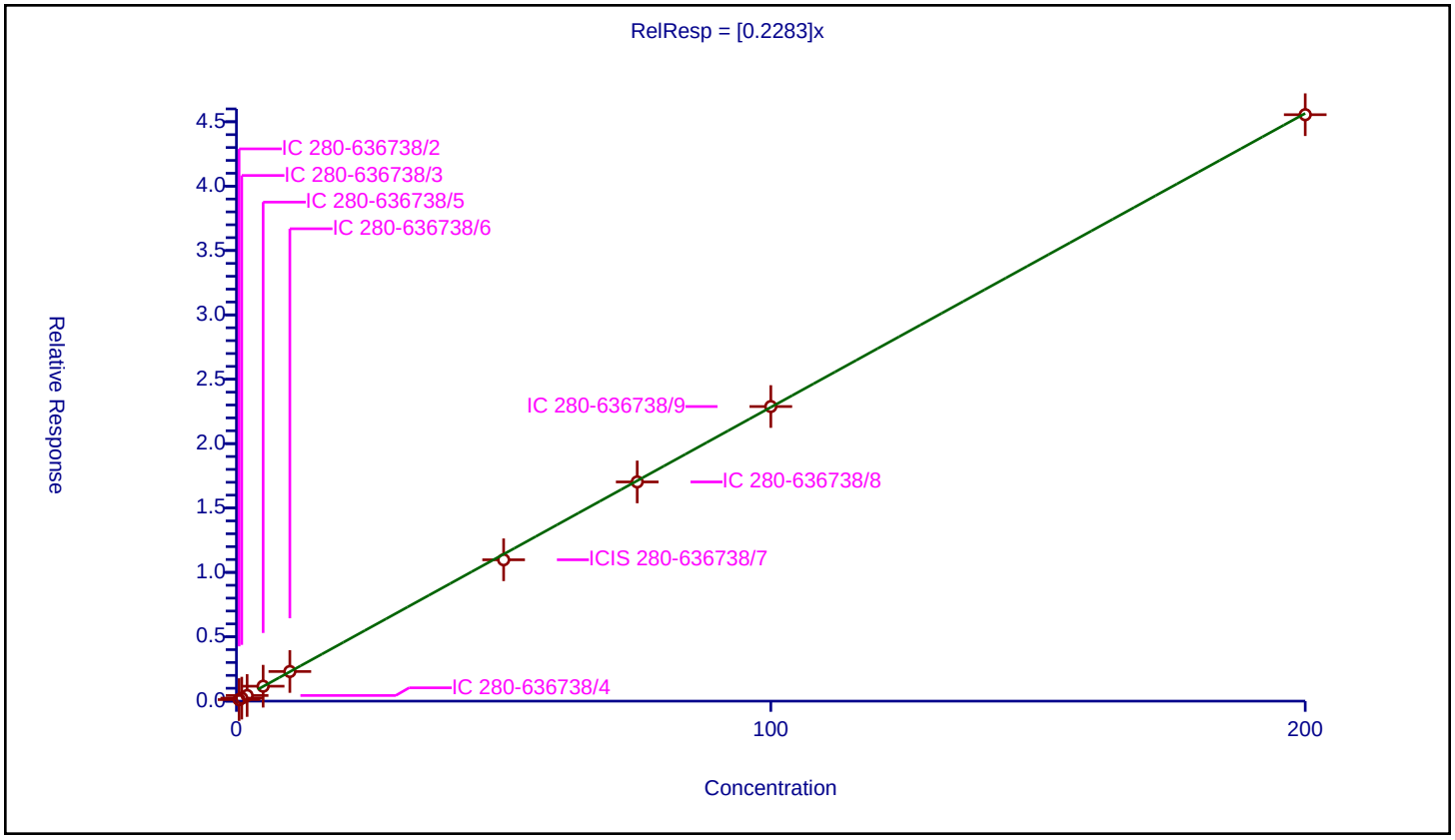
Curve Coefficients

Intercept:	0
Slope:	0.2283

Error Coefficients

Standard Error:	787000
Relative Standard Error:	2.6
Correlation Coefficient:	0.999
Coefficient of Determination (Adjusted):	0.999

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 280-636738/2	0.5	0.119104	50.0	1824881.0	0.238207	Y
2	IC 280-636738/3	1.0	0.232021	50.0	1811045.0	0.232021	Y
3	IC 280-636738/4	2.0	0.437978	50.0	1808310.0	0.218989	Y
4	IC 280-636738/5	5.0	1.159018	50.0	1838496.0	0.231804	Y
5	IC 280-636738/6	10.0	2.301779	50.0	1829520.0	0.230178	Y
6	ICIS 280-636738/7	50.0	10.979432	50.0	1927914.0	0.219589	Y
7	IC 280-636738/8	75.0	17.027001	50.0	1983388.0	0.227027	Y
8	IC 280-636738/9	100.0	22.883561	50.0	1996396.0	0.228836	Y
9	IC 280-636738/10	200.0	45.549145	50.0	2045461.0	0.227746	Y



Calibration / Acetone

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	ISTD
Response Base:	AREA
RF Rounding:	0

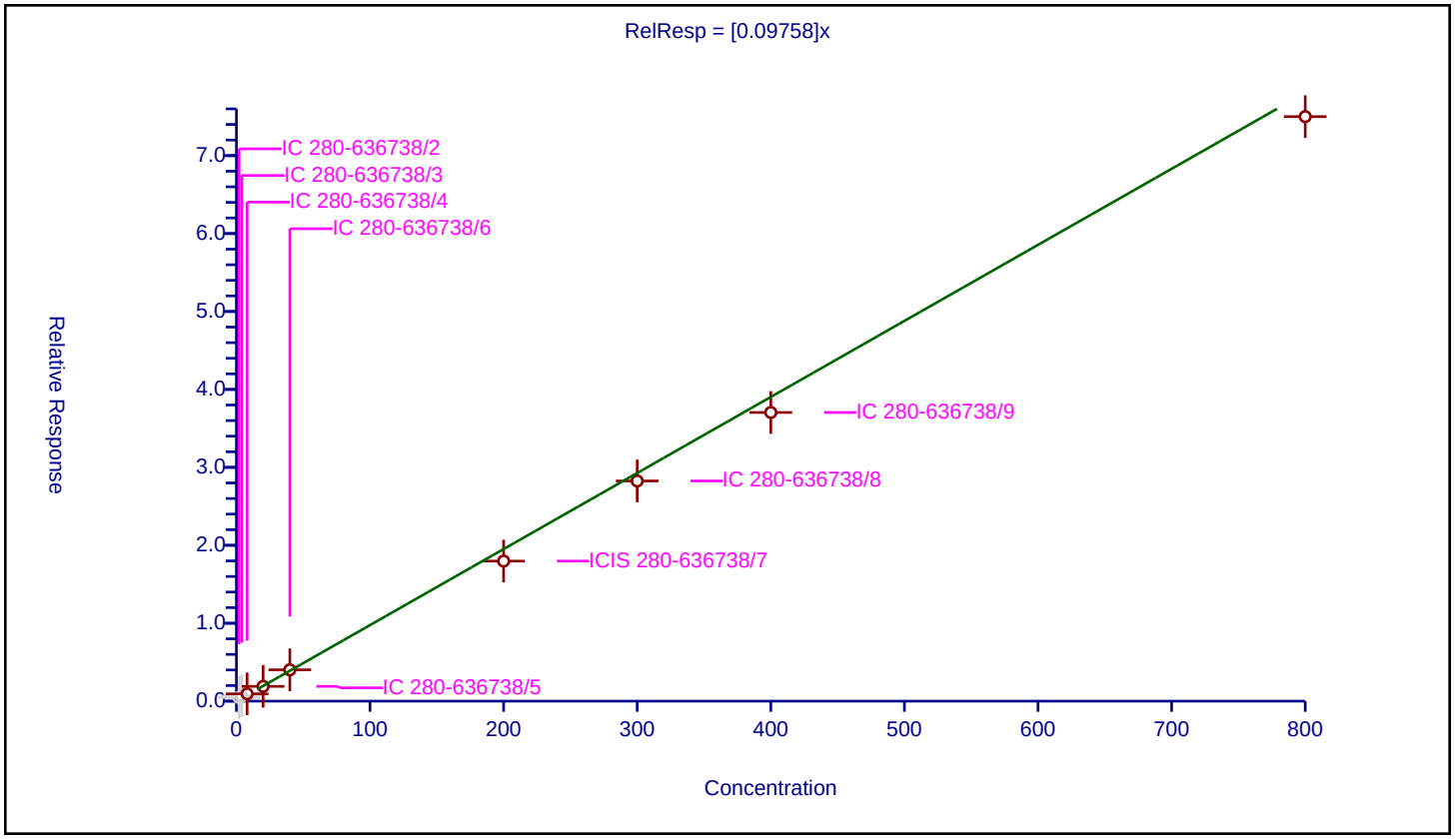
Curve Coefficients

Intercept:	0
Slope:	0.09758

Error Coefficients

Standard Error:	1490000
Relative Standard Error:	9.5
Correlation Coefficient:	0.999
Coefficient of Determination (Adjusted):	0.987

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 280-636738/2	2.0	0.477593	50.0	1824881.0	0.238796	N
2	IC 280-636738/3	4.0	0.666383	50.0	1811045.0	0.166596	N
3	IC 280-636738/4	8.0	0.937533	50.0	1808310.0	0.117192	Y
4	IC 280-636738/5	20.0	1.898155	50.0	1838496.0	0.094908	Y
5	IC 280-636738/6	40.0	4.022722	50.0	1829520.0	0.100568	Y
6	ICIS 280-636738/7	200.0	17.973909	50.0	1927914.0	0.08987	Y
7	IC 280-636738/8	300.0	28.252162	50.0	1983388.0	0.094174	Y
8	IC 280-636738/9	400.0	37.044129	50.0	1996396.0	0.09261	Y
9	IC 280-636738/10	800.0	75.006832	50.0	2045461.0	0.093759	Y



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Calibration / Iodomethane

Curve Type:	Linear
Weighting:	Conc
Origin:	None
Dependency:	Response
Calib Mode:	ISTD
Response Base:	AREA
RF Rounding:	0

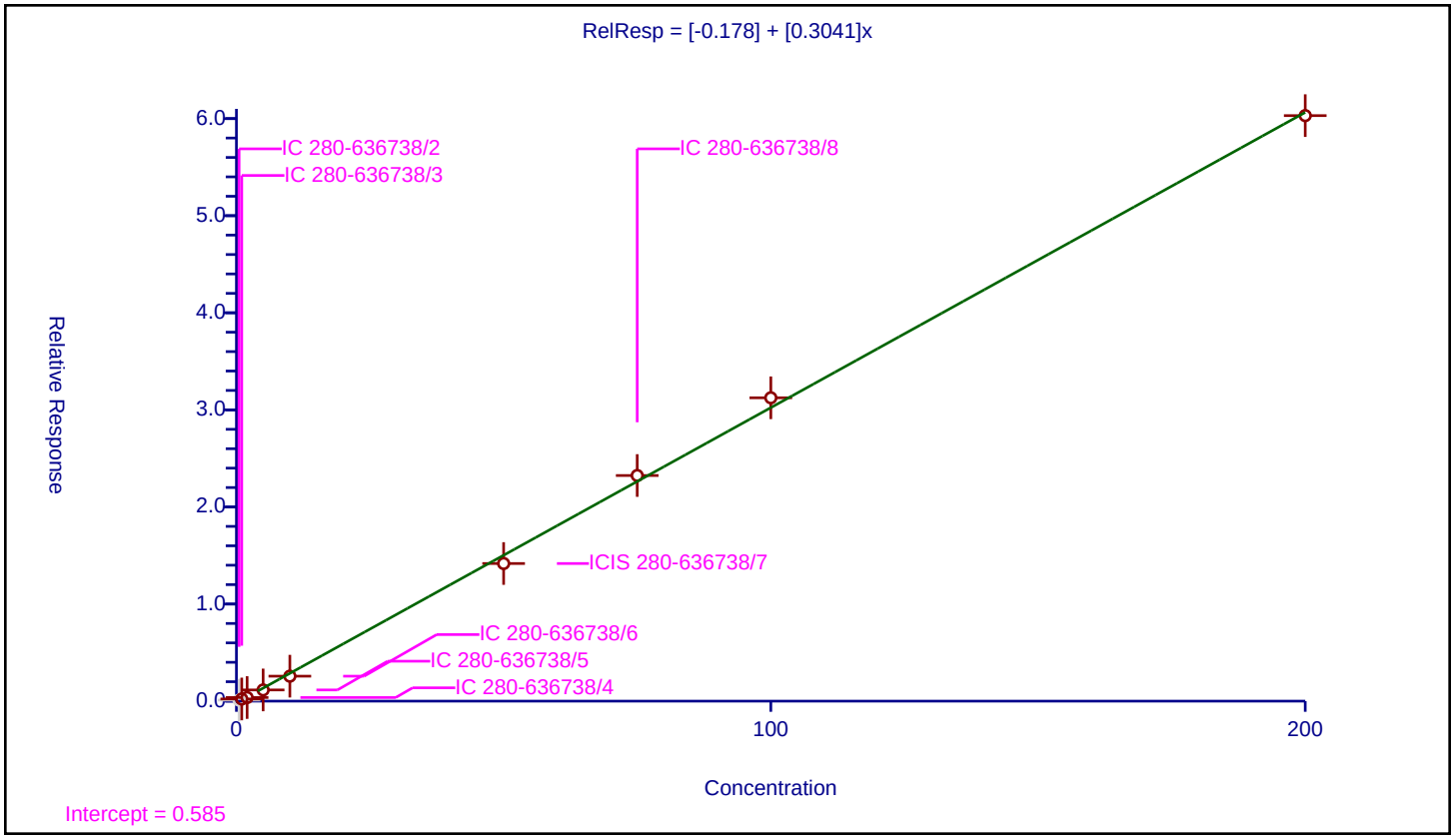
Curve Coefficients

Intercept:	-0.178
Slope:	0.3041

Error Coefficients

Standard Error:	1210000
Relative Standard Error:	15.2
Correlation Coefficient:	0.999
Coefficient of Determination (Adjusted):	0.998

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 280-636738/2	0.5	0.108117	50.0	1824881.0	0.216233	N
2	IC 280-636738/3	1.0	0.222441	50.0	1811045.0	0.222441	Y
3	IC 280-636738/4	2.0	0.372337	50.0	1808310.0	0.186168	Y
4	IC 280-636738/5	5.0	1.152192	50.0	1838496.0	0.230438	Y
5	IC 280-636738/6	10.0	2.572751	50.0	1829520.0	0.257275	Y
6	ICIS 280-636738/7	50.0	14.174517	50.0	1927914.0	0.28349	Y
7	IC 280-636738/8	75.0	23.240208	50.0	1983388.0	0.309869	Y
8	IC 280-636738/9	100.0	31.243701	50.0	1996396.0	0.312437	Y
9	IC 280-636738/10	200.0	60.307236	50.0	2045461.0	0.301536	Y



Calibration / Carbon disulfide

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	ISTD
Response Base:	AREA
RF Rounding:	0

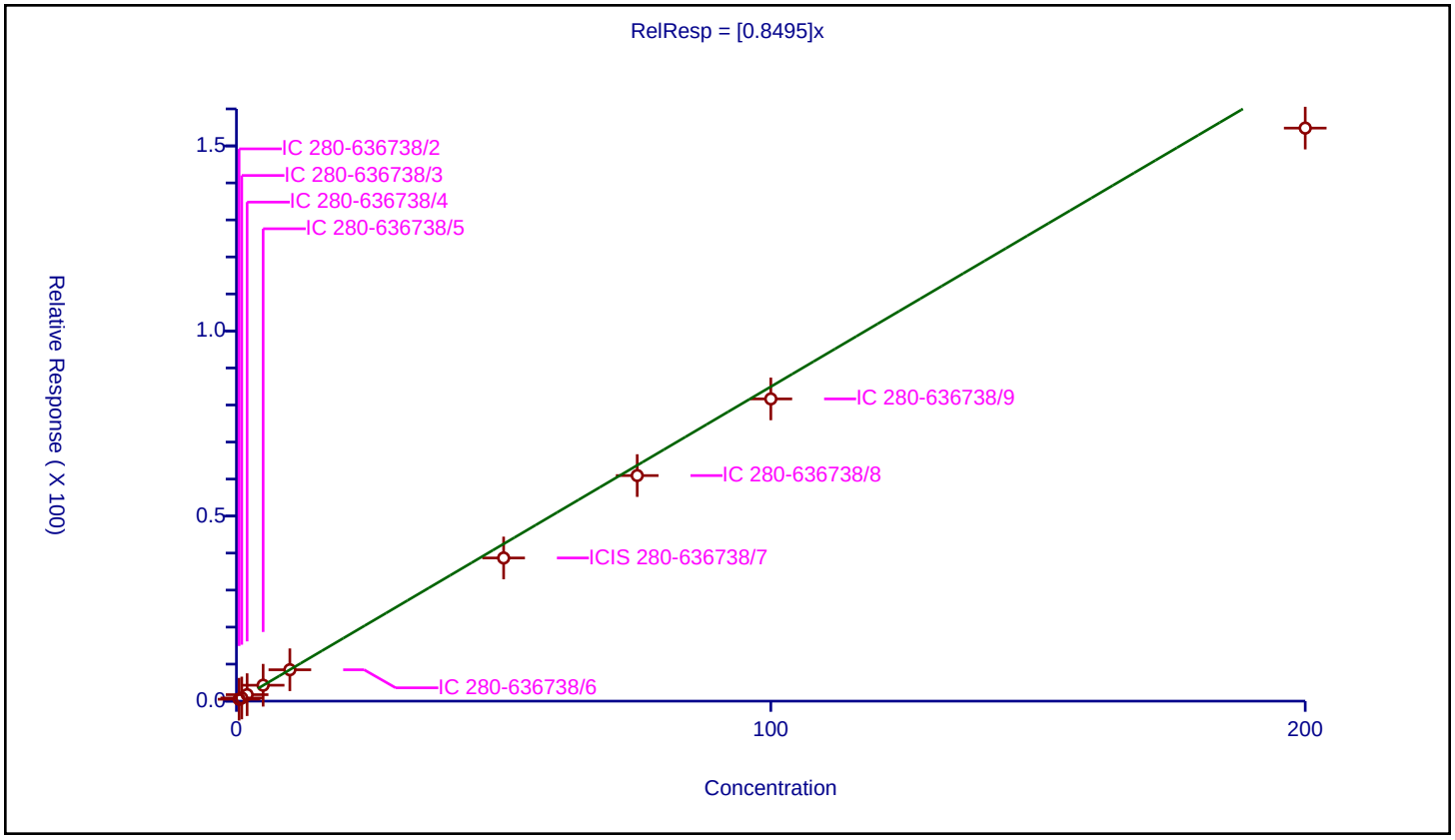
Curve Coefficients

Intercept:	0
Slope:	0.8495

Error Coefficients

Standard Error:	2710000
Relative Standard Error:	9.1
Correlation Coefficient:	1.000
Coefficient of Determination (Adjusted):	0.988

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 280-636738/2	0.5	0.515814	50.0	1824881.0	1.031629	Y
2	IC 280-636738/3	1.0	0.852933	50.0	1811045.0	0.852933	Y
3	IC 280-636738/4	2.0	1.75346	50.0	1808310.0	0.87673	Y
4	IC 280-636738/5	5.0	4.301614	50.0	1838496.0	0.860323	Y
5	IC 280-636738/6	10.0	8.476732	50.0	1829520.0	0.847673	Y
6	ICIS 280-636738/7	50.0	38.675325	50.0	1927914.0	0.773506	Y
7	IC 280-636738/8	75.0	60.93969	50.0	1983388.0	0.812529	Y
8	IC 280-636738/9	100.0	81.646803	50.0	1996396.0	0.816468	Y
9	IC 280-636738/10	200.0	154.814611	50.0	2045461.0	0.774073	Y



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Calibration / Methyl acetate

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	ISTD
Response Base:	AREA
RF Rounding:	0

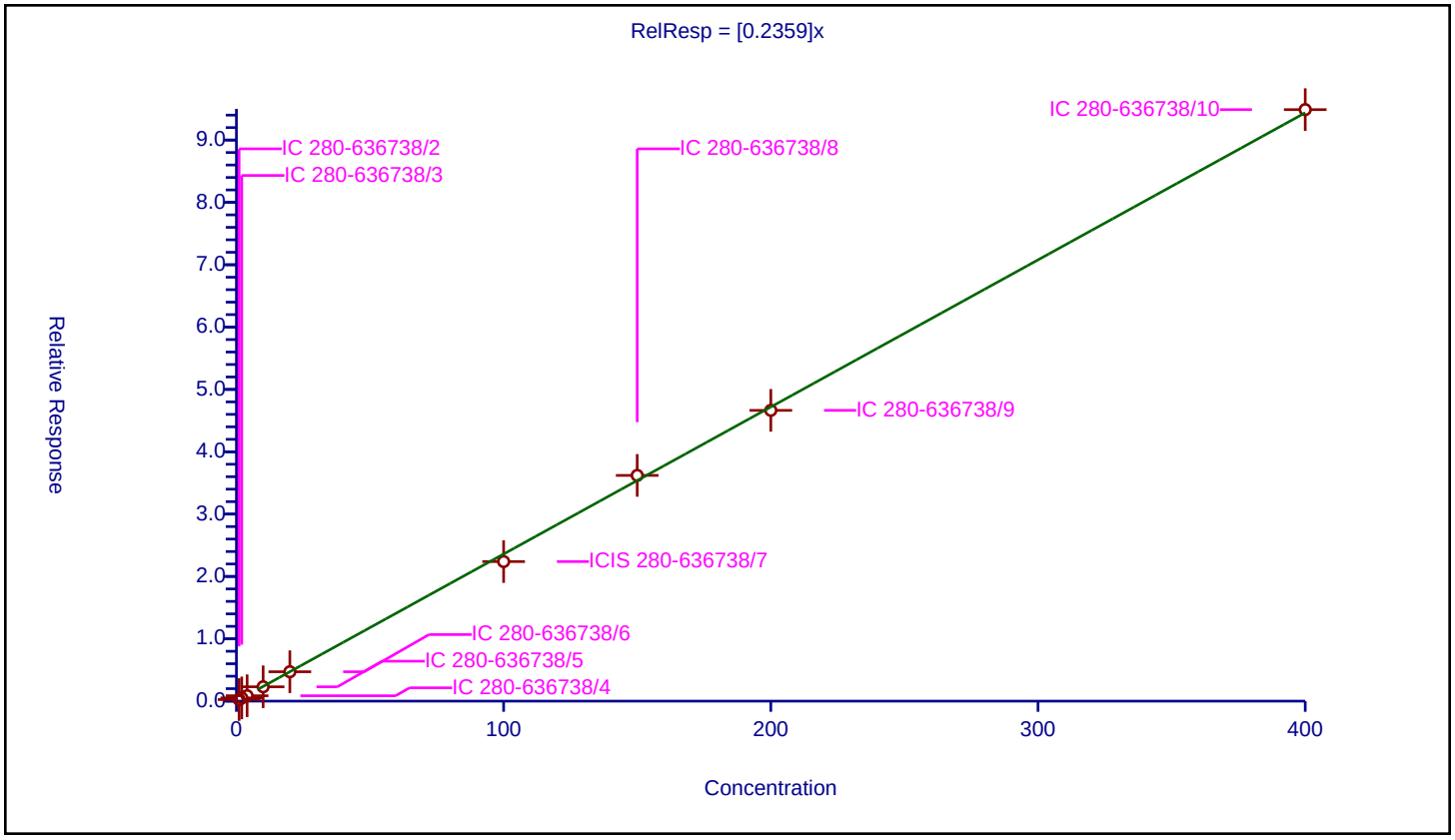
Curve Coefficients

Intercept:	0
Slope:	0.2359

Error Coefficients

Standard Error:	1630000
Relative Standard Error:	5.2
Correlation Coefficient:	0.999
Coefficient of Determination (Adjusted):	0.996

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 280-636738/2	1.0	0.248153	50.0	1824881.0	0.248153	Y
2	IC 280-636738/3	2.0	0.515172	50.0	1811045.0	0.257586	Y
3	IC 280-636738/4	4.0	0.865007	50.0	1808310.0	0.216252	Y
4	IC 280-636738/5	10.0	2.300304	50.0	1838496.0	0.23003	Y
5	IC 280-636738/6	20.0	4.714105	50.0	1829520.0	0.235705	Y
6	ICIS 280-636738/7	100.0	22.388602	50.0	1927914.0	0.223886	Y
7	IC 280-636738/8	150.0	36.207994	50.0	1983388.0	0.241387	Y
8	IC 280-636738/9	200.0	46.644053	50.0	1996396.0	0.23322	Y
9	IC 280-636738/10	400.0	94.881423	50.0	2045461.0	0.237204	Y



Calibration / 3-Chloro-1-propene

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	ISTD
Response Base:	AREA
RF Rounding:	0

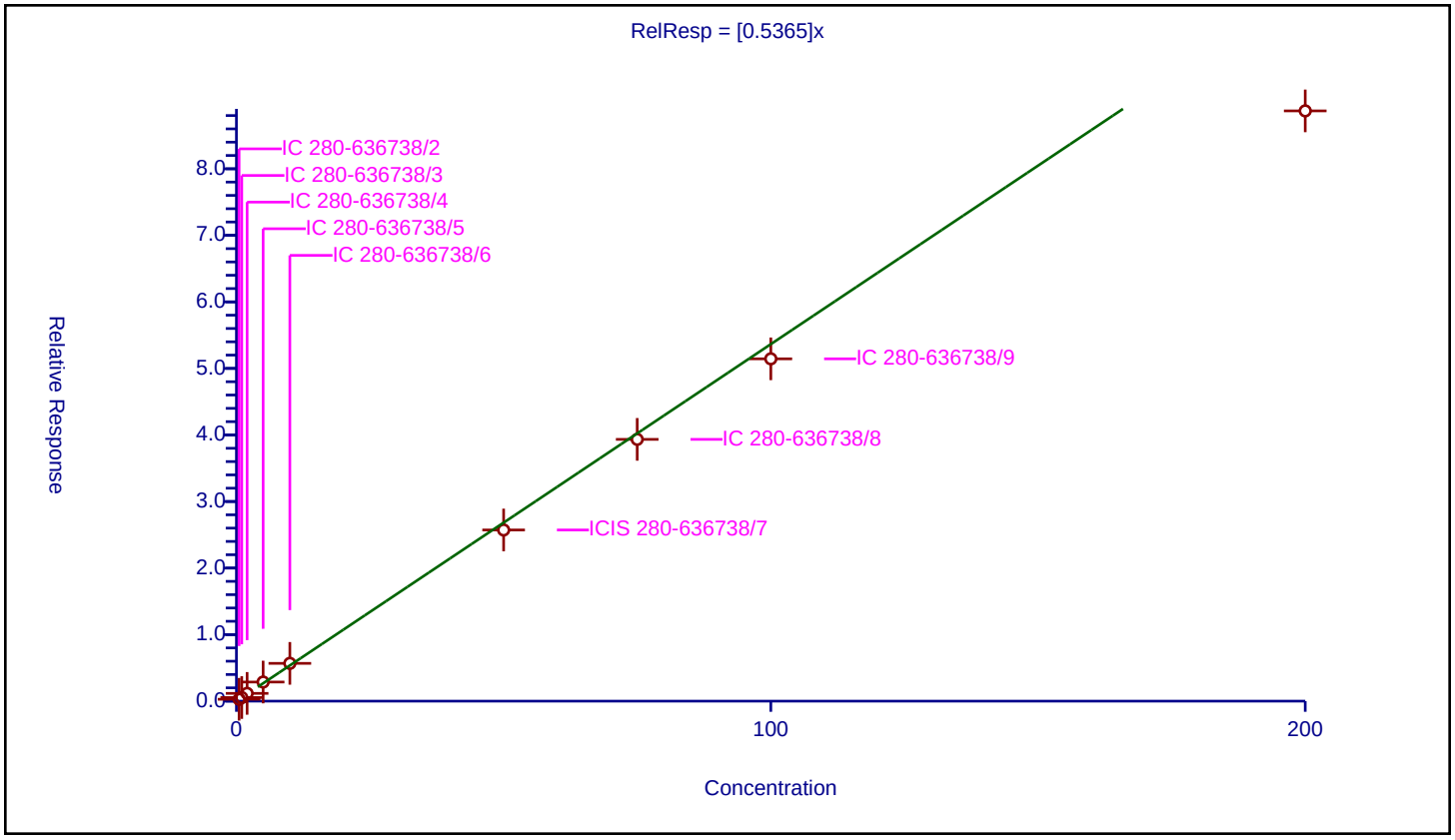
Curve Coefficients

Intercept:	0
Slope:	0.5365

Error Coefficients

Standard Error:	1610000
Relative Standard Error:	8.1
Correlation Coefficient:	0.995
Coefficient of Determination (Adjusted):	0.991

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 280-636738/2	0.5	0.28158	50.0	1824881.0	0.56316	Y
2	IC 280-636738/3	1.0	0.542063	50.0	1811045.0	0.542063	Y
3	IC 280-636738/4	2.0	1.167471	50.0	1808310.0	0.583736	Y
4	IC 280-636738/5	5.0	2.872484	50.0	1838496.0	0.574497	Y
5	IC 280-636738/6	10.0	5.677746	50.0	1829520.0	0.567775	Y
6	ICIS 280-636738/7	50.0	25.721324	50.0	1927914.0	0.514426	Y
7	IC 280-636738/8	75.0	39.33779	50.0	1983388.0	0.524504	Y
8	IC 280-636738/9	100.0	51.442199	50.0	1996396.0	0.514422	Y
9	IC 280-636738/10	200.0	88.700249	50.0	2045461.0	0.443501	Y



12/29/2023
10:48 AM

Calibration / Methylene Chloride

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	ISTD
Response Base:	AREA
RF Rounding:	0

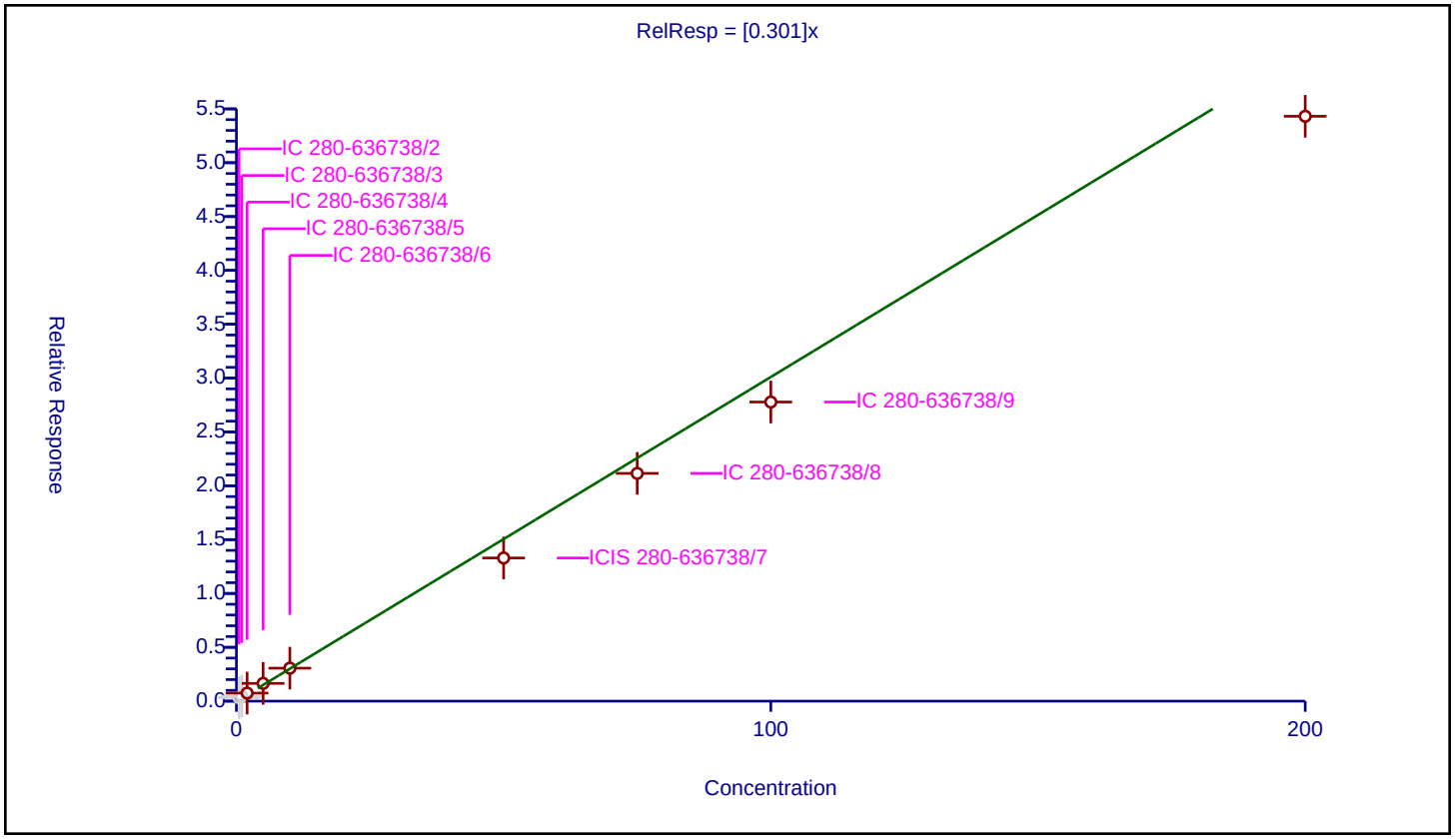
Curve Coefficients

Intercept:	0
Slope:	0.301

Error Coefficients

Standard Error:	1090000
Relative Standard Error:	13.0
Correlation Coefficient:	1.000
Coefficient of Determination (Adjusted):	0.974

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 280-636738/2	0.5	0.32509	50.0	1824881.0	0.650179	N
2	IC 280-636738/3	1.0	0.462771	50.0	1811045.0	0.462771	N
3	IC 280-636738/4	2.0	0.747632	50.0	1808310.0	0.373816	Y
4	IC 280-636738/5	5.0	1.64795	50.0	1838496.0	0.32959	Y
5	IC 280-636738/6	10.0	3.064356	50.0	1829520.0	0.306436	Y
6	ICIS 280-636738/7	50.0	13.294654	50.0	1927914.0	0.265893	Y
7	IC 280-636738/8	75.0	21.151711	50.0	1983388.0	0.282023	Y
8	IC 280-636738/9	100.0	27.776754	50.0	1996396.0	0.277768	Y
9	IC 280-636738/10	200.0	54.314626	50.0	2045461.0	0.271573	Y



12/29/2023
10:48 AM

Calibration / 2-Methyl-2-propanol

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	ISTD
Response Base:	AREA
RF Rounding:	0

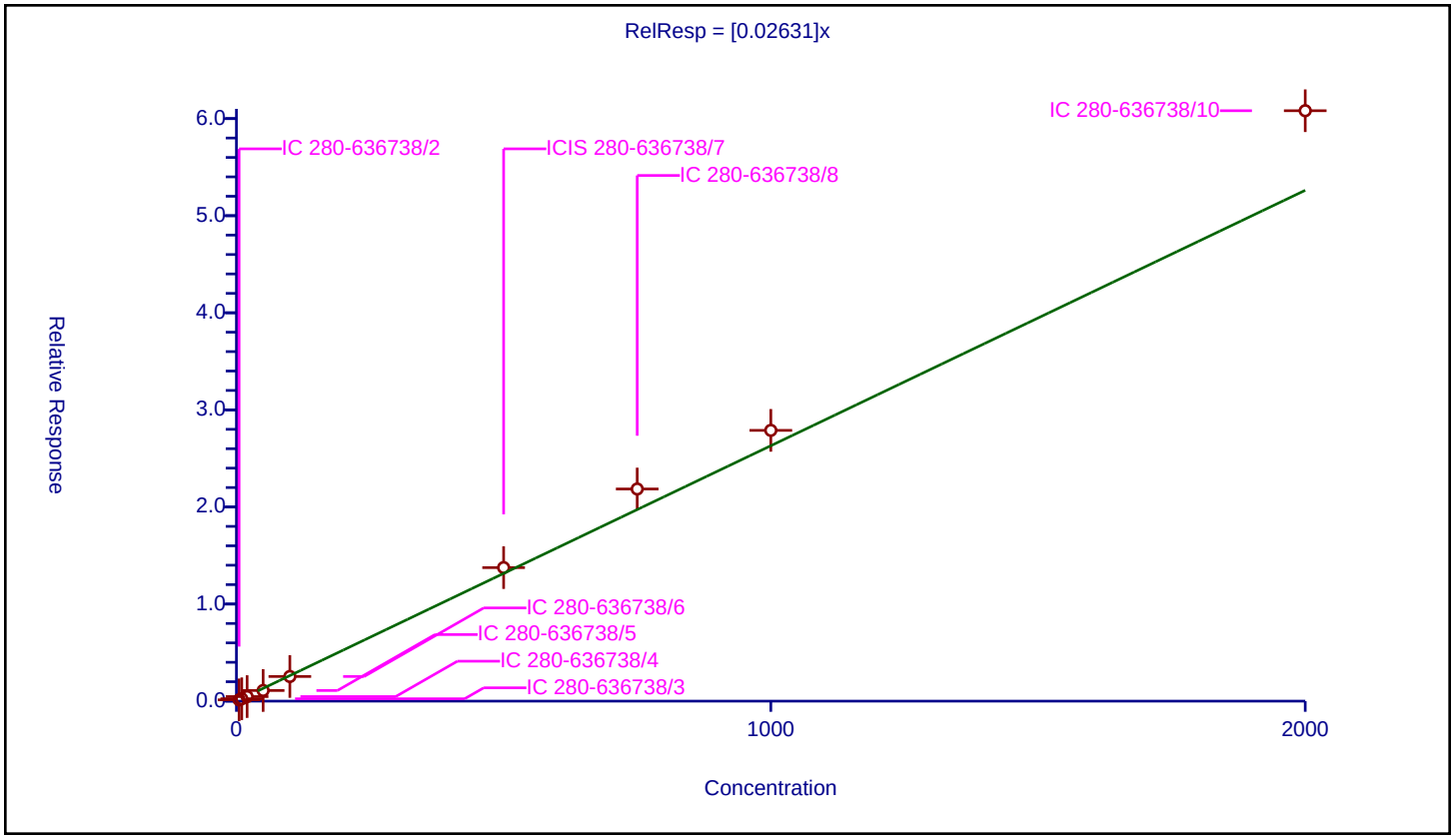
Curve Coefficients

Intercept:	0
Slope:	0.02631

Error Coefficients

Standard Error:	1030000
Relative Standard Error:	10.4
Correlation Coefficient:	0.997
Coefficient of Determination (Adjusted):	0.987

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 280-636738/2	5.0	0.132091	50.0	1824881.0	0.026418	Y
2	IC 280-636738/3	10.0	0.245576	50.0	1811045.0	0.024558	Y
3	IC 280-636738/4	20.0	0.471075	50.0	1808310.0	0.023554	Y
4	IC 280-636738/5	50.0	1.095515	50.0	1838496.0	0.02191	Y
5	IC 280-636738/6	100.0	2.538535	50.0	1829520.0	0.025385	Y
6	ICIS 280-636738/7	500.0	13.753959	50.0	1927914.0	0.027508	Y
7	IC 280-636738/8	750.0	21.850818	50.0	1983388.0	0.029134	Y
8	IC 280-636738/9	1000.0	27.889732	50.0	1996396.0	0.02789	Y
9	IC 280-636738/10	2000.0	60.811964	50.0	2045461.0	0.030406	Y



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Calibration / Acrylonitrile

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	ISTD
Response Base:	AREA
RF Rounding:	0

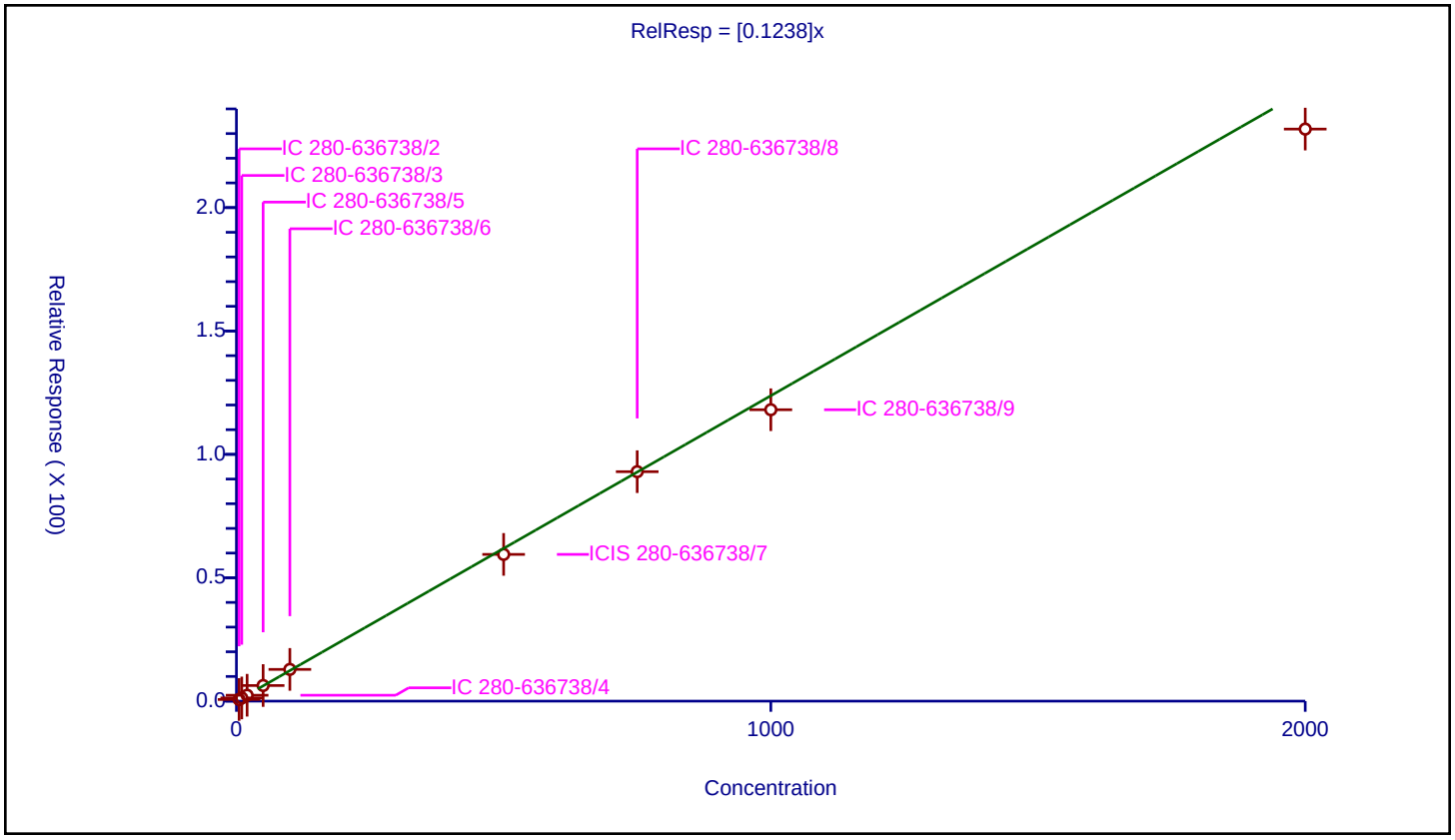
Curve Coefficients

Intercept:	0
Slope:	0.1238

Error Coefficients

Standard Error:	4050000
Relative Standard Error:	4.9
Correlation Coefficient:	1.000
Coefficient of Determination (Adjusted):	0.997

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 280-636738/2	5.0	0.668153	50.0	1824881.0	0.133631	Y
2	IC 280-636738/3	10.0	1.286191	50.0	1811045.0	0.128619	Y
3	IC 280-636738/4	20.0	2.390188	50.0	1808310.0	0.119509	Y
4	IC 280-636738/5	50.0	6.333764	50.0	1838496.0	0.126675	Y
5	IC 280-636738/6	100.0	12.860313	50.0	1829520.0	0.128603	Y
6	ICIS 280-636738/7	500.0	59.460043	50.0	1927914.0	0.11892	Y
7	IC 280-636738/8	750.0	92.990983	50.0	1983388.0	0.123988	Y
8	IC 280-636738/9	1000.0	118.089572	50.0	1996396.0	0.11809	Y
9	IC 280-636738/10	2000.0	231.818426	50.0	2045461.0	0.115909	Y



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Calibration / Methyl tert-butyl ether

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	ISTD
Response Base:	AREA
RF Rounding:	0

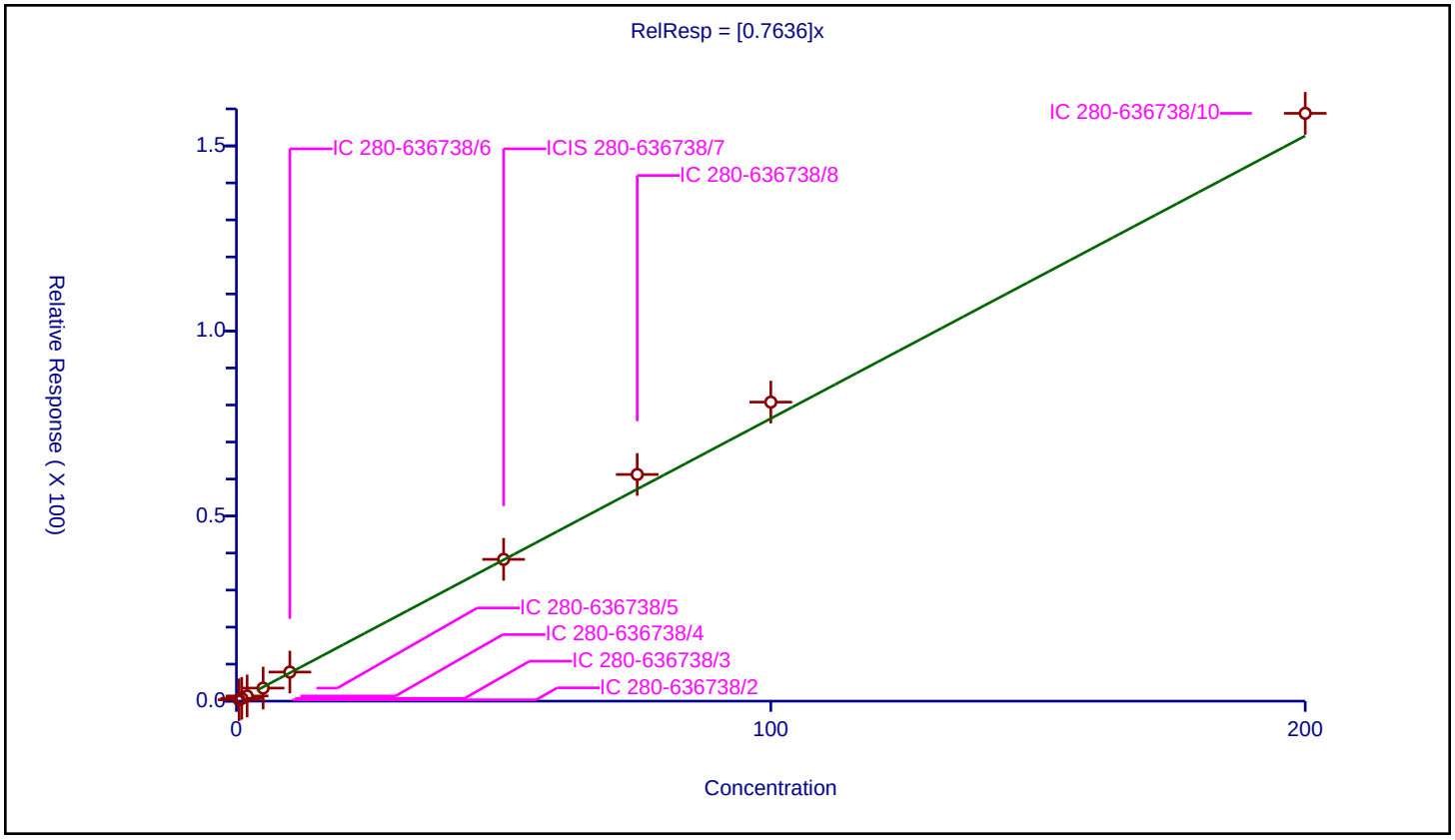
Curve Coefficients

Intercept:	0
Slope:	0.7636

Error Coefficients

Standard Error:	2760000
Relative Standard Error:	5.5
Correlation Coefficient:	1.000
Coefficient of Determination (Adjusted):	0.996

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 280-636738/2	0.5	0.370326	50.0	1824881.0	0.740651	Y
2	IC 280-636738/3	1.0	0.755724	50.0	1811045.0	0.755724	Y
3	IC 280-636738/4	2.0	1.398433	50.0	1808310.0	0.699216	Y
4	IC 280-636738/5	5.0	3.529787	50.0	1838496.0	0.705957	Y
5	IC 280-636738/6	10.0	7.864003	50.0	1829520.0	0.7864	Y
6	ICIS 280-636738/7	50.0	38.306688	50.0	1927914.0	0.766134	Y
7	IC 280-636738/8	75.0	61.234615	50.0	1983388.0	0.816462	Y
8	IC 280-636738/9	100.0	80.78242	50.0	1996396.0	0.807824	Y
9	IC 280-636738/10	200.0	158.796843	50.0	2045461.0	0.793984	Y



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Calibration / trans-1,2-Dichloroethene

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	ISTD
Response Base:	AREA
RF Rounding:	0

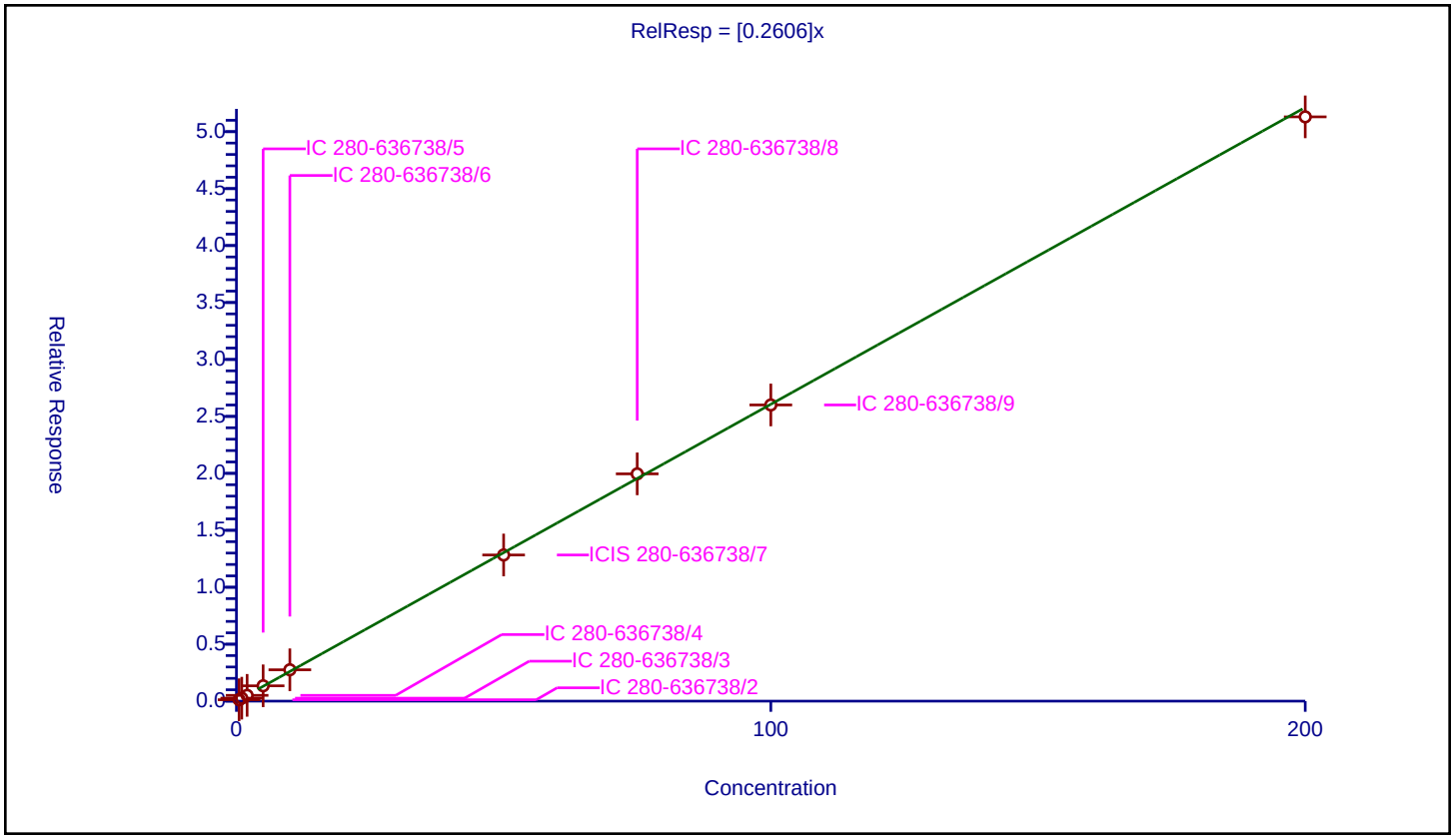
Curve Coefficients

Intercept:	0
Slope:	0.2606

Error Coefficients

Standard Error:	892000
Relative Standard Error:	3.2
Correlation Coefficient:	1.000
Coefficient of Determination (Adjusted):	0.999

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 280-636738/2	0.5	0.123761	50.0	1824881.0	0.247523	Y
2	IC 280-636738/3	1.0	0.260098	50.0	1811045.0	0.260098	Y
3	IC 280-636738/4	2.0	0.508513	50.0	1808310.0	0.254257	Y
4	IC 280-636738/5	5.0	1.346291	50.0	1838496.0	0.269258	Y
5	IC 280-636738/6	10.0	2.754548	50.0	1829520.0	0.275455	Y
6	ICIS 280-636738/7	50.0	12.832237	50.0	1927914.0	0.256645	Y
7	IC 280-636738/8	75.0	19.955072	50.0	1983388.0	0.266068	Y
8	IC 280-636738/9	100.0	26.004235	50.0	1996396.0	0.260042	Y
9	IC 280-636738/10	200.0	51.299903	50.0	2045461.0	0.2565	Y



Calibration / Hexane

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	ISTD
Response Base:	AREA
RF Rounding:	0

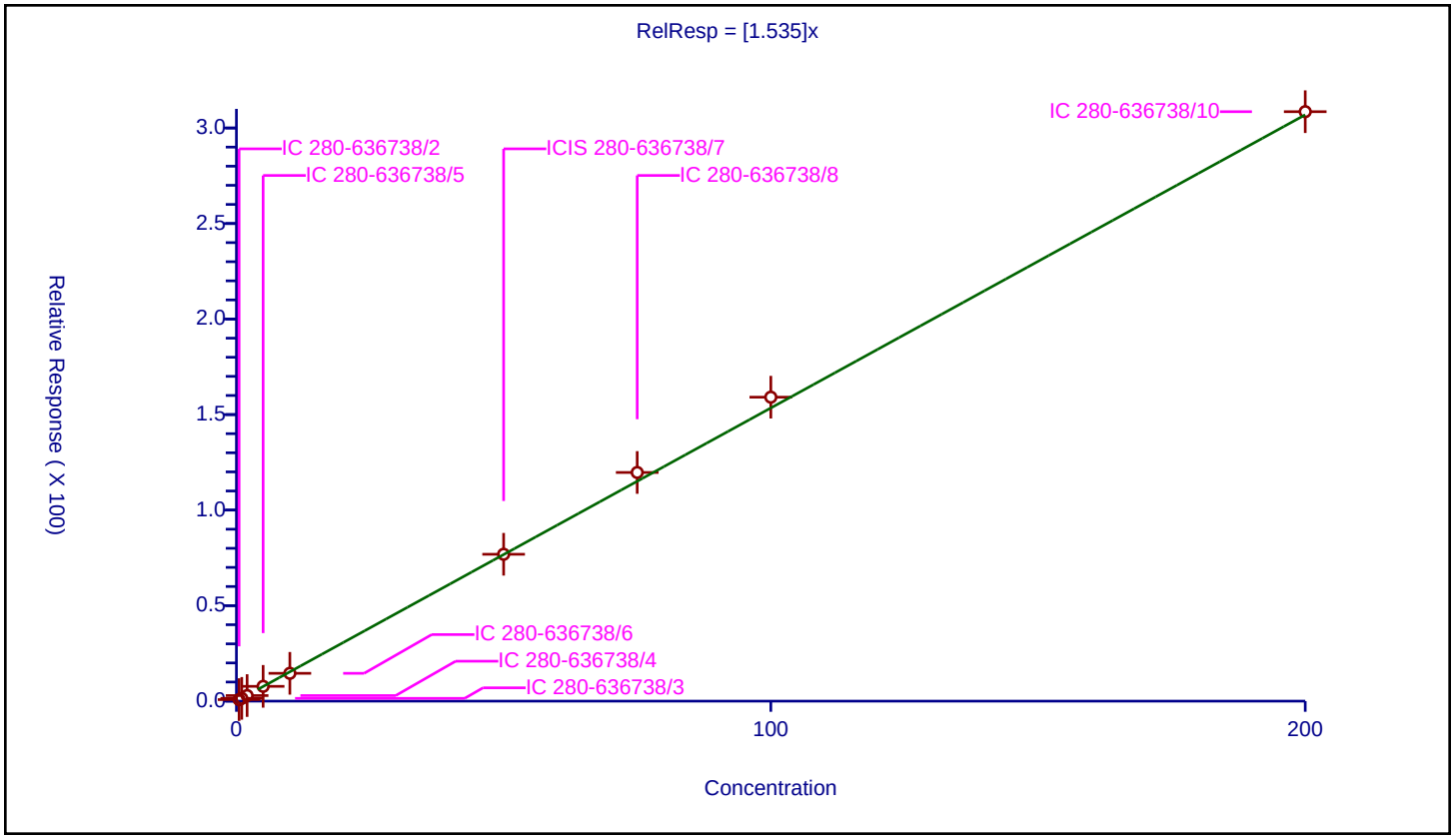
Curve Coefficients

Intercept:	0
Slope:	1.535

Error Coefficients

Standard Error:	1360000
Relative Standard Error:	4.1
Correlation Coefficient:	1.000
Coefficient of Determination (Adjusted):	0.998

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 280-636738/2	0.5	0.808213	50.0	463863.0	1.616426	Y
2	IC 280-636738/3	1.0	1.45933	50.0	472203.0	1.45933	Y
3	IC 280-636738/4	2.0	2.924258	50.0	462596.0	1.462129	Y
4	IC 280-636738/5	5.0	7.747084	50.0	471713.0	1.549417	Y
5	IC 280-636738/6	10.0	14.56408	50.0	481740.0	1.456408	Y
6	ICIS 280-636738/7	50.0	76.874498	50.0	487237.0	1.53749	Y
7	IC 280-636738/8	75.0	119.690043	50.0	505296.0	1.595867	Y
8	IC 280-636738/9	100.0	159.097715	50.0	502912.0	1.590977	Y
9	IC 280-636738/10	200.0	308.54	50.0	519596.0	1.5427	Y



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Calibration / Vinyl acetate

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	ISTD
Response Base:	AREA
RF Rounding:	0

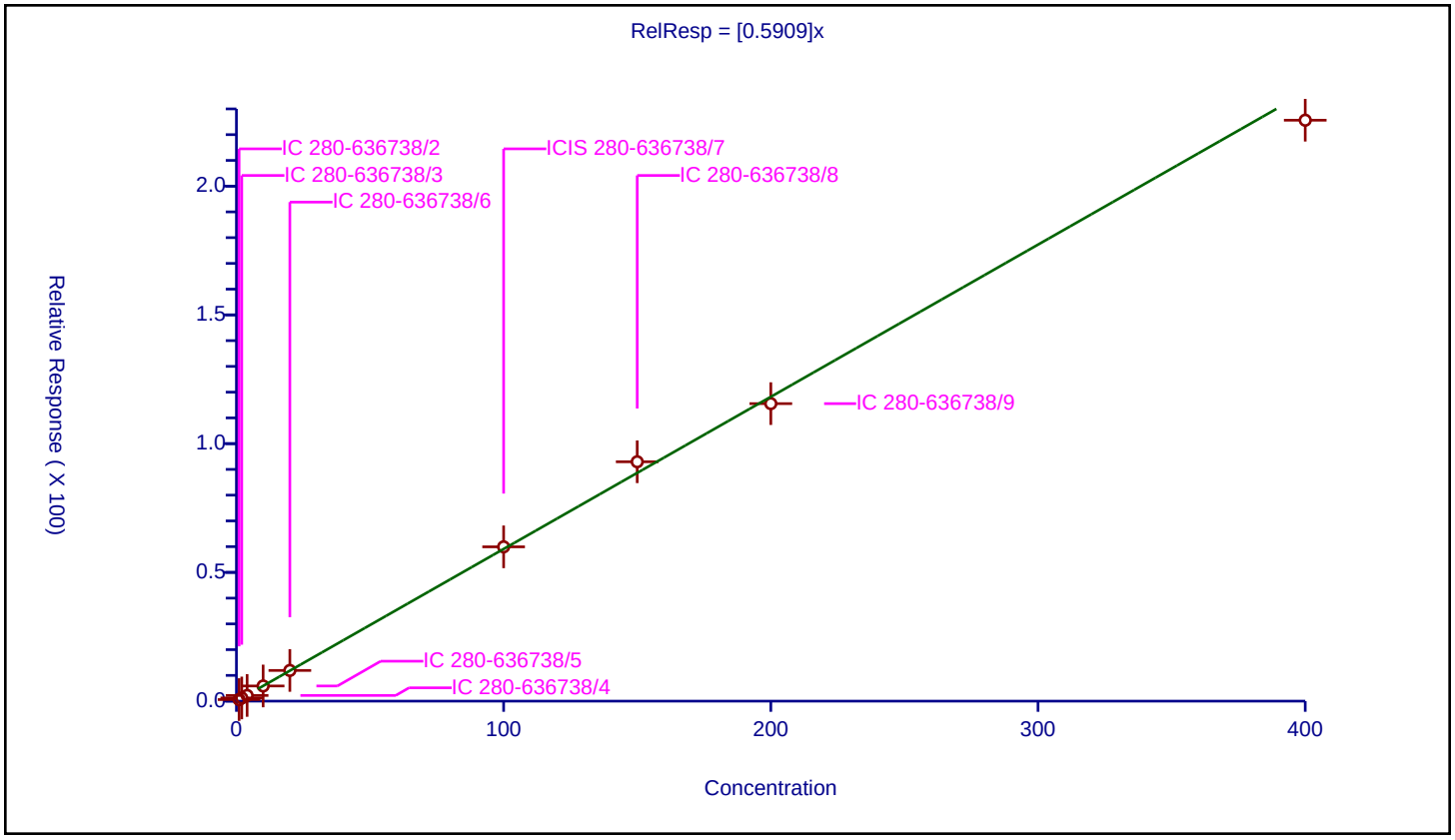
Curve Coefficients

Intercept:	0
Slope:	0.5909

Error Coefficients

Standard Error:	3960000
Relative Standard Error:	3.9
Correlation Coefficient:	0.999
Coefficient of Determination (Adjusted):	0.998

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 280-636738/2	1.0	0.606615	50.0	1824881.0	0.606615	Y
2	IC 280-636738/3	2.0	1.231527	50.0	1811045.0	0.615763	Y
3	IC 280-636738/4	4.0	2.203881	50.0	1808310.0	0.55097	Y
4	IC 280-636738/5	10.0	5.885762	50.0	1838496.0	0.588576	Y
5	IC 280-636738/6	20.0	11.915885	50.0	1829520.0	0.595794	Y
6	ICIS 280-636738/7	100.0	59.923498	50.0	1927914.0	0.599235	Y
7	IC 280-636738/8	150.0	92.963051	50.0	1983388.0	0.619754	Y
8	IC 280-636738/9	200.0	115.544586	50.0	1996396.0	0.577723	Y
9	IC 280-636738/10	400.0	225.600659	50.0	2045461.0	0.564002	Y



Calibration / 1,1-Dichloroethane

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	ISTD
Response Base:	AREA
RF Rounding:	0

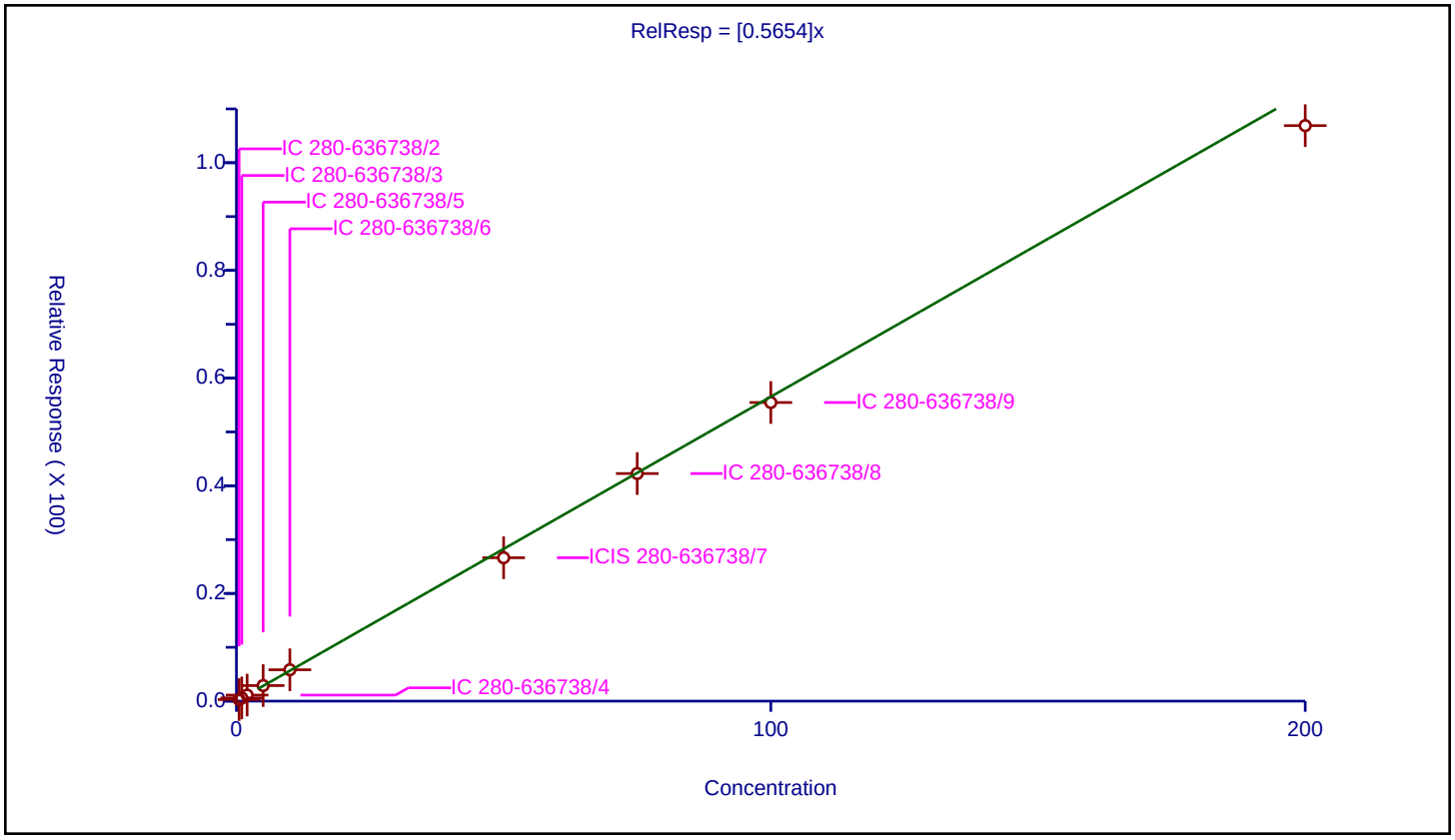
Curve Coefficients

Intercept:	0
Slope:	0.5654

Error Coefficients

Standard Error:	1870000
Relative Standard Error:	3.9
Correlation Coefficient:	1.000
Coefficient of Determination (Adjusted):	0.998

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 280-636738/2	0.5	0.290266	50.0	1824881.0	0.580531	Y
2	IC 280-636738/3	1.0	0.59808	50.0	1811045.0	0.59808	Y
3	IC 280-636738/4	2.0	1.127683	50.0	1808310.0	0.563841	Y
4	IC 280-636738/5	5.0	2.888965	50.0	1838496.0	0.577793	Y
5	IC 280-636738/6	10.0	5.827731	50.0	1829520.0	0.582773	Y
6	ICIS 280-636738/7	50.0	26.631945	50.0	1927914.0	0.532639	Y
7	IC 280-636738/8	75.0	42.270852	50.0	1983388.0	0.563611	Y
8	IC 280-636738/9	100.0	55.467527	50.0	1996396.0	0.554675	Y
9	IC 280-636738/10	200.0	106.894363	50.0	2045461.0	0.534472	Y



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Calibration / 2-Butanone (MEK)

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	ISTD
Response Base:	AREA
RF Rounding:	0

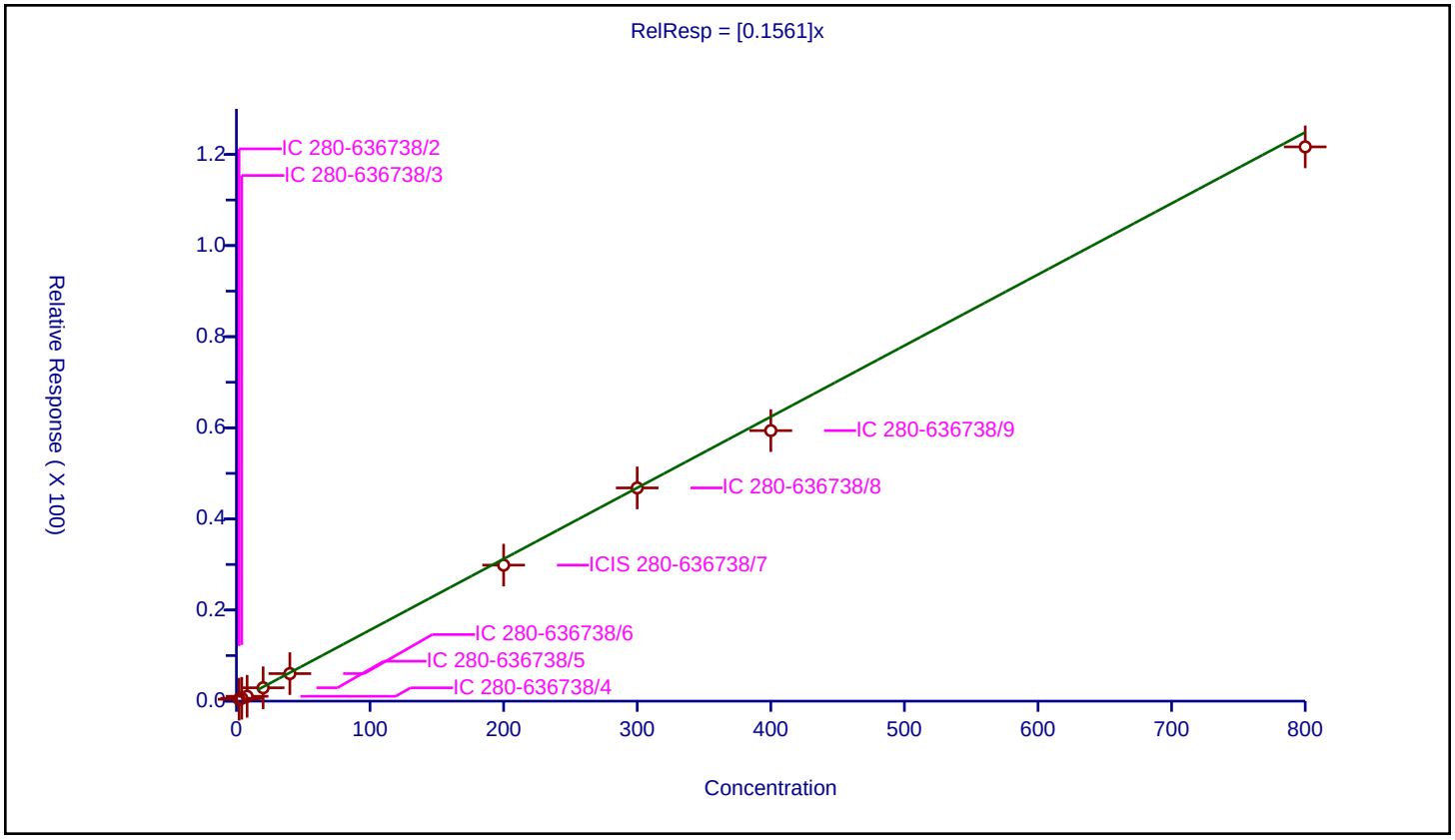
Curve Coefficients

Intercept:	0
Slope:	0.1561

Error Coefficients

Standard Error:	2100000
Relative Standard Error:	13.8
Correlation Coefficient:	0.999
Coefficient of Determination (Adjusted):	0.972

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 280-636738/2	2.0	0.420548	50.0	1824881.0	0.210274	Y
2	IC 280-636738/3	4.0	0.630492	50.0	1811045.0	0.157623	Y
3	IC 280-636738/4	8.0	1.067184	50.0	1808310.0	0.133398	Y
4	IC 280-636738/5	20.0	2.929922	50.0	1838496.0	0.146496	Y
5	IC 280-636738/6	40.0	6.040464	50.0	1829520.0	0.151012	Y
6	ICIS 280-636738/7	200.0	29.859838	50.0	1927914.0	0.149299	Y
7	IC 280-636738/8	300.0	46.804836	50.0	1983388.0	0.156016	Y
8	IC 280-636738/9	400.0	59.383158	50.0	1996396.0	0.148458	Y
9	IC 280-636738/10	800.0	121.664065	50.0	2045461.0	0.15208	Y



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10:48 AM

Calibration / cis-1,2-Dichloroethene

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	ISTD
Response Base:	AREA
RF Rounding:	0

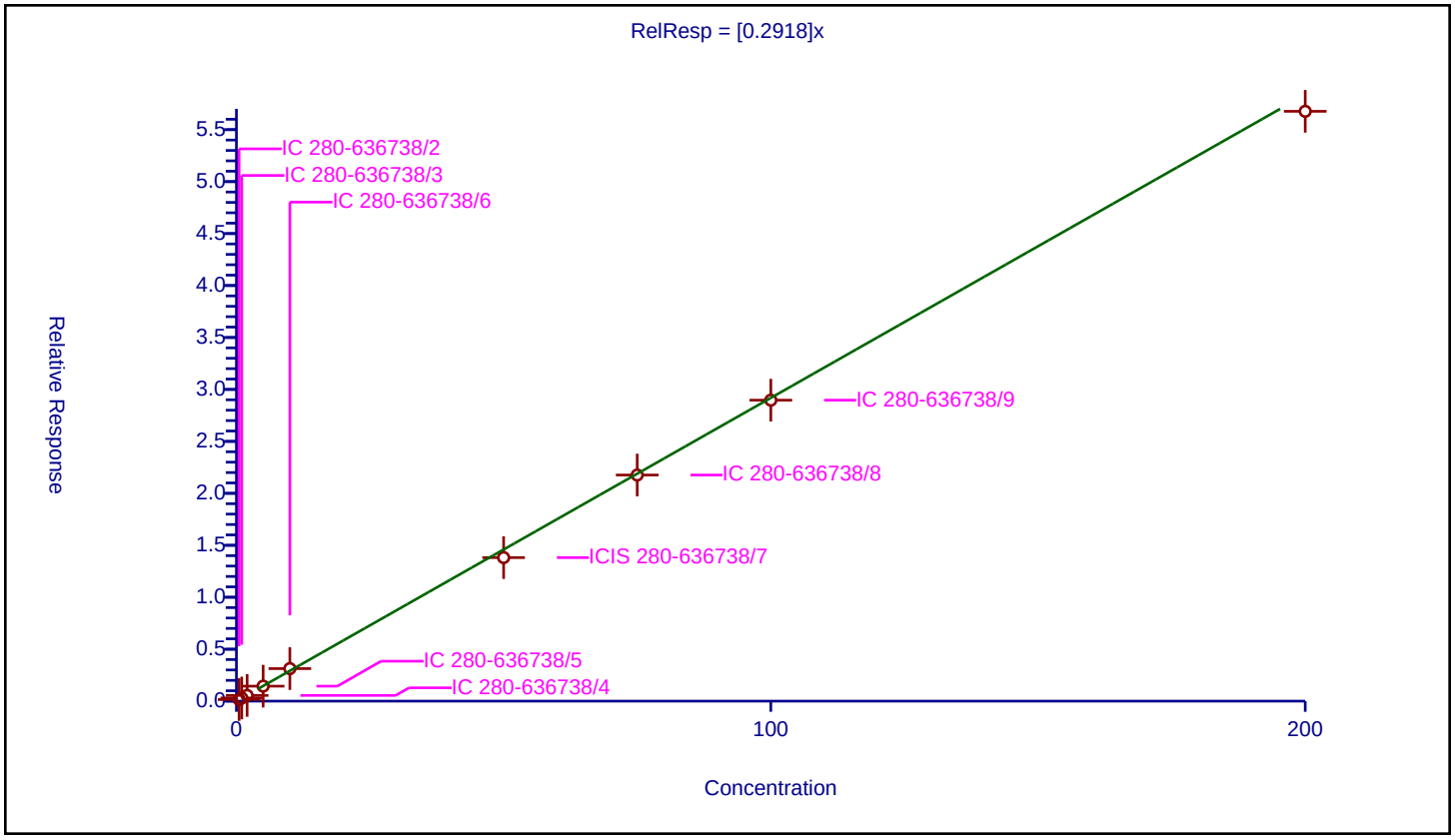
Curve Coefficients

Intercept:	0
Slope:	0.2918

Error Coefficients

Standard Error:	986000
Relative Standard Error:	4.6
Correlation Coefficient:	1.000
Coefficient of Determination (Adjusted):	0.997

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 280-636738/2	0.5	0.153462	50.0	1824881.0	0.306924	Y
2	IC 280-636738/3	1.0	0.303609	50.0	1811045.0	0.303609	Y
3	IC 280-636738/4	2.0	0.548855	50.0	1808310.0	0.274428	Y
4	IC 280-636738/5	5.0	1.442919	50.0	1838496.0	0.288584	Y
5	IC 280-636738/6	10.0	3.131313	50.0	1829520.0	0.313131	Y
6	ICIS 280-636738/7	50.0	13.815502	50.0	1927914.0	0.27631	Y
7	IC 280-636738/8	75.0	21.760392	50.0	1983388.0	0.290139	Y
8	IC 280-636738/9	100.0	28.966823	50.0	1996396.0	0.289668	Y
9	IC 280-636738/10	200.0	56.767545	50.0	2045461.0	0.283838	Y



Calibration / 2,2-Dichloropropane

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	ISTD
Response Base:	AREA
RF Rounding:	0

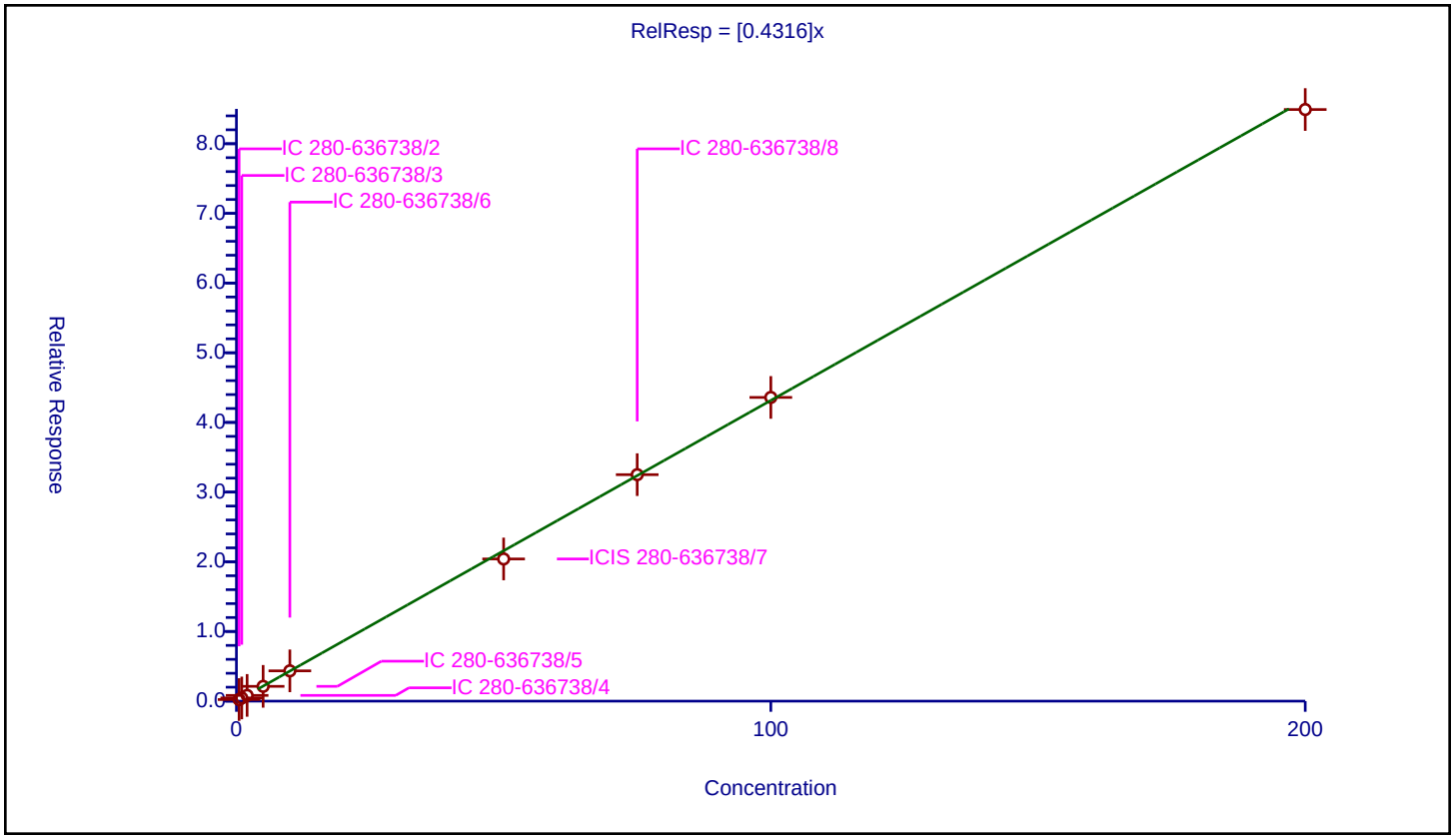
Curve Coefficients

Intercept:	0
Slope:	0.4316

Error Coefficients

Standard Error:	1480000
Relative Standard Error:	3.8
Correlation Coefficient:	1.000
Coefficient of Determination (Adjusted):	0.998

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 280-636738/2	0.5	0.22596	50.0	1824881.0	0.45192	Y
2	IC 280-636738/3	1.0	0.458382	50.0	1811045.0	0.458382	Y
3	IC 280-636738/4	2.0	0.824582	50.0	1808310.0	0.412291	Y
4	IC 280-636738/5	5.0	2.12323	50.0	1838496.0	0.424646	Y
5	IC 280-636738/6	10.0	4.349747	50.0	1829520.0	0.434975	Y
6	ICIS 280-636738/7	50.0	20.407471	50.0	1927914.0	0.408149	Y
7	IC 280-636738/8	75.0	32.505667	50.0	1983388.0	0.433409	Y
8	IC 280-636738/9	100.0	43.591151	50.0	1996396.0	0.435912	Y
9	IC 280-636738/10	200.0	84.908097	50.0	2045461.0	0.42454	Y



12/29/2023
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Calibration / sec-Butyl Alcohol

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	ISTD
Response Base:	AREA
RF Rounding:	0

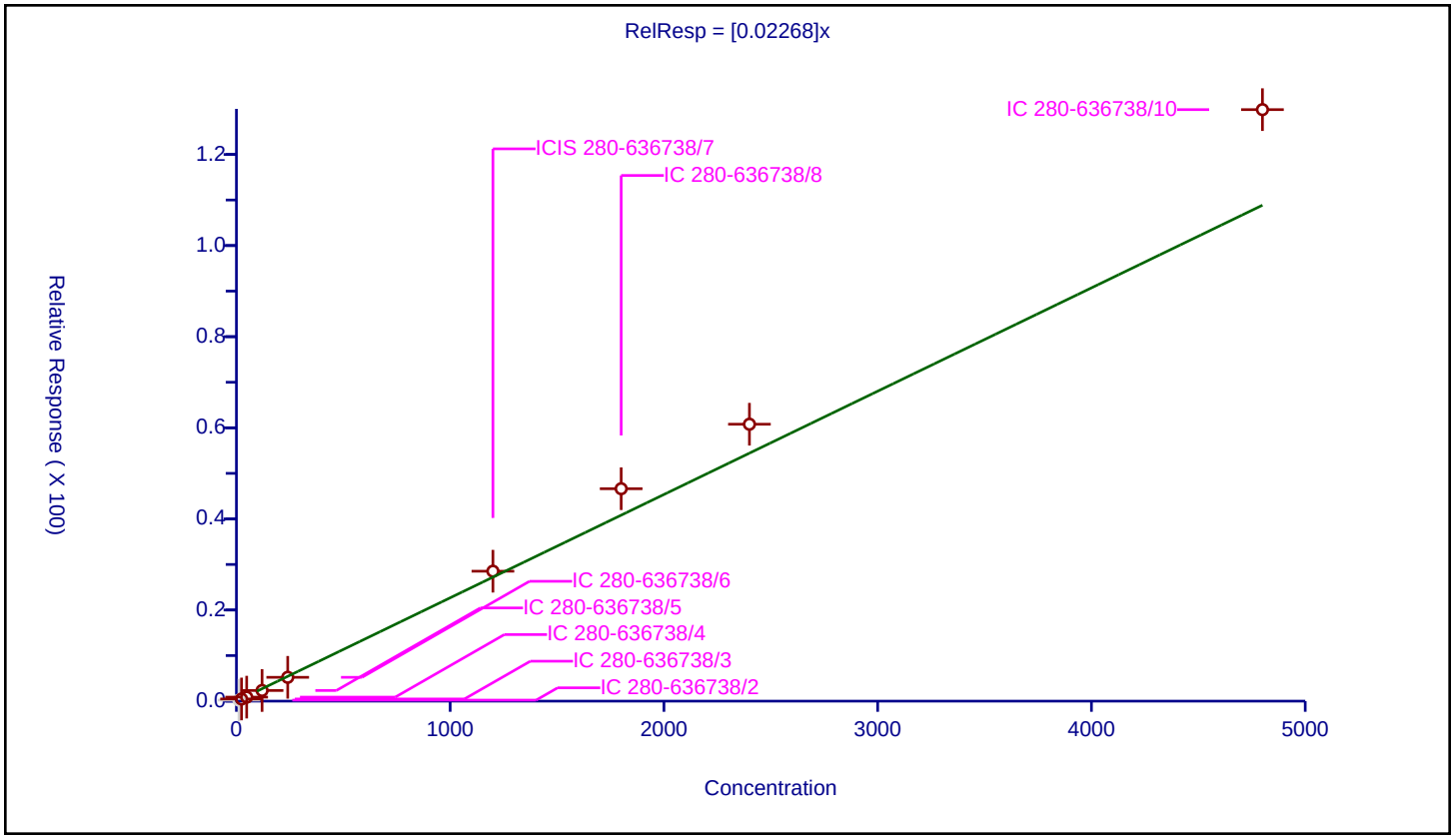
Curve Coefficients

Intercept:	0
Slope:	0.02268

Error Coefficients

Standard Error:	2350000
Relative Standard Error:	14.5
Correlation Coefficient:	0.997
Coefficient of Determination (Adjusted):	0.976

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 280-636738/2	12.0	0.226207	50.0	1824881.0	0.018851	N
2	IC 280-636738/3	24.0	0.474146	50.0	1811045.0	0.019756	Y
3	IC 280-636738/4	48.0	0.882426	50.0	1808310.0	0.018384	Y
4	IC 280-636738/5	120.0	2.334952	50.0	1838496.0	0.019458	Y
5	IC 280-636738/6	240.0	5.228557	50.0	1829520.0	0.021786	Y
6	ICIS 280-636738/7	1200.0	28.520307	50.0	1927914.0	0.023767	Y
7	IC 280-636738/8	1800.0	46.625597	50.0	1983388.0	0.025903	Y
8	IC 280-636738/9	2400.0	60.783908	50.0	1996396.0	0.025327	Y
9	IC 280-636738/10	4800.0	129.835597	50.0	2045461.0	0.027049	Y



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Calibration / Chlorobromomethane

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	ISTD
Response Base:	AREA
RF Rounding:	0

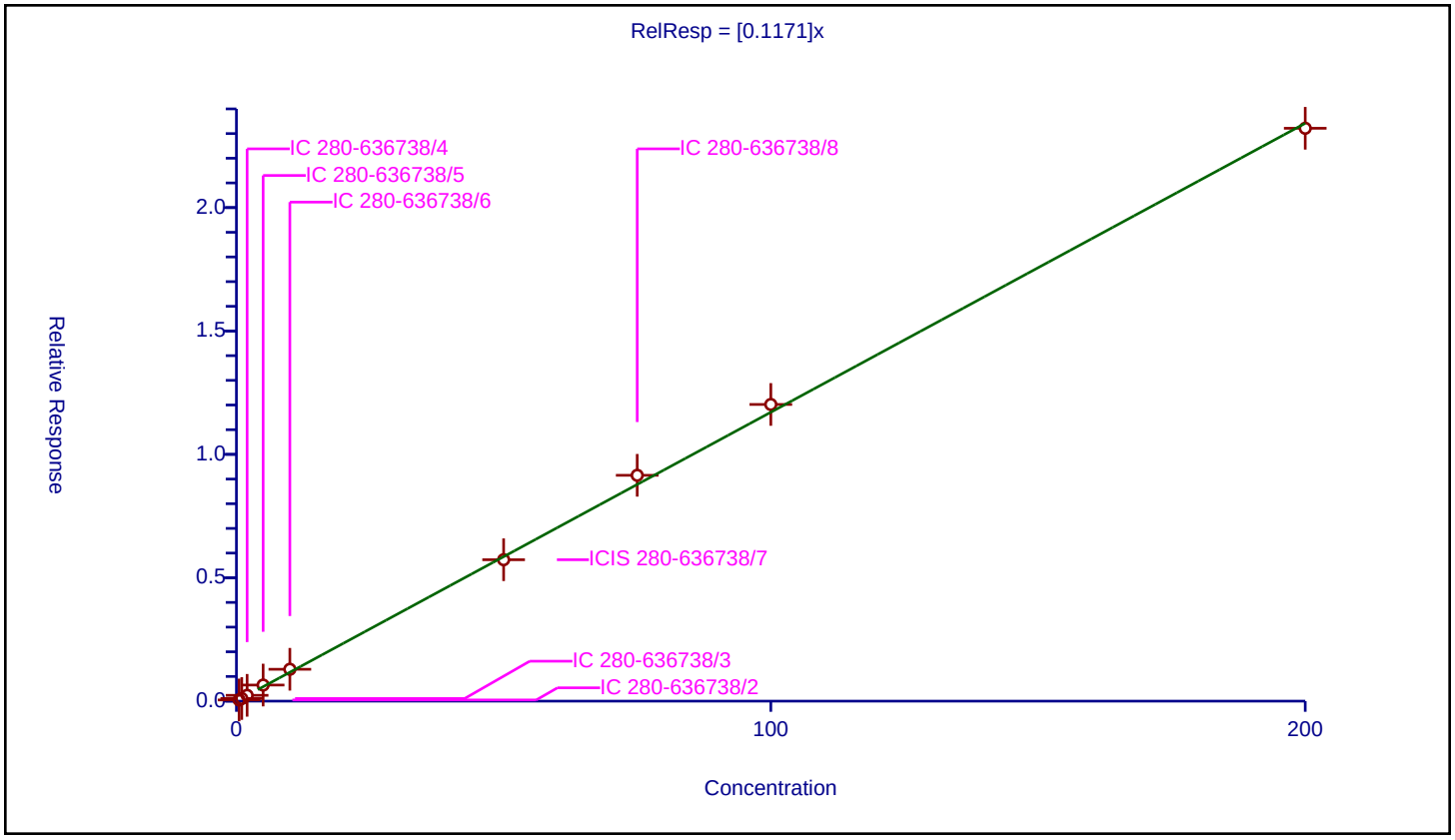
Curve Coefficients

Intercept:	0
Slope:	0.1171

Error Coefficients

Standard Error:	406000
Relative Standard Error:	9.0
Correlation Coefficient:	1.000
Coefficient of Determination (Adjusted):	0.990

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 280-636738/2	0.5	0.048332	50.0	1824881.0	0.096664	Y
2	IC 280-636738/3	1.0	0.106568	50.0	1811045.0	0.106568	Y
3	IC 280-636738/4	2.0	0.235994	50.0	1808310.0	0.117997	Y
4	IC 280-636738/5	5.0	0.651892	50.0	1838496.0	0.130378	Y
5	IC 280-636738/6	10.0	1.291842	50.0	1829520.0	0.129184	Y
6	ICIS 280-636738/7	50.0	5.730313	50.0	1927914.0	0.114606	Y
7	IC 280-636738/8	75.0	9.151639	50.0	1983388.0	0.122022	Y
8	IC 280-636738/9	100.0	12.022615	50.0	1996396.0	0.120226	Y
9	IC 280-636738/10	200.0	23.214033	50.0	2045461.0	0.11607	Y



Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	ISTD
Response Base:	AREA
RF Rounding:	0

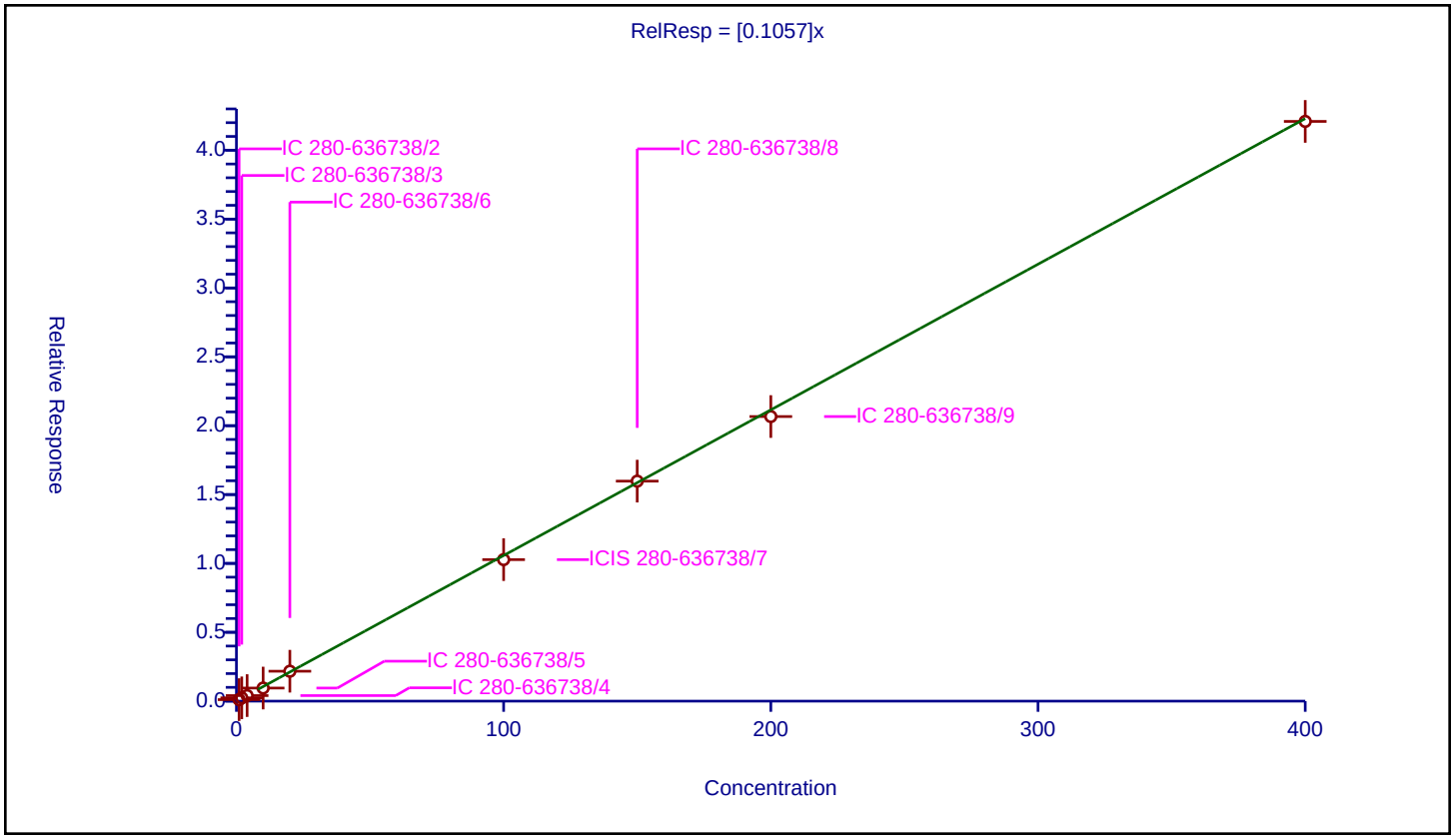
Curve Coefficients

Intercept:	0
Slope:	0.1057

Error Coefficients

Standard Error:	726000
Relative Standard Error:	6.4
Correlation Coefficient:	0.999
Coefficient of Determination (Adjusted):	0.994

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 280-636738/2	1.0	0.110144	50.0	1824881.0	0.110144	Y
2	IC 280-636738/3	2.0	0.238978	50.0	1811045.0	0.119489	Y
3	IC 280-636738/4	4.0	0.402337	50.0	1808310.0	0.100584	Y
4	IC 280-636738/5	10.0	0.950995	50.0	1838496.0	0.095099	Y
5	IC 280-636738/6	20.0	2.171717	50.0	1829520.0	0.108586	Y
6	ICIS 280-636738/7	100.0	10.274577	50.0	1927914.0	0.102746	Y
7	IC 280-636738/8	150.0	15.973753	50.0	1983388.0	0.106492	Y
8	IC 280-636738/9	200.0	20.662809	50.0	1996396.0	0.103314	Y
9	IC 280-636738/10	400.0	42.090805	50.0	2045461.0	0.105227	Y



Calibration / Chloroform

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	ISTD
Response Base:	AREA
RF Rounding:	0

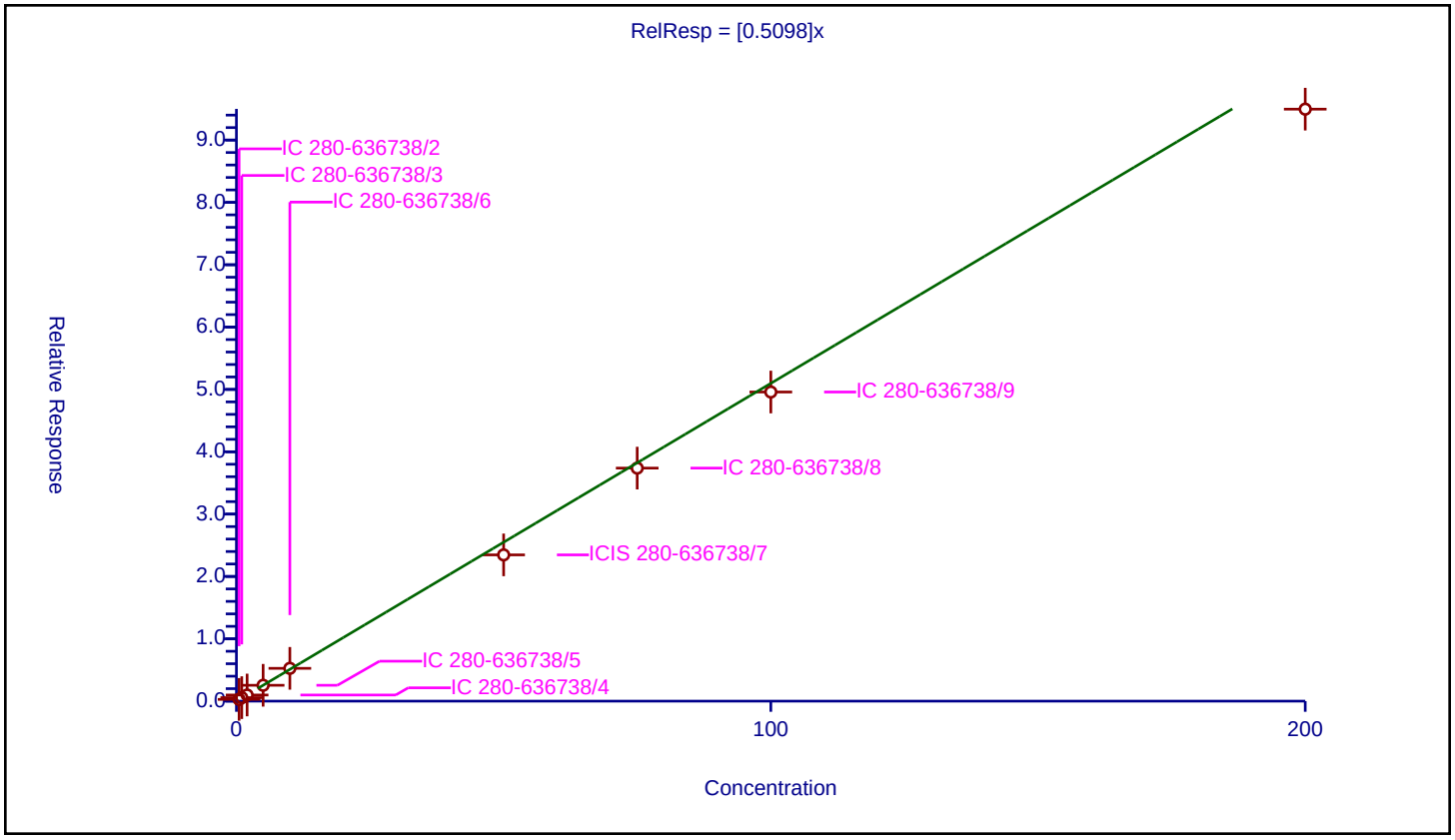
Curve Coefficients

Intercept:	0
Slope:	0.5098

Error Coefficients

Standard Error:	1660000
Relative Standard Error:	6.6
Correlation Coefficient:	1.000
Coefficient of Determination (Adjusted):	0.994

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 280-636738/2	0.5	0.279114	50.0	1824881.0	0.558228	Y
2	IC 280-636738/3	1.0	0.56357	50.0	1811045.0	0.56357	Y
3	IC 280-636738/4	2.0	0.986004	50.0	1808310.0	0.493002	Y
4	IC 280-636738/5	5.0	2.542486	50.0	1838496.0	0.508497	Y
5	IC 280-636738/6	10.0	5.263266	50.0	1829520.0	0.526327	Y
6	ICIS 280-636738/7	50.0	23.459449	50.0	1927914.0	0.469189	Y
7	IC 280-636738/8	75.0	37.378566	50.0	1983388.0	0.498381	Y
8	IC 280-636738/9	100.0	49.587056	50.0	1996396.0	0.495871	Y
9	IC 280-636738/10	200.0	94.956638	50.0	2045461.0	0.474783	Y



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Calibration / Dibromofluoromethane (Surr)

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	ISTD
Response Base:	AREA
RF Rounding:	0

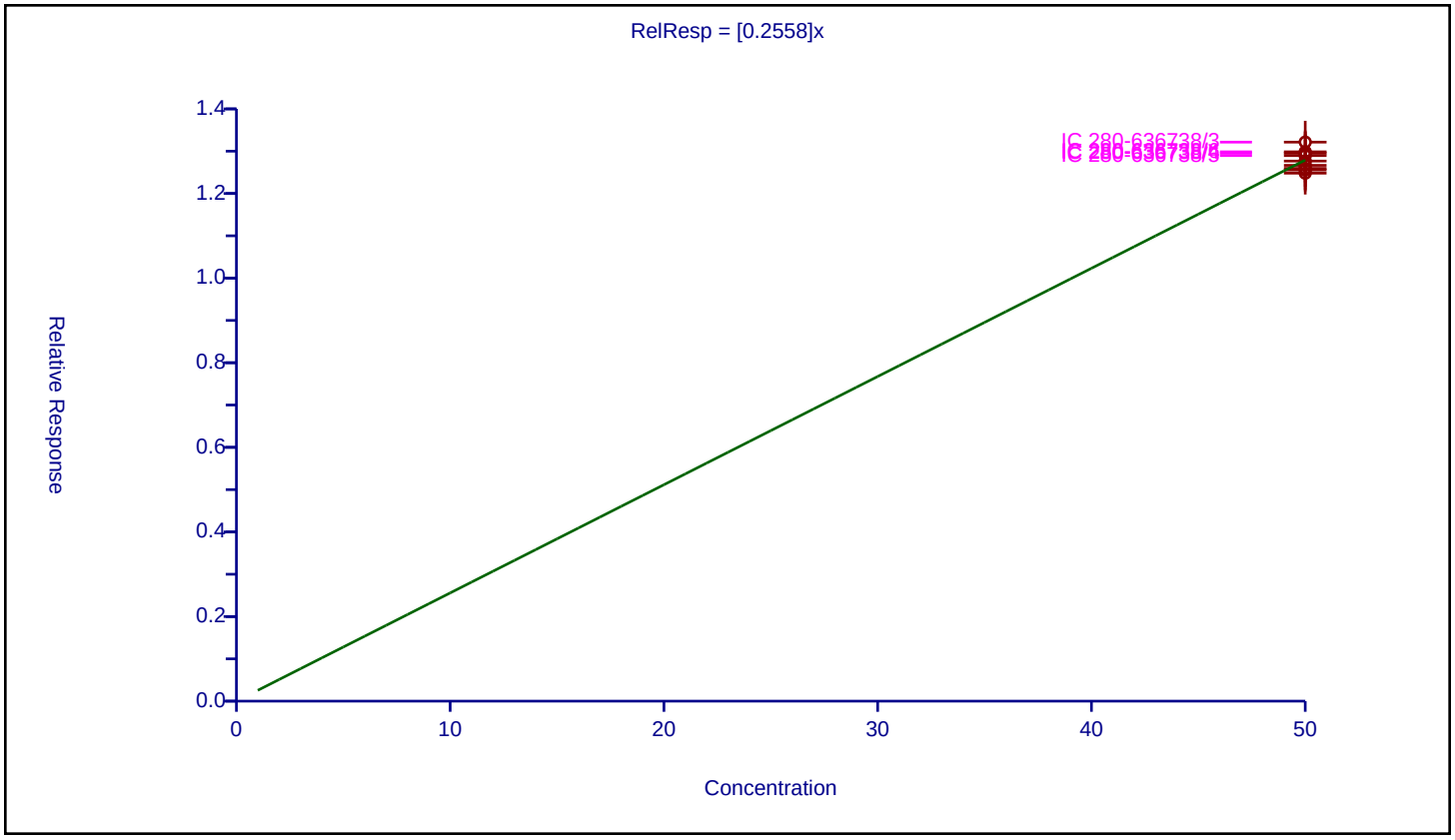
Curve Coefficients

Intercept:	0
Slope:	0.2558

Error Coefficients

Standard Error:	514000
Relative Standard Error:	1.9
Correlation Coefficient:	0.00000000000000000000
Coefficient of Determination (Adjusted):	0

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 280-636738/2	50.0	12.766531	50.0	1824881.0	0.255331	Y
2	IC 280-636738/3	50.0	13.214304	50.0	1811045.0	0.264286	Y
3	IC 280-636738/4	50.0	12.951706	50.0	1808310.0	0.259034	Y
4	IC 280-636738/5	50.0	12.895894	50.0	1838496.0	0.257918	Y
5	IC 280-636738/6	50.0	12.985045	50.0	1829520.0	0.259701	Y
6	ICIS 280-636738/7	50.0	12.480095	50.0	1927914.0	0.249602	Y
7	IC 280-636738/8	50.0	12.665399	50.0	1983388.0	0.253308	Y
8	IC 280-636738/9	50.0	12.593343	50.0	1996396.0	0.251867	Y
9	IC 280-636738/10	50.0	12.555043	50.0	2045461.0	0.251101	Y



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Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	ISTD
Response Base:	AREA
RF Rounding:	0

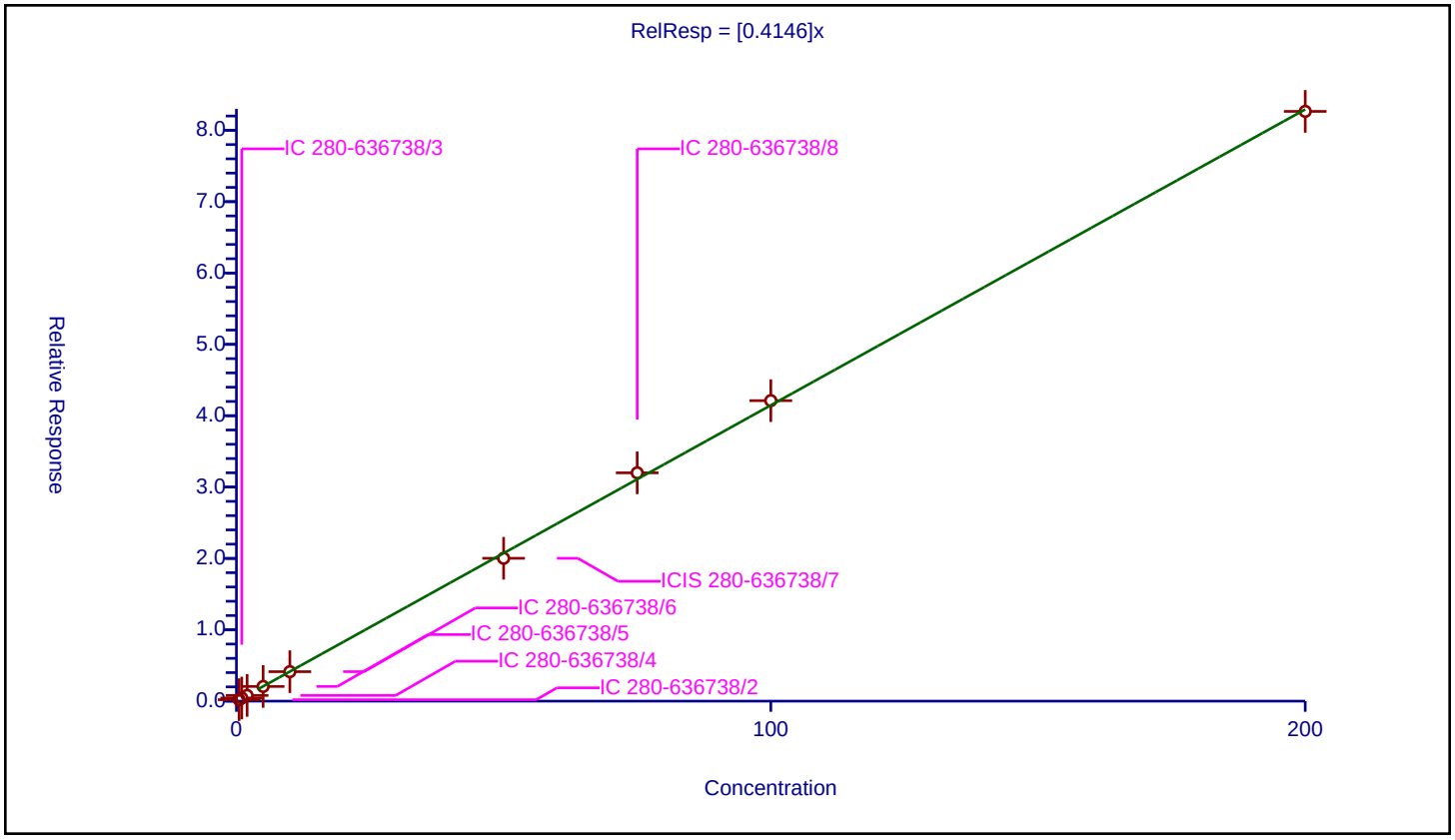
Curve Coefficients

Intercept:	0
Slope:	0.4146

Error Coefficients

Standard Error:	1440000
Relative Standard Error:	2.9
Correlation Coefficient:	1.000
Coefficient of Determination (Adjusted):	0.999

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 280-636738/2	0.5	0.204369	50.0	1824881.0	0.408739	Y
2	IC 280-636738/3	1.0	0.436764	50.0	1811045.0	0.436764	Y
3	IC 280-636738/4	2.0	0.800222	50.0	1808310.0	0.400111	Y
4	IC 280-636738/5	5.0	2.058177	50.0	1838496.0	0.411635	Y
5	IC 280-636738/6	10.0	4.130701	50.0	1829520.0	0.41307	Y
6	ICIS 280-636738/7	50.0	20.018113	50.0	1927914.0	0.400362	Y
7	IC 280-636738/8	75.0	31.997547	50.0	1983388.0	0.426634	Y
8	IC 280-636738/9	100.0	42.113388	50.0	1996396.0	0.421134	Y
9	IC 280-636738/10	200.0	82.649559	50.0	2045461.0	0.413248	Y



Calibration / Cyclohexane

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	ISTD
Response Base:	AREA
RF Rounding:	0

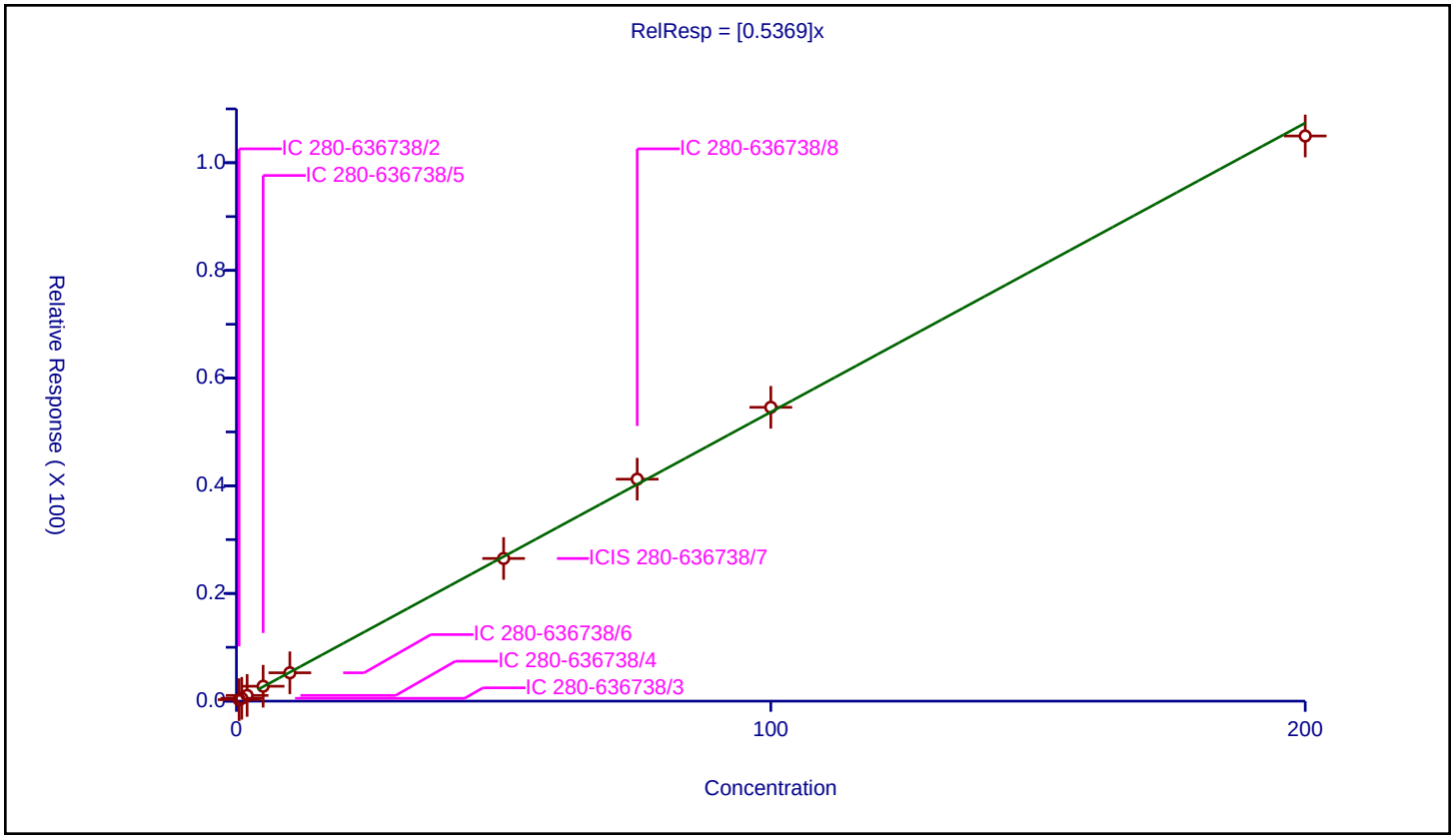
Curve Coefficients

Intercept:	0
Slope:	0.5369

Error Coefficients

Standard Error:	1840000
Relative Standard Error:	2.1
Correlation Coefficient:	1.000
Coefficient of Determination (Adjusted):	0.999

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 280-636738/2	0.5	0.272045	50.0	1824881.0	0.54409	Y
2	IC 280-636738/3	1.0	0.52801	50.0	1811045.0	0.52801	Y
3	IC 280-636738/4	2.0	1.05911	50.0	1808310.0	0.529555	Y
4	IC 280-636738/5	5.0	2.769138	50.0	1838496.0	0.553828	Y
5	IC 280-636738/6	10.0	5.26384	50.0	1829520.0	0.526384	Y
6	ICIS 280-636738/7	50.0	26.497785	50.0	1927914.0	0.529956	Y
7	IC 280-636738/8	75.0	41.225998	50.0	1983388.0	0.54968	Y
8	IC 280-636738/9	100.0	54.573767	50.0	1996396.0	0.545738	Y
9	IC 280-636738/10	200.0	104.968391	50.0	2045461.0	0.524842	Y



Calibration / 1,1-Dichloropropene

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	ISTD
Response Base:	AREA
RF Rounding:	0

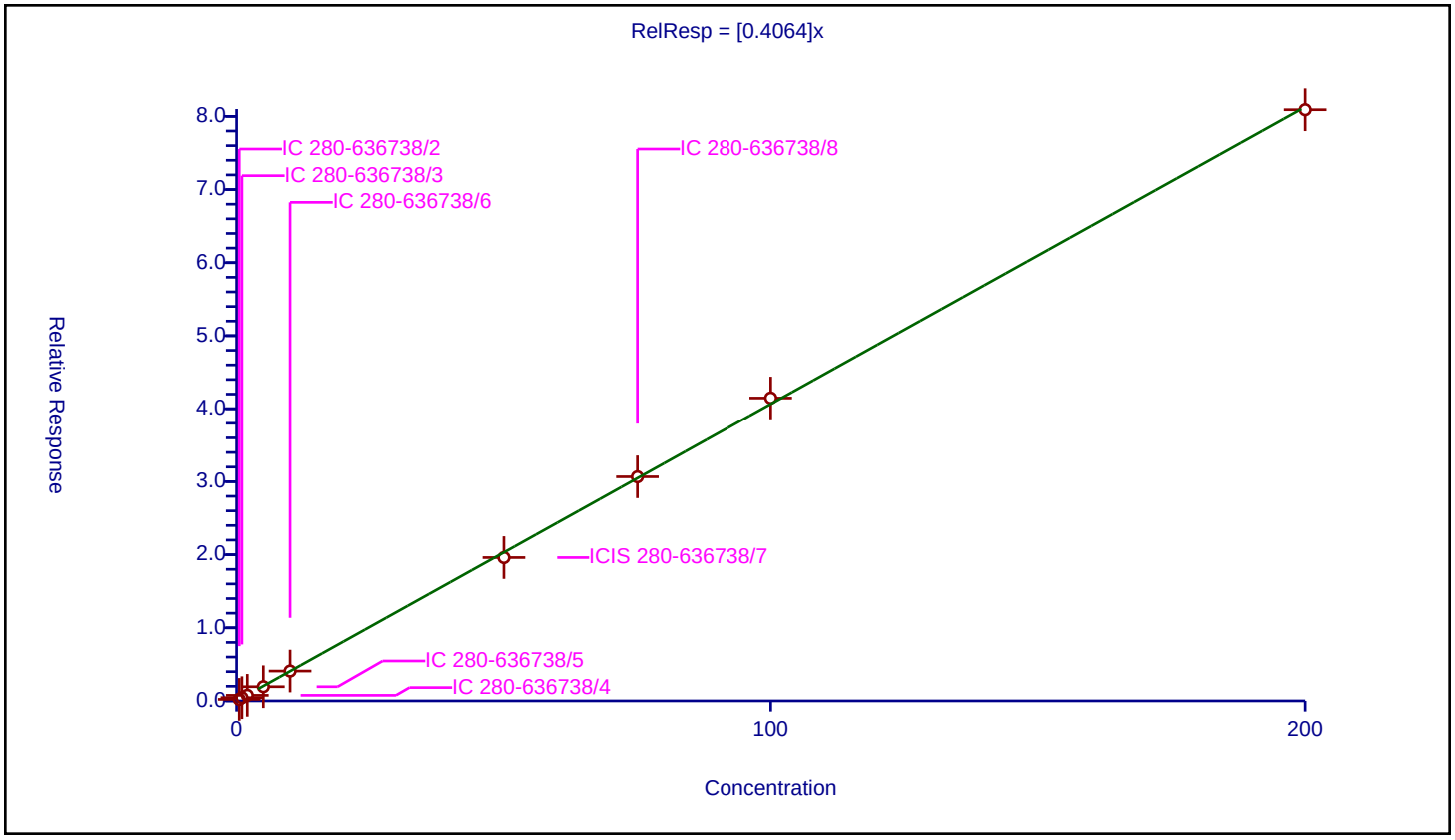
Curve Coefficients

Intercept:	0
Slope:	0.4064

Error Coefficients

Standard Error:	1400000
Relative Standard Error:	4.4
Correlation Coefficient:	1.000
Coefficient of Determination (Adjusted):	0.997

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 280-636738/2	0.5	0.208863	50.0	1824881.0	0.417726	Y
2	IC 280-636738/3	1.0	0.441513	50.0	1811045.0	0.441513	Y
3	IC 280-636738/4	2.0	0.763503	50.0	1808310.0	0.381751	Y
4	IC 280-636738/5	5.0	1.940581	50.0	1838496.0	0.388116	Y
5	IC 280-636738/6	10.0	4.083803	50.0	1829520.0	0.40838	Y
6	ICIS 280-636738/7	50.0	19.608603	50.0	1927914.0	0.392172	Y
7	IC 280-636738/8	75.0	30.668256	50.0	1983388.0	0.40891	Y
8	IC 280-636738/9	100.0	41.465972	50.0	1996396.0	0.41466	Y
9	IC 280-636738/10	200.0	80.906065	50.0	2045461.0	0.40453	Y



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Calibration / Carbon tetrachloride

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	ISTD
Response Base:	AREA
RF Rounding:	0

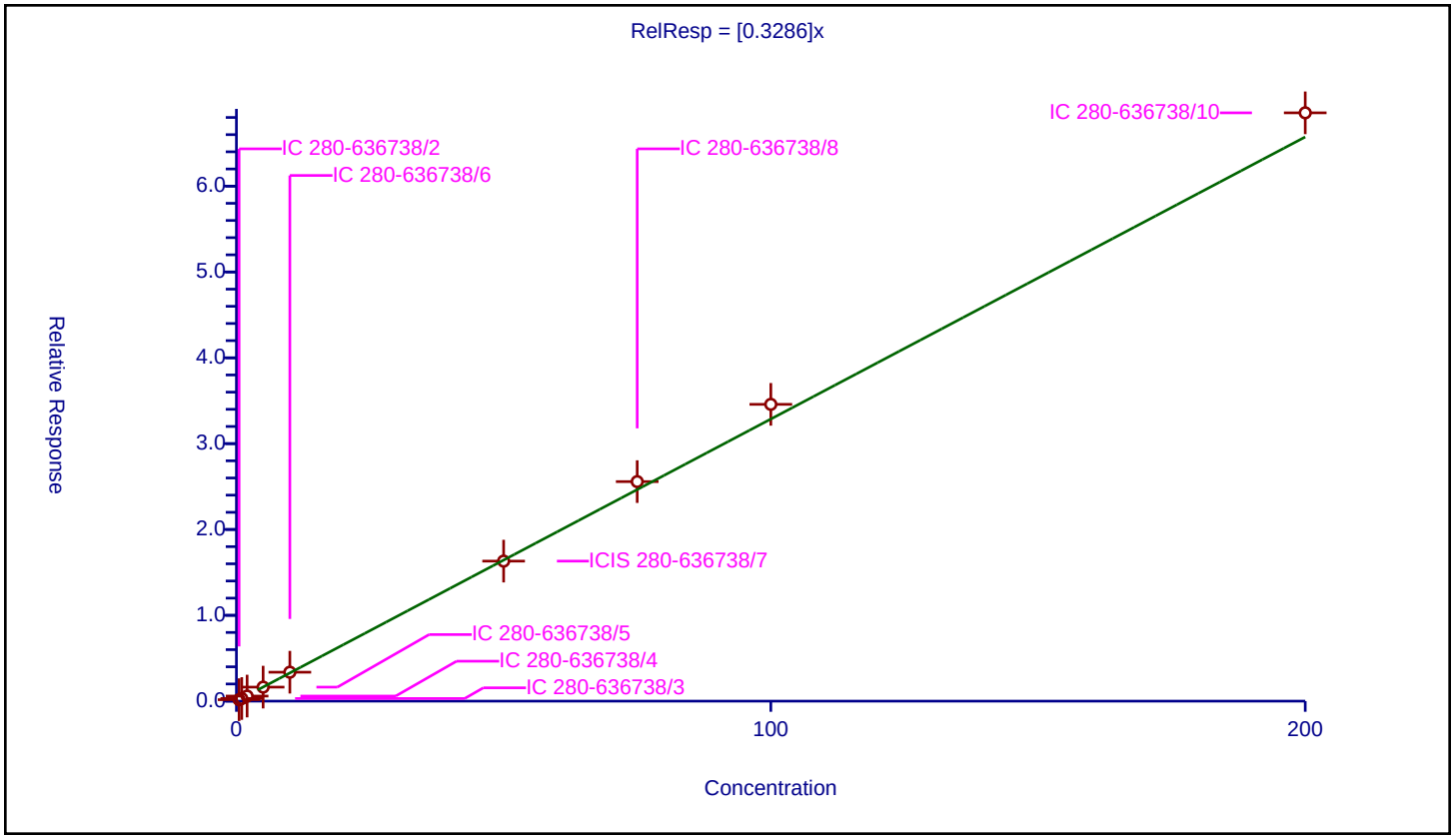
Curve Coefficients

Intercept:	0
Slope:	0.3286

Error Coefficients

Standard Error:	1180000
Relative Standard Error:	5.5
Correlation Coefficient:	0.999
Coefficient of Determination (Adjusted):	0.996

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 280-636738/2	0.5	0.169518	50.0	1824881.0	0.339036	Y
2	IC 280-636738/3	1.0	0.304189	50.0	1811045.0	0.304189	Y
3	IC 280-636738/4	2.0	0.589832	50.0	1808310.0	0.294916	Y
4	IC 280-636738/5	5.0	1.633319	50.0	1838496.0	0.326664	Y
5	IC 280-636738/6	10.0	3.372305	50.0	1829520.0	0.337231	Y
6	ICIS 280-636738/7	50.0	16.314628	50.0	1927914.0	0.326293	Y
7	IC 280-636738/8	75.0	25.574976	50.0	1983388.0	0.341	Y
8	IC 280-636738/9	100.0	34.577559	50.0	1996396.0	0.345776	Y
9	IC 280-636738/10	200.0	68.540001	50.0	2045461.0	0.3427	Y



Calibration / Isobutyl alcohol

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	ISTD
Response Base:	AREA
RF Rounding:	0

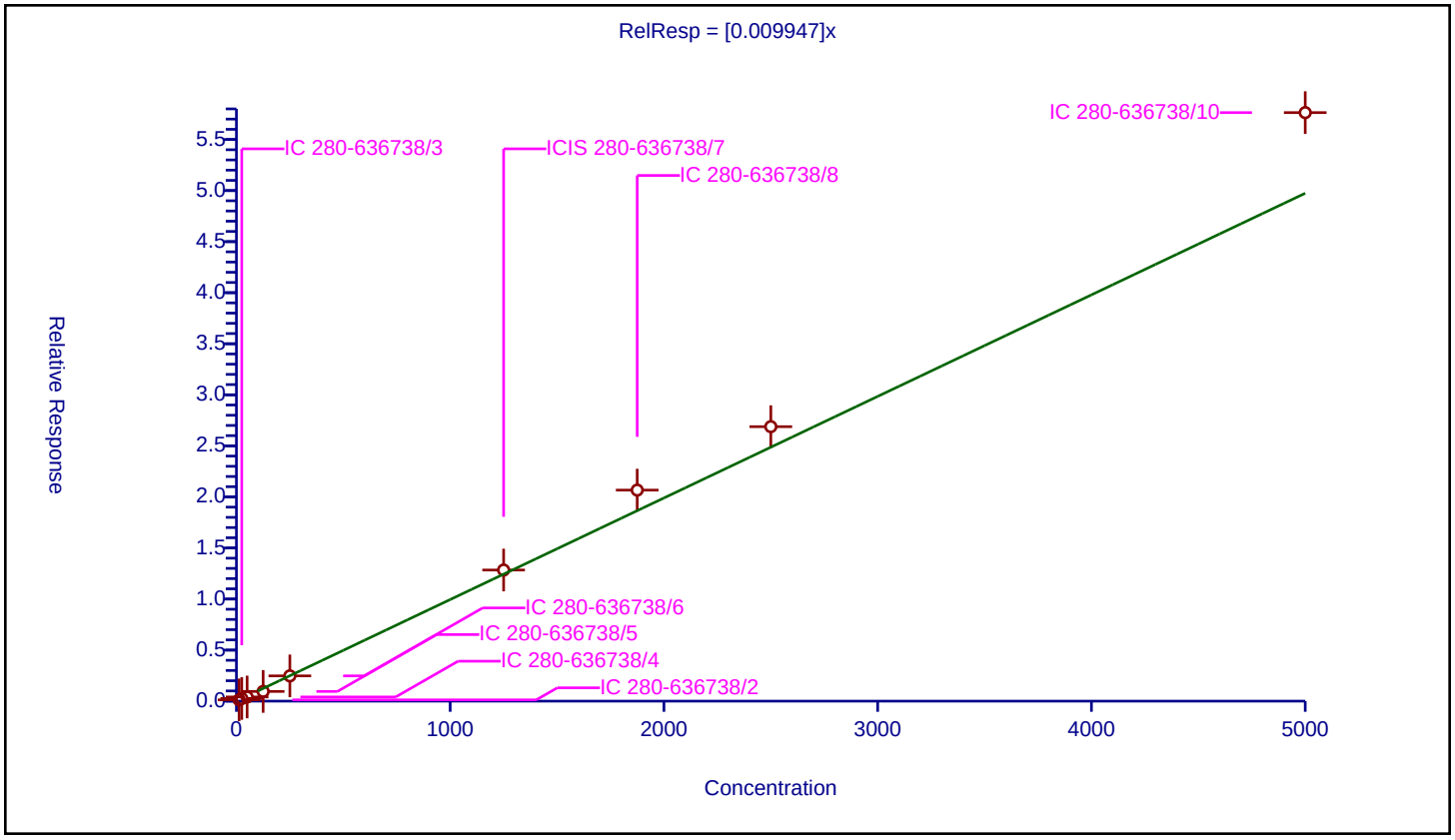
Curve Coefficients

Intercept:	0
Slope:	0.009947

Error Coefficients

Standard Error:	977000
Relative Standard Error:	13.0
Correlation Coefficient:	0.997
Coefficient of Determination (Adjusted):	0.979

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 280-636738/2	12.5	0.123323	50.0	1824881.0	0.009866	Y
2	IC 280-636738/3	25.0	0.260651	50.0	1811045.0	0.010426	Y
3	IC 280-636738/4	50.0	0.408005	50.0	1808310.0	0.00816	Y
4	IC 280-636738/5	125.0	0.950424	50.0	1838496.0	0.007603	Y
5	IC 280-636738/6	250.0	2.474556	50.0	1829520.0	0.009898	Y
6	ICIS 280-636738/7	1250.0	12.839966	50.0	1927914.0	0.010272	Y
7	IC 280-636738/8	1875.0	20.667262	50.0	1983388.0	0.011023	Y
8	IC 280-636738/9	2500.0	26.880914	50.0	1996396.0	0.010752	Y
9	IC 280-636738/10	5000.0	57.634147	50.0	2045461.0	0.011527	Y



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Calibration / 1,2-Dichloroethane-d4 (Surr)

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	ISTD
Response Base:	AREA
RF Rounding:	0

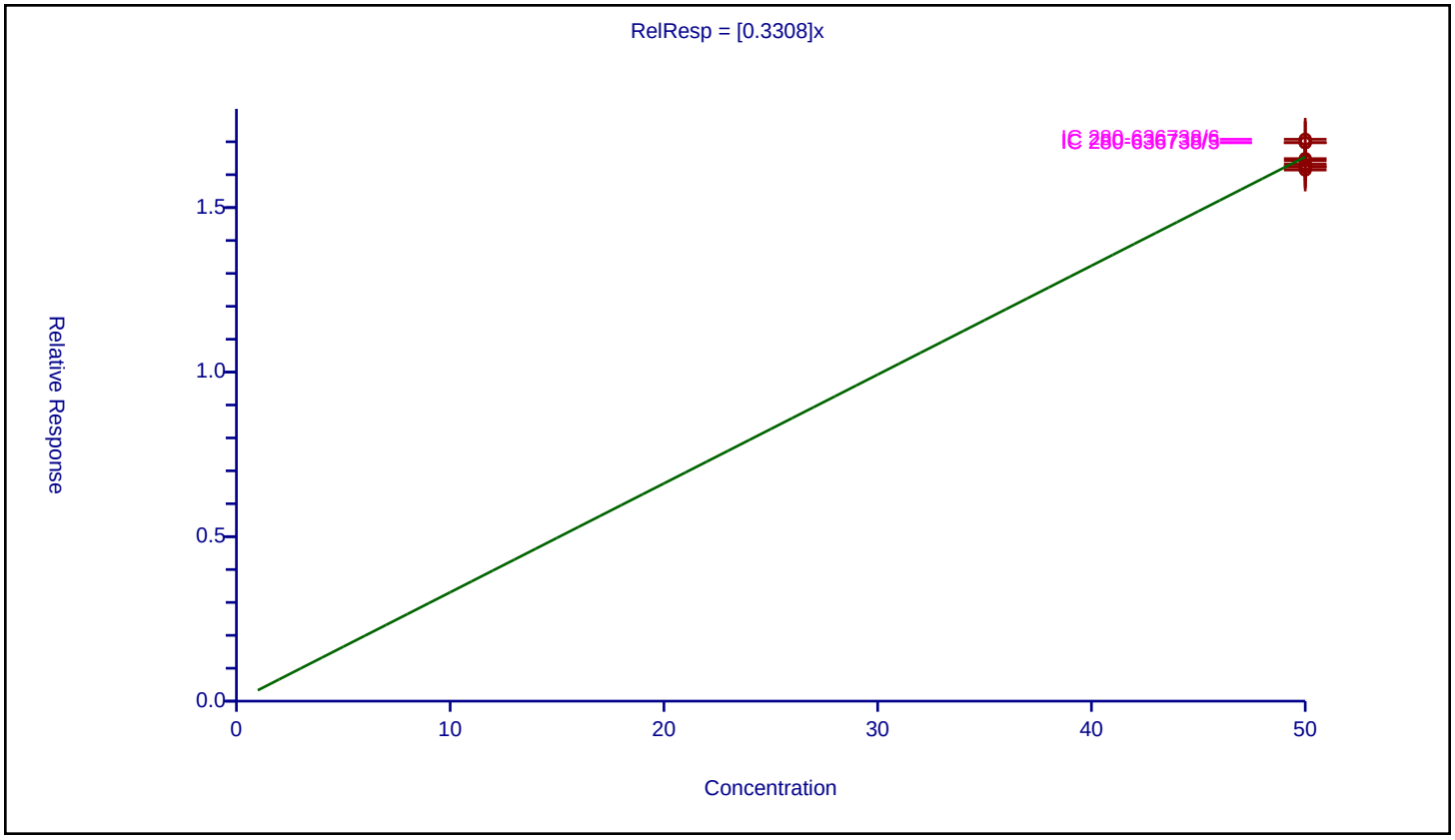
Curve Coefficients

Intercept:	0
Slope:	0.3308

Error Coefficients

Standard Error:	665000
Relative Standard Error:	2.2
Correlation Coefficient:	NA
Coefficient of Determination (Adjusted):	0

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 280-636738/2	50.0	16.250018	50.0	1824881.0	0.325	Y
2	IC 280-636738/3	50.0	16.970396	50.0	1811045.0	0.339408	Y
3	IC 280-636738/4	50.0	16.489015	50.0	1808310.0	0.32978	Y
4	IC 280-636738/5	50.0	16.977981	50.0	1838496.0	0.33956	Y
5	IC 280-636738/6	50.0	17.077375	50.0	1829520.0	0.341548	Y
6	ICIS 280-636738/7	50.0	16.421946	50.0	1927914.0	0.328439	Y
7	IC 280-636738/8	50.0	16.227158	50.0	1983388.0	0.324543	Y
8	IC 280-636738/9	50.0	16.318556	50.0	1996396.0	0.326371	Y
9	IC 280-636738/10	50.0	16.141056	50.0	2045461.0	0.322821	Y



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Calibration / Benzene

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	ISTD
Response Base:	AREA
RF Rounding:	0

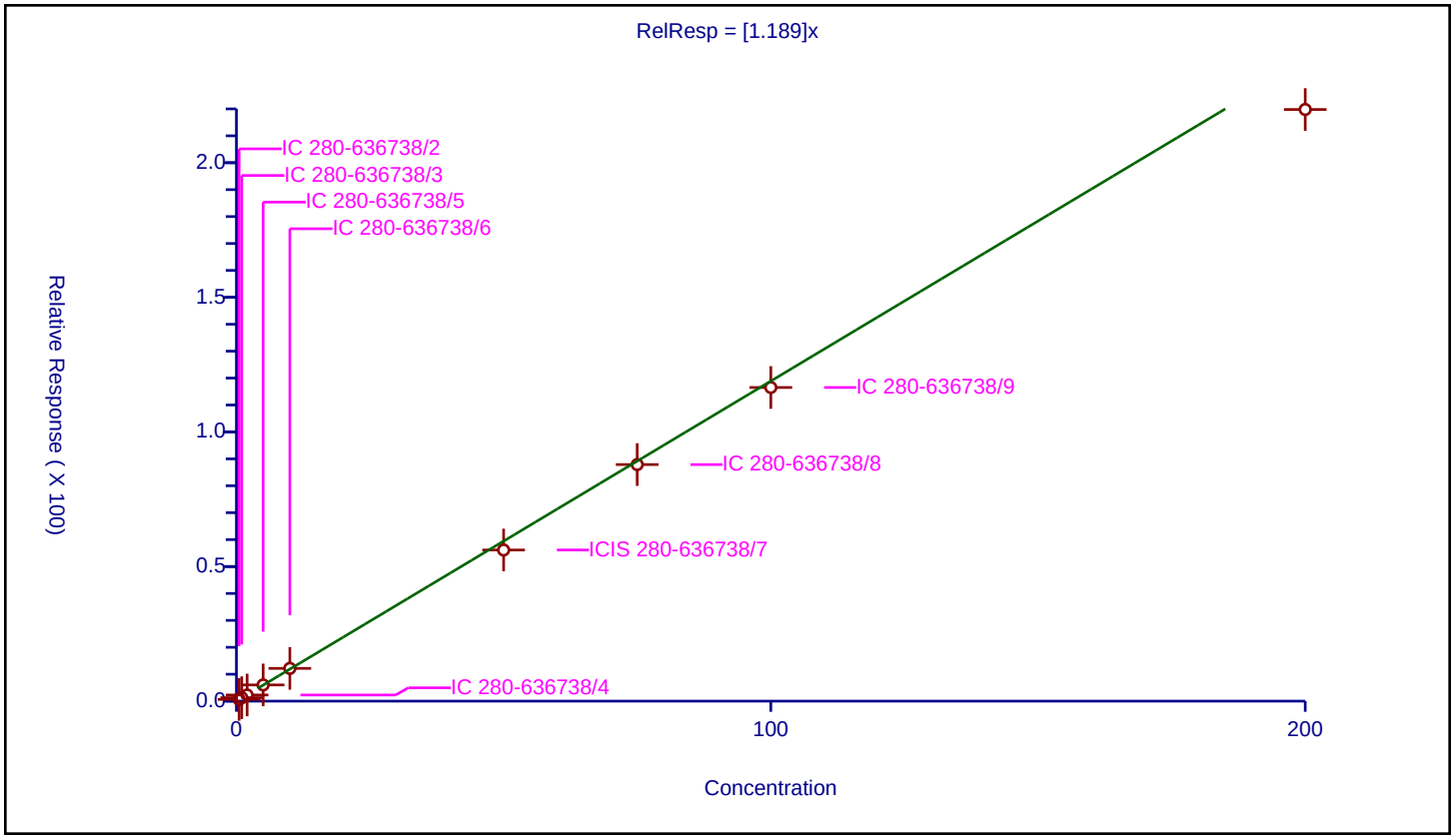
Curve Coefficients

Intercept:	0
Slope:	1.189

Error Coefficients

Standard Error:	3870000
Relative Standard Error:	5.8
Correlation Coefficient:	0.999
Coefficient of Determination (Adjusted):	0.995

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 280-636738/2	0.5	0.650426	50.0	1824881.0	1.300852	Y
2	IC 280-636738/3	1.0	1.280835	50.0	1811045.0	1.280835	Y
3	IC 280-636738/4	2.0	2.276988	50.0	1808310.0	1.138494	Y
4	IC 280-636738/5	5.0	6.023538	50.0	1838496.0	1.204708	Y
5	IC 280-636738/6	10.0	12.167481	50.0	1829520.0	1.216748	Y
6	ICIS 280-636738/7	50.0	56.140186	50.0	1927914.0	1.122804	Y
7	IC 280-636738/8	75.0	87.876578	50.0	1983388.0	1.171688	Y
8	IC 280-636738/9	100.0	116.513733	50.0	1996396.0	1.165137	Y
9	IC 280-636738/10	200.0	219.770482	50.0	2045461.0	1.098852	Y



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Calibration / 1,2-Dichloroethane

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	ISTD
Response Base:	AREA
RF Rounding:	0

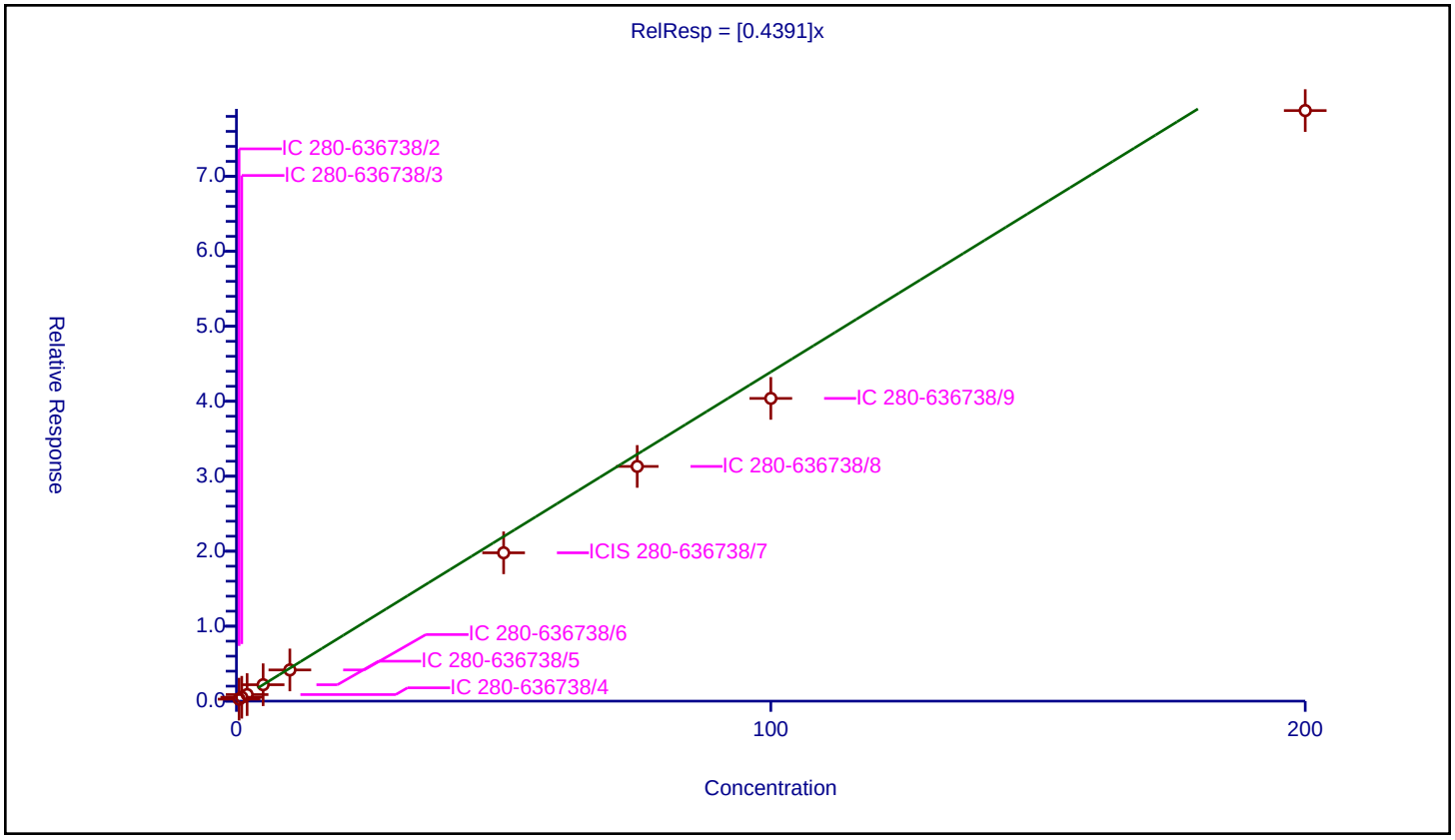
Curve Coefficients

Intercept:	0
Slope:	0.4391

Error Coefficients

Standard Error:	1380000
Relative Standard Error:	11.6
Correlation Coefficient:	1.000
Coefficient of Determination (Adjusted):	0.980

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 280-636738/2	0.5	0.266209	50.0	1824881.0	0.532418	Y
2	IC 280-636738/3	1.0	0.515973	50.0	1811045.0	0.515973	Y
3	IC 280-636738/4	2.0	0.876841	50.0	1808310.0	0.43842	Y
4	IC 280-636738/5	5.0	2.189697	50.0	1838496.0	0.437939	Y
5	IC 280-636738/6	10.0	4.160272	50.0	1829520.0	0.416027	Y
6	ICIS 280-636738/7	50.0	19.785685	50.0	1927914.0	0.395714	Y
7	IC 280-636738/8	75.0	31.307087	50.0	1983388.0	0.417428	Y
8	IC 280-636738/9	100.0	40.38039	50.0	1996396.0	0.403804	Y
9	IC 280-636738/10	200.0	78.777718	50.0	2045461.0	0.393889	Y



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Calibration / n-Heptane

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	ISTD
Response Base:	AREA
RF Rounding:	0

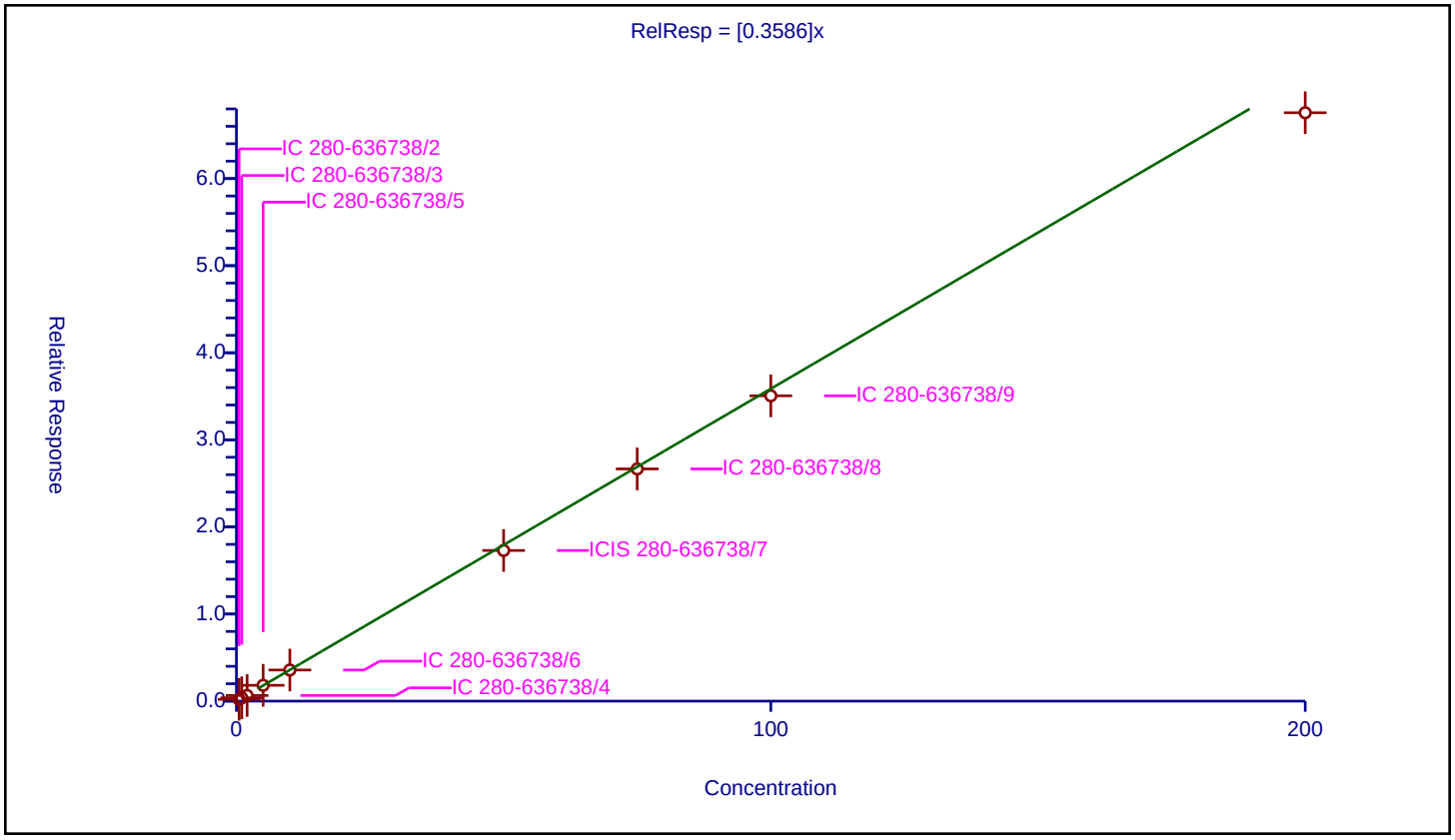
Curve Coefficients

Intercept:	0
Slope:	0.3586

Error Coefficients

Standard Error:	1180000
Relative Standard Error:	7.0
Correlation Coefficient:	1.000
Coefficient of Determination (Adjusted):	0.993

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 280-636738/2	0.5	0.206096	50.0	1824881.0	0.412191	Y
2	IC 280-636738/3	1.0	0.379173	50.0	1811045.0	0.379173	Y
3	IC 280-636738/4	2.0	0.651133	50.0	1808310.0	0.325566	Y
4	IC 280-636738/5	5.0	1.819014	50.0	1838496.0	0.363803	Y
5	IC 280-636738/6	10.0	3.572686	50.0	1829520.0	0.357269	Y
6	ICIS 280-636738/7	50.0	17.296259	50.0	1927914.0	0.345925	Y
7	IC 280-636738/8	75.0	26.661904	50.0	1983388.0	0.355492	Y
8	IC 280-636738/9	100.0	35.059627	50.0	1996396.0	0.350596	Y
9	IC 280-636738/10	200.0	67.559929	50.0	2045461.0	0.3378	Y



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Calibration / Trichloroethene

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	ISTD
Response Base:	AREA
RF Rounding:	0

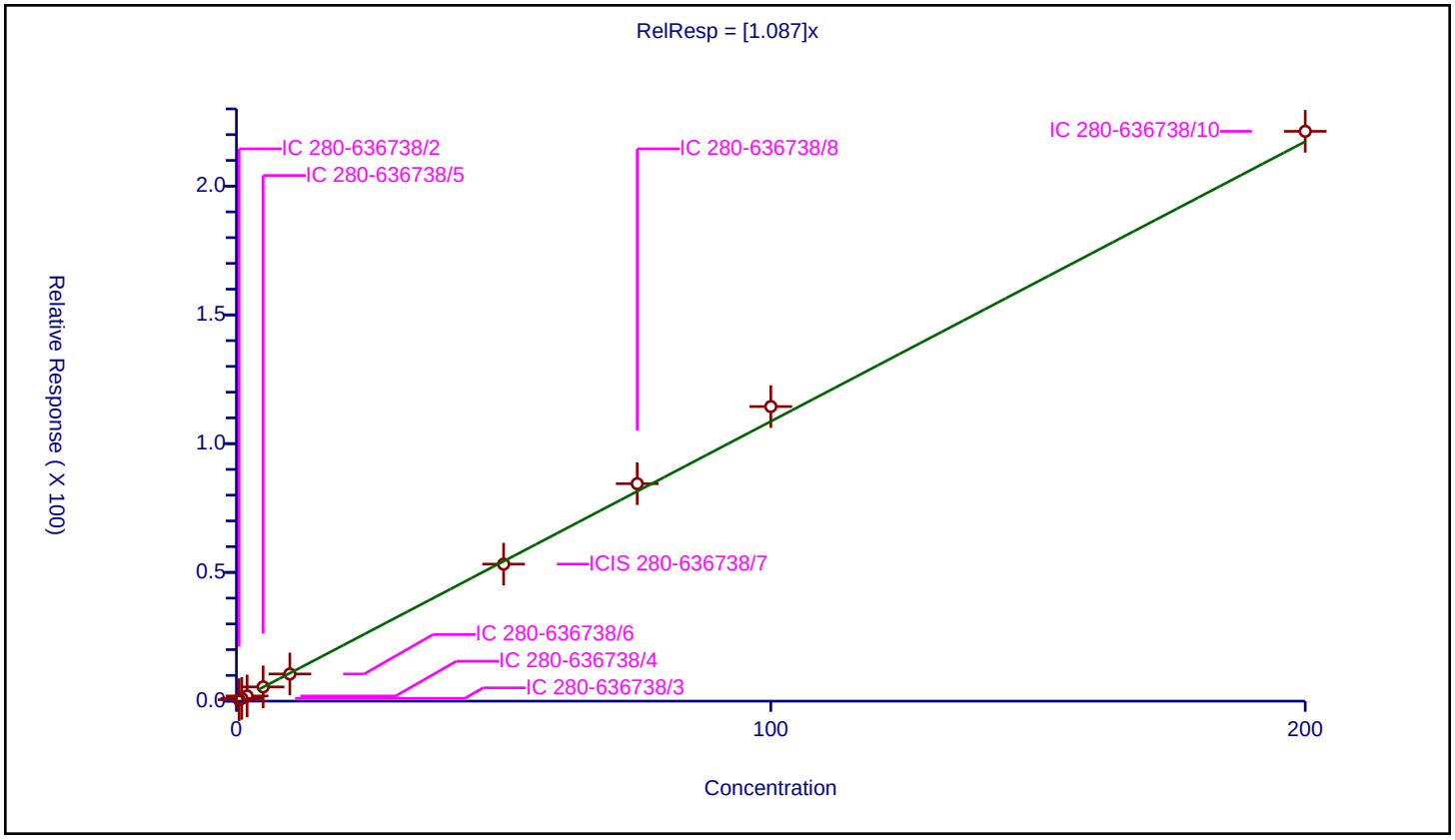
Curve Coefficients

Intercept:	0
Slope:	1.087

Error Coefficients

Standard Error:	976000
Relative Standard Error:	3.9
Correlation Coefficient:	0.999
Coefficient of Determination (Adjusted):	0.998

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 280-636738/2	0.5	0.550162	50.0	463863.0	1.100325	Y
2	IC 280-636738/3	1.0	1.070197	50.0	472203.0	1.070197	Y
3	IC 280-636738/4	2.0	2.013204	50.0	462596.0	1.006602	Y
4	IC 280-636738/5	5.0	5.533025	50.0	471713.0	1.106605	Y
5	IC 280-636738/6	10.0	10.544796	50.0	481740.0	1.05448	Y
6	ICIS 280-636738/7	50.0	53.212708	50.0	487237.0	1.064254	Y
7	IC 280-636738/8	75.0	84.45624	50.0	505296.0	1.126083	Y
8	IC 280-636738/9	100.0	114.403116	50.0	502912.0	1.144031	Y
9	IC 280-636738/10	200.0	221.288655	50.0	519596.0	1.106443	Y



Calibration / 2-Pentanone

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	ISTD
Response Base:	AREA
RF Rounding:	0

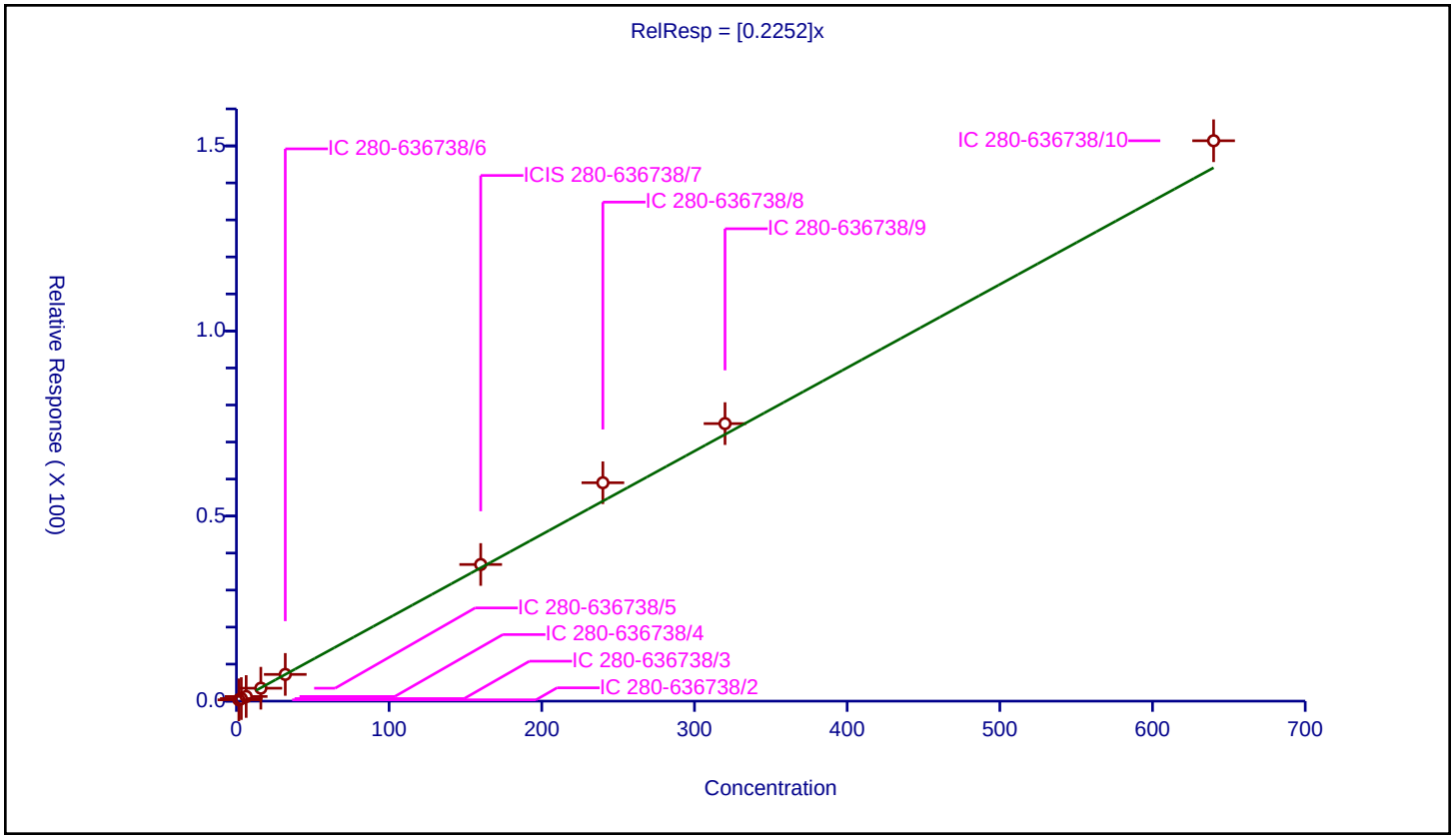
Curve Coefficients

Intercept:	0
Slope:	0.2252

Error Coefficients

Standard Error:	2620000
Relative Standard Error:	6.4
Correlation Coefficient:	0.999
Coefficient of Determination (Adjusted):	0.995

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 280-636738/2	1.6	0.35427	50.0	1824881.0	0.221419	Y
2	IC 280-636738/3	3.2	0.696145	50.0	1811045.0	0.217545	Y
3	IC 280-636738/4	6.4	1.254376	50.0	1808310.0	0.195996	Y
4	IC 280-636738/5	16.0	3.494949	50.0	1838496.0	0.218434	Y
5	IC 280-636738/6	32.0	7.222796	50.0	1829520.0	0.225712	Y
6	ICIS 280-636738/7	160.0	36.913939	50.0	1927914.0	0.230712	Y
7	IC 280-636738/8	240.0	59.002575	50.0	1983388.0	0.245844	Y
8	IC 280-636738/9	320.0	74.976232	50.0	1996396.0	0.234301	Y
9	IC 280-636738/10	640.0	151.393818	50.0	2045461.0	0.236553	Y



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Calibration / Methylcyclohexane

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	ISTD
Response Base:	AREA
RF Rounding:	0

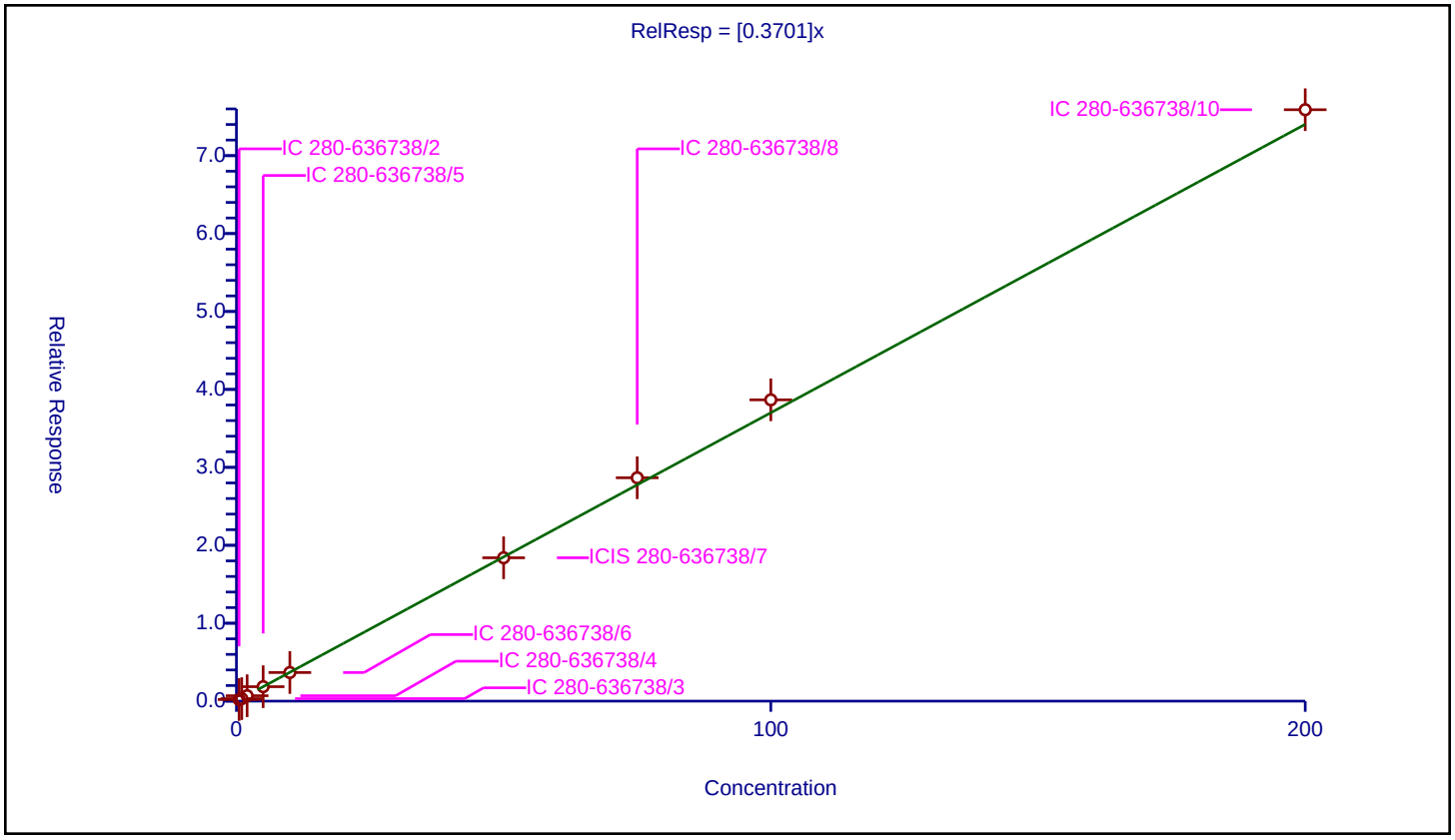
Curve Coefficients

Intercept:	0
Slope:	0.3701

Error Coefficients

Standard Error:	1320000
Relative Standard Error:	6.6
Correlation Coefficient:	1.000
Coefficient of Determination (Adjusted):	0.994

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 280-636738/2	0.5	0.203493	50.0	1824881.0	0.406985	Y
2	IC 280-636738/3	1.0	0.321693	50.0	1811045.0	0.321693	Y
3	IC 280-636738/4	2.0	0.695235	50.0	1808310.0	0.347617	Y
4	IC 280-636738/5	5.0	1.855783	50.0	1838496.0	0.371157	Y
5	IC 280-636738/6	10.0	3.673641	50.0	1829520.0	0.367364	Y
6	ICIS 280-636738/7	50.0	18.395893	50.0	1927914.0	0.367918	Y
7	IC 280-636738/8	75.0	28.66247	50.0	1983388.0	0.382166	Y
8	IC 280-636738/9	100.0	38.66282	50.0	1996396.0	0.386628	Y
9	IC 280-636738/10	200.0	75.894016	50.0	2045461.0	0.37947	Y



Calibration / 1,2-Dichloropropane

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	ISTD
Response Base:	AREA
RF Rounding:	0

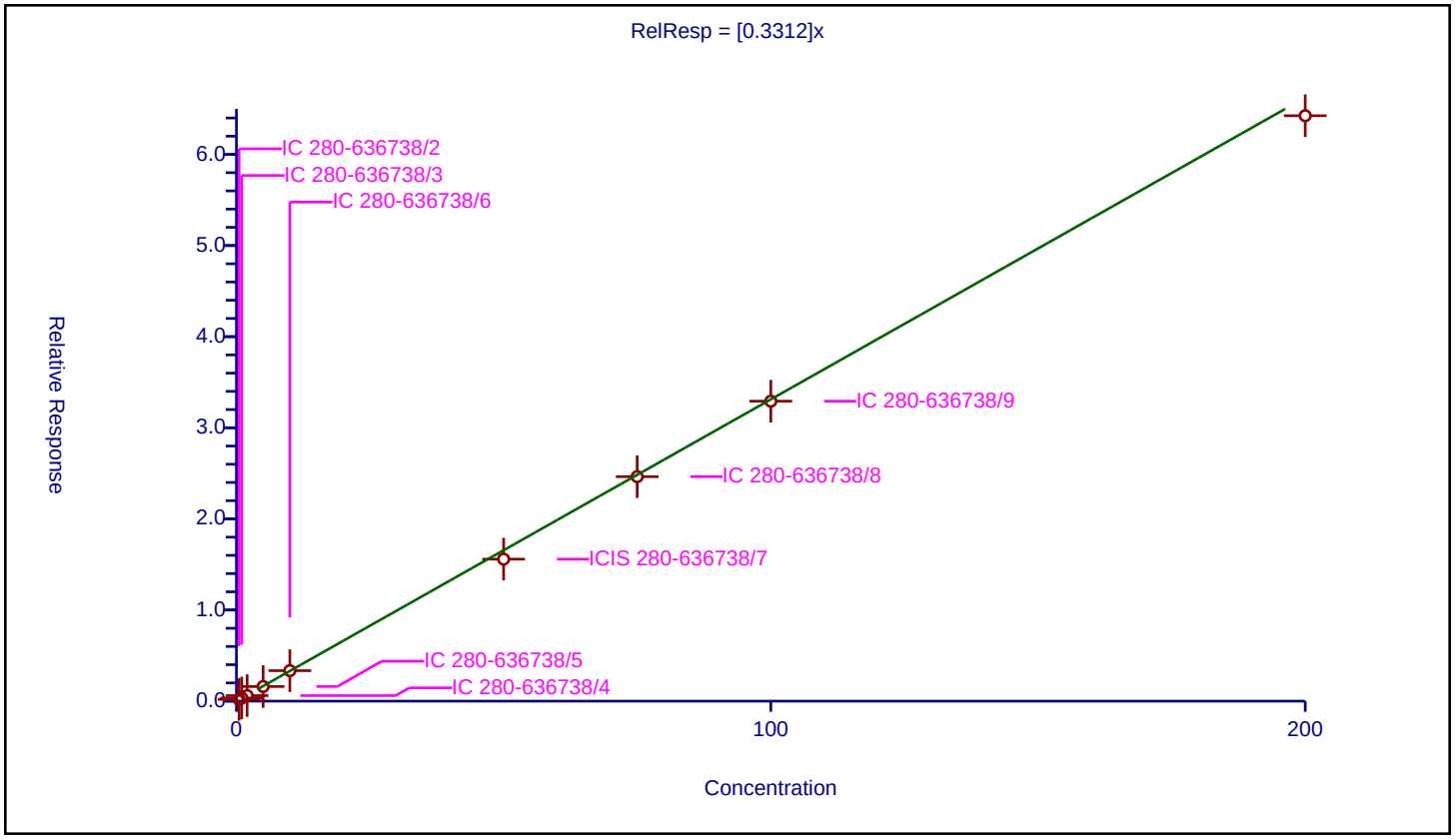
Curve Coefficients

Intercept:	0
Slope:	0.3312

Error Coefficients

Standard Error:	1120000
Relative Standard Error:	7.3
Correlation Coefficient:	1.000
Coefficient of Determination (Adjusted):	0.993

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 280-636738/2	0.5	0.193191	50.0	1824881.0	0.386381	Y
2	IC 280-636738/3	1.0	0.345546	50.0	1811045.0	0.345546	Y
3	IC 280-636738/4	2.0	0.605538	50.0	1808310.0	0.302769	Y
4	IC 280-636738/5	5.0	1.603566	50.0	1838496.0	0.320713	Y
5	IC 280-636738/6	10.0	3.346534	50.0	1829520.0	0.334653	Y
6	ICIS 280-636738/7	50.0	15.585394	50.0	1927914.0	0.311708	Y
7	IC 280-636738/8	75.0	24.636329	50.0	1983388.0	0.328484	Y
8	IC 280-636738/9	100.0	32.921324	50.0	1996396.0	0.329213	Y
9	IC 280-636738/10	200.0	64.248059	50.0	2045461.0	0.32124	Y



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Calibration / 1,4-Dioxane

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	ISTD
Response Base:	AREA
RF Rounding:	0

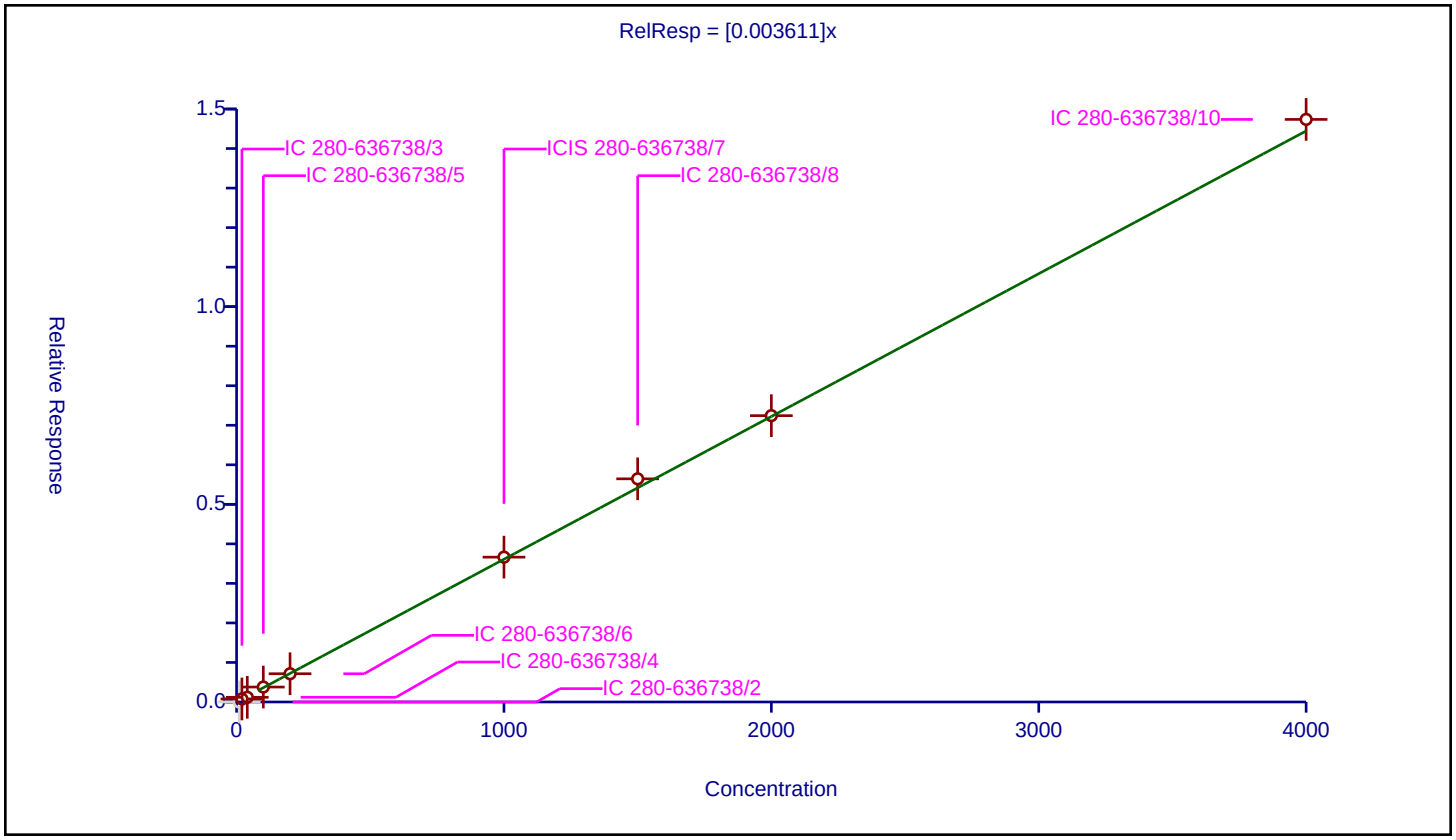
Curve Coefficients

Intercept:	0
Slope:	0.003611

Error Coefficients

Standard Error:	272000
Relative Standard Error:	7.6
Correlation Coefficient:	1.000
Coefficient of Determination (Adjusted):	0.993

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 280-636738/2	10.0	0.0	50.0	1824881.0	0.0	N
2	IC 280-636738/3	20.0	0.076586	50.0	1811045.0	0.003829	Y
3	IC 280-636738/4	40.0	0.118785	50.0	1808310.0	0.00297	Y
4	IC 280-636738/5	100.0	0.378298	50.0	1838496.0	0.003783	Y
5	IC 280-636738/6	200.0	0.714942	50.0	1829520.0	0.003575	Y
6	ICIS 280-636738/7	1000.0	3.663649	50.0	1927914.0	0.003664	Y
7	IC 280-636738/8	1500.0	5.644786	50.0	1983388.0	0.003763	Y
8	IC 280-636738/9	2000.0	7.243403	50.0	1996396.0	0.003622	Y
9	IC 280-636738/10	4000.0	14.736947	50.0	2045461.0	0.003684	Y



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Calibration / Dibromomethane

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	ISTD
Response Base:	AREA
RF Rounding:	0

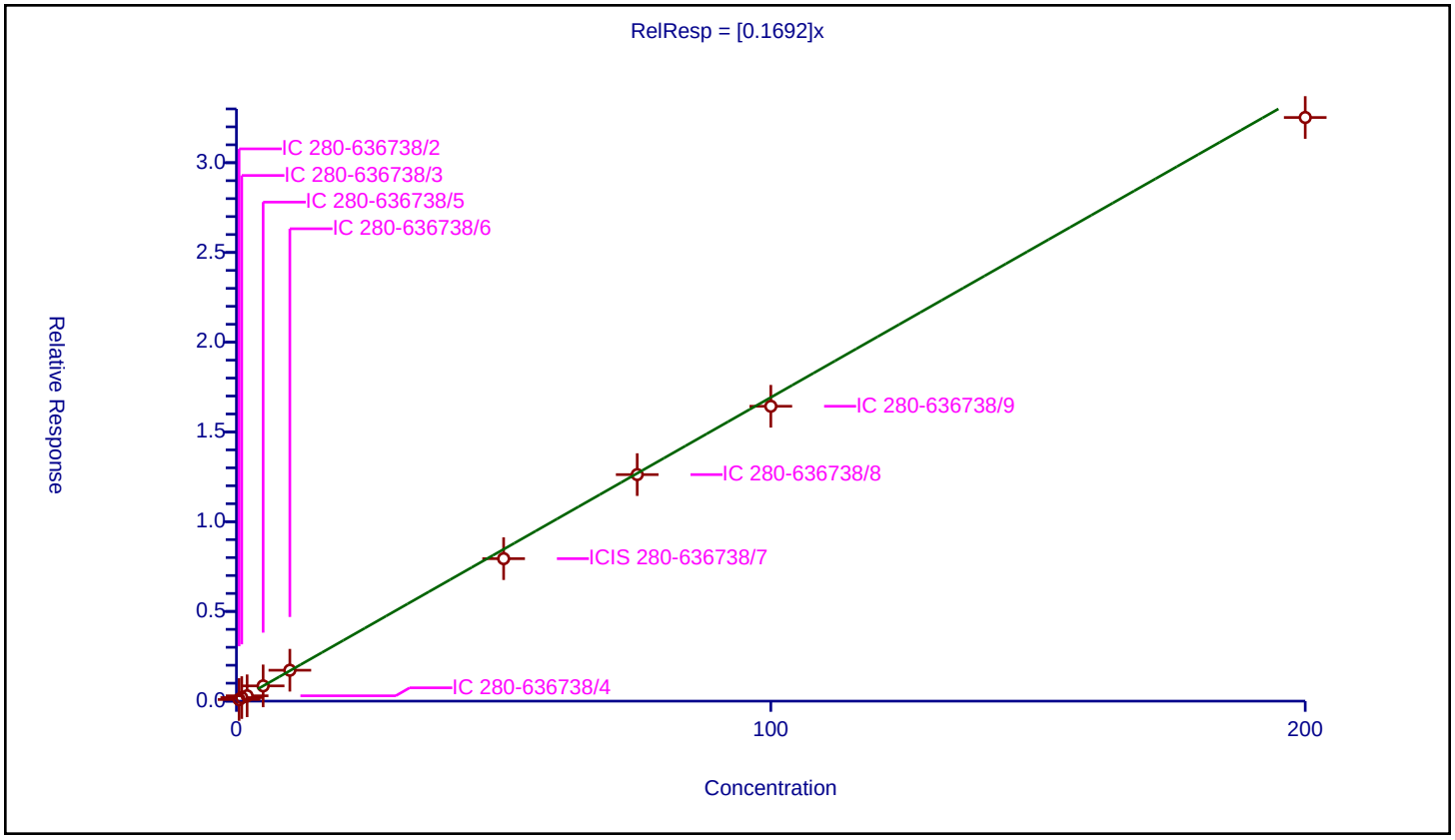
Curve Coefficients

Intercept:	0
Slope:	0.1692

Error Coefficients

Standard Error:	565000
Relative Standard Error:	8.4
Correlation Coefficient:	1.000
Coefficient of Determination (Adjusted):	0.991

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 280-636738/2	0.5	0.090088	50.0	1824881.0	0.180176	Y
2	IC 280-636738/3	1.0	0.198532	50.0	1811045.0	0.198532	Y
3	IC 280-636738/4	2.0	0.296852	50.0	1808310.0	0.148426	Y
4	IC 280-636738/5	5.0	0.849227	50.0	1838496.0	0.169845	Y
5	IC 280-636738/6	10.0	1.721954	50.0	1829520.0	0.172195	Y
6	ICIS 280-636738/7	50.0	7.93858	50.0	1927914.0	0.158772	Y
7	IC 280-636738/8	75.0	12.622593	50.0	1983388.0	0.168301	Y
8	IC 280-636738/9	100.0	16.431259	50.0	1996396.0	0.164313	Y
9	IC 280-636738/10	200.0	32.52064	50.0	2045461.0	0.162603	Y



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Calibration / Dichlorobromomethane

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	ISTD
Response Base:	AREA
RF Rounding:	0

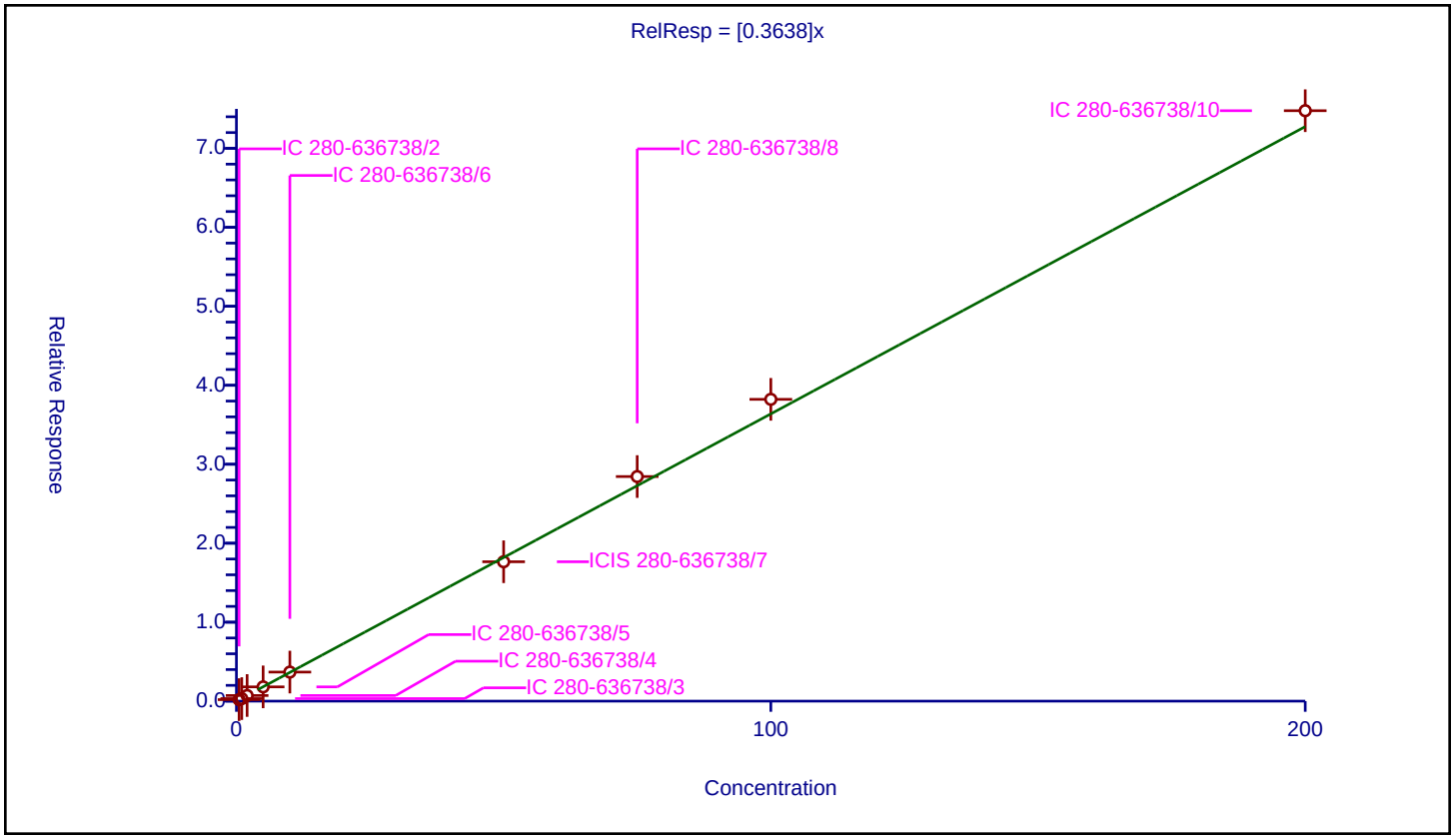
Curve Coefficients

Intercept:	0
Slope:	0.3638

Error Coefficients

Standard Error:	1300000
Relative Standard Error:	5.2
Correlation Coefficient:	0.999
Coefficient of Determination (Adjusted):	0.997

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 280-636738/2	0.5	0.189547	50.0	1824881.0	0.379093	Y
2	IC 280-636738/3	1.0	0.321417	50.0	1811045.0	0.321417	Y
3	IC 280-636738/4	2.0	0.711687	50.0	1808310.0	0.355843	Y
4	IC 280-636738/5	5.0	1.806504	50.0	1838496.0	0.361301	Y
5	IC 280-636738/6	10.0	3.679818	50.0	1829520.0	0.367982	Y
6	ICIS 280-636738/7	50.0	17.65115	50.0	1927914.0	0.353023	Y
7	IC 280-636738/8	75.0	28.441661	50.0	1983388.0	0.379222	Y
8	IC 280-636738/9	100.0	38.219847	50.0	1996396.0	0.382198	Y
9	IC 280-636738/10	200.0	74.770064	50.0	2045461.0	0.37385	Y



Calibration / 2-Chloroethyl vinyl ether

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	ISTD
Response Base:	AREA
RF Rounding:	0

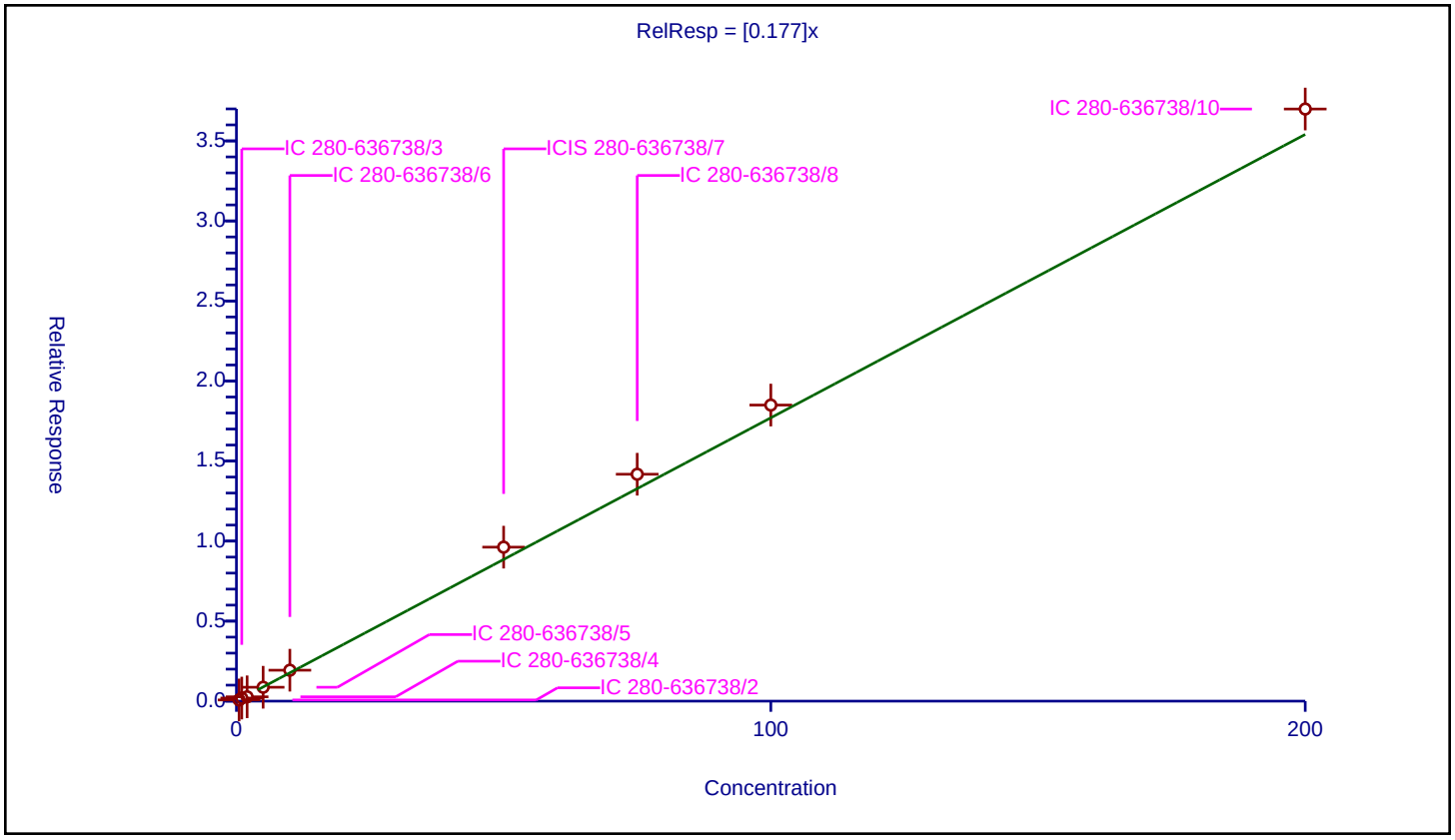
Curve Coefficients

Intercept:	0
Slope:	0.177

Error Coefficients

Standard Error:	642000
Relative Standard Error:	12.0
Correlation Coefficient:	1.000
Coefficient of Determination (Adjusted):	0.983

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 280-636738/2	0.5	0.073923	50.0	1824881.0	0.147845	Y
2	IC 280-636738/3	1.0	0.191713	50.0	1811045.0	0.191713	Y
3	IC 280-636738/4	2.0	0.270861	50.0	1808310.0	0.13543	Y
4	IC 280-636738/5	5.0	0.867693	50.0	1838496.0	0.173539	Y
5	IC 280-636738/6	10.0	1.933294	50.0	1829520.0	0.193329	Y
6	ICIS 280-636738/7	50.0	9.62032	50.0	1927914.0	0.192406	Y
7	IC 280-636738/8	75.0	14.175693	50.0	1983388.0	0.189009	Y
8	IC 280-636738/9	100.0	18.496456	50.0	1996396.0	0.184965	Y
9	IC 280-636738/10	200.0	36.992419	50.0	2045461.0	0.184962	Y



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Calibration / cis-1,3-Dichloropropene

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	ISTD
Response Base:	AREA
RF Rounding:	0

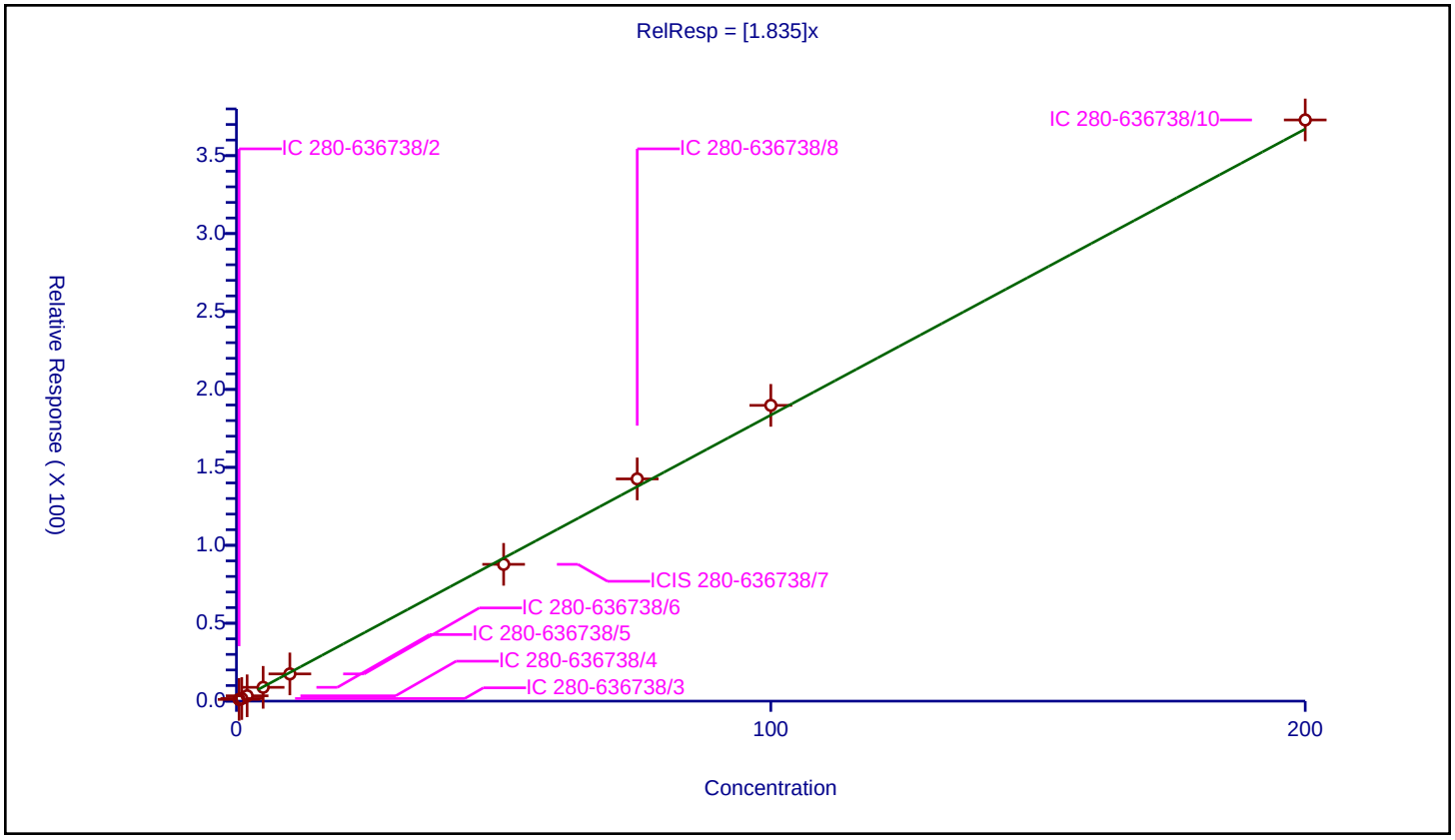
Curve Coefficients

Intercept:	0
Slope:	1.835

Error Coefficients

Standard Error:	1640000
Relative Standard Error:	8.9
Correlation Coefficient:	0.999
Coefficient of Determination (Adjusted):	0.989

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 280-636738/2	0.5	1.103666	50.0	463863.0	2.207333	Y
2	IC 280-636738/3	1.0	1.659668	50.0	472203.0	1.659668	Y
3	IC 280-636738/4	2.0	3.428802	50.0	462596.0	1.714401	Y
4	IC 280-636738/5	5.0	8.860048	50.0	471713.0	1.77201	Y
5	IC 280-636738/6	10.0	17.464919	50.0	481740.0	1.746492	Y
6	ICIS 280-636738/7	50.0	87.772993	50.0	487237.0	1.75546	Y
7	IC 280-636738/8	75.0	142.586721	50.0	505296.0	1.901156	Y
8	IC 280-636738/9	100.0	189.78708	50.0	502912.0	1.897871	Y
9	IC 280-636738/10	200.0	372.900292	50.0	519596.0	1.864501	Y



Calibration / 4-Methyl-2-pentanone (MIBK)

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	ISTD
Response Base:	AREA
RF Rounding:	0

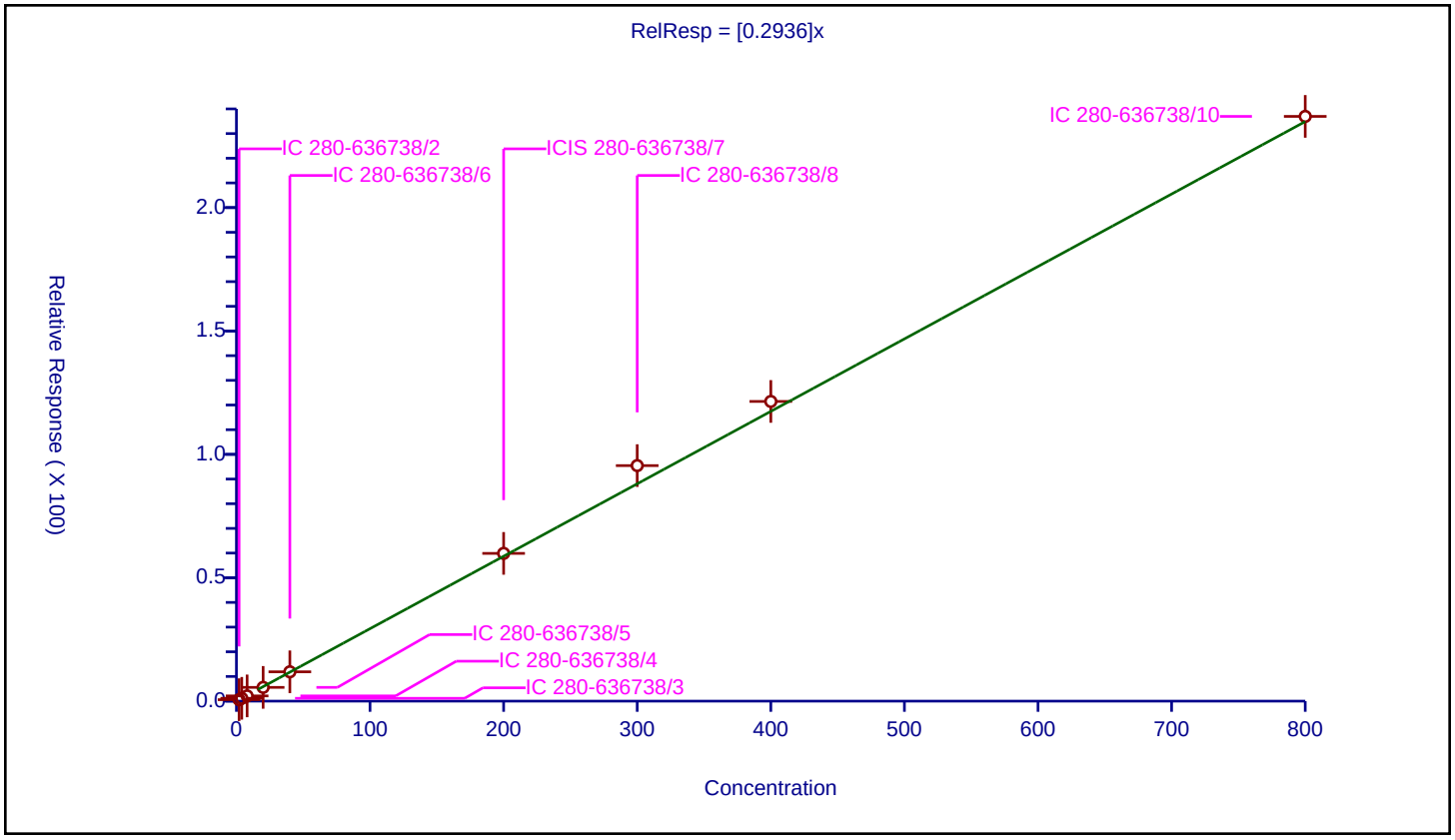
Curve Coefficients

Intercept:	0
Slope:	0.2936

Error Coefficients

Standard Error:	4140000
Relative Standard Error:	5.2
Correlation Coefficient:	1.000
Coefficient of Determination (Adjusted):	0.997

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 280-636738/2	2.0	0.591354	50.0	1824881.0	0.295677	Y
2	IC 280-636738/3	4.0	1.152843	50.0	1811045.0	0.288211	Y
3	IC 280-636738/4	8.0	2.120046	50.0	1808310.0	0.265006	Y
4	IC 280-636738/5	20.0	5.571211	50.0	1838496.0	0.278561	Y
5	IC 280-636738/6	40.0	11.893338	50.0	1829520.0	0.297333	Y
6	ICIS 280-636738/7	200.0	59.875674	50.0	1927914.0	0.299378	Y
7	IC 280-636738/8	300.0	95.450991	50.0	1983388.0	0.31817	Y
8	IC 280-636738/9	400.0	121.4485	50.0	1996396.0	0.303621	Y
9	IC 280-636738/10	800.0	236.951523	50.0	2045461.0	0.296189	Y



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Calibration / Toluene-d8 (Surr)

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	ISTD
Response Base:	AREA
RF Rounding:	0

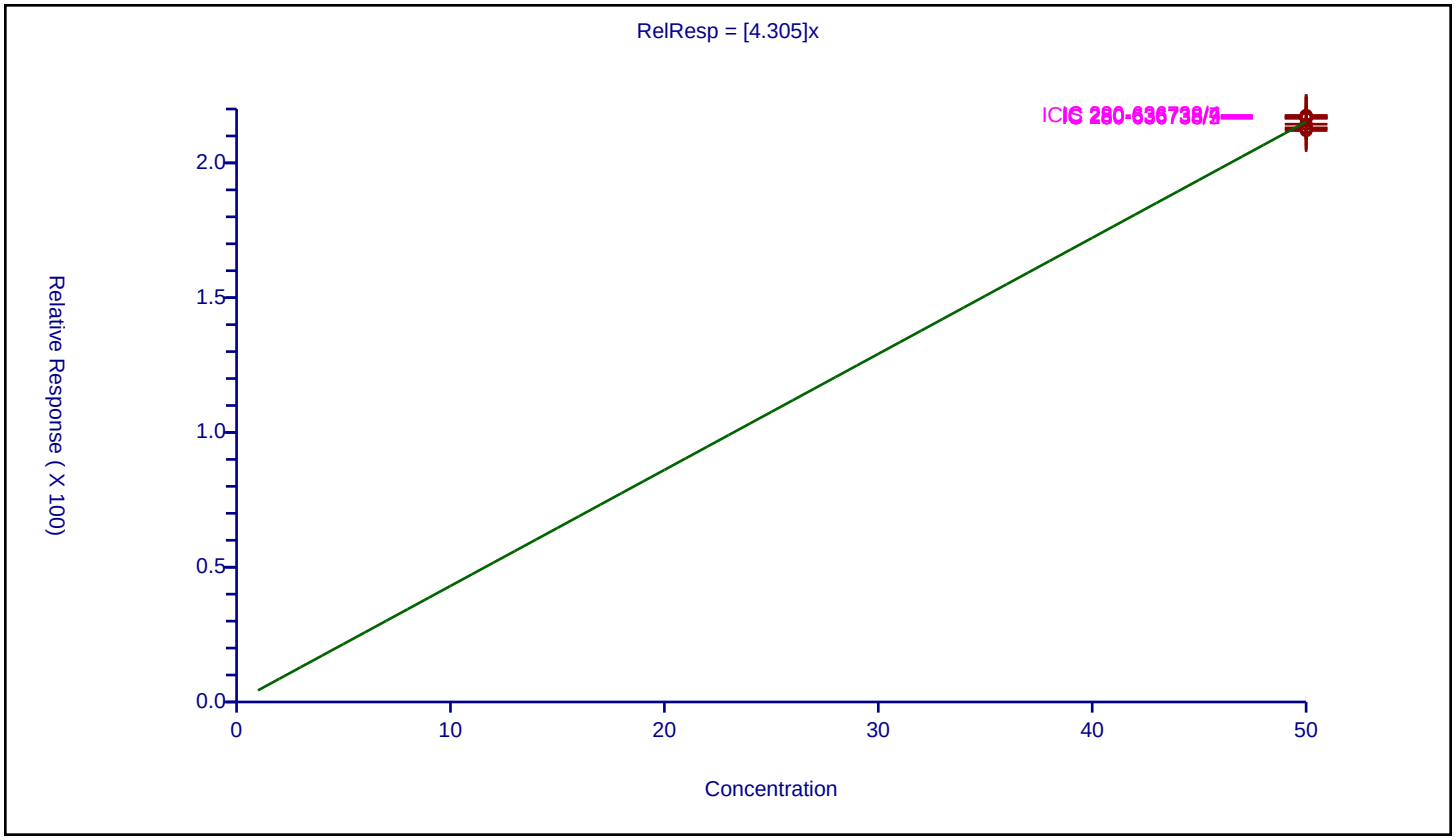
Curve Coefficients

Intercept:	0
Slope:	4.305

Error Coefficients

Standard Error:	2220000
Relative Standard Error:	1.0
Correlation Coefficient:	NA
Coefficient of Determination (Adjusted):	0

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 280-636738/2	50.0	216.594447	50.0	463863.0	4.331889	Y
2	IC 280-636738/3	50.0	212.716671	50.0	472203.0	4.254333	Y
3	IC 280-636738/4	50.0	217.54425	50.0	462596.0	4.350885	Y
4	IC 280-636738/5	50.0	216.702317	50.0	471713.0	4.334046	Y
5	IC 280-636738/6	50.0	212.019347	50.0	481740.0	4.240387	Y
6	ICIS 280-636738/7	50.0	217.533356	50.0	487237.0	4.350667	Y
7	IC 280-636738/8	50.0	213.002775	50.0	505296.0	4.260055	Y
8	IC 280-636738/9	50.0	216.737421	50.0	502912.0	4.334748	Y
9	IC 280-636738/10	50.0	214.365488	50.0	519596.0	4.28731	Y



Calibration / Toluene

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	ISTD
Response Base:	AREA
RF Rounding:	0

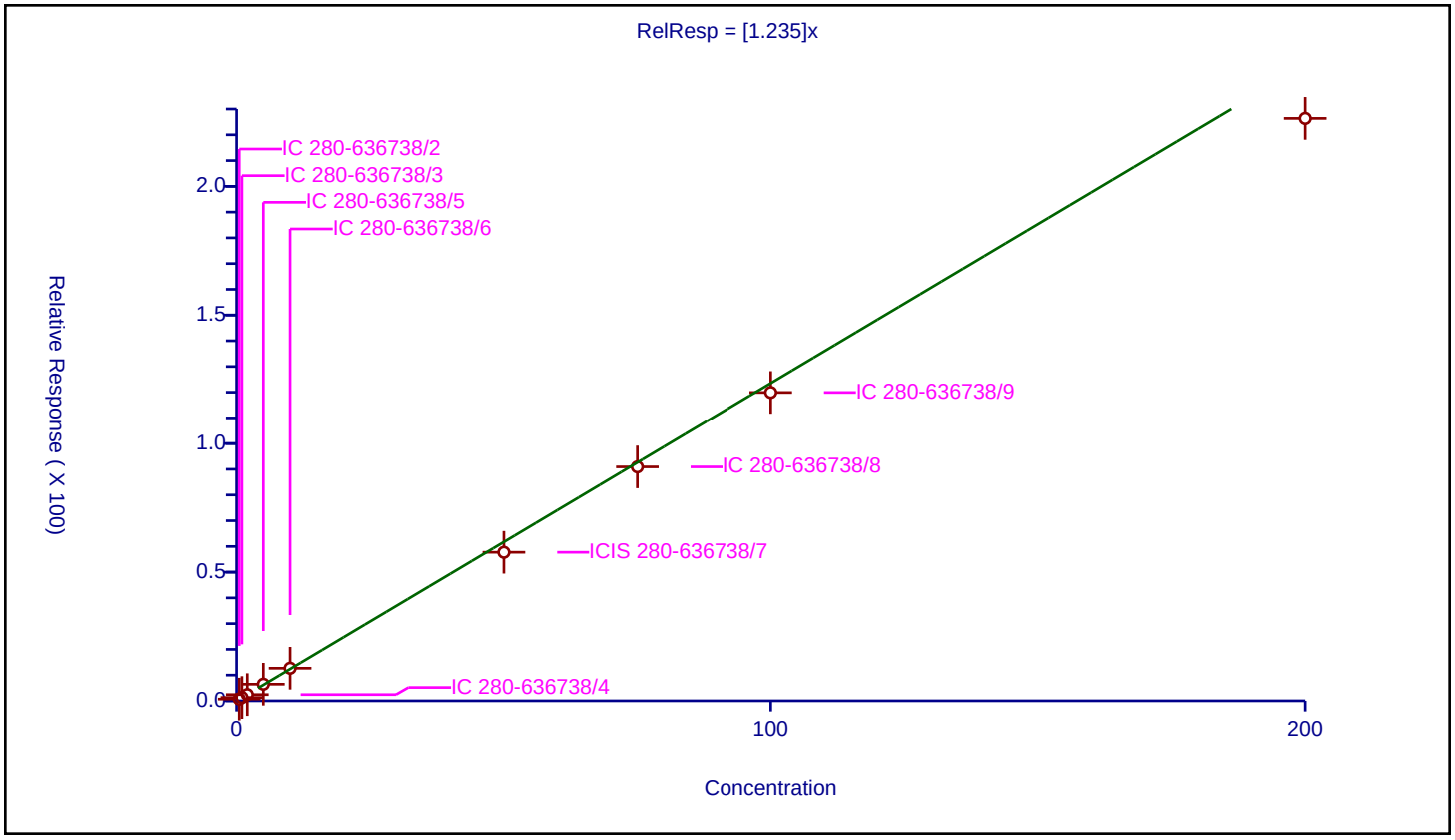
Curve Coefficients

Intercept:	0
Slope:	1.235

Error Coefficients

Standard Error:	3980000
Relative Standard Error:	6.0
Correlation Coefficient:	0.999
Coefficient of Determination (Adjusted):	0.995

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 280-636738/2	0.5	0.682428	50.0	1824881.0	1.364856	Y
2	IC 280-636738/3	1.0	1.289228	50.0	1811045.0	1.289228	Y
3	IC 280-636738/4	2.0	2.410621	50.0	1808310.0	1.20531	Y
4	IC 280-636738/5	5.0	6.463789	50.0	1838496.0	1.292758	Y
5	IC 280-636738/6	10.0	12.666328	50.0	1829520.0	1.266633	Y
6	ICIS 280-636738/7	50.0	57.727368	50.0	1927914.0	1.154547	Y
7	IC 280-636738/8	75.0	90.934048	50.0	1983388.0	1.212454	Y
8	IC 280-636738/9	100.0	119.904693	50.0	1996396.0	1.199047	Y
9	IC 280-636738/10	200.0	226.368872	50.0	2045461.0	1.131844	Y



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Calibration / trans-1,3-Dichloropropene

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	ISTD
Response Base:	AREA
RF Rounding:	0

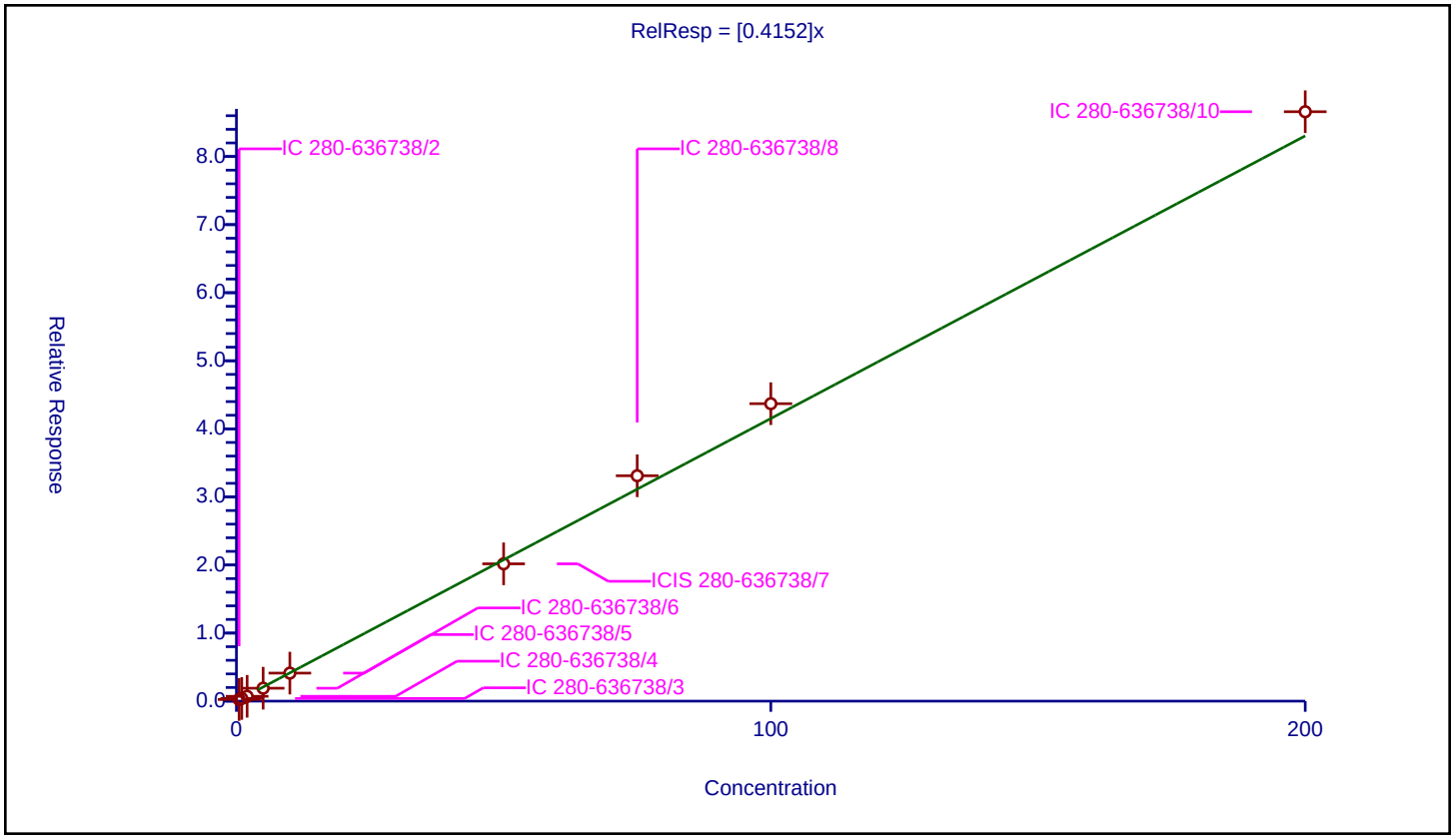
Curve Coefficients

Intercept:	0
Slope:	0.4152

Error Coefficients

Standard Error:	1500000
Relative Standard Error:	9.2
Correlation Coefficient:	0.999
Coefficient of Determination (Adjusted):	0.989

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 280-636738/2	0.5	0.241632	50.0	1824881.0	0.483264	Y
2	IC 280-636738/3	1.0	0.392011	50.0	1811045.0	0.392011	Y
3	IC 280-636738/4	2.0	0.709834	50.0	1808310.0	0.354917	Y
4	IC 280-636738/5	5.0	1.900358	50.0	1838496.0	0.380072	Y
5	IC 280-636738/6	10.0	4.117391	50.0	1829520.0	0.411739	Y
6	ICIS 280-636738/7	50.0	20.168924	50.0	1927914.0	0.403378	Y
7	IC 280-636738/8	75.0	33.110869	50.0	1983388.0	0.441478	Y
8	IC 280-636738/9	100.0	43.694788	50.0	1996396.0	0.436948	Y
9	IC 280-636738/10	200.0	86.58388	50.0	2045461.0	0.432919	Y



Calibration / Ethyl methacrylate

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	ISTD
Response Base:	AREA
RF Rounding:	0

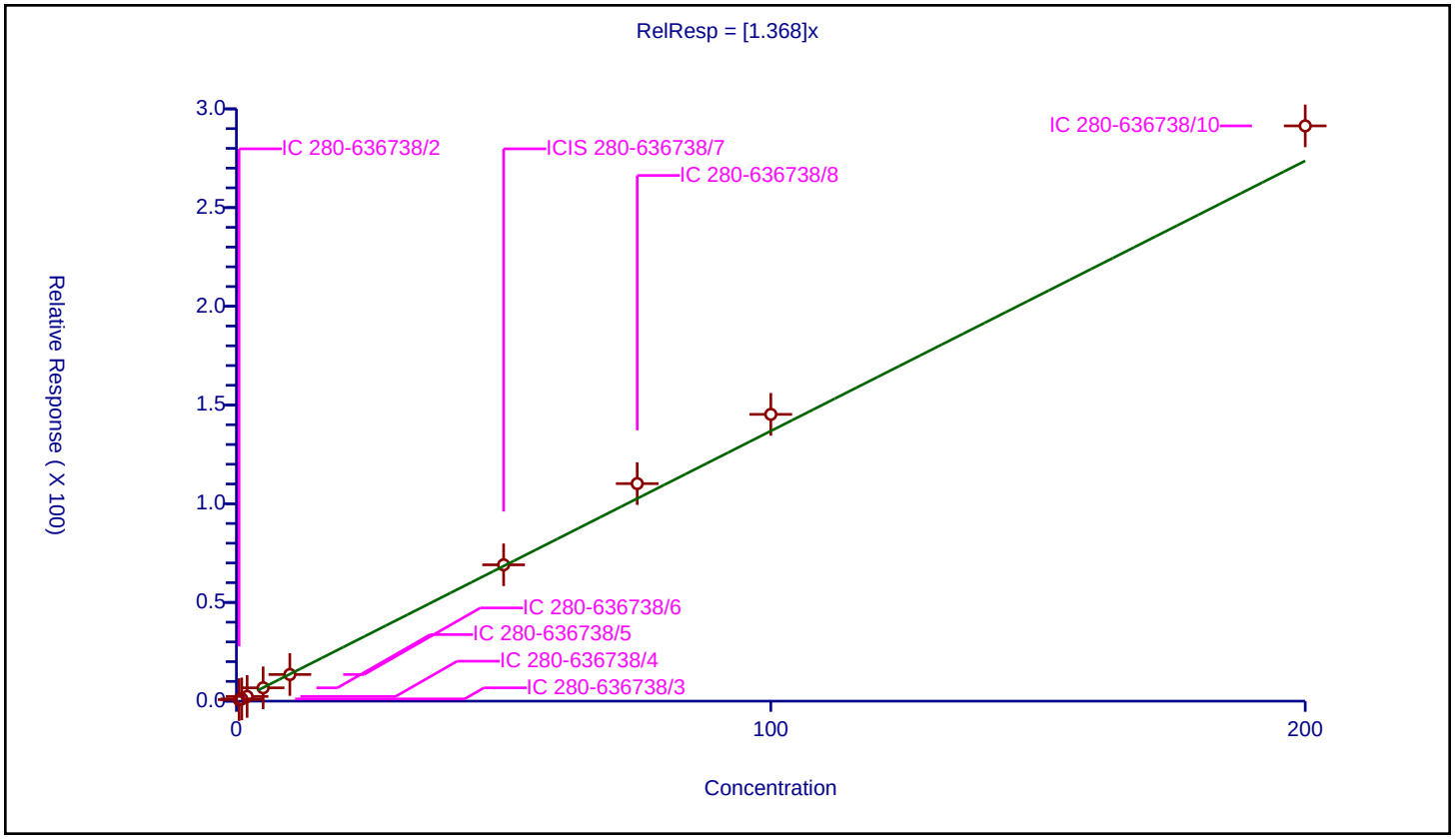
Curve Coefficients

Intercept:	0
Slope:	1.368

Error Coefficients

Standard Error:	1280000
Relative Standard Error:	9.3
Correlation Coefficient:	0.999
Coefficient of Determination (Adjusted):	0.989

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 280-636738/2	0.5	0.759168	50.0	463863.0	1.518336	Y
2	IC 280-636738/3	1.0	1.138599	50.0	472203.0	1.138599	Y
3	IC 280-636738/4	2.0	2.396043	50.0	462596.0	1.198022	Y
4	IC 280-636738/5	5.0	6.757181	50.0	471713.0	1.351436	Y
5	IC 280-636738/6	10.0	13.495765	50.0	481740.0	1.349577	Y
6	ICIS 280-636738/7	50.0	69.058487	50.0	487237.0	1.38117	Y
7	IC 280-636738/8	75.0	110.1964	50.0	505296.0	1.469285	Y
8	IC 280-636738/9	100.0	145.273527	50.0	502912.0	1.452735	Y
9	IC 280-636738/10	200.0	291.387058	50.0	519596.0	1.456935	Y



Calibration / 1,1,2-Trichloroethane

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	ISTD
Response Base:	AREA
RF Rounding:	0

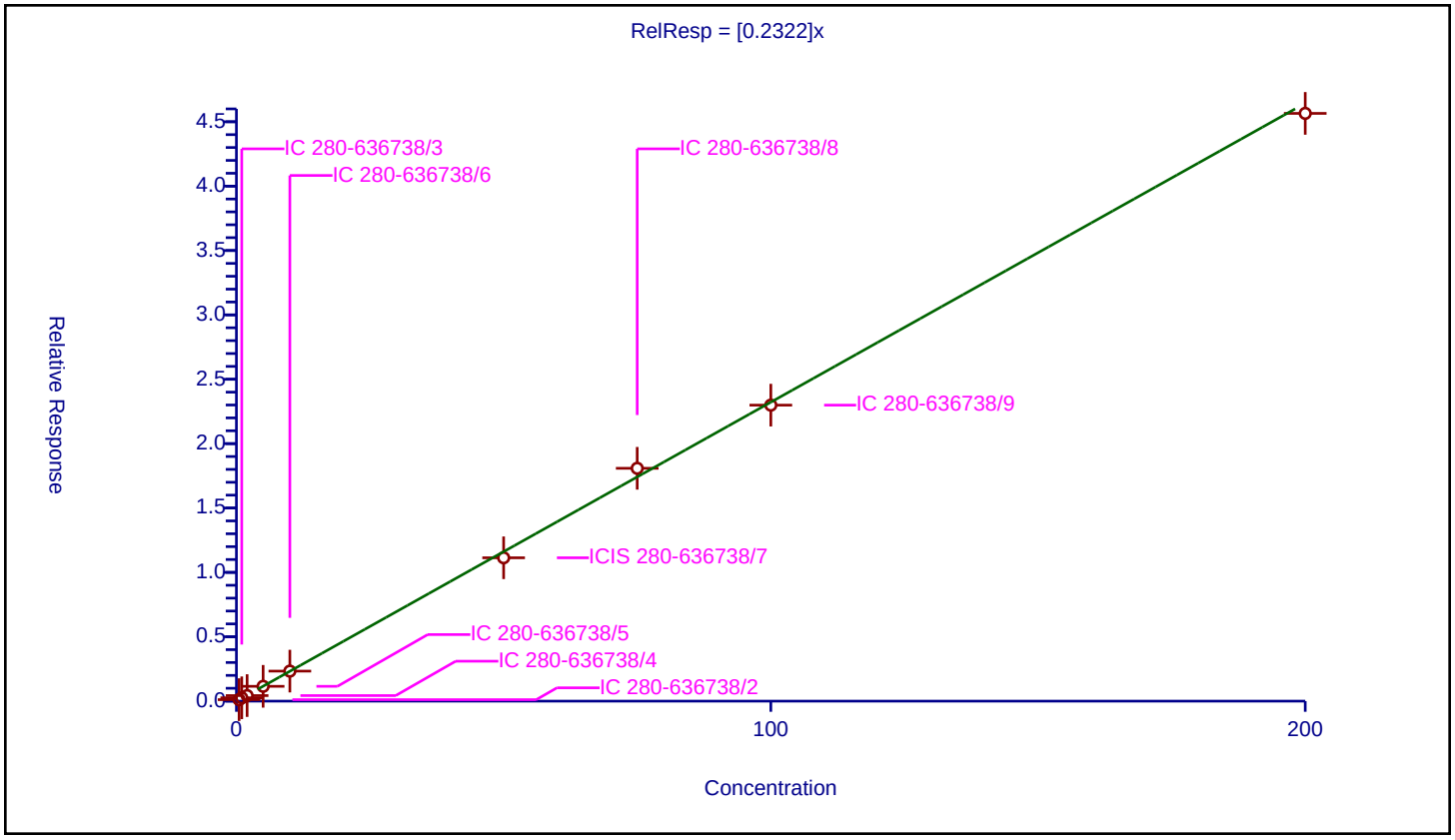
Curve Coefficients

Intercept:	0
Slope:	0.2322

Error Coefficients

Standard Error:	794000
Relative Standard Error:	5.3
Correlation Coefficient:	0.999
Coefficient of Determination (Adjusted):	0.996

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 280-636738/2	0.5	0.11472	50.0	1824881.0	0.22944	Y
2	IC 280-636738/3	1.0	0.259298	50.0	1811045.0	0.259298	Y
3	IC 280-636738/4	2.0	0.431148	50.0	1808310.0	0.215574	Y
4	IC 280-636738/5	5.0	1.151322	50.0	1838496.0	0.230264	Y
5	IC 280-636738/6	10.0	2.331404	50.0	1829520.0	0.23314	Y
6	ICIS 280-636738/7	50.0	11.135533	50.0	1927914.0	0.222711	Y
7	IC 280-636738/8	75.0	18.085922	50.0	1983388.0	0.241146	Y
8	IC 280-636738/9	100.0	22.990654	50.0	1996396.0	0.229907	Y
9	IC 280-636738/10	200.0	45.651323	50.0	2045461.0	0.228257	Y



Calibration / Tetrachloroethene

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	ISTD
Response Base:	AREA
RF Rounding:	0

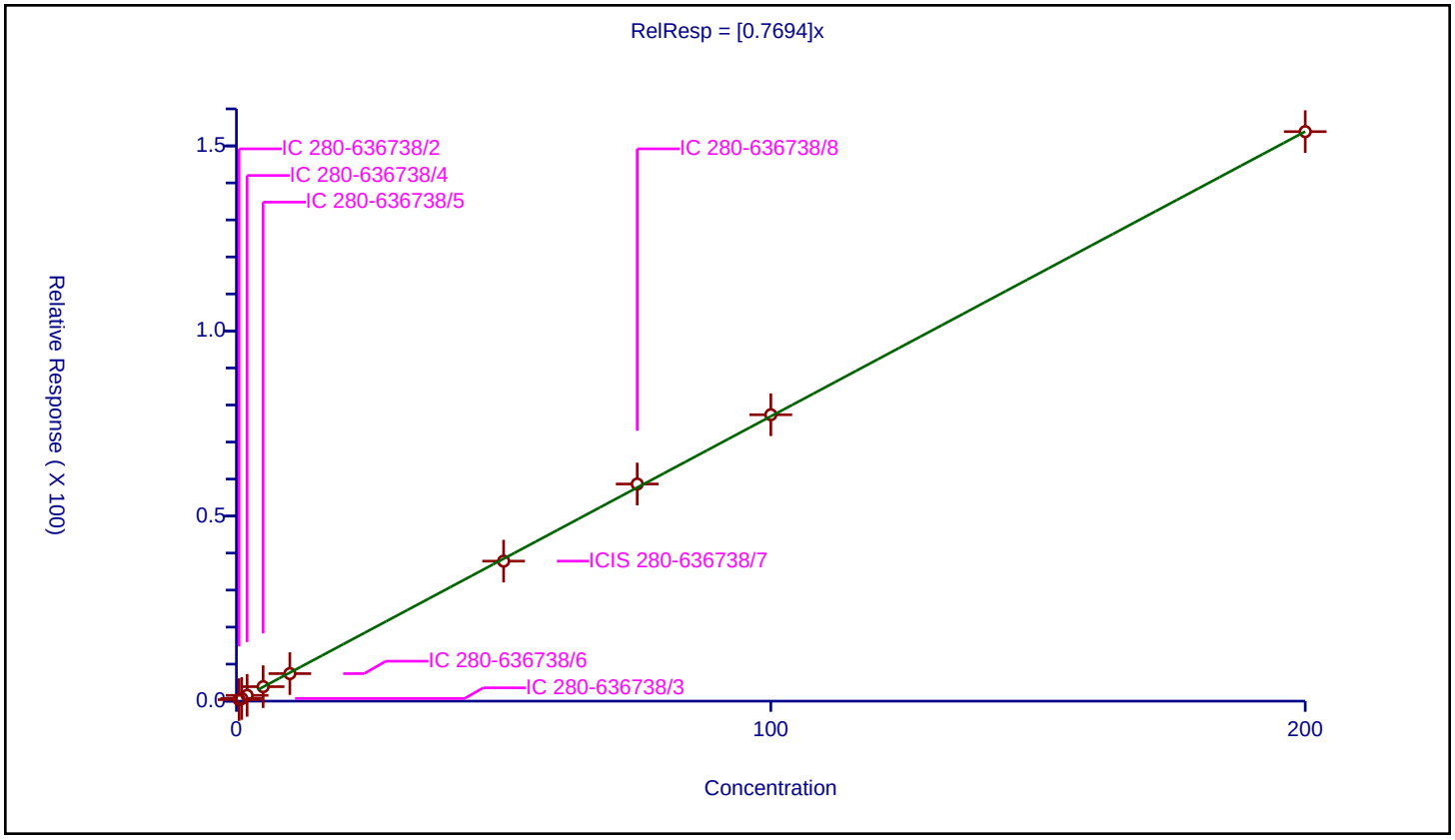
Curve Coefficients

Intercept:	0
Slope:	0.7694

Error Coefficients

Standard Error:	676000
Relative Standard Error:	3.5
Correlation Coefficient:	1.000
Coefficient of Determination (Adjusted):	0.998

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 280-636738/2	0.5	0.407771	50.0	463863.0	0.815543	Y
2	IC 280-636738/3	1.0	0.7195	50.0	472203.0	0.7195	Y
3	IC 280-636738/4	2.0	1.564972	50.0	462596.0	0.782486	Y
4	IC 280-636738/5	5.0	3.909581	50.0	471713.0	0.781916	Y
5	IC 280-636738/6	10.0	7.436273	50.0	481740.0	0.743627	Y
6	ICIS 280-636738/7	50.0	37.823174	50.0	487237.0	0.756463	Y
7	IC 280-636738/8	75.0	58.663041	50.0	505296.0	0.782174	Y
8	IC 280-636738/9	100.0	77.371886	50.0	502912.0	0.773719	Y
9	IC 280-636738/10	200.0	153.855977	50.0	519596.0	0.76928	Y



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Calibration / 1,3-Dichloropropane

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	ISTD
Response Base:	AREA
RF Rounding:	0

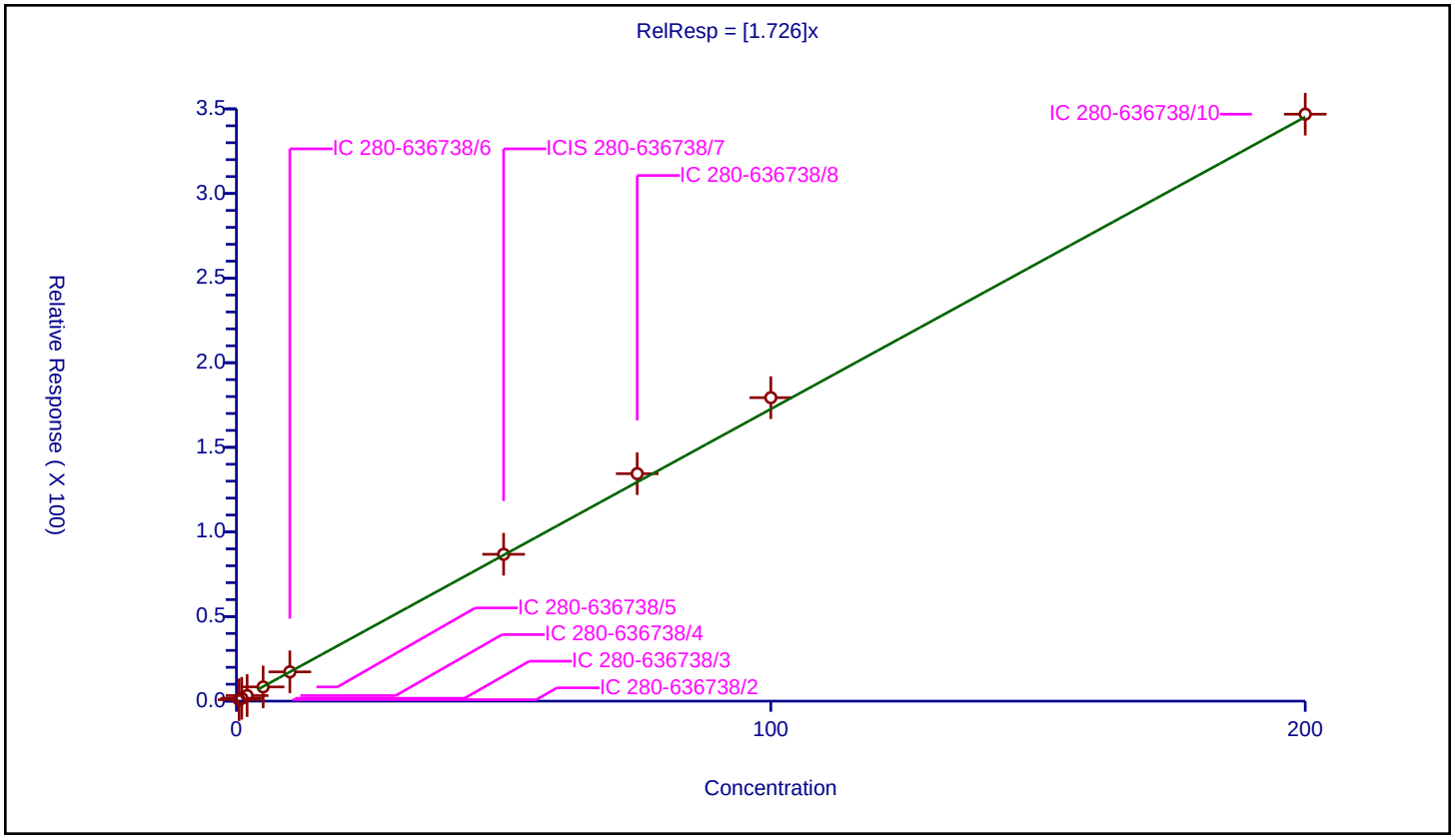
Curve Coefficients

Intercept:	0
Slope:	1.726

Error Coefficients

Standard Error:	1530000
Relative Standard Error:	2.8
Correlation Coefficient:	1.000
Coefficient of Determination (Adjusted):	0.999

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 280-636738/2	0.5	0.858335	50.0	463863.0	1.716671	Y
2	IC 280-636738/3	1.0	1.711128	50.0	472203.0	1.711128	Y
3	IC 280-636738/4	2.0	3.285696	50.0	462596.0	1.642848	Y
4	IC 280-636738/5	5.0	8.397797	50.0	471713.0	1.679559	Y
5	IC 280-636738/6	10.0	17.297194	50.0	481740.0	1.729719	Y
6	ICIS 280-636738/7	50.0	86.787026	50.0	487237.0	1.735741	Y
7	IC 280-636738/8	75.0	134.446542	50.0	505296.0	1.792621	Y
8	IC 280-636738/9	100.0	179.351855	50.0	502912.0	1.793519	Y
9	IC 280-636738/10	200.0	346.887101	50.0	519596.0	1.734436	Y



Calibration / 2-Hexanone

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	ISTD
Response Base:	AREA
RF Rounding:	0

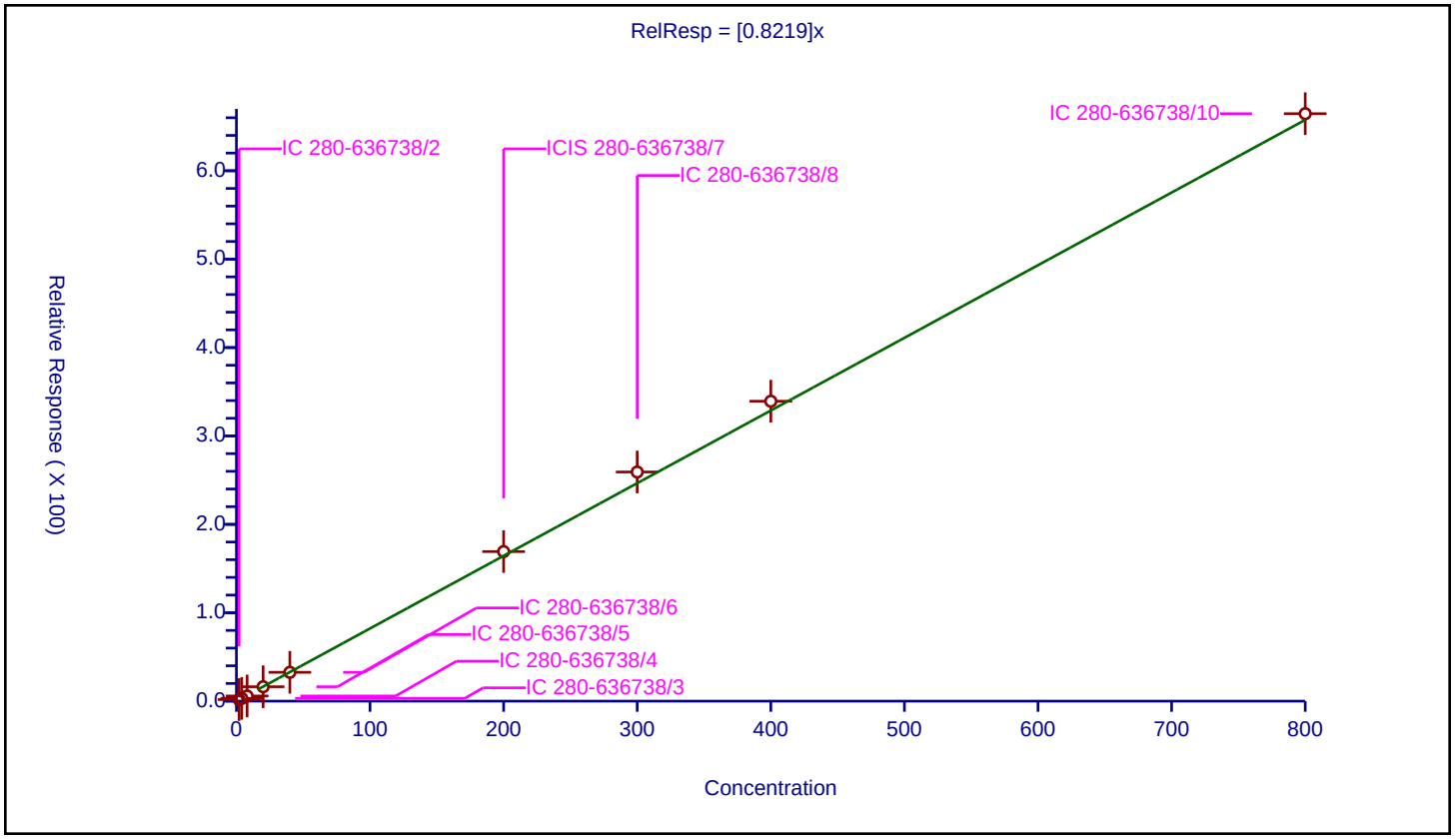
Curve Coefficients

Intercept:	0
Slope:	0.8219

Error Coefficients

Standard Error:	2940000
Relative Standard Error:	5.6
Correlation Coefficient:	1.000
Coefficient of Determination (Adjusted):	0.996

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 280-636738/2	2.0	1.748038	50.0	463863.0	0.874019	Y
2	IC 280-636738/3	4.0	3.104279	50.0	472203.0	0.77607	Y
3	IC 280-636738/4	8.0	5.830898	50.0	462596.0	0.728862	Y
4	IC 280-636738/5	20.0	16.280662	50.0	471713.0	0.814033	Y
5	IC 280-636738/6	40.0	32.617906	50.0	481740.0	0.815448	Y
6	ICIS 280-636738/7	200.0	169.18789	50.0	487237.0	0.845939	Y
7	IC 280-636738/8	300.0	259.220932	50.0	505296.0	0.86407	Y
8	IC 280-636738/9	400.0	339.291168	50.0	502912.0	0.848228	Y
9	IC 280-636738/10	800.0	664.569492	50.0	519596.0	0.830712	Y



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Calibration / Chlorodibromomethane

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	ISTD
Response Base:	AREA
RF Rounding:	0

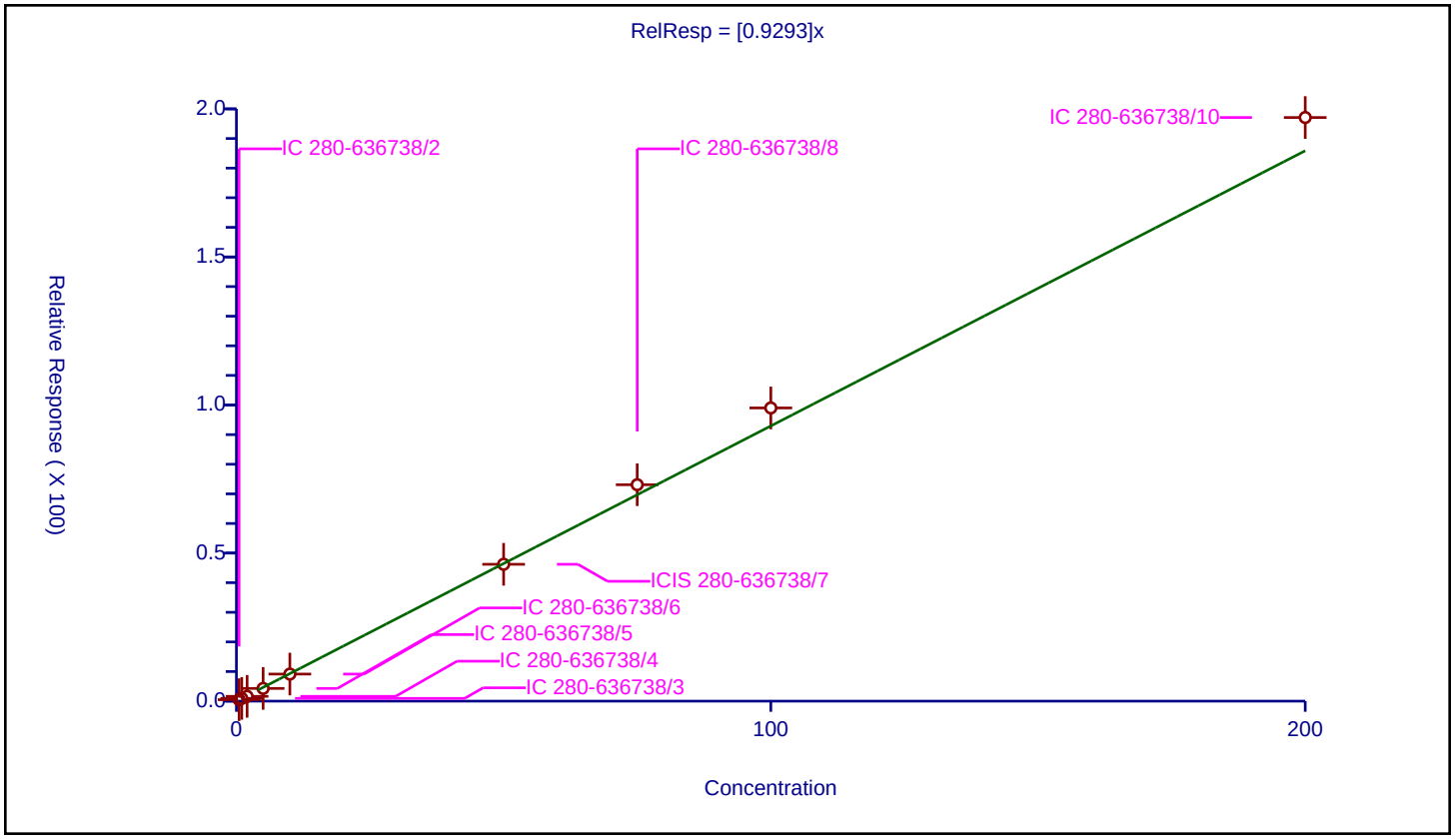
Curve Coefficients

Intercept:	0
Slope:	0.9293

Error Coefficients

Standard Error:	862000
Relative Standard Error:	6.6
Correlation Coefficient:	0.999
Coefficient of Determination (Adjusted):	0.994

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 280-636738/2	0.5	0.487752	50.0	463863.0	0.975504	Y
2	IC 280-636738/3	1.0	0.92852	50.0	472203.0	0.92852	Y
3	IC 280-636738/4	2.0	1.626041	50.0	462596.0	0.81302	Y
4	IC 280-636738/5	5.0	4.292017	50.0	471713.0	0.858403	Y
5	IC 280-636738/6	10.0	9.140719	50.0	481740.0	0.914072	Y
6	ICIS 280-636738/7	50.0	46.219294	50.0	487237.0	0.924386	Y
7	IC 280-636738/8	75.0	73.083104	50.0	505296.0	0.974441	Y
8	IC 280-636738/9	100.0	99.015832	50.0	502912.0	0.990158	Y
9	IC 280-636738/10	200.0	197.085043	50.0	519596.0	0.985425	Y



Calibration / Ethylene Dibromide

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	ISTD
Response Base:	AREA
RF Rounding:	0

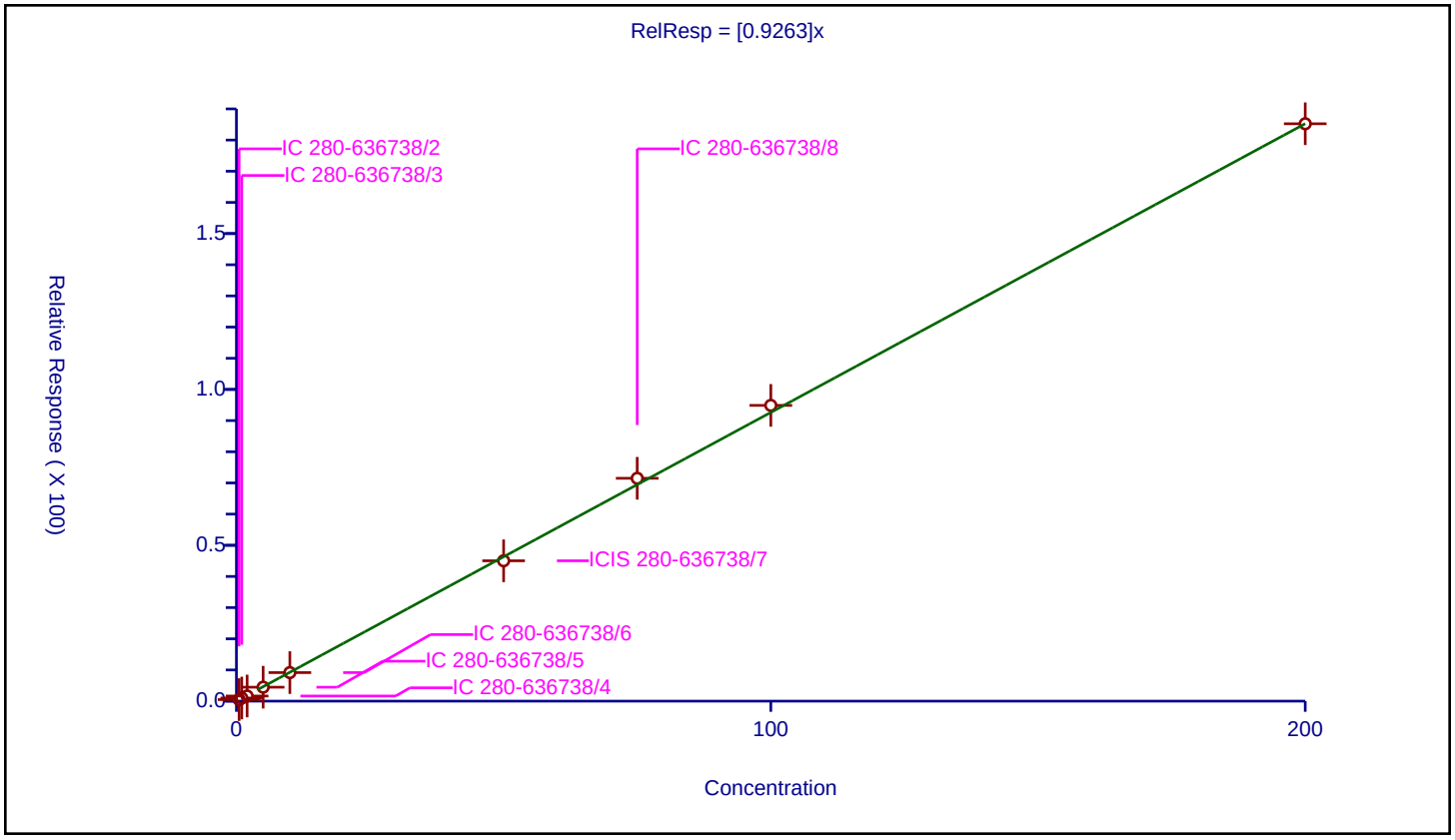
Curve Coefficients

Intercept:	0
Slope:	0.9263

Error Coefficients

Standard Error:	817000
Relative Standard Error:	5.5
Correlation Coefficient:	1.000
Coefficient of Determination (Adjusted):	0.996

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 280-636738/2	0.5	0.490015	50.0	463863.0	0.980031	Y
2	IC 280-636738/3	1.0	0.993852	50.0	472203.0	0.993852	Y
3	IC 280-636738/4	2.0	1.648631	50.0	462596.0	0.824315	Y
4	IC 280-636738/5	5.0	4.470727	50.0	471713.0	0.894145	Y
5	IC 280-636738/6	10.0	9.155042	50.0	481740.0	0.915504	Y
6	ICIS 280-636738/7	50.0	45.027369	50.0	487237.0	0.900547	Y
7	IC 280-636738/8	75.0	71.495816	50.0	505296.0	0.953278	Y
8	IC 280-636738/9	100.0	94.878925	50.0	502912.0	0.948789	Y
9	IC 280-636738/10	200.0	185.228043	50.0	519596.0	0.92614	Y



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Calibration / 1-Chlorohexane

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	ISTD
Response Base:	AREA
RF Rounding:	0

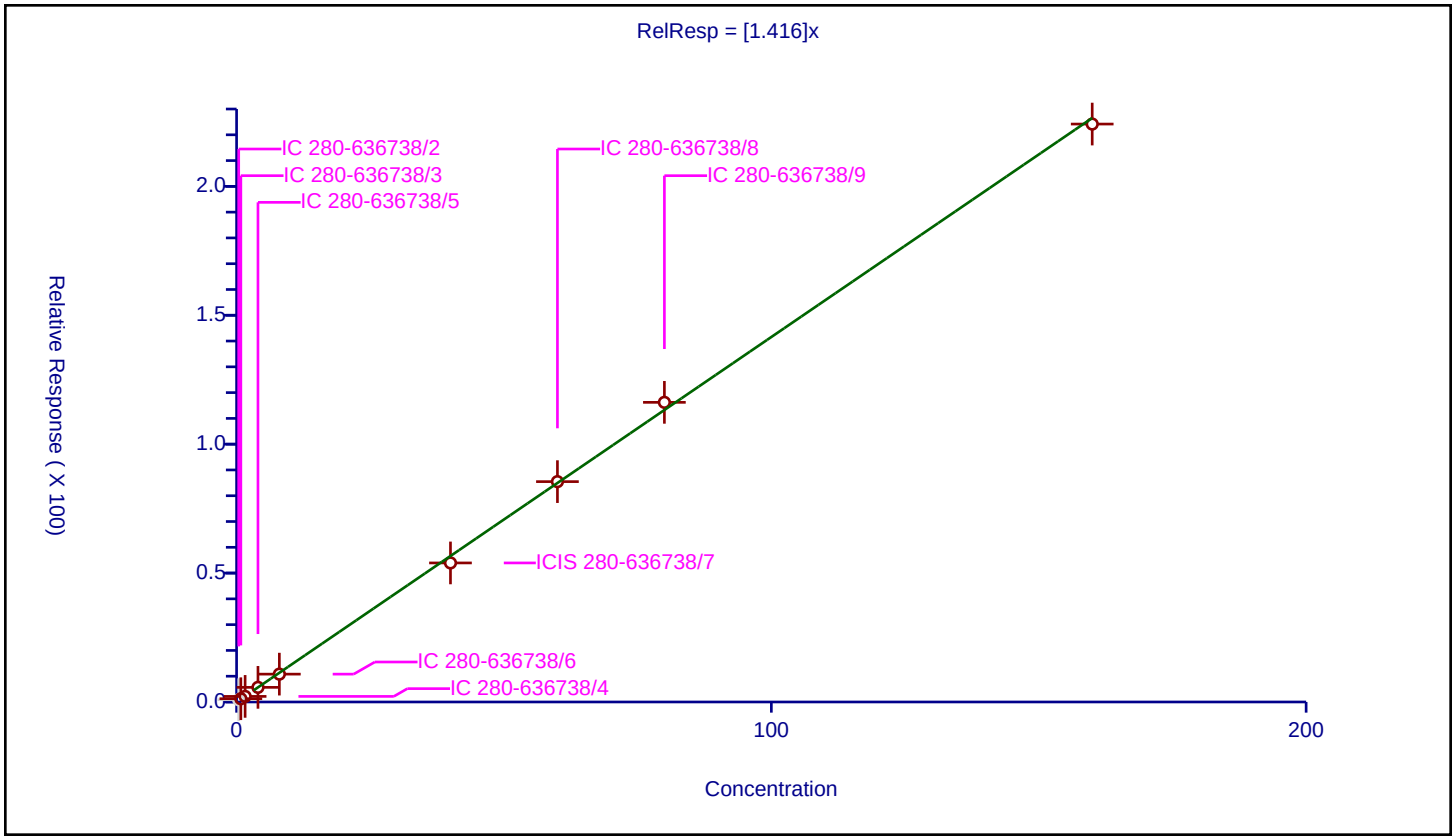
Curve Coefficients

Intercept:	0
Slope:	1.416

Error Coefficients

Standard Error:	1060000
Relative Standard Error:	5.4
Correlation Coefficient:	0.999
Coefficient of Determination (Adjusted):	0.996

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 280-636738/2	0.4	0.887978	50.0	463863.0	2.219944	N
2	IC 280-636738/3	0.8	1.26344	50.0	472203.0	1.5793	Y
3	IC 280-636738/4	1.6	2.162038	50.0	462596.0	1.351274	Y
4	IC 280-636738/5	4.0	5.669655	50.0	471713.0	1.417414	Y
5	IC 280-636738/6	8.0	10.808216	50.0	481740.0	1.351027	Y
6	ICIS 280-636738/7	40.0	53.936688	50.0	487237.0	1.348417	Y
7	IC 280-636738/8	60.0	85.46921	50.0	505296.0	1.424487	Y
8	IC 280-636738/9	80.0	116.226099	50.0	502912.0	1.452826	Y
9	IC 280-636738/10	160.0	224.161656	50.0	519596.0	1.40101	Y



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Calibration / Chlorobenzene

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	ISTD
Response Base:	AREA
RF Rounding:	0

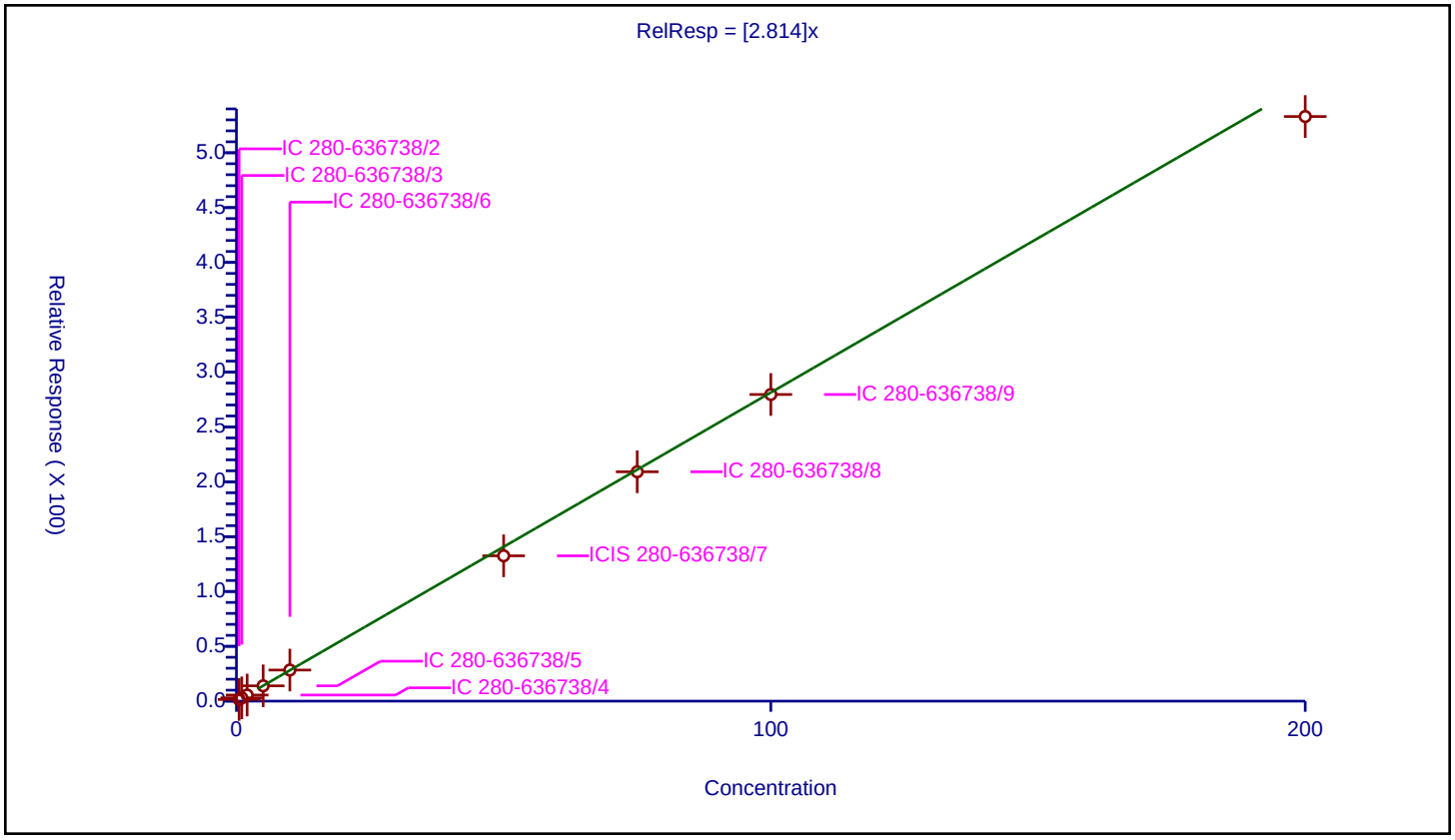
Curve Coefficients

Intercept:	0
Slope:	2.814

Error Coefficients

Standard Error:	2370000
Relative Standard Error:	4.5
Correlation Coefficient:	1.000
Coefficient of Determination (Adjusted):	0.997

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 280-636738/2	0.5	1.508204	50.0	463863.0	3.016408	Y
2	IC 280-636738/3	1.0	2.995851	50.0	472203.0	2.995851	Y
3	IC 280-636738/4	2.0	5.572141	50.0	462596.0	2.78607	Y
4	IC 280-636738/5	5.0	13.960077	50.0	471713.0	2.792015	Y
5	IC 280-636738/6	10.0	28.345477	50.0	481740.0	2.834548	Y
6	ICIS 280-636738/7	50.0	132.516106	50.0	487237.0	2.650322	Y
7	IC 280-636738/8	75.0	209.124157	50.0	505296.0	2.788322	Y
8	IC 280-636738/9	100.0	279.601998	50.0	502912.0	2.79602	Y
9	IC 280-636738/10	200.0	533.062899	50.0	519596.0	2.665314	Y



Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	ISTD
Response Base:	AREA
RF Rounding:	0

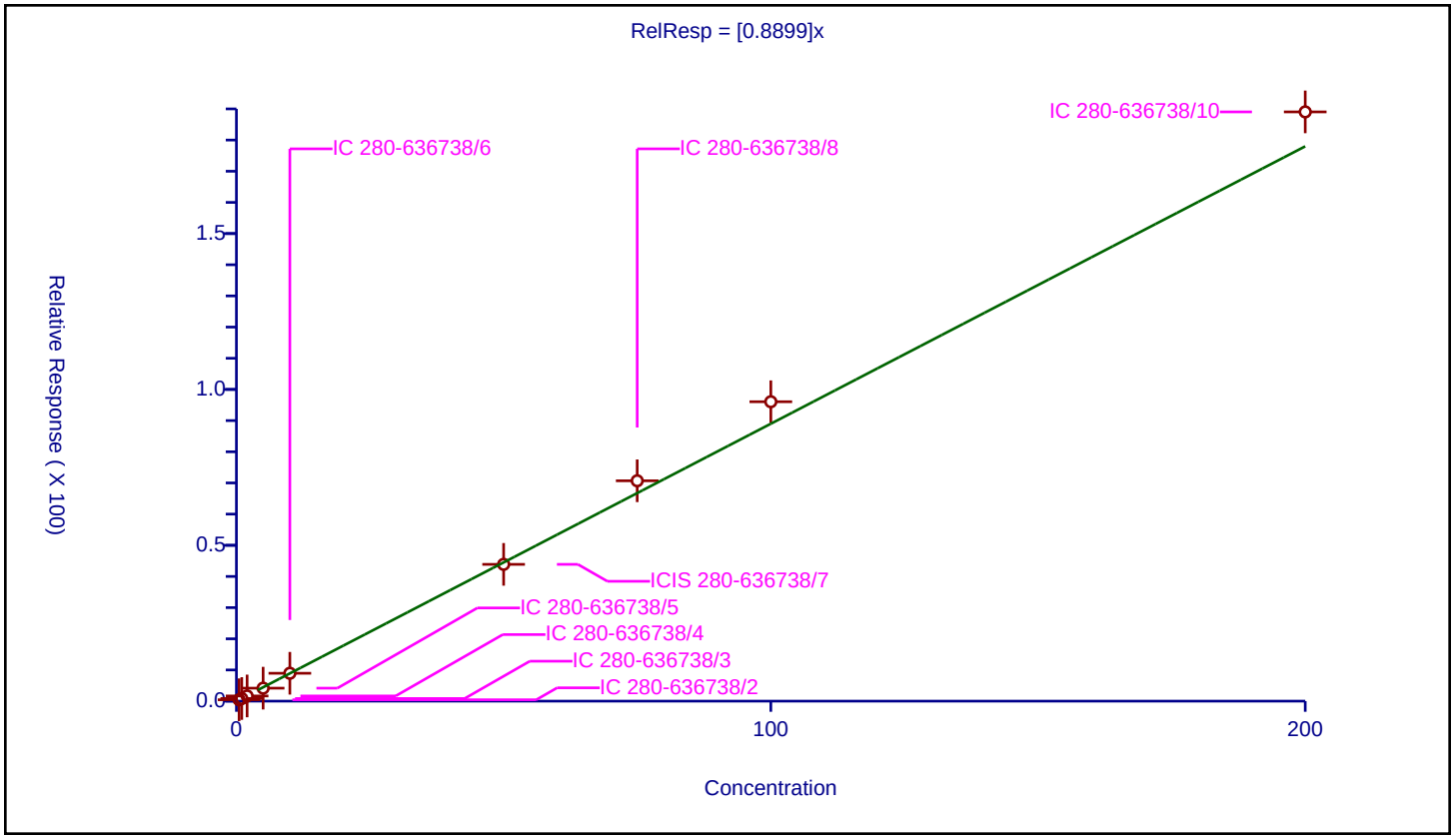
Curve Coefficients

Intercept:	0
Slope:	0.8899

Error Coefficients

Standard Error:	829000
Relative Standard Error:	5.7
Correlation Coefficient:	0.999
Coefficient of Determination (Adjusted):	0.996

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 280-636738/2	0.5	0.444204	50.0	463863.0	0.888409	Y
2	IC 280-636738/3	1.0	0.837987	50.0	472203.0	0.837987	Y
3	IC 280-636738/4	2.0	1.660088	50.0	462596.0	0.830044	Y
4	IC 280-636738/5	5.0	4.163655	50.0	471713.0	0.832731	Y
5	IC 280-636738/6	10.0	8.94331	50.0	481740.0	0.894331	Y
6	ICIS 280-636738/7	50.0	43.876081	50.0	487237.0	0.877522	Y
7	IC 280-636738/8	75.0	70.695889	50.0	505296.0	0.942612	Y
8	IC 280-636738/9	100.0	96.053186	50.0	502912.0	0.960532	Y
9	IC 280-636738/10	200.0	189.036771	50.0	519596.0	0.945184	Y



Calibration / Ethylbenzene

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	ISTD
Response Base:	AREA
RF Rounding:	0

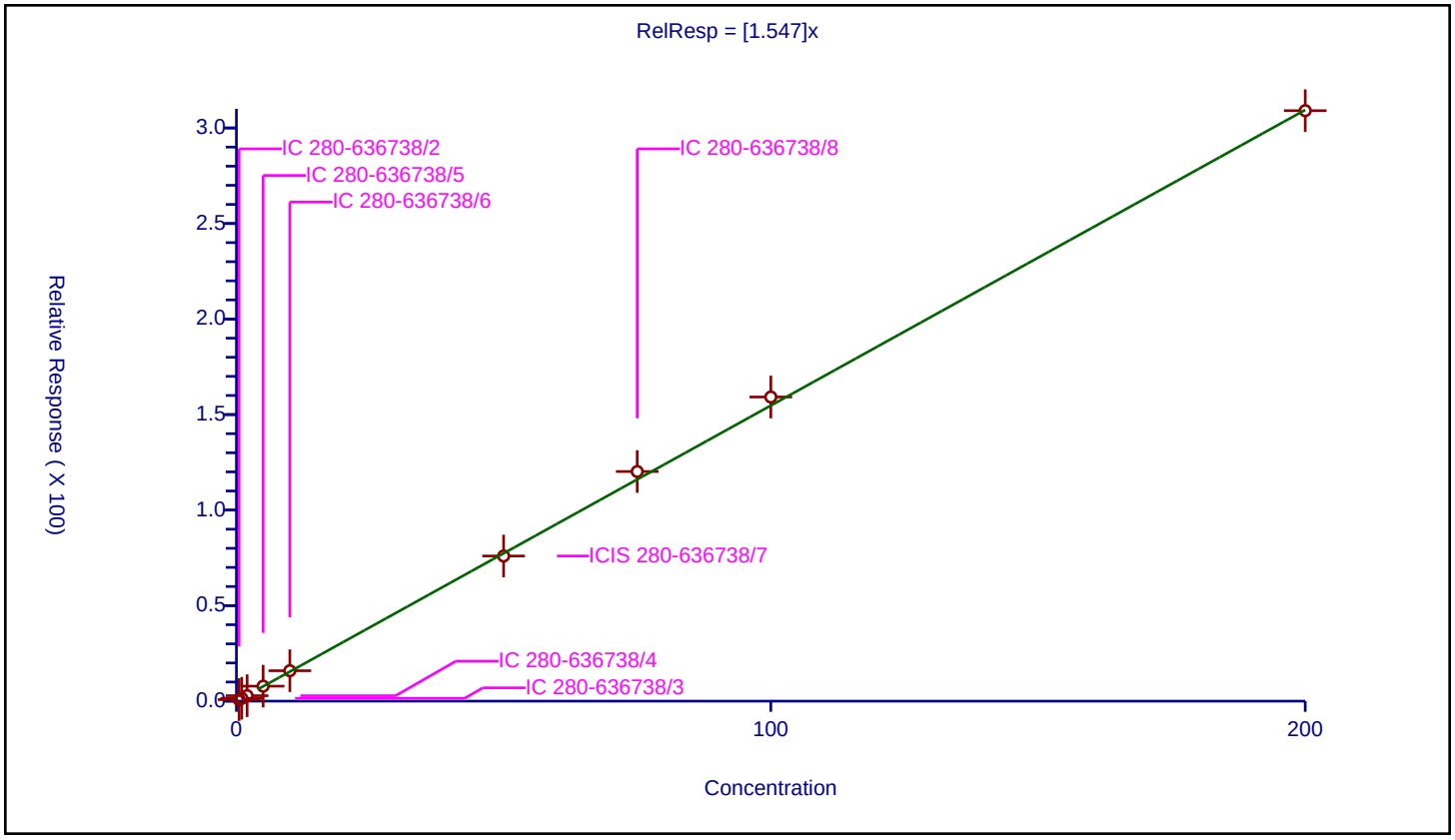
Curve Coefficients

Intercept:	0
Slope:	1.547

Error Coefficients

Standard Error:	1370000
Relative Standard Error:	3.7
Correlation Coefficient:	1.000
Coefficient of Determination (Adjusted):	0.998

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 280-636738/2	0.5	0.788595	50.0	463863.0	1.57719	Y
2	IC 280-636738/3	1.0	1.498085	50.0	472203.0	1.498085	Y
3	IC 280-636738/4	2.0	2.857569	50.0	462596.0	1.428785	Y
4	IC 280-636738/5	5.0	7.844388	50.0	471713.0	1.568878	Y
5	IC 280-636738/6	10.0	15.934321	50.0	481740.0	1.593432	Y
6	ICIS 280-636738/7	50.0	75.967342	50.0	487237.0	1.519347	Y
7	IC 280-636738/8	75.0	120.187078	50.0	505296.0	1.602494	Y
8	IC 280-636738/9	100.0	159.192662	50.0	502912.0	1.591927	Y
9	IC 280-636738/10	200.0	309.070316	50.0	519596.0	1.545352	Y



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Calibration / m-Xylene & p-Xylene

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	ISTD
Response Base:	AREA
RF Rounding:	0

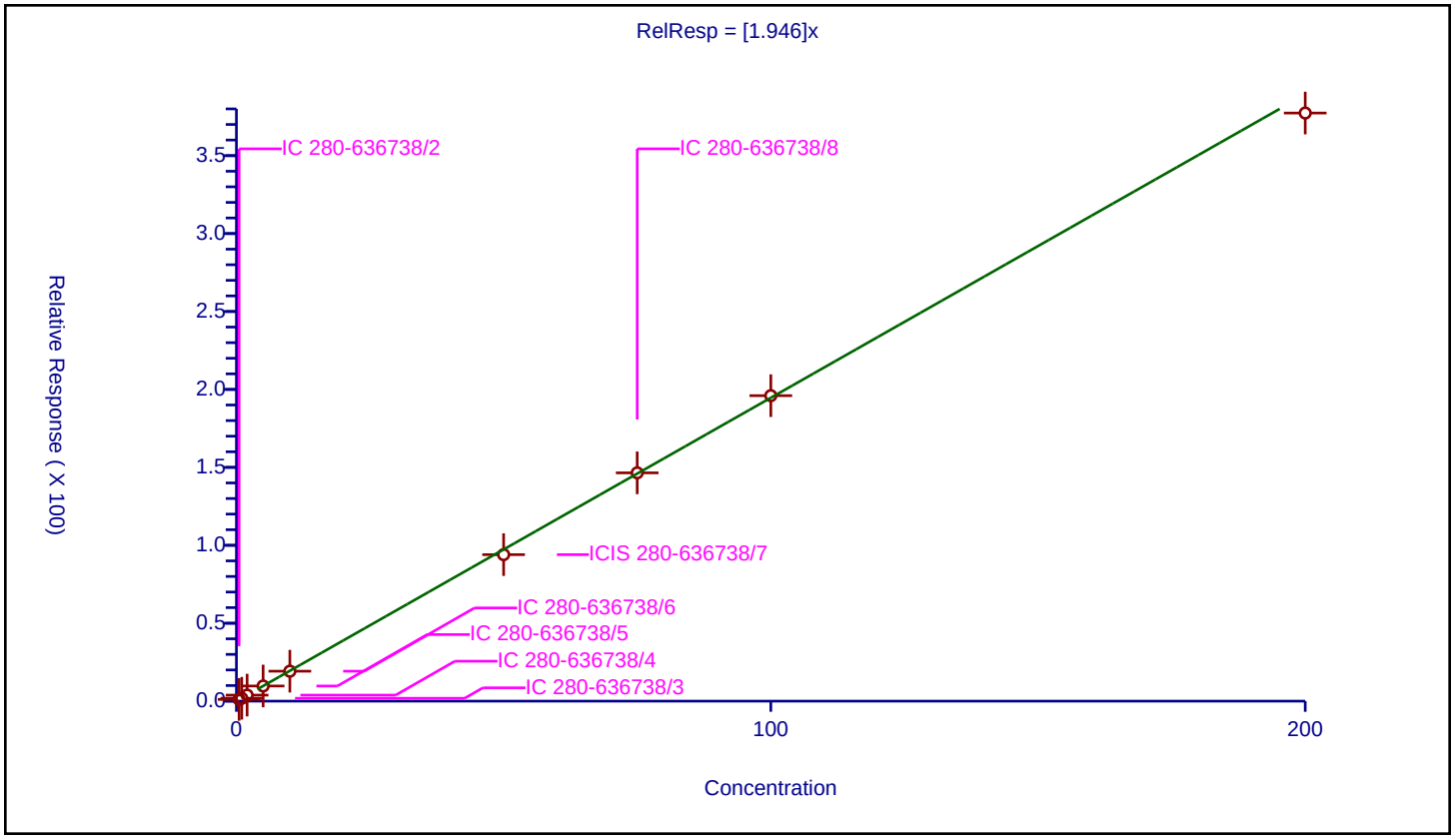
Curve Coefficients

Intercept:	0
Slope:	1.946

Error Coefficients

Standard Error:	1670000
Relative Standard Error:	5.1
Correlation Coefficient:	1.000
Coefficient of Determination (Adjusted):	0.996

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 280-636738/2	0.5	1.096768	50.0	463863.0	2.193536	Y
2	IC 280-636738/3	1.0	1.845393	50.0	472203.0	1.845393	Y
3	IC 280-636738/4	2.0	3.874655	50.0	462596.0	1.937328	Y
4	IC 280-636738/5	5.0	9.707386	50.0	471713.0	1.941477	Y
5	IC 280-636738/6	10.0	19.209947	50.0	481740.0	1.920995	Y
6	ICIS 280-636738/7	50.0	93.999327	50.0	487237.0	1.879987	Y
7	IC 280-636738/8	75.0	146.47939	50.0	505296.0	1.953059	Y
8	IC 280-636738/9	100.0	196.000593	50.0	502912.0	1.960006	Y
9	IC 280-636738/10	200.0	377.337393	50.0	519596.0	1.886687	Y



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Calibration / o-Xylene

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	ISTD
Response Base:	AREA
RF Rounding:	0

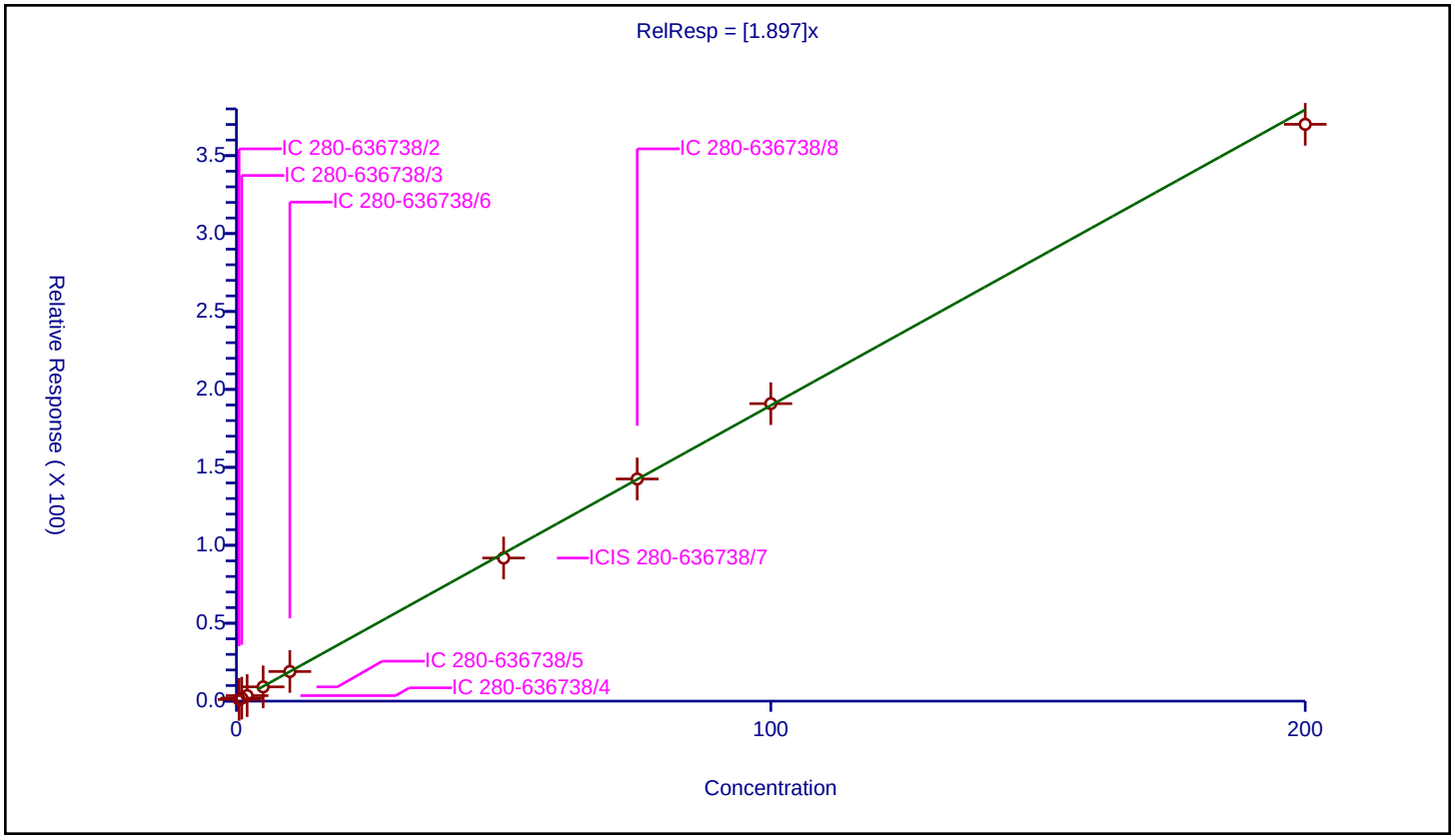
Curve Coefficients

Intercept:	0
Slope:	1.897

Error Coefficients

Standard Error:	1640000
Relative Standard Error:	5.5
Correlation Coefficient:	1.000
Coefficient of Determination (Adjusted):	0.996

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 280-636738/2	0.5	1.068742	50.0	463863.0	2.137485	Y
2	IC 280-636738/3	1.0	1.938891	50.0	472203.0	1.938891	Y
3	IC 280-636738/4	2.0	3.542292	50.0	462596.0	1.771146	Y
4	IC 280-636738/5	5.0	9.151221	50.0	471713.0	1.830244	Y
5	IC 280-636738/6	10.0	19.005376	50.0	481740.0	1.900538	Y
6	ICIS 280-636738/7	50.0	91.834569	50.0	487237.0	1.836691	Y
7	IC 280-636738/8	75.0	142.547339	50.0	505296.0	1.900631	Y
8	IC 280-636738/9	100.0	190.897215	50.0	502912.0	1.908972	Y
9	IC 280-636738/10	200.0	370.097537	50.0	519596.0	1.850488	Y



Calibration / Styrene

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	ISTD
Response Base:	AREA
RF Rounding:	0

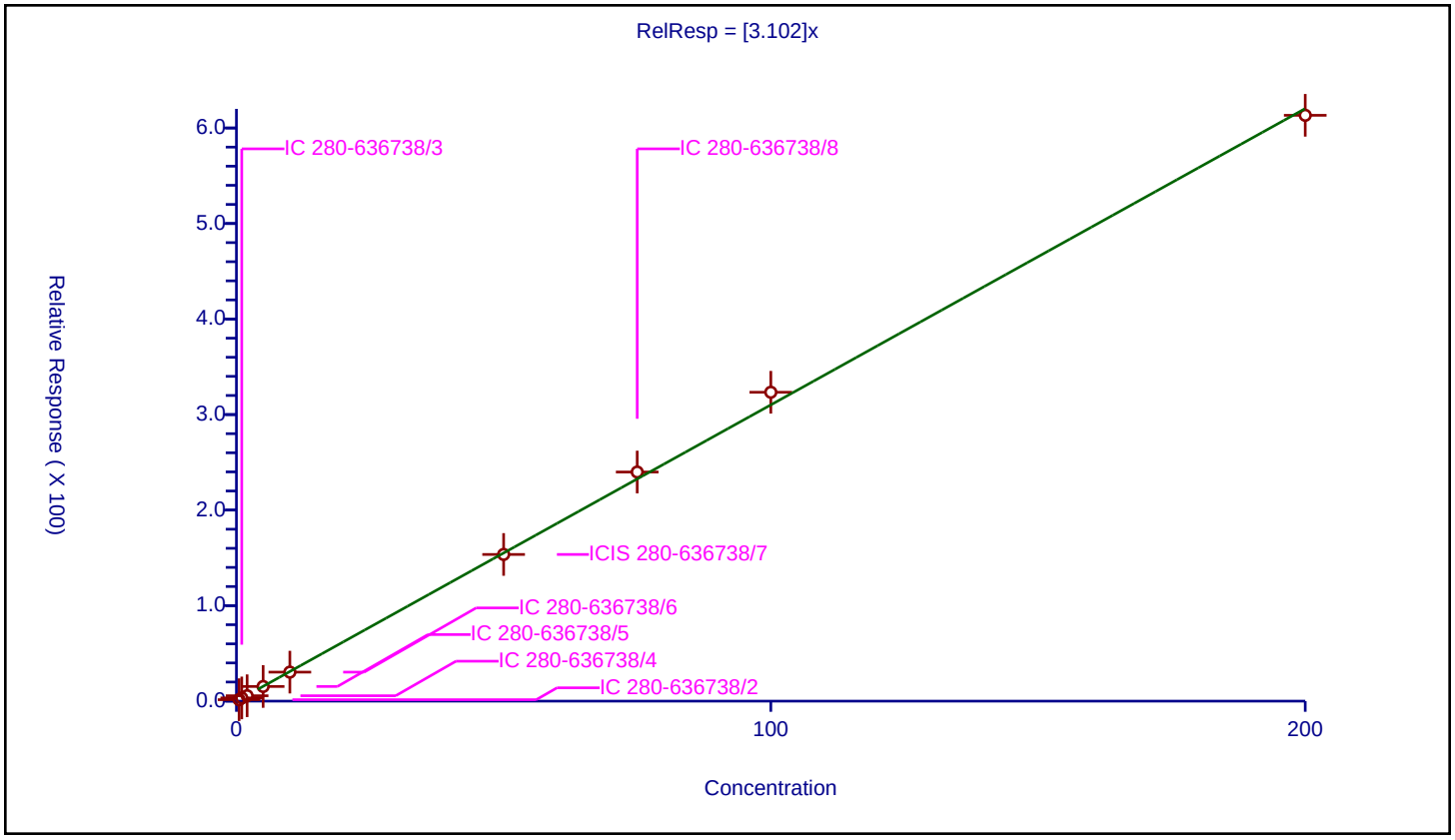
Curve Coefficients

Intercept:	0
Slope:	3.102

Error Coefficients

Standard Error:	2730000
Relative Standard Error:	4.8
Correlation Coefficient:	1.000
Coefficient of Determination (Adjusted):	0.997

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 280-636738/2	0.5	1.524588	50.0	463863.0	3.049176	Y
2	IC 280-636738/3	1.0	3.356925	50.0	472203.0	3.356925	Y
3	IC 280-636738/4	2.0	5.658069	50.0	462596.0	2.829034	Y
4	IC 280-636738/5	5.0	15.357325	50.0	471713.0	3.071465	Y
5	IC 280-636738/6	10.0	30.381118	50.0	481740.0	3.038112	Y
6	ICIS 280-636738/7	50.0	153.561614	50.0	487237.0	3.071232	Y
7	IC 280-636738/8	75.0	239.859409	50.0	505296.0	3.198125	Y
8	IC 280-636738/9	100.0	323.375362	50.0	502912.0	3.233754	Y
9	IC 280-636738/10	200.0	613.284359	50.0	519596.0	3.066422	Y



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Calibration / Bromoform

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	ISTD
Response Base:	AREA
RF Rounding:	0

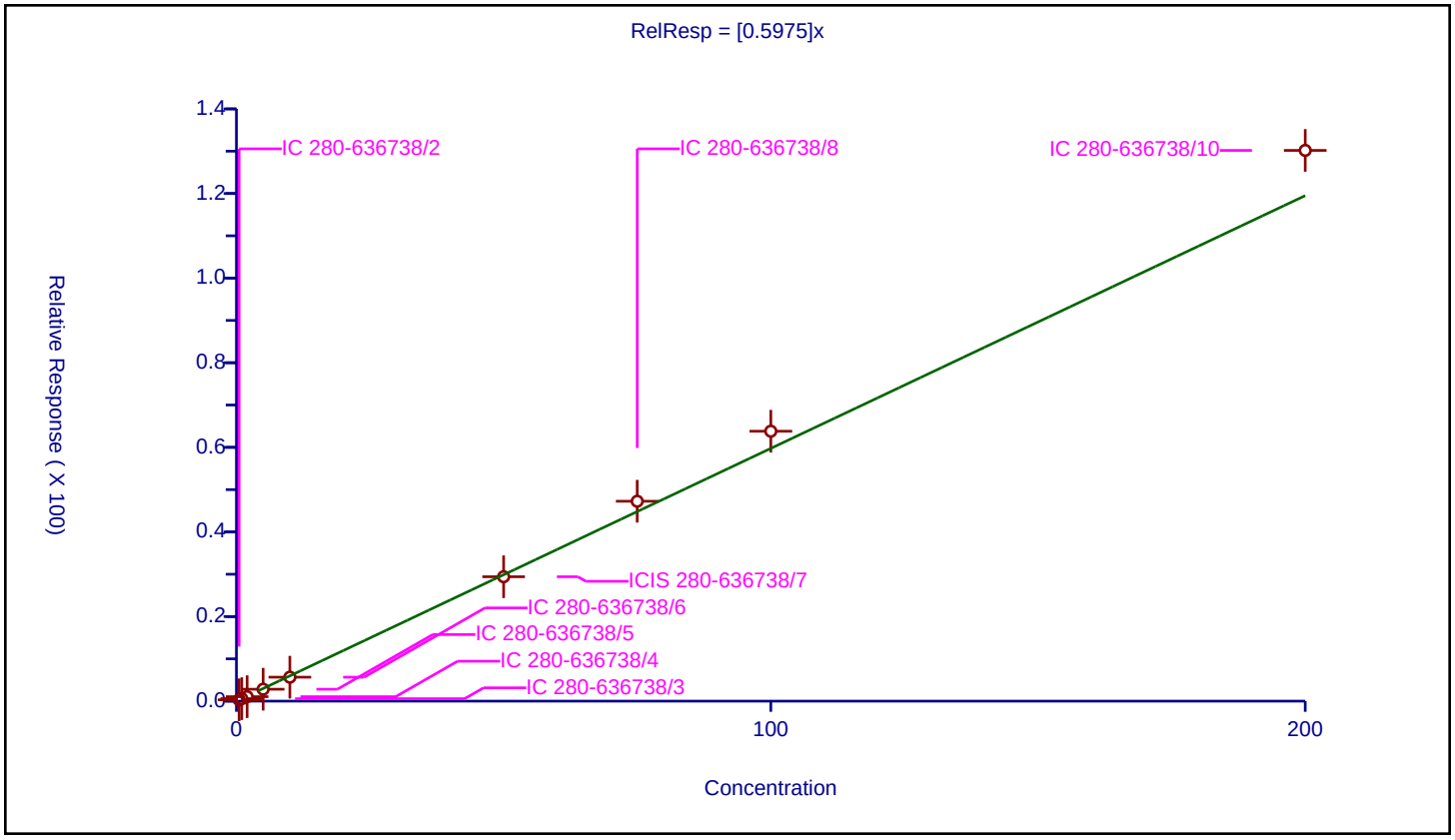
Curve Coefficients

Intercept:	0
Slope:	0.5975

Error Coefficients

Standard Error:	565000
Relative Standard Error:	7.1
Correlation Coefficient:	0.998
Coefficient of Determination (Adjusted):	0.994

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 280-636738/2	0.5	0.316688	50.0	463863.0	0.633377	Y
2	IC 280-636738/3	1.0	0.581106	50.0	472203.0	0.581106	Y
3	IC 280-636738/4	2.0	1.052646	50.0	462596.0	0.526323	Y
4	IC 280-636738/5	5.0	2.816225	50.0	471713.0	0.563245	Y
5	IC 280-636738/6	10.0	5.661456	50.0	481740.0	0.566146	Y
6	ICIS 280-636738/7	50.0	29.40807	50.0	487237.0	0.588161	Y
7	IC 280-636738/8	75.0	47.252699	50.0	505296.0	0.630036	Y
8	IC 280-636738/9	100.0	63.804105	50.0	502912.0	0.638041	Y
9	IC 280-636738/10	200.0	130.186626	50.0	519596.0	0.650933	Y



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Calibration / Isopropylbenzene

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	ISTD
Response Base:	AREA
RF Rounding:	0

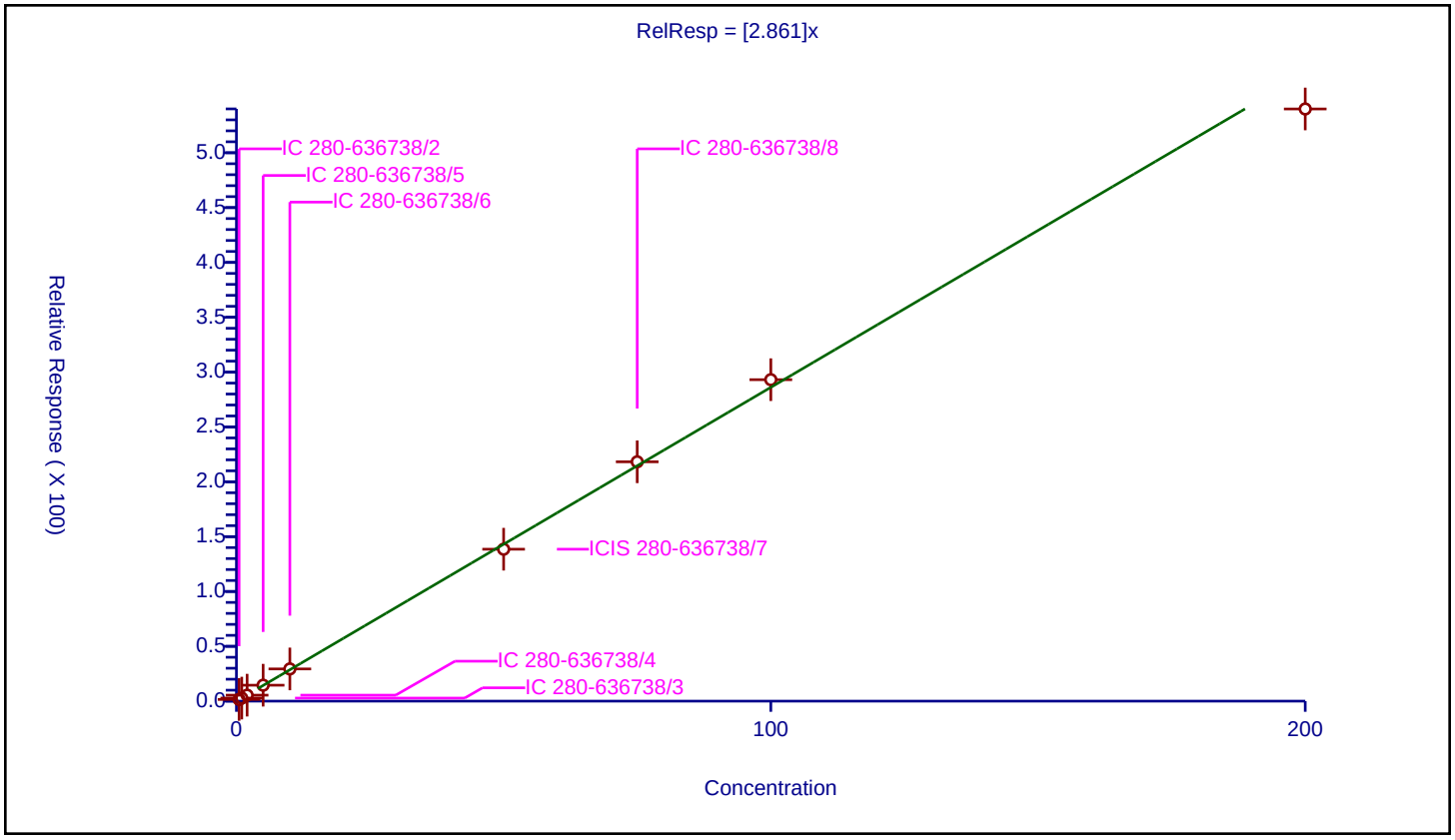
Curve Coefficients

Intercept:	0
Slope:	2.861

Error Coefficients

Standard Error:	4010000
Relative Standard Error:	4.2
Correlation Coefficient:	0.999
Coefficient of Determination (Adjusted):	0.998

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 280-636738/2	0.5	1.536017	50.0	766886.0	3.072034	Y
2	IC 280-636738/3	1.0	2.792297	50.0	770262.0	2.792297	Y
3	IC 280-636738/4	2.0	5.458521	50.0	752823.0	2.72926	Y
4	IC 280-636738/5	5.0	14.538513	50.0	772438.0	2.907703	Y
5	IC 280-636738/6	10.0	29.383685	50.0	791235.0	2.938368	Y
6	ICIS 280-636738/7	50.0	138.540215	50.0	803680.0	2.770804	Y
7	IC 280-636738/8	75.0	218.228025	50.0	826417.0	2.909707	Y
8	IC 280-636738/9	100.0	293.108599	50.0	821785.0	2.931086	Y
9	IC 280-636738/10	200.0	539.925703	50.0	863296.0	2.699629	Y



Calibration / Cyclohexanone

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	ISTD
Response Base:	AREA
RF Rounding:	0

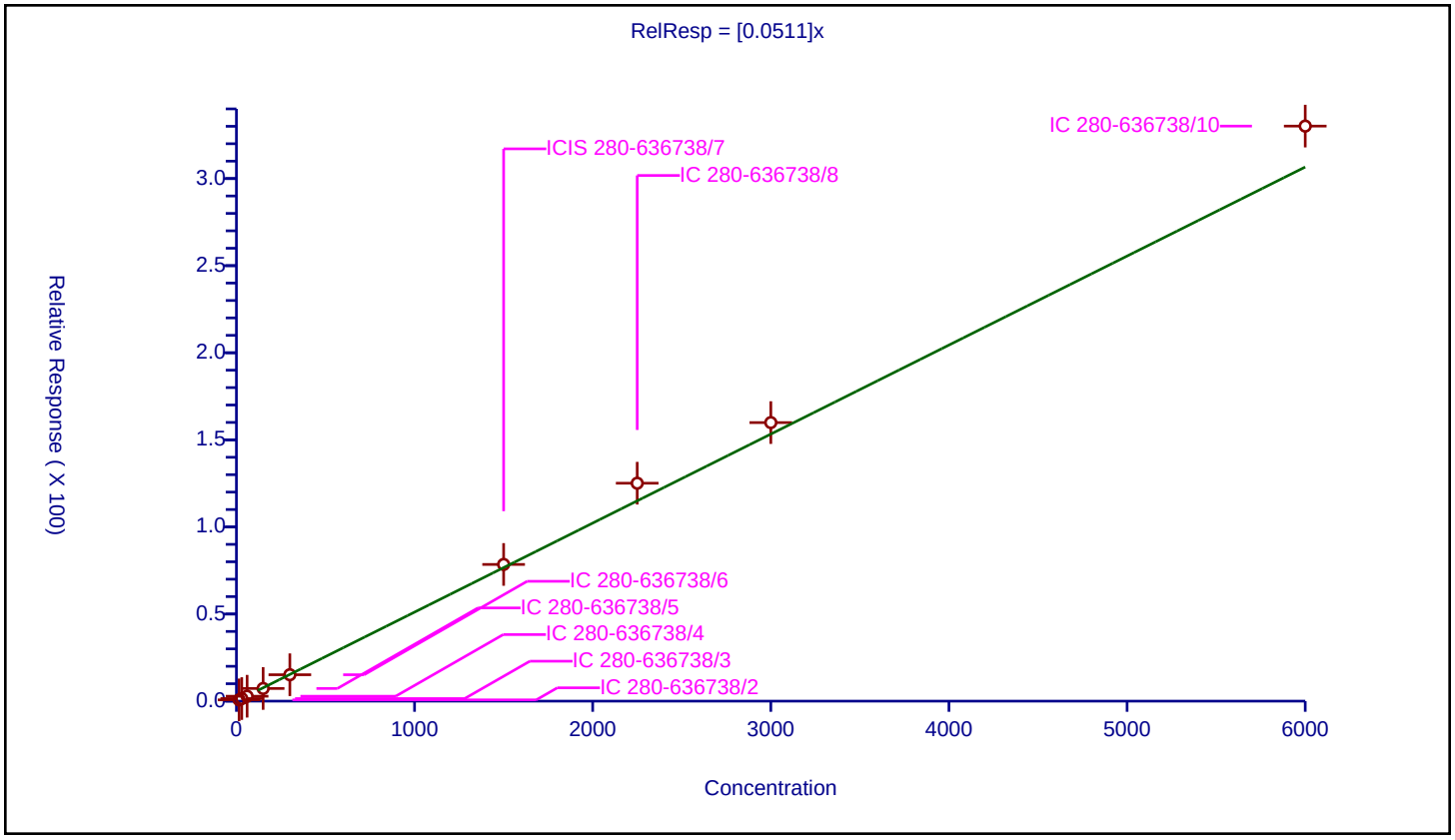
Curve Coefficients

Intercept:	0
Slope:	0.0511

Error Coefficients

Standard Error:	1440000
Relative Standard Error:	6.1
Correlation Coefficient:	0.999
Coefficient of Determination (Adjusted):	0.995

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 280-636738/2	15.0	0.731358	50.0	463863.0	0.048757	Y
2	IC 280-636738/3	30.0	1.469072	50.0	472203.0	0.048969	Y
3	IC 280-636738/4	60.0	2.817793	50.0	462596.0	0.046963	Y
4	IC 280-636738/5	150.0	7.266283	50.0	471713.0	0.048442	Y
5	IC 280-636738/6	300.0	15.162847	50.0	481740.0	0.050543	Y
6	ICIS 280-636738/7	1500.0	78.478133	50.0	487237.0	0.052319	Y
7	IC 280-636738/8	2250.0	125.10855	50.0	505296.0	0.055604	Y
8	IC 280-636738/9	3000.0	159.91764	50.0	502912.0	0.053306	Y
9	IC 280-636738/10	6000.0	330.118207	50.0	519596.0	0.05502	Y



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Calibration / 4-Bromofluorobenzene (Surr)

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	ISTD
Response Base:	AREA
RF Rounding:	0

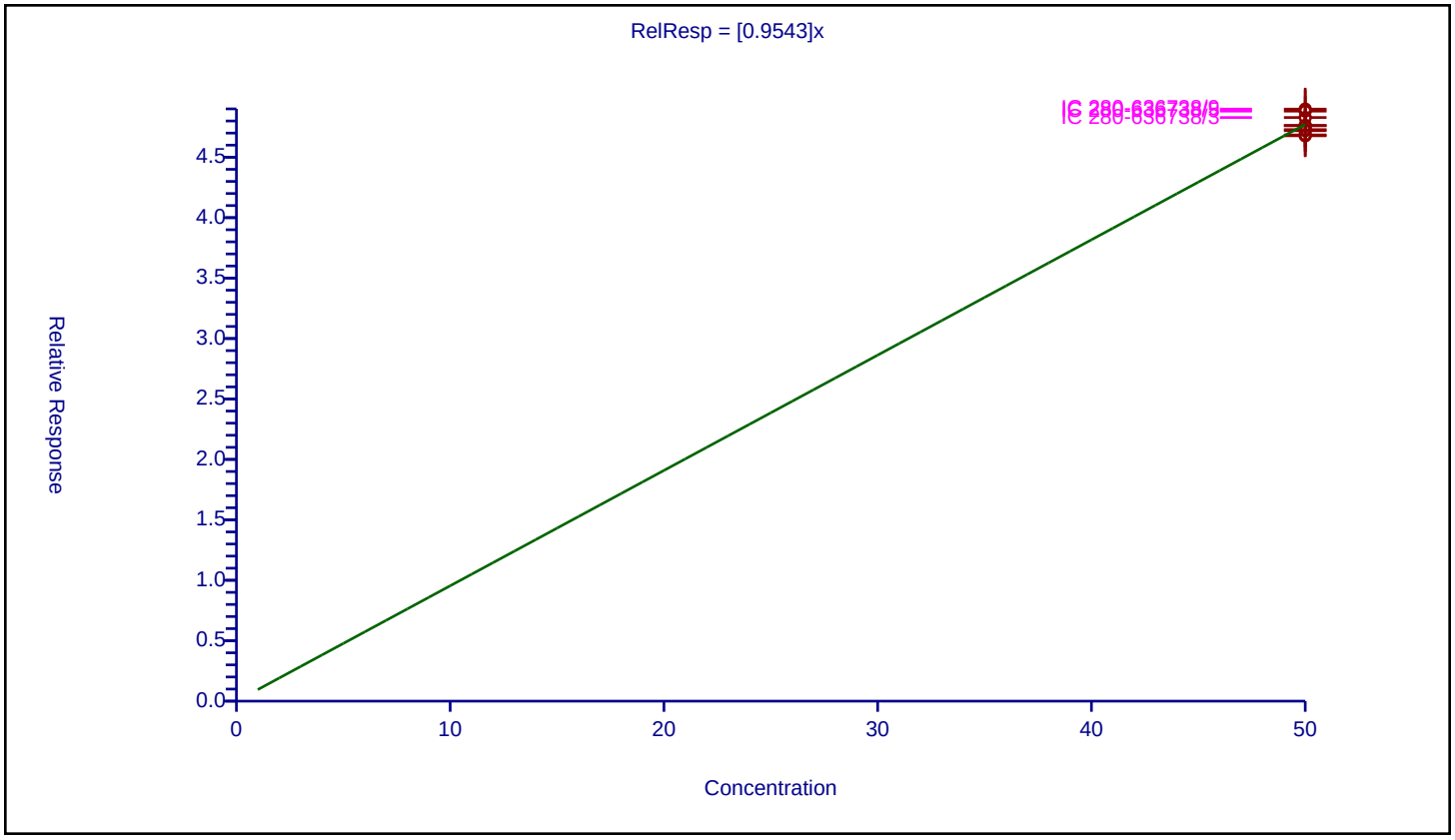
Curve Coefficients

Intercept:	0
Slope:	0.9543

Error Coefficients

Standard Error:	807000
Relative Standard Error:	1.7
Correlation Coefficient:	0.00000000000000000000
Coefficient of Determination (Adjusted):	0

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 280-636738/2	50.0	46.773314	50.0	766886.0	0.935466	Y
2	IC 280-636738/3	50.0	48.285908	50.0	770262.0	0.965718	Y
3	IC 280-636738/4	50.0	47.634437	50.0	752823.0	0.952689	Y
4	IC 280-636738/5	50.0	48.815309	50.0	772438.0	0.976306	Y
5	IC 280-636738/6	50.0	47.286268	50.0	791235.0	0.945725	Y
6	ICIS 280-636738/7	50.0	46.845511	50.0	803680.0	0.93691	Y
7	IC 280-636738/8	50.0	47.604418	50.0	826417.0	0.952088	Y
8	IC 280-636738/9	50.0	48.98252	50.0	821785.0	0.97965	Y
9	IC 280-636738/10	50.0	47.197253	50.0	863296.0	0.943945	Y



Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	ISTD
Response Base:	AREA
RF Rounding:	0

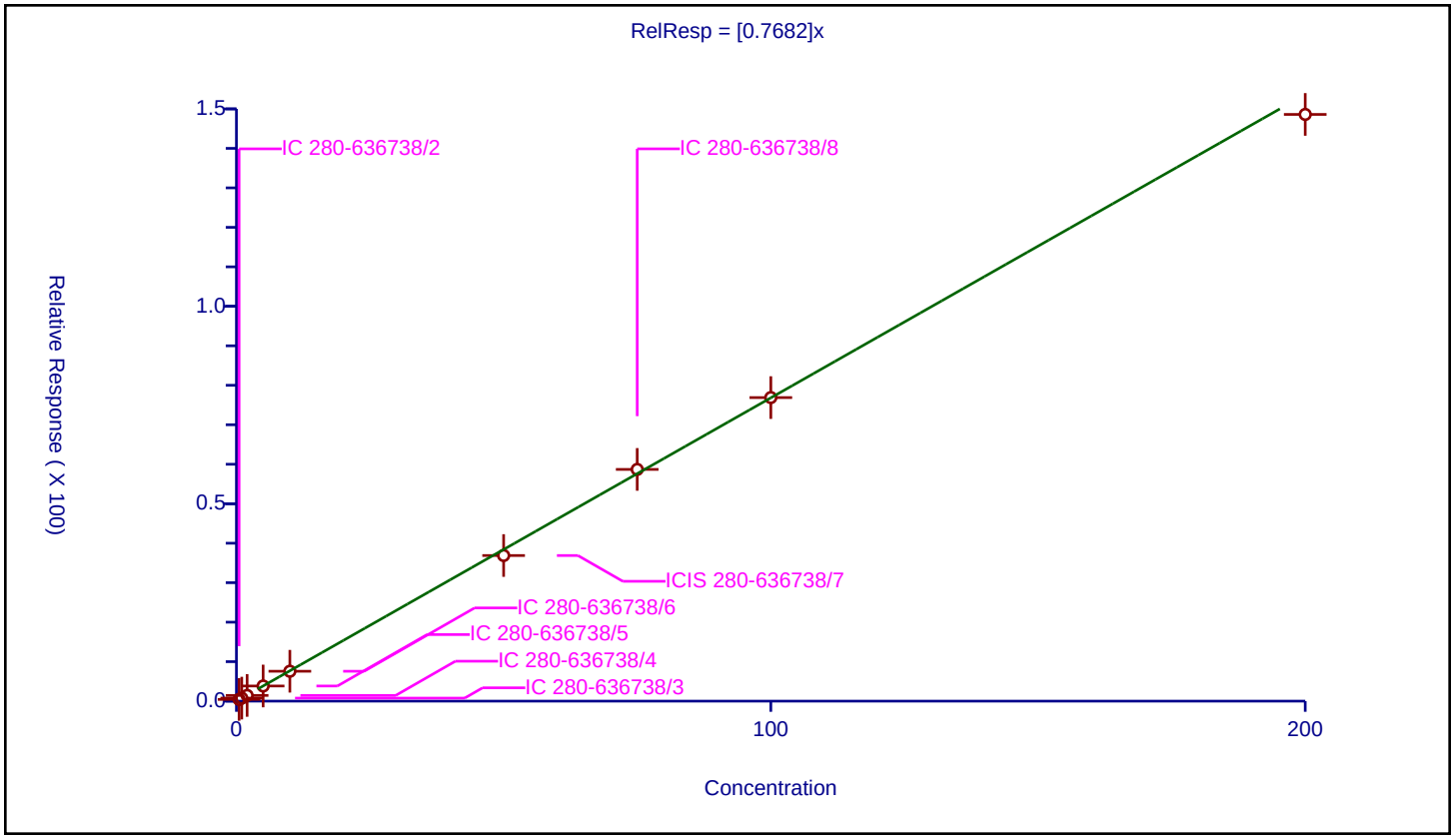
Curve Coefficients

Intercept:	0
Slope:	0.7682

Error Coefficients

Standard Error:	1090000
Relative Standard Error:	5.4
Correlation Coefficient:	1.000
Coefficient of Determination (Adjusted):	0.996

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 280-636738/2	0.5	0.433637	50.0	766886.0	0.867274	Y
2	IC 280-636738/3	1.0	0.765843	50.0	770262.0	0.765843	Y
3	IC 280-636738/4	2.0	1.44868	50.0	752823.0	0.72434	Y
4	IC 280-636738/5	5.0	3.836554	50.0	772438.0	0.767311	Y
5	IC 280-636738/6	10.0	7.572276	50.0	791235.0	0.757228	Y
6	ICIS 280-636738/7	50.0	36.883212	50.0	803680.0	0.737664	Y
7	IC 280-636738/8	75.0	58.687866	50.0	826417.0	0.782505	Y
8	IC 280-636738/9	100.0	76.885743	50.0	821785.0	0.768857	Y
9	IC 280-636738/10	200.0	148.596426	50.0	863296.0	0.742982	Y



Calibration / trans-1,4-Dichloro-2-butene

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	ISTD
Response Base:	AREA
RF Rounding:	0

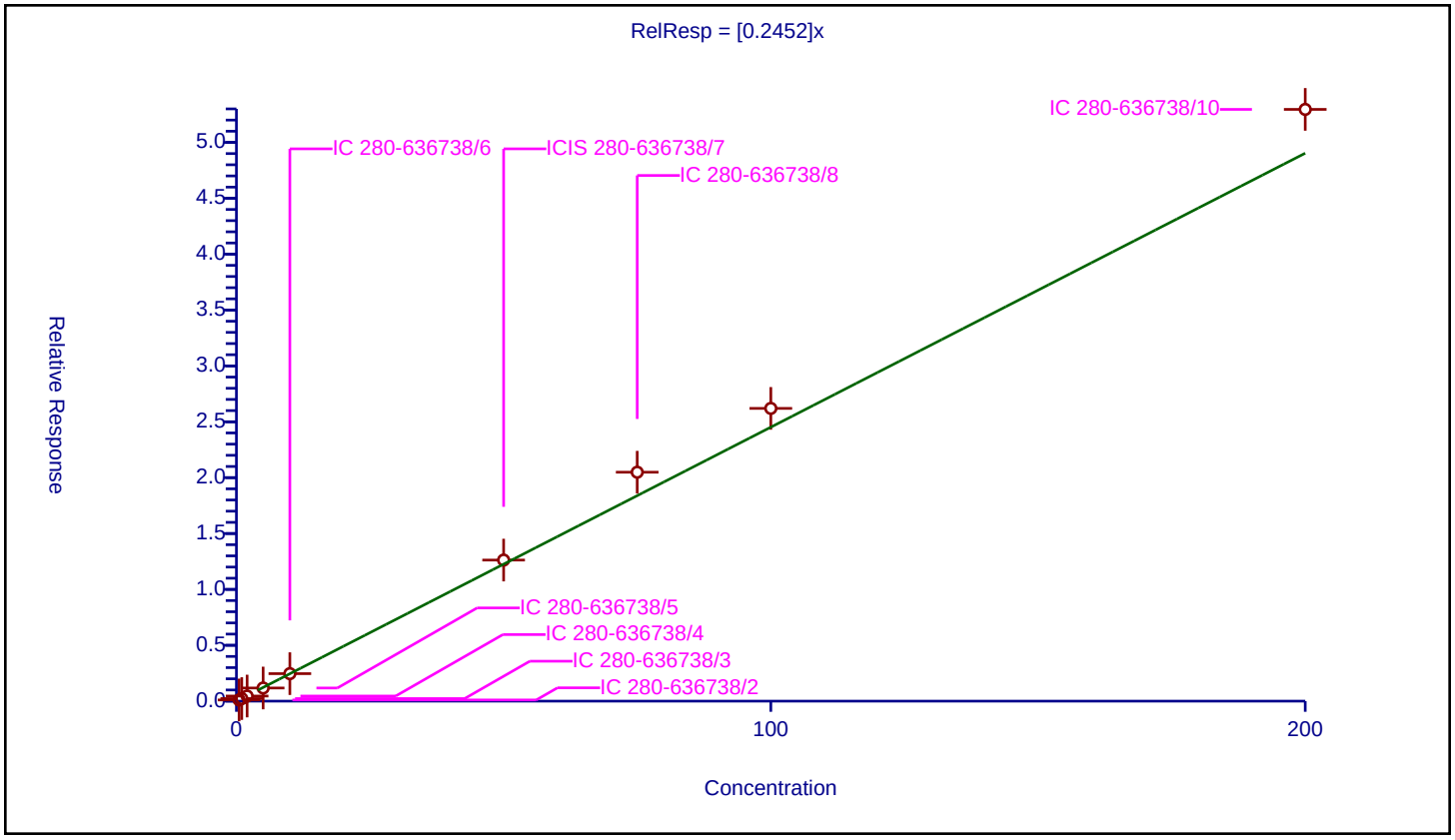
Curve Coefficients

Intercept:	0
Slope:	0.2452

Error Coefficients

Standard Error:	384000
Relative Standard Error:	8.0
Correlation Coefficient:	0.999
Coefficient of Determination (Adjusted):	0.992

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 280-636738/2	0.5	0.107122	50.0	766886.0	0.214243	Y
2	IC 280-636738/3	1.0	0.230052	50.0	770262.0	0.230052	Y
3	IC 280-636738/4	2.0	0.457412	50.0	752823.0	0.228706	Y
4	IC 280-636738/5	5.0	1.17524	50.0	772438.0	0.235048	Y
5	IC 280-636738/6	10.0	2.46071	50.0	791235.0	0.246071	Y
6	ICIS 280-636738/7	50.0	12.624614	50.0	803680.0	0.252492	Y
7	IC 280-636738/8	75.0	20.488083	50.0	826417.0	0.273174	Y
8	IC 280-636738/9	100.0	26.197485	50.0	821785.0	0.261975	Y
9	IC 280-636738/10	200.0	52.953506	50.0	863296.0	0.264768	Y



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Calibration / Bromobenzene

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	ISTD
Response Base:	AREA
RF Rounding:	0

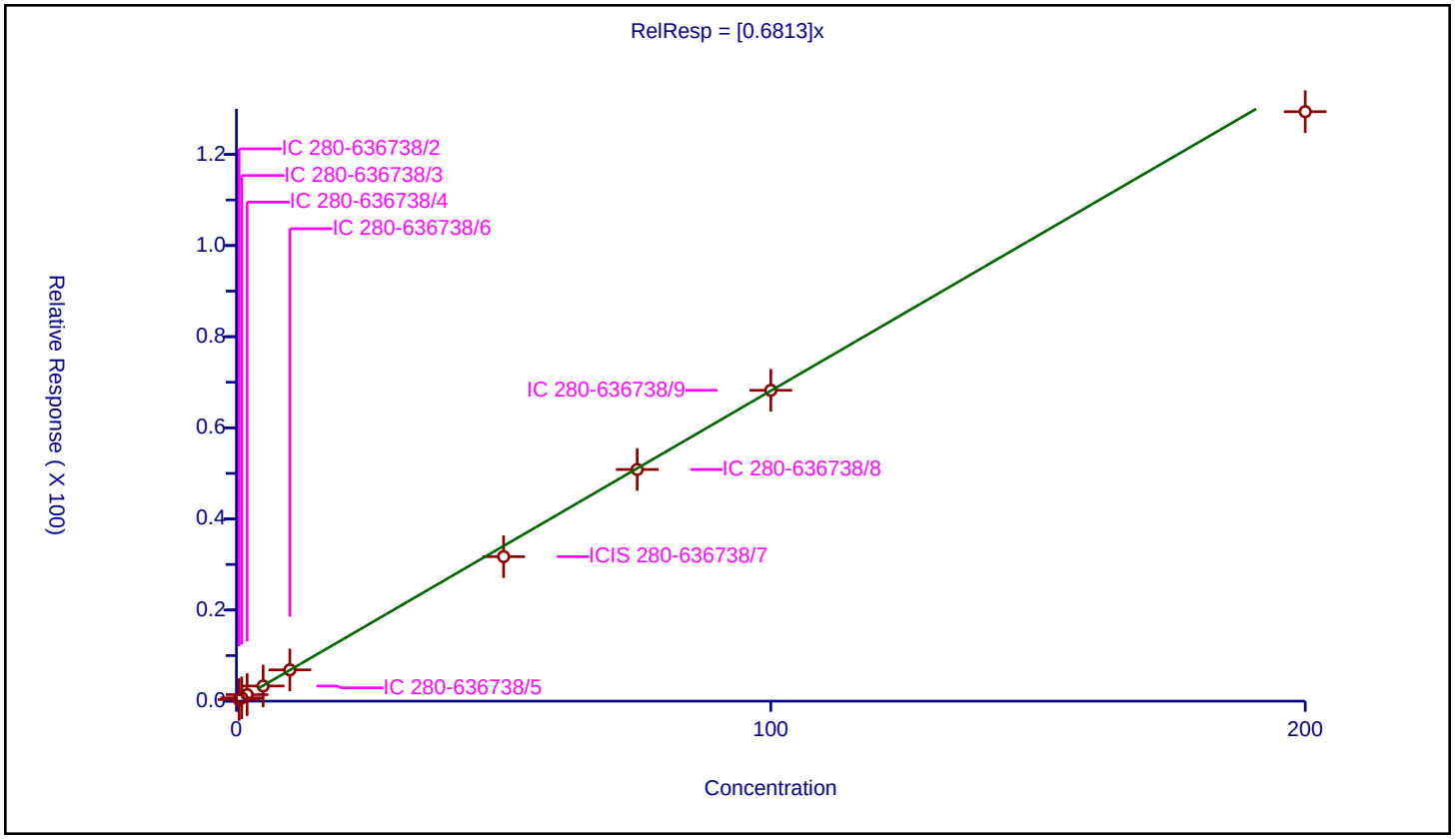
Curve Coefficients

Intercept:	0
Slope:	0.6813

Error Coefficients

Standard Error:	951000
Relative Standard Error:	4.3
Correlation Coefficient:	1.000
Coefficient of Determination (Adjusted):	0.998

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 280-636738/2	0.5	0.35279	50.0	766886.0	0.705581	Y
2	IC 280-636738/3	1.0	0.719301	50.0	770262.0	0.719301	Y
3	IC 280-636738/4	2.0	1.42922	50.0	752823.0	0.71461	Y
4	IC 280-636738/5	5.0	3.322597	50.0	772438.0	0.664519	Y
5	IC 280-636738/6	10.0	6.860857	50.0	791235.0	0.686086	Y
6	ICIS 280-636738/7	50.0	31.711502	50.0	803680.0	0.63423	Y
7	IC 280-636738/8	75.0	50.844852	50.0	826417.0	0.677931	Y
8	IC 280-636738/9	100.0	68.227517	50.0	821785.0	0.682275	Y
9	IC 280-636738/10	200.0	129.384302	50.0	863296.0	0.646922	Y



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Calibration / 1,2,3-Trichloropropane

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	ISTD
Response Base:	AREA
RF Rounding:	0

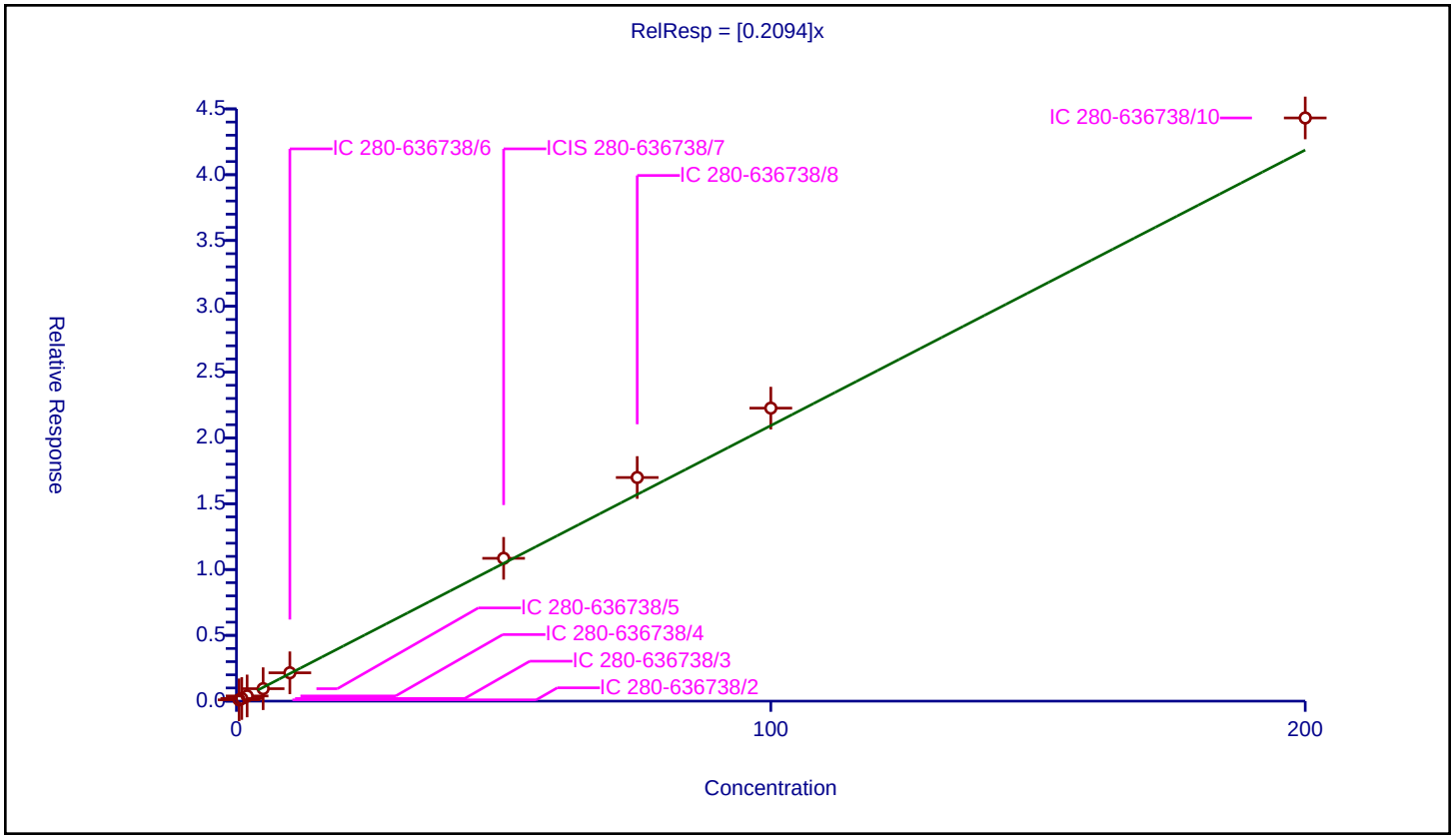
Curve Coefficients

Intercept:	0
Slope:	0.2094

Error Coefficients

Standard Error:	322000
Relative Standard Error:	6.7
Correlation Coefficient:	0.999
Coefficient of Determination (Adjusted):	0.995

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 280-636738/2	0.5	0.098059	50.0	766886.0	0.196118	Y
2	IC 280-636738/3	1.0	0.198764	50.0	770262.0	0.198764	Y
3	IC 280-636738/4	2.0	0.394249	50.0	752823.0	0.197125	Y
4	IC 280-636738/5	5.0	0.94629	50.0	772438.0	0.189258	Y
5	IC 280-636738/6	10.0	2.153469	50.0	791235.0	0.215347	Y
6	ICIS 280-636738/7	50.0	10.852329	50.0	803680.0	0.217047	Y
7	IC 280-636738/8	75.0	16.99233	50.0	826417.0	0.226564	Y
8	IC 280-636738/9	100.0	22.264643	50.0	821785.0	0.222646	Y
9	IC 280-636738/10	200.0	44.312727	50.0	863296.0	0.221564	Y



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Calibration / N-Propylbenzene

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	ISTD
Response Base:	AREA
RF Rounding:	0

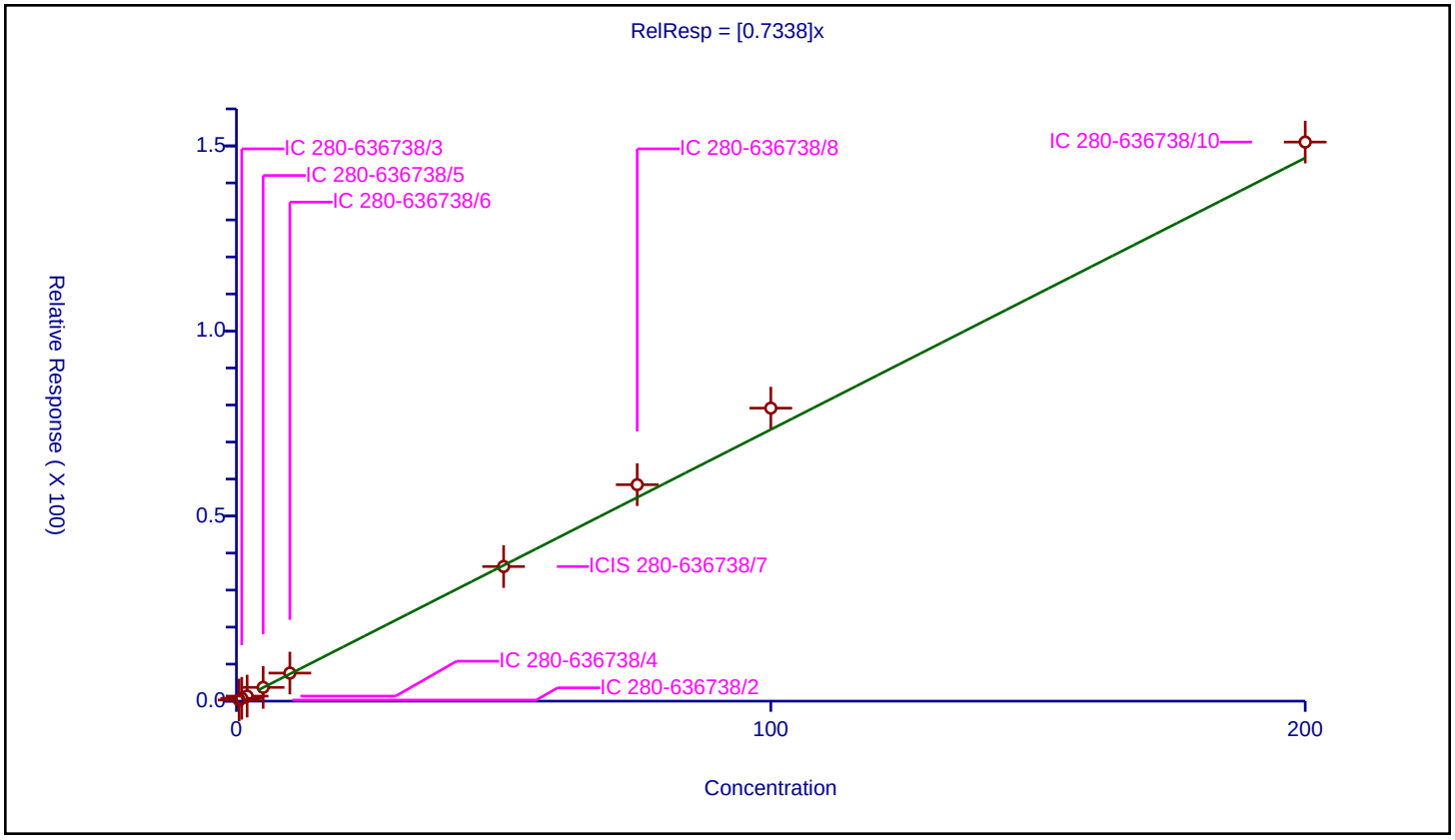
Curve Coefficients

Intercept:	0
Slope:	0.7338

Error Coefficients

Standard Error:	1110000
Relative Standard Error:	8.0
Correlation Coefficient:	0.999
Coefficient of Determination (Adjusted):	0.992

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 280-636738/2	0.5	0.30187	50.0	766886.0	0.60374	Y
2	IC 280-636738/3	1.0	0.763377	50.0	770262.0	0.763377	Y
3	IC 280-636738/4	2.0	1.361475	50.0	752823.0	0.680738	Y
4	IC 280-636738/5	5.0	3.719522	50.0	772438.0	0.743904	Y
5	IC 280-636738/6	10.0	7.580807	50.0	791235.0	0.758081	Y
6	ICIS 280-636738/7	50.0	36.37225	50.0	803680.0	0.727445	Y
7	IC 280-636738/8	75.0	58.482764	50.0	826417.0	0.77977	Y
8	IC 280-636738/9	100.0	79.15647	50.0	821785.0	0.791565	Y
9	IC 280-636738/10	200.0	151.038172	50.0	863296.0	0.755191	Y



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Calibration / 2-Chlorotoluene

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	ISTD
Response Base:	AREA
RF Rounding:	0

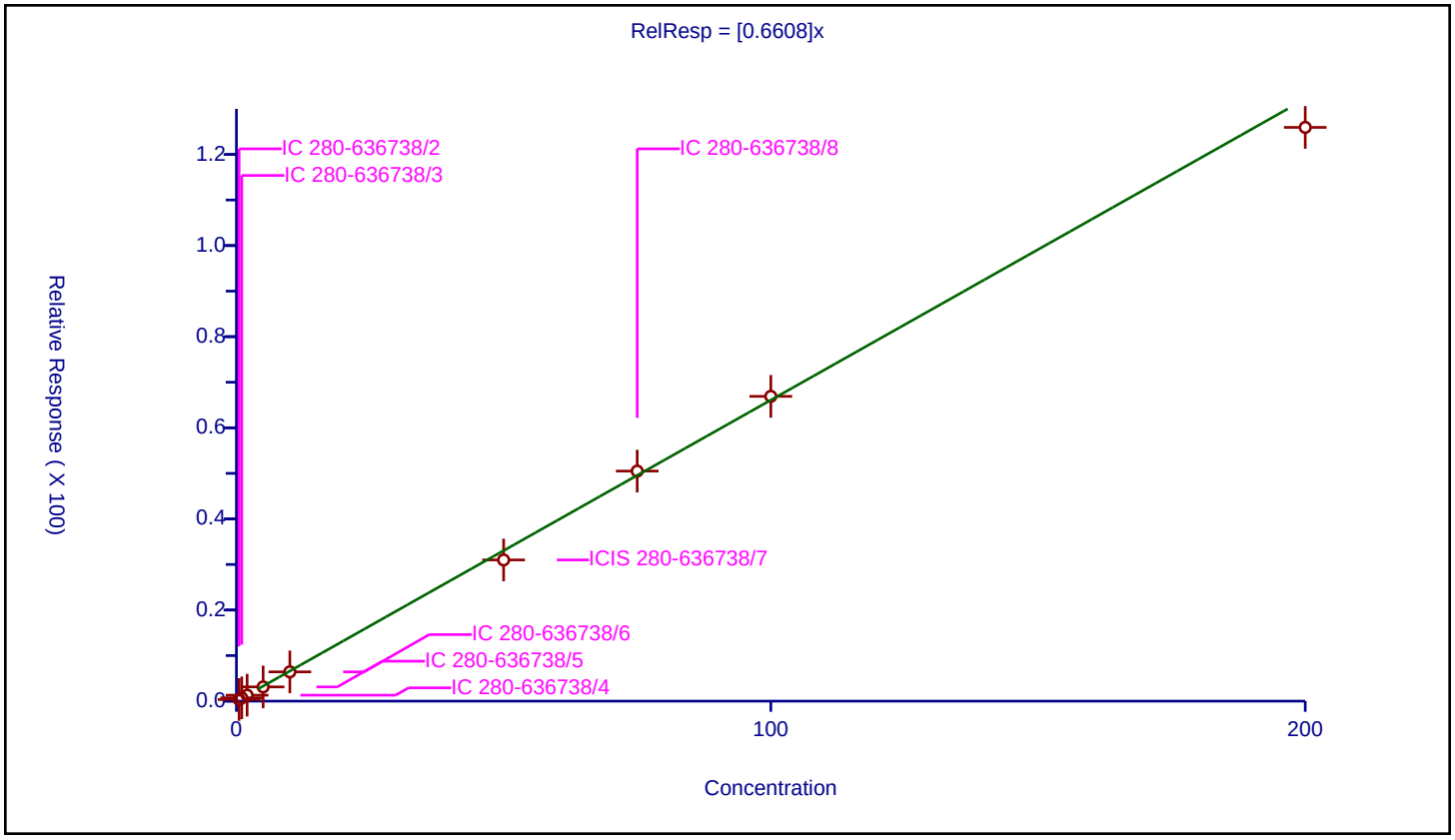
Curve Coefficients

Intercept:	0
Slope:	0.6608

Error Coefficients

Standard Error:	928000
Relative Standard Error:	5.6
Correlation Coefficient:	0.999
Coefficient of Determination (Adjusted):	0.996

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 280-636738/2	0.5	0.353964	50.0	766886.0	0.707928	Y
2	IC 280-636738/3	1.0	0.726766	50.0	770262.0	0.726766	Y
3	IC 280-636738/4	2.0	1.305619	50.0	752823.0	0.652809	Y
4	IC 280-636738/5	5.0	3.126141	50.0	772438.0	0.625228	Y
5	IC 280-636738/6	10.0	6.429063	50.0	791235.0	0.642906	Y
6	ICIS 280-636738/7	50.0	30.995545	50.0	803680.0	0.619911	Y
7	IC 280-636738/8	75.0	50.499506	50.0	826417.0	0.673327	Y
8	IC 280-636738/9	100.0	66.90071	50.0	821785.0	0.669007	Y
9	IC 280-636738/10	200.0	125.935369	50.0	863296.0	0.629677	Y



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Calibration / 1,3,5-Trimethylbenzene

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	ISTD
Response Base:	AREA
RF Rounding:	0

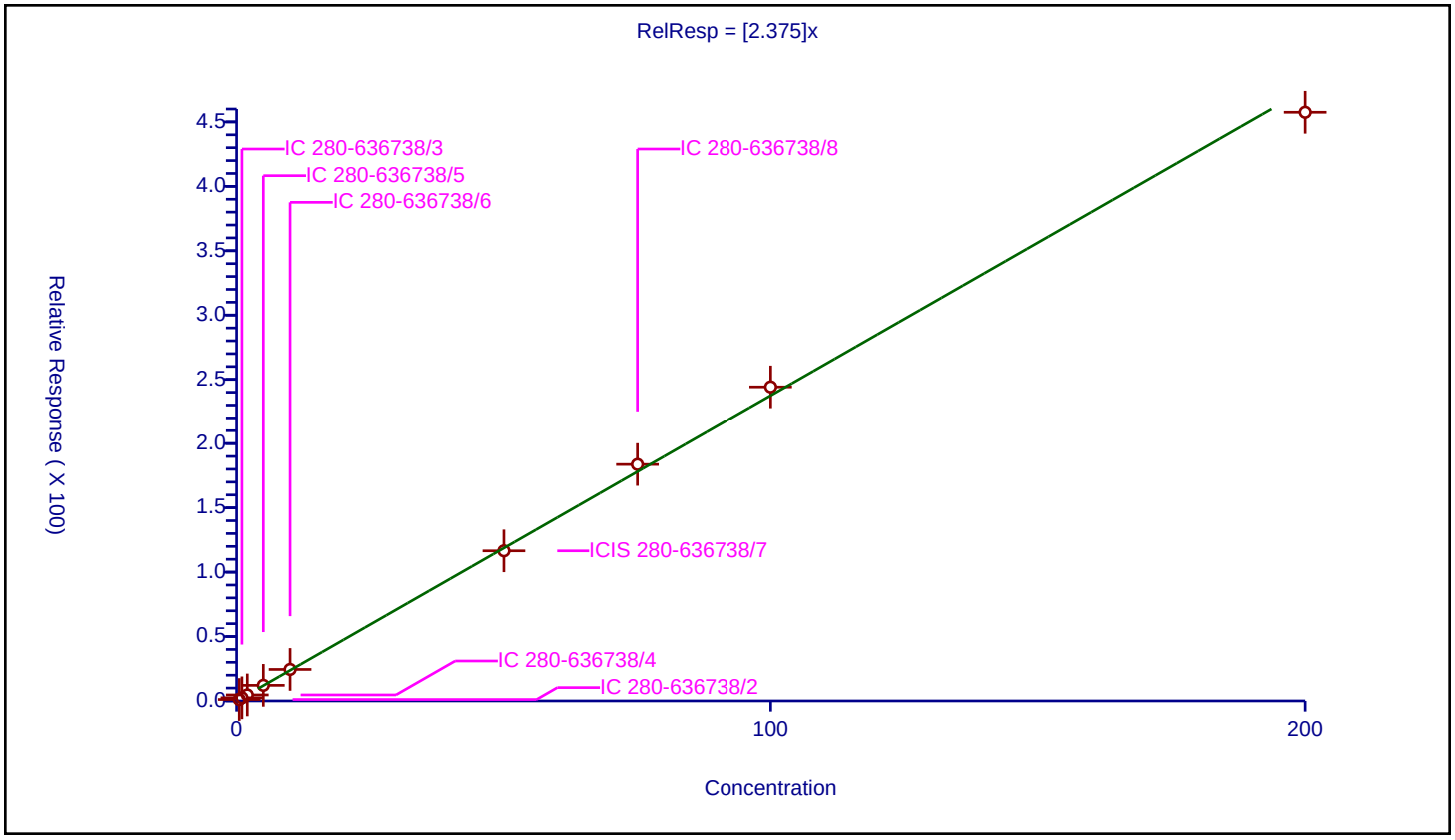
Curve Coefficients

Intercept:	0
Slope:	2.375

Error Coefficients

Standard Error:	3380000
Relative Standard Error:	3.5
Correlation Coefficient:	1.000
Coefficient of Determination (Adjusted):	0.998

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 280-636738/2	0.5	1.11216	50.0	766886.0	2.22432	Y
2	IC 280-636738/3	1.0	2.433393	50.0	770262.0	2.433393	Y
3	IC 280-636738/4	2.0	4.671417	50.0	752823.0	2.335708	Y
4	IC 280-636738/5	5.0	12.110681	50.0	772438.0	2.422136	Y
5	IC 280-636738/6	10.0	24.466815	50.0	791235.0	2.446681	Y
6	ICIS 280-636738/7	50.0	116.56474	50.0	803680.0	2.331295	Y
7	IC 280-636738/8	75.0	183.726194	50.0	826417.0	2.449683	Y
8	IC 280-636738/9	100.0	244.167757	50.0	821785.0	2.441678	Y
9	IC 280-636738/10	200.0	457.484976	50.0	863296.0	2.287425	Y



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Calibration / 4-Chlorotoluene

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	ISTD
Response Base:	AREA
RF Rounding:	0

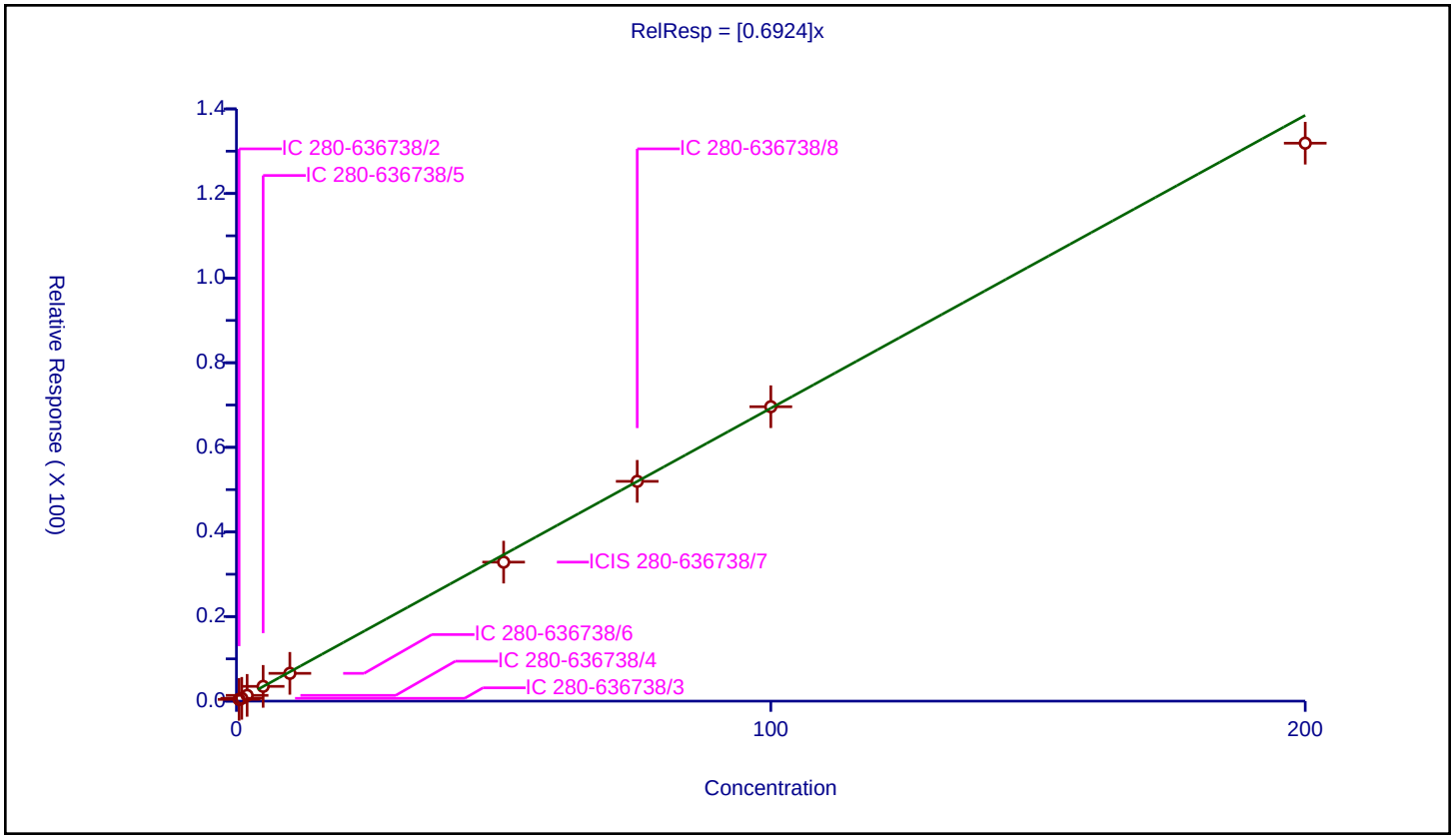
Curve Coefficients

Intercept:	0
Slope:	0.6924

Error Coefficients

Standard Error:	970000
Relative Standard Error:	7.6
Correlation Coefficient:	1.000
Coefficient of Determination (Adjusted):	0.992

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 280-636738/2	0.5	0.412447	50.0	766886.0	0.824894	Y
2	IC 280-636738/3	1.0	0.666397	50.0	770262.0	0.666397	Y
3	IC 280-636738/4	2.0	1.361276	50.0	752823.0	0.680638	Y
4	IC 280-636738/5	5.0	3.488241	50.0	772438.0	0.697648	Y
5	IC 280-636738/6	10.0	6.567771	50.0	791235.0	0.656777	Y
6	ICIS 280-636738/7	50.0	32.864075	50.0	803680.0	0.657282	Y
7	IC 280-636738/8	75.0	51.955974	50.0	826417.0	0.692746	Y
8	IC 280-636738/9	100.0	69.600382	50.0	821785.0	0.696004	Y
9	IC 280-636738/10	200.0	131.89468	50.0	863296.0	0.659473	Y



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Calibration / tert-Butylbenzene

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	ISTD
Response Base:	AREA
RF Rounding:	0

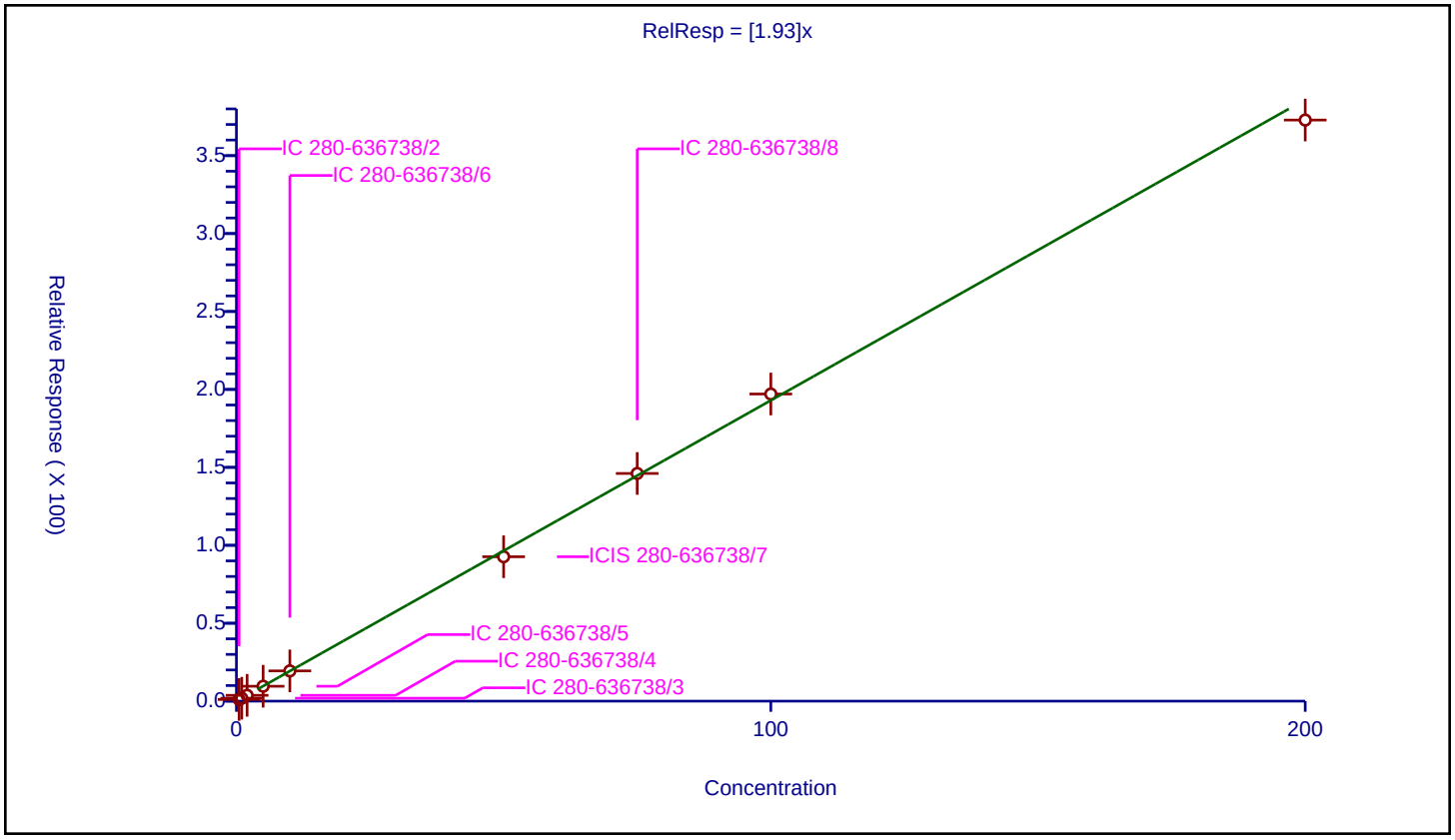
Curve Coefficients

Intercept:	0
Slope:	1.93

Error Coefficients

Standard Error:	2740000
Relative Standard Error:	4.7
Correlation Coefficient:	1.000
Coefficient of Determination (Adjusted):	0.997

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 280-636738/2	0.5	1.070694	50.0	766886.0	2.141387	Y
2	IC 280-636738/3	1.0	1.87222	50.0	770262.0	1.87222	Y
3	IC 280-636738/4	2.0	3.733348	50.0	752823.0	1.866674	Y
4	IC 280-636738/5	5.0	9.552935	50.0	772438.0	1.910587	Y
5	IC 280-636738/6	10.0	19.39784	50.0	791235.0	1.939784	Y
6	ICIS 280-636738/7	50.0	92.654352	50.0	803680.0	1.853087	Y
7	IC 280-636738/8	75.0	146.087629	50.0	826417.0	1.947835	Y
8	IC 280-636738/9	100.0	197.054704	50.0	821785.0	1.970547	Y
9	IC 280-636738/10	200.0	372.839501	50.0	863296.0	1.864198	Y



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Calibration / 1,2,4-Trimethylbenzene

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	ISTD
Response Base:	AREA
RF Rounding:	0

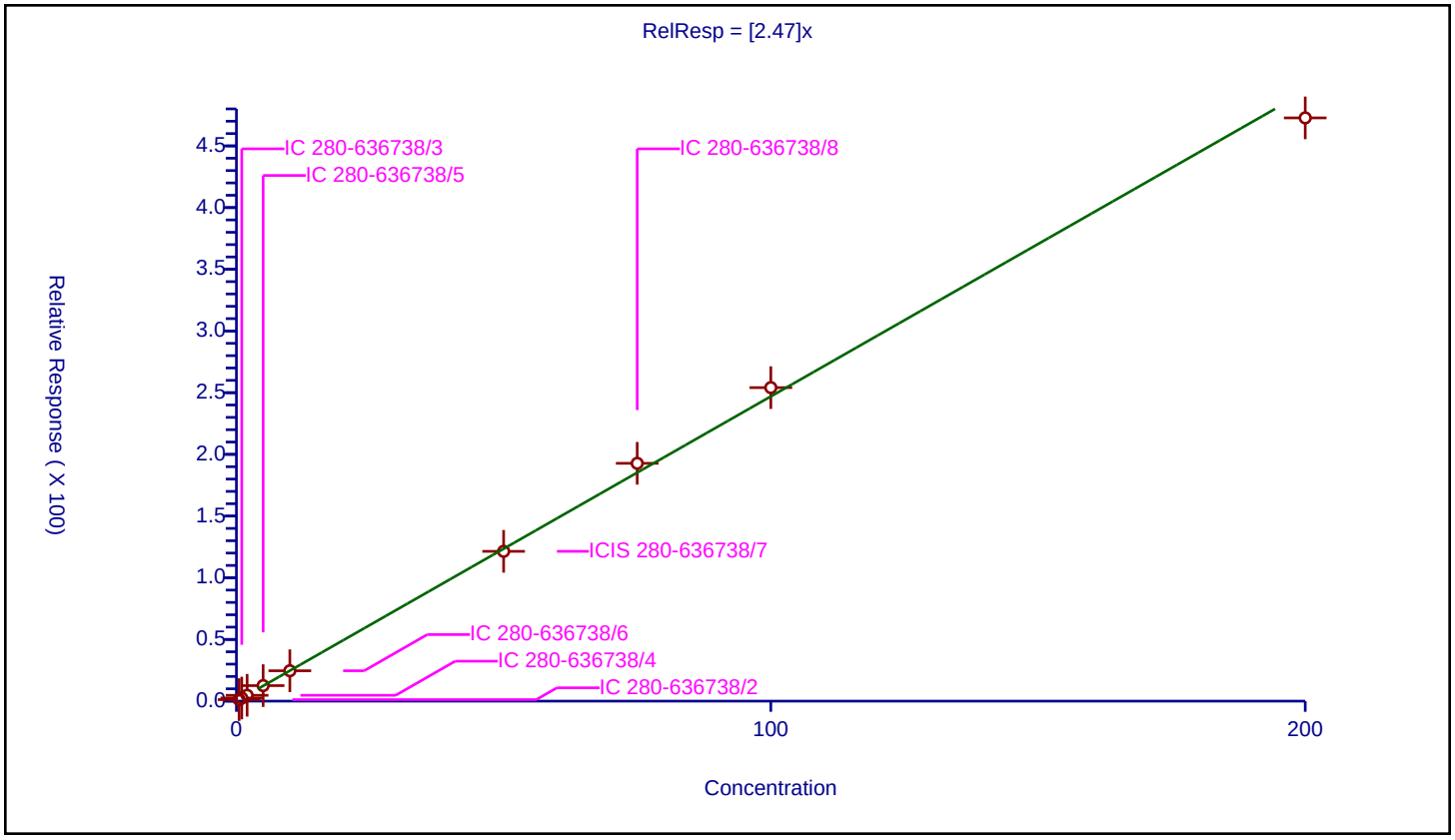
Curve Coefficients

Intercept:	0
Slope:	2.47

Error Coefficients

Standard Error:	3500000
Relative Standard Error:	3.0
Correlation Coefficient:	1.000
Coefficient of Determination (Adjusted):	0.999

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 280-636738/2	0.5	1.226258	50.0	766886.0	2.452516	Y
2	IC 280-636738/3	1.0	2.52161	50.0	770262.0	2.52161	Y
3	IC 280-636738/4	2.0	4.745803	50.0	752823.0	2.372902	Y
4	IC 280-636738/5	5.0	12.574213	50.0	772438.0	2.514843	Y
5	IC 280-636738/6	10.0	24.625933	50.0	791235.0	2.462593	Y
6	ICIS 280-636738/7	50.0	121.400744	50.0	803680.0	2.428015	Y
7	IC 280-636738/8	75.0	192.750936	50.0	826417.0	2.570012	Y
8	IC 280-636738/9	100.0	254.103506	50.0	821785.0	2.541035	Y
9	IC 280-636738/10	200.0	472.700036	50.0	863296.0	2.3635	Y



Calibration / sec-Butylbenzene

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	ISTD
Response Base:	AREA
RF Rounding:	0

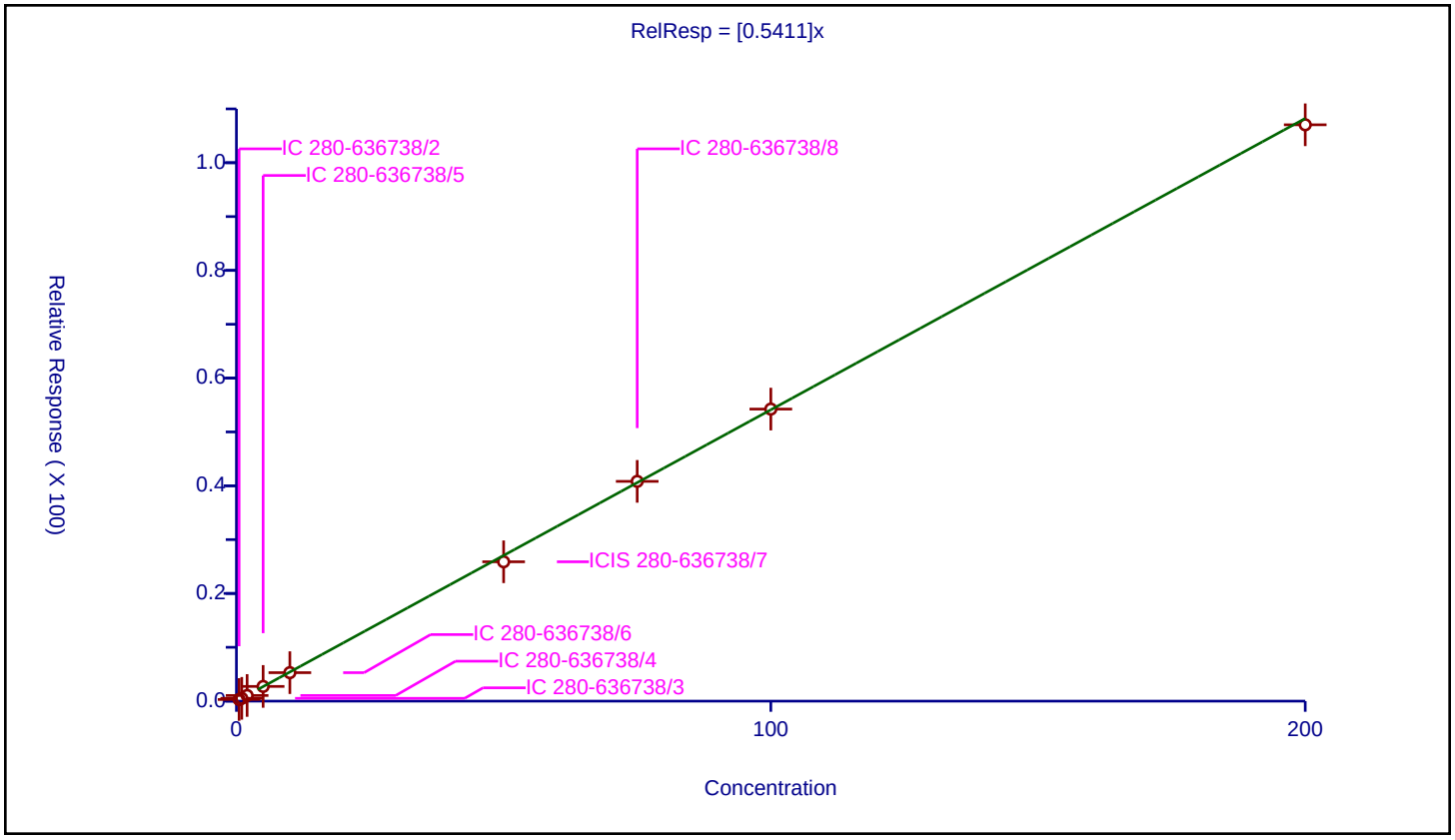
Curve Coefficients

Intercept:	0
Slope:	0.5411

Error Coefficients

Standard Error:	778000
Relative Standard Error:	5.2
Correlation Coefficient:	0.999
Coefficient of Determination (Adjusted):	0.996

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 280-636738/2	0.5	0.305521	50.0	766886.0	0.611043	Y
2	IC 280-636738/3	1.0	0.519563	50.0	770262.0	0.519563	Y
3	IC 280-636738/4	2.0	1.048786	50.0	752823.0	0.524393	Y
4	IC 280-636738/5	5.0	2.731417	50.0	772438.0	0.546283	Y
5	IC 280-636738/6	10.0	5.292107	50.0	791235.0	0.529211	Y
6	ICIS 280-636738/7	50.0	25.884369	50.0	803680.0	0.517687	Y
7	IC 280-636738/8	75.0	40.821038	50.0	826417.0	0.544281	Y
8	IC 280-636738/9	100.0	54.243932	50.0	821785.0	0.542439	Y
9	IC 280-636738/10	200.0	107.048452	50.0	863296.0	0.535242	Y



Calibration / 1,3-Dichlorobenzene

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	ISTD
Response Base:	AREA
RF Rounding:	0

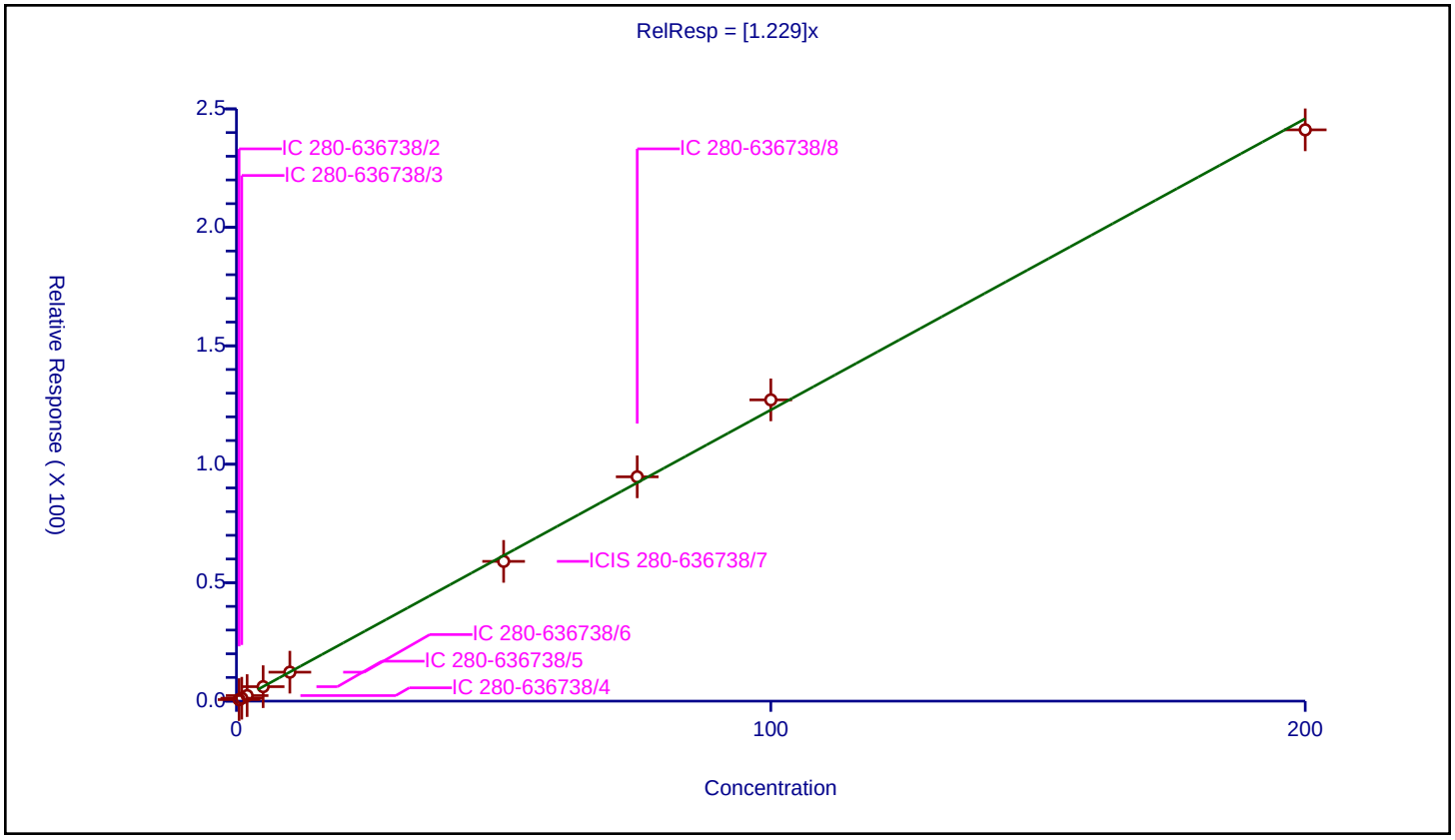
Curve Coefficients

Intercept:	0
Slope:	1.229

Error Coefficients

Standard Error:	1770000
Relative Standard Error:	3.4
Correlation Coefficient:	1.000
Coefficient of Determination (Adjusted):	0.998

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 280-636738/2	0.5	0.649184	50.0	766886.0	1.298368	Y
2	IC 280-636738/3	1.0	1.229971	50.0	770262.0	1.229971	Y
3	IC 280-636738/4	2.0	2.338863	50.0	752823.0	1.169432	Y
4	IC 280-636738/5	5.0	6.115766	50.0	772438.0	1.223153	Y
5	IC 280-636738/6	10.0	12.227151	50.0	791235.0	1.222715	Y
6	ICIS 280-636738/7	50.0	58.996864	50.0	803680.0	1.179937	Y
7	IC 280-636738/8	75.0	94.690937	50.0	826417.0	1.262546	Y
8	IC 280-636738/9	100.0	127.17201	50.0	821785.0	1.27172	Y
9	IC 280-636738/10	200.0	241.166471	50.0	863296.0	1.205832	Y



Calibration / 4-Isopropyltoluene

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	ISTD
Response Base:	AREA
RF Rounding:	0

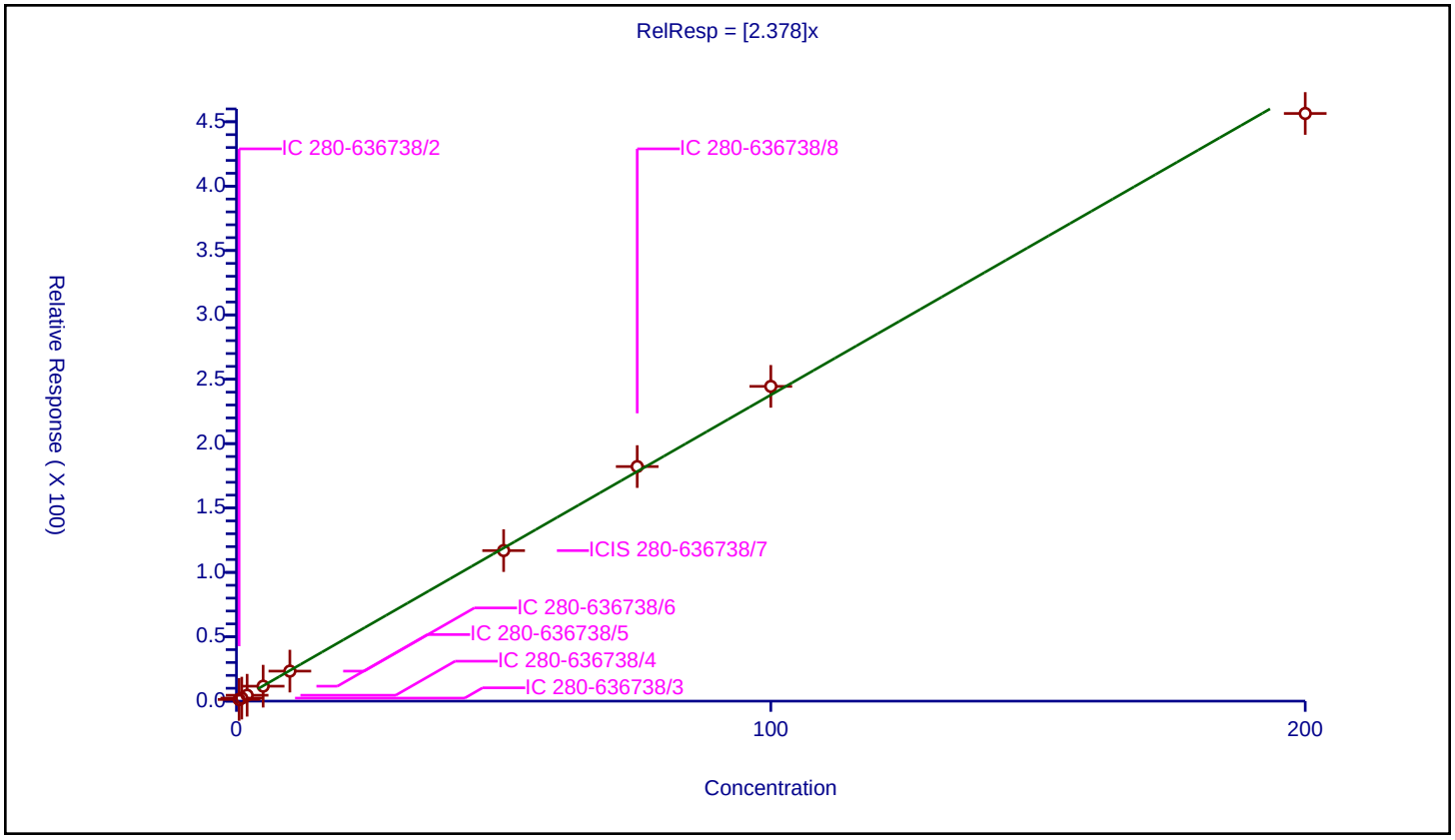
Curve Coefficients

Intercept:	0
Slope:	2.378

Error Coefficients

Standard Error:	3370000
Relative Standard Error:	4.2
Correlation Coefficient:	1.000
Coefficient of Determination (Adjusted):	0.998

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 280-636738/2	0.5	1.301236	50.0	766886.0	2.602473	Y
2	IC 280-636738/3	1.0	2.35699	50.0	770262.0	2.35699	Y
3	IC 280-636738/4	2.0	4.589525	50.0	752823.0	2.294763	Y
4	IC 280-636738/5	5.0	11.615819	50.0	772438.0	2.323164	Y
5	IC 280-636738/6	10.0	23.323539	50.0	791235.0	2.332354	Y
6	ICIS 280-636738/7	50.0	116.921287	50.0	803680.0	2.338426	Y
7	IC 280-636738/8	75.0	182.207288	50.0	826417.0	2.429431	Y
8	IC 280-636738/9	100.0	244.489191	50.0	821785.0	2.444892	Y
9	IC 280-636738/10	200.0	456.443097	50.0	863296.0	2.282215	Y



Calibration / 1,4-Dichlorobenzene

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	ISTD
Response Base:	AREA
RF Rounding:	0

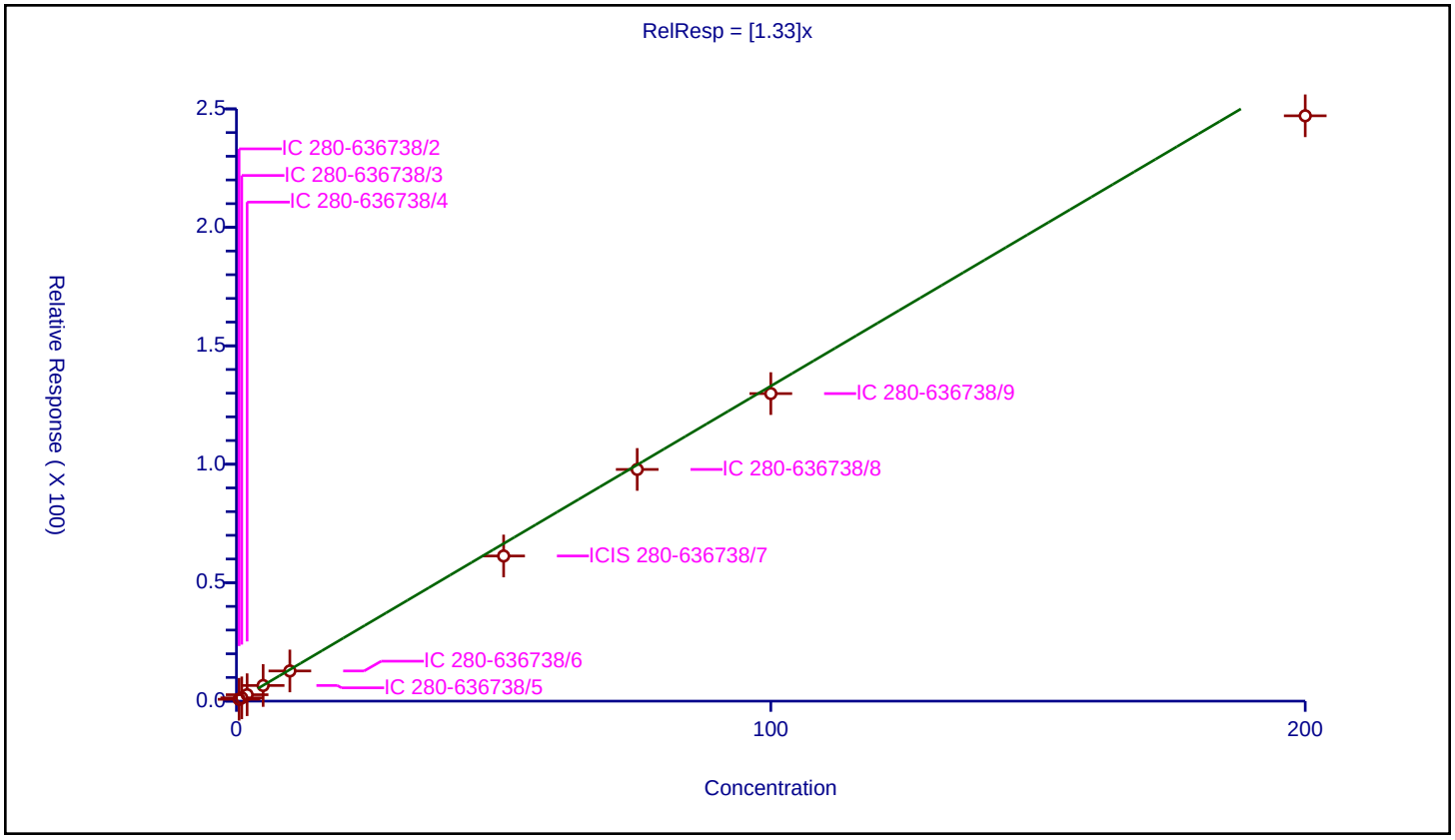
Curve Coefficients

Intercept:	0
Slope:	1.33

Error Coefficients

Standard Error:	1820000
Relative Standard Error:	7.9
Correlation Coefficient:	1.000
Coefficient of Determination (Adjusted):	0.991

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 280-636738/2	0.5	0.786558	50.0	766886.0	1.573115	Y
2	IC 280-636738/3	1.0	1.382906	50.0	770262.0	1.382906	Y
3	IC 280-636738/4	2.0	2.710199	50.0	752823.0	1.355099	Y
4	IC 280-636738/5	5.0	6.607003	50.0	772438.0	1.321401	Y
5	IC 280-636738/6	10.0	12.743433	50.0	791235.0	1.274343	Y
6	ICIS 280-636738/7	50.0	61.283284	50.0	803680.0	1.225666	Y
7	IC 280-636738/8	75.0	97.809459	50.0	826417.0	1.304126	Y
8	IC 280-636738/9	100.0	129.82897	50.0	821785.0	1.29829	Y
9	IC 280-636738/10	200.0	247.085936	50.0	863296.0	1.23543	Y



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Calibration / n-Butylbenzene

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	ISTD
Response Base:	AREA
RF Rounding:	0

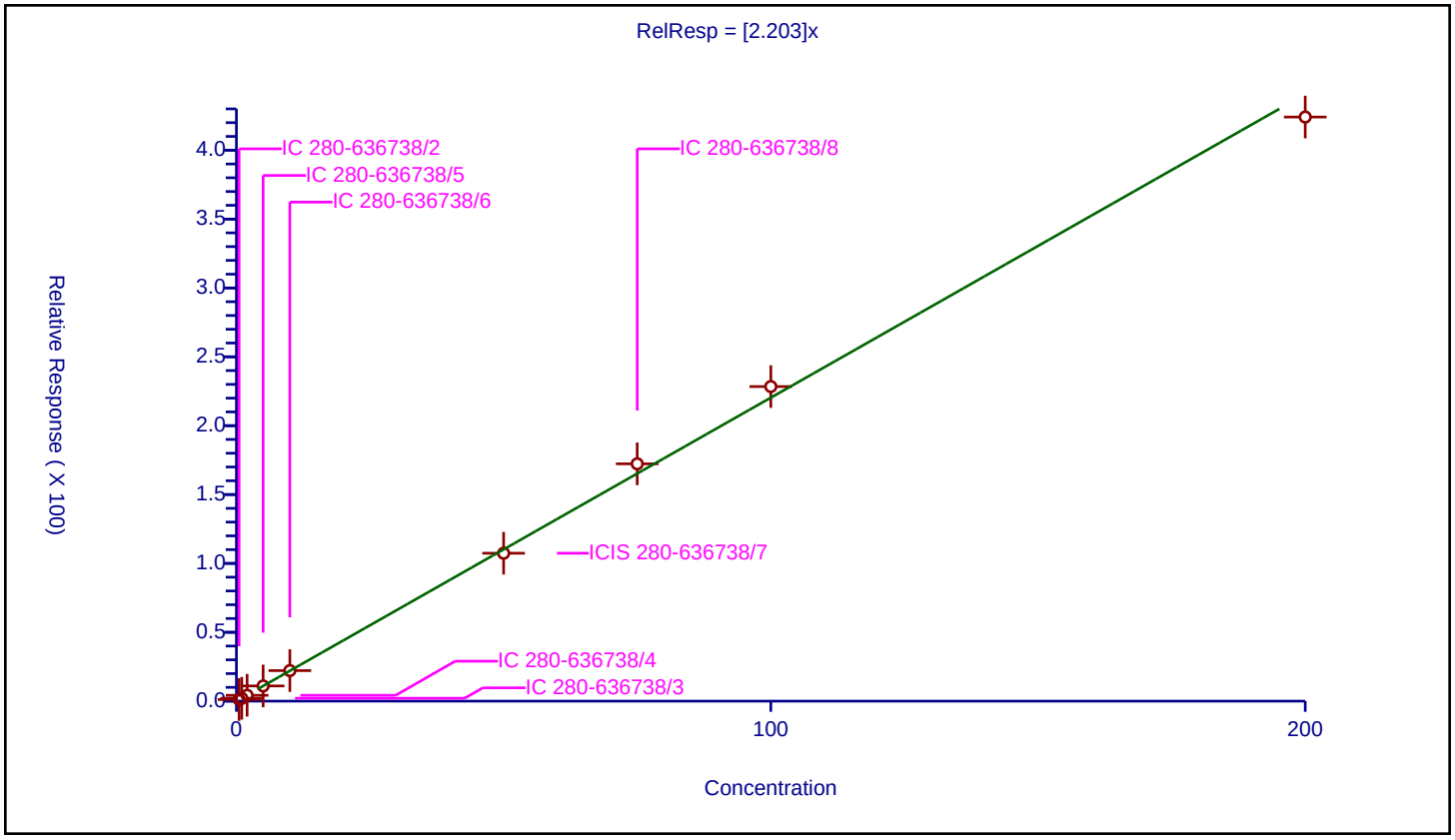
Curve Coefficients

Intercept:	0
Slope:	2.203

Error Coefficients

Standard Error:	3140000
Relative Standard Error:	4.1
Correlation Coefficient:	0.999
Coefficient of Determination (Adjusted):	0.998

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 280-636738/2	0.5	1.170839	50.0	766886.0	2.341678	Y
2	IC 280-636738/3	1.0	2.091561	50.0	770262.0	2.091561	Y
3	IC 280-636738/4	2.0	4.243561	50.0	752823.0	2.12178	Y
4	IC 280-636738/5	5.0	11.039462	50.0	772438.0	2.207892	Y
5	IC 280-636738/6	10.0	22.168572	50.0	791235.0	2.216857	Y
6	ICIS 280-636738/7	50.0	107.390068	50.0	803680.0	2.147801	Y
7	IC 280-636738/8	75.0	172.310589	50.0	826417.0	2.297475	Y
8	IC 280-636738/9	100.0	228.409438	50.0	821785.0	2.284094	Y
9	IC 280-636738/10	200.0	424.08108	50.0	863296.0	2.120405	Y



Calibration / 1,2-Dichlorobenzene

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	ISTD
Response Base:	AREA
RF Rounding:	0

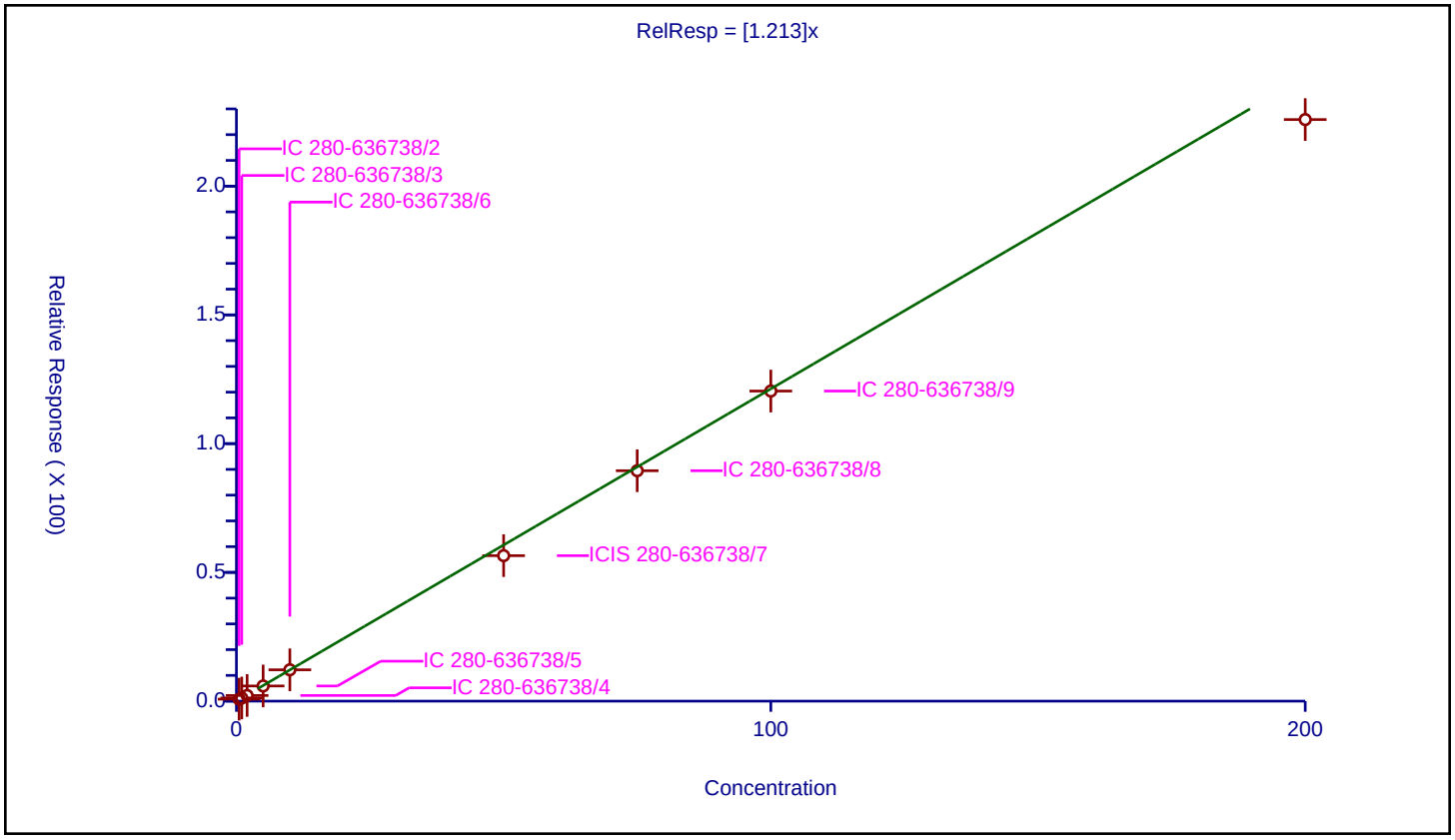
Curve Coefficients

Intercept:	0
Slope:	1.213

Error Coefficients

Standard Error:	1670000
Relative Standard Error:	10.6
Correlation Coefficient:	1.000
Coefficient of Determination (Adjusted):	0.984

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 280-636738/2	0.5	0.767585	50.0	766886.0	1.53517	Y
2	IC 280-636738/3	1.0	1.230361	50.0	770262.0	1.230361	Y
3	IC 280-636738/4	2.0	2.193477	50.0	752823.0	1.096739	Y
4	IC 280-636738/5	5.0	5.892382	50.0	772438.0	1.178476	Y
5	IC 280-636738/6	10.0	12.168572	50.0	791235.0	1.216857	Y
6	ICIS 280-636738/7	50.0	56.502215	50.0	803680.0	1.130044	Y
7	IC 280-636738/8	75.0	89.487692	50.0	826417.0	1.193169	Y
8	IC 280-636738/9	100.0	120.423894	50.0	821785.0	1.204239	Y
9	IC 280-636738/10	200.0	225.848376	50.0	863296.0	1.129242	Y



Calibration / 1,2-Dibromo-3-Chloropropane

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	ISTD
Response Base:	AREA
RF Rounding:	0

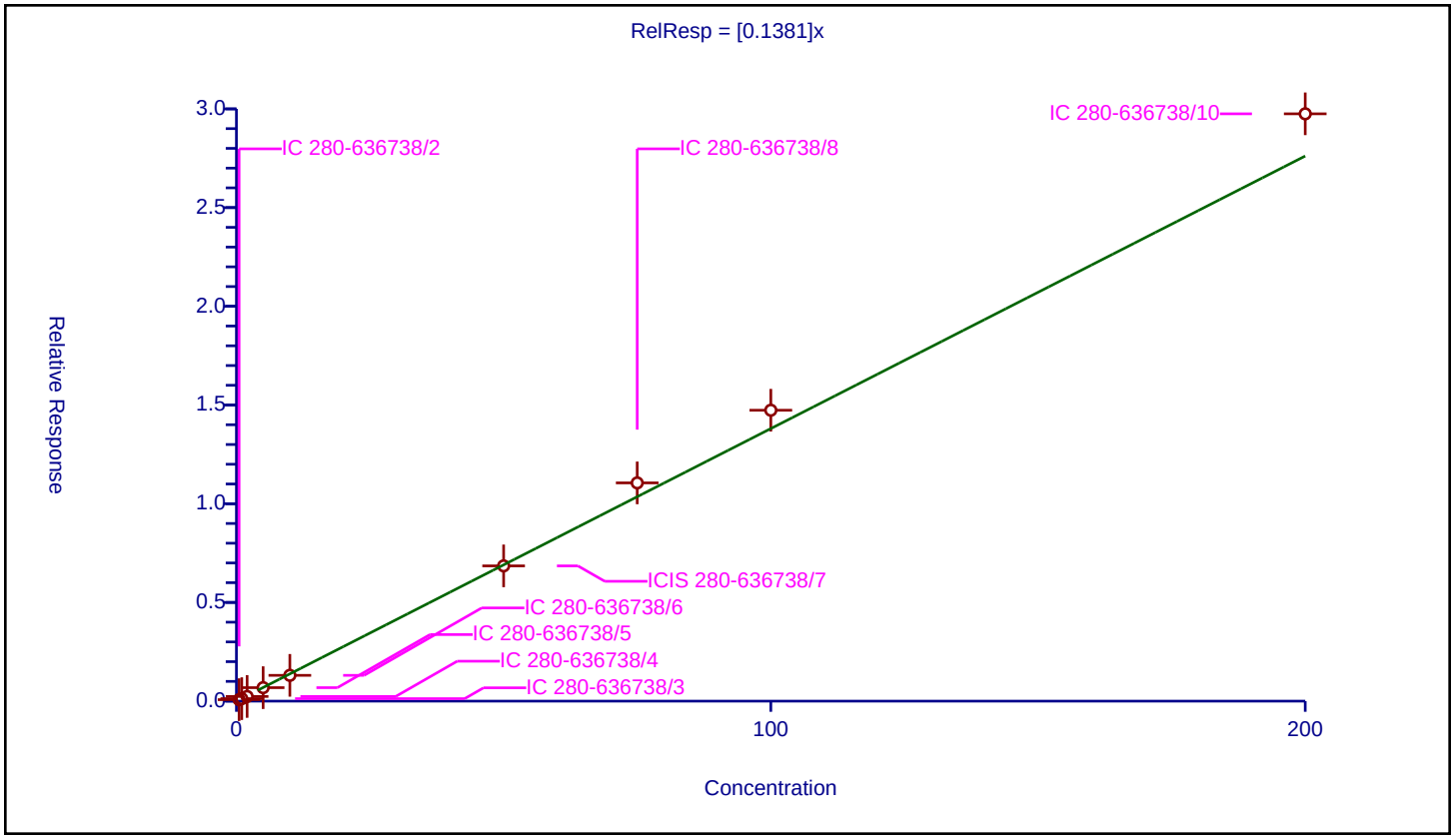
Curve Coefficients

Intercept:	0
Slope:	0.1381

Error Coefficients

Standard Error:	215000
Relative Standard Error:	8.2
Correlation Coefficient:	0.998
Coefficient of Determination (Adjusted):	0.991

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 280-636738/2	0.5	0.075109	50.0	766886.0	0.150218	Y
2	IC 280-636738/3	1.0	0.125931	50.0	770262.0	0.125931	Y
3	IC 280-636738/4	2.0	0.237108	50.0	752823.0	0.118554	Y
4	IC 280-636738/5	5.0	0.682903	50.0	772438.0	0.136581	Y
5	IC 280-636738/6	10.0	1.307007	50.0	791235.0	0.130701	Y
6	ICIS 280-636738/7	50.0	6.851794	50.0	803680.0	0.137036	Y
7	IC 280-636738/8	75.0	11.055496	50.0	826417.0	0.147407	Y
8	IC 280-636738/9	100.0	14.735667	50.0	821785.0	0.147357	Y
9	IC 280-636738/10	200.0	29.75092	50.0	863296.0	0.148755	Y



12/29/2023
10:48 AM

Calibration / 1,2,4-Trichlorobenzene

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	ISTD
Response Base:	AREA
RF Rounding:	0

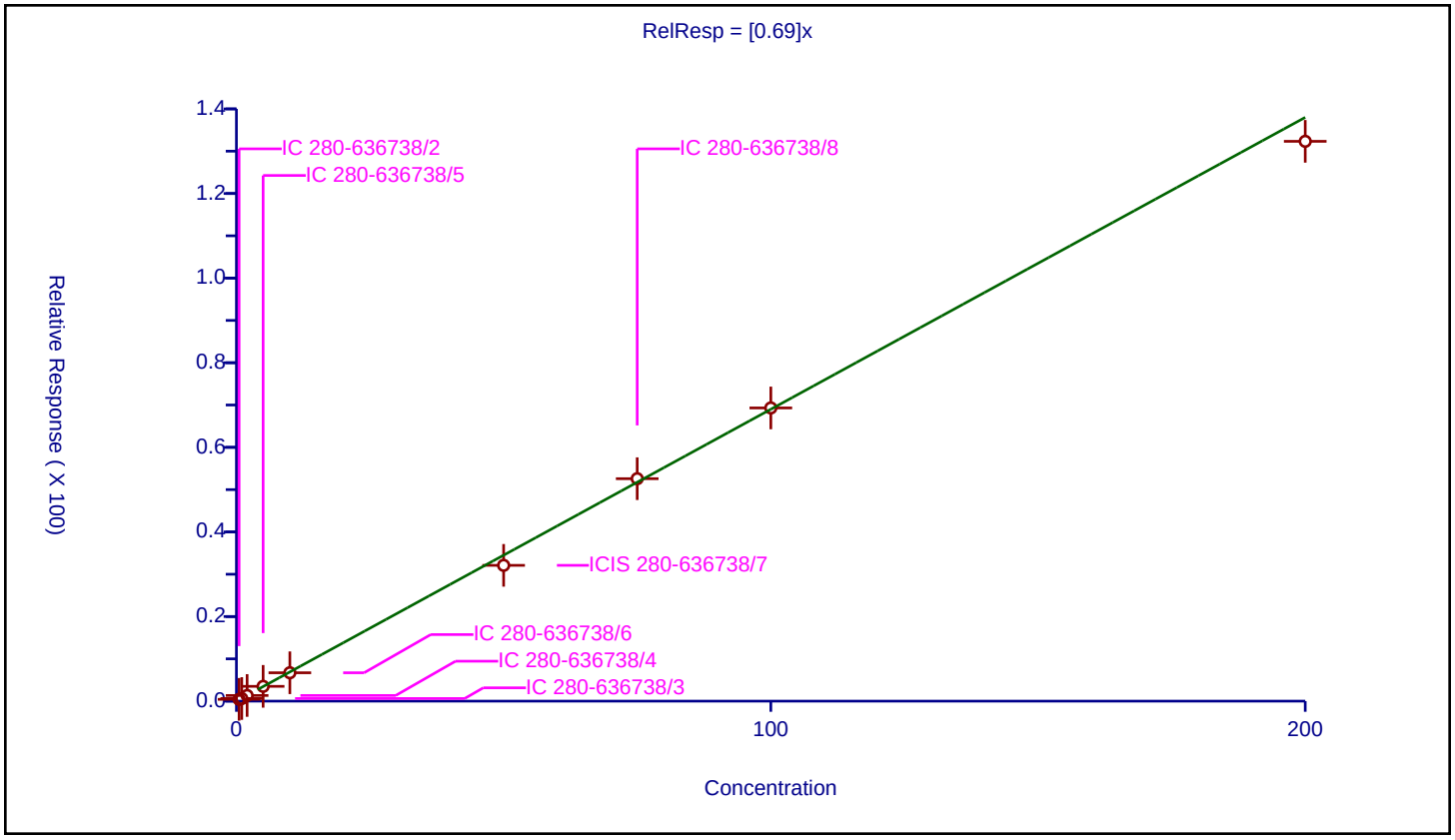
Curve Coefficients

Intercept:	0
Slope:	0.69

Error Coefficients

Standard Error:	972000
Relative Standard Error:	9.5
Correlation Coefficient:	0.999
Coefficient of Determination (Adjusted):	0.987

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 280-636738/2	0.5	0.425226	50.0	766886.0	0.850452	Y
2	IC 280-636738/3	1.0	0.62297	50.0	770262.0	0.62297	Y
3	IC 280-636738/4	2.0	1.336835	50.0	752823.0	0.668417	Y
4	IC 280-636738/5	5.0	3.494908	50.0	772438.0	0.698982	Y
5	IC 280-636738/6	10.0	6.710333	50.0	791235.0	0.671033	Y
6	ICIS 280-636738/7	50.0	32.097352	50.0	803680.0	0.641947	Y
7	IC 280-636738/8	75.0	52.585378	50.0	826417.0	0.701138	Y
8	IC 280-636738/9	100.0	69.311985	50.0	821785.0	0.69312	Y
9	IC 280-636738/10	200.0	132.328425	50.0	863296.0	0.661642	Y



12/29/2023
10:48 AM

Calibration / Hexachlorobutadiene

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	ISTD
Response Base:	AREA
RF Rounding:	0

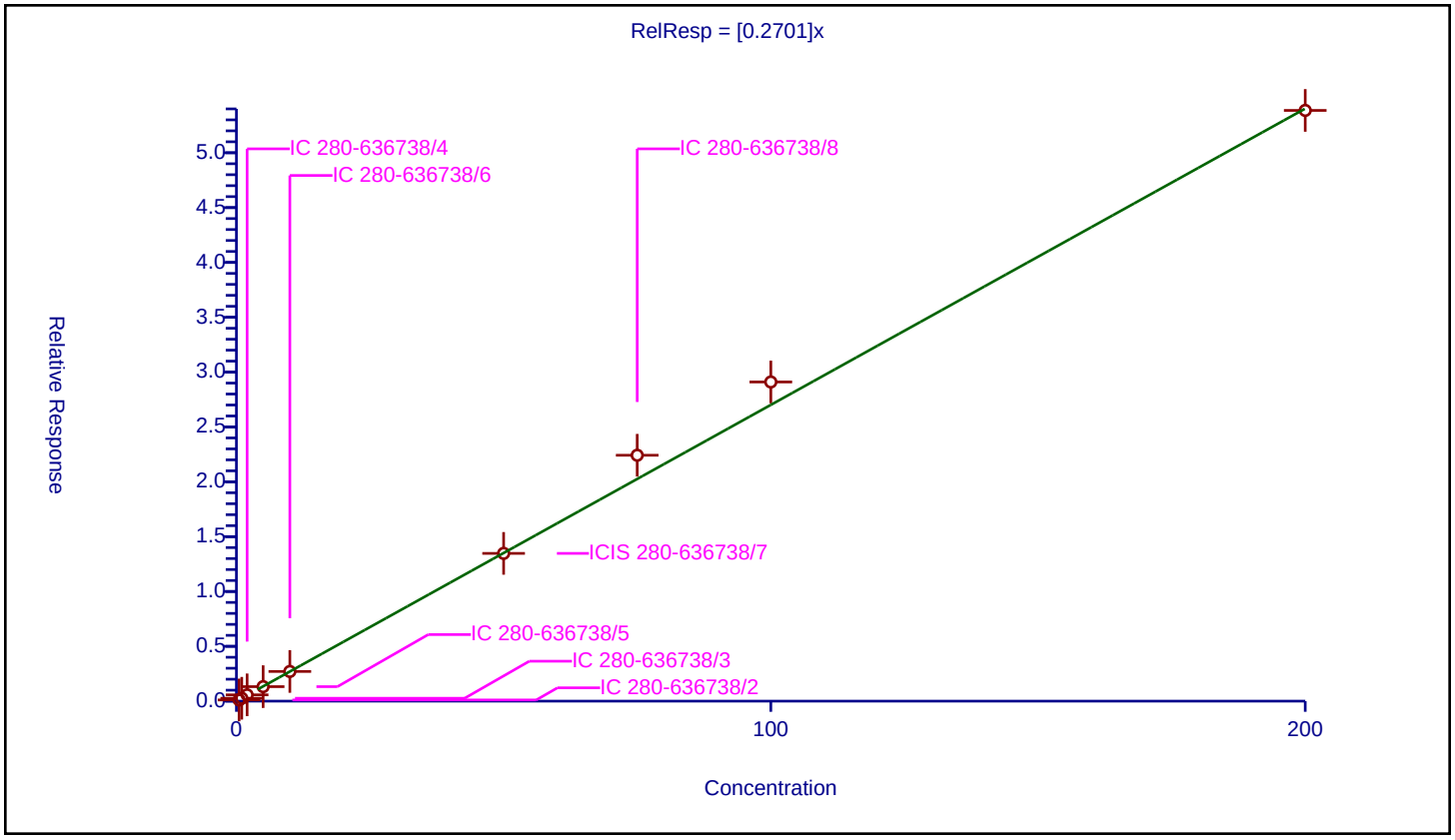
Curve Coefficients

Intercept:	0
Slope:	0.2701

Error Coefficients

Standard Error:	400000
Relative Standard Error:	8.7
Correlation Coefficient:	0.999
Coefficient of Determination (Adjusted):	0.991

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 280-636738/2	0.5	0.108621	50.0	766886.0	0.217242	Y
2	IC 280-636738/3	1.0	0.263222	50.0	770262.0	0.263222	Y
3	IC 280-636738/4	2.0	0.573641	50.0	752823.0	0.28682	Y
4	IC 280-636738/5	5.0	1.323084	50.0	772438.0	0.264617	Y
5	IC 280-636738/6	10.0	2.70596	50.0	791235.0	0.270596	Y
6	ICIS 280-636738/7	50.0	13.470971	50.0	803680.0	0.269419	Y
7	IC 280-636738/8	75.0	22.419493	50.0	826417.0	0.298927	Y
8	IC 280-636738/9	100.0	29.10019	50.0	821785.0	0.291002	Y
9	IC 280-636738/10	200.0	53.859279	50.0	863296.0	0.269296	Y



12/29/2023
10:48 AM

Calibration / Naphthalene

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	ISTD
Response Base:	AREA
RF Rounding:	0

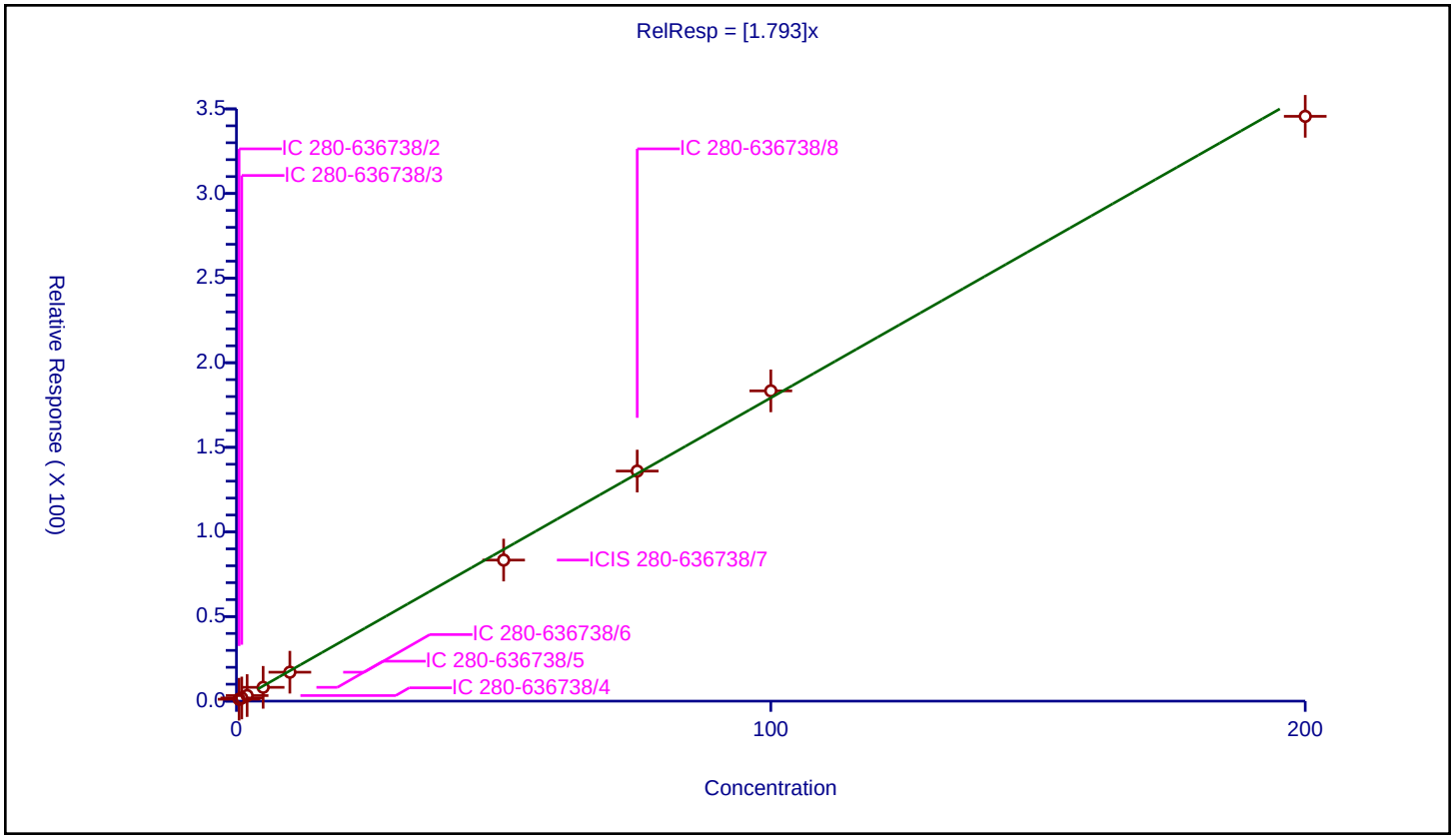
Curve Coefficients

Intercept:	0
Slope:	1.793

Error Coefficients

Standard Error:	2540000
Relative Standard Error:	10.5
Correlation Coefficient:	0.999
Coefficient of Determination (Adjusted):	0.984

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 280-636738/2	0.5	1.121353	50.0	766886.0	2.242706	Y
2	IC 280-636738/3	1.0	1.858394	50.0	770262.0	1.858394	Y
3	IC 280-636738/4	2.0	3.29533	50.0	752823.0	1.647665	Y
4	IC 280-636738/5	5.0	8.156512	50.0	772438.0	1.631302	Y
5	IC 280-636738/6	10.0	17.10895	50.0	791235.0	1.710895	Y
6	ICIS 280-636738/7	50.0	83.368318	50.0	803680.0	1.667366	Y
7	IC 280-636738/8	75.0	135.964531	50.0	826417.0	1.81286	Y
8	IC 280-636738/9	100.0	183.368338	50.0	821785.0	1.833683	Y
9	IC 280-636738/10	200.0	345.61205	50.0	863296.0	1.72806	Y



12/29/2023
10:48 AM

Calibration / 1,2,3-Trichlorobenzene

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	ISTD
Response Base:	AREA
RF Rounding:	0

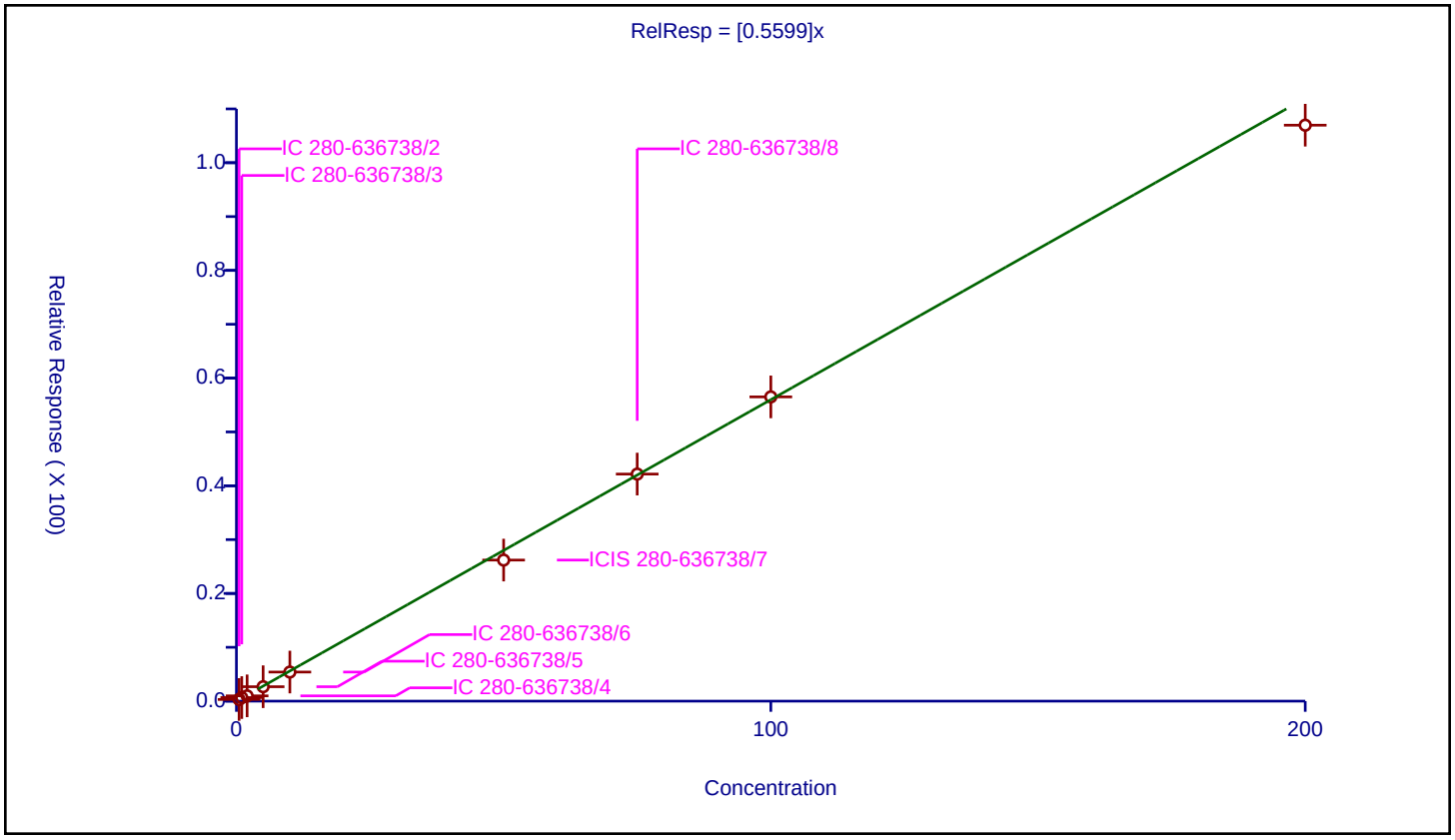
Curve Coefficients

Intercept:	0
Slope:	0.5599

Error Coefficients

Standard Error:	786000
Relative Standard Error:	9.5
Correlation Coefficient:	1.000
Coefficient of Determination (Adjusted):	0.988

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 280-636738/2	0.5	0.31152	50.0	766886.0	0.623039	Y
2	IC 280-636738/3	1.0	0.663086	50.0	770262.0	0.663086	Y
3	IC 280-636738/4	2.0	0.980177	50.0	752823.0	0.490089	Y
4	IC 280-636738/5	5.0	2.681057	50.0	772438.0	0.536211	Y
5	IC 280-636738/6	10.0	5.403704	50.0	791235.0	0.54037	Y
6	ICIS 280-636738/7	50.0	26.19942	50.0	803680.0	0.523988	Y
7	IC 280-636738/8	75.0	42.173866	50.0	826417.0	0.562318	Y
8	IC 280-636738/9	100.0	56.509793	50.0	821785.0	0.565098	Y
9	IC 280-636738/10	200.0	106.974433	50.0	863296.0	0.534872	Y



12/29/2023
10:48 AM

FORM VI
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: Eurofins Denver Job No.: 280-185797-1 Analy Batch No.: 636906

SDG No.:

Instrument ID: VMS_X4 GC Column: RXI-624SilM ID: 0.25(mm) Heated Purge: (Y/N) N

Calibration Start Date: 12/11/2023 18:26 Calibration End Date: 12/11/2023 20:50 Calibration ID: 88087

Calibration Files

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 280-636906/2	X511695.D
Level 2	IC 280-636906/3	X511696.D
Level 3	IC 280-636906/4	X511697.D
Level 4	IC 280-636906/5	X511698.D
Level 5	IC 280-636906/6	X511699.D
Level 6	IC 280-636906/7	X511700.D
Level 7	IC 280-636906/8	X511701.D
Level 8	IC 280-636906/9	X511702.D

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD /RSE	#	MAX %RSD /RSE	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4	LVL 5		B	M1	M2								
Ethanol	0.0043 0.0043	0.0048 0.0043	0.0037 0.0041	0.0044	0.0041	Ave		0.0043				7.1		15.0			
Isopropyl alcohol	0.0225 0.0185	0.0161 0.0193	0.0187 0.0197	0.0183	0.0186	Ave		0.0190				9.3		15.0			
Acetonitrile	+++++ 0.0484	0.0700 0.0494	0.0591 0.0477	0.0531	0.0514	Ave		0.0542				14.7		15.0			
Isopropyl ether	0.2037 0.2223	0.2112 0.2271	0.2207 0.2264	0.2121	0.2258	Ave		0.2187				3.9		15.0			
2-Chloro-1,3-butadiene	0.4862 0.4980	0.5165 0.5187	0.4680 0.5123	0.4655	0.5050	Ave		0.4963				4.2		15.0			
Tert-butyl ethyl ether	0.8845 0.8851	0.8994 0.9013	0.8471 0.8982	0.8506	0.9065	Ave		0.8841				2.6		15.0			
Ethyl acetate	0.3704 0.2999	0.3268 0.3048	0.2982 0.3052	0.2915	0.3071	Ave		0.3130				8.1		15.0			
Propionitrile	0.0509 0.0463	0.0504 0.0470	0.0472 0.0465	0.0478	0.0485	Ave		0.0481				3.6		15.0			
Methacrylonitrile	0.2094 0.2003	0.2025 0.2014	0.2034 0.1864	0.2029	0.2104	Ave		0.2021				3.6		15.0			
Tert-amyl methyl ether	0.7339 0.7666	0.7499 0.7831	0.7440 0.7842	0.7394	0.7867	Ave		0.7610				2.9		15.0			
n-Butanol	+++++ 0.0078	0.0055 0.0081	0.0061 0.0086	0.0065	0.0078	Lin2	-0.138	0.0079							0.9930		0.9900
Methyl methacrylate	0.0743 0.0690	0.0593 0.0683	0.0610 0.0697	0.0646	0.0680	Ave		0.0668				7.4		15.0			
2-Nitropropane	0.0722 0.0666	0.0659 0.0684	0.0626 0.0717	0.0637	0.0661	Ave		0.0671				5.1		15.0			

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type. RSD is calculated for Ave curve types. RSE is used for all other types.

FORM VI
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: Eurofins Denver Job No.: 280-185797-1 Analy Batch No.: 636906

SDG No.:

Instrument ID: VMS_X4 GC Column: RXI-624SilM ID: 0.25(mm) Heated Purge: (Y/N) N

Calibration Start Date: 12/11/2023 18:26 Calibration End Date: 12/11/2023 20:50 Calibration ID: 88087

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD /RSE	#	MAX %RSD /RSE	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4	LVL 5		B	M1	M2								
cis-1,4-Dichloro-2-butene	0.2192 0.2282	0.2331 0.2320	0.2112 0.2339	0.2184	0.2337	Ave		0.2262				3.9		15.0			
1,2,3-Trimethylbenzene	2.5511 2.4877	2.6285 2.5337	2.5307 2.4587	2.4376	2.5454	Ave		2.5217				2.4		15.0			
1,3,5-Trichlorobenzene	0.8299 0.7882	0.8211 0.8166	0.7967 0.7902	0.7689	0.7899	Ave		0.8002				2.6		15.0			

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type. RSD is calculated for Ave curve types. RSE is used for all other types.

FORM VI
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: Eurofins Denver | Job No.: 280-185797-1 | Analy Batch No.: 636906

SDG No.:

Instrument ID: VMS_X4 | GC Column: RXI-624Sil ID: 0.25(mm) | Heated Purge: (Y/N) N

Calibration Start Date: 12/11/2023 18:26 | Calibration End Date: 12/11/2023 20:50 | Calibration ID: 88087

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 280-636906/2	X511695.D
Level 2	IC 280-636906/3	X511696.D
Level 3	IC 280-636906/4	X511697.D
Level 4	IC 280-636906/5	X511698.D
Level 5	IC 280-636906/6	X511699.D
Level 6	IC 280-636906/7	X511700.D
Level 7	IC 280-636906/8	X511701.D
Level 8	IC 280-636906/9	X511702.D

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (UG/L)				
			LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4	LVL 5	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4	LVL 5
Ethanol	FB	Ave	9201 704926	19878 971020	39152 1879717	93414	446473	60.0 4500	120 6000	300 12000	600	3000
Isopropyl alcohol	FB	Ave	7997 506564	11217 719678	32902 1497027	64087	334786	10.0 750	20.0 1000	50.0 2000	100	500
Acetonitrile	FB	Ave	+++++ 1322229	48700 1843172	104075 3629624	185818	924581	+++++ 750	20.0 1000	50.0 2000	100	500
Isopropyl ether	FB	Ave	7254 607315	14698 847765	38871 1721652	74226	406097	1.00 75.0	2.00 100	5.00 200	10.0	50.0
2-Chloro-1,3-butadiene	FB	Ave	17314 1360709	35941 1935831	82416 3895580	162899	908167	1.00 75.0	2.00 100	5.00 200	10.0	50.0
Tert-butyl ethyl ether	FB	Ave	31500 2418352	62588 3363984	149183 6830486	297660	1630328	1.00 75.0	2.00 100	5.00 200	10.0	50.0
Ethyl acetate	FB	Ave	26382 1638859	45482 2275126	105045 4642385	204034	1104738	2.00 150	4.00 200	10.0 400	20.0	100
Propionitrile	FB	Ave	18115 1265841	35066 1755657	83201 3534352	167179	871725	10.0 750	20.0 1000	50.0 2000	100	500
Methacrylonitrile	FB	Ave	74574 5472716	140880 7518091	358111 14173242	710129	3783118	10.0 750	20.0 1000	50.0 2000	100	500
Tert-amyl methyl ether	FB	Ave	26134 2094654	52182 2922995	131014 5963297	258742	1414872	1.00 75.0	2.00 100	5.00 200	10.0	50.0
n-Butanol	FB	Lin2	+++++ 530507	9591 753693	26837 1639555	56754	349567	+++++ 1875	50.0 2500	125 5000	250	1250
Methyl methacrylate	FB	Ave	5295 376992	8249 509718	21477 1060680	45243	244515	2.00 150	4.00 200	10.0 400	20.0	100
2-Nitropropane	FB	Ave	5139 363681	9175 510649	22060 1090165	44580	237860	2.00 150	4.00 200	10.0 400	20.0	100
cis-1,4-Dichloro-2-butene	DCBd4	Ave	7004 530301	14088 726453	31912 1527979	66543	361628	2.00 150	4.00 200	10.0 400	20.0	100
1,2,3-Trimethylbenzene	DCBd4	Ave	40752 2890819	79425 3967616	191191 8030267	371384	1969261	1.00 75.0	2.00 100	5.00 200	10.0	50.0

FORM VI
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: Eurofins Denver | Job No.: 280-185797-1 | Analy Batch No.: 636906

SDG No.:

Instrument ID: VMS_X4 | GC Column: RXI-624Sil ID: 0.25(mm) | Heated Purge: (Y/N) N

Calibration Start Date: 12/11/2023 18:26 | Calibration End Date: 12/11/2023 20:50 | Calibration ID: 88087

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (UG/L)				
			LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4	LVL 5	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4	LVL 5
1,3,5-Trichlorobenzene	DCBd4	Ave	13257 915943	24811 1278767	60187 2580689	117153	611071	1.00 75.0	2.00 100	5.00 200	10.0	50.0

Curve Type Legend:

Ave = Average ISTD
Lin2 = Linear 1/conc^2 ISTD

Eurofins Denver
Target Compound Quantitation Report

Data File: \\chromfs\Denver\ChromData\VMS_X4\20231211-128477.b\X511695.D
Lims ID: IC
Client ID:
Sample Type: IC Calib Level: 1
Inject. Date: 11-Dec-2023 18:26:30 ALS Bottle#: 1 Worklist Smp#: 2
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Sample Info: ic
Operator ID: CF Instrument ID: VMS_X4
Sublist: chrom-VMS_X4_8260*sub26

Method: \\chromfs\Denver\ChromData\VMS_X4\20231211-128477.b\VMS_X4_8260.m
Limit Group: MSV - 8260B Water and Solid
Last Update: 12-Dec-2023 05:03:14 Calib Date: 11-Dec-2023 20:50:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Denver\ChromData\VMS_X4\20231211-128477.b\X511702.D

Column 1 : Rxi-624Sil MS (0.25 mm) Det: MS SCAN
Process Host: CTX1609

First Level Reviewer: AK2J Date: 11-Dec-2023 22:19:27

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
* 1 Fluorobenzene	96	5.199	5.199	0.000	97	1780572	50.0	50.0	
* 2 Chlorobenzene-d5	119	7.730	7.730	0.000	90	475217	50.0	50.0	
* 3 1,4-Dichlorobenzene-d4	152	9.947	9.947	0.000	97	798699	50.0	50.0	
17 Ethanol	45	2.747	2.754	-0.007	98	9201	60.0	60.6	
23 Isopropyl alcohol	45	3.154	3.147	0.007	97	7997	10.0	11.8	
26 Acetonitrile	41	3.283	3.276	0.007	95	29618	10.0	15.4	
37 Isopropyl ether	87	3.919	3.926	-0.007	91	7254	1.00	0.9315	
38 2-Chloro-1,3-butadiene	53	3.984	3.984	0.000	91	17314	1.00	0.9797	
39 Tert-butyl ethyl ether	59	4.191	4.191	0.000	98	31500	1.00	1.00	
41 Ethyl acetate	43	4.327	4.327	0.000	100	26382	2.00	2.37	
44 Propionitrile	54	4.370	4.370	0.000	98	18115	10.0	10.6	
46 Methacrylonitrile	41	4.484	4.484	0.000	97	74574	10.0	10.4	
57 Tert-amyl methyl ether	73	5.049	5.056	-0.007	84	26134	1.00	0.9644	
59 n-Butanol	56	5.335	5.335	0.000	92	4748	25.0	34.5	
64 Methyl methacrylate	100	5.678	5.678	0.000	95	5295	2.00	2.23	
68 2-Nitropropane	41	6.043	6.043	0.000	87	5139	2.00	2.15	
90 cis-1,4-Dichloro-2-butene	53	8.696	8.696	0.000	0	7004	2.00	1.94	
107 1,2,3-Trimethylbenzene	105	9.990	9.997	-0.007	95	40752	1.00	1.01	
111 1,3,5-Trichlorobenzene	180	11.298	11.298	0.000	93	13257	1.00	1.04	
118 Ethyl acrylate	55		0.000				ND	ND	
117 t-Amyl alcohol	1		0.000				ND	ND	

QC Flag Legend

Processing Flags
ND - Not Detected or Marked ND

Reagents:

mv-Cent IS_00008	Amount Added:	5.00	Units: uL
MV-Supp A_00087	Amount Added:	1.00	Units: uL

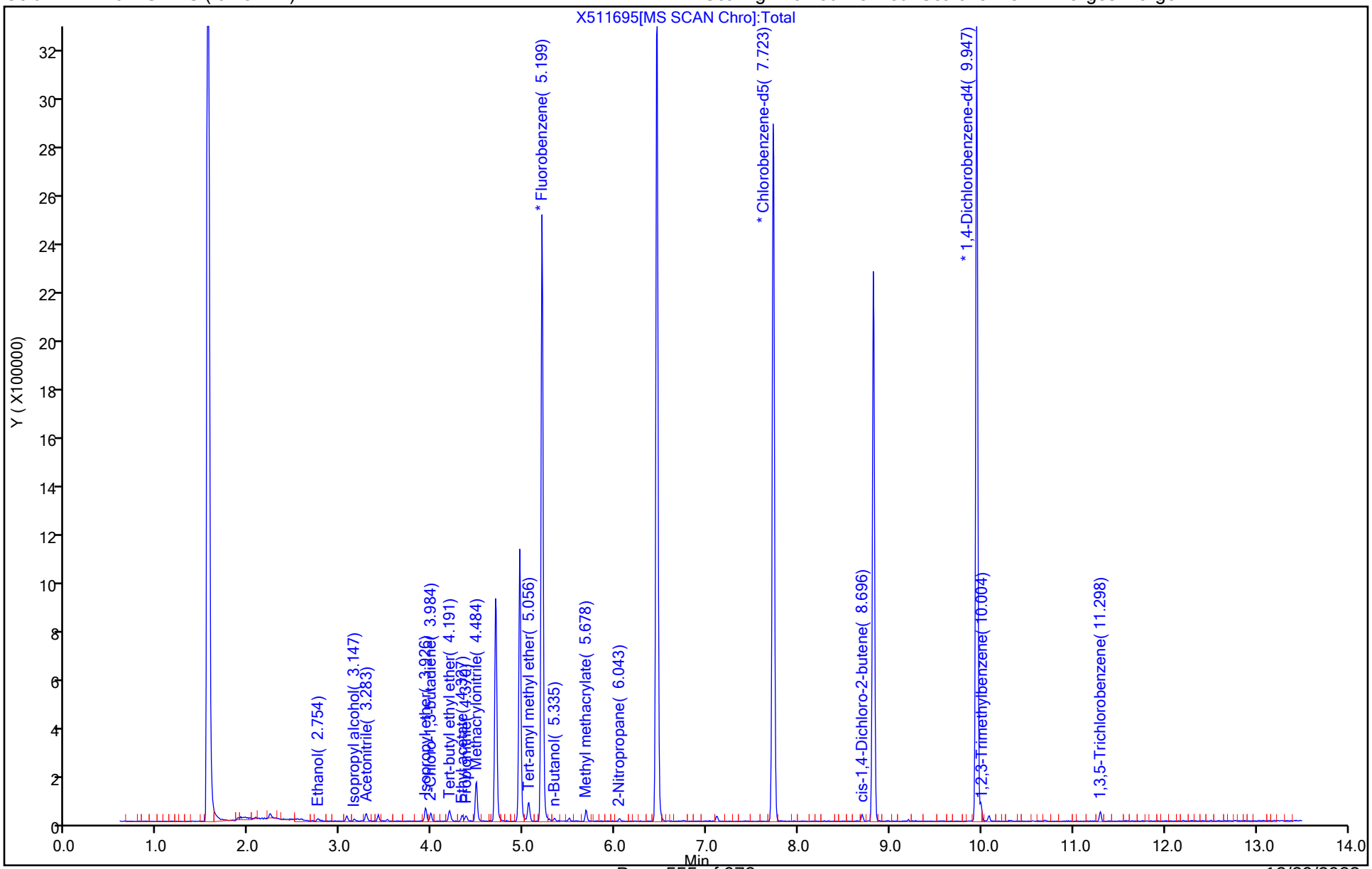
Report Date: 12-Dec-2023 05:03:15 Chrom Revision: 2.3 15-Nov-2023 20:54:34

Eurofins Denver

Data File: \\chromfs\Denver\ChromData\VMS_X4\20231211-128477.b\X511695.D

Injection Date:	11-Dec-2023 18:26:30	Instrument ID:	VMS_X4	Operator ID:	CF
Lims ID:	IC			Worklist Smp#:	2
Client ID:					
Purge Vol:	5.000 mL	Dil. Factor:	1.0000	ALS Bottle#:	1
Method:	VMS_X4_8260	Limit Group:	MSV - 8260B Water and Solid		

Column: Rxi-624Sil MS (0.25 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 1



Eurofins Denver
Target Compound Quantitation Report

Data File: \\chromfs\Denver\ChromData\VMS_X4\20231211-128477.b\X511696.D
Lims ID: IC
Client ID:
Sample Type: IC Calib Level: 2
Inject. Date: 11-Dec-2023 18:47:30 ALS Bottle#: 2 Worklist Smp#: 3
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Sample Info: ic
Operator ID: CF Instrument ID: VMS_X4
Sublist: chrom-VMS_X4_8260*sub26

Method: \\chromfs\Denver\ChromData\VMS_X4\20231211-128477.b\VMS_X4_8260.m
Limit Group: MSV - 8260B Water and Solid
Last Update: 12-Dec-2023 05:03:16 Calib Date: 11-Dec-2023 20:50:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Denver\ChromData\VMS_X4\20231211-128477.b\X511702.D

Column 1 : Rxi-624Sil MS (0.25 mm) Det: MS SCAN
Process Host: CTX1609

First Level Reviewer: BX8N Date: 12-Dec-2023 04:59:05

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
* 1 Fluorobenzene	96	5.199	5.199	0.000	97	1739642	50.0	50.0	
* 2 Chlorobenzene-d5	119	7.723	7.730	-0.007	91	462684	50.0	50.0	
* 3 1,4-Dichlorobenzene-d4	152	9.947	9.947	0.000	97	755426	50.0	50.0	
17 Ethanol	45	2.754	2.754	0.000	98	19878	120.0	134.0	
23 Isopropyl alcohol	45	3.147	3.147	0.000	98	11217	20.0	17.0	
26 Acetonitrile	41	3.276	3.276	0.000	100	48700	20.0	25.8	
37 Isopropyl ether	87	3.926	3.926	0.000	98	14698	2.00	1.93	
38 2-Chloro-1,3-butadiene	53	3.984	3.984	0.000	93	35941	2.00	2.08	
39 Tert-butyl ethyl ether	59	4.191	4.191	0.000	98	62588	2.00	2.03	
41 Ethyl acetate	43	4.327	4.327	0.000	98	45482	4.00	4.18	
44 Propionitrile	54	4.370	4.370	0.000	100	35066	20.0	21.0	
46 Methacrylonitrile	41	4.484	4.484	0.000	95	140880	20.0	20.0	
57 Tert-amyl methyl ether	73	5.056	5.056	0.000	84	52182	2.00	1.97	
59 n-Butanol	56	5.342	5.335	0.007	96	9591	50.0	52.6	
64 Methyl methacrylate	100	5.678	5.678	0.000	91	8249	4.00	3.55	
68 2-Nitropropane	41	6.043	6.043	0.000	97	9175	4.00	3.93	
90 cis-1,4-Dichloro-2-butene	53	8.696	8.696	0.000	0	14088	4.00	4.12	
107 1,2,3-Trimethylbenzene	105	9.990	9.997	-0.007	99	79425	2.00	2.08	
111 1,3,5-Trichlorobenzene	180	11.298	11.298	0.000	93	24811	2.00	2.05	
118 Ethyl acrylate	55		0.000				ND	ND	
117 t-Amyl alcohol	1		0.000				ND	ND	

QC Flag Legend

Processing Flags
ND - Not Detected or Marked ND

Reagents:

mv-Cent IS_00008	Amount Added:	5.00	Units: uL
MV-Supp A_00087	Amount Added:	2.00	Units: uL

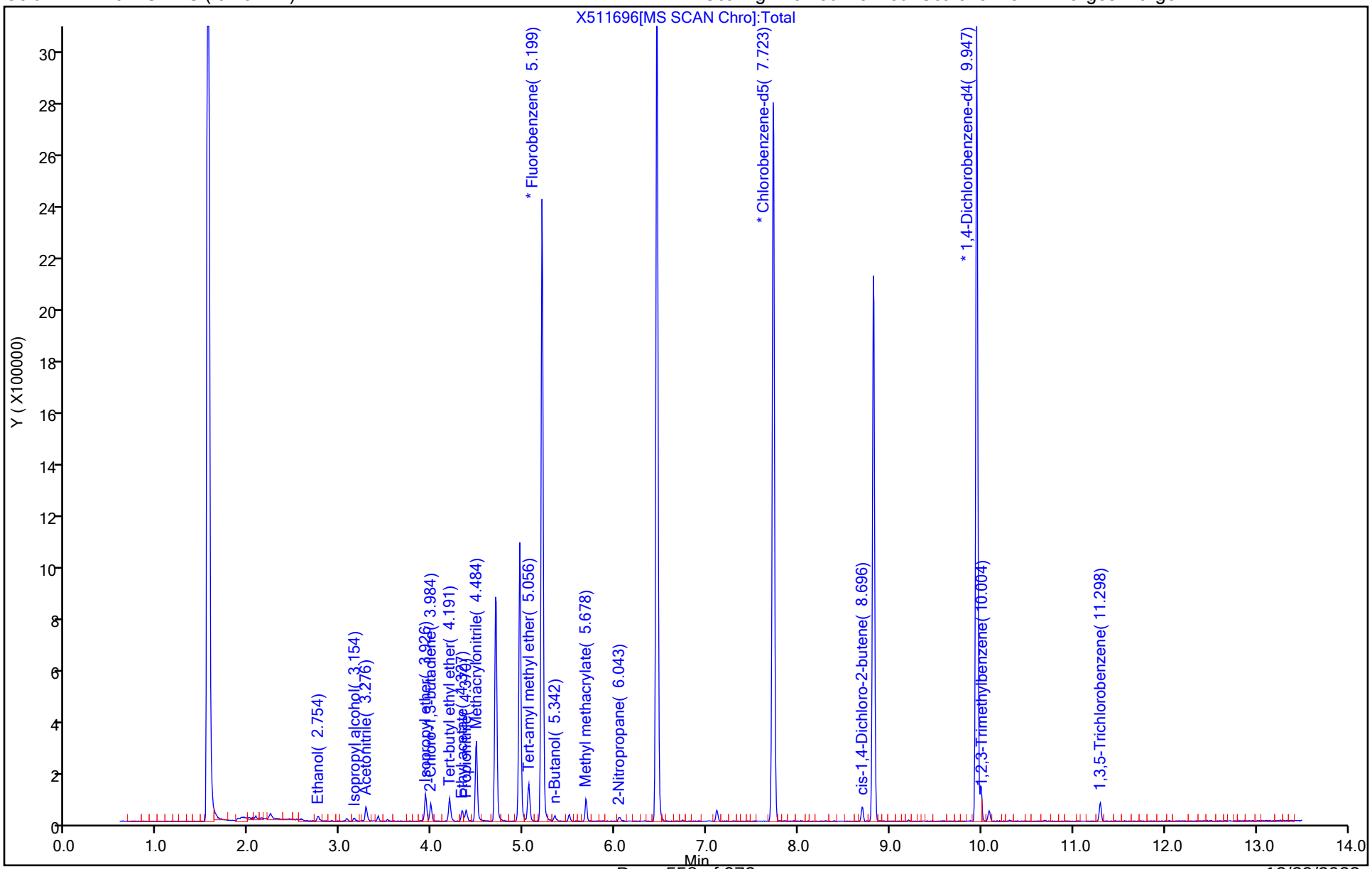
Report Date: 12-Dec-2023 05:03:16 Chrom Revision: 2.3 15-Nov-2023 20:54:34

Eurofins Denver

Data File: \\chromfs\Denver\ChromData\VMS_X4\20231211-128477.b\X511696.D

Injection Date:	11-Dec-2023 18:47:30	Instrument ID:	VMS_X4	Operator ID:	CF
Lims ID:	IC			Worklist Smp#:	3
Client ID:					
Purge Vol:	5.000 mL	Dil. Factor:	1.0000	ALS Bottle#:	2
Method:	VMS_X4_8260	Limit Group:	MSV - 8260B Water and Solid		

Column: Rxi-624Sil MS (0.25 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 1



Eurofins Denver
Target Compound Quantitation Report

Data File: \\chromfs\Denver\ChromData\VMS_X4\20231211-128477.b\X511697.D
Lims ID: IC
Client ID:
Sample Type: IC Calib Level: 3
Inject. Date: 11-Dec-2023 19:07:30 ALS Bottle#: 3 Worklist Smp#: 4
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Sample Info: ic
Operator ID: CF Instrument ID: VMS_X4
Sublist: chrom-VMS_X4_8260*sub26

Method: \\chromfs\Denver\ChromData\VMS_X4\20231211-128477.b\VMS_X4_8260.m
Limit Group: MSV - 8260B Water and Solid
Last Update: 12-Dec-2023 05:03:17 Calib Date: 11-Dec-2023 20:50:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Denver\ChromData\VMS_X4\20231211-128477.b\X511702.D

Column 1 : Rxi-624Sil MS (0.25 mm) Det: MS SCAN
Process Host: CTX1609

First Level Reviewer: BX8N Date: 12-Dec-2023 04:58:54

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
* 1 Fluorobenzene	96	5.199	5.199	0.000	97	1761051	50.0	50.0	
* 2 Chlorobenzene-d5	119	7.723	7.730	-0.007	91	453619	50.0	50.0	
* 3 1,4-Dichlorobenzene-d4	152	9.947	9.947	0.000	98	755498	50.0	50.0	
17 Ethanol	45	2.754	2.754	0.000	99	39152	300.0	260.7	
23 Isopropyl alcohol	45	3.147	3.147	0.000	97	32902	50.0	49.3	
26 Acetonitrile	41	3.276	3.276	0.000	100	104075	50.0	54.6	
37 Isopropyl ether	87	3.927	3.926	0.001	95	38871	5.00	5.05	
38 2-Chloro-1,3-butadiene	53	3.984	3.984	0.000	94	82416	5.00	4.72	
39 Tert-butyl ethyl ether	59	4.191	4.191	0.000	98	149183	5.00	4.79	
41 Ethyl acetate	43	4.327	4.327	0.000	99	105045	10.0	9.53	
44 Propionitrile	54	4.370	4.370	0.000	98	83201	50.0	49.1	
46 Methacrylonitrile	41	4.477	4.484	-0.007	96	358111	50.0	50.3	
57 Tert-amyl methyl ether	73	5.056	5.056	0.000	85	131014	5.00	4.89	
59 n-Butanol	56	5.335	5.335	0.000	93	26837	125.0	114.5	
64 Methyl methacrylate	100	5.686	5.678	0.008	95	21477	10.0	9.13	
68 2-Nitropropane	41	6.050	6.043	0.007	97	22060	10.0	9.33	
90 cis-1,4-Dichloro-2-butene	53	8.696	8.696	0.000	0	31912	10.0	9.34	
107 1,2,3-Trimethylbenzene	105	9.997	9.997	0.000	99	191191	5.00	5.02	
111 1,3,5-Trichlorobenzene	180	11.298	11.298	0.000	94	60187	5.00	4.98	
118 Ethyl acrylate	55		0.000				ND	ND	
117 t-Amyl alcohol	1		0.000				ND	ND	

QC Flag Legend

Processing Flags
ND - Not Detected or Marked ND

Reagents:

mv-Cent IS_00008	Amount Added:	5.00	Units: uL
MV-Supp A_00087	Amount Added:	5.00	Units: uL

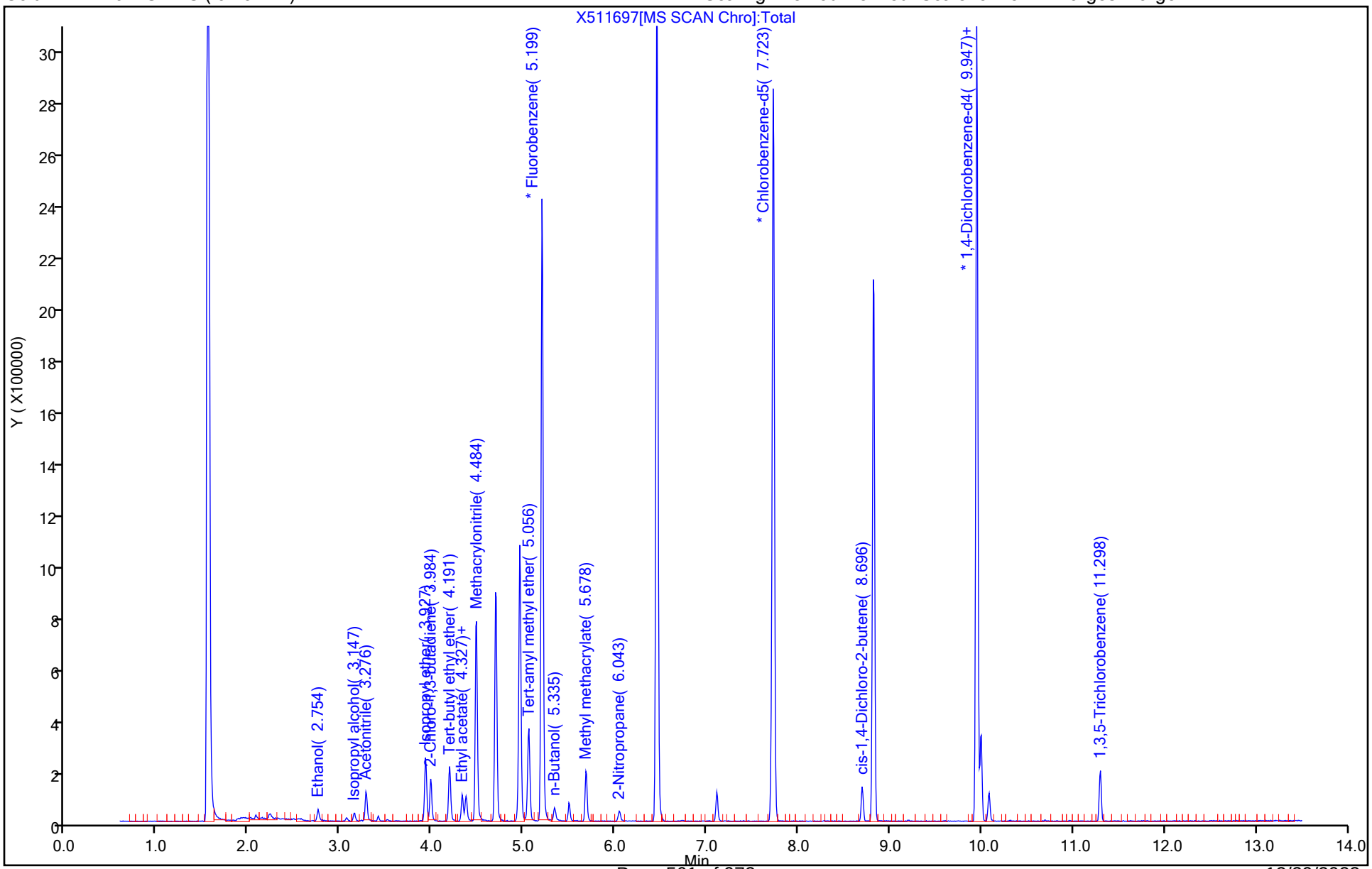
Report Date: 12-Dec-2023 05:03:17 Chrom Revision: 2.3 15-Nov-2023 20:54:34

Eurofins Denver

Data File: \\chromfs\Denver\ChromData\VMS_X4\20231211-128477.b\X511697.D

Injection Date:	11-Dec-2023 19:07:30	Instrument ID:	VMS_X4	Operator ID:	CF
Lims ID:	IC			Worklist Smp#:	4
Client ID:					
Purge Vol:	5.000 mL	Dil. Factor:	1.0000	ALS Bottle#:	3
Method:	VMS_X4_8260	Limit Group:	MSV - 8260B Water and Solid		

Column: Rxi-624Sil MS (0.25 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 1



Eurofins Denver
Target Compound Quantitation Report

Data File: \\chromfs\Denver\ChromData\VMS_X4\20231211-128477.b\X511698.D
Lims ID: IC
Client ID:
Sample Type: IC Calib Level: 4
Inject. Date: 11-Dec-2023 19:28:30 ALS Bottle#: 4 Worklist Smp#: 5
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Sample Info: ic
Misc. Info.: 10
Operator ID: CF Instrument ID: VMS_X4
Sublist: chrom-VMS_X4_8260*sub26

Method: \\chromfs\Denver\ChromData\VMS_X4\20231211-128477.b\VMS_X4_8260.m
Limit Group: MSV - 8260B Water and Solid
Last Update: 12-Dec-2023 05:03:18 Calib Date: 11-Dec-2023 20:50:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Denver\ChromData\VMS_X4\20231211-128477.b\X511702.D

Column 1 : Rxi-624Sil MS (0.25 mm) Det: MS SCAN
Process Host: CTX1609

First Level Reviewer: BX8N Date: 12-Dec-2023 04:58:47

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
* 1 Fluorobenzene	96	5.199	5.199	0.000	97	1749702	50.0	50.0	
* 2 Chlorobenzene-d5	119	7.730	7.730	0.000	90	453577	50.0	50.0	
* 3 1,4-Dichlorobenzene-d4	152	9.947	9.947	0.000	97	761779	50.0	50.0	
17 Ethanol	45	2.754	2.754	0.000	99	93414	600.0	626.0	
23 Isopropyl alcohol	45	3.147	3.147	0.000	98	64087	100.0	96.6	
26 Acetonitrile	41	3.276	3.276	0.000	100	185818	100.0	98.0	
37 Isopropyl ether	87	3.926	3.926	0.000	95	74226	10.0	9.70	
38 2-Chloro-1,3-butadiene	53	3.984	3.984	0.000	95	162899	10.0	9.38	
39 Tert-butyl ethyl ether	59	4.191	4.191	0.000	98	297660	10.0	9.62	
41 Ethyl acetate	43	4.327	4.327	0.000	99	204034	20.0	18.6	
44 Propionitrile	54	4.370	4.370	0.000	99	167179	100.0	99.4	
46 Methacrylonitrile	41	4.484	4.484	0.000	95	710129	100.0	100.4	
57 Tert-amyl methyl ether	73	5.056	5.056	0.000	86	258742	10.0	9.72	
59 n-Butanol	56	5.335	5.335	0.000	96	56754	250.0	223.9	
64 Methyl methacrylate	100	5.678	5.678	0.000	93	45243	20.0	19.4	
68 2-Nitropropane	41	6.043	6.043	0.000	99	44580	20.0	19.0	
90 cis-1,4-Dichloro-2-butene	53	8.696	8.696	0.000	0	66543	20.0	19.3	
107 1,2,3-Trimethylbenzene	105	9.990	9.997	-0.007	99	371384	10.0	9.67	
111 1,3,5-Trichlorobenzene	180	11.298	11.298	0.000	96	117153	10.0	9.61	
118 Ethyl acrylate	55		0.000				ND	ND	
117 t-Amyl alcohol	1		0.000				ND	ND	

QC Flag Legend

Processing Flags
ND - Not Detected or Marked ND

Reagents:

mv-Cent IS_00008	Amount Added:	5.00	Units: uL
MV-Supp A_00087	Amount Added:	10.00	Units: uL

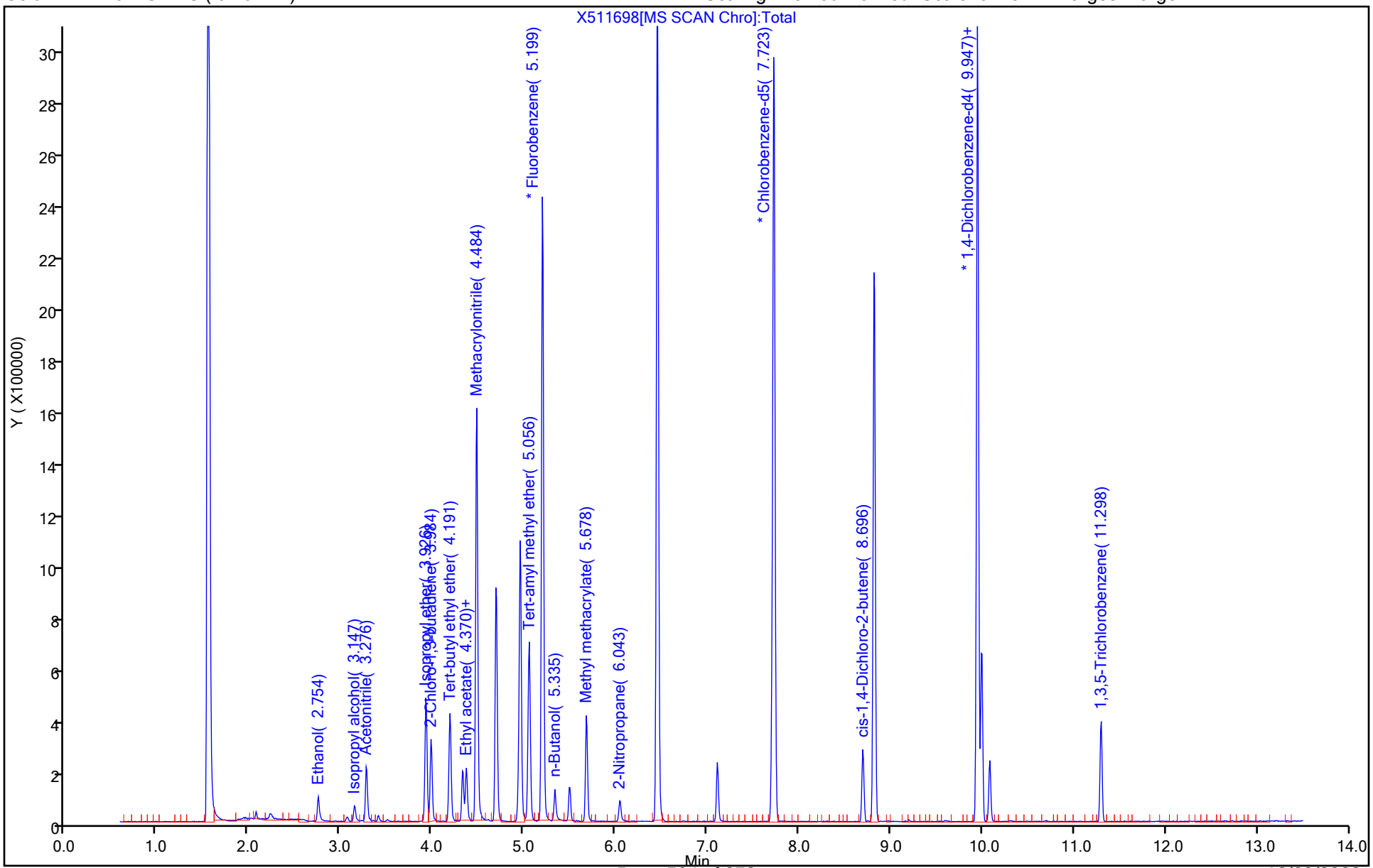
Report Date: 12-Dec-2023 05:03:18 Chrom Revision: 2.3 15-Nov-2023 20:54:34

Eurofins Denver

Data File: \\chromfs\Denver\ChromData\VMS_X4\20231211-128477.b\X511698.D

Injection Date:	11-Dec-2023 19:28:30	Instrument ID:	VMS_X4	Operator ID:	CF
Lims ID:	IC			Worklist Smp#:	5
Client ID:					
Purge Vol:	5.000 mL	Dil. Factor:	1.0000	ALS Bottle#:	4
Method:	VMS_X4_8260	Limit Group:	MSV - 8260B Water and Solid		

Column: Rxi-624Sil MS (0.25 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 1



Eurofins Denver
Target Compound Quantitation Report

Data File: \\chromfs\Denver\ChromData\VMS_X4\20231211-128477.b\X511699.D
Lims ID: IC
Client ID:
Sample Type: IC Calib Level: 5
Inject. Date: 11-Dec-2023 19:48:30 ALS Bottle#: 5 Worklist Smp#: 6
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Sample Info: ic
Misc. Info.: 50
Operator ID: CF Instrument ID: VMS_X4
Sublist: chrom-VMS_X4_8260*sub26

Method: \\chromfs\Denver\ChromData\VMS_X4\20231211-128477.b\VMS_X4_8260.m
Limit Group: MSV - 8260B Water and Solid
Last Update: 12-Dec-2023 05:03:19 Calib Date: 11-Dec-2023 20:50:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Denver\ChromData\VMS_X4\20231211-128477.b\X511702.D

Column 1 : Rxi-624Sil MS (0.25 mm) Det: MS SCAN
Process Host: CTX1609

First Level Reviewer: BX8N Date: 12-Dec-2023 04:58:40

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
* 1 Fluorobenzene	96	5.199	5.199	0.000	97	1798480	50.0	50.0	
* 2 Chlorobenzene-d5	119	7.730	7.730	0.000	91	455036	50.0	50.0	
* 3 1,4-Dichlorobenzene-d4	152	9.947	9.947	0.000	98	773653	50.0	50.0	
17 Ethanol	45	2.754	2.754	0.000	99	446473	3000.0	2910.8	
23 Isopropyl alcohol	45	3.147	3.147	0.000	98	334786	500.0	490.9	
26 Acetonitrile	41	3.276	3.276	0.000	99	924581	500.0	474.6	
37 Isopropyl ether	87	3.926	3.926	0.000	95	406097	50.0	51.6	
38 2-Chloro-1,3-butadiene	53	3.984	3.984	0.000	94	908167	50.0	50.9	
39 Tert-butyl ethyl ether	59	4.191	4.191	0.000	99	1630328	50.0	51.3	
41 Ethyl acetate	43	4.327	4.327	0.000	99	1104738	100.0	98.1	
44 Propionitrile	54	4.370	4.370	0.000	99	871725	500.0	504.1	
46 Methacrylonitrile	41	4.484	4.484	0.000	95	3783118	500.0	520.5	
57 Tert-amyl methyl ether	73	5.056	5.056	0.000	86	1414872	50.0	51.7	
59 n-Butanol	56	5.335	5.335	0.000	92	349567	1250.0	1253.9	
64 Methyl methacrylate	100	5.678	5.678	0.000	93	244515	100.0	101.8	
68 2-Nitropropane	41	6.043	6.043	0.000	98	237860	100.0	98.5	
90 cis-1,4-Dichloro-2-butene	53	8.696	8.696	0.000	0	361628	100.0	103.3	
107 1,2,3-Trimethylbenzene	105	9.997	9.997	0.000	99	1969261	50.0	50.5	
111 1,3,5-Trichlorobenzene	180	11.298	11.298	0.000	96	611071	50.0	49.4	
118 Ethyl acrylate	55		0.000				ND	ND	
117 t-Amyl alcohol	1		0.000				ND	ND	

QC Flag Legend

Processing Flags
ND - Not Detected or Marked ND

Reagents:

mv-Cent IS_00008	Amount Added: 5.00	Units: uL
MV-Supp A_00087	Amount Added: 50.00	Units: uL

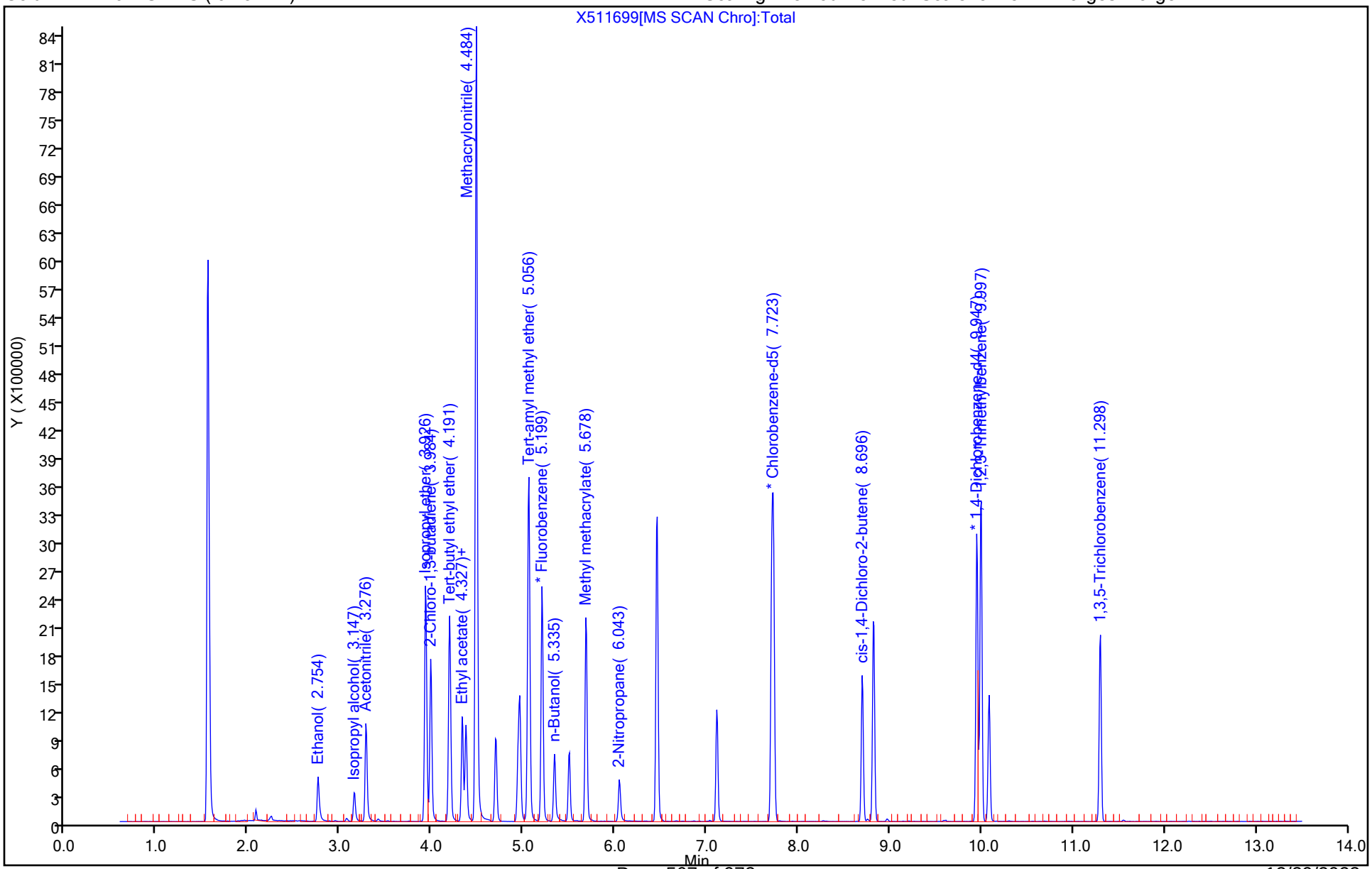
Report Date: 12-Dec-2023 05:03:19 Chrom Revision: 2.3 15-Nov-2023 20:54:34

Eurofins Denver

Data File: \\chromfs\Denver\ChromData\VMS_X4\20231211-128477.b\X511699.D

Injection Date:	11-Dec-2023 19:48:30	Instrument ID:	VMS_X4	Operator ID:	CF
Lims ID:	IC			Worklist Smp#:	6
Client ID:					
Purge Vol:	5.000 mL	Dil. Factor:	1.0000	ALS Bottle#:	5
Method:	VMS_X4_8260	Limit Group:	MSV - 8260B Water and Solid		

Column: Rxi-624Sil MS (0.25 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 1



Eurofins Denver
Target Compound Quantitation Report

Data File: \\chromfs\Denver\ChromData\VMS_X4\20231211-128477.b\X511700.D
Lims ID: IC
Client ID:
Sample Type: IC Calib Level: 6
Inject. Date: 11-Dec-2023 20:09:30 ALS Bottle#: 6 Worklist Smp#: 7
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Sample Info: ic
Misc. Info.: 75
Operator ID: CF Instrument ID: VMS_X4
Sublist: chrom-VMS_X4_8260*sub26

Method: \\chromfs\Denver\ChromData\VMS_X4\20231211-128477.b\VMS_X4_8260.m
Limit Group: MSV - 8260B Water and Solid
Last Update: 12-Dec-2023 05:03:20 Calib Date: 11-Dec-2023 20:50:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Denver\ChromData\VMS_X4\20231211-128477.b\X511702.D

Column 1 : Rxi-624Sil MS (0.25 mm) Det: MS SCAN
Process Host: CTX1609

First Level Reviewer: BX8N Date: 12-Dec-2023 04:58:34

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
* 1 Fluorobenzene	96	5.199	5.199	0.000	97	1821549	50.0	50.0	
* 2 Chlorobenzene-d5	119	7.731	7.730	0.001	90	464828	50.0	50.0	
* 3 1,4-Dichlorobenzene-d4	152	9.947	9.947	0.000	98	774704	50.0	50.0	
17 Ethanol	45	2.754	2.754	0.000	100	704926	4500.0	4537.6	
23 Isopropyl alcohol	45	3.147	3.147	0.000	98	506564	750.0	733.3	
26 Acetonitrile	41	3.276	3.276	0.000	99	1322229	750.0	670.2	
37 Isopropyl ether	87	3.927	3.926	0.001	95	607315	75.0	76.2	
38 2-Chloro-1,3-butadiene	53	3.984	3.984	0.000	95	1360709	75.0	75.3	
39 Tert-butyl ethyl ether	59	4.191	4.191	0.000	99	2418352	75.0	75.1	
41 Ethyl acetate	43	4.327	4.327	0.000	99	1638859	150.0	143.7	
44 Propionitrile	54	4.370	4.370	0.000	99	1265841	750.0	722.8	
46 Methacrylonitrile	41	4.484	4.484	0.000	95	5472716	750.0	743.4	
57 Tert-amyl methyl ether	73	5.056	5.056	0.000	86	2094654	75.0	75.6	
59 n-Butanol	56	5.335	5.335	0.000	93	530507	1875.0	1870.1	
64 Methyl methacrylate	100	5.678	5.678	0.000	94	376992	150.0	155.0	
68 2-Nitropropane	41	6.043	6.043	0.000	99	363681	150.0	148.7	
90 cis-1,4-Dichloro-2-butene	53	8.696	8.696	0.000	0	530301	150.0	151.3	
107 1,2,3-Trimethylbenzene	105	9.997	9.997	0.000	99	2890819	75.0	74.0	
111 1,3,5-Trichlorobenzene	180	11.298	11.298	0.000	96	915943	75.0	73.9	
118 Ethyl acrylate	55		0.000				ND	ND	
117 t-Amyl alcohol	1		0.000				ND	ND	

QC Flag Legend

Processing Flags
ND - Not Detected or Marked ND

Reagents:

mv-Cent IS_00008	Amount Added: 5.00	Units: uL
MV-Supp A_00087	Amount Added: 75.00	Units: uL

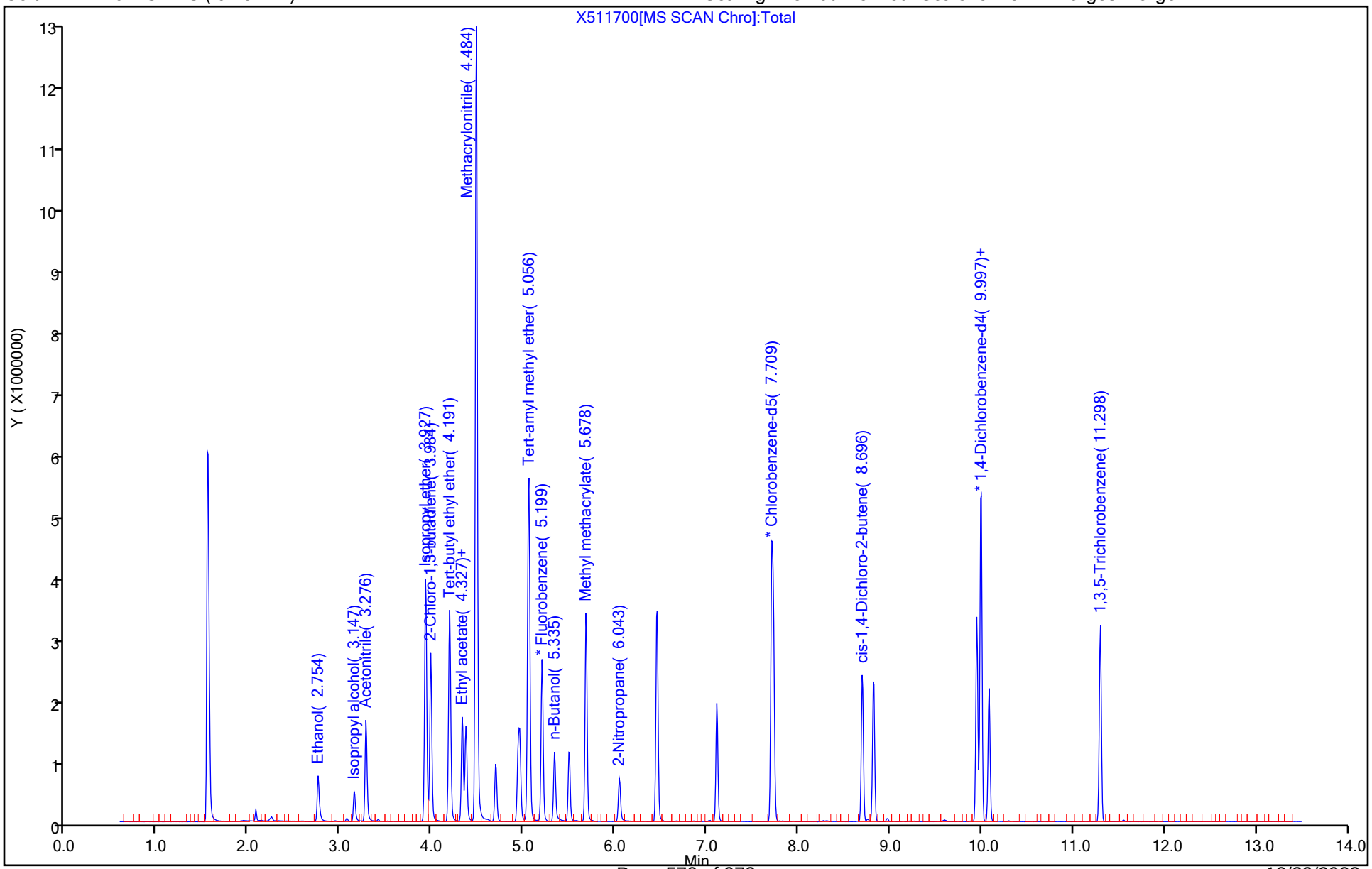
Report Date: 12-Dec-2023 05:03:21 Chrom Revision: 2.3 15-Nov-2023 20:54:34

Eurofins Denver

Data File: \\chromfs\Denver\ChromData\VMS_X4\20231211-128477.b\X511700.D

Injection Date:	11-Dec-2023 20:09:30	Instrument ID:	VMS_X4	Operator ID:	CF
Lims ID:	IC			Worklist Smp#:	7
Client ID:					
Purge Vol:	5.000 mL	Dil. Factor:	1.0000	ALS Bottle#:	6
Method:	VMS_X4_8260	Limit Group:	MSV - 8260B Water and Solid		

Column: Rxi-624Sil MS (0.25 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 1



Eurofins Denver
Target Compound Quantitation Report

Data File: \\chromfs\Denver\ChromData\VMS_X4\20231211-128477.b\X511701.D
Lims ID: IC
Client ID:
Sample Type: IC Calib Level: 7
Inject. Date: 11-Dec-2023 20:30:30 ALS Bottle#: 7 Worklist Smp#: 8
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Sample Info: ic
Misc. Info.: 100
Operator ID: CF Instrument ID: VMS_X4
Sublist: chrom-VMS_X4_8260*sub26

Method: \\chromfs\Denver\ChromData\VMS_X4\20231211-128477.b\VMS_X4_8260.m
Limit Group: MSV - 8260B Water and Solid
Last Update: 12-Dec-2023 05:03:22 Calib Date: 11-Dec-2023 20:50:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Denver\ChromData\VMS_X4\20231211-128477.b\X511702.D

Column 1 : Rxi-624Sil MS (0.25 mm) Det: MS SCAN
Process Host: CTX1609

First Level Reviewer: AK2J Date: 11-Dec-2023 20:58:26

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
* 1 Fluorobenzene	96	5.199	5.199	0.000	97	1866216	50.0	50.0	
* 2 Chlorobenzene-d5	119	7.730	7.730	0.000	90	466656	50.0	50.0	
* 3 1,4-Dichlorobenzene-d4	152	9.947	9.947	0.000	98	782970	50.0	50.0	
17 Ethanol	45	2.754	2.754	0.000	100	971020	6000.0	6100.8	
23 Isopropyl alcohol	45	3.147	3.147	0.000	99	719678	1000.0	1016.9	
26 Acetonitrile	41	3.276	3.276	0.000	99	1843172	1000.0	911.8	
37 Isopropyl ether	87	3.926	3.926	0.000	95	847765	100.0	103.9	
38 2-Chloro-1,3-butadiene	53	3.984	3.984	0.000	94	1935831	100.0	104.5	
39 Tert-butyl ethyl ether	59	4.191	4.191	0.000	99	3363984	100.0	101.9	
41 Ethyl acetate	43	4.327	4.327	0.000	99	2275126	200.0	194.7	
44 Propionitrile	54	4.370	4.370	0.000	99	1755657	1000.0	978.4	
46 Methacrylonitrile	41	4.484	4.484	0.000	95	7518091	1000.0	996.8	
57 Tert-amyl methyl ether	73	5.056	5.056	0.000	86	2922995	100.0	102.9	
59 n-Butanol	56	5.335	5.335	0.000	92	753693	2500.0	2586.5	
64 Methyl methacrylate	100	5.685	5.678	0.007	94	509718	200.0	204.5	
68 2-Nitropropane	41	6.043	6.043	0.000	98	510649	200.0	203.8	
90 cis-1,4-Dichloro-2-butene	53	8.696	8.696	0.000	0	726453	200.0	205.1	
107 1,2,3-Trimethylbenzene	105	9.997	9.997	0.000	99	3967616	100.0	100.5	
111 1,3,5-Trichlorobenzene	180	11.298	11.298	0.000	96	1278767	100.0	102.1	
118 Ethyl acrylate	55		0.000				ND	ND	
117 t-Amyl alcohol	1		0.000				ND	ND	

QC Flag Legend

Processing Flags
ND - Not Detected or Marked ND

Reagents:

mv-Cent IS_00008	Amount Added: 5.00	Units: uL
MV-Supp A_00087	Amount Added: 100.00	Units: uL

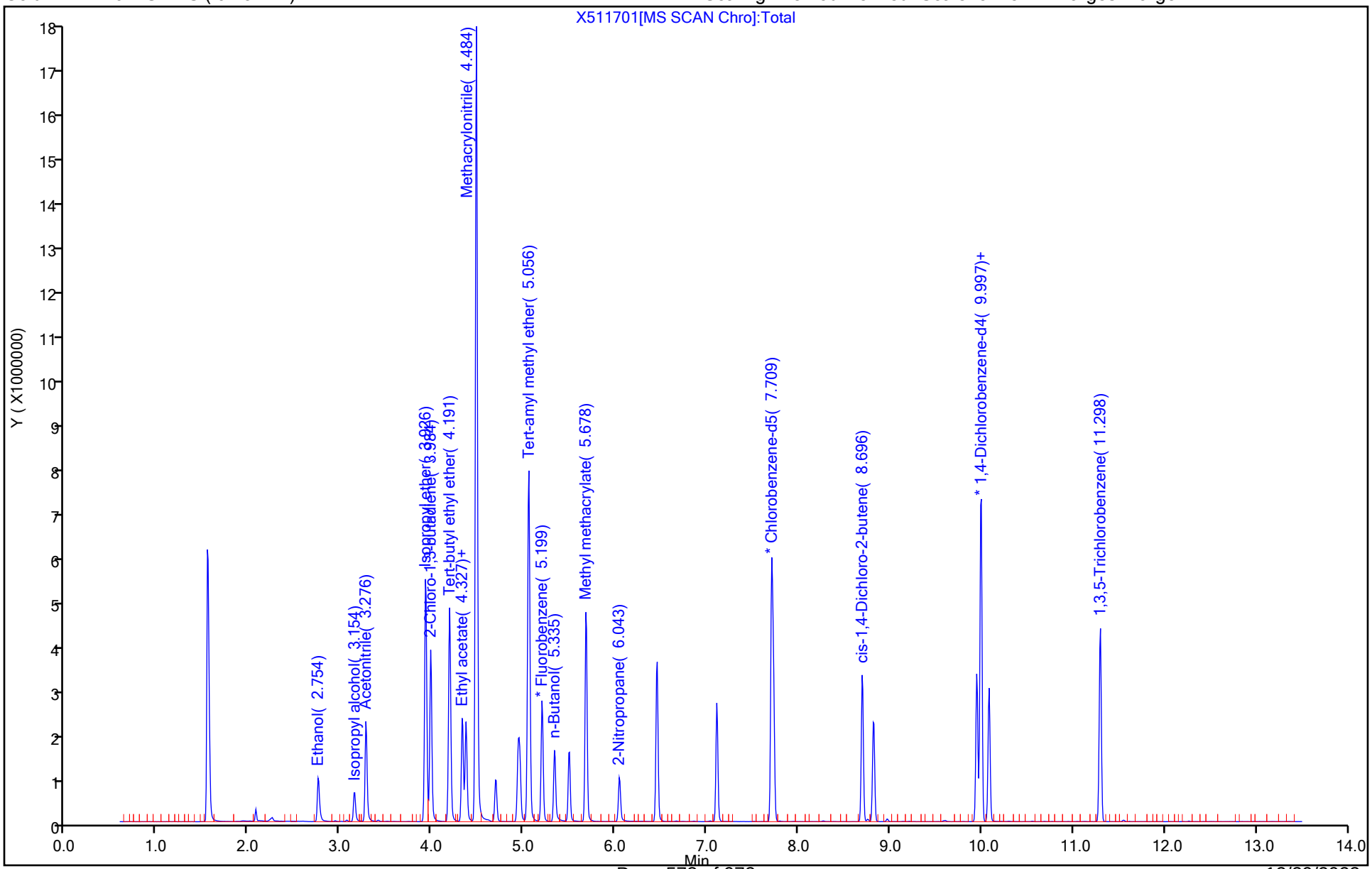
Report Date: 12-Dec-2023 05:03:22 Chrom Revision: 2.3 15-Nov-2023 20:54:34

Eurofins Denver

Data File: \\chromfs\Denver\ChromData\VMS_X4\20231211-128477.b\X511701.D

Injection Date:	11-Dec-2023 20:30:30	Instrument ID:	VMS_X4	Operator ID:	CF
Lims ID:	IC			Worklist Smp#:	8
Client ID:					
Purge Vol:	5.000 mL	Dil. Factor:	1.0000	ALS Bottle#:	7
Method:	VMS_X4_8260	Limit Group:	MSV - 8260B Water and Solid		

Column: Rxi-624Sil MS (0.25 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 1



Eurofins Denver
Target Compound Quantitation Report

Data File: \\chromfs\Denver\ChromData\VMS_X4\20231211-128477.b\X511702.D
Lims ID: IC
Client ID:
Sample Type: IC Calib Level: 8
Inject. Date: 11-Dec-2023 20:50:30 ALS Bottle#: 8 Worklist Smp#: 9
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Sample Info: ic
Misc. Info.: 200
Operator ID: CF Instrument ID: VMS_X4
Sublist: chrom-VMS_X4_8260*sub26

Method: \\chromfs\Denver\ChromData\VMS_X4\20231211-128477.b\VMS_X4_8260.m
Limit Group: MSV - 8260B Water and Solid
Last Update: 12-Dec-2023 05:03:23 Calib Date: 11-Dec-2023 20:50:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Denver\ChromData\VMS_X4\20231211-128477.b\X511702.D

Column 1 : Rxi-624Sil MS (0.25 mm) Det: MS SCAN
Process Host: CTX1609

First Level Reviewer: BX8N Date: 12-Dec-2023 04:58:19

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
* 1 Fluorobenzene	96	5.199	5.199	0.000	97	1901180	50.0	50.0	
* 2 Chlorobenzene-d5	119	7.723	7.730	-0.007	92	491652	50.0	50.0	
* 3 1,4-Dichlorobenzene-d4	152	9.947	9.947	0.000	98	816500	50.0	50.0	
17 Ethanol	45	2.761	2.754	0.007	100	1879717	12000	11593	
23 Isopropyl alcohol	45	3.154	3.147	0.007	98	1497027	2000.0	2076.3	
26 Acetonitrile	41	3.276	3.276	0.000	100	3629624	2000.0	1762.6	
37 Isopropyl ether	87	3.926	3.926	0.000	94	1721652	200.0	207.1	
38 2-Chloro-1,3-butadiene	53	3.984	3.984	0.000	94	3895580	200.0	206.4	
39 Tert-butyl ethyl ether	59	4.191	4.191	0.000	98	6830486	200.0	203.2	
41 Ethyl acetate	43	4.327	4.327	0.000	99	4642385	400.0	390.1	
44 Propionitrile	54	4.370	4.370	0.000	99	3534352	2000.0	1933.5	
46 Methacrylonitrile	41	4.484	4.484	0.000	92	14173242	2000.0	1844.6	
57 Tert-amyl methyl ether	73	5.056	5.056	0.000	85	5963297	200.0	206.1	
59 n-Butanol	56	5.335	5.335	0.000	92	1639555	5000.0	5503.1	
64 Methyl methacrylate	100	5.678	5.678	0.000	94	1060680	400.0	417.7	
68 2-Nitropropane	41	6.043	6.043	0.000	98	1090165	400.0	427.0	
90 cis-1,4-Dichloro-2-butene	53	8.696	8.696	0.000	0	1527979	400.0	413.6	
107 1,2,3-Trimethylbenzene	105	9.997	9.997	0.000	99	8030267	200.0	195.0	
111 1,3,5-Trichlorobenzene	180	11.298	11.298	0.000	96	2580689	200.0	197.5	
118 Ethyl acrylate	55		0.000				ND	ND	
117 t-Amyl alcohol	1		0.000				ND	ND	

QC Flag Legend

Processing Flags
ND - Not Detected or Marked ND

Reagents:

mv-Cent IS_00008	Amount Added: 5.00	Units: uL
MV-Supp A_00087	Amount Added: 200.00	Units: uL

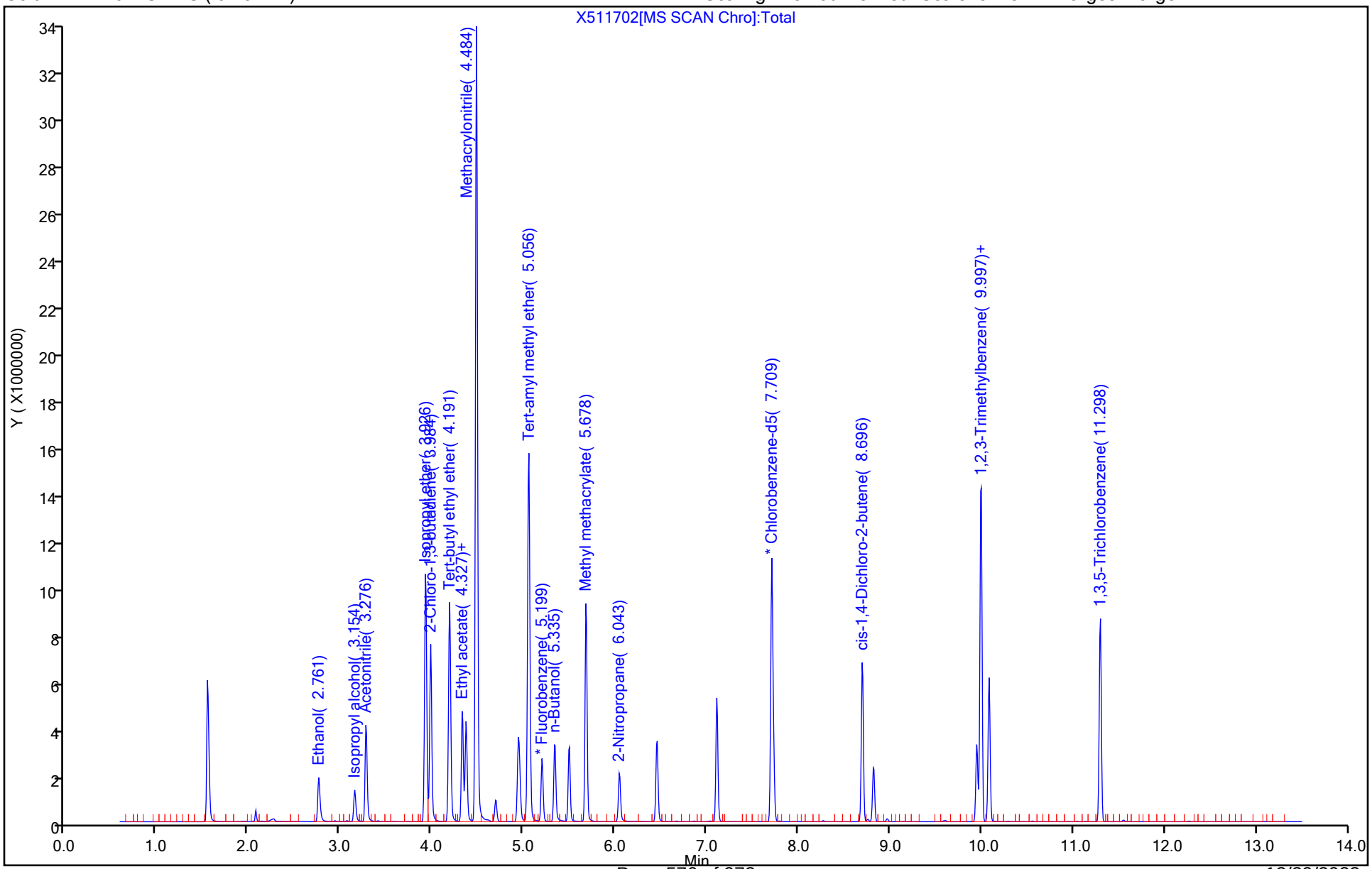
Report Date: 12-Dec-2023 05:03:23 Chrom Revision: 2.3 15-Nov-2023 20:54:34

Eurofins Denver

Data File: \\chromfs\Denver\ChromData\VMS_X4\20231211-128477.b\X511702.D

Injection Date:	11-Dec-2023 20:50:30	Instrument ID:	VMS_X4	Operator ID:	CF
Lims ID:	IC			Worklist Smp#:	9
Client ID:					
Purge Vol:	5.000 mL	Dil. Factor:	1.0000	ALS Bottle#:	8
Method:	VMS_X4_8260	Limit Group:	MSV - 8260B Water and Solid		

Column: Rxi-624Sil MS (0.25 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 1



Calibration / Ethanol

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	ISTD
Response Base:	AREA
RF Rounding:	0

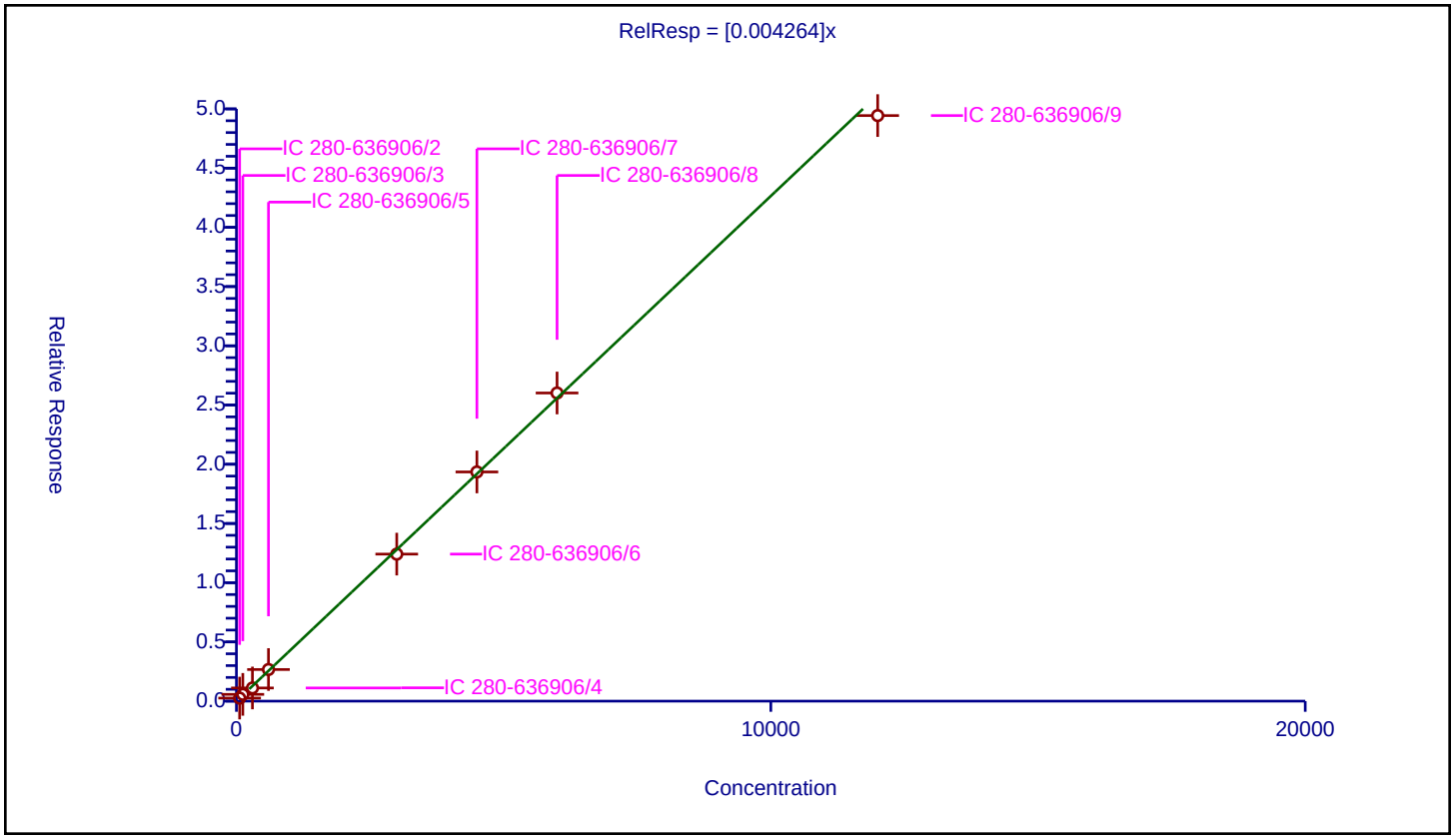
Curve Coefficients

Intercept:	0
Slope:	0.004264

Error Coefficients

Standard Error:	860000
Relative Standard Error:	7.1
Correlation Coefficient:	1.000
Coefficient of Determination (Adjusted):	0.993

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 280-636906/2	60.0	0.258372	50.0	1780572.0	0.004306	Y
2	IC 280-636906/3	120.0	0.571324	50.0	1739642.0	0.004761	Y
3	IC 280-636906/4	300.0	1.111609	50.0	1761051.0	0.003705	Y
4	IC 280-636906/5	600.0	2.669426	50.0	1749702.0	0.004449	Y
5	IC 280-636906/6	3000.0	12.412509	50.0	1798480.0	0.004138	Y
6	IC 280-636906/7	4500.0	19.34963	50.0	1821549.0	0.0043	Y
7	IC 280-636906/8	6000.0	26.015745	50.0	1866216.0	0.004336	Y
8	IC 280-636906/9	12000.0	49.435535	50.0	1901180.0	0.00412	Y



12/29/2023
10:48 AM

Calibration / Isopropyl alcohol

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	ISTD
Response Base:	AREA
RF Rounding:	0

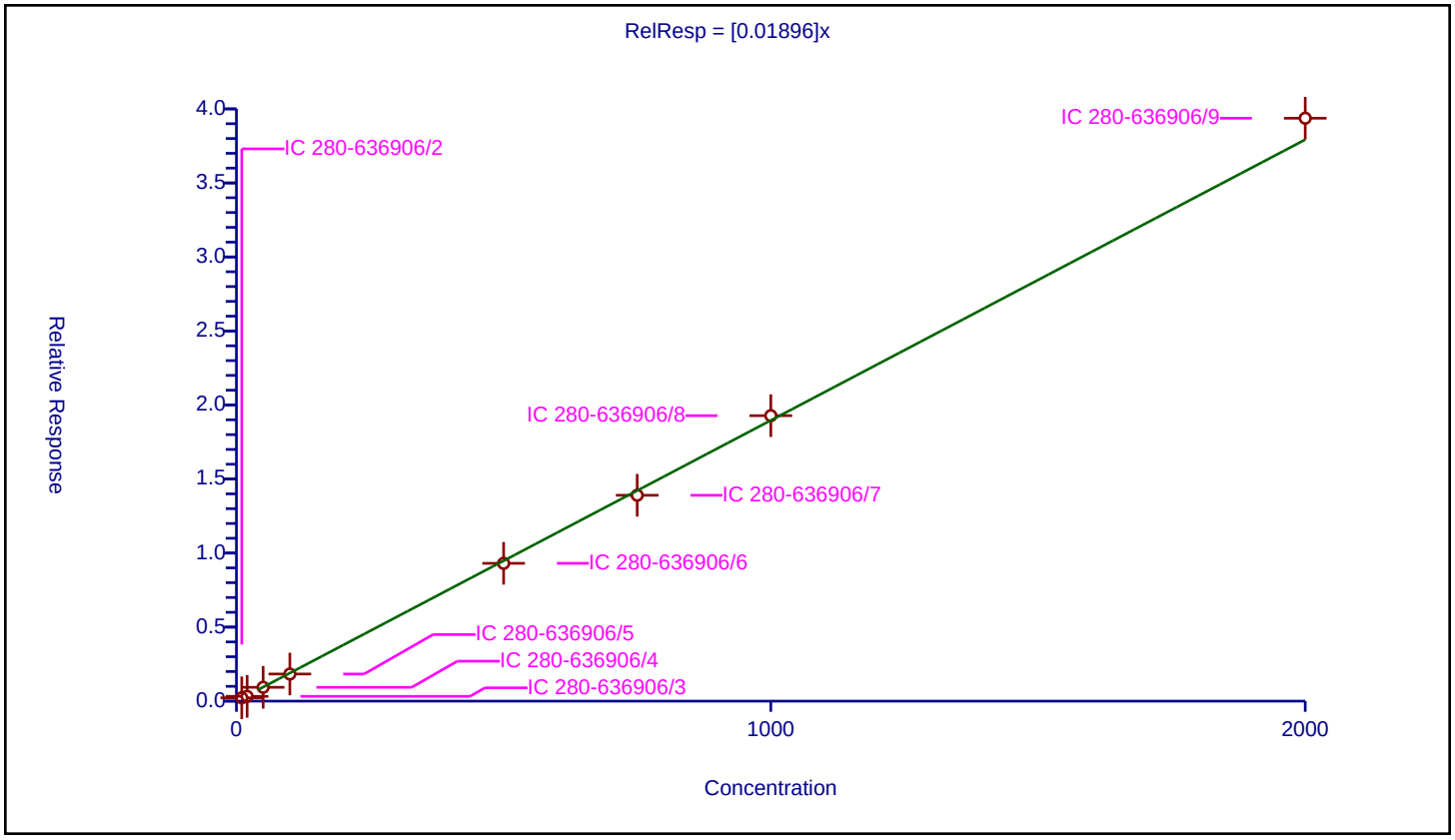
Curve Coefficients

Intercept:	0
Slope:	0.01896

Error Coefficients

Standard Error:	669000
Relative Standard Error:	9.3
Correlation Coefficient:	0.998
Coefficient of Determination (Adjusted):	0.988

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 280-636906/2	10.0	0.224563	50.0	1780572.0	0.022456	Y
2	IC 280-636906/3	20.0	0.322394	50.0	1739642.0	0.01612	Y
3	IC 280-636906/4	50.0	0.934158	50.0	1761051.0	0.018683	Y
4	IC 280-636906/5	100.0	1.831369	50.0	1749702.0	0.018314	Y
5	IC 280-636906/6	500.0	9.307471	50.0	1798480.0	0.018615	Y
6	IC 280-636906/7	750.0	13.904759	50.0	1821549.0	0.01854	Y
7	IC 280-636906/8	1000.0	19.281744	50.0	1866216.0	0.019282	Y
8	IC 280-636906/9	2000.0	39.370996	50.0	1901180.0	0.019685	Y



12/29/2023
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Calibration / Acetonitrile

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	ISTD
Response Base:	AREA
RF Rounding:	0

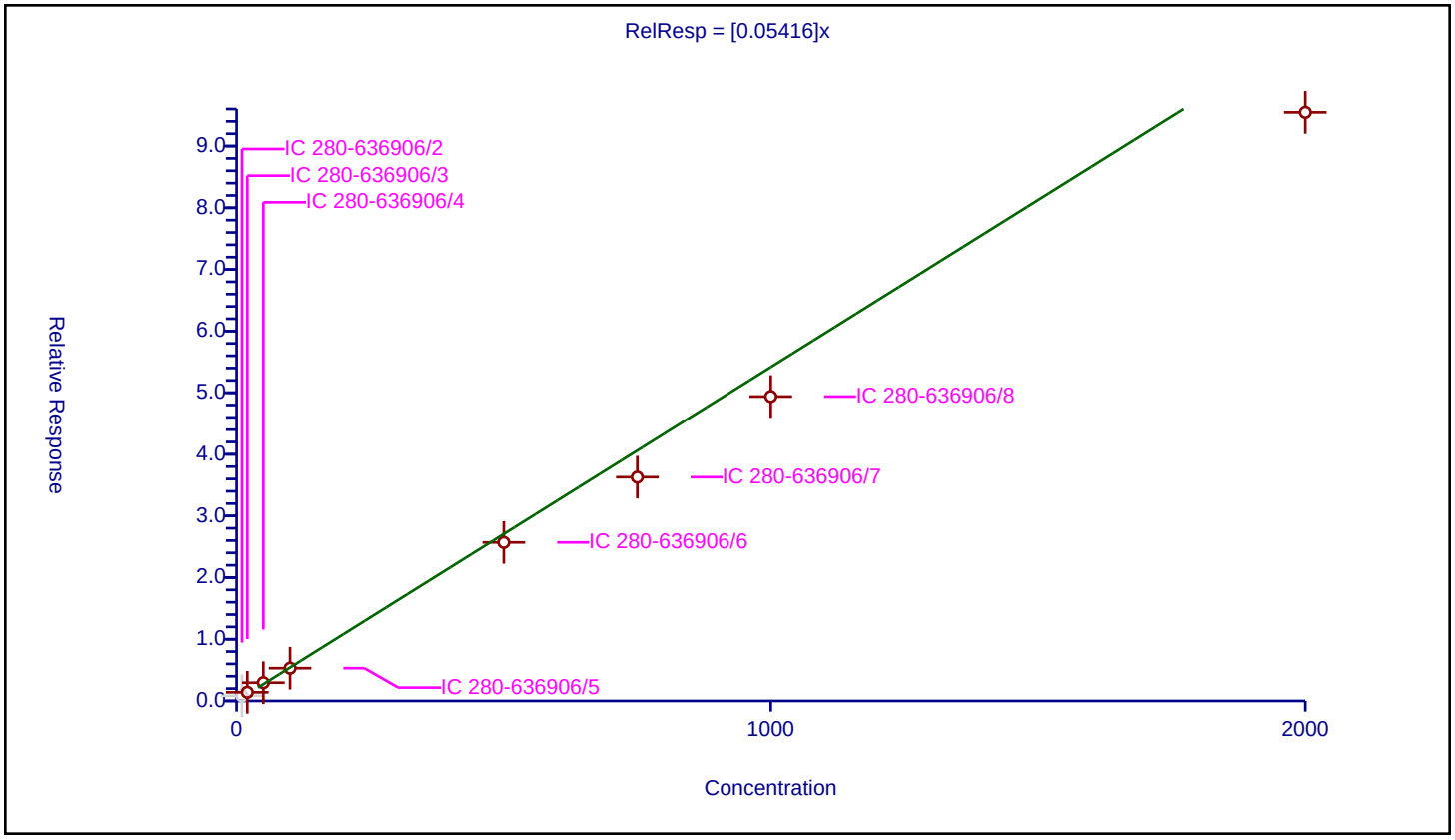
Curve Coefficients

Intercept:	0
Slope:	0.05416

Error Coefficients

Standard Error:	1790000
Relative Standard Error:	14.7
Correlation Coefficient:	1.000
Coefficient of Determination (Adjusted):	0.965

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 280-636906/2	10.0	0.831699	50.0	1780572.0	0.08317	N
2	IC 280-636906/3	20.0	1.399713	50.0	1739642.0	0.069986	Y
3	IC 280-636906/4	50.0	2.954912	50.0	1761051.0	0.059098	Y
4	IC 280-636906/5	100.0	5.30999	50.0	1749702.0	0.0531	Y
5	IC 280-636906/6	500.0	25.704512	50.0	1798480.0	0.051409	Y
6	IC 280-636906/7	750.0	36.294083	50.0	1821549.0	0.048392	Y
7	IC 280-636906/8	1000.0	49.382601	50.0	1866216.0	0.049383	Y
8	IC 280-636906/9	2000.0	95.457137	50.0	1901180.0	0.047729	Y



12/29/2023
10:48 AM

Calibration / Isopropyl ether

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	ISTD
Response Base:	AREA
RF Rounding:	0

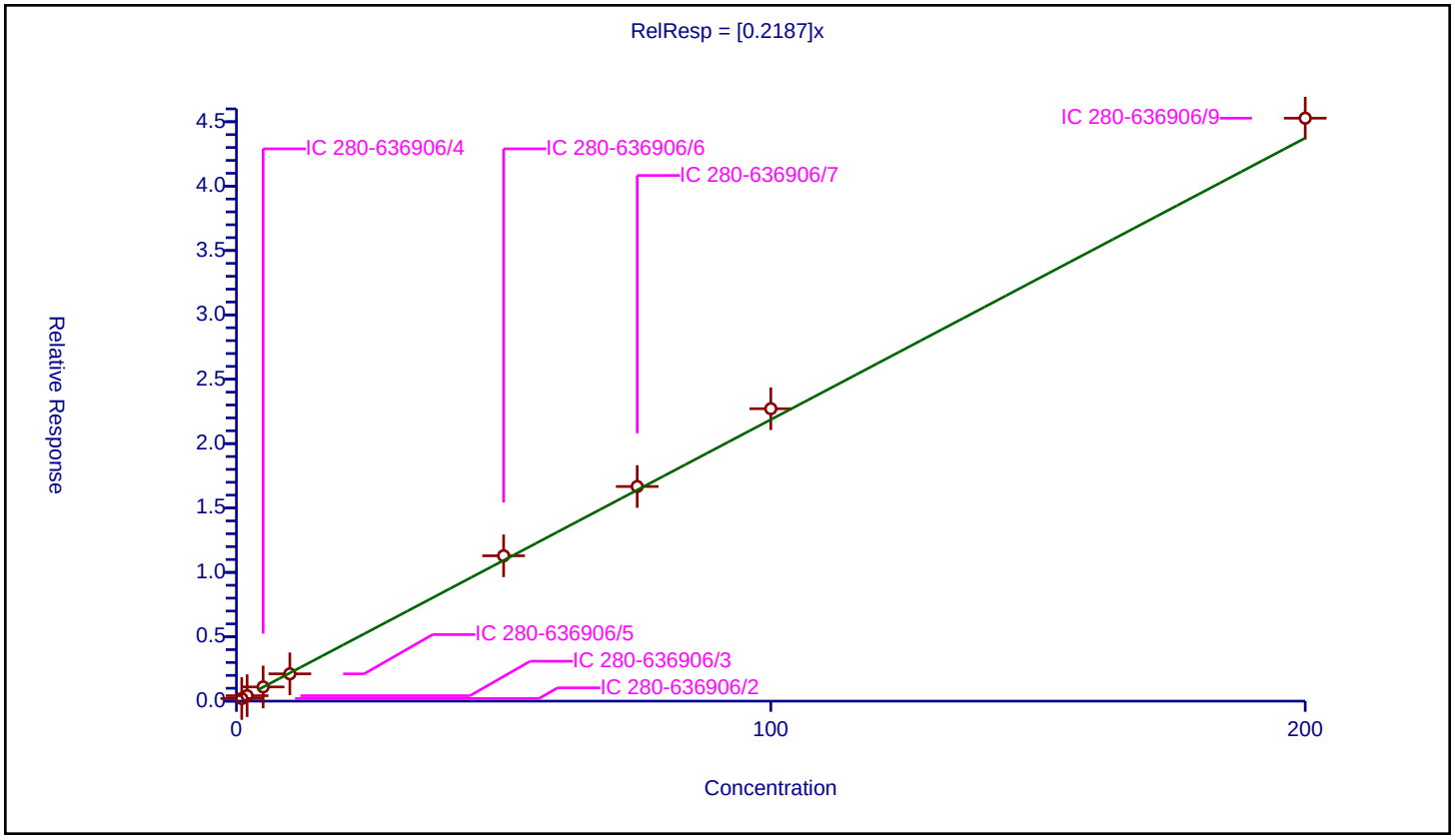
Curve Coefficients

Intercept:	0
Slope:	0.2187

Error Coefficients

Standard Error:	777000
Relative Standard Error:	3.9
Correlation Coefficient:	0.999
Coefficient of Determination (Adjusted):	0.998

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 280-636906/2	1.0	0.203699	50.0	1780572.0	0.203699	Y
2	IC 280-636906/3	2.0	0.422443	50.0	1739642.0	0.211222	Y
3	IC 280-636906/4	5.0	1.103631	50.0	1761051.0	0.220726	Y
4	IC 280-636906/5	10.0	2.121104	50.0	1749702.0	0.21211	Y
5	IC 280-636906/6	50.0	11.290006	50.0	1798480.0	0.2258	Y
6	IC 280-636906/7	75.0	16.67029	50.0	1821549.0	0.222271	Y
7	IC 280-636906/8	100.0	22.713475	50.0	1866216.0	0.227135	Y
8	IC 280-636906/9	200.0	45.278511	50.0	1901180.0	0.226393	Y



12/29/2023
10:48 AM

Calibration / 2-Chloro-1,3-butadiene

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	ISTD
Response Base:	AREA
RF Rounding:	0

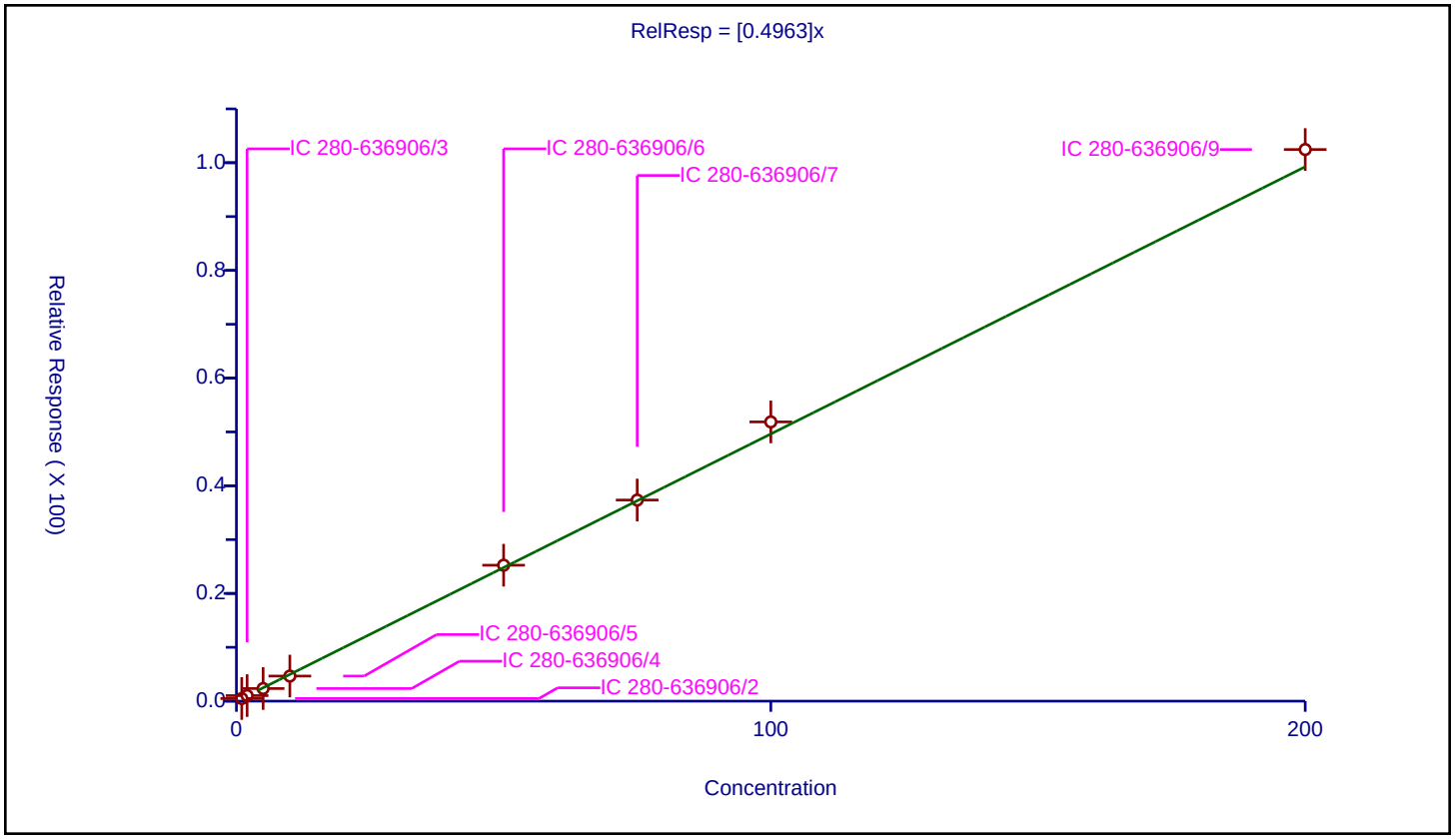
Curve Coefficients

Intercept:	0
Slope:	0.4963

Error Coefficients

Standard Error:	1760000
Relative Standard Error:	4.2
Correlation Coefficient:	0.999
Coefficient of Determination (Adjusted):	0.998

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 280-636906/2	1.0	0.486192	50.0	1780572.0	0.486192	Y
2	IC 280-636906/3	2.0	1.033	50.0	1739642.0	0.5165	Y
3	IC 280-636906/4	5.0	2.339966	50.0	1761051.0	0.467993	Y
4	IC 280-636906/5	10.0	4.65505	50.0	1749702.0	0.465505	Y
5	IC 280-636906/6	50.0	25.248182	50.0	1798480.0	0.504964	Y
6	IC 280-636906/7	75.0	37.350327	50.0	1821549.0	0.498004	Y
7	IC 280-636906/8	100.0	51.865138	50.0	1866216.0	0.518651	Y
8	IC 280-636906/9	200.0	102.451635	50.0	1901180.0	0.512258	Y



12/29/2023
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Calibration / Tert-butyl ethyl ether

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	ISTD
Response Base:	AREA
RF Rounding:	0

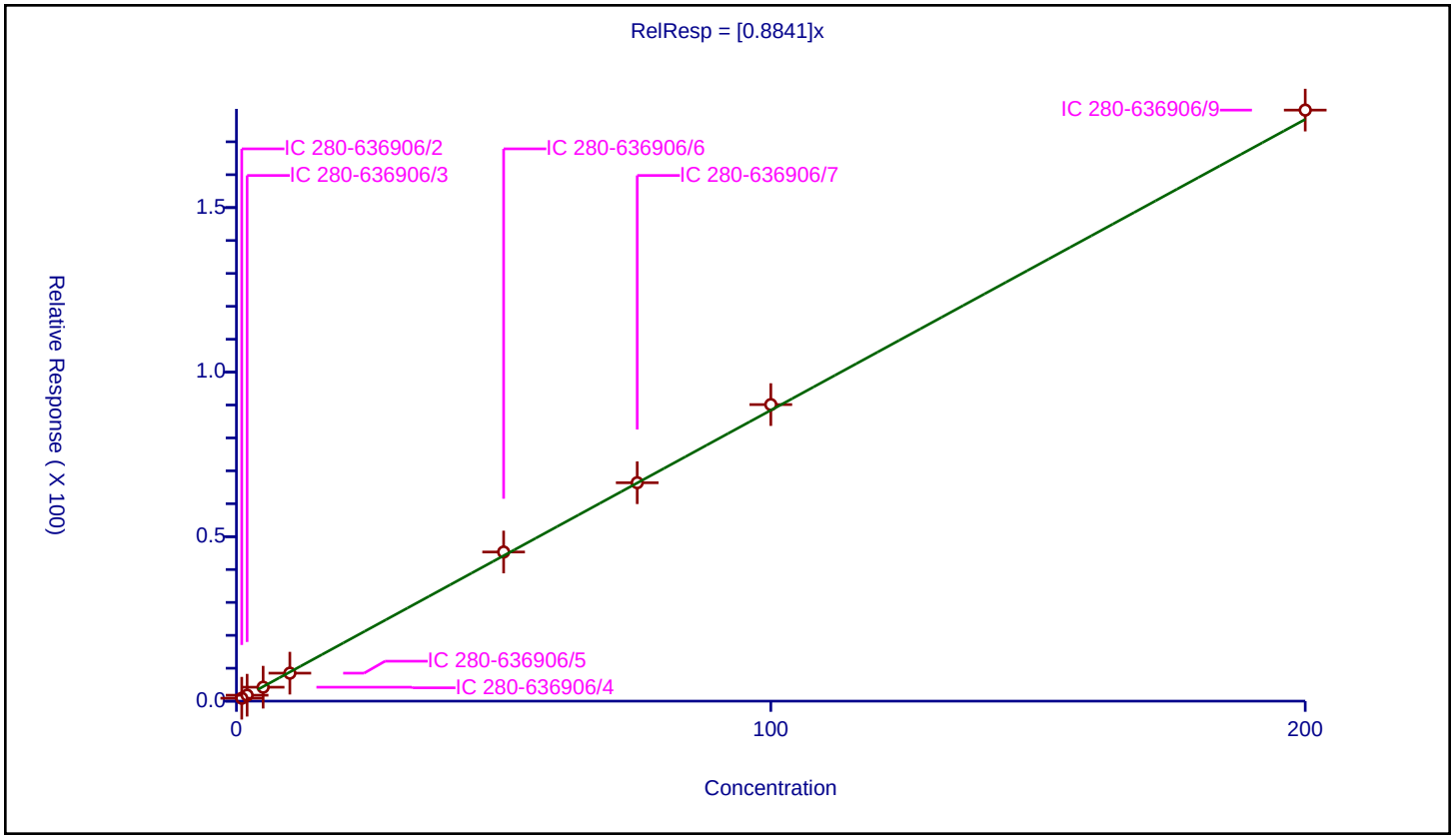
Curve Coefficients

Intercept:	0
Slope:	0.8841

Error Coefficients

Standard Error:	3080000
Relative Standard Error:	2.6
Correlation Coefficient:	1.000
Coefficient of Determination (Adjusted):	0.999

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 280-636906/2	1.0	0.884547	50.0	1780572.0	0.884547	Y
2	IC 280-636906/3	2.0	1.798876	50.0	1739642.0	0.899438	Y
3	IC 280-636906/4	5.0	4.235624	50.0	1761051.0	0.847125	Y
4	IC 280-636906/5	10.0	8.50602	50.0	1749702.0	0.850602	Y
5	IC 280-636906/6	50.0	45.325163	50.0	1798480.0	0.906503	Y
6	IC 280-636906/7	75.0	66.381744	50.0	1821549.0	0.88509	Y
7	IC 280-636906/8	100.0	90.128474	50.0	1866216.0	0.901285	Y
8	IC 280-636906/9	200.0	179.638067	50.0	1901180.0	0.89819	Y



12/29/2023
10:48 AM

Calibration / Ethyl acetate

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	ISTD
Response Base:	AREA
RF Rounding:	0

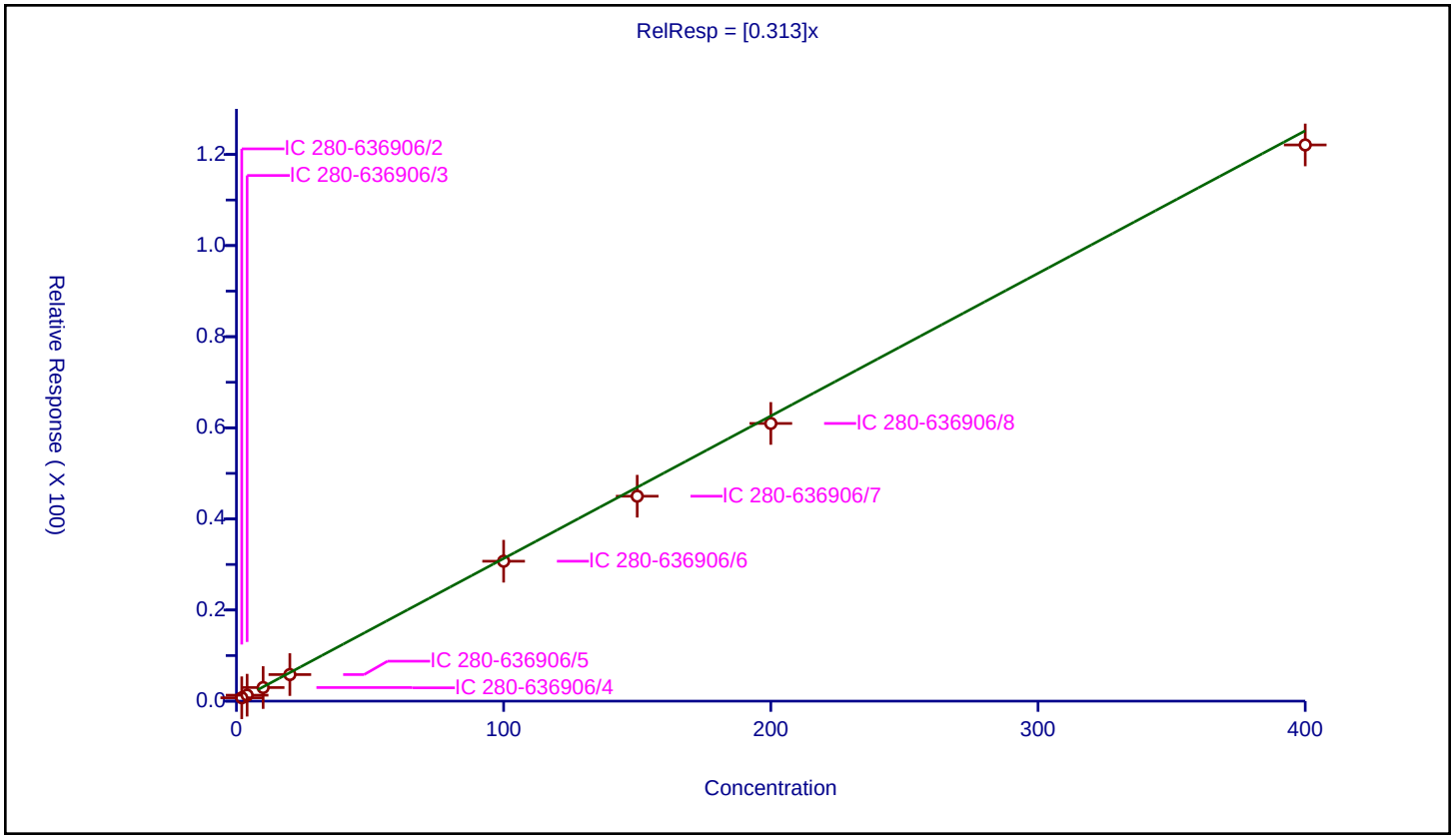
Curve Coefficients

Intercept:	0
Slope:	0.313

Error Coefficients

Standard Error:	2090000
Relative Standard Error:	8.1
Correlation Coefficient:	0.999
Coefficient of Determination (Adjusted):	0.991

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 280-636906/2	2.0	0.740829	50.0	1780572.0	0.370415	Y
2	IC 280-636906/3	4.0	1.307223	50.0	1739642.0	0.326806	Y
3	IC 280-636906/4	10.0	2.982452	50.0	1761051.0	0.298245	Y
4	IC 280-636906/5	20.0	5.830536	50.0	1749702.0	0.291527	Y
5	IC 280-636906/6	100.0	30.713102	50.0	1798480.0	0.307131	Y
6	IC 280-636906/7	150.0	44.985312	50.0	1821549.0	0.299902	Y
7	IC 280-636906/8	200.0	60.955591	50.0	1866216.0	0.304778	Y
8	IC 280-636906/9	400.0	122.092201	50.0	1901180.0	0.305231	Y



12/29/2023
10:48 AM

Calibration / Propionitrile

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	ISTD
Response Base:	AREA
RF Rounding:	0

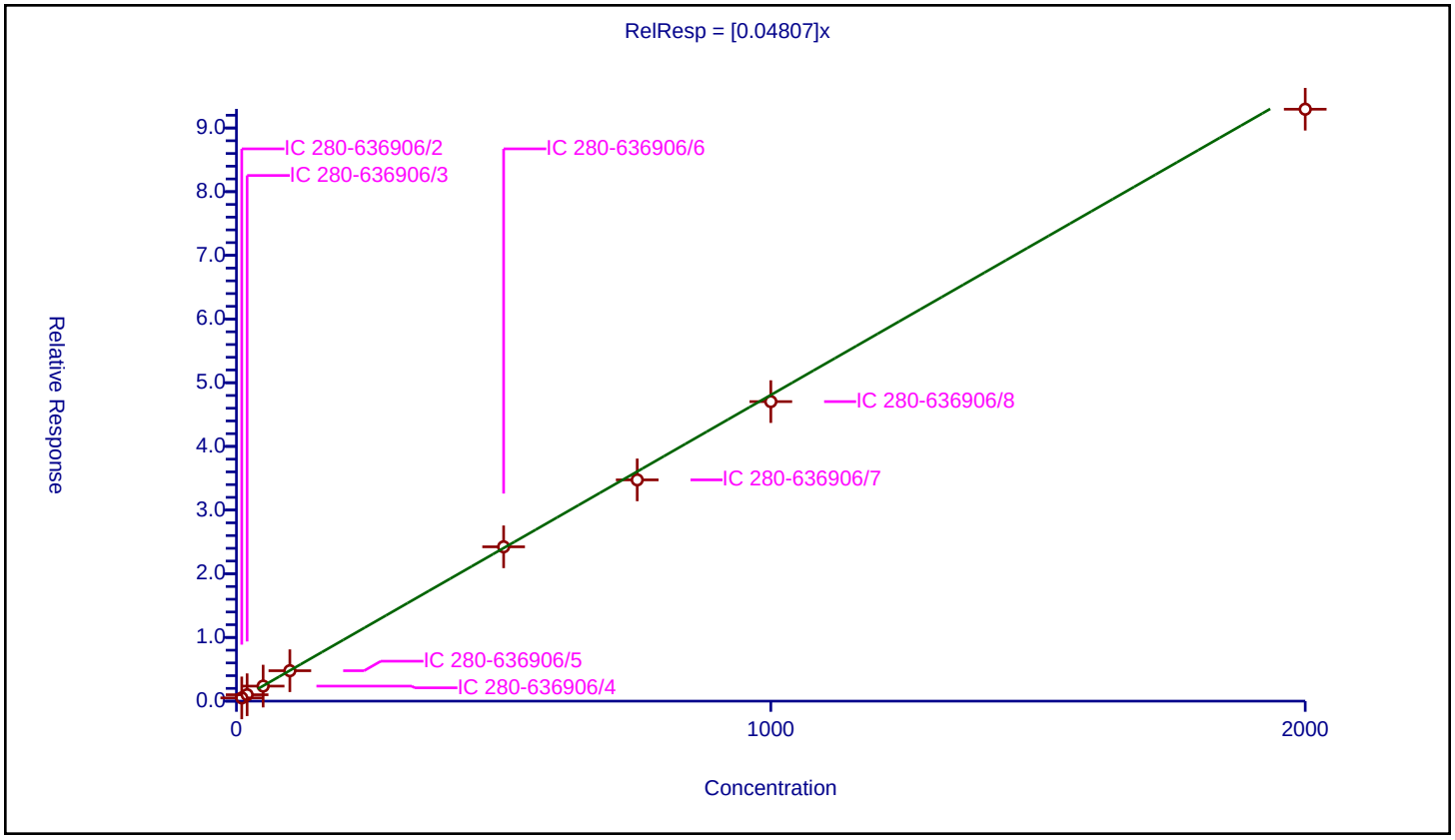
Curve Coefficients

Intercept:	0
Slope:	0.04807

Error Coefficients

Standard Error:	1600000
Relative Standard Error:	3.6
Correlation Coefficient:	1.000
Coefficient of Determination (Adjusted):	0.998

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 280-636906/2	10.0	0.508685	50.0	1780572.0	0.050868	Y
2	IC 280-636906/3	20.0	1.007851	50.0	1739642.0	0.050393	Y
3	IC 280-636906/4	50.0	2.362254	50.0	1761051.0	0.047245	Y
4	IC 280-636906/5	100.0	4.777356	50.0	1749702.0	0.047774	Y
5	IC 280-636906/6	500.0	24.235048	50.0	1798480.0	0.04847	Y
6	IC 280-636906/7	750.0	34.746279	50.0	1821549.0	0.046328	Y
7	IC 280-636906/8	1000.0	47.037883	50.0	1866216.0	0.047038	Y
8	IC 280-636906/9	2000.0	92.951535	50.0	1901180.0	0.046476	Y



12/29/2023
10:48 AM

Calibration / Methacrylonitrile

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	ISTD
Response Base:	AREA
RF Rounding:	0

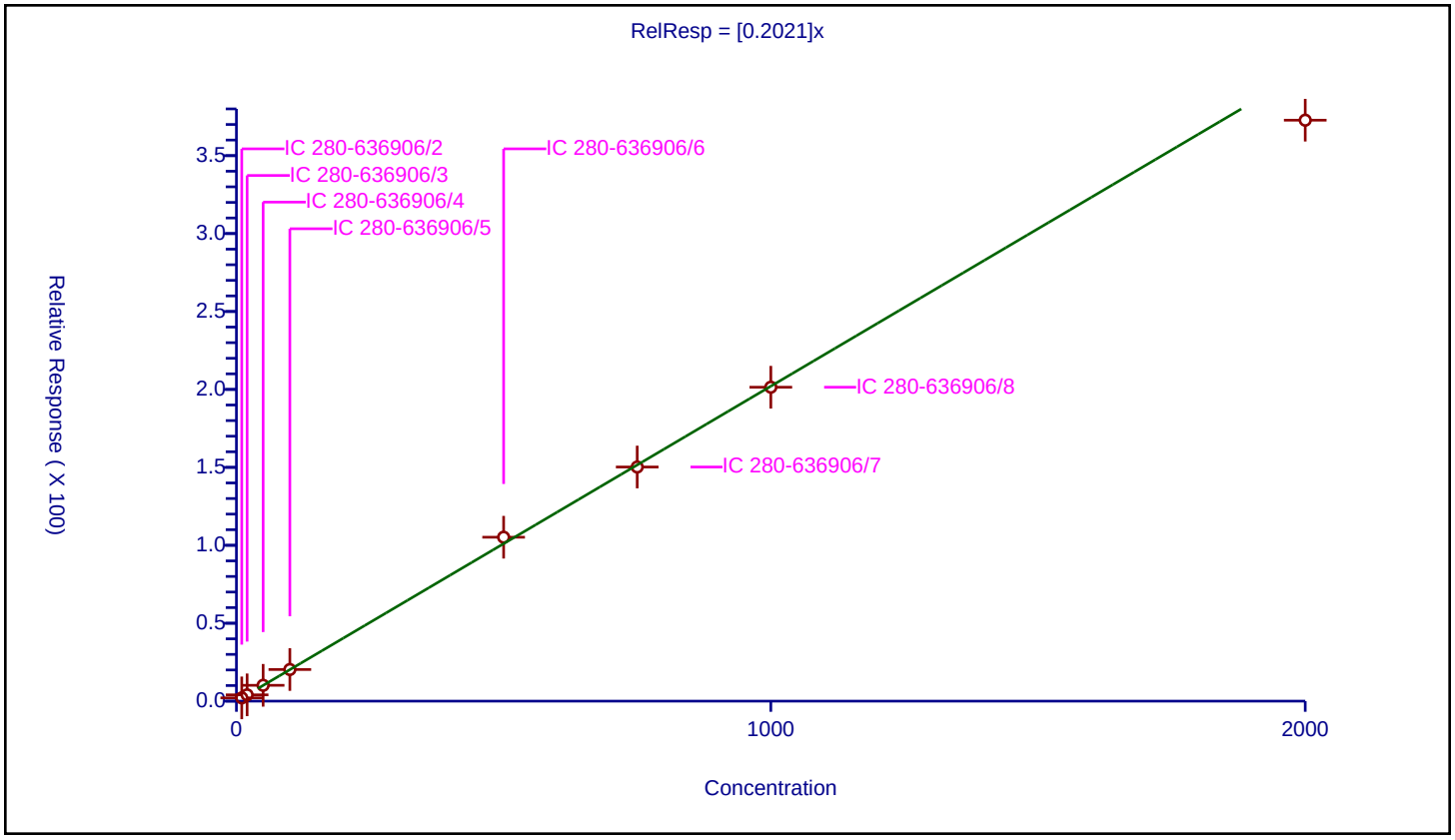
Curve Coefficients

Intercept:	0
Slope:	0.2021

Error Coefficients

Standard Error:	6570000
Relative Standard Error:	3.6
Correlation Coefficient:	0.999
Coefficient of Determination (Adjusted):	0.998

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 280-636906/2	10.0	2.094102	50.0	1780572.0	0.20941	Y
2	IC 280-636906/3	20.0	4.049109	50.0	1739642.0	0.202455	Y
3	IC 280-636906/4	50.0	10.167536	50.0	1761051.0	0.203351	Y
4	IC 280-636906/5	100.0	20.292856	50.0	1749702.0	0.202929	Y
5	IC 280-636906/6	500.0	105.175426	50.0	1798480.0	0.210351	Y
6	IC 280-636906/7	750.0	150.221487	50.0	1821549.0	0.200295	Y
7	IC 280-636906/8	1000.0	201.426068	50.0	1866216.0	0.201426	Y
8	IC 280-636906/9	2000.0	372.748556	50.0	1901180.0	0.186374	Y



12/29/2023
10:48 AM

Calibration / Tert-amyl methyl ether

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	ISTD
Response Base:	AREA
RF Rounding:	0

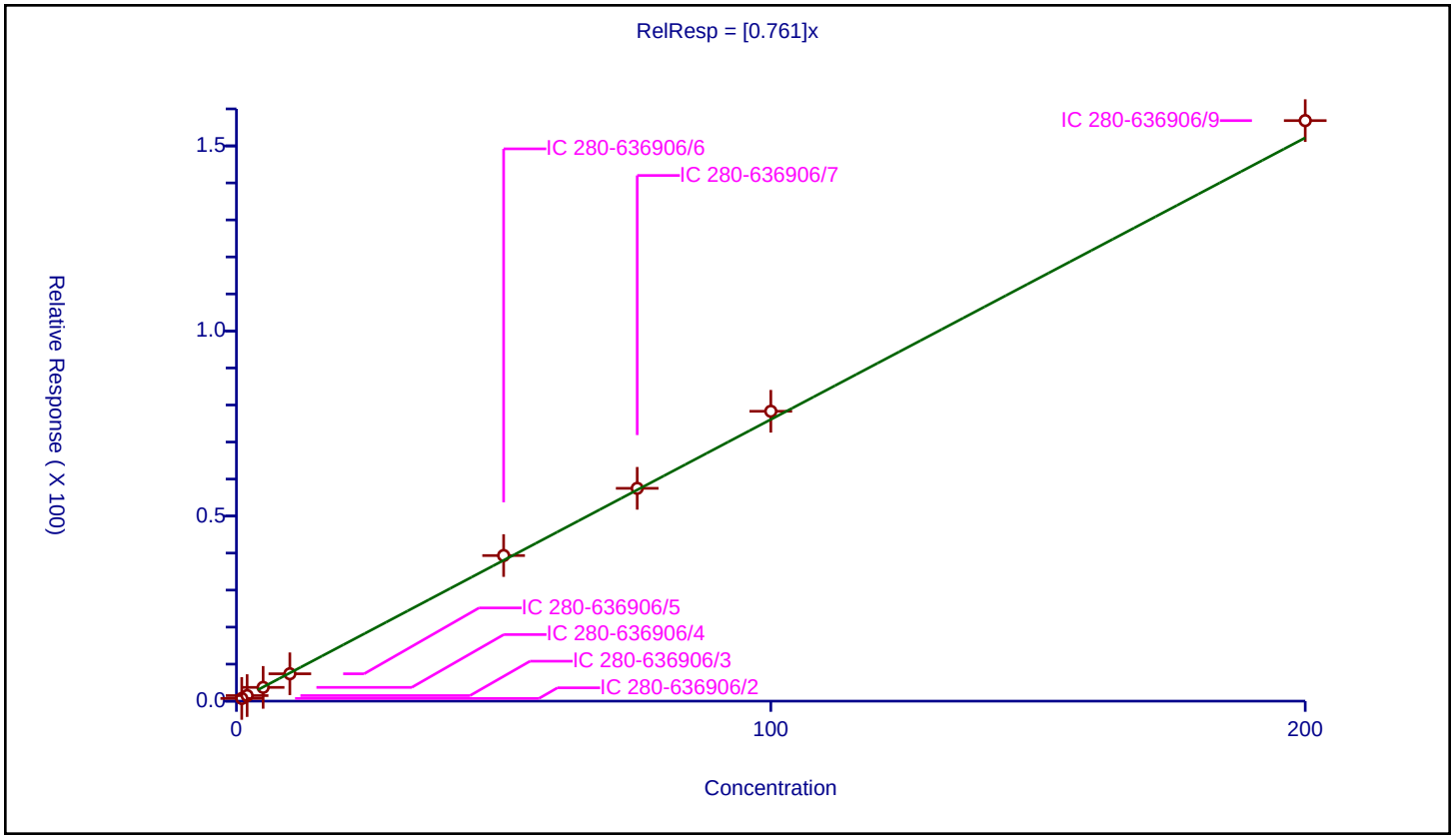
Curve Coefficients

Intercept:	0
Slope:	0.761

Error Coefficients

Standard Error:	2690000
Relative Standard Error:	2.9
Correlation Coefficient:	0.999
Coefficient of Determination (Adjusted):	0.999

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 280-636906/2	1.0	0.733865	50.0	1780572.0	0.733865	Y
2	IC 280-636906/3	2.0	1.499791	50.0	1739642.0	0.749896	Y
3	IC 280-636906/4	5.0	3.719767	50.0	1761051.0	0.743953	Y
4	IC 280-636906/5	10.0	7.393888	50.0	1749702.0	0.739389	Y
5	IC 280-636906/6	50.0	39.335216	50.0	1798480.0	0.786704	Y
6	IC 280-636906/7	75.0	57.496504	50.0	1821549.0	0.76662	Y
7	IC 280-636906/8	100.0	78.313416	50.0	1866216.0	0.783134	Y
8	IC 280-636906/9	200.0	156.831468	50.0	1901180.0	0.784157	Y



12/29/2023
10:48 AM

Calibration / n-Butanol

Curve Type:	Linear
Weighting:	Conc_Sq
Origin:	None
Dependency:	Response
Calib Mode:	ISTD
Response Base:	AREA
RF Rounding:	0

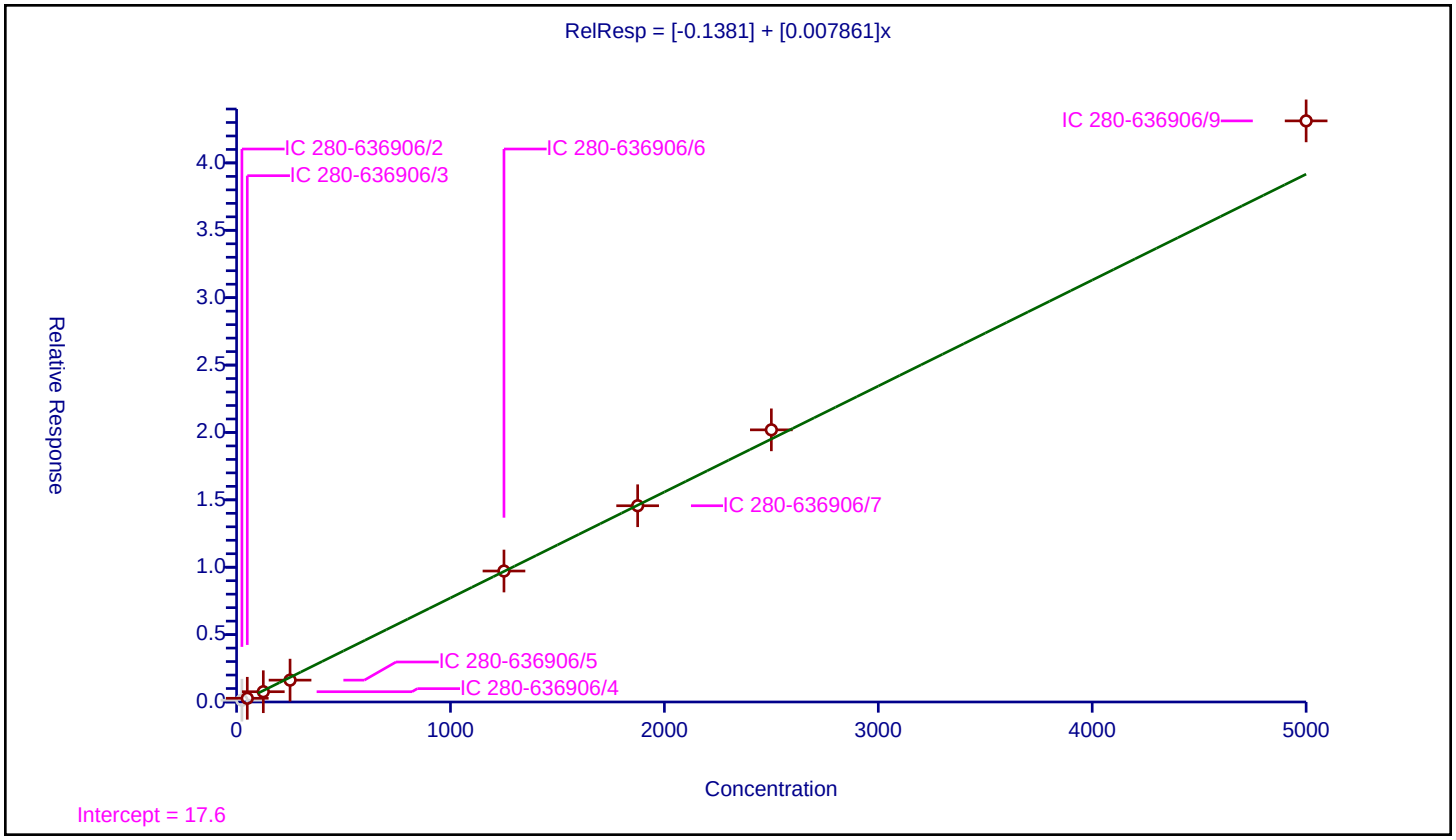
Curve Coefficients

Intercept:	-0.1381
Slope:	0.007861

Error Coefficients

Standard Error:	856000
Relative Standard Error:	8.0
Correlation Coefficient:	0.997
Coefficient of Determination (Adjusted):	0.993

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 280-636906/2	25.0	0.133328	50.0	1780572.0	0.005333	N
2	IC 280-636906/3	50.0	0.27566	50.0	1739642.0	0.005513	Y
3	IC 280-636906/4	125.0	0.76196	50.0	1761051.0	0.006096	Y
4	IC 280-636906/5	250.0	1.621819	50.0	1749702.0	0.006487	Y
5	IC 280-636906/6	1250.0	9.718401	50.0	1798480.0	0.007775	Y
6	IC 280-636906/7	1875.0	14.561974	50.0	1821549.0	0.007766	Y
7	IC 280-636906/8	2500.0	20.193081	50.0	1866216.0	0.008077	Y
8	IC 280-636906/9	5000.0	43.119405	50.0	1901180.0	0.008624	Y



12/29/2023
10:48 AM

Calibration / Methyl methacrylate

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	ISTD
Response Base:	AREA
RF Rounding:	0

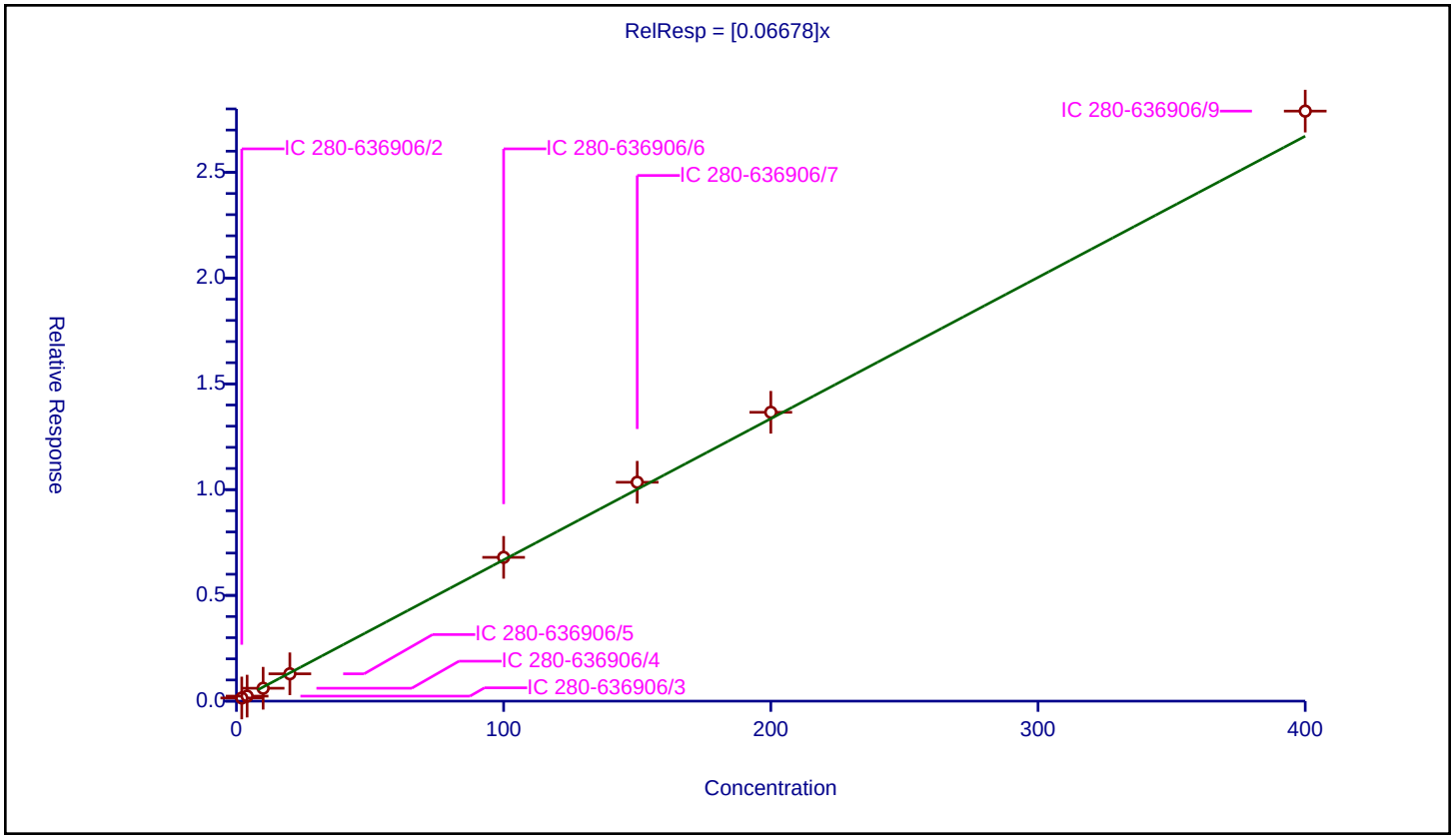
Curve Coefficients

Intercept:	0
Slope:	0.06678

Error Coefficients

Standard Error:	476000
Relative Standard Error:	7.4
Correlation Coefficient:	0.999
Coefficient of Determination (Adjusted):	0.993

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 280-636906/2	2.0	0.148688	50.0	1780572.0	0.074344	Y
2	IC 280-636906/3	4.0	0.237089	50.0	1739642.0	0.059272	Y
3	IC 280-636906/4	10.0	0.609778	50.0	1761051.0	0.060978	Y
4	IC 280-636906/5	20.0	1.292877	50.0	1749702.0	0.064644	Y
5	IC 280-636906/6	100.0	6.797824	50.0	1798480.0	0.067978	Y
6	IC 280-636906/7	150.0	10.348116	50.0	1821549.0	0.068987	Y
7	IC 280-636906/8	200.0	13.656458	50.0	1866216.0	0.068282	Y
8	IC 280-636906/9	400.0	27.895307	50.0	1901180.0	0.069738	Y



12/29/2023
10:48 AM

Calibration / 2-Nitropropane

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	ISTD
Response Base:	AREA
RF Rounding:	0

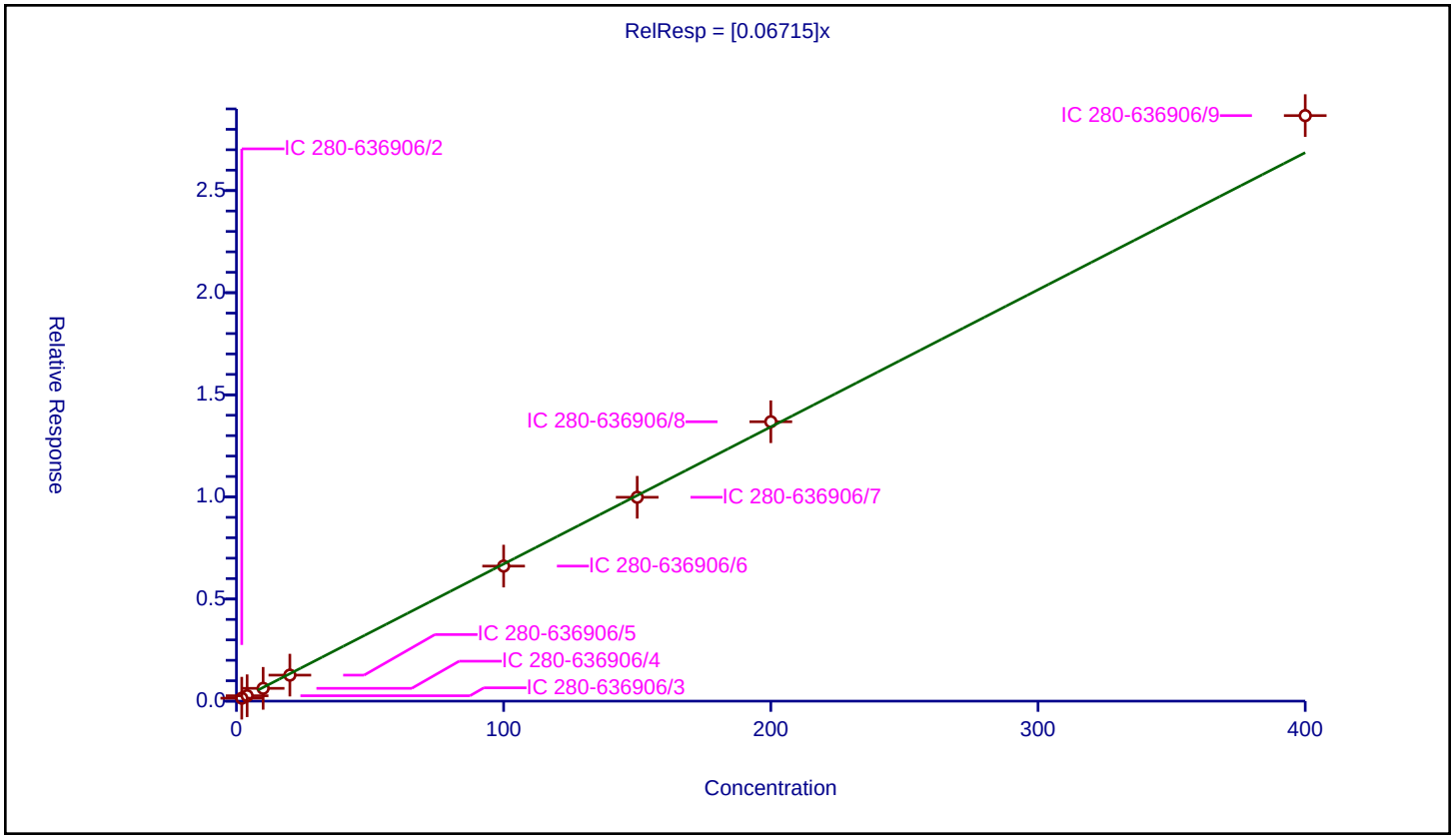
Curve Coefficients

Intercept:	0
Slope:	0.06715

Error Coefficients

Standard Error:	484000
Relative Standard Error:	5.1
Correlation Coefficient:	0.998
Coefficient of Determination (Adjusted):	0.997

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 280-636906/2	2.0	0.144308	50.0	1780572.0	0.072154	Y
2	IC 280-636906/3	4.0	0.263704	50.0	1739642.0	0.065926	Y
3	IC 280-636906/4	10.0	0.626331	50.0	1761051.0	0.062633	Y
4	IC 280-636906/5	20.0	1.273931	50.0	1749702.0	0.063697	Y
5	IC 280-636906/6	100.0	6.612806	50.0	1798480.0	0.066128	Y
6	IC 280-636906/7	150.0	9.98274	50.0	1821549.0	0.066552	Y
7	IC 280-636906/8	200.0	13.681401	50.0	1866216.0	0.068407	Y
8	IC 280-636906/9	400.0	28.670747	50.0	1901180.0	0.071677	Y



12/29/2023
10:48 AM

Calibration / cis-1,4-Dichloro-2-butene

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	ISTD
Response Base:	AREA
RF Rounding:	0

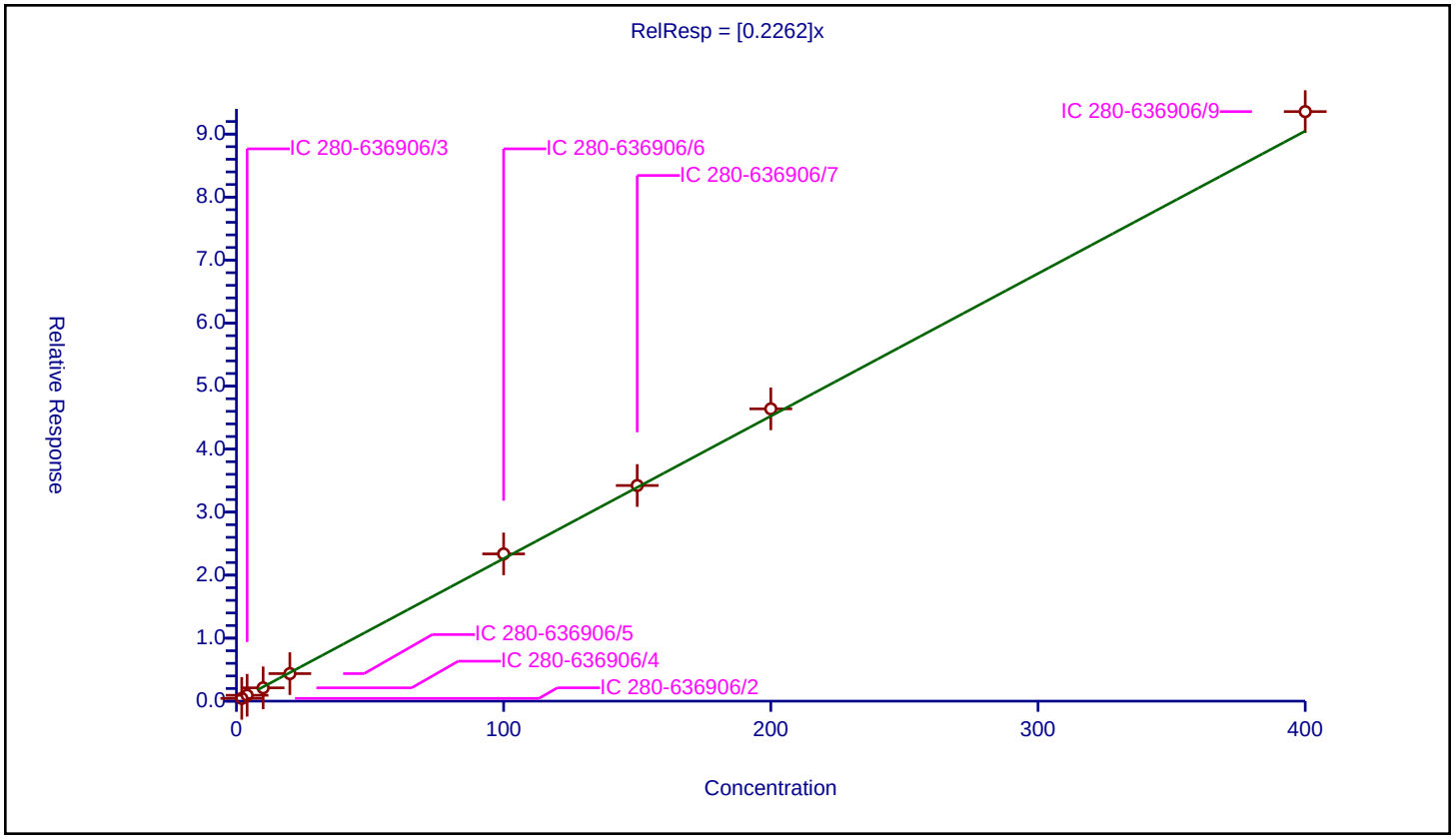
Curve Coefficients

Intercept:	0
Slope:	0.2262

Error Coefficients

Standard Error:	684000
Relative Standard Error:	3.9
Correlation Coefficient:	0.999
Coefficient of Determination (Adjusted):	0.998

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 280-636906/2	2.0	0.438463	50.0	798699.0	0.219232	Y
2	IC 280-636906/3	4.0	0.932454	50.0	755426.0	0.233114	Y
3	IC 280-636906/4	10.0	2.111984	50.0	755498.0	0.211198	Y
4	IC 280-636906/5	20.0	4.367605	50.0	761779.0	0.21838	Y
5	IC 280-636906/6	100.0	23.37146	50.0	773653.0	0.233715	Y
6	IC 280-636906/7	150.0	34.22604	50.0	774704.0	0.228174	Y
7	IC 280-636906/8	200.0	46.390858	50.0	782970.0	0.231954	Y
8	IC 280-636906/9	400.0	93.56883	50.0	816500.0	0.233922	Y



12/29/2023
10:48 AM

Calibration / 1,2,3-Trimethylbenzene

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	ISTD
Response Base:	AREA
RF Rounding:	0

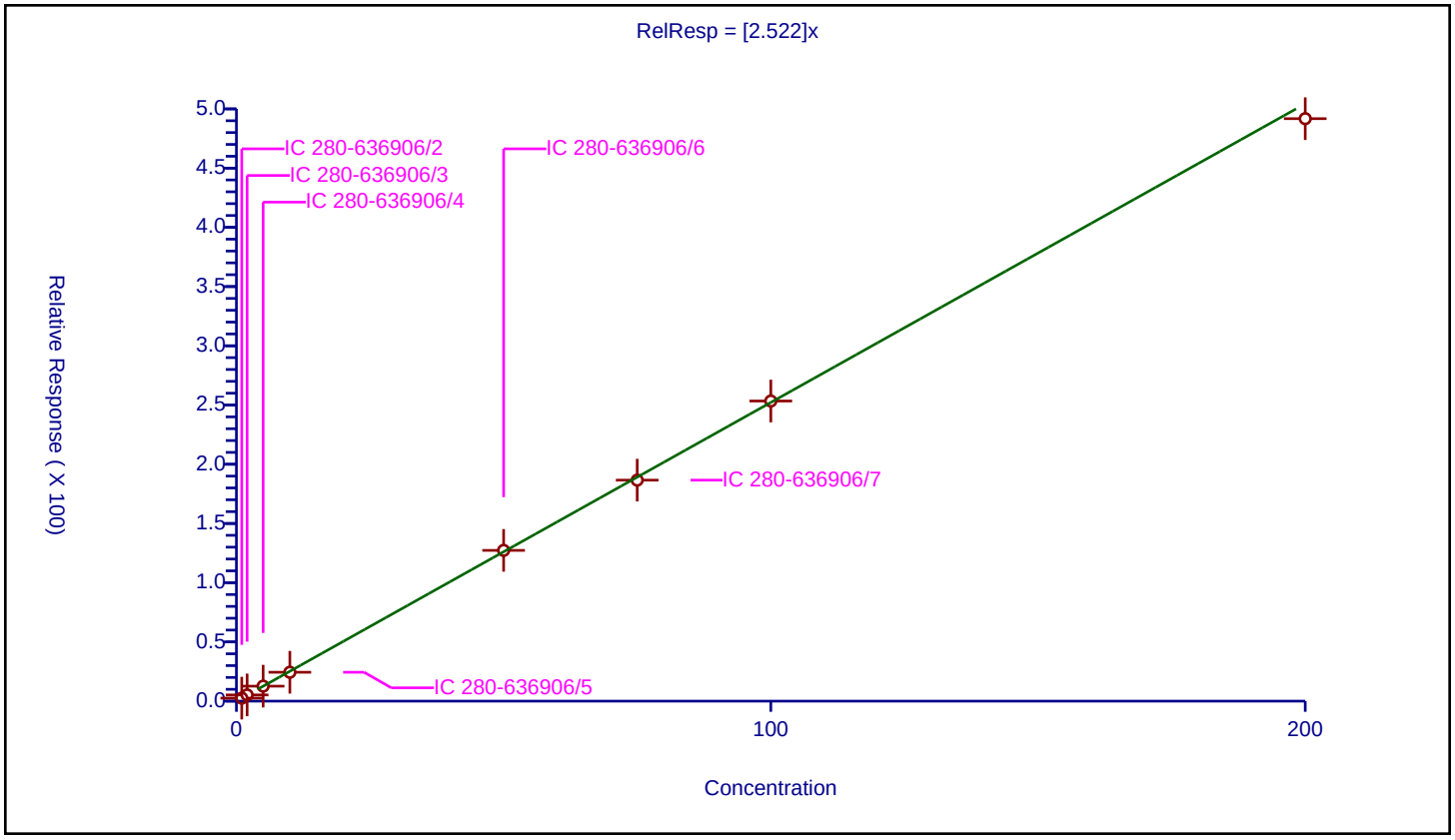
Curve Coefficients

Intercept:	0
Slope:	2.522

Error Coefficients

Standard Error:	3640000
Relative Standard Error:	2.4
Correlation Coefficient:	1.000
Coefficient of Determination (Adjusted):	0.999

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 280-636906/2	1.0	2.551149	50.0	798699.0	2.551149	Y
2	IC 280-636906/3	2.0	5.256968	50.0	755426.0	2.628484	Y
3	IC 280-636906/4	5.0	12.653309	50.0	755498.0	2.530662	Y
4	IC 280-636906/5	10.0	24.376099	50.0	761779.0	2.43761	Y
5	IC 280-636906/6	50.0	127.270301	50.0	773653.0	2.545406	Y
6	IC 280-636906/7	75.0	186.575711	50.0	774704.0	2.487676	Y
7	IC 280-636906/8	100.0	253.369605	50.0	782970.0	2.533696	Y
8	IC 280-636906/9	200.0	491.749357	50.0	816500.0	2.458747	Y



12/29/2023
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Calibration / 1,3,5-Trichlorobenzene

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	ISTD
Response Base:	AREA
RF Rounding:	0

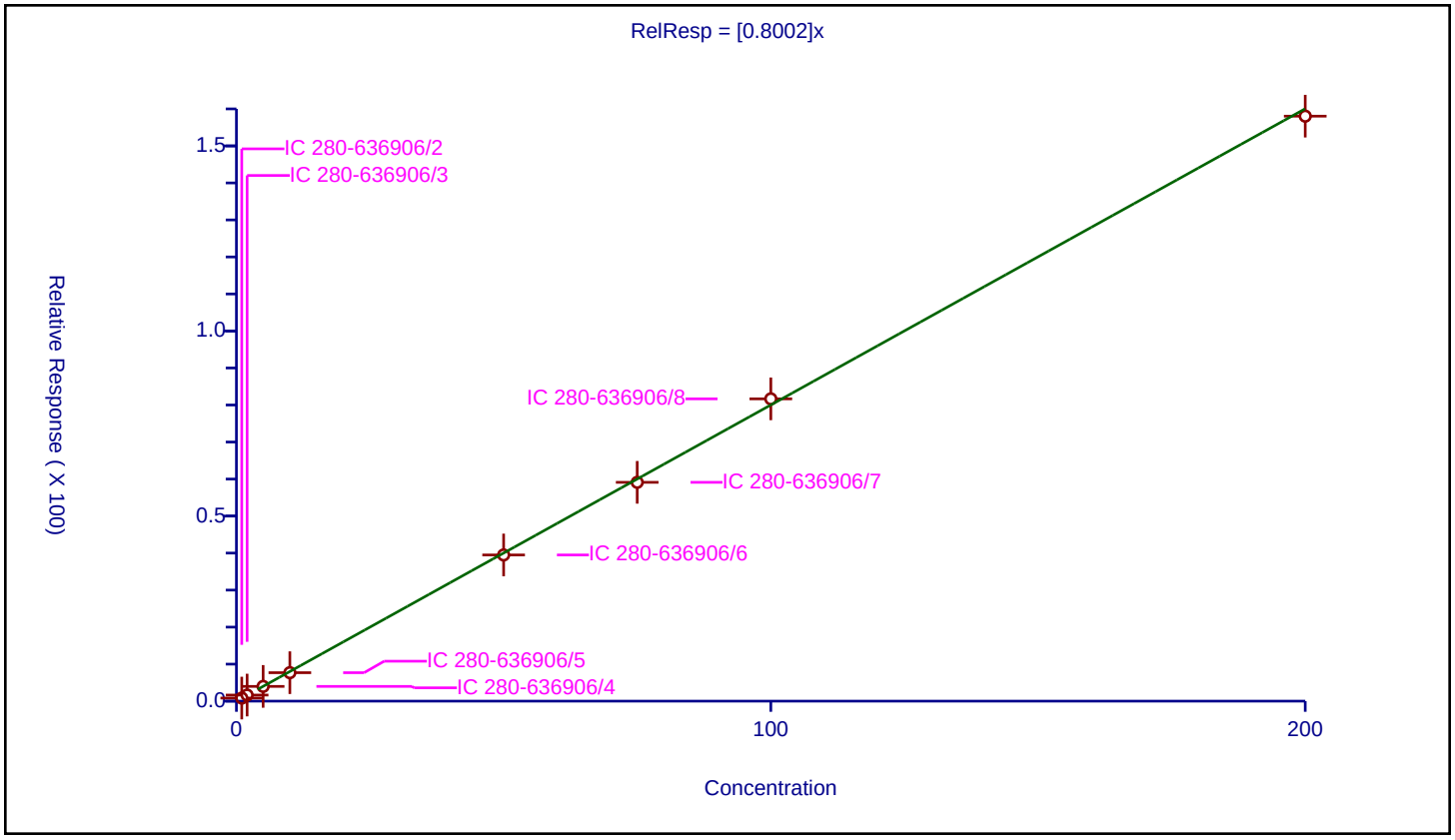
Curve Coefficients

Intercept:	0
Slope:	0.8002

Error Coefficients

Standard Error:	1170000
Relative Standard Error:	2.6
Correlation Coefficient:	1.000
Coefficient of Determination (Adjusted):	0.999

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 280-636906/2	1.0	0.829912	50.0	798699.0	0.829912	Y
2	IC 280-636906/3	2.0	1.642186	50.0	755426.0	0.821093	Y
3	IC 280-636906/4	5.0	3.983267	50.0	755498.0	0.796653	Y
4	IC 280-636906/5	10.0	7.689435	50.0	761779.0	0.768943	Y
5	IC 280-636906/6	50.0	39.492576	50.0	773653.0	0.789852	Y
6	IC 280-636906/7	75.0	59.115675	50.0	774704.0	0.788209	Y
7	IC 280-636906/8	100.0	81.661302	50.0	782970.0	0.816613	Y
8	IC 280-636906/9	200.0	158.033619	50.0	816500.0	0.790168	Y



12/29/2023
10:48 AM

FORM VII
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: Eurofins Denver | Job No.: 280-185797-1

SDG No.:

Lab Sample ID: ICV 280-636738/11 | Calibration Date: 12/09/2023 01:14

Instrument ID: VMS_X4 | Calib Start Date: 12/08/2023 21:49

GC Column: RXI-624SilMS ID: 0.25(mm) | Calib End Date: 12/09/2023 00:33

Lab File ID: X511657.D | Conc. Units: ug/L Heated Purge: (Y/N) N

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Dichlorodifluoromethane	Ave	0.3541	0.3169	0.1000	44.7	50.0	-10.5	20.0
Chloromethane	Ave	0.4897	0.4646	0.1000	47.4	50.0	-5.1	20.0
Vinyl chloride	Ave	0.4221	0.3956	0.0100	46.9	50.0	-6.3	20.0
Bromomethane	Ave	0.2113	0.2072	0.0100	49.0	50.0	-1.9	20.0
Chloroethane	Ave	0.2654	0.2444	0.0100	46.0	50.0	-7.9	20.0
Dichlorofluoromethane	Ave	0.6414	0.6026	0.0100	47.0	50.0	-6.0	20.0
Trichlorofluoromethane	Ave	0.4390	0.4074	0.0100	46.4	50.0	-7.2	20.0
Ethyl ether	Ave	0.2502	0.2388	0.0100	47.7	50.0	-4.6	20.0
Acrolein	Ave	0.0402	0.0353	0.0010	433	494	-12.2	20.0
1,1,2-Trichloro-1,2,2-trifluoroethane	Ave	0.1660	0.1711	0.0500	51.5	50.0	3.1	20.0
1,1-Dichloroethylene	Ave	0.2283	0.2238	0.0600	49.0	50.0	-2.0	20.0
Acetone	Ave	0.0976	0.0913	0.0100	187	200	-6.4	20.0
Iodomethane	Lin1		0.2476	0.0100	41.3	50.0	-17.4	20.0
Carbon disulfide	Ave	0.8495	0.7943	0.1000	46.7	50.0	-6.5	20.0
Methyl acetate	Ave	0.2359	0.2329	0.0100	98.7	100	-1.3	20.0
3-Chloro-1-propene	Ave	0.5365	0.4786	0.0100	44.6	50.0	-10.8	20.0
Methylene Chloride	Ave	0.3010	0.2722	0.0100	45.2	50.0	-9.6	20.0
2-Methyl-2-propanol	Ave	0.0263	0.0281	0.0010	534	500	6.7	20.0
Acrylonitrile	Ave	0.1238	0.1191	0.0100	481	500	-3.8	20.0
Methyl tert-butyl ether	Ave	0.7636	0.7809	0.1000	51.1	50.0	2.3	20.0
trans-1,2-Dichloroethylene	Ave	0.2606	0.2500	0.1000	47.9	50.0	-4.1	20.0
n-Hexane	Ave	1.535	1.509	0.0100	49.2	50.0	-1.7	20.0
Vinyl acetate	Ave	0.5909	0.5632	0.0100	95.3	100	-4.7	20.0
1,1-Dichloroethane	Ave	0.5654	0.5369	0.1000	47.5	50.0	-5.0	20.0
2-Butanone (MEK)	Ave	0.1561	0.1505	0.0100	193	200	-3.6	20.0
cis-1,2-Dichloroethylene	Ave	0.2918	0.2788	0.1000	47.8	50.0	-4.5	20.0
2,2-Dichloropropane	Ave	0.4316	0.3957	0.0100	45.8	50.0	-8.3	20.0
sec-Butyl Alcohol	Ave	0.0227	0.0251	0.0100	1330	1200	10.6	20.0
Bromochloromethane	Ave	0.1171	0.1178	0.0500	50.3	50.0	0.6	20.0
Tetrahydrofuran	Ave	0.1057	0.1003	0.0010	94.8	100	-5.2	20.0
Chloroform	Ave	0.5098	0.4869	0.2000	47.8	50.0	-4.5	20.0
1,1,1-Trichloroethane	Ave	0.4146	0.4085	0.0500	49.3	50.0	-1.5	20.0
Cyclohexane	Ave	0.5369	0.5371	0.0100	50.0	50.0	0.0	20.0
1,1-Dichloropropene	Ave	0.4064	0.3948	0.0100	48.6	50.0	-2.9	20.0
Carbon tetrachloride	Ave	0.3286	0.3304	0.1000	50.3	50.0	0.5	20.0
Isobutyl alcohol	Ave	0.0099	0.0105	0.0010	1320	1250	5.4	20.0
Benzene	Ave	1.189	1.150	0.2000	48.4	50.0	-3.3	20.0
1,2-Dichloroethane	Ave	0.4391	0.3963	0.0700	45.1	50.0	-9.7	20.0
n-Heptane	Ave	0.3586	0.3478		48.5	50.0	-3.0	
Trichloroethene	Ave	1.087	1.085	0.2000	49.9	50.0	-0.1	20.0

FORM VII
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: Eurofins Denver | Job No.: 280-185797-1

SDG No.:

Lab Sample ID: ICV 280-636738/11 | Calibration Date: 12/09/2023 01:14

Instrument ID: VMS_X4 | Calib Start Date: 12/08/2023 21:49

GC Column: RXI-624SilMS ID: 0.25(mm) | Calib End Date: 12/09/2023 00:33

Lab File ID: X511657.D | Conc. Units: ug/L Heated Purge: (Y/N) N

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
2-Pentanone	Ave	0.2252	0.2457	0.0010	175	160	9.1	20.0
Methylcyclohexane	Ave	0.3701	0.3782	0.0500	51.1	50.0	2.2	20.0
1,2-Dichloropropane	Ave	0.3312	0.3212	0.1000	48.5	50.0	-3.0	20.0
1,4-Dioxane	Ave	0.0036	0.0036	0.0010	984	1000	-1.6	20.0
Dibromomethane	Ave	0.1692	0.1653	0.0100	48.8	50.0	-2.3	20.0
Bromodichloromethane	Ave	0.3638	0.3642	0.2000	50.1	50.0	0.1	20.0
2-Chloroethyl vinyl ether	Ave	0.1770	0.1913	0.0100	54.0	50.0	8.0	20.0
cis-1,3-Dichloropropene	Ave	1.835	1.745	0.2000	47.5	50.0	-4.9	20.0
4-Methyl-2-pentanone (MIBK)	Ave	0.2936	0.3113	0.0300	212	200	6.0	20.0
Toluene	Ave	1.235	1.159	0.3000	46.9	50.0	-6.1	20.0
trans-1,3-Dichloropropene	Ave	0.4152	0.4283	0.2000	51.6	50.0	3.2	20.0
Ethyl methacrylate	Ave	1.368	1.460	0.0100	53.3	50.0	6.7	20.0
1,1,2-Trichloroethane	Ave	0.2322	0.2343	0.1000	50.5	50.0	0.9	20.0
Tetrachloroethene	Ave	0.7694	0.7654	0.1000	49.7	50.0	-0.5	20.0
1,3-Dichloropropane	Ave	1.726	1.761	0.0100	51.0	50.0	2.0	20.0
2-Hexanone	Ave	0.8219	0.8742	0.0100	213	200	6.4	20.0
Dibromochloromethane	Ave	0.9293	0.9508	0.1000	51.2	50.0	2.3	20.0
1,2-Dibromoethane	Ave	0.9263	0.9242	0.1000	49.9	50.0	-0.2	20.0
1-Chlorohexane	Ave	1.416	1.421	0.0100	40.2	40.0	0.4	20.0
Chlorobenzene	Ave	2.814	2.763	0.3000	49.1	50.0	-1.8	20.0
1,1,1,2-Tetrachloroethane	Ave	0.8899	0.9171	0.0100	51.5	50.0	3.1	20.0
Ethylbenzene	Ave	1.547	1.552	0.3000	50.2	50.0	0.3	20.0
m-Xylene & p-Xylene	Ave	1.946	1.916	0.1000	49.2	50.0	-1.6	20.0
o-Xylene	Ave	1.897	1.834	0.2000	48.3	50.0	-3.3	20.0
Styrene	Ave	3.102	3.194	0.2000	51.5	50.0	3.0	20.0
Bromoform	Ave	0.5975	0.5890	0.1000	49.3	50.0	-1.4	20.0
Isopropylbenzene	Ave	2.861	2.899	0.3000	50.7	50.0	1.3	20.0
Cyclohexanone	Ave	0.0511	0.0861	0.0010	2530	1500	68.6*	20.0
1,1,2,2-Tetrachloroethane	Ave	0.7682	0.7633	0.3000	49.7	50.0	-0.6	20.0
Bromobenzene	Ave	0.6813	0.6668	0.0100	48.9	50.0	-2.1	20.0
trans-1,4-Dichloro-2-butene	Ave	0.2452	0.2693	0.0100	54.9	50.0	9.9	20.0
1,2,3-Trichloropropane	Ave	0.2094	0.2301	0.0100	54.9	50.0	9.9	20.0
N-Propylbenzene	Ave	0.7338	0.7732	0.0100	52.7	50.0	5.4	20.0
o-Chlorotoluene	Ave	0.6608	0.6471	0.0100	49.0	50.0	-2.1	20.0
1,3,5-Trimethylbenzene	Ave	2.375	2.416	0.0100	50.9	50.0	1.7	20.0
p-Chlorotoluene	Ave	0.6924	0.6751	0.0100	48.8	50.0	-2.5	20.0
tert-Butylbenzene	Ave	1.930	1.941	0.0100	50.3	50.0	0.6	20.0
1,2,4-Trimethylbenzene	Ave	2.470	2.460	0.3000	49.8	50.0	-0.4	20.0
sec-Butylbenzene	Ave	0.5411	0.5330	0.0100	49.3	50.0	-1.5	20.0
1,3-Dichlorobenzene	Ave	1.229	1.238	0.5000	50.3	50.0	0.7	20.0
4-Isopropyltoluene	Ave	2.378	2.367	0.0100	49.8	50.0	-0.5	20.0

FORM VII
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: Eurofins Denver Job No.: 280-185797-1

SDG No.:

Lab Sample ID: ICV 280-636738/11 Calibration Date: 12/09/2023 01:14

Instrument ID: VMS_X4 Calib Start Date: 12/08/2023 21:49

GC Column: RXI-624SilMS ID: 0.25(mm) Calib End Date: 12/09/2023 00:33

Lab File ID: X511657.D Conc. Units: ug/L Heated Purge: (Y/N) N

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
1,4-Dichlorobenzene	Ave	1.330	1.281	0.5000	48.1	50.0	-3.7	20.0
n-Butylbenzene	Ave	2.203	2.231	0.0100	50.6	50.0	1.3	20.0
1,2-Dichlorobenzene	Ave	1.213	1.196	0.5000	49.3	50.0	-1.4	20.0
1,2-Dibromo-3-Chloropropane	Ave	0.1381	0.1421	0.0100	51.5	50.0	2.9	20.0
1,2,4-Trichlorobenzene	Ave	0.6900	0.6998	0.2000	50.7	50.0	1.4	20.0
Hexachlorobutadiene	Ave	0.2701	0.2945	0.0100	54.5	50.0	9.0	20.0
Naphthalene	Ave	1.793	1.845	0.0100	51.5	50.0	2.9	20.0
1,2,3-Trichlorobenzene	Ave	0.5599	0.5655	0.3000	50.5	50.0	1.0	20.0
Dibromofluoromethane (Surr)	Ave	0.2558	0.2494	0.0100	48.7	50.0	-2.5	20.0
1,2-Dichloroethane-d4 (Surr)	Ave	0.3308	0.3223	0.0100	48.7	50.0	-2.6	20.0
Toluene-d8 (Surr)	Ave	4.305	4.398	0.0100	51.1	50.0	2.2	20.0
4-Bromofluorobenzene (Surr)	Ave	0.9543	0.9583	0.0100	50.2	50.0	0.4	20.0

Eurofins Denver
Target Compound Quantitation Report

Data File: \\chromfs\Denver\ChromData\VMS_X4\20231208-128432.b\X511657.D
Lims ID: ICV
Client ID:
Sample Type: ICV
Inject. Date: 09-Dec-2023 01:14:30 ALS Bottle#: 11 Worklist Smp#: 11
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Sample Info: icv
Operator ID: CF Instrument ID: VMS_X4
Sublist:

Method: \\chromfs\Denver\ChromData\VMS_X4\20231208-128432.b\VMS_X4_8260.m
Limit Group: MSV - 8260B Water and Solid
Last Update: 11-Dec-2023 03:16:38 Calib Date: 09-Dec-2023 00:33:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Denver\ChromData\VMS_X4\20231208-128432.b\X511655.D

Column 1 : Rxi-624Sil MS (0.25 mm) Det: MS SCAN
Process Host: CTX1656

First Level Reviewer: BX8N Date: 11-Dec-2023 03:12:48

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
* 1 Fluorobenzene	96	5.199	5.199	0.000	98	1909975	50.0	50.0	
* 2 Chlorobenzene-d5	119	7.723	7.730	-0.007	91	483338	50.0	50.0	
* 3 1,4-Dichlorobenzene-d4	152	9.947	9.947	0.000	98	787898	50.0	50.0	
$ 4 Dibromofluoromethane (Surr)	111	4.692	4.692	0.000	92	476258	50.0	48.7	
$ 5 1,2-Dichloroethane-d4 (Surr)	65	4.956	4.956	0.000	0	615619	50.0	48.7	
$ 6 Toluene-d8 (Surr)	98	6.458	6.458	0.000	95	2125611	50.0	51.1	
$ 7 4-Bromofluorobenzene (Surr)	95	8.817	8.817	0.000	85	755080	50.0	50.2	
9 Dichlorodifluoromethane	85	1.760	1.760	0.000	100	605247	50.0	44.7	
10 Chloromethane	50	1.939	1.939	0.000	100	887299	50.0	47.4	
11 Vinyl chloride	62	2.039	2.039	0.000	99	755585	50.0	46.9	
12 Bromomethane	94	2.332	2.325	0.007	92	395817	50.0	49.0	
13 Chloroethane	64	2.425	2.425	0.000	99	466768	50.0	46.0	
14 Dichlorofluoromethane	67	2.597	2.597	0.000	98	1150930	50.0	47.0	
16 Trichlorofluoromethane	101	2.632	2.632	0.000	99	778049	50.0	46.4	
18 Ethyl ether	59	2.847	2.847	0.000	96	456076	50.0	47.7	
19 Acrolein	56	2.961	2.961	0.000	99	665563	493.8	433.5	
20 1,1,2-Trichloro-1,2,2-trifluoroe	151	3.040	3.040	0.000	97	326798	50.0	51.5	
21 1,1-Dichloroethene	96	3.047	3.047	0.000	95	427414	50.0	49.0	
22 Acetone	43	3.069	3.068	0.001	100	697860	200.0	187.2	
24 Iodomethane	142	3.169	3.169	0.000	100	472924	50.0	41.3	
25 Carbon disulfide	76	3.233	3.233	0.000	100	1517037	50.0	46.7	
27 Methyl acetate	43	3.290	3.290	0.000	99	889542	100.0	98.7	
28 3-Chloro-1-propene	41	3.319	3.312	0.007	89	914122	50.0	44.6	
29 Methylene Chloride	84	3.412	3.412	0.000	98	519878	50.0	45.2	
30 2-Methyl-2-propanol	59	3.455	3.455	0.000	99	536308	500.0	533.7	
31 Acrylonitrile	53	3.576	3.576	0.000	98	2274616	500.0	481.1	
32 Methyl tert-butyl ether	73	3.598	3.598	0.000	97	1491408	50.0	51.1	
33 trans-1,2-Dichloroethene	96	3.612	3.612	0.000	95	477414	50.0	47.9	
34 Hexane	57	3.805	3.805	0.000	97	729194	50.0	49.2	
35 Vinyl acetate	43	3.905	3.905	0.000	97	2151222	100.0	95.3	
36 1,1-Dichloroethane	63	3.934	3.934	0.000	97	1025548	50.0	47.5	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
40 2-Butanone (MEK)	43	4.320	4.320	0.000	99	1149608	200.0	192.8	
42 cis-1,2-Dichloroethene	96	4.341	4.341	0.000	88	532594	50.0	47.8	
43 2,2-Dichloropropane	77	4.356	4.355	0.001	90	755871	50.0	45.8	
45 sec-Butyl Alcohol	45	4.420	4.427	-0.007	99	1150211	1200.0	1327.7	
47 Chlorobromomethane	128	4.520	4.520	0.000	93	224923	50.0	50.3	
48 Tetrahydrofuran	42	4.527	4.527	0.000	92	383119	100.0	94.8	
49 Chloroform	83	4.577	4.577	0.000	96	929994	50.0	47.8	
50 1,1,1-Trichloroethane	97	4.720	4.727	-0.007	98	780204	50.0	49.3	
51 Cyclohexane	56	4.785	4.784	0.001	95	1025868	50.0	50.0	
52 1,1-Dichloropropene	75	4.835	4.835	0.000	96	754039	50.0	48.6	
54 Isobutyl alcohol	41	4.842	4.842	0.000	95	500666	1250.0	1317.6	
53 Carbon tetrachloride	117	4.842	4.842	0.000	91	631046	50.0	50.3	
55 Benzene	78	4.992	4.992	0.000	98	2196314	50.0	48.4	
56 1,2-Dichloroethane	62	5.013	5.013	0.000	97	756965	50.0	45.1	
58 n-Heptane	43	5.171	5.171	0.000	97	664356	50.0	48.5	
60 Trichloroethene	95	5.478	5.478	0.000	96	524575	50.0	49.9	
61 2-Pentanone	43	5.578	5.578	0.000	98	1501538	160.0	174.6	
62 Methylcyclohexane	55	5.671	5.671	0.000	96	722328	50.0	51.1	
63 1,2-Dichloropropane	63	5.686	5.685	0.001	94	613471	50.0	48.5	
65 1,4-Dioxane	88	5.721	5.721	0.000	98	135670	1000.0	983.5	
66 Dibromomethane	93	5.750	5.757	-0.007	93	315749	50.0	48.8	
67 Dichlorobromomethane	83	5.879	5.878	0.001	99	695549	50.0	50.1	
69 2-Chloroethyl vinyl ether	63	6.072	6.072	0.000	91	365317	50.0	54.0	
70 cis-1,3-Dichloropropene	75	6.222	6.222	0.000	92	843518	50.0	47.5	
71 4-Methyl-2-pentanone (MIBK)	43	6.329	6.329	0.000	99	2378416	200.0	212.1	
72 Toluene	91	6.515	6.515	0.000	97	2214499	50.0	46.9	
73 trans-1,3-Dichloropropene	75	6.687	6.686	0.001	98	818096	50.0	51.6	
74 Ethyl methacrylate	69	6.708	6.701	0.007	93	705734	50.0	53.3	
75 1,1,2-Trichloroethane	97	6.858	6.865	-0.007	93	447507	50.0	50.5	
76 Tetrachloroethene	164	6.958	6.958	0.000	95	369956	50.0	49.7	
77 1,3-Dichloropropane	76	7.008	7.008	0.000	98	851130	50.0	51.0	
78 2-Hexanone	43	7.030	7.030	0.000	98	1690079	200.0	212.7	
79 Chlorodibromomethane	129	7.201	7.201	0.000	91	459559	50.0	51.2	
80 Ethylene Dibromide	107	7.323	7.323	0.000	99	446713	50.0	49.9	
81 1-Chlorohexane	91	7.709	7.709	0.000	92	549532	40.0	40.2	
82 Chlorobenzene	112	7.752	7.752	0.000	91	1335451	50.0	49.1	
83 1,1,1,2-Tetrachloroethane	131	7.823	7.823	0.000	95	443282	50.0	51.5	
84 Ethylbenzene	106	7.831	7.830	0.001	99	750312	50.0	50.2	
85 m-Xylene & p-Xylene	106	7.945	7.945	0.000	0	925980	50.0	49.2	
86 o-Xylene	106	8.310	8.310	0.000	98	886336	50.0	48.3	
87 Styrene	104	8.324	8.324	0.000	93	1543871	50.0	51.5	
88 Bromoform	173	8.503	8.503	0.000	94	284687	50.0	49.3	
89 Isopropylbenzene	105	8.646	8.646	0.000	97	2284067	50.0	50.7	
91 Cyclohexanone	55	8.746	8.746	0.000	96	1249027	1500.0	2528.4	
92 1,1,2,2-Tetrachloroethane	83	8.932	8.932	0.000	95	601420	50.0	49.7	
93 Bromobenzene	156	8.967	8.967	0.000	97	525349	50.0	48.9	
94 trans-1,4-Dichloro-2-butene	53	8.967	8.967	0.000	66	212198	50.0	54.9	
95 1,2,3-Trichloropropane	110	8.996	8.996	0.000	88	181303	50.0	54.9	
96 N-Propylbenzene	120	9.046	9.046	0.000	99	609211	50.0	52.7	
97 2-Chlorotoluene	126	9.146	9.146	0.000	95	509867	50.0	49.0	
98 1,3,5-Trimethylbenzene	105	9.218	9.218	0.000	95	1903641	50.0	50.9	
99 4-Chlorotoluene	126	9.261	9.261	0.000	99	531927	50.0	48.8	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
100 tert-Butylbenzene	119	9.525	9.532	-0.007	94	1529641	50.0	50.3	
102 1,2,4-Trimethylbenzene	105	9.582	9.582	0.000	99	1938273	50.0	49.8	
103 sec-Butylbenzene	134	9.747	9.747	0.000	95	419988	50.0	49.3	
104 1,3-Dichlorobenzene	146	9.876	9.875	0.001	96	975112	50.0	50.3	
105 4-Isopropyltoluene	119	9.890	9.890	0.000	97	1864580	50.0	49.8	
106 1,4-Dichlorobenzene	146	9.976	9.976	0.000	93	1008924	50.0	48.1	
108 n-Butylbenzene	91	10.297	10.297	0.000	99	1757737	50.0	50.6	
109 1,2-Dichlorobenzene	146	10.333	10.333	0.000	95	942012	50.0	49.3	
110 1,2-Dibromo-3-Chloropropane	157	11.105	11.112	-0.007	76	111965	50.0	51.5	
112 1,2,4-Trichlorobenzene	180	11.935	11.935	0.000	94	551363	50.0	50.7	
113 Hexachlorobutadiene	225	12.071	12.071	0.000	97	232006	50.0	54.5	
114 Naphthalene	128	12.207	12.206	0.001	98	1453837	50.0	51.5	
115 1,2,3-Trichlorobenzene	180	12.428	12.428	0.000	95	445578	50.0	50.5	
S 122 1,2-Dichloroethene, Total (URS)	96				0		100.0	95.7	
S 127 Trihalomethanes, Total	1				0		200.0	198.3	
S 125 Xylenes, Total	106				0		100.0	97.5	
S 123 Xylenes, Total (URS)	1				0		100.0	97.5	
S 124 1,3-Dichloropropene, Total	1				0		100.0	99.1	
S 129 1,2-Dichloroethene, Total	1				0		100.0	95.7	

QC Flag Legend

Processing Flags

Reagents:

MV-MegaMain B_00094	Amount Added: 25.00	Units: uL	
MV-Gas B_00152	Amount Added: 10.00	Units: uL	
mv-IS_SS_00074	Amount Added: 5.00	Units: uL	Run Reagent

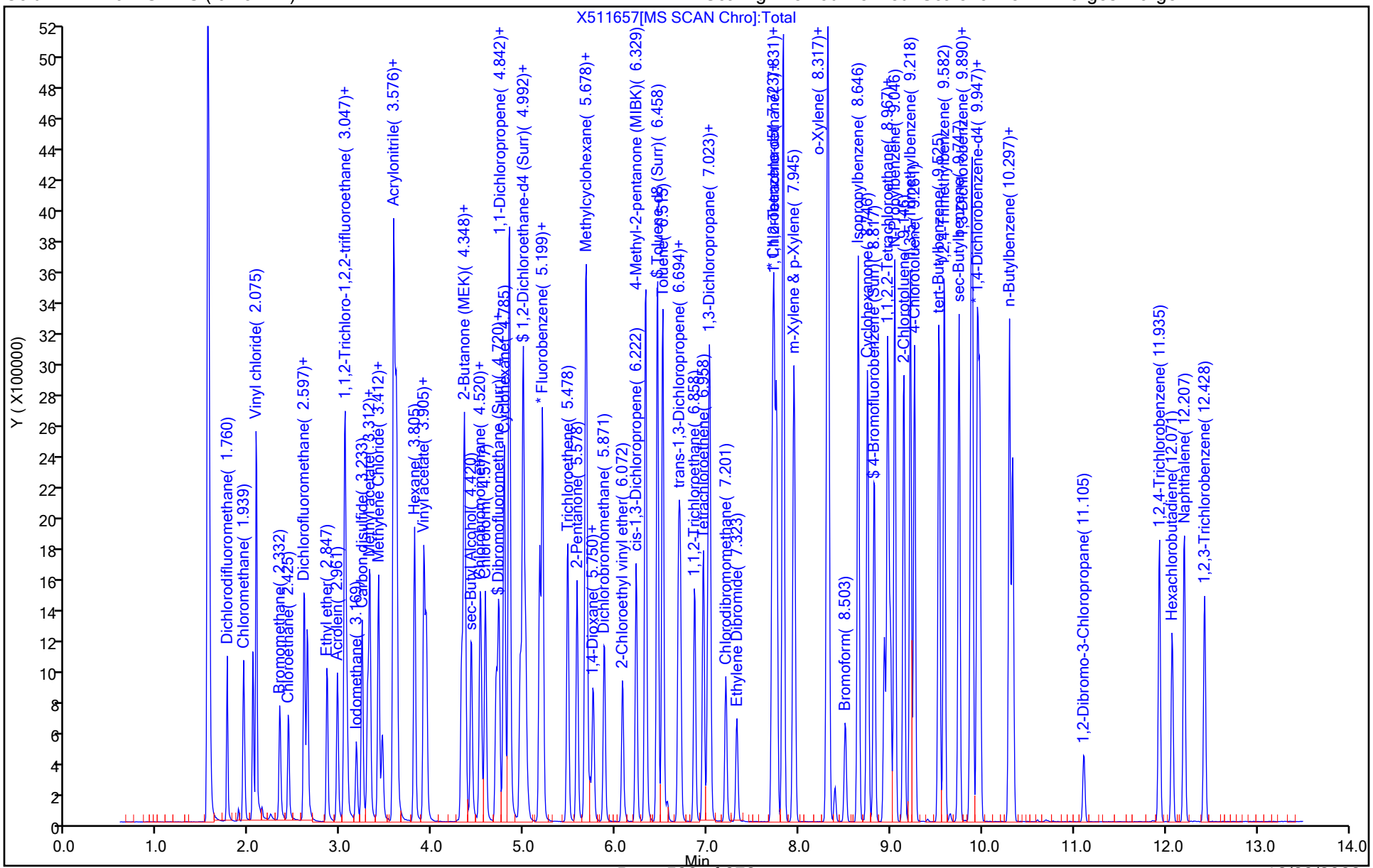
Report Date: 11-Dec-2023 03:16:39 Chrom Revision: 2.3 15-Nov-2023 20:54:34

Eurofins Denver

Data File: \\chromfs\Denver\ChromData\VMS_X4\20231208-128432.b\X511657.D

Injection Date:	09-Dec-2023 01:14:30	Instrument ID:	VMS_X4	Operator ID:	CF
Lims ID:	ICV			Worklist Smp#:	11
Client ID:					
Purge Vol:	5.000 mL	Dil. Factor:	1.0000	ALS Bottle#:	11
Method:	VMS_X4_8260	Limit Group:	MSV - 8260B Water and Solid		

Column: Rxi-624Sil MS (0.25 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 1



FORM VII
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: Eurofins Denver | Job No.: 280-185797-1

SDG No.:

Lab Sample ID: ICV 280-636906/10 | Calibration Date: 12/11/2023 21:52

Instrument ID: VMS_X4 | Calib Start Date: 12/11/2023 18:26

GC Column: RXI-624SilMS ID: 0.25(mm) | Calib End Date: 12/11/2023 20:50

Lab File ID: X511705.D | Conc. Units: ug/L Heated Purge: (Y/N) N

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Ethanol	Ave	0.0043	0.0044*	0.0100	3070	3000	2.3	20.0
Isopropyl alcohol	Ave	0.0190	0.0186	0.0100	491	500	-1.9	20.0
Acetonitrile	Ave	0.0542	0.0482	0.0100	445	500	-11.0	20.0
Isopropyl ether	Ave	0.2187	0.2111	0.0100	48.3	50.0	-3.4	20.0
2-Chloro-1,3-butadiene	Ave	0.4963	0.4801	0.0100	48.4	50.0	-3.3	20.0
Tert-butyl ethyl ether	Ave	0.8841	0.8713	0.0100	49.3	50.0	-1.5	20.0
Ethyl acetate	Ave	0.3130	0.2849	0.0100	91.0	100	-9.0	20.0
Propionitrile	Ave	0.0481	0.0458	0.0100	477	500	-4.7	20.0
Methacrylonitrile	Ave	0.2021	0.1993	0.0100	493	500	-1.4	20.0
Tert-amyl methyl ether	Ave	0.7610	0.7560	0.0100	49.7	50.0	-0.7	20.0
n-Butanol	Lin2		0.0076*	0.0100	1220	1250	-2.0	20.0
Methyl methacrylate	Ave	0.0668	0.0677	0.0100	101	100	1.4	20.0
2-Nitropropane	Ave	0.0671	0.0639	0.0100	95.1	100	-4.9	20.0
cis-1,4-Dichloro-2-butene	Ave	0.2262	0.2454	0.0100	108	100	8.5	20.0
1,2,3-Trimethylbenzene	Ave	2.522	2.409	0.0100	47.8	50.0	-4.5	20.0
1,3,5-Trichlorobenzene	Ave	0.8002	0.7730	0.0100	48.3	50.0	-3.4	30.0

Eurofins Denver
Target Compound Quantitation Report

Data File: \\chromfs\Denver\ChromData\VMS_X4\20231211-128477.b\X511705.D
Lims ID: ICV
Client ID:
Sample Type: ICV
Inject. Date: 11-Dec-2023 21:52:30 ALS Bottle#: 11 Worklist Smp#: 10
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Sample Info: icv
Operator ID: CF Instrument ID: VMS_X4
Sublist:

Method: \\chromfs\Denver\ChromData\VMS_X4\20231211-128477.b\VMS_X4_8260.m
Limit Group: MSV - 8260B Water and Solid
Last Update: 12-Dec-2023 05:03:42 Calib Date: 11-Dec-2023 20:50:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Denver\ChromData\VMS_X4\20231211-128477.b\X511702.D

Column 1 : Rxi-624Sil MS (0.25 mm) Det: MS SCAN
Process Host: CTX1609

First Level Reviewer: BX8N Date: 12-Dec-2023 05:02:50

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
* 1 Fluorobenzene	96	5.199	5.199	0.000	97	1785278	50.0	50.0	
* 2 Chlorobenzene-d5	119	7.731	7.730	0.000	91	468363	50.0	50.0	
* 3 1,4-Dichlorobenzene-d4	152	9.947	9.947	0.000	97	793046	50.0	50.0	
17 Ethanol	45	2.754	2.754	0.000	99	467081	3000.0	3067.6	
23 Isopropyl alcohol	45	3.147	3.147	0.000	99	332139	500.0	490.6	
26 Acetonitrile	41	3.276	3.276	0.000	99	860110	500.0	444.8	
37 Isopropyl ether	87	3.927	3.926	0.001	95	376940	50.0	48.3	
38 2-Chloro-1,3-butadiene	53	3.984	3.984	0.000	94	857139	50.0	48.4	
39 Tert-butyl ethyl ether	59	4.191	4.191	0.000	99	1555455	50.0	49.3	
41 Ethyl acetate	43	4.327	4.327	0.000	99	1017409	100.0	91.0	
44 Propionitrile	54	4.370	4.370	0.000	99	818166	500.0	476.6	
46 Methacrylonitrile	41	4.484	4.484	0.000	95	3557269	500.0	493.0	
57 Tert-amyl methyl ether	73	5.056	5.056	0.000	86	1349702	50.0	49.7	
59 n-Butanol	56	5.335	5.335	0.000	93	338839	1250.0	1224.8	
64 Methyl methacrylate	100	5.678	5.678	0.000	94	241871	100.0	101.4	
68 2-Nitropropane	41	6.043	6.043	0.000	99	228081	100.0	95.1	
90 cis-1,4-Dichloro-2-butene	53	8.696	8.696	0.000	0	389262	100.0	108.5	
107 1,2,3-Trimethylbenzene	105	9.997	9.997	0.000	99	1910142	50.0	47.8	
111 1,3,5-Trichlorobenzene	180	11.298	11.298	0.000	96	613023	50.0	48.3	
118 Ethyl acrylate	55		0.000				ND	ND	

QC Flag Legend

Processing Flags
ND - Not Detected or Marked ND

Reagents:

mv-Cent IS_00008 Amount Added: 5.00 Units: uL
MV-Supp B_00068 Amount Added: 50.00 Units: uL

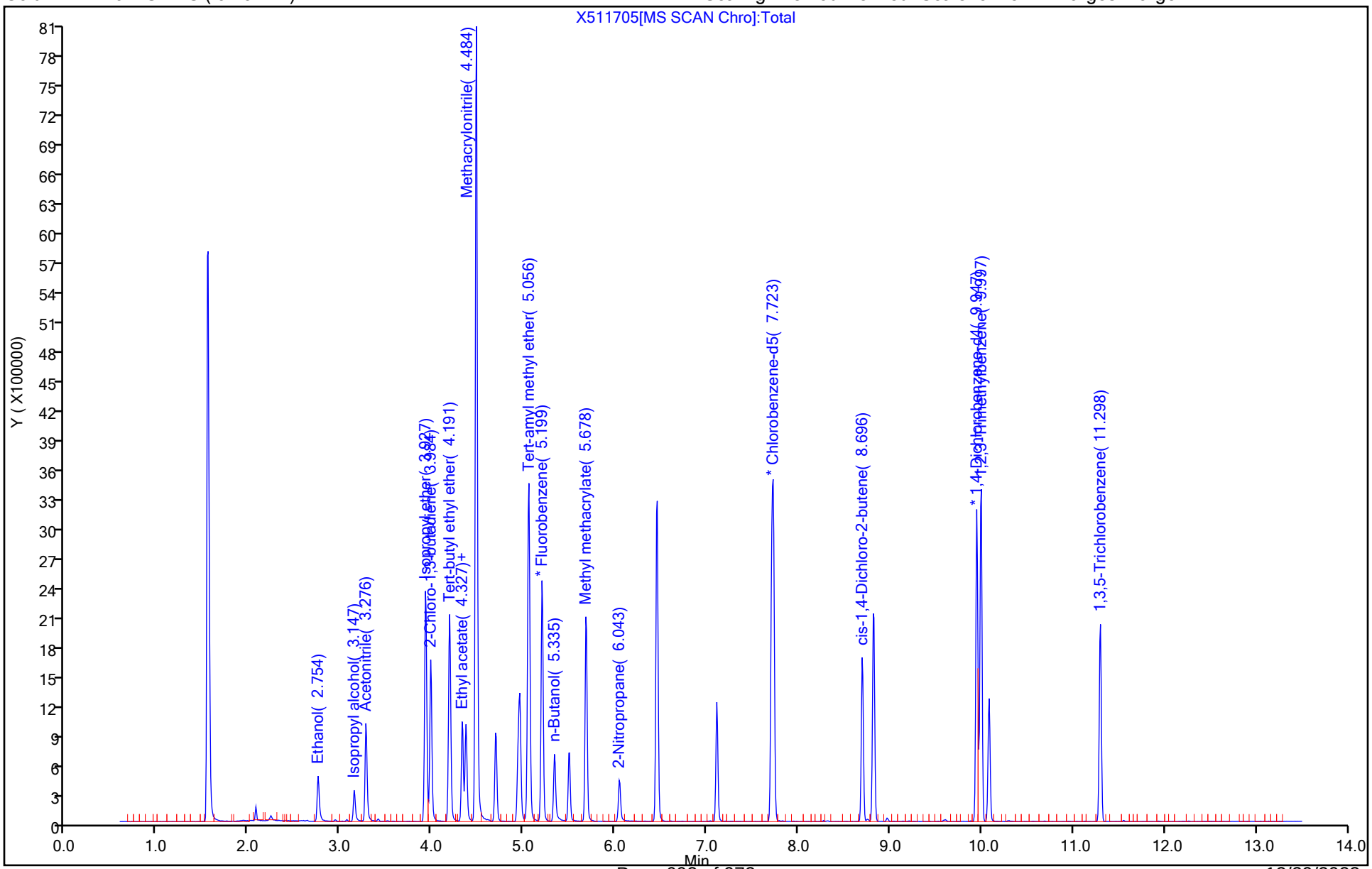
Report Date: 12-Dec-2023 05:03:43 Chrom Revision: 2.3 15-Nov-2023 20:54:34

Eurofins Denver

Data File: \\chromfs\Denver\ChromData\VMS_X4\20231211-128477.b\X511705.D

Injection Date:	11-Dec-2023 21:52:30	Instrument ID:	VMS_X4	Operator ID:	CF
Lims ID:	ICV			Worklist Smp#:	10
Client ID:					
Purge Vol:	5.000 mL	Dil. Factor:	1.0000	ALS Bottle#:	11
Method:	VMS_X4_8260	Limit Group:	MSV - 8260B Water and Solid		

Column: Rxi-624Sil MS (0.25 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 1



FORM VII
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: Eurofins Denver | Job No.: 280-185797-1

SDG No.:

Lab Sample ID: CCV 280-637616/2 | Calibration Date: 12/18/2023 08:33

Instrument ID: VMS_X4 | Calib Start Date: 12/08/2023 21:49

GC Column: RXI-624SilMS ID: 0.25(mm) | Calib End Date: 12/09/2023 00:33

Lab File ID: X511933.D | Conc. Units: ug/L Heated Purge: (Y/N) N

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Dichlorodifluoromethane	Ave	0.3541	0.2504	0.1000	35.4	50.0	-29.3*	20.0
Chloromethane	Ave	0.4897	0.3766	0.1000	38.5	50.0	-23.1*	20.0
Vinyl chloride	Ave	0.4221	0.3610	0.0100	42.8	50.0	-14.5	20.0
Bromomethane	Ave	0.2113	0.1733	0.0100	41.0	50.0	-18.0	20.0
Chloroethane	Ave	0.2654	0.2269	0.0100	42.8	50.0	-14.5	20.0
Dichlorofluoromethane	Ave	0.6414	0.5588	0.0100	43.6	50.0	-12.9	20.0
Trichlorofluoromethane	Ave	0.4390	0.4050	0.0100	46.1	50.0	-7.8	20.0
Ethyl ether	Ave	0.2502	0.2297	0.0100	45.9	50.0	-8.2	20.0
Acrolein	Ave	0.0402	0.0353	0.0010	434	494	-12.1	20.0
1,1,2-Trichloro-1,2,2-trifluoroethane	Ave	0.1660	0.1836	0.0500	55.3	50.0	10.6	20.0
1,1-Dichloroethylene	Ave	0.2283	0.2248	0.0600	49.2	50.0	-1.5	20.0
Acetone	Ave	0.0976	0.0846	0.0100	173	200	-13.3	20.0
Iodomethane	Lin1		0.2875	0.0100	47.9	50.0	-4.3	20.0
Carbon disulfide	Ave	0.8495	0.7717	0.1000	45.4	50.0	-9.2	20.0
Methyl acetate	Ave	0.2359	0.2146	0.0100	90.9	100	-9.1	20.0
3-Chloro-1-propene	Ave	0.5365	0.5277	0.0100	49.2	50.0	-1.6	20.0
Methylene Chloride	Ave	0.3010	0.2793	0.0100	46.4	50.0	-7.2	20.0
2-Methyl-2-propanol	Ave	0.0263	0.0249	0.0010	473	500	-5.4	20.0
Acrylonitrile	Ave	0.1238	0.1133	0.0100	458	500	-8.5	20.0
Methyl tert-butyl ether	Ave	0.7636	0.7751	0.1000	50.8	50.0	1.5	20.0
trans-1,2-Dichloroethylene	Ave	0.2606	0.2619	0.1000	50.2	50.0	0.5	20.0
n-Hexane	Ave	1.535	1.394	0.0100	45.4	50.0	-9.2	20.0
Vinyl acetate	Ave	0.5909	0.6302	0.0100	107	100	6.6	20.0
1,1-Dichloroethane	Ave	0.5654	0.5401	0.1000	47.8	50.0	-4.5	20.0
2-Butanone (MEK)	Ave	0.1561	0.1431	0.0100	183	200	-8.3	20.0
cis-1,2-Dichloroethylene	Ave	0.2918	0.2841	0.1000	48.7	50.0	-2.7	20.0
2,2-Dichloropropane	Ave	0.4316	0.4571	0.0100	53.0	50.0	5.9	20.0
sec-Butyl Alcohol	Ave	0.0227	0.0228	0.0100	1200	1200	0.3	20.0
Bromochloromethane	Ave	0.1171	0.1284	0.0500	54.8	50.0	9.6	20.0
Tetrahydrofuran	Ave	0.1057	0.0970	0.0010	91.7	100	-8.3	20.0
Chloroform	Ave	0.5098	0.4995	0.2000	49.0	50.0	-2.0	20.0
1,1,1-Trichloroethane	Ave	0.4146	0.4443	0.0500	53.6	50.0	7.2	20.0
Cyclohexane	Ave	0.5369	0.5385	0.0100	50.2	50.0	0.3	20.0
1,1-Dichloropropene	Ave	0.4064	0.4203	0.0100	51.7	50.0	3.4	20.0
Carbon tetrachloride	Ave	0.3286	0.3747	0.1000	57.0	50.0	14.0	20.0
Isobutyl alcohol	Ave	0.0099	0.0100	0.0010	1260	1250	0.9	20.0
Benzene	Ave	1.189	1.182	0.2000	49.7	50.0	-0.6	20.0
1,2-Dichloroethane	Ave	0.4391	0.4102	0.0700	46.7	50.0	-6.6	20.0
n-Heptane	Ave	0.3586	0.3688		51.4	50.0	2.8	
Trichloroethene	Ave	1.087	1.059	0.2000	48.7	50.0	-2.5	20.0

FORM VII
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: Eurofins Denver | Job No.: 280-185797-1

SDG No.:

Lab Sample ID: CCV 280-637616/2 | Calibration Date: 12/18/2023 08:33

Instrument ID: VMS_X4 | Calib Start Date: 12/08/2023 21:49

GC Column: RXI-624SilMS ID: 0.25(mm) | Calib End Date: 12/09/2023 00:33

Lab File ID: X511933.D | Conc. Units: ug/L Heated Purge: (Y/N) N

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
2-Pentanone	Ave	0.2252	0.2264	0.0010	161	160	0.5	20.0
Methylcyclohexane	Ave	0.3701	0.3944	0.0500	53.3	50.0	6.6	20.0
1,2-Dichloropropane	Ave	0.3312	0.3211	0.1000	48.5	50.0	-3.1	20.0
1,4-Dioxane	Ave	0.0036	0.0035	0.0010	982	1000	-1.8	20.0
Dibromomethane	Ave	0.1692	0.1614	0.0100	47.7	50.0	-4.7	20.0
Bromodichloromethane	Ave	0.3638	0.3872	0.2000	53.2	50.0	6.4	20.0
2-Chloroethyl vinyl ether	Ave	0.1770	0.1729	0.0100	48.8	50.0	-2.3	20.0
cis-1,3-Dichloropropene	Ave	1.835	1.782	0.2000	48.5	50.0	-2.9	20.0
4-Methyl-2-pentanone (MIBK)	Ave	0.2936	0.2954	0.0300	201	200	0.6	20.0
Toluene	Ave	1.235	1.246	0.3000	50.4	50.0	0.8	20.0
trans-1,3-Dichloropropene	Ave	0.4152	0.4373	0.2000	52.7	50.0	5.3	20.0
Ethyl methacrylate	Ave	1.368	1.323	0.0100	48.3	50.0	-3.3	20.0
1,1,2-Trichloroethane	Ave	0.2322	0.2363	0.1000	50.9	50.0	1.8	20.0
Tetrachloroethene	Ave	0.7694	0.8013	0.1000	52.1	50.0	4.1	20.0
1,3-Dichloropropane	Ave	1.726	1.642	0.0100	47.6	50.0	-4.9	20.0
2-Hexanone	Ave	0.8219	0.7663	0.0100	186	200	-6.8	20.0
Dibromochloromethane	Ave	0.9293	0.9877	0.1000	53.1	50.0	6.3	20.0
1,2-Dibromoethane	Ave	0.9263	0.8968	0.1000	48.4	50.0	-3.2	20.0
1-Chlorohexane	Ave	1.416	1.402	0.0100	39.6	40.0	-1.0	20.0
Chlorobenzene	Ave	2.814	2.766	0.3000	49.2	50.0	-1.7	20.0
1,1,1,2-Tetrachloroethane	Ave	0.8899	0.9725	0.0100	54.6	50.0	9.3	20.0
Ethylbenzene	Ave	1.547	1.601	0.3000	51.7	50.0	3.4	20.0
m-Xylene & p-Xylene	Ave	1.946	1.918	0.1000	49.3	50.0	-1.5	20.0
o-Xylene	Ave	1.897	1.909	0.2000	50.3	50.0	0.6	20.0
Styrene	Ave	3.102	3.161	0.2000	51.0	50.0	1.9	20.0
Bromoform	Ave	0.5975	0.6565	0.1000	54.9	50.0	9.9	20.0
Isopropylbenzene	Ave	2.861	2.837	0.3000	49.6	50.0	-0.9	20.0
Cyclohexanone	Ave	0.0511	0.0647	0.0010	1900	1500	26.6*	20.0
1,1,2,2-Tetrachloroethane	Ave	0.7682	0.7038	0.3000	45.8	50.0	-8.4	20.0
Bromobenzene	Ave	0.6813	0.6709	0.0100	49.2	50.0	-1.5	20.0
trans-1,4-Dichloro-2-butene	Ave	0.2452	0.2463	0.0100	50.2	50.0	0.5	20.0
1,2,3-Trichloropropane	Ave	0.2094	0.2053	0.0100	49.0	50.0	-1.9	20.0
N-Propylbenzene	Ave	0.7338	0.7516	0.0100	51.2	50.0	2.4	20.0
o-Chlorotoluene	Ave	0.6608	0.6398	0.0100	48.4	50.0	-3.2	20.0
1,3,5-Trimethylbenzene	Ave	2.375	2.390	0.0100	50.3	50.0	0.7	20.0
p-Chlorotoluene	Ave	0.6924	0.6749	0.0100	48.7	50.0	-2.5	20.0
tert-Butylbenzene	Ave	1.930	1.961	0.0100	50.8	50.0	1.6	20.0
1,2,4-Trimethylbenzene	Ave	2.470	2.522	0.3000	51.1	50.0	2.1	20.0
sec-Butylbenzene	Ave	0.5411	0.5536	0.0100	51.2	50.0	2.3	20.0
1,3-Dichlorobenzene	Ave	1.229	1.246	0.5000	50.7	50.0	1.4	20.0
4-Isopropyltoluene	Ave	2.378	2.432	0.0100	51.1	50.0	2.3	20.0

FORM VII
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: Eurofins Denver Job No.: 280-185797-1

SDG No.:

Lab Sample ID: CCV 280-637616/2 Calibration Date: 12/18/2023 08:33

Instrument ID: VMS_X4 Calib Start Date: 12/08/2023 21:49

GC Column: RXI-624SilMS ID: 0.25(mm) Calib End Date: 12/09/2023 00:33

Lab File ID: X511933.D Conc. Units: ug/L Heated Purge: (Y/N) N

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
1,4-Dichlorobenzene	Ave	1.330	1.265	0.5000	47.6	50.0	-4.9	20.0
n-Butylbenzene	Ave	2.203	2.245	0.0100	50.9	50.0	1.9	20.0
1,2-Dichlorobenzene	Ave	1.213	1.157	0.5000	47.7	50.0	-4.6	20.0
1,2-Dibromo-3-Chloropropane	Ave	0.1381	0.1423	0.0100	51.5	50.0	3.1	20.0
1,2,4-Trichlorobenzene	Ave	0.6900	0.7016	0.2000	50.8	50.0	1.7	20.0
Hexachlorobutadiene	Ave	0.2701	0.3221	0.0100	59.6	50.0	19.3	20.0
Naphthalene	Ave	1.793	1.609	0.0100	44.9	50.0	-10.3	20.0
1,2,3-Trichlorobenzene	Ave	0.5599	0.5431	0.3000	48.5	50.0	-3.0	20.0
Dibromofluoromethane (Surr)	Ave	0.2558	0.2617	0.0100	51.2	50.0	2.3	20.0
1,2-Dichloroethane-d4 (Surr)	Ave	0.3308	0.3335	0.0100	50.4	50.0	0.8	20.0
Toluene-d8 (Surr)	Ave	4.305	4.293	0.0100	49.9	50.0	-0.3	20.0
4-Bromofluorobenzene (Surr)	Ave	0.9543	0.8625	0.0100	45.2	50.0	-9.6	20.0

Eurofins Denver
Target Compound Quantitation Report

Data File: \\chromfs\Denver\ChromData\VMS_X4\20231218-128669.b\X511933.D
Lims ID: CCV
Client ID:
Sample Type: CCV
Inject. Date: 18-Dec-2023 08:33:30 ALS Bottle#: 1 Worklist Smp#: 2
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Sample Info: CCV
Operator ID: COULTER Instrument ID: VMS_X4
Sublist: chrom-VMS_X4_8260*sub1

Method: \\chromfs\Denver\ChromData\VMS_X4\20231218-128669.b\VMS_X4_8260.m
Limit Group: MSV - 8260B Water and Solid
Last Update: 18-Dec-2023 13:03:16 Calib Date: 11-Dec-2023 20:50:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Denver\ChromData\VMS_X4\20231211-128477.b\X511702.D

Column 1 : Rxi-624Sil MS (0.25 mm) Det: MS SCAN
Process Host: CTX1660

First Level Reviewer: NNS5 Date: 18-Dec-2023 09:40:42

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
* 1 Fluorobenzene	96	5.199	5.199	0.000	98	1743216	50.0	50.0	
* 2 Chlorobenzene-d5	119	7.723	7.723	0.000	90	467459	50.0	50.0	
* 3 1,4-Dichlorobenzene-d4	152	9.947	9.947	0.000	97	806436	50.0	50.0	
$ 4 Dibromofluoromethane (Surr)	111	4.692	4.692	0.000	93	456238	50.0	51.2	
$ 5 1,2-Dichloroethane-d4 (Surr)	65	4.956	4.956	0.000	0	581438	50.0	50.4	
$ 6 Toluene-d8 (Surr)	98	6.450	6.450	0.000	96	2006712	50.0	49.9	
$ 7 4-Bromofluorobenzene (Surr)	95	8.817	8.817	0.000	87	695533	50.0	45.2	
9 Dichlorodifluoromethane	85	1.760	1.760	0.000	100	436547	50.0	35.4	
10 Chloromethane	50	1.939	1.939	0.000	99	656531	50.0	38.5	
11 Vinyl chloride	62	2.039	2.039	0.000	99	629248	50.0	42.8	
12 Bromomethane	94	2.325	2.325	0.000	91	302037	50.0	41.0	
13 Chloroethane	64	2.425	2.425	0.000	99	395605	50.0	42.8	
14 Dichlorofluoromethane	67	2.597	2.597	0.000	99	974108	50.0	43.6	
16 Trichlorofluoromethane	101	2.632	2.632	0.000	100	706031	50.0	46.1	
18 Ethyl ether	59	2.847	2.847	0.000	95	400377	50.0	45.9	
19 Acrolein	56	2.961	2.961	0.000	98	608301	493.8	434.1	
20 1,1,2-Trichloro-1,2,2-trifluoroe	151	3.040	3.040	0.000	95	320093	50.0	55.3	
21 1,1-Dichloroethene	96	3.040	3.040	0.000	95	391912	50.0	49.2	
22 Acetone	43	3.061	3.061	0.000	98	590067	200.0	173.4	
24 Iodomethane	142	3.169	3.169	0.000	99	501194	50.0	47.9	
25 Carbon disulfide	76	3.226	3.226	0.000	100	1345174	50.0	45.4	
27 Methyl acetate	43	3.290	3.290	0.000	99	748020	100.0	90.9	
28 3-Chloro-1-propene	41	3.312	3.312	0.000	90	919917	50.0	49.2	
29 Methylene Chloride	84	3.404	3.404	0.000	98	486902	50.0	46.4	
30 2-Methyl-2-propanol	59	3.447	3.447	0.000	99	433948	500.0	473.1	
31 Acrylonitrile	53	3.576	3.576	0.000	98	1974821	500.0	457.6	
32 Methyl tert-butyl ether	73	3.590	3.590	0.000	97	1351138	50.0	50.8	
33 trans-1,2-Dichloroethene	96	3.605	3.605	0.000	95	456516	50.0	50.2	
34 Hexane	57	3.798	3.798	0.000	96	651681	50.0	45.4	
35 Vinyl acetate	43	3.905	3.905	0.000	97	2197120	100.0	106.6	
36 1,1-Dichloroethane	63	3.926	3.926	0.000	97	941523	50.0	47.8	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
40 2-Butanone (MEK)	43	4.313	4.313	0.000	99	998005	200.0	183.4	
42 cis-1,2-Dichloroethene	96	4.341	4.341	0.000	88	495229	50.0	48.7	
43 2,2-Dichloropropane	77	4.355	4.355	0.000	90	796863	50.0	53.0	
45 sec-Butyl Alcohol	45	4.420	4.420	0.000	99	951984	1200.0	1204.0	
47 Chlorobromomethane	128	4.520	4.520	0.000	95	223773	50.0	54.8	
48 Tetrahydrofuran	42	4.527	4.527	0.000	90	338096	100.0	91.7	
49 Chloroform	83	4.577	4.577	0.000	96	870801	50.0	49.0	
50 1,1,1-Trichloroethane	97	4.720	4.720	0.000	98	774566	50.0	53.6	
51 Cyclohexane	56	4.777	4.777	0.000	95	938800	50.0	50.2	
52 1,1-Dichloropropene	75	4.835	4.835	0.000	95	732641	50.0	51.7	
53 Carbon tetrachloride	117	4.835	4.835	0.000	93	653185	50.0	57.0	
54 Isobutyl alcohol	41	4.842	4.842	0.000	91	437531	1250.0	1261.6	
55 Benzene	78	4.985	4.985	0.000	98	2059702	50.0	49.7	
56 1,2-Dichloroethane	62	5.013	5.013	0.000	97	715080	50.0	46.7	
58 n-Heptane	43	5.163	5.163	0.000	97	642819	50.0	51.4	
60 Trichloroethene	95	5.471	5.471	0.000	97	495179	50.0	48.7	
61 2-Pentanone	43	5.578	5.578	0.000	98	1262933	160.0	160.9	
62 Methylcyclohexane	55	5.671	5.671	0.000	94	687529	50.0	53.3	
63 1,2-Dichloropropane	63	5.678	5.678	0.000	95	559713	50.0	48.5	
65 1,4-Dioxane	88	5.721	5.721	0.000	97	123696	1000.0	982.5	
66 Dibromomethane	93	5.750	5.750	0.000	94	281295	50.0	47.7	
67 Dichlorobromomethane	83	5.871	5.871	0.000	99	675027	50.0	53.2	
69 2-Chloroethyl vinyl ether	63	6.072	6.072	0.000	91	301423	50.0	48.8	
70 cis-1,3-Dichloropropene	75	6.222	6.222	0.000	92	832919	50.0	48.5	
71 4-Methyl-2-pentanone (MIBK)	43	6.322	6.322	0.000	99	2060060	200.0	201.3	
72 Toluene	91	6.508	6.508	0.000	97	2171468	50.0	50.4	
73 trans-1,3-Dichloropropene	75	6.679	6.679	0.000	98	762379	50.0	52.7	
74 Ethyl methacrylate	69	6.701	6.701	0.000	92	618448	50.0	48.3	
75 1,1,2-Trichloroethane	97	6.858	6.858	0.000	93	411968	50.0	50.9	
76 Tetrachloroethene	164	6.951	6.951	0.000	96	374566	50.0	52.1	
77 1,3-Dichloropropane	76	7.008	7.008	0.000	98	767785	50.0	47.6	
78 2-Hexanone	43	7.023	7.023	0.000	99	1432787	200.0	186.5	
79 Chlorodibromomethane	129	7.201	7.201	0.000	91	461707	50.0	53.1	
80 Ethylene Dibromide	107	7.323	7.323	0.000	98	419225	50.0	48.4	
81 1-Chlorohexane	91	7.709	7.709	0.000	92	524332	40.0	39.6	
82 Chlorobenzene	112	7.752	7.752	0.000	91	1293205	50.0	49.2	
83 1,1,1,2-Tetrachloroethane	131	7.823	7.823	0.000	92	454615	50.0	54.6	
84 Ethylbenzene	106	7.830	7.830	0.000	99	748217	50.0	51.7	
85 m-Xylene & p-Xylene	106	7.945	7.945	0.000	0	896551	50.0	49.3	
86 o-Xylene	106	8.302	8.302	0.000	98	892594	50.0	50.3	
87 Styrene	104	8.324	8.324	0.000	94	1477549	50.0	51.0	
88 Bromoform	173	8.503	8.503	0.000	95	306874	50.0	54.9	
89 Isopropylbenzene	105	8.646	8.646	0.000	97	2287622	50.0	49.6	
91 Cyclohexanone	55	8.746	8.746	0.000	96	907562	1500.0	1899.6	
92 1,1,2,2-Tetrachloroethane	83	8.932	8.932	0.000	95	567598	50.0	45.8	
94 trans-1,4-Dichloro-2-butene	53	8.967	8.967	0.000	75	198633	50.0	50.2	
93 Bromobenzene	156	8.967	8.967	0.000	99	541004	50.0	49.2	
95 1,2,3-Trichloropropane	110	8.996	8.996	0.000	88	165596	50.0	49.0	
96 N-Propylbenzene	120	9.046	9.046	0.000	99	606107	50.0	51.2	
97 2-Chlorotoluene	126	9.146	9.146	0.000	95	515955	50.0	48.4	
98 1,3,5-Trimethylbenzene	105	9.218	9.218	0.000	95	1927683	50.0	50.3	
99 4-Chlorotoluene	126	9.261	9.261	0.000	99	544248	50.0	48.7	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
100 tert-Butylbenzene	119	9.525	9.525	0.000	94	1581399	50.0	50.8	
102 1,2,4-Trimethylbenzene	105	9.582	9.582	0.000	99	2033632	50.0	51.1	
103 sec-Butylbenzene	134	9.747	9.747	0.000	95	446465	50.0	51.2	
104 1,3-Dichlorobenzene	146	9.875	9.875	0.000	97	1005181	50.0	50.7	
105 4-Isopropyltoluene	119	9.890	9.890	0.000	97	1961606	50.0	51.1	
106 1,4-Dichlorobenzene	146	9.976	9.976	0.000	93	1020129	50.0	47.6	
108 n-Butylbenzene	91	10.297	10.297	0.000	98	1810185	50.0	50.9	
109 1,2-Dichlorobenzene	146	10.333	10.333	0.000	96	933329	50.0	47.7	
110 1,2-Dibromo-3-Chloropropane	157	11.105	11.105	0.000	82	114769	50.0	51.5	
112 1,2,4-Trichlorobenzene	180	11.935	11.935	0.000	94	565775	50.0	50.8	
113 Hexachlorobutadiene	225	12.071	12.071	0.000	96	259789	50.0	59.6	
114 Naphthalene	128	12.206	12.206	0.000	98	1297350	50.0	44.9	
115 1,2,3-Trichlorobenzene	180	12.428	12.428	0.000	95	437981	50.0	48.5	
S 122 1,2-Dichloroethene, Total (URS)	96				0		100.0	98.9	
S 129 1,2-Dichloroethene, Total	1				0		100.0	98.9	
S 124 1,3-Dichloropropene, Total	1				0		100.0	101.2	
S 123 Xylenes, Total (URS)	1				0		100.0	99.6	
S 127 Trihalomethanes, Total	1				0		200.0	210.3	
S 125 Xylenes, Total	106				0		100.0	99.6	

QC Flag Legend

Processing Flags

Reagents:

MV-MegaMainA_00100	Amount Added: 25.00	Units: uL	
MV-Gas A_00174	Amount Added: 10.00	Units: uL	
mv-IS_SS_00074	Amount Added: 5.00	Units: uL	Run Reagent

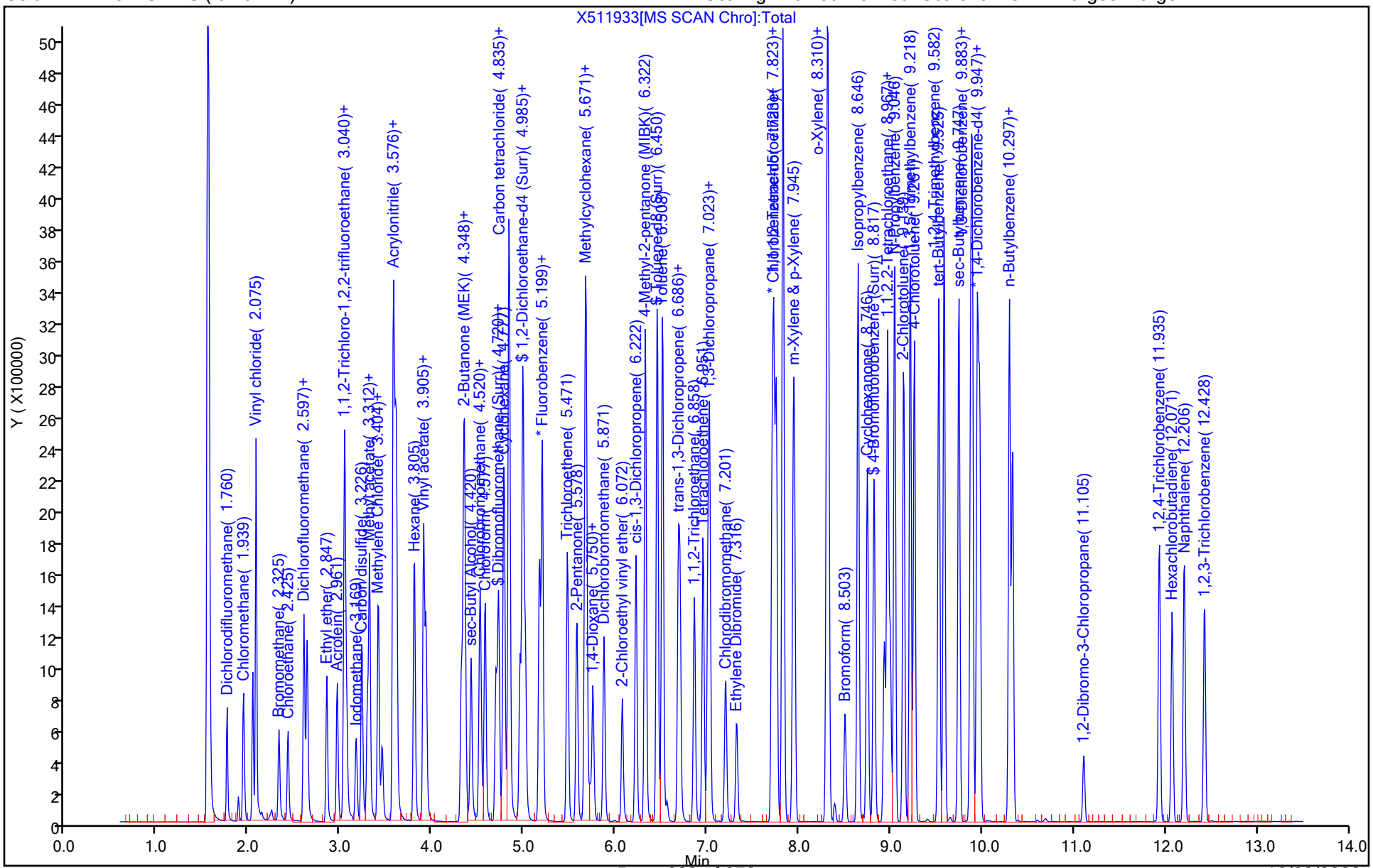
Report Date: 18-Dec-2023 13:03:17 Chrom Revision: 2.3 15-Nov-2023 20:54:34

Eurofins Denver

Data File: \\chromfs\Denver\ChromData\VMS_X4\20231218-128669.b\X511933.D

Injection Date:	18-Dec-2023 08:33:30	Instrument ID:	VMS_X4	Operator ID:	COULTER
Lims ID:	CCV			Worklist Smp#:	2
Client ID:					
Purge Vol:	5.000 mL	Dil. Factor:	1.0000	ALS Bottle#:	1
Method:	VMS_X4_8260	Limit Group:	MSV - 8260B Water and Solid		

Column: Rxi-624Sil MS (0.25 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 1



FORM VII
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: Eurofins Denver Job No.: 280-185797-1

SDG No.:

Lab Sample ID: CCV 280-637616/3 Calibration Date: 12/18/2023 08:54

Instrument ID: VMS_X4 Calib Start Date: 12/08/2023 21:49

GC Column: RXI-624SilMS ID: 0.25(mm) Calib End Date: 12/09/2023 00:33

Lab File ID: X511934.D Conc. Units: ug/L Heated Purge: (Y/N) N

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Dibromofluoromethane (Surr)	Ave	0.2558	0.2663	0.0100	52.1	50.0	4.1	20.0
1,2-Dichloroethane-d4 (Surr)	Ave	0.3308	0.3444	0.0100	52.0	50.0	4.1	20.0
Toluene-d8 (Surr)	Ave	4.305	4.216	0.0100	49.0	50.0	-2.1	20.0
4-Bromofluorobenzene (Surr)	Ave	0.9543	0.8798	0.0100	46.1	50.0	-7.8	20.0

Eurofins Denver
Target Compound Quantitation Report

Data File: \\chromfs\Denver\ChromData\VMS_X4\20231218-128669.b\X511934.D
Lims ID: CCV
Client ID:
Sample Type: CCV
Inject. Date: 18-Dec-2023 08:54:30 ALS Bottle#: 2 Worklist Smp#: 3
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Sample Info: CCV
Operator ID: COULTER Instrument ID: VMS_X4
Sublist: chrom-VMS_X4_8260*sub18

Method: \\chromfs\Denver\ChromData\VMS_X4\20231218-128669.b\VMS_X4_8260.m
Limit Group: MSV - 8260B Water and Solid
Last Update: 18-Dec-2023 13:03:18 Calib Date: 11-Dec-2023 20:50:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Denver\ChromData\VMS_X4\20231211-128477.b\X511702.D

Column 1 : Rxi-624Sil MS (0.25 mm) Det: MS SCAN
Process Host: CTX1660

	Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
*	1 Fluorobenzene	96	5.199	5.199	0.000	98	1682118	50.0	50.0	
*	2 Chlorobenzene-d5	119	7.723	7.723	0.000	90	446322	50.0	50.0	
*	3 1,4-Dichlorobenzene-d4	152	9.947	9.947	0.000	96	778986	50.0	50.0	
$	4 Dibromofluoromethane (Surr)	111	4.692	4.692	0.000	93	447927	50.0	52.1	
$	5 1,2-Dichloroethane-d4 (Surr)	65	4.956	4.956	0.000	0	579265	50.0	52.0	
$	6 Toluene-d8 (Surr)	98	6.451	6.451	0.000	95	1881803	50.0	49.0	
$	7 4-Bromofluorobenzene (Surr)	95	8.817	8.817	0.000	87	685355	50.0	46.1	
	17 Ethanol	45	2.754	2.754	0.000	100	180192	1500.0	1256.0	
	23 Isopropyl alcohol	45	3.147	3.147	0.000	98	136148	250.0	213.4	
	26 Acetonitrile	41	3.276	3.276	0.000	99	410672	250.0	225.4	
	37 Isopropyl ether	87	3.926	3.926	0.000	96	176517	25.0	24.0	
	38 2-Chloro-1,3-butadiene	53	3.984	3.984	0.000	94	383472	25.0	23.0	
	39 Tert-butyl ethyl ether	59	4.191	4.191	0.000	98	719507	25.0	24.2	
	41 Ethyl acetate	43	4.327	4.327	0.000	100	456579	50.0	43.4	
	44 Propionitrile	54	4.370	4.370	0.000	99	369628	250.0	228.5	
	46 Methacrylonitrile	41	4.477	4.477	0.000	96	1615145	250.0	237.6	
	57 Tert-amyl methyl ether	73	5.056	5.056	0.000	86	616183	25.0	24.1	
	59 n-Butanol	56	5.335	5.335	0.000	91	139020	625.0	543.3	
	64 Methyl methacrylate	100	5.678	5.678	0.000	94	108280	50.0	48.2	
	68 2-Nitropropane	41	6.043	6.043	0.000	98	117849	50.0	52.2	
	90 cis-1,4-Dichloro-2-butene	53	8.696	8.696	0.000	0	174311	50.0	49.5	
	107 1,2,3-Trimethylbenzene	105	9.990	9.990	0.000	99	922363	25.0	23.5	
	111 1,3,5-Trichlorobenzene	180	11.298	11.298	0.000	96	297218	25.0	23.8	
	118 Ethyl acrylate	55		0.000				ND	ND	
	117 t-Amyl alcohol	1		0.000				ND	ND	

QC Flag Legend

Processing Flags
ND - Not Detected or Marked ND

Reagents:

MV-Supp A_00087	Amount Added:	25.00	Units: uL	
mv-IS_SS_00074	Amount Added:	5.00	Units: uL	Run Reagent

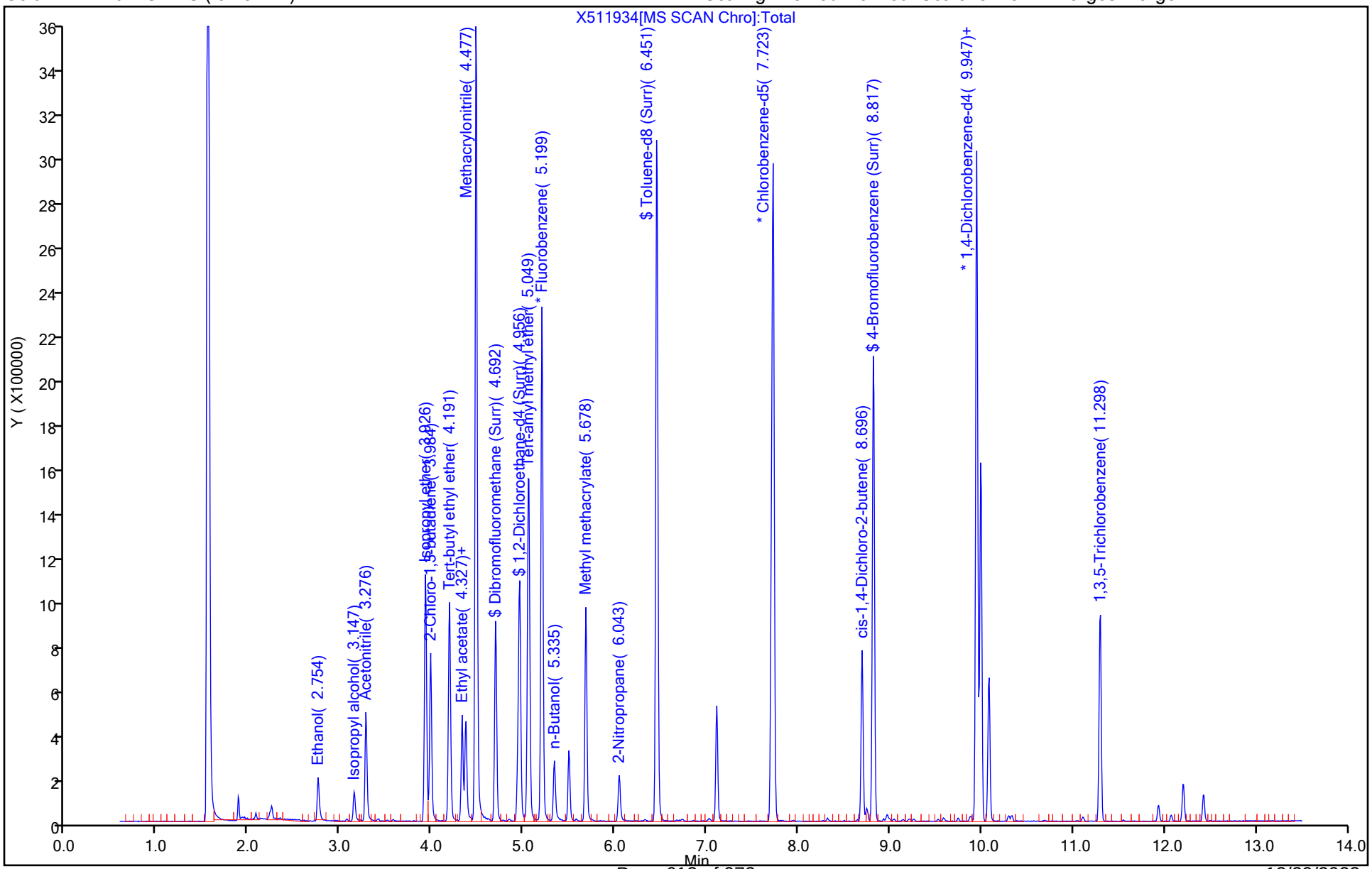
Report Date: 18-Dec-2023 13:03:19 Chrom Revision: 2.3 15-Nov-2023 20:54:34

Eurofins Denver

Data File: \\chromfs\Denver\ChromData\VMS_X4\20231218-128669.b\X511934.D

Injection Date:	18-Dec-2023 08:54:30	Instrument ID:	VMS_X4	Operator ID:	COULTER
Lims ID:	CCV			Worklist Smp#:	3
Client ID:					
Purge Vol:	5.000 mL	Dil. Factor:	1.0000	ALS Bottle#:	2
Method:	VMS_X4_8260	Limit Group:	MSV - 8260B Water and Solid		

Column: Rxi-624Sil MS (0.25 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 1



FORM VII
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: Eurofins Denver | Job No.: 280-185797-1

SDG No.:

Lab Sample ID: CCV 280-637616/3 | Calibration Date: 12/18/2023 08:54

Instrument ID: VMS_X4 | Calib Start Date: 12/11/2023 18:26

GC Column: RXI-624SilMS ID: 0.25(mm) | Calib End Date: 12/11/2023 20:50

Lab File ID: X511934.D | Conc. Units: ug/L Heated Purge: (Y/N) N

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Ethanol	Ave	0.0043	0.0036*	0.0100	1260	1500	-16.3	20.0
Isopropyl alcohol	Ave	0.0190	0.0162	0.0100	213	250	-14.6	20.0
Acetonitrile	Ave	0.0542	0.0488	0.0100	225	250	-9.8	20.0
Isopropyl ether	Ave	0.2187	0.2099	0.0100	24.0	25.0	-4.0	20.0
2-Chloro-1,3-butadiene	Ave	0.4963	0.4559	0.0100	23.0	25.0	-8.1	20.0
Tert-butyl ethyl ether	Ave	0.8841	0.8555	0.0100	24.2	25.0	-3.2	20.0
Ethyl acetate	Ave	0.3130	0.2714	0.0100	43.4	50.0	-13.3	20.0
Propionitrile	Ave	0.0481	0.0439	0.0100	229	250	-8.6	20.0
Methacrylonitrile	Ave	0.2021	0.1920	0.0100	238	250	-5.0	20.0
Tert-amyl methyl ether	Ave	0.7610	0.7326	0.0100	24.1	25.0	-3.7	20.0
n-Butanol	Lin2		0.0066*	0.0100	543	625	-13.1	20.0
Methyl methacrylate	Ave	0.0668	0.0644	0.0100	48.2	50.0	-3.6	20.0
2-Nitropropane	Ave	0.0671	0.0701	0.0100	52.2	50.0	4.3	20.0
cis-1,4-Dichloro-2-butene	Ave	0.2262	0.2238	0.0100	49.5	50.0	-1.1	20.0
1,2,3-Trimethylbenzene	Ave	2.522	2.368	0.0100	23.5	25.0	-6.1	20.0
1,3,5-Trichlorobenzene	Ave	0.8002	0.7631	0.0100	23.8	25.0	-4.6	20.0

Eurofins Denver
Target Compound Quantitation Report

Data File: \\chromfs\Denver\ChromData\VMS_X4\20231218-128669.b\X511934.D
Lims ID: CCV
Client ID:
Sample Type: CCV
Inject. Date: 18-Dec-2023 08:54:30 ALS Bottle#: 2 Worklist Smp#: 3
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Sample Info: CCV
Operator ID: COULTER Instrument ID: VMS_X4
Sublist: chrom-VMS_X4_8260*sub18

Method: \\chromfs\Denver\ChromData\VMS_X4\20231218-128669.b\VMS_X4_8260.m
Limit Group: MSV - 8260B Water and Solid
Last Update: 18-Dec-2023 13:03:18 Calib Date: 11-Dec-2023 20:50:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Denver\ChromData\VMS_X4\20231211-128477.b\X511702.D

Column 1 : Rxi-624Sil MS (0.25 mm) Det: MS SCAN
Process Host: CTX1660

	Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
*	1 Fluorobenzene	96	5.199	5.199	0.000	98	1682118	50.0	50.0	
*	2 Chlorobenzene-d5	119	7.723	7.723	0.000	90	446322	50.0	50.0	
*	3 1,4-Dichlorobenzene-d4	152	9.947	9.947	0.000	96	778986	50.0	50.0	
$	4 Dibromofluoromethane (Surr)	111	4.692	4.692	0.000	93	447927	50.0	52.1	
$	5 1,2-Dichloroethane-d4 (Surr)	65	4.956	4.956	0.000	0	579265	50.0	52.0	
$	6 Toluene-d8 (Surr)	98	6.451	6.451	0.000	95	1881803	50.0	49.0	
$	7 4-Bromofluorobenzene (Surr)	95	8.817	8.817	0.000	87	685355	50.0	46.1	
	17 Ethanol	45	2.754	2.754	0.000	100	180192	1500.0	1256.0	
	23 Isopropyl alcohol	45	3.147	3.147	0.000	98	136148	250.0	213.4	
	26 Acetonitrile	41	3.276	3.276	0.000	99	410672	250.0	225.4	
	37 Isopropyl ether	87	3.926	3.926	0.000	96	176517	25.0	24.0	
	38 2-Chloro-1,3-butadiene	53	3.984	3.984	0.000	94	383472	25.0	23.0	
	39 Tert-butyl ethyl ether	59	4.191	4.191	0.000	98	719507	25.0	24.2	
	41 Ethyl acetate	43	4.327	4.327	0.000	100	456579	50.0	43.4	
	44 Propionitrile	54	4.370	4.370	0.000	99	369628	250.0	228.5	
	46 Methacrylonitrile	41	4.477	4.477	0.000	96	1615145	250.0	237.6	
	57 Tert-amyl methyl ether	73	5.056	5.056	0.000	86	616183	25.0	24.1	
	59 n-Butanol	56	5.335	5.335	0.000	91	139020	625.0	543.3	
	64 Methyl methacrylate	100	5.678	5.678	0.000	94	108280	50.0	48.2	
	68 2-Nitropropane	41	6.043	6.043	0.000	98	117849	50.0	52.2	
	90 cis-1,4-Dichloro-2-butene	53	8.696	8.696	0.000	0	174311	50.0	49.5	
	107 1,2,3-Trimethylbenzene	105	9.990	9.990	0.000	99	922363	25.0	23.5	
	111 1,3,5-Trichlorobenzene	180	11.298	11.298	0.000	96	297218	25.0	23.8	
	118 Ethyl acrylate	55		0.000				ND	ND	
	117 t-Amyl alcohol	1		0.000				ND	ND	

QC Flag Legend

Processing Flags
ND - Not Detected or Marked ND

Reagents:

MV-Supp A_00087	Amount Added:	25.00	Units: uL	
mv-IS_SS_00074	Amount Added:	5.00	Units: uL	Run Reagent

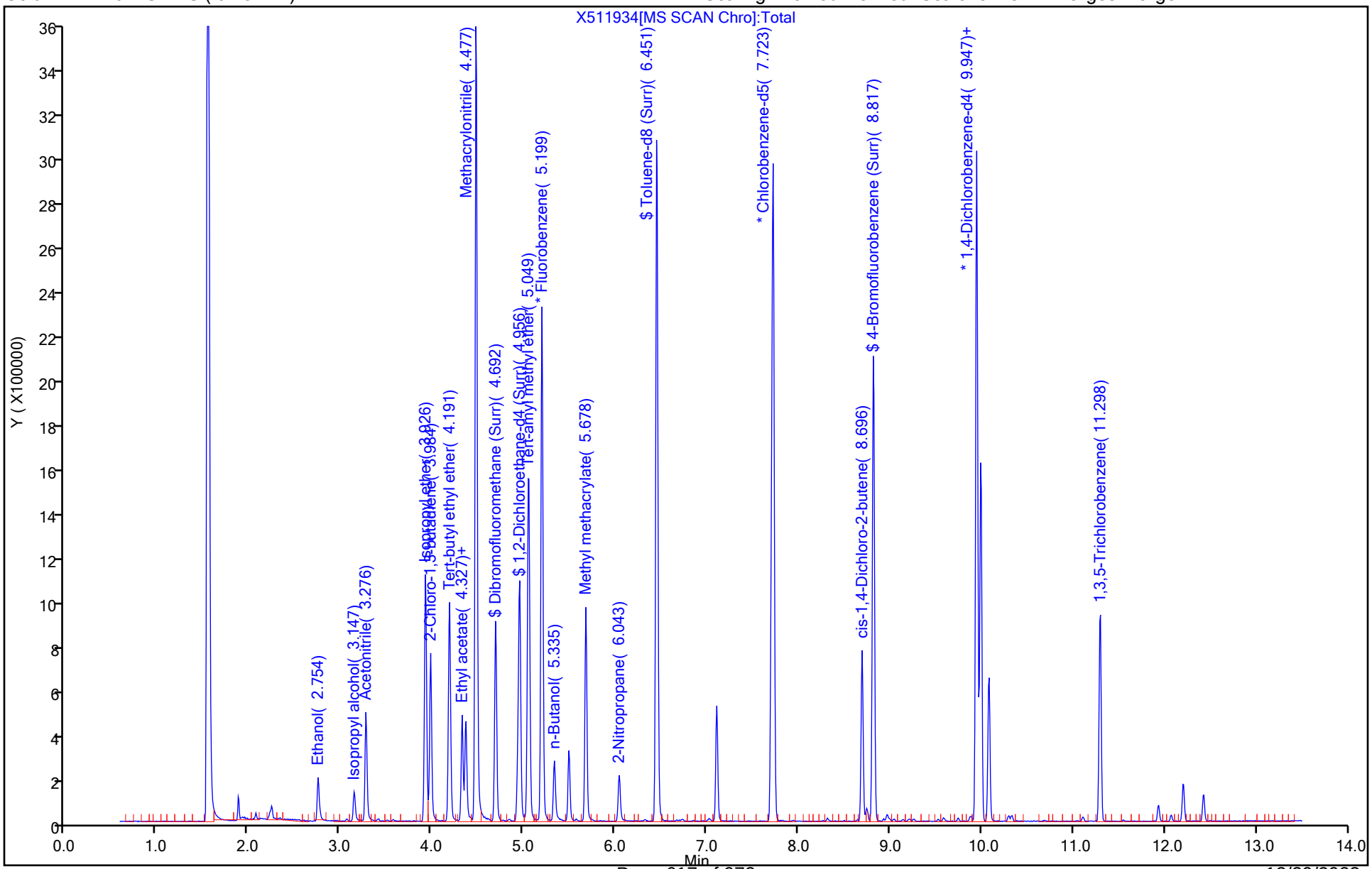
Report Date: 18-Dec-2023 13:03:19 Chrom Revision: 2.3 15-Nov-2023 20:54:34

Eurofins Denver

Data File: \\chromfs\Denver\ChromData\VMS_X4\20231218-128669.b\X511934.D

Injection Date:	18-Dec-2023 08:54:30	Instrument ID:	VMS_X4	Operator ID:	COULTER
Lims ID:	CCV			Worklist Smp#:	3
Client ID:					
Purge Vol:	5.000 mL	Dil. Factor:	1.0000	ALS Bottle#:	2
Method:	VMS_X4_8260	Limit Group:	MSV - 8260B Water and Solid		

Column: Rxi-624Sil MS (0.25 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 1



FORM VII
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: Eurofins Denver | Job No.: 280-185797-1

SDG No.:

Lab Sample ID: CCVC 280-637616/26 | Calibration Date: 12/18/2023 15:45

Instrument ID: VMS_X4 | Calib Start Date: 12/08/2023 21:49

GC Column: RXI-624SilMS ID: 0.25(mm) | Calib End Date: 12/09/2023 00:33

Lab File ID: X511952.D | Conc. Units: ug/L Heated Purge: (Y/N) N

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Dichlorodifluoromethane	Ave	0.3541	0.2414	0.1000	34.1	50.0	-31.8	50.0
Chloromethane	Ave	0.4897	0.3644	0.1000	37.2	50.0	-25.6	50.0
Vinyl chloride	Ave	0.4221	0.3432	0.0100	40.7	50.0	-18.7	50.0
Bromomethane	Ave	0.2113	0.1772	0.0100	41.9	50.0	-16.1	50.0
Chloroethane	Ave	0.2654	0.2136	0.0100	40.3	50.0	-19.5	50.0
Dichlorofluoromethane	Ave	0.6414	0.5926	0.0100	46.2	50.0	-7.6	50.0
Trichlorofluoromethane	Ave	0.4390	0.3987	0.0100	45.4	50.0	-9.2	50.0
Ethyl ether	Ave	0.2502	0.2304	0.0100	46.0	50.0	-7.9	50.0
Acrolein	Ave	0.0402	0.0369	0.0010	453	494	-8.3	50.0
1,1,2-Trichloro-1,2,2-trifluoroethane	Ave	0.1660	0.1655	0.0500	49.8	50.0	-0.3	50.0
1,1-Dichloroethylene	Ave	0.2283	0.2067	0.0600	45.3	50.0	-9.5	50.0
Acetone	Ave	0.0976	0.0898	0.0100	184	200	-8.0	50.0
Iodomethane	Lin1		0.2738	0.0100	45.6	50.0	-8.8	50.0
Carbon disulfide	Ave	0.8495	0.6866	0.1000	40.4	50.0	-19.2	50.0
Methyl acetate	Ave	0.2359	0.2266	0.0100	96.0	100	-4.0	50.0
3-Chloro-1-propene	Ave	0.5365	0.4959	0.0100	46.2	50.0	-7.6	50.0
Methylene Chloride	Ave	0.3010	0.2742	0.0100	45.5	50.0	-8.9	50.0
2-Methyl-2-propanol	Ave	0.0263	0.0276	0.0010	524	500	4.8	50.0
Acrylonitrile	Ave	0.1238	0.1195	0.0100	483	500	-3.5	50.0
Methyl tert-butyl ether	Ave	0.7636	0.7984	0.1000	52.3	50.0	4.6	50.0
trans-1,2-Dichloroethylene	Ave	0.2606	0.2527	0.1000	48.5	50.0	-3.0	50.0
n-Hexane	Ave	1.535	1.318	0.0100	43.0	50.0	-14.1	50.0
Vinyl acetate	Ave	0.5909	0.6564	0.0100	111	100	11.1	50.0
1,1-Dichloroethane	Ave	0.5654	0.5202	0.1000	46.0	50.0	-8.0	50.0
2-Butanone (MEK)	Ave	0.1561	0.1535	0.0100	197	200	-1.6	50.0
cis-1,2-Dichloroethylene	Ave	0.2918	0.2878	0.1000	49.3	50.0	-1.4	50.0
2,2-Dichloropropane	Ave	0.4316	0.4340	0.0100	50.3	50.0	0.6	50.0
sec-Butyl Alcohol	Ave	0.0227	0.0250	0.0100	1320	1200	10.3	50.0
Bromochloromethane	Ave	0.1171	0.1258	0.0500	53.7	50.0	7.5	50.0
Tetrahydrofuran	Ave	0.1057	0.1049	0.0010	99.2	100	-0.8	50.0
Chloroform	Ave	0.5098	0.4897	0.2000	48.0	50.0	-3.9	50.0
1,1,1-Trichloroethane	Ave	0.4146	0.4241	0.0500	51.1	50.0	2.3	50.0
Cyclohexane	Ave	0.5369	0.5005	0.0100	46.6	50.0	-6.8	50.0
1,1-Dichloropropene	Ave	0.4064	0.3965	0.0100	48.8	50.0	-2.5	50.0
Carbon tetrachloride	Ave	0.3286	0.3455	0.1000	52.6	50.0	5.1	50.0
Isobutyl alcohol	Ave	0.0099	0.0110	0.0010	1380	1250	10.5	50.0
Benzene	Ave	1.189	1.147	0.2000	48.2	50.0	-3.5	50.0
1,2-Dichloroethane	Ave	0.4391	0.3915	0.0700	44.6	50.0	-10.8	50.0
n-Heptane	Ave	0.3586	0.3312		46.2	50.0	-7.6	
Trichloroethene	Ave	1.087	1.032	0.2000	47.5	50.0	-5.0	50.0

FORM VII
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: Eurofins Denver | Job No.: 280-185797-1

SDG No.:

Lab Sample ID: CCVC 280-637616/26 | Calibration Date: 12/18/2023 15:45

Instrument ID: VMS_X4 | Calib Start Date: 12/08/2023 21:49

GC Column: RXI-624SilMS ID: 0.25(mm) | Calib End Date: 12/09/2023 00:33

Lab File ID: X511952.D | Conc. Units: ug/L Heated Purge: (Y/N) N

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
2-Pentanone	Ave	0.2252	0.2395	0.0010	170	160	6.3	50.0
Methylcyclohexane	Ave	0.3701	0.3718	0.0500	50.2	50.0	0.5	50.0
1,2-Dichloropropane	Ave	0.3312	0.3161	0.1000	47.7	50.0	-4.6	50.0
1,4-Dioxane	Ave	0.0036	0.0038	0.0010	1050	1000	5.2	50.0
Dibromomethane	Ave	0.1692	0.1668	0.0100	49.3	50.0	-1.4	50.0
Bromodichloromethane	Ave	0.3638	0.3734	0.2000	51.3	50.0	2.6	50.0
2-Chloroethyl vinyl ether	Ave	0.1770	0.1584	0.0100	44.7	50.0	-10.5	50.0
cis-1,3-Dichloropropene	Ave	1.835	1.744	0.2000	47.5	50.0	-5.0	50.0
4-Methyl-2-pentanone (MIBK)	Ave	0.2936	0.3080	0.0300	210	200	4.9	50.0
Toluene	Ave	1.235	1.203	0.3000	48.7	50.0	-2.6	50.0
trans-1,3-Dichloropropene	Ave	0.4152	0.4226	0.2000	50.9	50.0	1.8	50.0
Ethyl methacrylate	Ave	1.368	1.361	0.0100	49.7	50.0	-0.5	50.0
1,1,2-Trichloroethane	Ave	0.2322	0.2324	0.1000	50.0	50.0	0.0	50.0
Tetrachloroethene	Ave	0.7694	0.7909	0.1000	51.4	50.0	2.8	50.0
1,3-Dichloropropane	Ave	1.726	1.664	0.0100	48.2	50.0	-3.6	50.0
2-Hexanone	Ave	0.8219	0.8185	0.0100	199	200	-0.4	50.0
Dibromochloromethane	Ave	0.9293	0.9609	0.1000	51.7	50.0	3.4	50.0
1,2-Dibromoethane	Ave	0.9263	0.9186	0.1000	49.6	50.0	-0.8	50.0
1-Chlorohexane	Ave	1.416	1.298	0.0100	36.7	40.0	-8.3	50.0
Chlorobenzene	Ave	2.814	2.755	0.3000	49.0	50.0	-2.1	50.0
1,1,1,2-Tetrachloroethane	Ave	0.8899	0.9492	0.0100	53.3	50.0	6.7	50.0
Ethylbenzene	Ave	1.547	1.533	0.3000	49.6	50.0	-0.9	50.0
m-Xylene & p-Xylene	Ave	1.946	1.894	0.1000	48.6	50.0	-2.7	50.0
o-Xylene	Ave	1.897	1.854	0.2000	48.9	50.0	-2.3	50.0
Styrene	Ave	3.102	3.110	0.2000	50.1	50.0	0.3	50.0
Bromoform	Ave	0.5975	0.6525	0.1000	54.6	50.0	9.2	50.0
Isopropylbenzene	Ave	2.861	2.751	0.3000	48.1	50.0	-3.9	50.0
Cyclohexanone	Ave	0.0511	0.0680	0.0010	2000	1500	33.1	50.0
1,1,2,2-Tetrachloroethane	Ave	0.7682	0.7219	0.3000	47.0	50.0	-6.0	50.0
Bromobenzene	Ave	0.6813	0.6613	0.0100	48.5	50.0	-2.9	50.0
trans-1,4-Dichloro-2-butene	Ave	0.2452	0.2555	0.0100	52.1	50.0	4.2	50.0
1,2,3-Trichloropropane	Ave	0.2094	0.2151	0.0100	51.4	50.0	2.7	50.0
N-Propylbenzene	Ave	0.7338	0.7335	0.0100	50.0	50.0	-0.0	50.0
o-Chlorotoluene	Ave	0.6608	0.6468	0.0100	48.9	50.0	-2.1	50.0
1,3,5-Trimethylbenzene	Ave	2.375	2.363	0.0100	49.8	50.0	-0.5	50.0
p-Chlorotoluene	Ave	0.6924	0.6619	0.0100	47.8	50.0	-4.4	50.0
tert-Butylbenzene	Ave	1.930	1.885	0.0100	48.8	50.0	-2.3	50.0
1,2,4-Trimethylbenzene	Ave	2.470	2.455	0.3000	49.7	50.0	-0.6	50.0
sec-Butylbenzene	Ave	0.5411	0.5259	0.0100	48.6	50.0	-2.8	50.0
1,3-Dichlorobenzene	Ave	1.229	1.244	0.5000	50.6	50.0	1.2	50.0
4-Isopropyltoluene	Ave	2.378	2.386	0.0100	50.2	50.0	0.3	50.0

FORM VII
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: Eurofins Denver Job No.: 280-185797-1

SDG No.:

Lab Sample ID: CCVC 280-637616/26 Calibration Date: 12/18/2023 15:45

Instrument ID: VMS_X4 Calib Start Date: 12/08/2023 21:49

GC Column: RXI-624SilMS ID: 0.25(mm) Calib End Date: 12/09/2023 00:33

Lab File ID: X511952.D Conc. Units: ug/L Heated Purge: (Y/N) N

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
1,4-Dichlorobenzene	Ave	1.330	1.250	0.5000	47.0	50.0	-6.0	50.0
n-Butylbenzene	Ave	2.203	2.132	0.0100	48.4	50.0	-3.3	50.0
1,2-Dichlorobenzene	Ave	1.213	1.159	0.5000	47.8	50.0	-4.4	50.0
1,2-Dibromo-3-Chloropropane	Ave	0.1381	0.1509	0.0100	54.6	50.0	9.3	50.0
1,2,4-Trichlorobenzene	Ave	0.6900	0.6719	0.2000	48.7	50.0	-2.6	50.0
Hexachlorobutadiene	Ave	0.2701	0.2924	0.0100	54.1	50.0	8.3	50.0
Naphthalene	Ave	1.793	1.682	0.0100	46.9	50.0	-6.2	50.0
1,2,3-Trichlorobenzene	Ave	0.5599	0.5486	0.3000	49.0	50.0	-2.0	50.0
Dibromofluoromethane (Surr)	Ave	0.2558	0.2660	0.0100	52.0	50.0	4.0	50.0
1,2-Dichloroethane-d4 (Surr)	Ave	0.3308	0.3348	0.0100	50.6	50.0	1.2	50.0
Toluene-d8 (Surr)	Ave	4.305	4.337	0.0100	50.4	50.0	0.8	50.0
4-Bromofluorobenzene (Surr)	Ave	0.9543	0.8761	0.0100	45.9	50.0	-8.2	50.0

Eurofins Denver
Target Compound Quantitation Report

Data File: \\chromfs\Denver\ChromData\VMS_X4\20231218-128669.b\X511952.D
Lims ID: CCVC
Client ID:
Sample Type: CCVC
Inject. Date: 18-Dec-2023 15:45:30 ALS Bottle#: 20 Worklist Smp#: 26
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Sample Info: CCVC/CCV/BFB
Operator ID: COULTER Instrument ID: VMS_X4
Sublist: chrom-VMS_X4_8260*sub1

Method: \\chromfs\Denver\ChromData\VMS_X4\20231218-128669.b\VMS_X4_8260.m
Limit Group: MSV - 8260B Water and Solid
Last Update: 19-Dec-2023 21:23:32 Calib Date: 11-Dec-2023 20:50:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Denver\ChromData\VMS_X4\20231211-128477.b\X511702.D

Column 1 : Rxi-624Sil MS (0.25 mm) Det: MS SCAN
Process Host: CTX1675

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
* 1 Fluorobenzene	96	5.199	5.199	0.000	99	1827665	50.0	50.0	
* 2 Chlorobenzene-d5	119	7.730	7.723	0.007	89	482172	50.0	50.0	
* 3 1,4-Dichlorobenzene-d4	152	9.947	9.947	0.000	97	817373	50.0	50.0	
$ 4 Dibromofluoromethane (Surr)	111	4.692	4.692	0.000	93	486102	50.0	52.0	
$ 5 1,2-Dichloroethane-d4 (Surr)	65	4.956	4.956	0.000	0	611823	50.0	50.6	
$ 6 Toluene-d8 (Surr)	98	6.458	6.451	0.008	95	2091344	50.0	50.4	
$ 7 4-Bromofluorobenzene (Surr)	95	8.817	8.817	0.000	88	716071	50.0	45.9	
9 Dichlorodifluoromethane	85	1.760	1.760	0.000	100	441262	50.0	34.1	
10 Chloromethane	50	1.939	1.939	0.000	99	665971	50.0	37.2	
11 Vinyl chloride	62	2.039	2.039	0.000	99	627337	50.0	40.7	
12 Bromomethane	94	2.332	2.325	0.007	92	323869	50.0	41.9	
13 Chloroethane	64	2.425	2.425	0.000	99	390458	50.0	40.3	
14 Dichlorofluoromethane	67	2.597	2.597	0.000	99	1083097	50.0	46.2	
16 Trichlorofluoromethane	101	2.632	2.632	0.000	99	728659	50.0	45.4	
18 Ethyl ether	59	2.847	2.847	0.000	95	421012	50.0	46.0	
19 Acrolein	56	2.961	2.961	0.000	99	665119	493.8	452.7	
20 1,1,2-Trichloro-1,2,2-trifluoroe	151	3.040	3.040	0.000	97	302403	50.0	49.8	
21 1,1-Dichloroethene	96	3.047	3.040	0.007	96	377768	50.0	45.3	
22 Acetone	43	3.068	3.061	0.007	99	656490	200.0	184.0	
24 Iodomethane	142	3.169	3.169	0.000	100	500360	50.0	45.6	
25 Carbon disulfide	76	3.233	3.226	0.007	100	1254875	50.0	40.4	
27 Methyl acetate	43	3.290	3.290	0.000	99	828209	100.0	96.0	
28 3-Chloro-1-propene	41	3.319	3.312	0.007	90	906368	50.0	46.2	
29 Methylene Chloride	84	3.412	3.404	0.008	98	501074	50.0	45.5	
30 2-Methyl-2-propanol	59	3.455	3.447	0.008	98	504015	500.0	524.1	
31 Acrylonitrile	53	3.576	3.576	0.000	97	2183305	500.0	482.6	
32 Methyl tert-butyl ether	73	3.598	3.590	0.008	97	1459199	50.0	52.3	
33 trans-1,2-Dichloroethene	96	3.612	3.605	0.007	96	461861	50.0	48.5	
34 Hexane	57	3.805	3.798	0.007	95	635675	50.0	43.0	
35 Vinyl acetate	43	3.905	3.905	0.000	97	2399226	100.0	111.1	
36 1,1-Dichloroethane	63	3.934	3.926	0.008	97	950698	50.0	46.0	
40 2-Butanone (MEK)	43	4.320	4.313	0.007	99	1122240	200.0	196.7	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
42 cis-1,2-Dichloroethene	96	4.341	4.341	0.000	87	525974	50.0	49.3	
43 2,2-Dichloropropane	77	4.356	4.355	0.001	90	793296	50.0	50.3	
45 sec-Butyl Alcohol	45	4.427	4.420	0.007	99	1097320	1200.0	1323.7	
47 Chlorobromomethane	128	4.520	4.520	0.000	94	229927	50.0	53.7	
48 Tetrahydrofuran	42	4.527	4.527	0.000	90	383418	100.0	99.2	
49 Chloroform	83	4.577	4.577	0.000	96	895069	50.0	48.0	
50 1,1,1-Trichloroethane	97	4.720	4.720	0.000	98	775125	50.0	51.1	
51 Cyclohexane	56	4.785	4.777	0.008	94	914837	50.0	46.6	
52 1,1-Dichloropropene	75	4.835	4.835	0.000	96	724590	50.0	48.8	
53 Carbon tetrachloride	117	4.842	4.835	0.007	94	631547	50.0	52.6	
54 Isobutyl alcohol	41	4.842	4.842	0.000	95	502090	1250.0	1380.8	
55 Benzene	78	4.992	4.985	0.007	98	2096577	50.0	48.2	
56 1,2-Dichloroethane	62	5.013	5.013	0.000	97	715491	50.0	44.6	
58 n-Heptane	43	5.171	5.163	0.008	97	605378	50.0	46.2	
60 Trichloroethene	95	5.478	5.471	0.007	97	497768	50.0	47.5	
61 2-Pentanone	43	5.578	5.578	0.000	98	1400449	160.0	170.2	
62 Methylcyclohexane	55	5.671	5.671	0.000	94	679590	50.0	50.2	
63 1,2-Dichloropropane	63	5.685	5.678	0.007	94	577638	50.0	47.7	
65 1,4-Dioxane	88	5.721	5.721	0.000	97	138890	1000.0	1052.2	
66 Dibromomethane	93	5.750	5.750	0.000	94	304919	50.0	49.3	
67 Dichlorobromomethane	83	5.871	5.871	0.000	98	682445	50.0	51.3	
69 2-Chloroethyl vinyl ether	63	6.079	6.072	0.007	92	289426	50.0	44.7	
70 cis-1,3-Dichloropropene	75	6.222	6.222	0.000	93	840946	50.0	47.5	
71 4-Methyl-2-pentanone (MIBK)	43	6.329	6.322	0.007	99	2251897	200.0	209.8	
72 Toluene	91	6.515	6.508	0.007	97	2197777	50.0	48.7	
73 trans-1,3-Dichloropropene	75	6.686	6.679	0.007	99	772335	50.0	50.9	
74 Ethyl methacrylate	69	6.701	6.701	0.000	92	656234	50.0	49.7	
75 1,1,2-Trichloroethane	97	6.858	6.858	0.000	94	424711	50.0	50.0	
76 Tetrachloroethene	164	6.958	6.951	0.007	95	381362	50.0	51.4	
77 1,3-Dichloropropane	76	7.008	7.008	0.000	97	802523	50.0	48.2	
78 2-Hexanone	43	7.030	7.023	0.008	98	1578710	200.0	199.2	
79 Chlorodibromomethane	129	7.201	7.201	0.000	90	463327	50.0	51.7	
80 Ethylene Dibromide	107	7.323	7.323	0.000	97	442944	50.0	49.6	
81 1-Chlorohexane	91	7.709	7.709	0.000	91	500719	40.0	36.7	
82 Chlorobenzene	112	7.752	7.752	0.000	92	1328349	50.0	49.0	
83 1,1,1,2-Tetrachloroethane	131	7.823	7.823	0.000	94	457654	50.0	53.3	
84 Ethylbenzene	106	7.831	7.830	0.001	99	739366	50.0	49.6	
85 m-Xylene & p-Xylene	106	7.945	7.945	0.000	0	913179	50.0	48.6	
86 o-Xylene	106	8.310	8.302	0.008	96	894182	50.0	48.9	
87 Styrene	104	8.324	8.324	0.000	95	1499358	50.0	50.1	
88 Bromoform	173	8.503	8.503	0.000	96	314634	50.0	54.6	
89 Isopropylbenzene	105	8.646	8.646	0.000	97	2248326	50.0	48.1	
91 Cyclohexanone	55	8.746	8.746	0.000	96	984136	1500.0	1997.0	
92 1,1,2,2-Tetrachloroethane	83	8.932	8.932	0.000	96	590046	50.0	47.0	
94 trans-1,4-Dichloro-2-butene	53	8.967	8.967	0.000	59	208878	50.0	52.1	
93 Bromobenzene	156	8.967	8.967	0.000	98	540568	50.0	48.5	
95 1,2,3-Trichloropropane	110	8.996	8.996	0.000	88	175820	50.0	51.4	
96 N-Propylbenzene	120	9.046	9.046	0.000	99	599525	50.0	50.0	
97 2-Chlorotoluene	126	9.146	9.146	0.000	95	528686	50.0	48.9	
98 1,3,5-Trimethylbenzene	105	9.218	9.218	0.000	95	1931506	50.0	49.8	
99 4-Chlorotoluene	126	9.261	9.261	0.000	99	541058	50.0	47.8	
100 tert-Butylbenzene	119	9.525	9.525	0.000	93	1540865	50.0	48.8	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
102 1,2,4-Trimethylbenzene	105	9.582	9.582	0.000	98	2006744	50.0	49.7	
103 sec-Butylbenzene	134	9.747	9.747	0.000	95	429864	50.0	48.6	
104 1,3-Dichlorobenzene	146	9.875	9.875	0.000	97	1017067	50.0	50.6	
105 4-Isopropyltoluene	119	9.890	9.890	0.000	97	1950514	50.0	50.2	
106 1,4-Dichlorobenzene	146	9.976	9.976	0.000	94	1021681	50.0	47.0	
108 n-Butylbenzene	91	10.297	10.297	0.000	98	1742283	50.0	48.4	
109 1,2-Dichlorobenzene	146	10.333	10.333	0.000	96	947559	50.0	47.8	
110 1,2-Dibromo-3-Chloropropane	157	11.112	11.105	0.007	82	123328	50.0	54.6	
112 1,2,4-Trichlorobenzene	180	11.935	11.935	0.000	93	549182	50.0	48.7	
113 Hexachlorobutadiene	225	12.071	12.071	0.000	96	239019	50.0	54.1	
114 Naphthalene	128	12.206	12.206	0.000	98	1374537	50.0	46.9	
115 1,2,3-Trichlorobenzene	180	12.428	12.428	0.000	95	448404	50.0	49.0	
S 122 1,2-Dichloroethene, Total (URS)	96				0		100.0	97.8	
S 129 1,2-Dichloroethene, Total	1				0		100.0	97.8	
S 124 1,3-Dichloropropene, Total	1				0		100.0	98.4	
S 123 Xylenes, Total (URS)	1				0		100.0	97.5	
S 127 Trihalomethanes, Total	1				0		200.0	205.7	
S 126 Total BTEX	1				0			244.0	
S 125 Xylenes, Total	106				0		100.0	97.5	

Reagents:

MV-MegaMainA_00100	Amount Added:	25.00	Units: uL	
MV-Gas A_00174	Amount Added:	10.00	Units: uL	
mv-IS_SS_00074	Amount Added:	5.00	Units: uL	Run Reagent

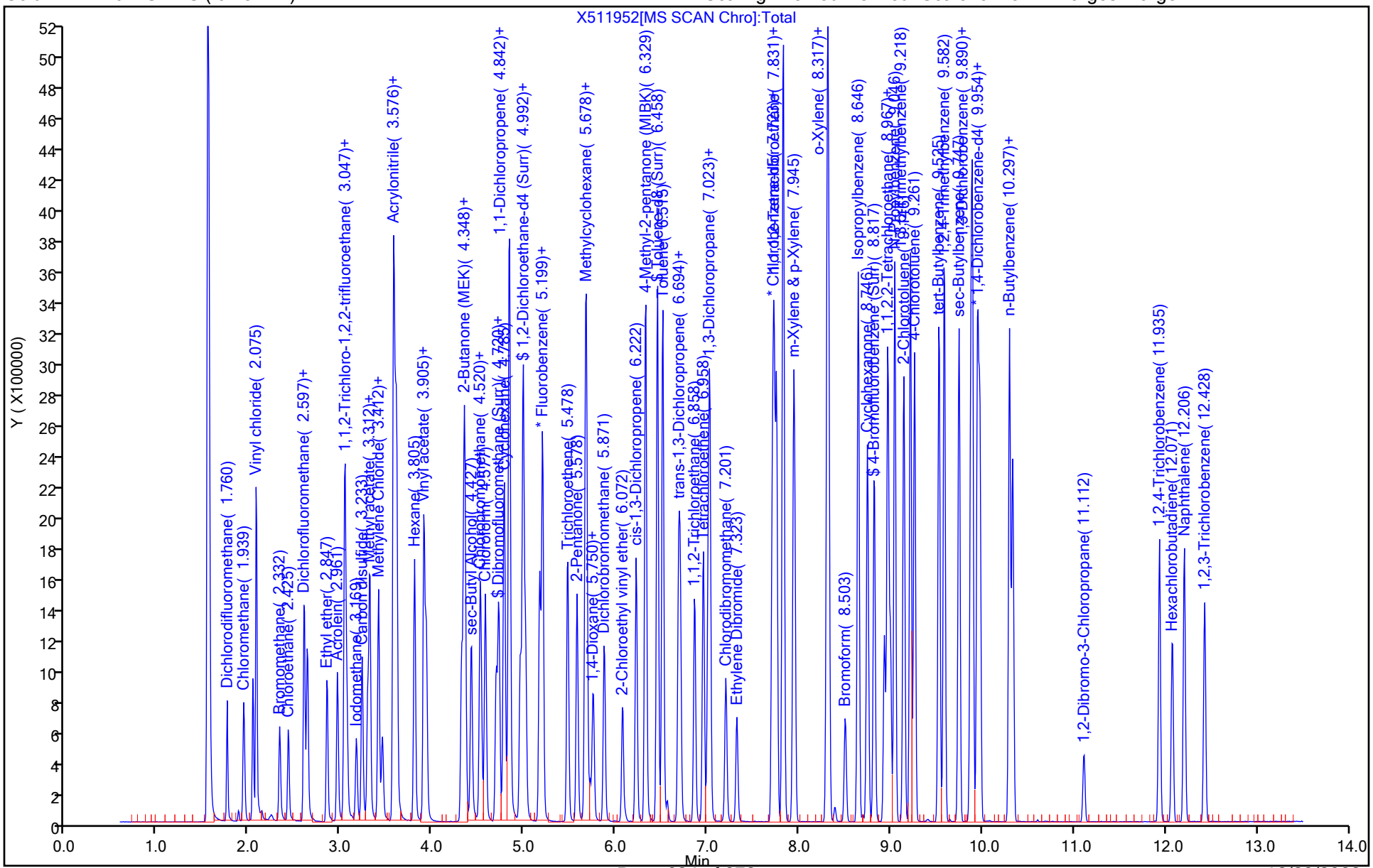
Report Date: 19-Dec-2023 21:23:32 Chrom Revision: 2.3 15-Nov-2023 20:54:34

Eurofins Denver

Data File: \\chromfs\Denver\ChromData\VMS_X4\20231218-128669.b\X511952.D

Injection Date:	18-Dec-2023 15:45:30	Instrument ID:	VMS_X4	Operator ID:	COULTER
Lims ID:	CCVC			Worklist Smp#:	26
Client ID:					
Purge Vol:	5.000 mL	Dil. Factor:	1.0000	ALS Bottle#:	20
Method:	VMS_X4_8260	Limit Group:	MSV - 8260B Water and Solid		

Column: Rxi-624Sil MS (0.25 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 1



FORM VII
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: Eurofins Denver Job No.: 280-185797-1

SDG No.:

Lab Sample ID: CCVC 280-637616/27 Calibration Date: 12/18/2023 16:07

Instrument ID: VMS_X4 Calib Start Date: 12/08/2023 21:49

GC Column: RXI-624SilMS ID: 0.25(mm) Calib End Date: 12/09/2023 00:33

Lab File ID: X511953.D Conc. Units: ug/L Heated Purge: (Y/N) N

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Dibromofluoromethane (Surr)	Ave	0.2558	0.2678	0.0100	52.3	50.0	4.7	50.0
1,2-Dichloroethane-d4 (Surr)	Ave	0.3308	0.3453	0.0100	52.2	50.0	4.4	50.0
Toluene-d8 (Surr)	Ave	4.305	4.271	0.0100	49.6	50.0	-0.8	50.0
4-Bromofluorobenzene (Surr)	Ave	0.9543	0.8442	0.0100	44.2	50.0	-11.5	50.0

Eurofins Denver
Target Compound Quantitation Report

Data File: \\chromfs\Denver\ChromData\VMS_X4\20231218-128669.b\X511953.D
Lims ID: CCVC
Client ID:
Sample Type: CCVC
Inject. Date: 18-Dec-2023 16:07:30 ALS Bottle#: 21 Worklist Smp#: 27
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Sample Info: CCVC/CCV
Operator ID: COULTER Instrument ID: VMS_X4
Sublist: chrom-VMS_X4_8260*sub18

Method: \\chromfs\Denver\ChromData\VMS_X4\20231218-128669.b\VMS_X4_8260.m
Limit Group: MSV - 8260B Water and Solid
Last Update: 19-Dec-2023 21:23:33 Calib Date: 11-Dec-2023 20:50:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Denver\ChromData\VMS_X4\20231211-128477.b\X511702.D

Column 1 : Rxi-624Sil MS (0.25 mm) Det: MS SCAN
Process Host: CTX1675

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
* 1 Fluorobenzene	96	5.199	5.199	0.000	98	1660505	50.0	50.0	
* 2 Chlorobenzene-d5	119	7.723	7.723	0.000	90	452349	50.0	50.0	
* 3 1,4-Dichlorobenzene-d4	152	9.947	9.947	0.000	97	801172	50.0	50.0	
$ 4 Dibromofluoromethane (Surr)	111	4.692	4.692	0.000	92	444662	50.0	52.3	
$ 5 1,2-Dichloroethane-d4 (Surr)	65	4.956	4.956	0.000	0	573404	50.0	52.2	
$ 6 Toluene-d8 (Surr)	98	6.458	6.451	0.008	95	1931884	50.0	49.6	
$ 7 4-Bromofluorobenzene (Surr)	95	8.817	8.817	0.000	88	676355	50.0	44.2	
17 Ethanol	45	2.754	2.754	0.000	100	192666	1500.0	1360.5	
23 Isopropyl alcohol	45	3.147	3.147	0.000	98	153023	250.0	243.0	
26 Acetonitrile	41	3.276	3.276	0.000	100	411780	250.0	229.0	
37 Isopropyl ether	87	3.927	3.926	0.001	95	177651	25.0	24.5	
38 2-Chloro-1,3-butadiene	53	3.984	3.984	0.000	93	382588	25.0	23.2	
39 Tert-butyl ethyl ether	59	4.191	4.191	0.000	97	704825	25.0	24.0	
41 Ethyl acetate	43	4.327	4.327	0.000	100	473616	50.0	45.6	
44 Propionitrile	54	4.370	4.370	0.000	99	387799	250.0	242.9	
46 Methacrylonitrile	41	4.484	4.477	0.007	95	1652792	250.0	246.3	
57 Tert-amyl methyl ether	73	5.056	5.056	0.000	87	626316	25.0	24.8	
59 n-Butanol	56	5.335	5.335	0.000	91	153610	625.0	606.0	
64 Methyl methacrylate	100	5.678	5.678	0.000	94	112043	50.0	50.5	
68 2-Nitropropane	41	6.043	6.043	0.000	98	113826	50.0	51.0	
90 cis-1,4-Dichloro-2-butene	53	8.696	8.696	0.000	0	169075	50.0	46.6	
107 1,2,3-Trimethylbenzene	105	9.990	9.990	0.000	100	911210	25.0	22.6	
111 1,3,5-Trichlorobenzene	180	11.298	11.298	0.000	96	300074	25.0	23.4	
118 Ethyl acrylate	55		0.000				ND	ND	
117 t-Amyl alcohol	1		0.000				ND	ND	

QC Flag Legend

Processing Flags
ND - Not Detected or Marked ND

Reagents:

MV-Supp A_00087	Amount Added:	25.00	Units: uL	
mv-IS_SS_00074	Amount Added:	5.00	Units: uL	Run Reagent

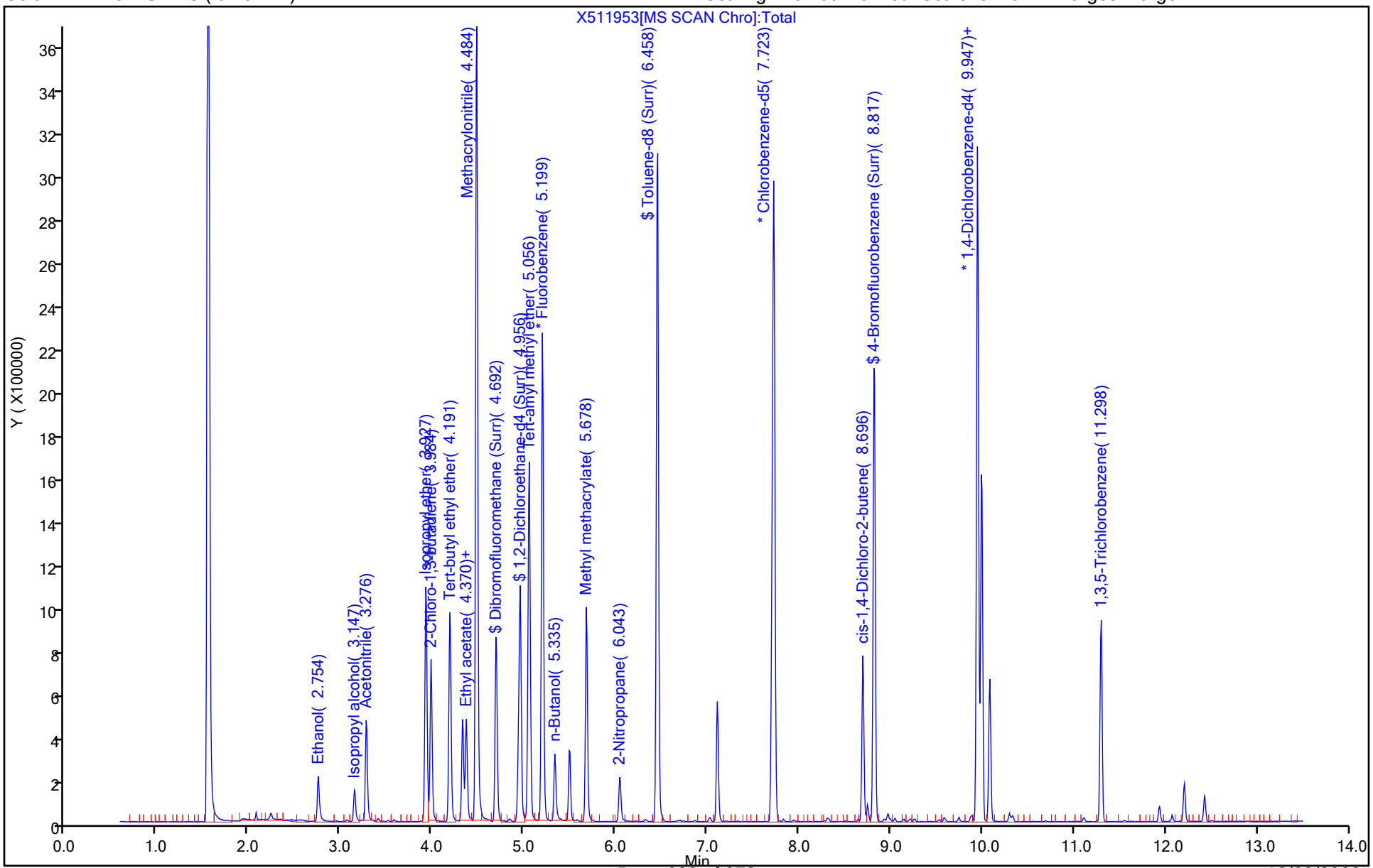
Report Date: 19-Dec-2023 21:23:34 Chrom Revision: 2.3 15-Nov-2023 20:54:34

Eurofins Denver

Data File: \\chromfs\Denver\ChromData\VMS_X4\20231218-128669.b\X511953.D

Injection Date:	18-Dec-2023 16:07:30	Instrument ID:	VMS_X4	Operator ID:	COULTER
Lims ID:	CCVC			Worklist Smp#:	27
Client ID:					
Purge Vol:	5.000 mL	Dil. Factor:	1.0000	ALS Bottle#:	21
Method:	VMS_X4_8260	Limit Group:	MSV - 8260B Water and Solid		

Column: Rxi-624Sil MS (0.25 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 1



FORM VII
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: Eurofins Denver Job No.: 280-185797-1

SDG No.:

Lab Sample ID: CCVC 280-637616/27 Calibration Date: 12/18/2023 16:07

Instrument ID: VMS_X4 Calib Start Date: 12/11/2023 18:26

GC Column: RXI-624SilMS ID: 0.25(mm) Calib End Date: 12/11/2023 20:50

Lab File ID: X511953.D Conc. Units: ug/L Heated Purge: (Y/N) N

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Ethanol	Ave	0.0043	0.0039*	0.0100	1360	1500	-9.3	50.0
Isopropyl alcohol	Ave	0.0190	0.0184	0.0100	243	250	-2.8	50.0
Acetonitrile	Ave	0.0542	0.0496	0.0100	229	250	-8.4	50.0
Isopropyl ether	Ave	0.2187	0.2140	0.0100	24.5	25.0	-2.1	50.0
2-Chloro-1,3-butadiene	Ave	0.4963	0.4608	0.0100	23.2	25.0	-7.1	50.0
Tert-butyl ethyl ether	Ave	0.8841	0.8489	0.0100	24.0	25.0	-4.0	50.0
Ethyl acetate	Ave	0.3130	0.2852	0.0100	45.6	50.0	-8.9	50.0
Propionitrile	Ave	0.0481	0.0467	0.0100	243	250	-2.8	50.0
Methacrylonitrile	Ave	0.2021	0.1991	0.0100	246	250	-1.5	50.0
Tert-amyl methyl ether	Ave	0.7610	0.7544	0.0100	24.8	25.0	-0.9	50.0
n-Butanol	Lin2		0.0074*	0.0100	606	625	-3.0	50.0
Methyl methacrylate	Ave	0.0668	0.0675	0.0100	50.5	50.0	1.0	50.0
2-Nitropropane	Ave	0.0671	0.0685	0.0100	51.0	50.0	2.1	50.0
cis-1,4-Dichloro-2-butene	Ave	0.2262	0.2110	0.0100	46.6	50.0	-6.7	50.0
1,2,3-Trimethylbenzene	Ave	2.522	2.275	0.0100	22.6	25.0	-9.8	50.0
1,3,5-Trichlorobenzene	Ave	0.8002	0.7491	0.0100	23.4	25.0	-6.4	50.0

Eurofins Denver
Target Compound Quantitation Report

Data File: \\chromfs\Denver\ChromData\VMS_X4\20231218-128669.b\X511953.D
Lims ID: CCVC
Client ID:
Sample Type: CCVC
Inject. Date: 18-Dec-2023 16:07:30 ALS Bottle#: 21 Worklist Smp#: 27
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Sample Info: CCVC/CCV
Operator ID: COULTER Instrument ID: VMS_X4
Sublist: chrom-VMS_X4_8260*sub18

Method: \\chromfs\Denver\ChromData\VMS_X4\20231218-128669.b\VMS_X4_8260.m
Limit Group: MSV - 8260B Water and Solid
Last Update: 19-Dec-2023 21:23:33 Calib Date: 11-Dec-2023 20:50:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Denver\ChromData\VMS_X4\20231211-128477.b\X511702.D

Column 1 : Rxi-624Sil MS (0.25 mm) Det: MS SCAN
Process Host: CTX1675

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
* 1 Fluorobenzene	96	5.199	5.199	0.000	98	1660505	50.0	50.0	
* 2 Chlorobenzene-d5	119	7.723	7.723	0.000	90	452349	50.0	50.0	
* 3 1,4-Dichlorobenzene-d4	152	9.947	9.947	0.000	97	801172	50.0	50.0	
$ 4 Dibromofluoromethane (Surr)	111	4.692	4.692	0.000	92	444662	50.0	52.3	
$ 5 1,2-Dichloroethane-d4 (Surr)	65	4.956	4.956	0.000	0	573404	50.0	52.2	
$ 6 Toluene-d8 (Surr)	98	6.458	6.451	0.008	95	1931884	50.0	49.6	
$ 7 4-Bromofluorobenzene (Surr)	95	8.817	8.817	0.000	88	676355	50.0	44.2	
17 Ethanol	45	2.754	2.754	0.000	100	192666	1500.0	1360.5	
23 Isopropyl alcohol	45	3.147	3.147	0.000	98	153023	250.0	243.0	
26 Acetonitrile	41	3.276	3.276	0.000	100	411780	250.0	229.0	
37 Isopropyl ether	87	3.927	3.926	0.001	95	177651	25.0	24.5	
38 2-Chloro-1,3-butadiene	53	3.984	3.984	0.000	93	382588	25.0	23.2	
39 Tert-butyl ethyl ether	59	4.191	4.191	0.000	97	704825	25.0	24.0	
41 Ethyl acetate	43	4.327	4.327	0.000	100	473616	50.0	45.6	
44 Propionitrile	54	4.370	4.370	0.000	99	387799	250.0	242.9	
46 Methacrylonitrile	41	4.484	4.477	0.007	95	1652792	250.0	246.3	
57 Tert-amyl methyl ether	73	5.056	5.056	0.000	87	626316	25.0	24.8	
59 n-Butanol	56	5.335	5.335	0.000	91	153610	625.0	606.0	
64 Methyl methacrylate	100	5.678	5.678	0.000	94	112043	50.0	50.5	
68 2-Nitropropane	41	6.043	6.043	0.000	98	113826	50.0	51.0	
90 cis-1,4-Dichloro-2-butene	53	8.696	8.696	0.000	0	169075	50.0	46.6	
107 1,2,3-Trimethylbenzene	105	9.990	9.990	0.000	100	911210	25.0	22.6	
111 1,3,5-Trichlorobenzene	180	11.298	11.298	0.000	96	300074	25.0	23.4	
118 Ethyl acrylate	55		0.000				ND	ND	
117 t-Amyl alcohol	1		0.000				ND	ND	

QC Flag Legend

Processing Flags
ND - Not Detected or Marked ND

Reagents:

MV-Supp A_00087	Amount Added:	25.00	Units: uL	
mv-IS_SS_00074	Amount Added:	5.00	Units: uL	Run Reagent

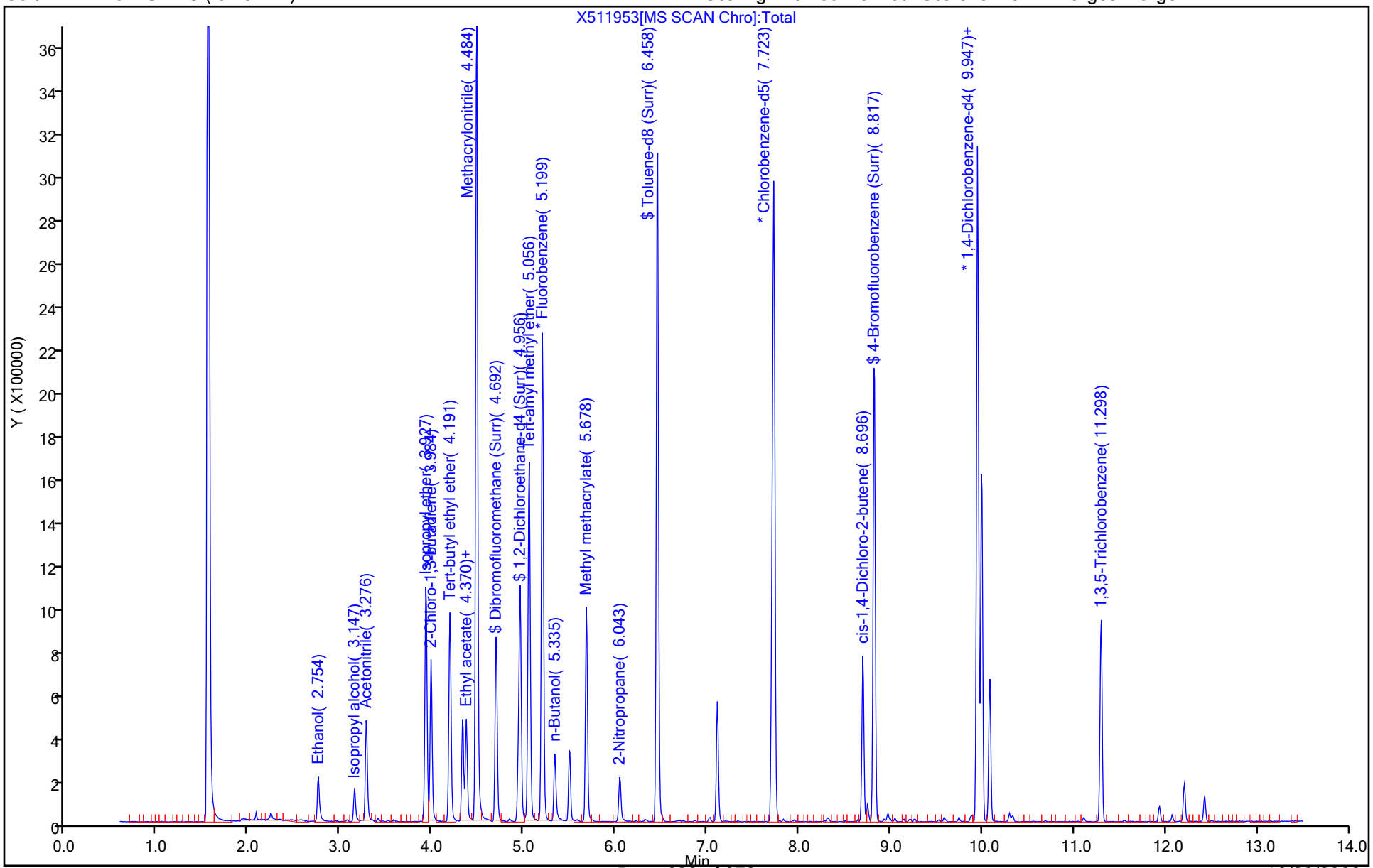
Report Date: 19-Dec-2023 21:23:34 Chrom Revision: 2.3 15-Nov-2023 20:54:34

Eurofins Denver

Data File: \\chromfs\Denver\ChromData\VMS_X4\20231218-128669.b\X511953.D

Injection Date:	18-Dec-2023 16:07:30	Instrument ID:	VMS_X4	Operator ID:	COULTER
Lims ID:	CCVC			Worklist Smp#:	27
Client ID:					
Purge Vol:	5.000 mL	Dil. Factor:	1.0000	ALS Bottle#:	21
Method:	VMS_X4_8260	Limit Group:	MSV - 8260B Water and Solid		

Column: Rxi-624Sil MS (0.25 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 1



Eurofins Denver
Target Compound Quantitation Report

Data File: \\chromfs\Denver\ChromData\VMS_X4\20231208-128432.b\X511646.D
Lims ID: BFB
Client ID:
Sample Type: BFB
Inject. Date: 08-Dec-2023 21:16:30 ALS Bottle#: 1 Worklist Smp#: 1
Injection Vol: 2.0 uL Dil. Factor: 1.0000
Sample Info: BLANK
Operator ID: CF Instrument ID: VMS_X4

Method: \\chromfs\Denver\ChromData\VMS_X4\20231208-128432.b\VMS_X4_8260.m
Limit Group: MSV - 8260B Water and Solid
Last Update: 11-Dec-2023 03:16:38 Calib Date: 09-Dec-2023 00:33:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Denver\ChromData\VMS_X4\20231208-128432.b\X511655.D

Column 1 : Rxi-624Sil MS (0.25 mm) Det: MS SCAN
Process Host: CTX1656

First Level Reviewer: AK2J Date: 08-Dec-2023 21:32:58

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
$ 8 BFB	95	8.824	8.824	0.000	84	751540	NR	NR	

QC Flag Legend

Processing Flags
NR - Missing Quant Standard

Reagents:

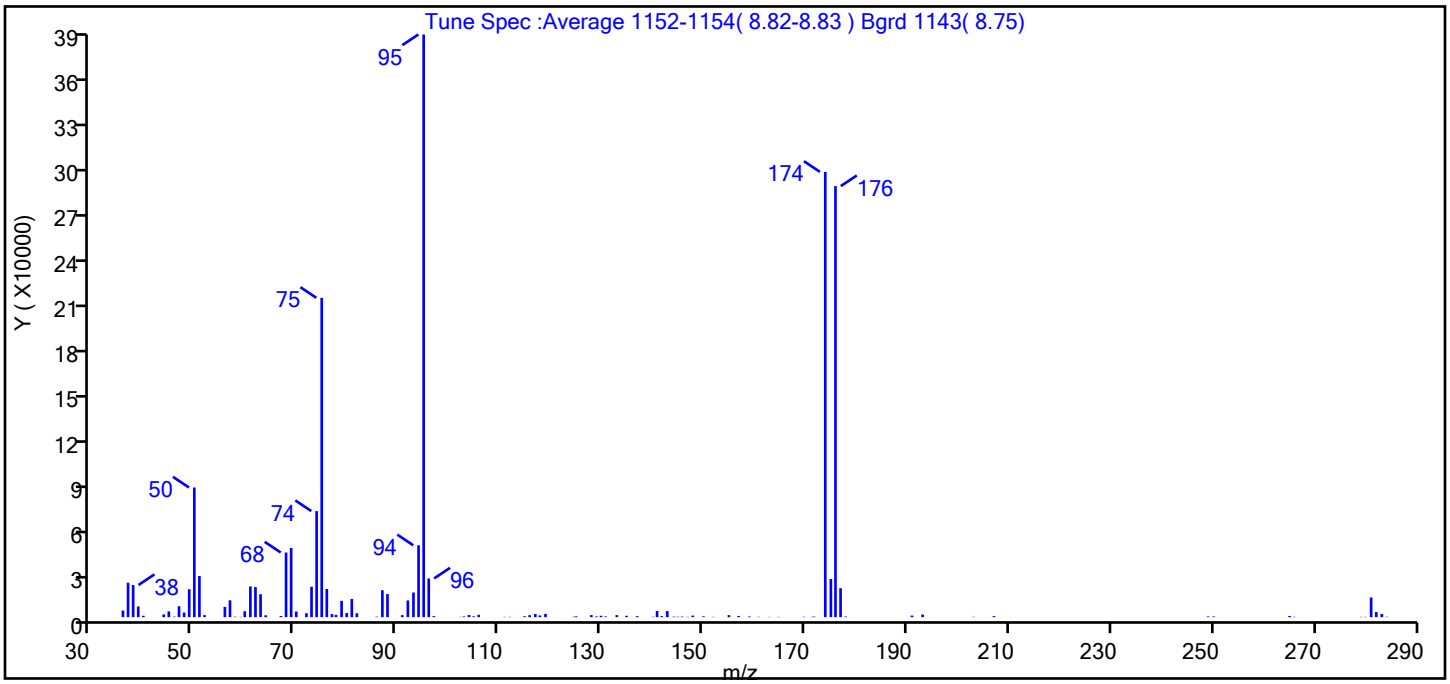
mv-Cent BFB_00007 Amount Added: 5.00 Units: uL

MS Tune Report

Eurofins Denver

Data File: \\chromfs\Denver\ChromData\VMS_X4\20231208-128432.b\X511646.D
Injection Date: 08-Dec-2023 21:16:30 Instrument ID: VMS_X4
Lims ID: BFB
Client ID:
Operator ID: CF ALS Bottle#: 1 Worklist Smp#: 1
Injection Vol: 2.0 uL Dil. Factor: 1.0000
Method: VMS_X4_8260 Limit Group: MSV - 8260B Water and Solid
Tune Method: BFB Method 8260

$ 8 BFB



m/z	Ion Abundance Criteria	% Relative Abundance
95	Base peak, 100% relative abundance	100.0
50	15 to 40% of m/z 95	22.3
75	30 to 60% of m/z 95	54.8
96	5 to 9% of m/z 95	6.6
173	Less than 2% of m/z 174	0.0 (0.0)
174	50 to 120% of m/z 95	76.4
175	5 to 9% of m/z 174	6.6 (8.6)
176	Greater than 95% but less than 101% of m/z 174	74.0 (96.8)
177	5 to 9% of m/z 176	5.0 (6.7)

Data File: \\chromfs\Denver\ChromData\VMS_X4\20231208-128432.b\X511646.D\VMS_X4_8260.rslt\spectra.d
Injection Date: 08-Dec-2023 21:16:30
Spectrum: Tune Spec :Average 1152-1154(8.82-8.83) Bgrd 1143(8.75)
Base Peak: 95.10
Minimum % Base Peak: 0
Number of Points: 108

m/z	Y	m/z	Y	m/z	Y	m/z	Y
36.00	4386	72.00	2610	112.00	191	157.00	798
37.00	22800	73.00	20104	115.00	601	159.00	459
38.00	21256	74.00	70168	116.00	1278	161.00	211
39.00	7064	75.00	211200	117.00	2058	163.00	170
40.00	929	76.00	18632	118.00	1113	165.00	187
44.00	1790	77.00	2004	119.00	2147	170.00	254
45.00	3809	78.00	1535	124.00	228	171.00	182
46.00	335	79.00	10805	125.00	554	172.00	353
47.00	7216	80.00	2722	128.00	1357	174.00	294528
48.00	3029	81.00	12040	129.00	471	175.00	25248
49.00	18432	82.00	2570	130.00	918	176.00	285120
50.00	85760	86.00	347	131.00	446	177.00	19128
51.00	27208	87.00	17816	133.00	1335	178.00	426
52.00	1351	88.00	15243	135.00	899	191.00	1036
56.00	6802	91.00	1326	137.00	664	193.00	1745
57.00	11133	92.00	11064	140.00	249	203.00	216
58.00	298	93.00	16308	141.00	4040	207.00	693
59.00	207	94.00	47552	142.00	670	249.00	460
60.00	3919	95.00	385408	143.00	4022	250.00	434
61.00	20328	96.00	25592	144.00	338	265.00	782
62.00	19880	97.00	686	145.00	271	266.00	234
63.00	15161	102.00	181	146.00	381	279.00	203
64.00	1234	103.00	434	147.00	204	280.00	197
67.00	793	104.00	1435	148.00	1028	281.00	13009
68.00	42760	105.00	540	150.00	530	282.00	3365
69.00	45752	106.00	1530	152.00	195	283.00	2102
70.00	3696	111.00	197	155.00	1320	284.00	264

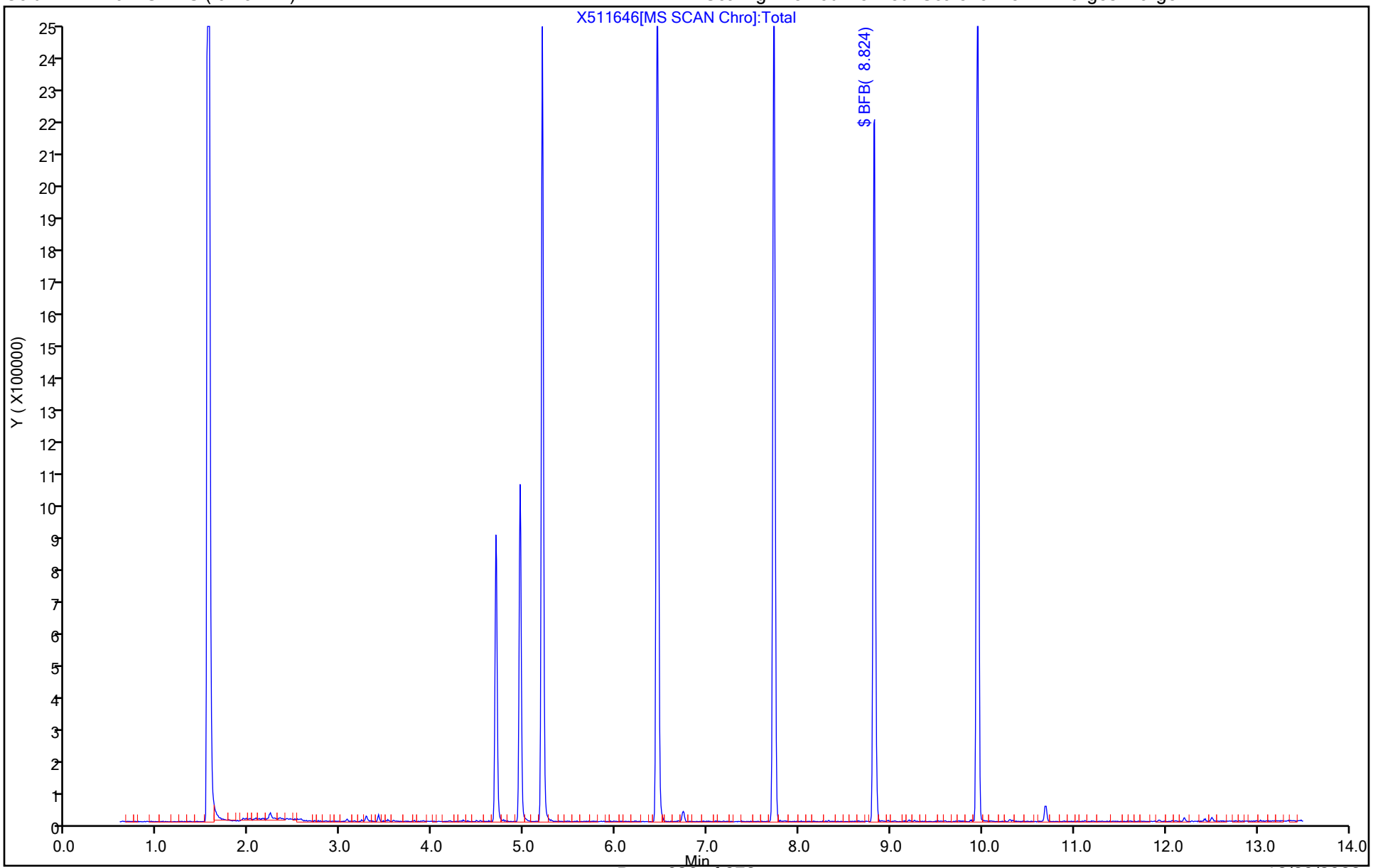
Report Date: 11-Dec-2023 03:16:38 Chrom Revision: 2.3 15-Nov-2023 20:54:34

Eurofins Denver

Data File: \\chromfs\Denver\ChromData\VMS_X4\20231208-128432.b\X511646.D

Injection Date:	08-Dec-2023 21:16:30	Instrument ID:	VMS_X4	Operator ID:	CF
Lims ID:	BFB			Worklist Smp#:	1
Client ID:					
Injection Vol:	2.0 uL	Dil. Factor:	1.0000	ALS Bottle#:	1
Method:	VMS_X4_8260	Limit Group:	MSV - 8260B Water and Solid		

Column: Rxi-624Sil MS (0.25 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 1



12/29/2023
10:48 AM

Eurofins Denver
Target Compound Quantitation Report

Data File: \\chromfs\Denver\ChromData\VMS_X4\20231211-128477.b\X511694.D
Lims ID: BFB
Client ID:
Sample Type: BFB
Inject. Date: 11-Dec-2023 18:06:30 ALS Bottle#: 100 Worklist Smp#: 1
Injection Vol: 2.0 uL Dil. Factor: 1.0000
Sample Info: bfb
Operator ID: CF Instrument ID: VMS_X4

Method: \\chromfs\Denver\ChromData\VMS_X4\20231211-128477.b\VMS_X4_8260.m
Limit Group: MSV - 8260B Water and Solid
Last Update: 12-Dec-2023 05:03:42 Calib Date: 11-Dec-2023 20:50:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Denver\ChromData\VMS_X4\20231211-128477.b\X511702.D

Column 1 : Rxi-624Sil MS (0.25 mm) Det: MS SCAN
Process Host: CTX1609

First Level Reviewer: BX8N Date: 12-Dec-2023 05:02:41

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
$ 8 BFB	95	8.817	8.817	0.000	82	676369	NR	NR	

QC Flag Legend

Processing Flags
NR - Missing Quant Standard

Reagents:

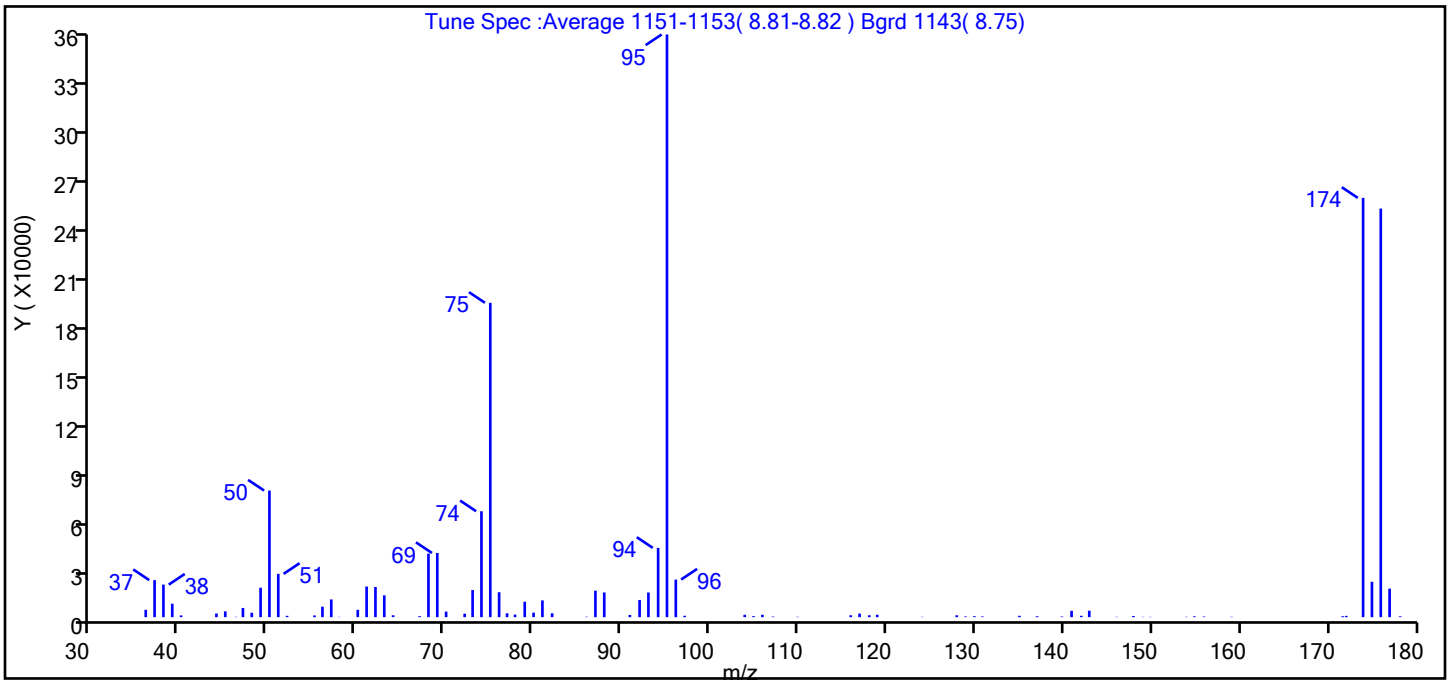
mv-Cent BFB_00007 Amount Added: 5.00 Units: uL

MS Tune Report

Eurofins Denver

Data File: \\chromfs\Denver\ChromData\VMS_X4\20231211-128477.b\X511694.D
Injection Date: 11-Dec-2023 18:06:30 Instrument ID: VMS_X4
Lims ID: BFB
Client ID:
Operator ID: CF ALS Bottle#: 100 Worklist Smp#: 1
Injection Vol: 2.0 uL Dil. Factor: 1.0000
Method: VMS_X4_8260 Limit Group: MSV - 8260B Water and Solid
Tune Method: BFB Method 8260

$ 8 BFB



m/z	Ion Abundance Criteria	% Relative Abundance
95	Base peak, 100% relative abundance	100.0
50	15 to 40% of m/z 95	21.7
75	30 to 60% of m/z 95	53.9
96	5 to 9% of m/z 95	6.4
173	Less than 2% of m/z 174	0.0 (0.0)
174	50 to 120% of m/z 95	72.0
175	5 to 9% of m/z 174	6.1 (8.4)
176	Greater than 95% but less than 101% of m/z 174	70.1 (97.4)
177	5 to 9% of m/z 176	4.9 (7.0)

Data File: \\chromfs\Denver\ChromData\VMS_X4\20231211-128477.b\X511694.D\VMS_X4_8260.rslt\spectra.d
Injection Date: 11-Dec-2023 18:06:30
Spectrum: Tune Spec :Average 1151-1153(8.81-8.82) Bgrd 1143(8.75)
Base Peak: 95.10
Minimum % Base Peak: 0
Number of Points: 83

m/z	Y	m/z	Y	m/z	Y	m/z	Y
36.00	4520	63.00	13430	92.00	10537	137.00	551
37.00	22816	64.00	1159	93.00	15176	140.00	384
38.00	20032	67.00	601	94.00	42672	141.00	3889
39.00	8278	68.00	39144	95.00	358976	142.00	830
40.00	1080	69.00	39520	96.00	23152	143.00	3959
44.00	2230	70.00	3419	97.00	860	146.00	192
45.00	3577	72.00	2126	104.00	1439	148.00	710
46.00	214	73.00	16696	105.00	626	149.00	174
47.00	5663	74.00	65248	106.00	1467	150.00	172
48.00	2703	75.00	193664	107.00	350	154.00	216
49.00	18128	76.00	15373	110.00	212	155.00	515
50.00	77992	77.00	2391	116.00	1165	156.00	366
51.00	26664	78.00	1556	117.00	2197	159.00	218
52.00	829	79.00	9513	118.00	1175	172.00	574
55.00	1048	80.00	2788	119.00	1461	172.00	804
56.00	6435	81.00	10308	124.00	180	174.00	258304
57.00	10920	82.00	2381	128.00	1137	175.00	21776
58.00	166	86.00	266	129.00	423	176.00	251712
60.00	4490	87.00	16294	130.00	576	177.00	17568
61.00	18872	88.00	15202	131.00	417	178.00	505
62.00	18584	91.00	1341	135.00	829		

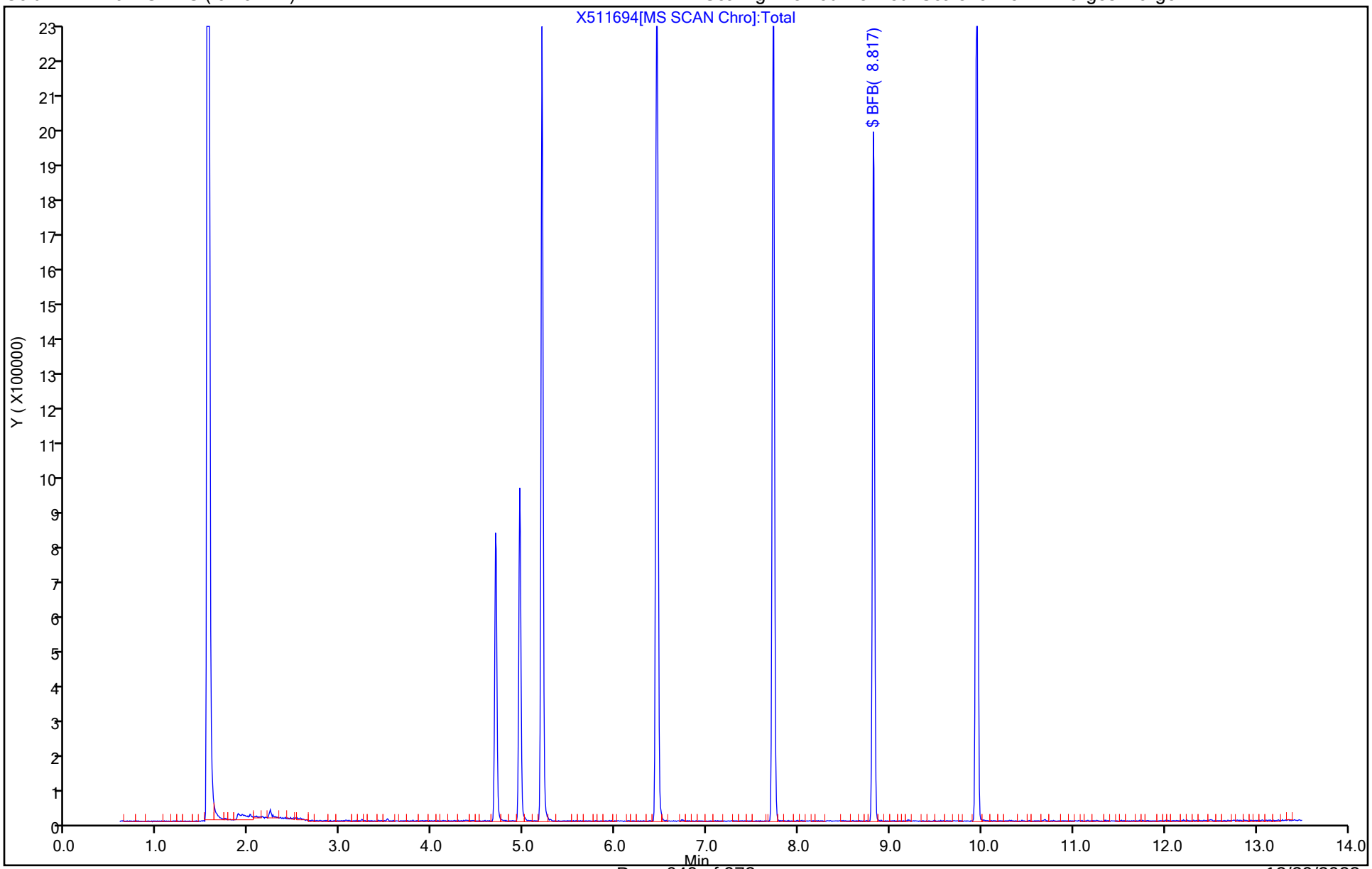
Report Date: 12-Dec-2023 05:03:42 Chrom Revision: 2.3 15-Nov-2023 20:54:34

Eurofins Denver

Data File: \\chromfs\Denver\ChromData\VMS_X4\20231211-128477.b\X511694.D

Injection Date:	11-Dec-2023 18:06:30	Instrument ID:	VMS_X4	Operator ID:	CF
Lims ID:	BFB			Worklist Smp#:	1
Client ID:					
Injection Vol:	2.0 uL	Dil. Factor:	1.0000	ALS Bottle#:	100
Method:	VMS_X4_8260	Limit Group:	MSV - 8260B Water and Solid		

Column: Rxi-624Sil MS (0.25 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 1



Eurofins Denver
Target Compound Quantitation Report

Data File: \\chromfs\Denver\ChromData\VMS_X4\20231218-128669.b\X511932.D
Lims ID: BFB
Client ID:
Sample Type: BFB
Inject. Date: 18-Dec-2023 08:01:30 ALS Bottle#: 100 Worklist Smp#: 1
Injection Vol: 2.0 uL Dil. Factor: 1.0000
Sample Info: bfb
Operator ID: COULTER Instrument ID: VMS_X4

Method: \\chromfs\Denver\ChromData\VMS_X4\20231218-128669.b\VMS_X4_8260.m
Limit Group: MSV - 8260B Water and Solid
Last Update: 18-Dec-2023 13:03:15 Calib Date: 11-Dec-2023 20:50:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Denver\ChromData\VMS_X4\20231211-128477.b\X511702.D

Column 1 : Rxi-624Sil MS (0.25 mm) Det: MS SCAN
Process Host: CTX1660

First Level Reviewer: NNS5 Date: 18-Dec-2023 08:57:10

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
$ 8 BFB	95	8.817	8.817	0.000	87	747678	NR	NR	

QC Flag Legend

Processing Flags
NR - Missing Quant Standard

Reagents:

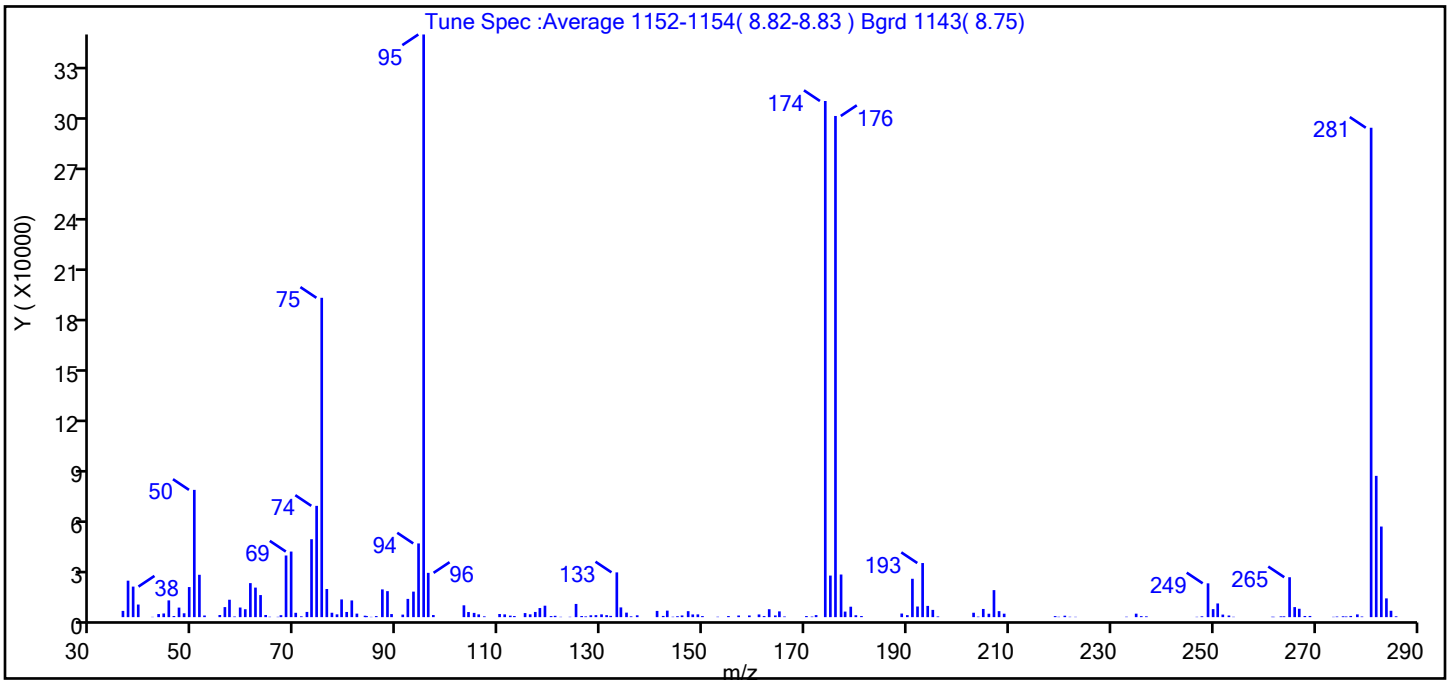
mv-Cent BFB_00007 Amount Added: 5.00 Units: uL

MS Tune Report

Eurofins Denver

Data File: \\chromfs\Denver\ChromData\VMS_X4\20231218-128669.b\X511932.D
Injection Date: 18-Dec-2023 08:01:30 Instrument ID: VMS_X4
Lims ID: BFB
Client ID:
Operator ID: COULTER ALS Bottle#: 100 Worklist Smp#: 1
Injection Vol: 2.0 uL Dil. Factor: 1.0000
Method: VMS_X4_8260 Limit Group: MSV - 8260B Water and Solid
Tune Method: BFB Method 8260

$ 8 BFB



m/z	Ion Abundance Criteria	% Relative Abundance
95	Base peak, 100% relative abundance	100.0
50	15 to 40% of m/z 95	21.8
75	30 to 60% of m/z 95	54.8
96	5 to 9% of m/z 95	7.6
173	Less than 2% of m/z 174	0.0 (0.0)
174	50 to 120% of m/z 95	88.6
175	5 to 9% of m/z 174	7.1 (8.1)
176	Greater than 95% but less than 101% of m/z 174	86.0 (97.1)
177	5 to 9% of m/z 176	7.3 (8.5)

Data File: \\chromfs\Denver\ChromData\VMS_X4\20231218-128669.b\X511932.D\VMS_X4_8260.rslt\spectra.d
Injection Date: 18-Dec-2023 08:01:30
Spectrum: Tune Spec :Average 1152-1154(8.82-8.83) Bgrd 1143(8.75)
Base Peak: 95.10
Minimum % Base Peak: 0
Number of Points: 173

m/z	Y	m/z	Y	m/z	Y	m/z	Y
36.00	3740	84.00	643	141.00	3727	208.00	3597
37.00	21824	85.00	173	142.00	723	209.00	2069
38.00	18280	86.00	644	143.00	3897	219.00	629
39.00	7544	87.00	16600	144.00	250	220.00	234
42.00	167	88.00	15555	145.00	565	221.00	854
43.00	1848	89.00	1843	146.00	1007	222.00	234
44.00	2199	91.00	1514	147.00	3578	223.00	192
45.00	10027	92.00	10918	148.00	1619	233.00	257
46.00	662	93.00	15276	149.00	1657	235.00	2083
47.00	5711	94.00	44112	150.00	637	236.00	613
48.00	2309	95.00	348672	153.00	242	237.00	489
49.00	18000	96.00	26504	155.00	649	247.00	203
50.00	76160	97.00	1253	157.00	967	248.00	500
51.00	25344	103.00	7076	159.00	997	249.00	20232
52.00	978	104.00	3055	161.00	1610	250.00	4804
55.00	1275	105.00	2546	162.00	644	251.00	8201
56.00	6005	106.00	1655	163.00	4746	252.00	1530
57.00	10416	107.00	472	164.00	991	253.00	976
58.00	381	110.00	1878	165.00	3457	254.00	221
59.00	5756	111.00	1665	166.00	394	262.00	227
60.00	4735	112.00	896	170.00	656	262.00	194
61.00	20360	113.00	660	171.00	344	263.00	459
62.00	17680	115.00	2437	172.00	1217	264.00	491
63.00	13209	116.00	1679	174.00	308864	265.00	23888
64.00	1290	117.00	3114	175.00	24872	266.00	6003
65.00	238	118.00	5442	176.00	299904	267.00	5015
66.00	193	119.00	6853	177.00	25512	268.00	691
67.00	1175	120.00	640	178.00	3328	269.00	706
68.00	36888	121.00	804	179.00	6242	274.00	199
69.00	39248	122.00	196	180.00	1137	274.00	369
70.00	2600	124.00	215	181.00	655	276.00	511
71.00	489	125.00	7904	189.00	2158	276.00	398
72.00	3126	126.00	659	190.00	1195	277.00	713

Report Date: 18-Dec-2023 13:03:15 Chrom Revision: 2.3 15-Nov-2023 20:54:34
Data File: \\chromfs\Denver\ChromData\VMS_X4\20231218-128669.b\X511932.D\VMS_X4_8260.rslt\spectra.d
Injection Date: 18-Dec-2023 08:01:30
Spectrum: Tune Spec :Average 1152-1154(8.82-8.83) Bgrd 1143(8.75)
Base Peak: 95.10
Minimum % Base Peak: 0
Number of Points: 173

m/z	Y	m/z	Y	m/z	Y	m/z	Y
73.00	46640	127.00	437	191.00	22960	278.00	1647
74.00	66600	128.00	1111	192.00	6367	279.00	374
75.00	191104	129.00	1191	193.00	32376	281.00	292864
76.00	16840	130.00	1664	194.00	6727	282.00	84544
77.00	2633	131.00	1196	195.00	4342	283.00	54216
78.00	1670	132.00	762	196.00	409	284.00	11227
79.00	10610	133.00	26792	203.00	2637	285.00	3821
80.00	3101	134.00	5830	204.00	308	286.00	498
81.00	9998	135.00	2697	205.00	4898		
82.00	2114	136.00	477	206.00	2042		
84.00	860	137.00	1103	207.00	16169		

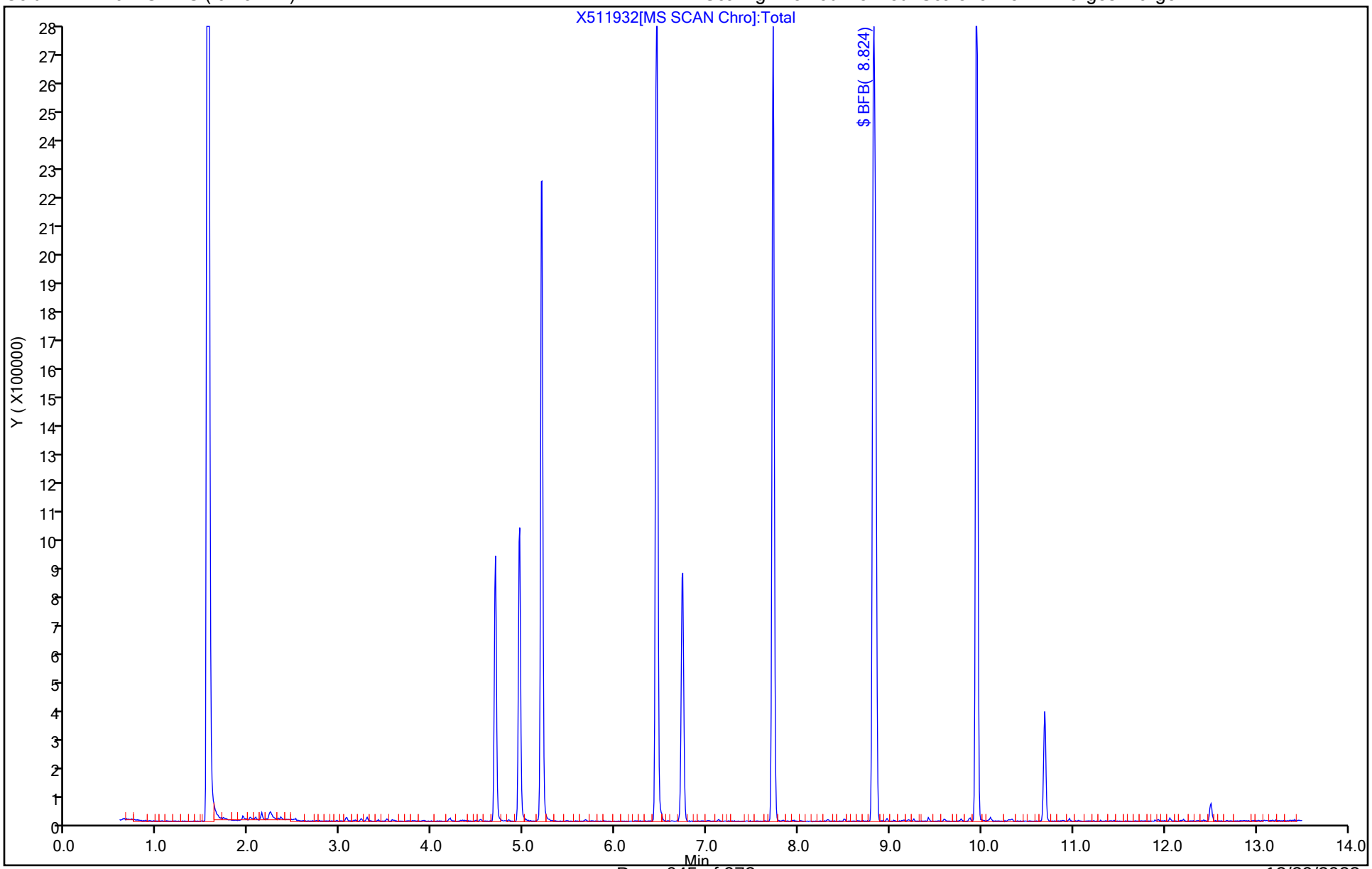
Report Date: 18-Dec-2023 13:03:15 Chrom Revision: 2.3 15-Nov-2023 20:54:34

Eurofins Denver

Data File: \\chromfs\Denver\ChromData\VMS_X4\20231218-128669.b\X511932.D

Injection Date:	18-Dec-2023 08:01:30	Instrument ID:	VMS_X4	Operator ID:	COULTER
Lims ID:	BFB			Worklist Smp#:	1
Client ID:					
Injection Vol:	2.0 uL	Dil. Factor:	1.0000	ALS Bottle#:	100
Method:	VMS_X4_8260	Limit Group:	MSV - 8260B Water and Solid		

Column: Rxi-624Sil MS (0.25 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 1



FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Denver | Job No.: 280-185797-1

SDG No.:

Client Sample ID: | Lab Sample ID: MB 280-637616/9

Matrix: Water | Lab File ID: X511938.D

Analysis Method: 8260D | Date Collected:

Sample wt/vol: 5(mL) | Date Analyzed: 12/18/2023 10:20

Soil Aliquot Vol: | Dilution Factor: 1

Soil Extract Vol.: | GC Column: RXI-624SilMS ID: 0.25(mm)

Purge Volume: 5.0(mL) | Heated Purge: (Y/N) N pH:

% Moisture: % Solids: | Level: (low/med) Low

Analysis Batch No.: 637616 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
71-55-6	1,1,1-Trichloroethane	0.50	U	1.0	0.50	0.39
79-34-5	1,1,2,2-Tetrachloroethane	0.80	U	1.0	0.80	0.21
79-00-5	1,1,2-Trichloroethane	0.80	U	1.0	0.80	0.27
75-34-3	1,1-Dichloroethane	0.80	U	1.0	0.80	0.22
75-35-4	1,1-Dichloroethylene	0.80	U	1.0	0.80	0.23
563-58-6	1,1-Dichloropropene	0.80	U	1.0	0.80	0.42
87-61-6	1,2,3-Trichlorobenzene	0.80	U	2.0	0.80	0.70
96-18-4	1,2,3-Trichloropropane	1.8	U	2.5	1.8	0.86
526-73-8	1,2,3-Trimethylbenzene	0.80	U	2.0	0.80	0.27
120-82-1	1,2,4-Trichlorobenzene	0.80	U	1.0	0.80	0.58
95-63-6	1,2,4-Trimethylbenzene	0.40	U	1.0	0.40	0.15
96-12-8	1,2-Dibromo-3-Chloropropane	4.0	U	5.0	4.0	1.8
106-93-4	1,2-Dibromoethane	0.80	U	1.0	0.80	0.40
95-50-1	1,2-Dichlorobenzene	0.50	U	1.0	0.50	0.37
107-06-2	1,2-Dichloroethane	0.80	U	1.0	0.80	0.54
78-87-5	1,2-Dichloropropane	0.80	U	1.0	0.80	0.52
108-67-8	1,3,5-Trimethylbenzene	0.50	U	1.0	0.50	0.37
541-73-1	1,3-Dichlorobenzene	0.40	U	1.0	0.40	0.33
142-28-9	1,3-Dichloropropane	0.80	U	1.0	0.80	0.38
106-46-7	1,4-Dichlorobenzene	0.50	U	1.0	0.50	0.39
594-20-7	2,2-Dichloropropane	0.80	U	1.0	0.80	0.38
78-93-3	2-Butanone (MEK)	12	U	15	12	6.0
110-75-8	2-Chloroethyl vinyl ether	0.80	U	3.0	0.80	0.44
591-78-6	2-Hexanone	4.0	U	5.0	4.0	1.7
99-87-6	4-Isopropyltoluene	0.80	U	1.0	0.80	0.43
108-10-1	4-Methyl-2-pentanone (MIBK)	3.2	U	5.0	3.2	0.98
67-64-1	Acetone	8.0	U M	15	8.0	6.6
107-13-1	Acrylonitrile	8.0	U	20	8.0	4.5
71-43-2	Benzene	0.80	U	1.0	0.80	0.31
108-86-1	Bromobenzene	0.50	U	1.0	0.50	0.40
74-97-5	Bromochloromethane	0.80	U	1.0	0.80	0.40
75-27-4	Bromodichloromethane	0.50	U	1.0	0.50	0.39
75-25-2	Bromoform	1.8	U	2.0	1.8	1.2
75-15-0	Carbon disulfide	0.80	U	2.0	0.80	0.63

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Denver | Job No.: 280-185797-1

SDG No.:

Client Sample ID: | Lab Sample ID: MB 280-637616/9

Matrix: Water | Lab File ID: X511938.D

Analysis Method: 8260D | Date Collected:

Sample wt/vol: 5(mL) | Date Analyzed: 12/18/2023 10:20

Soil Aliquot Vol: | Dilution Factor: 1

Soil Extract Vol.: | GC Column: RXI-624SilMS ID: 0.25(mm)

Purge Volume: 5.0(mL) | Heated Purge: (Y/N) N pH:

% Moisture: % Solids: | Level: (low/med) Low

Analysis Batch No.: 637616 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
56-23-5	Carbon tetrachloride	0.80	U	1.0	0.80	0.57
108-90-7	Chlorobenzene	0.80	U	1.0	0.80	0.42
75-00-3	Chloroethane	1.6	U	4.0	1.6	1.4
67-66-3	Chloroform	0.80	U	1.0	0.80	0.36
74-87-3	Chloromethane	1.0	U	2.0	1.0	0.75
156-59-2	cis-1,2-Dichloroethylene	0.40	U	1.0	0.40	0.32
10061-01-5	cis-1,3-Dichloropropene	1.8	U	2.0	1.8	0.63
110-82-7	Cyclohexane	0.80	U	1.0	0.80	0.44
108-94-1	Cyclohexanone	64	U M	100	64	32
124-48-1	Dibromochloromethane	1.8	U	2.0	1.8	0.62
74-95-3	Dibromomethane	0.40	U	1.0	0.40	0.34
75-71-8	Dichlorodifluoromethane	2.5	U	3.0	2.5	0.96
100-41-4	Ethylbenzene	0.40	U	1.0	0.40	0.30
87-68-3	Hexachlorobutadiene	1.8	U	2.0	1.8	1.2
108-20-3	Isopropyl ether	2.0	U	10	2.0	1.1
98-82-8	Isopropylbenzene	0.50	U	1.0	0.50	0.36
1634-04-4	Methyl tert-butyl ether	0.80	U	5.0	0.80	0.25
108-87-2	Methylcyclohexane	0.40	U	1.0	0.40	0.31
75-09-2	Methylene Chloride	1.8	U	2.0	1.8	0.94
91-20-3	Naphthalene	0.80	U	2.0	0.80	0.63
104-51-8	n-Butylbenzene	0.80	U	1.0	0.80	0.48
110-54-3	n-Hexane	0.80	U	2.0	0.80	0.16
103-65-1	N-Propylbenzene	0.80	U	1.0	0.80	0.53
95-49-8	o-Chlorotoluene	0.40	U	1.0	0.40	0.34
106-43-4	p-Chlorotoluene	0.80	U	1.0	0.80	0.21
135-98-8	sec-Butylbenzene	0.80	U	1.0	0.80	0.45
100-42-5	Styrene	0.80	U	1.0	0.80	0.36
98-06-6	tert-Butylbenzene	0.80	U	1.0	0.80	0.42
127-18-4	Tetrachloroethene	0.80	U	1.0	0.80	0.40
108-88-3	Toluene	0.40	U	1.0	0.40	0.32
156-60-5	trans-1,2-Dichloroethylene	0.50	U	1.0	0.50	0.37
10061-02-6	trans-1,3-Dichloropropene	1.8	U	2.0	1.8	0.65
79-01-6	Trichloroethene	0.40	U	1.0	0.40	0.30
75-69-4	Trichlorofluoromethane	0.80	U	2.0	0.80	0.57

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Denver | Job No.: 280-185797-1

SDG No.:

Client Sample ID: | Lab Sample ID: MB 280-637616/9

Matrix: Water | Lab File ID: X511938.D

Analysis Method: 8260D | Date Collected:

Sample wt/vol: 5(mL) | Date Analyzed: 12/18/2023 10:20

Soil Aliquot Vol: | Dilution Factor: 1

Soil Extract Vol.: | GC Column: RXI-624SilMS ID: 0.25(mm)

Purge Volume: 5.0(mL) | Heated Purge: (Y/N) N pH:

% Moisture: % Solids: | Level: (low/med) Low

Analysis Batch No.: 637616 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
108-05-4	Vinyl acetate	2.0	U	3.0	2.0	0.94
75-01-4	Vinyl chloride	1.0	U	2.0	1.0	0.51
1330-20-7	Xylenes, Total	0.80	U	1.0	0.80	0.33

CAS NO.	SURROGATE	%REC	Q	LIMITS
17060-07-0	1,2-Dichloroethane-d4 (Surr)	104		81-118
460-00-4	4-Bromofluorobenzene (Surr)	91		85-114
1868-53-7	Dibromofluoromethane (Surr)	106		80-119
2037-26-5	Toluene-d8 (Surr)	97		89-112

Eurofins Denver
Target Compound Quantitation Report

Data File: \\chromfs\Denver\ChromData\VMS_X4\20231218-128669.b\X511938.D
Lims ID: MB
Client ID:
Sample Type: MB
Inject. Date: 18-Dec-2023 10:20:30 ALS Bottle#: 6 Worklist Smp#: 9
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Sample Info: MB
Operator ID: COULTER Instrument ID: VMS_X4

Method: \\chromfs\Denver\ChromData\VMS_X4\20231218-128669.b\VMS_X4_8260.m
Limit Group: MSV - 8260B Water and Solid
Last Update: 18-Dec-2023 13:03:18 Calib Date: 11-Dec-2023 20:50:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Denver\ChromData\VMS_X4\20231211-128477.b\X511702.D

Column 1 : Rxi-624Sil MS (0.25 mm) Det: MS SCAN
Process Host: CTX1660

First Level Reviewer: NNS5 Date: 18-Dec-2023 11:53:27

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
* 1 Fluorobenzene	96	5.199	5.199	0.000	98	1700684	50.0	50.0	
* 2 Chlorobenzene-d5	119	7.730	7.723	0.007	89	472468	50.0	50.0	
* 3 1,4-Dichlorobenzene-d4	152	9.947	9.947	0.000	97	809442	50.0	50.0	
$ 4 Dibromofluoromethane (Surr)	111	4.699	4.692	0.007	93	461328	50.0	53.0	
$ 5 1,2-Dichloroethane-d4 (Surr)	65	4.956	4.956	0.000	0	585259	50.0	52.0	
$ 6 Toluene-d8 (Surr)	98	6.458	6.451	0.008	95	1968164	50.0	48.4	
$ 7 4-Bromofluorobenzene (Surr)	95	8.817	8.817	0.000	87	700559	50.0	45.3	
$ 8 BFB	95	8.817	8.817	0.000	85	700559		NR	
9 Dichlorodifluoromethane	85		1.760					ND	
10 Chloromethane	50		1.939					ND	
11 Vinyl chloride	62		2.039					ND	
12 Bromomethane	94		2.325					ND	7
13 Chloroethane	64		2.425					ND	
15 Propene oxide	58		2.504					ND	
14 Dichlorofluoromethane	67		2.597					ND	
16 Trichlorofluoromethane	101		2.632					ND	
17 Ethanol	45		2.754					ND	
18 Ethyl ether	59		2.847					ND	
19 Acrolein	56		2.961					ND	
20 1,1,2-Trichloro-1,2,2-trifluoroe	151		3.040					ND	
21 1,1-Dichloroethene	96		3.040					ND	
22 Acetone	43		3.061					ND	U
23 Isopropyl alcohol	45	3.147	3.147	0.000	28	1648		2.56	
24 Iodomethane	142		3.169					ND	
25 Carbon disulfide	76		3.226					ND	7
26 Acetonitrile	41	3.283	3.276	0.007	98	12906		7.01	
27 Methyl acetate	43		3.290					ND	
28 3-Chloro-1-propene	41		3.312					ND	
29 Methylene Chloride	84	3.412	3.404	0.008	81	3437		0.3357	
30 2-Methyl-2-propanol	59		3.447					ND	
31 Acrylonitrile	53		3.576					ND	
32 Methyl tert-butyl ether	73		3.590					ND	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
33 trans-1,2-Dichloroethene	96		3.605					ND	
34 Hexane	57		3.798					ND	
35 Vinyl acetate	43		3.905					ND	
36 1,1-Dichloroethane	63		3.926					ND	
37 Isopropyl ether	87		3.926					ND	
38 2-Chloro-1,3-butadiene	53		3.984					ND	
39 Tert-butyl ethyl ether	59		4.191					ND	
40 2-Butanone (MEK)	43		4.313					ND	
41 Ethyl acetate	43		4.327					ND	7
42 cis-1,2-Dichloroethene	96		4.341					ND	
43 2,2-Dichloropropane	77		4.355					ND	
44 Propionitrile	54		4.370					ND	
45 sec-Butyl Alcohol	45		4.420					ND	
46 Methacrylonitrile	41		4.477					ND	
47 Chlorobromomethane	128		4.520					ND	
48 Tetrahydrofuran	42		4.527					ND	
49 Chloroform	83		4.577					ND	
50 1,1,1-Trichloroethane	97		4.720					ND	
51 Cyclohexane	56		4.777					ND	
52 1,1-Dichloropropene	75		4.835					ND	
53 Carbon tetrachloride	117		4.835					ND	
54 Isobutyl alcohol	41		4.842					ND	
55 Benzene	78		4.985					ND	
56 1,2-Dichloroethane	62		5.013					ND	7
57 Tert-amyl methyl ether	73		5.056					ND	
58 n-Heptane	43		5.163					ND	
59 n-Butanol	56		5.335					ND	
60 Trichloroethene	95		5.471					ND	
61 2-Pentanone	43		5.578					ND	
62 Methylcyclohexane	55		5.671					ND	
63 1,2-Dichloropropane	63		5.678					ND	
64 Methyl methacrylate	100		5.678					ND	
65 1,4-Dioxane	88		5.721					ND	
66 Dibromomethane	93		5.750					ND	
67 Dichlorobromomethane	83		5.871					ND	
68 2-Nitropropane	41		6.043					ND	
69 2-Chloroethyl vinyl ether	63		6.072					ND	
70 cis-1,3-Dichloropropene	75		6.222					ND	
71 4-Methyl-2-pentanone (MIBK)	43		6.322					ND	
72 Toluene	91		6.508					ND	
73 trans-1,3-Dichloropropene	75		6.679					ND	
74 Ethyl methacrylate	69		6.701					ND	
75 1,1,2-Trichloroethane	97		6.858					ND	
76 Tetrachloroethene	164		6.951					ND	
77 1,3-Dichloropropane	76		7.008					ND	
78 2-Hexanone	43		7.023					ND	
79 Chlorodibromomethane	129		7.201					ND	
80 Ethylene Dibromide	107		7.323					ND	
81 1-Chlorohexane	91		7.709					ND	U
82 Chlorobenzene	112		7.752					ND	
83 1,1,1,2-Tetrachloroethane	131		7.823					ND	
84 Ethylbenzene	106		7.830					ND	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
85 m-Xylene & p-Xylene	106		7.945					ND	
86 o-Xylene	106		8.302					ND	
87 Styrene	104		8.324					ND	
88 Bromoform	173		8.503					ND	
89 Isopropylbenzene	105		8.646					ND	
90 cis-1,4-Dichloro-2-butene	53		8.696					ND	
91 Cyclohexanone	55		8.746					ND	U
92 1,1,2,2-Tetrachloroethane	83		8.932					ND	
94 trans-1,4-Dichloro-2-butene	53		8.967					ND	
93 Bromobenzene	156		8.967					ND	
95 1,2,3-Trichloropropane	110		8.996					ND	
96 N-Propylbenzene	120		9.046					ND	
97 2-Chlorotoluene	126		9.146					ND	
98 1,3,5-Trimethylbenzene	105		9.218					ND	
99 4-Chlorotoluene	126		9.261					ND	
101 Pentachloroethane	167		9.411					ND	
100 tert-Butylbenzene	119		9.525					ND	
102 1,2,4-Trimethylbenzene	105		9.582					ND	
103 sec-Butylbenzene	134		9.747					ND	
104 1,3-Dichlorobenzene	146		9.875					ND	7
105 4-Isopropyltoluene	119		9.890					ND	
106 1,4-Dichlorobenzene	146		9.976					ND	7
107 1,2,3-Trimethylbenzene	105		9.990					ND	
108 n-Butylbenzene	91		10.297					ND	
109 1,2-Dichlorobenzene	146		10.333					ND	
110 1,2-Dibromo-3-Chloropropane	157		11.105					ND	
111 1,3,5-Trichlorobenzene	180		11.298					ND	
112 1,2,4-Trichlorobenzene	180	11.942	11.935	0.007	83	3314		0.2967	
113 Hexachlorobutadiene	225		12.071					ND	
114 Naphthalene	128	12.206	12.206	0.000	93	13943		0.4805	
115 1,2,3-Trichlorobenzene	180	12.435	12.428	0.007	84	4266		0.4706	
120 Tetrahydrothiophene TIC	1		0.000					ND	
119 1-Chloro-1-fluoroethane TIC	1		0.000					ND	
118 Ethyl acrylate	55		0.000					ND	
117 t-Amyl alcohol	1		0.000					ND	
116 Ethylene oxide TIC	1		0.000					ND	
121 Propene oxide TIC	58		5.334					ND	
S 122 1,2-Dichloroethene, Total (URS)	96		2.000					ND	7
S 129 1,2-Dichloroethene, Total	1		0.000					ND	7
S 124 1,3-Dichloropropene, Total	1		0.000					ND	7
S 123 Xylenes, Total (URS)	1		0.000					ND	7
S 127 Trihalomethanes, Total	1		0.000					ND	7
S 126 Total BTEX	1		0.000					ND	7
S 128 TAH	1				0			0	
S 125 Xylenes, Total	106		0.000					ND	7

QC Flag Legend

Processing Flags

NR - Missing Quant Standard

7 - Failed Limit of Detection

Review Flags
U - Marked Undetected

Reagents:

mv-IS_SS_00074 Amount Added: 5.00 Units: uL Run Reagent

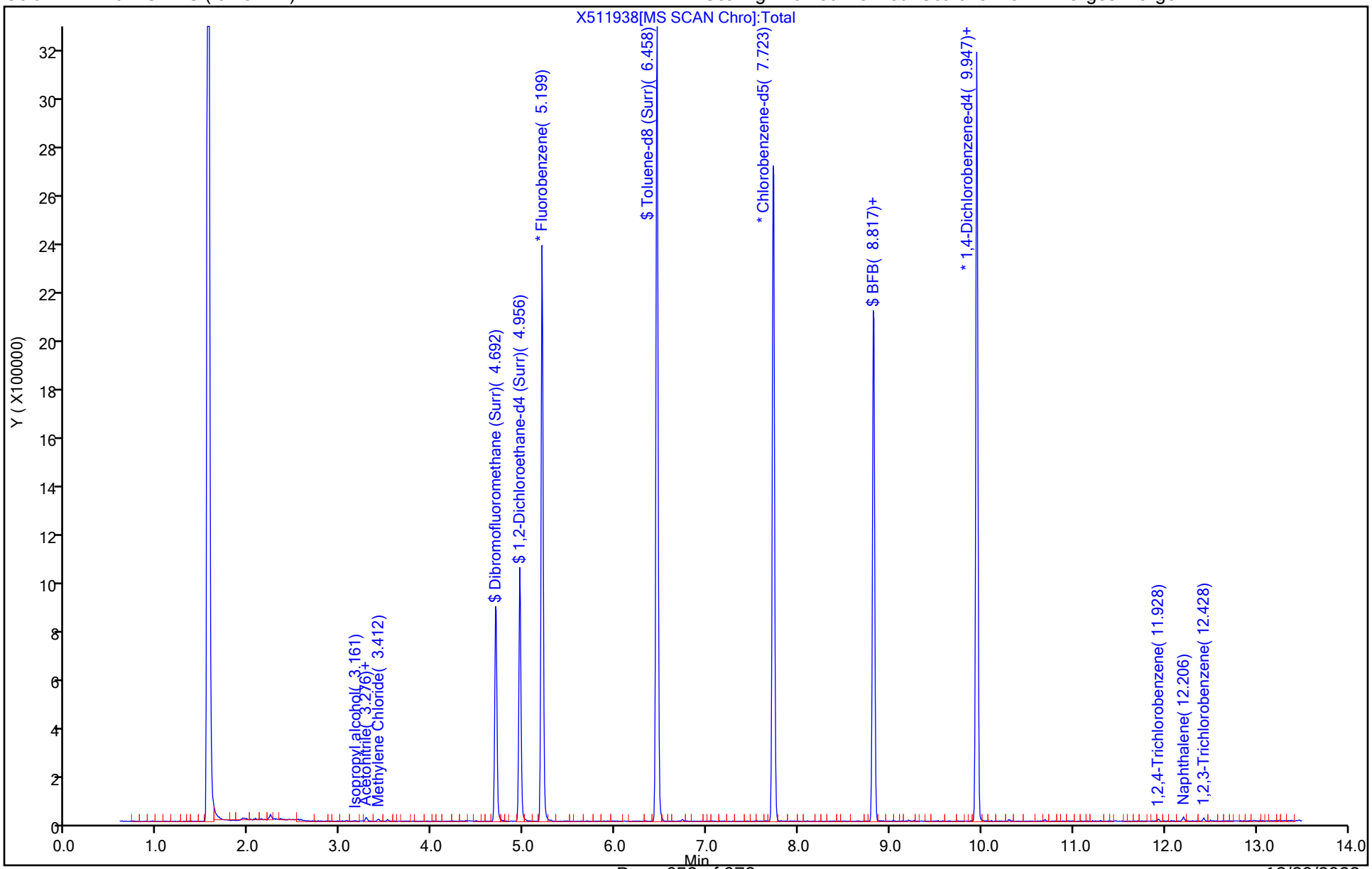
Report Date: 18-Dec-2023 13:03:32 Chrom Revision: 2.3 15-Nov-2023 20:54:34

Eurofins Denver

Data File: \\chromfs\Denver\ChromData\VMS_X4\20231218-128669.b\X511938.D

Injection Date:	18-Dec-2023 10:20:30	Instrument ID:	VMS_X4	Operator ID:	COULTER
Lims ID:	MB			Worklist Smp#:	9
Client ID:					
Purge Vol:	5.000 mL	Dil. Factor:	1.0000	ALS Bottle#:	6
Method:	VMS_X4_8260	Limit Group:	MSV - 8260B Water and Solid		

Column: Rxi-624Sil MS (0.25 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 1



12/29/2023
10:48 AM

Eurofins Denver
Recovery Report

Data File:	\\chromfs\Denver\ChromData\VMS_X4\20231218-128669.b\X511938.D				
Lims ID:	MB				
Client ID:					
Sample Type:	MB				
Inject. Date:	18-Dec-2023 10:20:30	ALS Bottle#:	6	Worklist Smp#:	9
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Sample Info:	MB				
Operator ID:	COULTER	Instrument ID:	VMS_X4		
Method:	\\chromfs\Denver\ChromData\VMS_X4\20231218-128669.b\VMS_X4_8260.m				
Limit Group:	MSV - 8260B Water and Solid				
Last Update:	18-Dec-2023 13:03:18	Calib Date:	11-Dec-2023 20:50:30		
Integrator:	RTE	ID Type:	Deconvolution ID		
Quant Method:	Internal Standard	Quant By:	Initial Calibration		
Last ICal File:	\\chromfs\Denver\ChromData\VMS_X4\20231211-128477.b\X511702.D				
Column 1 :	Rxi-624Sil MS (0.25 mm)		Det: MS SCAN		
Process Host:	CTX1660				

First Level Reviewer: NNS5 Date: 18-Dec-2023 11:53:27

Compound	Amount Added	Amount Recovered	% Rec.
$ 4 Dibromofluoromethane (Surr)	50.0	53.0	106.05
$ 5 1,2-Dichloroethane-d4 (Surr)	50.0	52.0	104.02
$ 6 Toluene-d8 (Surr)	50.0	48.4	96.77
$ 7 4-Bromofluorobenzene (Surr)	50.0	45.3	90.70

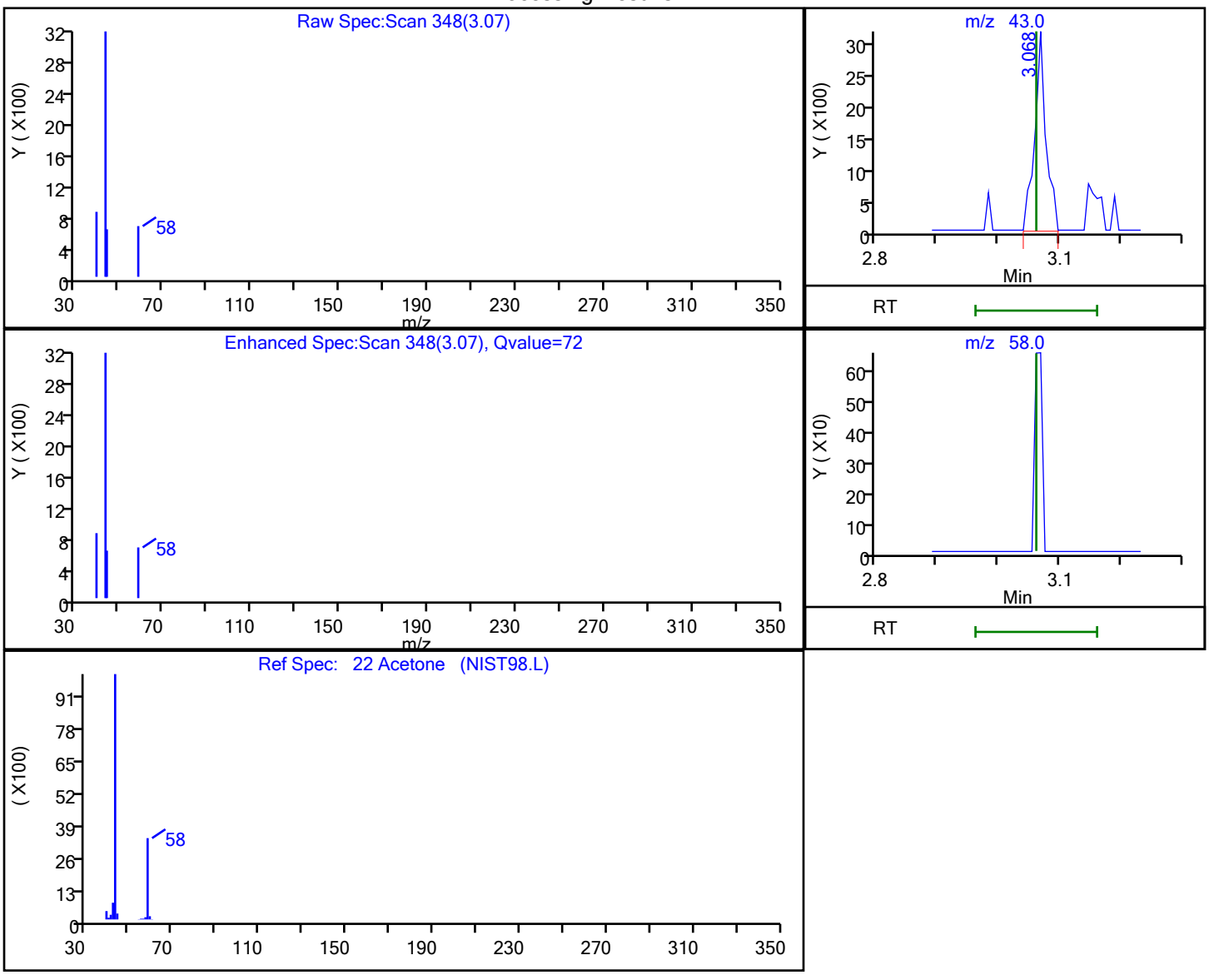
User Disabled Compound Report

Eurofins Denver

Data File: \\chromfs\Denver\ChromData\VMS_X4\20231218-128669.b\X511938.D
Injection Date: 18-Dec-2023 10:20:30 Instrument ID: VMS_X4
Lims ID: MB
Client ID:
Operator ID: COULTER ALS Bottle#: 6 Worklist Smp#: 9
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Method: VMS_X4_8260 Limit Group: MSV - 8260B Water and Solid
Column: Rxi-624Sil MS (0.25 mm) Detector MS SCAN

22 Acetone, CAS: 67-64-1

Processing Results



RT	Mass	Response	Amount
3.07	43.00	4076	1.228025
3.06	58.00	0	

Reviewer: NNS5, 18-Dec-2023 11:37:38 -07:00:00 (UTC)
Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

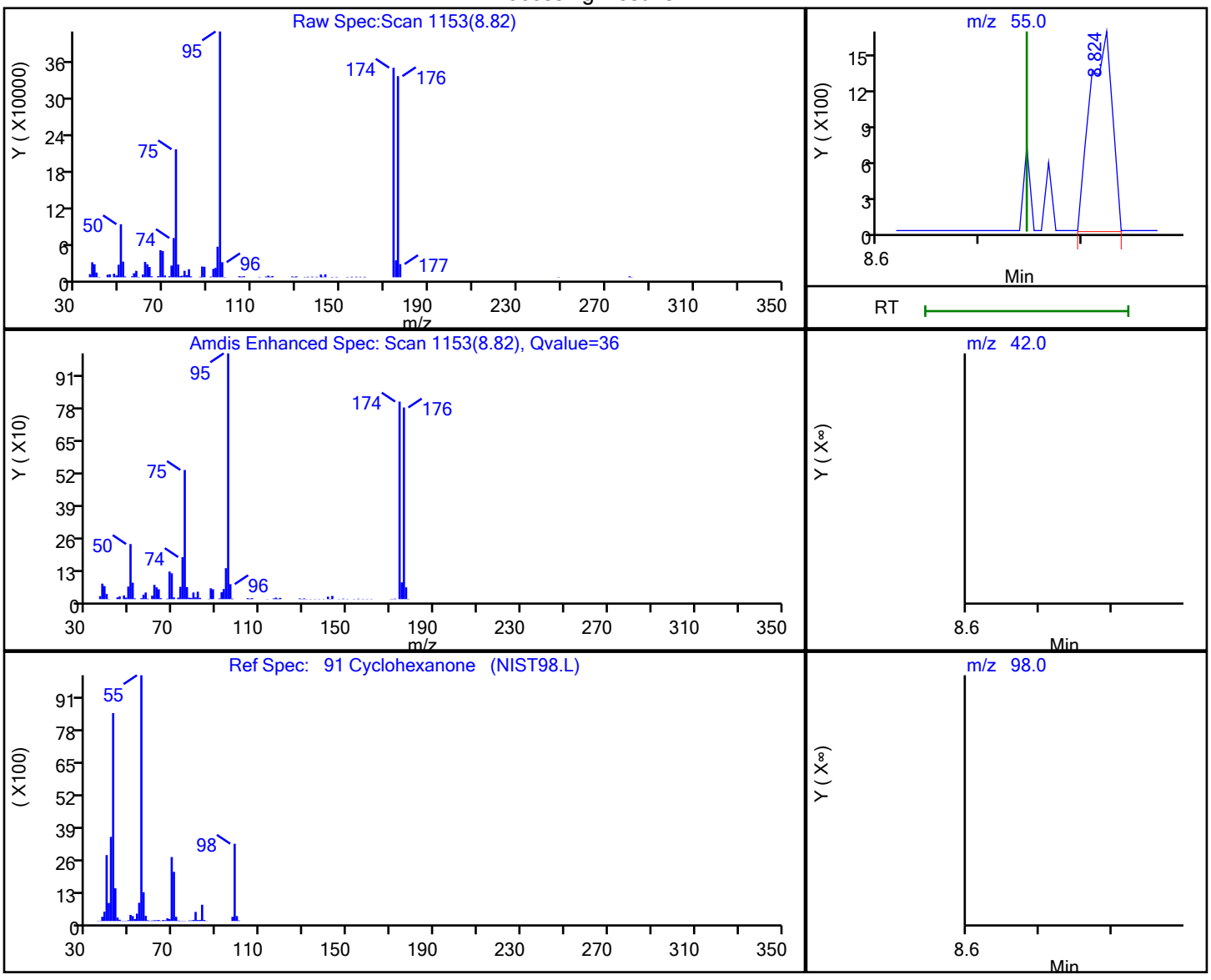
User Disabled Compound Report

Eurofins Denver

Data File:	\\chromfs\Denver\ChromData\VMS_X4\20231218-128669.b\X511938.D				
Injection Date:	18-Dec-2023 10:20:30	Instrument ID:	VMS_X4		
Lims ID:	MB				
Client ID:					
Operator ID:	COULTER	ALS Bottle#:	6	Worklist Smp#:	9
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	VMS_X4_8260	Limit Group:	MSV - 8260B Water and Solid		
Column:	Rxi-624Sil MS (0.25 mm)	Detector	MS SCAN		

91 Cyclohexanone, CAS: 108-94-1

Processing Results



RT	Mass	Response	Amount
8.82	55.00	2408	4.986687
8.75	42.00	0	
8.75	98.00	0	

Reviewer: NNS5, 18-Dec-2023 11:38:27 -07:00:00 (UTC)

Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Denver | Job No.: 280-185797-1

SDG No.:

Client Sample ID: | Lab Sample ID: LCS 280-637616/4

Matrix: Water | Lab File ID: X511933A.D

Analysis Method: 8260D | Date Collected:

Sample wt/vol: 5(mL) | Date Analyzed: 12/18/2023 08:33

Soil Aliquot Vol: | Dilution Factor: 1

Soil Extract Vol.: | GC Column: RXI-624SilMS ID: 0.25(mm)

Purge Volume: 5.0(mL) | Heated Purge: (Y/N) N pH:

% Moisture: % Solids: | Level: (low/med) Low

Analysis Batch No.: 637616 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
71-55-6	1,1,1-Trichloroethane	53.6		1.0	0.50	0.39
79-34-5	1,1,2,2-Tetrachloroethane	45.8		1.0	0.80	0.21
79-00-5	1,1,2-Trichloroethane	50.9		1.0	0.80	0.27
75-34-3	1,1-Dichloroethane	47.8		1.0	0.80	0.22
75-35-4	1,1-Dichloroethylene	49.2		1.0	0.80	0.23
563-58-6	1,1-Dichloropropene	51.7		1.0	0.80	0.42
87-61-6	1,2,3-Trichlorobenzene	48.5		2.0	0.80	0.70
96-18-4	1,2,3-Trichloropropane	49.0		2.5	1.8	0.86
120-82-1	1,2,4-Trichlorobenzene	50.8		1.0	0.80	0.58
95-63-6	1,2,4-Trimethylbenzene	51.1		1.0	0.40	0.15
96-12-8	1,2-Dibromo-3-Chloropropane	51.5		5.0	4.0	1.8
106-93-4	1,2-Dibromoethane	48.4		1.0	0.80	0.40
95-50-1	1,2-Dichlorobenzene	47.7		1.0	0.50	0.37
107-06-2	1,2-Dichloroethane	46.7		1.0	0.80	0.54
78-87-5	1,2-Dichloropropane	48.5		1.0	0.80	0.52
108-67-8	1,3,5-Trimethylbenzene	50.3		1.0	0.50	0.37
541-73-1	1,3-Dichlorobenzene	50.7		1.0	0.40	0.33
142-28-9	1,3-Dichloropropane	47.6		1.0	0.80	0.38
106-46-7	1,4-Dichlorobenzene	47.6		1.0	0.50	0.39
594-20-7	2,2-Dichloropropane	53.0		1.0	0.80	0.38
78-93-3	2-Butanone (MEK)	183		15	12	6.0
110-75-8	2-Chloroethyl vinyl ether	48.8		3.0	0.80	0.44
591-78-6	2-Hexanone	186		5.0	4.0	1.7
99-87-6	4-Isopropyltoluene	51.1		1.0	0.80	0.43
108-10-1	4-Methyl-2-pentanone (MIBK)	201		5.0	3.2	0.98
67-64-1	Acetone	173		15	8.0	6.6
107-13-1	Acrylonitrile	458		20	8.0	4.5
71-43-2	Benzene	49.7		1.0	0.80	0.31
108-86-1	Bromobenzene	49.2		1.0	0.50	0.40
74-97-5	Bromochloromethane	54.8		1.0	0.80	0.40
75-27-4	Bromodichloromethane	53.2		1.0	0.50	0.39
75-25-2	Bromoform	54.9		2.0	1.8	1.2
75-15-0	Carbon disulfide	45.4		2.0	0.80	0.63
56-23-5	Carbon tetrachloride	57.0		1.0	0.80	0.57

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Denver | Job No.: 280-185797-1

SDG No.:

Client Sample ID: | Lab Sample ID: LCS 280-637616/4

Matrix: Water | Lab File ID: X511933A.D

Analysis Method: 8260D | Date Collected:

Sample wt/vol: 5(mL) | Date Analyzed: 12/18/2023 08:33

Soil Aliquot Vol: | Dilution Factor: 1

Soil Extract Vol.: | GC Column: RXI-624SilMS ID: 0.25(mm)

Purge Volume: 5.0(mL) | Heated Purge: (Y/N) N pH:

% Moisture: % Solids: | Level: (low/med) Low

Analysis Batch No.: 637616 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
108-90-7	Chlorobenzene	49.2		1.0	0.80	0.42
75-00-3	Chloroethane	42.8		4.0	1.6	1.4
67-66-3	Chloroform	49.0		1.0	0.80	0.36
74-87-3	Chloromethane	38.5		2.0	1.0	0.75
156-59-2	cis-1,2-Dichloroethylene	48.7		1.0	0.40	0.32
10061-01-5	cis-1,3-Dichloropropene	48.5		2.0	1.8	0.63
110-82-7	Cyclohexane	50.2		1.0	0.80	0.44
108-94-1	Cyclohexanone	1900		100	64	32
124-48-1	Dibromochloromethane	53.1		2.0	1.8	0.62
74-95-3	Dibromomethane	47.7		1.0	0.40	0.34
75-71-8	Dichlorodifluoromethane	35.4		3.0	2.5	0.96
100-41-4	Ethylbenzene	51.7		1.0	0.40	0.30
87-68-3	Hexachlorobutadiene	59.6		2.0	1.8	1.2
98-82-8	Isopropylbenzene	49.6		1.0	0.50	0.36
1634-04-4	Methyl tert-butyl ether	50.8		5.0	0.80	0.25
108-87-2	Methylcyclohexane	53.3		1.0	0.40	0.31
75-09-2	Methylene Chloride	46.4		2.0	1.8	0.94
91-20-3	Naphthalene	44.9		2.0	0.80	0.63
104-51-8	n-Butylbenzene	50.9		1.0	0.80	0.48
110-54-3	n-Hexane	45.4		2.0	0.80	0.16
103-65-1	N-Propylbenzene	51.2		1.0	0.80	0.53
95-49-8	o-Chlorotoluene	48.4		1.0	0.40	0.34
106-43-4	p-Chlorotoluene	48.7		1.0	0.80	0.21
135-98-8	sec-Butylbenzene	51.2		1.0	0.80	0.45
100-42-5	Styrene	51.0		1.0	0.80	0.36
98-06-6	tert-Butylbenzene	50.8		1.0	0.80	0.42
127-18-4	Tetrachloroethene	52.1		1.0	0.80	0.40
108-88-3	Toluene	50.4		1.0	0.40	0.32
156-60-5	trans-1,2-Dichloroethylene	50.2		1.0	0.50	0.37
10061-02-6	trans-1,3-Dichloropropene	52.7		2.0	1.8	0.65
79-01-6	Trichloroethene	48.7		1.0	0.40	0.30
75-69-4	Trichlorofluoromethane	46.1		2.0	0.80	0.57
108-05-4	Vinyl acetate	107		3.0	2.0	0.94
75-01-4	Vinyl chloride	42.8		2.0	1.0	0.51

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Denver | Job No.: 280-185797-1

SDG No.:

Client Sample ID: | Lab Sample ID: LCS 280-637616/4

Matrix: Water | Lab File ID: X511933A.D

Analysis Method: 8260D | Date Collected:

Sample wt/vol: 5(mL) | Date Analyzed: 12/18/2023 08:33

Soil Aliquot Vol: | Dilution Factor: 1

Soil Extract Vol.: | GC Column: RXI-624SilMS ID: 0.25(mm)

Purge Volume: 5.0(mL) | Heated Purge: (Y/N) N pH:

% Moisture: % Solids: | Level: (low/med) Low

Analysis Batch No.: 637616 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
1330-20-7	Xylenes, Total	99.6		1.0	0.80	0.33

CAS NO.	SURROGATE	%REC	Q	LIMITS
17060-07-0	1,2-Dichloroethane-d4 (Surr)	101		81-118
460-00-4	4-Bromofluorobenzene (Surr)	90		85-114
1868-53-7	Dibromofluoromethane (Surr)	102		80-119
2037-26-5	Toluene-d8 (Surr)	100		89-112

Eurofins Denver
Target Compound Quantitation Report

Data File: \\chromfs\Denver\ChromData\VMS_X4\20231218-128669.b\X511933A.D
Lims ID: LCS
Client ID:
Sample Type: LCS
Inject. Date: 18-Dec-2023 08:33:30 ALS Bottle#: 1 Worklist Smp#: 4
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Sample Info: CCV
Operator ID: COULTER Instrument ID: VMS_X4

Method: \\chromfs\Denver\ChromData\VMS_X4\20231218-128669.b\VMS_X4_8260.m
Limit Group: MSV - 8260B Water and Solid
Last Update: 18-Dec-2023 13:03:18 Calib Date: 11-Dec-2023 20:50:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Denver\ChromData\VMS_X4\20231211-128477.b\X511702.D

Column 1 : Rxi-624Sil MS (0.25 mm) Det: MS SCAN
Process Host: CTX1660

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
* 1 Fluorobenzene	96	5.199	5.199	0.000	98	1743216	50.0	50.0	
* 2 Chlorobenzene-d5	119	7.723	7.723	0.000	90	467459	50.0	50.0	
* 3 1,4-Dichlorobenzene-d4	152	9.947	9.947	0.000	97	806436	50.0	50.0	
$ 4 Dibromofluoromethane (Surr)	111	4.692	4.692	0.000	93	456238	50.0	51.2	
$ 5 1,2-Dichloroethane-d4 (Surr)	65	4.956	4.956	0.000	0	581438	50.0	50.4	
$ 6 Toluene-d8 (Surr)	98	6.450	6.451	0.000	96	2006712	50.0	49.9	
$ 7 4-Bromofluorobenzene (Surr)	95	8.817	8.817	0.000	87	695533	50.0	45.2	
9 Dichlorodifluoromethane	85	1.760	1.760	0.000	100	436547	50.0	35.4	
10 Chloromethane	50	1.939	1.939	0.000	99	656531	50.0	38.5	
11 Vinyl chloride	62	2.039	2.039	0.000	99	629248	50.0	42.8	
12 Bromomethane	94	2.325	2.325	0.000	91	302037	50.0	41.0	
13 Chloroethane	64	2.425	2.425	0.000	99	395605	50.0	42.8	
14 Dichlorofluoromethane	67	2.597	2.597	0.000	99	974108	50.0	43.6	
16 Trichlorofluoromethane	101	2.632	2.632	0.000	100	706031	50.0	46.1	
18 Ethyl ether	59	2.847	2.847	0.000	95	400377	50.0	45.9	
19 Acrolein	56	2.961	2.961	0.000	98	608301	493.8	434.1	
20 1,1,2-Trichloro-1,2,2-trifluoroe	151	3.040	3.040	0.000	95	320093	50.0	55.3	
21 1,1-Dichloroethene	96	3.040	3.040	0.000	95	391912	50.0	49.2	
22 Acetone	43	3.061	3.061	0.000	98	590067	200.0	173.4	
24 Iodomethane	142	3.169	3.169	0.000	99	501194	50.0	47.9	
25 Carbon disulfide	76	3.226	3.226	0.000	100	1345174	50.0	45.4	
27 Methyl acetate	43	3.290	3.290	0.000	99	748020	100.0	90.9	
28 3-Chloro-1-propene	41	3.312	3.312	0.000	90	919917	50.0	49.2	
29 Methylene Chloride	84	3.404	3.404	0.000	98	486902	50.0	46.4	
30 2-Methyl-2-propanol	59	3.447	3.447	0.000	99	433948	500.0	473.1	
31 Acrylonitrile	53	3.576	3.576	0.000	98	1974821	500.0	457.6	
32 Methyl tert-butyl ether	73	3.590	3.590	0.000	97	1351138	50.0	50.8	
33 trans-1,2-Dichloroethene	96	3.605	3.605	0.000	95	456516	50.0	50.2	
34 Hexane	57	3.798	3.798	0.000	96	651681	50.0	45.4	
35 Vinyl acetate	43	3.905	3.905	0.000	97	2197120	100.0	106.6	
36 1,1-Dichloroethane	63	3.926	3.926	0.000	97	941523	50.0	47.8	
40 2-Butanone (MEK)	43	4.313	4.313	0.000	99	998005	200.0	183.4	
42 cis-1,2-Dichloroethene	96	4.341	4.341	0.000	88	495229	50.0	48.7	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
43 2,2-Dichloropropane	77	4.355	4.355	0.000	90	796863	50.0	53.0	
45 sec-Butyl Alcohol	45	4.420	4.420	0.000	99	951984	1200.0	1204.0	
47 Chlorobromomethane	128	4.520	4.520	0.000	95	223773	50.0	54.8	
48 Tetrahydrofuran	42	4.527	4.527	0.000	90	338096	100.0	91.7	
49 Chloroform	83	4.577	4.577	0.000	96	870801	50.0	49.0	
50 1,1,1-Trichloroethane	97	4.720	4.720	0.000	98	774566	50.0	53.6	
51 Cyclohexane	56	4.777	4.777	0.000	95	938800	50.0	50.2	
52 1,1-Dichloropropene	75	4.835	4.835	0.000	95	732641	50.0	51.7	
53 Carbon tetrachloride	117	4.835	4.835	0.000	93	653185	50.0	57.0	
54 Isobutyl alcohol	41	4.842	4.842	0.000	91	437531	1250.0	1261.6	
55 Benzene	78	4.985	4.985	0.000	98	2059702	50.0	49.7	
56 1,2-Dichloroethane	62	5.013	5.013	0.000	97	715080	50.0	46.7	
58 n-Heptane	43	5.163	5.163	0.000	97	642819	50.0	51.4	
60 Trichloroethene	95	5.471	5.471	0.000	97	495179	50.0	48.7	
61 2-Pentanone	43	5.578	5.578	0.000	98	1262933	160.0	160.9	
62 Methylcyclohexane	55	5.671	5.671	0.000	94	687529	50.0	53.3	
63 1,2-Dichloropropane	63	5.678	5.678	0.000	95	559713	50.0	48.5	
65 1,4-Dioxane	88	5.721	5.721	0.000	97	123696	1000.0	982.5	
66 Dibromomethane	93	5.750	5.750	0.000	94	281295	50.0	47.7	
67 Dichlorobromomethane	83	5.871	5.871	0.000	99	675027	50.0	53.2	
69 2-Chloroethyl vinyl ether	63	6.072	6.072	0.000	91	301423	50.0	48.8	
70 cis-1,3-Dichloropropene	75	6.222	6.222	0.000	92	832919	50.0	48.5	
71 4-Methyl-2-pentanone (MIBK)	43	6.322	6.322	0.000	99	2060060	200.0	201.3	
72 Toluene	91	6.508	6.508	0.000	97	2171468	50.0	50.4	
73 trans-1,3-Dichloropropene	75	6.679	6.679	0.000	98	762379	50.0	52.7	
74 Ethyl methacrylate	69	6.701	6.701	0.000	92	618448	50.0	48.3	
75 1,1,2-Trichloroethane	97	6.858	6.858	0.000	93	411968	50.0	50.9	
76 Tetrachloroethene	164	6.951	6.951	0.000	96	374566	50.0	52.1	
77 1,3-Dichloropropane	76	7.008	7.008	0.000	98	767785	50.0	47.6	
78 2-Hexanone	43	7.023	7.023	0.000	99	1432787	200.0	186.5	
79 Chlorodibromomethane	129	7.201	7.201	0.000	91	461707	50.0	53.1	
80 Ethylene Dibromide	107	7.323	7.323	0.000	98	419225	50.0	48.4	
81 1-Chlorohexane	91	7.709	7.709	0.000	92	524332	40.0	39.6	
82 Chlorobenzene	112	7.752	7.752	0.000	91	1293205	50.0	49.2	
83 1,1,1,2-Tetrachloroethane	131	7.823	7.823	0.000	92	454615	50.0	54.6	
84 Ethylbenzene	106	7.830	7.830	0.000	99	748217	50.0	51.7	
85 m-Xylene & p-Xylene	106	7.945	7.945	0.000	0	896551	50.0	49.3	
86 o-Xylene	106	8.302	8.302	0.000	98	892594	50.0	50.3	
87 Styrene	104	8.324	8.324	0.000	94	1477549	50.0	51.0	
88 Bromoform	173	8.503	8.503	0.000	95	306874	50.0	54.9	
89 Isopropylbenzene	105	8.646	8.646	0.000	97	2287622	50.0	49.6	
91 Cyclohexanone	55	8.746	8.746	0.000	96	907562	1500.0	1899.6	
92 1,1,2,2-Tetrachloroethane	83	8.932	8.932	0.000	95	567598	50.0	45.8	
94 trans-1,4-Dichloro-2-butene	53	8.967	8.967	0.000	75	198633	50.0	50.2	
93 Bromobenzene	156	8.967	8.967	0.000	99	541004	50.0	49.2	
95 1,2,3-Trichloropropane	110	8.996	8.996	0.000	88	165596	50.0	49.0	
96 N-Propylbenzene	120	9.046	9.046	0.000	99	606107	50.0	51.2	
97 2-Chlorotoluene	126	9.146	9.146	0.000	95	515955	50.0	48.4	
98 1,3,5-Trimethylbenzene	105	9.218	9.218	0.000	95	1927683	50.0	50.3	
99 4-Chlorotoluene	126	9.261	9.261	0.000	99	544248	50.0	48.7	
100 tert-Butylbenzene	119	9.525	9.525	0.000	94	1581399	50.0	50.8	
102 1,2,4-Trimethylbenzene	105	9.582	9.582	0.000	99	2033632	50.0	51.1	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
103 sec-Butylbenzene	134	9.747	9.747	0.000	95	446465	50.0	51.2	
104 1,3-Dichlorobenzene	146	9.875	9.875	0.000	97	1005181	50.0	50.7	
105 4-Isopropyltoluene	119	9.890	9.890	0.000	97	1961606	50.0	51.1	
106 1,4-Dichlorobenzene	146	9.976	9.976	0.000	93	1020129	50.0	47.6	
108 n-Butylbenzene	91	10.297	10.297	0.000	98	1810185	50.0	50.9	
109 1,2-Dichlorobenzene	146	10.333	10.333	0.000	96	933329	50.0	47.7	
110 1,2-Dibromo-3-Chloropropane	157	11.105	11.105	0.000	82	114769	50.0	51.5	
112 1,2,4-Trichlorobenzene	180	11.935	11.935	0.000	94	565775	50.0	50.8	
113 Hexachlorobutadiene	225	12.071	12.071	0.000	96	259789	50.0	59.6	
114 Naphthalene	128	12.206	12.206	0.000	98	1297350	50.0	44.9	
115 1,2,3-Trichlorobenzene	180	12.428	12.428	0.000	95	437981	50.0	48.5	
S 122 1,2-Dichloroethene, Total (URS)	96				0		100.0	98.9	
S 129 1,2-Dichloroethene, Total	1				0		100.0	98.9	
S 124 1,3-Dichloropropene, Total	1				0		100.0	101.2	
S 123 Xylenes, Total (URS)	1				0		100.0	99.6	
S 127 Trihalomethanes, Total	1				0		200.0	210.3	
S 125 Xylenes, Total	106				0		100.0	99.6	

Reagents:

MV-MegaMainA_00100	Amount Added:	25.00	Units: uL	
MV-Gas A_00174	Amount Added:	10.00	Units: uL	
mv-IS_SS_00074	Amount Added:	5.00	Units: uL	Run Reagent

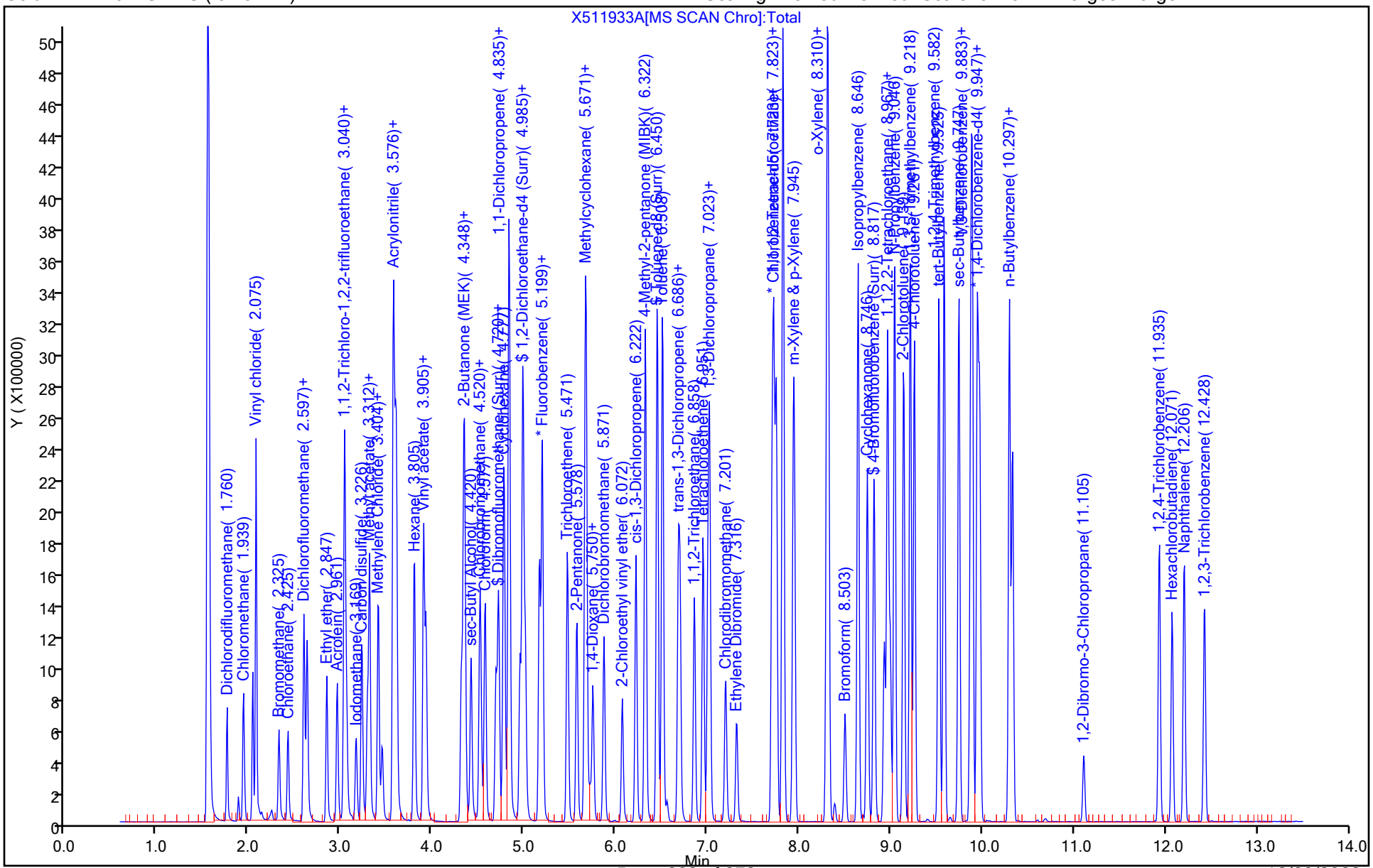
Report Date: 18-Dec-2023 13:03:20 Chrom Revision: 2.3 15-Nov-2023 20:54:34

Eurofins Denver

Data File: \\chromfs\Denver\ChromData\VMS_X4\20231218-128669.b\X511933A.D

Injection Date:	18-Dec-2023 08:33:30	Instrument ID:	VMS_X4	Operator ID:	COULTER
Lims ID:	LCS			Worklist Smp#:	4
Client ID:					
Purge Vol:	5.000 mL	Dil. Factor:	1.0000	ALS Bottle#:	1
Method:	VMS_X4_8260	Limit Group:	MSV - 8260B Water and Solid		

Column: Rxi-624Sil MS (0.25 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 1



Eurofins Denver
Recovery Report

Data File: \\chromfs\Denver\ChromData\VMS_X4\20231218-128669.b\X511933A.D
Lims ID: LCS
Client ID:
Sample Type: LCS
Inject. Date: 18-Dec-2023 08:33:30 ALS Bottle#: 1 Worklist Smp#: 4
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Sample Info: CCV
Operator ID: COULTER Instrument ID: VMS_X4

Method: \\chromfs\Denver\ChromData\VMS_X4\20231218-128669.b\VMS_X4_8260.m
Limit Group: MSV - 8260B Water and Solid
Last Update: 18-Dec-2023 13:03:18 Calib Date: 11-Dec-2023 20:50:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Denver\ChromData\VMS_X4\20231211-128477.b\X511702.D

Column 1 : Rxi-624Sil MS (0.25 mm) Det: MS SCAN
Process Host: CTX1660

Compound	Amount Added	Amount Recovered	% Rec.
$ 4 Dibromofluoromethane (Surr)	50.0	51.2	102.32
$ 5 1,2-Dichloroethane-d4 (Surr)	50.0	50.4	100.82
$ 6 Toluene-d8 (Surr)	50.0	49.9	99.72
$ 7 4-Bromofluorobenzene (Surr)	50.0	45.2	90.38

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Denver | Job No.: 280-185797-1

SDG No.:

Client Sample ID: | Lab Sample ID: LCS 280-637616/6

Matrix: Water | Lab File ID: X511934A.D

Analysis Method: 8260D | Date Collected:

Sample wt/vol: 5(mL) | Date Analyzed: 12/18/2023 08:54

Soil Aliquot Vol: | Dilution Factor: 1

Soil Extract Vol.: | GC Column: RXI-624SilMS ID: 0.25(mm)

Purge Volume: 5.0(mL) | Heated Purge: (Y/N) N pH:

% Moisture: % Solids: | Level: (low/med) Low

Analysis Batch No.: 637616 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
526-73-8	1,2,3-Trimethylbenzene	23.5		2.0	0.80	0.27
108-20-3	Isopropyl ether	24.0		10	2.0	1.1

CAS NO.	SURROGATE	%REC	Q	LIMITS
17060-07-0	1,2-Dichloroethane-d4 (Surr)	104		81-118
460-00-4	4-Bromofluorobenzene (Surr)	92		85-114
1868-53-7	Dibromofluoromethane (Surr)	104		80-119
2037-26-5	Toluene-d8 (Surr)	98		89-112

Eurofins Denver
Target Compound Quantitation Report

Data File: \\chromfs\Denver\ChromData\VMS_X4\20231218-128669.b\X511934A.D
Lims ID: LCS
Client ID:
Sample Type: LCS
Inject. Date: 18-Dec-2023 08:54:30 ALS Bottle#: 2 Worklist Smp#: 6
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Sample Info: CCV
Operator ID: COULTER Instrument ID: VMS_X4

Method: \\chromfs\Denver\ChromData\VMS_X4\20231218-128669.b\VMS_X4_8260.m
Limit Group: MSV - 8260B Water and Solid
Last Update: 18-Dec-2023 13:03:18 Calib Date: 11-Dec-2023 20:50:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Denver\ChromData\VMS_X4\20231211-128477.b\X511702.D

Column 1 : Rxi-624Sil MS (0.25 mm) Det: MS SCAN
Process Host: CTX1660

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
* 1 Fluorobenzene	96	5.199	5.199	0.000	98	1682118	50.0	50.0	
* 2 Chlorobenzene-d5	119	7.723	7.723	0.000	90	446322	50.0	50.0	
* 3 1,4-Dichlorobenzene-d4	152	9.947	9.947	0.000	96	778986	50.0	50.0	
$ 4 Dibromofluoromethane (Surr)	111	4.692	4.692	0.000	93	447927	50.0	52.1	
$ 5 1,2-Dichloroethane-d4 (Surr)	65	4.956	4.956	0.000	0	579265	50.0	52.0	
$ 6 Toluene-d8 (Surr)	98	6.451	6.451	0.000	95	1881803	50.0	49.0	
$ 7 4-Bromofluorobenzene (Surr)	95	8.817	8.817	0.000	87	685355	50.0	46.1	
17 Ethanol	45	2.754	2.754	0.000	100	180192	1500.0	1256.0	
23 Isopropyl alcohol	45	3.147	3.147	0.000	98	136148	250.0	213.4	
26 Acetonitrile	41	3.276	3.276	0.000	99	410672	250.0	225.4	
37 Isopropyl ether	87	3.926	3.926	0.000	96	176517	25.0	24.0	
38 2-Chloro-1,3-butadiene	53	3.984	3.984	0.000	94	383472	25.0	23.0	
39 Tert-butyl ethyl ether	59	4.191	4.191	0.000	98	719507	25.0	24.2	
41 Ethyl acetate	43	4.327	4.327	0.000	100	456579	50.0	43.4	
44 Propionitrile	54	4.370	4.370	0.000	99	369628	250.0	228.5	
46 Methacrylonitrile	41	4.477	4.477	0.000	96	1615145	250.0	237.6	
57 Tert-amyl methyl ether	73	5.056	5.056	0.000	86	616183	25.0	24.1	
59 n-Butanol	56	5.335	5.335	0.000	91	139020	625.0	543.3	
64 Methyl methacrylate	100	5.678	5.678	0.000	94	108280	50.0	48.2	
68 2-Nitropropane	41	6.043	6.043	0.000	98	117849	50.0	52.2	
90 cis-1,4-Dichloro-2-butene	53	8.696	8.696	0.000	0	174311	50.0	49.5	
107 1,2,3-Trimethylbenzene	105	9.990	9.990	0.000	99	922363	25.0	23.5	
111 1,3,5-Trichlorobenzene	180	11.298	11.298	0.000	96	297218	25.0	23.8	
118 Ethyl acrylate	55		0.000				ND	ND	
117 t-Amyl alcohol	1		0.000				ND	ND	

QC Flag Legend

Processing Flags
ND - Not Detected or Marked ND

Reagents:

MV-Supp A_00087	Amount Added:	25.00	Units: uL	
mv-IS_SS_00074	Amount Added:	5.00	Units: uL	Run Reagent

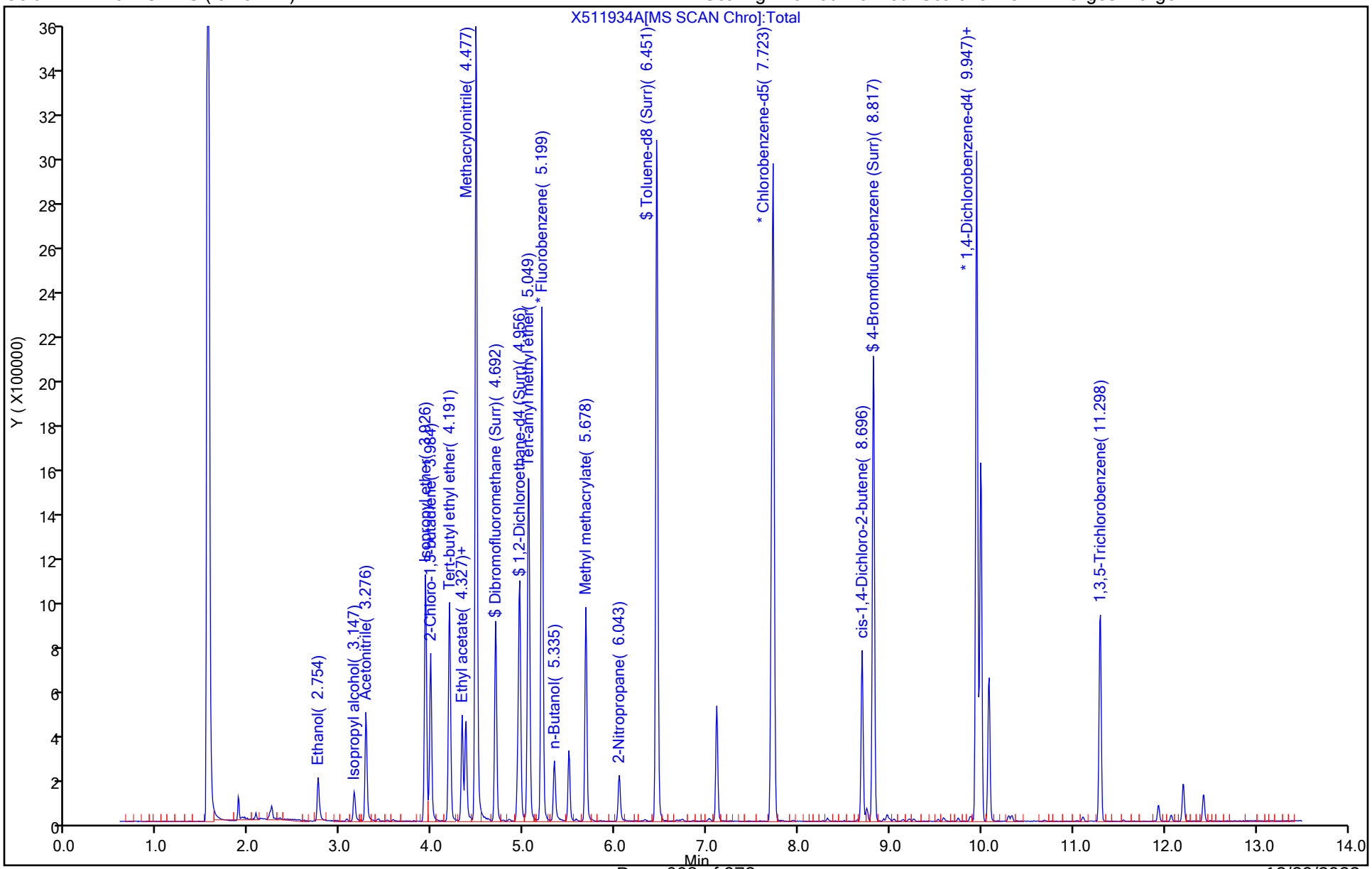
Report Date: 18-Dec-2023 13:03:29 Chrom Revision: 2.3 15-Nov-2023 20:54:34

Eurofins Denver

Data File: \\chromfs\Denver\ChromData\VMS_X4\20231218-128669.b\X511934A.D

Injection Date:	18-Dec-2023 08:54:30	Instrument ID:	VMS_X4	Operator ID:	COULTER
Lims ID:	LCS			Worklist Smp#:	6
Client ID:					
Purge Vol:	5.000 mL	Dil. Factor:	1.0000	ALS Bottle#:	2
Method:	VMS_X4_8260	Limit Group:	MSV - 8260B Water and Solid		

Column: Rxi-624Sil MS (0.25 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 1



Eurofins Denver
Recovery Report

Data File: \\chromfs\Denver\ChromData\VMS_X4\20231218-128669.b\X511934A.D
Lims ID: LCS
Client ID:
Sample Type: LCS
Inject. Date: 18-Dec-2023 08:54:30 ALS Bottle#: 2 Worklist Smp#: 6
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Sample Info: CCV
Operator ID: COULTER Instrument ID: VMS_X4

Method: \\chromfs\Denver\ChromData\VMS_X4\20231218-128669.b\VMS_X4_8260.m
Limit Group: MSV - 8260B Water and Solid
Last Update: 18-Dec-2023 13:03:18 Calib Date: 11-Dec-2023 20:50:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Denver\ChromData\VMS_X4\20231211-128477.b\X511702.D

Column 1 : Rxi-624Sil MS (0.25 mm) Det: MS SCAN
Process Host: CTX1660

Compound	Amount Added	Amount Recovered	% Rec.
$ 4 Dibromofluoromethane (Surr)	50.0	52.1	104.10
$ 5 1,2-Dichloroethane-d4 (Surr)	50.0	52.0	104.09
$ 6 Toluene-d8 (Surr)	50.0	49.0	97.94
$ 7 4-Bromofluorobenzene (Surr)	50.0	46.1	92.20

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Denver | Job No.: 280-185797-1

SDG No.:

Client Sample ID: | Lab Sample ID: LCSD 280-637616/5

Matrix: Water | Lab File ID: X511935.D

Analysis Method: 8260D | Date Collected:

Sample wt/vol: 5(mL) | Date Analyzed: 12/18/2023 09:16

Soil Aliquot Vol: | Dilution Factor: 1

Soil Extract Vol.: | GC Column: RXI-624SilMS ID: 0.25(mm)

Purge Volume: 5.0(mL) | Heated Purge: (Y/N) N pH:

% Moisture: % Solids: | Level: (low/med) Low

Analysis Batch No.: 637616 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
71-55-6	1,1,1-Trichloroethane	53.6		1.0	0.50	0.39
79-34-5	1,1,2,2-Tetrachloroethane	48.1		1.0	0.80	0.21
79-00-5	1,1,2-Trichloroethane	53.0		1.0	0.80	0.27
75-34-3	1,1-Dichloroethane	48.9		1.0	0.80	0.22
75-35-4	1,1-Dichloroethylene	48.4		1.0	0.80	0.23
563-58-6	1,1-Dichloropropene	50.3		1.0	0.80	0.42
87-61-6	1,2,3-Trichlorobenzene	51.9		2.0	0.80	0.70
96-18-4	1,2,3-Trichloropropane	51.2		2.5	1.8	0.86
120-82-1	1,2,4-Trichlorobenzene	52.1		1.0	0.80	0.58
95-63-6	1,2,4-Trimethylbenzene	52.5		1.0	0.40	0.15
96-12-8	1,2-Dibromo-3-Chloropropane	54.5		5.0	4.0	1.8
106-93-4	1,2-Dibromoethane	49.3		1.0	0.80	0.40
95-50-1	1,2-Dichlorobenzene	49.9		1.0	0.50	0.37
107-06-2	1,2-Dichloroethane	47.5		1.0	0.80	0.54
78-87-5	1,2-Dichloropropane	49.6		1.0	0.80	0.52
108-67-8	1,3,5-Trimethylbenzene	51.7		1.0	0.50	0.37
541-73-1	1,3-Dichlorobenzene	52.8		1.0	0.40	0.33
142-28-9	1,3-Dichloropropane	49.0		1.0	0.80	0.38
106-46-7	1,4-Dichlorobenzene	49.1		1.0	0.50	0.39
594-20-7	2,2-Dichloropropane	53.0		1.0	0.80	0.38
78-93-3	2-Butanone (MEK)	193		15	12	6.0
110-75-8	2-Chloroethyl vinyl ether	49.8		3.0	0.80	0.44
591-78-6	2-Hexanone	198		5.0	4.0	1.7
99-87-6	4-Isopropyltoluene	52.4		1.0	0.80	0.43
108-10-1	4-Methyl-2-pentanone (MIBK)	212		5.0	3.2	0.98
67-64-1	Acetone	187		15	8.0	6.6
107-13-1	Acrylonitrile	482		20	8.0	4.5
71-43-2	Benzene	50.8		1.0	0.80	0.31
108-86-1	Bromobenzene	51.4		1.0	0.50	0.40
74-97-5	Bromochloromethane	57.3		1.0	0.80	0.40
75-27-4	Bromodichloromethane	54.9		1.0	0.50	0.39
75-25-2	Bromoform	56.9		2.0	1.8	1.2
75-15-0	Carbon disulfide	45.2		2.0	0.80	0.63
56-23-5	Carbon tetrachloride	56.1		1.0	0.80	0.57

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Denver | Job No.: 280-185797-1

SDG No.:

Client Sample ID: | Lab Sample ID: LCSD 280-637616/5

Matrix: Water | Lab File ID: X511935.D

Analysis Method: 8260D | Date Collected:

Sample wt/vol: 5(mL) | Date Analyzed: 12/18/2023 09:16

Soil Aliquot Vol: | Dilution Factor: 1

Soil Extract Vol.: | GC Column: RXI-624SilMS ID: 0.25(mm)

Purge Volume: 5.0(mL) | Heated Purge: (Y/N) N pH:

% Moisture: % Solids: | Level: (low/med) Low

Analysis Batch No.: 637616 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
108-90-7	Chlorobenzene	51.2		1.0	0.80	0.42
75-00-3	Chloroethane	47.6		4.0	1.6	1.4
67-66-3	Chloroform	50.1		1.0	0.80	0.36
74-87-3	Chloromethane	44.4		2.0	1.0	0.75
156-59-2	cis-1,2-Dichloroethylene	53.1		1.0	0.40	0.32
10061-01-5	cis-1,3-Dichloropropene	49.7		2.0	1.8	0.63
110-82-7	Cyclohexane	48.0		1.0	0.80	0.44
108-94-1	Cyclohexanone	1960		100	64	32
124-48-1	Dibromochloromethane	54.7		2.0	1.8	0.62
74-95-3	Dibromomethane	51.4		1.0	0.40	0.34
75-71-8	Dichlorodifluoromethane	38.3		3.0	2.5	0.96
100-41-4	Ethylbenzene	51.4		1.0	0.40	0.30
87-68-3	Hexachlorobutadiene	58.3		2.0	1.8	1.2
98-82-8	Isopropylbenzene	50.8		1.0	0.50	0.36
1634-04-4	Methyl tert-butyl ether	53.4		5.0	0.80	0.25
108-87-2	Methylcyclohexane	50.7		1.0	0.40	0.31
75-09-2	Methylene Chloride	48.4		2.0	1.8	0.94
91-20-3	Naphthalene	49.4		2.0	0.80	0.63
104-51-8	n-Butylbenzene	50.9		1.0	0.80	0.48
110-54-3	n-Hexane	41.6		2.0	0.80	0.16
103-65-1	N-Propylbenzene	54.4		1.0	0.80	0.53
95-49-8	o-Chlorotoluene	51.7		1.0	0.40	0.34
106-43-4	p-Chlorotoluene	50.3		1.0	0.80	0.21
135-98-8	sec-Butylbenzene	52.2		1.0	0.80	0.45
100-42-5	Styrene	52.8		1.0	0.80	0.36
98-06-6	tert-Butylbenzene	52.1		1.0	0.80	0.42
127-18-4	Tetrachloroethene	52.7		1.0	0.80	0.40
108-88-3	Toluene	51.9		1.0	0.40	0.32
156-60-5	trans-1,2-Dichloroethylene	50.8		1.0	0.50	0.37
10061-02-6	trans-1,3-Dichloropropene	54.7		2.0	1.8	0.65
79-01-6	Trichloroethene	48.9		1.0	0.40	0.30
75-69-4	Trichlorofluoromethane	49.0		2.0	0.80	0.57
108-05-4	Vinyl acetate	112		3.0	2.0	0.94
75-01-4	Vinyl chloride	47.4		2.0	1.0	0.51

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Denver | Job No.: 280-185797-1

SDG No.:

Client Sample ID: | Lab Sample ID: LCSD 280-637616/5

Matrix: Water | Lab File ID: X511935.D

Analysis Method: 8260D | Date Collected:

Sample wt/vol: 5(mL) | Date Analyzed: 12/18/2023 09:16

Soil Aliquot Vol: | Dilution Factor: 1

Soil Extract Vol.: | GC Column: RXI-624SilMS ID: 0.25(mm)

Purge Volume: 5.0(mL) | Heated Purge: (Y/N) N pH:

% Moisture: % Solids: | Level: (low/med) Low

Analysis Batch No.: 637616 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
1330-20-7	Xylenes, Total	102		1.0	0.80	0.33

CAS NO.	SURROGATE	%REC	Q	LIMITS
17060-07-0	1,2-Dichloroethane-d4 (Surr)	103		81-118
460-00-4	4-Bromofluorobenzene (Surr)	93		85-114
1868-53-7	Dibromofluoromethane (Surr)	104		80-119
2037-26-5	Toluene-d8 (Surr)	98		89-112

Eurofins Denver
Target Compound Quantitation Report

Data File: \\chromfs\Denver\ChromData\VMS_X4\20231218-128669.b\X511935.D
Lims ID: LCSD
Client ID:
Sample Type: LCSD
Inject. Date: 18-Dec-2023 09:16:30 ALS Bottle#: 3 Worklist Smp#: 5
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Sample Info: LCSD
Operator ID: COULTER Instrument ID: VMS_X4

Method: \\chromfs\Denver\ChromData\VMS_X4\20231218-128669.b\VMS_X4_8260.m
Limit Group: MSV - 8260B Water and Solid
Last Update: 18-Dec-2023 13:03:18 Calib Date: 11-Dec-2023 20:50:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Denver\ChromData\VMS_X4\20231211-128477.b\X511702.D

Column 1 : Rxi-624Sil MS (0.25 mm) Det: MS SCAN
Process Host: CTX1660

First Level Reviewer: NNS5 Date: 18-Dec-2023 11:37:04

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
* 1 Fluorobenzene	96	5.199	5.199	0.000	98	1747431	50.0	50.0	
* 2 Chlorobenzene-d5	119	7.723	7.723	0.000	90	473643	50.0	50.0	
* 3 1,4-Dichlorobenzene-d4	152	9.947	9.947	0.000	97	797460	50.0	50.0	
$ 4 Dibromofluoromethane (Surr)	111	4.692	4.692	0.000	93	464257	50.0	51.9	
$ 5 1,2-Dichloroethane-d4 (Surr)	65	4.956	4.956	0.000	0	595366	50.0	51.5	
$ 6 Toluene-d8 (Surr)	98	6.458	6.451	0.008	95	2007081	50.0	49.2	
$ 7 4-Bromofluorobenzene (Surr)	95	8.817	8.817	0.000	87	704118	50.0	46.3	
9 Dichlorodifluoromethane	85	1.760	1.760	0.000	100	473709	50.0	38.3	
10 Chloromethane	50	1.939	1.939	0.000	100	759937	50.0	44.4	
11 Vinyl chloride	62	2.039	2.039	0.000	99	699128	50.0	47.4	
12 Bromomethane	94	2.325	2.325	0.000	92	357580	50.0	48.4	
13 Chloroethane	64	2.425	2.425	0.000	100	441038	50.0	47.6	
14 Dichlorofluoromethane	67	2.597	2.597	0.000	99	1105779	50.0	49.3	
16 Trichlorofluoromethane	101	2.632	2.632	0.000	99	752007	50.0	49.0	
18 Ethyl ether	59	2.847	2.847	0.000	95	425921	50.0	48.7	
19 Acrolein	56	2.961	2.961	0.000	98	641147	493.8	456.4	
20 1,1,2-Trichloro-1,2,2-trifluoroe	151	3.040	3.040	0.000	96	302884	50.0	52.2	
21 1,1-Dichloroethene	96	3.040	3.040	0.000	95	386330	50.0	48.4	
22 Acetone	43	3.069	3.061	0.008	98	637419	200.0	186.9	
24 Iodomethane	142	3.169	3.169	0.000	100	525478	50.0	50.0	
25 Carbon disulfide	76	3.233	3.226	0.007	100	1342882	50.0	45.2	
27 Methyl acetate	43	3.290	3.290	0.000	99	798271	100.0	96.8	
28 3-Chloro-1-propene	41	3.312	3.312	0.000	90	925972	50.0	49.4	
29 Methylene Chloride	84	3.412	3.404	0.008	97	509671	50.0	48.4	
30 2-Methyl-2-propanol	59	3.455	3.447	0.008	99	486309	500.0	528.9	
31 Acrylonitrile	53	3.576	3.576	0.000	97	2085317	500.0	482.1	
32 Methyl tert-butyl ether	73	3.598	3.590	0.008	97	1425168	50.0	53.4	
33 trans-1,2-Dichloroethene	96	3.612	3.605	0.007	95	462828	50.0	50.8	
34 Hexane	57	3.805	3.798	0.007	96	605373	50.0	41.6	
35 Vinyl acetate	43	3.905	3.905	0.000	97	2316615	100.0	112.2	
36 1,1-Dichloroethane	63	3.927	3.926	0.001	97	967075	50.0	48.9	
40 2-Butanone (MEK)	43	4.313	4.313	0.000	99	1054999	200.0	193.4	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
42 cis-1,2-Dichloroethene	96	4.341	4.341	0.000	87	541257	50.0	53.1	
43 2,2-Dichloropropane	77	4.356	4.355	0.001	90	799121	50.0	53.0	
45 sec-Butyl Alcohol	45	4.420	4.420	0.000	99	1036366	1200.0	1307.6	
47 Chlorobromomethane	128	4.520	4.520	0.000	95	234370	50.0	57.3	
48 Tetrahydrofuran	42	4.527	4.527	0.000	90	350858	100.0	94.9	
49 Chloroform	83	4.577	4.577	0.000	96	893134	50.0	50.1	
50 1,1,1-Trichloroethane	97	4.720	4.720	0.000	99	776749	50.0	53.6	
51 Cyclohexane	56	4.777	4.777	0.000	95	900172	50.0	48.0	
52 1,1-Dichloropropene	75	4.835	4.835	0.000	95	714739	50.0	50.3	
53 Carbon tetrachloride	117	4.842	4.835	0.007	94	644873	50.0	56.1	
54 Isobutyl alcohol	41	4.842	4.842	0.000	93	440190	1250.0	1266.2	
55 Benzene	78	4.985	4.985	0.000	98	2111465	50.0	50.8	
56 1,2-Dichloroethane	62	5.013	5.013	0.000	97	728113	50.0	47.5	
58 n-Heptane	43	5.171	5.163	0.008	97	596409	50.0	47.6	
60 Trichloroethene	95	5.471	5.471	0.000	98	503077	50.0	48.9	
61 2-Pentanone	43	5.578	5.578	0.000	98	1322652	160.0	168.1	
62 Methylcyclohexane	55	5.671	5.671	0.000	94	655344	50.0	50.7	
63 1,2-Dichloropropane	63	5.678	5.678	0.000	93	574497	50.0	49.6	
65 1,4-Dioxane	88	5.721	5.721	0.000	97	136096	1000.0	1078.4	
66 Dibromomethane	93	5.750	5.750	0.000	95	304190	50.0	51.4	
67 Dichlorobromomethane	83	5.871	5.871	0.000	98	697975	50.0	54.9	
69 2-Chloroethyl vinyl ether	63	6.072	6.072	0.000	92	308060	50.0	49.8	
70 cis-1,3-Dichloropropene	75	6.222	6.222	0.000	93	863425	50.0	49.7	
71 4-Methyl-2-pentanone (MIBK)	43	6.322	6.322	0.000	98	2170530	200.0	211.6	
72 Toluene	91	6.515	6.508	0.007	97	2239400	50.0	51.9	
73 trans-1,3-Dichloropropene	75	6.687	6.679	0.008	99	794256	50.0	54.7	
74 Ethyl methacrylate	69	6.701	6.701	0.000	93	646572	50.0	49.9	
75 1,1,2-Trichloroethane	97	6.858	6.858	0.000	93	429773	50.0	53.0	
76 Tetrachloroethene	164	6.951	6.951	0.000	97	384348	50.0	52.7	
77 1,3-Dichloropropane	76	7.008	7.008	0.000	98	800944	50.0	49.0	
78 2-Hexanone	43	7.023	7.023	0.001	99	1540435	200.0	197.8	
79 Chlorodibromomethane	129	7.201	7.201	0.000	90	481145	50.0	54.7	
80 Ethylene Dibromide	107	7.323	7.323	0.000	98	432574	50.0	49.3	
81 1-Chlorohexane	91	7.709	7.709	0.000	91	518498	40.0	38.7	
82 Chlorobenzene	112	7.752	7.752	0.000	92	1364516	50.0	51.2	
83 1,1,1,2-Tetrachloroethane	131	7.823	7.823	0.000	93	468923	50.0	55.6	
84 Ethylbenzene	106	7.831	7.830	0.001	99	753997	50.0	51.4	
85 m-Xylene & p-Xylene	106	7.945	7.945	0.000	0	941085	50.0	51.0	
86 o-Xylene	106	8.303	8.302	0.000	98	924040	50.0	51.4	
87 Styrene	104	8.324	8.324	0.000	93	1552300	50.0	52.8	
88 Bromoform	173	8.503	8.503	0.000	96	321868	50.0	56.9	
89 Isopropylbenzene	105	8.646	8.646	0.000	97	2318818	50.0	50.8	
91 Cyclohexanone	55	8.746	8.746	0.000	96	950785	1500.0	1964.1	
92 1,1,2,2-Tetrachloroethane	83	8.932	8.932	0.000	96	589537	50.0	48.1	
94 trans-1,4-Dichloro-2-butene	53	8.967	8.967	0.000	61	209733	50.0	53.6	
93 Bromobenzene	156	8.967	8.967	0.000	98	558706	50.0	51.4	
95 1,2,3-Trichloropropane	110	8.996	8.996	0.000	88	171059	50.0	51.2	
96 N-Propylbenzene	120	9.046	9.046	0.000	99	636273	50.0	54.4	
97 2-Chlorotoluene	126	9.146	9.146	0.000	95	545155	50.0	51.7	
98 1,3,5-Trimethylbenzene	105	9.218	9.218	0.000	95	1959086	50.0	51.7	
99 4-Chlorotoluene	126	9.261	9.261	0.000	99	554997	50.0	50.3	
100 tert-Butylbenzene	119	9.525	9.525	0.000	94	1603996	50.0	52.1	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
102 1,2,4-Trimethylbenzene	105	9.582	9.582	0.000	99	2066098	50.0	52.5	
103 sec-Butylbenzene	134	9.747	9.747	0.000	95	450098	50.0	52.2	
104 1,3-Dichlorobenzene	146	9.876	9.875	0.001	97	1034553	50.0	52.8	
105 4-Isopropyltoluene	119	9.890	9.890	0.000	97	1989246	50.0	52.4	
106 1,4-Dichlorobenzene	146	9.976	9.976	0.000	93	1041761	50.0	49.1	
108 n-Butylbenzene	91	10.297	10.297	0.000	98	1789006	50.0	50.9	
109 1,2-Dichlorobenzene	146	10.333	10.333	0.000	96	964305	50.0	49.9	
110 1,2-Dibromo-3-Chloropropane	157	11.105	11.105	0.000	82	119904	50.0	54.5	
112 1,2,4-Trichlorobenzene	180	11.935	11.935	0.000	94	573493	50.0	52.1	
113 Hexachlorobutadiene	225	12.071	12.071	0.000	97	251037	50.0	58.3	
114 Naphthalene	128	12.207	12.206	0.001	98	1412232	50.0	49.4	
115 1,2,3-Trichlorobenzene	180	12.421	12.428	-0.007	94	463099	50.0	51.9	
S 122 1,2-Dichloroethene, Total (URS)	96				0		100.0	103.9	
S 129 1,2-Dichloroethene, Total	1				0		100.0	103.9	
S 124 1,3-Dichloropropene, Total	1				0		100.0	104.4	
S 123 Xylenes, Total (URS)	1				0		100.0	102.5	
S 127 Trihalomethanes, Total	1				0		200.0	216.6	
S 125 Xylenes, Total	106				0		100.0	102.5	

QC Flag Legend

Processing Flags

Reagents:

MV-MegaMainA_00100	Amount Added: 25.00	Units: uL	
MV-Gas A_00174	Amount Added: 10.00	Units: uL	
mv-IS_SS_00074	Amount Added: 5.00	Units: uL	Run Reagent

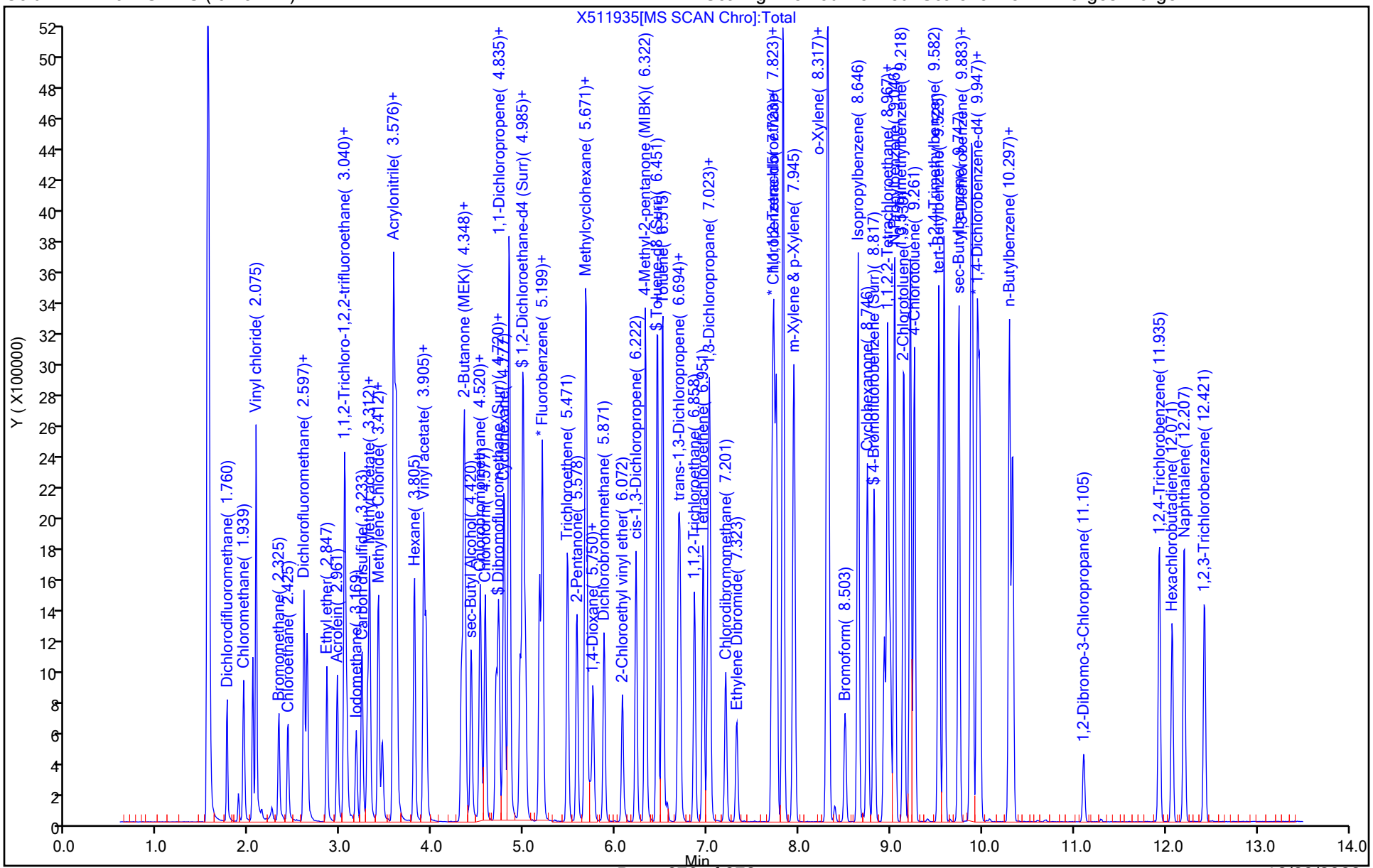
Report Date: 18-Dec-2023 13:03:24 Chrom Revision: 2.3 15-Nov-2023 20:54:34

Eurofins Denver

Data File: \\chromfs\Denver\ChromData\VMS_X4\20231218-128669.b\X511935.D

Injection Date:	18-Dec-2023 09:16:30	Instrument ID:	VMS_X4	Operator ID:	COULTER
Lims ID:	LCSD			Worklist Smp#:	5
Client ID:					
Purge Vol:	5.000 mL	Dil. Factor:	1.0000	ALS Bottle#:	3
Method:	VMS_X4_8260	Limit Group:	MSV - 8260B Water and Solid		

Column: Rxi-624Sil MS (0.25 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 1



Eurofins Denver
Recovery Report

Data File: \\chromfs\Denver\ChromData\VMS_X4\20231218-128669.b\X511935.D
Lims ID: LCSD
Client ID:
Sample Type: LCSD
Inject. Date: 18-Dec-2023 09:16:30 ALS Bottle#: 3 Worklist Smp#: 5
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Sample Info: LCSD
Operator ID: COULTER Instrument ID: VMS_X4

Method: \\chromfs\Denver\ChromData\VMS_X4\20231218-128669.b\VMS_X4_8260.m
Limit Group: MSV - 8260B Water and Solid
Last Update: 18-Dec-2023 13:03:18 Calib Date: 11-Dec-2023 20:50:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Denver\ChromData\VMS_X4\20231211-128477.b\X511702.D

Column 1 : Rxi-624Sil MS (0.25 mm) Det: MS SCAN
Process Host: CTX1660

First Level Reviewer: NNS5 Date: 18-Dec-2023 11:37:04

Compound	Amount Added	Amount Recovered	% Rec.
$ 4 Dibromofluoromethane (Surr)	50.0	51.9	103.86
$ 5 1,2-Dichloroethane-d4 (Surr)	50.0	51.5	102.99
$ 6 Toluene-d8 (Surr)	50.0	49.2	98.43
$ 7 4-Bromofluorobenzene (Surr)	50.0	46.3	92.53

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Denver | Job No.: 280-185797-1

SDG No.:

Client Sample ID: | Lab Sample ID: LCSD 280-637616/7

Matrix: Water | Lab File ID: X511936.D

Analysis Method: 8260D | Date Collected:

Sample wt/vol: 5(mL) | Date Analyzed: 12/18/2023 09:37

Soil Aliquot Vol: | Dilution Factor: 1

Soil Extract Vol.: | GC Column: RXI-624SilMS ID: 0.25(mm)

Purge Volume: 5.0(mL) | Heated Purge: (Y/N) N pH:

% Moisture: % Solids: | Level: (low/med) Low

Analysis Batch No.: 637616 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
526-73-8	1,2,3-Trimethylbenzene	24.6		2.0	0.80	0.27
108-20-3	Isopropyl ether	24.8		10	2.0	1.1

CAS NO.	SURROGATE	%REC	Q	LIMITS
17060-07-0	1,2-Dichloroethane-d4 (Surr)	104		81-118
460-00-4	4-Bromofluorobenzene (Surr)	92		85-114
1868-53-7	Dibromofluoromethane (Surr)	104		80-119
2037-26-5	Toluene-d8 (Surr)	97		89-112

Eurofins Denver
Target Compound Quantitation Report

Data File: \\chromfs\Denver\ChromData\VMS_X4\20231218-128669.b\X511936.D
Lims ID: LCSD
Client ID:
Sample Type: LCSD
Inject. Date: 18-Dec-2023 09:37:30 ALS Bottle#: 4 Worklist Smp#: 7
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Sample Info: LCSD
Operator ID: COULTER Instrument ID: VMS_X4

Method: \\chromfs\Denver\ChromData\VMS_X4\20231218-128669.b\VMS_X4_8260.m
Limit Group: MSV - 8260B Water and Solid
Last Update: 18-Dec-2023 13:03:18 Calib Date: 11-Dec-2023 20:50:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Denver\ChromData\VMS_X4\20231211-128477.b\X511702.D

Column 1 : Rxi-624Sil MS (0.25 mm) Det: MS SCAN
Process Host: CTX1660

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
* 1 Fluorobenzene	96	5.199	5.199	0.000	97	1698900	50.0	50.0	
* 2 Chlorobenzene-d5	119	7.730	7.723	0.007	90	469838	50.0	50.0	
* 3 1,4-Dichlorobenzene-d4	152	9.947	9.947	0.000	96	793429	50.0	50.0	
$ 4 Dibromofluoromethane (Surr)	111	4.691	4.692	-0.001	93	452921	50.0	52.1	
$ 5 1,2-Dichloroethane-d4 (Surr)	65	4.956	4.956	0.000	0	586271	50.0	52.2	
$ 6 Toluene-d8 (Surr)	98	6.458	6.451	0.008	95	1965614	50.0	48.6	
$ 7 4-Bromofluorobenzene (Surr)	95	8.817	8.817	0.000	87	698349	50.0	46.1	
17 Ethanol	45	2.754	2.754	0.000	99	209202	1500.0	1443.8	
23 Isopropyl alcohol	45	3.147	3.147	0.000	98	153985	250.0	239.0	
26 Acetonitrile	41	3.276	3.276	0.000	99	415788	250.0	226.0	
37 Isopropyl ether	87	3.926	3.926	0.000	95	184496	25.0	24.8	
38 2-Chloro-1,3-butadiene	53	3.984	3.984	0.000	94	397772	25.0	23.6	
39 Tert-butyl ethyl ether	59	4.191	4.191	0.000	99	760412	25.0	25.3	
41 Ethyl acetate	43	4.327	4.327	0.000	100	480309	50.0	45.2	
44 Propionitrile	54	4.370	4.370	0.000	99	387371	250.0	237.1	
46 Methacrylonitrile	41	4.484	4.477	0.007	95	1692494	250.0	246.5	
57 Tert-amyl methyl ether	73	5.056	5.056	0.000	87	660503	25.0	25.5	
59 n-Butanol	56	5.335	5.335	0.000	96	151472	625.0	584.7	
64 Methyl methacrylate	100	5.685	5.678	0.007	94	117826	50.0	51.9	
68 2-Nitropropane	41	6.043	6.043	0.000	99	119599	50.0	52.4	
90 cis-1,4-Dichloro-2-butene	53	8.696	8.696	0.000	0	182253	50.0	50.8	
107 1,2,3-Trimethylbenzene	105	9.997	9.990	0.007	99	985339	25.0	24.6	
111 1,3,5-Trichlorobenzene	180	11.298	11.298	0.000	96	321840	25.0	25.3	
118 Ethyl acrylate	55		0.000				ND	ND	
117 t-Amyl alcohol	1		0.000				ND	ND	

QC Flag Legend

Processing Flags
ND - Not Detected or Marked ND

Reagents:

MV-Supp A_00087	Amount Added:	25.00	Units: uL	
mv-IS_SS_00074	Amount Added:	5.00	Units: uL	Run Reagent

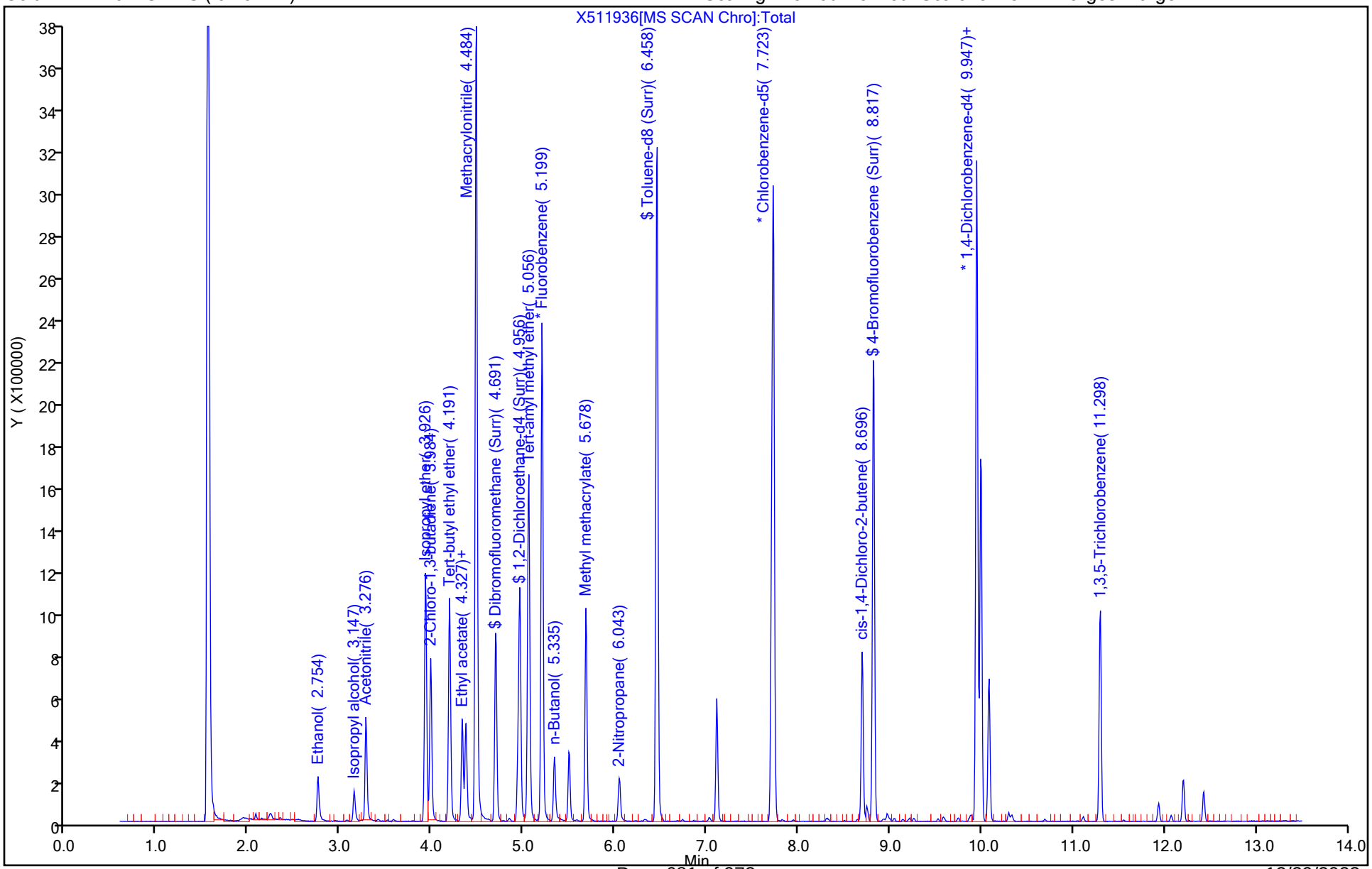
Report Date: 18-Dec-2023 13:03:30 Chrom Revision: 2.3 15-Nov-2023 20:54:34

Eurofins Denver

Data File: \\chromfs\Denver\ChromData\VMS_X4\20231218-128669.b\X511936.D

Injection Date:	18-Dec-2023 09:37:30	Instrument ID:	VMS_X4	Operator ID:	COULTER
Lims ID:	LCSD			Worklist Smp#:	7
Client ID:					
Purge Vol:	5.000 mL	Dil. Factor:	1.0000	ALS Bottle#:	4
Method:	VMS_X4_8260	Limit Group:	MSV - 8260B Water and Solid		

Column: Rxi-624Sil MS (0.25 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 1



Eurofins Denver
Recovery Report

Data File: \\chromfs\Denver\ChromData\VMS_X4\20231218-128669.b\X511936.D
Lims ID: LCSD
Client ID:
Sample Type: LCSD
Inject. Date: 18-Dec-2023 09:37:30 ALS Bottle#: 4 Worklist Smp#: 7
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Sample Info: LCSD
Operator ID: COULTER Instrument ID: VMS_X4

Method: \\chromfs\Denver\ChromData\VMS_X4\20231218-128669.b\VMS_X4_8260.m
Limit Group: MSV - 8260B Water and Solid
Last Update: 18-Dec-2023 13:03:18 Calib Date: 11-Dec-2023 20:50:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Denver\ChromData\VMS_X4\20231211-128477.b\X511702.D

Column 1 : Rxi-624Sil MS (0.25 mm) Det: MS SCAN
Process Host: CTX1660

Compound	Amount Added	Amount Recovered	% Rec.
$ 4 Dibromofluoromethane (Surr)	50.0	52.1	104.22
$ 5 1,2-Dichloroethane-d4 (Surr)	50.0	52.2	104.31
$ 6 Toluene-d8 (Surr)	50.0	48.6	97.18
$ 7 4-Bromofluorobenzene (Surr)	50.0	46.1	92.23

GC/MS VOA ANALYSIS RUN LOG

Lab Name: Eurofins Denver Job No.: 280-185797-1

SDG No.:

Instrument ID: VMS_X4 Start Date: 12/08/2023 21:16

Analysis Batch Number: 636738 End Date: 12/09/2023 01:14

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
BFB 280-636738/1		12/08/2023 21:16	1	X511646.D	RXI-624SilMS 0.25(mm)
IC 280-636738/2		12/08/2023 21:49	1	X511647.D	RXI-624SilMS 0.25(mm)
IC 280-636738/3		12/08/2023 22:09	1	X511648.D	RXI-624SilMS 0.25(mm)
IC 280-636738/4		12/08/2023 22:30	1	X511649.D	RXI-624SilMS 0.25(mm)
IC 280-636738/5		12/08/2023 22:50	1	X511650.D	RXI-624SilMS 0.25(mm)
IC 280-636738/6		12/08/2023 23:11	1	X511651.D	RXI-624SilMS 0.25(mm)
ICIS 280-636738/7		12/08/2023 23:31	1	X511652.D	RXI-624SilMS 0.25(mm)
IC 280-636738/8		12/08/2023 23:52	1	X511653.D	RXI-624SilMS 0.25(mm)
IC 280-636738/9		12/09/2023 00:13	1	X511654.D	RXI-624SilMS 0.25(mm)
IC 280-636738/10		12/09/2023 00:33	1	X511655.D	RXI-624SilMS 0.25(mm)
ICV 280-636738/11		12/09/2023 01:14	1	X511657.D	RXI-624SilMS 0.25(mm)

GC/MS VOA ANALYSIS RUN LOG

Lab Name: Eurofins Denver Job No.: 280-185797-1

SDG No.:

Instrument ID: VMS_X4 Start Date: 12/11/2023 18:06

Analysis Batch Number: 636906 End Date: 12/11/2023 21:52

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
BFB 280-636906/1		12/11/2023 18:06	1	X511694.D	RXI-624SilMS 0.25(mm)
IC 280-636906/2		12/11/2023 18:26	1	X511695.D	RXI-624SilMS 0.25(mm)
IC 280-636906/3		12/11/2023 18:47	1	X511696.D	RXI-624SilMS 0.25(mm)
IC 280-636906/4		12/11/2023 19:07	1	X511697.D	RXI-624SilMS 0.25(mm)
IC 280-636906/5		12/11/2023 19:28	1	X511698.D	RXI-624SilMS 0.25(mm)
IC 280-636906/6		12/11/2023 19:48	1	X511699.D	RXI-624SilMS 0.25(mm)
IC 280-636906/7		12/11/2023 20:09	1	X511700.D	RXI-624SilMS 0.25(mm)
IC 280-636906/8		12/11/2023 20:30	1	X511701.D	RXI-624SilMS 0.25(mm)
IC 280-636906/9		12/11/2023 20:50	1	X511702.D	RXI-624SilMS 0.25(mm)
ICV 280-636906/10		12/11/2023 21:52	1	X511705.D	RXI-624SilMS 0.25(mm)

GC/MS VOA ANALYSIS RUN LOG

Lab Name: Eurofins Denver Job No.: 280-185797-1

SDG No.:

Instrument ID: VMS_X4 Start Date: 12/18/2023 08:01

Analysis Batch Number: 637616 End Date: 12/18/2023 16:07

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
BFB 280-637616/1		12/18/2023 08:01	1	X511932.D	RXI-624SilMS 0.25(mm)
CCV 280-637616/2		12/18/2023 08:33	1	X511933.D	RXI-624SilMS 0.25(mm)
LCS 280-637616/4		12/18/2023 08:33	1	X511933A.D	RXI-624SilMS 0.25(mm)
CCV 280-637616/3		12/18/2023 08:54	1	X511934.D	RXI-624SilMS 0.25(mm)
LCS 280-637616/6		12/18/2023 08:54	1	X511934A.D	RXI-624SilMS 0.25(mm)
LCSD 280-637616/5		12/18/2023 09:16	1	X511935.D	RXI-624SilMS 0.25(mm)
LCSD 280-637616/7		12/18/2023 09:37	1	X511936.D	RXI-624SilMS 0.25(mm)
MB 280-637616/9		12/18/2023 10:20	1	X511938.D	RXI-624SilMS 0.25(mm)
280-185797-1	TB01	12/18/2023 11:03	1	X511939.D	RXI-624SilMS 0.25(mm)
280-185797-2	TV044-MW24D1223A	12/18/2023 11:25	1	X511940.D	RXI-624SilMS 0.25(mm)
280-185797-3	TV044-MW24I1223A	12/18/2023 11:47	1	X511941.D	RXI-624SilMS 0.25(mm)
280-185797-5	TV044-MW21D1223A	12/18/2023 12:08	1	X511942.D	RXI-624SilMS 0.25(mm)
280-185797-6	TV044-MW21D1223C	12/18/2023 12:30	1	X511943.D	RXI-624SilMS 0.25(mm)
280-185797-8	TV044-MW31223A	12/18/2023 12:52	1	X511944.D	RXI-624SilMS 0.25(mm)
280-185797-9	TV044-MW25D1223A	12/18/2023 13:13	1	X511945.D	RXI-624SilMS 0.25(mm)
280-185797-11	TV044-MW25I1223A	12/18/2023 13:35	1	X511946.D	RXI-624SilMS 0.25(mm)
ZZZZZ		12/18/2023 13:56	1		RXI-624SilMS 0.25(mm)
ZZZZZ		12/18/2023 14:18	1		RXI-624SilMS 0.25(mm)
280-185797-10	TV044-MW21223A	12/18/2023 14:40	50	X511949.D	RXI-624SilMS 0.25(mm)
280-185797-4	TV044-MW21M1223A	12/18/2023 15:02	50	X511950.D	RXI-624SilMS 0.25(mm)
280-185797-7	TV044-MW23S1223A	12/18/2023 15:23	50	X511951.D	RXI-624SilMS 0.25(mm)
CCVC 280-637616/26		12/18/2023 15:45	1	X511952.D	RXI-624SilMS 0.25(mm)
CCVC 280-637616/27		12/18/2023 16:07	1	X511953.D	RXI-624SilMS 0.25(mm)

GC/MS VOA BATCH WORKSHEET

Lab Name: Eurofins Denver Job No.: 280-185797-1

SDG No.:

Batch Number: 636738 Batch Start Date: 12/08/23 21:16 Batch Analyst: Dobransky, Michael E

Batch Method: 8260D Batch End Date:

Lab Sample ID	Client Sample ID	Method Chain	Basis	InitialAmount	FinalAmount	Cal Dil Std 00280	mv-Cent BFB 00007	MV-Gas A 00174	MV-Gas B 00152
BFB 280-636738/1		8260D		2 uL	2 uL		5 uL		
IC 280-636738/2		8260D		5 mL	5 mL	5 uL			
IC 280-636738/3		8260D		5 mL	5 mL	10 uL			
IC 280-636738/4		8260D		5 mL	5 mL	20 uL			
IC 280-636738/5		8260D		5 mL	5 mL	50 uL			
IC 280-636738/6		8260D		5 mL	5 mL			2 uL	
ICIS 280-636738/7		8260D		5 mL	5 mL			10 uL	
IC 280-636738/8		8260D		5 mL	5 mL			15 uL	
IC 280-636738/9		8260D		5 mL	5 mL			20 uL	
IC 280-636738/10		8260D		5 mL	5 mL			40 uL	
ICV 280-636738/11		8260D		5 mL	5 mL				10 uL

Lab Sample ID	Client Sample ID	Method Chain	Basis	mv-IS_SS 00074	MV-MegaMain B 00094	MV-MegaMainA 00100			
BFB 280-636738/1		8260D							
IC 280-636738/2		8260D		5 uL					
IC 280-636738/3		8260D		5 uL					
IC 280-636738/4		8260D		5 uL					
IC 280-636738/5		8260D		5 uL					
IC 280-636738/6		8260D		5 uL		5 uL			
ICIS 280-636738/7		8260D		5 uL		25 uL			
IC 280-636738/8		8260D		5 uL		37.5 uL			
IC 280-636738/9		8260D		5 uL		50 uL			
IC 280-636738/10		8260D		5 uL		100 uL			
ICV 280-636738/11		8260D		5 uL	25 uL				

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

GC/MS VOA BATCH WORKSHEET

Lab Name: Eurofins Denver Job No.: 280-185797-1

SDG No.:

Batch Number: 636738 Batch Start Date: 12/08/23 21:16 Batch Analyst: Dobransky, Michael E

Batch Method: 8260D Batch End Date:

Batch Notes	

Basis	Basis Description

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

GC/MS VOA BATCH WORKSHEET

Lab Name: Eurofins Denver Job No.: 280-185797-1

SDG No.:

Batch Number: 636906 Batch Start Date: 12/11/23 18:06 Batch Analyst: Dobransky, Michael E

Batch Method: 8260D Batch End Date:

Lab Sample ID	Client Sample ID	Method Chain	Basis	InitialAmount	FinalAmount	mv-Cent BFB 00007	mv-Cent IS 00008	MV-Supp A 00087	MV-Supp B 00068
BFB 280-636906/1		8260D		2 uL	2 uL	5 uL			
IC 280-636906/2		8260D		2 uL	2 uL		5 uL	1 uL	
IC 280-636906/3		8260D		2 uL	2 uL		5 uL	2 uL	
IC 280-636906/4		8260D		2 uL	2 uL		5 uL	5 uL	
IC 280-636906/5		8260D		2 uL	2 uL		5 uL	10 uL	
IC 280-636906/6		8260D		2 uL	2 uL		5 uL	50 uL	
IC 280-636906/7		8260D		2 uL	2 uL		5 uL	75 uL	
IC 280-636906/8		8260D		2 uL	2 uL		5 uL	100 uL	
IC 280-636906/9		8260D		2 uL	2 uL		5 uL	200 uL	
ICV 280-636906/10		8260D		2 uL	2 uL		5 uL		50 uL

Batch Notes	

Basis	Basis Description

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

GC/MS VOA BATCH WORKSHEET

Lab Name: Eurofins Denver Job No.: 280-185797-1

SDG No.:

Batch Number: 637616 Batch Start Date: 12/18/23 08:01 Batch Analyst: Coulter, Dawn (goes by Sh

Batch Method: 8260D Batch End Date:

Lab Sample ID	Client Sample ID	Method Chain	Basis	InitialAmount	FinalAmount	Initial pH	mv-Cent BFB 00007	MV-Gas A 00174	mv-IS_SS 00074
BFB 280-637616/1		8260D		2 uL	2 uL		5 uL		
CCV 280-637616/2		8260D		5 mL	5 mL			10 uL	5 uL
CCV 280-637616/3		8260D		5 mL	5 mL				5 uL
LCS 280-637616/4		8260D		5 mL	5 mL			10 uL	5 uL
LCSD 280-637616/5		8260D		5 mL	5 mL			10 uL	5 uL
LCS 280-637616/6		8260D		5 mL	5 mL				5 uL
LCSD 280-637616/7		8260D		5 mL	5 mL				5 uL
MB 280-637616/9		8260D		5 mL	5 mL				5 uL
280-185797-B-1	TB01	8260D	T	5 mL	5 mL	5 SU			5 uL
280-185797-E-2	TV044-MW24D1223A	8260D	T	5 mL	5 mL	5 SU			5 uL
280-185797-F-3	TV044-MW24I1223A	8260D	T	5 mL	5 mL	5 SU			5 uL
280-185797-D-5	TV044-MW21D1223A	8260D	T	5 mL	5 mL	5 SU			5 uL
280-185797-E-6	TV044-MW21D1223C	8260D	T	5 mL	5 mL	5 SU			5 uL
280-185797-F-8	TV044-MW31223A	8260D	T	5 mL	5 mL	5 SU			5 uL
280-185797-F-9	TV044-MW25D1223A	8260D	T	5 mL	5 mL	5 SU			5 uL
280-185797-D-11	TV044-MW25I1223A	8260D	T	5 mL	5 mL	5 SU			5 uL
280-185797-E-10	TV044-MW21223A	8260D	T	5 mL	5 mL	5 SU			5 uL
280-185797-F-4	TV044-MW21M1223A	8260D	T	5 mL	5 mL	5 SU			5 uL
280-185797-D-7	TV044-MW23S1223A	8260D	T	5 mL	5 mL	5 SU			5 uL
CCVC 280-637616/26		8260D		5 mL	5 mL			10 uL	5 uL
CCVC 280-637616/27		8260D		5 mL	5 mL				5 uL

Lab Sample ID	Client Sample ID	Method Chain	Basis	MV-MegaMainA 00100	MV-Supp A 00087	AnalysisComment			
BFB 280-637616/1		8260D							
CCV 280-637616/2		8260D		25 uL					

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

GC/MS VOA BATCH WORKSHEET

Lab Name: Eurofins Denver Job No.: 280-185797-1

SDG No.:

Batch Number: 637616 Batch Start Date: 12/18/23 08:01 Batch Analyst: Coulter, Dawn (goes by Sh

Batch Method: 8260D Batch End Date:

Lab Sample ID	Client Sample ID	Method Chain	Basis	MV-MegaMainA 00100	MV-Supp A 00087	AnalysisComment			
CCV 280-637616/3		8260D			25 uL				
LCS 280-637616/4		8260D		25 uL					
LCSD 280-637616/5		8260D		25 uL					
LCS 280-637616/6		8260D			25 uL				
LCSD 280-637616/7		8260D			25 uL				
MB 280-637616/9		8260D							
280-185797-B-1	TB01	8260D	T			UP			
280-185797-E-2	TV044-MW24D1223A	8260D	T			UP			
280-185797-F-3	TV044-MW24I1223A	8260D	T			UP			
280-185797-D-5	TV044-MW21D1223A	8260D	T			UP			
280-185797-E-6	TV044-MW21D1223C	8260D	T			UP			
280-185797-F-8	TV044-MW31223A	8260D	T			UP			
280-185797-F-9	TV044-MW25D1223A	8260D	T			UP			
280-185797-D-11	TV044-MW25I1223A	8260D	T			UP			
280-185797-E-10	TV044-MW21223A	8260D	T			UP			
280-185797-F-4	TV044-MW21M1223A	8260D	T			UP			
280-185797-D-7	TV044-MW23S1223A	8260D	T			UP			
CCVC 280-637616/26		8260D		25 uL					
CCVC 280-637616/27		8260D			25 uL				

Batch Notes	

Basis	Basis Description
T	Total/NA

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

METALS

COVER PAGE
METALS

Lab Name: Eurofins Denver Job Number: 280-185797-1

SDG No.:

Project: Luke AFB Waterdog TU044, AZ

Client Sample ID	Lab Sample ID
TV044-MW24D1223A	280-185797-2
TV044-MW24I1223A	280-185797-3
TV044-MW21M1223A	280-185797-4
TV044-MW21D1223A	280-185797-5
TV044-MW21D1223C	280-185797-6
TV044-MW31223A	280-185797-8
TV044-MW25D1223A	280-185797-9
TV044-MW21223A	280-185797-10
TV044-MW25I1223A	280-185797-11

Comments:

1A-IN
INORGANIC ANALYSIS DATA SHEET
METALS

Client Sample ID: TV044-MW24D1223A
Lab Sample ID: 280-185797-2
Lab Name: Eurofins Denver
Job No.: 280-185797-1
SDG ID.:
Matrix: Water
Date Sampled: 12/13/2023 10:35
Reporting Basis: WET
Date Received: 12/15/2023 10:00

Analyte	Result	LOQ	LOD	DL	Units	C	Q	DIL	Method
Lead	0.25	1.0	0.70	0.23	ug/L	J		1	6020B

1A-IN
INORGANIC ANALYSIS DATA SHEET
METALS

Client Sample ID: TV044-MW24I1223A
Lab Sample ID: 280-185797-3
Lab Name: Eurofins Denver
Job No.: 280-185797-1
SDG ID.:
Matrix: Water
Date Sampled: 12/13/2023 10:50
Reporting Basis: WET
Date Received: 12/15/2023 10:00

Analyte	Result	LOQ	LOD	DL	Units	C	Q	DIL	Method
Lead	0.36	1.0	0.70	0.23	ug/L	J		1	6020B

1A-IN
INORGANIC ANALYSIS DATA SHEET
METALS

Client Sample ID: TV044-MW21M1223A
Lab Sample ID: 280-185797-4
Lab Name: Eurofins Denver
Job No.: 280-185797-1
SDG ID.:
Matrix: Water
Date Sampled: 12/13/2023 11:30
Reporting Basis: WET
Date Received: 12/15/2023 10:00

Analyte	Result	LOQ	LOD	DL	Units	C	Q	DIL	Method
Lead	0.77	1.0	0.70	0.23	ug/L	J		1	6020B

1A-IN
INORGANIC ANALYSIS DATA SHEET
METALS

Client Sample ID: TV044-MW21D1223A
Lab Sample ID: 280-185797-5
Lab Name: Eurofins Denver
Job No.: 280-185797-1
SDG ID.:
Matrix: Water
Date Sampled: 12/13/2023 12:05
Reporting Basis: WET
Date Received: 12/15/2023 10:00

Analyte	Result	LOQ	LOD	DL	Units	C	Q	DIL	Method
Lead	2.7	1.0	0.70	0.23	ug/L			1	6020B

1A-IN
INORGANIC ANALYSIS DATA SHEET
METALS

Client Sample ID: TV044-MW21D1223C
Lab Sample ID: 280-185797-6
Lab Name: Eurofins Denver
Job No.: 280-185797-1
SDG ID.:
Matrix: Water
Date Sampled: 12/13/2023 12:05
Reporting Basis: WET
Date Received: 12/15/2023 10:00

Analyte	Result	LOQ	LOD	DL	Units	C	Q	DIL	Method
Lead	3.1	1.0	0.70	0.23	ug/L			1	6020B

1A-IN
INORGANIC ANALYSIS DATA SHEET
METALS

Client Sample ID: TV044-MW31223A
Lab Sample ID: 280-185797-8
Lab Name: Eurofins Denver
Job No.: 280-185797-1
SDG ID.:
Matrix: Water
Date Sampled: 12/13/2023 13:10
Reporting Basis: WET
Date Received: 12/15/2023 10:00

Analyte	Result	LOQ	LOD	DL	Units	C	Q	DIL	Method
Lead	51	10	7.0	2.3	ug/L		D	10	6020B

1A-IN
INORGANIC ANALYSIS DATA SHEET
METALS

Client Sample ID: TV044-MW25D1223A
Lab Sample ID: 280-185797-9
Lab Name: Eurofins Denver
Job No.: 280-185797-1
SDG ID.:
Matrix: Water
Date Sampled: 12/13/2023 13:50
Reporting Basis: WET
Date Received: 12/15/2023 10:00

Analyte	Result	LOQ	LOD	DL	Units	C	Q	DIL	Method
Lead	0.42	1.0	0.70	0.23	ug/L	J		1	6020B

1A-IN
INORGANIC ANALYSIS DATA SHEET
METALS

Client Sample ID: TV044-MW21223A
Lab Sample ID: 280-185797-10
Lab Name: Eurofins Denver
Job No.: 280-185797-1
SDG ID.:
Matrix: Water
Date Sampled: 12/13/2023 14:20
Reporting Basis: WET
Date Received: 12/15/2023 10:00

Analyte	Result	LOQ	LOD	DL	Units	C	Q	DIL	Method
Lead	1.2	1.0	0.70	0.23	ug/L			1	6020B

1A-IN
INORGANIC ANALYSIS DATA SHEET
METALS

Client Sample ID: TV044-MW25I1223A
Lab Sample ID: 280-185797-11
Lab Name: Eurofins Denver
Job No.: 280-185797-1
SDG ID.:
Matrix: Water
Date Sampled: 12/13/2023 14:40
Reporting Basis: WET
Date Received: 12/15/2023 10:00

Analyte	Result	LOQ	LOD	DL	Units	C	Q	DIL	Method
Lead	0.70	1.0	0.70	0.23	ug/L	U		1	6020B

2A-IN
CALIBRATION VERIFICATIONS
METALS

Lab Name: Eurofins Denver Job No.: 280-185797-1

SDG No.:

ICV Source: ms 77 icv_03139 Concentration Units: ug/L

CCV Source: ms 77 ccv_03135

Analyte	ICV 280-638085/23 12/20/2023 13:38				CCV 280-638085/79 12/20/2023 19:18				CCV 280-638085/89 12/20/2023 19:54			
	Found	C	True	%R	Found	C	True	%R	Found	C	True	%R
Lead	40.8		40.0	102	50.5		50.0	101	50.8		50.0	102

Note! Calculations are performed before rounding to avoid round-off errors in calculated results.
Italicized analytes were not requested for this sequence.

2A-IN
CALIBRATION VERIFICATIONS
METALS

Lab Name: Eurofins Denver Job No.: 280-185797-1

SDG No.:

ICV Source: ms 77 icv_03139 Concentration Units: ug/L

CCV Source: ms 77 ccv_03135

Analyte	CCV 280-638085/98 12/20/2023 20:26				CCV 280-638085/109 12/20/2023 21:05							
	Found	C	True	%R	Found	C	True	%R	Found	C	True	%R
Lead	50.7		50.0	101	50.6		50.0	101				

Note! Calculations are performed before rounding to avoid round-off errors in calculated results.
Italicized analytes were not requested for this sequence.

2B-IN
CRQL CHECK STANDARD
METALS

Lab Name: Eurofins Denver Job No.: 280-185797-1

SDG No.:

Method: 6020B Instrument ID: MT_077

Lab Sample ID: CRI 280-638085/25 Concentration Units: ug/L

CRQL Check Standard Source: MS 77 LLCCV_02966

Analyte	CRQL Check Standard				
	True	Found	Qualifiers	%R(1)	Limits
Lead	1.00	1.07		107	80-120

Note! Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM IIB-IN

3-IN
INSTRUMENT BLANKS
METALS

Lab Name: Eurofins Denver Job No.: 280-185797-1

SDG No.:

Concentration Units: ug/L

Analyte	RL	ICB 280-638085/24 12/20/2023 13:42		CCB 280-638085/80 12/20/2023 19:22		CCB 280-638085/90 12/20/2023 19:58		CCB 280-638085/99 12/20/2023 20:30	
		Found	C	Found	C	Found	C	Found	C
Lead	1.0	0.70	U	0.70	U	0.70	U	0.70	U

Italicized analytes were not requested for this sequence.

3-IN
INSTRUMENT BLANKS
METALS

Lab Name: Eurofins Denver Job No.: 280-185797-1

SDG No.:

Concentration Units: ug/L

Analyte	RL	CCB 280-638085/110 12/20/2023 21:09							
		Found	C	Found	C	Found	C	Found	C
Lead	1.0	0.70	U						

Italicized analytes were not requested for this sequence.

3-IN
METHOD BLANK
METALS

Lab Name: Eurofins Denver Job No.: 280-185797-1

SDG No.:

Concentration Units: ug/L Lab Sample ID: MB 280-637783/1-A

Instrument Code: MT_077 Batch No.: 638085

CAS No.	Analyte	Concentration	C	Q	Method
7439-92-1	Lead	0.70	U		6020B_DOD5

4A-IN
INTERFERENCE CHECK STANDARD
METALS

Lab Name: Eurofins Denver Job No.: 280-185797-1

SDG No.:

Lab Sample ID: ICSA 280-638085/27 Instrument ID: MT_077

Lab File ID: 027ICSA.d ICS Source: ms 77 icsa_00712

Concentration Units: ug/L

Analyte	True Solution A	Found Solution A	Percent Recovery
Lead		**0.155**	
Aluminum	*100000*	*100890*	*101*
Antimony		*0.154*	
Arsenic		*0.0090*	
Beryllium		*-0.0150*	
Cadmium		*0.213*	
Calcium	*100000*	*96829*	*97*
Cobalt		*0.192*	
Copper		*-0.0120*	
Iron	*100000*	*95591*	*96*
Magnesium	*100000*	*94767*	*95*
Manganese		*0.586*	
Molybdenum	*2000*	*2226*	*111*
Nickel		*-0.283*	
Potassium	*100000*	*89480*	*89*
Selenium		*0.0990*	
Silver		*0.0340*	
Sodium	*100000*	*94892*	*95*
Strontium		*0.887*	
Thallium		*0.0070*	
Thorium		*0.139*	
Tin		*0.233*	
Uranium		*0.0150*	
Vanadium		*-0.250*	
Zinc		*1.60*	

Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM IVA-IN

4A-IN
INTERFERENCE CHECK STANDARD
METALS

Lab Name: Eurofins Denver Job No.: 280-185797-1

SDG No.:

Lab Sample ID: ICSAB 280-638085/28 Instrument ID: MT_077

Lab File ID: 028ICSB.d ICS Source: ms 77 icsab_00709

Concentration Units: ug/L

Analyte	True Solution AB	Found Solution AB	Found Percent Recovery
Lead	**100**	**97.4**	**97**
Aluminum	*102000*	*101097*	*99*
Antimony	*100*	*110*	*110*
Arsenic	*100*	*105*	*105*
Barium	*100*	*104*	*104*
Beryllium	*100*	*109*	*109*
Cadmium	*100*	*102*	*102*
Calcium	*107000*	*102720*	*96*
Chromium	*100*	*104*	*104*
Cobalt	*100*	*101*	*101*
Copper	*100*	*97.6*	*98*
Iron	*102000*	*98117*	*96*
Magnesium	*107000*	*100901*	*94*
Manganese	*100*	*100*	*100*
Molybdenum	*2100*	*2338*	*111*
Nickel	*100*	*96.0*	*96*
Potassium	*107000*	*96398*	*90*
Selenium	*100*	*104*	*104*
Silver	*100*	*101*	*101*
Sodium	*107000*	*102146*	*95*
Strontium	*200*	*204*	*102*
Thallium	*100*	*96.9*	*97*
Thorium	*100*	*103*	*103*
Tin	*100*	*107*	*107*
Uranium	*100*	*104*	*104*
Vanadium	*100*	*104*	*104*
Zinc	*100*	*97.6*	*98*

Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM IVA-IN

7A-IN
LAB CONTROL SAMPLE
METALS

Lab ID: LCS 280-637783/2-A

Lab Name: Eurofins Denver Job No.: 280-185797-1

Sample Matrix: Water LCS Source: ms spike 1_00021

Analyte	Water(ug/L)							
	True	Found	C	%R	Limits		Q	Method
Lead	40.0	38.9		97	88	115		6020B

Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM VIIA - IN

7D-IN
LAB CONTROL SAMPLE DUPLICATE
METALS

Lab ID: LCSD 280-637783/3-A

Lab Name: Eurofins Denver Job No.: 280-185797-1

Sample Matrix: Water LCS Source: ms spike 1_00021

Analyte	(SDR)	C	Spike Added	%R	Control Limit %R	RPD	RPD Limit	Q	Method
Lead	37.3		40.0	93	88-115	4	20		6020B

SDR = Spike Duplicate Results
Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM VIID - IN

9-IN
DETECTION LIMITS
METALS

Lab Name: Eurofins Denver Job Number: 280-185797-1

SDG Number:

Matrix: Water Instrument ID: MT_077

Method: 6020B DL Date: 09/01/2022 00:00

Prep Method: 3020A

Analyte	Wavelength/ Mass	LOQ (ug/L)	DL (ug/L)
Lead		1	0.23

9-IN
CALIBRATION BLANK DETECTION LIMITS
METALS

Lab Name: Eurofins Denver Job Number: 280-185797-1

SDG Number:

Matrix: Water Instrument ID: MT_077

Method: 6020B XMDL Date: 01/03/2023 12:35

Analyte	Wavelength/ Mass	XRL (ug/L)	XMDL (ug/L)
Lead		1	0.23

11-IN
LINEAR RANGES
METALS

Lab Name: Eurofins Denver Job No: 280-185797-1

SDG No.:

Instrument ID: MT_077 Date: 07/03/2023 10:58

Analyte	Integ. Time (Sec.)	Concentration (ug/L)	Method
Lead		5000	6020B

12-IN
PREPARATION LOG
METALS

Lab Name: Eurofins Denver Job No.: 280-185797-1

SDG No.:

Prep Method: 3020A

Lab Sample ID	Preparation Date	Prep Batch	Initial Weight	Initial Volume (mL)	Final Volume (mL)
MB 280-637783/1-A	12/19/2023 14:57	637783		50	50
LCS 280-637783/2-A	12/19/2023 14:57	637783		50	50
LCSD 280-637783/3-A	12/19/2023 14:57	637783		50	50
280-185797-2	12/19/2023 14:57	637783		50	50
280-185797-3	12/19/2023 14:57	637783		50	50
280-185797-4	12/19/2023 14:57	637783		50	50
280-185797-5	12/19/2023 14:57	637783		50	50
280-185797-6	12/19/2023 14:57	637783		50	50
280-185797-8	12/19/2023 14:57	637783		50	50
280-185797-9	12/19/2023 14:57	637783		50	50
280-185797-10	12/19/2023 14:57	637783		50	50
280-185797-11	12/19/2023 14:57	637783		50	50

13-IN
ANALYSIS RUN LOG
METALS

Lab Name: Eurofins Denver Job No.: 280-185797-1

SDG No.:

Instrument ID: MT_077 Analysis Method: 6020B

Start Date: 12/20/2023 11:43 End Date: 12/20/2023 21:23

Lab Sample Id	D/F	Type	Time	Analytes
				Pb
RINSE 280-638085/1			11:43	
RINSE 280-638085/2			11:47	
RINSE 280-638085/3			11:50	
RINSE 280-638085/4			11:54	
RINSE 280-638085/5			11:58	
RINSE 280-638085/6			12:01	
RINSE 280-638085/7			12:05	
RINSE 280-638085/8			12:08	
RINSE 280-638085/9			12:48	
RINSE 280-638085/10			12:51	
ICIS 280-638085/11			12:55	X
IC 280-638085/12			12:58	X
IC 280-638085/13			13:02	X
ICV 280-638085/14			13:06	
ICB 280-638085/15			13:09	
CRI 280-638085/16			13:13	
RINSE 280-638085/17			13:17	
RINSE 280-638085/18			13:20	
RINSE 280-638085/19			13:24	
ICIS 280-638085/20			13:27	X
IC 280-638085/21	1		13:31	X
IC 280-638085/22	1		13:35	X
ICV 280-638085/23	1		13:38	X
ICB 280-638085/24	1		13:42	X
CRI 280-638085/25	1		13:45	X
CRI 280-638085/26			13:50	
ICSA 280-638085/27	1		13:54	X
ICSAB 280-638085/28	1		13:57	X
RINSE 280-638085/29			14:01	
LRA 280-638085/30			14:04	
RINSE 280-638085/31			14:08	
CCV 280-638085/32			14:11	
CCB 280-638085/33			14:15	
CCVL 280-638085/34			14:18	
ZZZZZZ			14:22	
ZZZZZZ			14:26	
ZZZZZZ			14:29	
ZZZZZZ			14:33	
ZZZZZZ			14:36	
ZZZZZZ			14:40	
CCV 280-638085/41			14:43	

FORM XIII-IN

13-IN
ANALYSIS RUN LOG
METALS

Lab Name: Eurofins Denver | Job No.: 280-185797-1

SDG No.:

Instrument ID: MT_077 | Analysis Method: 6020B

Start Date: 12/20/2023 11:43 | End Date: 12/20/2023 21:23

Lab Sample Id	D/F	Type	Time	Analytes
				Pb
CCB 280-638085/42			14:47	
ZZZZZZ			14:50	
ZZZZZZ			14:54	
ZZZZZZ			14:58	
ZZZZZZ			15:01	
ZZZZZZ			15:05	
CCV 280-638085/48			15:08	
CCB 280-638085/49			15:12	
ZZZZZZ			15:15	
ZZZZZZ			15:19	
ZZZZZZ			15:22	
ZZZZZZ			17:44	
ZZZZZZ			17:48	
ZZZZZZ			17:51	
CCV 280-638085/56			17:55	
CCB 280-638085/57			17:59	
ZZZZZZ			18:02	
ZZZZZZ			18:06	
ZZZZZZ			18:09	
ZZZZZZ			18:13	
ZZZZZZ			18:16	
ZZZZZZ			18:20	
ZZZZZZ			18:24	
ZZZZZZ			18:27	
ZZZZZZ			18:31	
ZZZZZZ			18:35	
CCV 280-638085/68			18:38	
CCB 280-638085/69			18:42	
ZZZZZZ			18:45	
ZZZZZZ			18:49	
ZZZZZZ			18:53	
ZZZZZZ			18:56	
ZZZZZZ			19:00	
ZZZZZZ			19:04	
ZZZZZZ			19:07	
ZZZZZZ			19:11	
ZZZZZZ			19:15	
CCV 280-638085/79	1		19:18	X
CCB 280-638085/80	1		19:22	X
MB 280-637783/1-A	1	T	19:25	X
LCS 280-637783/2-A	1	T	19:29	X

FORM XIII-IN

13-IN
ANALYSIS RUN LOG
METALS

Lab Name: Eurofins Denver Job No.: 280-185797-1

SDG No.:

Instrument ID: MT_077 Analysis Method: 6020B

Start Date: 12/20/2023 11:43 End Date: 12/20/2023 21:23

Lab Sample Id	D/F	Type	Time	Analytes
				Pb
LCSD 280-637783/3-A	1	T	19:33	X
ZZZZZZ			19:36	
ZZZZZZ			19:40	
ZZZZZZ			19:43	
ZZZZZZ			19:47	
ZZZZZZ			19:51	
CCV 280-638085/89	1		19:54	X
CCB 280-638085/90	1		19:58	X
ZZZZZZ			20:01	
ZZZZZZ			20:05	
ZZZZZZ			20:08	
ZZZZZZ			20:12	
ZZZZZZ			20:15	
280-185797-2	1	T	20:19	X
280-185797-3	1	T	20:23	X
CCV 280-638085/98	1		20:26	X
CCB 280-638085/99	1		20:30	X
280-185797-4	1	T	20:33	X
280-185797-5	1	T	20:37	X
280-185797-6	1	T	20:40	X
280-185797-8	10	T	20:44	X
280-185797-9	1	T	20:48	X
280-185797-10	1	T	20:51	X
280-185797-11	1	T	20:55	X
ZZZZZZ			20:58	
ZZZZZZ			21:02	
CCV 280-638085/109	1		21:05	X
CCB 280-638085/110	1		21:09	X
ZZZZZZ			21:13	
RINSE 280-638085/112			21:16	
CCV 280-638085/113			21:20	
CCB 280-638085/114			21:23	

Prep Types:
T = Total/NA

15-IN
ICP-MS INTERNAL STANDARDS RELATIVE INTENSITY SUMMARY
METALS

Lab Name: Eurofins Denver Job No.: 280-185797-1

SDG No.: Analysis Batch No.: 638085

ICP-MS Instrument ID: MT_077 Start Date: 12/20/2023 End Date: 12/20/2023

Lab Sample ID	Time	Internal Standards %RI For:									
		Element Li-6/1	Q	Element Li-6/2	Q	Element Li-6/3	Q	Element Sc/1	Q	Element Sc/2	Q
IC 280-638085/21	13:31	94		92		95		99		98	
IC 280-638085/22	13:35	98		97		99		99		98	
ICV 280-638085/23	13:38	95		98		98		98		99	
ICB 280-638085/24	13:42	97		98		100		98		99	
CRI 280-638085/25	13:45	97		98		100		99		99	
ICSA 280-638085/27	13:54	91		90		90		99		98	
ICSAB 280-638085/28	13:57	90		94		94		99		100	
CCV 280-638085/79	19:18	80		78		88		92		82	
CCB 280-638085/80	19:22	82		79		91		90		79	
MB 280-637783/1-A	19:25	81		81		91		89		78	
LCS 280-637783/2-A	19:29	81		82		89		88		78	
LCSD 280-637783/3-A	19:33	82		79		89		88		78	
CCV 280-638085/89	19:54	75		75		82		82		71	
CCB 280-638085/90	19:58	77		75		84		81		71	
280-185797-2	20:19	74		71		86		80		71	
280-185797-3	20:23	70		68		82		80		71	
CCV 280-638085/98	20:26	73		75		85		79		70	
CCB 280-638085/99	20:30	74		72		83		78		70	
280-185797-4	20:33	71		73		84		79		70	
280-185797-5	20:37	72		70		83		80		71	
280-185797-6	20:40	72		67		84		81		72	
280-185797-8	20:44	73		73		85		82		72	
280-185797-9	20:48	71		69		85		81		73	
280-185797-10	20:51	72		74		87		82		76	
280-185797-11	20:55	72		69		85		83		74	
CCV 280-638085/109	21:05	69		66		81		78		69	
CCB 280-638085/110	21:09	70		69		82		76		67	
IS Name on Instrument											

15A-IN
ICP-MS INTERNAL STANDARDS RELATIONS
METALS

Lab Name: Eurofins Denver Job No.: 280-185797-1

SDG No.: Analysis Batch No.: 638085

ICP-MS Instrument ID: MT_077 Start Date: 12/20/2023 End Date: 12/20/2023

Analyte	Mass	Internal Standard Used:				
		Element In 115	Element Ho-165 165	Element Ir 193	Element Sc/1 45	Element Sc/2 45
Lead	208		X			
Aluminum	27					X
Antimony	121	X				
Arsenic	75					
Barium	137	X				
Beryllium	9					
Cadmium	111	X				
Calcium	40				X	
Chromium	52					
Cobalt	59					
Copper	63					
Iron	56					
Magnesium	24					X
Manganese	55					
Molybdenum	95	X				
Nickel	60					
Potassium	39					X
Selenium	78					
Silver	107	X				
Sodium	23					X
Strontium	88					
Thallium	205		X			
Thorium	232			X		
Tin	120	X				
Uranium	238			X		
Vanadium	51					
Zinc	66					
Internal Standard Name on Instrument		In Internal standard	Ho-165	Ir (IS)	Sc (IS)	Sc (IS)

15-IN
ICP-MS INTERNAL STANDARDS RELATIVE INTENSITY SUMMARY
METALS

Lab Name: Eurofins Denver Job No.: 280-185797-1

SDG No.: Analysis Batch No.: 638085

ICP-MS Instrument ID: MT_077 Start Date: 12/20/2023 End Date: 12/20/2023

Lab Sample ID	Time	Internal Standards %RI For:									
		Element Sc/3	Q	Element Ge/1	Q	Element Ge/2	Q	Element In	Q	Element Ho-165	Q
IC 280-638085/21	13:31	98		97		95		98		99	
IC 280-638085/22	13:35	98		101		99		99		100	
ICV 280-638085/23	13:38	98		98		96		98		100	
ICB 280-638085/24	13:42	100		100		98		98		99	
CRI 280-638085/25	13:45	100		100		99		98		99	
ICSA 280-638085/27	13:54	98		99		97		93		100	
ICSAB 280-638085/28	13:57	99		98		98		94		99	
CCV 280-638085/79	19:18	93		97		93		93		96	
CCB 280-638085/80	19:22	92		96		91		92		95	
MB 280-637783/1-A	19:25	92		94		90		92		94	
LCS 280-637783/2-A	19:29	91		92		89		90		94	
LCSD 280-637783/3-A	19:33	91		93		90		90		93	
CCV 280-638085/89	19:54	85		87		80		85		90	
CCB 280-638085/90	19:58	85		86		78		85		90	
280-185797-2	20:19	84		86		83		86		91	
280-185797-3	20:23	83		84		77		83		90	
CCV 280-638085/98	20:26	81		83		75		85		90	
CCB 280-638085/99	20:30	78		83		80		85		90	
280-185797-4	20:33	83		83		80		83		89	
280-185797-5	20:37	82		85		82		83		90	
280-185797-6	20:40	84		85		83		84		91	
280-185797-8	20:44	84		86		82		86		91	
280-185797-9	20:48	85		85		85		86		91	
280-185797-10	20:51	88		85		86		86		91	
280-185797-11	20:55	85		87		87		86		91	
CCV 280-638085/109	21:05	79		82		74		84		89	
CCB 280-638085/110	21:09	78		80		73		84		89	
IS Name on Instrument											

15A-IN
ICP-MS INTERNAL STANDARDS RELATIONS
METALS

Lab Name: Eurofins Denver Job No.: 280-185797-1

SDG No.: Analysis Batch No.: 638085

ICP-MS Instrument ID: MT_077 Start Date: 12/20/2023 End Date: 12/20/2023

Analyte	Mass	Internal Standard Used:				
		Element Sc/3 45	Element Li-6/1 6	Element Li-6/2 6	Element Li-6/3 6	Element Ge/1 72
Lead	208					
Aluminum	27					
Antimony	121					
Arsenic	75					
Barium	137					
Beryllium	9		X			
Cadmium	111					
Calcium	40					
Chromium	52					
Cobalt	59					
Copper	63					
Iron	56					X
Magnesium	24					
Manganese	55					
Molybdenum	95					
Nickel	60					
Potassium	39					
Selenium	78					X
Silver	107					
Sodium	23					
Strontium	88					
Thallium	205					
Thorium	232					
Tin	120					
Uranium	238					
Vanadium	51					
Zinc	66					
Internal Standard Name on Instrument		Sc (IS)	Li-6 Internal standard	Li-6 Internal standard	Li-6 Internal standard	Ge Internal standard

15-IN
ICP-MS INTERNAL STANDARDS RELATIVE INTENSITY SUMMARY
METALS

Lab Name: Eurofins Denver Job No.: 280-185797-1

SDG No.: Analysis Batch No.: 638085

ICP-MS Instrument ID: MT_077 Start Date: 12/20/2023 End Date: 12/20/2023

Lab Sample ID	Time	Internal Standards %RI For:									
		Element Ir	Q	Element	Q	Element	Q	Element	Q	Element	Q
IC 280-638085/21	13:31	99									
IC 280-638085/22	13:35	99									
ICV 280-638085/23	13:38	99									
ICB 280-638085/24	13:42	100									
CRI 280-638085/25	13:45	100									
ICSA 280-638085/27	13:54	96									
ICSAB 280-638085/28	13:57	95									
CCV 280-638085/79	19:18	95									
CCB 280-638085/80	19:22	96									
MB 280-637783/1-A	19:25	96									
LCS 280-637783/2-A	19:29	96									
LCSD 280-637783/3-A	19:33	95									
CCV 280-638085/89	19:54	92									
CCB 280-638085/90	19:58	94									
280-185797-2	20:19	91									
280-185797-3	20:23	88									
CCV 280-638085/98	20:26	91									
CCB 280-638085/99	20:30	92									
280-185797-4	20:33	91									
280-185797-5	20:37	89									
280-185797-6	20:40	90									
280-185797-8	20:44	90									
280-185797-9	20:48	89									
280-185797-10	20:51	88									
280-185797-11	20:55	88									
CCV 280-638085/109	21:05	88									
CCB 280-638085/110	21:09	89									
IS Name on Instrument											

15A-IN
ICP-MS INTERNAL STANDARDS RELATIONS
METALS

Lab Name: Eurofins Denver Job No.: 280-185797-1

SDG No.: Analysis Batch No.: 638085

ICP-MS Instrument ID: MT_077 Start Date: 12/20/2023 End Date: 12/20/2023

Analyte	Mass	Internal Standard Used:				
		Element Ge/2 72	Element	Element	Element	Element
Lead	208					
Aluminum	27					
Antimony	121					
Arsenic	75	X				
Barium	137					
Beryllium	9					
Cadmium	111					
Calcium	40					
Chromium	52	X				
Cobalt	59	X				
Copper	63	X				
Iron	56					
Magnesium	24					
Manganese	55	X				
Molybdenum	95					
Nickel	60	X				
Potassium	39					
Selenium	78					
Silver	107					
Sodium	23					
Strontium	88	X				
Thallium	205					
Thorium	232					
Tin	120					
Uranium	238					
Vanadium	51	X				
Zinc	66	X				
Internal Standard Name on Instrument		Ge Internal standard				

METALS BATCH WORKSHEET

Lab Name: Eurofins Denver Job No.: 280-185797-1

SDG No.:

Batch Number: 637783 Batch Start Date: 12/19/23 14:57 Batch Analyst: McConnell, Mitchel S

Batch Method: 3020A Batch End Date: 12/19/23 20:38

Lab Sample ID	Client Sample ID	Method Chain	Basis	Initial pH	InitialAmount	FinalAmount	ms spike 1 00021	MS spike 2 00110	
MB 280-637783/1		3020A, 6020B		<2 SU	50 mL	50 mL			
LCS 280-637783/2		3020A, 6020B		<2 SU	50 mL	50 mL	0.1 mL	0.1 mL	
LCSD 280-637783/3		3020A, 6020B		<2 SU	50 mL	50 mL	0.1 mL	0.1 mL	
280-185797-B-2	TV044-MW24D1223A	3020A, 6020B	T	<2 SU	50 mL	50 mL			
280-185797-B-3	TV044-MW24I1223A	3020A, 6020B	T	<2 SU	50 mL	50 mL			
280-185797-B-4	TV044-MW21M1223A	3020A, 6020B	T	<2 SU	50 mL	50 mL			
280-185797-B-5	TV044-MW21D1223A	3020A, 6020B	T	<2 SU	50 mL	50 mL			
280-185797-B-6	TV044-MW21D1223C	3020A, 6020B	T	<2 SU	50 mL	50 mL			
280-185797-B-8	TV044-MW31223A	3020A, 6020B	T	<2 SU	50 mL	50 mL			
280-185797-B-9	TV044-MW25D1223A	3020A, 6020B	T	<2 SU	50 mL	50 mL			
280-185797-B-10	TV044-MW21223A	3020A, 6020B	T	<2 SU	50 mL	50 mL			
280-185797-B-11	TV044-MW25I1223A	3020A, 6020B	T	<2 SU	50 mL	50 mL			

Batch Notes	
Digestion Tube/Cup ID	2211204
Pipette/Syringe/Dispenser ID	MET88
Analyst ID - Spike Analyst	CF
Sufficient Volume for Batch QC	YES
Hydrochloric Acid ID	231497
Nitric Acid ID	232616
Digestion Unit ID	14
Thermometer ID	940346
Thermometer Location ID	b2
Temperature - Uncorrected - Start	92 Degrees C
Temperature - Corrected - Start	92 Degrees C
Digestion Start Time	12/19/2023 14:57
Digestion End Time	12/19/2023 20:38
Temperature - Uncorrected - End	92 Degrees C
Temperature - Corrected - End	92 Degrees C

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

METALS BATCH WORKSHEET

Lab Name: Eurofins Denver Job No.: 280-185797-1

SDG No.:

Batch Number: 637783 Batch Start Date: 12/19/23 14:57 Batch Analyst: McConnell, Mitchel S

Batch Method: 3020A Batch End Date: 12/19/23 20:38

Basis	Basis Description
T	Total/NA

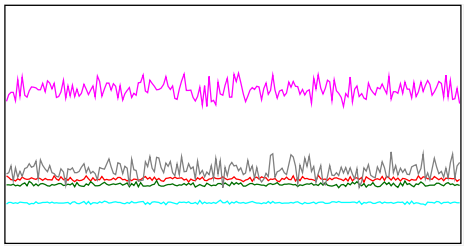
The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

Current Signal

Operator Name	Denver Metals
Acq. Date-Time	12/20/2023 11:15:43 AM
Instrument Name	G3281A JP09320047
Batch Folder	D:\Agilent\ICPMH\1\DATA\ALL122023.b

[No Gas]

Sensitivity



Ch	Mass	Range	Count	Avg Count	RSD%
1	7	100000	16607	16690	2.081
2	6	100000	7679	7932	2.258
3	59	100000	16682	17300	2.287
4	63	5000	2239	2287	2.751
5	70	5000	935	1021	4.247
6	75	10000	2056	2145	3.468
7	89	100000	26542	26783	2.205
8	105	1000	71	87	12.833
9	118	2000	664	643	5.148
10	137	20000	3888	3719	2.632
11	140	200000	31749	31576	1.936
12	205	100000	23960	24400	2.239
13	238	10000	38831	40335	2.305
14	70/140	5	2.946 %	3.236 %	4.762
15	156/140	2	0.677 %	0.611 %	9.727

Integration Time [sec] 0.1

Tune Parameters

Plasma Parameters

Plasma Mode	---	Nebulizer Gas	0.66 L/min	Dilution Gas	0.23 L/min
RF Power	1550 W	Option Gas	---	Auxiliary Gas	0.90 L/min
RF Matching	1.20 V	Nebulizer Pump	0.10 rps	Plasma Gas	15.0 L/min
Sample Depth	8.0 mm	S/C Temp	2 °C		

Lens Parameters

Extract 1	0.0 V	Q1 Entrance	---	Cell Exit	-52 V
Extract 2	-170.0 V	Q1 Exit	---	Deflect	15.6 V
Omega Bias	-80 V	Cell Focus	---	Plate Bias	-50 V
Omega Lens	9.6 V	Cell Entrance	-20 V		

Cell Parameters

Use Gas	No	3rd Gas Flow	---	Axial Acceleration	---
He Flow	0.0 mL/min	4th Gas Flow	---	OctP RF	200 V
H2 Flow	0.0 mL/min	OctP Bias	-8.0 V	Energy Discrimination	3.0 V

QP Parameters

Mass Gain	147	Axis Gain	1.0028	QP Bias	-5.0 V
Mass Offset	126	Axis Offset	0.06		

Current Signal

Torch

Torch H	-1.0 mm	Torch V	1.5 mm		

EM

Discriminator	4.5 mV	Analog HV	1662 V	Pulse HV	1460 V

Meter

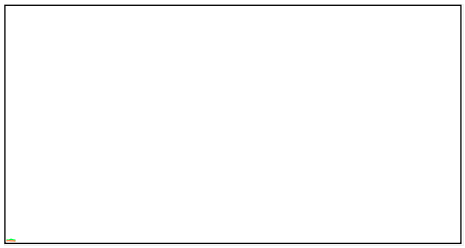
Name	Value	Unit
IF/BK Press	2.34E+2	Pa
Analyzer Press	1.71E-4	Pa
Water RF/WC/IF	1.32	L/min
Nebulizer Gas(BP)	1.74E+2	kPa
Reflected Power	1	W

Current Signal

Operator Name	Denver Metals
Acq. Date-Time	12/20/2023 11:15:59 AM
Instrument Name	G3281A JP09320047
Batch Folder	D:\Agilent\ICPMH\1\DATA\ALL122023.b

[HMI He]

Sensitivity



Ch	Mass	Range	Count	Avg Count	RSD%
1	7	50	25	22	11.874
2	51	10000	73	88	17.059
3	53	10000	38	48	14.059
4	59	500	4546	4297	4.430
5	66	500	237	250	6.344
6	70	50	203	189	12.296
7	78	20	0	0	136.931
8	115	10000	4820	4840	2.032
9	118	200	135	133	6.842
10	137	2000	699	725	4.802
11	140	20000	11751	11753	3.857
12	205	20000	14402	14367	1.888
13	51/59	100	1.606 %	2.051 %	20.289
14	70/140	2	1.728 %	1.614 %	13.301
15	156/140	1	0.230 %	0.209 %	22.245

Integration Time [sec] 0.1

Tune Parameters

Plasma Parameters

Plasma Mode	---	Nebulizer Gas	0.66 L/min	Dilution Gas	0.23 L/min
RF Power	1550 W	Option Gas	---	Auxiliary Gas	0.90 L/min
RF Matching	1.20 V	Nebulizer Pump	0.10 rps	Plasma Gas	15.0 L/min
Sample Depth	8.0 mm	S/C Temp	2 °C		

Lens Parameters

Extract 1	0.0 V	Q1 Entrance	---	Cell Exit	-62 V
Extract 2	-180.0 V	Q1 Exit	---	Deflect	-0.2 V
Omega Bias	-95 V	Cell Focus	---	Plate Bias	-60 V
Omega Lens	9.9 V	Cell Entrance	-36 V		

Cell Parameters

Use Gas	Yes	3rd Gas Flow	---	Axial Acceleration	---
He Flow	5.0 mL/min	4th Gas Flow	---	OctP RF	200 V
H2 Flow	0.0 mL/min	OctP Bias	-18.0 V	Energy Discrimination	3.0 V

QP Parameters

Mass Gain	147	Axis Gain	1.0028	QP Bias	-15.0 V
Mass Offset	126	Axis Offset	0.06		

Current Signal

Torch

Torch H	-1.0 mm	Torch V	1.5 mm		

EM

Discriminator	4.5 mV	Analog HV	1662 V	Pulse HV	1460 V

Meter

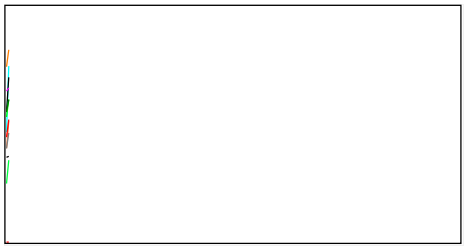
Name	Value	Unit
IF/BK Press	2.34E+2	Pa
Analyzer Press	2.35E-4	Pa
Water RF/WC/IF	1.32	L/min
Nebulizer Gas(BP)	1.74E+2	kPa
Reflected Power	1	W

Current Signal

Operator Name	Denver Metals
Acq. Date-Time	12/20/2023 11:16:11 AM
Instrument Name	G3281A JP09320047
Batch Folder	D:\Agilent\ICPMH\1\DATA\ALL122023.b

[HMI H2]

Sensitivity



Ch	Mass	Range	Count	Avg Count	RSD%
1	7	500	374	304	32.567
2	9	5000	1741	1491	23.738
3	59	10000	5139	4562	17.889
4	63	200	598	525	19.821
5	70	1000	700	626	16.721
6	78	20	0	0	0.000
7	89	50000	26035	24164	10.950
8	115	50000	30316	28443	9.312
9	118	500	690	637	11.889
10	137	5000	4085	3904	6.554
11	140	50000	30256	29005	6.102
12	205	20000	23205	22873	2.052
13	238	50000	32790	32431	1.564
14	70/140	5	2.314 %	2.152 %	10.673
15	156/140	2	0.727 %	0.724 %	0.634

Integration Time [sec] 0.1

Tune Parameters

Plasma Parameters

Plasma Mode	---	Nebulizer Gas	0.66 L/min	Dilution Gas	0.23 L/min
RF Power	1550 W	Option Gas	---	Auxiliary Gas	0.90 L/min
RF Matching	1.20 V	Nebulizer Pump	0.10 rps	Plasma Gas	15.0 L/min
Sample Depth	8.0 mm	S/C Temp	2 °C		

Lens Parameters

Extract 1	0.0 V	Q1 Entrance	---	Cell Exit	-70 V
Extract 2	-170.0 V	Q1 Exit	---	Deflect	2.0 V
Omega Bias	-85 V	Cell Focus	---	Plate Bias	-60 V
Omega Lens	9.7 V	Cell Entrance	-24 V		

Cell Parameters

Use Gas	Yes	3rd Gas Flow	---	Axial Acceleration	---
He Flow	0.0 mL/min	4th Gas Flow	---	OctP RF	200 V
H2 Flow	4.0 mL/min	OctP Bias	-18.0 V	Energy Discrimination	3.0 V

QP Parameters

Mass Gain	147	Axis Gain	1.0028	QP Bias	-15.0 V
Mass Offset	126	Axis Offset	0.06		

Current Signal

Torch

Torch H	-1.0 mm	Torch V	1.5 mm		

EM

Discriminator	4.5 mV	Analog HV	1662 V	Pulse HV	1460 V

Meter

Name	Value	Unit
IF/BK Press	2.41E+2	Pa
Analyzer Press	5.11E-4	Pa
Water RF/WC/IF	1.33	L/min
Nebulizer Gas(BP)	1.73E+2	kPa
Reflected Power	1	W

US EPA Tune Check Report

Operator Name	Denver Metals
Acq/Data Batch	D:\Agilent\ICPMH\1\DATA\ALL122023.b
Acq. Date-Time	12/20/2023 11:23:25 AM
Report Comment	---
Instrument Name	G3281A JP09320047

[HMI H2]

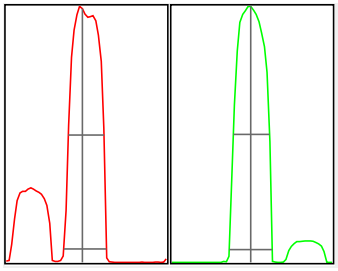
Sensitivity

Mass	Conc. [ug/l]	Count	CPS	RSD%	RSD% (Required)	RSD% (Flag)
7		295	2948.28	1.537	5.000	
9		1266	12658.10	1.348	5.000	

Mass	Rep#1 Count	Rep#2 Count	Rep#3 Count	Rep#4 Count	Rep#5 Count
7	290	297	298	299	290
9	1284	1253	1257	1250	1284

Integration Time [sec] 0.1

Resolution/Axis



Mass	Peak Height	Axis	Axis (Required)	Axis (Flag)
7	463.08	6.95	6.90 - 7.10	
9	1983.86	9.00	8.90 - 9.10	

Mass	W-50%	W-5%	W-5% (Required)	W-5% (Flag)
7	0.66	0.789	0.900	
9	0.67	0.791	0.900	

Integration Time [sec] 0.1
Acquisition Time [sec] 60.9
Y Axis Linear

Tune Parameters

Plasma Parameters

Plasma Mode	---	Nebulizer Gas		Dilution Gas	0.23 L/min
RF Power	1550 W	Option Gas	---	Auxiliary Gas	0.90 L/min
RF Matching		Nebulizer Pump		Plasma Gas	15.0 L/min
Sample Depth	8.0 mm	S/C Temp			

Lens Parameters

Extract 1	0.0 V	Omega Lens	9.7 V	Deflect	2.0 V

US EPA Tune Check Report

Extract 2	-170.0 V	Cell Entrance	-24 V	Plate Bias	-60 V
Omega Bias	-85 V	Cell Exit	-70 V		

Cell Parameters

Use Gas	Yes	3rd Gas Flow	---	Energy Discrimination	3.0 V
He Flow	0.0 mL/min	OctP Bias	-18.0 V		
H2 Flow	4.0 mL/min	OctP RF	200 V		

QP Parameters

Mass Gain	147	Axis Gain	1.0028	QP Bias	-15.0 V
Mass Offset	126	Axis Offset	0.06		

Hardware Settings

EM

Discriminator	4.5 mV	Analog HV	1662 V	Pulse HV	1460 V

Torch

Torch H	-1.0 mm	Torch V	1.5 mm		

[HMI He]

Sensitivity

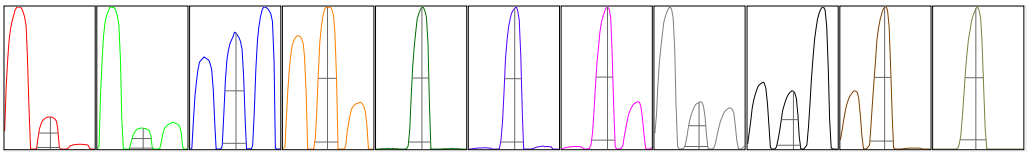
Mass	Conc. [ug/l]	Count	CPS	RSD%	RSD% (Required)	RSD% (Flag)
24		1161	11614.55	0.896	5.000	
25		168	1677.79	2.462	5.000	
26		210	2095.88	1.120	5.000	
59		2618	26178.46	1.056	5.000	
103		6859	68587.99	1.124	5.000	
115		2735	27349.84	1.411	5.000	
205		8010	80096.38	0.486	5.000	
206		2668	26677.84	0.843	5.000	
207		2345	23454.87	0.942	5.000	
208		5668	56684.58	0.981	5.000	
238		13688	136880.20	0.504	5.000	

Mass	Rep#1 Count	Rep#2 Count	Rep#3 Count	Rep#4 Count	Rep#5 Count
24	1157	1174	1148	1170	1158
25	169	171	166	161	171
26	207	211	208	213	209
59	2583	2594	2629	2634	2648
103	6752	6812	6904	6879	6947
115	2676	2734	2733	2747	2784
205	7945	8039	8025	8037	8003
206	2637	2660	2661	2693	2687
207	2319	2357	2330	2346	2375
208	5575	5678	5671	5717	5701
238	13575	13753	13729	13706	13678

US EPA Tune Check Report

Integration Time [sec] 0.1

Resolution/Axis



Mass	Peak Height	Axis	Axis (Required)	Axis (Flag)
24	1864.48	24.05	23.90 - 24.10	
25	273.68	25.05	24.90 - 25.10	
26	349.00	26.05	25.90 - 26.10	
59	4424.78	59.00	58.90 - 59.10	
103	12971.36	103.05	102.90 - 103.10	
115	5123.77	115.05	114.90 - 115.10	
205	14904.40	205.05	204.90 - 205.10	
206	4896.58	206.00	205.90 - 206.10	
207	4298.18	207.05	206.90 - 207.10	
208	10551.00	208.00	207.90 - 208.10	
238	23875.62	237.95	237.90 - 238.10	

Mass	W-50%	W-5%	W-5% (Required)	W-5% (Flag)
24	0.64	0.746	0.900	
25	0.63	0.770	0.900	
26	0.63	0.785	0.900	
59	0.61	0.765	0.900	
103	0.55	0.731	0.900	
115	0.55	0.749	0.900	
205	0.55	0.771	0.900	
206	0.56	0.766	0.900	
207	0.56	0.774	0.900	
208	0.55	0.777	0.900	
238	0.60	0.854	0.900	

Integration Time [sec] 0.1

Acquisition Time [sec] 283.400000000001

Y Axis Linear

Tune Parameters

Plasma Parameters

Plasma Mode --- Nebulizer Gas Dilution Gas 0.23 L/min

US EPA Tune Check Report

RF Power	1550 W	Option Gas	---	Auxiliary Gas	0.90 L/min
RF Matching		Nebulizer Pump		Plasma Gas	15.0 L/min
Sample Depth	8.0 mm	S/C Temp			

Lens Parameters

Extract 1	0.0 V	Omega Lens	9.9 V	Deflect	-0.2 V
Extract 2	-180.0 V	Cell Entrance	-36 V	Plate Bias	-60 V
Omega Bias	-95 V	Cell Exit	-62 V		

Cell Parameters

Use Gas	Yes	3rd Gas Flow	---	Energy Discrimination	3.0 V
He Flow	5.0 mL/min	OctP Bias	-18.0 V		
H2 Flow	0.0 mL/min	OctP RF	200 V		

QP Parameters

Mass Gain	147	Axis Gain	1.0028	QP Bias	-15.0 V
Mass Offset	126	Axis Offset	0.06		

Hardware Settings

EM

Discriminator	4.5 mV	Analog HV	1662 V	Pulse HV	1460 V

Torch

Torch H	-1.0 mm	Torch V	1.5 mm		

[No Gas]

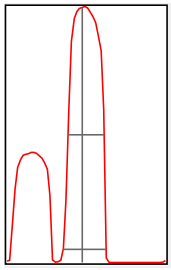
Sensitivity

Mass	Conc. [ug/l]	Count	CPS	RSD%	RSD% (Required)	RSD% (Flag)
7	10.00	10808	108075.27	0.512	5.000	

Mass	Rep#1 Count	Rep#2 Count	Rep#3 Count	Rep#4 Count	Rep#5 Count
7	10800	10869	10735	10856	10777

Integration Time [sec] 0.1

Resolution/Axis



Mass	Peak Height	Axis	Axis (Required)	Axis (Flag)
7	16468.76	6.95	6.90 - 7.10	

Mass	W-50%	W-5%	W-5% (Required)	W-5% (Flag)
7	0.67	0.802	0.900	

Integration Time [sec] 0.1

US EPA Tune Check Report

Acquisition Time [sec]	36.9
Y Axis	Linear

Tune Parameters

Plasma Parameters

Plasma Mode	---	Nebulizer Gas		Dilution Gas	0.23 L/min
RF Power	1550 W	Option Gas	---	Auxiliary Gas	0.90 L/min
RF Matching		Nebulizer Pump		Plasma Gas	15.0 L/min
Sample Depth	8.0 mm	S/C Temp			

Lens Parameters

Extract 1	0.0 V	Omega Lens	9.6 V	Deflect	15.6 V
Extract 2	-170.0 V	Cell Entrance	-20 V	Plate Bias	-50 V
Omega Bias	-80 V	Cell Exit	-52 V		

Cell Parameters

Use Gas	No	3rd Gas Flow	---	Energy Discrimination	3.0 V
He Flow	0.0 mL/min	OctP Bias	-8.0 V		
H2 Flow	0.0 mL/min	OctP RF	200 V		

QP Parameters

Mass Gain	147	Axis Gain	1.0028	QP Bias	-5.0 V
Mass Offset	126	Axis Offset	0.06		

Hardware Settings

EM

Discriminator	4.5 mV	Analog HV	1662 V	Pulse HV	1460 V

Torch

Torch H	-1.0 mm	Torch V	1.5 mm		

	Mass (Custom Setting)	Element Name	Current Value	Retain Mass for Startup
	6	Li-6 Internal standard	0.093620	☐
	9	Be	0.107632	☐
	23	Na	0.117100	☐
	24	Mg	0.123283	☐
	27	Al	0.127783	☐
	39	K	0.131101	☐
	44	Ca	Signal too low	☐
	45	Sc	0.131835	☐
	48	Ti	0.133716	☑
	51	V	0.136477	☐
	52	Cr	0.138133	☐
	55	Mn	0.140617	☐
	56	Fe	0.132582	☐
	59	Co	0.144908	☐
	60	Ni	0.146272	☐
	63	Cu	0.148955	☐
	66	Zn	0.148890	☐
	72	Ge Internal standard	0.147656	☐
	75	As	0.146534	☐
	77	Se	Signal too low	☑
	78	Se	Signal too low	☐
	82	Se	Signal too low	☐
	88	Sr	0.151870	☐
	95	Mo	0.147127	☐
	98	Ru	0.148535	☑

	Mass (Custom Setting)	Element Name	Current Value	Retain Mass for Startup
	101	Ru	0.150536	☑
	102	Ru	0.151783	☑
	105	Pd	0.154891	☑
	106	Pd	0.155880	☑
	107	Ag	Signal too low	☐
	111	Cd	0.156333	☐
	114	(Cd)	0.162085	☐
	115	In Internal standard	0.161643	☐
	118	(In)	0.156826	☐
	121	Sb	0.161116	☐
	137	Ba	0.158027	☐
	138	Ba	0.163252	☑
	193	Ir Internal standard	0.171318	☐
	205	Tl	0.173221	☐
	208	Pb	0.173889	☐
	209	Bi	0.173634	☐
	232	Th	0.173101	☐
	238	U	0.173048	☐

Sample Report

Sample Table

Sample Name	rinse-7966060
Data File Name	001SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\ALL122023.b
Acq Date Time	2023-12-20T11:43:47-07:00
Analyst	Denver Metals
Sample Type	Sample
Dilution	1
Comment	
ISTD Ref FileName	
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

Sample Report

Sample Table

Sample Name	rinse-7966060
Data File Name	002SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\ALL122023.b
Acq Date Time	2023-12-20T11:47:20-07:00
Analyst	Denver Metals
Sample Type	Sample
Dilution	1
Comment	
ISTD Ref FileName	
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

Sample Report

Sample Table

Sample Name	rinse-7966060
Data File Name	003SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\ALL122023.b
Acq Date Time	2023-12-20T11:50:53-07:00
Analyst	Denver Metals
Sample Type	Sample
Dilution	1
Comment	
ISTD Ref FileName	
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

Sample Report

Sample Table

Sample Name	rinse-7966060
Data File Name	004SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\ALL122023.b
Acq Date Time	2023-12-20T11:54:27-07:00
Analyst	Denver Metals
Sample Type	Sample
Dilution	1
Comment	
ISTD Ref FileName	
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

Sample Report

Sample Table

Sample Name	rinse-7966060
Data File Name	005SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\ALL122023.b
Acq Date Time	2023-12-20T11:58:01-07:00
Analyst	Denver Metals
Sample Type	Sample
Dilution	1
Comment	
ISTD Ref FileName	
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

Sample Report

Sample Table

Sample Name	rinse-7966060
Data File Name	006SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\ALL122023.b
Acq Date Time	2023-12-20T12:01:35-07:00
Analyst	Denver Metals
Sample Type	Sample
Dilution	1
Comment	
ISTD Ref FileName	
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

Sample Report

Sample Table

Sample Name	rinse-7966060
Data File Name	007SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\ALL122023.b
Acq Date Time	2023-12-20T12:05:08-07:00
Analyst	Denver Metals
Sample Type	Sample
Dilution	1
Comment	
ISTD Ref FileName	
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

Sample Report

Sample Table

Sample Name	rinse-7966060
Data File Name	008SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\ALL122023.b
Acq Date Time	2023-12-20T12:08:42-07:00
Analyst	Denver Metals
Sample Type	Sample
Dilution	1
Comment	
ISTD Ref FileName	
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

Sample Report

Sample Table

Sample Name	rinse-7966060
Data File Name	009SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\ALL122023.b
Acq Date Time	2023-12-20T12:48:18-07:00
Analyst	Denver Metals
Sample Type	Sample
Dilution	1
Comment	
ISTD Ref FileName	
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

Sample Report

Sample Table

Sample Name	rinse-7966060
Data File Name	010SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\ALL122023.b
Acq Date Time	2023-12-20T12:51:51-07:00
Analyst	Denver Metals
Sample Type	Sample
Dilution	1
Comment	
ISTD Ref FileName	
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

Calibration Blank Report

Sample Table

Sample Name	ICIS-8120901
Data File Name	011CALB.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\ALL122023.b
Acq Date Time	2023-12-20T12:55:23-07:00
Sample Type	CalBlk
Level	1
Dilution	1
Comment	

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD
Li	7	3	No Gas	1616689	0.00
Be	9	1	HMI H2	47	173.84
B	11	1	HMI H2	897	0.31
Na	23	2	HMI He	33671	0.01
Mg	24	2	HMI He	330	6.43
Al	27	2	HMI He	113	19.59
K	39	2	HMI He	37613	0.00
Ti	47	2	HMI He	3	5196.15
V	51	2	HMI He	910	1.15
Cr	52	2	HMI He	1403	0.77
Mn	55	2	HMI He	227	9.60
(Fe)	57	2	HMI He	377	2.85
Co	59	2	HMI He	200	10.90
Ni	60	2	HMI He	3200	0.34
Cu	63	2	HMI He	5238	0.20
Zn	66	2	HMI He	510	1.92
As	75	2	HMI He	68	20.06
Se	78	1	HMI H2	27	171.85
Sr	88	2	HMI He	50	144.22
Zr	90	2	HMI He	943	1.63
Mo	95	2	HMI He	33	51.96
Ag	107	2	HMI He	90	80.96
Cd	111	2	HMI He	20	433.01
Sn	120	2	HMI He	1277	0.44
Sb	121	2	HMI He	207	8.86
Ba	137	2	HMI He	40	125.00
W	182	2	HMI He	1907	0.23
Tl	205	2	HMI He	1343	0.45
Pb	208	2	HMI He	2900	0.35
Th	232	2	HMI He	18606	0.02
U	238	2	HMI He	5798	0.03

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD
Li-6 Internal standard	6	1	HMI H2	411344	1.00
Sc (IS)	45	1	HMI H2	22917790	0.14
Sc (IS)	45	2	HMI He	1516723	2.85
Sc (IS)	45	3	No Gas	41024185	1.01
Ge Internal standard	72	1	HMI H2	12652196	1.20
Ge Internal standard	72	2	HMI He	1875787	2.23
In Internal standard	115	2	HMI He	6240443	2.00
Ho-165	165	2	HMI He	26150289	1.65
Ir (IS)	193	2	HMI He	19490488	0.69

Calibration Standard Report

Sample Table

Sample Name	IC-8120916
Data File Name	012CALS.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\ALL122023.b
Acq Date Time	2023-12-20T12:58:57-07:00
Sample Type	CalStd
Level	4
Dilution	1
Comment	cal 4 (Na, K, Mg, Ca only)
ISTD Ref File Name	011CALB.d
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Concentration	ConcentrationUnits
Li	7	3	No Gas	1587552	0.00		ppb
Be	9	1	HMI H2	60	27.78		ppb
B	11	1	HMI H2	927	2.60		ppb
Na	23	2	HMI He	30209815	0.00	100000	ppb
Mg	24	2	HMI He	2816767	0.00	20000	ppb
Al	27	2	HMI He	267	2.93		ppb
K	39	2	HMI He	1998621	0.00	20000	ppb
Ti	47	2	HMI He	0	#VALUE!		ppb
V	51	2	HMI He	1027	1.47		ppb
Cr	52	2	HMI He	1640	0.35		ppb
Mn	55	2	HMI He	357	5.52		ppb
(Fe)	57	2	HMI He	567	2.50		ppb
Co	59	2	HMI He	300	6.19		ppb
Ni	60	2	HMI He	2937	0.16		ppb
Cu	63	2	HMI He	6281	0.07		ppb
Zn	66	2	HMI He	943	0.51		ppb
As	75	2	HMI He	55	64.06		ppb
Se	78	1	HMI H2	20	173.21		ppb
Sr	88	2	HMI He	657	1.17		ppb
Zr	90	2	HMI He	1163	1.64		ppb
Mo	95	2	HMI He	130	21.34		ppb
Ag	107	2	HMI He	83	22.00		ppb
Cd	111	2	HMI He	27	292.73		ppb
Sn	120	2	HMI He	1623	0.31		ppb
Sb	121	2	HMI He	237	5.45		ppb
Ba	137	2	HMI He	437	5.09		ppb
W	182	2	HMI He	2167	0.38		ppb
Tl	205	2	HMI He	1097	0.97		ppb
Pb	208	2	HMI He	4060	0.04		ppb
Th	232	2	HMI He	18866	0.04		ppb
U	238	2	HMI He	6859	0.07		ppb

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal standard	6	1	HMI H2	385325	0.88	411344	93.67	60	120	
Sc (IS)	45	1	HMI H2	22462535	0.44	22917790	98.01	60	120	
Sc (IS)	45	2	HMI He	1457464	0.85	1516723	96.09	60	120	
Sc (IS)	45	3	No Gas	40064844	0.60	41024185	97.66	60	120	
Ge Internal standard	72	1	HMI H2	12075124	0.50	12652196	95.44	60	120	
Ge Internal standard	72	2	HMI He	1775766	1.98	1875787	94.67	60	120	
In Internal standard	115	2	HMI He	5953849	1.34	6240443	95.41	60	120	
Ho-165	165	2	HMI He	25848875	1.16	26150289	98.85	60	120	
Ir (IS)	193	2	HMI He	19226488	0.96	19490488	98.65	60	120	

Calibration Standard Report

Sample Table

Sample Name	IC-8120902
Data File Name	013CALS.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\ALL122023.b
Acq Date Time	2023-12-20T13:02:28-07:00
Sample Type	CalStd
Level	3
Dilution	1
Comment	cal1 (No Na, K, Mg, Ca)
ISTD Ref File Name	011CALB.d
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Concentration	ConcentrationUnits
Li	7	3	No Gas	4333036	0.00	200	ppb
Be	9	1	HMI H2	41587	0.00	100	ppb
B	11	1	HMI H2	321084	0.00	1000	ppb
Na	23	2	HMI He	628815	0.00	1946.4811677326	ppb
Mg	24	2	HMI He	279059	0.00	1950.68528206644	ppb
Al	27	2	HMI He	77888	0.00	2000	ppb
K	39	2	HMI He	213120	0.00	1772.63827818969	ppb
Ti	47	2	HMI He	4231	0.22	100	ppb
V	51	2	HMI He	151036	0.00	100	ppb
Cr	52	2	HMI He	204485	0.00	100	ppb
Mn	55	2	HMI He	90917	0.00	100	ppb
(Fe)	57	2	HMI He	85385	0.00	2000	ppb
Co	59	2	HMI He	337901	0.00	100	ppb
Ni	60	2	HMI He	100368	0.00	100	ppb
Cu	63	2	HMI He	275165	0.00	100	ppb
Zn	66	2	HMI He	49244	0.01	100	ppb
As	75	2	HMI He	35619	0.01	100	ppb
Se	78	1	HMI H2	31871	0.01	100	ppb
Sr	88	2	HMI He	211440	0.00	200	ppb
Zr	90	2	HMI He	2030	0.49	100	ppb
Mo	95	2	HMI He	137457	0.00	100	ppb
Ag	107	2	HMI He	467123	0.00	100	ppb
Cd	111	2	HMI He	68410	0.00	100	ppb
Sn	120	2	HMI He	173935	0.00	100	ppb
Sb	121	2	HMI He	177670	0.00	100	ppb
Ba	137	2	HMI He	57697	0.00	100	ppb
W	182	2	HMI He	587062	0.00	100	ppb
Tl	205	2	HMI He	1223226	0.00	100	ppb
Pb	208	2	HMI He	1648579	0.00	100	ppb
Th	232	2	HMI He	2199678	0.00	100	ppb
U	238	2	HMI He	2310604	0.00	100	ppb

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal standard	6	1	HMI H2	403743	0.36	411344	98.15	60	120	
Sc (IS)	45	1	HMI H2	22657478	0.93	22917790	98.86	60	120	
Sc (IS)	45	2	HMI He	1479167	2.50	1516723	97.52	60	120	
Sc (IS)	45	3	No Gas	39984432	0.98	41024185	97.47	60	120	
Ge Internal standard	72	1	HMI H2	12566708	0.60	12652196	99.32	60	120	
Ge Internal standard	72	2	HMI He	1826152	2.51	1875787	97.35	60	120	
In Internal standard	115	2	HMI He	6107681	1.00	6240443	97.87	60	120	
Ho-165	165	2	HMI He	26243643	0.90	26150289	100.36	60	120	
Ir (IS)	193	2	HMI He	19370576	1.17	19490488	99.38	60	120	

Initial Calibration Verification (ICV) Report

Sample Table

Sample Name	ICV-8120918
Data File Name	014_ICV.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\ALL122023.b
Acq Date Time	2023-12-20T13:06:00-07:00
Sample Type	ICV
Dilution	1
Comment	
ISTD Ref File Name	011CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	Conc %RSD	CPS	Exp Value	%Rec	%Low	%High	QC Flag
Li	7	3	45	121.054	ppb	4.252	3254727	80	151.3	90	110	>+\-10%
Be	9	1	6	39.893	ppb	3.841	16402	40	99.7	90	110	
B	11	1	6	860.337	ppb	2.388	272771	400	215.1	90	110	>+\-10%
Na	23	2	45	13054.475	ppb	1.235	4041243	12800	102.0	90	110	
Mg	24	2	45	4717.143	ppb	0.201	676241	4800	98.3	90	110	
Al	27	2	45	817.673	ppb	1.523	32004	800	102.2	90	110	
K	39	2	45	4318.758	ppb	0.783	468018	4800	90.0	90	110	>+\-10%
Ca	40	1	45	4832.088	ppb	0.854	19553995	4800	100.7	90	110	
(Ca)	44	1	45	4683.522	ppb	0.570	602446	4800	97.6	10	110	
V	51	2	72	41.691	ppb	0.386	63237	40	104.2	90	110	
Cr	52	2	72	40.980	ppb	1.674	84285	40	102.5	90	110	
Mn	55	2	72	41.339	ppb	2.898	37553	40	103.3	90	110	
Fe	56	1	72	814.156	ppb	0.182	6175836	800	101.8	90	110	
(Fe)	56	2	72	836.174	ppb	1.501	1390591	800	104.5	90	110	
(Fe)	57	2	72	820.387	ppb	3.785	35081	800	102.5	90	110	
Co	59	2	72	40.184	ppb	1.268	135348	40	100.5	90	110	
Ni	60	2	72	40.430	ppb	1.222	42265	40	101.1	90	110	
Cu	63	2	72	40.836	ppb	1.225	114912	40	102.1	90	110	
Zn	66	2	72	81.856	ppb	1.039	40243	80	102.3	90	110	
As	75	2	72	42.224	ppb	1.871	15015	40	105.6	90	110	
Se	78	1	72	41.595	ppb	2.644	13004	40	104.0	90	110	
Sr	88	2	72	124.873	ppb	0.536	131537	80	156.1	90	110	>+\-10%
Zr	90	2	72	27.008	ppb	25.548	1213	40	67.5	90	110	>+\-10%
Mo	95	2	115	41.765	ppb	1.442	56814	40	104.4	90	110	
Ag	107	2	115	84.344	ppb	1.083	389867	80	105.4	90	110	
Cd	111	2	115	41.579	ppb	4.456	28162	40	103.9	90	110	
Sn	120	2	115	41.484	ppb	1.789	72130	40	103.7	90	110	
Sb	121	2	115	43.504	ppb	1.247	76601	40	108.8	90	110	
Ba	137	2	115	41.416	ppb	0.573	23669	40	103.5	90	110	
Tl	205	2	165	40.930	ppb	0.991	499450	40	102.3	90	110	
Pb	208	2	165	40.991	ppb	1.461	674742	40	102.5	90	110	
Th	232	2	193	81.586	ppb	1.661	1788505	80	102.0	90	110	
U	238	2	193	37.574	ppb	0.288	867348	40	93.9	90	110	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal standard	6	1	HMI H2	398615	1.75	411344	96.91	60	120	
Sc (IS)	45	1	HMI H2	22375267	1.20	22917790	97.63	60	120	
Sc (IS)	45	2	HMI He	1483092	1.80	1516723	97.78	60	120	
Sc (IS)	45	3	No Gas	40110540	0.88	41024185	97.77	60	120	
Ge Internal standard	72	1	HMI H2	12313902	0.76	12652196	97.33	60	120	
Ge Internal standard	72	2	HMI He	1818633	2.23	1875787	96.95	60	120	
In Internal standard	115	2	HMI He	6043515	1.60	6240443	96.84	60	120	
Ho-165	165	2	HMI He	26138587	1.40	26150289	99.96	60	120	
Ir (IS)	193	2	HMI He	19269425	1.29	19490488	98.87	60	120	

Initial Calibration Blank (ICB) Report

Sample Table

Sample Name	ICB-8120901
Data File Name	015_ICB.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\ALL122023.b
Acq Date Time	2023-12-20T13:09:32-07:00
Sample Type	ICB
Dilution	1
Comment	
ISTD Ref File Name	011CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Conc	Units	Conc %RSD	CPS	Upper Limit	QC Flag
Li	7	3	3.082	ppb	35.0	1653287	10	
Be	9	1	-0.005	ppb	-772.0	43	0.5	
B	11	1	36.247	ppb	2.5	12351	0.5	>RL
Na	23	2	11.592	ppb	26.9	36233	25	
Mg	24	2	3.641	ppb	5.9	840	25	
Al	27	2	3.444	ppb	15.5	243	15	
K	39	2	-2.716	ppb	-91.5	36290	50	
Ti	47	2	0.240	ppb	57.0	13	0.5	
V	51	2	0.232	ppb	50.3	1250	1	
Cr	52	2	0.040	ppb	103.8	1463	1	
Mn	55	2	0.089	ppb	38.6	303	0.5	
(Fe)	57	2	3.468	ppb	88.3	520	25	
Co	59	2	0.015	ppb	150.8	247	0.5	
Ni	60	2	-0.526	ppb	-77.9	2627	1	
Cu	63	2	-0.433	ppb	-22.0	3967	1	
Zn	66	2	-0.295	ppb	-5.4	357	5	
As	75	2	0.032	ppb	184.7	78	1	
Se	78	1	-0.011	ppb	-347.6	23	1	
Sr	88	2	0.072	ppb	65.1	127	0.5	
Zr	90	2	2.397	ppb	402.7	953	1	>RL
Mo	95	2	0.158	ppb	11.8	247	0.5	
Ag	107	2	0.039	ppb	36.0	267	1	
Cd	111	2	-0.014	ppb	-185.8	10	0.5	
Sn	120	2	0.313	ppb	29.1	1767	1	
Sb	121	2	0.206	ppb	31.1	560	0.6	
Ba	137	2	0.061	ppb	82.8	73	0.5	
W	182	2	0.086	ppb	64.3	2440	1	
Tl	205	2	0.052	ppb	18.7	2000	0.1	
Pb	208	2	-0.008	ppb	-48.4	2810	0.5	
Th	232	2	1.939	ppb	4.4	61885	1	>RL
U	238	2	0.043	ppb	28.0	6865	0.5	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal standard	6	1	HMI H2	399330	1.48	411344	97.08	60	120	
Sc (IS)	45	1	HMI H2	22352333	1.88	22917790	97.53	60	120	
Sc (IS)	45	2	HMI He	1473073	0.53	1516723	97.12	60	120	
Sc (IS)	45	3	No Gas	40853204	0.67	41024185	99.58	60	120	
Ge Internal standard	72	1	HMI H2	12398731	1.30	12652196	98.00	60	120	
Ge Internal standard	72	2	HMI He	1844881	1.15	1875787	98.35	60	120	
In Internal standard	115	2	HMI He	6028009	0.08	6240443	96.60	60	120	
Ho-165	165	2	HMI He	26483508	1.14	26150289	101.27	60	120	
Ir (IS)	193	2	HMI He	19713670	1.58	19490488	101.15	60	120	

Low Level Initial Calibration Verification (LLICV) Report

Sample Table

Sample Name	CRI-8120919
Data File Name	016LICV.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\ALL122023.b
Acq Date Time	2023-12-20T13:13:05-07:00
Sample Type	LLICV
Dilution	1
Comment	
ISTD Ref File Name	011CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	Units	Conc %RSD	CPS	Exp Value	%Rec	%Low	%High	QC Flag
Li	7	3	45	11.797	ppb	23.790	1770894	10	118.0	80	120	
Be	9	1	6	1.091	ppb	11.472	493	1	109.1	80	120	
B	11	1	6	121.358	ppb	5.037	39292	10	1213.6	80	120	>+/-30%
Na	23	2	45	298.649	ppb	1.776	125864	300	99.5	80	120	
Mg	24	2	45	48.389	ppb	5.753	7332	50	96.8	80	120	
Al	27	2	45	49.555	ppb	3.581	2064	50	99.1	80	120	
K	39	2	45	94.693	ppb	10.834	46719	120	78.9	80	120	>+/-30%
Ca	40	1	45	205.501	ppb	0.607	937516	200	102.8	80	120	
V	51	2	72	5.414	ppb	0.286	9170	5	108.3	80	120	
Cr	52	2	72	2.104	ppb	4.620	5735	2	105.2	80	120	
Mn	55	2	72	1.107	ppb	13.809	1243	1	110.7	80	120	
Fe	56	1	72	55.147	ppb	1.323	497172	50	110.3	80	120	
(Fe)	57	2	72	50.935	ppb	3.510	2574	50	101.9	80	120	
Co	59	2	72	1.000	ppb	5.839	3634	1	100.0	80	120	
Ni	60	2	72	1.585	ppb	11.161	4731	2	79.2	80	120	>+/-30%
Cu	63	2	72	1.549	ppb	5.433	9433	2	77.5	80	120	>+/-30%
Zn	66	2	72	10.389	ppb	6.012	5658	10	103.9	80	120	
As	75	2	72	5.516	ppb	3.706	2061	5	110.3	80	120	
Se	78	1	72	5.305	ppb	10.427	1721	5	106.1	80	120	
Sr	88	2	72	5.223	ppb	4.711	5668	5	104.5	80	120	
Zr	90	2	72	27.045	ppb	67.659	1237	0.5	5408.9	80	120	>+/-30%
Mo	95	2	115	2.170	ppb	7.949	3024	2	108.5	80	120	
Ag	107	2	115	1.033	ppb	4.965	4928	1	103.3	80	120	
Cd	111	2	115	1.118	ppb	8.117	787	1	111.8	80	120	
Sn	120	2	115	10.390	ppb	1.140	19262	10	103.9	80	120	
Sb	121	2	115	2.284	ppb	9.492	4274	2	114.2	80	120	
Ba	137	2	115	1.108	ppb	32.495	680	1	110.8	80	120	
Tl	205	2	165	0.981	ppb	2.232	13363	1	98.1	80	120	
Pb	208	2	165	1.005	ppb	5.355	19482	1	100.5	80	120	
Th	232	2	193	1.463	ppb	3.023	50769	1	146.3	80	120	>+/-30%
U	238	2	193	0.964	ppb	3.437	28188	1	96.4	80	120	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal standard	6	1	HMI H2	399284	0.68	411344	97.07	60	120	
Sc (IS)	45	1	HMI H2	22773229	0.46	22917790	99.37	60	120	
Sc (IS)	45	2	HMI He	1497869	0.79	1516723	98.76	60	120	
Sc (IS)	45	3	No Gas	40742585	1.91	41024185	99.31	60	120	
Ge Internal standard	72	1	HMI H2	12610828	0.31	12652196	99.67	60	120	
Ge Internal standard	72	2	HMI He	1856806	2.23	1875787	98.99	60	120	
In Internal standard	115	2	HMI He	6130111	1.10	6240443	98.23	60	120	
Ho-165	165	2	HMI He	26298109	1.46	26150289	100.57	60	120	
Ir (IS)	193	2	HMI He	19515867	1.35	19490488	100.13	60	120	

Sample Report

Sample Table

Sample Name	rinse-7966060
Data File Name	017SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\ALL122023.b
Acq Date Time	2023-12-20T13:17:14-07:00
Analyst	Denver Metals
Sample Type	Sample
Dilution	1
Comment	
ISTD Ref FileName	011CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	3	45	3.894	ppb	3.894	35.96	1706807	50000	
Be	9	1	6	-0.047	ppb	-0.047	-58.31	27	2000	
B	11	1	6	7.954	ppb	7.954	7.94	3504	2000	
Na	23	2	45	-16.750	ppb	-16.750	-14.84	28802	400000	
Mg	24	2	45	1.166	ppb	1.166	48.65	510	400000	
Al	27	2	45	2.796	ppb	2.796	75.35	227	400000	
Si	28	2	45	-7.708	ppb	-7.708	-45.41	10907	10000	
P	31	2	45	-2.802	ppb	-2.802	-126.01	47	10000	
K	39	2	45	-24.925	ppb	-24.925	-45.16	35558	400000	
Ca	40	1	45	-5.984	ppb	-5.984	-7.36	72917	400000	
Ti	47	2	45	0.226	ppb	0.226	151.54	13	4000	
V	51	2	72	-0.380	ppb	-0.380	-5.43	327	2000	
Cr	52	2	72	-0.216	ppb	-0.216	-25.18	957	5000	
Mn	55	2	72	0.087	ppb	0.087	89.63	310	10000	
Fe	56	1	72	11.315	ppb	11.315	1.93	163234	10000	
(Fe)	57	2	72	13.170	ppb	13.170	22.18	953	400000	
Co	59	2	72	0.004	ppb	0.004	750.71	213	2000	
Ni	60	2	72	-0.607	ppb	-0.607	-46.81	2597	5000	
Cu	63	2	72	-0.983	ppb	-0.983	-4.65	2510	5000	
Zn	66	2	72	0.054	ppb	0.054	251.56	540	5000	
As	75	2	72	-0.088	ppb	-0.088	-23.18	36	2000	
Se	78	1	72	-0.058	ppb	-0.058	-41.98	8	2000	
Sr	88	2	72	0.079	ppb	0.079	74.08	137	4000	
Zr	90	2	72	3.956	ppb	3.956	326.77	993	1000	
Mo	95	2	115	0.021	ppb	0.021	98.82	63	2000	
Ag	107	2	115	0.001	ppb	0.001	361.84	97	100	
Cd	111	2	115	-0.019	ppb	-0.019	-42.47	7	2000	
Sn	120	2	115	-0.284	ppb	-0.284	-3.69	790	2000	
Sb	121	2	115	0.013	ppb	0.013	416.73	233	1000	
Ba	137	2	115	0.054	ppb	0.054	75.61	73	5000	
W	182	2	165	-0.053	ppb	-0.053	-37.98	1660	100	
Tl	205	2	165	-0.055	ppb	-0.055	-4.65	693	2000	
Pb	208	2	165	-0.023	ppb	-0.023	-7.15	2624	5000	
Th	232	2	193	-0.092	ppb	-0.092	-24.29	17167	2000	
U	238	2	193	0.013	ppb	0.013	85.94	6315	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal standard	6	1	HMI H2	412727	0.75	411344	100.34	60	120	
Sc (IS)	45	1	HMI H2	23526771	1.08	22917790	102.66	60	120	
Sc (IS)	45	2	HMI He	1537313	2.10	1516723	101.36	60	120	
Sc (IS)	45	3	No Gas	41884927	0.19	41024185	102.10	60	120	
Ge Internal standard	72	1	HMI H2	12815286	0.49	12652196	101.29	60	120	
Ge Internal standard	72	2	HMI He	1882041	3.04	1875787	100.33	60	120	
In Internal standard	115	2	HMI He	6351119	1.14	6240443	101.77	60	120	
Ho-165	165	2	HMI He	27104242	1.07	26150289	103.65	60	120	
Ir (IS)	193	2	HMI He	20168583	0.34	19490488	103.48	60	120	

Sample Report

Sample Table

Sample Name	rinse-7966060
Data File Name	018SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\ALL122023.b
Acq Date Time	2023-12-20T13:20:50-07:00
Analyst	Denver Metals
Sample Type	Sample
Dilution	1
Comment	
ISTD Ref FileName	011CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	3	45	2.442	ppb	2.442	71.32	1682441	50000	
Be	9	1	6	-0.007	ppb	-0.007	-514.18	43	2000	
B	11	1	6	5.100	ppb	5.100	12.55	2547	2000	
Na	23	2	45	-14.061	ppb	-14.061	-8.82	29563	400000	
Mg	24	2	45	1.969	ppb	1.969	25.18	627	400000	
Al	27	2	45	2.369	ppb	2.369	66.84	210	400000	
Si	28	2	45	-5.259	ppb	-5.259	-18.82	11508	10000	
P	31	2	45	1.463	ppb	1.463	245.23	64	10000	
K	39	2	45	-24.875	ppb	-24.875	-53.99	35458	400000	
Ca	40	1	45	-5.924	ppb	-5.924	-6.92	72402	400000	
Ti	47	2	45	0.373	ppb	0.373	120.49	20	4000	
V	51	2	72	-0.416	ppb	-0.416	-12.09	270	2000	
Cr	52	2	72	-0.227	ppb	-0.227	-10.50	927	5000	
Mn	55	2	72	0.134	ppb	0.134	12.52	350	10000	
Fe	56	1	72	11.225	ppb	11.225	1.49	162927	10000	
(Fe)	57	2	72	10.705	ppb	10.705	25.59	843	400000	
Co	59	2	72	-0.002	ppb	-0.002	-175.97	190	2000	
Ni	60	2	72	-0.582	ppb	-0.582	-26.35	2607	5000	
Cu	63	2	72	-0.961	ppb	-0.961	-2.17	2557	5000	
Zn	66	2	72	-0.255	ppb	-0.255	-68.58	380	5000	
As	75	2	72	-0.076	ppb	-0.076	-36.20	40	2000	
Se	78	1	72	-0.067	ppb	-0.067	-28.20	5	2000	
Sr	88	2	72	0.055	ppb	0.055	34.25	110	4000	
Zr	90	2	72	5.772	ppb	5.772	101.05	1003	1000	
Mo	95	2	115	0.016	ppb	0.016	110.58	57	2000	
Ag	107	2	115	-0.014	ppb	-0.014	-22.59	23	100	
Cd	111	2	115	-0.024	ppb	-0.024	-34.67	3	2000	
Sn	120	2	115	-0.345	ppb	-0.345	-11.27	680	2000	
Sb	121	2	115	-0.021	ppb	-0.021	-51.88	170	1000	
Ba	137	2	115	0.055	ppb	0.055	122.22	73	5000	
W	182	2	165	-0.084	ppb	-0.084	-25.88	1457	100	
Tl	205	2	165	-0.043	ppb	-0.043	-10.17	840	2000	
Pb	208	2	165	-0.009	ppb	-0.009	-118.38	2820	5000	
Th	232	2	193	-0.114	ppb	-0.114	-6.84	16637	2000	
U	238	2	193	-0.004	ppb	-0.004	-504.40	5905	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal standard	6	1	HMI H2	408780	1.66	411344	99.38	60	120	
Sc (IS)	45	1	HMI H2	23278010	0.64	22917790	101.57	60	120	
Sc (IS)	45	2	HMI He	1533183	2.87	1516723	101.09	60	120	
Sc (IS)	45	3	No Gas	41798921	0.24	41024185	101.89	60	120	
Ge Internal standard	72	1	HMI H2	12846520	0.36	12652196	101.54	60	120	
Ge Internal standard	72	2	HMI He	1868794	2.95	1875787	99.63	60	120	
In Internal standard	115	2	HMI He	6337502	1.40	6240443	101.56	60	120	
Ho-165	165	2	HMI He	26838373	1.16	26150289	102.63	60	120	
Ir (IS)	193	2	HMI He	20141931	1.47	19490488	103.34	60	120	

Sample Report

Sample Table

Sample Name	rinse-7966060
Data File Name	019SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\ALL122023.b
Acq Date Time	2023-12-20T13:24:25-07:00
Analyst	Denver Metals
Sample Type	Sample
Dilution	1
Comment	
ISTD Ref FileName	011CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	3	45	3.085	ppb	3.085	68.16	1697361	50000	
Be	9	1	6	-0.055	ppb	-0.055	-90.23	23	2000	
B	11	1	6	4.096	ppb	4.096	13.13	2237	2000	
Na	23	2	45	-15.698	ppb	-15.698	-16.30	29296	400000	
Mg	24	2	45	1.134	ppb	1.134	52.77	507	400000	
Al	27	2	45	3.569	ppb	3.569	28.02	260	400000	
Si	28	2	45	-5.519	ppb	-5.519	-24.16	11541	10000	
P	31	2	45	-1.708	ppb	-1.708	-121.67	51	10000	
K	39	2	45	-23.547	ppb	-23.547	-48.92	35909	400000	
Ca	40	1	45	-6.026	ppb	-6.026	-6.21	71615	400000	
Ti	47	2	45	0.072	ppb	0.072	356.63	7	4000	
V	51	2	72	-0.338	ppb	-0.338	-25.02	393	2000	
Cr	52	2	72	-0.238	ppb	-0.238	-7.54	920	5000	
Mn	55	2	72	0.121	ppb	0.121	40.32	343	10000	
Fe	56	1	72	11.532	ppb	11.532	3.28	164752	10000	
(Fe)	57	2	72	11.160	ppb	11.160	18.67	873	400000	
Co	59	2	72	-0.002	ppb	-0.002	-504.34	193	2000	
Ni	60	2	72	-0.552	ppb	-0.552	-38.77	2674	5000	
Cu	63	2	72	-0.905	ppb	-0.905	-3.73	2750	5000	
Zn	66	2	72	-0.157	ppb	-0.157	-119.82	437	5000	
As	75	2	72	-0.050	ppb	-0.050	-74.37	50	2000	
Se	78	1	72	-0.058	ppb	-0.058	-36.75	8	2000	
Sr	88	2	72	0.072	ppb	0.072	32.87	130	4000	
Zr	90	2	72	5.175	ppb	5.175	100.60	1013	1000	
Mo	95	2	115	0.000	ppb	0.000	-3376.56	33	2000	
Ag	107	2	115	-0.006	ppb	-0.006	-124.62	63	100	
Cd	111	2	115	-0.029	ppb	-0.029	0.00	0	2000	
Sn	120	2	115	-0.348	ppb	-0.348	-17.29	673	2000	
Sb	121	2	115	-0.027	ppb	-0.027	-87.98	160	1000	
Ba	137	2	115	0.105	ppb	0.105	30.60	103	5000	
W	182	2	165	-0.063	ppb	-0.063	-75.28	1583	100	
Tl	205	2	165	-0.059	ppb	-0.059	-9.72	650	2000	
Pb	208	2	165	-0.019	ppb	-0.019	-88.43	2674	5000	
Th	232	2	193	-0.104	ppb	-0.104	-31.05	16800	2000	
U	238	2	193	0.009	ppb	0.009	42.47	6185	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal standard	6	1	HMI H2	412014	0.63	411344	100.16	60	120	
Sc (IS)	45	1	HMI H2	23160995	0.89	22917790	101.06	60	120	
Sc (IS)	45	2	HMI He	1546335	2.18	1516723	101.95	60	120	
Sc (IS)	45	3	No Gas	41943987	0.88	41024185	102.24	60	120	
Ge Internal standard	72	1	HMI H2	12801933	0.21	12652196	101.18	60	120	
Ge Internal standard	72	2	HMI He	1896704	1.54	1875787	101.12	60	120	
In Internal standard	115	2	HMI He	6340618	1.76	6240443	101.61	60	120	
Ho-165	165	2	HMI He	26903707	0.40	26150289	102.88	60	120	
Ir (IS)	193	2	HMI He	20068093	0.60	19490488	102.96	60	120	

Calibration Blank Report

Sample Table

Sample Name	ICIS-8120901
Data File Name	020CALB.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\ALL122023.b
Acq Date Time	2023-12-20T13:27:59-07:00
Sample Type	CalBlk
Level	1
Dilution	1
Comment	

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD
Li	7	3	No Gas	1613630	0.00
Be	9	1	HMI H2	47	173.84
B	11	1	HMI H2	2484	0.43
Na	23	2	HMI He	33861	0.01
Mg	24	2	HMI He	303	5.14
Al	27	2	HMI He	100	52.91
K	39	2	HMI He	37506	0.01
Ti	47	2	HMI He	3	5196.15
V	51	2	HMI He	1190	1.35
Cr	52	2	HMI He	1357	0.58
Mn	55	2	HMI He	170	11.99
(Fe)	57	2	HMI He	440	2.37
Co	59	2	HMI He	250	9.73
Ni	60	2	HMI He	2707	0.42
Cu	63	2	HMI He	4111	0.13
Zn	66	2	HMI He	503	0.91
As	75	2	HMI He	86	23.37
Se	78	1	HMI H2	19	265.11
Sr	88	2	HMI He	100	52.92
Zr	90	2	HMI He	1053	1.47
Mo	95	2	HMI He	60	154.66
Ag	107	2	HMI He	57	129.65
Cd	111	2	HMI He	3	5196.15
Sn	120	2	HMI He	1083	1.50
Sb	121	2	HMI He	293	16.28
Ba	137	2	HMI He	73	56.81
W	182	2	HMI He	1777	0.05
Tl	205	2	HMI He	793	2.32
Pb	208	2	HMI He	2590	0.16
Th	232	2	HMI He	18142	0.01
U	238	2	HMI He	6012	0.08

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD
Li-6 Internal standard	6	1	HMI H2	403136	0.11
Sc (IS)	45	1	HMI H2	22841480	0.96
Sc (IS)	45	2	HMI He	1496308	1.71
Sc (IS)	45	3	No Gas	41056866	0.61
Ge Internal standard	72	1	HMI H2	12474010	0.35
Ge Internal standard	72	2	HMI He	1875279	1.49
In Internal standard	115	2	HMI He	6165359	0.40
Ho-165	165	2	HMI He	26417015	0.91
Ir (IS)	193	2	HMI He	19705390	0.32

Calibration Standard Report

Sample Table

Sample Name	IC-8120916
Data File Name	021CALS.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\ALL122023.b
Acq Date Time	2023-12-20T13:31:31-07:00
Sample Type	CalStd
Level	4
Dilution	1
Comment	cal 4 (Na, K, Mg, Ca only)
ISTD Ref File Name	020CALB.d
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Concentration	ConcentrationUnits
Li	7	3	No Gas	1544128	0.00	-2.69355179743488	ppb
Be	9	1	HMI H2	17	549.91	-0.0696187139034945	ppb
B	11	1	HMI H2	2390	0.11	0.204882606040215	ppb
Na	23	2	HMI He	30329297	0.00	100000	ppb
Mg	24	2	HMI He	2855297	0.00	20000	ppb
Al	27	2	HMI He	240	6.26	3.68434133212658	ppb
K	39	2	HMI He	2008146	0.00	20000	ppb
Ti	47	2	HMI He	13	859.23	0.239737829839247	ppb
V	51	2	HMI He	1110	1.58	-0.0143816484978109	ppb
Cr	52	2	HMI He	1660	0.42	0.18723823363206	ppb
Mn	55	2	HMI He	290	10.30	0.14420005817314	ppb
(Fe)	57	2	HMI He	547	1.18	3.10224577656751	ppb
Co	59	2	HMI He	237	14.32	-0.000656506133870926	ppb
Ni	60	2	HMI He	3224	0.28	0.681686113778506	ppb
Cu	63	2	HMI He	4924	0.18	0.383614546816055	ppb
Zn	66	2	HMI He	890	1.26	0.869169085551889	ppb
As	75	2	HMI He	73	29.81	-0.0248128851867266	ppb
Se	78	1	HMI H2	9	1155.59	-0.0286195585929606	ppb
Sr	88	2	HMI He	520	4.63	0.414652797293435	ppb
Zr	90	2	HMI He	1103	0.72	10.8053715670133	ppb
Mo	95	2	HMI He	143	21.95	0.0626537041171481	ppb
Ag	107	2	HMI He	153	30.17	0.0211865212699194	ppb
Cd	111	2	HMI He	20	250.00	0.0248357298132122	ppb
Sn	120	2	HMI He	1683	0.33	0.368074215836455	ppb
Sb	121	2	HMI He	200	19.52	-0.0490340233916287	ppb
Ba	137	2	HMI He	397	5.18	0.573820580841067	ppb
W	182	2	HMI He	1807	0.14	0.00800407505074176	ppb
Tl	205	2	HMI He	653	1.88	-0.0108625139807303	ppb
Pb	208	2	HMI He	3617	0.11	0.0642320529129729	ppb
Th	232	2	HMI He	18883	0.03	0.0449776444873956	ppb
U	238	2	HMI He	6258	0.08	0.0142899897903849	ppb

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal standard	6	1	HMI H2	378076	0.12	403136	93.78	60	120	
Sc (IS)	45	1	HMI H2	22531193	0.82	22841480	98.64	60	120	
Sc (IS)	45	2	HMI He	1470490	0.76	1496308	98.27	60	120	
Sc (IS)	45	3	No Gas	40238316	0.62	41056866	98.01	60	120	
Ge Internal standard	72	1	HMI H2	12103838	1.67	12474010	97.03	60	120	
Ge Internal standard	72	2	HMI He	1780706	2.42	1875279	94.96	60	120	
In Internal standard	115	2	HMI He	6019950	1.36	6165359	97.64	60	120	
Ho-165	165	2	HMI He	26165921	1.97	26417015	99.05	60	120	
Ir (IS)	193	2	HMI He	19435883	1.14	19705390	98.63	60	120	

Calibration Standard Report

Sample Table

Sample Name	IC-8120902
Data File Name	022CALS.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\ALL122023.b
Acq Date Time	2023-12-20T13:35:02-07:00
Sample Type	CalStd
Level	3
Dilution	1
Comment	cal1 (No Na, K, Mg, Ca)
ISTD Ref File Name	020CALB.d
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Concentration	ConcentrationUnits
Li	7	3	No Gas	4295131	0.00	200	ppb
Be	9	1	HMI H2	41571	0.00	100	ppb
B	11	1	HMI H2	319504	0.00	1000	ppb
Na	23	2	HMI He	633841	0.00	1997.78303688614	ppb
Mg	24	2	HMI He	277042	0.00	1952.87386062687	ppb
Al	27	2	HMI He	78654	0.00	2000	ppb
K	39	2	HMI He	216621	0.00	1839.79891289297	ppb
Ti	47	2	HMI He	4127	0.10	100	ppb
V	51	2	HMI He	151411	0.00	100	ppb
Cr	52	2	HMI He	205682	0.00	100	ppb
Mn	55	2	HMI He	92151	0.00	100	ppb
(Fe)	57	2	HMI He	85179	0.00	2000	ppb
Co	59	2	HMI He	341510	0.00	100	ppb
Ni	60	2	HMI He	102017	0.00	100	ppb
Cu	63	2	HMI He	279424	0.00	100	ppb
Zn	66	2	HMI He	49498	0.00	100	ppb
As	75	2	HMI He	35526	0.00	100	ppb
Se	78	1	HMI H2	31895	0.01	100	ppb
Sr	88	2	HMI He	214229	0.00	200	ppb
Zr	90	2	HMI He	1490	0.71	100	ppb
Mo	95	2	HMI He	136781	0.00	100	ppb
Ag	107	2	HMI He	474385	0.00	100	ppb
Cd	111	2	HMI He	70241	0.00	100	ppb
Sn	120	2	HMI He	175900	0.00	100	ppb
Sb	121	2	HMI He	180673	0.00	100	ppb
Ba	137	2	HMI He	59105	0.00	100	ppb
W	182	2	HMI He	595160	0.00	100	ppb
Tl	205	2	HMI He	1238502	0.00	100	ppb
Pb	208	2	HMI He	1664094	0.00	100	ppb
Th	232	2	HMI He	2219815	0.00	100	ppb
U	238	2	HMI He	2348877	0.00	100	ppb

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal standard	6	1	HMI H2	393869	1.41	403136	97.70	60	120	
Sc (IS)	45	1	HMI H2	22663125	0.16	22841480	99.22	60	120	
Sc (IS)	45	2	HMI He	1459836	1.50	1496308	97.56	60	120	
Sc (IS)	45	3	No Gas	40256329	0.67	41056866	98.05	60	120	
Ge Internal standard	72	1	HMI H2	12593144	0.69	12474010	100.96	60	120	
Ge Internal standard	72	2	HMI He	1851557	2.94	1875279	98.73	60	120	
In Internal standard	115	2	HMI He	6129052	1.20	6165359	99.41	60	120	
Ho-165	165	2	HMI He	26316043	1.36	26417015	99.62	60	120	
Ir (IS)	193	2	HMI He	19588699	0.47	19705390	99.41	60	120	

Initial Calibration Verification (ICV) Report

Sample Table

Sample Name	ICV-8120918
Data File Name	023_ICV.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\ALL122023.b
Acq Date Time	2023-12-20T13:38:34-07:00
Sample Type	ICV
Dilution	1
Comment	
ISTD Ref File Name	020CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	Conc %RSD	CPS	Exp Value	%Rec	%Low	%High	QC Flag
Li	7	3	45	117.835	ppb	3.279	3181499	80	147.3	90	110	>+\-10%
Be	9	1	6	39.729	ppb	3.110	16018	40	99.3	90	110	
B	11	1	6	874.252	ppb	1.116	270733	400	218.6	90	110	>+\-10%
Na	23	2	45	13087.382	ppb	1.239	4025076	12800	102.2	90	110	
Mg	24	2	45	4634.568	ppb	0.308	666413	4800	96.6	90	110	
Al	27	2	45	802.902	ppb	3.131	32091	800	100.4	90	110	
K	39	2	45	4334.898	ppb	0.322	467305	4800	90.3	90	110	
Ca	40	1	45	4855.606	ppb	1.243	19551521	4800	101.2	90	110	
(Ca)	44	1	45	4727.356	ppb	0.746	604508	4800	98.5	10	110	
V	51	2	72	42.335	ppb	1.070	63133	40	105.8	90	110	
Cr	52	2	72	42.298	ppb	0.954	85542	40	105.7	90	110	
Mn	55	2	72	41.508	ppb	1.090	37373	40	103.8	90	110	
Fe	56	1	72	811.787	ppb	0.531	6181948	800	101.5	90	110	
(Fe)	56	2	72	844.081	ppb	1.766	1381388	800	105.5	90	110	
(Fe)	57	2	72	806.871	ppb	1.466	33738	800	100.9	90	110	
Co	59	2	72	40.966	ppb	1.229	136470	40	102.4	90	110	
Ni	60	2	72	39.183	ppb	0.308	40547	40	98.0	90	110	
Cu	63	2	72	40.709	ppb	0.320	113213	40	101.8	90	110	
Zn	66	2	72	81.177	ppb	2.450	39274	80	101.5	90	110	
As	75	2	72	42.624	ppb	0.521	14807	40	106.6	90	110	
Se	78	1	72	41.231	ppb	3.200	12815	40	103.1	90	110	
Sr	88	2	72	124.400	ppb	1.218	129893	80	155.5	90	110	>+\-10%
Zr	90	2	72	42.060	ppb	16.358	1197	40	105.1	90	110	
Mo	95	2	115	42.642	ppb	0.850	57523	40	106.6	90	110	
Ag	107	2	115	83.138	ppb	0.857	388803	80	103.9	90	110	
Cd	111	2	115	40.114	ppb	1.666	27772	40	100.3	90	110	
Sn	120	2	115	40.538	ppb	2.116	70908	40	101.3	90	110	
Sb	121	2	115	42.653	ppb	1.395	76122	40	106.6	90	110	
Ba	137	2	115	39.350	ppb	2.500	22971	40	98.4	90	110	
Tl	205	2	165	40.084	ppb	0.268	496375	40	100.2	90	110	
Pb	208	2	165	40.787	ppb	0.854	679505	40	102.0	90	110	
Th	232	2	193	80.937	ppb	2.844	1784287	80	101.2	90	110	
U	238	2	193	37.562	ppb	1.906	878253	40	93.9	90	110	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal standard	6	1	HMI H2	381341	0.26	403136	94.59	60	120	
Sc (IS)	45	1	HMI H2	22319906	0.79	22841480	97.72	60	120	
Sc (IS)	45	2	HMI He	1480526	1.80	1496308	98.95	60	120	
Sc (IS)	45	3	No Gas	40273170	1.88	41056866	98.09	60	120	
Ge Internal standard	72	1	HMI H2	12263759	0.92	12474010	98.31	60	120	
Ge Internal standard	72	2	HMI He	1803942	1.38	1875279	96.20	60	120	
In Internal standard	115	2	HMI He	6041385	1.74	6165359	97.99	60	120	
Ho-165	165	2	HMI He	26286913	0.15	26417015	99.51	60	120	
Ir (IS)	193	2	HMI He	19417942	0.36	19705390	98.54	60	120	

Initial Calibration Blank (ICB) Report

Sample Table

Sample Name	ICB-8120901
Data File Name	024_ICB.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\ALL122023.b
Acq Date Time	2023-12-20T13:42:05-07:00
Sample Type	ICB
Dilution	1
Comment	
ISTD Ref File Name	020CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Conc	Units	Conc %RSD	CPS	Upper Limit	QC Flag
Li	7	3	1.824	ppb	47.4	1632631	10	
Be	9	1	0.004	ppb	1674.5	47	0.5	
B	11	1	34.228	ppb	2.7	13129	0.5	>RL
Na	23	2	8.163	ppb	34.5	35845	25	
Mg	24	2	4.907	ppb	13.3	1000	25	
Al	27	2	4.329	ppb	25.2	270	15	
K	39	2	-10.660	ppb	-139.4	35909	50	
Ti	47	2	0.476	ppb	75.2	23	0.5	
V	51	2	-0.034	ppb	-306.5	1110	1	
Cr	52	2	0.050	ppb	242.6	1423	1	
Mn	55	2	0.156	ppb	69.1	307	0.5	
(Fe)	57	2	-2.387	ppb	-85.3	330	25	
Co	59	2	0.022	ppb	71.3	320	0.5	
Ni	60	2	-0.300	ppb	-14.4	2347	1	
Cu	63	2	-0.212	ppb	-18.7	3437	1	
Zn	66	2	-0.265	ppb	-57.2	363	5	
As	75	2	-0.017	ppb	-244.1	78	1	
Se	78	1	0.077	ppb	83.1	43	1	
Sr	88	2	0.069	ppb	62.7	170	0.5	
Zr	90	2	-17.309	ppb	-224.7	950	1	
Mo	95	2	0.117	ppb	36.5	217	0.5	
Ag	107	2	0.043	ppb	17.8	257	1	
Cd	111	2	0.014	ppb	115.1	13	0.5	
Sn	120	2	0.276	ppb	39.1	1540	1	
Sb	121	2	0.149	ppb	28.5	553	0.6	
Ba	137	2	0.002	ppb	2660.4	73	0.5	
W	182	2	0.063	ppb	18.9	2134	1	
Tl	205	2	0.064	ppb	21.3	1570	0.1	
Pb	208	2	0.015	ppb	58.8	2807	0.5	
Th	232	2	1.675	ppb	3.2	55331	1	>RL
U	238	2	0.044	ppb	33.7	7069	0.5	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal standard	6	1	HMI H2	389426	0.70	403136	96.60	60	120	
Sc (IS)	45	1	HMI H2	22311516	0.65	22841480	97.68	60	120	
Sc (IS)	45	2	HMI He	1474572	1.50	1496308	98.55	60	120	
Sc (IS)	45	3	No Gas	40900909	1.66	41056866	99.62	60	120	
Ge Internal standard	72	1	HMI H2	12416164	0.84	12474010	99.54	60	120	
Ge Internal standard	72	2	HMI He	1829763	1.18	1875279	97.57	60	120	
In Internal standard	115	2	HMI He	6055420	1.10	6165359	98.22	60	120	
Ho-165	165	2	HMI He	26183711	0.69	26417015	99.12	60	120	
Ir (IS)	193	2	HMI He	19739145	0.22	19705390	100.17	60	120	

Low Level Initial Calibration Verification (LLICV) Report

Sample Table

Sample Name	CRI-8120919
Data File Name	025LICV.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\ALL122023.b
Acq Date Time	2023-12-20T13:45:40-07:00
Sample Type	LLICV
Dilution	1
Comment	
ISTD Ref File Name	020CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	Units	Conc %RSD	CPS	Exp Value	%Rec	%Low	%High	QC Flag
Li	7	3	45	10.095	ppb	11.543	1746618	10	101.0	80	120	
Be	9	1	6	1.003	ppb	20.416	460	1	100.3	80	120	
B	11	1	6	113.637	ppb	4.151	38276	10	1136.4	80	120	>+/-30%
Na	23	2	45	296.817	ppb	1.442	123609	300	98.9	80	120	
Mg	24	2	45	49.289	ppb	1.097	7359	50	98.6	80	120	
Al	27	2	45	46.618	ppb	6.492	1950	50	93.2	80	120	
K	39	2	45	94.962	ppb	7.554	46385	120	79.1	80	120	>+/-30%
Ca	40	1	45	202.622	ppb	1.430	919810	200	101.3	80	120	
V	51	2	72	5.176	ppb	4.342	8999	5	103.5	80	120	
Cr	52	2	72	2.144	ppb	3.751	5751	2	107.2	80	120	
Mn	55	2	72	1.217	ppb	11.141	1293	1	121.7	80	120	>+/-30%
Fe	56	1	72	54.160	ppb	0.578	488291	50	108.3	80	120	
(Fe)	57	2	72	49.265	ppb	24.089	2534	50	98.5	80	120	
Co	59	2	72	1.029	ppb	5.069	3781	1	102.9	80	120	
Ni	60	2	72	1.552	ppb	5.779	4237	2	77.6	80	120	>+/-30%
Cu	63	2	72	1.874	ppb	1.447	9270	2	93.7	80	120	
Zn	66	2	72	9.722	ppb	8.321	5294	10	97.2	80	120	
As	75	2	72	5.223	ppb	7.543	1945	5	104.5	80	120	
Se	78	1	72	5.495	ppb	6.584	1756	5	109.9	80	120	
Sr	88	2	72	4.936	ppb	5.926	5411	5	98.7	80	120	
Zr	90	2	72	12.999	ppb	219.576	1103	0.5	2599.8	80	120	>+/-30%
Mo	95	2	115	2.162	ppb	8.155	2984	2	108.1	80	120	
Ag	107	2	115	1.033	ppb	10.400	4901	1	103.3	80	120	
Cd	111	2	115	0.931	ppb	6.552	650	1	93.1	80	120	
Sn	120	2	115	10.422	ppb	3.260	19085	10	104.2	80	120	
Sb	121	2	115	2.241	ppb	9.265	4284	2	112.0	80	120	
Ba	137	2	115	0.977	ppb	24.977	643	1	97.7	80	120	
Tl	205	2	165	1.022	ppb	2.771	13326	1	102.2	80	120	
Pb	208	2	165	1.070	ppb	1.482	20196	1	107.0	80	120	
Th	232	2	193	1.480	ppb	4.776	50749	1	148.0	80	120	>+/-30%
U	238	2	193	0.930	ppb	1.346	27824	1	93.0	80	120	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal standard	6	1	HMI H2	392043	0.24	403136	97.25	60	120	
Sc (IS)	45	1	HMI H2	22641663	1.58	22841480	99.13	60	120	
Sc (IS)	45	2	HMI He	1475595	1.86	1496308	98.62	60	120	
Sc (IS)	45	3	No Gas	40900760	1.04	41056866	99.62	60	120	
Ge Internal standard	72	1	HMI H2	12500269	1.38	12474010	100.21	60	120	
Ge Internal standard	72	2	HMI He	1860913	1.26	1875279	99.23	60	120	
In Internal standard	115	2	HMI He	6062141	1.03	6165359	98.33	60	120	
Ho-165	165	2	HMI He	26097733	0.44	26417015	98.79	60	120	
Ir (IS)	193	2	HMI He	19637776	0.31	19705390	99.66	60	120	

Low Level Initial Calibration Verification (LLICV) Report

Sample Table

Sample Name	CRI-
Data File Name	026LICV.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\ALL122023.b
Acq Date Time	2023-12-20T13:50:32-07:00
Sample Type	LLICV
Dilution	1
Comment	
ISTD Ref File Name	020CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	Units	Conc %RSD	CPS	Exp Value	%Rec	%Low	%High	QC Flag
Li	7	3	45	0.495	ppb	342.953	1608937	10	5.0	80	120	>+/-30%
Be	9	1	6	0.042	ppb	293.952	63	1	4.2	80	120	>+/-30%
B	11	1	6	5.463	ppb	3.837	4184	10	54.6	80	120	>+/-30%
Na	23	2	45	7.946	ppb	39.989	36720	300	2.6	80	120	>+/-30%
Mg	24	2	45	2.165	ppb	42.343	623	50	4.3	80	120	>+/-30%
Al	27	2	45	3.729	ppb	51.931	253	50	7.5	80	120	>+/-30%
K	39	2	45	-10.598	ppb	-188.554	36878	120	-8.8	80	120	>+/-30%
Ca	40	1	45	11.118	ppb	3.246	141112	200	5.6	80	120	>+/-30%
V	51	2	72	-0.061	ppb	-99.614	1083	5	-1.2	80	120	>+/-30%
Cr	52	2	72	0.026	ppb	497.840	1393	2	1.3	80	120	>+/-30%
Mn	55	2	72	3.131	ppb	4.357	3050	1	313.1	80	120	>+/-30%
Fe	56	1	72	3.638	ppb	5.074	100947	50	7.3	80	120	>+/-30%
(Fe)	57	2	72	1.696	ppb	70.431	507	50	3.4	80	120	>+/-30%
Co	59	2	72	0.000	ppb	-3080.251	247	1	0.0	80	120	>+/-30%
Ni	60	2	72	2.040	ppb	4.009	4704	2	102.0	80	120	
Cu	63	2	72	0.011	ppb	661.666	4094	2	0.6	80	120	>+/-30%
Zn	66	2	72	1.721	ppb	12.646	1343	10	17.2	80	120	>+/-30%
As	75	2	72	-0.029	ppb	-115.261	75	5	-0.6	80	120	>+/-30%
Se	78	1	72	0.021	ppb	349.634	25	5	0.4	80	120	>+/-30%
Sr	88	2	72	0.017	ppb	23.400	117	5	0.3	80	120	>+/-30%
Zr	90	2	72	-19.051	ppb	-126.298	953	0.5	-3810.2	80	120	>+/-30%
Mo	95	2	115	-0.004	ppb	-254.985	53	2	-0.2	80	120	>+/-30%
Ag	107	2	115	0.013	ppb	23.468	117	1	1.3	80	120	>+/-30%
Cd	111	2	115	-0.005	ppb	0.000	0	1	-0.5	80	120	>+/-30%
Sn	120	2	115	0.190	ppb	28.404	1397	10	1.9	80	120	>+/-30%
Sb	121	2	115	0.032	ppb	208.281	347	2	1.6	80	120	>+/-30%
Ba	137	2	115	0.099	ppb	15.180	130	1	9.9	80	120	>+/-30%
Tl	205	2	165	-0.010	ppb	-97.562	667	1	-1.0	80	120	>+/-30%
Pb	208	2	165	0.014	ppb	55.339	2837	1	1.4	80	120	>+/-30%
Th	232	2	193	0.049	ppb	83.746	19217	1	4.9	80	120	>+/-30%
U	238	2	193	0.013	ppb	82.535	6305	1	1.3	80	120	>+/-30%

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal standard	6	1	HMI H2	396272	0.11	403136	98.30	60	120	
Sc (IS)	45	1	HMI H2	22585853	1.76	22841480	98.88	60	120	
Sc (IS)	45	2	HMI He	1513887	2.05	1496308	101.17	60	120	
Sc (IS)	45	3	No Gas	40762853	0.46	41056866	99.28	60	120	
Ge Internal standard	72	1	HMI H2	12533781	0.36	12474010	100.48	60	120	
Ge Internal standard	72	2	HMI He	1853022	1.44	1875279	98.81	60	120	
In Internal standard	115	2	HMI He	6078576	0.97	6165359	98.59	60	120	
Ho-165	165	2	HMI He	26602077	1.39	26417015	100.70	60	120	
Ir (IS)	193	2	HMI He	19698480	0.86	19705390	99.96	60	120	

Interference Check Solution A (ICS-A) Report

Sample Table

Sample Name	ICSA-8120928
Data File Name	027ICSA.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\ALL122023.b
Acq Date Time	2023-12-20T13:54:05-07:00
Sample Type	ICSA
Dilution	1
Comment	
ISTD Ref File Name	020CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	Units	Conc %RSD	CPS	Upper Limit	QC Flag
Li	7	3	45	-4.869	ppb	-14.7	1516188	1	
Be	9	1	6	-0.015	ppb	-531.0	37	1	
B	11	1	6	5.975	ppb	5.3	4004	1	>RL or LOD
Ti	47	2	45	2012.298	ppb	0.3	83685	1	>RL or LOD
V	51	2	72	-0.250	ppb	-18.1	787	1	
Cr	52	2	72	1.640	ppb	4.9	4611	1	>RL or LOD
Mn	55	2	72	0.586	ppb	25.1	693	0.95	
Co	59	2	72	0.192	ppb	16.0	887	0.5	
Ni	60	2	72	-0.283	ppb	-71.8	2354	1	
Cu	63	2	72	-0.012	ppb	-120.5	3957	1	
Zn	66	2	72	1.599	ppb	26.5	1257	5	
As	75	2	72	0.009	ppb	467.9	86	1	
Se	78	1	72	0.099	ppb	77.1	49	1	
Sr	88	2	72	0.887	ppb	2.7	1030	1	
Zr	90	2	72	1035.347	ppb	0.8	5615	1	>RL or LOD
Mo	95	2	115	2225.632	ppb	1.3	2850421	2000	>RL or LOD
Ag	107	2	115	0.034	ppb	22.7	203	1	
Cd	111	2	115	0.213	ppb	43.7	143	0.5	
Sn	120	2	115	0.233	ppb	7.8	1390	1	
Sb	121	2	115	0.154	ppb	16.5	533	1	
Ba	137	2	115	1.654	ppb	12.3	983	0.95	>RL or LOD
W	182	2	165	0.158	ppb	22.2	2707	1	
Tl	205	2	165	0.007	ppb	73.6	877	1	
Pb	208	2	165	0.155	ppb	15.4	5151	1	
Th	232	2	193	0.139	ppb	25.0	20318	1	
U	238	2	193	0.015	ppb	74.3	6092	1	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal standard	6	1	HMI H2	364988	0.69	403136	90.54	60	120	
Sc (IS)	45	1	HMI H2	22619216	0.28	22841480	99.03	60	120	
Sc (IS)	45	2	HMI He	1471553	1.39	1496308	98.35	60	120	
Sc (IS)	45	3	No Gas	40256844	0.65	41056866	98.05	60	120	
Ge Internal standard	72	1	HMI H2	12364135	0.74	12474010	99.12	60	120	
Ge Internal standard	72	2	HMI He	1819825	2.39	1875279	97.04	60	120	
In Internal standard	115	2	HMI He	5741069	0.72	6165359	93.12	60	120	
Ho-165	165	2	HMI He	26296603	1.08	26417015	99.54	60	120	
Ir (IS)	193	2	HMI He	18865497	0.62	19705390	95.74	60	120	

Interference Check Solution AB (ICS-AB) Report

Sample Table

Sample Name	ICSAB-8120929
Data File Name	028ICSB.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\ALL122023.b
Acq Date Time	2023-12-20T13:57:36-07:00
Sample Type	ICSB
Dilution	1
Comment	
ISTD Ref File Name	020CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	Units	Conc %RSD	CPS	Exp Value	%Rec	%Low	%High	QC Flag
Li	7	3	45	180.940	ppb	1.883	4092775	100	180.9	80	120	>+\-20%
Be	9	1	6	108.712	ppb	0.528	41604	100	108.7	80	120	
B	11	1	6	1120.946	ppb	0.609	329439	100	1120.9	80	120	>+\-20%
Ca	40	1	45	102719.515	ppb	0.633	418144634	100	102719.5	80	120	>+\-20%
V	51	2	72	104.044	ppb	2.383	156008	100	104.0	80	120	
Cr	52	2	72	104.298	ppb	1.586	212476	100	104.3	80	120	
Mn	55	2	72	100.266	ppb	2.845	91523	100	100.3	80	120	
Fe	56	1	72	98116.950	ppb	0.284	736220789	100	98117.0	80	120	>+\-20%
Co	59	2	72	101.162	ppb	1.553	342233	100	101.2	80	120	
Ni	60	2	72	96.013	ppb	1.392	97159	100	96.0	80	120	
Cu	63	2	72	97.583	ppb	1.374	270242	100	97.6	80	120	
Zn	66	2	72	97.633	ppb	0.918	47913	100	97.6	80	120	
As	75	2	72	104.692	ppb	0.933	36860	100	104.7	80	120	
Se	78	1	72	104.453	ppb	0.837	32337	100	104.5	80	120	
Sr	88	2	72	203.599	ppb	1.478	216084	100	203.6	80	120	>+\-20%
Zr	90	2	72	314.970	ppb	15.221	2440	100	315.0	80	120	>+\-20%
Mo	95	2	115	2338.086	ppb	0.820	3036189	100	2338.1	80	120	
Ag	107	2	115	100.598	ppb	0.071	453247	100	100.6	80	120	
Cd	111	2	115	102.355	ppb	1.746	68293	100	102.4	80	120	
Sn	120	2	115	107.080	ppb	0.320	178811	100	107.1	80	120	
Sb	121	2	115	109.978	ppb	0.456	188677	100	110.0	80	120	
Ba	137	2	115	104.351	ppb	1.975	58576	100	104.4	80	120	
W	182	2	165	0.289	ppb	3.603	3474	100	0.3	80	120	>+\-20%
Tl	205	2	165	96.884	ppb	0.476	1195726	100	96.9	80	120	
Pb	208	2	165	97.406	ppb	0.389	1615301	100	97.4	80	120	
Th	232	2	193	103.400	ppb	0.331	2191769	100	103.4	80	120	
U	238	2	193	103.665	ppb	1.169	2325499	100	103.7	80	120	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal standard	6	1	HMI H2	362622	1.29	403136	89.95	60	120	
Sc (IS)	45	1	HMI H2	22669532	1.01	22841480	99.25	60	120	
Sc (IS)	45	2	HMI He	1488487	2.74	1496308	99.48	60	120	
Sc (IS)	45	3	No Gas	40815355	1.29	41056866	99.41	60	120	
Ge Internal standard	72	1	HMI H2	12223990	0.76	12474010	98.00	60	120	
Ge Internal standard	72	2	HMI He	1834171	2.81	1875279	97.81	60	120	
In Internal standard	115	2	HMI He	5820873	1.54	6165359	94.41	60	120	
Ho-165	165	2	HMI He	26224176	1.51	26417015	99.27	60	120	
Ir (IS)	193	2	HMI He	18710752	0.09	19705390	94.95	60	120	

Sample Report

Sample Table

Sample Name	rinse
Data File Name	029SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\ALL122023.b
Acq Date Time	2023-12-20T14:01:06-07:00
Analyst	Denver Metals
Sample Type	Sample
Dilution	1
Comment	
ISTD Ref FileName	020CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	3	45	1.905	ppb	1.905	50.06	1630523	50000	
Be	9	1	6	0.053	ppb	0.053	115.26	67	2000	
B	11	1	6	17.714	ppb	17.714	7.64	7925	2000	
Na	23	2	45	51.037	ppb	51.037	2.55	49937	400000	
Mg	24	2	45	44.869	ppb	44.869	2.68	6872	400000	
Al	27	2	45	48.288	ppb	48.288	4.45	2057	400000	
Si	28	2	45	-1.289	ppb	-1.289	-37.76	12001	10000	
P	31	2	45	47.713	ppb	47.713	18.82	264	10000	
K	39	2	45	25.740	ppb	25.740	70.52	40352	400000	
Ca	40	1	45	66.144	ppb	66.144	15.21	363255	400000	
Ti	47	2	45	2.346	ppb	2.346	31.58	103	4000	
V	51	2	72	-0.235	ppb	-0.235	-20.26	833	2000	
Cr	52	2	72	-0.006	ppb	-0.006	-601.50	1347	5000	
Mn	55	2	72	0.129	ppb	0.129	50.45	290	10000	
Fe	56	1	72	78.407	ppb	78.407	12.85	674764	10000	
(Fe)	57	2	72	50.499	ppb	50.499	28.69	2610	400000	
Co	59	2	72	0.030	ppb	0.030	71.77	353	2000	
Ni	60	2	72	-1.076	ppb	-1.076	-12.65	1627	5000	
Cu	63	2	72	-0.143	ppb	-0.143	-92.23	3717	5000	
Zn	66	2	72	-0.217	ppb	-0.217	-36.68	397	5000	
As	75	2	72	-0.028	ppb	-0.028	-157.77	76	2000	
Se	78	1	72	0.072	ppb	0.072	27.78	41	2000	
Sr	88	2	72	0.114	ppb	0.114	15.57	223	4000	
Zr	90	2	72	5.989	ppb	5.989	457.65	1080	1000	
Mo	95	2	115	6.116	ppb	6.116	9.80	8453	2000	
Ag	107	2	115	0.041	ppb	0.041	24.71	250	100	
Cd	111	2	115	0.043	ppb	0.043	68.83	33	2000	
Sn	120	2	115	0.136	ppb	0.136	32.52	1317	2000	
Sb	121	2	115	0.423	ppb	0.423	24.98	1060	1000	
Ba	137	2	115	0.028	ppb	0.028	173.12	90	5000	
W	182	2	165	0.002	ppb	0.002	446.21	1800	100	
Tl	205	2	165	0.146	ppb	0.146	13.36	2617	2000	
Pb	208	2	165	0.044	ppb	0.044	11.18	3340	5000	
Th	232	2	193	1.730	ppb	1.730	5.69	56329	2000	
U	238	2	193	0.078	ppb	0.078	22.26	7819	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal standard	6	1	HMI H2	388046	0.58	403136	96.26	60	120	
Sc (IS)	45	1	HMI H2	22526759	0.71	22841480	98.62	60	120	
Sc (IS)	45	2	HMI He	1506939	2.98	1496308	100.71	60	120	
Sc (IS)	45	3	No Gas	40816663	0.58	41056866	99.41	60	120	
Ge Internal standard	72	1	HMI H2	12503689	0.50	12474010	100.24	60	120	
Ge Internal standard	72	2	HMI He	1878184	1.95	1875279	100.15	60	120	
In Internal standard	115	2	HMI He	6146519	1.41	6165359	99.69	60	120	
Ho-165	165	2	HMI He	26562145	2.10	26417015	100.55	60	120	
Ir (IS)	193	2	HMI He	19653755	0.80	19705390	99.74	60	120	

Linear Range Sample (LRS) Report

Sample Table

Sample Name	lra-8092354
Data File Name	030_LR.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\ALL122023.b
Acq Date Time	2023-12-20T14:04:40-07:00
Sample Type	LR
Dilution	1
Comment	
ISTD Ref File Name	020CALB.d
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	Units	Conc %RSD	CPS	Exp Value	%Rec	%Low	%High	QC Flag
Be	9	1	6	2199.942	ppb	0.463	804765	2000	110.0	90	110	
Na	23	2	45	181412.537	ppb	0.461	55006876	200000	90.7	90	110	
Mg	24	2	45	178569.081	ppb	0.154	25496808	200000	89.3	90	110	LRS Main CR1 Failed
Al	27	2	45	301452.662	ppb	0.118	11928859	300000	100.5	90	110	
K	39	2	45	176994.044	ppb	0.677	17486885	200000	88.5	90	110	LRS Main CR1 Failed
Ca	40	1	45	193115.224	ppb	1.148	785932655	200000	96.6	90	110	
V	51	2	72	2237.459	ppb	1.356	3109784	2000	111.9	90	110	LRS Main CR1 Failed
Cr	52	2	72	5290.449	ppb	1.722	9999180	5000	105.8	90	110	
(Cr)	53	2	72	5179.115	ppb	1.583	1202710	5000	103.6	90	110	
Mn	55	2	72	10514.137	ppb	1.897	8943890	10000	105.1	90	110	
Fe	56	1	72	288603.275	ppb	0.747	2086180502	200000	144.3	90	110	LRS Main CR1 Failed
Co	59	2	72	2043.976	ppb	0.475	6450729	2000	102.2	90	110	
Ni	60	2	72	4884.904	ppb	0.798	4490870	5000	97.7	90	110	
Cu	63	2	72	5124.783	ppb	0.631	13054300	5000	102.5	90	110	
Zn	66	2	72	5375.507	ppb	1.119	2437565	5000	107.5	90	110	
As	75	2	72	2174.810	ppb	1.400	712922	2000	108.7	90	110	
Se	78	1	72	2069.646	ppb	0.313	616947	2000	103.5	90	110	
(Se)	82	1	72	3152.153	ppb	2.290	384540	2000	157.6	90	110	LRS Main CR1 Failed
Sr	88	2	72	5520.403	ppb	1.033	5465763	5000	110.4	90	110	LRS Main CR1 Failed
Mo	95	2	115	2193.875	ppb	1.943	2760855	2000	109.7	90	110	
Cd	111	2	115	2040.417	ppb	0.944	1319261	2000	102.0	90	110	
(Cd)	114	2	115	2243.729	ppb	1.803	3630818	2000	112.2	90	110	LRS Main CR1 Failed
Sn	120	2	115	2221.493	ppb	0.961	3576053	2000	111.1	90	110	LRS Main CR1 Failed
Sb	121	2	115	1176.879	ppb	1.090	1954390	1000	117.7	90	110	LRS Main CR1 Failed
Ba	137	2	115	5535.774	ppb	0.308	3008581	5000	110.7	90	110	LRS Main CR1 Failed
Tl	205	2	165	1005.198	ppb	0.603	12198489	1000	100.5	90	110	
(Pb)	206	2	165	4876.305	ppb	1.464	19526188	5000	97.5	90	110	
(Pb)	207	2	165	4848.403	ppb	0.317	17300354	5000	97.0	90	110	
Pb	208	2	165	4899.910	ppb	0.735	79818790	5000	98.0	90	110	
Th	232	2	193	971.141	ppb	1.142	19932828	1000	97.1	90	110	
U	238	2	193	1912.090	ppb	0.533	41731075	2000	95.6	90	110	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal standard	6	1	HMI H2	346958	0.53	403136	86.06	60	120	
Sc (IS)	45	1	HMI H2	22666253	1.00	22841480	99.23	60	120	
Sc (IS)	45	2	HMI He	1470855	1.46	1496308	98.30	60	120	
Sc (IS)	45	3	No Gas	39088157	0.87	41056866	95.20	60	120	
Ge Internal standard	72	1	HMI H2	11776968	0.68	12474010	94.41	60	120	
Ge Internal standard	72	2	HMI He	1711757	0.46	1875279	91.28	60	120	
In Internal standard	115	2	HMI He	5642256	1.84	6165359	91.52	60	120	
Ho-165	165	2	HMI He	25799822	0.22	26417015	97.66	60	120	
Ir (IS)	193	2	HMI He	18246223	0.62	19705390	92.60	60	120	

Sample Report

Sample Table

Sample Name	rinse
Data File Name	031SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\ALL122023.b
Acq Date Time	2023-12-20T14:08:09-07:00
Analyst	Denver Metals
Sample Type	Sample
Dilution	1
Comment	
ISTD Ref FileName	020CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	3	45	9.702	ppb	9.702	19.67	1712869	50000	
Be	9	1	6	1.660	ppb	1.660	29.94	730	2000	
B	11	1	6	2.946	ppb	2.946	35.61	3337	2000	
Na	23	2	45	96.193	ppb	96.193	3.19	63250	400000	
Mg	24	2	45	97.399	ppb	97.399	6.90	14387	400000	
Al	27	2	45	161.676	ppb	161.676	6.22	6578	400000	
Si	28	2	45	-4.088	ppb	-4.088	-71.37	11167	10000	
P	31	2	45	-0.877	ppb	-0.877	-416.34	66	10000	
K	39	2	45	65.760	ppb	65.760	20.23	43924	400000	
Ca	40	1	45	138.773	ppb	138.773	10.99	647991	400000	
Ti	47	2	45	0.393	ppb	0.393	59.37	20	4000	
V	51	2	72	0.572	ppb	0.572	27.15	2034	2000	
Cr	52	2	72	3.168	ppb	3.168	4.03	7809	5000	
Mn	55	2	72	5.422	ppb	5.422	4.22	5151	10000	
Fe	56	1	72	238.588	ppb	238.588	11.75	1846806	10000	
(Fe)	57	2	72	167.780	ppb	167.780	3.43	7539	400000	
Co	59	2	72	1.031	ppb	1.031	9.06	3764	2000	
Ni	60	2	72	1.102	ppb	1.102	17.56	3764	5000	
Cu	63	2	72	3.684	ppb	3.684	5.25	14197	5000	
Zn	66	2	72	2.387	ppb	2.387	4.73	1667	5000	
As	75	2	72	0.968	ppb	0.968	4.89	427	2000	
Se	78	1	72	1.413	ppb	1.413	19.80	452	2000	
Sr	88	2	72	2.465	ppb	2.465	4.48	2737	4000	
Zr	90	2	72	1.387	ppb	1.387	1666.92	1043	1000	
Mo	95	2	115	5.865	ppb	5.865	6.13	8122	2000	
Ag	107	2	115	0.003	ppb	0.003	143.79	70	100	
Cd	111	2	115	1.053	ppb	1.053	2.75	747	2000	
Sn	120	2	115	4.817	ppb	4.817	2.86	9543	2000	
Sb	121	2	115	9.585	ppb	9.585	7.52	17681	1000	
Ba	137	2	115	2.111	ppb	2.111	6.43	1327	5000	
W	182	2	165	0.022	ppb	0.022	171.37	1910	100	
Tl	205	2	165	1.121	ppb	1.121	4.66	14755	2000	
Pb	208	2	165	2.411	ppb	2.411	1.12	42919	5000	
Th	232	2	193	10.545	ppb	10.545	3.10	250414	2000	
U	238	2	193	1.373	ppb	1.373	3.36	38174	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal standard	6	1	HMI H2	391212	0.43	403136	97.04	60	120	
Sc (IS)	45	1	HMI H2	22207982	1.14	22841480	97.23	60	120	
Sc (IS)	45	2	HMI He	1490076	0.91	1496308	99.58	60	120	
Sc (IS)	45	3	No Gas	40235163	0.64	41056866	98.00	60	120	
Ge Internal standard	72	1	HMI H2	12126843	0.26	12474010	97.22	60	120	
Ge Internal standard	72	2	HMI He	1850023	0.91	1875279	98.65	60	120	
In Internal standard	115	2	HMI He	6160071	1.70	6165359	99.91	60	120	
Ho-165	165	2	HMI He	26485645	1.41	26417015	100.26	60	120	
Ir (IS)	193	2	HMI He	19603022	1.33	19705390	99.48	60	120	

Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV-8120917
Data File Name	032_CCV.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\ALL122023.b
Acq Date Time	2023-12-20T14:11:43-07:00
Sample Type	CCV
Dilution	1
Comment	
ISTD Ref File Name	020CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	Units	Conc %RSD	CPS	Exp Value	%Rec	%Low	%High2	QC Flag
Be	9	1	6	51.421	ppb	0.954	20389	50	102.8	90	110	
Na	23	2	45	47685.409	ppb	1.502	14741684	51000	93.5	90	110	
Mg	24	2	45	10641.879	ppb	0.763	1546935	11000	96.7	90	110	
Al	27	2	45	1002.397	ppb	1.274	40476	1000	100.2	90	110	
K	39	2	45	9643.182	ppb	1.383	1005223	11000	87.7	90	110	>+\-10%
Ca	40	1	45	10630.192	ppb	1.026	42462313	11000	96.6	90	110	
Ti	47	2	45	48.911	ppb	7.801	2074	50	97.8	90	110	
V	51	2	72	52.707	ppb	2.707	78306	50	105.4	90	110	
Cr	52	2	72	52.349	ppb	1.742	105557	50	104.7	90	110	
Mn	55	2	72	52.395	ppb	1.273	47131	50	104.8	90	110	
Fe	56	1	72	1012.040	ppb	0.860	7641595	1000	101.2	90	110	
Co	59	2	72	50.484	ppb	1.649	168145	50	101.0	90	110	
Ni	60	2	72	48.332	ppb	1.122	49404	50	96.7	90	110	
Cu	63	2	72	51.131	ppb	1.516	141177	50	102.3	90	110	
Zn	66	2	72	53.963	ppb	3.542	26262	50	107.9	90	110	
As	75	2	72	52.441	ppb	0.866	18198	50	104.9	90	110	
Se	78	1	72	51.793	ppb	1.264	15996	50	103.6	90	110	
Sr	88	2	72	103.777	ppb	0.842	108375	100	103.8	90	110	
Zr	90	2	72	190.482	ppb	36.990	1847	50	381.0	90	110	>+\-10%
Mo	95	2	115	52.359	ppb	0.090	71649	50	104.7	90	110	
Ag	107	2	115	49.656	ppb	0.635	235590	50	99.3	90	110	
Cd	111	2	115	49.934	ppb	0.545	35076	50	99.9	90	110	
Sn	120	2	115	51.243	ppb	2.656	90668	50	102.5	90	110	
Sb	121	2	115	52.352	ppb	1.012	94738	50	104.7	90	110	
Ba	137	2	115	51.316	ppb	0.796	30367	50	102.6	90	110	
W	182	2	165	50.866	ppb	1.420	304420	50	101.7	90	110	
Tl	205	2	165	49.726	ppb	0.565	617941	50	99.5	90	110	
Pb	208	2	165	49.935	ppb	0.490	834518	50	99.9	90	110	
Th	232	2	193	47.056	ppb	0.695	1036907	50	94.1	90	110	
U	238	2	193	46.804	ppb	0.401	1084537	50	93.6	90	110	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal standard	6	1	HMI H2	375284	0.59	403136	93.09	60	120	
Sc (IS)	45	1	HMI H2	22200833	0.77	22841480	97.20	60	120	
Sc (IS)	45	2	HMI He	1497118	0.79	1496308	100.05	60	120	
Sc (IS)	45	3	No Gas	39904808	1.59	41056866	97.19	60	120	
Ge Internal standard	72	1	HMI H2	12187834	0.61	12474010	97.71	60	120	
Ge Internal standard	72	2	HMI He	1804042	1.51	1875279	96.20	60	120	
In Internal standard	115	2	HMI He	6129197	1.75	6165359	99.41	60	120	
Ho-165	165	2	HMI He	26386645	0.98	26417015	99.89	60	120	
Ir (IS)	193	2	HMI He	19269437	0.84	19705390	97.79	60	120	

Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB-8120901
Data File Name	033_CCB.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\ALL122023.b
Acq Date Time	2023-12-20T14:15:16-07:00
Sample Type	CCB
Dilution	1
Comment	
ISTD Ref File Name	020CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	Units	Conc %RSD	CPS	Upper Limit	QC Flag
Li	7	3	45	6.938	ppb	42.2	1679260	10	
Be	9	1	6	0.111	ppb	59.1	90	0.5	
B	11	1	6	17.657	ppb	6.8	7882	0.5	>RL
Na	23	2	45	-1.686	ppb	-378.1	32859	25	
Mg	24	2	45	2.435	ppb	20.0	647	25	
Al	27	2	45	0.970	ppb	50.9	137	15	
K	39	2	45	-29.263	ppb	-48.3	34099	50	
Ti	47	2	45	0.155	ppb	151.7	10	0.5	
V	51	2	72	-0.301	ppb	-13.7	713	1	
Cr	52	2	72	0.102	ppb	14.1	1527	1	
Mn	55	2	72	0.167	ppb	12.1	317	0.5	
(Fe)	57	2	72	0.576	ppb	188.6	453	25	
Co	59	2	72	0.011	ppb	111.2	280	0.5	
Ni	60	2	72	-1.143	ppb	-3.4	1517	1	
Cu	63	2	72	0.159	ppb	37.0	4434	1	
Zn	66	2	72	-0.022	ppb	-15.9	480	5	
As	75	2	72	-0.019	ppb	-272.8	77	1	
Se	78	1	72	0.074	ppb	20.0	41	1	
Sr	88	2	72	-0.035	ppb	-67.1	60	0.5	
Zr	90	2	72	9.640	ppb	178.3	1067	1	>RL
Mo	95	2	115	0.333	ppb	30.3	517	0.5	
Ag	107	2	115	0.008	ppb	40.3	97	1	
Cd	111	2	115	0.038	ppb	129.4	30	0.5	
Sn	120	2	115	0.338	ppb	9.0	1670	1	
Sb	121	2	115	0.656	ppb	20.1	1480	0.6	>RL
Ba	137	2	115	0.046	ppb	133.0	100	0.5	
W	182	2	165	0.243	ppb	18.4	3231	1	
Tl	205	2	165	0.067	ppb	41.4	1627	0.1	
Pb	208	2	165	0.032	ppb	61.5	3124	0.5	
Th	232	2	193	0.640	ppb	6.4	32233	1	
U	238	2	193	0.040	ppb	58.3	6922	0.5	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal standard	6	1	HMI H2	386797	0.87	403136	95.95	60	120	
Sc (IS)	45	1	HMI H2	22268947	1.23	22841480	97.49	60	120	
Sc (IS)	45	2	HMI He	1476204	3.14	1496308	98.66	60	120	
Sc (IS)	45	3	No Gas	40339675	2.18	41056866	98.25	60	120	
Ge Internal standard	72	1	HMI H2	12266968	0.08	12474010	98.34	60	120	
Ge Internal standard	72	2	HMI He	1826416	2.19	1875279	97.39	60	120	
In Internal standard	115	2	HMI He	6138597	1.36	6165359	99.57	60	120	
Ho-165	165	2	HMI He	26436827	0.91	26417015	100.07	60	120	
Ir (IS)	193	2	HMI He	19646468	1.28	19705390	99.70	60	120	

Low Level Continuing Calibration Verification (LLCCV) Report

Sample Table

Sample Name	CCVL-8120919
Data File Name	034LCCV.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\ALL122023.b
Acq Date Time	2023-12-20T14:18:51-07:00
Sample Type	LLCCV
Dilution	1
Comment	
ISTD Ref File Name	020CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	Units	Conc %RSD	CPS	Exp Value	%Rec	%Low	%High	QC Flag
Li	7	3	45	17.425	ppb	6.315	1850836	50	34.9	70	130	>+/-30%
Be	9	1	6	1.132	ppb	21.363	510	1	113.2	70	130	
Na	23	2	45	287.455	ppb	2.945	120795	300	95.8	70	130	
Mg	24	2	45	50.333	ppb	5.324	7505	50	100.7	70	130	
Al	27	2	45	54.294	ppb	11.410	2250	50	108.6	70	130	
K	39	2	45	88.397	ppb	16.244	45739	120	73.7	70	130	
Ca	40	1	45	206.448	ppb	0.361	924308	200	103.2	70	130	
V	51	2	72	5.022	ppb	4.967	8736	5	100.4	70	130	
Cr	52	2	72	2.194	ppb	9.471	5835	2	109.7	70	130	
Mn	55	2	72	1.236	ppb	2.933	1307	1	123.6	70	130	
Fe	56	1	72	55.201	ppb	2.198	488534	50	110.4	70	130	
(Fe)	57	2	72	47.325	ppb	11.932	2444	50	94.7	70	130	
Co	59	2	72	1.094	ppb	13.617	3987	1	109.4	70	130	
Ni	60	2	72	0.823	ppb	23.982	3497	2	41.1	70	130	>+/-30%
Cu	63	2	72	1.910	ppb	6.677	9336	2	95.5	70	130	
Zn	66	2	72	10.717	ppb	6.417	5761	10	107.2	70	130	
As	75	2	72	5.378	ppb	5.448	1994	5	107.6	70	130	
Se	78	1	72	5.220	ppb	8.670	1644	5	104.4	70	130	
Sr	88	2	72	5.017	ppb	2.151	5481	5	100.3	70	130	
Zr	90	2	72	75.878	ppb	37.357	1383	0.5	15175.6	70	130	>+/-30%
Mo	95	2	115	2.058	ppb	10.286	2870	2	102.9	70	130	
Ag	107	2	115	0.967	ppb	10.824	4634	1	96.7	70	130	
Cd	111	2	115	0.993	ppb	8.703	700	1	99.3	70	130	
Sn	120	2	115	10.722	ppb	3.246	19796	10	107.2	70	130	
Sb	121	2	115	2.404	ppb	7.387	4618	2	120.2	70	130	
Ba	137	2	115	1.257	ppb	6.273	813	1	125.7	70	130	
W	182	2	165	0.017	ppb	49.748	1874	1	1.7	70	130	>+/-30%
Tl	205	2	165	1.013	ppb	2.648	13360	1	101.3	70	130	
Pb	208	2	165	1.036	ppb	1.061	19846	1	103.6	70	130	
Th	232	2	193	1.434	ppb	3.689	49739	1	143.4	70	130	>+/-30%
U	238	2	193	0.925	ppb	1.779	27721	1	92.5	70	130	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal standard	6	1	HMI H2	389998	1.43	403136	96.74	60	120	
Sc (IS)	45	1	HMI H2	22371450	0.68	22841480	97.94	60	120	
Sc (IS)	45	2	HMI He	1476218	2.55	1496308	98.66	60	120	
Sc (IS)	45	3	No Gas	40969571	0.33	41056866	99.79	60	120	
Ge Internal standard	72	1	HMI H2	12306366	1.06	12474010	98.66	60	120	
Ge Internal standard	72	2	HMI He	1854741	0.86	1875279	98.90	60	120	
In Internal standard	115	2	HMI He	6119770	1.45	6165359	99.26	60	120	
Ho-165	165	2	HMI He	26382274	0.84	26417015	99.87	60	120	
Ir (IS)	193	2	HMI He	19635076	0.84	19705390	99.64	60	120	

Blank Report

Sample Table

Sample Name	mb 280-637704/1-c
Data File Name	035_BLK.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\ALL122023.b
Acq Date Time	2023-12-20T14:22:26-07:00
Sample Type	Blank
Dilution	1
Comment	637882 6020B
ISTD Ref File Name	020CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	Units	Conc %RSD	CPS	Upper Limit
Li	7	3	45	6.485	ppb	7.122013344	1683596	10
Be	9	1	6	0.075	ppb	103.5182862	77	0.5
B	11	1	6	6.120	ppb	5.241347738	4371	0.5
Na	23	2	45	11.849	ppb	19.11617557	37529	25
Mg	24	2	45	1.907	ppb	9.511179211	580	25
Al	27	2	45	10.309	ppb	49.13028255	517	15
K	39	2	45	-32.910	ppb	-35.53561422	34232	50
Ti	47	2	45	0.392	ppb	2.163663833	20	0.5
V	51	2	72	-0.253	ppb	-41.49468198	797	1
Cr	52	2	72	0.081	ppb	31.84711324	1507	1
Mn	55	2	72	0.343	ppb	22.45501505	483	0.5
(Fe)	57	2	72	7.594	ppb	23.36497072	757	25
Co	59	2	72	0.004	ppb	378.2926182	260	0.5
Ni	60	2	72	-1.289	ppb	-15.75150432	1393	1
Cu	63	2	72	-0.346	ppb	-21.44950599	3107	1
Zn	66	2	72	12.940	ppb	7.783078855	6848	5
As	75	2	72	0.001	ppb	3149.38843	85	1
Se	78	1	72	-0.004	ppb	-649.7362549	17	1
Sr	88	2	72	0.073	ppb	46.17377173	177	0.5
Zr	90	2	72	-9.292	ppb	-114.146372	997	1
Mo	95	2	115	0.049	ppb	67.63148412	127	0.5
Ag	107	2	115	0.004	ppb	77.71683386	77	1
Cd	111	2	115	0.000	ppb	-18673.50213	3	0.5
Sn	120	2	115	1.069	ppb	7.515444687	2937	1
Sb	121	2	115	0.218	ppb	25.16164877	683	0.6
Ba	137	2	115	0.393	ppb	23.67388823	303	0.5
W	182	2	165	-0.033	ppb	-28.7488378	1603	1
Tl	205	2	165	-0.021	ppb	-28.10021491	543	0.1
Pb	208	2	165	0.419	ppb	7.318983742	9725	0.5
Th	232	2	193	0.009	ppb	203.8869802	18522	1
U	238	2	193	0.006	ppb	7.924339356	6208	0.5

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal standard	6	1	HMI H2	394249	0.30	403136	97.80	60	120	
Sc (IS)	45	1	HMI H2	22539855	0.41	22841480	98.68	60	120	
Sc (IS)	45	2	HMI He	1497380	1.80	1496308	100.07	60	120	
Sc (IS)	45	3	No Gas	40577713	1.03	41056866	98.83	60	120	
Ge Internal standard	72	1	HMI H2	12448086	0.63	12474010	99.79	60	120	
Ge Internal standard	72	2	HMI He	1852103	1.12	1875279	98.76	60	120	
In Internal standard	115	2	HMI He	6108544	1.82	6165359	99.08	60	120	
Ho-165	165	2	HMI He	26828157	1.42	26417015	101.56	60	120	
Ir (IS)	193	2	HMI He	19903114	0.99	19705390	101.00	60	120	

Laboratory Control Sample (LCS) Report

Sample Table

Sample Name	lcs 280-637704/2-e
Data File Name	036_LCS.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\ALL122023.b
Acq Date Time	2023-12-20T14:26:00-07:00
Sample Type	LCS
Dilution	1
Analyst	Denver Metals
Comment	637882 6020B
ISTD Ref File Name	020CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	FinalConc	Units	Conc %RSD	CPS	Exp Value	%Rec	%Low	%High	QC Flag
Li	7	3	45	43.912	43.912	ppb	2.877	2203393	400	11.0	80	120	>+/-20%
Be	9	1	6	38.234	38.234	ppb	6.125	15734	40	95.6	80	120	
Na	23	2	45	1042.170	1042.170	ppb	0.506	350807	40	2605.4	80	120	>+/-20%
Mg	24	2	45	932.531	932.531	ppb	0.070	134110	40	2331.3	80	120	>+/-20%
Al	27	2	45	783.575	783.575	ppb	0.201	31259	40	1958.9	80	120	>+/-20%
K	39	2	45	844.347	844.347	ppb	2.129	120734	40	2110.9	80	120	>+/-20%
V	51	2	72	39.081	39.081	ppb	2.438	59948	40	97.7	80	120	
Cr	52	2	72	39.343	39.343	ppb	2.997	81819	40	98.4	80	120	
Mn	55	2	72	38.890	38.890	ppb	4.082	35980	40	97.2	80	120	
(Fe)	57	2	72	774.427	774.427	ppb	1.910	33278	40	1936.1	80	120	>+/-20%
Co	59	2	72	39.185	39.185	ppb	0.797	134102	40	98.0	80	120	
Ni	60	2	72	37.285	37.285	ppb	1.097	39755	40	93.2	80	120	
Cu	63	2	72	38.307	38.307	ppb	0.609	109656	40	95.8	80	120	
Zn	66	2	72	40.690	40.690	ppb	3.079	20467	40	101.7	80	120	
As	75	2	72	39.069	39.069	ppb	2.854	13945	40	97.7	80	120	
Se	78	1	72	39.335	39.335	ppb	1.173	12293	40	98.3	80	120	
Mo	95	2	115	39.537	39.537	ppb	0.778	53954	40	98.8	80	120	
Ag	107	2	115	39.265	39.265	ppb	1.590	185756	40	98.2	80	120	
Cd	111	2	115	38.448	38.448	ppb	2.123	26923	40	96.1	80	120	
Sn	120	2	115	38.696	38.696	ppb	1.808	68528	40	96.7	80	120	
Sb	121	2	115	39.221	39.221	ppb	0.747	70828	40	98.1	80	120	
Ba	137	2	115	38.777	38.777	ppb	2.052	22894	40	96.9	80	120	
W	182	2	165	-0.022	-0.022	ppb	-80.092	1647	40	-0.1	80	120	>+/-20%
Tl	205	2	165	38.562	38.562	ppb	1.417	480656	40	96.4	80	120	
Pb	208	2	165	38.636	38.636	ppb	1.762	648013	40	96.6	80	120	
Th	232	2	193	33.174	33.174	ppb	1.620	760118	40	82.9	80	120	
U	238	2	193	34.084	34.084	ppb	1.480	817035	40	85.2	80	120	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal standard	6	1	HMI H2	389358	1.03	403136	96.58	60	120	
Sc (IS)	45	1	HMI H2	22468559	0.82	22841480	98.37	60	120	
Sc (IS)	45	2	HMI He	1478153	1.43	1496308	98.79	60	120	
Sc (IS)	45	3	No Gas	40727085	0.41	41056866	99.20	60	120	
Ge Internal standard	72	1	HMI H2	12327438	1.18	12474010	98.82	60	120	
Ge Internal standard	72	2	HMI He	1852811	0.76	1875279	98.80	60	120	
In Internal standard	115	2	HMI He	6110793	1.55	6165359	99.11	60	120	
Ho-165	165	2	HMI He	26459546	0.94	26417015	100.16	60	120	
Ir (IS)	193	2	HMI He	19894662	0.56	19705390	100.96	60	120	

Sample Report

Sample Table

Sample Name	280-185279-h-1-c
Data File Name	037SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\ALL122023.b
Acq Date Time	2023-12-20T14:29:34-07:00
Analyst	Denver Metals
Sample Type	Sample
Dilution	1
Comment	637882 6020B
ISTD Ref FileName	020CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	3	45	-0.230	ppb	-0.230	-416.19	1595467	50000	
Be	9	1	6	0.058	ppb	0.058	47.49	67	2000	
B	11	1	6	16.848	ppb	16.848	14.56	7439	2000	
Na	23	2	45	86486.752	ppb	86486.752	1.03	26855819	400000	
Mg	24	2	45	2325.682	ppb	2325.682	1.51	340169	400000	
Al	27	2	45	8.269	ppb	8.269	50.73	437	400000	
Si	28	2	45	616.237	ppb	616.237	1.72	169272	10000	
P	31	2	45	0.131	ppb	0.131	3073.09	71	10000	
K	39	2	45	424.354	ppb	424.354	5.01	80548	400000	
Ca	40	1	45	3927.595	ppb	3927.595	0.15	15915393	400000	
Ti	47	2	45	0.078	ppb	0.078	351.41	7	4000	
V	51	2	72	-0.001	ppb	-0.001	-3846.56	1200	2000	
Cr	52	2	72	-0.003	ppb	-0.003	-1472.03	1363	5000	
Mn	55	2	72	153.964	ppb	153.964	1.72	144958	10000	
Fe	56	1	72	19.450	ppb	19.450	2.33	220923	10000	
(Fe)	57	2	72	14.525	ppb	14.525	26.36	1073	400000	
Co	59	2	72	0.838	ppb	0.838	6.92	3177	2000	
Ni	60	2	72	-0.626	ppb	-0.626	-12.55	2097	5000	
Cu	63	2	72	-0.299	ppb	-0.299	-45.33	3307	5000	
Zn	66	2	72	3.708	ppb	3.708	11.67	2367	5000	
As	75	2	72	0.129	ppb	0.129	11.91	133	2000	
Se	78	1	72	0.102	ppb	0.102	26.18	51	2000	
Sr	88	2	72	51.001	ppb	51.001	0.37	55923	4000	
Zr	90	2	72	-1.756	ppb	-1.756	-655.32	1053	1000	
Mo	95	2	115	0.238	ppb	0.238	33.12	387	2000	
Ag	107	2	115	0.013	ppb	0.013	72.23	117	100	
Cd	111	2	115	0.066	ppb	0.066	20.30	50	2000	
Sn	120	2	115	0.592	ppb	0.592	9.98	2130	2000	
Sb	121	2	115	0.482	ppb	0.482	42.07	1177	1000	
Ba	137	2	115	21.518	ppb	21.518	3.51	12882	5000	
W	182	2	165	-0.017	ppb	-0.017	-96.09	1674	100	
Tl	205	2	165	0.064	ppb	0.064	38.00	1587	2000	
Pb	208	2	165	0.033	ppb	0.033	16.46	3134	5000	
Th	232	2	193	1.420	ppb	1.420	2.67	48217	2000	
U	238	2	193	0.077	ppb	0.077	15.33	7602	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal standard	6	1	HMI H2	377283	0.93	403136	93.59	60	120	
Sc (IS)	45	1	HMI H2	22435420	0.68	22841480	98.22	60	120	
Sc (IS)	45	2	HMI He	1505377	1.64	1496308	100.61	60	120	
Sc (IS)	45	3	No Gas	40669961	1.42	41056866	99.06	60	120	
Ge Internal standard	72	1	HMI H2	12441289	1.05	12474010	99.74	60	120	
Ge Internal standard	72	2	HMI He	1892317	1.38	1875279	100.91	60	120	
In Internal standard	115	2	HMI He	6181490	2.01	6165359	100.26	60	120	
Ho-165	165	2	HMI He	26427670	0.29	26417015	100.04	60	120	
Ir (IS)	193	2	HMI He	19156185	0.20	19705390	97.21	60	120	

Sample Report

Sample Table

Sample Name	280-185279-h-2-c
Data File Name	038SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\ALL122023.b
Acq Date Time	2023-12-20T14:33:08-07:00
Analyst	Denver Metals
Sample Type	Sample
Dilution	1
Comment	637882 6020B
ISTD Ref FileName	020CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	3	45	2.638	ppb	2.638	106.63	1631992	50000	
Be	9	1	6	0.154	ppb	0.154	88.07	107	2000	
B	11	1	6	17.033	ppb	17.033	6.57	7622	2000	
Na	23	2	45	42651.886	ppb	42651.886	1.75	13197429	400000	
Mg	24	2	45	2007.081	ppb	2007.081	1.63	292166	400000	
Al	27	2	45	12.697	ppb	12.697	33.67	610	400000	
Si	28	2	45	813.356	ppb	813.356	1.82	218445	10000	
P	31	2	45	6.128	ppb	6.128	64.92	95	10000	
K	39	2	45	627.389	ppb	627.389	1.58	100557	400000	
Ca	40	1	45	4116.940	ppb	4116.940	0.78	16652326	400000	
Ti	47	2	45	0.313	ppb	0.313	115.72	17	4000	
V	51	2	72	0.150	ppb	0.150	24.71	1417	2000	
Cr	52	2	72	0.822	ppb	0.822	12.38	3057	5000	
Mn	55	2	72	178.499	ppb	178.499	1.10	166236	10000	
Fe	56	1	72	46.553	ppb	46.553	0.26	431440	10000	
(Fe)	57	2	72	43.530	ppb	43.530	7.46	2304	400000	
Co	59	2	72	3.194	ppb	3.194	0.55	11274	2000	
Ni	60	2	72	-0.263	ppb	-0.263	-128.27	2444	5000	
Cu	63	2	72	-0.256	ppb	-0.256	-39.19	3390	5000	
Zn	66	2	72	3.925	ppb	3.925	7.98	2450	5000	
As	75	2	72	0.118	ppb	0.118	22.96	128	2000	
Se	78	1	72	0.080	ppb	0.080	16.77	44	2000	
Sr	88	2	72	40.888	ppb	40.888	2.76	44398	4000	
Zr	90	2	72	-20.319	ppb	-20.319	-63.75	957	1000	
Mo	95	2	115	0.065	ppb	0.065	51.06	150	2000	
Ag	107	2	115	0.006	ppb	0.006	66.74	87	100	
Cd	111	2	115	0.056	ppb	0.056	112.52	43	2000	
Sn	120	2	115	0.371	ppb	0.371	18.50	1750	2000	
Sb	121	2	115	0.097	ppb	0.097	91.20	473	1000	
Ba	137	2	115	43.193	ppb	43.193	2.16	25932	5000	
W	182	2	165	-0.029	ppb	-0.029	-106.54	1590	100	
Tl	205	2	165	-0.008	ppb	-0.008	-19.29	693	2000	
Pb	208	2	165	0.024	ppb	0.024	40.72	2974	5000	
Th	232	2	193	0.272	ppb	0.272	10.60	23596	2000	
U	238	2	193	0.053	ppb	0.053	13.94	7085	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal standard	6	1	HMI H2	383589	0.43	403136	95.15	60	120	
Sc (IS)	45	1	HMI H2	22400770	0.61	22841480	98.07	60	120	
Sc (IS)	45	2	HMI He	1497920	1.04	1496308	100.11	60	120	
Sc (IS)	45	3	No Gas	40606975	0.51	41056866	98.90	60	120	
Ge Internal standard	72	1	HMI H2	12543959	0.54	12474010	100.56	60	120	
Ge Internal standard	72	2	HMI He	1872330	2.33	1875279	99.84	60	120	
In Internal standard	115	2	HMI He	6216298	1.47	6165359	100.83	60	120	
Ho-165	165	2	HMI He	26257378	1.60	26417015	99.40	60	120	
Ir (IS)	193	2	HMI He	19242221	1.20	19705390	97.65	60	120	

Sample Report

Sample Table

Sample Name	280-185279-h-3-c
Data File Name	039SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\ALL122023.b
Acq Date Time	2023-12-20T14:36:42-07:00
Analyst	Denver Metals
Sample Type	Sample
Dilution	1
Comment	637882 6020B
ISTD Ref FileName	020CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	3	45	4.845	ppb	4.845	23.98	1633018	50000	
Be	9	1	6	0.087	ppb	0.087	15.67	77	2000	
B	11	1	6	27.219	ppb	27.219	5.23	10354	2000	
Na	23	2	45	133631.837	ppb	133631.837	0.41	41090469	400000	
Mg	24	2	45	8553.874	ppb	8553.874	2.54	1238958	400000	
Al	27	2	45	6.993	ppb	6.993	27.31	380	400000	
Si	28	2	45	1073.665	ppb	1073.665	2.28	283152	10000	
P	31	2	45	3.568	ppb	3.568	106.95	84	10000	
K	39	2	45	810.589	ppb	810.589	0.43	118417	400000	
Ca	40	1	45	20731.978	ppb	20731.978	0.29	83212944	400000	
Ti	47	2	45	-0.080	ppb	-0.080	0.00	0	4000	
V	51	2	72	1.194	ppb	1.194	12.90	2987	2000	
Cr	52	2	72	0.347	ppb	0.347	35.48	2060	5000	
Mn	55	2	72	7.153	ppb	7.153	7.61	6792	10000	
Fe	56	1	72	33.590	ppb	33.590	2.46	327448	10000	
(Fe)	57	2	72	38.200	ppb	38.200	8.60	2070	400000	
Co	59	2	72	0.041	ppb	0.041	25.12	390	2000	
Ni	60	2	72	0.216	ppb	0.216	89.06	2907	5000	
Cu	63	2	72	-0.315	ppb	-0.315	-43.23	3210	5000	
Zn	66	2	72	4.229	ppb	4.229	11.71	2587	5000	
As	75	2	72	0.132	ppb	0.132	62.21	132	2000	
Se	78	1	72	0.192	ppb	0.192	23.02	79	2000	
Sr	88	2	72	206.597	ppb	206.597	0.67	222906	4000	
Zr	90	2	72	-28.301	ppb	-28.301	-44.14	917	1000	
Mo	95	2	115	0.055	ppb	0.055	52.41	133	2000	
Ag	107	2	115	0.005	ppb	0.005	148.15	80	100	
Cd	111	2	115	0.034	ppb	0.034	130.43	27	2000	
Sn	120	2	115	0.421	ppb	0.421	9.72	1790	2000	
Sb	121	2	115	0.060	ppb	0.060	82.56	393	1000	
Ba	137	2	115	79.669	ppb	79.669	0.48	46503	5000	
W	182	2	165	-0.071	ppb	-0.071	-28.83	1340	100	
Tl	205	2	165	-0.015	ppb	-0.015	-4.54	600	2000	
Pb	208	2	165	0.004	ppb	0.004	418.35	2630	5000	
Th	232	2	193	0.065	ppb	0.065	12.70	18906	2000	
U	238	2	193	0.082	ppb	0.082	13.88	7676	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal standard	6	1	HMI H2	368881	0.62	403136	91.50	60	120	
Sc (IS)	45	1	HMI H2	22330703	0.48	22841480	97.76	60	120	
Sc (IS)	45	2	HMI He	1491336	1.53	1496308	99.67	60	120	
Sc (IS)	45	3	No Gas	39891762	0.67	41056866	97.16	60	120	
Ge Internal standard	72	1	HMI H2	12388459	1.88	12474010	99.31	60	120	
Ge Internal standard	72	2	HMI He	1864689	2.31	1875279	99.44	60	120	
In Internal standard	115	2	HMI He	6050207	1.43	6165359	98.13	60	120	
Ho-165	165	2	HMI He	26162016	1.40	26417015	99.03	60	120	
Ir (IS)	193	2	HMI He	19020719	1.67	19705390	96.53	60	120	

Sample Report

Sample Table

Sample Name	280-185279-h-4-c
Data File Name	040SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\ALL122023.b
Acq Date Time	2023-12-20T14:40:17-07:00
Analyst	Denver Metals
Sample Type	Sample
Dilution	1
Comment	637882 6020B
ISTD Ref FileName	020CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	3	45	4.029	ppb	4.029	10.38	1663387	50000	
Be	9	1	6	0.070	ppb	0.070	62.29	70	2000	
B	11	1	6	27.103	ppb	27.103	4.71	10317	2000	
Na	23	2	45	136369.072	ppb	136369.072	2.60	42198590	400000	
Mg	24	2	45	8713.112	ppb	8713.112	5.74	1269372	400000	
Al	27	2	45	9.412	ppb	9.412	15.69	480	400000	
Si	28	2	45	1159.941	ppb	1159.941	2.90	306853	10000	
P	31	2	45	6.614	ppb	6.614	62.10	97	10000	
K	39	2	45	837.522	ppb	837.522	1.58	121895	400000	
Ca	40	1	45	21039.539	ppb	21039.539	0.85	84976412	400000	
Ti	47	2	45	0.638	ppb	0.638	164.16	30	4000	
V	51	2	72	1.023	ppb	1.023	21.87	2764	2000	
Cr	52	2	72	0.360	ppb	0.360	14.00	2114	5000	
Mn	55	2	72	6.719	ppb	6.719	4.88	6465	10000	
Fe	56	1	72	7.105	ppb	7.105	1.99	126662	10000	
(Fe)	57	2	72	6.834	ppb	6.834	20.94	737	400000	
Co	59	2	72	0.051	ppb	0.051	43.44	430	2000	
Ni	60	2	72	0.429	ppb	0.429	25.96	3157	5000	
Cu	63	2	72	-0.407	ppb	-0.407	-17.70	2994	5000	
Zn	66	2	72	4.893	ppb	4.893	10.21	2947	5000	
As	75	2	72	0.163	ppb	0.163	14.53	145	2000	
Se	78	1	72	0.170	ppb	0.170	15.24	72	2000	
Sr	88	2	72	211.473	ppb	211.473	0.87	230672	4000	
Zr	90	2	72	1.951	ppb	1.951	1826.38	1067	1000	
Mo	95	2	115	0.040	ppb	0.040	48.31	113	2000	
Ag	107	2	115	0.000	ppb	0.000	5541.87	57	100	
Cd	111	2	115	0.067	ppb	0.067	21.25	50	2000	
Sn	120	2	115	0.348	ppb	0.348	47.96	1677	2000	
Sb	121	2	115	0.078	ppb	0.078	76.64	430	1000	
Ba	137	2	115	80.070	ppb	80.070	0.83	47142	5000	
W	182	2	165	-0.055	ppb	-0.055	-17.43	1437	100	
Tl	205	2	165	-0.008	ppb	-0.008	-93.53	683	2000	
Pb	208	2	165	0.026	ppb	0.026	25.14	3000	5000	
Th	232	2	193	0.064	ppb	0.064	4.54	18663	2000	
U	238	2	193	0.072	ppb	0.072	6.66	7362	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal standard	6	1	HMI H2	368794	0.59	403136	91.48	60	120	
Sc (IS)	45	1	HMI H2	22471700	0.57	22841480	98.38	60	120	
Sc (IS)	45	2	HMI He	1501106	1.58	1496308	100.32	60	120	
Sc (IS)	45	3	No Gas	40908055	0.53	41056866	99.64	60	120	
Ge Internal standard	72	1	HMI H2	12440276	0.19	12474010	99.73	60	120	
Ge Internal standard	72	2	HMI He	1885145	1.54	1875279	100.53	60	120	
In Internal standard	115	2	HMI He	6102760	0.95	6165359	98.98	60	120	
Ho-165	165	2	HMI He	26204360	0.74	26417015	99.20	60	120	
Ir (IS)	193	2	HMI He	18810317	0.91	19705390	95.46	60	120	

Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV-8120917
Data File Name	041_CCV.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\ALL122023.b
Acq Date Time	2023-12-20T14:43:51-07:00
Sample Type	CCV
Dilution	1
Comment	
ISTD Ref File Name	020CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	Units	Conc %RSD	CPS	Exp Value	%Rec	%Low	%High2	QC Flag
Be	9	1	6	51.035	ppb	1.986	20056	50	102.1	90	110	
Na	23	2	45	47580.665	ppb	0.553	14699032	51000	93.3	90	110	
Mg	24	2	45	10606.893	ppb	0.571	1540783	11000	96.4	90	110	
Al	27	2	45	986.127	ppb	3.177	39800	1000	98.6	90	110	
K	39	2	45	9615.549	ppb	0.371	1001694	11000	87.4	90	110	>+\-10%
Ca	40	1	45	10557.347	ppb	1.117	42120662	11000	96.0	90	110	
Ti	47	2	45	49.744	ppb	2.971	2107	50	99.5	90	110	
V	51	2	72	50.805	ppb	1.607	77469	50	101.6	90	110	
Cr	52	2	72	51.178	ppb	1.410	105872	50	102.4	90	110	
Mn	55	2	72	49.584	ppb	2.688	45757	50	99.2	90	110	
Fe	56	1	72	1010.146	ppb	0.918	7640839	1000	101.0	90	110	
Co	59	2	72	49.338	ppb	1.004	168551	50	98.7	90	110	
Ni	60	2	72	46.663	ppb	2.052	49013	50	93.3	90	110	
Cu	63	2	72	49.133	ppb	1.332	139292	50	98.3	90	110	
Zn	66	2	72	53.051	ppb	3.382	26505	50	106.1	90	110	
As	75	2	72	51.210	ppb	0.135	18229	50	102.4	90	110	
Se	78	1	72	52.222	ppb	1.181	16156	50	104.4	90	110	
Sr	88	2	72	101.176	ppb	0.317	108378	100	101.2	90	110	
Zr	90	2	72	101.042	ppb	15.499	1493	50	202.1	90	110	>+\-10%
Mo	95	2	115	50.919	ppb	1.929	69653	50	101.8	90	110	
Ag	107	2	115	48.659	ppb	0.881	230790	50	97.3	90	110	
Cd	111	2	115	48.624	ppb	2.311	34154	50	97.2	90	110	
Sn	120	2	115	50.083	ppb	1.651	88613	50	100.2	90	110	
Sb	121	2	115	50.981	ppb	0.135	92227	50	102.0	90	110	
Ba	137	2	115	49.832	ppb	2.510	29479	50	99.7	90	110	
W	182	2	165	50.465	ppb	0.657	304455	50	100.9	90	110	
Tl	205	2	165	48.239	ppb	0.749	604229	50	96.5	90	110	
Pb	208	2	165	48.687	ppb	0.773	820149	50	97.4	90	110	
Th	232	2	193	45.640	ppb	0.451	1008205	50	91.3	90	110	
U	238	2	193	46.313	ppb	0.156	1075312	50	92.6	90	110	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal standard	6	1	HMI H2	371960	0.83	403136	92.27	60	120	
Sc (IS)	45	1	HMI H2	22173326	0.60	22841480	97.07	60	120	
Sc (IS)	45	2	HMI He	1496047	1.26	1496308	99.98	60	120	
Sc (IS)	45	3	No Gas	40184781	0.84	41056866	97.88	60	120	
Ge Internal standard	72	1	HMI H2	12209618	0.70	12474010	97.88	60	120	
Ge Internal standard	72	2	HMI He	1850347	1.69	1875279	98.67	60	120	
In Internal standard	115	2	HMI He	6127328	1.34	6165359	99.38	60	120	
Ho-165	165	2	HMI He	26596812	1.01	26417015	100.68	60	120	
Ir (IS)	193	2	HMI He	19307316	0.30	19705390	97.98	60	120	

Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB-8120901
Data File Name	042_CCB.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\ALL122023.b
Acq Date Time	2023-12-20T14:47:24-07:00
Sample Type	CCB
Dilution	1
Comment	
ISTD Ref File Name	020CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	Units	Conc %RSD	CPS	Upper Limit	QC Flag
Li	7	3	45	3.848	ppb	29.3	1629492	10	
Be	9	1	6	0.005	ppb	1659.4	47	0.5	
B	11	1	6	15.383	ppb	9.2	7138	0.5	>RL
Na	23	2	45	10.491	ppb	33.5	36236	25	
Mg	24	2	45	1.679	ppb	35.2	533	25	
Al	27	2	45	-0.001	ppb	-126608.7	97	15	
K	39	2	45	-40.258	ppb	-36.1	32706	50	
Ti	47	2	45	0.159	ppb	150.6	10	0.5	
V	51	2	72	0.346	ppb	66.8	1667	1	
Cr	52	2	72	-0.063	ppb	-31.7	1193	1	
Mn	55	2	72	-0.013	ppb	-363.7	153	0.5	
(Fe)	57	2	72	0.151	ppb	2166.4	433	25	
Co	59	2	72	-0.018	ppb	-27.3	183	0.5	
Ni	60	2	72	-1.335	ppb	-5.0	1327	1	
Cu	63	2	72	-0.483	ppb	-4.0	2690	1	
Zn	66	2	72	-0.200	ppb	-30.8	393	5	
As	75	2	72	0.023	ppb	223.9	92	1	
Se	78	1	72	0.001	ppb	1013.4	19	1	
Sr	88	2	72	-0.010	ppb	-224.3	87	0.5	
Zr	90	2	72	-33.945	ppb	-83.6	873	1	
Mo	95	2	115	0.134	ppb	22.7	243	0.5	
Ag	107	2	115	0.009	ppb	65.9	100	1	
Cd	111	2	115	0.005	ppb	173.1	7	0.5	
Sn	120	2	115	0.066	ppb	6.7	1197	1	
Sb	121	2	115	0.174	ppb	25.4	607	0.6	
Ba	137	2	115	-0.016	ppb	-261.5	63	0.5	
W	182	2	165	0.220	ppb	4.9	3107	1	
Tl	205	2	165	0.029	ppb	24.1	1160	0.1	
Pb	208	2	165	0.010	ppb	129.1	2767	0.5	
Th	232	2	193	0.546	ppb	3.7	30319	1	
U	238	2	193	0.030	ppb	38.5	6745	0.5	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal standard	6	1	HMI H2	384957	0.04	403136	95.49	60	120	
Sc (IS)	45	1	HMI H2	22355941	0.60	22841480	97.87	60	120	
Sc (IS)	45	2	HMI He	1462300	1.81	1496308	97.73	60	120	
Sc (IS)	45	3	No Gas	40136396	1.33	41056866	97.76	60	120	
Ge Internal standard	72	1	HMI H2	12334259	0.25	12474010	98.88	60	120	
Ge Internal standard	72	2	HMI He	1824373	1.64	1875279	97.29	60	120	
In Internal standard	115	2	HMI He	6151737	2.30	6165359	99.78	60	120	
Ho-165	165	2	HMI He	26589157	1.46	26417015	100.65	60	120	
Ir (IS)	193	2	HMI He	19762102	1.00	19705390	100.29	60	120	

Sample Report

Sample Table

Sample Name	280-185579-c-1-g
Data File Name	043SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\ALL122023.b
Acq Date Time	2023-12-20T14:50:58-07:00
Analyst	Denver Metals
Sample Type	Sample
Dilution	1
Comment	637882 6020B
ISTD Ref FileName	020CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	3	45	5.771	ppb	5.771	33.24	1616002	50000	
Be	9	1	6	0.047	ppb	0.047	296.46	60	2000	
B	11	1	6	29.337	ppb	29.337	5.25	10864	2000	
Na	23	2	45	26201.276	ppb	26201.276	1.89	7625501	400000	
Mg	24	2	45	19656.392	ppb	19656.392	1.80	2684489	400000	
Al	27	2	45	5.017	ppb	5.017	10.95	283	400000	
Si	28	2	45	772.537	ppb	772.537	1.85	195416	10000	
P	31	2	45	-0.627	ppb	-0.627	-63.82	63	10000	
K	39	2	45	2365.643	ppb	2365.643	1.65	258324	400000	
Ca	40	1	45	60724.270	ppb	60724.270	0.12	235313623	400000	
Ti	47	2	45	0.592	ppb	0.592	98.35	27	4000	
V	51	2	72	0.266	ppb	0.266	25.34	1523	2000	
Cr	52	2	72	-0.053	ppb	-0.053	-154.67	1190	5000	
Mn	55	2	72	1.103	ppb	1.103	15.17	1143	10000	
Fe	56	1	72	20.391	ppb	20.391	2.59	220622	10000	
(Fe)	57	2	72	21.950	ppb	21.950	9.78	1320	400000	
Co	59	2	72	0.020	ppb	0.020	42.88	303	2000	
Ni	60	2	72	-1.143	ppb	-1.143	-13.37	1487	5000	
Cu	63	2	72	0.786	ppb	0.786	13.80	6021	5000	
Zn	66	2	72	3.845	ppb	3.845	4.63	2304	5000	
As	75	2	72	0.076	ppb	0.076	101.84	108	2000	
Se	78	1	72	0.107	ppb	0.107	74.61	51	2000	
Sr	88	2	72	274.715	ppb	274.715	0.09	284587	4000	
Zr	90	2	72	2.752	ppb	2.752	1219.01	1017	1000	
Mo	95	2	115	0.820	ppb	0.820	2.77	1130	2000	
Ag	107	2	115	0.004	ppb	0.004	149.32	73	100	
Cd	111	2	115	0.010	ppb	0.010	254.74	10	2000	
Sn	120	2	115	0.328	ppb	0.328	17.59	1580	2000	
Sb	121	2	115	0.016	ppb	0.016	181.77	307	1000	
Ba	137	2	115	136.801	ppb	136.801	1.46	77394	5000	
W	182	2	165	0.019	ppb	0.019	131.93	1880	100	
Tl	205	2	165	-0.020	ppb	-0.020	-27.69	537	2000	
Pb	208	2	165	0.005	ppb	0.005	285.35	2667	5000	
Th	232	2	193	0.087	ppb	0.087	15.44	19601	2000	
U	238	2	193	0.691	ppb	0.691	7.09	21767	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal standard	6	1	HMI H2	364758	0.78	403136	90.48	60	120	
Sc (IS)	45	1	HMI H2	21575961	0.76	22841480	94.46	60	120	
Sc (IS)	45	2	HMI He	1406818	0.70	1496308	94.02	60	120	
Sc (IS)	45	3	No Gas	39180862	1.08	41056866	95.43	60	120	
Ge Internal standard	72	1	HMI H2	12032496	0.46	12474010	96.46	60	120	
Ge Internal standard	72	2	HMI He	1790439	0.89	1875279	95.48	60	120	
In Internal standard	115	2	HMI He	5868556	0.99	6165359	95.19	60	120	
Ho-165	165	2	HMI He	26261715	1.53	26417015	99.41	60	120	
Ir (IS)	193	2	HMI He	19244351	1.28	19705390	97.66	60	120	

Sample Report

Sample Table

Sample Name	280-185579-c-1-gSD@5
Data File Name	044SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\ALL122023.b
Acq Date Time	2023-12-20T14:54:31-07:00
Analyst	Denver Metals
Sample Type	Sample
Dilution	1
Comment	637882 6020B
ISTD Ref FileName	020CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	3	45	4.703	ppb	4.703	15.36	1617416	50000	
Be	9	1	6	-0.026	ppb	-0.026	-249.48	33	2000	
B	11	1	6	6.568	ppb	6.568	21.34	4291	2000	
Na	23	2	45	5647.650	ppb	5647.650	0.13	1690640	400000	
Mg	24	2	45	3862.162	ppb	3862.162	0.76	534622	400000	
Al	27	2	45	4.126	ppb	4.126	27.63	253	400000	
Si	28	2	45	158.389	ppb	158.389	2.90	49860	10000	
P	31	2	45	6.158	ppb	6.158	50.40	90	10000	
K	39	2	45	477.555	ppb	477.555	1.05	81359	400000	
Ca	40	1	45	12568.118	ppb	12568.118	1.61	49412316	400000	
Ti	47	2	45	-0.080	ppb	-0.080	0.00	0	4000	
V	51	2	72	0.284	ppb	0.284	12.34	1567	2000	
Cr	52	2	72	0.140	ppb	0.140	40.54	1590	5000	
Mn	55	2	72	0.807	ppb	0.807	14.57	890	10000	
Fe	56	1	72	12.335	ppb	12.335	3.25	163489	10000	
(Fe)	57	2	72	13.565	ppb	13.565	30.87	987	400000	
Co	59	2	72	-0.006	ppb	-0.006	-211.86	223	2000	
Ni	60	2	72	-1.014	ppb	-1.014	-19.95	1630	5000	
Cu	63	2	72	-0.031	ppb	-0.031	-471.40	3891	5000	
Zn	66	2	72	6.235	ppb	6.235	3.32	3477	5000	
As	75	2	72	0.010	ppb	0.010	489.65	86	2000	
Se	78	1	72	0.058	ppb	0.058	83.00	36	2000	
Sr	88	2	72	55.394	ppb	55.394	1.37	58108	4000	
Zr	90	2	72	11.254	ppb	11.254	432.10	1067	1000	
Mo	95	2	115	0.225	ppb	0.225	7.31	357	2000	
Ag	107	2	115	0.019	ppb	0.019	32.24	140	100	
Cd	111	2	115	0.020	ppb	0.020	42.55	17	2000	
Sn	120	2	115	0.307	ppb	0.307	22.75	1567	2000	
Sb	121	2	115	0.011	ppb	0.011	321.13	303	1000	
Ba	137	2	115	28.597	ppb	28.597	3.54	16463	5000	
W	182	2	165	-0.012	ppb	-0.012	-235.71	1700	100	
Tl	205	2	165	-0.029	ppb	-0.029	-7.80	437	2000	
Pb	208	2	165	0.019	ppb	0.019	90.06	2897	5000	
Th	232	2	193	0.019	ppb	0.019	48.84	18379	2000	
U	238	2	193	0.163	ppb	0.163	17.44	9750	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal standard	6	1	HMI H2	374757	0.40	403136	92.96	60	120	
Sc (IS)	45	1	HMI H2	21859314	0.85	22841480	95.70	60	120	
Sc (IS)	45	2	HMI He	1425311	1.58	1496308	95.26	60	120	
Sc (IS)	45	3	No Gas	39555785	0.22	41056866	96.34	60	120	
Ge Internal standard	72	1	HMI H2	12209066	1.43	12474010	97.88	60	120	
Ge Internal standard	72	2	HMI He	1810717	1.01	1875279	96.56	60	120	
In Internal standard	115	2	HMI He	5950881	0.90	6165359	96.52	60	120	
Ho-165	165	2	HMI He	26375630	0.66	26417015	99.84	60	120	
Ir (IS)	193	2	HMI He	19513606	0.93	19705390	99.03	60	120	

Sample Report

Sample Table

Sample Name	280-185579-c-1-h ms
Data File Name	045SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\ALL122023.b
Acq Date Time	2023-12-20T14:58:06-07:00
Analyst	Denver Metals
Sample Type	Sample
Dilution	1
Comment	637882 6020B
ISTD Ref FileName	020CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	3	45	42.572	ppb	42.572	1.01	2107007	50000	
Be	9	1	6	41.272	ppb	41.272	3.37	16018	2000	
B	11	1	6	26.594	ppb	26.594	0.27	10120	2000	
Na	23	2	45	27139.972	ppb	27139.972	1.59	8085937	400000	
Mg	24	2	45	20518.871	ppb	20518.871	2.09	2869063	400000	
Al	27	2	45	778.701	ppb	778.701	1.18	30271	400000	
Si	28	2	45	809.760	ppb	809.760	2.37	209118	10000	
P	31	2	45	3.677	ppb	3.677	104.18	81	10000	
K	39	2	45	3254.512	ppb	3254.512	1.89	350282	400000	
Ca	40	1	45	62931.374	ppb	62931.374	0.76	247385450	400000	
Ti	47	2	45	38.760	ppb	38.760	15.11	1577	4000	
V	51	2	72	40.209	ppb	40.209	3.58	60262	2000	
Cr	52	2	72	39.888	ppb	39.888	0.88	81083	5000	
Mn	55	2	72	38.931	ppb	38.931	2.11	35208	10000	
Fe	56	1	72	788.540	ppb	788.540	0.92	5964659	10000	
(Fe)	57	2	72	790.958	ppb	790.958	2.21	33221	400000	
Co	59	2	72	38.143	ppb	38.143	1.98	127618	2000	
Ni	60	2	72	36.609	ppb	36.609	1.05	38215	5000	
Cu	63	2	72	38.078	ppb	38.078	0.87	106597	5000	
Zn	66	2	72	40.295	ppb	40.295	3.56	19819	5000	
As	75	2	72	40.954	ppb	40.954	0.95	14288	2000	
Se	78	1	72	40.876	ppb	40.876	0.23	12617	2000	
Sr	88	2	72	362.300	ppb	362.300	0.70	379703	4000	
Zr	90	2	72	38.660	ppb	38.660	53.64	1187	1000	
Mo	95	2	115	42.226	ppb	42.226	2.20	55155	2000	
Ag	107	2	115	41.349	ppb	41.349	1.66	187212	100	
Cd	111	2	115	40.373	ppb	40.373	2.50	27060	2000	
Sn	120	2	115	41.997	ppb	41.997	3.04	71103	2000	
Sb	121	2	115	41.022	ppb	41.022	1.97	70896	1000	
Ba	137	2	115	182.420	ppb	182.420	1.63	102848	5000	
W	182	2	165	-0.025	ppb	-0.025	-147.36	1630	100	
Tl	205	2	165	38.887	ppb	38.887	0.42	484088	2000	
Pb	208	2	165	38.541	ppb	38.541	0.56	645591	5000	
Th	232	2	193	35.917	ppb	35.917	0.68	792540	2000	
U	238	2	193	37.680	ppb	37.680	0.19	870831	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal standard	6	1	HMI H2	367085	0.71	403136	91.06	60	120	
Sc (IS)	45	1	HMI H2	21888410	0.97	22841480	95.83	60	120	
Sc (IS)	45	2	HMI He	1440686	2.90	1496308	96.28	60	120	
Sc (IS)	45	3	No Gas	39271490	1.96	41056866	95.65	60	120	
Ge Internal standard	72	1	HMI H2	12177429	0.65	12474010	97.62	60	120	
Ge Internal standard	72	2	HMI He	1811474	1.03	1875279	96.60	60	120	
In Internal standard	115	2	HMI He	5848721	0.87	6165359	94.86	60	120	
Ho-165	165	2	HMI He	26424323	0.85	26417015	100.03	60	120	
Ir (IS)	193	2	HMI He	19193994	0.77	19705390	97.40	60	120	

Sample Report

Sample Table

Sample Name	280-185579-c-1-i msd
Data File Name	046SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\ALL122023.b
Acq Date Time	2023-12-20T15:01:39-07:00
Analyst	Denver Metals
Sample Type	Sample
Dilution	1
Comment	637882 6020B
ISTD Ref FileName	020CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	3	45	42.690	ppb	42.690	3.25	2083704	50000	
Be	9	1	6	41.164	ppb	41.164	3.28	15951	2000	
B	11	1	6	25.596	ppb	25.596	5.65	9813	2000	
Na	23	2	45	26223.729	ppb	26223.729	0.08	7874073	400000	
Mg	24	2	45	19900.477	ppb	19900.477	0.02	2804089	400000	
Al	27	2	45	751.798	ppb	751.798	3.06	29443	400000	
Si	28	2	45	773.079	ppb	773.079	1.25	201726	10000	
P	31	2	45	1.742	ppb	1.742	156.75	75	10000	
K	39	2	45	3125.109	ppb	3125.109	0.55	340401	400000	
Ca	40	1	45	60859.773	ppb	60859.773	0.71	239495723	400000	
Ti	47	2	45	36.922	ppb	36.922	17.26	1517	4000	
V	51	2	72	38.422	ppb	38.422	1.24	57800	2000	
Cr	52	2	72	38.208	ppb	38.208	3.03	77962	5000	
Mn	55	2	72	38.203	ppb	38.203	0.18	34650	10000	
Fe	56	1	72	772.349	ppb	772.349	0.41	5827671	10000	
(Fe)	57	2	72	758.707	ppb	758.707	3.00	31968	400000	
Co	59	2	72	36.792	ppb	36.792	0.88	123451	2000	
Ni	60	2	72	35.384	ppb	35.384	2.56	37122	5000	
Cu	63	2	72	36.644	ppb	36.644	1.27	102994	5000	
Zn	66	2	72	42.143	ppb	42.143	5.42	20764	5000	
As	75	2	72	38.826	ppb	38.826	0.15	13587	2000	
Se	78	1	72	39.306	ppb	39.306	3.24	12101	2000	
Sr	88	2	72	343.278	ppb	343.278	0.31	360748	4000	
Zr	90	2	72	10.638	ppb	10.638	167.14	1067	1000	
Mo	95	2	115	41.241	ppb	41.241	3.41	53740	2000	
Ag	107	2	115	40.158	ppb	40.158	0.72	181471	100	
Cd	111	2	115	38.727	ppb	38.727	2.81	25905	2000	
Sn	120	2	115	42.520	ppb	42.520	1.07	71819	2000	
Sb	121	2	115	40.076	ppb	40.076	0.81	69124	1000	
Ba	137	2	115	175.644	ppb	175.644	2.12	98833	5000	
W	182	2	165	-0.030	ppb	-0.030	-90.89	1590	100	
Tl	205	2	165	38.108	ppb	38.108	0.50	472097	2000	
Pb	208	2	165	37.978	ppb	37.978	0.80	633078	5000	
Th	232	2	193	34.633	ppb	34.633	1.59	779044	2000	
U	238	2	193	36.073	ppb	36.073	1.17	849438	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal standard	6	1	HMI H2	366646	1.12	403136	90.95	60	120	
Sc (IS)	45	1	HMI H2	21911216	0.99	22841480	95.93	60	120	
Sc (IS)	45	2	HMI He	1451359	1.51	1496308	97.00	60	120	
Sc (IS)	45	3	No Gas	38809951	0.77	41056866	94.53	60	120	
Ge Internal standard	72	1	HMI H2	12144300	0.61	12474010	97.36	60	120	
Ge Internal standard	72	2	HMI He	1816426	1.61	1875279	96.86	60	120	
In Internal standard	115	2	HMI He	5837065	1.60	6165359	94.68	60	120	
Ho-165	165	2	HMI He	26296309	1.18	26417015	99.54	60	120	
Ir (IS)	193	2	HMI He	19551283	0.26	19705390	99.22	60	120	

Sample Report

Sample Table

Sample Name	280-185579-c-1-g PDS
Data File Name	047SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\ALL122023.b
Acq Date Time	2023-12-20T15:05:11-07:00
Analyst	Denver Metals
Sample Type	Sample
Dilution	1
Comment	637882 6020B
ISTD Ref FileName	020CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	3	45	202.876	ppb	202.876	2.64	4156298	50000	
Be	9	1	6	218.920	ppb	218.920	1.67	83085	2000	
B	11	1	6	29.925	ppb	29.925	4.60	10884	2000	
Na	23	2	45	31918.464	ppb	31918.464	0.58	9368637	400000	
Mg	24	2	45	21460.998	ppb	21460.998	1.82	2957979	400000	
Al	27	2	45	2097.076	ppb	2097.076	0.46	80195	400000	
Si	28	2	45	959.457	ppb	959.457	1.63	242154	10000	
P	31	2	45	2589.112	ppb	2589.112	1.73	9930	10000	
K	39	2	45	4246.305	ppb	4246.305	0.65	439707	400000	
Ca	40	1	45	62879.899	ppb	62879.899	1.01	247103396	400000	
Ti	47	2	45	211.458	ppb	211.458	3.52	8489	4000	
V	51	2	72	208.021	ppb	208.021	0.88	305131	2000	
Cr	52	2	72	206.360	ppb	206.360	1.55	411440	5000	
Mn	55	2	72	199.294	ppb	199.294	1.54	178449	10000	
Fe	56	1	72	2031.057	ppb	2031.057	0.58	15204886	10000	
(Fe)	57	2	72	2036.332	ppb	2036.332	3.75	84319	400000	
Co	59	2	72	199.429	ppb	199.429	0.46	662248	2000	
Ni	60	2	72	195.854	ppb	195.854	0.90	191872	5000	
Cu	63	2	72	200.380	ppb	200.380	0.76	540664	5000	
Zn	66	2	72	210.046	ppb	210.046	1.73	100631	5000	
As	75	2	72	213.693	ppb	213.693	1.12	73748	2000	
Se	78	1	72	212.029	ppb	212.029	0.15	65169	2000	
Sr	88	2	72	481.320	ppb	481.320	1.24	501288	4000	
Zr	90	2	72	132.068	ppb	132.068	15.67	1590	1000	
Mo	95	2	115	216.799	ppb	216.799	0.90	283049	2000	
Ag	107	2	115	56.437	ppb	56.437	1.01	255609	100	
Cd	111	2	115	207.193	ppb	207.193	0.36	138939	2000	
Sn	120	2	115	214.702	ppb	214.702	1.12	359340	2000	
Sb	121	2	115	212.559	ppb	212.559	0.35	366320	1000	
Ba	137	2	115	349.306	ppb	349.306	0.57	196946	5000	
W	182	2	165	150.436	ppb	150.436	0.32	888925	100	
Tl	205	2	165	226.321	ppb	226.321	1.60	2784550	2000	
Pb	208	2	165	215.951	ppb	215.951	0.51	3568153	5000	
Th	232	2	193	99.391	ppb	99.391	16.87	2176611	2000	
U	238	2	193	255.233	ppb	255.233	0.60	5903137	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal standard	6	1	HMI H2	359825	0.82	403136	89.26	60	120	
Sc (IS)	45	1	HMI H2	21881115	0.53	22841480	95.80	60	120	
Sc (IS)	45	2	HMI He	1419789	0.96	1496308	94.89	60	120	
Sc (IS)	45	3	No Gas	38606174	0.95	41056866	94.03	60	120	
Ge Internal standard	72	1	HMI H2	12139959	0.42	12474010	97.32	60	120	
Ge Internal standard	72	2	HMI He	1800449	1.61	1875279	96.01	60	120	
In Internal standard	115	2	HMI He	5851136	0.93	6165359	94.90	60	120	
Ho-165	165	2	HMI He	26150985	0.54	26417015	98.99	60	120	
Ir (IS)	193	2	HMI He	19318937	0.47	19705390	98.04	60	120	

Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV-8120917
Data File Name	048_CCV.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\ALL122023.b
Acq Date Time	2023-12-20T15:08:42-07:00
Sample Type	CCV
Dilution	1
Comment	
ISTD Ref File Name	020CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	Units	Conc %RSD	CPS	Exp Value	%Rec	%Low	%High2	QC Flag
Be	9	1	6	52.769	ppb	3.401	19979	50	105.5	90	110	
Na	23	2	45	48839.357	ppb	3.387	14381749	51000	95.8	90	110	
Mg	24	2	45	10836.079	ppb	1.722	1500942	11000	98.5	90	110	
Al	27	2	45	976.505	ppb	1.857	37572	1000	97.7	90	110	
K	39	2	45	9677.420	ppb	2.510	961008	11000	88.0	90	110	>+\-10%
Ca	40	1	45	10572.916	ppb	0.686	41451769	11000	96.1	90	110	
Ti	47	2	45	51.277	ppb	9.421	2070	50	102.6	90	110	
V	51	2	72	52.358	ppb	1.501	77379	50	104.7	90	110	
Cr	52	2	72	51.564	ppb	1.656	103441	50	103.1	90	110	
Mn	55	2	72	50.261	ppb	0.823	44978	50	100.5	90	110	
Fe	56	1	72	1015.707	ppb	0.216	7501680	1000	101.6	90	110	
Co	59	2	72	49.690	ppb	0.305	164607	50	99.4	90	110	
Ni	60	2	72	48.319	ppb	2.231	49131	50	96.6	90	110	
Cu	63	2	72	49.612	ppb	0.741	136357	50	99.2	90	110	
Zn	66	2	72	52.868	ppb	1.848	25607	50	105.7	90	110	
As	75	2	72	52.354	ppb	0.483	18069	50	104.7	90	110	
Se	78	1	72	51.973	ppb	0.843	15701	50	103.9	90	110	
Sr	88	2	72	102.172	ppb	1.626	106113	100	102.2	90	110	
Zr	90	2	72	100.223	ppb	47.968	1443	50	200.4	90	110	>+\-10%
Mo	95	2	115	51.416	ppb	1.812	68177	50	102.8	90	110	
Ag	107	2	115	50.974	ppb	0.747	234352	50	101.9	90	110	
Cd	111	2	115	50.326	ppb	1.871	34258	50	100.7	90	110	
Sn	120	2	115	51.365	ppb	0.250	88060	50	102.7	90	110	
Sb	121	2	115	51.294	ppb	1.403	89945	50	102.6	90	110	
Ba	137	2	115	51.772	ppb	1.445	29692	50	103.5	90	110	
W	182	2	165	53.410	ppb	0.407	318149	50	106.8	90	110	
Tl	205	2	165	49.807	ppb	1.262	616154	50	99.6	90	110	
Pb	208	2	165	50.115	ppb	0.792	833733	50	100.2	90	110	
Th	232	2	193	46.304	ppb	0.652	1033862	50	92.6	90	110	
U	238	2	193	46.379	ppb	0.980	1088694	50	92.8	90	110	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal standard	6	1	HMI H2	358426	0.87	403136	88.91	60	120	
Sc (IS)	45	1	HMI H2	21788412	0.17	22841480	95.39	60	120	
Sc (IS)	45	2	HMI He	1427119	3.30	1496308	95.38	60	120	
Sc (IS)	45	3	No Gas	39575209	0.37	41056866	96.39	60	120	
Ge Internal standard	72	1	HMI H2	11921769	0.31	12474010	95.57	60	120	
Ge Internal standard	72	2	HMI He	1794180	1.10	1875279	95.68	60	120	
In Internal standard	115	2	HMI He	5939285	1.05	6165359	96.33	60	120	
Ho-165	165	2	HMI He	26267705	0.55	26417015	99.43	60	120	
Ir (IS)	193	2	HMI He	19520024	0.66	19705390	99.06	60	120	

Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB-8120901
Data File Name	049_CCB.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\ALL122023.b
Acq Date Time	2023-12-20T15:12:17-07:00
Sample Type	CCB
Dilution	1
Comment	
ISTD Ref File Name	020CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	Units	Conc %RSD	CPS	Upper Limit	QC Flag
Li	7	3	45	0.684	ppb	427.7	1553070	10	
Be	9	1	6	-0.002	ppb	-1339.2	43	0.5	
B	11	1	6	15.233	ppb	1.9	7042	0.5	>RL
Na	23	2	45	14.364	ppb	40.0	37048	25	
Mg	24	2	45	2.319	ppb	42.1	620	25	
Al	27	2	45	0.845	ppb	140.9	130	15	
K	39	2	45	-24.617	ppb	-100.9	33905	50	
Ti	47	2	45	-0.002	ppb	-8561.3	3	0.5	
V	51	2	72	-0.118	ppb	-109.5	973	1	
Cr	52	2	72	-0.067	ppb	-61.7	1173	1	
Mn	55	2	72	0.198	ppb	47.4	340	0.5	
(Fe)	57	2	72	-1.937	ppb	-96.0	343	25	
Co	59	2	72	0.027	ppb	94.2	330	0.5	
Ni	60	2	72	-1.308	ppb	-14.6	1340	1	
Cu	63	2	72	-0.074	ppb	-109.1	3764	1	
Zn	66	2	72	-0.248	ppb	-36.1	367	5	
As	75	2	72	-0.032	ppb	-121.5	71	1	
Se	78	1	72	0.043	ppb	102.2	32	1	
Sr	88	2	72	0.081	ppb	56.0	180	0.5	
Zr	90	2	72	-14.367	ppb	-46.1	950	1	
Mo	95	2	115	0.140	ppb	50.4	247	0.5	
Ag	107	2	115	0.005	ppb	216.0	77	1	
Cd	111	2	115	0.029	ppb	103.5	23	0.5	
Sn	120	2	115	0.033	ppb	119.6	1113	1	
Sb	121	2	115	0.313	ppb	11.0	840	0.6	
Ba	137	2	115	0.015	ppb	350.4	80	0.5	
W	182	2	165	0.809	ppb	3.8	6645	1	
Tl	205	2	165	0.052	ppb	27.8	1443	0.1	
Pb	208	2	165	0.005	ppb	421.1	2684	0.5	
Th	232	2	193	0.665	ppb	4.8	33005	1	
U	238	2	193	0.034	ppb	46.5	6839	0.5	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal standard	6	1	HMI H2	382216	0.64	403136	94.81	60	120	
Sc (IS)	45	1	HMI H2	22275394	0.12	22841480	97.52	60	120	
Sc (IS)	45	2	HMI He	1449232	2.92	1496308	96.85	60	120	
Sc (IS)	45	3	No Gas	39286603	0.48	41056866	95.69	60	120	
Ge Internal standard	72	1	HMI H2	12371350	0.66	12474010	99.18	60	120	
Ge Internal standard	72	2	HMI He	1805917	1.69	1875279	96.30	60	120	
In Internal standard	115	2	HMI He	6014609	1.22	6165359	97.55	60	120	
Ho-165	165	2	HMI He	26602790	1.10	26417015	100.70	60	120	
Ir (IS)	193	2	HMI He	19781827	0.76	19705390	100.39	60	120	

Blank Report

Sample Table

Sample Name	mb 280-637738/1-a
Data File Name	050_BLK.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\ALL122023.b
Acq Date Time	2023-12-20T15:15:51-07:00
Sample Type	Blank
Dilution	1
Comment	637738 SOIL 6020B
ISTD Ref File Name	020CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	Units	Conc %RSD	CPS	Upper Limit
Li	7	3	45	3.615	ppb	41.38435706	1612280	10
Be	9	1	6	-0.034	ppb	-73.1061588	30	0.5
B	11	1	6	29.718	ppb	4.132675722	11378	0.5
Na	23	2	45	42.637	ppb	12.40782489	45986	25
Mg	24	2	45	6.164	ppb	16.4339288	1173	25
Al	27	2	45	15.746	ppb	16.18618653	717	15
K	39	2	45	-8.218	ppb	-156.4644472	35899	50
Ti	47	2	45	0.248	ppb	229.3091468	13	0.5
V	51	2	72	-0.262	ppb	-48.52263153	780	1
Cr	52	2	72	0.709	ppb	6.72338712	2780	1
Mn	55	2	72	0.265	ppb	42.59333968	410	0.5
(Fe)	57	2	72	23.364	ppb	12.56349628	1420	25
Co	59	2	72	0.023	ppb	65.54794009	323	0.5
Ni	60	2	72	-0.825	ppb	-12.0157204	1847	1
Cu	63	2	72	-0.281	ppb	-14.7758972	3277	1
Zn	66	2	72	1.481	ppb	26.04002387	1220	5
As	75	2	72	-0.043	ppb	-144.3023947	69	1
Se	78	1	72	0.027	ppb	55.79070367	27	1
Sr	88	2	72	0.114	ppb	29.05617035	220	0.5
Zr	90	2	72	64.024	ppb	77.62105333	1323	1
Mo	95	2	115	0.069	ppb	40.12838127	153	0.5
Ag	107	2	115	-0.006	ppb	-38.3279718	30	1
Cd	111	2	115	0.014	ppb	152.4900661	13	0.5
Sn	120	2	115	13.914	ppb	1.602730722	25298	1
Sb	121	2	115	0.044	ppb	95.08797264	370	0.6
Ba	137	2	115	0.177	ppb	44.49056527	177	0.5
W	182	2	165	0.641	ppb	8.787538317	5678	1
Tl	205	2	165	-0.018	ppb	-42.02182709	577	0.1
Pb	208	2	165	0.153	ppb	7.759903728	5224	0.5
Th	232	2	193	0.181	ppb	9.612714882	22745	1
U	238	2	193	0.004	ppb	132.1593117	6268	0.5

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal standard	6	1	HMI H2	378279	1.05	403136	93.83	60	120	
Sc (IS)	45	1	HMI H2	22238361	0.14	22841480	97.36	60	120	
Sc (IS)	45	2	HMI He	1464331	1.62	1496308	97.86	60	120	
Sc (IS)	45	3	No Gas	39783969	1.47	41056866	96.90	60	120	
Ge Internal standard	72	1	HMI H2	12268036	0.24	12474010	98.35	60	120	
Ge Internal standard	72	2	HMI He	1845733	0.41	1875279	98.42	60	120	
In Internal standard	115	2	HMI He	6104093	0.22	6165359	99.01	60	120	
Ho-165	165	2	HMI He	26791510	1.33	26417015	101.42	60	120	
Ir (IS)	193	2	HMI He	20224855	0.71	19705390	102.64	60	120	

Laboratory Control Sample (LCS) Report

Sample Table

Sample Name	lcs 280-637738/2-a
Data File Name	051LCS.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\ALL122023.b
Acq Date Time	2023-12-20T15:19:26-07:00
Sample Type	LCS-s
Dilution	1
Analyst	Denver Metals
Comment	637738 SOIL 6020B
ISTD Ref File Name	020CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	FinalConc	Units	Conc %RSD	CPS	Exp Value	%Rec	%Low	%High	QC Flag
Be	9	1	6	1092.940	1092.940	ppb	1.113	389316	200	546.5	80	120	NewName Main CR1 Failed
Na	23	2	45	47595.228	47595.228	ppb	1.305	14242164	200	23797.6	80	120	NewName Main CR1 Failed
Mg	24	2	45	47094.330	47094.330	ppb	1.391	6625110	200000	23.5	80	120	NewName Main CR1 Failed
Al	27	2	45	9744.120	9744.120	ppb	1.465	379983	200000	4.9	80	120	NewName Main CR1 Failed
K	39	2	45	45222.148	45222.148	ppb	1.936	4428146	200000	22.6	80	120	NewName Main CR1 Failed
V	51	2	72	1115.241	1115.241	ppb	1.021	1639109	200	557.6	80	120	NewName Main CR1 Failed
Cr	52	2	72	1052.297	1052.297	ppb	1.650	2103536	200	526.1	80	120	NewName Main CR1 Failed
(Cr)	53	2	72	997.153	997.153	ppb	1.034	245248	200	498.6	80	120	NewName Main CR1 Failed
Mn	55	2	72	982.847	982.847	ppb	0.477	883961	200	491.4	80	120	NewName Main CR1 Failed
(Fe)	57	2	72	9769.526	9769.526	ppb	1.277	405076	200000	4.9	80	120	NewName Main CR1 Failed
Co	59	2	72	1008.873	1008.873	ppb	0.258	3365865	200	504.4	80	120	NewName Main CR1 Failed
Ni	60	2	72	944.068	944.068	ppb	1.030	919595	200	472.0	80	120	NewName Main CR1 Failed
Cu	63	2	72	983.342	983.342	ppb	1.231	2651125	200	491.7	80	120	NewName Main CR1 Failed
Zn	66	2	72	953.667	953.667	ppb	1.335	457529	200	476.8	80	120	NewName Main CR1 Failed
As	75	2	72	1039.633	1039.633	ppb	0.974	360305	200	519.8	80	120	NewName Main CR1 Failed
Se	78	1	72	1015.464	1015.464	ppb	0.173	312452	200	507.7	80	120	NewName Main CR1 Failed
(Se)	82	1	72	338.896	338.896	ppb	3.285	157929	200	169.4	80	120	NewName Main CR1 Failed
Mo	95	2	115	1096.185	1096.185	ppb	2.587	1418043	200	548.1	80	120	NewName Main CR1 Failed
Ag	107	2	115	50.429	50.429	ppb	1.679	226300	200	25.2	80	120	NewName Main CR1 Failed
Cd	111	2	115	1017.206	1017.206	ppb	0.675	675762	200	508.6	80	120	NewName Main CR1 Failed
(Cd)	114	2	115	1152.217	1152.217	ppb	1.520	1915864	200	576.1	80	120	NewName Main CR1 Failed
Sn	120	2	115	1169.315	1169.315	ppb	1.293	1934347	200	584.7	80	120	NewName Main CR1 Failed
Sb	121	2	115	1193.280	1193.280	ppb	1.623	2035910	200	596.6	80	110	NewName Main CR1 Failed
Ba	137	2	115	1027.063	1027.063	ppb	1.175	573536	200	513.5	80	120	NewName Main CR1 Failed
W	182	2	165	0.778	0.778	ppb	1.998	6355	200	0.4	80	120	NewName Main CR1 Failed
Tl	205	2	165	1036.164	1036.164	ppb	1.189	12759616	200	518.1	80	120	NewName Main CR1 Failed
(Pb)	206	2	165	1084.658	1084.658	ppb	0.802	4407536	200	542.3	80	120	NewName Main CR1 Failed
(Pb)	207	2	165	1020.374	1020.374	ppb	0.619	3695416	200	510.2	80	120	NewName Main CR1 Failed
Pb	208	2	165	1049.467	1049.467	ppb	0.844	17349632	200	524.7	80	120	NewName Main CR1 Failed
Th	232	2	193	0.238	0.238	ppb	2.362	22942	200	0.1	80	120	NewName Main CR1 Failed
U	238	2	193	0.035	0.035	ppb	31.582	6692	200	0.0	80	120	NewName Main CR1 Failed

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal standard	6	1	HMI H2	337857	1.26	403136	83.81	60	120	
Sc (IS)	45	1	HMI H2	22180354	0.52	22841480	97.11	60	120	
Sc (IS)	45	2	HMI He	1449460	2.90	1496308	96.87	60	120	
Sc (IS)	45	3	No Gas	39517214	1.28	41056866	96.25	60	120	
Ge Internal standard	72	1	HMI H2	12155768	0.74	12474010	97.45	60	120	
Ge Internal standard	72	2	HMI He	1809471	0.22	1875279	96.49	60	120	
In Internal standard	115	2	HMI He	5797201	1.50	6165359	94.03	60	120	
Ho-165	165	2	HMI He	26180680	1.14	26417015	99.11	60	120	
Ir (IS)	193	2	HMI He	19313512	0.65	19705390	98.01	60	120	

Sample Report

Sample Table

Sample Name	gb 280-637021/1-c
Data File Name	052SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\ALL122023.b
Acq Date Time	2023-12-20T15:22:55-07:00
Analyst	Denver Metals
Sample Type	Sample
Dilution	1
Comment	637738 SOIL 6020B
ISTD Ref FileName	020CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	3	45	3.610	ppb	3.610	11.22	1595935	50000	
Be	9	1	6	0.788	ppb	0.788	10.05	357	2000	
B	11	1	6	68.069	ppb	68.069	8.85	22979	2000	
Na	23	2	45	1113.376	ppb	1113.376	1.72	372612	400000	
Mg	24	2	45	2222.131	ppb	2222.131	1.13	319261	400000	
Al	27	2	45	2500.398	ppb	2500.398	2.42	99559	400000	
Si	28	2	45	467.160	ppb	467.160	16.86	128939	10000	
P	31	2	45	1017.319	ppb	1017.319	1.34	4105	10000	
K	39	2	45	1150.687	ppb	1150.687	2.71	151107	400000	
Ca	40	1	45	7436.822	ppb	7436.822	0.25	30448230	400000	
Ti	47	2	45	93.273	ppb	93.273	8.51	3901	4000	
V	51	2	72	7.050	ppb	7.050	4.86	11801	2000	
Cr	52	2	72	21.934	ppb	21.934	0.52	46291	5000	
Mn	55	2	72	491.656	ppb	491.656	0.38	453670	10000	
Fe	56	1	72	38461.254	ppb	38461.254	0.56	294304376	10000	
(Fe)	57	2	72	41938.118	ppb	41938.118	0.52	1782251	400000	
Co	59	2	72	2.291	ppb	2.291	5.25	8089	2000	
Ni	60	2	72	6.861	ppb	6.861	6.01	9513	5000	
Cu	63	2	72	10.197	ppb	10.197	3.44	32222	5000	
Zn	66	2	72	9.168	ppb	9.168	9.55	5008	5000	
As	75	2	72	2.993	ppb	2.993	2.09	1148	2000	
Se	78	1	72	0.444	ppb	0.444	13.68	159	2000	
Sr	88	2	72	32.124	ppb	32.124	3.46	34588	4000	
Zr	90	2	72	7094.246	ppb	7094.246	2.12	33141	1000	>LDR
Mo	95	2	115	4.432	ppb	4.432	2.46	6035	2000	
Ag	107	2	115	0.095	ppb	0.095	5.77	500	100	
Cd	111	2	115	0.265	ppb	0.265	33.86	187	2000	
Sn	120	2	115	14.671	ppb	14.671	1.75	26353	2000	
Sb	121	2	115	2.776	ppb	2.776	4.96	5224	1000	
Ba	137	2	115	59.057	ppb	59.057	0.37	34449	5000	
W	182	2	165	0.534	ppb	0.534	5.81	4984	100	
Tl	205	2	165	0.546	ppb	0.546	12.40	7609	2000	
Pb	208	2	165	6.293	ppb	6.293	2.65	108104	5000	
Th	232	2	193	6.290	ppb	6.290	0.58	160373	2000	
U	238	2	193	2.528	ppb	2.528	1.76	66806	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal standard	6	1	HMI H2	376905	1.02	403136	93.49	60	120	
Sc (IS)	45	1	HMI H2	22732910	1.27	22841480	99.52	60	120	
Sc (IS)	45	2	HMI He	1478749	1.14	1496308	98.83	60	120	
Sc (IS)	45	3	No Gas	39385905	0.80	41056866	95.93	60	120	
Ge Internal standard	72	1	HMI H2	12463960	0.40	12474010	99.92	60	120	
Ge Internal standard	72	2	HMI He	1856116	0.94	1875279	98.98	60	120	
In Internal standard	115	2	HMI He	6043442	1.33	6165359	98.02	60	120	
Ho-165	165	2	HMI He	26553818	0.78	26417015	100.52	60	120	
Ir (IS)	193	2	HMI He	20070366	1.26	19705390	101.85	60	120	

Sample Report

Sample Table

Sample Name	lcssrm 280-637021/2-c
Data File Name	053SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\ALL122023.b
Acq Date Time	2023-12-20T17:44:47-07:00
Analyst	Denver Metals
Sample Type	Sample
Dilution	1
Comment	637738 SOIL 6020B
ISTD Ref FileName	020CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	3	45	74.436	ppb	74.436	2.88	2533221	50000	
Be	9	1	6	1149.866	ppb	1149.866	0.93	413967	2000	
B	11	1	6	1558.929	ppb	1558.929	1.58	430576	2000	
Na	23	2	45	7810.687	ppb	7810.687	1.41	2372450	400000	
Mg	24	2	45	35465.477	ppb	35465.477	1.64	5005412	400000	
Al	27	2	45	155222.460	ppb	155222.460	0.79	6071083	400000	
Si	28	2	45	957.007	ppb	957.007	2.03	247356	10000	
P	31	2	45	7673.284	ppb	7673.284	1.00	30003	10000	
K	39	2	45	36426.626	ppb	36426.626	0.58	3586102	400000	
Ca	40	1	45	67652.228	ppb	67652.228	0.60	272955363	400000	
Ti	47	2	45	8329.886	ppb	8329.886	0.18	342233	4000	
V	51	2	72	3326.392	ppb	3326.392	0.48	4815489	2000	
Cr	52	2	72	3059.145	ppb	3059.145	0.49	6023658	5000	
Mn	55	2	72	5945.042	ppb	5945.042	1.23	5268465	10000	
Fe	56	1	72	278693.929	ppb	278693.929	0.32	2068243809	10000	>LDR
(Fe)	57	2	72	294656.659	ppb	294656.659	0.41	12027371	400000	
Co	59	2	72	1422.514	ppb	1422.514	0.35	4676654	2000	
Ni	60	2	72	2424.107	ppb	2424.107	0.44	2322839	5000	
Cu	63	2	72	1902.997	ppb	1902.997	1.12	5052233	5000	
Zn	66	2	72	3355.950	ppb	3355.950	0.56	1585387	5000	
As	75	2	72	2685.868	ppb	2685.868	0.52	917145	2000	
Se	78	1	72	3228.417	ppb	3228.417	0.36	987991	2000	
Sr	88	2	72	1890.519	ppb	1890.519	0.21	1949883	4000	
Zr	90	2	72	49299.039	ppb	49299.039	2.08	215310	1000	>LDR
Mo	95	2	115	2908.009	ppb	2908.009	0.34	3709649	2000	
Ag	107	2	115	1019.962	ppb	1019.962	0.34	4514063	100	>LDR
Cd	111	2	115	3372.148	ppb	3372.148	1.46	2209759	2000	
Sn	120	2	115	2321.749	ppb	2321.749	1.84	3788308	2000	
Sb	121	2	115	3158.576	ppb	3158.576	0.77	5316158	1000	
Ba	137	2	115	4780.951	ppb	4780.951	0.68	2633415	5000	
W	182	2	165	4.484	ppb	4.484	4.88	28337	100	
Tl	205	2	165	1197.988	ppb	1197.988	1.60	14804787	2000	
Pb	208	2	165	3709.558	ppb	3709.558	1.24	61538251	5000	
Th	232	2	193	393.418	ppb	393.418	1.62	8658368	2000	
U	238	2	193	1674.466	ppb	1674.466	1.67	39134915	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal standard	6	1	HMI H2	341464	1.44	403136	84.70	60	120	
Sc (IS)	45	1	HMI H2	22466049	1.10	22841480	98.36	60	120	
Sc (IS)	45	2	HMI He	1453836	1.47	1496308	97.16	60	120	
Sc (IS)	45	3	No Gas	39343592	0.26	41056866	95.83	60	120	
Ge Internal standard	72	1	HMI H2	12090657	0.59	12474010	96.93	60	120	
Ge Internal standard	72	2	HMI He	1783083	0.85	1875279	95.08	60	120	
In Internal standard	115	2	HMI He	5718297	0.76	6165359	92.75	60	120	
Ho-165	165	2	HMI He	26273737	0.78	26417015	99.46	60	120	
Ir (IS)	193	2	HMI He	19539069	1.07	19705390	99.16	60	120	

Sample Report

Sample Table

Sample Name	280-185532-a-1-c
Data File Name	054SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\ALL122023.b
Acq Date Time	2023-12-20T17:48:18-07:00
Analyst	Denver Metals
Sample Type	Sample
Dilution	1
Comment	637738 SOIL 6020B
ISTD Ref FileName	020CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	3	45	396.152	ppb	396.152	1.32	7047116	50000	
Be	9	1	6	16.745	ppb	16.745	7.50	6015	2000	
B	11	1	6	632.788	ppb	632.788	1.00	174868	2000	
Na	23	2	45	3240.509	ppb	3240.509	0.71	1034339	400000	
Mg	24	2	45	405420.997	ppb	405420.997	1.67	58980386	400000	
Al	27	2	45	283097.368	ppb	283097.368	1.26	11413876	400000	
Si	28	2	45	1380.560	ppb	1380.560	1.12	362325	10000	
P	31	2	45	7250.070	ppb	7250.070	2.62	29224	10000	
K	39	2	45	94151.541	ppb	94151.541	2.04	9494181	400000	
Ca	40	1	45	OR	ppb	OR	#VALUE!	OR	400000	
Ti	47	2	45	3507.766	ppb	3507.766	1.70	148538	4000	
V	51	2	72	575.246	ppb	575.246	0.59	830159	2000	
Cr	52	2	72	320.585	ppb	320.585	1.35	629748	5000	
Mn	55	2	72	7939.922	ppb	7939.922	1.59	7006573	10000	
Fe	56	1	72	297675.090	ppb	297675.090	1.28	2302642419	10000	>LDR
(Fe)	57	2	72	305053.938	ppb	305053.938	1.10	12398782	400000	
Co	59	2	72	121.193	ppb	121.193	1.30	396990	2000	
Ni	60	2	72	242.086	ppb	242.086	1.40	233283	5000	
Cu	63	2	72	347.881	ppb	347.881	1.01	922869	5000	
Zn	66	2	72	953.084	ppb	953.084	0.88	448676	5000	
As	75	2	72	77.439	ppb	77.439	0.75	26409	2000	
Se	78	1	72	4.624	ppb	4.624	6.39	1495	2000	
Sr	88	2	72	5344.723	ppb	5344.723	0.45	5488903	4000	
Zr	90	2	72	53960.114	ppb	53960.114	0.50	234573	1000	>LDR
Mo	95	2	115	17.908	ppb	17.908	4.04	22316	2000	
Ag	107	2	115	0.845	ppb	0.845	6.09	3694	100	
Cd	111	2	115	4.944	ppb	4.944	3.57	3160	2000	
Sn	120	2	115	28.268	ppb	28.268	0.35	45890	2000	
Sb	121	2	115	36.668	ppb	36.668	3.66	60402	1000	
Ba	137	2	115	1615.106	ppb	1615.106	0.49	866701	5000	
W	182	2	165	2.870	ppb	2.870	3.11	18145	100	
Tl	205	2	165	3.223	ppb	3.223	3.84	39239	2000	
Pb	208	2	165	232.755	ppb	232.755	0.90	3733317	5000	
Th	232	2	193	53.096	ppb	53.096	1.09	1099380	2000	
U	238	2	193	14.636	ppb	14.636	0.28	323099	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal standard	6	1	HMI H2	339265	5.39	403136	84.16	60	120	
Sc (IS)	45	1	HMI H2	26327704	4.88	22841480	115.26	60	120	
Sc (IS)	45	2	HMI He	1498498	0.93	1496308	100.15	60	120	
Sc (IS)	45	3	No Gas	40781116	0.89	41056866	99.33	60	120	
Ge Internal standard	72	1	HMI H2	12600162	2.14	12474010	101.01	60	120	
Ge Internal standard	72	2	HMI He	1775474	1.41	1875279	94.68	60	120	
In Internal standard	115	2	HMI He	5570320	1.62	6165359	90.35	60	120	
Ho-165	165	2	HMI He	25388509	0.81	26417015	96.11	60	120	
Ir (IS)	193	2	HMI He	18141879	0.52	19705390	92.07	60	120	

Sample Report

Sample Table

Sample Name	280-185532-a-2-c
Data File Name	055SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\ALL122023.b
Acq Date Time	2023-12-20T17:51:53-07:00
Analyst	Denver Metals
Sample Type	Sample
Dilution	1
Comment	637738 SOIL 6020B
ISTD Ref FileName	020CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	3	45	412.972	ppb	412.972	1.68	7303989	50000	
Be	9	1	6	16.969	ppb	16.969	2.88	5921	2000	
B	11	1	6	763.939	ppb	763.939	1.04	204093	2000	
Na	23	2	45	3464.882	ppb	3464.882	3.06	1153791	400000	
Mg	24	2	45	385601.243	ppb	385601.243	1.37	58624067	400000	
Al	27	2	45	281482.946	ppb	281482.946	2.07	11860733	400000	
Si	28	2	45	1392.432	ppb	1392.432	6.43	381691	10000	
P	31	2	45	6521.482	ppb	6521.482	2.45	27475	10000	
K	39	2	45	96507.635	ppb	96507.635	1.05	10170403	400000	
Ca	40	1	45	OR	ppb	OR	#VALUE!	OR	400000	
Ti	47	2	45	3744.582	ppb	3744.582	2.04	165746	4000	
V	51	2	72	562.872	ppb	562.872	0.78	837612	2000	
Cr	52	2	72	585.841	ppb	585.841	0.48	1185502	5000	
Mn	55	2	72	8513.043	ppb	8513.043	0.56	7745886	10000	
Fe	56	1	72	292565.518	ppb	292565.518	0.85	2323792232	10000	>LDR
(Fe)	57	2	72	302622.641	ppb	302622.641	1.37	12683680	400000	
Co	59	2	72	116.430	ppb	116.430	0.70	393252	2000	
Ni	60	2	72	228.368	ppb	228.368	0.71	227075	5000	
Cu	63	2	72	282.568	ppb	282.568	0.65	773645	5000	
Zn	66	2	72	816.126	ppb	816.126	0.83	396214	5000	
As	75	2	72	76.801	ppb	76.801	0.54	27008	2000	
Se	78	1	72	4.600	ppb	4.600	4.54	1525	2000	
Sr	88	2	72	7034.547	ppb	7034.547	0.49	7449773	4000	
Zr	90	2	72	54463.902	ppb	54463.902	0.29	244143	1000	>LDR
Mo	95	2	115	18.183	ppb	18.183	4.97	23264	2000	
Ag	107	2	115	0.354	ppb	0.354	11.19	1620	100	
Cd	111	2	115	1.882	ppb	1.882	10.51	1237	2000	
Sn	120	2	115	25.758	ppb	25.758	2.22	43032	2000	
Sb	121	2	115	12.564	ppb	12.564	0.83	21422	1000	
Ba	137	2	115	1826.595	ppb	1826.595	0.59	1006421	5000	
W	182	2	165	3.720	ppb	3.720	1.44	23072	100	
Tl	205	2	165	2.508	ppb	2.508	1.46	30803	2000	
Pb	208	2	165	147.319	ppb	147.319	0.86	2370978	5000	
Th	232	2	193	51.192	ppb	51.192	0.76	1066134	2000	
U	238	2	193	14.028	ppb	14.028	1.47	311525	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal standard	6	1	HMI H2	328526	5.19	403136	81.49	60	120	
Sc (IS)	45	1	HMI H2	26334084	5.09	22841480	115.29	60	120	
Sc (IS)	45	2	HMI He	1566360	1.65	1496308	104.68	60	120	
Sc (IS)	45	3	No Gas	40927871	0.85	41056866	99.69	60	120	
Ge Internal standard	72	1	HMI H2	12941438	2.82	12474010	103.75	60	120	
Ge Internal standard	72	2	HMI He	1830857	1.18	1875279	97.63	60	120	
In Internal standard	115	2	HMI He	5719966	1.13	6165359	92.78	60	120	
Ho-165	165	2	HMI He	25463698	0.80	26417015	96.39	60	120	
Ir (IS)	193	2	HMI He	18237274	0.07	19705390	92.55	60	120	

Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV-8120917
Data File Name	056_CCV.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\ALL122023.b
Acq Date Time	2023-12-20T17:55:30-07:00
Sample Type	CCV
Dilution	1
Comment	
ISTD Ref File Name	020CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	Units	Conc %RSD	CPS	Exp Value	%Rec	%Low	%High2	QC Flag
Be	9	1	6	53.730	ppb	2.372	20393	50	107.5	90	110	
Na	23	2	45	48891.268	ppb	0.844	16175060	51000	95.9	90	110	
Mg	24	2	45	10730.287	ppb	0.811	1669306	11000	97.5	90	110	
Al	27	2	45	1027.453	ppb	0.930	44395	1000	102.7	90	110	
K	39	2	45	10077.137	ppb	1.098	1122363	11000	91.6	90	110	
Ca	40	1	45	11002.795	ppb	0.833	47346334	11000	100.0	90	110	
Ti	47	2	45	59.495	ppb	6.724	2697	50	119.0	90	110	>+\-10%
V	51	2	72	51.963	ppb	2.865	85371	50	103.9	90	110	
Cr	52	2	72	52.669	ppb	2.156	117412	50	105.3	90	110	
Mn	55	2	72	52.408	ppb	1.314	52126	50	104.8	90	110	
Fe	56	1	72	1171.302	ppb	3.178	9653756	1000	117.1	90	110	>+\-10%
Co	59	2	72	50.616	ppb	1.295	186391	50	101.2	90	110	
Ni	60	2	72	48.389	ppb	2.124	54684	50	96.8	90	110	
Cu	63	2	72	49.843	ppb	1.880	152266	50	99.7	90	110	
Zn	66	2	72	53.729	ppb	2.630	28913	50	107.5	90	110	
As	75	2	72	52.055	ppb	1.787	19971	50	104.1	90	110	
Se	78	1	72	52.281	ppb	2.330	17646	50	104.6	90	110	
Sr	88	2	72	101.045	ppb	2.487	116665	100	101.0	90	110	
Zr	90	2	72	4986.612	ppb	2.541	25367	50	9973.2	90	110	>+\-10%
Mo	95	2	115	53.889	ppb	0.949	76297	50	107.8	90	110	
Ag	107	2	115	51.166	ppb	0.973	251182	50	102.3	90	110	
Cd	111	2	115	50.812	ppb	1.574	36934	50	101.6	90	110	
Sn	120	2	115	52.502	ppb	0.443	96085	50	105.0	90	110	
Sb	121	2	115	53.178	ppb	0.088	99554	50	106.4	90	110	
Ba	137	2	115	50.802	ppb	0.665	31108	50	101.6	90	110	
W	182	2	165	52.050	ppb	1.230	313925	50	104.1	90	110	
Tl	205	2	165	49.430	ppb	0.819	619063	50	98.9	90	110	
Pb	208	2	165	49.453	ppb	0.046	832983	50	98.9	90	110	
Th	232	2	193	44.963	ppb	0.421	1010612	50	89.9	90	110	>+\-10%
U	238	2	193	45.268	ppb	1.111	1069286	50	90.5	90	110	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal standard	6	1	HMI H2	359283	0.56	403136	89.12	60	120	
Sc (IS)	45	1	HMI H2	23916454	0.32	22841480	104.71	60	120	
Sc (IS)	45	2	HMI He	1602270	0.45	1496308	107.08	60	120	
Sc (IS)	45	3	No Gas	42570496	2.04	41056866	103.69	60	120	
Ge Internal standard	72	1	HMI H2	13322085	1.24	12474010	106.80	60	120	
Ge Internal standard	72	2	HMI He	1994885	2.18	1875279	106.38	60	120	
In Internal standard	115	2	HMI He	6341723	0.49	6165359	102.86	60	120	
Ho-165	165	2	HMI He	26594670	0.96	26417015	100.67	60	120	
Ir (IS)	193	2	HMI He	19639833	0.15	19705390	99.67	60	120	

Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB-8120901
Data File Name	057_CCB.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\ALL122023.b
Acq Date Time	2023-12-20T17:59:03-07:00
Sample Type	CCB
Dilution	1
Comment	
ISTD Ref File Name	020CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	Units	Conc %RSD	CPS	Upper Limit	QC Flag
Li	7	3	45	-16.175	ppb	-5.2	1426616	10	
Be	9	1	6	0.042	ppb	64.2	60	0.5	
B	11	1	6	21.658	ppb	4.2	8853	0.5	>RL
Na	23	2	45	11.570	ppb	21.4	40806	25	
Mg	24	2	45	12.253	ppb	4.0	2270	25	
Al	27	2	45	4.363	ppb	21.9	300	15	
K	39	2	45	33.885	ppb	53.7	44633	50	
Ti	47	2	45	0.572	ppb	39.4	30	0.5	>RL
V	51	2	72	-0.372	ppb	-5.0	670	1	
Cr	52	2	72	0.010	ppb	544.2	1480	1	
Mn	55	2	72	0.260	ppb	28.8	443	0.5	
(Fe)	57	2	72	4.299	ppb	56.8	670	25	
Co	59	2	72	0.019	ppb	82.2	340	0.5	
Ni	60	2	72	-0.759	ppb	-8.5	2087	1	
Cu	63	2	72	0.773	ppb	40.8	6725	1	
Zn	66	2	72	0.087	ppb	129.1	587	5	
As	75	2	72	-0.016	ppb	-606.0	86	1	
Se	78	1	72	0.000	ppb	12189.5	20	1	
Sr	88	2	72	0.206	ppb	57.3	347	0.5	
Zr	90	2	72	59.464	ppb	62.6	1420	1	>RL
Mo	95	2	115	0.196	ppb	42.7	343	0.5	
Ag	107	2	115	0.018	ppb	12.5	147	1	
Cd	111	2	115	0.032	ppb	99.6	27	0.5	
Sn	120	2	115	0.197	ppb	80.5	1490	1	
Sb	121	2	115	1.183	ppb	10.4	2547	0.6	>RL
Ba	137	2	115	0.092	ppb	61.5	133	0.5	
W	182	2	165	0.291	ppb	17.7	3527	1	
Tl	205	2	165	0.049	ppb	15.6	1400	0.1	
Pb	208	2	165	0.008	ppb	144.8	2734	0.5	
Th	232	2	193	0.244	ppb	18.0	23657	1	
U	238	2	193	0.031	ppb	53.9	6772	0.5	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal standard	6	1	HMI H2	375276	1.17	403136	93.09	60	120	
Sc (IS)	45	1	HMI H2	23804350	0.60	22841480	104.22	60	120	
Sc (IS)	45	2	HMI He	1631508	1.37	1496308	109.04	60	120	
Sc (IS)	45	3	No Gas	42142399	1.81	41056866	102.64	60	120	
Ge Internal standard	72	1	HMI H2	13368551	1.09	12474010	107.17	60	120	
Ge Internal standard	72	2	HMI He	2013781	1.31	1875279	107.39	60	120	
In Internal standard	115	2	HMI He	6433418	0.72	6165359	104.35	60	120	
Ho-165	165	2	HMI He	26521619	1.02	26417015	100.40	60	120	
Ir (IS)	193	2	HMI He	19808101	0.85	19705390	100.52	60	120	

Sample Report

Sample Table

Sample Name	280-185532-a-3-k
Data File Name	058SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\ALL122023.b
Acq Date Time	2023-12-20T18:02:38-07:00
Analyst	Denver Metals
Sample Type	Sample
Dilution	1
Comment	637738 SOIL 6020B
ISTD Ref FileName	020CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	3	45	345.183	ppb	345.183	0.70	6414752	50000	
Be	9	1	6	13.173	ppb	13.173	9.01	4451	2000	
B	11	1	6	442.201	ppb	442.201	1.82	115121	2000	
Na	23	2	45	2351.179	ppb	2351.179	2.27	814312	400000	
Mg	24	2	45	270401.629	ppb	270401.629	1.55	42151844	400000	
Al	27	2	45	243725.161	ppb	243725.161	1.24	10529915	400000	
Si	28	2	45	1277.793	ppb	1277.793	0.53	360404	10000	
P	31	2	45	5716.498	ppb	5716.498	1.25	24707	10000	
K	39	2	45	80669.516	ppb	80669.516	0.28	8724339	400000	
Ca	40	1	45	1008135.922	ppb	1008135.922	0.55	4218760257	400000	
Ti	47	2	45	3647.931	ppb	3647.931	2.40	165548	4000	
V	51	2	72	504.483	ppb	504.483	0.91	783670	2000	
Cr	52	2	72	710.578	ppb	710.578	1.11	1500269	5000	
Mn	55	2	72	6732.713	ppb	6732.713	1.32	6392776	10000	
Fe	56	1	72	235372.413	ppb	235372.413	0.41	1791775653	10000	>LDR
(Fe)	57	2	72	248121.461	ppb	248121.461	0.51	10852394	400000	
Co	59	2	72	98.946	ppb	98.946	1.59	348795	2000	
Ni	60	2	72	184.546	ppb	184.546	0.36	192035	5000	
Cu	63	2	72	163.870	ppb	163.870	1.34	469981	5000	
Zn	66	2	72	625.898	ppb	625.898	1.06	317272	5000	
As	75	2	72	57.778	ppb	57.778	1.19	21228	2000	
Se	78	1	72	2.252	ppb	2.252	10.52	725	2000	
Sr	88	2	72	9038.560	ppb	9038.560	0.67	9988877	4000	
Zr	90	2	72	42185.838	ppb	42185.838	6.40	197692	1000	>LDR
Mo	95	2	115	7.831	ppb	7.831	3.96	10294	2000	
Ag	107	2	115	0.120	ppb	0.120	15.80	597	100	
Cd	111	2	115	0.507	ppb	0.507	16.57	343	2000	
Sn	120	2	115	23.290	ppb	23.290	0.19	39951	2000	
Sb	121	2	115	7.705	ppb	7.705	2.60	13566	1000	
Ba	137	2	115	1526.580	ppb	1526.580	1.00	861616	5000	
W	182	2	165	4.088	ppb	4.088	5.00	25613	100	
Tl	205	2	165	2.023	ppb	2.023	1.19	25419	2000	
Pb	208	2	165	107.100	ppb	107.100	1.36	1753367	5000	
Th	232	2	193	44.614	ppb	44.614	0.77	934768	2000	
U	238	2	193	13.548	ppb	13.548	0.90	302195	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal standard	6	1	HMI H2	317895	0.39	403136	78.86	60	120	
Sc (IS)	45	1	HMI H2	23308189	0.73	22841480	102.04	60	120	
Sc (IS)	45	2	HMI He	1606099	1.75	1496308	107.34	60	120	
Sc (IS)	45	3	No Gas	41219445	0.52	41056866	100.40	60	120	
Ge Internal standard	72	1	HMI H2	12401984	0.42	12474010	99.42	60	120	
Ge Internal standard	72	2	HMI He	1910739	1.16	1875279	101.89	60	120	
In Internal standard	115	2	HMI He	5858963	0.51	6165359	95.03	60	120	
Ho-165	165	2	HMI He	25894977	1.49	26417015	98.02	60	120	
Ir (IS)	193	2	HMI He	18306298	1.14	19705390	92.90	60	120	

Sample Report

Sample Table

Sample Name	280-185532-a-3-kSD@5
Data File Name	059SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\ALL122023.b
Acq Date Time	2023-12-20T18:06:17-07:00
Analyst	Denver Metals
Sample Type	Sample
Dilution	1
Comment	637738 SOIL 6020B
ISTD Ref FileName	020CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	3	45	53.116	ppb	53.116	3.01	2427230	50000	
Be	9	1	6	2.708	ppb	2.708	8.93	1047	2000	
B	11	1	6	93.100	ppb	93.100	2.96	28578	2000	
Na	23	2	45	490.266	ppb	490.266	0.47	199230	400000	
Mg	24	2	45	54631.719	ppb	54631.719	0.48	8546482	400000	
Al	27	2	45	50260.477	ppb	50260.477	1.62	2179093	400000	
Si	28	2	45	341.272	ppb	341.272	3.50	106250	10000	
P	31	2	45	1142.087	ppb	1142.087	1.90	5013	10000	
K	39	2	45	16635.888	ppb	16635.888	1.98	1837264	400000	
Ca	40	1	45	198724.869	ppb	198724.869	0.47	841400761	400000	
Ti	47	2	45	706.523	ppb	706.523	3.75	32179	4000	
V	51	2	72	97.339	ppb	97.339	1.46	154837	2000	
Cr	52	2	72	130.135	ppb	130.135	1.24	280705	5000	
Mn	55	2	72	1278.002	ppb	1278.002	1.27	1234819	10000	
Fe	56	1	72	46226.968	ppb	46226.968	0.88	366710061	10000	
(Fe)	57	2	72	50615.926	ppb	50615.926	1.25	2252778	400000	
Co	59	2	72	19.594	ppb	19.594	3.05	70483	2000	
Ni	60	2	72	35.707	ppb	35.707	3.20	40066	5000	
Cu	63	2	72	33.773	ppb	33.773	2.02	101928	5000	
Zn	66	2	72	131.558	ppb	131.558	2.19	68251	5000	
As	75	2	72	11.828	ppb	11.828	5.67	4490	2000	
Se	78	1	72	0.434	ppb	0.434	12.56	161	2000	
Sr	88	2	72	1854.050	ppb	1854.050	0.90	2085161	4000	
Zr	90	2	72	9792.859	ppb	9792.859	3.21	47511	1000	>LDR
Mo	95	2	115	1.679	ppb	1.679	2.07	2357	2000	
Ag	107	2	115	0.041	ppb	0.041	31.55	250	100	
Cd	111	2	115	0.114	ppb	0.114	43.64	83	2000	
Sn	120	2	115	4.844	ppb	4.844	8.25	9553	2000	
Sb	121	2	115	1.873	ppb	1.873	6.04	3674	1000	
Ba	137	2	115	290.688	ppb	290.688	0.09	171863	5000	
W	182	2	165	0.831	ppb	0.831	2.88	6778	100	
Tl	205	2	165	0.359	ppb	0.359	6.68	5295	2000	
Pb	208	2	165	21.150	ppb	21.150	1.86	358200	5000	
Th	232	2	193	8.334	ppb	8.334	1.61	198115	2000	
U	238	2	193	2.587	ppb	2.587	1.49	65457	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal standard	6	1	HMI H2	352363	0.39	403136	87.41	60	120	
Sc (IS)	45	1	HMI H2	23581044	0.95	22841480	103.24	60	120	
Sc (IS)	45	2	HMI He	1611450	0.18	1496308	107.70	60	120	
Sc (IS)	45	3	No Gas	42434924	1.61	41056866	103.36	60	120	
Ge Internal standard	72	1	HMI H2	12922366	1.03	12474010	103.59	60	120	
Ge Internal standard	72	2	HMI He	1944169	1.37	1875279	103.67	60	120	
In Internal standard	115	2	HMI He	6135351	0.25	6165359	99.51	60	120	
Ho-165	165	2	HMI He	26629051	0.70	26417015	100.80	60	120	
Ir (IS)	193	2	HMI He	19258656	1.09	19705390	97.73	60	120	

Sample Report

Sample Table

Sample Name	280-185532-a-3-I ms
Data File Name	060SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\ALL122023.b
Acq Date Time	2023-12-20T18:09:50-07:00
Analyst	Denver Metals
Sample Type	Sample
Dilution	1
Comment	637738 SOIL 6020B
ISTD Ref FileName	020CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	3	45	1255.136	ppb	1255.136	2.07	18797708	50000	
Be	9	1	6	1191.276	ppb	1191.276	0.63	362569	2000	
B	11	1	6	3265.490	ppb	3265.490	1.02	760540	2000	
Na	23	2	45	48766.302	ppb	48766.302	0.60	15776917	400000	
Mg	24	2	45	392242.376	ppb	392242.376	0.49	59659454	400000	
Al	27	2	45	382839.729	ppb	382839.729	0.03	16137560	400000	
Si	28	2	45	1579.113	ppb	1579.113	5.47	431568	10000	
P	31	2	45	25232.414	ppb	25232.414	0.89	106144	10000	
K	39	2	45	170134.156	ppb	170134.156	0.82	17905307	400000	
Ca	40	1	45	OR	ppb	OR	#VALUE!	OR	400000	
Ti	47	2	45	6930.851	ppb	6930.851	0.76	306873	4000	
V	51	2	72	1889.873	ppb	1889.873	0.88	2816945	2000	
Cr	52	2	72	1961.764	ppb	1961.764	0.85	3976871	5000	
Mn	55	2	72	9575.287	ppb	9575.287	0.57	8734474	10000	
Fe	56	1	72	316310.542	ppb	316310.542	0.95	2413753884	10000	>LDR
(Fe)	57	2	72	335956.338	ppb	335956.338	1.32	14115740	400000	
Co	59	2	72	1107.850	ppb	1107.850	0.62	3749293	2000	
Ni	60	2	72	1146.719	ppb	1146.719	0.67	1132508	5000	
Cu	63	2	72	1158.287	ppb	1158.287	1.41	3167066	5000	
Zn	66	2	72	1730.694	ppb	1730.694	0.23	841882	5000	
As	75	2	72	1119.781	ppb	1119.781	0.26	393671	2000	
Se	78	1	72	1043.371	ppb	1043.371	0.65	328334	2000	
Sr	88	2	72	12635.732	ppb	12635.732	0.62	13415288	4000	
Zr	90	2	72	677172.900	ppb	677172.900	1.44	3031678	1000	>LDR
Mo	95	2	115	1123.344	ppb	1123.344	2.08	1425478	2000	
Ag	107	2	115	48.426	ppb	48.426	1.53	213182	100	
Cd	111	2	115	994.908	ppb	994.908	1.64	648386	2000	
Sn	120	2	115	1174.882	ppb	1174.882	2.16	1906668	2000	
Sb	121	2	115	1113.988	ppb	1113.988	0.49	1864919	1000	
Ba	137	2	115	3427.474	ppb	3427.474	1.59	1877638	5000	
W	182	2	165	6.412	ppb	6.412	0.91	38216	100	
Tl	205	2	165	987.214	ppb	987.214	0.70	11725387	2000	
Pb	208	2	165	1127.025	ppb	1127.025	0.89	17970083	5000	
Th	232	2	193	57.866	ppb	57.866	1.00	1167621	2000	
U	238	2	193	17.978	ppb	17.978	0.96	386023	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal standard	6	1	HMI H2	288666	1.50	403136	71.61	60	120	
Sc (IS)	45	1	HMI H2	23951606	0.88	22841480	104.86	60	120	
Sc (IS)	45	2	HMI He	1566781	0.54	1496308	104.71	60	120	
Sc (IS)	45	3	No Gas	40661190	0.63	41056866	99.04	60	120	
Ge Internal standard	72	1	HMI H2	12432297	0.67	12474010	99.67	60	120	
Ge Internal standard	72	2	HMI He	1835577	0.62	1875279	97.88	60	120	
In Internal standard	115	2	HMI He	5687485	1.37	6165359	92.25	60	120	
Ho-165	165	2	HMI He	25252500	1.23	26417015	95.59	60	120	
Ir (IS)	193	2	HMI He	17703179	1.13	19705390	89.84	60	120	

Sample Report

Sample Table

Sample Name	280-185532-a-3-m msd
Data File Name	061SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\ALL122023.b
Acq Date Time	2023-12-20T18:13:20-07:00
Analyst	Denver Metals
Sample Type	Sample
Dilution	1
Comment	637738 SOIL 6020B
ISTD Ref FileName	020CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	3	45	1264.081	ppb	1264.081	0.48	18760513	50000	
Be	9	1	6	1121.563	ppb	1121.563	2.07	352792	2000	
B	11	1	6	2975.972	ppb	2975.972	0.39	716599	2000	
Na	23	2	45	47927.196	ppb	47927.196	0.53	15003976	400000	
Mg	24	2	45	332729.481	ppb	332729.481	0.29	48968286	400000	
Al	27	2	45	325710.257	ppb	325710.257	0.62	13284960	400000	
Si	28	2	45	1459.118	ppb	1459.118	2.38	386727	10000	
P	31	2	45	24041.146	ppb	24041.146	0.92	97865	10000	
K	39	2	45	149334.908	ppb	149334.908	0.65	15212570	400000	
Ca	40	1	45	1091775.420	ppb	1091775.420	0.33	4456722920	400000	
Ti	47	2	45	6121.260	ppb	6121.260	0.83	262256	4000	
V	51	2	72	1752.565	ppb	1752.565	0.67	2549319	2000	
Cr	52	2	72	1793.022	ppb	1793.022	0.83	3547294	5000	
Mn	55	2	72	8064.087	ppb	8064.087	0.36	7178787	10000	
Fe	56	1	72	265210.137	ppb	265210.137	0.70	1951830904	10000	>LDR
(Fe)	57	2	72	277354.566	ppb	277354.566	0.90	11372972	400000	
Co	59	2	72	1083.646	ppb	1083.646	0.85	3578943	2000	
Ni	60	2	72	1100.131	ppb	1100.131	0.49	1060427	5000	
Cu	63	2	72	1107.910	ppb	1107.910	0.32	2956463	5000	
Zn	66	2	72	1587.035	ppb	1587.035	0.30	753423	5000	
As	75	2	72	1104.352	ppb	1104.352	0.12	378884	2000	
Se	78	1	72	1031.632	ppb	1031.632	1.98	313062	2000	
Sr	88	2	72	11295.600	ppb	11295.600	0.82	11703328	4000	
Zr	90	2	72	673675.083	ppb	673675.083	0.90	2943162	1000	>LDR
Mo	95	2	115	1092.636	ppb	1092.636	0.84	1375861	2000	
Ag	107	2	115	48.588	ppb	48.588	1.78	212289	100	
Cd	111	2	115	984.200	ppb	984.200	0.45	636675	2000	
Sn	120	2	115	1163.889	ppb	1163.889	1.05	1874827	2000	
Sb	121	2	115	1119.247	ppb	1119.247	0.80	1859644	1000	
Ba	137	2	115	3044.115	ppb	3044.115	1.65	1655375	5000	
W	182	2	165	5.595	ppb	5.595	1.07	33615	100	
Tl	205	2	165	998.115	ppb	998.115	0.26	11875582	2000	
Pb	208	2	165	1111.810	ppb	1111.810	0.89	17758342	5000	
Th	232	2	193	48.915	ppb	48.915	0.48	1002127	2000	
U	238	2	193	15.133	ppb	15.133	2.88	330010	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal standard	6	1	HMI H2	298362	1.00	403136	74.01	60	120	
Sc (IS)	45	1	HMI H2	22736684	0.41	22841480	99.54	60	120	
Sc (IS)	45	2	HMI He	1516053	0.08	1496308	101.32	60	120	
Sc (IS)	45	3	No Gas	40321048	0.10	41056866	98.21	60	120	
Ge Internal standard	72	1	HMI H2	11990876	1.46	12474010	96.13	60	120	
Ge Internal standard	72	2	HMI He	1791302	0.28	1875279	95.52	60	120	
In Internal standard	115	2	HMI He	5644878	1.51	6165359	91.56	60	120	
Ho-165	165	2	HMI He	25294915	1.15	26417015	95.75	60	120	
Ir (IS)	193	2	HMI He	17927749	1.04	19705390	90.98	60	120	

Sample Report

Sample Table

Sample Name	280-185532-a-3-n du
Data File Name	062SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\ALL122023.b
Acq Date Time	2023-12-20T18:16:56-07:00
Analyst	Denver Metals
Sample Type	Sample
Dilution	1
Comment	637738 SOIL 6020B
ISTD Ref FileName	020CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	3	45	464.086	ppb	464.086	0.59	7920500	50000	
Be	9	1	6	14.598	ppb	14.598	3.04	4928	2000	
B	11	1	6	538.683	ppb	538.683	2.92	139748	2000	
Na	23	2	45	2575.840	ppb	2575.840	0.86	817094	400000	
Mg	24	2	45	308603.571	ppb	308603.571	1.15	44237994	400000	
Al	27	2	45	282617.218	ppb	282617.218	1.14	11227790	400000	
Si	28	2	45	1305.716	ppb	1305.716	2.15	338321	10000	
P	31	2	45	6467.354	ppb	6467.354	1.46	25693	10000	
K	39	2	45	89785.824	ppb	89785.824	1.34	8923481	400000	
Ca	40	1	45	1140023.572	ppb	1140023.572	0.12	4552425639	400000	
Ti	47	2	45	4063.678	ppb	4063.678	1.74	169579	4000	
V	51	2	72	563.060	ppb	563.060	0.90	814799	2000	
Cr	52	2	72	789.784	ppb	789.784	1.56	1553668	5000	
Mn	55	2	72	7651.525	ppb	7651.525	1.34	6769915	10000	
Fe	56	1	72	267657.028	ppb	267657.028	0.83	1951514424	10000	>LDR
(Fe)	57	2	72	280002.519	ppb	280002.519	0.44	11411809	400000	
Co	59	2	72	111.578	ppb	111.578	1.16	366483	2000	
Ni	60	2	72	209.176	ppb	209.176	1.02	202476	5000	
Cu	63	2	72	187.197	ppb	187.197	1.58	499724	5000	
Zn	66	2	72	709.154	ppb	709.154	0.91	334872	5000	
As	75	2	72	66.745	ppb	66.745	1.04	22836	2000	
Se	78	1	72	3.257	ppb	3.257	11.37	997	2000	
Sr	88	2	72	10531.377	ppb	10531.377	0.83	10845027	4000	
Zr	90	2	72	57451.877	ppb	57451.877	0.20	250386	1000	>LDR
Mo	95	2	115	10.778	ppb	10.778	1.98	13766	2000	
Ag	107	2	115	0.145	ppb	0.145	16.74	690	100	
Cd	111	2	115	0.889	ppb	0.889	30.65	583	2000	
Sn	120	2	115	25.904	ppb	25.904	1.40	43126	2000	
Sb	121	2	115	13.535	ppb	13.535	3.18	22991	1000	
Ba	137	2	115	1744.720	ppb	1744.720	0.56	958298	5000	
W	182	2	165	4.409	ppb	4.409	0.67	27235	100	
Tl	205	2	165	2.959	ppb	2.959	1.77	36479	2000	
Pb	208	2	165	123.313	ppb	123.313	0.37	1999978	5000	
Th	232	2	193	50.748	ppb	50.748	0.11	1051824	2000	
U	238	2	193	15.829	ppb	15.829	0.80	349096	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal standard	6	1	HMI H2	317836	1.45	403136	78.84	60	120	
Sc (IS)	45	1	HMI H2	22241899	0.19	22841480	97.38	60	120	
Sc (IS)	45	2	HMI He	1476847	1.62	1496308	98.70	60	120	
Sc (IS)	45	3	No Gas	40473608	0.87	41056866	98.58	60	120	
Ge Internal standard	72	1	HMI H2	11878836	0.49	12474010	95.23	60	120	
Ge Internal standard	72	2	HMI He	1780418	0.45	1875279	94.94	60	120	
In Internal standard	115	2	HMI He	5701680	1.31	6165359	92.48	60	120	
Ho-165	165	2	HMI He	25655454	0.54	26417015	97.12	60	120	
Ir (IS)	193	2	HMI He	18147692	0.91	19705390	92.10	60	120	

Sample Report

Sample Table

Sample Name	280-185532-a-3-o trl
Data File Name	063SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\ALL122023.b
Acq Date Time	2023-12-20T18:20:34-07:00
Analyst	Denver Metals
Sample Type	Sample
Dilution	1
Comment	637738 SOIL 6020B
ISTD Ref FileName	020CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	3	45	412.079	ppb	412.079	0.91	7154528	50000	
Be	9	1	6	12.773	ppb	12.773	6.71	4341	2000	
B	11	1	6	455.613	ppb	455.613	2.63	119187	2000	
Na	23	2	45	2356.212	ppb	2356.212	0.50	734868	400000	
Mg	24	2	45	273333.043	ppb	273333.043	0.15	38378975	400000	
Al	27	2	45	254105.510	ppb	254105.510	1.14	9888287	400000	
Si	28	2	45	1345.497	ppb	1345.497	3.27	341141	10000	
P	31	2	45	5751.781	ppb	5751.781	2.37	22389	10000	
K	39	2	45	80956.766	ppb	80956.766	0.77	7884607	400000	
Ca	40	1	45	1003679.514	ppb	1003679.514	0.55	4006076100	400000	
Ti	47	2	45	3724.275	ppb	3724.275	0.97	152229	4000	
V	51	2	72	509.764	ppb	509.764	1.63	724159	2000	
Cr	52	2	72	668.772	ppb	668.772	2.15	1291414	5000	
Mn	55	2	72	6819.952	ppb	6819.952	3.60	5920993	10000	
Fe	56	1	72	235528.629	ppb	235528.629	0.82	1727905574	10000	>LDR
(Fe)	57	2	72	253061.971	ppb	253061.971	2.31	10121975	400000	
Co	59	2	72	99.827	ppb	99.827	2.14	321821	2000	
Ni	60	2	72	187.482	ppb	187.482	2.32	178366	5000	
Cu	63	2	72	167.921	ppb	167.921	1.66	440401	5000	
Zn	66	2	72	639.917	ppb	639.917	2.26	296617	5000	
As	75	2	72	59.758	ppb	59.758	2.02	20075	2000	
Se	78	1	72	2.280	ppb	2.280	12.48	708	2000	
Sr	88	2	72	9339.219	ppb	9339.219	2.47	9438364	4000	
Zr	90	2	72	51380.345	ppb	51380.345	1.93	219878	1000	>LDR
Mo	95	2	115	8.157	ppb	8.157	2.08	10374	2000	
Ag	107	2	115	0.113	ppb	0.113	7.63	550	100	
Cd	111	2	115	0.595	ppb	0.595	13.11	390	2000	
Sn	120	2	115	24.543	ppb	24.543	0.88	40696	2000	
Sb	121	2	115	8.688	ppb	8.688	5.42	14771	1000	
Ba	137	2	115	1545.252	ppb	1545.252	0.69	844169	5000	
W	182	2	165	4.158	ppb	4.158	1.12	25719	100	
Tl	205	2	165	2.229	ppb	2.229	2.44	27593	2000	
Pb	208	2	165	109.136	ppb	109.136	0.57	1765863	5000	
Th	232	2	193	45.862	ppb	45.862	0.88	954190	2000	
U	238	2	193	14.017	ppb	14.017	0.57	310411	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal standard	6	1	HMI H2	319596	0.34	403136	79.28	60	120	
Sc (IS)	45	1	HMI H2	22231910	0.68	22841480	97.33	60	120	
Sc (IS)	45	2	HMI He	1446404	0.34	1496308	96.66	60	120	
Sc (IS)	45	3	No Gas	40156991	0.55	41056866	97.81	60	120	
Ge Internal standard	72	1	HMI H2	11952339	0.45	12474010	95.82	60	120	
Ge Internal standard	72	2	HMI He	1748030	2.80	1875279	93.21	60	120	
In Internal standard	115	2	HMI He	5670880	0.81	6165359	91.98	60	120	
Ho-165	165	2	HMI He	25592362	1.33	26417015	96.88	60	120	
Ir (IS)	193	2	HMI He	18186233	0.79	19705390	92.29	60	120	

Sample Report

Sample Table

Sample Name	280-185532-a-3-k PDS
Data File Name	064SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\ALL122023.b
Acq Date Time	2023-12-20T18:24:14-07:00
Analyst	Denver Metals
Sample Type	Sample
Dilution	1
Comment	637738 SOIL 6020B
ISTD Ref FileName	020CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	3	45	580.799	ppb	580.799	0.28	9487567	50000	
Be	9	1	6	229.338	ppb	229.338	1.64	76281	2000	
B	11	1	6	442.060	ppb	442.060	1.38	114160	2000	
Na	23	2	45	7372.339	ppb	7372.339	2.19	2240627	400000	
Mg	24	2	45	268320.271	ppb	268320.271	1.14	37862212	400000	
Al	27	2	45	246175.197	ppb	246175.197	0.49	9627865	400000	
Si	28	2	45	1991.000	ppb	1991.000	2.05	501589	10000	
P	31	2	45	7939.136	ppb	7939.136	1.18	31034	10000	
K	39	2	45	79792.703	ppb	79792.703	1.02	7810570	400000	
Ca	40	1	45	992945.952	ppb	992945.952	0.45	3932269808	400000	
Ti	47	2	45	3938.057	ppb	3938.057	0.76	161776	4000	
V	51	2	72	704.173	ppb	704.173	0.88	1004643	2000	
Cr	52	2	72	905.233	ppb	905.233	0.28	1756044	5000	
Mn	55	2	72	6787.052	ppb	6787.052	0.63	5922338	10000	
Fe	56	1	72	234246.708	ppb	234246.708	0.36	1718672828	10000	>LDR
(Fe)	57	2	72	243212.736	ppb	243212.736	0.49	9775277	400000	
Co	59	2	72	290.857	ppb	290.857	1.03	941685	2000	
Ni	60	2	72	371.107	ppb	371.107	0.96	352271	5000	
Cu	63	2	72	352.284	ppb	352.284	0.35	924025	5000	
Zn	66	2	72	812.946	ppb	812.946	0.26	378505	5000	
As	75	2	72	269.316	ppb	269.316	1.35	90626	2000	
Se	78	1	72	213.847	ppb	213.847	0.36	64717	2000	
Sr	88	2	72	9249.703	ppb	9249.703	0.90	9393380	4000	
Zr	90	2	72	51832.219	ppb	51832.219	0.85	222858	1000	>LDR
Mo	95	2	115	229.103	ppb	229.103	1.64	288522	2000	
Ag	107	2	115	54.725	ppb	54.725	1.48	239103	100	
Cd	111	2	115	200.703	ppb	200.703	0.92	129825	2000	
Sn	120	2	115	240.817	ppb	240.817	0.21	388676	2000	
Sb	121	2	115	222.197	ppb	222.197	0.35	369359	1000	
Ba	137	2	115	1753.274	ppb	1753.274	0.77	953256	5000	
W	182	2	165	152.584	ppb	152.584	0.78	887557	100	
Tl	205	2	165	216.830	ppb	216.830	0.72	2626237	2000	
Pb	208	2	165	315.084	ppb	315.084	0.60	5123917	5000	
Th	232	2	193	161.831	ppb	161.831	33.84	3339965	2000	
U	238	2	193	265.483	ppb	265.483	0.81	5794774	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal standard	6	1	HMI H2	315366	1.17	403136	78.23	60	120	
Sc (IS)	45	1	HMI H2	22058003	0.63	22841480	96.57	60	120	
Sc (IS)	45	2	HMI He	1453734	1.30	1496308	97.15	60	120	
Sc (IS)	45	3	No Gas	40367990	0.72	41056866	98.32	60	120	
Ge Internal standard	72	1	HMI H2	11953273	0.47	12474010	95.83	60	120	
Ge Internal standard	72	2	HMI He	1755767	1.05	1875279	93.63	60	120	
In Internal standard	115	2	HMI He	5643978	0.52	6165359	91.54	60	120	
Ho-165	165	2	HMI He	25744886	0.81	26417015	97.46	60	120	
Ir (IS)	193	2	HMI He	18232448	1.06	19705390	92.53	60	120	

Sample Report

Sample Table

Sample Name	280-185532-a-4-c
Data File Name	065SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\ALL122023.b
Acq Date Time	2023-12-20T18:27:52-07:00
Analyst	Denver Metals
Sample Type	Sample
Dilution	1
Comment	637738 SOIL 6020B
ISTD Ref FileName	020CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	3	45	498.051	ppb	498.051	0.29	8419912	50000	
Be	9	1	6	16.210	ppb	16.210	3.63	5384	2000	
B	11	1	6	482.792	ppb	482.792	1.61	123558	2000	
Na	23	2	45	3166.384	ppb	3166.384	1.13	955777	400000	
Mg	24	2	45	336203.699	ppb	336203.699	1.23	46215709	400000	
Al	27	2	45	303947.580	ppb	303947.580	1.35	11578899	400000	
Si	28	2	45	1353.905	ppb	1353.905	5.63	335877	10000	
P	31	2	45	7537.864	ppb	7537.864	1.00	28705	10000	
K	39	2	45	97663.654	ppb	97663.654	1.26	9304412	400000	
Ca	40	1	45	1176122.610	ppb	1176122.610	1.04	4639188304	400000	
Ti	47	2	45	4455.163	ppb	4455.163	2.58	178255	4000	
V	51	2	72	528.943	ppb	528.943	1.23	742014	2000	
Cr	52	2	72	847.250	ppb	847.250	2.47	1615275	5000	
Mn	55	2	72	9142.833	ppb	9142.833	0.92	7841285	10000	
Fe	56	1	72	289316.780	ppb	289316.780	0.64	2084251062	10000	>LDR
(Fe)	57	2	72	303631.131	ppb	303631.131	1.18	11994694	400000	
Co	59	2	72	115.740	ppb	115.740	0.58	368493	2000	
Ni	60	2	72	222.150	ppb	222.150	0.34	208297	5000	
Cu	63	2	72	169.932	ppb	169.932	0.88	440078	5000	
Zn	66	2	72	752.460	ppb	752.460	1.19	344402	5000	
As	75	2	72	75.477	ppb	75.477	1.71	25019	2000	
Se	78	1	72	2.396	ppb	2.396	2.61	729	2000	
Sr	88	2	72	9095.235	ppb	9095.235	1.52	9078448	4000	
Zr	90	2	72	57993.328	ppb	57993.328	0.33	244992	1000	>LDR
Mo	95	2	115	9.689	ppb	9.689	1.38	12078	2000	
Ag	107	2	115	0.108	ppb	0.108	19.79	513	100	
Cd	111	2	115	0.629	ppb	0.629	11.24	403	2000	
Sn	120	2	115	27.296	ppb	27.296	1.44	44293	2000	
Sb	121	2	115	10.815	ppb	10.815	0.31	17971	1000	
Ba	137	2	115	2978.077	ppb	2978.077	1.78	1595598	5000	
W	182	2	165	7.633	ppb	7.633	2.03	45603	100	
Tl	205	2	165	2.731	ppb	2.731	1.61	33519	2000	
Pb	208	2	165	130.977	ppb	130.977	0.87	2111095	5000	
Th	232	2	193	59.384	ppb	59.384	0.79	1217845	2000	
U	238	2	193	16.073	ppb	16.073	1.35	351461	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal standard	6	1	HMI H2	312954	0.43	403136	77.63	60	120	
Sc (IS)	45	1	HMI H2	21970679	0.66	22841480	96.19	60	120	
Sc (IS)	45	2	HMI He	1416178	1.75	1496308	94.64	60	120	
Sc (IS)	45	3	No Gas	40648341	0.99	41056866	99.00	60	120	
Ge Internal standard	72	1	HMI H2	11736928	0.39	12474010	94.09	60	120	
Ge Internal standard	72	2	HMI He	1725926	1.56	1875279	92.04	60	120	
In Internal standard	115	2	HMI He	5562875	1.20	6165359	90.23	60	120	
Ho-165	165	2	HMI He	25498258	0.87	26417015	96.52	60	120	
Ir (IS)	193	2	HMI He	17997818	0.54	19705390	91.33	60	120	

Sample Report

Sample Table

Sample Name	280-185532-a-5-c
Data File Name	066SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\ALL122023.b
Acq Date Time	2023-12-20T18:31:31-07:00
Analyst	Denver Metals
Sample Type	Sample
Dilution	1
Comment	637738 SOIL 6020B
ISTD Ref FileName	020CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	3	45	398.243	ppb	398.243	0.32	7049550	50000	
Be	9	1	6	11.795	ppb	11.795	3.32	3997	2000	
B	11	1	6	376.714	ppb	376.714	0.78	98549	2000	
Na	23	2	45	2408.387	ppb	2408.387	0.23	750691	400000	
Mg	24	2	45	261741.224	ppb	261741.224	1.11	36762825	400000	
Al	27	2	45	235897.659	ppb	235897.659	0.16	9183291	400000	
Si	28	2	45	1008.572	ppb	1008.572	2.26	258805	10000	
P	31	2	45	5981.282	ppb	5981.282	1.42	23289	10000	
K	39	2	45	75744.591	ppb	75744.591	0.31	7382334	400000	
Ca	40	1	45	1029182.497	ppb	1029182.497	0.16	4031881433	400000	
Ti	47	2	45	3577.798	ppb	3577.798	0.77	146294	4000	
V	51	2	72	420.156	ppb	420.156	0.82	597417	2000	
Cr	52	2	72	230.117	ppb	230.117	0.75	445507	5000	
Mn	55	2	72	7252.673	ppb	7252.673	0.51	6302369	10000	
Fe	56	1	72	227275.243	ppb	227275.243	0.69	1642878909	10000	>LDR
(Fe)	57	2	72	240913.221	ppb	240913.221	0.72	9642515	400000	
Co	59	2	72	92.382	ppb	92.382	0.94	298051	2000	
Ni	60	2	72	169.819	ppb	169.819	0.77	161907	5000	
Cu	63	2	72	134.356	ppb	134.356	0.39	353339	5000	
Zn	66	2	72	602.990	ppb	602.990	0.80	279696	5000	
As	75	2	72	60.971	ppb	60.971	0.95	20494	2000	
Se	78	1	72	1.798	ppb	1.798	5.50	553	2000	
Sr	88	2	72	7403.331	ppb	7403.331	0.67	7487304	4000	
Zr	90	2	72	51181.785	ppb	51181.785	2.51	219145	1000	>LDR
Mo	95	2	115	6.749	ppb	6.749	4.61	8596	2000	
Ag	107	2	115	0.073	ppb	0.073	4.71	373	100	
Cd	111	2	115	0.528	ppb	0.528	19.34	347	2000	
Sn	120	2	115	24.190	ppb	24.190	0.29	40138	2000	
Sb	121	2	115	7.867	ppb	7.867	5.08	13406	1000	
Ba	137	2	115	2177.126	ppb	2177.126	0.37	1189696	5000	
W	182	2	165	6.046	ppb	6.046	0.98	36872	100	
Tl	205	2	165	2.072	ppb	2.072	2.27	25893	2000	
Pb	208	2	165	103.467	ppb	103.467	0.51	1686220	5000	
Th	232	2	193	47.628	ppb	47.628	0.83	994314	2000	
U	238	2	193	12.379	ppb	12.379	0.78	275925	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal standard	6	1	HMI H2	318509	0.61	403136	79.01	60	120	
Sc (IS)	45	1	HMI H2	21820265	0.78	22841480	95.53	60	120	
Sc (IS)	45	2	HMI He	1446966	1.06	1496308	96.70	60	120	
Sc (IS)	45	3	No Gas	40629344	1.14	41056866	98.96	60	120	
Ge Internal standard	72	1	HMI H2	11777174	1.06	12474010	94.41	60	120	
Ge Internal standard	72	2	HMI He	1748498	1.09	1875279	93.24	60	120	
In Internal standard	115	2	HMI He	5672893	1.13	6165359	92.01	60	120	
Ho-165	165	2	HMI He	25773867	0.59	26417015	97.57	60	120	
Ir (IS)	193	2	HMI He	18260271	0.62	19705390	92.67	60	120	

Sample Report

Sample Table

Sample Name	280-185532-a-6-c
Data File Name	067SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\ALL122023.b
Acq Date Time	2023-12-20T18:35:12-07:00
Analyst	Denver Metals
Sample Type	Sample
Dilution	1
Comment	637738 SOIL 6020B
ISTD Ref FileName	020CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	3	45	396.865	ppb	396.865	1.63	7009570	50000	
Be	9	1	6	12.028	ppb	12.028	2.94	4041	2000	
B	11	1	6	376.741	ppb	376.741	1.95	97708	2000	
Na	23	2	45	2445.159	ppb	2445.159	0.81	747818	400000	
Mg	24	2	45	264712.669	ppb	264712.669	0.49	36505122	400000	
Al	27	2	45	242147.764	ppb	242147.764	0.34	9254849	400000	
Si	28	2	45	938.419	ppb	938.419	1.87	237254	10000	
P	31	2	45	5909.562	ppb	5909.562	2.41	22596	10000	
K	39	2	45	77936.923	ppb	77936.923	0.81	7456226	400000	
Ca	40	1	45	1008796.644	ppb	1008796.644	0.92	3977432474	400000	
Ti	47	2	45	3649.423	ppb	3649.423	0.93	146518	4000	
V	51	2	72	410.247	ppb	410.247	0.72	586796	2000	
Cr	52	2	72	226.567	ppb	226.567	1.09	441244	5000	
Mn	55	2	72	6964.757	ppb	6964.757	1.30	6088111	10000	
Fe	56	1	72	227739.627	ppb	227739.627	1.04	1655173629	10000	>LDR
(Fe)	57	2	72	235675.046	ppb	235675.046	0.45	9488996	400000	
Co	59	2	72	90.578	ppb	90.578	0.62	293940	2000	
Ni	60	2	72	168.705	ppb	168.705	0.78	161838	5000	
Cu	63	2	72	132.554	ppb	132.554	1.40	350690	5000	
Zn	66	2	72	594.262	ppb	594.262	1.79	277301	5000	
As	75	2	72	61.451	ppb	61.451	1.73	20774	2000	
Se	78	1	72	1.591	ppb	1.591	8.09	495	2000	
Sr	88	2	72	7190.209	ppb	7190.209	1.40	7313935	4000	
Zr	90	2	72	52429.521	ppb	52429.521	6.79	225651	1000	>LDR
Mo	95	2	115	6.720	ppb	6.720	1.57	8559	2000	
Ag	107	2	115	0.080	ppb	0.080	30.83	407	100	
Cd	111	2	115	0.456	ppb	0.456	29.49	300	2000	
Sn	120	2	115	24.160	ppb	24.160	1.17	40101	2000	
Sb	121	2	115	7.829	ppb	7.829	1.91	13343	1000	
Ba	137	2	115	2475.991	ppb	2475.991	0.48	1353145	5000	
W	182	2	165	5.818	ppb	5.818	1.38	35559	100	
Tl	205	2	165	2.052	ppb	2.052	2.19	25653	2000	
Pb	208	2	165	105.300	ppb	105.300	0.57	1716412	5000	
Th	232	2	193	47.606	ppb	47.606	0.87	994138	2000	
U	238	2	193	12.550	ppb	12.550	0.74	279718	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal standard	6	1	HMI H2	315771	0.32	403136	78.33	60	120	
Sc (IS)	45	1	HMI H2	21961336	0.66	22841480	96.15	60	120	
Sc (IS)	45	2	HMI He	1420643	1.26	1496308	94.94	60	120	
Sc (IS)	45	3	No Gas	40511645	1.14	41056866	98.67	60	120	
Ge Internal standard	72	1	HMI H2	11841016	0.58	12474010	94.93	60	120	
Ge Internal standard	72	2	HMI He	1758902	1.68	1875279	93.79	60	120	
In Internal standard	115	2	HMI He	5673667	1.87	6165359	92.02	60	120	
Ho-165	165	2	HMI He	25779606	0.91	26417015	97.59	60	120	
Ir (IS)	193	2	HMI He	18266438	1.47	19705390	92.70	60	120	

Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV-8120917
Data File Name	068_CCV.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\ALL122023.b
Acq Date Time	2023-12-20T18:38:51-07:00
Sample Type	CCV
Dilution	1
Comment	
ISTD Ref File Name	020CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	Units	Conc %RSD	CPS	Exp Value	%Rec	%Low	%High2	QC Flag
Be	9	1	6	51.043	ppb	2.937	18734	50	102.1	90	110	
Na	23	2	45	49179.730	ppb	3.042	13805228	51000	96.4	90	110	
Mg	24	2	45	10967.037	ppb	3.696	1447437	11000	99.7	90	110	
Al	27	2	45	1075.723	ppb	3.209	39433	1000	107.6	90	110	
K	39	2	45	10003.987	ppb	2.891	945679	11000	90.9	90	110	
Ca	40	1	45	11120.763	ppb	1.289	43746251	11000	101.1	90	110	
Ti	47	2	45	57.628	ppb	5.268	2220	50	115.3	90	110	>+\-10%
V	51	2	72	50.702	ppb	1.418	75230	50	101.4	90	110	
Cr	52	2	72	50.320	ppb	1.010	101319	50	100.6	90	110	
Mn	55	2	72	50.259	ppb	3.572	45122	50	100.5	90	110	
Fe	56	1	72	1153.030	ppb	1.674	8799900	1000	115.3	90	110	>+\-10%
Co	59	2	72	49.370	ppb	0.956	164103	50	98.7	90	110	
Ni	60	2	72	46.213	ppb	1.200	47258	50	92.4	90	110	
Cu	63	2	72	48.900	ppb	1.337	134920	50	97.8	90	110	
Zn	66	2	72	53.576	ppb	1.864	26028	50	107.2	90	110	
As	75	2	72	51.701	ppb	0.875	17905	50	103.4	90	110	
Se	78	1	72	51.897	ppb	0.196	16219	50	103.8	90	110	
Sr	88	2	72	102.579	ppb	1.197	106909	100	102.6	90	110	
Zr	90	2	72	5779.060	ppb	3.704	26379	50	11558.1	90	110	>+\-10%
Mo	95	2	115	51.144	ppb	0.852	68582	50	102.3	90	110	
Ag	107	2	115	49.762	ppb	1.347	231345	50	99.5	90	110	
Cd	111	2	115	49.768	ppb	4.481	34251	50	99.5	90	110	
Sn	120	2	115	51.416	ppb	0.924	89136	50	102.8	90	110	
Sb	121	2	115	51.524	ppb	3.269	91348	50	103.0	90	110	
Ba	137	2	115	51.606	ppb	2.979	29926	50	103.2	90	110	
W	182	2	165	51.951	ppb	0.425	307917	50	103.9	90	110	
Tl	205	2	165	49.730	ppb	1.371	612029	50	99.5	90	110	
Pb	208	2	165	50.324	ppb	0.947	832891	50	100.6	90	110	
Th	232	2	193	46.053	ppb	1.014	1015747	50	92.1	90	110	
U	238	2	193	46.072	ppb	0.634	1068274	50	92.1	90	110	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal standard	6	1	HMI H2	347332	0.61	403136	86.16	60	120	
Sc (IS)	45	1	HMI H2	21864856	0.35	22841480	95.72	60	120	
Sc (IS)	45	2	HMI He	1360202	2.71	1496308	90.90	60	120	
Sc (IS)	45	3	No Gas	40013704	0.64	41056866	97.46	60	120	
Ge Internal standard	72	1	HMI H2	12333010	0.46	12474010	98.87	60	120	
Ge Internal standard	72	2	HMI He	1800364	0.71	1875279	96.01	60	120	
In Internal standard	115	2	HMI He	6005845	0.74	6165359	97.41	60	120	
Ho-165	165	2	HMI He	26133185	0.21	26417015	98.93	60	120	
Ir (IS)	193	2	HMI He	19280584	0.13	19705390	97.84	60	120	

Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB-8120901
Data File Name	069_CCB.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\ALL122023.b
Acq Date Time	2023-12-20T18:42:24-07:00
Sample Type	CCB
Dilution	1
Comment	
ISTD Ref File Name	020CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	Units	Conc %RSD	CPS	Upper Limit	QC Flag
Li	7	3	45	4.081	ppb	27.6	1569262	10	
Be	9	1	6	0.060	ppb	142.7	63	0.5	
B	11	1	6	24.136	ppb	3.5	9033	0.5	>RL
Na	23	2	45	-7.639	ppb	-117.1	27383	25	
Mg	24	2	45	15.781	ppb	12.5	2257	25	
Al	27	2	45	9.484	ppb	11.4	420	15	
K	39	2	45	-2.589	ppb	-622.5	32442	50	
Ti	47	2	45	0.553	ppb	27.5	23	0.5	>RL
V	51	2	72	-0.371	ppb	-13.5	580	1	
Cr	52	2	72	-0.072	ppb	-52.8	1120	1	
Mn	55	2	72	0.335	ppb	18.4	447	0.5	
(Fe)	57	2	72	5.736	ppb	35.6	637	25	
Co	59	2	72	0.011	ppb	92.8	267	0.5	
Ni	60	2	72	-1.321	ppb	-7.2	1277	1	
Cu	63	2	72	0.532	ppb	11.2	5191	1	
Zn	66	2	72	0.037	ppb	1030.9	483	5	
As	75	2	72	-0.072	ppb	-46.5	56	1	
Se	78	1	72	0.033	ppb	175.6	28	1	
Sr	88	2	72	0.428	ppb	36.9	523	0.5	
Zr	90	2	72	126.794	ppb	5.3	1513	1	>RL
Mo	95	2	115	0.156	ppb	39.5	257	0.5	
Ag	107	2	115	0.005	ppb	89.4	77	1	
Cd	111	2	115	0.015	ppb	57.1	13	0.5	
Sn	120	2	115	0.228	ppb	46.3	1387	1	
Sb	121	2	115	0.494	ppb	8.7	1113	0.6	
Ba	137	2	115	0.231	ppb	31.9	197	0.5	
W	182	2	165	0.495	ppb	1.5	4574	1	
Tl	205	2	165	0.047	ppb	34.0	1327	0.1	
Pb	208	2	165	0.023	ppb	37.5	2870	0.5	
Th	232	2	193	0.329	ppb	9.1	24789	1	
U	238	2	193	0.026	ppb	35.4	6458	0.5	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal standard	6	1	HMI H2	352957	0.29	403136	87.55	60	120	
Sc (IS)	45	1	HMI H2	21137351	0.35	22841480	92.54	60	120	
Sc (IS)	45	2	HMI He	1304208	4.71	1496308	87.16	60	120	
Sc (IS)	45	3	No Gas	38576782	0.32	41056866	93.96	60	120	
Ge Internal standard	72	1	HMI H2	12052734	0.73	12474010	96.62	60	120	
Ge Internal standard	72	2	HMI He	1739296	0.64	1875279	92.75	60	120	
In Internal standard	115	2	HMI He	5764268	0.78	6165359	93.49	60	120	
Ho-165	165	2	HMI He	25554362	0.55	26417015	96.73	60	120	
Ir (IS)	193	2	HMI He	19211903	1.05	19705390	97.50	60	120	

Sample Report

Sample Table

Sample Name	280-185532-a-7-c
Data File Name	070SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\ALL122023.b
Acq Date Time	2023-12-20T18:45:59-07:00
Analyst	Denver Metals
Sample Type	Sample
Dilution	1
Comment	637738 SOIL 6020B
ISTD Ref FileName	020CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	3	45	528.158	ppb	528.158	1.16	8336239	50000	
Be	9	1	6	16.919	ppb	16.919	3.40	5284	2000	
B	11	1	6	544.169	ppb	544.169	3.58	130763	2000	
Na	23	2	45	3567.547	ppb	3567.547	0.65	934580	400000	
Mg	24	2	45	398414.437	ppb	398414.437	0.59	47709581	400000	
Al	27	2	45	359097.563	ppb	359097.563	0.92	11917358	400000	
Si	28	2	45	1830.725	ppb	1830.725	1.11	392246	10000	
P	31	2	45	8597.540	ppb	8597.540	0.76	28514	10000	
K	39	2	45	118771.390	ppb	118771.390	0.15	9851190	400000	
Ca	40	1	45	1147266.258	ppb	1147266.258	0.83	4215063724	400000	
Ti	47	2	45	4835.084	ppb	4835.084	0.70	168558	4000	
V	51	2	72	585.123	ppb	585.123	0.86	787663	2000	
Cr	52	2	72	321.260	ppb	321.260	1.66	588655	5000	
Mn	55	2	72	8504.726	ppb	8504.726	1.43	7000166	10000	
Fe	56	1	72	305623.132	ppb	305623.132	0.69	2054694796	10000	>LDR
(Fe)	57	2	72	317129.954	ppb	317129.954	1.02	12023600	400000	
Co	59	2	72	124.184	ppb	124.184	1.51	379437	2000	
Ni	60	2	72	236.930	ppb	236.930	1.51	213037	5000	
Cu	63	2	72	225.917	ppb	225.917	1.31	560288	5000	
Zn	66	2	72	912.052	ppb	912.052	2.09	400524	5000	
As	75	2	72	89.017	ppb	89.017	2.95	28305	2000	
Se	78	1	72	2.452	ppb	2.452	4.72	696	2000	
Sr	88	2	72	7721.761	ppb	7721.761	1.14	7397301	4000	
Zr	90	2	72	55864.109	ppb	55864.109	0.46	226530	1000	>LDR
Mo	95	2	115	10.027	ppb	10.027	1.84	11958	2000	
Ag	107	2	115	0.170	ppb	0.170	24.55	750	100	
Cd	111	2	115	2.810	ppb	2.810	2.81	1717	2000	
Sn	120	2	115	26.801	ppb	26.801	1.91	41625	2000	
Sb	121	2	115	9.153	ppb	9.153	2.09	14591	1000	
Ba	137	2	115	2112.461	ppb	2112.461	0.77	1083175	5000	
W	182	2	165	5.117	ppb	5.117	0.67	29757	100	
Tl	205	2	165	2.755	ppb	2.755	4.03	32303	2000	
Pb	208	2	165	154.898	ppb	154.898	0.65	2385548	5000	
Th	232	2	193	59.963	ppb	59.963	0.92	1178091	2000	
U	238	2	193	21.114	ppb	21.114	0.61	440725	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal standard	6	1	HMI H2	294419	1.62	403136	73.03	60	120	
Sc (IS)	45	1	HMI H2	20463998	0.68	22841480	89.59	60	120	
Sc (IS)	45	2	HMI He	1233596	0.70	1496308	82.44	60	120	
Sc (IS)	45	3	No Gas	38365697	1.07	41056866	93.45	60	120	
Ge Internal standard	72	1	HMI H2	10953311	1.07	12474010	87.81	60	120	
Ge Internal standard	72	2	HMI He	1656341	0.86	1875279	88.33	60	120	
In Internal standard	115	2	HMI He	5322881	0.47	6165359	86.34	60	120	
Ho-165	165	2	HMI He	24368206	0.62	26417015	92.24	60	120	
Ir (IS)	193	2	HMI He	17244521	0.26	19705390	87.51	60	120	

Sample Report

Sample Table

Sample Name	280-185532-a-8-c
Data File Name	071SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\ALL122023.b
Acq Date Time	2023-12-20T18:49:38-07:00
Analyst	Denver Metals
Sample Type	Sample
Dilution	1
Comment	637738 SOIL 6020B
ISTD Ref FileName	020CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	3	45	548.617	ppb	548.617	0.66	8577270	50000	
Be	9	1	6	16.511	ppb	16.511	8.07	5261	2000	
B	11	1	6	501.908	ppb	501.908	1.65	123184	2000	
Na	23	2	45	3235.849	ppb	3235.849	4.40	909703	400000	
Mg	24	2	45	344050.703	ppb	344050.703	3.40	44087853	400000	
Al	27	2	45	328931.555	ppb	328931.555	2.56	11684904	400000	
Si	28	2	45	1290.373	ppb	1290.373	3.10	299119	10000	
P	31	2	45	7880.342	ppb	7880.342	3.15	27974	10000	
K	39	2	45	104358.515	ppb	104358.515	3.51	9266122	400000	
Ca	40	1	45	1206399.098	ppb	1206399.098	1.13	4590347665	400000	
Ti	47	2	45	4107.477	ppb	4107.477	1.18	153306	4000	
V	51	2	72	583.857	ppb	583.857	1.17	793237	2000	
Cr	52	2	72	320.386	ppb	320.386	1.07	592493	5000	
Mn	55	2	72	8901.257	ppb	8901.257	1.24	7394512	10000	
Fe	56	1	72	316573.208	ppb	316573.208	1.04	2183053301	10000	>LDR
(Fe)	57	2	72	323375.247	ppb	323375.247	0.40	12374476	400000	
Co	59	2	72	125.848	ppb	125.848	1.43	388062	2000	
Ni	60	2	72	249.500	ppb	249.500	0.97	226299	5000	
Cu	63	2	72	209.543	ppb	209.543	1.49	524767	5000	
Zn	66	2	72	859.528	ppb	859.528	1.51	380985	5000	
As	75	2	72	87.418	ppb	87.418	1.84	28057	2000	
Se	78	1	72	1.999	ppb	1.999	7.48	585	2000	
Sr	88	2	72	8616.348	ppb	8616.348	0.88	8331037	4000	
Zr	90	2	72	61111.047	ppb	61111.047	2.01	249996	1000	>LDR
Mo	95	2	115	9.692	ppb	9.692	3.48	11621	2000	
Ag	107	2	115	0.146	ppb	0.146	2.22	653	100	
Cd	111	2	115	1.544	ppb	1.544	28.22	950	2000	
Sn	120	2	115	26.329	ppb	26.329	1.61	41127	2000	
Sb	121	2	115	9.916	ppb	9.916	5.59	15869	1000	
Ba	137	2	115	2054.699	ppb	2054.699	0.77	1059109	5000	
W	182	2	165	5.801	ppb	5.801	5.92	33494	100	
Tl	205	2	165	2.645	ppb	2.645	4.14	31023	2000	
Pb	208	2	165	168.194	ppb	168.194	1.02	2588349	5000	
Th	232	2	193	62.235	ppb	62.235	1.62	1222687	2000	
U	238	2	193	19.149	ppb	19.149	0.73	400385	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal standard	6	1	HMI H2	300286	0.85	403136	74.49	60	120	
Sc (IS)	45	1	HMI H2	21193838	1.16	22841480	92.79	60	120	
Sc (IS)	45	2	HMI He	1321073	3.51	1496308	88.29	60	120	
Sc (IS)	45	3	No Gas	38262149	1.13	41056866	93.19	60	120	
Ge Internal standard	72	1	HMI H2	11235254	0.99	12474010	90.07	60	120	
Ge Internal standard	72	2	HMI He	1671679	0.60	1875279	89.14	60	120	
In Internal standard	115	2	HMI He	5351069	0.48	6165359	86.79	60	120	
Ho-165	165	2	HMI He	24351841	0.17	26417015	92.18	60	120	
Ir (IS)	193	2	HMI He	17253178	0.42	19705390	87.56	60	120	

Sample Report

Sample Table

Sample Name	280-185532-a-9-c
Data File Name	072SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\ALL122023.b
Acq Date Time	2023-12-20T18:53:18-07:00
Analyst	Denver Metals
Sample Type	Sample
Dilution	1
Comment	637738 SOIL 6020B
ISTD Ref FileName	020CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	3	45	419.717	ppb	419.717	1.94	6927896	50000	
Be	9	1	6	13.579	ppb	13.579	3.12	4294	2000	
B	11	1	6	439.030	ppb	439.030	2.35	106996	2000	
Na	23	2	45	2677.296	ppb	2677.296	3.55	721229	400000	
Mg	24	2	45	257113.265	ppb	257113.265	3.47	31349511	400000	
Al	27	2	45	286969.004	ppb	286969.004	2.70	9698810	400000	
Si	28	2	45	1107.148	ppb	1107.148	2.65	245667	10000	
P	31	2	45	6562.149	ppb	6562.149	3.20	22175	10000	
K	39	2	45	95066.363	ppb	95066.363	3.71	8034302	400000	
Ca	40	1	45	1113981.394	ppb	1113981.394	1.27	4151499245	400000	
Ti	47	2	45	4214.202	ppb	4214.202	3.21	149593	4000	
V	51	2	72	477.222	ppb	477.222	1.08	642493	2000	
Cr	52	2	72	261.477	ppb	261.477	1.69	479231	5000	
Mn	55	2	72	7351.815	ppb	7351.815	2.25	6049690	10000	
Fe	56	1	72	252965.366	ppb	252965.366	0.27	1748264401	10000	>LDR
(Fe)	57	2	72	260933.325	ppb	260933.325	1.24	9891318	400000	
Co	59	2	72	100.587	ppb	100.587	1.08	307316	2000	
Ni	60	2	72	185.760	ppb	185.760	0.52	167536	5000	
Cu	63	2	72	141.694	ppb	141.694	1.30	352712	5000	
Zn	66	2	72	651.350	ppb	651.350	0.64	286142	5000	
As	75	2	72	70.248	ppb	70.248	1.93	22350	2000	
Se	78	1	72	1.635	ppb	1.635	17.05	483	2000	
Sr	88	2	72	8563.969	ppb	8563.969	1.12	8202874	4000	
Zr	90	2	72	54750.261	ppb	54750.261	2.15	221969	1000	>LDR
Mo	95	2	115	7.969	ppb	7.969	5.55	9620	2000	
Ag	107	2	115	0.098	ppb	0.098	7.66	457	100	
Cd	111	2	115	0.476	ppb	0.476	9.64	297	2000	
Sn	120	2	115	23.968	ppb	23.968	3.88	37763	2000	
Sb	121	2	115	8.652	ppb	8.652	5.34	13973	1000	
Ba	137	2	115	1673.220	ppb	1673.220	0.48	867863	5000	
W	182	2	165	5.931	ppb	5.931	3.83	34343	100	
Tl	205	2	165	2.279	ppb	2.279	2.44	26942	2000	
Pb	208	2	165	126.642	ppb	126.642	1.30	1957423	5000	
Th	232	2	193	51.206	ppb	51.206	0.52	1012596	2000	
U	238	2	193	16.311	ppb	16.311	0.54	343099	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal standard	6	1	HMI H2	297566	0.54	403136	73.81	60	120	
Sc (IS)	45	1	HMI H2	20758552	0.81	22841480	90.88	60	120	
Sc (IS)	45	2	HMI He	1256976	3.30	1496308	84.01	60	120	
Sc (IS)	45	3	No Gas	38335176	1.27	41056866	93.37	60	120	
Ge Internal standard	72	1	HMI H2	11259268	0.65	12474010	90.26	60	120	
Ge Internal standard	72	2	HMI He	1656122	1.24	1875279	88.31	60	120	
In Internal standard	115	2	HMI He	5384599	1.52	6165359	87.34	60	120	
Ho-165	165	2	HMI He	24453551	1.41	26417015	92.57	60	120	
Ir (IS)	193	2	HMI He	17317176	0.80	19705390	87.88	60	120	

Sample Report

Sample Table

Sample Name	280-185532-a-10-c
Data File Name	073SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\ALL122023.b
Acq Date Time	2023-12-20T18:56:59-07:00
Analyst	Denver Metals
Sample Type	Sample
Dilution	1
Comment	637738 SOIL 6020B
ISTD Ref FileName	020CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	3	45	406.074	ppb	406.074	1.56	6764324	50000	
Be	9	1	6	12.315	ppb	12.315	1.58	3914	2000	
B	11	1	6	417.719	ppb	417.719	1.72	102311	2000	
Na	23	2	45	2701.252	ppb	2701.252	3.03	719929	400000	
Mg	24	2	45	302423.509	ppb	302423.509	2.18	36500778	400000	
Al	27	2	45	281209.055	ppb	281209.055	2.45	9405817	400000	
Si	28	2	45	1327.011	ppb	1327.011	2.43	289526	10000	
P	31	2	45	6723.445	ppb	6723.445	2.78	22485	10000	
K	39	2	45	90530.161	ppb	90530.161	2.83	7574178	400000	
Ca	40	1	45	821759.520	ppb	821759.520	1.43	3062817448	400000	
Ti	47	2	45	3799.513	ppb	3799.513	3.28	133470	4000	
V	51	2	72	511.101	ppb	511.101	0.14	683574	2000	
Cr	52	2	72	482.718	ppb	482.718	0.50	877996	5000	
Mn	55	2	72	7096.736	ppb	7096.736	0.29	5802560	10000	
Fe	56	1	72	245462.795	ppb	245462.795	1.20	1694309095	10000	>LDR
(Fe)	57	2	72	254378.467	ppb	254378.467	0.60	9580667	400000	
Co	59	2	72	100.607	ppb	100.607	0.69	305395	2000	
Ni	60	2	72	202.305	ppb	202.305	0.26	181042	5000	
Cu	63	2	72	261.703	ppb	261.703	0.54	644153	5000	
Zn	66	2	72	677.639	ppb	677.639	0.54	295732	5000	
As	75	2	72	63.319	ppb	63.319	0.95	20025	2000	
Se	78	1	72	1.846	ppb	1.846	18.01	543	2000	
Sr	88	2	72	4021.334	ppb	4021.334	0.77	3826882	4000	
Zr	90	2	72	50045.590	ppb	50045.590	0.75	201662	1000	>LDR
Mo	95	2	115	7.001	ppb	7.001	7.02	8473	2000	
Ag	107	2	115	0.172	ppb	0.172	19.74	767	100	
Cd	111	2	115	1.300	ppb	1.300	14.58	807	2000	
Sn	120	2	115	24.033	ppb	24.033	2.44	37913	2000	
Sb	121	2	115	6.858	ppb	6.858	1.11	11141	1000	
Ba	137	2	115	1819.831	ppb	1819.831	1.40	945364	5000	
W	182	2	165	3.727	ppb	3.727	1.38	22451	100	
Tl	205	2	165	2.069	ppb	2.069	3.57	24805	2000	
Pb	208	2	165	119.306	ppb	119.306	0.79	1865210	5000	
Th	232	2	193	48.745	ppb	48.745	1.02	976159	2000	
U	238	2	193	13.308	ppb	13.308	1.53	284259	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal standard	6	1	HMI H2	298799	0.54	403136	74.12	60	120	
Sc (IS)	45	1	HMI H2	20759498	0.60	22841480	90.89	60	120	
Sc (IS)	45	2	HMI He	1243909	3.40	1496308	83.13	60	120	
Sc (IS)	45	3	No Gas	38403076	0.82	41056866	93.54	60	120	
Ge Internal standard	72	1	HMI H2	11246343	1.04	12474010	90.16	60	120	
Ge Internal standard	72	2	HMI He	1645258	0.88	1875279	87.73	60	120	
In Internal standard	115	2	HMI He	5393042	0.75	6165359	87.47	60	120	
Ho-165	165	2	HMI He	24729382	0.24	26417015	93.61	60	120	
Ir (IS)	193	2	HMI He	17522918	0.62	19705390	88.92	60	120	

Sample Report

Sample Table

Sample Name	280-185532-a-11-c
Data File Name	074SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\ALL122023.b
Acq Date Time	2023-12-20T19:00:39-07:00
Analyst	Denver Metals
Sample Type	Sample
Dilution	1
Comment	637738 SOIL 6020B
ISTD Ref FileName	020CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	3	45	448.762	ppb	448.762	1.42	7314268	50000	
Be	9	1	6	12.321	ppb	12.321	6.38	3827	2000	
B	11	1	6	456.805	ppb	456.805	0.83	109206	2000	
Na	23	2	45	3327.448	ppb	3327.448	1.44	859125	400000	
Mg	24	2	45	273451.209	ppb	273451.209	1.53	32204091	400000	
Al	27	2	45	289358.621	ppb	289358.621	1.55	9444297	400000	
Si	28	2	45	1087.412	ppb	1087.412	1.47	233193	10000	
P	31	2	45	6386.676	ppb	6386.676	1.82	20845	10000	
K	39	2	45	94672.292	ppb	94672.292	1.08	7728973	400000	
Ca	40	1	45	1082101.701	ppb	1082101.701	0.55	3963786608	400000	
Ti	47	2	45	3846.606	ppb	3846.606	0.96	131890	4000	
V	51	2	72	494.695	ppb	494.695	1.32	658787	2000	
Cr	52	2	72	270.380	ppb	270.380	0.67	490199	5000	
Mn	55	2	72	7200.881	ppb	7200.881	0.71	5862285	10000	
Fe	56	1	72	257313.007	ppb	257313.007	0.44	1754278961	10000	>LDR
(Fe)	57	2	72	266890.249	ppb	266890.249	0.42	10008849	400000	
Co	59	2	72	105.640	ppb	105.640	0.57	319273	2000	
Ni	60	2	72	201.269	ppb	201.269	1.14	179346	5000	
Cu	63	2	72	147.961	ppb	147.961	0.71	364197	5000	
Zn	66	2	72	677.684	ppb	677.684	0.61	294487	5000	
As	75	2	72	71.298	ppb	71.298	1.40	22439	2000	
Se	78	1	72	2.464	ppb	2.464	6.86	709	2000	
Sr	88	2	72	7320.912	ppb	7320.912	1.02	6936595	4000	
Zr	90	2	72	52402.961	ppb	52402.961	3.44	210266	1000	>LDR
Mo	95	2	115	8.221	ppb	8.221	4.26	9867	2000	
Ag	107	2	115	0.090	ppb	0.090	16.70	420	100	
Cd	111	2	115	0.773	ppb	0.773	4.66	477	2000	
Sn	120	2	115	24.179	ppb	24.179	0.91	37853	2000	
Sb	121	2	115	8.447	ppb	8.447	4.33	13560	1000	
Ba	137	2	115	1653.006	ppb	1653.006	0.81	852218	5000	
W	182	2	165	5.264	ppb	5.264	1.29	30702	100	
Tl	205	2	165	2.203	ppb	2.203	2.34	26100	2000	
Pb	208	2	165	130.295	ppb	130.295	0.79	2015971	5000	
Th	232	2	193	50.508	ppb	50.508	1.33	1004214	2000	
U	238	2	193	16.144	ppb	16.144	1.21	341393	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal standard	6	1	HMI H2	292088	0.59	403136	72.45	60	120	
Sc (IS)	45	1	HMI H2	20403192	0.93	22841480	89.33	60	120	
Sc (IS)	45	2	HMI He	1213367	1.62	1496308	81.09	60	120	
Sc (IS)	45	3	No Gas	38390301	0.51	41056866	93.51	60	120	
Ge Internal standard	72	1	HMI H2	11107193	0.22	12474010	89.04	60	120	
Ge Internal standard	72	2	HMI He	1638258	1.28	1875279	87.36	60	120	
In Internal standard	115	2	HMI He	5351985	0.26	6165359	86.81	60	120	
Ho-165	165	2	HMI He	24476693	0.08	26417015	92.66	60	120	
Ir (IS)	193	2	HMI He	17407462	0.59	19705390	88.34	60	120	

Sample Report

Sample Table

Sample Name	280-185309-a-5-a
Data File Name	075SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\ALL122023.b
Acq Date Time	2023-12-20T19:04:20-07:00
Analyst	Denver Metals
Sample Type	Sample
Dilution	1
Comment	637738 SOIL 6020B
ISTD Ref FileName	020CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	3	45	9.809	ppb	9.809	6.48	1633230	50000	
Be	9	1	6	0.588	ppb	0.588	35.54	243	2000	
B	11	1	6	50.301	ppb	50.301	4.03	15444	2000	
Na	23	2	45	253.630	ppb	253.630	2.68	90129	400000	
Mg	24	2	45	7596.698	ppb	7596.698	0.89	887875	400000	
Al	27	2	45	10662.447	ppb	10662.447	0.82	345359	400000	
Si	28	2	45	395.845	ppb	395.845	4.07	90460	10000	
P	31	2	45	1822.087	ppb	1822.087	2.50	5941	10000	
K	39	2	45	1990.158	ppb	1990.158	0.21	190742	400000	
Ca	40	1	45	89687.466	ppb	89687.466	1.00	337680462	400000	
Ti	47	2	45	226.145	ppb	226.145	3.40	7695	4000	
V	51	2	72	40.336	ppb	40.336	4.17	57178	2000	
Cr	52	2	72	15.530	ppb	15.530	1.74	30622	5000	
Mn	55	2	72	1416.509	ppb	1416.509	0.37	1206460	10000	
Fe	56	1	72	52039.538	ppb	52039.538	1.29	381458741	10000	>LDR
(Fe)	57	2	72	56035.828	ppb	56035.828	1.09	2198431	400000	
Co	59	2	72	15.002	ppb	15.002	0.96	47622	2000	
Ni	60	2	72	21.198	ppb	21.198	1.34	21975	5000	
Cu	63	2	72	27.361	ppb	27.361	0.41	73517	5000	
Zn	66	2	72	91.890	ppb	91.890	2.79	42158	5000	
As	75	2	72	49.428	ppb	49.428	1.19	16297	2000	
Se	78	1	72	11.579	ppb	11.579	1.37	3518	2000	
Sr	88	2	72	57.801	ppb	57.801	2.02	57379	4000	
Zr	90	2	72	10005.285	ppb	10005.285	3.84	42774	1000	>LDR
Mo	95	2	115	10.649	ppb	10.649	0.63	13676	2000	
Ag	107	2	115	0.042	ppb	0.042	52.49	240	100	
Cd	111	2	115	0.933	ppb	0.933	9.43	617	2000	
Sn	120	2	115	16.213	ppb	16.213	4.65	27511	2000	
Sb	121	2	115	1.002	ppb	1.002	10.82	1964	1000	
Ba	137	2	115	175.053	ppb	175.053	2.46	96727	5000	
W	182	2	165	0.544	ppb	0.544	11.72	4841	100	
Tl	205	2	165	0.335	ppb	0.335	2.92	4784	2000	
Pb	208	2	165	8.905	ppb	8.905	1.42	145803	5000	
Th	232	2	193	2.491	ppb	2.491	2.18	70784	2000	
U	238	2	193	3.509	ppb	3.509	1.16	85670	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal standard	6	1	HMI H2	331071	0.70	403136	82.12	60	120	
Sc (IS)	45	1	HMI H2	20966431	0.47	22841480	91.79	60	120	
Sc (IS)	45	2	HMI He	1203675	0.80	1496308	80.44	60	120	
Sc (IS)	45	3	No Gas	38330334	1.47	41056866	93.36	60	120	
Ge Internal standard	72	1	HMI H2	11941358	0.91	12474010	95.73	60	120	
Ge Internal standard	72	2	HMI He	1713687	1.14	1875279	91.38	60	120	
In Internal standard	115	2	HMI He	5733504	1.40	6165359	93.00	60	120	
Ho-165	165	2	HMI He	25490596	0.48	26417015	96.49	60	120	
Ir (IS)	193	2	HMI He	19027461	0.82	19705390	96.56	60	120	

Sample Report

Sample Table

Sample Name	280-185804-a-2-a
Data File Name	076SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\ALL122023.b
Acq Date Time	2023-12-20T19:07:54-07:00
Analyst	Denver Metals
Sample Type	Sample
Dilution	1
Comment	637738 SOIL 6020B
ISTD Ref FileName	020CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	3	45	121.946	ppb	121.946	1.09	3285295	50000	
Be	9	1	6	15.697	ppb	15.697	3.68	5331	2000	
B	11	1	6	140.813	ppb	140.813	2.44	38236	2000	
Na	23	2	45	817.878	ppb	817.878	5.70	249206	400000	
Mg	24	2	45	28159.096	ppb	28159.096	4.50	3565045	400000	
Al	27	2	45	182299.105	ppb	182299.105	4.52	6395946	400000	
Si	28	2	45	450.127	ppb	450.127	3.11	110230	10000	
P	31	2	45	5482.818	ppb	5482.818	4.61	19245	10000	
K	39	2	45	34234.942	ppb	34234.942	4.25	3025393	400000	
Ca	40	1	45	137554.105	ppb	137554.105	0.43	516291419	400000	
Ti	47	2	45	4317.684	ppb	4317.684	4.09	159144	4000	
V	51	2	72	492.615	ppb	492.615	0.37	689878	2000	
Cr	52	2	72	183.933	ppb	183.933	0.66	351053	5000	
Mn	55	2	72	7196.253	ppb	7196.253	0.52	6160444	10000	
Fe	56	1	72	215511.926	ppb	215511.926	0.95	1534971924	10000	>LDR
(Fe)	57	2	72	223139.817	ppb	223139.817	0.23	8799536	400000	
Co	59	2	72	59.223	ppb	59.223	0.49	188316	2000	
Ni	60	2	72	126.791	ppb	126.791	2.10	119720	5000	
Cu	63	2	72	179.483	ppb	179.483	0.47	463776	5000	
Zn	66	2	72	804.717	ppb	804.717	0.59	367605	5000	
As	75	2	72	120.856	ppb	120.856	1.19	39943	2000	
Se	78	1	72	7.655	ppb	7.655	2.57	2266	2000	
Sr	88	2	72	589.397	ppb	589.397	1.35	587390	4000	
Zr	90	2	72	52035.093	ppb	52035.093	1.31	219495	1000	>LDR
Mo	95	2	115	25.928	ppb	25.928	3.66	33071	2000	
Ag	107	2	115	0.897	ppb	0.897	2.67	4014	100	
Cd	111	2	115	10.860	ppb	10.860	1.88	7105	2000	
Sn	120	2	115	37.864	ppb	37.864	1.38	62634	2000	
Sb	121	2	115	8.994	ppb	8.994	4.80	15375	1000	
Ba	137	2	115	1465.551	ppb	1465.551	0.49	805687	5000	
W	182	2	165	12.393	ppb	12.393	0.81	73933	100	
Tl	205	2	165	3.798	ppb	3.798	1.10	46925	2000	
Pb	208	2	165	343.693	ppb	343.693	0.44	5608416	5000	
Th	232	2	193	162.324	ppb	162.324	1.88	3398198	2000	
U	238	2	193	15.259	ppb	15.259	0.49	343891	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal standard	6	1	HMI H2	319968	0.93	403136	79.37	60	120	
Sc (IS)	45	1	HMI H2	20902641	0.30	22841480	91.51	60	120	
Sc (IS)	45	2	HMI He	1306071	5.06	1496308	87.29	60	120	
Sc (IS)	45	3	No Gas	40863956	0.72	41056866	99.53	60	120	
Ge Internal standard	72	1	HMI H2	11603969	0.41	12474010	93.03	60	120	
Ge Internal standard	72	2	HMI He	1722649	1.14	1875279	91.86	60	120	
In Internal standard	115	2	HMI He	5706956	0.86	6165359	92.56	60	120	
Ho-165	165	2	HMI He	25833484	0.53	26417015	97.79	60	120	
Ir (IS)	193	2	HMI He	18533695	0.81	19705390	94.05	60	120	

Sample Report

Sample Table

Sample Name	280-185804-a-4-a
Data File Name	077SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\ALL122023.b
Acq Date Time	2023-12-20T19:11:29-07:00
Analyst	Denver Metals
Sample Type	Sample
Dilution	1
Comment	637738 SOIL 6020B
ISTD Ref FileName	020CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	3	45	153.734	ppb	153.734	2.01	3684659	50000	
Be	9	1	6	13.767	ppb	13.767	2.40	4684	2000	
B	11	1	6	265.628	ppb	265.628	1.04	70437	2000	
Na	23	2	45	1279.952	ppb	1279.952	1.29	406193	400000	
Mg	24	2	45	54136.617	ppb	54136.617	0.89	7455786	400000	
Al	27	2	45	215623.403	ppb	215623.403	0.49	8230613	400000	
Si	28	2	45	382.559	ppb	382.559	2.35	103441	10000	
P	31	2	45	6085.293	ppb	6085.293	0.82	23230	10000	
K	39	2	45	34057.082	ppb	34057.082	1.63	3273715	400000	
Ca	40	1	45	169081.017	ppb	169081.017	0.47	666444203	400000	
Ti	47	2	45	3502.897	ppb	3502.897	1.54	140435	4000	
V	51	2	72	730.985	ppb	730.985	0.91	1035091	2000	
Cr	52	2	72	382.067	ppb	382.067	0.58	736387	5000	
Mn	55	2	72	4252.644	ppb	4252.644	1.32	3683173	10000	
Fe	56	1	72	247765.257	ppb	247765.257	0.87	1810229413	10000	>LDR
(Fe)	57	2	72	254369.132	ppb	254369.132	1.39	10147234	400000	
Co	59	2	72	83.920	ppb	83.920	1.63	269841	2000	
Ni	60	2	72	190.519	ppb	190.519	1.00	180740	5000	
Cu	63	2	72	196.622	ppb	196.622	1.03	513604	5000	
Zn	66	2	72	850.336	ppb	850.336	1.09	392941	5000	
As	75	2	72	119.430	ppb	119.430	0.78	39940	2000	
Se	78	1	72	6.286	ppb	6.286	6.05	1912	2000	
Sr	88	2	72	870.385	ppb	870.385	0.71	877492	4000	
Zr	90	2	72	95502.915	ppb	95502.915	1.22	406749	1000	>LDR
Mo	95	2	115	26.320	ppb	26.320	1.36	33699	2000	
Ag	107	2	115	0.889	ppb	0.889	3.13	3994	100	
Cd	111	2	115	8.561	ppb	8.561	5.92	5625	2000	
Sn	120	2	115	29.364	ppb	29.364	2.73	49000	2000	
Sb	121	2	115	11.369	ppb	11.369	1.38	19446	1000	
Ba	137	2	115	2261.964	ppb	2261.964	1.46	1248506	5000	
W	182	2	165	4.938	ppb	4.938	3.11	30752	100	
Tl	205	2	165	3.705	ppb	3.705	1.68	46155	2000	
Pb	208	2	165	251.134	ppb	251.134	0.44	4131105	5000	
Th	232	2	193	122.284	ppb	122.284	1.03	2536933	2000	
U	238	2	193	16.475	ppb	16.475	0.59	366872	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal standard	6	1	HMI H2	320170	0.85	403136	79.42	60	120	
Sc (IS)	45	1	HMI H2	21951391	0.18	22841480	96.10	60	120	
Sc (IS)	45	2	HMI He	1418780	1.43	1496308	94.82	60	120	
Sc (IS)	45	3	No Gas	40444453	0.95	41056866	98.51	60	120	
Ge Internal standard	72	1	HMI H2	11903597	0.69	12474010	95.43	60	120	
Ge Internal standard	72	2	HMI He	1742850	1.49	1875279	92.94	60	120	
In Internal standard	115	2	HMI He	5729822	0.74	6165359	92.94	60	120	
Ho-165	165	2	HMI He	26038185	0.63	26417015	98.57	60	120	
Ir (IS)	193	2	HMI He	18336045	1.24	19705390	93.05	60	120	

Sample Report

Sample Table

Sample Name	280-185804-a-6-a
Data File Name	078SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\ALL122023.b
Acq Date Time	2023-12-20T19:15:05-07:00
Analyst	Denver Metals
Sample Type	Sample
Dilution	1
Comment	637738 SOIL 6020B
ISTD Ref FileName	020CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	3	45	156.890	ppb	156.890	1.73	3699656	50000	
Be	9	1	6	11.262	ppb	11.262	8.64	3791	2000	
B	11	1	6	215.083	ppb	215.083	2.70	56700	2000	
Na	23	2	45	1254.435	ppb	1254.435	2.30	386169	400000	
Mg	24	2	45	66641.221	ppb	66641.221	1.09	8889677	400000	
Al	27	2	45	225254.334	ppb	225254.334	1.71	8326723	400000	
Si	28	2	45	556.538	ppb	556.538	0.52	140665	10000	
P	31	2	45	6645.450	ppb	6645.450	1.77	24566	10000	
K	39	2	45	32986.080	ppb	32986.080	1.97	3072161	400000	
Ca	40	1	45	123256.430	ppb	123256.430	0.57	479187900	400000	
Ti	47	2	45	3870.277	ppb	3870.277	1.00	150294	4000	
V	51	2	72	675.666	ppb	675.666	1.11	957604	2000	
Cr	52	2	72	299.608	ppb	299.608	1.34	578151	5000	
Mn	55	2	72	3721.934	ppb	3721.934	0.26	3226145	10000	
Fe	56	1	72	238912.095	ppb	238912.095	1.20	1721813788	10000	>LDR
(Fe)	57	2	72	244328.623	ppb	244328.623	0.60	9755211	400000	
Co	59	2	72	87.099	ppb	87.099	0.87	280291	2000	
Ni	60	2	72	175.857	ppb	175.857	1.42	167146	5000	
Cu	63	2	72	158.127	ppb	158.127	1.38	414093	5000	
Zn	66	2	72	709.104	ppb	709.104	0.78	328016	5000	
As	75	2	72	97.497	ppb	97.497	0.87	32640	2000	
Se	78	1	72	4.196	ppb	4.196	10.66	1265	2000	
Sr	88	2	72	692.101	ppb	692.101	0.76	698279	4000	
Zr	90	2	72	104440.180	ppb	104440.180	0.58	445078	1000	>LDR
Mo	95	2	115	16.298	ppb	16.298	3.34	20634	2000	
Ag	107	2	115	0.697	ppb	0.697	5.10	3104	100	
Cd	111	2	115	3.476	ppb	3.476	14.39	2257	2000	
Sn	120	2	115	25.501	ppb	25.501	1.35	42167	2000	
Sb	121	2	115	8.019	ppb	8.019	1.45	13626	1000	
Ba	137	2	115	1854.960	ppb	1854.960	0.37	1011399	5000	
W	182	2	165	2.411	ppb	2.411	4.28	15699	100	
Tl	205	2	165	2.688	ppb	2.688	0.55	33258	2000	
Pb	208	2	165	170.155	ppb	170.155	0.91	2763043	5000	
Th	232	2	193	107.121	ppb	107.121	1.07	2230299	2000	
U	238	2	193	14.118	ppb	14.118	0.67	316022	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal standard	6	1	HMI H2	316213	0.29	403136	78.44	60	120	
Sc (IS)	45	1	HMI H2	21650807	0.57	22841480	94.79	60	120	
Sc (IS)	45	2	HMI He	1374293	1.88	1496308	91.85	60	120	
Sc (IS)	45	3	No Gas	40138354	0.94	41056866	97.76	60	120	
Ge Internal standard	72	1	HMI H2	11741674	0.85	12474010	94.13	60	120	
Ge Internal standard	72	2	HMI He	1744152	1.09	1875279	93.01	60	120	
In Internal standard	115	2	HMI He	5660104	0.66	6165359	91.80	60	120	
Ho-165	165	2	HMI He	25696433	0.92	26417015	97.27	60	120	
Ir (IS)	193	2	HMI He	18384334	0.76	19705390	93.30	60	120	

Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV-8120917
Data File Name	079_CCV.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\ALL122023.b
Acq Date Time	2023-12-20T19:18:41-07:00
Sample Type	CCV
Dilution	1
Comment	
ISTD Ref File Name	020CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	Units	Conc %RSD	CPS	Exp Value	%Rec	%Low	%High2	QC Flag
Be	9	1	6	49.226	ppb	3.557	16789	50	98.5	90	110	
Na	23	2	45	50280.923	ppb	2.186	12766636	51000	98.6	90	110	
Mg	24	2	45	11208.624	ppb	2.549	1338159	11000	101.9	90	110	
Al	27	2	45	1084.258	ppb	2.920	35949	1000	108.4	90	110	
K	39	2	45	10317.548	ppb	2.862	881129	11000	93.8	90	110	
Ca	40	1	45	10589.078	ppb	1.006	39951477	11000	96.3	90	110	
Ti	47	2	45	52.587	ppb	10.401	1834	50	105.2	90	110	
V	51	2	72	49.714	ppb	2.392	71342	50	99.4	90	110	
Cr	52	2	72	49.048	ppb	1.738	95521	50	98.1	90	110	
Mn	55	2	72	48.574	ppb	1.705	42184	50	97.1	90	110	
Fe	56	1	72	1178.027	ppb	3.745	8787220	1000	117.8	90	110	>+\-10%
Co	59	2	72	48.629	ppb	0.961	156311	50	97.3	90	110	
Ni	60	2	72	46.428	ppb	1.355	45898	50	92.9	90	110	
Cu	63	2	72	47.951	ppb	1.574	128022	50	95.9	90	110	
Zn	66	2	72	53.959	ppb	3.422	25357	50	107.9	90	110	
As	75	2	72	51.316	ppb	1.465	17185	50	102.6	90	110	
Se	78	1	72	51.767	ppb	2.249	15814	50	103.5	90	110	
Sr	88	2	72	102.754	ppb	3.048	103537	100	102.8	90	110	
Zr	90	2	72	8646.732	ppb	3.049	37684	50	17293.5	90	110	>+\-10%
Mo	95	2	115	51.318	ppb	3.764	65932	50	102.6	90	110	
Ag	107	2	115	50.235	ppb	0.273	223786	50	100.5	90	110	
Cd	111	2	115	50.735	ppb	3.010	33463	50	101.5	90	110	
Sn	120	2	115	53.097	ppb	1.112	88170	50	106.2	90	110	
Sb	121	2	115	52.916	ppb	2.138	89890	50	105.8	90	110	
Ba	137	2	115	53.323	ppb	0.391	29626	50	106.6	90	110	
W	182	2	165	51.421	ppb	1.119	294590	50	102.8	90	110	
Tl	205	2	165	49.959	ppb	1.006	594255	50	99.9	90	110	
Pb	208	2	165	50.499	ppb	0.964	807744	50	101.0	90	110	
Th	232	2	193	46.175	ppb	0.435	987714	50	92.4	90	110	
U	238	2	193	46.463	ppb	1.210	1044817	50	92.9	90	110	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal standard	6	1	HMI H2	322704	1.48	403136	80.05	60	120	
Sc (IS)	45	1	HMI H2	20968074	0.08	22841480	91.80	60	120	
Sc (IS)	45	2	HMI He	1230062	2.17	1496308	82.21	60	120	
Sc (IS)	45	3	No Gas	38320004	0.75	41056866	93.33	60	120	
Ge Internal standard	72	1	HMI H2	12055973	0.19	12474010	96.65	60	120	
Ge Internal standard	72	2	HMI He	1741071	1.76	1875279	92.84	60	120	
In Internal standard	115	2	HMI He	5754646	0.51	6165359	93.34	60	120	
Ho-165	165	2	HMI He	25257796	1.04	26417015	95.61	60	120	
Ir (IS)	193	2	HMI He	18699645	0.11	19705390	94.90	60	120	

Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB-8120901
Data File Name	080_CCB.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\ALL122023.b
Acq Date Time	2023-12-20T19:22:15-07:00
Sample Type	CCB
Dilution	1
Comment	
ISTD Ref File Name	020CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	Units	Conc %RSD	CPS	Upper Limit	QC Flag
Li	7	3	45	-1.595	ppb	-71.9	1463339	10	
Be	9	1	6	0.082	ppb	40.9	67	0.5	
B	11	1	6	24.100	ppb	2.7	8426	0.5	>RL
Na	23	2	45	-2.106	ppb	-67.3	26168	25	
Mg	24	2	45	11.936	ppb	19.0	1607	25	
Al	27	2	45	7.197	ppb	18.2	307	15	
K	39	2	45	1.568	ppb	1341.9	29683	50	
Ti	47	2	45	1.120	ppb	27.2	40	0.5	>RL
V	51	2	72	-0.429	ppb	-18.6	487	1	
Cr	52	2	72	-0.073	ppb	-50.0	1093	1	
Mn	55	2	72	0.181	ppb	30.3	307	0.5	
(Fe)	57	2	72	4.902	ppb	49.9	590	25	
Co	59	2	72	0.001	ppb	1842.1	230	0.5	
Ni	60	2	72	-1.347	ppb	-12.3	1227	1	
Cu	63	2	72	0.432	ppb	18.9	4821	1	
Zn	66	2	72	-0.022	ppb	-649.7	447	5	
As	75	2	72	-0.040	ppb	-121.7	65	1	
Se	78	1	72	0.043	ppb	65.0	31	1	
Sr	88	2	72	0.182	ppb	17.8	270	0.5	
Zr	90	2	72	108.112	ppb	34.1	1403	1	>RL
Mo	95	2	115	0.120	ppb	49.7	207	0.5	
Ag	107	2	115	0.012	ppb	92.2	103	1	
Cd	111	2	115	0.006	ppb	320.5	7	0.5	
Sn	120	2	115	0.179	ppb	49.8	1287	1	
Sb	121	2	115	0.284	ppb	32.1	743	0.6	
Ba	137	2	115	0.102	ppb	27.7	123	0.5	
W	182	2	165	0.380	ppb	6.2	3824	1	
Tl	205	2	165	0.034	ppb	37.0	1150	0.1	
Pb	208	2	165	0.017	ppb	79.5	2724	0.5	
Th	232	2	193	0.399	ppb	17.3	25863	1	
U	238	2	193	0.022	ppb	27.1	6252	0.5	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal standard	6	1	HMI H2	329638	0.58	403136	81.77	60	120	
Sc (IS)	45	1	HMI H2	20583499	0.82	22841480	90.11	60	120	
Sc (IS)	45	2	HMI He	1179173	1.03	1496308	78.81	60	120	
Sc (IS)	45	3	No Gas	37750114	1.23	41056866	91.95	60	120	
Ge Internal standard	72	1	HMI H2	11922846	0.25	12474010	95.58	60	120	
Ge Internal standard	72	2	HMI He	1700773	1.65	1875279	90.69	60	120	
In Internal standard	115	2	HMI He	5674377	0.36	6165359	92.04	60	120	
Ho-165	165	2	HMI He	24999113	0.54	26417015	94.63	60	120	
Ir (IS)	193	2	HMI He	18895370	0.27	19705390	95.89	60	120	

Blank Report

Sample Table

Sample Name	mb 280-637783/1-a
Data File Name	081_BLK.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\ALL122023.b
Acq Date Time	2023-12-20T19:25:50-07:00
Sample Type	Blank
Dilution	1
Comment	637783 6020B
ISTD Ref File Name	020CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	Units	Conc %RSD	CPS	Upper Limit
Li	7	3	45	-0.910	ppb	-175.0978927	1475803	10
Be	9	1	6	-0.033	ppb	-253.7821634	27	0.5
B	11	1	6	11.205	ppb	7.02315429	4961	0.5
Na	23	2	45	-3.867	ppb	-101.6215823	25557	25
Mg	24	2	45	10.177	ppb	14.85907939	1393	25
Al	27	2	45	6.102	ppb	50.04985152	270	15
K	39	2	45	-4.234	ppb	-154.7983882	29023	50
Ti	47	2	45	0.424	ppb	41.29386696	17	0.5
V	51	2	72	-0.501	ppb	-12.44352141	383	1
Cr	52	2	72	-0.074	ppb	-49.80946672	1080	1
Mn	55	2	72	0.340	ppb	15.53105131	437	0.5
(Fe)	57	2	72	16.152	ppb	19.88864814	1017	25
Co	59	2	72	-0.028	ppb	-8.744311375	137	0.5
Ni	60	2	72	-2.076	ppb	-3.971548097	553	1
Cu	63	2	72	-0.388	ppb	-4.223066859	2717	1
Zn	66	2	72	0.504	ppb	32.03841155	677	5
As	75	2	72	-0.026	ppb	-209.6511475	69	1
Se	78	1	72	-0.014	ppb	-111.8834563	13	1
Sr	88	2	72	0.175	ppb	6.026290511	260	0.5
Zr	90	2	72	115.342	ppb	2.386846764	1417	1
Mo	95	2	115	0.022	ppb	85.20234893	83	0.5
Ag	107	2	115	0.002	ppb	131.8966622	60	1
Cd	111	2	115	0.021	ppb	85.13443681	17	0.5
Sn	120	2	115	0.051	ppb	169.8387339	1073	1
Sb	121	2	115	0.089	ppb	39.69941575	417	0.6
Ba	137	2	115	0.189	ppb	17.90921303	170	0.5
W	182	2	165	0.051	ppb	51.46549223	1964	1
Tl	205	2	165	-0.029	ppb	-17.33768111	410	0.1
Pb	208	2	165	0.015	ppb	57.10424644	2684	0.5
Th	232	2	193	0.011	ppb	249.0991328	17611	1
U	238	2	193	0.007	ppb	294.261366	5908	0.5

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal standard	6	1	HMI H2	326736	0.79	403136	81.05	60	120	
Sc (IS)	45	1	HMI H2	20319442	0.34	22841480	88.96	60	120	
Sc (IS)	45	2	HMI He	1170632	0.19	1496308	78.23	60	120	
Sc (IS)	45	3	No Gas	37842645	0.19	41056866	92.17	60	120	
Ge Internal standard	72	1	HMI H2	11661452	0.40	12474010	93.49	60	120	
Ge Internal standard	72	2	HMI He	1682208	1.45	1875279	89.70	60	120	
In Internal standard	115	2	HMI He	5645213	1.47	6165359	91.56	60	120	
Ho-165	165	2	HMI He	24920919	0.56	26417015	94.34	60	120	
Ir (IS)	193	2	HMI He	18870922	0.68	19705390	95.77	60	120	

Laboratory Control Sample (LCS) Report

Sample Table

Sample Name	lcs 280-637783/2-a
Data File Name	082_LCS.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\ALL122023.b
Acq Date Time	2023-12-20T19:29:25-07:00
Sample Type	LCS
Dilution	1
Analyst	Denver Metals
Comment	637783 6020B
ISTD Ref File Name	020CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	FinalConc	Units	Conc %RSD	CPS	Exp Value	%Rec	%Low	%High	QC Flag
Li	7	3	45	35.030	35.030	ppb	7.120	1917294	400	8.8	80	120	>+/-20%
Be	9	1	6	37.200	37.200	ppb	1.273	12822	40	93.0	80	120	
Na	23	2	45	951.559	951.559	ppb	1.137	254290	40	2378.9	80	120	>+/-20%
Mg	24	2	45	980.016	980.016	ppb	1.131	110876	40	2450.0	80	120	>+/-20%
Al	27	2	45	784.527	784.527	ppb	3.836	24619	40	1961.3	80	120	>+/-20%
K	39	2	45	907.550	907.550	ppb	0.992	99903	40	2268.9	80	120	>+/-20%
V	51	2	72	37.828	37.828	ppb	0.526	52400	40	94.6	80	120	
Cr	52	2	72	37.506	37.506	ppb	2.642	70438	40	93.8	80	120	
Mn	55	2	72	36.598	36.598	ppb	2.630	30555	40	91.5	80	120	
(Fe)	57	2	72	735.730	735.730	ppb	2.714	28545	40	1839.3	80	120	>+/-20%
Co	59	2	72	38.131	38.131	ppb	1.157	117773	40	95.3	80	120	
Ni	60	2	72	35.354	35.354	ppb	3.147	34149	40	88.4	80	120	
Cu	63	2	72	37.422	37.422	ppb	2.182	96740	40	93.6	80	120	
Zn	66	2	72	37.317	37.317	ppb	3.756	16969	40	93.3	80	120	
As	75	2	72	39.516	39.516	ppb	0.229	12729	40	98.8	80	120	
Se	78	1	72	39.776	39.776	ppb	1.868	11599	40	99.4	80	120	
Mo	95	2	115	38.919	38.919	ppb	1.359	48106	40	97.3	80	120	
Ag	107	2	115	38.942	38.942	ppb	1.107	166855	40	97.4	80	120	
Cd	111	2	115	38.776	38.776	ppb	2.157	24603	40	96.9	80	120	
Sn	120	2	115	39.838	39.838	ppb	0.272	63862	40	99.6	80	120	
Sb	121	2	115	39.878	39.878	ppb	1.045	65214	40	99.7	80	120	
Ba	137	2	115	40.147	40.147	ppb	0.784	21469	40	100.4	80	120	
W	182	2	165	0.040	0.040	ppb	55.073	1890	40	0.1	80	120	>+/-20%
Tl	205	2	165	38.927	38.927	ppb	0.717	455102	40	97.3	80	120	
Pb	208	2	165	38.934	38.934	ppb	1.112	612459	40	97.3	80	120	
Th	232	2	193	32.222	32.222	ppb	1.051	704091	40	80.6	80	120	
U	238	2	193	32.859	32.859	ppb	0.274	750833	40	82.1	80	120	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal standard	6	1	HMI H2	325954	0.57	403136	80.85	60	120	
Sc (IS)	45	1	HMI H2	20088753	0.52	22841480	87.95	60	120	
Sc (IS)	45	2	HMI He	1162922	0.72	1496308	77.72	60	120	
Sc (IS)	45	3	No Gas	37516996	1.18	41056866	91.38	60	120	
Ge Internal standard	72	1	HMI H2	11503313	0.34	12474010	92.22	60	120	
Ge Internal standard	72	2	HMI He	1672096	1.49	1875279	89.17	60	120	
In Internal standard	115	2	HMI He	5534606	1.46	6165359	89.77	60	120	
Ho-165	165	2	HMI He	24816245	0.52	26417015	93.94	60	120	
Ir (IS)	193	2	HMI He	18958826	0.48	19705390	96.21	60	120	

Sample Report

Sample Table

Sample Name	lcsd 280-637783/3-a
Data File Name	083SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\ALL122023.b
Acq Date Time	2023-12-20T19:33:01-07:00
Analyst	Denver Metals
Sample Type	Sample
Dilution	1
Comment	637783 6020B
ISTD Ref FileName	020CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	3	45	34.973	ppb	34.973	9.61	1901822	50000	
Be	9	1	6	35.315	ppb	35.315	3.16	12288	2000	
B	11	1	6	7.590	ppb	7.590	9.66	4034	2000	
Na	23	2	45	952.580	ppb	952.580	1.17	254322	400000	
Mg	24	2	45	935.134	ppb	935.134	0.55	105714	400000	
Al	27	2	45	753.263	ppb	753.263	2.29	23624	400000	
Si	28	2	45	34.689	ppb	34.689	8.76	16328	10000	
P	31	2	45	4.197	ppb	4.197	124.57	67	10000	
K	39	2	45	882.100	ppb	882.100	2.10	97835	400000	
Ca	40	1	45	923.986	ppb	923.986	0.95	3416390	400000	
Ti	47	2	45	38.092	ppb	38.092	7.56	1253	4000	
V	51	2	72	35.762	ppb	35.762	1.30	49791	2000	
Cr	52	2	72	35.548	ppb	35.548	1.51	67092	5000	
Mn	55	2	72	34.374	ppb	34.374	4.15	28822	10000	
Fe	56	1	72	726.056	ppb	726.056	0.09	5241334	10000	
(Fe)	57	2	72	719.985	ppb	719.985	0.53	28061	400000	
Co	59	2	72	36.084	ppb	36.084	1.40	111894	2000	
Ni	60	2	72	34.063	ppb	34.063	0.89	33117	5000	
Cu	63	2	72	35.255	ppb	35.255	0.99	91725	5000	
Zn	66	2	72	35.017	ppb	35.017	3.48	16018	5000	
As	75	2	72	37.090	ppb	37.090	2.78	11999	2000	
Se	78	1	72	37.865	ppb	37.865	3.67	11145	2000	
Sr	88	2	72	71.852	ppb	71.852	1.30	69850	4000	
Zr	90	2	72	930.015	ppb	930.015	2.22	4748	1000	
Mo	95	2	115	36.835	ppb	36.835	1.04	45759	2000	
Ag	107	2	115	37.807	ppb	37.807	1.59	162798	100	
Cd	111	2	115	37.619	ppb	37.619	3.93	23982	2000	
Sn	120	2	115	38.169	ppb	38.169	2.38	61536	2000	
Sb	121	2	115	37.912	ppb	37.912	1.61	62329	1000	
Ba	137	2	115	39.373	ppb	39.373	1.77	21162	5000	
W	182	2	165	0.022	ppb	0.022	317.09	1780	100	
Tl	205	2	165	37.559	ppb	37.559	0.37	435807	2000	
Pb	208	2	165	37.273	ppb	37.273	0.89	581987	5000	
Th	232	2	193	31.373	ppb	31.373	1.00	680493	2000	
U	238	2	193	31.403	ppb	31.403	1.03	712086	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal standard	6	1	HMI H2	328912	1.56	403136	81.59	60	120	
Sc (IS)	45	1	HMI H2	20079863	0.54	22841480	87.91	60	120	
Sc (IS)	45	2	HMI He	1161932	0.23	1496308	77.65	60	120	
Sc (IS)	45	3	No Gas	37223949	1.01	41056866	90.66	60	120	
Ge Internal standard	72	1	HMI H2	11609669	0.39	12474010	93.07	60	120	
Ge Internal standard	72	2	HMI He	1678743	1.11	1875279	89.52	60	120	
In Internal standard	115	2	HMI He	5562260	0.21	6165359	90.22	60	120	
Ho-165	165	2	HMI He	24628175	0.18	26417015	93.23	60	120	
Ir (IS)	193	2	HMI He	18807992	0.81	19705390	95.45	60	120	

Sample Report

Sample Table

Sample Name	280-182947-a-3-b
Data File Name	084SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\ALL122023.b
Acq Date Time	2023-12-20T19:36:36-07:00
Analyst	Denver Metals
Sample Type	Sample
Dilution	1
Comment	637783 6020B
ISTD Ref FileName	020CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	3	45	21.944	ppb	21.944	6.87	1708264	50000	
Be	9	1	6	0.055	ppb	0.055	63.55	53	2000	
B	11	1	6	59.392	ppb	59.392	1.92	16552	2000	
Na	23	2	45	50611.821	ppb	50611.821	0.91	11849080	400000	
Mg	24	2	45	42104.949	ppb	42104.949	1.10	4634306	400000	
Al	27	2	45	5.948	ppb	5.948	8.13	257	400000	
Si	28	2	45	884.292	ppb	884.292	1.35	178928	10000	
P	31	2	45	4.510	ppb	4.510	34.99	67	10000	
K	39	2	45	1742.392	ppb	1742.392	1.81	160831	400000	
Ca	40	1	45	66451.142	ppb	66451.142	0.16	229572037	400000	
Ti	47	2	45	0.336	ppb	0.336	53.86	13	4000	
V	51	2	72	-0.098	ppb	-0.098	-135.52	923	2000	
Cr	52	2	72	0.253	ppb	0.253	28.00	1663	5000	
Mn	55	2	72	0.344	ppb	0.344	26.72	433	10000	
Fe	56	1	72	8.362	ppb	8.362	3.64	122438	10000	
(Fe)	57	2	72	11.680	ppb	11.680	6.88	833	400000	
Co	59	2	72	0.013	ppb	0.013	214.74	260	2000	
Ni	60	2	72	-2.062	ppb	-2.062	-6.31	560	5000	
Cu	63	2	72	-0.268	ppb	-0.268	-23.68	2977	5000	
Zn	66	2	72	11.185	ppb	11.185	1.95	5364	5000	
As	75	2	72	0.339	ppb	0.339	4.45	184	2000	
Se	78	1	72	0.780	ppb	0.780	11.14	237	2000	
Sr	88	2	72	418.907	ppb	418.907	1.05	402349	4000	
Zr	90	2	72	131.126	ppb	131.126	35.98	1460	1000	
Mo	95	2	115	1.687	ppb	1.687	7.34	2057	2000	
Ag	107	2	115	0.012	ppb	0.012	84.27	100	100	
Cd	111	2	115	0.017	ppb	0.017	55.33	13	2000	
Sn	120	2	115	0.176	ppb	0.176	16.86	1203	2000	
Sb	121	2	115	0.493	ppb	0.493	5.46	1027	1000	
Ba	137	2	115	202.677	ppb	202.677	2.08	104107	5000	
W	182	2	165	0.118	ppb	0.118	6.06	2280	100	
Tl	205	2	165	0.034	ppb	0.034	48.35	1113	2000	
Pb	208	2	165	0.036	ppb	0.036	44.71	2930	5000	
Th	232	2	193	0.861	ppb	0.861	3.59	34007	2000	
U	238	2	193	2.264	ppb	2.264	2.87	54271	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal standard	6	1	HMI H2	306715	1.29	403136	76.08	60	120	
Sc (IS)	45	1	HMI H2	19236057	0.83	22841480	84.22	60	120	
Sc (IS)	45	2	HMI He	1133881	1.43	1496308	75.78	60	120	
Sc (IS)	45	3	No Gas	36578761	1.39	41056866	89.09	60	120	
Ge Internal standard	72	1	HMI H2	11178264	0.22	12474010	89.61	60	120	
Ge Internal standard	72	2	HMI He	1660119	1.73	1875279	88.53	60	120	
In Internal standard	115	2	HMI He	5329873	1.18	6165359	86.45	60	120	
Ho-165	165	2	HMI He	24274008	1.07	26417015	91.89	60	120	
Ir (IS)	193	2	HMI He	18012717	0.11	19705390	91.41	60	120	

Sample Report

Sample Table

Sample Name	280-185631-c-1-c
Data File Name	085SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\ALL122023.b
Acq Date Time	2023-12-20T19:40:10-07:00
Analyst	Denver Metals
Sample Type	Sample
Dilution	1
Comment	637783 6020B
ISTD Ref FileName	020CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	3	45	24.121	ppb	24.121	12.98	1901786	50000	
Be	9	1	6	-0.069	ppb	-0.069	-51.01	13	2000	
B	11	1	6	45.009	ppb	45.009	3.04	13179	2000	
Na	23	2	45	41904.655	ppb	41904.655	3.86	10720101	400000	
Mg	24	2	45	72355.619	ppb	72355.619	3.36	8700582	400000	
Al	27	2	45	17.709	ppb	17.709	20.82	677	400000	
Si	28	2	45	79.846	ppb	79.846	6.72	26865	10000	
P	31	2	45	4.312	ppb	4.312	68.40	72	10000	
K	39	2	45	8040.061	ppb	8040.061	3.27	698614	400000	
Ca	40	1	45	390684.297	ppb	390684.297	0.29	1421689205	400000	
Ti	47	2	45	0.205	ppb	0.205	142.81	10	4000	
V	51	2	72	-0.207	ppb	-0.207	-27.69	797	2000	
Cr	52	2	72	0.006	ppb	0.006	366.80	1247	5000	
Mn	55	2	72	369.860	ppb	369.860	1.42	313864	10000	
Fe	56	1	72	211.441	ppb	211.441	0.81	1545987	10000	
(Fe)	57	2	72	213.595	ppb	213.595	1.97	8746	400000	
Co	59	2	72	0.398	ppb	0.398	5.47	1480	2000	
Ni	60	2	72	-0.847	ppb	-0.847	-22.40	1690	5000	
Cu	63	2	72	0.765	ppb	0.765	19.21	5691	5000	
Zn	66	2	72	10.041	ppb	10.041	5.26	4998	5000	
As	75	2	72	0.011	ppb	0.011	310.92	82	2000	
Se	78	1	72	0.066	ppb	0.066	54.87	36	2000	
Sr	88	2	72	2300.860	ppb	2300.860	0.82	2271754	4000	
Zr	90	2	72	411.252	ppb	411.252	15.76	2667	1000	
Mo	95	2	115	0.114	ppb	0.114	11.13	203	2000	
Ag	107	2	115	0.020	ppb	0.020	14.75	143	100	
Cd	111	2	115	0.010	ppb	0.010	145.06	10	2000	
Sn	120	2	115	-0.047	ppb	-0.047	-83.42	937	2000	
Sb	121	2	115	0.160	ppb	0.160	15.86	547	1000	
Ba	137	2	115	3.200	ppb	3.200	1.26	1850	5000	
W	182	2	165	0.042	ppb	0.042	31.84	1967	100	
Tl	205	2	165	0.058	ppb	0.058	12.00	1473	2000	
Pb	208	2	165	0.061	ppb	0.061	31.60	3497	5000	
Th	232	2	193	0.141	ppb	0.141	24.36	20321	2000	
U	238	2	193	0.447	ppb	0.447	2.60	15826	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal standard	6	1	HMI H2	310880	0.17	403136	77.12	60	120	
Sc (IS)	45	1	HMI H2	20267991	0.74	22841480	88.73	60	120	
Sc (IS)	45	2	HMI He	1239922	4.59	1496308	82.87	60	120	
Sc (IS)	45	3	No Gas	40097912	0.71	41056866	97.66	60	120	
Ge Internal standard	72	1	HMI H2	11401436	0.60	12474010	91.40	60	120	
Ge Internal standard	72	2	HMI He	1707063	1.85	1875279	91.03	60	120	
In Internal standard	115	2	HMI He	5779460	1.32	6165359	93.74	60	120	
Ho-165	165	2	HMI He	25645846	1.47	26417015	97.08	60	120	
Ir (IS)	193	2	HMI He	18840776	1.60	19705390	95.61	60	120	

Sample Report

Sample Table

Sample Name	280-185785-c-1-a
Data File Name	086SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\ALL122023.b
Acq Date Time	2023-12-20T19:43:48-07:00
Analyst	Denver Metals
Sample Type	Sample
Dilution	1
Comment	637783 6020B
ISTD Ref FileName	020CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	3	45	0.970	ppb	0.970	124.91	1447566	50000	
Be	9	1	6	-0.081	ppb	-0.081	-36.54	10	2000	
B	11	1	6	6.330	ppb	6.330	13.60	3647	2000	
Na	23	2	45	1019.199	ppb	1019.199	1.83	264396	400000	
Mg	24	2	45	60.598	ppb	60.598	8.88	6915	400000	
Al	27	2	45	24.245	ppb	24.245	6.46	817	400000	
Si	28	2	45	4.187	ppb	4.187	45.19	10107	10000	
P	31	2	45	37.450	ppb	37.450	4.64	167	10000	
K	39	2	45	6.452	ppb	6.452	381.39	28986	400000	
Ca	40	1	45	517.158	ppb	517.158	6.56	1911211	400000	
Ti	47	2	45	0.228	ppb	0.228	234.16	10	4000	
V	51	2	72	-0.262	ppb	-0.262	-5.02	707	2000	
Cr	52	2	72	0.109	ppb	0.109	100.79	1413	5000	
Mn	55	2	72	0.636	ppb	0.636	21.33	680	10000	
Fe	56	1	72	31.440	ppb	31.440	0.85	288971	10000	
(Fe)	57	2	72	24.881	ppb	24.881	18.98	1347	400000	
Co	59	2	72	-0.009	ppb	-0.009	-251.79	197	2000	
Ni	60	2	72	3.410	ppb	3.410	4.90	5478	5000	
Cu	63	2	72	-0.042	ppb	-0.042	-100.77	3564	5000	
Zn	66	2	72	0.980	ppb	0.980	31.49	883	5000	
As	75	2	72	-0.063	ppb	-0.063	-51.39	56	2000	
Se	78	1	72	0.014	ppb	0.014	278.25	21	2000	
Sr	88	2	72	1.294	ppb	1.294	16.59	1340	4000	
Zr	90	2	72	223.640	ppb	223.640	8.59	1850	1000	
Mo	95	2	115	0.029	ppb	0.029	139.71	90	2000	
Ag	107	2	115	-0.003	ppb	-0.003	-3.06	40	100	
Cd	111	2	115	0.006	ppb	0.006	319.12	7	2000	
Sn	120	2	115	1.088	ppb	1.088	11.38	2710	2000	
Sb	121	2	115	0.051	ppb	0.051	91.00	350	1000	
Ba	137	2	115	1.142	ppb	1.142	12.03	680	5000	
W	182	2	165	0.011	ppb	0.011	197.78	1737	100	
Tl	205	2	165	-0.036	ppb	-0.036	-5.08	320	2000	
Pb	208	2	165	0.056	ppb	0.056	8.55	3320	5000	
Th	232	2	193	-0.008	ppb	-0.008	-270.49	17481	2000	
U	238	2	193	0.014	ppb	0.014	57.72	6168	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal standard	6	1	HMI H2	323863	1.49	403136	80.34	60	120	
Sc (IS)	45	1	HMI H2	19674686	1.25	22841480	86.14	60	120	
Sc (IS)	45	2	HMI He	1136777	0.90	1496308	75.97	60	120	
Sc (IS)	45	3	No Gas	36526265	0.45	41056866	88.97	60	120	
Ge Internal standard	72	1	HMI H2	11504877	0.80	12474010	92.23	60	120	
Ge Internal standard	72	2	HMI He	1673018	1.07	1875279	89.21	60	120	
In Internal standard	115	2	HMI He	5579224	0.86	6165359	90.49	60	120	
Ho-165	165	2	HMI He	24922604	0.53	26417015	94.34	60	120	
Ir (IS)	193	2	HMI He	19170433	1.11	19705390	97.29	60	120	

Sample Report

Sample Table

Sample Name	280-185764-d-1-a
Data File Name	087SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\ALL122023.b
Acq Date Time	2023-12-20T19:47:24-07:00
Analyst	Denver Metals
Sample Type	Sample
Dilution	1
Comment	637783 6020B
ISTD Ref FileName	020CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	3	45	1.077	ppb	1.077	209.75	1439212	50000	
Be	9	1	6	0.010	ppb	0.010	793.29	40	2000	
B	11	1	6	4.379	ppb	4.379	18.10	3067	2000	
Na	23	2	45	354.569	ppb	354.569	1.76	107026	400000	
Mg	24	2	45	26.191	ppb	26.191	6.82	3070	400000	
Al	27	2	45	25.109	ppb	25.109	13.64	830	400000	
Si	28	2	45	5.558	ppb	5.558	61.09	10207	10000	
P	31	2	45	7.246	ppb	7.246	17.94	74	10000	
K	39	2	45	-5.653	ppb	-5.653	-105.20	27627	400000	
Ca	40	1	45	122.243	ppb	122.243	0.79	504338	400000	
Ti	47	2	45	0.130	ppb	0.130	279.97	7	4000	
V	51	2	72	-0.330	ppb	-0.330	-5.86	593	2000	
Cr	52	2	72	0.052	ppb	0.052	60.31	1260	5000	
Mn	55	2	72	0.326	ppb	0.326	27.90	407	10000	
Fe	56	1	72	1.734	ppb	1.734	19.06	76958	10000	
(Fe)	57	2	72	-1.154	ppb	-1.154	-197.51	337	400000	
Co	59	2	72	-0.003	ppb	-0.003	-972.12	207	2000	
Ni	60	2	72	-2.092	ppb	-2.092	-6.58	517	5000	
Cu	63	2	72	-0.195	ppb	-0.195	-79.32	3070	5000	
Zn	66	2	72	0.826	ppb	0.826	4.98	787	5000	
As	75	2	72	-0.114	ppb	-0.114	-12.80	39	2000	
Se	78	1	72	0.026	ppb	0.026	107.54	24	2000	
Sr	88	2	72	0.444	ppb	0.444	17.27	500	4000	
Zr	90	2	72	170.546	ppb	170.546	14.37	1577	1000	
Mo	95	2	115	0.000	ppb	0.000	71791.86	53	2000	
Ag	107	2	115	0.000	ppb	0.000	-4034.24	50	100	
Cd	111	2	115	0.001	ppb	0.001	1614.70	3	2000	
Sn	120	2	115	-0.164	ppb	-0.164	-47.05	703	2000	
Sb	121	2	115	0.018	ppb	0.018	324.94	290	1000	
Ba	137	2	115	0.789	ppb	0.789	15.42	480	5000	
W	182	2	165	0.000	ppb	0.000	-7273.19	1663	100	
Tl	205	2	165	-0.043	ppb	-0.043	-8.91	240	2000	
Pb	208	2	165	0.041	ppb	0.041	12.11	3074	5000	
Th	232	2	193	-0.037	ppb	-0.037	-44.66	16737	2000	
U	238	2	193	0.006	ppb	0.006	306.05	5931	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal standard	6	1	HMI H2	316682	0.19	403136	78.55	60	120	
Sc (IS)	45	1	HMI H2	19250691	0.61	22841480	84.28	60	120	
Sc (IS)	45	2	HMI He	1118637	0.14	1496308	74.76	60	120	
Sc (IS)	45	3	No Gas	36281421	0.50	41056866	88.37	60	120	
Ge Internal standard	72	1	HMI H2	11176896	0.93	12474010	89.60	60	120	
Ge Internal standard	72	2	HMI He	1614161	1.35	1875279	86.08	60	120	
In Internal standard	115	2	HMI He	5461596	0.85	6165359	88.59	60	120	
Ho-165	165	2	HMI He	24753099	0.95	26417015	93.70	60	120	
Ir (IS)	193	2	HMI He	19025086	1.30	19705390	96.55	60	120	

Sample Report

Sample Table

Sample Name	280-185764-d-2-a
Data File Name	088SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\ALL122023.b
Acq Date Time	2023-12-20T19:51:00-07:00
Analyst	Denver Metals
Sample Type	Sample
Dilution	1
Comment	637783 6020B
ISTD Ref FileName	020CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	3	45	0.050	ppb	0.050	3690.40	1401712	50000	
Be	9	1	6	-0.037	ppb	-0.037	-47.66	23	2000	
B	11	1	6	58.027	ppb	58.027	5.89	16172	2000	
Na	23	2	45	12896.826	ppb	12896.826	1.46	2902260	400000	
Mg	24	2	45	14705.171	ppb	14705.171	0.53	1546369	400000	
Al	27	2	45	322.124	ppb	322.124	2.52	9460	400000	
Si	28	2	45	1719.941	ppb	1719.941	1.32	324091	10000	
P	31	2	45	255.789	ppb	255.789	2.41	794	10000	
K	39	2	45	4275.647	ppb	4275.647	0.41	337547	400000	
Ca	40	1	45	36158.223	ppb	36158.223	0.73	123367465	400000	
Ti	47	2	45	13.958	ppb	13.958	26.45	430	4000	
V	51	2	72	0.571	ppb	0.571	6.18	1770	2000	
Cr	52	2	72	0.716	ppb	0.716	21.76	2444	5000	
Mn	55	2	72	23.883	ppb	23.883	4.97	19252	10000	
Fe	56	1	72	505.189	ppb	505.189	0.26	3493975	10000	
(Fe)	57	2	72	466.944	ppb	466.944	2.75	17590	400000	
Co	59	2	72	0.134	ppb	0.134	45.06	613	2000	
Ni	60	2	72	-1.311	ppb	-1.311	-11.59	1190	5000	
Cu	63	2	72	3.143	ppb	3.143	2.61	11067	5000	
Zn	66	2	72	34.612	ppb	34.612	3.49	15191	5000	
As	75	2	72	8.433	ppb	8.433	3.69	2673	2000	
Se	78	1	72	-0.002	ppb	-0.002	-1155.73	16	2000	
Sr	88	2	72	163.857	ppb	163.857	2.26	152708	4000	
Zr	90	2	72	71.579	ppb	71.579	53.92	1187	1000	
Mo	95	2	115	1.614	ppb	1.614	15.00	1957	2000	
Ag	107	2	115	0.002	ppb	0.002	393.69	57	100	
Cd	111	2	115	-0.005	ppb	-0.005	0.00	0	2000	
Sn	120	2	115	0.062	ppb	0.062	26.02	1023	2000	
Sb	121	2	115	0.343	ppb	0.343	12.21	787	1000	
Ba	137	2	115	16.772	ppb	16.772	5.04	8613	5000	
W	182	2	165	0.074	ppb	0.074	37.96	2017	100	
Tl	205	2	165	-0.041	ppb	-0.041	-9.90	260	2000	
Pb	208	2	165	1.163	ppb	1.163	4.67	19976	5000	
Th	232	2	193	-0.015	ppb	-0.015	-152.20	16386	2000	
U	238	2	193	0.292	ppb	0.292	1.12	11869	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal standard	6	1	HMI H2	305832	0.32	403136	75.86	60	120	
Sc (IS)	45	1	HMI H2	18992558	1.36	22841480	83.15	60	120	
Sc (IS)	45	2	HMI He	1083102	0.79	1496308	72.38	60	120	
Sc (IS)	45	3	No Gas	35648019	0.86	41056866	86.83	60	120	
Ge Internal standard	72	1	HMI H2	11060425	1.19	12474010	88.67	60	120	
Ge Internal standard	72	2	HMI He	1610658	2.18	1875279	85.89	60	120	
In Internal standard	115	2	HMI He	5294750	1.54	6165359	85.88	60	120	
Ho-165	165	2	HMI He	24012960	0.91	26417015	90.90	60	120	
Ir (IS)	193	2	HMI He	18139646	0.66	19705390	92.05	60	120	

Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV-8120917
Data File Name	089_CCV.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\ALL122023.b
Acq Date Time	2023-12-20T19:54:35-07:00
Sample Type	CCV
Dilution	1
Comment	
ISTD Ref File Name	020CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	Units	Conc %RSD	CPS	Exp Value	%Rec	%Low	%High2	QC Flag
Be	9	1	6	49.971	ppb	3.003	15851	50	99.9	90	110	
Na	23	2	45	52268.212	ppb	0.566	11523882	51000	102.5	90	110	
Mg	24	2	45	10706.846	ppb	0.634	1110144	11000	97.3	90	110	
Al	27	2	45	1036.363	ppb	0.741	29847	1000	103.6	90	110	
K	39	2	45	10303.829	ppb	1.236	764251	11000	93.7	90	110	
Ca	40	1	45	10395.086	ppb	0.371	35112754	11000	94.5	90	110	
Ti	47	2	45	49.626	ppb	2.002	1500	50	99.3	90	110	
V	51	2	72	50.777	ppb	5.433	62631	50	101.6	90	110	
Cr	52	2	72	50.806	ppb	5.906	85009	50	101.6	90	110	
Mn	55	2	72	49.042	ppb	7.000	36584	50	98.1	90	110	
Fe	56	1	72	995.653	ppb	1.650	6661012	1000	99.6	90	110	
Co	59	2	72	50.313	ppb	4.680	139041	50	100.6	90	110	
Ni	60	2	72	47.403	ppb	8.272	40206	50	94.8	90	110	
Cu	63	2	72	49.354	ppb	7.252	113089	50	98.7	90	110	
Zn	66	2	72	56.540	ppb	3.413	22830	50	113.1	90	110	>+\-10%
As	75	2	72	52.506	ppb	4.307	15121	50	105.0	90	110	
Se	78	1	72	52.433	ppb	1.290	14348	50	104.9	90	110	
Sr	88	2	72	103.819	ppb	4.975	89955	100	103.8	90	110	
Zr	90	2	72	1356.305	ppb	13.640	5775	50	2712.6	90	110	>+\-10%
Mo	95	2	115	52.126	ppb	1.274	60648	50	104.3	90	110	
Ag	107	2	115	51.199	ppb	1.229	206530	50	102.4	90	110	
Cd	111	2	115	51.064	ppb	2.485	30500	50	102.1	90	110	
Sn	120	2	115	53.198	ppb	1.327	79981	50	106.4	90	110	
Sb	121	2	115	52.211	ppb	0.813	80316	50	104.4	90	110	
Ba	137	2	115	51.533	ppb	1.096	25929	50	103.1	90	110	
W	182	2	165	52.577	ppb	0.704	282983	50	105.2	90	110	
Tl	205	2	165	50.638	ppb	0.791	565952	50	101.3	90	110	
Pb	208	2	165	50.763	ppb	0.620	762961	50	101.5	90	110	
Th	232	2	193	45.486	ppb	0.683	942096	50	91.0	90	110	
U	238	2	193	46.152	ppb	0.834	1004648	50	92.3	90	110	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal standard	6	1	HMI H2	300152	1.01	403136	74.45	60	120	
Sc (IS)	45	1	HMI H2	18771523	0.16	22841480	82.18	60	120	
Sc (IS)	45	2	HMI He	1067897	0.64	1496308	71.37	60	120	
Sc (IS)	45	3	No Gas	34701144	2.25	41056866	84.52	60	120	
Ge Internal standard	72	1	HMI H2	10797997	0.91	12474010	86.56	60	120	
Ge Internal standard	72	2	HMI He	1499372	5.50	1875279	79.95	60	120	
In Internal standard	115	2	HMI He	5210904	0.87	6165359	84.52	60	120	
Ho-165	165	2	HMI He	23732115	0.83	26417015	89.84	60	120	
Ir (IS)	193	2	HMI He	18101619	0.95	19705390	91.86	60	120	

Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB-8120901
Data File Name	090_CCB.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\ALL122023.b
Acq Date Time	2023-12-20T19:58:08-07:00
Sample Type	CCB
Dilution	1
Comment	
ISTD Ref File Name	020CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	Units	Conc %RSD	CPS	Upper Limit	QC Flag
Li	7	3	45	2.206	ppb	144.4	1393579	10	
Be	9	1	6	-0.039	ppb	-118.6	23	0.5	
B	11	1	6	16.090	ppb	4.5	5945	0.5	>RL
Na	23	2	45	7.007	ppb	6.5	25553	25	
Mg	24	2	45	10.915	ppb	13.4	1340	25	
Al	27	2	45	2.313	ppb	56.7	137	15	
K	39	2	45	1.923	ppb	472.6	26755	50	
Ti	47	2	45	-0.080	ppb	0.0	0	0.5	
V	51	2	72	-0.355	ppb	-32.5	507	1	
Cr	52	2	72	-0.013	ppb	-986.8	1030	1	
Mn	55	2	72	0.155	ppb	21.2	243	0.5	
(Fe)	57	2	72	-1.270	ppb	-45.8	300	25	
Co	59	2	72	0.024	ppb	61.6	260	0.5	
Ni	60	2	72	-1.247	ppb	-29.3	1120	1	
Cu	63	2	72	0.663	ppb	30.9	4624	1	
Zn	66	2	72	-0.165	ppb	-142.5	327	5	
As	75	2	72	-0.041	ppb	-51.6	55	1	
Se	78	1	72	-0.005	ppb	-779.1	15	1	
Sr	88	2	72	0.354	ppb	13.7	377	0.5	
Zr	90	2	72	43.842	ppb	11.9	973	1	>RL
Mo	95	2	115	0.129	ppb	41.0	200	0.5	
Ag	107	2	115	0.011	ppb	55.8	93	1	
Cd	111	2	115	0.018	ppb	54.8	13	0.5	
Sn	120	2	115	0.113	ppb	62.1	1083	1	
Sb	121	2	115	0.273	ppb	40.5	667	0.6	
Ba	137	2	115	0.076	ppb	104.7	100	0.5	
W	182	2	165	0.333	ppb	3.6	3371	1	
Tl	205	2	165	0.031	ppb	20.0	1060	0.1	
Pb	208	2	165	0.027	ppb	47.4	2717	0.5	
Th	232	2	193	0.589	ppb	4.7	29257	1	
U	238	2	193	0.021	ppb	60.6	6108	0.5	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal standard	6	1	HMI H2	310968	1.21	403136	77.14	60	120	
Sc (IS)	45	1	HMI H2	18385273	1.22	22841480	80.49	60	120	
Sc (IS)	45	2	HMI He	1061590	0.74	1496308	70.95	60	120	
Sc (IS)	45	3	No Gas	34796765	1.88	41056866	84.75	60	120	
Ge Internal standard	72	1	HMI H2	10715610	0.74	12474010	85.90	60	120	
Ge Internal standard	72	2	HMI He	1457291	4.38	1875279	77.71	60	120	
In Internal standard	115	2	HMI He	5211622	0.23	6165359	84.53	60	120	
Ho-165	165	2	HMI He	23660000	0.61	26417015	89.56	60	120	
Ir (IS)	193	2	HMI He	18487491	0.50	19705390	93.82	60	120	

Sample Report

Sample Table

Sample Name	280-185783-a-11-a
Data File Name	091SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\ALL122023.b
Acq Date Time	2023-12-20T20:01:45-07:00
Analyst	Denver Metals
Sample Type	Sample
Dilution	1
Comment	637783 6020B
ISTD Ref FileName	020CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	3	45	122.848	ppb	122.848	3.05	2799433	50000	
Be	9	1	6	0.158	ppb	0.158	41.85	83	2000	
B	11	1	6	189.708	ppb	189.708	0.36	46844	2000	
Na	23	2	45	138893.575	ppb	138893.575	0.90	30739029	400000	
Mg	24	2	45	114590.085	ppb	114590.085	0.26	11940212	400000	
Al	27	2	45	1597.046	ppb	1597.046	3.48	46184	400000	
Si	28	2	45	1042.846	ppb	1042.846	0.24	198198	10000	
P	31	2	45	109.450	ppb	109.450	10.80	365	10000	
K	39	2	45	5671.736	ppb	5671.736	0.77	434961	400000	
Ca	40	1	45	107074.507	ppb	107074.507	0.58	360626808	400000	
Ti	47	2	45	15.638	ppb	15.638	15.40	477	4000	
V	51	2	72	3.348	ppb	3.348	3.21	5221	2000	
Cr	52	2	72	325.841	ppb	325.841	0.30	561462	5000	
Mn	55	2	72	116.019	ppb	116.019	1.83	89935	10000	
Fe	56	1	72	4103.113	ppb	4103.113	0.48	27670981	10000	
(Fe)	57	2	72	3996.879	ppb	3996.879	0.28	142871	400000	
Co	59	2	72	1.741	ppb	1.741	3.28	5208	2000	
Ni	60	2	72	29.317	ppb	29.317	1.12	26759	5000	
Cu	63	2	72	5.737	ppb	5.737	1.94	16709	5000	
Zn	66	2	72	16.026	ppb	16.026	6.06	7032	5000	
As	75	2	72	1.562	ppb	1.562	5.90	537	2000	
Se	78	1	72	0.037	ppb	0.037	214.92	27	2000	
Sr	88	2	72	1177.974	ppb	1177.974	0.47	1061320	4000	
Zr	90	2	72	676.479	ppb	676.479	11.96	3441	1000	
Mo	95	2	115	3.710	ppb	3.710	12.65	4304	2000	
Ag	107	2	115	0.375	ppb	0.375	27.55	1547	100	
Cd	111	2	115	0.018	ppb	0.018	109.70	13	2000	
Sn	120	2	115	0.213	ppb	0.213	61.86	1217	2000	
Sb	121	2	115	0.115	ppb	0.115	38.89	420	1000	
Ba	137	2	115	23.537	ppb	23.537	3.62	11738	5000	
W	182	2	165	0.776	ppb	0.776	6.82	5771	100	
Tl	205	2	165	-0.014	ppb	-0.014	-60.95	557	2000	
Pb	208	2	165	1.933	ppb	1.933	3.40	31398	5000	
Th	232	2	193	1.511	ppb	1.511	4.00	47019	2000	
U	238	2	193	0.611	ppb	0.611	3.03	18592	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal standard	6	1	HMI H2	294844	1.02	403136	73.14	60	120	
Sc (IS)	45	1	HMI H2	18756130	0.92	22841480	82.11	60	120	
Sc (IS)	45	2	HMI He	1073370	0.69	1496308	71.73	60	120	
Sc (IS)	45	3	No Gas	34691814	0.94	41056866	84.50	60	120	
Ge Internal standard	72	1	HMI H2	10962358	0.78	12474010	87.88	60	120	
Ge Internal standard	72	2	HMI He	1557624	1.23	1875279	83.06	60	120	
In Internal standard	115	2	HMI He	5148118	1.89	6165359	83.50	60	120	
Ho-165	165	2	HMI He	23819688	0.64	26417015	90.17	60	120	
Ir (IS)	193	2	HMI He	17954816	1.25	19705390	91.12	60	120	

Sample Report

Sample Table

Sample Name	280-185783-a-11-aSD@5
Data File Name	092SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\ALL122023.b
Acq Date Time	2023-12-20T20:05:18-07:00
Analyst	Denver Metals
Sample Type	Sample
Dilution	1
Comment	637783 6020B
ISTD Ref FileName	020CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	3	45	28.076	ppb	28.076	8.72	1704987	50000	
Be	9	1	6	-0.027	ppb	-0.027	-287.50	27	2000	
B	11	1	6	45.681	ppb	45.681	5.51	13105	2000	
Na	23	2	45	29506.302	ppb	29506.302	0.84	6531023	400000	
Mg	24	2	45	24624.504	ppb	24624.504	1.14	2558876	400000	
Al	27	2	45	366.113	ppb	366.113	8.07	10614	400000	
Si	28	2	45	221.048	ppb	221.048	0.36	48797	10000	
P	31	2	45	31.801	ppb	31.801	30.61	141	10000	
K	39	2	45	1212.943	ppb	1212.943	3.98	113862	400000	
Ca	40	1	45	22240.646	ppb	22240.646	0.88	75138099	400000	
Ti	47	2	45	4.770	ppb	4.770	71.17	147	4000	
V	51	2	72	0.531	ppb	0.531	6.74	1687	2000	
Cr	52	2	72	65.977	ppb	65.977	1.04	116395	5000	
Mn	55	2	72	24.278	ppb	24.278	1.94	19232	10000	
Fe	56	1	72	875.582	ppb	875.582	0.88	5938818	10000	
(Fe)	57	2	72	831.709	ppb	831.709	2.64	30495	400000	
Co	59	2	72	0.362	ppb	0.362	6.66	1267	2000	
Ni	60	2	72	4.752	ppb	4.752	13.01	6321	5000	
Cu	63	2	72	1.335	ppb	1.335	14.81	6612	5000	
Zn	66	2	72	8.873	ppb	8.873	6.49	4144	5000	
As	75	2	72	0.288	ppb	0.288	10.07	159	2000	
Se	78	1	72	0.037	ppb	0.037	81.39	27	2000	
Sr	88	2	72	240.793	ppb	240.793	1.47	220448	4000	
Zr	90	2	72	109.549	ppb	109.549	28.50	1310	1000	
Mo	95	2	115	0.820	ppb	0.820	4.75	1010	2000	
Ag	107	2	115	0.093	ppb	0.093	10.53	427	100	
Cd	111	2	115	0.023	ppb	0.023	84.27	17	2000	
Sn	120	2	115	0.253	ppb	0.253	50.88	1300	2000	
Sb	121	2	115	0.093	ppb	0.093	25.08	393	1000	
Ba	137	2	115	4.937	ppb	4.937	10.01	2554	5000	
W	182	2	165	0.198	ppb	0.198	16.62	2697	100	
Tl	205	2	165	-0.027	ppb	-0.027	-20.49	413	2000	
Pb	208	2	165	0.395	ppb	0.395	9.93	8378	5000	
Th	232	2	193	0.356	ppb	0.356	12.86	23927	2000	
U	238	2	193	0.156	ppb	0.156	5.29	8913	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal standard	6	1	HMI H2	305301	0.64	403136	75.73	60	120	
Sc (IS)	45	1	HMI H2	18797881	0.46	22841480	82.30	60	120	
Sc (IS)	45	2	HMI He	1070383	0.05	1496308	71.53	60	120	
Sc (IS)	45	3	No Gas	34967408	1.18	41056866	85.17	60	120	
Ge Internal standard	72	1	HMI H2	10932157	0.37	12474010	87.64	60	120	
Ge Internal standard	72	2	HMI He	1582257	0.52	1875279	84.37	60	120	
In Internal standard	115	2	HMI He	5241643	1.28	6165359	85.02	60	120	
Ho-165	165	2	HMI He	24091507	0.42	26417015	91.20	60	120	
Ir (IS)	193	2	HMI He	18112767	0.41	19705390	91.92	60	120	

Sample Report

Sample Table

Sample Name	280-185783-a-11-b ms
Data File Name	093SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\ALL122023.b
Acq Date Time	2023-12-20T20:08:51-07:00
Analyst	Denver Metals
Sample Type	Sample
Dilution	1
Comment	637783 6020B
ISTD Ref FileName	020CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	3	45	168.388	ppb	168.388	1.65	3313390	50000	
Be	9	1	6	40.549	ppb	40.549	5.01	12415	2000	
B	11	1	6	194.895	ppb	194.895	3.58	47225	2000	
Na	23	2	45	144295.831	ppb	144295.831	0.48	31691566	400000	
Mg	24	2	45	118891.586	ppb	118891.586	0.58	12294794	400000	
Al	27	2	45	2909.405	ppb	2909.405	1.57	83451	400000	
Si	28	2	45	1185.199	ppb	1185.199	1.14	222352	10000	
P	31	2	45	135.079	ppb	135.079	8.06	436	10000	
K	39	2	45	6834.625	ppb	6834.625	0.95	514669	400000	
Ca	40	1	45	111916.891	ppb	111916.891	0.49	372343888	400000	
Ti	47	2	45	60.486	ppb	60.486	6.83	1824	4000	
V	51	2	72	43.075	ppb	43.075	2.25	55670	2000	
Cr	52	2	72	372.378	ppb	372.378	2.98	643983	5000	
Mn	55	2	72	154.433	ppb	154.433	3.80	120144	10000	
Fe	56	1	72	5091.814	ppb	5091.814	0.70	33604356	10000	
(Fe)	57	2	72	4934.734	ppb	4934.734	1.58	177040	400000	
Co	59	2	72	38.563	ppb	38.563	2.74	111383	2000	
Ni	60	2	72	66.264	ppb	66.264	3.42	57875	5000	
Cu	63	2	72	43.106	ppb	43.106	3.55	103698	5000	
Zn	66	2	72	55.484	ppb	55.484	2.40	23401	5000	
As	75	2	72	42.025	ppb	42.025	1.35	12658	2000	
Se	78	1	72	40.372	ppb	40.372	4.59	10982	2000	
Sr	88	2	72	1299.991	ppb	1299.991	1.91	1176097	4000	
Zr	90	2	72	1937.533	ppb	1937.533	7.83	8261	1000	
Mo	95	2	115	45.561	ppb	45.561	2.52	52145	2000	
Ag	107	2	115	41.282	ppb	41.282	0.76	163795	100	
Cd	111	2	115	40.136	ppb	40.136	1.45	23578	2000	
Sn	120	2	115	35.763	ppb	35.763	1.94	53179	2000	
Sb	121	2	115	38.376	ppb	38.376	0.64	58127	1000	
Ba	137	2	115	65.447	ppb	65.447	1.98	32368	5000	
W	182	2	165	0.831	ppb	0.831	5.62	6085	100	
Tl	205	2	165	38.968	ppb	38.968	1.92	438490	2000	
Pb	208	2	165	40.819	ppb	40.819	0.45	617970	5000	
Th	232	2	193	37.539	ppb	37.539	0.38	769107	2000	
U	238	2	193	36.804	ppb	36.804	0.72	790702	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal standard	6	1	HMI H2	289635	0.18	403136	71.85	60	120	
Sc (IS)	45	1	HMI H2	18527523	0.61	22841480	81.11	60	120	
Sc (IS)	45	2	HMI He	1065222	0.92	1496308	71.19	60	120	
Sc (IS)	45	3	No Gas	34495979	0.71	41056866	84.02	60	120	
Ge Internal standard	72	1	HMI H2	10732595	0.26	12474010	86.04	60	120	
Ge Internal standard	72	2	HMI He	1564492	2.73	1875279	83.43	60	120	
In Internal standard	115	2	HMI He	5125116	0.69	6165359	83.13	60	120	
Ho-165	165	2	HMI He	23888451	1.39	26417015	90.43	60	120	
Ir (IS)	193	2	HMI He	17839406	0.78	19705390	90.53	60	120	

Sample Report

Sample Table

Sample Name	280-185783-a-11-c msd
Data File Name	094SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\ALL122023.b
Acq Date Time	2023-12-20T20:12:26-07:00
Analyst	Denver Metals
Sample Type	Sample
Dilution	1
Comment	637783 6020B
ISTD Ref FileName	020CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	3	45	168.662	ppb	168.662	1.34	3318005	50000	
Be	9	1	6	38.964	ppb	38.964	2.92	11808	2000	
B	11	1	6	200.454	ppb	200.454	2.12	48018	2000	
Na	23	2	45	142330.431	ppb	142330.431	0.39	31065695	400000	
Mg	24	2	45	116699.225	ppb	116699.225	0.96	11992632	400000	
Al	27	2	45	2921.932	ppb	2921.932	1.84	83280	400000	
Si	28	2	45	1191.442	ppb	1191.442	1.89	222098	10000	
P	31	2	45	119.638	ppb	119.638	6.15	389	10000	
K	39	2	45	6702.506	ppb	6702.506	1.21	502086	400000	
Ca	40	1	45	109497.863	ppb	109497.863	0.47	362920221	400000	
Ti	47	2	45	58.979	ppb	58.979	3.60	1767	4000	
V	51	2	72	42.371	ppb	42.371	2.42	52968	2000	
Cr	52	2	72	380.042	ppb	380.042	3.61	635283	5000	
Mn	55	2	72	157.096	ppb	157.096	4.88	118094	10000	
Fe	56	1	72	5029.246	ppb	5029.246	0.66	32865721	10000	
(Fe)	57	2	72	4996.117	ppb	4996.117	3.79	173194	400000	
Co	59	2	72	38.680	ppb	38.680	4.40	107957	2000	
Ni	60	2	72	64.548	ppb	64.548	2.79	54564	5000	
Cu	63	2	72	42.006	ppb	42.006	2.26	97804	5000	
Zn	66	2	72	53.702	ppb	53.702	6.01	21888	5000	
As	75	2	72	41.289	ppb	41.289	3.51	12022	2000	
Se	78	1	72	39.502	ppb	39.502	2.43	10640	2000	
Sr	88	2	72	1320.101	ppb	1320.101	3.57	1154096	4000	
Zr	90	2	72	1629.561	ppb	1629.561	15.04	6852	1000	
Mo	95	2	115	43.385	ppb	43.385	0.65	49804	2000	
Ag	107	2	115	39.063	ppb	39.063	1.17	155460	100	
Cd	111	2	115	38.055	ppb	38.055	2.85	22423	2000	
Sn	120	2	115	34.117	ppb	34.117	2.42	50929	2000	
Sb	121	2	115	37.085	ppb	37.085	1.96	56360	1000	
Ba	137	2	115	64.242	ppb	64.242	2.38	31876	5000	
W	182	2	165	0.779	ppb	0.779	3.98	5788	100	
Tl	205	2	165	37.838	ppb	37.838	0.84	424815	2000	
Pb	208	2	165	40.055	ppb	40.055	1.30	604994	5000	
Th	232	2	193	37.395	ppb	37.395	1.28	762273	2000	
U	238	2	193	36.256	ppb	36.256	0.57	774939	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal standard	6	1	HMI H2	286625	0.46	403136	71.10	60	120	
Sc (IS)	45	1	HMI H2	18457106	0.01	22841480	80.81	60	120	
Sc (IS)	45	2	HMI He	1058596	0.65	1496308	70.75	60	120	
Sc (IS)	45	3	No Gas	34512220	0.68	41056866	84.06	60	120	
Ge Internal standard	72	1	HMI H2	10627052	0.96	12474010	85.19	60	120	
Ge Internal standard	72	2	HMI He	1512837	4.06	1875279	80.67	60	120	
In Internal standard	115	2	HMI He	5140811	0.87	6165359	83.38	60	120	
Ho-165	165	2	HMI He	23831976	1.25	26417015	90.21	60	120	
Ir (IS)	193	2	HMI He	17746922	0.46	19705390	90.06	60	120	

Sample Report

Sample Table

Sample Name	280-185783-a-11-a PDS
Data File Name	095SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\ALL122023.b
Acq Date Time	2023-12-20T20:15:59-07:00
Analyst	Denver Metals
Sample Type	Sample
Dilution	1
Comment	637783 6020B
ISTD Ref FileName	020CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	3	45	321.618	ppb	321.618	1.08	5135663	50000	
Be	9	1	6	208.106	ppb	208.106	2.61	62296	2000	
B	11	1	6	195.072	ppb	195.072	2.62	46313	2000	
Na	23	2	45	142871.250	ppb	142871.250	1.19	31438774	400000	
Mg	24	2	45	113904.249	ppb	113904.249	0.86	11801569	400000	
Al	27	2	45	3905.282	ppb	3905.282	2.10	112198	400000	
Si	28	2	45	1263.044	ppb	1263.044	0.94	236844	10000	
P	31	2	45	2824.192	ppb	2824.192	2.46	8139	10000	
K	39	2	45	7685.437	ppb	7685.437	0.74	576561	400000	
Ca	40	1	45	109065.969	ppb	109065.969	0.39	360837621	400000	
Ti	47	2	45	232.134	ppb	232.134	2.56	7005	4000	
V	51	2	72	211.783	ppb	211.783	0.25	258148	2000	
Cr	52	2	72	531.449	ppb	531.449	1.97	878795	5000	
Mn	55	2	72	313.587	ppb	313.587	1.61	233262	10000	
Fe	56	1	72	6075.240	ppb	6075.240	0.71	40158510	10000	
(Fe)	57	2	72	6171.461	ppb	6171.461	0.64	211717	400000	
Co	59	2	72	198.835	ppb	198.835	1.85	548583	2000	
Ni	60	2	72	221.027	ppb	221.027	1.00	179667	5000	
Cu	63	2	72	199.033	ppb	199.033	1.55	446244	5000	
Zn	66	2	72	221.415	ppb	221.415	1.04	88137	5000	
As	75	2	72	218.160	ppb	218.160	0.81	62568	2000	
Se	78	1	72	206.815	ppb	206.815	1.44	56304	2000	
Sr	88	2	72	1451.923	ppb	1451.923	0.30	1256589	4000	
Zr	90	2	72	2978.513	ppb	2978.513	2.60	11701	1000	
Mo	95	2	115	215.139	ppb	215.139	0.71	247459	2000	
Ag	107	2	115	53.870	ppb	53.870	2.02	214945	100	
Cd	111	2	115	204.692	ppb	204.692	0.43	120937	2000	
Sn	120	2	115	221.954	ppb	221.954	1.02	327289	2000	
Sb	121	2	115	217.366	ppb	217.366	1.50	330021	1000	
Ba	137	2	115	239.938	ppb	239.938	0.36	119209	5000	
W	182	2	165	151.689	ppb	151.689	1.16	817776	100	
Tl	205	2	165	223.683	ppb	223.683	1.00	2510994	2000	
Pb	208	2	165	217.472	ppb	217.472	0.83	3278611	5000	
Th	232	2	193	96.796	ppb	96.796	6.42	1952005	2000	
U	238	2	193	252.378	ppb	252.378	1.28	5375440	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal standard	6	1	HMI H2	283871	1.90	403136	70.42	60	120	
Sc (IS)	45	1	HMI H2	18424058	0.87	22841480	80.66	60	120	
Sc (IS)	45	2	HMI He	1067362	1.18	1496308	71.33	60	120	
Sc (IS)	45	3	No Gas	34775509	1.23	41056866	84.70	60	120	
Ge Internal standard	72	1	HMI H2	10752849	0.40	12474010	86.20	60	120	
Ge Internal standard	72	2	HMI He	1496264	1.91	1875279	79.79	60	120	
In Internal standard	115	2	HMI He	5155146	1.18	6165359	83.61	60	120	
Ho-165	165	2	HMI He	23860880	0.78	26417015	90.32	60	120	
Ir (IS)	193	2	HMI He	17792110	0.85	19705390	90.29	60	120	

Sample Report

Sample Table

Sample Name	280-185797-b-2-a
Data File Name	096SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\ALL122023.b
Acq Date Time	2023-12-20T20:19:31-07:00
Analyst	Denver Metals
Sample Type	Sample
Dilution	1
Comment	637783 6020B
ISTD Ref FileName	020CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	3	45	12.237	ppb	12.237	11.74	1502345	50000	
Be	9	1	6	0.227	ppb	0.227	89.85	107	2000	
B	11	1	6	42.492	ppb	42.492	2.97	12078	2000	
Na	23	2	45	22552.485	ppb	22552.485	0.37	4925444	400000	
Mg	24	2	45	5929.488	ppb	5929.488	0.25	607441	400000	
Al	27	2	45	144.075	ppb	144.075	8.36	4161	400000	
Si	28	2	45	515.001	ppb	515.001	1.33	100571	10000	
P	31	2	45	133.055	ppb	133.055	10.87	426	10000	
K	39	2	45	2345.538	ppb	2345.538	1.09	192293	400000	
Ca	40	1	45	11986.044	ppb	11986.044	0.39	39392609	400000	
Ti	47	2	45	1.938	ppb	1.938	62.99	60	4000	
V	51	2	72	1.768	ppb	1.768	11.78	3224	2000	
Cr	52	2	72	1.122	ppb	1.122	15.44	3060	5000	
Mn	55	2	72	271.384	ppb	271.384	1.94	210357	10000	
Fe	56	1	72	804.212	ppb	804.212	0.86	5363093	10000	
(Fe)	57	2	72	778.570	ppb	778.570	2.07	28151	400000	
Co	59	2	72	0.223	ppb	0.223	20.14	850	2000	
Ni	60	2	72	-1.552	ppb	-1.552	-8.66	953	5000	
Cu	63	2	72	0.730	ppb	0.730	25.43	5108	5000	
Zn	66	2	72	37.266	ppb	37.266	4.66	15801	5000	
As	75	2	72	9.106	ppb	9.106	3.37	2789	2000	
Se	78	1	72	0.181	ppb	0.181	54.36	65	2000	
Sr	88	2	72	69.351	ppb	69.351	2.13	62608	4000	
Zr	90	2	72	74.855	ppb	74.855	40.38	1160	1000	
Mo	95	2	115	5.279	ppb	5.279	11.71	6261	2000	
Ag	107	2	115	0.014	ppb	0.014	59.68	107	100	
Cd	111	2	115	0.073	ppb	0.073	26.72	47	2000	
Sn	120	2	115	1.126	ppb	1.126	7.22	2620	2000	
Sb	121	2	115	1.186	ppb	1.186	24.34	2090	1000	
Ba	137	2	115	17.468	ppb	17.468	5.20	8933	5000	
W	182	2	165	2.176	ppb	2.176	3.80	13437	100	
Tl	205	2	165	0.272	ppb	0.272	17.18	3794	2000	
Pb	208	2	165	0.250	ppb	0.250	5.78	6157	5000	
Th	232	2	193	0.878	ppb	0.878	3.86	34257	2000	
U	238	2	193	0.324	ppb	0.324	10.19	12436	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal standard	6	1	HMI H2	299172	0.86	403136	74.21	60	120	
Sc (IS)	45	1	HMI H2	18270124	0.85	22841480	79.99	60	120	
Sc (IS)	45	2	HMI He	1054938	0.70	1496308	70.50	60	120	
Sc (IS)	45	3	No Gas	34591568	0.96	41056866	84.25	60	120	
Ge Internal standard	72	1	HMI H2	10738738	0.71	12474010	86.09	60	120	
Ge Internal standard	72	2	HMI He	1559084	1.85	1875279	83.14	60	120	
In Internal standard	115	2	HMI He	5272015	0.42	6165359	85.51	60	120	
Ho-165	165	2	HMI He	24076133	1.17	26417015	91.14	60	120	
Ir (IS)	193	2	HMI He	17953451	1.04	19705390	91.11	60	120	

Sample Report

Sample Table

Sample Name	280-185797-b-3-a
Data File Name	097SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\ALL122023.b
Acq Date Time	2023-12-20T20:23:07-07:00
Analyst	Denver Metals
Sample Type	Sample
Dilution	1
Comment	637783 6020B
ISTD Ref FileName	020CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	3	45	59.659	ppb	59.659	2.27	2026369	50000	
Be	9	1	6	0.114	ppb	0.114	145.42	67	2000	
B	11	1	6	300.661	ppb	300.661	0.55	70116	2000	
Na	23	2	45	236966.338	ppb	236966.338	0.75	51517559	400000	
Mg	24	2	45	79604.057	ppb	79604.057	1.24	8150650	400000	
Al	27	2	45	1569.967	ppb	1569.967	2.50	44616	400000	
Si	28	2	45	1756.732	ppb	1756.732	1.19	322165	10000	
P	31	2	45	116.091	ppb	116.091	5.06	378	10000	
K	39	2	45	3238.494	ppb	3238.494	1.54	255385	400000	
Ca	40	1	45	60724.192	ppb	60724.192	1.14	199883384	400000	
Ti	47	2	45	28.950	ppb	28.950	21.88	867	4000	
V	51	2	72	4.917	ppb	4.917	7.55	6682	2000	
Cr	52	2	72	2.438	ppb	2.438	8.81	4931	5000	
Mn	55	2	72	1222.413	ppb	1222.413	3.61	878225	10000	
Fe	56	1	72	4327.562	ppb	4327.562	0.15	27970780	10000	
(Fe)	57	2	72	4333.577	ppb	4333.577	4.99	143666	400000	
Co	59	2	72	0.992	ppb	0.992	7.89	2840	2000	
Ni	60	2	72	-0.334	ppb	-0.334	-48.09	1827	5000	
Cu	63	2	72	1.039	ppb	1.039	11.59	5404	5000	
Zn	66	2	72	16.071	ppb	16.071	3.07	6548	5000	
As	75	2	72	20.611	ppb	20.611	3.24	5772	2000	
Se	78	1	72	0.021	ppb	0.021	218.23	21	2000	
Sr	88	2	72	466.899	ppb	466.899	3.42	390458	4000	
Zr	90	2	72	313.654	ppb	313.654	15.21	1917	1000	
Mo	95	2	115	28.901	ppb	28.901	1.99	32847	2000	
Ag	107	2	115	0.006	ppb	0.006	113.74	70	100	
Cd	111	2	115	0.041	ppb	0.041	24.24	27	2000	
Sn	120	2	115	2.413	ppb	2.413	13.45	4397	2000	
Sb	121	2	115	0.390	ppb	0.390	25.37	827	1000	
Ba	137	2	115	119.321	ppb	119.321	0.22	58536	5000	
W	182	2	165	2.009	ppb	2.009	5.77	12299	100	
Tl	205	2	165	0.000	ppb	0.000	-2569.01	707	2000	
Pb	208	2	165	0.360	ppb	0.360	4.86	7688	5000	
Th	232	2	193	0.735	ppb	0.735	6.12	30446	2000	
U	238	2	193	9.148	ppb	9.148	1.25	195960	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal standard	6	1	HMI H2	282500	0.73	403136	70.08	60	120	
Sc (IS)	45	1	HMI H2	18327973	0.58	22841480	80.24	60	120	
Sc (IS)	45	2	HMI He	1054841	1.62	1496308	70.50	60	120	
Sc (IS)	45	3	No Gas	34109483	0.65	41056866	83.08	60	120	
Ge Internal standard	72	1	HMI H2	10507323	1.05	12474010	84.23	60	120	
Ge Internal standard	72	2	HMI He	1447013	4.50	1875279	77.16	60	120	
In Internal standard	115	2	HMI He	5087726	0.79	6165359	82.52	60	120	
Ho-165	165	2	HMI He	23633974	0.92	26417015	89.46	60	120	
Ir (IS)	193	2	HMI He	17425268	0.96	19705390	88.43	60	120	

Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV-8120917
Data File Name	098_CCV.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\ALL122023.b
Acq Date Time	2023-12-20T20:26:40-07:00
Sample Type	CCV
Dilution	1
Comment	
ISTD Ref File Name	020CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	Units	Conc %RSD	CPS	Exp Value	%Rec	%Low	%High2	QC Flag
Be	9	1	6	47.931	ppb	1.976	14827	50	95.9	90	110	
Na	23	2	45	51231.329	ppb	1.502	11090367	51000	100.5	90	110	
Mg	24	2	45	10761.485	ppb	1.030	1095579	11000	97.8	90	110	
Al	27	2	45	1078.133	ppb	1.868	30482	1000	107.8	90	110	
K	39	2	45	10413.308	ppb	1.562	758096	11000	94.7	90	110	
Ca	40	1	45	10534.994	ppb	0.603	34392397	11000	95.8	90	110	
Ti	47	2	45	56.728	ppb	3.163	1684	50	113.5	90	110	>+\-10%
V	51	2	72	54.435	ppb	0.856	62664	50	108.9	90	110	
Cr	52	2	72	53.629	ppb	1.565	83796	50	107.3	90	110	
Mn	55	2	72	52.627	ppb	3.257	36688	50	105.3	90	110	
Fe	56	1	72	1008.195	ppb	0.715	6456464	1000	100.8	90	110	
Co	59	2	72	52.335	ppb	0.624	135096	50	104.7	90	110	
Ni	60	2	72	48.547	ppb	2.569	38455	50	97.1	90	110	
Cu	63	2	72	51.957	ppb	0.263	111146	50	103.9	90	110	
Zn	66	2	72	58.447	ppb	4.378	22022	50	116.9	90	110	>+\-10%
As	75	2	72	56.284	ppb	1.902	15135	50	112.6	90	110	>+\-10%
Se	78	1	72	52.128	ppb	0.510	13654	50	104.3	90	110	
Sr	88	2	72	112.129	ppb	1.609	90759	100	112.1	90	110	>+\-10%
Zr	90	2	72	508.880	ppb	11.404	2520	50	1017.8	90	110	>+\-10%
Mo	95	2	115	50.150	ppb	1.224	58857	50	100.3	90	110	
Ag	107	2	115	49.591	ppb	1.233	201799	50	99.2	90	110	
Cd	111	2	115	48.927	ppb	0.537	29478	50	97.9	90	110	
Sn	120	2	115	52.403	ppb	1.108	79499	50	104.8	90	110	
Sb	121	2	115	52.115	ppb	1.378	80879	50	104.2	90	110	
Ba	137	2	115	52.537	ppb	1.232	26664	50	105.1	90	110	
W	182	2	165	52.763	ppb	0.972	284611	50	105.5	90	110	
Tl	205	2	165	51.036	ppb	0.948	571693	50	102.1	90	110	
Pb	208	2	165	50.680	ppb	0.469	763435	50	101.4	90	110	
Th	232	2	193	46.603	ppb	1.170	953594	50	93.2	90	110	
U	238	2	193	46.717	ppb	1.588	1005023	50	93.4	90	110	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal standard	6	1	HMI H2	292746	0.70	403136	72.62	60	120	
Sc (IS)	45	1	HMI H2	18143109	0.44	22841480	79.43	60	120	
Sc (IS)	45	2	HMI He	1048599	1.01	1496308	70.08	60	120	
Sc (IS)	45	3	No Gas	33435349	1.64	41056866	81.44	60	120	
Ge Internal standard	72	1	HMI H2	10336613	0.57	12474010	82.87	60	120	
Ge Internal standard	72	2	HMI He	1398246	0.90	1875279	74.56	60	120	
In Internal standard	115	2	HMI He	5256541	0.88	6165359	85.26	60	120	
Ho-165	165	2	HMI He	23786342	0.55	26417015	90.04	60	120	
Ir (IS)	193	2	HMI He	17891903	0.98	19705390	90.80	60	120	

Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB-8120901
Data File Name	099_CCB.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\ALL122023.b
Acq Date Time	2023-12-20T20:30:14-07:00
Sample Type	CCB
Dilution	1
Comment	
ISTD Ref File Name	020CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	Units	Conc %RSD	CPS	Upper Limit	QC Flag
Li	7	3	45	7.297	ppb	27.7	1336205	10	
Be	9	1	6	0.038	ppb	94.4	47	0.5	
B	11	1	6	18.475	ppb	3.2	6281	0.5	>RL
Na	23	2	45	8.810	ppb	21.8	25577	25	
Mg	24	2	45	10.840	ppb	13.0	1313	25	
Al	27	2	45	1.076	ppb	142.5	100	15	
K	39	2	45	-11.328	ppb	-73.7	25447	50	
Ti	47	2	45	0.372	ppb	210.6	13	0.5	
V	51	2	72	-0.350	ppb	-21.7	523	1	
Cr	52	2	72	-0.058	ppb	-74.4	987	1	
Mn	55	2	72	0.489	ppb	27.2	500	0.5	
(Fe)	57	2	72	-1.199	ppb	-53.0	310	25	
Co	59	2	72	0.003	ppb	186.2	210	0.5	
Ni	60	2	72	-1.350	ppb	-11.0	1073	1	
Cu	63	2	72	0.514	ppb	34.3	4421	1	
Zn	66	2	72	-0.290	ppb	-53.5	287	5	
As	75	2	72	-0.064	ppb	-84.6	50	1	
Se	78	1	72	0.047	ppb	30.9	28	1	
Sr	88	2	72	0.209	ppb	23.4	260	0.5	
Zr	90	2	72	6.213	ppb	920.7	857	1	>RL
Mo	95	2	115	0.156	ppb	24.7	233	0.5	
Ag	107	2	115	0.012	ppb	43.0	97	1	
Cd	111	2	115	0.023	ppb	110.6	17	0.5	
Sn	120	2	115	0.047	ppb	143.7	990	1	
Sb	121	2	115	0.271	ppb	21.6	667	0.6	
Ba	137	2	115	0.114	ppb	46.2	120	0.5	
W	182	2	165	0.709	ppb	6.7	5398	1	
Tl	205	2	165	0.046	ppb	21.7	1227	0.1	
Pb	208	2	165	0.025	ppb	57.0	2707	0.5	
Th	232	2	193	0.850	ppb	4.9	34144	1	
U	238	2	193	0.036	ppb	65.6	6342	0.5	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal standard	6	1	HMI H2	298671	0.87	403136	74.09	60	120	
Sc (IS)	45	1	HMI H2	17909463	0.16	22841480	78.41	60	120	
Sc (IS)	45	2	HMI He	1046469	1.02	1496308	69.94	60	120	
Sc (IS)	45	3	No Gas	31994887	0.08	41056866	77.93	60	120	
Ge Internal standard	72	1	HMI H2	10383444	0.51	12474010	83.24	60	120	
Ge Internal standard	72	2	HMI He	1497273	4.23	1875279	79.84	60	120	
In Internal standard	115	2	HMI He	5239772	0.31	6165359	84.99	60	120	
Ho-165	165	2	HMI He	23751262	1.68	26417015	89.91	60	120	
Ir (IS)	193	2	HMI He	18197820	0.38	19705390	92.35	60	120	

Sample Report

Sample Table

Sample Name	280-185797-b-4-a
Data File Name	100SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\ALL122023.b
Acq Date Time	2023-12-20T20:33:50-07:00
Analyst	Denver Metals
Sample Type	Sample
Dilution	1
Comment	637783 6020B
ISTD Ref FileName	020CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	3	45	47.552	ppb	47.552	1.23	1884784	50000	
Be	9	1	6	0.200	ppb	0.200	100.88	93	2000	
B	11	1	6	300.075	ppb	300.075	2.36	70849	2000	
Na	23	2	45	119600.510	ppb	119600.510	0.26	25970840	400000	
Mg	24	2	45	121923.608	ppb	121923.608	0.68	12463458	400000	
Al	27	2	45	1522.319	ppb	1522.319	0.92	43196	400000	
Si	28	2	45	1517.897	ppb	1517.897	0.68	279086	10000	
P	31	2	45	116.574	ppb	116.574	10.15	379	10000	
K	39	2	45	3631.453	ppb	3631.453	1.16	282717	400000	
Ca	40	1	45	73876.904	ppb	73876.904	0.24	239816756	400000	
Ti	47	2	45	64.547	ppb	64.547	5.04	1924	4000	
V	51	2	72	3.806	ppb	3.806	10.12	5614	2000	
Cr	52	2	72	1.797	ppb	1.797	9.17	4084	5000	
Mn	55	2	72	2314.440	ppb	2314.440	4.23	1731972	10000	
Fe	56	1	72	6356.822	ppb	6356.822	0.77	40343750	10000	
(Fe)	57	2	72	6171.086	ppb	6171.086	3.67	213079	400000	
Co	59	2	72	0.934	ppb	0.934	4.32	2797	2000	
Ni	60	2	72	-0.460	ppb	-0.460	-65.55	1800	5000	
Cu	63	2	72	0.890	ppb	0.890	15.46	5298	5000	
Zn	66	2	72	8.739	ppb	8.739	18.31	3881	5000	
As	75	2	72	14.212	ppb	14.212	3.52	4167	2000	
Se	78	1	72	0.058	ppb	0.058	84.93	31	2000	
Sr	88	2	72	604.912	ppb	604.912	3.37	527041	4000	
Zr	90	2	72	280.541	ppb	280.541	6.40	1877	1000	
Mo	95	2	115	7.208	ppb	7.208	2.20	8252	2000	
Ag	107	2	115	0.046	ppb	0.046	60.01	227	100	
Cd	111	2	115	0.018	ppb	0.018	109.44	13	2000	
Sn	120	2	115	0.388	ppb	0.388	20.86	1460	2000	
Sb	121	2	115	0.280	ppb	0.280	9.28	663	1000	
Ba	137	2	115	612.714	ppb	612.714	0.89	301116	5000	
W	182	2	165	0.827	ppb	0.827	1.99	5988	100	
Tl	205	2	165	-0.008	ppb	-0.008	-159.87	620	2000	
Pb	208	2	165	0.773	ppb	0.773	4.79	13836	5000	
Th	232	2	193	0.790	ppb	0.790	5.02	32370	2000	
U	238	2	193	1.442	ppb	1.442	2.75	36336	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal standard	6	1	HMI H2	286030	0.91	403136	70.95	60	120	
Sc (IS)	45	1	HMI H2	18075131	0.33	22841480	79.13	60	120	
Sc (IS)	45	2	HMI He	1053015	0.67	1496308	70.37	60	120	
Sc (IS)	45	3	No Gas	34065173	0.02	41056866	82.97	60	120	
Ge Internal standard	72	1	HMI H2	10324973	1.03	12474010	82.77	60	120	
Ge Internal standard	72	2	HMI He	1506912	2.79	1875279	80.36	60	120	
In Internal standard	115	2	HMI He	5101399	1.39	6165359	82.74	60	120	
Ho-165	165	2	HMI He	23605669	0.86	26417015	89.36	60	120	
Ir (IS)	193	2	HMI He	17896929	0.73	19705390	90.82	60	120	

Sample Report

Sample Table

Sample Name	280-185797-b-5-a
Data File Name	101SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\ALL122023.b
Acq Date Time	2023-12-20T20:37:23-07:00
Analyst	Denver Metals
Sample Type	Sample
Dilution	1
Comment	637783 6020B
ISTD Ref FileName	020CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	3	45	55.099	ppb	55.099	3.25	1952530	50000	
Be	9	1	6	0.141	ppb	0.141	65.23	77	2000	
B	11	1	6	447.871	ppb	447.871	0.83	106237	2000	
Na	23	2	45	139561.604	ppb	139561.604	0.74	30518550	400000	
Mg	24	2	45	148875.873	ppb	148875.873	0.20	15327451	400000	
Al	27	2	45	1144.963	ppb	1144.963	2.74	32747	400000	
Si	28	2	45	1662.400	ppb	1662.400	1.18	307019	10000	
P	31	2	45	412.773	ppb	412.773	4.63	1224	10000	
K	39	2	45	5036.828	ppb	5036.828	0.10	384636	400000	
Ca	40	1	45	95981.390	ppb	95981.390	0.99	315197389	400000	
Ti	47	2	45	41.829	ppb	41.829	7.41	1257	4000	
V	51	2	72	8.778	ppb	8.778	2.22	11891	2000	
Cr	52	2	72	15.711	ppb	15.711	5.80	27664	5000	
Mn	55	2	72	5984.275	ppb	5984.275	1.94	4555261	10000	
Fe	56	1	72	2666.529	ppb	2666.529	0.17	17334706	10000	
(Fe)	57	2	72	2586.478	ppb	2586.478	1.94	91054	400000	
Co	59	2	72	1.995	ppb	1.995	3.62	5838	2000	
Ni	60	2	72	19.345	ppb	19.345	3.55	18114	5000	
Cu	63	2	72	13.956	ppb	13.956	1.17	35171	5000	
Zn	66	2	72	36.822	ppb	36.822	1.69	15354	5000	
As	75	2	72	17.132	ppb	17.132	0.37	5096	2000	
Se	78	1	72	0.305	ppb	0.305	19.85	97	2000	
Sr	88	2	72	790.783	ppb	790.783	1.53	700720	4000	
Zr	90	2	72	7813.294	ppb	7813.294	39.72	30208	1000	>LDR
Mo	95	2	115	14.770	ppb	14.770	2.62	16949	2000	
Ag	107	2	115	0.059	ppb	0.059	24.51	280	100	
Cd	111	2	115	0.092	ppb	0.092	27.41	57	2000	
Sn	120	2	115	0.695	ppb	0.695	15.23	1917	2000	
Sb	121	2	115	3.992	ppb	3.992	3.93	6268	1000	
Ba	137	2	115	385.060	ppb	385.060	0.81	190265	5000	
W	182	2	165	1.212	ppb	1.212	3.58	8056	100	
Tl	205	2	165	-0.028	ppb	-0.028	-15.98	403	2000	
Pb	208	2	165	2.723	ppb	2.723	1.47	42972	5000	
Th	232	2	193	0.298	ppb	0.298	21.54	22077	2000	
U	238	2	193	59.945	ppb	59.945	2.23	1266514	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal standard	6	1	HMI H2	289724	0.91	403136	71.87	60	120	
Sc (IS)	45	1	HMI H2	18287258	0.34	22841480	80.06	60	120	
Sc (IS)	45	2	HMI He	1060568	1.19	1496308	70.88	60	120	
Sc (IS)	45	3	No Gas	33737579	0.66	41056866	82.17	60	120	
Ge Internal standard	72	1	HMI H2	10553918	0.16	12474010	84.61	60	120	
Ge Internal standard	72	2	HMI He	1532119	2.13	1875279	81.70	60	120	
In Internal standard	115	2	HMI He	5128427	1.02	6165359	83.18	60	120	
Ho-165	165	2	HMI He	23645990	0.99	26417015	89.51	60	120	
Ir (IS)	193	2	HMI He	17595031	1.69	19705390	89.29	60	120	

Sample Report

Sample Table

Sample Name	280-185797-b-6-a
Data File Name	102SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\ALL122023.b
Acq Date Time	2023-12-20T20:40:56-07:00
Analyst	Denver Metals
Sample Type	Sample
Dilution	1
Comment	637783 6020B
ISTD Ref FileName	020CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	3	45	53.770	ppb	53.770	5.56	1982932	50000	
Be	9	1	6	0.228	ppb	0.228	87.10	103	2000	
B	11	1	6	458.976	ppb	458.976	0.67	108696	2000	
Na	23	2	45	141304.790	ppb	141304.790	1.74	31407587	400000	
Mg	24	2	45	151191.247	ppb	151191.247	1.60	15821877	400000	
Al	27	2	45	1410.713	ppb	1410.713	0.35	40991	400000	
Si	28	2	45	1735.605	ppb	1735.605	0.72	325460	10000	
P	31	2	45	426.936	ppb	426.936	7.50	1285	10000	
K	39	2	45	5052.599	ppb	5052.599	0.92	392130	400000	
Ca	40	1	45	97718.207	ppb	97718.207	0.32	323792462	400000	
Ti	47	2	45	58.024	ppb	58.024	3.54	1770	4000	
V	51	2	72	10.149	ppb	10.149	4.95	13833	2000	
Cr	52	2	72	21.619	ppb	21.619	2.44	38328	5000	
Mn	55	2	72	6008.681	ppb	6008.681	0.51	4654691	10000	
Fe	56	1	72	3401.580	ppb	3401.580	1.11	22183371	10000	
(Fe)	57	2	72	3247.701	ppb	3247.701	2.12	116248	400000	
Co	59	2	72	2.209	ppb	2.209	3.51	6555	2000	
Ni	60	2	72	22.243	ppb	22.243	2.36	20861	5000	
Cu	63	2	72	17.054	ppb	17.054	0.15	42970	5000	
Zn	66	2	72	39.007	ppb	39.007	3.61	16519	5000	
As	75	2	72	17.588	ppb	17.588	0.97	5321	2000	
Se	78	1	72	0.572	ppb	0.572	16.96	169	2000	
Sr	88	2	72	806.676	ppb	806.676	1.40	727364	4000	
Zr	90	2	72	5866.388	ppb	5866.388	1.61	23171	1000	>LDR
Mo	95	2	115	16.797	ppb	16.797	1.14	19516	2000	
Ag	107	2	115	0.093	ppb	0.093	6.28	420	100	
Cd	111	2	115	0.102	ppb	0.102	35.34	63	2000	
Sn	120	2	115	0.860	ppb	0.860	2.80	2187	2000	
Sb	121	2	115	4.606	ppb	4.606	4.99	7289	1000	
Ba	137	2	115	423.474	ppb	423.474	0.33	211988	5000	
W	182	2	165	1.474	ppb	1.474	2.13	9610	100	
Tl	205	2	165	-0.036	ppb	-0.036	-5.72	317	2000	
Pb	208	2	165	3.066	ppb	3.066	1.24	48893	5000	
Th	232	2	193	0.511	ppb	0.511	0.69	26418	2000	
U	238	2	193	66.510	ppb	66.510	1.03	1410778	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal standard	6	1	HMI H2	289359	0.36	403136	71.78	60	120	
Sc (IS)	45	1	HMI H2	18451524	0.81	22841480	80.78	60	120	
Sc (IS)	45	2	HMI He	1078185	1.68	1496308	72.06	60	120	
Sc (IS)	45	3	No Gas	34534317	1.10	41056866	84.11	60	120	
Ge Internal standard	72	1	HMI H2	10595237	0.54	12474010	84.94	60	120	
Ge Internal standard	72	2	HMI He	1558840	1.24	1875279	83.13	60	120	
In Internal standard	115	2	HMI He	5195507	1.55	6165359	84.27	60	120	
Ho-165	165	2	HMI He	24040665	0.82	26417015	91.00	60	120	
Ir (IS)	193	2	HMI He	17667876	0.14	19705390	89.66	60	120	

Sample Report

Sample Table

Sample Name	280-185797-b-8-a@10
Data File Name	103SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\ALL122023.b
Acq Date Time	2023-12-20T20:44:29-07:00
Analyst	Denver Metals
Sample Type	Sample
Dilution	1
Comment	637783 6020B
ISTD Ref FileName	020CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	3	45	16.932	ppb	16.932	4.83	1560048	50000	
Be	9	1	6	0.362	ppb	0.362	50.77	147	2000	
B	11	1	6	82.072	ppb	82.072	0.92	21384	2000	
Na	23	2	45	62729.089	ppb	62729.089	0.44	13899908	400000	
Mg	24	2	45	67958.404	ppb	67958.404	0.97	7083481	400000	
Al	27	2	45	1188.127	ppb	1188.127	0.29	34392	400000	
Si	28	2	45	233.377	ppb	233.377	2.71	51195	10000	
P	31	2	45	533.334	ppb	533.334	8.57	1587	10000	
K	39	2	45	2548.685	ppb	2548.685	0.41	210338	400000	
Ca	40	1	45	48589.541	ppb	48589.541	0.27	163316491	400000	
Ti	47	2	45	56.291	ppb	56.291	7.88	1710	4000	
V	51	2	72	7.122	ppb	7.122	4.83	9877	2000	
Cr	52	2	72	49.170	ppb	49.170	3.73	84643	5000	
Mn	55	2	72	635.266	ppb	635.266	3.10	485980	10000	
Fe	56	1	72	2211.821	ppb	2211.821	0.81	14565477	10000	
(Fe)	57	2	72	2134.137	ppb	2134.137	2.54	75551	400000	
Co	59	2	72	1.542	ppb	1.542	4.70	4584	2000	
Ni	60	2	72	13.573	ppb	13.573	1.82	13439	5000	
Cu	63	2	72	32.436	ppb	32.436	2.40	77662	5000	
Zn	66	2	72	26.968	ppb	26.968	2.21	11408	5000	
As	75	2	72	2.358	ppb	2.358	2.61	765	2000	
Se	78	1	72	0.498	ppb	0.498	7.34	151	2000	
Sr	88	2	72	381.441	ppb	381.441	1.73	339719	4000	
Zr	90	2	72	2612.663	ppb	2612.663	7.24	10657	1000	
Mo	95	2	115	3.676	ppb	3.676	6.73	4374	2000	
Ag	107	2	115	0.178	ppb	0.178	9.52	773	100	
Cd	111	2	115	0.343	ppb	0.343	29.84	210	2000	
Sn	120	2	115	0.642	ppb	0.642	12.50	1890	2000	
Sb	121	2	115	0.341	ppb	0.341	8.91	780	1000	
Ba	137	2	115	38.346	ppb	38.346	3.51	19533	5000	
W	182	2	165	0.836	ppb	0.836	6.66	6132	100	
Tl	205	2	165	-0.037	ppb	-0.037	-11.92	297	2000	
Pb	208	2	165	5.116	ppb	5.116	0.72	79759	5000	
Th	232	2	193	0.382	ppb	0.382	4.47	23997	2000	
U	238	2	193	3.845	ppb	3.845	1.29	87153	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal standard	6	1	HMI H2	296075	1.30	403136	73.44	60	120	
Sc (IS)	45	1	HMI H2	18712483	0.67	22841480	81.92	60	120	
Sc (IS)	45	2	HMI He	1073694	0.95	1496308	71.76	60	120	
Sc (IS)	45	3	No Gas	34660554	0.70	41056866	84.42	60	120	
Ge Internal standard	72	1	HMI H2	10683855	1.27	12474010	85.65	60	120	
Ge Internal standard	72	2	HMI He	1540040	3.53	1875279	82.12	60	120	
In Internal standard	115	2	HMI He	5270152	0.92	6165359	85.48	60	120	
Ho-165	165	2	HMI He	23964201	0.41	26417015	90.72	60	120	
Ir (IS)	193	2	HMI He	17776720	1.51	19705390	90.21	60	120	

Sample Report

Sample Table

Sample Name	280-185797-b-9-a
Data File Name	104SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\ALL122023.b
Acq Date Time	2023-12-20T20:48:04-07:00
Analyst	Denver Metals
Sample Type	Sample
Dilution	1
Comment	637783 6020B
ISTD Ref FileName	020CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	3	45	52.041	ppb	52.041	5.45	1973848	50000	
Be	9	1	6	-0.021	ppb	-0.021	-330.24	27	2000	
B	11	1	6	640.012	ppb	640.012	0.74	149258	2000	
Na	23	2	45	197165.401	ppb	197165.401	0.58	44478623	400000	
Mg	24	2	45	118349.406	ppb	118349.406	1.10	12573509	400000	
Al	27	2	45	562.912	ppb	562.912	1.36	16645	400000	
Si	28	2	45	1600.965	ppb	1600.965	0.82	305437	10000	
P	31	2	45	71.599	ppb	71.599	3.67	261	10000	
K	39	2	45	3899.681	ppb	3899.681	1.05	313488	400000	
Ca	40	1	45	103914.606	ppb	103914.606	0.59	346263995	400000	
Ti	47	2	45	25.902	ppb	25.902	9.46	803	4000	
V	51	2	72	1.683	ppb	1.683	9.03	3174	2000	
Cr	52	2	72	0.665	ppb	0.665	8.44	2314	5000	
Mn	55	2	72	1447.513	ppb	1447.513	1.53	1141004	10000	
Fe	56	1	72	2267.910	ppb	2267.910	0.59	14888177	10000	
(Fe)	57	2	72	2185.793	ppb	2185.793	1.90	79721	400000	
Co	59	2	72	3.073	ppb	3.073	1.76	9203	2000	
Ni	60	2	72	-0.123	ppb	-0.123	-262.83	2184	5000	
Cu	63	2	72	0.288	ppb	0.288	40.72	4161	5000	
Zn	66	2	72	6.390	ppb	6.390	10.79	3107	5000	
As	75	2	72	14.325	ppb	14.325	3.44	4424	2000	
Se	78	1	72	0.020	ppb	0.020	408.35	21	2000	
Sr	88	2	72	778.479	ppb	778.479	2.82	714027	4000	
Zr	90	2	72	1427.417	ppb	1427.417	5.04	6415	1000	
Mo	95	2	115	5.811	ppb	5.811	5.07	6878	2000	
Ag	107	2	115	0.000	ppb	0.000	636.09	50	100	
Cd	111	2	115	0.017	ppb	0.017	110.34	13	2000	
Sn	120	2	115	0.503	ppb	0.503	13.16	1680	2000	
Sb	121	2	115	0.148	ppb	0.148	68.94	480	1000	
Ba	137	2	115	146.808	ppb	146.808	1.37	74577	5000	
W	182	2	165	0.533	ppb	0.533	10.59	4524	100	
Tl	205	2	165	-0.034	ppb	-0.034	-18.05	340	2000	
Pb	208	2	165	0.417	ppb	0.417	1.67	8728	5000	
Th	232	2	193	0.342	ppb	0.342	4.95	22975	2000	
U	238	2	193	4.240	ppb	4.240	0.28	94612	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal standard	6	1	HMI H2	286286	0.66	403136	71.01	60	120	
Sc (IS)	45	1	HMI H2	18556126	0.60	22841480	81.24	60	120	
Sc (IS)	45	2	HMI He	1094359	0.58	1496308	73.14	60	120	
Sc (IS)	45	3	No Gas	34728830	0.87	41056866	84.59	60	120	
Ge Internal standard	72	1	HMI H2	10650873	0.25	12474010	85.38	60	120	
Ge Internal standard	72	2	HMI He	1586465	3.05	1875279	84.60	60	120	
In Internal standard	115	2	HMI He	5269682	1.69	6165359	85.47	60	120	
Ho-165	165	2	HMI He	24138342	0.49	26417015	91.37	60	120	
Ir (IS)	193	2	HMI He	17597887	0.51	19705390	89.30	60	120	

Sample Report

Sample Table

Sample Name	280-185797-b-10-a
Data File Name	105SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\ALL122023.b
Acq Date Time	2023-12-20T20:51:39-07:00
Analyst	Denver Metals
Sample Type	Sample
Dilution	1
Comment	637783 6020B
ISTD Ref FileName	020CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	3	45	97.361	ppb	97.361	2.63	2617631	50000	
Be	9	1	6	0.362	ppb	0.362	30.50	143	2000	
B	11	1	6	959.139	ppb	959.139	0.73	224563	2000	
Na	23	2	45	292803.032	ppb	292803.032	0.57	68882972	400000	
Mg	24	2	45	569293.063	ppb	569293.063	0.32	63084769	400000	
Al	27	2	45	4499.806	ppb	4499.806	0.62	138267	400000	
Si	28	2	45	2783.740	ppb	2783.740	0.77	547039	10000	
P	31	2	45	369.664	ppb	369.664	1.07	1185	10000	
K	39	2	45	5949.442	ppb	5949.442	0.96	483766	400000	
Ca	40	1	45	149040.800	ppb	149040.800	0.82	499013019	400000	
Ti	47	2	45	101.966	ppb	101.966	8.94	3290	4000	
V	51	2	72	12.094	ppb	12.094	3.34	16929	2000	
Cr	52	2	72	3.089	ppb	3.089	7.66	6702	5000	
Mn	55	2	72	10522.538	ppb	10522.538	1.38	8472988	10000	
Fe	56	1	72	9214.247	ppb	9214.247	0.28	59847494	10000	
(Fe)	57	2	72	8751.156	ppb	8751.156	1.29	324966	400000	
Co	59	2	72	16.588	ppb	16.588	1.83	49769	2000	
Ni	60	2	72	2.818	ppb	2.818	6.94	4791	5000	
Cu	63	2	72	3.779	ppb	3.779	2.97	12662	5000	
Zn	66	2	72	24.411	ppb	24.411	3.50	10914	5000	
As	75	2	72	4.486	ppb	4.486	2.51	1466	2000	
Se	78	1	72	0.439	ppb	0.439	4.68	133	2000	
Sr	88	2	72	2161.620	ppb	2161.620	0.82	2025969	4000	
Zr	90	2	72	1004.851	ppb	1004.851	3.64	4878	1000	
Mo	95	2	115	10.742	ppb	10.742	1.93	12695	2000	
Ag	107	2	115	0.044	ppb	0.044	60.02	227	100	
Cd	111	2	115	0.006	ppb	0.006	152.27	7	2000	
Sn	120	2	115	0.142	ppb	0.142	8.09	1140	2000	
Sb	121	2	115	0.141	ppb	0.141	25.70	470	1000	
Ba	137	2	115	654.735	ppb	654.735	1.47	332877	5000	
W	182	2	165	7.561	ppb	7.561	2.03	42668	100	
Tl	205	2	165	-0.033	ppb	-0.033	-24.40	350	2000	
Pb	208	2	165	1.219	ppb	1.219	1.29	20890	5000	
Th	232	2	193	2.383	ppb	2.383	1.67	62517	2000	
U	238	2	193	12.827	ppb	12.827	1.05	271776	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal standard	6	1	HMI H2	288542	0.94	403136	71.57	60	120	
Sc (IS)	45	1	HMI H2	18646346	0.57	22841480	81.63	60	120	
Sc (IS)	45	2	HMI He	1141518	1.94	1496308	76.29	60	120	
Sc (IS)	45	3	No Gas	36300928	1.11	41056866	88.42	60	120	
Ge Internal standard	72	1	HMI H2	10571262	0.57	12474010	84.75	60	120	
Ge Internal standard	72	2	HMI He	1620234	1.40	1875279	86.40	60	120	
In Internal standard	115	2	HMI He	5276927	1.08	6165359	85.59	60	120	
Ho-165	165	2	HMI He	24078780	1.82	26417015	91.15	60	120	
Ir (IS)	193	2	HMI He	17370206	0.68	19705390	88.15	60	120	

Sample Report

Sample Table

Sample Name	280-185797-b-11-a
Data File Name	106SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\ALL122023.b
Acq Date Time	2023-12-20T20:55:11-07:00
Analyst	Denver Metals
Sample Type	Sample
Dilution	1
Comment	637783 6020B
ISTD Ref FileName	020CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	3	45	50.148	ppb	50.148	2.25	1971116	50000	
Be	9	1	6	0.009	ppb	0.009	1225.00	37	2000	
B	11	1	6	729.377	ppb	729.377	0.72	173023	2000	
Na	23	2	45	233624.843	ppb	233624.843	0.82	53489073	400000	
Mg	24	2	45	127730.357	ppb	127730.357	0.79	13773260	400000	
Al	27	2	45	789.622	ppb	789.622	2.88	23670	400000	
Si	28	2	45	1770.921	ppb	1770.921	0.93	341957	10000	
P	31	2	45	88.167	ppb	88.167	19.28	315	10000	
K	39	2	45	4211.696	ppb	4211.696	0.46	341419	400000	
Ca	40	1	45	90744.349	ppb	90744.349	0.68	309872769	400000	
Ti	47	2	45	28.593	ppb	28.593	1.89	900	4000	
V	51	2	72	2.534	ppb	2.534	3.72	4397	2000	
Cr	52	2	72	1.040	ppb	1.040	12.75	3057	5000	
Mn	55	2	72	1889.022	ppb	1889.022	0.29	1533470	10000	
Fe	56	1	72	2815.861	ppb	2815.861	1.24	18849834	10000	
(Fe)	57	2	72	2591.069	ppb	2591.069	1.23	97256	400000	
Co	59	2	72	1.755	ppb	1.755	1.98	5504	2000	
Ni	60	2	72	-0.518	ppb	-0.518	-61.12	1904	5000	
Cu	63	2	72	0.308	ppb	0.308	25.62	4331	5000	
Zn	66	2	72	9.253	ppb	9.253	6.14	4441	5000	
As	75	2	72	14.332	ppb	14.332	1.80	4557	2000	
Se	78	1	72	0.023	ppb	0.023	94.37	23	2000	
Sr	88	2	72	617.665	ppb	617.665	1.60	583581	4000	
Zr	90	2	72	717.914	ppb	717.914	7.86	3774	1000	
Mo	95	2	115	14.743	ppb	14.743	1.54	17540	2000	
Ag	107	2	115	-0.003	ppb	-0.003	-45.40	37	100	
Cd	111	2	115	-0.005	ppb	-0.005	0.00	0	2000	
Sn	120	2	115	0.371	ppb	0.371	14.23	1497	2000	
Sb	121	2	115	0.030	ppb	0.030	75.26	300	1000	
Ba	137	2	115	186.494	ppb	186.494	1.06	95586	5000	
W	182	2	165	0.543	ppb	0.543	10.29	4574	100	
Tl	205	2	165	-0.044	ppb	-0.044	-17.53	220	2000	
Pb	208	2	165	0.189	ppb	0.189	6.29	5237	5000	
Th	232	2	193	0.433	ppb	0.433	14.40	24411	2000	
U	238	2	193	4.024	ppb	4.024	1.67	88796	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal standard	6	1	HMI H2	291624	0.22	403136	72.34	60	120	
Sc (IS)	45	1	HMI H2	19015405	0.23	22841480	83.25	60	120	
Sc (IS)	45	2	HMI He	1110784	0.11	1496308	74.24	60	120	
Sc (IS)	45	3	No Gas	35070924	0.10	41056866	85.42	60	120	
Ge Internal standard	72	1	HMI H2	10870658	0.97	12474010	87.15	60	120	
Ge Internal standard	72	2	HMI He	1633384	0.83	1875279	87.10	60	120	
In Internal standard	115	2	HMI He	5317865	0.94	6165359	86.25	60	120	
Ho-165	165	2	HMI He	24108232	0.71	26417015	91.26	60	120	
Ir (IS)	193	2	HMI He	17354130	0.85	19705390	88.07	60	120	

Sample Report

Sample Table

Sample Name	280-185813-g-3-a
Data File Name	107SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\ALL122023.b
Acq Date Time	2023-12-20T20:58:44-07:00
Analyst	Denver Metals
Sample Type	Sample
Dilution	1
Comment	637783 6020B
ISTD Ref FileName	020CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	3	45	30.689	ppb	30.689	2.10	1736800	50000	
Be	9	1	6	-0.099	ppb	-0.099	-19.18	3	2000	
B	11	1	6	1211.324	ppb	1211.324	0.11	282138	2000	
Na	23	2	45	136785.845	ppb	136785.845	0.85	31280585	400000	
Mg	24	2	45	22088.930	ppb	22088.930	0.50	2378459	400000	
Al	27	2	45	40.645	ppb	40.645	5.08	1287	400000	
Si	28	2	45	1322.932	ppb	1322.932	0.78	257369	10000	
P	31	2	45	320.887	ppb	320.887	4.67	1007	10000	
K	39	2	45	11817.789	ppb	11817.789	1.26	906342	400000	
Ca	40	1	45	343519.920	ppb	343519.920	0.21	1154952676	400000	
Ti	47	2	45	0.874	ppb	0.874	62.63	30	4000	
V	51	2	72	5.715	ppb	5.715	5.97	8399	2000	
Cr	52	2	72	2.221	ppb	2.221	8.43	5058	5000	
Mn	55	2	72	385.594	ppb	385.594	0.55	305245	10000	
Fe	56	1	72	557.854	ppb	557.854	0.15	3709921	10000	
(Fe)	57	2	72	536.195	ppb	536.195	2.08	19919	400000	
Co	59	2	72	1.652	ppb	1.652	1.86	5061	2000	
Ni	60	2	72	8.123	ppb	8.123	6.21	9243	5000	
Cu	63	2	72	-0.054	ppb	-0.054	-232.22	3367	5000	
Zn	66	2	72	5.533	ppb	5.533	8.63	2760	5000	
As	75	2	72	5.931	ppb	5.931	1.22	1881	2000	
Se	78	1	72	0.183	ppb	0.183	20.47	65	2000	
Sr	88	2	72	9061.446	ppb	9061.446	0.45	8344690	4000	
Zr	90	2	72	593.618	ppb	593.618	2.58	3197	1000	
Mo	95	2	115	0.139	ppb	0.139	27.70	223	2000	
Ag	107	2	115	0.003	ppb	0.003	429.63	63	100	
Cd	111	2	115	-0.005	ppb	-0.005	0.00	0	2000	
Sn	120	2	115	0.261	ppb	0.261	19.50	1370	2000	
Sb	121	2	115	1.234	ppb	1.234	3.45	2250	1000	
Ba	137	2	115	547.740	ppb	547.740	0.34	289190	5000	
W	182	2	165	0.164	ppb	0.164	5.41	2520	100	
Tl	205	2	165	-0.043	ppb	-0.043	-5.07	233	2000	
Pb	208	2	165	0.099	ppb	0.099	10.94	3887	5000	
Th	232	2	193	0.030	ppb	0.030	54.12	16880	2000	
U	238	2	193	0.037	ppb	0.037	50.73	6185	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal standard	6	1	HMI H2	287521	0.88	403136	71.32	60	120	
Sc (IS)	45	1	HMI H2	18725711	0.64	22841480	81.98	60	120	
Sc (IS)	45	2	HMI He	1109146	1.08	1496308	74.13	60	120	
Sc (IS)	45	3	No Gas	34982737	1.48	41056866	85.21	60	120	
Ge Internal standard	72	1	HMI H2	10653920	0.21	12474010	85.41	60	120	
Ge Internal standard	72	2	HMI He	1592165	1.31	1875279	84.90	60	120	
In Internal standard	115	2	HMI He	5480044	0.87	6165359	88.88	60	120	
Ho-165	165	2	HMI He	24178242	0.74	26417015	91.53	60	120	
Ir (IS)	193	2	HMI He	17683375	0.13	19705390	89.74	60	120	

Sample Report

Sample Table

Sample Name	280-185813-g-4-a
Data File Name	108SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\ALL122023.b
Acq Date Time	2023-12-20T21:02:20-07:00
Analyst	Denver Metals
Sample Type	Sample
Dilution	1
Comment	637783 6020B
ISTD Ref FileName	020CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	3	45	53.619	ppb	53.619	3.30	1892317	50000	
Be	9	1	6	-0.040	ppb	-0.040	-171.87	20	2000	
B	11	1	6	5093.604	ppb	5093.604	1.77	1122174	2000	
Na	23	2	45	583209.570	ppb	583209.570	0.89	127952951	400000	
Mg	24	2	45	37705.693	ppb	37705.693	1.25	3897292	400000	
Al	27	2	45	52.575	ppb	52.575	8.92	1577	400000	
Si	28	2	45	2883.627	ppb	2883.627	1.69	528237	10000	
P	31	2	45	2784.988	ppb	2784.988	3.51	8005	10000	
K	39	2	45	40579.542	ppb	40579.542	1.23	2922588	400000	
Ca	40	1	45	335516.078	ppb	335516.078	0.54	1096457530	400000	
Ti	47	2	45	10.561	ppb	10.561	16.22	320	4000	
V	51	2	72	16.075	ppb	16.075	3.05	19636	2000	
Cr	52	2	72	18.613	ppb	18.613	0.61	30535	5000	
Mn	55	2	72	375.048	ppb	375.048	3.44	267513	10000	
Fe	56	1	72	17548.604	ppb	17548.604	0.44	111041475	10000	
(Fe)	57	2	72	17854.270	ppb	17854.270	3.40	586622	400000	
Co	59	2	72	13.302	ppb	13.302	3.15	35375	2000	
Ni	60	2	72	64.673	ppb	64.673	3.72	51868	5000	
Cu	63	2	72	0.566	ppb	0.566	23.30	4351	5000	
Zn	66	2	72	10.279	ppb	10.279	3.96	4294	5000	
As	75	2	72	52.211	ppb	52.211	3.52	14407	2000	
Se	78	1	72	0.606	ppb	0.606	9.42	173	2000	
Sr	88	2	72	10955.514	ppb	10955.514	2.49	9091605	4000	
Zr	90	2	72	2780.928	ppb	2780.928	4.71	10534	1000	
Mo	95	2	115	0.853	ppb	0.853	17.55	1037	2000	
Ag	107	2	115	-0.001	ppb	-0.001	-360.65	43	100	
Cd	111	2	115	-0.005	ppb	-0.005	0.00	0	2000	
Sn	120	2	115	2.415	ppb	2.415	9.20	4481	2000	
Sb	121	2	115	1.705	ppb	1.705	5.08	2847	1000	
Ba	137	2	115	846.487	ppb	846.487	1.35	422713	5000	
W	182	2	165	0.579	ppb	0.579	8.12	4611	100	
Tl	205	2	165	-0.050	ppb	-0.050	-11.10	157	2000	
Pb	208	2	165	0.365	ppb	0.365	2.82	7658	5000	
Th	232	2	193	0.040	ppb	0.040	38.86	16376	2000	
U	238	2	193	0.014	ppb	0.014	93.79	5468	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal standard	6	1	HMI H2	273314	1.56	403136	67.80	60	120	
Sc (IS)	45	1	HMI H2	18201201	0.29	22841480	79.68	60	120	
Sc (IS)	45	2	HMI He	1064731	0.51	1496308	71.16	60	120	
Sc (IS)	45	3	No Gas	32983770	1.46	41056866	80.34	60	120	
Ge Internal standard	72	1	HMI H2	10303710	0.23	12474010	82.60	60	120	
Ge Internal standard	72	2	HMI He	1435486	3.14	1875279	76.55	60	120	
In Internal standard	115	2	HMI He	5183643	0.27	6165359	84.08	60	120	
Ho-165	165	2	HMI He	23305379	0.16	26417015	88.22	60	120	
Ir (IS)	193	2	HMI He	16960596	1.11	19705390	86.07	60	120	

Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV-8120917
Data File Name	109_CCV.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\ALL122023.b
Acq Date Time	2023-12-20T21:05:55-07:00
Sample Type	CCV
Dilution	1
Comment	
ISTD Ref File Name	020CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	Units	Conc %RSD	CPS	Exp Value	%Rec	%Low	%High2	QC Flag
Be	9	1	6	51.492	ppb	2.401	15190	50	103.0	90	110	
Na	23	2	45	50548.343	ppb	0.530	10807258	51000	99.1	90	110	
Mg	24	2	45	10649.158	ppb	0.283	1070701	11000	96.8	90	110	
Al	27	2	45	1095.226	ppb	0.568	30582	1000	109.5	90	110	
K	39	2	45	10393.341	ppb	0.767	747312	11000	94.5	90	110	
Ca	40	1	45	10844.239	ppb	0.603	34783287	11000	98.6	90	110	
Ti	47	2	45	57.224	ppb	6.410	1677	50	114.4	90	110	>+\-10%
V	51	2	72	53.349	ppb	1.241	60678	50	106.7	90	110	
Cr	52	2	72	52.748	ppb	0.653	81421	50	105.5	90	110	
Mn	55	2	72	53.988	ppb	3.172	37176	50	108.0	90	110	
Fe	56	1	72	1027.379	ppb	1.200	6492486	1000	102.7	90	110	
Co	59	2	72	51.499	ppb	0.617	131305	50	103.0	90	110	
Ni	60	2	72	49.122	ppb	0.853	38408	50	98.2	90	110	
Cu	63	2	72	50.721	ppb	1.933	107245	50	101.4	90	110	
Zn	66	2	72	57.182	ppb	3.863	21288	50	114.4	90	110	>+\-10%
As	75	2	72	56.038	ppb	0.770	14881	50	112.1	90	110	>+\-10%
Se	78	1	72	52.368	ppb	4.126	13535	50	104.7	90	110	
Sr	88	2	72	119.445	ppb	0.483	95482	100	119.4	90	110	>+\-10%
Zr	90	2	72	852.286	ppb	6.553	3644	50	1704.6	90	110	>+\-10%
Mo	95	2	115	49.904	ppb	1.183	57844	50	99.8	90	110	
Ag	107	2	115	49.468	ppb	0.949	198808	50	98.9	90	110	
Cd	111	2	115	50.538	ppb	0.941	30072	50	101.1	90	110	
Sn	120	2	115	52.666	ppb	2.701	78910	50	105.3	90	110	
Sb	121	2	115	52.352	ppb	1.591	80249	50	104.7	90	110	
Ba	137	2	115	52.472	ppb	3.029	26296	50	104.9	90	110	
W	182	2	165	50.885	ppb	1.117	272675	50	101.8	90	110	
Tl	205	2	165	49.966	ppb	0.837	555932	50	99.9	90	110	
Pb	208	2	165	50.574	ppb	0.616	756656	50	101.1	90	110	
Th	232	2	193	47.209	ppb	0.471	936414	50	94.4	90	110	
U	238	2	193	47.230	ppb	0.834	985179	50	94.5	90	110	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal standard	6	1	HMI H2	279252	0.82	403136	69.27	60	120	
Sc (IS)	45	1	HMI H2	17827427	0.74	22841480	78.05	60	120	
Sc (IS)	45	2	HMI He	1035523	0.55	1496308	69.21	60	120	
Sc (IS)	45	3	No Gas	32220572	1.21	41056866	78.48	60	120	
Ge Internal standard	72	1	HMI H2	10202502	0.96	12474010	81.79	60	120	
Ge Internal standard	72	2	HMI He	1380983	0.71	1875279	73.64	60	120	
In Internal standard	115	2	HMI He	5191988	1.56	6165359	84.21	60	120	
Ho-165	165	2	HMI He	23624306	1.01	26417015	89.43	60	120	
Ir (IS)	193	2	HMI He	17346489	0.81	19705390	88.03	60	120	

Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB-8120901
Data File Name	110_CCB.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\ALL122023.b
Acq Date Time	2023-12-20T21:09:30-07:00
Sample Type	CCB
Dilution	1
Comment	
ISTD Ref File Name	020CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	Units	Conc %RSD	CPS	Upper Limit	QC Flag
Li	7	3	45	4.764	ppb	16.6	1313779	10	
Be	9	1	6	-0.009	ppb	-11.9	30	0.5	
B	11	1	6	50.287	ppb	0.5	13169	0.5	>RL
Na	23	2	45	22.837	ppb	4.1	27426	25	
Mg	24	2	45	10.305	ppb	14.3	1207	25	
Al	27	2	45	1.972	ppb	85.6	120	15	
K	39	2	45	-21.313	ppb	-43.9	23727	50	
Ti	47	2	45	0.037	ppb	552.7	3	0.5	
V	51	2	72	-0.482	ppb	-6.6	333	1	
Cr	52	2	72	-0.068	ppb	-88.7	887	1	
Mn	55	2	72	1.524	ppb	5.6	1160	0.5	>RL
(Fe)	57	2	72	0.288	ppb	968.3	330	25	
Co	59	2	72	0.023	ppb	110.9	240	0.5	
Ni	60	2	72	-1.386	ppb	-22.0	957	1	
Cu	63	2	72	0.562	ppb	14.1	4144	1	
Zn	66	2	72	-0.075	ppb	-206.1	340	5	
As	75	2	72	-0.036	ppb	-130.4	53	1	
Se	78	1	72	0.083	ppb	50.1	36	1	
Sr	88	2	72	1.021	ppb	21.9	880	0.5	>RL
Zr	90	2	72	25.004	ppb	156.1	850	1	>RL
Mo	95	2	115	0.145	ppb	20.4	217	0.5	
Ag	107	2	115	0.013	ppb	86.9	100	1	
Cd	111	2	115	0.024	ppb	110.3	17	0.5	
Sn	120	2	115	0.097	ppb	103.5	1047	1	
Sb	121	2	115	0.285	ppb	18.3	677	0.6	
Ba	137	2	115	0.051	ppb	125.2	87	0.5	
W	182	2	165	0.428	ppb	7.4	3851	1	
Tl	205	2	165	0.033	ppb	60.1	1070	0.1	
Pb	208	2	165	0.029	ppb	76.1	2727	0.5	
Th	232	2	193	0.727	ppb	3.0	30389	1	
U	238	2	193	0.030	ppb	104.7	5965	0.5	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal standard	6	1	HMI H2	282343	1.06	403136	70.04	60	120	
Sc (IS)	45	1	HMI H2	17387146	0.15	22841480	76.12	60	120	
Sc (IS)	45	2	HMI He	1003449	0.48	1496308	67.06	60	120	
Sc (IS)	45	3	No Gas	32113910	0.61	41056866	78.22	60	120	
Ge Internal standard	72	1	HMI H2	10016948	0.74	12474010	80.30	60	120	
Ge Internal standard	72	2	HMI He	1367745	1.03	1875279	72.94	60	120	
In Internal standard	115	2	HMI He	5148874	0.58	6165359	83.51	60	120	
Ho-165	165	2	HMI He	23494877	0.61	26417015	88.94	60	120	
Ir (IS)	193	2	HMI He	17482761	1.35	19705390	88.72	60	120	

Linear Range Sample (LRS) Report

Sample Table

Sample Name	lra-
Data File Name	111_LR.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\ALL122023.b
Acq Date Time	2023-12-20T21:13:05-07:00
Sample Type	LR
Dilution	1
Comment	
ISTD Ref File Name	020CALB.d
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	Units	Conc %RSD	CPS	Exp Value	%Rec	%Low	%High	QC Flag
Be	9	1	6	0.037	ppb	190.353	43	2000	0.0	90	110	LRS Main CR1 Failed
Na	23	2	45	2.592	ppb	69.964	23293	200000	0.0	90	110	LRS Main CR1 Failed
Mg	24	2	45	6.992	ppb	6.304	887	200000	0.0	90	110	LRS Main CR1 Failed
Al	27	2	45	6.035	ppb	58.629	230	300000	0.0	90	110	LRS Main CR1 Failed
K	39	2	45	-22.477	ppb	-80.966	23701	200000	0.0	90	110	LRS Main CR1 Failed
Ca	40	1	45	14.661	ppb	1.783	118905	200000	0.0	90	110	LRS Main CR1 Failed
V	51	2	72	1011.000	ppb	2.998	1137444	2000	50.5	90	110	LRS Main CR1 Failed
Cr	52	2	72	0.162	ppb	32.382	1250	5000	0.0	90	110	LRS Main CR1 Failed
(Cr)	53	2	72	-0.862	ppb	-31.830	280	5000	0.0	90	110	LRS Main CR1 Failed
Mn	55	2	72	1.665	ppb	12.048	1273	10000	0.0	90	110	LRS Main CR1 Failed
Fe	56	1	72	4.961	ppb	3.683	88249	200000	0.0	90	110	LRS Main CR1 Failed
Co	59	2	72	0.020	ppb	61.406	237	2000	0.0	90	110	LRS Main CR1 Failed
Ni	60	2	72	-1.559	ppb	-18.019	837	5000	0.0	90	110	LRS Main CR1 Failed
Cu	63	2	72	-0.162	ppb	-103.276	2704	5000	0.0	90	110	LRS Main CR1 Failed
Zn	66	2	72	2.236	ppb	7.271	1193	5000	0.0	90	110	LRS Main CR1 Failed
As	75	2	72	-0.123	ppb	-23.233	31	2000	0.0	90	110	LRS Main CR1 Failed
Se	78	1	72	0.047	ppb	52.773	27	2000	0.0	90	110	LRS Main CR1 Failed
(Se)	82	1	72	108.548	ppb	29.055	113296	2000	5.4	90	110	LRS Main CR1 Failed
Sr	88	2	72	2370.796	ppb	3.868	1898876	5000	47.4	90	110	LRS Main CR1 Failed
Mo	95	2	115	2028.001	ppb	0.661	2338856	2000	101.4	90	110	
Cd	111	2	115	0.352	ppb	59.710	210	2000	0.0	90	110	LRS Main CR1 Failed
(Cd)	114	2	115	0.204	ppb	21.655	333	2000	0.0	90	110	LRS Main CR1 Failed
Sn	120	2	115	-0.071	ppb	-56.851	803	2000	0.0	90	110	LRS Main CR1 Failed
Sb	121	2	115	514.970	ppb	0.479	783787	1000	51.5	90	110	LRS Main CR1 Failed
Ba	137	2	115	2061.435	ppb	0.972	1026555	5000	41.2	90	110	LRS Main CR1 Failed
Tl	205	2	165	-0.029	ppb	-22.063	380	1000	0.0	90	110	LRS Main CR1 Failed
(Pb)	206	2	165	0.264	ppb	11.754	1347	5000	0.0	90	110	LRS Main CR1 Failed
(Pb)	207	2	165	0.362	ppb	10.810	2144	5000	0.0	90	110	LRS Main CR1 Failed
Pb	208	2	165	0.288	ppb	6.637	6571	5000	0.0	90	110	LRS Main CR1 Failed
Th	232	2	193	0.333	ppb	2.652	22879	1000	0.0	90	110	LRS Main CR1 Failed
U	238	2	193	0.051	ppb	65.528	6475	2000	0.0	90	110	LRS Main CR1 Failed

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal standard	6	1	HMI H2	279921	0.47	403136	69.44	60	120	
Sc (IS)	45	1	HMI H2	17271227	0.76	22841480	75.61	60	120	
Sc (IS)	45	2	HMI He	1005802	1.58	1496308	67.22	60	120	
Sc (IS)	45	3	No Gas	31963211	0.21	41056866	77.85	60	120	
Ge Internal standard	72	1	HMI H2	9953624	0.50	12474010	79.79	60	120	
Ge Internal standard	72	2	HMI He	1385789	3.05	1875279	73.90	60	120	
In Internal standard	115	2	HMI He	5170061	1.65	6165359	83.86	60	120	
Ho-165	165	2	HMI He	23489881	0.54	26417015	88.92	60	120	
Ir (IS)	193	2	HMI He	17670686	0.97	19705390	89.67	60	120	

Sample Report

Sample Table

Sample Name	rinse
Data File Name	112SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\ALL122023.b
Acq Date Time	2023-12-20T21:16:40-07:00
Analyst	Denver Metals
Sample Type	Sample
Dilution	1
Comment	
ISTD Ref FileName	020CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	3	45	3.217	ppb	3.217	58.07	1325613	50000	
Be	9	1	6	0.134	ppb	0.134	61.32	73	2000	
B	11	1	6	20.720	ppb	20.720	7.73	6508	2000	
Na	23	2	45	11.689	ppb	11.689	2.34	25370	400000	
Mg	24	2	45	23.092	ppb	23.092	2.91	2477	400000	
Al	27	2	45	35.671	ppb	35.671	7.81	1040	400000	
Si	28	2	45	3.562	ppb	3.562	28.11	8903	10000	
P	31	2	45	5.395	ppb	5.395	12.85	62	10000	
K	39	2	45	5.463	ppb	5.463	230.66	25777	400000	
Ca	40	1	45	24.141	ppb	24.141	5.05	150165	400000	
Ti	47	2	45	0.037	ppb	0.037	550.94	3	4000	
V	51	2	72	0.026	ppb	0.026	742.77	893	2000	
Cr	52	2	72	0.479	ppb	0.479	26.58	1707	5000	
Mn	55	2	72	2.280	ppb	2.280	14.32	1667	10000	
Fe	56	1	72	30.099	ppb	30.099	2.60	246193	10000	
(Fe)	57	2	72	29.522	ppb	29.522	26.40	1240	400000	
Co	59	2	72	0.194	ppb	0.194	9.94	670	2000	
Ni	60	2	72	-1.738	ppb	-1.738	-5.40	697	5000	
Cu	63	2	72	0.124	ppb	0.124	67.12	3240	5000	
Zn	66	2	72	0.452	ppb	0.452	27.81	530	5000	
As	75	2	72	0.164	ppb	0.164	35.81	105	2000	
Se	78	1	72	0.190	ppb	0.190	45.08	64	2000	
Sr	88	2	72	1.867	ppb	1.867	15.15	1543	4000	
Zr	90	2	72	38.748	ppb	38.748	46.08	893	1000	
Mo	95	2	115	5.961	ppb	5.961	5.25	6955	2000	
Ag	107	2	115	-0.004	ppb	-0.004	-156.24	33	100	
Cd	111	2	115	0.130	ppb	0.130	39.54	80	2000	
Sn	120	2	115	0.194	ppb	0.194	78.75	1200	2000	
Sb	121	2	115	2.718	ppb	2.718	2.80	4401	1000	
Ba	137	2	115	1.391	ppb	1.391	4.74	757	5000	
W	182	2	165	0.136	ppb	0.136	19.22	2290	100	
Tl	205	2	165	0.094	ppb	0.094	16.56	1740	2000	
Pb	208	2	165	0.433	ppb	0.433	7.99	8675	5000	
Th	232	2	193	0.158	ppb	0.158	7.40	19560	2000	
U	238	2	193	0.188	ppb	0.188	1.65	9427	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal standard	6	1	HMI H2	284988	0.79	403136	70.69	60	120	
Sc (IS)	45	1	HMI H2	17490078	0.58	22841480	76.57	60	120	
Sc (IS)	45	2	HMI He	1013343	0.72	1496308	67.72	60	120	
Sc (IS)	45	3	No Gas	32820663	0.63	41056866	79.94	60	120	
Ge Internal standard	72	1	HMI H2	10133784	0.54	12474010	81.24	60	120	
Ge Internal standard	72	2	HMI He	1363643	1.38	1875279	72.72	60	120	
In Internal standard	115	2	HMI He	5190937	1.04	6165359	84.20	60	120	
Ho-165	165	2	HMI He	23361245	0.80	26417015	88.43	60	120	
Ir (IS)	193	2	HMI He	17808431	1.56	19705390	90.37	60	120	

Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV-8120917
Data File Name	113_CCV.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\ALL122023.b
Acq Date Time	2023-12-20T21:20:15-07:00
Sample Type	CCV
Dilution	1
Comment	
ISTD Ref File Name	020CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	Units	Conc %RSD	CPS	Exp Value	%Rec	%Low	%High2	QC Flag
Be	9	1	6	50.266	ppb	2.803	14770	50	100.5	90	110	
Na	23	2	45	51012.838	ppb	0.482	10664326	51000	100.0	90	110	
Mg	24	2	45	10610.972	ppb	0.530	1043119	11000	96.5	90	110	
Al	27	2	45	1068.931	ppb	0.640	29186	1000	106.9	90	110	
K	39	2	45	10362.466	ppb	0.629	728606	11000	94.2	90	110	
Ca	40	1	45	10451.726	ppb	0.131	33163457	11000	95.0	90	110	
Ti	47	2	45	49.493	ppb	23.706	1417	50	99.0	90	110	
V	51	2	72	53.315	ppb	1.370	60259	50	106.6	90	110	
Cr	52	2	72	51.361	ppb	1.525	78808	50	102.7	90	110	
Mn	55	2	72	50.898	ppb	1.803	34837	50	101.8	90	110	
Fe	56	1	72	1004.280	ppb	1.199	6326462	1000	100.4	90	110	
Co	59	2	72	51.745	ppb	0.250	131102	50	103.5	90	110	
Ni	60	2	72	48.651	ppb	3.210	37824	50	97.3	90	110	
Cu	63	2	72	50.000	ppb	0.720	105094	50	100.0	90	110	
Zn	66	2	72	57.061	ppb	3.691	21107	50	114.1	90	110	>+\-10%
As	75	2	72	55.329	ppb	0.759	14603	50	110.7	90	110	>+\-10%
Se	78	1	72	51.883	ppb	1.238	13368	50	103.8	90	110	
Sr	88	2	72	113.445	ppb	1.186	90125	100	113.4	90	110	>+\-10%
Zr	90	2	72	376.737	ppb	6.081	2030	50	753.5	90	110	>+\-10%
Mo	95	2	115	51.299	ppb	0.863	59289	50	102.6	90	110	
Ag	107	2	115	49.107	ppb	0.202	196775	50	98.2	90	110	
Cd	111	2	115	47.919	ppb	0.444	28429	50	95.8	90	110	
Sn	120	2	115	52.964	ppb	0.763	79104	50	105.9	90	110	
Sb	121	2	115	52.244	ppb	2.045	79824	50	104.5	90	110	
Ba	137	2	115	51.814	ppb	3.842	25895	50	103.6	90	110	
W	182	2	165	51.461	ppb	1.483	271222	50	102.9	90	110	
Tl	205	2	165	50.320	ppb	0.758	550630	50	100.6	90	110	
Pb	208	2	165	50.856	ppb	0.534	748308	50	101.7	90	110	
Th	232	2	193	47.174	ppb	0.975	934429	50	94.3	90	110	
U	238	2	193	47.258	ppb	0.562	984362	50	94.5	90	110	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal standard	6	1	HMI H2	278082	0.65	403136	68.98	60	120	
Sc (IS)	45	1	HMI H2	17633682	0.59	22841480	77.20	60	120	
Sc (IS)	45	2	HMI He	1012499	0.74	1496308	67.67	60	120	
Sc (IS)	45	3	No Gas	32884545	0.51	41056866	80.10	60	120	
Ge Internal standard	72	1	HMI H2	10168320	1.30	12474010	81.52	60	120	
Ge Internal standard	72	2	HMI He	1372345	0.49	1875279	73.18	60	120	
In Internal standard	115	2	HMI He	5176164	1.33	6165359	83.96	60	120	
Ho-165	165	2	HMI He	23234731	1.11	26417015	87.95	60	120	
Ir (IS)	193	2	HMI He	17323110	0.59	19705390	87.91	60	120	

Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB-8120901
Data File Name	114_CCB.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\ALL122023.b
Acq Date Time	2023-12-20T21:23:51-07:00
Sample Type	CCB
Dilution	1
Comment	
ISTD Ref File Name	020CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	Units	Conc %RSD	CPS	Upper Limit	QC Flag
Li	7	3	45	3.403	ppb	67.6	1340302	10	
Be	9	1	6	0.056	ppb	156.2	50	0.5	
B	11	1	6	28.980	ppb	5.7	8429	0.5	>RL
Na	23	2	45	4.851	ppb	87.6	23994	25	
Mg	24	2	45	6.805	ppb	20.8	877	25	
Al	27	2	45	3.147	ppb	64.6	153	15	
K	39	2	45	-11.497	ppb	-145.6	24682	50	
Ti	47	2	45	0.036	ppb	563.8	3	0.5	
V	51	2	72	-0.438	ppb	-22.1	387	1	
Cr	52	2	72	-0.016	ppb	-444.7	977	1	
Mn	55	2	72	0.871	ppb	12.4	723	0.5	>RL
(Fe)	57	2	72	-0.765	ppb	-443.9	300	25	
Co	59	2	72	0.006	ppb	333.2	200	0.5	
Ni	60	2	72	-1.446	ppb	-2.1	923	1	
Cu	63	2	72	0.378	ppb	58.3	3811	1	
Zn	66	2	72	-0.031	ppb	-840.0	360	5	
As	75	2	72	-0.033	ppb	-330.7	54	1	
Se	78	1	72	0.105	ppb	31.8	43	1	
Sr	88	2	72	0.716	ppb	9.4	647	0.5	>RL
Zr	90	2	72	26.981	ppb	129.4	867	1	>RL
Mo	95	2	115	0.322	ppb	32.6	427	0.5	
Ag	107	2	115	0.016	ppb	22.9	113	1	
Cd	111	2	115	0.051	ppb	51.5	33	0.5	
Sn	120	2	115	0.099	ppb	68.4	1063	1	
Sb	121	2	115	0.470	ppb	22.1	970	0.6	
Ba	137	2	115	0.254	ppb	25.4	190	0.5	
W	182	2	165	0.456	ppb	16.6	4014	1	
Tl	205	2	165	0.046	ppb	27.9	1220	0.1	
Pb	208	2	165	0.026	ppb	59.8	2704	0.5	
Th	232	2	193	0.827	ppb	7.2	33128	1	
U	238	2	193	0.027	ppb	16.4	6038	0.5	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal standard	6	1	HMI H2	285789	0.86	403136	70.89	60	120	
Sc (IS)	45	1	HMI H2	17558848	0.64	22841480	76.87	60	120	
Sc (IS)	45	2	HMI He	1015682	0.57	1496308	67.88	60	120	
Sc (IS)	45	3	No Gas	33135235	0.82	41056866	80.71	60	120	
Ge Internal standard	72	1	HMI H2	10256662	0.85	12474010	82.22	60	120	
Ge Internal standard	72	2	HMI He	1383429	0.86	1875279	73.77	60	120	
In Internal standard	115	2	HMI He	5219479	1.25	6165359	84.66	60	120	
Ho-165	165	2	HMI He	23610948	0.94	26417015	89.38	60	120	
Ir (IS)	193	2	HMI He	17905837	0.67	19705390	90.87	60	120	

GENERAL CHEMISTRY

COVER PAGE
GENERAL CHEMISTRY

Lab Name: Eurofins Denver Job Number: 280-185797-1

SDG No.:

Project: Luke AFB Waterdog TU044, AZ

Client Sample ID	Lab Sample ID
TV044-MW24D1223A	280-185797-2
TV044-MW24I1223A	280-185797-3
TV044-MW21M1223A	280-185797-4
TV044-MW21D1223A	280-185797-5
TV044-MW21D1223C	280-185797-6
TV044-MW23S1223A	280-185797-7
TV044-MW31223A	280-185797-8
TV044-MW25D1223A	280-185797-9
TV044-MW21223A	280-185797-10
TV044-MW25I1223A	280-185797-11

Comments:

1B-IN
INORGANIC ANALYSIS DATA SHEET
GENERAL CHEMISTRY

Client Sample ID: TV044-MW24D1223A
Lab Sample ID: 280-185797-2
Lab Name: Eurofins Denver
Job No.: 280-185797-1
SDG ID.:
Matrix: Water
Date Sampled: 12/13/2023 10:35
Reporting Basis: WET
Date Received: 12/15/2023 10:00

Analyte	Result	LOQ	LOD	DL	Units	C	Q	DIL	Method
Nitrate Nitrite as N	0.080	0.10	0.080	0.044	mg/L	U		1	353.2
Sulfate	5.4	5.0	2.5	1.0	mg/L			1	9056A

1B-IN
INORGANIC ANALYSIS DATA SHEET
GENERAL CHEMISTRY

Client Sample ID: TV044-MW24I1223A
Lab Sample ID: 280-185797-3
Lab Name: Eurofins Denver
Job No.: 280-185797-1
SDG ID.:
Matrix: Water
Date Sampled: 12/13/2023 10:50
Reporting Basis: WET
Date Received: 12/15/2023 10:00

Analyte	Result	LOQ	LOD	DL	Units	C	Q	DIL	Method
Nitrate Nitrite as N	0.049	0.10	0.080	0.044	mg/L	J		1	353.2
Sulfate	140	5.0	2.5	1.0	mg/L		M	1	9056A

1B-IN
INORGANIC ANALYSIS DATA SHEET
GENERAL CHEMISTRY

Client Sample ID: TV044-MW21M1223A
Lab Sample ID: 280-185797-4
Lab Name: Eurofins Denver
Job No.: 280-185797-1
SDG ID.:
Matrix: Water
Date Sampled: 12/13/2023 11:30
Reporting Basis: WET
Date Received: 12/15/2023 10:00

Analyte	Result	LOQ	LOD	DL	Units	C	Q	DIL	Method
Nitrate Nitrite as N	0.080	0.10	0.080	0.044	mg/L	U		1	353.2
Sulfate	2.5	5.0	2.5	1.0	mg/L	J		1	9056A

1B-IN
INORGANIC ANALYSIS DATA SHEET
GENERAL CHEMISTRY

Client Sample ID: TV044-MW21D1223A
Lab Sample ID: 280-185797-5
Lab Name: Eurofins Denver
Job No.: 280-185797-1
SDG ID.:
Matrix: Water
Date Sampled: 12/13/2023 12:05
Reporting Basis: WET
Date Received: 12/15/2023 10:00

Analyte	Result	LOQ	LOD	DL	Units	C	Q	DIL	Method
Nitrate Nitrite as N	0.080	0.10	0.080	0.044	mg/L	U		1	353.2
Sulfate	94	25	13	5.2	mg/L		D M	5	9056A

1B-IN
INORGANIC ANALYSIS DATA SHEET
GENERAL CHEMISTRY

Client Sample ID: TV044-MW21D1223C
Lab Sample ID: 280-185797-6
Lab Name: Eurofins Denver
Job No.: 280-185797-1
SDG ID.:
Matrix: Water
Date Sampled: 12/13/2023 12:05
Reporting Basis: WET
Date Received: 12/15/2023 10:00

Analyte	Result	LOQ	LOD	DL	Units	C	Q	DIL	Method
Nitrate Nitrite as N	0.080	0.10	0.080	0.044	mg/L	U		1	353.2
Sulfate	97	25	13	5.2	mg/L		D	5	9056A

1B-IN
INORGANIC ANALYSIS DATA SHEET
GENERAL CHEMISTRY

Client Sample ID: TV044-MW23S1223A
Lab Sample ID: 280-185797-7
Lab Name: Eurofins Denver
Job No.: 280-185797-1
SDG ID.:
Matrix: Water
Date Sampled: 12/13/2023 12:20
Reporting Basis: WET
Date Received: 12/15/2023 10:00

Analyte	Result	LOQ	LOD	DL	Units	C	Q	DIL	Method
Nitrate Nitrite as N	0.080	0.10	0.080	0.044	mg/L	U		1	353.2

1B-IN
INORGANIC ANALYSIS DATA SHEET
GENERAL CHEMISTRY

Client Sample ID: TV044-MW31223A
Lab Sample ID: 280-185797-8
Lab Name: Eurofins Denver
Job No.: 280-185797-1
SDG ID.:
Matrix: Water
Date Sampled: 12/13/2023 13:10
Reporting Basis: WET
Date Received: 12/15/2023 10:00

Analyte	Result	LOQ	LOD	DL	Units	C	Q	DIL	Method
Nitrate Nitrite as N	1.0	0.10	0.080	0.044	mg/L			1	353.2
Sulfate	3900	100	50	21	mg/L		D M	20	9056A

1B-IN
INORGANIC ANALYSIS DATA SHEET
GENERAL CHEMISTRY

Client Sample ID: TV044-MW25D1223A
Lab Sample ID: 280-185797-9
Lab Name: Eurofins Denver
Job No.: 280-185797-1
SDG ID.:
Matrix: Water
Date Sampled: 12/13/2023 13:50
Reporting Basis: WET
Date Received: 12/15/2023 10:00

Analyte	Result	LOQ	LOD	DL	Units	C	Q	DIL	Method
Nitrate Nitrite as N	0.16	0.10	0.080	0.044	mg/L			1	353.2
Sulfate	120	25	13	5.2	mg/L		D	5	9056A

1B-IN
INORGANIC ANALYSIS DATA SHEET
GENERAL CHEMISTRY

Client Sample ID: TV044-MW21223A
Lab Sample ID: 280-185797-10
Lab Name: Eurofins Denver
Job No.: 280-185797-1
SDG ID.:
Matrix: Water
Date Sampled: 12/13/2023 14:20
Reporting Basis: WET
Date Received: 12/15/2023 10:00

Analyte	Result	LOQ	LOD	DL	Units	C	Q	DIL	Method
Nitrate Nitrite as N	0.080	0.10	0.080	0.044	mg/L	U		1	353.2
Sulfate	290	25	13	5.2	mg/L		D	5	9056A

1B-IN
INORGANIC ANALYSIS DATA SHEET
GENERAL CHEMISTRY

Client Sample ID: TV044-MW25I1223A
Lab Sample ID: 280-185797-11
Lab Name: Eurofins Denver
Job No.: 280-185797-1
SDG ID.:
Matrix: Water
Date Sampled: 12/13/2023 14:40
Reporting Basis: WET
Date Received: 12/15/2023 10:00

Analyte	Result	LOQ	LOD	DL	Units	C	Q	DIL	Method
Nitrate Nitrite as N	0.080	0.10	0.080	0.044	mg/L	U		1	353.2
Sulfate	97	25	13	5.2	mg/L		D	5	9056A

2-IN
CALIBRATION QUALITY CONTROL
GENERAL CHEMISTRY

Lab Name: Eurofins Denver Job No.: 280-185797-1

SDG No.:

Analyst: BCR Batch Start Date: 12/28/2023

Reporting Units: mg/L Analytical Batch No.: 638644

Sample Number	QC Type	Time	Analyte	Result	Spike Amount	(%) Recovery	Limits	Qual	Reagent
14	ICV	12:59	Nitrate Nitrite as N	4.89	5.00	98	90-110		NXN ICV INT_00676
15	ICVL	13:00	Nitrate Nitrite as N	1.96	2.00	98	90-110		NXN ICV INT_00676
16	ICB	13:01	Nitrate Nitrite as N	0.080				U	
34	CCV	13:24	Nitrate Nitrite as N	4.96	5.00	99	90-110		NXN CAL INT_00699
35	CCVL	13:25	Nitrate Nitrite as N	0.982	1.00	98	90-110		NXN CAL INT_00699
36	CCB	13:26	Nitrate Nitrite as N	0.080				U	
51	CCV	13:45	Nitrate Nitrite as N	5.07	5.00	101	90-110		NXN CAL INT_00699
52	CCVL	13:46	Nitrate Nitrite as N	0.997	1.00	100	90-110		NXN CAL INT_00699
53	CCB	13:47	Nitrate Nitrite as N	0.080				U	

Note! Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM II-IN

2-IN
CALIBRATION QUALITY CONTROL
GENERAL CHEMISTRY

Lab Name: Eurofins Denver Job No.: 280-185797-1

SDG No.:

Analyst: EJS Batch Start Date: 11/29/2023

Reporting Units: mg/L Analytical Batch No.: 635496

Sample Number	QC Type	Time	Analyte	Result	Spike Amount	(%) Recovery	Limits	Qual	Reagent
9	ICV	17:14	Sulfate	85.9	80.0	107	90-110		IC SO4 ICV_00025
10	ICB	17:25	Sulfate	2.5				U	

Note! Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM II-IN

2-IN
CALIBRATION QUALITY CONTROL
GENERAL CHEMISTRY

Lab Name: Eurofins Denver Job No.: 280-185797-1

SDG No.:

Analyst: EJS Batch Start Date: 12/20/2023

Reporting Units: mg/L Analytical Batch No.: 637973

Sample Number	QC Type	Time	Analyte	Result	Spike Amount	(%) Recovery	Limits	Qual	Reagent
1	CCV	10:43	Sulfate	99.5	100	100	90-110		IC LCS_01998
2	CCB	10:54	Sulfate	2.5				U	
20	CCV	20:41	Sulfate	102	100	102	90-110		IC LCS_01998
21	CCB	20:52	Sulfate	2.5				U	
35	CCV	23:26	Sulfate	105	100	105	90-110		IC LCS_01998
36	CCB	23:37	Sulfate	2.5				U	
53	CCV	02:43	Sulfate	107	100	107	90-110		IC LCS_01998
54	CCB	02:54	Sulfate	2.5				U	

Note! Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM II-IN

3-IN
METHOD BLANK
GENERAL CHEMISTRY

Lab Name: Eurofins Denver Job No.: 280-185797-1

SDG No.:

Method	Lab Sample ID	Analyte	Result	Qual	Units	LOQ	Dil
Batch ID: 638644 Date: 12/28/2023 13:07							
353.2	MB 280-638644/21	Nitrate Nitrite as N	0.080	U	mg/L	0.10	1
Batch ID: 637973 Date: 12/20/2023 11:38							
9056A	MB 280-637973/6	Sulfate	2.5	U	mg/L	5.0	1
Batch ID: 637973 Date: 12/21/2023 01:05							
9056A	MB 280-637973/44	Sulfate	2.5	U	mg/L	5.0	1

5-IN
MATRIX SPIKE SAMPLE RECOVERY
GENERAL CHEMISTRY

Lab Name: Eurofins Denver Job No.: 280-185797-1

SDG No.:

Matrix: Water

Method	Lab Sample ID	Analyte	Result	C	Unit	Spike Amount	Pct. Rec.	Limits	RPD	RPD Limit	Q
Batch ID: 638644 Date: 12/28/2023 13:10											
353.2	280-185797-2	Nitrate Nitrite as N	0.080	U	mg/L						
353.2	280-185797-2 MS	Nitrate Nitrite as N	4.13		mg/L	4.00	103	90-110			

Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM V-IN

5-IN
MATRIX SPIKE DUPLICATE SAMPLE RECOVERY
GENERAL CHEMISTRY

Lab Name: Eurofins Denver Job No.: 280-185797-1

SDG No.:

Matrix: Water

Method	Lab Sample ID	Analyte	Result	C	Unit	Spike Amount	Pct. Rec.	Limits	RPD	RPD Limit	Q
Batch ID: 638644 Date: 12/28/2023 13:11											
353.2	280-185797-2 MSD	Nitrate Nitrite as N	3.82		mg/L	4.00	96	90-110	8	10	

Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM V-IN

7A-IN
LAB CONTROL SAMPLE
GENERAL CHEMISTRY

Lab Name: Eurofins Denver Job No.: 280-185797-1

SDG No.:

Matrix: Water

Method	Lab Sample ID	Analyte	Result	C	Unit	Spike Amount	Pct. Rec.	Limits	RPD	RPD Limit	Q
Batch ID: 638644	Date: 12/28/2023 13:06										
						LCS Source: NXN CAL INT_00699					
353.2	LCS 280-638644/20	Nitrate Nitrite as N	5.19		mg/L	5.00	104	90-110			
Batch ID: 637973	Date: 12/20/2023 11:16										
						LCS Source: IC LCS_01998					
9056A	LCS 280-637973/4	Sulfate	100		mg/L	100	100	87-112	2	10	
Batch ID: 637973	Date: 12/21/2023 00:43										
						LCS Source: IC LCS_01998					
9056A	LCS 280-637973/42	Sulfate	103		mg/L	100	103	87-112	2	10	

Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM VIIA-IN

7A-IN
LAB CONTROL SAMPLE DUPLICATE
GENERAL CHEMISTRY

Lab Name: Eurofins Denver Job No.: 280-185797-1

SDG No.:

Matrix: Water

Method	Lab Sample ID	Analyte	Result	C	Unit	Spike Amount	Pct. Rec.	Limits	RPD	RPD Limit	Q
Batch ID: 637973 Date: 12/20/2023 11:27											
						LCSD Source: IC LCS_01998					
9056A	LCSD 280-637973/5	Sulfate	98.2		mg/L	100	98	87-112	2	10	
Batch ID: 637973 Date: 12/21/2023 00:54											
						LCSD Source: IC LCS_01998					
9056A	LCSD 280-637973/43	Sulfate	105		mg/L	100	105	87-112	2	10	

Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM VIIA-IN

7A-IN
METHOD REPORTING LIMIT CHECK
GENERAL CHEMISTRY

Lab Name: Eurofins Denver Job No.: 280-185797-1

SDG No.:

Matrix: Water

Method	Lab Sample ID	Analyte	Result	C	Unit	Spike Amount	Pct. Rec.	Limits	RPD	RPD Limit	Q
Batch ID: 637973	Date: 12/20/2023 11:05										
						LCS Source: IC CAL cl/so4_00515					
9056A	MRL 280-637973/3	Sulfate	4.55	J	mg/L	5.00	91	50-150			

Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM VIIA-IN

16A-IN
INITIAL CALIBRATION SUMMARY

Lab Name: Eurofins Denver Job No: 280-185797-1

SDG No.: Analysis Batch No.: 635496

Instrument ID: WC_IonChrom17 Calibration ID: 87735

Start Date: 11/29/2023 15:46 End Date: 11/29/2023 16:52

Analytical Method: 9056A

Analyte	Corr. Coeff.	Slope	Intercept	Calib. Type	Weighting
Sulfate	0.9995	5250000	21300	WLR	Inverse Conc

16B-IN
INITIAL CALIBRATION

Lab Name: Eurofins Denver | Job No: 280-185797-1

SDG No.: | Analysis Batch No.: 635496

Instrument ID: WC_IonChrom17 | Calibration ID: 87735

Start Date: 11/29/2023 15:46 | End Date: 11/29/2023 16:52

Analytical Method: 9056A | Concentration Units: ug/mL

Analyte	True	Found	%D	True	Found	%D	True	Found	%D
Sulfate	0.50	0.48	-4	1.0	1.1	15	2.5	2.5	-2

16B-IN
INITIAL CALIBRATION

Lab Name: Eurofins Denver | Job No: 280-185797-1

SDG No.: | Analysis Batch No.: 635496

Instrument ID: WC_IonChrom17 | Calibration ID: 87735

Start Date: 11/29/2023 15:46 | End Date: 11/29/2023 16:52

Analytical Method: 9056A | Concentration Units: ug/mL

Analyte	True	Found	%D	True	Found	%D	True	Found	%D
Sulfate	5.0	4.6	-7	60.0	59.7	-1	120	116	-4

16B-IN
INITIAL CALIBRATION

Lab Name: Eurofins Denver | Job No: 280-185797-1

SDG No.: | Analysis Batch No.: 635496

Instrument ID: WC_IonChrom17 | Calibration ID: 87735

Start Date: 11/29/2023 15:46 | End Date: 11/29/2023 16:52

Analytical Method: 9056A | Concentration Units: ug/mL

Analyte	True	Found	%D	True	Found	%D	True	Found	%D
Sulfate	200	205	2						

9-IN
DETECTION LIMITS
GENERAL CHEMISTRY

Lab Name: Eurofins Denver Job Number: 280-185797-1

SDG Number:

Matrix: Water Instrument ID: WC_OI 3700

Method: 353.2 DL Date: 04/15/2022 12:31

Analyte	Wavelength/ Mass	LOQ (mg/L)	DL (mg/L)
Nitrate Nitrite as N		0.1	0.044

9-IN
CALIBRATION BLANK DETECTION LIMITS
GENERAL CHEMISTRY

Lab Name: Eurofins Denver Job Number: 280-185797-1

SDG Number:

Matrix: Water Instrument ID: WC_OI 3700

Method: 353.2 XMDL Date: 04/15/2022 12:31

Analyte	Wavelength/ Mass	XRL (mg/L)	XMDL (mg/L)
Nitrate Nitrite as N		0.1	0.044

9-IN
DETECTION LIMITS
GENERAL CHEMISTRY

Lab Name: Eurofins Denver Job Number: 280-185797-1

SDG Number:

Matrix: Water Instrument ID: WC_IonChrom17

Method: 9056A DL Date: 06/21/2019 00:00

Analyte	Wavelength/ Mass	LOQ (mg/L)	DL (mg/L)
Sulfate		5	1.03

9-IN
CALIBRATION BLANK DETECTION LIMITS
GENERAL CHEMISTRY

Lab Name: Eurofins Denver Job Number: 280-185797-1

SDG Number:

Matrix: Water Instrument ID: WC_IonChrom17

Method: 9056A XMDL Date: 06/21/2019 00:00

Analyte	Wavelength/ Mass	XRL (mg/L)	XMDL (mg/L)
Sulfate		5	1.03

13-IN
ANALYSIS RUN LOG
GENERAL CHEMISTRY

Lab Name: Eurofins Denver Job No.: 280-185797-1

SDG No.:

Instrument ID: WC_OI 3700 Analysis Method: 353.2

Start Date: 12/28/2023 12:42 End Date: 12/28/2023 14:52

Lab Sample Id	D/F	Type	Time	Analytes
				NNO32
ZZZZZZ			12:42	
ZZZZZZ			12:44	
ZZZZZZ			12:45	
IC 280-638644/4			12:46	X
IC 280-638644/5			12:47	X
IC 280-638644/6			12:49	X
IC 280-638644/7			12:50	X
IC 280-638644/8			12:51	X
IC 280-638644/9			12:52	X
IC 280-638644/10			12:54	X
IC 280-638644/11			12:55	X
ZZZZZZ			12:56	
ZZZZZZ			12:57	
ICV 280-638644/14	1		12:59	X
ICVL 280-638644/15	1		13:00	X
ICB 280-638644/16	1		13:01	X
ZZZZZZ			13:02	
ZZZZZZ			13:04	
ZZZZZZ			13:05	
LCS 280-638644/20	1	T	13:06	X
MB 280-638644/21	1	T	13:07	X
280-185797-2	1	T	13:09	X
280-185797-2 MS	1	T	13:10	X
280-185797-2 MSD	1	T	13:11	X
280-185797-3	1	T	13:12	X
280-185797-4	1	T	13:14	X
280-185797-5	1	T	13:15	X
280-185797-6	1	T	13:16	X
280-185797-7	1	T	13:17	X
280-185797-8	1	T	13:19	X
280-185797-9	1	T	13:20	X
ZZZZZZ			13:21	
ZZZZZZ			13:22	
CCV 280-638644/34	1		13:24	X
CCVL 280-638644/35	1		13:25	X
CCB 280-638644/36	1		13:26	X
ZZZZZZ			13:27	
ZZZZZZ			13:29	
280-185797-10	1	T	13:30	X

FORM XIII-IN

13-IN
ANALYSIS RUN LOG
GENERAL CHEMISTRY

Lab Name: Eurofins Denver Job No.: 280-185797-1

SDG No.:

Instrument ID: WC_OI 3700 Analysis Method: 353.2

Start Date: 12/28/2023 12:42 End Date: 12/28/2023 14:52

Lab Sample Id	D/F	Type	Time	Analytes
				NNO32
280-185797-11	1	T	13:31	X
ZZZZZZ			13:32	
ZZZZZZ			13:34	
ZZZZZZ			13:35	
ZZZZZZ			13:36	
ZZZZZZ			13:37	
ZZZZZZ			13:39	
ZZZZZZ			13:40	
ZZZZZZ			13:41	
ZZZZZZ			13:42	
ZZZZZZ			13:44	
CCV 280-638644/51	1		13:45	X
CCVL 280-638644/52	1		13:46	X
CCB 280-638644/53	1		13:47	X
ZZZZZZ			13:49	
ZZZZZZ			13:50	
ZZZZZZ			13:51	
ZZZZZZ			13:52	
ZZZZZZ			13:54	
ZZZZZZ			13:55	
ZZZZZZ			13:56	
ZZZZZZ			13:57	
ZZZZZZ			13:59	
ZZZZZZ			14:00	
ZZZZZZ			14:01	
ZZZZZZ			14:02	
ZZZZZZ			14:04	
ZZZZZZ			14:05	
CCV 280-638644/68			14:06	
CCVL 280-638644/69			14:07	
CCB 280-638644/70			14:09	
ZZZZZZ			14:10	
ZZZZZZ			14:11	
ZZZZZZ			14:12	
ZZZZZZ			14:14	
ZZZZZZ			14:15	
ZZZZZZ			14:16	
ZZZZZZ			14:17	
ZZZZZZ			14:19	

FORM XIII-IN

13-IN
ANALYSIS RUN LOG
GENERAL CHEMISTRY

Lab Name: Eurofins Denver Job No.: 280-185797-1

SDG No.:

Instrument ID: WC_OI 3700 Analysis Method: 353.2

Start Date: 12/28/2023 12:42 End Date: 12/28/2023 14:52

Lab Sample Id	D/F	Type	Time	Analytes
				NNO32
ZZZZZZ			14:20	
ZZZZZZ			14:21	
ZZZZZZ			14:22	
ZZZZZZ			14:24	
ZZZZZZ			14:25	
ZZZZZZ			14:26	
CCV 280-638644/85			14:27	
CCVL 280-638644/86			14:29	
CCB 280-638644/87			14:30	
ZZZZZZ			14:31	
ZZZZZZ			14:32	
ZZZZZZ			14:34	
ZZZZZZ			14:35	
ZZZZZZ			14:36	
ZZZZZZ			14:37	
ZZZZZZ			14:39	
ZZZZZZ			14:40	
ZZZZZZ			14:41	
ZZZZZZ			14:42	
ZZZZZZ			14:44	
ZZZZZZ			14:45	
ZZZZZZ			14:46	
CCV 280-638644/101			14:47	
CCVL 280-638644/102			14:49	
CCB 280-638644/103			14:50	
ZZZZZZ			14:51	
ZZZZZZ			14:52	

Prep Types:
T = Total/NA

FORM XIII-IN

13-IN
ANALYSIS RUN LOG
GENERAL CHEMISTRY

Lab Name: Eurofins Denver Job No.: 280-185797-1

SDG No.:

Instrument ID: WC_IonChrom17 Analysis Method: 9056A

Start Date: 11/29/2023 15:46 End Date: 11/29/2023 18:09

Lab Sample Id	D/F	Type	Time	Analytes																								
				SO4																								
STD 280-635496/1 IC	1		15:46	X																								
STD 280-635496/2 IC	1		15:57	X																								
STD 280-635496/3 IC	1		16:08	X																								
STD 280-635496/4 IC	1		16:19	X																								
STD 280-635496/5 IC	1		16:30	X																								
STD 280-635496/6 IC	1		16:41	X																								
STD 280-635496/7 IC	1		16:52	X																								
RTC 280-635496/8			17:03																									
ICV 280-635496/9	1		17:14	X																								
ICB 280-635496/10	1		17:25	X																								
ZZZZZZ			17:36																									
ZZZZZZ			17:47																									
ZZZZZZ			17:58																									
ZZZZZZ			18:09																									

Prep Types:
=

FORM XIII-IN

13-IN
ANALYSIS RUN LOG
GENERAL CHEMISTRY

Lab Name: Eurofins Denver | Job No.: 280-185797-1

SDG No.:

Instrument ID: WC_IonChrom17 | Analysis Method: 9056A

Start Date: 12/20/2023 10:43 | End Date: 12/21/2023 04:22

Lab Sample Id	D/F	Type	Time	Analytes																							
				SO4																							
CCV 280-637973/1	1		10:43	X																							
CCB 280-637973/2	1		10:54	X																							
MRL 280-637973/3	1	T	11:05	X																							
LCS 280-637973/4	1	T	11:16	X																							
LCSD 280-637973/5	1	T	11:27	X																							
MB 280-637973/6	1	T	11:38	X																							
ZZZZZZ			18:18																								
ZZZZZZ			18:29																								
ZZZZZZ			18:40																								
ZZZZZZ			18:51																								
ZZZZZZ			19:02																								
ZZZZZZ			19:13																								
ZZZZZZ			19:24																								
ZZZZZZ			19:35																								
ZZZZZZ			19:46																								
ZZZZZZ			19:57																								
ZZZZZZ			20:08																								
ZZZZZZ			20:19																								
ZZZZZZ			20:30																								
CCV 280-637973/20	1		20:41	X																							
CCB 280-637973/21	1		20:52	X																							
ZZZZZZ			21:03																								
ZZZZZZ			21:14																								
ZZZZZZ			21:25																								
ZZZZZZ			21:36																								
ZZZZZZ			21:47																								
ZZZZZZ			21:58																								
ZZZZZZ			22:09																								
ZZZZZZ			22:20																								
ZZZZZZ			22:31																								
280-185797-2	1	T	22:42	X																							
280-185797-3	1	T	22:53	X																							
280-185797-4	1	T	23:04	X																							
280-185797-5	5	T	23:15	X																							
CCV 280-637973/35	1		23:26	X																							
CCB 280-637973/36	1		23:37	X																							
280-185797-6	5	T	23:48	X																							
280-185797-8	20	T	23:59	X																							
280-185797-9	5	T	00:10	X																							
280-185797-10	5	T	00:21	X																							
280-185797-11	5	T	00:32	X																							

FORM XIII-IN

13-IN
ANALYSIS RUN LOG
GENERAL CHEMISTRY

Lab Name: Eurofins Denver Job No.: 280-185797-1

SDG No.:

Instrument ID: WC_IonChrom17 Analysis Method: 9056A

Start Date: 12/20/2023 10:43 End Date: 12/21/2023 04:22

Lab Sample Id	D/F	Type	Time	Analytes																								
				SO4																								
LCS 280-637973/42	1	T	00:43	X																								
LCSD 280-637973/43	1	T	00:54	X																								
MB 280-637973/44	1	T	01:05	X																								
ZZZZZZ			01:16																									
ZZZZZZ			01:27																									
ZZZZZZ			01:38																									
ZZZZZZ			01:49																									
ZZZZZZ			02:00																									
ZZZZZZ			02:11																									
ZZZZZZ			02:22																									
ZZZZZZ			02:32																									
CCV 280-637973/53	1		02:43	X																								
CCB 280-637973/54	1		02:54	X																								
ZZZZZZ			03:05																									
ZZZZZZ			03:16																									
ZZZZZZ			03:27																									
ZZZZZZ			03:38																									
ZZZZZZ			03:49																									
ZZZZZZ			04:00																									
CCV 280-637973/61			04:11																									
CCB 280-637973/62			04:22																									

Prep Types:
T = Total/NA

FORM XIII-IN

GENERAL CHEMISTRY BATCH WORKSHEET

Lab Name: Eurofins Denver Job No.: 280-185797-1

SDG No.:

Batch Number: 638644 Batch Start Date: 12/28/23 12:42 Batch Analyst: Rittenhouse, Ben C

Batch Method: 353.2 Batch End Date:

Lab Sample ID	Client Sample ID	Method Chain	Basis	ClResPres	InitialAmount	FinalAmount	pHChecked	NXN CAL INT 00699	NXN ICV INT 00676
ICV 280-638644/14		353.2		n	100 mL	100 mL	<2		5 mL
ICVL 280-638644/15		353.2		n	100 mL	100 mL	<2		2 mL
ICB 280-638644/16		353.2		n	100 mL	100 mL	<2		
LCS 280-638644/20		353.2		n	100 mL	100 mL	<2	5 mL	
MB 280-638644/21		353.2		n	100 mL	100 mL	<2		
280-185797-A-2	TV044-MW24D1223A	353.2	T	n	100 mL	100 mL	<2		
280-185797-A-2 MS	TV044-MW24D1223A	353.2	T	n	5 mL	5 mL	<2	0.2 mL	
280-185797-A-2 MSD	TV044-MW24D1223A	353.2	T	n	5 mL	5 mL	<2	0.2 mL	
280-185797-A-3	TV044-MW24I1223A	353.2	T	n	100 mL	100 mL	<2		
280-185797-A-4	TV044-MW21M1223A	353.2	T	n	100 mL	100 mL	<2		
280-185797-A-5	TV044-MW21D1223A	353.2	T	n	100 mL	100 mL	<2		
280-185797-A-6	TV044-MW21D1223C	353.2	T	n	100 mL	100 mL	<2		
280-185797-A-7	TV044-MW23S1223A	353.2	T	n	100 mL	100 mL	<2		
280-185797-A-8	TV044-MW31223A	353.2	T	n	100 mL	100 mL	<2		
280-185797-A-9	TV044-MW25D1223A	353.2	T	n	100 mL	100 mL	<2		
CCV 280-638644/34		353.2		n	100 mL	100 mL	<2	5 mL	
CCVL 280-638644/35		353.2		n	100 mL	100 mL	<2	1 mL	
CCB 280-638644/36		353.2		n	100 mL	100 mL	<2		
280-185797-A-10	TV044-MW21223A	353.2	T	n	100 mL	100 mL	<2		
280-185797-A-11	TV044-MW25I1223A	353.2	T	n	100 mL	100 mL	<2		
CCV 280-638644/51		353.2		n	100 mL	100 mL	<2	5 mL	
CCVL 280-638644/52		353.2		n	100 mL	100 mL	<2	1 mL	
CCB 280-638644/53		353.2		n	100 mL	100 mL	<2		

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

GENERAL CHEMISTRY BATCH WORKSHEET

Lab Name: Eurofins Denver Job No.: 280-185797-1

SDG No.:

Batch Number: 638644 Batch Start Date: 12/28/23 12:42 Batch Analyst: Rittenhouse, Ben C

Batch Method: 353.2 Batch End Date:

Batch Notes	
pH Indicator ID	HC316719
Buffer Reagent ID	NOXT Buffer_00248
Color Reagent ID	NOXT CR_00142
Pipette/Syringe/Dispenser ID	5000 ix
Cadmium Column Lot ID	Q11513937102-463-1023
Copper Sulfate ID	CUSO4 NOXT_00020
Hydrochloric Acid ID	0.5N HCL_00101
Batch Comment	BCR

Basis	Basis Description
T	Total/NA

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

GENERAL CHEMISTRY BATCH WORKSHEET

Lab Name: Eurofins Denver Job No.: 280-185797-1

SDG No.:

Batch Number: 635496 Batch Start Date: 11/29/23 15:46 Batch Analyst: Sherman, Erik J

Batch Method: 9056A Batch End Date:

Lab Sample ID	Client Sample ID	Method Chain	Basis	InitialAmount	FinalAmount	Cl ICV Std 00008	IC CAL cl/so4 00509	IC Cal low 00739	IC CL cal 00077
STD 280-635496/1 IC		9056A		10 mL	10 mL				0.04 mL
STD 280-635496/2 IC		9056A		10 mL	10 mL		0.04 mL	0.04 mL	
STD 280-635496/3 IC		9056A		10 mL	10 mL		0.1 mL	0.1 mL	
STD 280-635496/4 IC		9056A		10 mL	10 mL		0.2 mL	0.2 mL	
STD 280-635496/5 IC		9056A		10 mL	10 mL		2.4 mL	0.8 mL	
STD 280-635496/6 IC		9056A		10 mL	10 mL		4.8 mL	1.6 mL	
STD 280-635496/7 IC		9056A		10 mL	10 mL		8 mL	2 mL	
ICV 280-635496/9		9056A		10 mL	10 mL	0.8 mL			
ICB 280-635496/10		9056A		10 mL	10 mL				

Lab Sample ID	Client Sample ID	Method Chain	Basis	IC FL cal 00023	IC ICV 5 00420	IC SO4 Cal 00010	IC SO4 ICV 00025		
STD 280-635496/1 IC		9056A		0.02 mL		0.1 mL			
STD 280-635496/2 IC		9056A							
STD 280-635496/3 IC		9056A							
STD 280-635496/4 IC		9056A							
STD 280-635496/5 IC		9056A							
STD 280-635496/6 IC		9056A							
STD 280-635496/7 IC		9056A							
ICV 280-635496/9		9056A			0.8 mL		0.8 mL		
ICB 280-635496/10		9056A							

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

GENERAL CHEMISTRY BATCH WORKSHEET

Lab Name: Eurofins Denver Job No.: 280-185797-1

SDG No.:

Batch Number: 635496 Batch Start Date: 11/29/23 15:46 Batch Analyst: Sherman, Erik J

Batch Method: 9056A Batch End Date:

Batch Notes	
Filter ID	SF020E
Pipette/Syringe/Dispenser ID	1000HEX, 200CJ, IC100, AB8A100, ICM5000, PAIN
Eluent 1 ID	075778
Regeneration Solution ID	221250119313
Batch Comment	gm

Basis	Basis Description

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

GENERAL CHEMISTRY BATCH WORKSHEET

Lab Name: Eurofins Denver Job No.: 280-185797-1

SDG No.:

Batch Number: 637973 Batch Start Date: 12/20/23 10:43 Batch Analyst: Sherman, Erik J

Batch Method: 9056A Batch End Date:

Lab Sample ID	Client Sample ID	Method Chain	Basis	InitialAmount	FinalAmount	IC CAL cl/so4 00515	IC Cal low 00749	IC LCS 01998	
CCV 280-637973/1		9056A		10 mL	10 mL			10 mL	
CCB 280-637973/2		9056A		10 mL	10 mL				
MRL 280-637973/3		9056A		10 mL	10 mL	0.2 mL	0.1 mL		
LCS 280-637973/4		9056A		10 mL	10 mL			10 mL	
LCSD 280-637973/5		9056A		10 mL	10 mL			10 mL	
MB 280-637973/6		9056A		10 mL	10 mL				
CCV 280-637973/20		9056A		10 mL	10 mL			10 mL	
CCB 280-637973/21		9056A		10 mL	10 mL				
280-185797-C-2	TV044-MW24D1223A	9056A	T	10 mL	10 mL				
280-185797-C-3	TV044-MW24I1223A	9056A	T	10 mL	10 mL				
280-185797-C-4	TV044-MW21M1223A	9056A	T	10 mL	10 mL				
280-185797-C-5	TV044-MW21D1223A	9056A	T	10 mL	10 mL				
CCV 280-637973/35		9056A		10 mL	10 mL			10 mL	
CCB 280-637973/36		9056A		10 mL	10 mL				
280-185797-C-6	TV044-MW21D1223C	9056A	T	10 mL	10 mL				
280-185797-C-8	TV044-MW31223A	9056A	T	10 mL	10 mL				
280-185797-C-9	TV044-MW25D1223A	9056A	T	10 mL	10 mL				
280-185797-C-10	TV044-MW21223A	9056A	T	10 mL	10 mL				
280-185797-C-11	TV044-MW25I1223A	9056A	T	10 mL	10 mL				
LCS 280-637973/42		9056A		10 mL	10 mL			10 mL	
LCSD 280-637973/43		9056A		10 mL	10 mL			10 mL	
MB 280-637973/44		9056A		10 mL	10 mL				
CCV 280-637973/53		9056A		10 mL	10 mL			10 mL	
CCB 280-637973/54		9056A		10 mL	10 mL				

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

GENERAL CHEMISTRY BATCH WORKSHEET

Lab Name: Eurofins Denver Job No.: 280-185797-1

SDG No.:

Batch Number: 637973 Batch Start Date: 12/20/23 10:43 Batch Analyst: Sherman, Erik J

Batch Method: 9056A Batch End Date:

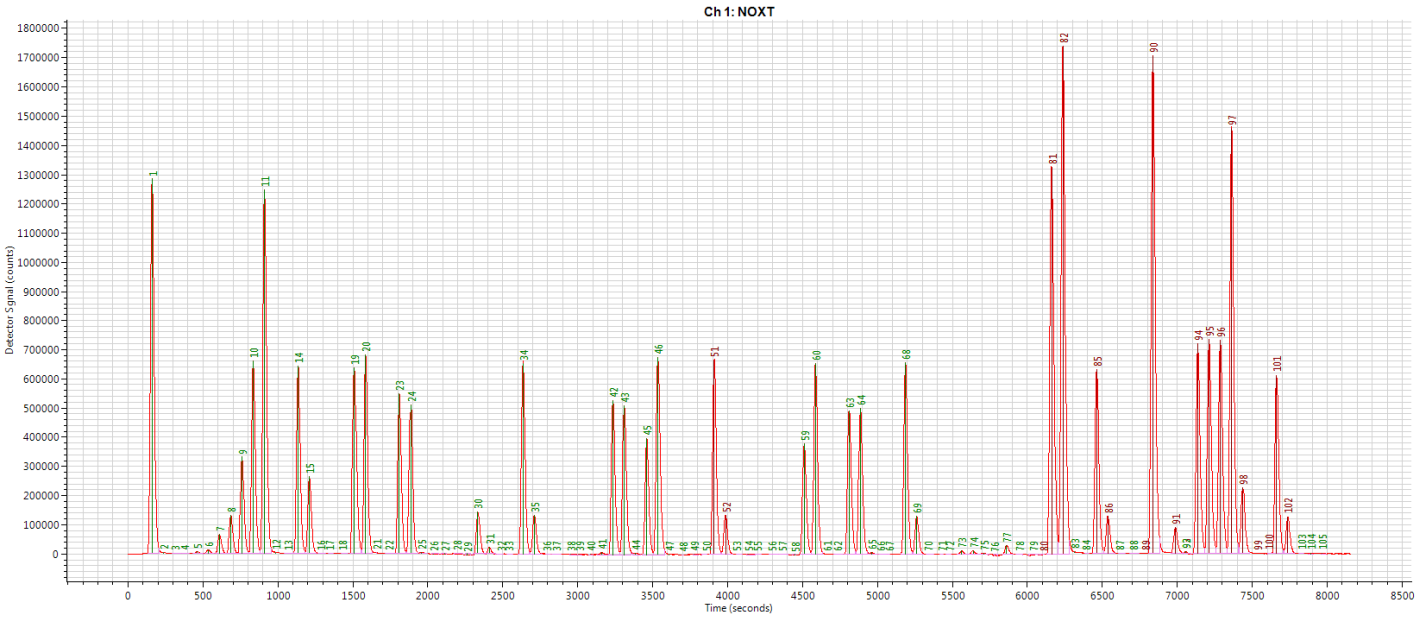
Batch Notes	
Filter ID	SF020E
Pipette/Syringe/Dispenser ID	1000HEX, 200CJ, IC100, BMF1000, AB8A100, ICM5000, PAIN
Sufficient Volume for Batch QC	Y
Eluent 1 ID	075778
Regeneration Solution ID	221250119313
Batch Comment	EJS training IRC

Basis	Basis Description
T	Total/NA

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

FlowView - Result

InstrumentID: B918837629
Operator ID: BCR
Methodology: EPA 353.2
File Version: 111
Created On: 12/28/2023 12:42:42 PM
Last Modified On: 12/28/2023 3:25:52 PM
Exported on 12/28/2023 3:28:34 PM



Date/Time	Cup #	Peak #	Sample Name	M-Dil	Calc (mg/L)	Type	Peak Response	Avg Response	Avg Ca
12/28/2023 12:42:56 PM	910	1	SYNC	1	10.5822	SYNC	1286371.1	1286371.1	
12/28/2023 12:44:12 PM	900	2	Baseline	1	0.0380	RB	3186.0	3186.0	
12/28/2023 12:45:27 PM	900	3	Baseline	1	0.0212	RB	970.6	970.6	
12/28/2023 12:46:42 PM	903	4	Cal 0.00	1	0.0000	STD1	410.2	410.2	
12/28/2023 12:47:57 PM	904	5	Cal 0.05	1	0.0500	STD2	6619.4	6619.4	
12/28/2023 12:49:12 PM	905	6	Cal 0.1	1	0.1000	STD3	12532.1	12532.1	
12/28/2023 12:50:27 PM	906	7	Cal 0.5	1	0.5000	STD4	65142.9	65142.9	
12/28/2023 12:51:42 PM	907	8	Cal 1.0	1	1.0000	STD5	131979.5	131979.5	
12/28/2023 12:52:57 PM	908	9	Cal 2.5	1	2.5000	STD6	331937.3	331937.3	
12/28/2023 12:54:12 PM	909	10	Cal 5.0	1	5.0000	STD7	660451.8	660451.8	
12/28/2023 12:55:27 PM	910	11	Cal 10.0	1	10.0000	STD8	1245890.8	1245890.8	
12/28/2023 12:56:42 PM	900	12	Baseline	1	0.0381	RB	3186.2	3186.2	
12/28/2023 12:57:57 PM	900	13	Baseline	1	0.0230	RB	1099.0	1099.0	
12/28/2023 12:59:12 PM	902	14	ICV	1	4.8883	ICV	642359.3	642359.3	
12/28/2023 1:00:27 PM	901	15	ICVL	1	1.9632	User1	264553.3	264553.3	
12/28/2023 1:01:42 PM	900	16	ICB	1	0.0300	ICB	2059.9	2059.9	
12/28/2023 1:02:57 PM	900	17	Basline	1	0.0189	RB	531.7	531.7	
12/28/2023 1:04:12 PM	900	18	Basline	1	0.0290	RB	1922.1	1922.1	
12/28/2023 1:05:27 PM	101	19	5000 PPB NO2	1	4.8201	EFFCHK	633819.0	633819.0	
12/28/2023 1:06:42 PM	909	20	LCS	1	5.1884	LCS	679806.0	679806.0	
12/28/2023 1:07:57 PM	900	21	MB	1	0.0317	MB	2296.3	2296.3	
12/28/2023 1:09:12 PM	102	22	280-185797-A-2	1	0.0258	SPL	1483.9	1483.9	
12/28/2023 1:10:27 PM	103	23	ms 280-185797-A-2	1	4.1252	SPL	546048.5	546048.5	
12/28/2023 1:11:42 PM	104	24	msd 280-185797-A-2	1	3.8225	SPL	507399.7	507399.7	

Date/Time	Cup #	Peak #	Sample Name	M-Dil	Calc (mg/L)	Type	Peak Response	Avg Response	Avg Ca
12/28/2023 1:12:57 PM	105	25	280-185797-A-3	1	0.0485	SPL	4628.5	4628.5	
12/28/2023 1:14:12 PM	106	26	280-185797-A-4	1	0.0075	SPL	-1047.4	-1047.4	
12/28/2023 1:15:27 PM	107	27	280-185797-A-5	1	0.0063	SPL	-1219.5	-1219.5	
12/28/2023 1:16:42 PM	108	28	280-185797-A-6	1	0.0120	SPL	-422.8	-422.8	
12/28/2023 1:17:57 PM	109	29	280-185797-A-7	1	-0.0176	SPL	-4528.4	-4528.4	
12/28/2023 1:19:12 PM	110	30	280-185797-A-8	1	1.0432	SPL	140903.4	140903.4	
12/28/2023 1:20:27 PM	111	31	280-185797-A-9	1	0.1640	SPL	20592.0	20592.0	
12/28/2023 1:21:42 PM	900	32	Basline	1	0.0253	RB	1420.9	1420.9	
12/28/2023 1:22:57 PM	900	33	Baseline	1	0.0212	RB	844.0	844.0	
12/28/2023 1:24:12 PM	909	34	CCV	1	4.9610	CCV1	651459.5	651459.5	
12/28/2023 1:25:27 PM	907	35	CCVL	1	0.9816	CCV2	132549.5	132549.5	
12/28/2023 1:26:42 PM	900	36	CCB	1	0.0203	CCB	728.0	728.0	
12/28/2023 1:27:57 PM	900	37	Basline	1	0.0229	RB	1078.1	1078.1	
12/28/2023 1:29:12 PM	900	38	Basline	1	0.0320	RB	2343.7	2343.7	
12/28/2023 1:30:27 PM	112	39	280-185797-A-10	1	0.0231	SPL	1106.0	1106.0	
12/28/2023 1:31:42 PM	113	40	280-185797-A-11	1	0.0228	SPL	1070.1	1070.1	
12/28/2023 1:32:57 PM	114	41	280-185814-A-4	1	0.0670	SPL	7189.6	7189.6	
12/28/2023 1:34:12 PM	115	42	ms 280-185814-A-4	1	3.9704	SPL	526311.0	526311.0	
12/28/2023 1:35:27 PM	116	43	msd 280-185814-A-4	1	3.8423	SPL	509938.5	509938.5	
12/28/2023 1:36:42 PM	117	44	280-185814-A-2	1	0.0614	SPL	6407.7	6407.7	
12/28/2023 1:37:57 PM	118	45	280-185814-A-3	5	14.8956	SPL	398410.1	398410.1	
12/28/2023 1:39:12 PM	119	46	280-185814-A-5	10	51.5851	SPL	676088.1	676088.1	
12/28/2023 1:40:27 PM	120	47	280-185814-A-6	1	0.0276	SPL	1729.3	1729.3	
12/28/2023 1:41:42 PM	121	48	280-185814-A-7	1	0.0185	SPL	469.9	469.9	
12/28/2023 1:42:57 PM	900	49	Basline	1	0.0211	RB	832.8	832.8	
12/28/2023 1:44:12 PM	900	50	Baseline	1	0.0201	RB	689.7	689.7	
12/28/2023 1:45:27 PM	909	51	CCV	1	5.0669	CCV1	664673.3	664673.3	
12/28/2023 1:46:42 PM	907	52	CCVL	1	0.9966	CCV2	134573.6	134573.6	
12/28/2023 1:47:57 PM	900	53	CCB	1	0.0267	CCB	1608.1	1608.1	
12/28/2023 1:49:12 PM	900	54	Basline	1	0.0270	RB	1650.4	1650.4	
12/28/2023 1:50:27 PM	900	55	Basline	1	0.0210	RB	817.0	817.0	
12/28/2023 1:51:42 PM	122	56	280-185814-A-8	1	0.0213	SPL	855.1	855.1	
12/28/2023 1:52:57 PM	123	57	280-185814-A-9	1	0.0249	SPL	1352.6	1352.6	
12/28/2023 1:54:12 PM	124	58	280-185814-A-10	1	0.0043	SPL	-1496.1	-1496.1	
12/28/2023 1:55:27 PM	125	59	280-185814-A-11	5	14.1239	SPL	378254.9	378254.9	
12/28/2023 1:56:42 PM	909	60	LCS	1	4.9770	LCS	653454.6	653454.6	
12/28/2023 1:57:57 PM	900	61	MB	1	0.0262	MB	1533.8	1533.8	
12/28/2023 1:59:12 PM	126	62	280-185814-A-12	1	0.0271	SPL	1656.7	1656.7	
12/28/2023 2:00:27 PM	127	63	ms 280-185814-A-12	1	3.7005	SPL	491749.8	491749.8	
12/28/2023 2:01:42 PM	128	64	msd 280-185814-A-12	1	3.7718	SPL	500899.4	500899.4	
12/28/2023 2:02:57 PM	129	65	280-185814-A-13	1	0.0556	SPL	5610.3	5610.3	
12/28/2023 2:04:12 PM	900	66	Basline	1	0.0206	RB	760.7	760.7	
12/28/2023 2:05:27 PM	900	67	Baseline	1	0.0203	RB	718.9	718.9	
12/28/2023 2:06:42 PM	909	68	CCV	1	5.0023	CCV1	656615.7	656615.7	
12/28/2023 2:07:57 PM	907	69	CCVL	1	0.9778	CCV2	132032.3	132032.3	
12/28/2023 2:09:12 PM	900	70	CCB	1	0.0219	CCB	941.1	941.1	
12/28/2023 2:10:27 PM	900	71	Basline	1	0.0198	RB	659.4	659.4	
12/28/2023 2:11:42 PM	900	72	Basline	1	0.0187	RB	498.0	498.0	
12/28/2023 2:12:57 PM	130	73	280-185816-B-1	1	0.1076	SPL	12795.7	12795.7	
12/28/2023 2:14:12 PM	131	74	280-185816-B-2	1	0.1142	SPL	13705.8	13705.8	
12/28/2023 2:15:27 PM	132	75	280-185962-D-1	1	0.0424	SPL	3774.2	3774.2	
12/28/2023 2:16:42 PM	133	76	280-185837-C-1	1	0.0095	SPL	-779.0	-779.0	
12/28/2023 2:17:57 PM	134	77	280-185837-C-2	1	0.2345	SPL	30306.5	30306.5	
12/28/2023 2:19:12 PM	135	78	280-185837-C-3	1	0.0280	SPL	1784.4	1784.4	
12/28/2023 2:20:27 PM	136	79	280-185837-C-4	1	0.0164	SPL	180.6	180.6	
12/28/2023 2:21:42 PM	137	80	280-185837-D-5	1	0.0187	SPL	495.1	495.1	

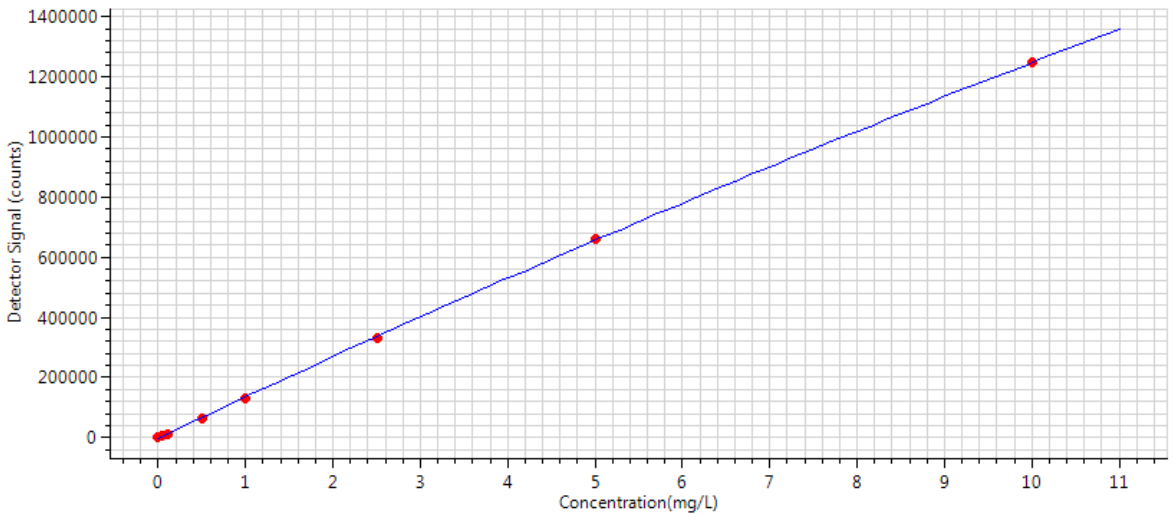
Date/Time	Cup #	Peak #	Sample Name	M-Dil	Calc (mg/L)	Type	Peak Response	Avg Response	Avg Ca
12/28/2023 2:22:57 PM	138	81	280-185827-A-1	50	537.1232	SPL	1328509.8	1328509.8	
12/28/2023 2:24:12 PM	139	82	280-185827-A-1 MS	50	736.1802	SPL	1741805.1	1741805.1	
12/28/2023 2:25:27 PM	900	83	Baseline	1	0.0464	RB	4333.7	4333.7	
12/28/2023 2:26:42 PM	900	84	Baseline	1	0.0221	RB	965.9	965.9	
12/28/2023 2:27:57 PM	909	85	CCV	1	4.7787	CCV1	628629.1	628629.1	
12/28/2023 2:29:12 PM	907	86	CCVL	1	0.9486	CCV2	128053.6	128053.6	
12/28/2023 2:30:27 PM	900	87	CCB	1	0.0175	CCB	336.7	336.7	
12/28/2023 2:31:42 PM	900	88	Baseline	1	0.0181	RB	421.0	421.0	
12/28/2023 2:32:57 PM	900	89	Basline	1	0.0172	RB	288.9	288.9	
12/28/2023 2:34:12 PM	140	90	280-185827-A-1 MSD	50	717.5393	SPL	1704933.6	1704933.6	
12/28/2023 2:35:27 PM	141	91	280-185827-A-2	1	0.6585	SPL	88524.1	88524.1	
12/28/2023 2:36:42 PM	142	92	280-185827-A-3	1	0.0630	SPL	6628.8	6628.8	
12/28/2023 2:37:57 PM	143	93	280-185873-A-1	1	0.0630	SPL	6628.8	6628.8	
12/28/2023 2:39:12 PM	144	94	280-185873-B-2	10	54.8925	SPL	717097.3	717097.3	
12/28/2023 2:40:27 PM	145	95	280-185873-B-3	10	56.1244	SPL	732295.8	732295.8	
12/28/2023 2:41:42 PM	146	96	280-185873-B-4	10	55.9549	SPL	730207.2	730207.2	
12/28/2023 2:42:57 PM	147	97	280-185833-C-1	1	11.9294	SPL	1456245.1	1456245.1	
12/28/2023 2:44:12 PM	148	98	280-186069-I-1	1	1.6582	SPL	223810.1	223810.1	
12/28/2023 2:45:27 PM	900	99	Baseline	1	0.0250	RB	1366.2	1366.2	
12/28/2023 2:46:42 PM	900	100	Baseline	1	0.0192	RB	571.8	571.8	
12/28/2023 2:47:57 PM	909	101	CCV	1	4.6270	CCV1	609561.2	609561.2	
12/28/2023 2:49:12 PM	907	102	CCVL	1	0.9141	CCV2	123374.9	123374.9	
12/28/2023 2:50:27 PM	900	103	CCB	1	0.0166	CCB	209.1	209.1	
12/28/2023 2:51:42 PM	900	104	Baseline	1	0.0202	RB	710.2	710.2	
12/28/2023 2:52:57 PM	900	105	Baseline	1	0.0245	RB	1296.7	1296.7	

Calibration Results - Channel1

Calibration Summary

Curve Fit: =	Second Order		
R^2: =	0.99996089	a: =	-1.361768E+003
RF: =	n/a	b: =	1.384922E+005
Offset:	n/a	c:	-2.088730E+003
HLCAVG:	0.00000000	LHCAVG:	0.00000000

Calibration Details



Name	Type	Std Conc(mg/L)	Avg Height	Calc Avg Conc(mg/L)	%RSD	Flags	Date/Time
Cal 0.00	STD1	0.0000	410.2	0.0180	0.0		12/28/2023 12:46:42 PM
Cal 0.05	STD2	0.0500	6619.4	0.0629	0.0		12/28/2023 12:47:57 PM
Cal 0.1	STD3	0.1000	12532.1	0.1057	0.0		12/28/2023 12:49:12 PM
Cal 0.5	STD4	0.5000	65142.9	0.4878	0.0		12/28/2023 12:50:27 PM
Cal 1.0	STD5	1.0000	131979.5	0.9775	0.0		12/28/2023 12:51:42 PM
Cal 2.5	STD6	2.5000	331937.3	2.4720	0.0		12/28/2023 12:52:57 PM
Cal 5.0	STD7	5.0000	660451.8	5.0330	0.0		12/28/2023 12:54:12 PM
Cal 10.0	STD8	10.0000	1245890.8	9.9931	0.0		12/28/2023 12:55:27 PM

Eurofins Denver
Target Compound Quantitation Report

Data File:	\\chromfs\Denver\ChromData\WC_IonChrom17\20231129-128099.b\280-0128099-001_03_CD_1_Total.d				
Lims ID:	STD L1				
Client ID:					
Sample Type:	IC	Calib Level:	1		
Inject. Date:	29-Nov-2023 15:46:00	ALS Bottle#:	0	Worklist Smp#:	1
Injection Vol:	5.0 ul	Dil. Factor:	1.0000		
Sample Info:	280-0128099-001				
Misc. Info.:	STD L1				
Operator ID:		Instrument ID:	WC_IonChrom17		
Sublist:	chrom-Anions_IC17*sub3				
Method:	\\chromfs\Denver\ChromData\WC_IonChrom17\20231129-128099.b\Anions_IC17.m				
Limit Group:	Wet - Anions 28D				
Last Update:	30-Nov-2023 23:17:31	Calib Date:	29-Nov-2023 16:52:00		
Integrator:	Falcon				
Quant Method:	External Standard	Quant By:	Initial Calibration		
Last ICal File:	\\chromfs\Denver\ChromData\WC_IonChrom17\20231129-128099.b\280-0128099-007_09_CD_1_Total.d				
Column 1 :			Det: 0005		
Process Host:	CTX1606				
First Level Reviewer: XAY4		Date:	30-Nov-2023 22:25:58		

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
1 Fluoride	2.062	2.067	-0.005	861748	0.1000	0.1110	
2 Chloride	2.938	2.932	0.006	1303700	0.2000	0.2367	
6 Sulfate	5.223	5.097	0.126	2532073	0.5000	0.4779	

QC Flag Legend

Processing Flags

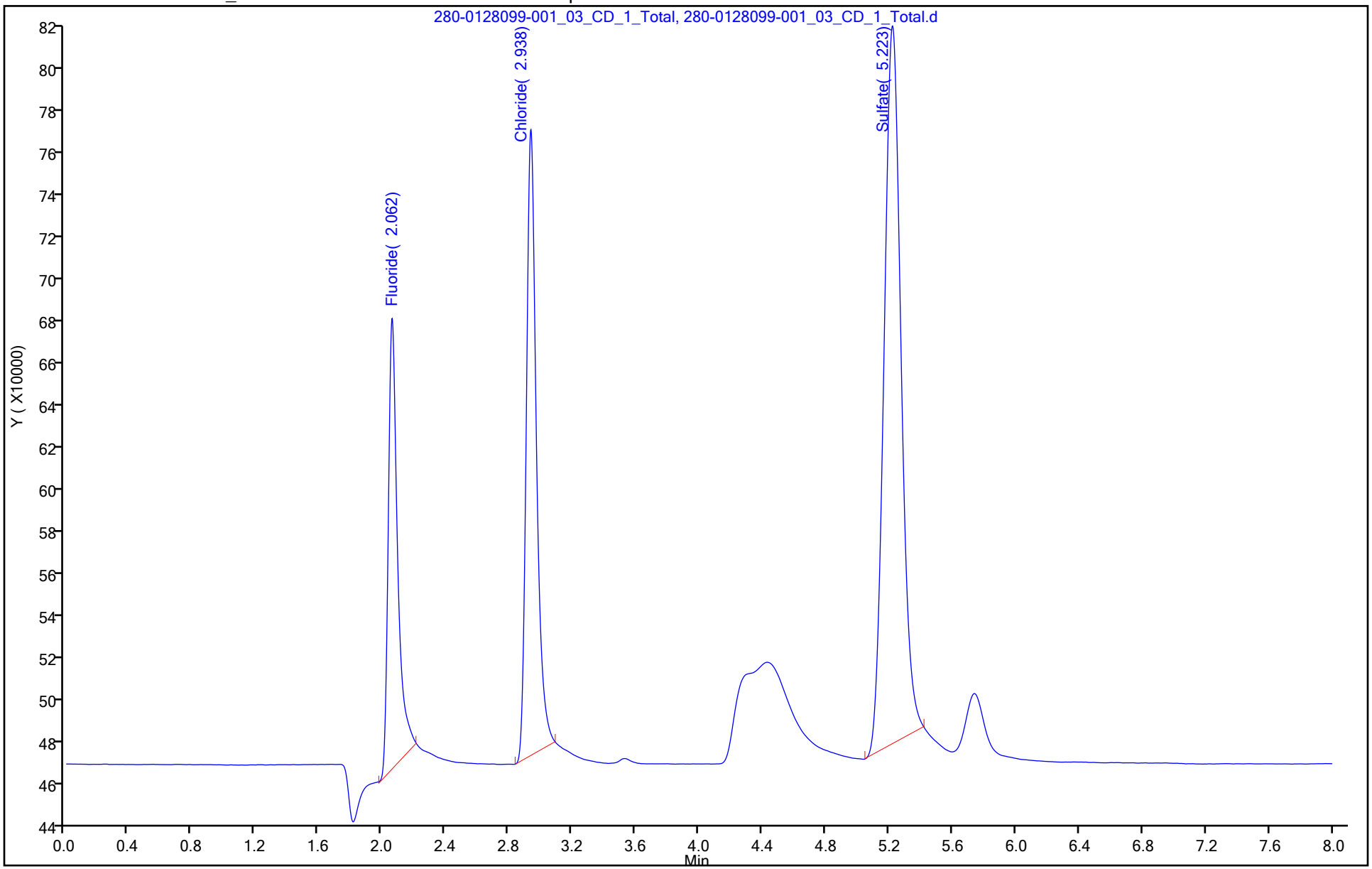
Reagents:

IC SO4 Cal_00010	Amount Added:	0.10	Units: mL
IC CL cal_00077	Amount Added:	0.04	Units: mL
IC FL cal_00023	Amount Added:	0.02	Units: mL

Report Date: 30-Nov-2023 23:17:31 Chrom Revision: 2.3 15-Nov-2023 20:54:34

Eurofins Denver

Data File:	\\chromfs\Denver\ChromData\WC_IonChrom17\20231129-128099.b\280-0128099-001_03_CD_1_Total.d				
Injection Date:	29-Nov-2023 15:46:00	Instrument ID:	WC_IonChrom17	Operator ID:	
Lims ID:	STD L1			Worklist Smp#:	1
Client ID:					
Injection Vol:	5.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	Anions_IC17	Limit Group:	Wet - Anions 28D		



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Eurofins Denver
Target Compound Quantitation Report

Data File: \\chromfs\Denver\ChromData\WC_IonChrom17\20231129-128099.b\280-0128099-002_04_CD_1_Total.d
Lims ID: STD L2
Client ID:
Sample Type: IC Calib Level: 2
Inject. Date: 29-Nov-2023 15:57:00 ALS Bottle#: 0 Worklist Smp#: 2
Injection Vol: 5.0 ul Dil. Factor: 1.0000
Sample Info: 280-0128099-002
Misc. Info.: STD L2
Operator ID: Instrument ID: WC_IonChrom17
Sublist: chrom-Anions_IC17*sub3

Method: \\chromfs\Denver\ChromData\WC_IonChrom17\20231129-128099.b\Anions_IC17.m
Limit Group: Wet - Anions 28D
Last Update: 30-Nov-2023 23:17:32 Calib Date: 29-Nov-2023 16:52:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Denver\ChromData\WC_IonChrom17\20231129-128099.b\280-0128099-007_09_CD_1_Total.d

Column 1 : Det: 0005
Process Host: CTX1606

First Level Reviewer: XAY4 Date: 30-Nov-2023 22:26:05

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
1 Fluoride	2.038	2.067	-0.029	1814700	0.2000	0.1902	
2 Chloride	2.917	2.932	-0.015	6145940	1.00	0.9210	
3 Nitrite as N	3.512	3.542	-0.030	2773087	NC	NC	
4 Bromide	4.830	4.838	-0.008	398276	0.2000	0.1863	
6 Sulfate	5.198	5.097	0.101	6057459	1.00	1.15	
7 Orthophosphate as P		5.680			ND	ND	
5 Nitrate as N	5.715	5.702	0.013	2643697	NC	NC	

QC Flag Legend

Processing Flags
NC - Not Calibrated
ND - Not Detected or Marked ND

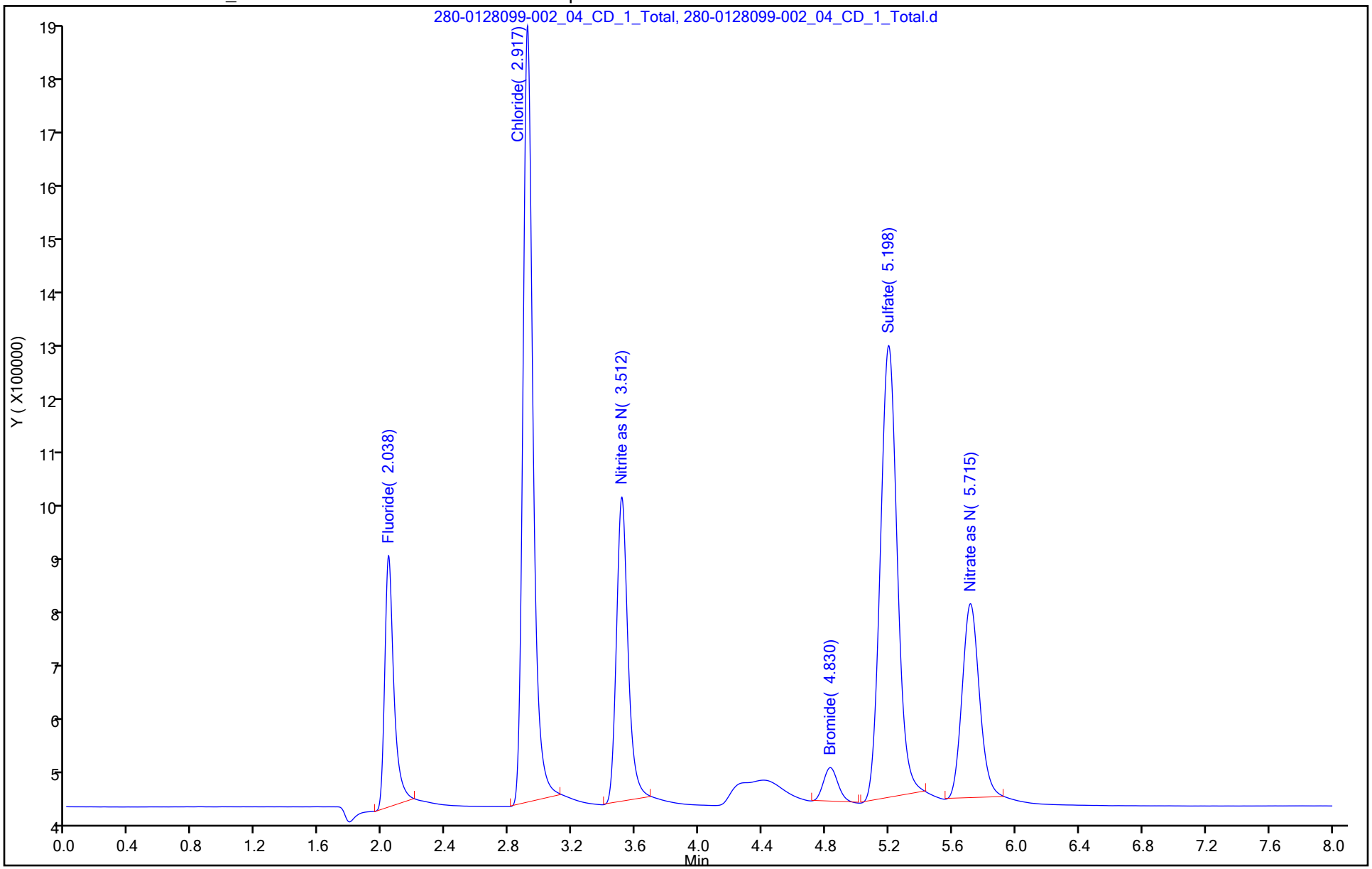
Reagents:

IC Cal low_00739 Amount Added: 0.04 Units: mL
IC CAL cl/so4_00509 Amount Added: 0.04 Units: mL

Report Date: 30-Nov-2023 23:17:32 Chrom Revision: 2.3 15-Nov-2023 20:54:34

Eurofins Denver

Data File:	\\chromfs\Denver\ChromData\WC_IonChrom17\20231129-128099.b\280-0128099-002_04_CD_1_Total.d				
Injection Date:	29-Nov-2023 15:57:00	Instrument ID:	WC_IonChrom17	Operator ID:	
Lims ID:	STD L2			Worklist Smp#:	2
Client ID:					
Injection Vol:	5.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	Anions_IC17	Limit Group:	Wet - Anions 28D		



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Eurofins Denver
Target Compound Quantitation Report

Data File: \\chromfs\Denver\ChromData\WC_IonChrom17\20231129-128099.b\280-0128099-003_05_CD_1_Total.d
Lims ID: STD L3
Client ID:
Sample Type: IC Calib Level: 3
Inject. Date: 29-Nov-2023 16:08:00 ALS Bottle#: 0 Worklist Smp#: 3
Injection Vol: 5.0 ul Dil. Factor: 1.0000
Sample Info: 280-0128099-003
Misc. Info.: STD L3
Operator ID: Instrument ID: WC_IonChrom17
Sublist: chrom-Anions_IC17*sub3

Method: \\chromfs\Denver\ChromData\WC_IonChrom17\20231129-128099.b\Anions_IC17.m
Limit Group: Wet - Anions 28D
Last Update: 30-Nov-2023 23:17:32 Calib Date: 29-Nov-2023 16:52:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Denver\ChromData\WC_IonChrom17\20231129-128099.b\280-0128099-007_09_CD_1_Total.d

Column 1 : Det: 0005
Process Host: CTX1606

First Level Reviewer: XAY4 Date: 30-Nov-2023 22:26:11

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
1 Fluoride	2.060	2.067	-0.007	5381943	0.5000	0.4869	
2 Chloride	2.937	2.932	0.005	16336090	2.50	2.36	
3 Nitrite as N	3.533	3.542	-0.009	7994535	NC	NC	
4 Bromide	4.847	4.838	0.009	1454597	0.5000	0.5556	
6 Sulfate	5.212	5.097	0.115	12958486	2.50	2.46	
7 Orthophosphate as P		5.680			ND	ND	
5 Nitrate as N	5.730	5.702	0.028	7642112	NC	NC	

QC Flag Legend

Processing Flags
NC - Not Calibrated
ND - Not Detected or Marked ND

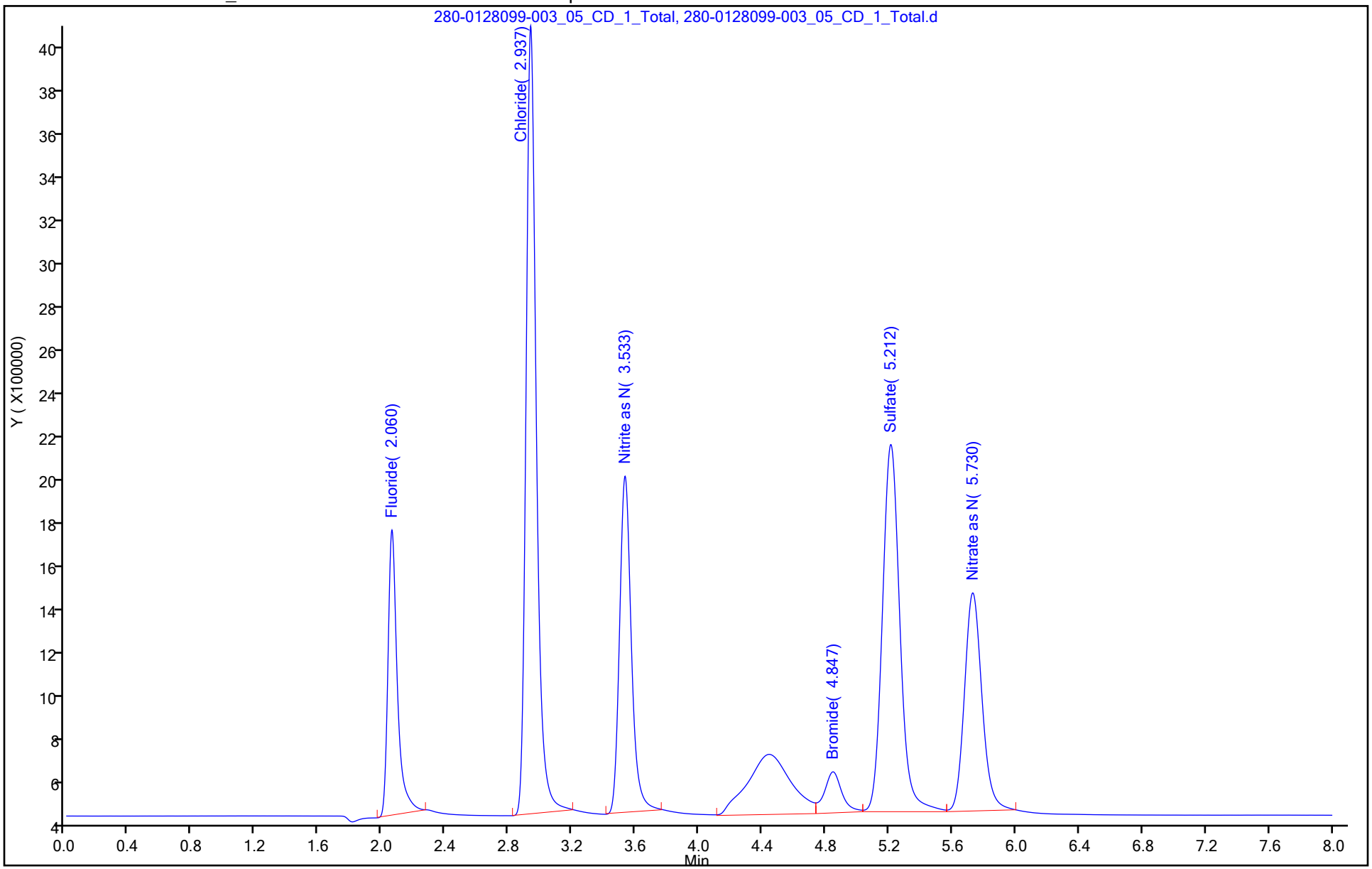
Reagents:

IC Cal low_00739 Amount Added: 0.10 Units: mL
IC CAL cl/so4_00509 Amount Added: 0.10 Units: mL

Report Date: 30-Nov-2023 23:17:32 Chrom Revision: 2.3 15-Nov-2023 20:54:34

Eurofins Denver

Data File:	\\chromfs\Denver\ChromData\WC_IonChrom17\20231129-128099.b\280-0128099-003_05_CD_1_Total.d				
Injection Date:	29-Nov-2023 16:08:00	Instrument ID:	WC_IonChrom17	Operator ID:	
Lims ID:	STD L3			Worklist Smp#:	3
Client ID:					
Injection Vol:	5.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	Anions_IC17	Limit Group:	Wet - Anions 28D		



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Eurofins Denver
Target Compound Quantitation Report

Data File: \\chromfs\Denver\ChromData\WC_IonChrom17\20231129-128099.b\280-0128099-004_06_CD_1_Total.d
Lims ID: STD L4
Client ID:
Sample Type: IC Calib Level: 4
Inject. Date: 29-Nov-2023 16:19:00 ALS Bottle#: 0 Worklist Smp#: 4
Injection Vol: 5.0 ul Dil. Factor: 1.0000
Sample Info: 280-0128099-004
Misc. Info.: STD L4
Operator ID: Instrument ID: WC_IonChrom17
Sublist: chrom-Anions_IC17*sub3

Method: \\chromfs\Denver\ChromData\WC_IonChrom17\20231129-128099.b\Anions_IC17.m
Limit Group: Wet - Anions 28D
Last Update: 30-Nov-2023 23:17:33 Calib Date: 29-Nov-2023 16:52:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Denver\ChromData\WC_IonChrom17\20231129-128099.b\280-0128099-007_09_CD_1_Total.d

Column 1 : Det: 0005
Process Host: CTX1606

First Level Reviewer: XAY4 Date: 30-Nov-2023 22:26:18

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
1 Fluoride	2.060	2.060	0.000	11087553	1.00	0.9615	
2 Chloride	2.935	2.935	0.000	33696886	5.00	4.81	
3 Nitrite as N	3.533	3.533	0.000	17064724	NC	NC	
4 Bromide	4.847	4.847	0.000	2640241	1.00	0.9702	
6 Sulfate	5.210	5.210	0.000	24387862	5.00	4.64	
7 Orthophosphate as P		5.680			ND	ND	
5 Nitrate as N	5.723	5.723	0.000	16473970	NC	NC	

QC Flag Legend

Processing Flags
NC - Not Calibrated
ND - Not Detected or Marked ND

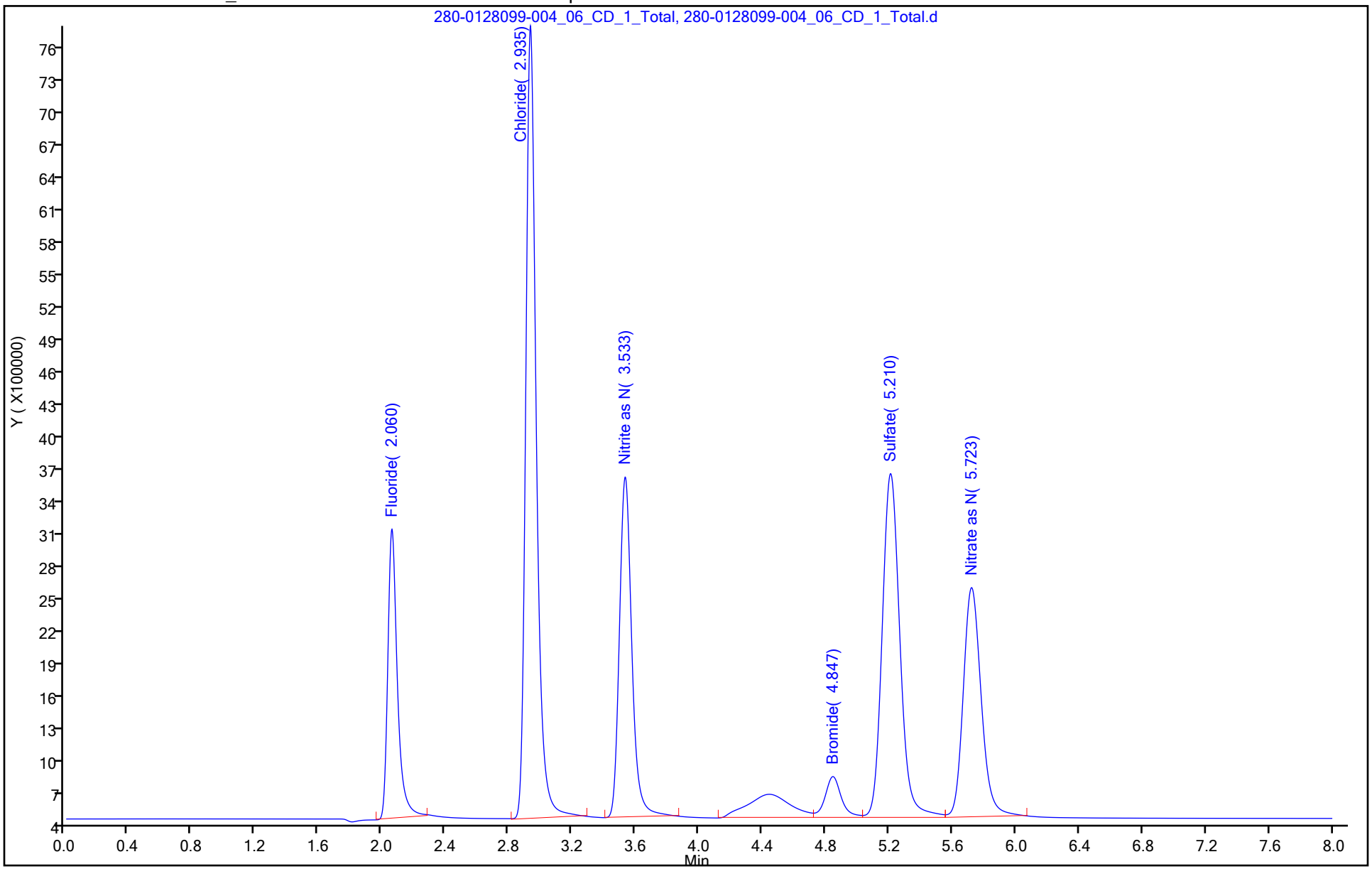
Reagents:

IC Cal low_00739 Amount Added: 0.20 Units: mL
IC CAL cl/so4_00509 Amount Added: 0.20 Units: mL

Report Date: 30-Nov-2023 23:17:33 Chrom Revision: 2.3 15-Nov-2023 20:54:34

Eurofins Denver

Data File:	\\chromfs\Denver\ChromData\WC_IonChrom17\20231129-128099.b\280-0128099-004_06_CD_1_Total.d				
Injection Date:	29-Nov-2023 16:19:00	Instrument ID:	WC_IonChrom17	Operator ID:	
Lims ID:	STD L4			Worklist Smp#:	4
Client ID:					
Injection Vol:	5.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	Anions_IC17	Limit Group:	Wet - Anions 28D		



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Eurofins Denver
Target Compound Quantitation Report

Data File: \\chromfs\Denver\ChromData\WC_IonChrom17\20231129-128099.b\280-0128099-005_07_CD_1_Total.d
Lims ID: STD L5
Client ID:
Sample Type: IC Calib Level: 5
Inject. Date: 29-Nov-2023 16:30:00 ALS Bottle#: 0 Worklist Smp#: 5
Injection Vol: 5.0 ul Dil. Factor: 1.0000
Sample Info: 280-0128099-005
Misc. Info.: STD L5
Operator ID: Instrument ID: WC_IonChrom17
Sublist: chrom-Anions_IC17*sub3

Method: \\chromfs\Denver\ChromData\WC_IonChrom17\20231129-128099.b\Anions_IC17.m
Limit Group: Wet - Anions 28D
Last Update: 30-Nov-2023 23:17:33 Calib Date: 29-Nov-2023 16:52:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Denver\ChromData\WC_IonChrom17\20231129-128099.b\280-0128099-007_09_CD_1_Total.d

Column 1 : Det: 0005
Process Host: CTX1606

First Level Reviewer: XAY4 Date: 30-Nov-2023 22:26:27

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
1 Fluoride	2.072	2.072	0.000	47915566	4.00	4.02	
2 Chloride	2.938	2.938	0.000	425582420	60.0	60.2	
3 Nitrite as N	3.547	3.547	0.000	70473882	NC	NC	
4 Bromide	4.842	4.842	0.000	11146248	4.00	3.94	
6 Sulfate	5.123	5.123	0.000	313640894	60.0	59.7	
7 Orthophosphate as P		5.680			NC	ND	a
5 Nitrate as N	5.697	5.697	0.000	73595466	NC	NC	a

QC Flag Legend

Processing Flags
NC - Not Calibrated
Review Flags
a - User Assigned ID

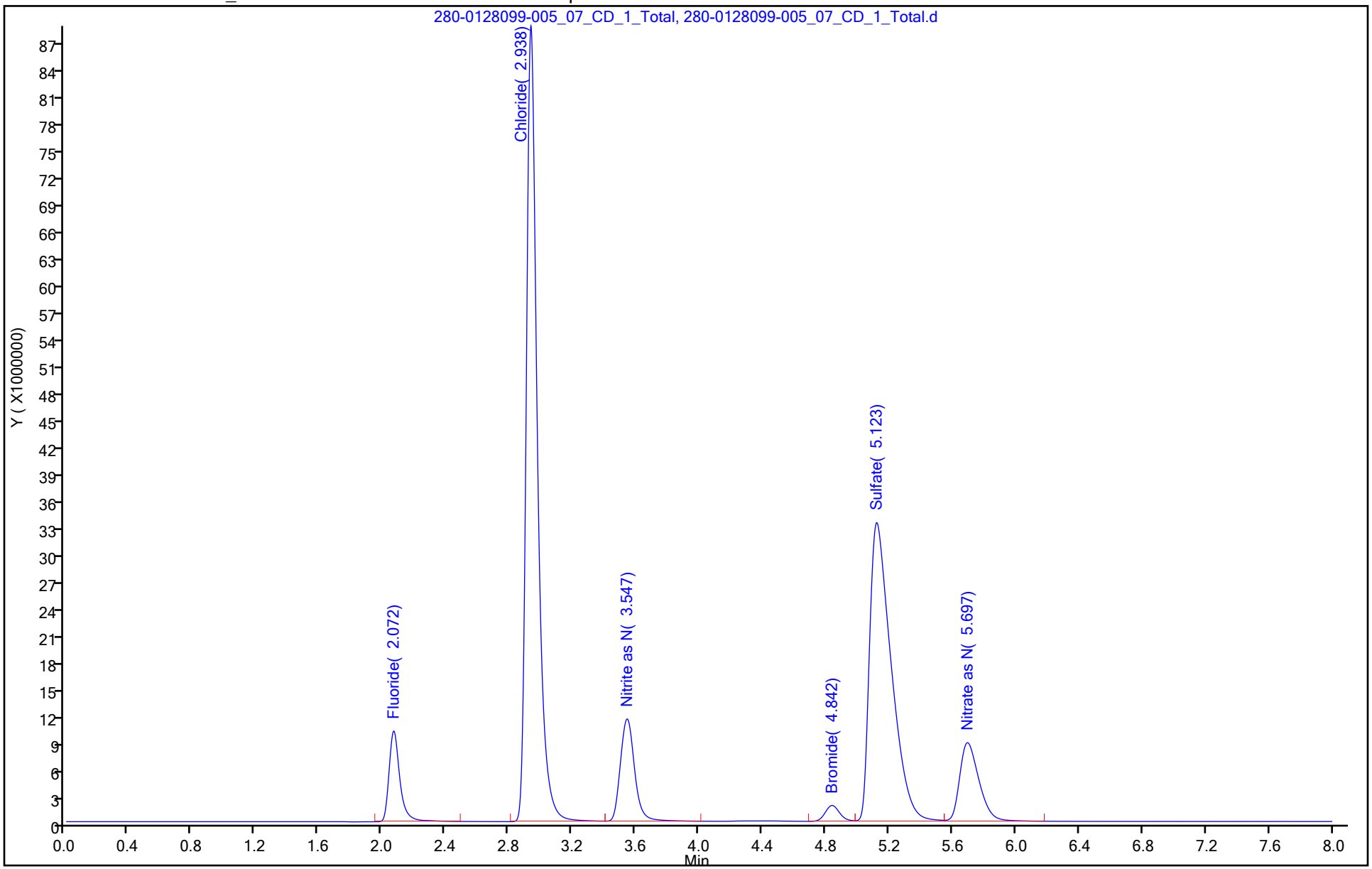
Reagents:

IC Cal low_00739 Amount Added: 0.80 Units: mL
IC CAL cl/so4_00509 Amount Added: 2.40 Units: mL

Report Date: 30-Nov-2023 23:17:34 Chrom Revision: 2.3 15-Nov-2023 20:54:34

Eurofins Denver

Data File:	\\chromfs\Denver\ChromData\WC_IonChrom17\20231129-128099.b\280-0128099-005_07_CD_1_Total.d				
Injection Date:	29-Nov-2023 16:30:00	Instrument ID:	WC_IonChrom17	Operator ID:	
Lims ID:	STD L5			Worklist Smp#:	5
Client ID:					
Injection Vol:	5.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	Anions_IC17	Limit Group:	Wet - Anions 28D		



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Eurofins Denver
Target Compound Quantitation Report

Data File: \\chromfs\Denver\ChromData\WC_IonChrom17\20231129-128099.b\280-0128099-006_08_CD_1_Total.d
Lims ID: STD L6
Client ID:
Sample Type: IC Calib Level: 6
Inject. Date: 29-Nov-2023 16:41:00 ALS Bottle#: 0 Worklist Smp#: 6
Injection Vol: 5.0 ul Dil. Factor: 1.0000
Sample Info: 280-0128099-006
Misc. Info.: STD L6
Operator ID: Instrument ID: WC_IonChrom17
Sublist: chrom-Anions_IC17*sub3

Method: \\chromfs\Denver\ChromData\WC_IonChrom17\20231129-128099.b\Anions_IC17.m
Limit Group: Wet - Anions 28D
Last Update: 30-Nov-2023 23:17:34 Calib Date: 29-Nov-2023 16:52:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Denver\ChromData\WC_IonChrom17\20231129-128099.b\280-0128099-007_09_CD_1_Total.d

Column 1 : Det: 0005
Process Host: CTX1606

First Level Reviewer: XAY4 Date: 30-Nov-2023 22:26:35

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
1 Fluoride	2.070	2.072	-0.002	93226572	8.00	7.79	
2 Chloride	2.927	2.938	-0.011	815124485	120.0	115.3	
3 Nitrite as N	3.543	3.547	-0.004	132869794	NC	NC	
4 Bromide	4.820	4.842	-0.022	22364799	8.00	7.87	
6 Sulfate	5.052	5.123	-0.071	607375202	120.0	115.6	
7 Orthophosphate as P		5.680			NC	ND	a
5 Nitrate as N	5.658	5.697	-0.039	142352094	NC	NC	a

QC Flag Legend

Processing Flags
NC - Not Calibrated
Review Flags
a - User Assigned ID

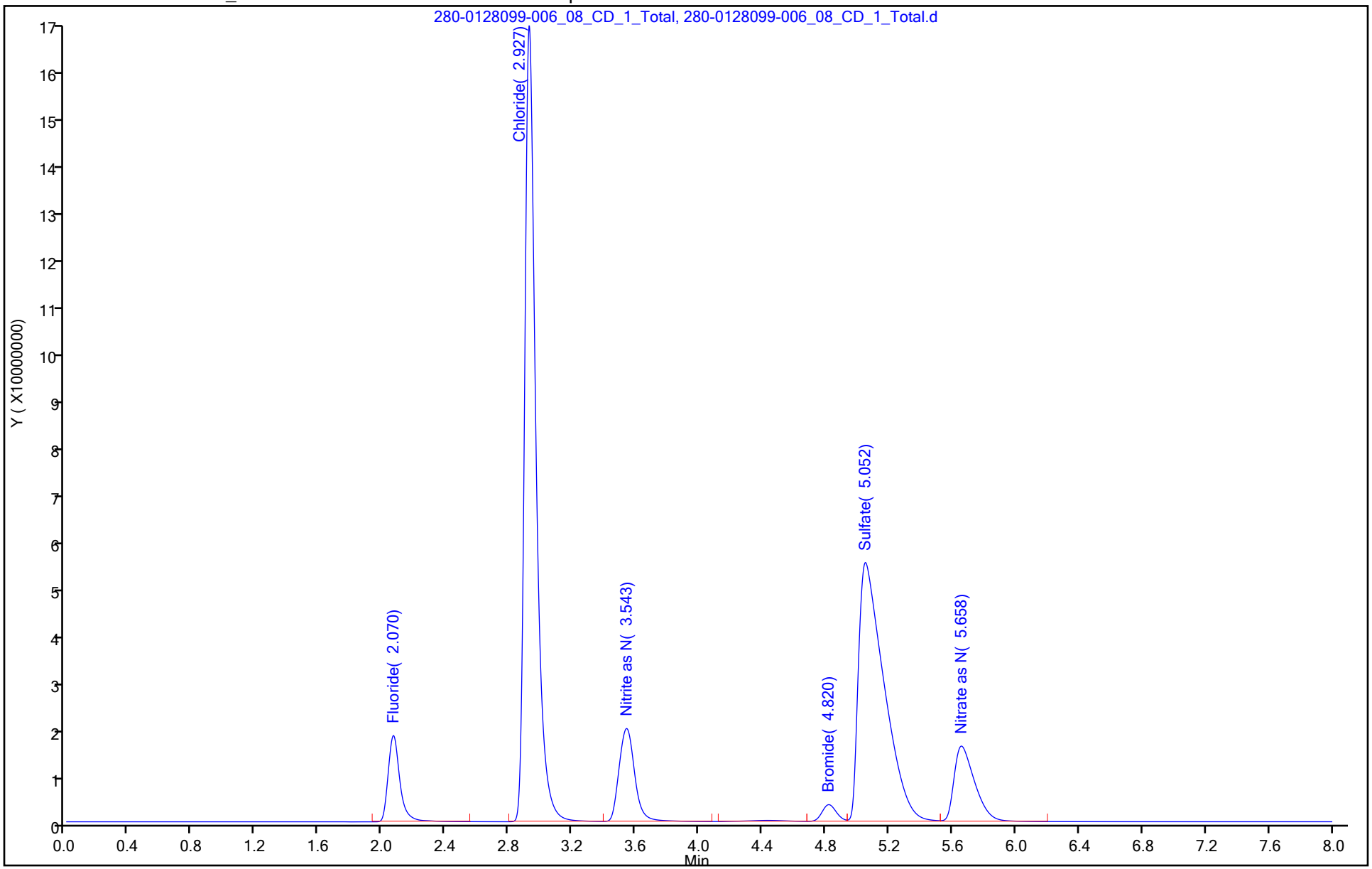
Reagents:

IC Cal low_00739 Amount Added: 1.60 Units: mL
IC CAL cl/so4_00509 Amount Added: 4.80 Units: mL

Report Date: 30-Nov-2023 23:17:34 Chrom Revision: 2.3 15-Nov-2023 20:54:34

Eurofins Denver

Data File:	\\chromfs\Denver\ChromData\WC_IonChrom17\20231129-128099.b\280-0128099-006_08_CD_1_Total.d				
Injection Date:	29-Nov-2023 16:41:00	Instrument ID:	WC_IonChrom17	Operator ID:	
Lims ID:	STD L6			Worklist Smp#:	6
Client ID:					
Injection Vol:	5.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	Anions_IC17	Limit Group:	Wet - Anions 28D		



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Eurofins Denver
Target Compound Quantitation Report

Data File: \\chromfs\Denver\ChromData\WC_IonChrom17\20231129-128099.b\280-0128099-007_09_CD_1_Total.d
Lims ID: STD L7
Client ID:
Sample Type: IC Calib Level: 7
Inject. Date: 29-Nov-2023 16:52:00 ALS Bottle#: 0 Worklist Smp#: 7
Injection Vol: 5.0 ul Dil. Factor: 1.0000
Sample Info: 280-0128099-007
Misc. Info.: STD L7
Operator ID: Instrument ID: WC_IonChrom17
Sublist: chrom-Anions_IC17*sub3

Method: \\chromfs\Denver\ChromData\WC_IonChrom17\20231129-128099.b\Anions_IC17.m
Limit Group: Wet - Anions 28D
Last Update: 30-Nov-2023 23:17:34 Calib Date: 29-Nov-2023 16:52:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Denver\ChromData\WC_IonChrom17\20231129-128099.b\280-0128099-007_09_CD_1_Total.d

Column 1 : Det: 0005
Process Host: CTX1606

First Level Reviewer: XAY4 Date: 30-Nov-2023 22:44:09

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
1 Fluoride	2.073	2.073	0.000	122558172	10.0	10.2	
2 Chloride	2.925	2.925	0.000	1449547196	200.0	204.9	
3 Nitrite as N	3.545	3.545	0.000	177563455	NC	NC	
4 Bromide	4.803	4.803	0.000	28971231	10.0	10.2	
6 Sulfate	4.977	4.977	0.000	1077083369	200.0	205.0	
7 Orthophosphate as P		5.680			NC	ND	a
5 Nitrate as N	5.638	5.638	0.000	194319392	NC	NC	a

QC Flag Legend

Processing Flags
NC - Not Calibrated
Review Flags
a - User Assigned ID

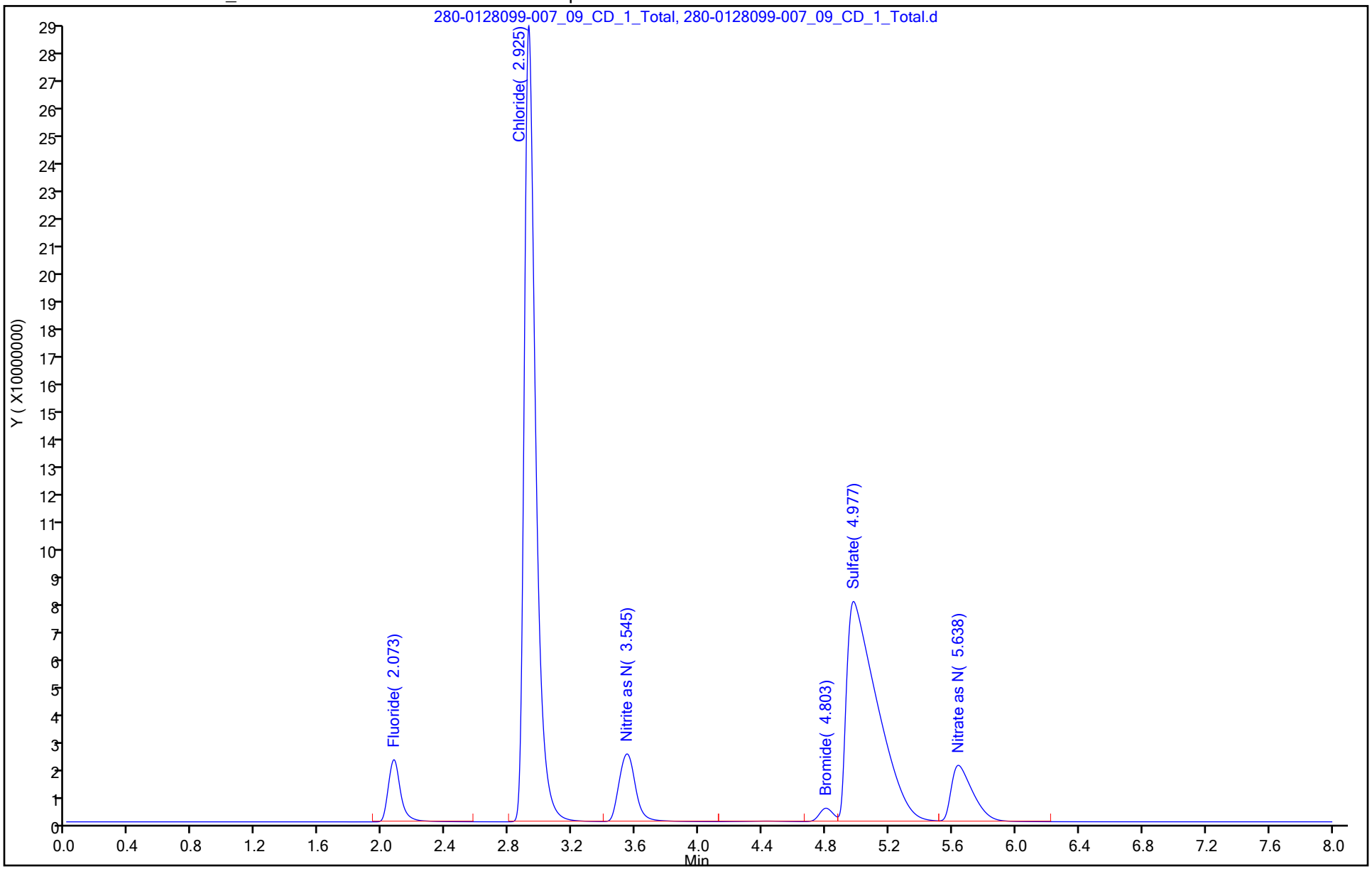
Reagents:

IC Cal low_00739 Amount Added: 2.00 Units: mL
IC CAL cl/so4_00509 Amount Added: 8.00 Units: mL

Report Date: 30-Nov-2023 23:17:35 Chrom Revision: 2.3 15-Nov-2023 20:54:34

Eurofins Denver

Data File:	\\chromfs\Denver\ChromData\WC_IonChrom17\20231129-128099.b\280-0128099-007_09_CD_1_Total.d				
Injection Date:	29-Nov-2023 16:52:00	Instrument ID:	WC_IonChrom17	Operator ID:	
Lims ID:	STD L7			Worklist Smp#:	7
Client ID:					
Injection Vol:	5.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	Anions_IC17	Limit Group:	Wet - Anions 28D		



12/29/2023
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Eurofins Denver
Target Compound Quantitation Report

Data File: \\chromfs\Denver\ChromData\WC_IonChrom17\20231129-128099.b\280-0128099-009_11_CD_1_Total.d
Lims ID: ICV
Client ID:
Sample Type: ICV
Inject. Date: 29-Nov-2023 17:14:00 ALS Bottle#: 0 Worklist Smp#: 9
Injection Vol: 5.0 ul Dil. Factor: 1.0000
Sample Info: 280-0128099-009
Misc. Info.: ICV
Operator ID: Instrument ID: WC_IonChrom17
Sublist:

Method: \\chromfs\Denver\ChromData\WC_IonChrom17\20231129-128099.b\Anions_IC17.m
Limit Group: Wet - Anions 28D
Last Update: 30-Nov-2023 23:17:00 Calib Date: 29-Nov-2023 16:52:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Denver\ChromData\WC_IonChrom17\20231129-128099.b\280-0128099-007_09_CD_1_Total.d

Column 1 : Det: 0005
Process Host: CTX1606

First Level Reviewer: XAY4 Date: 30-Nov-2023 23:17:00

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
1 Fluoride	2.067	2.067	0.000	48272535	4.00	4.05	
2 Chloride	2.932	2.932	0.000	578333134	80.0	81.8	
3 Nitrite as N	3.542	3.542	0.000	72491010	NC	NC	
4 Bromide	4.838	4.838	0.000	11215592	4.00	3.97	
6 Sulfate	5.097	5.097	0.000	451457595	80.0	85.9	
5 Nitrate as N	5.702	5.702	0.000	75231523	NC	NC	
7 Orthophosphate as P		5.680			ND	ND	

QC Flag Legend

Processing Flags
NC - Not Calibrated
ND - Not Detected or Marked ND

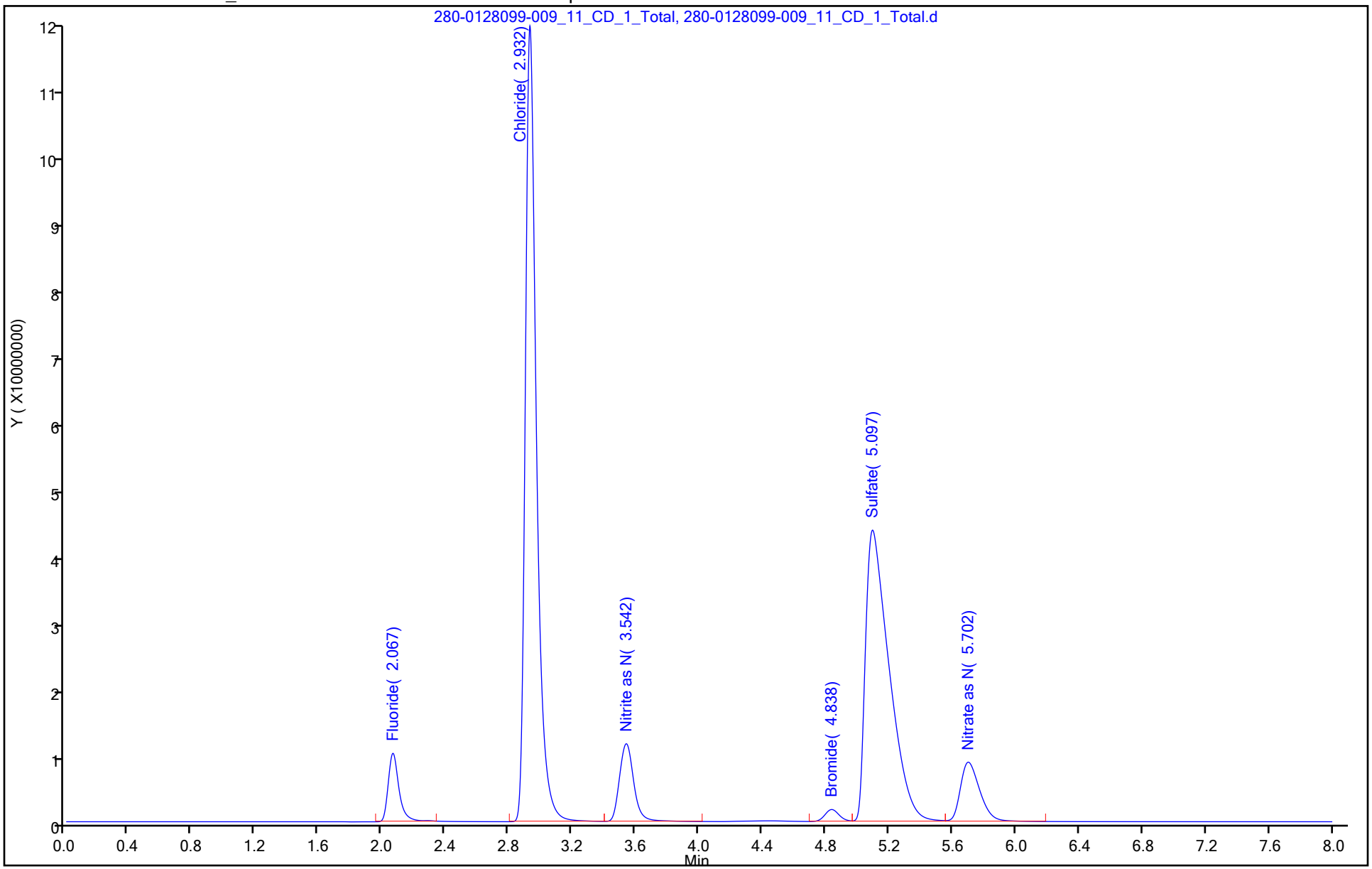
Reagents:

IC ICV 5_00420	Amount Added:	0.80	Units: mL
IC SO4 ICV_00025	Amount Added:	0.80	Units: mL
Cl ICV Std_00008	Amount Added:	0.80	Units: mL

Report Date: 30-Nov-2023 23:17:00 Chrom Revision: 2.3 15-Nov-2023 20:54:34

Eurofins Denver

Data File:	\\chromfs\Denver\ChromData\WC_IonChrom17\20231129-128099.b\280-0128099-009_11_CD_1_Total.d				
Injection Date:	29-Nov-2023 17:14:00	Instrument ID:	WC_IonChrom17	Operator ID:	
Lims ID:	ICV			Worklist Smp#:	9
Client ID:					
Injection Vol:	5.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	Anions_IC17	Limit Group:	Wet - Anions 28D		



12/29/2023
10:48 AM

Eurofins Denver
Target Compound Quantitation Report

Data File: \\chromfs\Denver\ChromData\WC_IonChrom17\20231129-128099.b\280-0128099-010_12_CD_1_Total.d
Lims ID: ICB
Client ID:
Sample Type: ICB
Inject. Date: 29-Nov-2023 17:25:00 ALS Bottle#: 0 Worklist Smp#: 10
Injection Vol: 5.0 ul Dil. Factor: 1.0000
Sample Info: 280-0128099-010
Misc. Info.: ICB
Operator ID: Instrument ID: WC_IonChrom17

Method: \\chromfs\Denver\ChromData\WC_IonChrom17\20231129-128099.b\Anions_IC17.m
Limit Group: Wet - Anions 28D
Last Update: 30-Nov-2023 23:09:40 Calib Date: 29-Nov-2023 16:52:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Denver\ChromData\WC_IonChrom17\20231129-128099.b\280-0128099-007_09_CD_1_Total.d

Column 1 : Det: 0005
Process Host: CTX1606

First Level Reviewer: XAY4 Date: 30-Nov-2023 22:27:11

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
1 Fluoride	2.152	2.067	0.085	692531		0.0969	
2 Chloride		2.932				ND	
3 Nitrite as N		3.542				ND	
4 Bromide		4.838				ND	U
6 Sulfate	5.220	5.097	0.123	605670		0.1112	
7 Orthophosphate as P		5.680				ND	
5 Nitrate as N		5.702				ND	

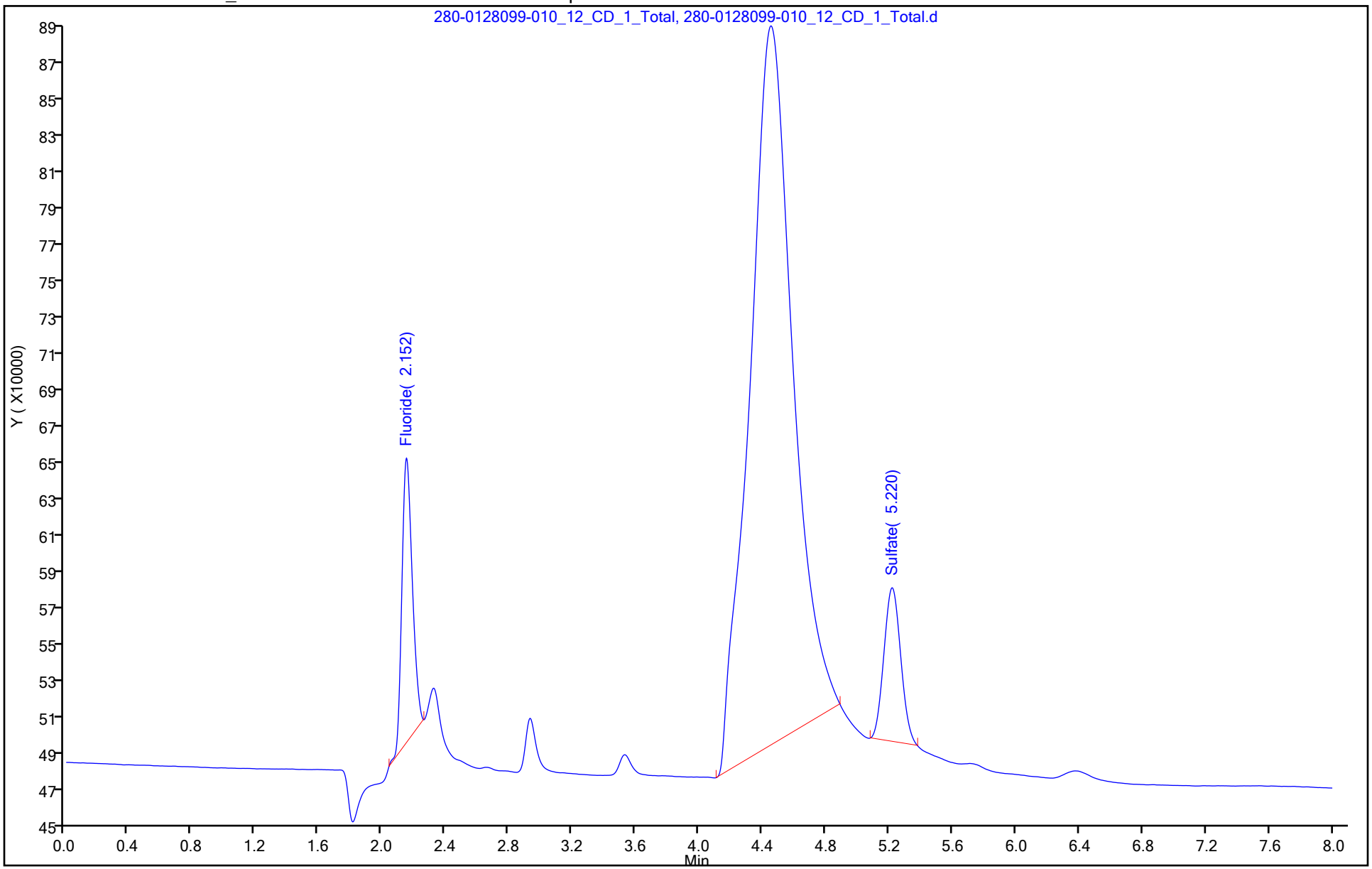
QC Flag Legend

Processing Flags
Review Flags
U - Marked Undetected

Report Date: 30-Nov-2023 23:09:40 Chrom Revision: 2.3 15-Nov-2023 20:54:34

Eurofins Denver

Data File:	\\chromfs\Denver\ChromData\WC_IonChrom17\20231129-128099.b\280-0128099-010_12_CD_1_Total.d				
Injection Date:	29-Nov-2023 17:25:00	Instrument ID:	WC_IonChrom17	Operator ID:	
Lims ID:	ICB			Worklist Smp#:	10
Client ID:					
Injection Vol:	5.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	Anions_IC17	Limit Group:	Wet - Anions 28D		



12/29/2023
10:48 AM

Eurofins Denver
Target Compound Quantitation Report

Data File: \\chromfs\Denver\ChromData\WC_IonChrom17\20231220-128763.b\280-0128763-001_02_CD_1_Total.d
Lims ID: ccv
Client ID:
Sample Type: CCV
Inject. Date: 20-Dec-2023 10:43:00 ALS Bottle#: 0 Worklist Smp#: 1
Injection Vol: 5.0 ul Dil. Factor: 1.0000
Sample Info: 280-0128763-001
Misc. Info.: CCV
Operator ID: Instrument ID: WC_IonChrom17
Sublist: chrom-Anions_IC17*sub3

Method: \\chromfs\Denver\ChromData\WC_IonChrom17\20231220-128763.b\Anions_IC17.m
Limit Group: Wet - Anions 28D
Last Update: 21-Dec-2023 15:09:20 Calib Date: 29-Nov-2023 16:52:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Denver\ChromData\WC_IonChrom17\20231129-128099.b\280-0128099-007_09_CD_1_Total.d

Column 1 : Det: 0005
Process Host: CTX1647

First Level Reviewer: XAY4 Date: 21-Dec-2023 14:47:25

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
1 Fluoride	2.070	2.070	0.000	53717627	5.00	4.51	
2 Chloride	2.930	2.930	0.000	723092318	100.0	102.2	
3 Nitrite as N	3.540	3.540	0.000	85012628	NC	NC	
4 Bromide	4.823	4.823	0.000	10018122	5.00	3.55	
6 Sulfate	5.063	5.063	0.000	522906636	100.0	99.5	
5 Nitrate as N	5.675	5.675	0.000	92055317	NC	NC	
7 Orthophosphate as P		5.720			ND	ND	

QC Flag Legend

Processing Flags
NC - Not Calibrated
ND - Not Detected or Marked ND

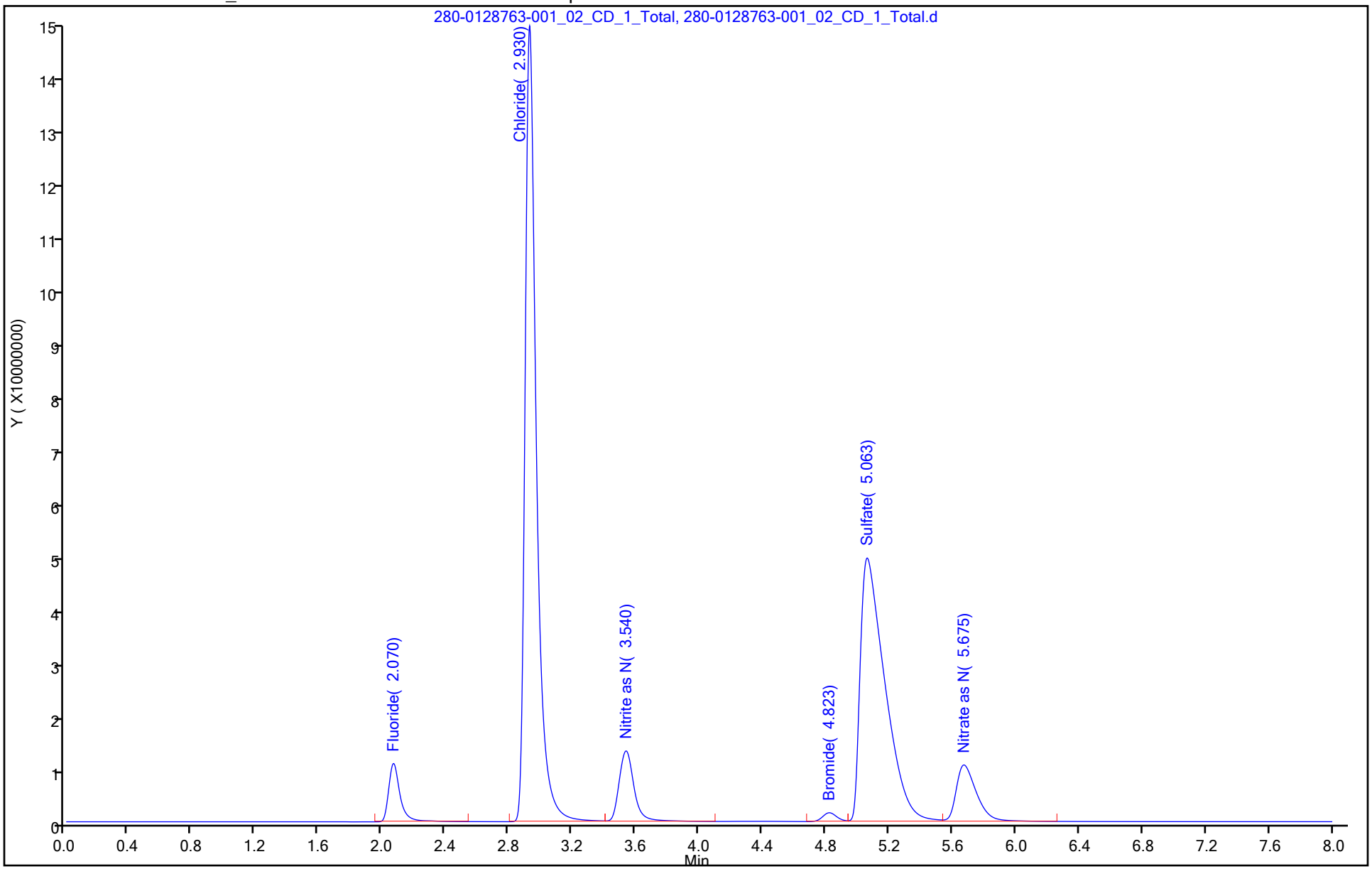
Reagents:

IC LCS_01998 Amount Added: 10.00 Units: mL

Report Date: 21-Dec-2023 15:09:20 Chrom Revision: 2.3 15-Nov-2023 20:54:34

Eurofins Denver

Data File:	\\chromfs\Denver\ChromData\WC_IonChrom17\20231220-128763.b\280-0128763-001_02_CD_1_Total.d				
Injection Date:	20-Dec-2023 10:43:00	Instrument ID:	WC_IonChrom17	Operator ID:	
Lims ID:	ccv			Worklist Smp#:	1
Client ID:					
Injection Vol:	5.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	Anions_IC17	Limit Group:	Wet - Anions 28D		



12/29/2023
10:48 AM

Eurofins Denver
Target Compound Quantitation Report

Data File: \\chromfs\Denver\ChromData\WC_IonChrom17\20231220-128763.b\280-0128763-002_03_CD_1_Total.d
Lims ID: ccb
Client ID:
Sample Type: CCB
Inject. Date: 20-Dec-2023 10:54:00 ALS Bottle#: 0 Worklist Smp#: 2
Injection Vol: 5.0 ul Dil. Factor: 1.0000
Sample Info: 280-0128763-002
Misc. Info.: CCB
Operator ID: Instrument ID: WC_IonChrom17

Method: \\chromfs\Denver\ChromData\WC_IonChrom17\20231220-128763.b\Anions_IC17.m
Limit Group: Wet - Anions 28D
Last Update: 21-Dec-2023 15:09:20 Calib Date: 29-Nov-2023 16:52:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Denver\ChromData\WC_IonChrom17\20231129-128099.b\280-0128099-007_09_CD_1_Total.d

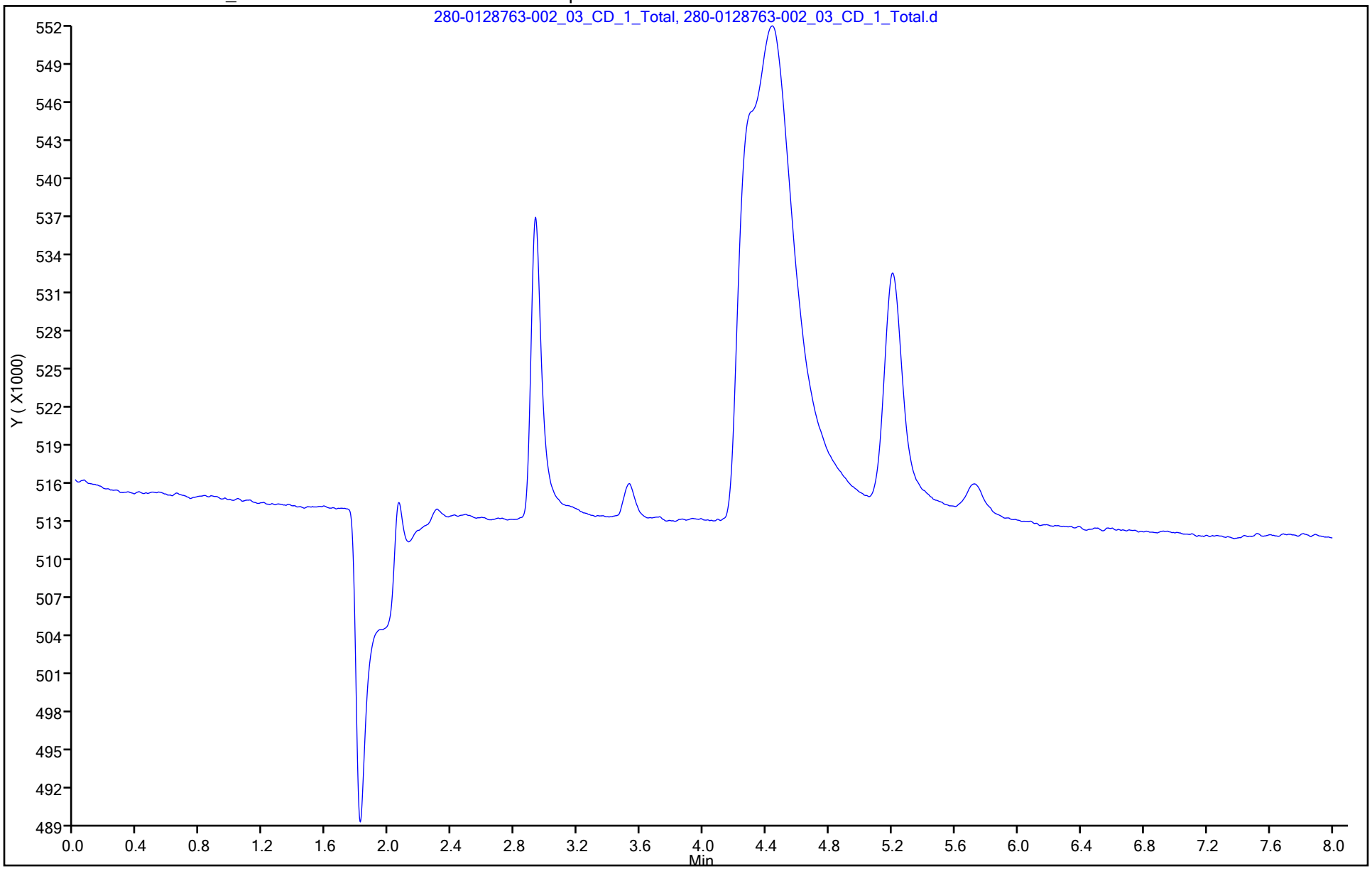
Column 1 : Det: 0005
Process Host: CTX1647

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
1 Fluoride		2.070				ND	
2 Chloride		2.930				ND	
3 Nitrite as N		3.540				ND	
4 Bromide		4.823				ND	
6 Sulfate		5.063				ND	
5 Nitrate as N		5.675				ND	
7 Orthophosphate as P		5.720				ND	

Report Date: 21-Dec-2023 15:09:20 Chrom Revision: 2.3 15-Nov-2023 20:54:34

Eurofins Denver

Data File:	\\chromfs\Denver\ChromData\WC_IonChrom17\20231220-128763.b\280-0128763-002_03_CD_1_Total.d				
Injection Date:	20-Dec-2023 10:54:00	Instrument ID:	WC_IonChrom17	Operator ID:	
Lims ID:	ccb			Worklist Smp#:	2
Client ID:					
Injection Vol:	5.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	Anions_IC17	Limit Group:	Wet - Anions 28D		



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Eurofins Denver
Target Compound Quantitation Report

Data File: \\chromfs\Denver\ChromData\WC_IonChrom17\20231220-128763.b\280-0128763-003_04_CD_1_Total.d
Lims ID: mrl
Client ID:
Sample Type: MRL
Inject. Date: 20-Dec-2023 11:05:00 ALS Bottle#: 0 Worklist Smp#: 3
Injection Vol: 5.0 ul Dil. Factor: 1.0000
Sample Info: 280-0128763-003
Misc. Info.: MRL
Operator ID: Instrument ID: WC_IonChrom17

Method: \\chromfs\Denver\ChromData\WC_IonChrom17\20231220-128763.b\Anions_IC17.m
Limit Group: Wet - Anions 28D
Last Update: 21-Dec-2023 15:09:21 Calib Date: 29-Nov-2023 16:52:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Denver\ChromData\WC_IonChrom17\20231129-128099.b\280-0128099-007_09_CD_1_Total.d

Column 1 : Det: 0005
Process Host: CTX1647

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
1 Fluoride	2.062	2.062	0.000	3933358	0.5000	0.3665	
2 Chloride	2.935	2.935	0.000	34905203	5.00	4.99	
3 Nitrite as N	3.530	3.530	0.000	7109000	NC	NC	
4 Bromide	4.842	4.842	0.000	761596	0.5000	0.3133	
6 Sulfate	5.198	5.198	0.000	23906793	5.00	4.55	
5 Nitrate as N		5.675			ND	ND	
7 Orthophosphate as P	5.720	5.720	0.000	7224545	NC	NC	

QC Flag Legend

Processing Flags
NC - Not Calibrated
ND - Not Detected or Marked ND

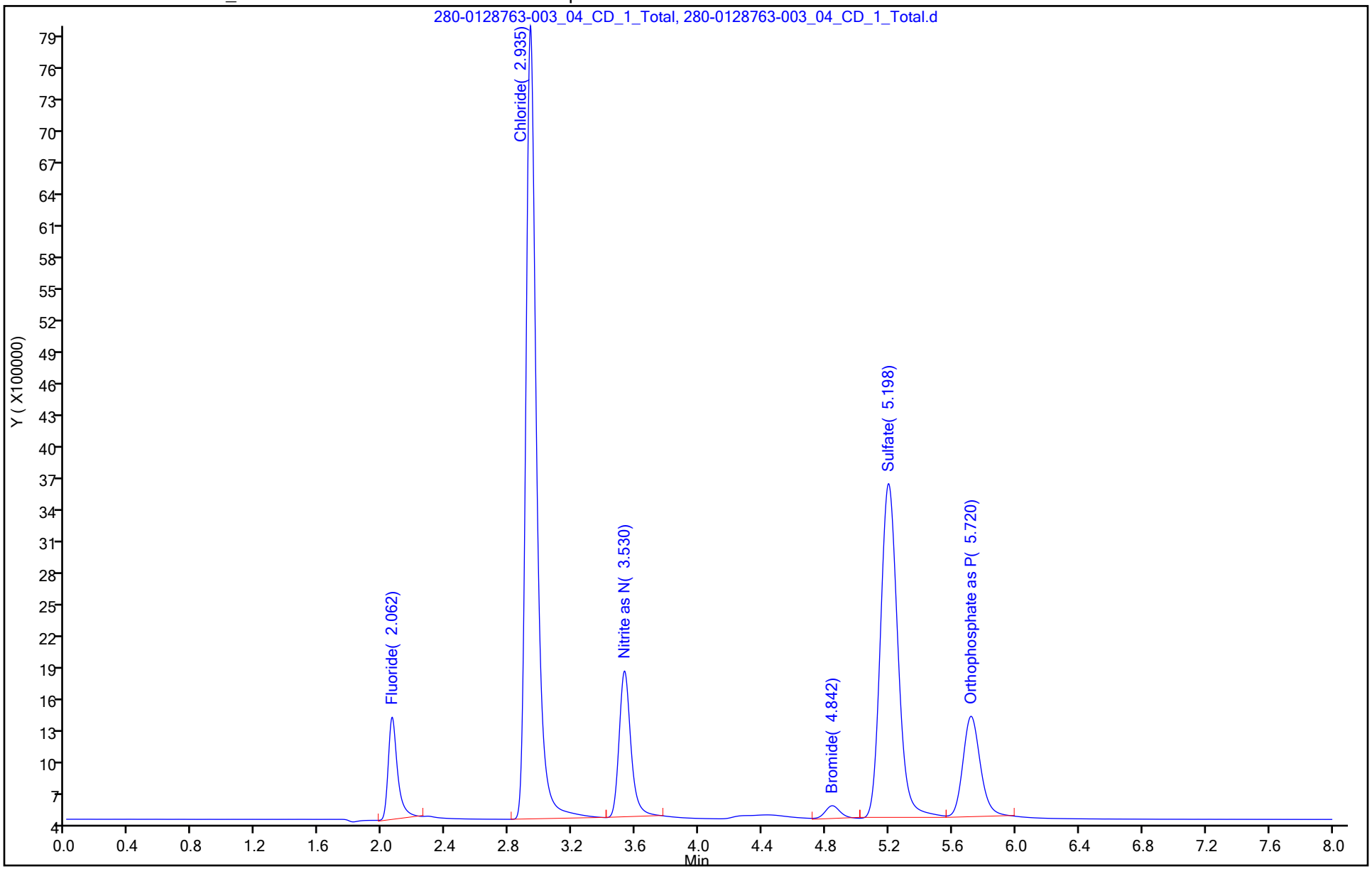
Reagents:

IC CAL cl/so4_00515 Amount Added: 0.20 Units: mL
IC Cal low_00749 Amount Added: 0.10 Units: mL

Report Date: 21-Dec-2023 15:09:21 Chrom Revision: 2.3 15-Nov-2023 20:54:34

Eurofins Denver

Data File:	\\chromfs\Denver\ChromData\WC_IonChrom17\20231220-128763.b\280-0128763-003_04_CD_1_Total.d				
Injection Date:	20-Dec-2023 11:05:00	Instrument ID:	WC_IonChrom17	Operator ID:	
Lims ID:	mrl			Worklist Smp#:	3
Client ID:					
Injection Vol:	5.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	Anions_IC17	Limit Group:	Wet - Anions 28D		



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Eurofins Denver
Target Compound Quantitation Report

Data File: \\chromfs\Denver\ChromData\WC_IonChrom17\20231220-128763.b\280-0128763-004_05_CD_1_Total.d
Lims ID: lcs
Client ID:
Sample Type: LCS
Inject. Date: 20-Dec-2023 11:16:00 ALS Bottle#: 0 Worklist Smp#: 4
Injection Vol: 5.0 ul Dil. Factor: 1.0000
Sample Info: 280-0128763-004
Misc. Info.: LCS
Operator ID: Instrument ID: WC_IonChrom17

Method: \\chromfs\Denver\ChromData\WC_IonChrom17\20231220-128763.b\Anions_IC17.m
Limit Group: Wet - Anions 28D
Last Update: 21-Dec-2023 15:09:21 Calib Date: 29-Nov-2023 16:52:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Denver\ChromData\WC_IonChrom17\20231129-128099.b\280-0128099-007_09_CD_1_Total.d

Column 1 : Det: 0005
Process Host: CTX1647

First Level Reviewer: XAY4 Date: 21-Dec-2023 14:47:40

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
1 Fluoride	2.077	2.077	0.000	54877372	5.00	4.60	M
2 Chloride	2.935	2.935	0.000	734493869	100.0	103.9	
3 Nitrite as N	3.545	3.545	0.000	85912490	NC	NC	
4 Bromide	4.828	4.828	0.000	10129581	5.00	3.59	
6 Sulfate	5.065	5.065	0.000	527907770	100.0	100.5	
5 Nitrate as N	5.678	5.678	0.000	93061016	NC	NC	
7 Orthophosphate as P		5.720			ND	ND	

QC Flag Legend

Processing Flags
NC - Not Calibrated
ND - Not Detected or Marked ND
Review Flags
M - Manually Integrated

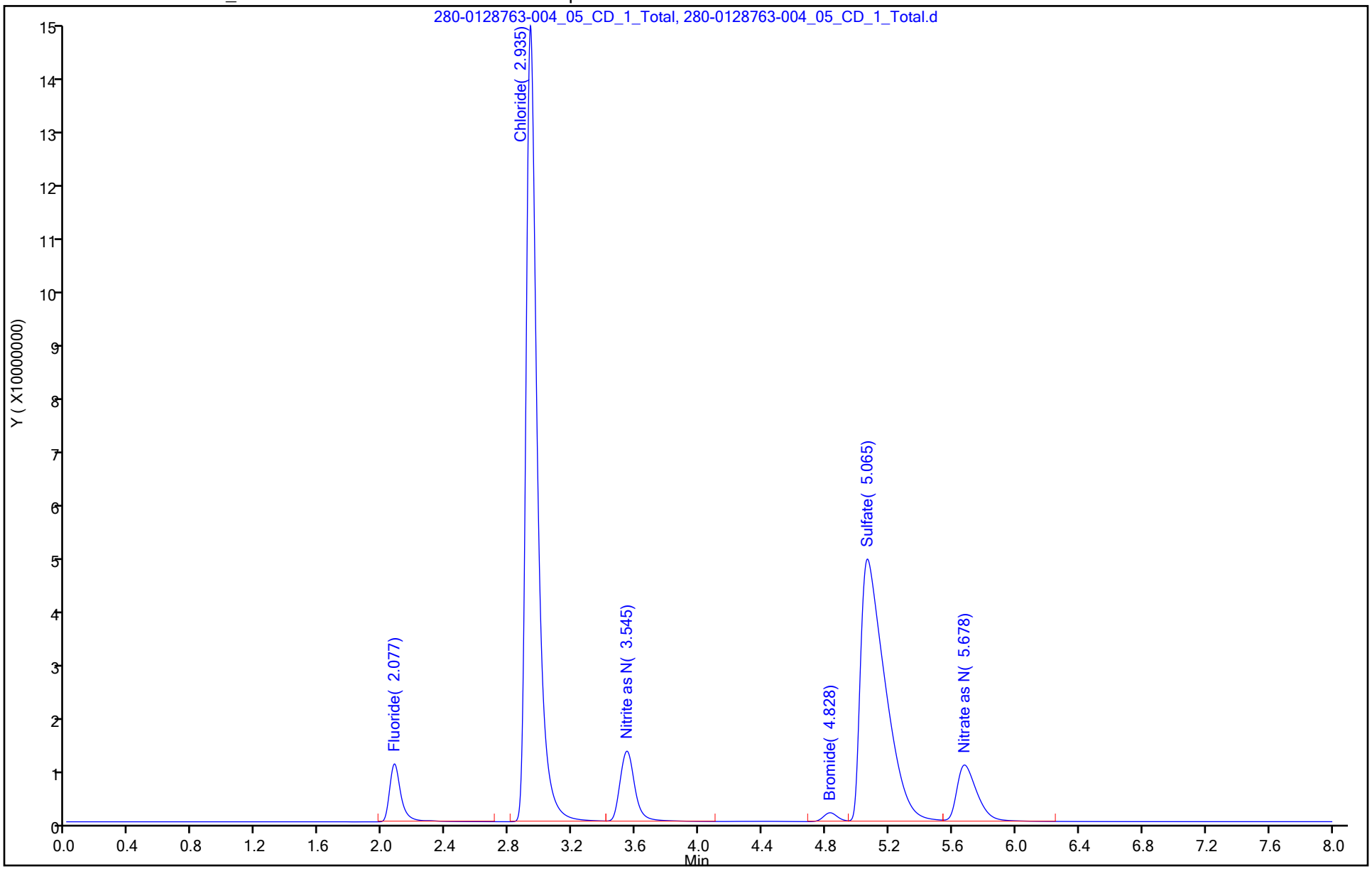
Reagents:

IC LCS_01998 Amount Added: 10.00 Units: mL

Report Date: 21-Dec-2023 15:09:21 Chrom Revision: 2.3 15-Nov-2023 20:54:34

Eurofins Denver

Data File:	\\chromfs\Denver\ChromData\WC_IonChrom17\20231220-128763.b\280-0128763-004_05_CD_1_Total.d				
Injection Date:	20-Dec-2023 11:16:00	Instrument ID:	WC_IonChrom17	Operator ID:	
Lims ID:	lcs			Worklist Smp#:	4
Client ID:					
Injection Vol:	5.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	Anions_IC17	Limit Group:	Wet - Anions 28D		



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Eurofins Denver
Target Compound Quantitation Report

Data File: \\chromfs\Denver\ChromData\WC_IonChrom17\20231220-128763.b\280-0128763-005_06_CD_1_Total.d
Lims ID: lcsd
Client ID:
Sample Type: LCSD
Inject. Date: 20-Dec-2023 11:27:00 ALS Bottle#: 0 Worklist Smp#: 5
Injection Vol: 5.0 ul Dil. Factor: 1.0000
Sample Info: 280-0128763-005
Misc. Info.: LCSD
Operator ID: Instrument ID: WC_IonChrom17

Method: \\chromfs\Denver\ChromData\WC_IonChrom17\20231220-128763.b\Anions_IC17.m
Limit Group: Wet - Anions 28D
Last Update: 21-Dec-2023 15:09:22 Calib Date: 29-Nov-2023 16:52:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Denver\ChromData\WC_IonChrom17\20231129-128099.b\280-0128099-007_09_CD_1_Total.d

Column 1 : Det: 0005
Process Host: CTX1647

First Level Reviewer: XAY4 Date: 21-Dec-2023 14:48:16

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
1 Fluoride	2.073	2.073	0.000	53065646	5.00	4.45	M
2 Chloride	2.933	2.933	0.000	720210565	100.0	101.8	
3 Nitrite as N	3.543	3.543	0.000	83788312	NC	NC	
4 Bromide	4.828	4.828	0.000	9920809	5.00	3.52	
6 Sulfate	5.068	5.068	0.000	515950401	100.0	98.2	
5 Nitrate as N	5.678	5.678	0.000	91027444	NC	NC	
7 Orthophosphate as P		5.720			ND	ND	

QC Flag Legend

Processing Flags
NC - Not Calibrated
ND - Not Detected or Marked ND
Review Flags
M - Manually Integrated

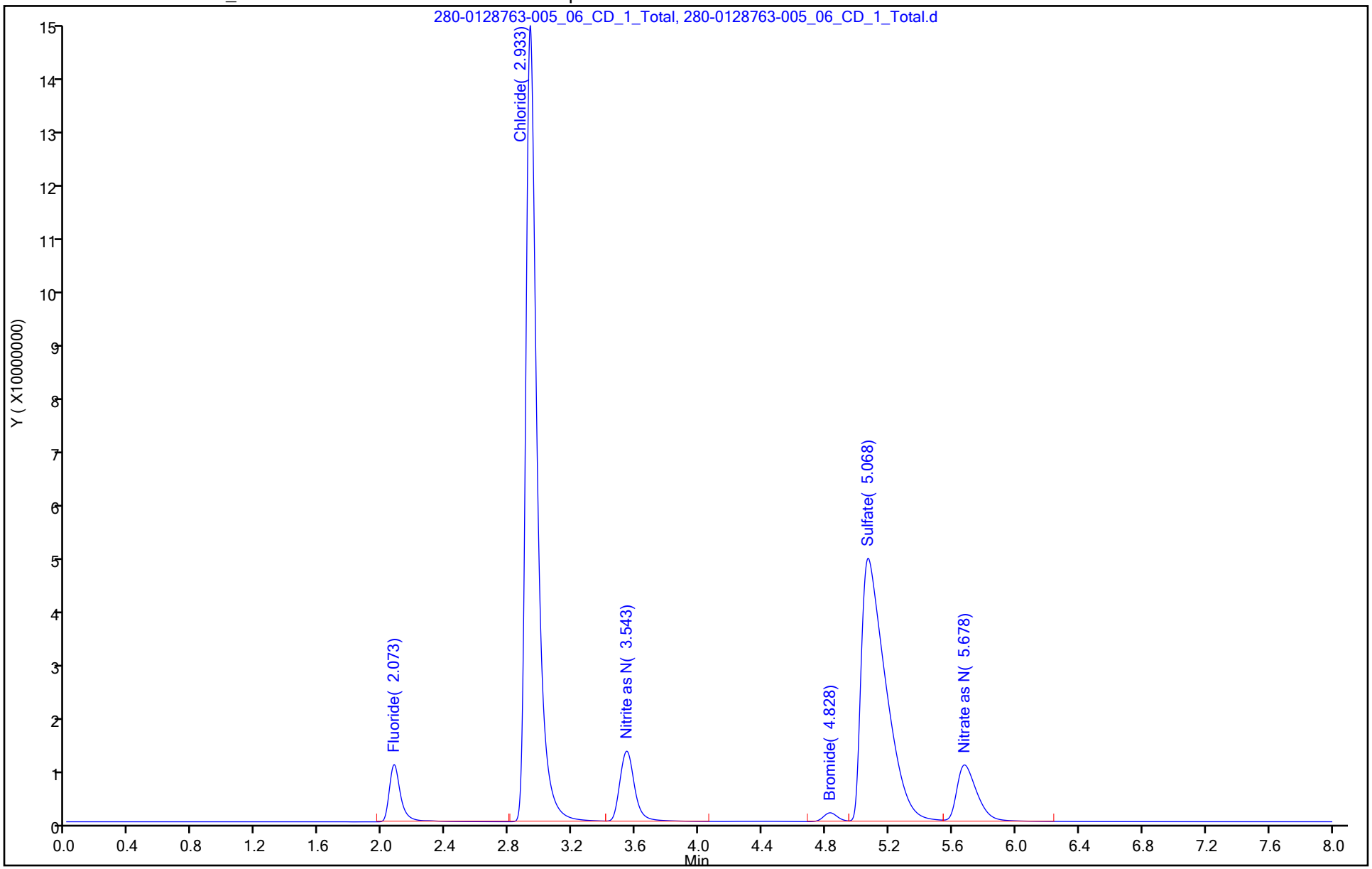
Reagents:

IC LCS_01998 Amount Added: 10.00 Units: mL

Report Date: 21-Dec-2023 15:09:22 Chrom Revision: 2.3 15-Nov-2023 20:54:34

Eurofins Denver

Data File:	\\chromfs\Denver\ChromData\WC_IonChrom17\20231220-128763.b\280-0128763-005_06_CD_1_Total.d				
Injection Date:	20-Dec-2023 11:27:00	Instrument ID:	WC_IonChrom17	Operator ID:	
Lims ID:	lcsd			Worklist Smp#:	5
Client ID:					
Injection Vol:	5.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	Anions_IC17	Limit Group:	Wet - Anions 28D		



12/29/2023
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Eurofins Denver
Target Compound Quantitation Report

Data File: \\chromfs\Denver\ChromData\WC_IonChrom17\20231220-128763.b\280-0128763-006_07_CD_1_Total.d
Lims ID: mb
Client ID:
Sample Type: MB
Inject. Date: 20-Dec-2023 11:38:00 ALS Bottle#: 0 Worklist Smp#: 6
Injection Vol: 5.0 ul Dil. Factor: 1.0000
Sample Info: 280-0128763-006
Misc. Info.: MB
Operator ID: Instrument ID: WC_IonChrom17

Method: \\chromfs\Denver\ChromData\WC_IonChrom17\20231220-128763.b\Anions_IC17.m
Limit Group: Wet - Anions 28D
Last Update: 21-Dec-2023 15:09:23 Calib Date: 29-Nov-2023 16:52:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Denver\ChromData\WC_IonChrom17\20231129-128099.b\280-0128099-007_09_CD_1_Total.d

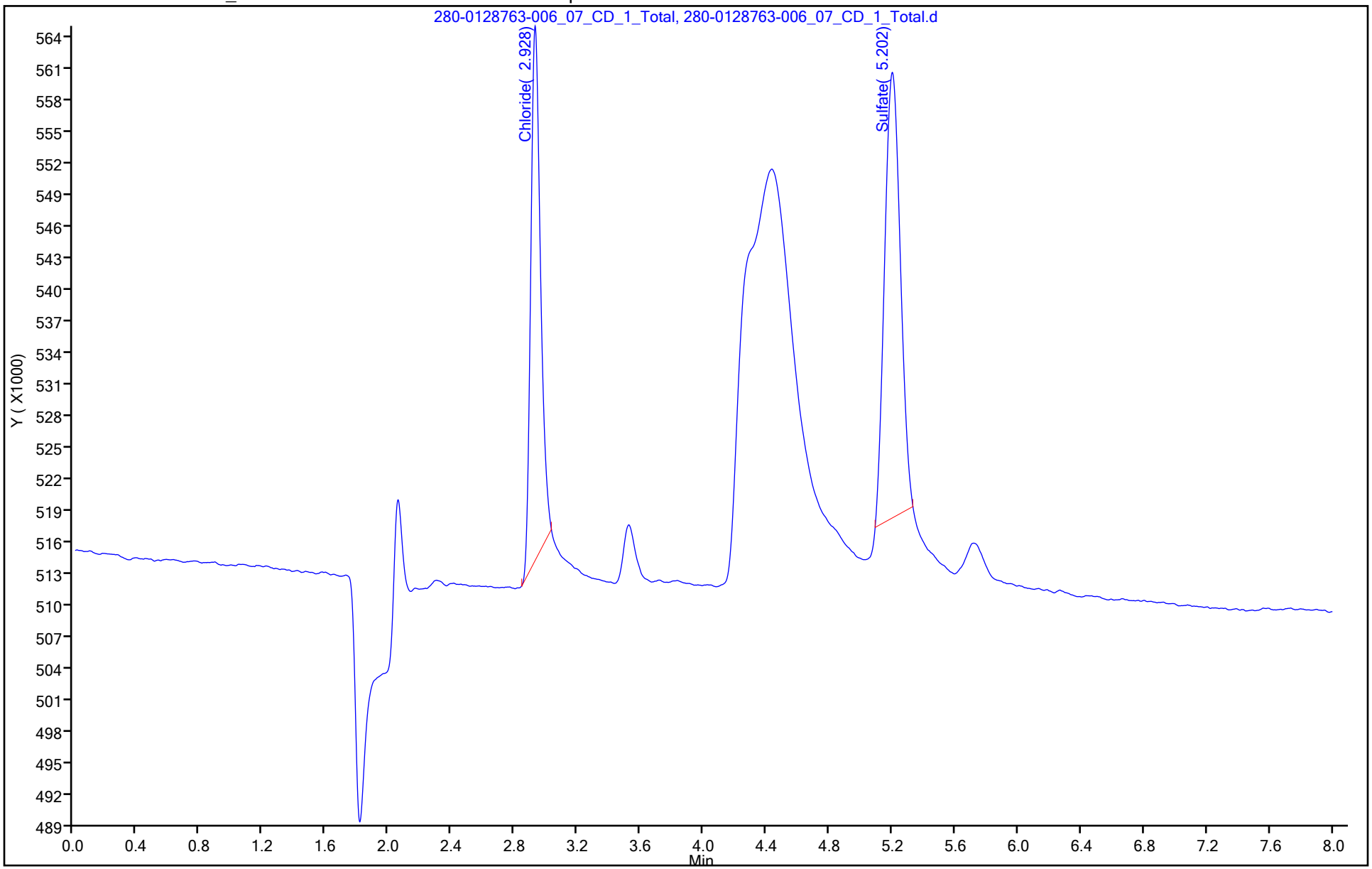
Column 1 : Det: 0005
Process Host: CTX1647

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
1 Fluoride		2.073				ND	
2 Chloride	2.928	2.928	0.000	216487		0.0830	
3 Nitrite as N		3.543				ND	
4 Bromide		4.828				ND	
6 Sulfate	5.202	5.202	0.000	291282		0.0514	
5 Nitrate as N		5.678				ND	
7 Orthophosphate as P		5.720				ND	

Report Date: 21-Dec-2023 15:09:23 Chrom Revision: 2.3 15-Nov-2023 20:54:34

Eurofins Denver

Data File:	\\chromfs\Denver\ChromData\WC_IonChrom17\20231220-128763.b\280-0128763-006_07_CD_1_Total.d				
Injection Date:	20-Dec-2023 11:38:00	Instrument ID:	WC_IonChrom17	Operator ID:	
Lims ID:	mb			Worklist Smp#:	6
Client ID:					
Injection Vol:	5.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	Anions_IC17	Limit Group:	Wet - Anions 28D		



12/29/2023
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Eurofins Denver
Target Compound Quantitation Report

Data File: \\chromfs\Denver\ChromData\WC_IonChrom17\20231220-128763.b\280-0128763-020_21_CD_1_Total.d
Lims ID: ccv
Client ID:
Sample Type: CCV
Inject. Date: 20-Dec-2023 20:41:00 ALS Bottle#: 0 Worklist Smp#: 20
Injection Vol: 5.0 ul Dil. Factor: 1.0000
Sample Info: 280-0128763-020
Misc. Info.: CCV
Operator ID: Instrument ID: WC_IonChrom17
Sublist: chrom-Anions_IC17*sub3

Method: \\chromfs\Denver\ChromData\WC_IonChrom17\20231220-128763.b\Anions_IC17.m
Limit Group: Wet - Anions 28D
Last Update: 21-Dec-2023 15:09:32 Calib Date: 29-Nov-2023 16:52:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Denver\ChromData\WC_IonChrom17\20231129-128099.b\280-0128099-007_09_CD_1_Total.d

Column 1 : Det: 0005
Process Host: CTX1647

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
1 Fluoride	2.070	2.073	-0.003	55000716	5.00	4.61	
2 Chloride	2.930	2.928	0.002	740169033	100.0	104.7	
3 Nitrite as N	3.540	3.543	-0.003	86493060	NC	NC	
4 Bromide	4.820	4.828	-0.008	10249575	5.00	3.63	
6 Sulfate	5.060	5.202	-0.142	535520490	100.0	101.9	
5 Nitrate as N	5.668	5.678	-0.010	94516018	NC	NC	
7 Orthophosphate as P		5.720			ND	ND	

QC Flag Legend

Processing Flags
NC - Not Calibrated
ND - Not Detected or Marked ND

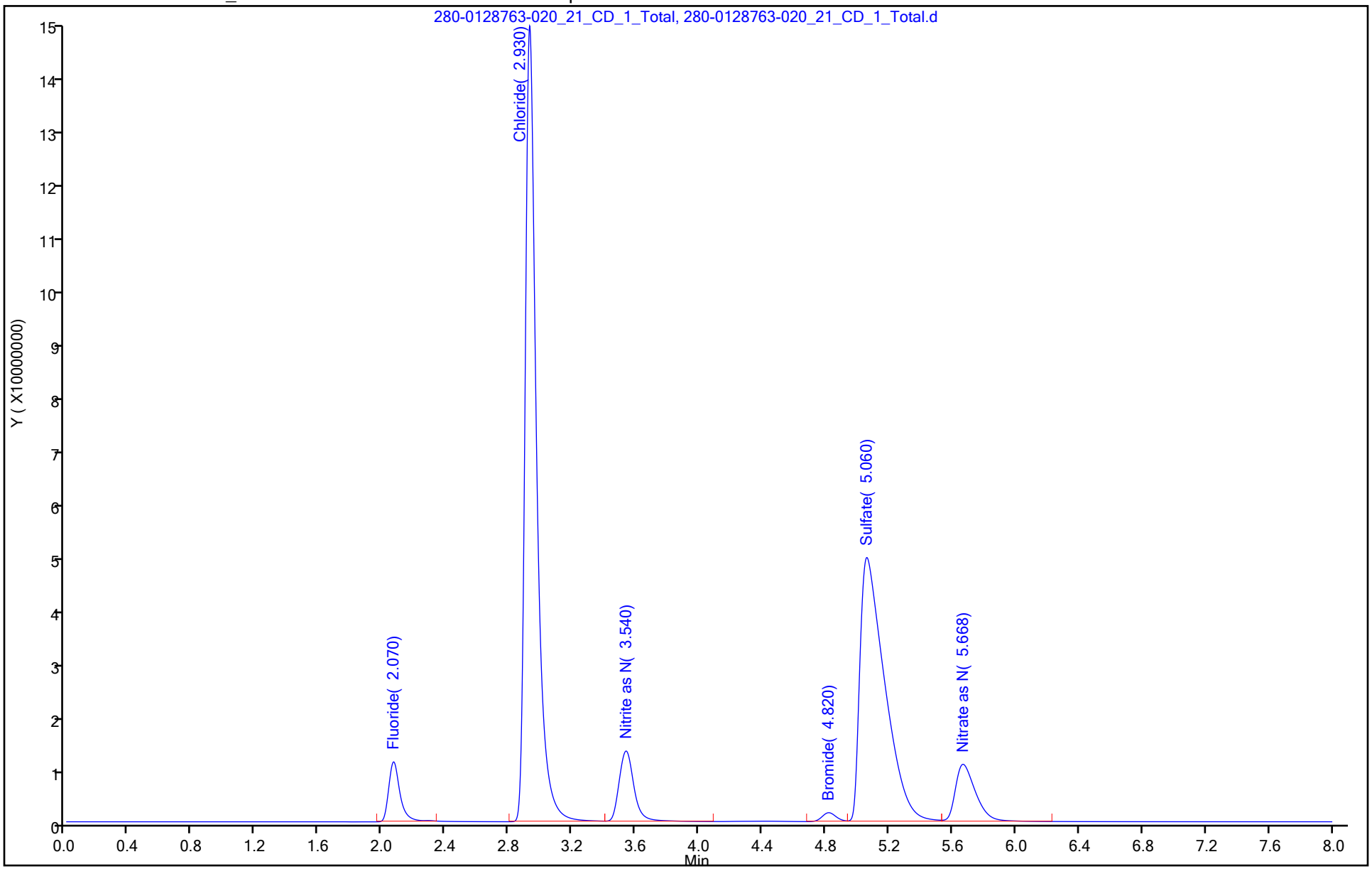
Reagents:

IC LCS_01998 Amount Added: 10.00 Units: mL

Report Date: 21-Dec-2023 15:09:32 Chrom Revision: 2.3 15-Nov-2023 20:54:34

Eurofins Denver

Data File:	\\chromfs\Denver\ChromData\WC_IonChrom17\20231220-128763.b\280-0128763-020_21_CD_1_Total.d				
Injection Date:	20-Dec-2023 20:41:00	Instrument ID:	WC_IonChrom17	Operator ID:	
Lims ID:	ccv			Worklist Smp#:	20
Client ID:					
Injection Vol:	5.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	Anions_IC17	Limit Group:	Wet - Anions 28D		



12/29/2023
10:48 AM

Eurofins Denver
Target Compound Quantitation Report

Data File: \\chromfs\Denver\ChromData\WC_IonChrom17\20231220-128763.b\280-0128763-021_22_CD_1_Total.d
Lims ID: ccb
Client ID:
Sample Type: CCB
Inject. Date: 20-Dec-2023 20:52:00 ALS Bottle#: 0 Worklist Smp#: 21
Injection Vol: 5.0 ul Dil. Factor: 1.0000
Sample Info: 280-0128763-021
Misc. Info.: CCB
Operator ID: Instrument ID: WC_IonChrom17

Method: \\chromfs\Denver\ChromData\WC_IonChrom17\20231220-128763.b\Anions_IC17.m
Limit Group: Wet - Anions 28D
Last Update: 21-Dec-2023 15:09:32 Calib Date: 29-Nov-2023 16:52:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Denver\ChromData\WC_IonChrom17\20231129-128099.b\280-0128099-007_09_CD_1_Total.d

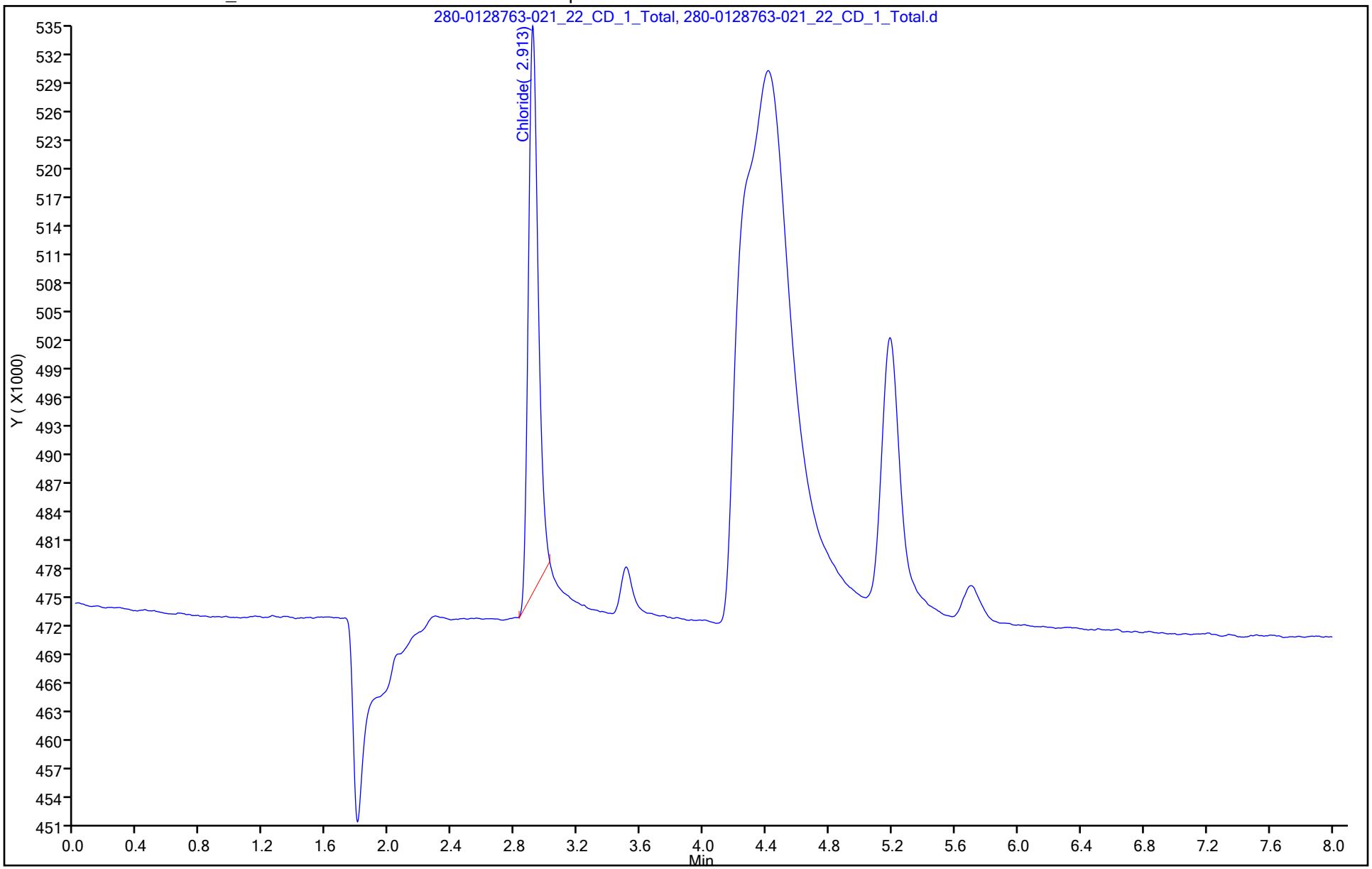
Column 1 : Det: 0005
Process Host: CTX1647

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
1 Fluoride		2.073				ND	
2 Chloride	2.913	2.928	-0.015	257111		0.0887	
3 Nitrite as N		3.543				ND	
4 Bromide		4.828				ND	
6 Sulfate		5.202				ND	
5 Nitrate as N		5.678				ND	
7 Orthophosphate as P		5.720				ND	

Report Date: 21-Dec-2023 15:09:33 Chrom Revision: 2.3 15-Nov-2023 20:54:34

Eurofins Denver

Data File:	\\chromfs\Denver\ChromData\WC_IonChrom17\20231220-128763.b\280-0128763-021_22_CD_1_Total.d				
Injection Date:	20-Dec-2023 20:52:00	Instrument ID:	WC_IonChrom17	Operator ID:	
Lims ID:	ccb			Worklist Smp#:	21
Client ID:					
Injection Vol:	5.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	Anions_IC17	Limit Group:	Wet - Anions 28D		



12/29/2023
10:48 AM

Eurofins Denver
Target Compound Quantitation Report

Data File: \\chromfs\Denver\ChromData\WC_IonChrom17\20231220-128763.b\280-0128763-031_32_CD_1_Total.d
Lims ID: 280-185797-C-2
Client ID: TV044-MW24D1223A
Sample Type: Client
Inject. Date: 20-Dec-2023 22:42:00 ALS Bottle#: 0 Worklist Smp#: 31
Injection Vol: 5.0 ul Dil. Factor: 1.0000
Sample Info: 280-0128763-031
Misc. Info.: 280-185797-C-2
Operator ID: Instrument ID: WC_IonChrom17

Method: \\chromfs\Denver\ChromData\WC_IonChrom17\20231220-128763.b\Anions_IC17.m
Limit Group: Wet - Anions 28D
Last Update: 21-Dec-2023 15:09:32 Calib Date: 29-Nov-2023 16:52:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Denver\ChromData\WC_IonChrom17\20231129-128099.b\280-0128099-007_09_CD_1_Total.d

Column 1 : Det: 0005
Process Host: CTX1647

First Level Reviewer: XAY4 Date: 21-Dec-2023 15:00:53

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	OnCol Amt ug/ml	Flags
1 Fluoride	2.060	2.073	-0.013	6143521	0.5503	
2 Chloride	2.933	2.928	0.005	96682754	13.7	
3 Nitrite as N		3.543			ND	
4 Bromide		4.828			ND	U
6 Sulfate	5.192	5.202	-0.010	28560752	5.43	
5 Nitrate as N		5.678			ND	
7 Orthophosphate as P		5.720			ND	

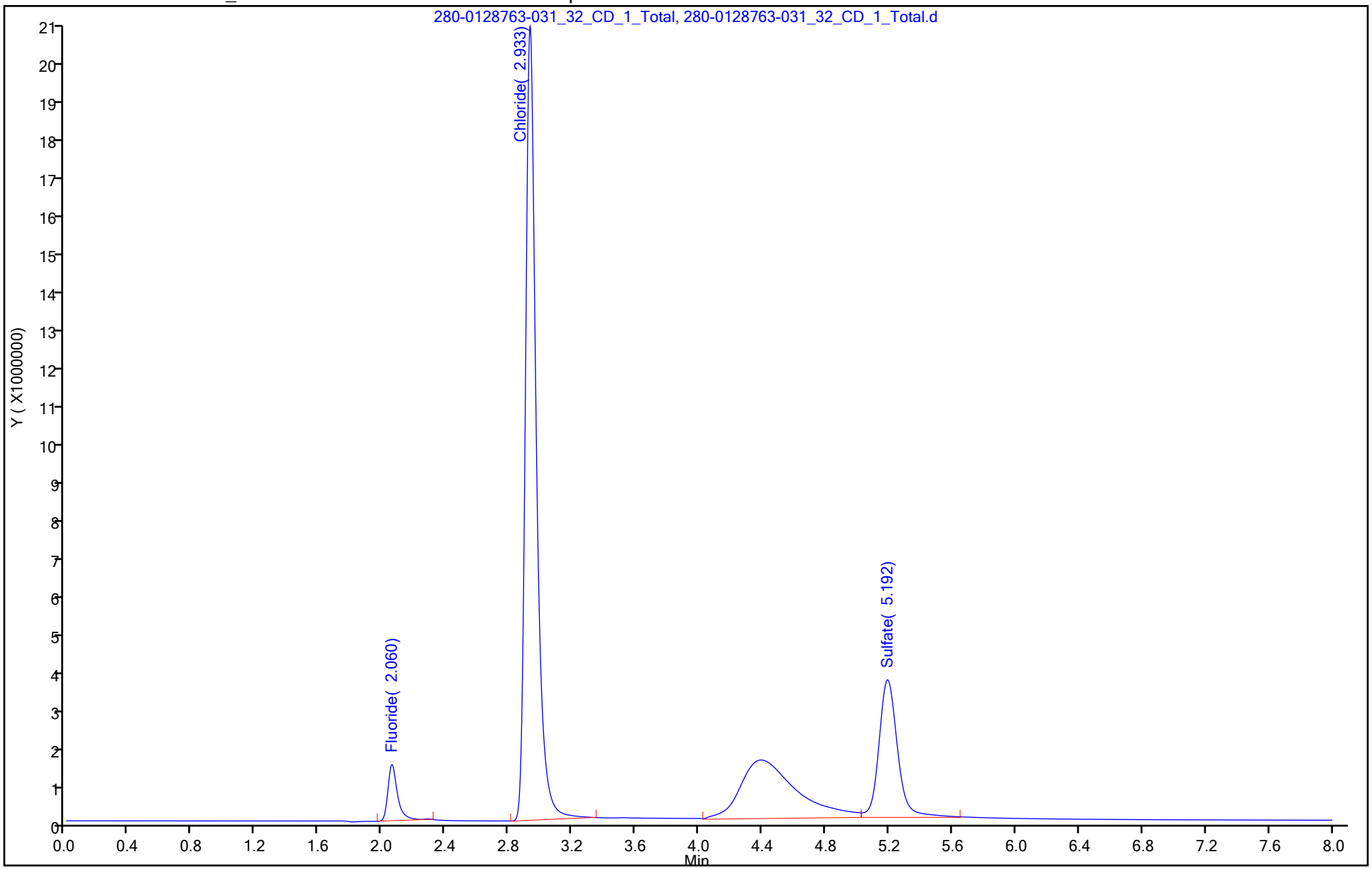
QC Flag Legend

Processing Flags
Review Flags
U - Marked Undetected

Report Date: 21-Dec-2023 15:09:39 Chrom Revision: 2.3 15-Nov-2023 20:54:34

Eurofins Denver

Data File:	\\chromfs\Denver\ChromData\WC_IonChrom17\20231220-128763.b\280-0128763-031_32_CD_1_Total.d				
Injection Date:	20-Dec-2023 22:42:00	Instrument ID:	WC_IonChrom17	Operator ID:	
Lims ID:	280-185797-C-2	Lab Sample ID:	280-185797-2	Worklist Smp#:	31
Client ID:	TV044-MW24D1223A				
Injection Vol:	5.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	Anions_IC17	Limit Group:	Wet - Anions 28D		



12/29/2023
10:48 AM

Eurofins Denver
Target Compound Quantitation Report

Data File: \\chromfs\Denver\ChromData\WC_IonChrom17\20231220-128763.b\280-0128763-032_33_CD_1_Total.d
Lims ID: 280-185797-C-3
Client ID: TV044-MW24I1223A
Sample Type: Client
Inject. Date: 20-Dec-2023 22:53:00 ALS Bottle#: 0 Worklist Smp#: 32
Injection Vol: 5.0 ul Dil. Factor: 1.0000
Sample Info: 280-0128763-032
Misc. Info.: 280-185797-C-3
Operator ID: Instrument ID: WC_IonChrom17

Method: \\chromfs\Denver\ChromData\WC_IonChrom17\20231220-128763.b\Anions_IC17.m
Limit Group: Wet - Anions 28D
Last Update: 21-Dec-2023 15:09:32 Calib Date: 29-Nov-2023 16:52:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Denver\ChromData\WC_IonChrom17\20231129-128099.b\280-0128099-007_09_CD_1_Total.d

Column 1 : Det: 0005
Process Host: CTX1647

First Level Reviewer: XAY4 Date: 21-Dec-2023 15:01:20

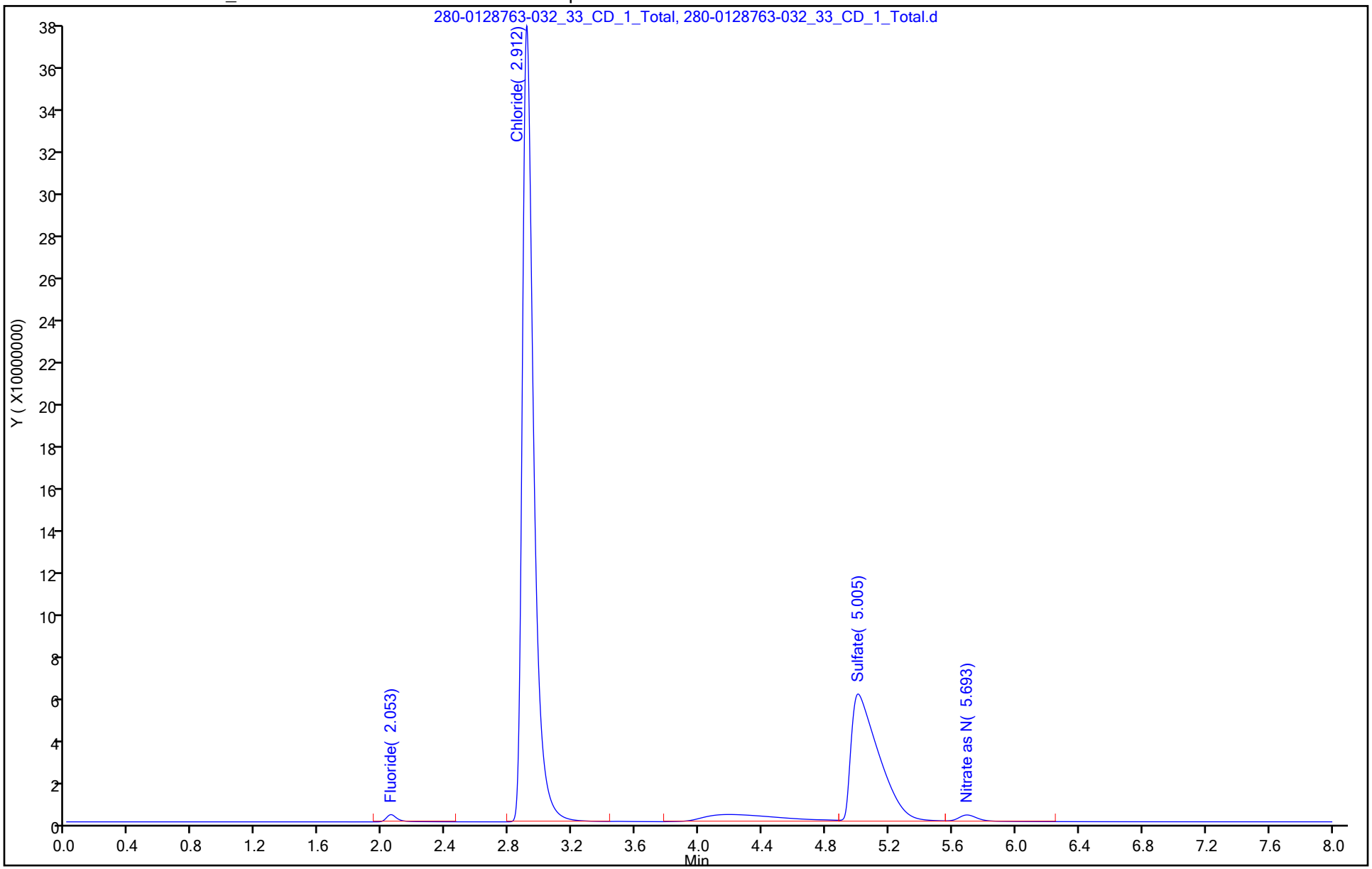
Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	OnCol Amt ug/ml	Flags
1 Fluoride	2.053	2.073	-0.020	17117284	1.46	
2 Chloride	2.912	2.928	-0.016	1889170322	267.0	E
3 Nitrite as N		3.543			ND	
4 Bromide		4.828			ND	a
6 Sulfate	5.005	5.202	-0.197	742005235	141.2	a
5 Nitrate as N	5.693	5.678	0.015	28702303	NC	
7 Orthophosphate as P		5.720			ND	

QC Flag Legend

Processing Flags
NC - Not Calibrated
E - Exceeded Maximum Amount
Review Flags
a - User Assigned ID

Eurofins Denver

Data File:	\\chromfs\Denver\ChromData\WC_IonChrom17\20231220-128763.b\280-0128763-032_33_CD_1_Total.d				
Injection Date:	20-Dec-2023 22:53:00	Instrument ID:	WC_IonChrom17	Operator ID:	
Lims ID:	280-185797-C-3	Lab Sample ID:	280-185797-3	Worklist Smp#:	32
Client ID:	TV044-MW24I1223A				
Injection Vol:	5.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	Anions_IC17	Limit Group:	Wet - Anions 28D		



12/29/2023
10:48 AM

Manual Integration/User Assign Peak Report

Eurofins Denver

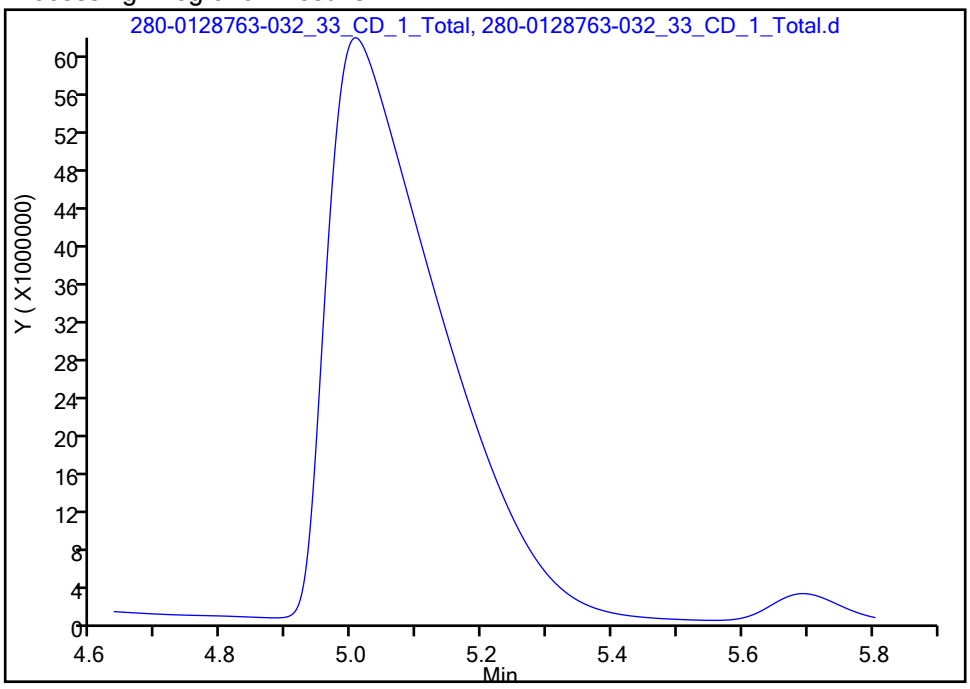
Data File:	\\chromfs\Denver\ChromData\WC_IonChrom17\20231220-128763.b\280-0128763-032_33_CD_1_Total.d				
Injection Date:	20-Dec-2023 22:53:00	Instrument ID:	WC_IonChrom17		
Lims ID:	280-185797-C-3	Lab Sample ID:	280-185797-3		
Client ID:	TV044-MW24I1223A				
Operator ID:		ALS Bottle#:	0	Worklist Smp#:	32
Injection Vol:	5.0 ul	Dil. Factor:	1.0000		
Method:	Anions_IC17	Limit Group:	Wet - Anions 28D		
Column:		Detector	0005		

6 Sulfate, CAS: 14808-79-8

Signal: 1

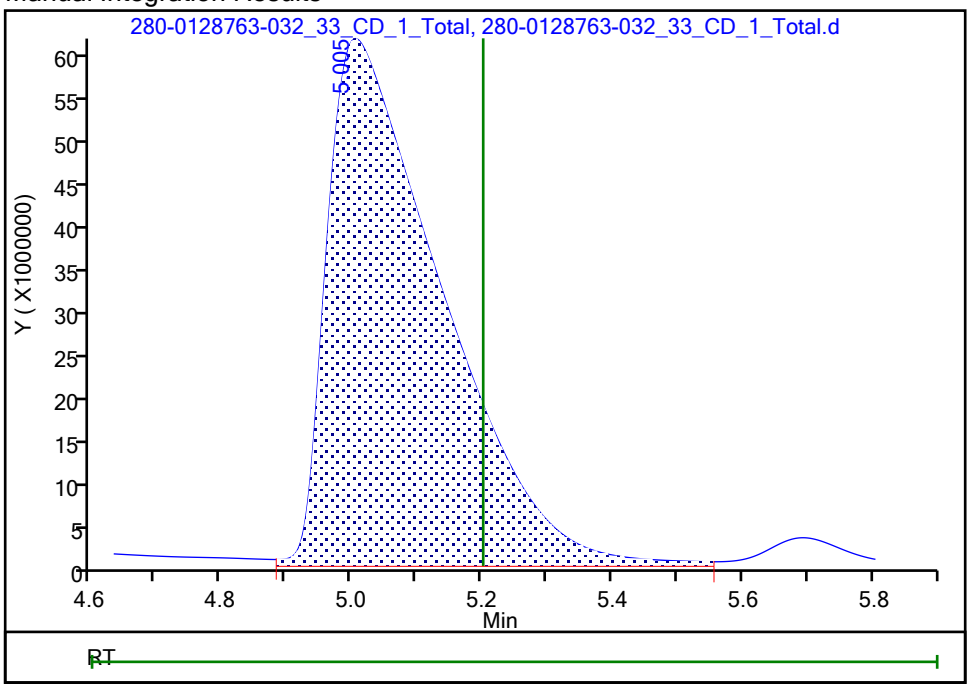
Not Detected
Expected RT: 5.20

Processing Integration Results



Manual Integration Results

RT: 5.01
Area: 742005235
Amount: 141.2171
Amount Units: ug/ml



Reviewer: XAY4, 21-Dec-2023 15:01:14 -07:00:00 (UTC)
Audit Action: Assigned Compound ID Audit Reason: Baseline Smoothing

Eurofins Denver
Target Compound Quantitation Report

Data File: \\chromfs\Denver\ChromData\WC_IonChrom17\20231220-128763.b\280-0128763-033_34_CD_1_Total.d
Lims ID: 280-185797-C-4
Client ID: TV044-MW21M1223A
Sample Type: Client
Inject. Date: 20-Dec-2023 23:04:00 ALS Bottle#: 0 Worklist Smp#: 33
Injection Vol: 5.0 ul Dil. Factor: 1.0000
Sample Info: 280-0128763-033
Misc. Info.: 280-185797-C-4
Operator ID: Instrument ID: WC_IonChrom17

Method: \\chromfs\Denver\ChromData\WC_IonChrom17\20231220-128763.b\Anions_IC17.m
Limit Group: Wet - Anions 28D
Last Update: 21-Dec-2023 15:09:32 Calib Date: 29-Nov-2023 16:52:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Denver\ChromData\WC_IonChrom17\20231129-128099.b\280-0128099-007_09_CD_1_Total.d

Column 1 : Det: 0005
Process Host: CTX1647

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	OnCol Amt ug/ml	Flags
1 Fluoride	2.068	2.073	-0.005	6501315	0.5800	
2 Chloride	2.925	2.928	-0.003	2243781327	317.2	E
3 Nitrite as N		3.543			ND	
4 Bromide		4.828			ND	
6 Sulfate	5.162	5.202	-0.040	13258937	2.52	
5 Nitrate as N		5.678			ND	
7 Orthophosphate as P		5.720			ND	

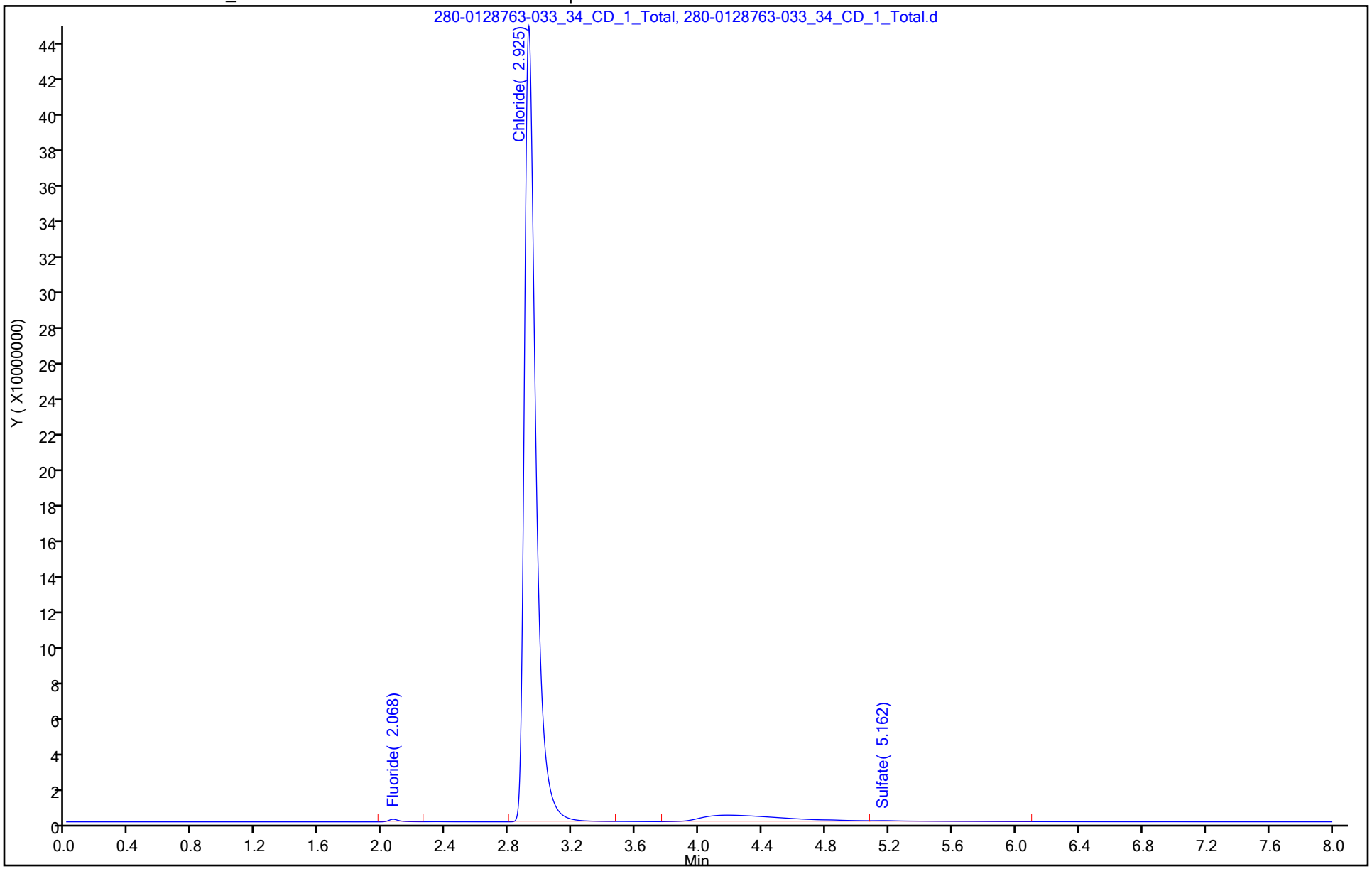
QC Flag Legend

Processing Flags
E - Exceeded Maximum Amount

Report Date: 21-Dec-2023 15:09:41 Chrom Revision: 2.3 15-Nov-2023 20:54:34

Eurofins Denver

Data File:	\\chromfs\Denver\ChromData\WC_IonChrom17\20231220-128763.b\280-0128763-033_34_CD_1_Total.d				
Injection Date:	20-Dec-2023 23:04:00	Instrument ID:	WC_IonChrom17	Operator ID:	
Lims ID:	280-185797-C-4	Lab Sample ID:	280-185797-4	Worklist Smp#:	33
Client ID:	TV044-MW21M1223A				
Injection Vol:	5.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	Anions_IC17	Limit Group:	Wet - Anions 28D		



12/29/2023
10:48 AM

Eurofins Denver
Target Compound Quantitation Report

Data File: \\chromfs\Denver\ChromData\WC_IonChrom17\20231220-128763.b\280-0128763-034_35_CD_1_Total.d
Lims ID: 280-185797-C-5
Client ID: TV044-MW21D1223A
Sample Type: Client
Inject. Date: 20-Dec-2023 23:15:00 ALS Bottle#: 0 Worklist Smp#: 34
Injection Vol: 5.0 ul Dil. Factor: 5.0000
Sample Info: 280-0128763-034
Misc. Info.: 280-185797-C-5
Operator ID: Instrument ID: WC_IonChrom17

Method: \\chromfs\Denver\ChromData\WC_IonChrom17\20231220-128763.b\Anions_IC17.m
Limit Group: Wet - Anions 28D
Last Update: 21-Dec-2023 15:09:32 Calib Date: 29-Nov-2023 16:52:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Denver\ChromData\WC_IonChrom17\20231129-128099.b\280-0128099-007_09_CD_1_Total.d

Column 1 : Det: 0005
Process Host: CTX1647

First Level Reviewer: XAY4 Date: 21-Dec-2023 15:01:58

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	OnCol Amt ug/ml	Flags
1 Fluoride	2.062	2.073	-0.011	968128	0.1198	
2 Chloride	2.935	2.928	0.007	459917917	65.1	
3 Nitrite as N		3.543			ND	
4 Bromide		4.828			ND	U
6 Sulfate	5.172	5.202	-0.030	98854354	18.8	a
5 Nitrate as N		5.678			ND	
7 Orthophosphate as P		5.720			ND	

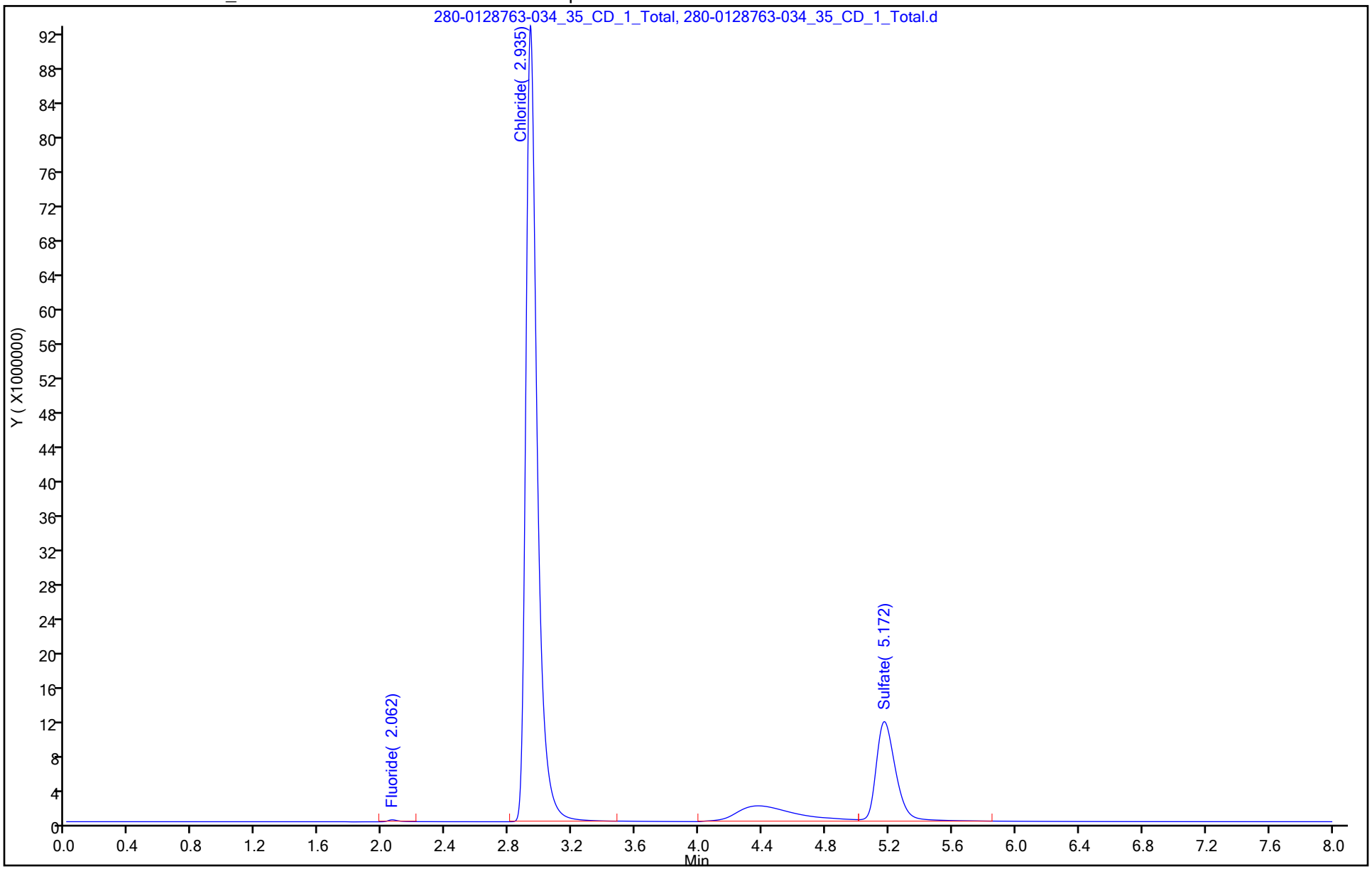
QC Flag Legend

Processing Flags
Review Flags
U - Marked Undetected
a - User Assigned ID

Report Date: 21-Dec-2023 15:09:42 Chrom Revision: 2.3 15-Nov-2023 20:54:34

Eurofins Denver

Data File:	\\chromfs\Denver\ChromData\WC_IonChrom17\20231220-128763.b\280-0128763-034_35_CD_1_Total.d				
Injection Date:	20-Dec-2023 23:15:00	Instrument ID:	WC_IonChrom17	Operator ID:	
Lims ID:	280-185797-C-5	Lab Sample ID:	280-185797-5	Worklist Smp#:	34
Client ID:	TV044-MW21D1223A				
Injection Vol:	5.0 ul	Dil. Factor:	5.0000	ALS Bottle#:	0
Method:	Anions_IC17	Limit Group:	Wet - Anions 28D		



12/29/2023
10:48 AM

Manual Integration/User Assign Peak Report

Eurofins Denver

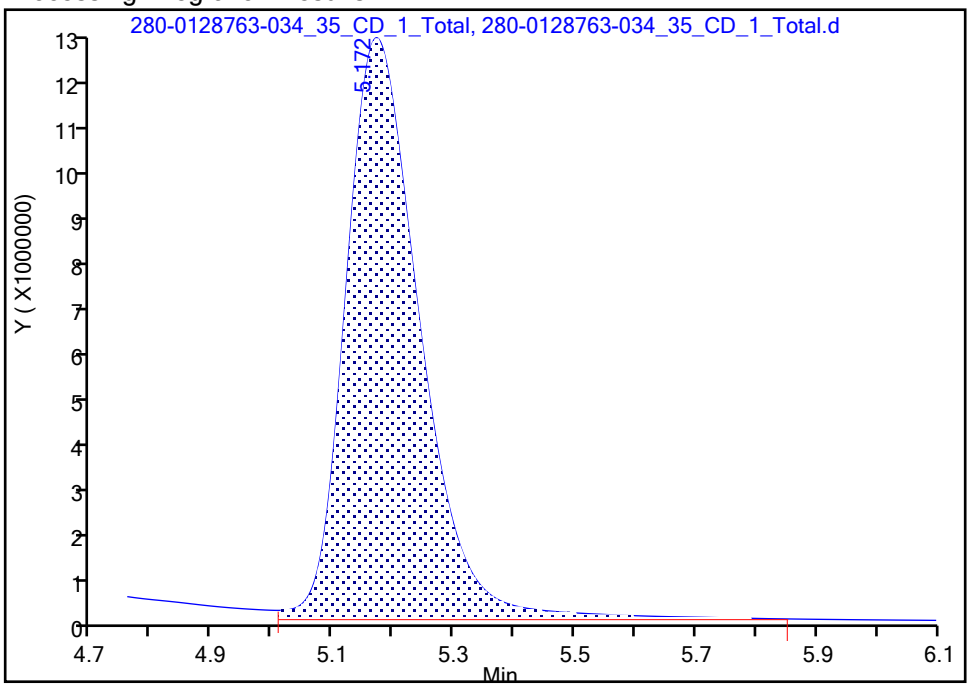
Data File:	\\chromfs\Denver\ChromData\WC_IonChrom17\20231220-128763.b\280-0128763-034_35_CD_1_Total.d				
Injection Date:	20-Dec-2023 23:15:00	Instrument ID:	WC_IonChrom17		
Lims ID:	280-185797-C-5	Lab Sample ID:	280-185797-5		
Client ID:	TV044-MW21D1223A				
Operator ID:		ALS Bottle#:	0	Worklist Smp#:	34
Injection Vol:	5.0 ul	Dil. Factor:	5.0000		
Method:	Anions_IC17	Limit Group:	Wet - Anions 28D		
Column:		Detector	0005		

6 Sulfate, CAS: 14808-79-8

Signal: 1

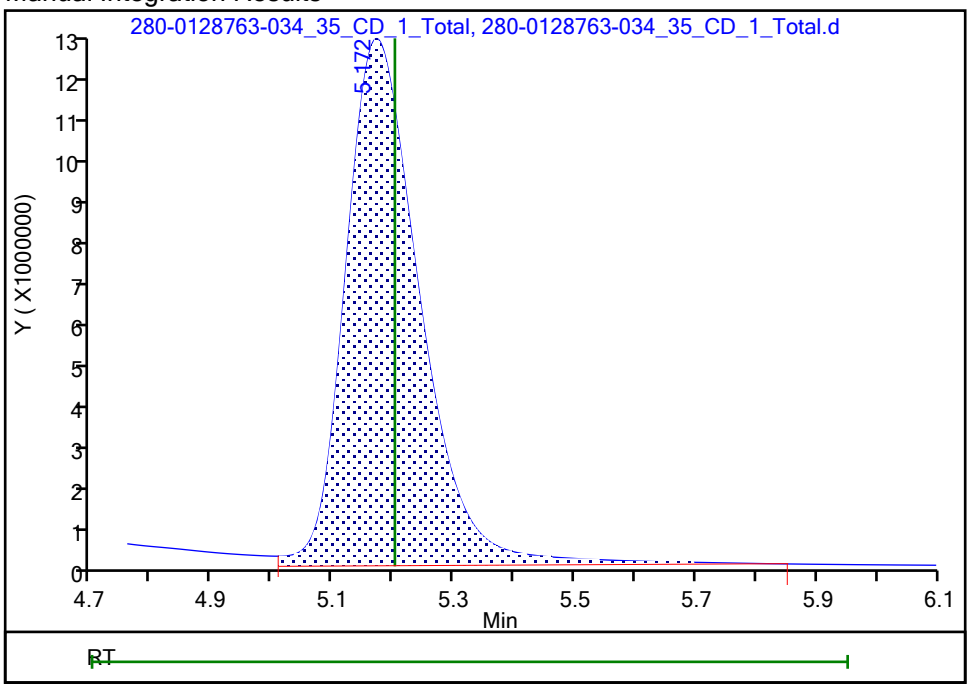
Processing Integration Results

RT: 5.17
Area: 98854354
Amount: 18.810272
Amount Units: ug/ml



Manual Integration Results

RT: 5.17
Area: 98854354
Amount: 18.810272
Amount Units: ug/ml



Reviewer: XAY4, 21-Dec-2023 15:01:47 -07:00:00 (UTC)

Audit Action: Assigned Compound ID Audit Reason: Baseline Smoothing

Eurofins Denver
Target Compound Quantitation Report

Data File: \\chromfs\Denver\ChromData\WC_IonChrom17\20231220-128763.b\280-0128763-035_36_CD_1_Total.d
Lims ID: ccv
Client ID:
Sample Type: CCV
Inject. Date: 20-Dec-2023 23:26:00 ALS Bottle#: 0 Worklist Smp#: 35
Injection Vol: 5.0 ul Dil. Factor: 1.0000
Sample Info: 280-0128763-035
Misc. Info.: CCV
Operator ID: Instrument ID: WC_IonChrom17
Sublist: chrom-Anions_IC17*sub3

Method: \\chromfs\Denver\ChromData\WC_IonChrom17\20231220-128763.b\Anions_IC17.m
Limit Group: Wet - Anions 28D
Last Update: 21-Dec-2023 15:09:42 Calib Date: 29-Nov-2023 16:52:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Denver\ChromData\WC_IonChrom17\20231129-128099.b\280-0128099-007_09_CD_1_Total.d

Column 1 : Det: 0005
Process Host: CTX1647

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
1 Fluoride	2.067	2.073	-0.006	58815161	5.00	4.93	
2 Chloride	2.927	2.928	-0.001	761908648	100.0	107.7	
3 Nitrite as N	3.537	3.543	-0.006	90297295	NC	NC	
4 Bromide	4.817	4.828	-0.011	11218662	5.00	3.97	
6 Sulfate	5.060	5.202	-0.142	550267404	100.0	104.7	
5 Nitrate as N	5.665	5.678	-0.013	97335250	NC	NC	
7 Orthophosphate as P		5.720			ND	ND	

QC Flag Legend

Processing Flags
NC - Not Calibrated
ND - Not Detected or Marked ND

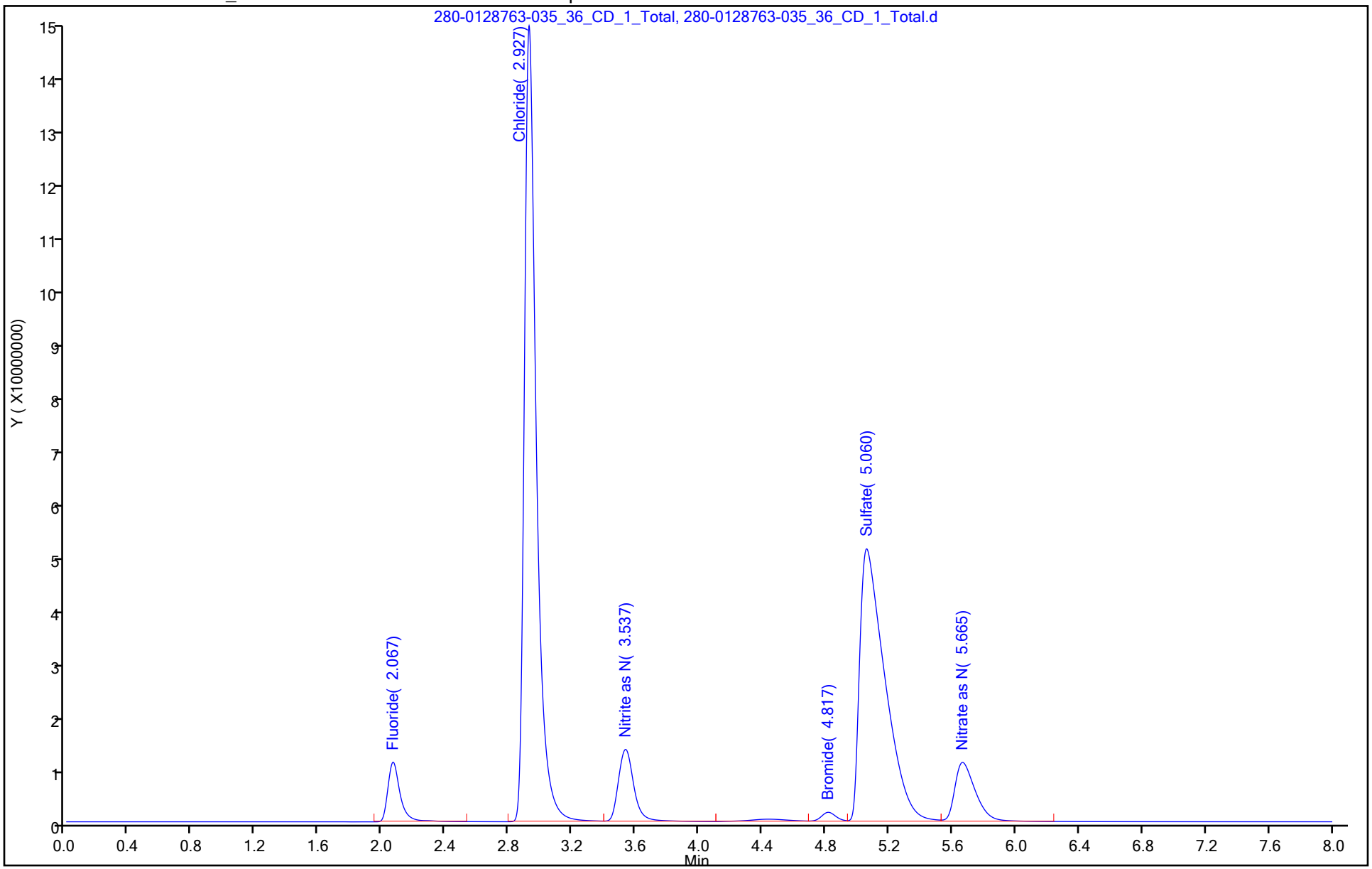
Reagents:

IC LCS_01998 Amount Added: 10.00 Units: mL

Report Date: 21-Dec-2023 15:09:42 Chrom Revision: 2.3 15-Nov-2023 20:54:34

Eurofins Denver

Data File:	\\chromfs\Denver\ChromData\WC_IonChrom17\20231220-128763.b\280-0128763-035_36_CD_1_Total.d				
Injection Date:	20-Dec-2023 23:26:00	Instrument ID:	WC_IonChrom17	Operator ID:	
Lims ID:	ccv			Worklist Smp#:	35
Client ID:					
Injection Vol:	5.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	Anions_IC17	Limit Group:	Wet - Anions 28D		



12/29/2023
10:48 AM

Eurofins Denver
Target Compound Quantitation Report

Data File: \\chromfs\Denver\ChromData\WC_IonChrom17\20231220-128763.b\280-0128763-036_37_CD_1_Total.d
Lims ID: ccb
Client ID:
Sample Type: CCB
Inject. Date: 20-Dec-2023 23:37:00 ALS Bottle#: 0 Worklist Smp#: 36
Injection Vol: 5.0 ul Dil. Factor: 1.0000
Sample Info: 280-0128763-036
Misc. Info.: CCB
Operator ID: Instrument ID: WC_IonChrom17

Method: \\chromfs\Denver\ChromData\WC_IonChrom17\20231220-128763.b\Anions_IC17.m
Limit Group: Wet - Anions 28D
Last Update: 21-Dec-2023 15:09:42 Calib Date: 29-Nov-2023 16:52:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Denver\ChromData\WC_IonChrom17\20231129-128099.b\280-0128099-007_09_CD_1_Total.d

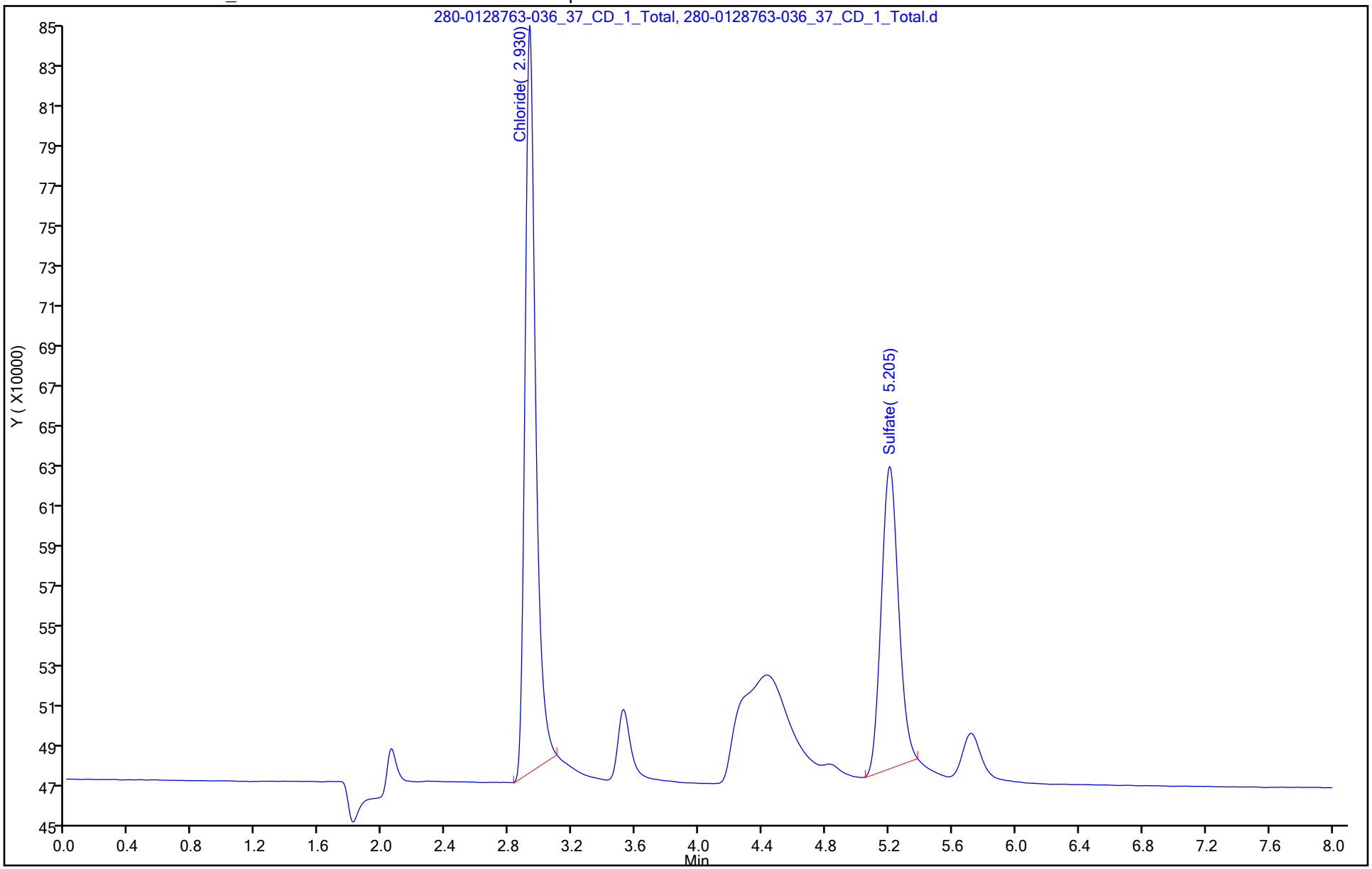
Column 1 : Det: 0005
Process Host: CTX1647

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
1 Fluoride		2.073				ND	
2 Chloride	2.930	2.928	0.002	1703589		0.2932	
3 Nitrite as N		3.543				ND	
4 Bromide		4.828				ND	
6 Sulfate	5.205	5.202	0.003	1108924		0.2070	
5 Nitrate as N		5.678				ND	
7 Orthophosphate as P		5.720				ND	

Report Date: 21-Dec-2023 15:09:43 Chrom Revision: 2.3 15-Nov-2023 20:54:34

Eurofins Denver

Data File:	\\chromfs\Denver\ChromData\WC_IonChrom17\20231220-128763.b\280-0128763-036_37_CD_1_Total.d				
Injection Date:	20-Dec-2023 23:37:00	Instrument ID:	WC_IonChrom17	Operator ID:	
Lims ID:	ccb			Worklist Smp#:	36
Client ID:					
Injection Vol:	5.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	Anions_IC17	Limit Group:	Wet - Anions 28D		



12/29/2023
10:48 AM

Eurofins Denver
Target Compound Quantitation Report

Data File: \\chromfs\Denver\ChromData\WC_IonChrom17\20231220-128763.b\280-0128763-037_38_CD_1_Total.d
Lims ID: 280-185797-C-6
Client ID: TV044-MW21D1223C
Sample Type: Client
Inject. Date: 20-Dec-2023 23:48:00 ALS Bottle#: 0 Worklist Smp#: 37
Injection Vol: 5.0 ul Dil. Factor: 5.0000
Sample Info: 280-0128763-037
Misc. Info.: 280-185797-C-6
Operator ID: Instrument ID: WC_IonChrom17

Method: \\chromfs\Denver\ChromData\WC_IonChrom17\20231220-128763.b\Anions_IC17.m
Limit Group: Wet - Anions 28D
Last Update: 21-Dec-2023 15:09:42 Calib Date: 29-Nov-2023 16:52:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Denver\ChromData\WC_IonChrom17\20231129-128099.b\280-0128099-007_09_CD_1_Total.d

Column 1 : Det: 0005
Process Host: CTX1647

First Level Reviewer: XAY4 Date: 21-Dec-2023 15:04:07

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	OnCol Amt ug/ml	Flags
1 Fluoride	2.060	2.073	-0.013	994723	0.1220	
2 Chloride	2.933	2.928	0.005	469990730	66.5	
3 Nitrite as N		3.543			ND	
4 Bromide		4.828			ND	U
6 Sulfate	5.168	5.202	-0.034	101527370	19.3	
5 Nitrate as N		5.678			ND	
7 Orthophosphate as P	5.715	5.720	-0.005	2002146	NC	

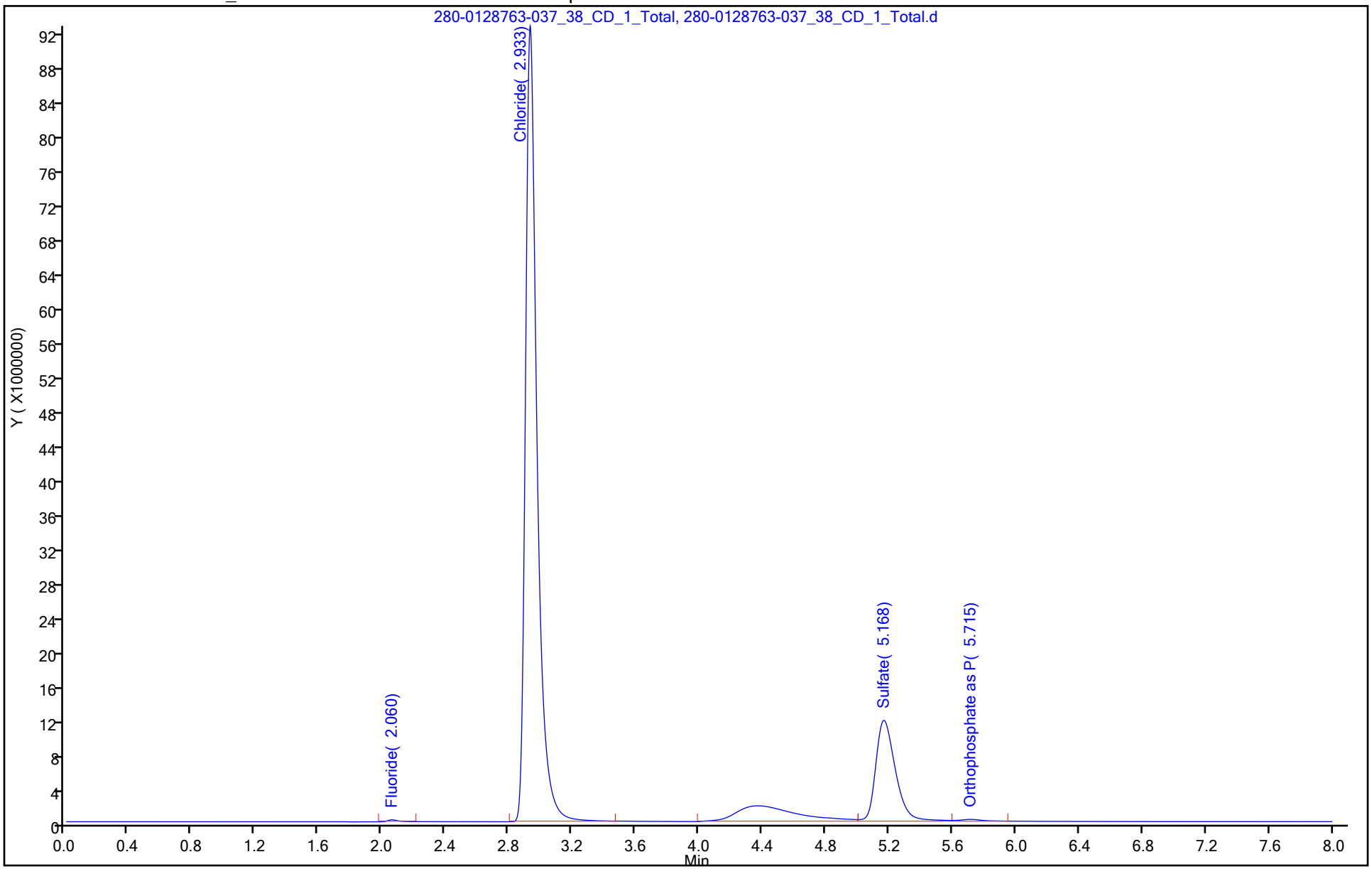
QC Flag Legend

Processing Flags
NC - Not Calibrated
Review Flags
U - Marked Undetected

Report Date: 21-Dec-2023 15:09:43 Chrom Revision: 2.3 15-Nov-2023 20:54:34

Eurofins Denver

Data File:	\\chromfs\Denver\ChromData\WC_IonChrom17\20231220-128763.b\280-0128763-037_38_CD_1_Total.d				
Injection Date:	20-Dec-2023 23:48:00	Instrument ID:	WC_IonChrom17	Operator ID:	
Lims ID:	280-185797-C-6	Lab Sample ID:	280-185797-6	Worklist Smp#:	37
Client ID:	TV044-MW21D1223C				
Injection Vol:	5.0 ul	Dil. Factor:	5.0000	ALS Bottle#:	0
Method:	Anions_IC17	Limit Group:	Wet - Anions 28D		



12/29/2023
10:48 AM

Eurofins Denver
Target Compound Quantitation Report

Data File: \\chromfs\Denver\ChromData\WC_IonChrom17\20231220-128763.b\280-0128763-038_39_CD_1_Total.d
Lims ID: 280-185797-C-8
Client ID: TV044-MW31223A
Sample Type: Client
Inject. Date: 20-Dec-2023 23:59:00 ALS Bottle#: 0 Worklist Smp#: 38
Injection Vol: 5.0 ul Dil. Factor: 20.0000
Sample Info: 280-0128763-038
Misc. Info.: 280-185797-C-8
Operator ID: Instrument ID: WC_IonChrom17

Method: \\chromfs\Denver\ChromData\WC_IonChrom17\20231220-128763.b\Anions_IC17.m
Limit Group: Wet - Anions 28D
Last Update: 21-Dec-2023 15:09:42 Calib Date: 29-Nov-2023 16:52:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Denver\ChromData\WC_IonChrom17\20231129-128099.b\280-0128099-007_09_CD_1_Total.d

Column 1 : Det: 0005
Process Host: CTX1647

First Level Reviewer: XAY4 Date: 21-Dec-2023 15:04:33

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	OnCol Amt ug/ml	Flags
1 Fluoride	2.062	2.073	-0.011	689044	0.0966	
2 Chloride	2.938	2.928	0.010	211013632	29.9	
3 Nitrite as N	3.523	3.543	-0.020	435684	NC	
4 Bromide		4.828			ND	a
6 Sulfate	4.995	5.202	-0.207	1020957534	194.3	a
5 Nitrate as N		5.678			ND	
7 Orthophosphate as P	5.717	5.720	-0.003	5651871	NC	

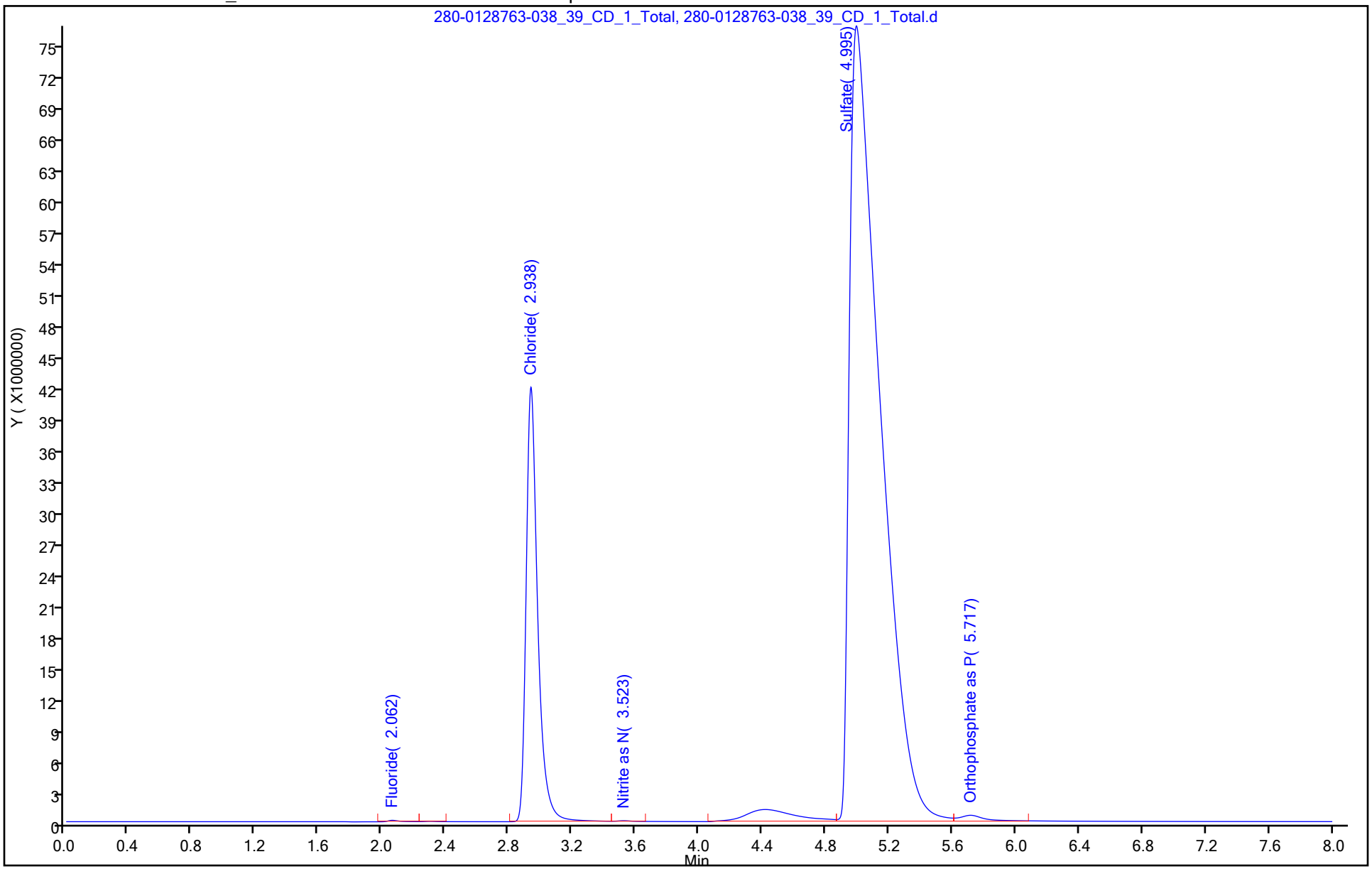
QC Flag Legend

Processing Flags
NC - Not Calibrated
Review Flags
a - User Assigned ID

Report Date: 21-Dec-2023 15:09:44 Chrom Revision: 2.3 15-Nov-2023 20:54:34

Eurofins Denver

Data File:	\\chromfs\Denver\ChromData\WC_IonChrom17\20231220-128763.b\280-0128763-038_39_CD_1_Total.d				
Injection Date:	20-Dec-2023 23:59:00	Instrument ID:	WC_IonChrom17	Operator ID:	
Lims ID:	280-185797-C-8	Lab Sample ID:	280-185797-8	Worklist Smp#:	38
Client ID:	TV044-MW31223A				
Injection Vol:	5.0 ul	Dil. Factor:	20.0000	ALS Bottle#:	0
Method:	Anions_IC17	Limit Group:	Wet - Anions 28D		



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Manual Integration/User Assign Peak Report

Eurofins Denver

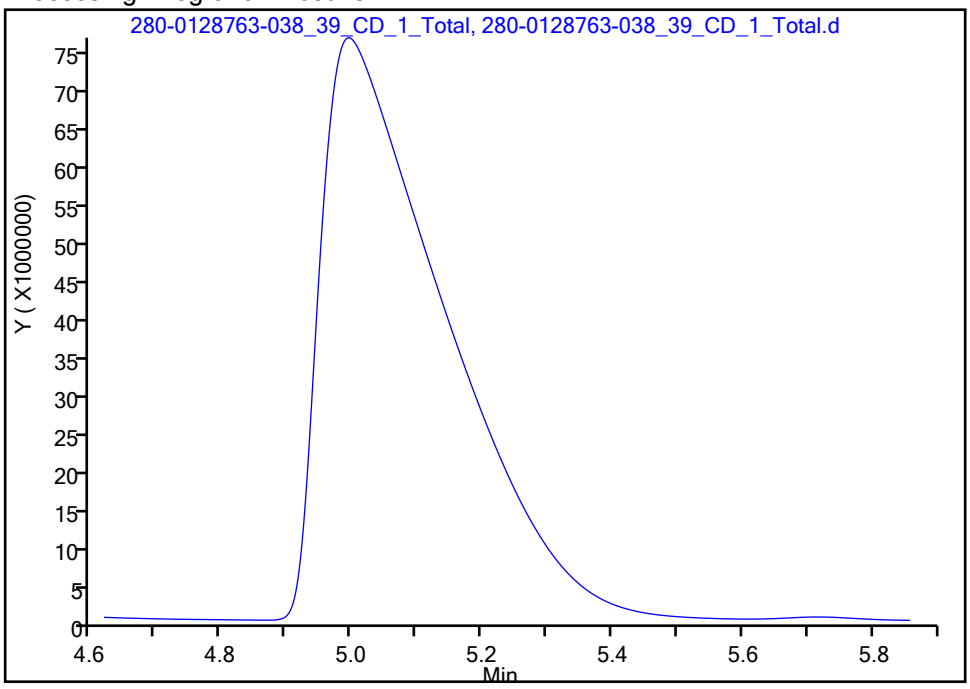
Data File:	\\chromfs\Denver\ChromData\WC_IonChrom17\20231220-128763.b\280-0128763-038_39_CD_1_Total.d				
Injection Date:	20-Dec-2023 23:59:00	Instrument ID:	WC_IonChrom17		
Lims ID:	280-185797-C-8	Lab Sample ID:	280-185797-8		
Client ID:	TV044-MW31223A				
Operator ID:		ALS Bottle#:	0	Worklist Smp#:	38
Injection Vol:	5.0 ul	Dil. Factor:	20.0000		
Method:	Anions_IC17	Limit Group:	Wet - Anions 28D		
Column:		Detector	0005		

6 Sulfate, CAS: 14808-79-8

Signal: 1

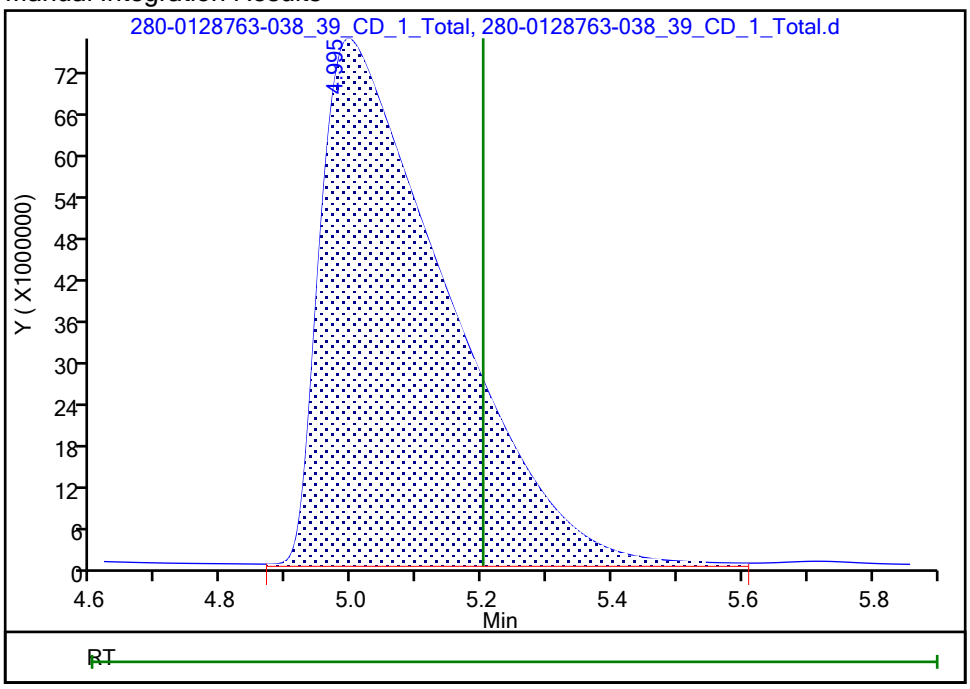
Not Detected
Expected RT: 5.20

Processing Integration Results



Manual Integration Results

RT: 5.00
Area: 1020957534
Amount: 194.3084
Amount Units: ug/ml



Reviewer: XAY4, 21-Dec-2023 15:04:26 -07:00:00 (UTC)
Audit Action: Assigned Compound ID Audit Reason: Baseline Smoothing

Eurofins Denver
Target Compound Quantitation Report

Data File: \\chromfs\Denver\ChromData\WC_IonChrom17\20231220-128763.b\280-0128763-039_40_CD_1_Total.d
Lims ID: 280-185797-C-9
Client ID: TV044-MW25D1223A
Sample Type: Client
Inject. Date: 21-Dec-2023 00:10:00 ALS Bottle#: 0 Worklist Smp#: 39
Injection Vol: 5.0 ul Dil. Factor: 5.0000
Sample Info: 280-0128763-039
Misc. Info.: 280-185797-C-9
Operator ID: Instrument ID: WC_IonChrom17

Method: \\chromfs\Denver\ChromData\WC_IonChrom17\20231220-128763.b\Anions_IC17.m
Limit Group: Wet - Anions 28D
Last Update: 21-Dec-2023 15:09:42 Calib Date: 29-Nov-2023 16:52:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Denver\ChromData\WC_IonChrom17\20231129-128099.b\280-0128099-007_09_CD_1_Total.d

Column 1 : Det: 0005
Process Host: CTX1647

First Level Reviewer: XAY4 Date: 21-Dec-2023 15:04:48

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	OnCol Amt ug/ml	Flags
1 Fluoride	2.063	2.073	-0.010	2107060	0.2146	
2 Chloride	2.933	2.928	0.005	893227594	126.3	
3 Nitrite as N		3.543			ND	
4 Bromide		4.828			ND	U
6 Sulfate	5.168	5.202	-0.034	125179239	23.8	
5 Nitrate as N		5.678			ND	
7 Orthophosphate as P		5.720			ND	

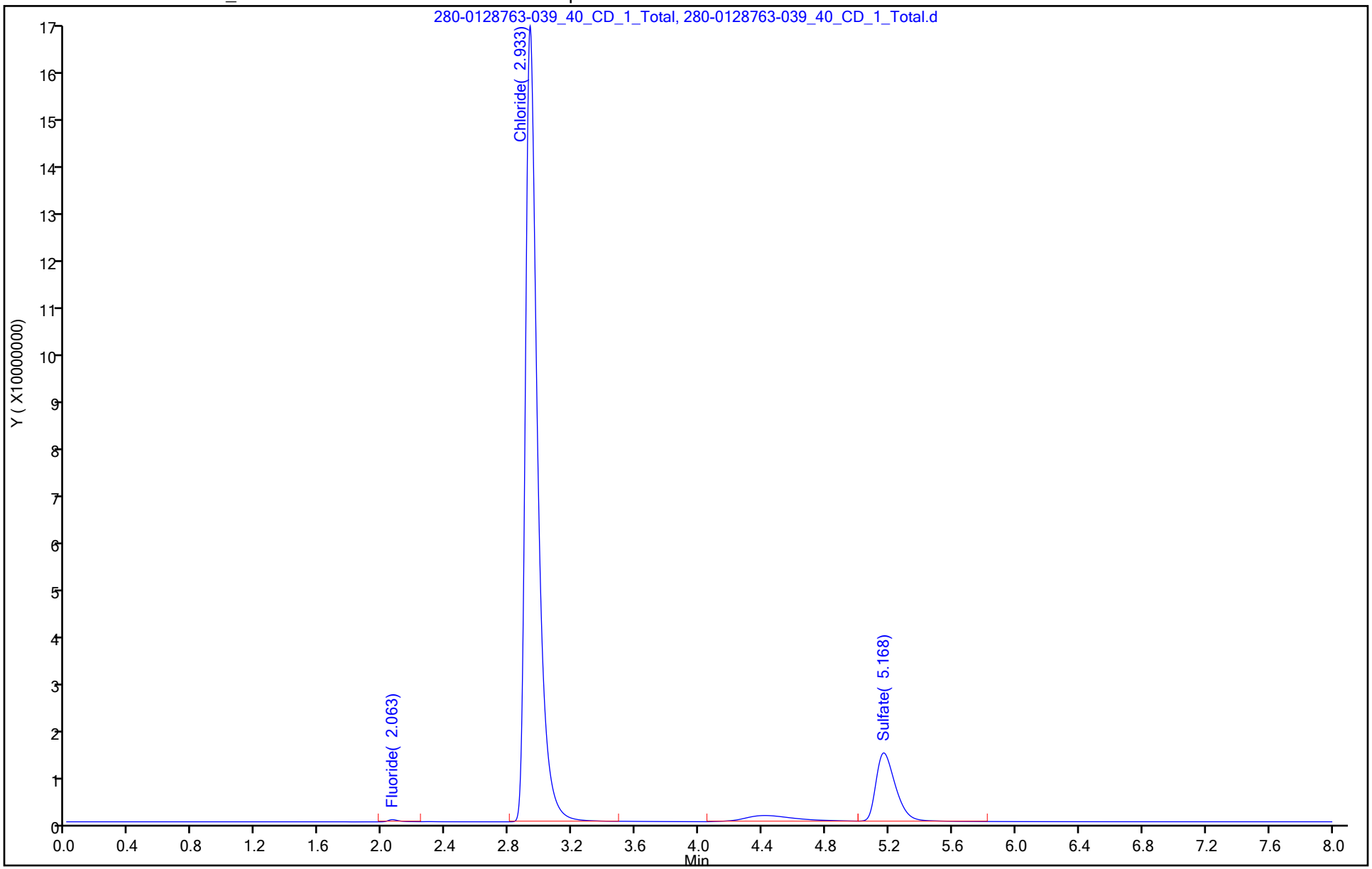
QC Flag Legend

Processing Flags
Review Flags
U - Marked Undetected

Report Date: 21-Dec-2023 15:09:45 Chrom Revision: 2.3 15-Nov-2023 20:54:34

Eurofins Denver

Data File:	\\chromfs\Denver\ChromData\WC_IonChrom17\20231220-128763.b\280-0128763-039_40_CD_1_Total.d				
Injection Date:	21-Dec-2023 00:10:00	Instrument ID:	WC_IonChrom17	Operator ID:	
Lims ID:	280-185797-C-9	Lab Sample ID:	280-185797-9	Worklist Smp#:	39
Client ID:	TV044-MW25D1223A				
Injection Vol:	5.0 ul	Dil. Factor:	5.0000	ALS Bottle#:	0
Method:	Anions_IC17	Limit Group:	Wet - Anions 28D		



12/29/2023
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Eurofins Denver
Target Compound Quantitation Report

Data File: \\chromfs\Denver\ChromData\WC_IonChrom17\20231220-128763.b\280-0128763-040_41_CD_1_Total.d
Lims ID: 280-185797-C-10
Client ID: TV044-MW21223A
Sample Type: Client
Inject. Date: 21-Dec-2023 00:21:00 ALS Bottle#: 0 Worklist Smp#: 40
Injection Vol: 5.0 ul Dil. Factor: 5.0000
Sample Info: 280-0128763-040
Misc. Info.: 280-185797-C-10
Operator ID: Instrument ID: WC_IonChrom17

Method: \\chromfs\Denver\ChromData\WC_IonChrom17\20231220-128763.b\Anions_IC17.m
Limit Group: Wet - Anions 28D
Last Update: 21-Dec-2023 15:09:42 Calib Date: 29-Nov-2023 16:52:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Denver\ChromData\WC_IonChrom17\20231129-128099.b\280-0128099-007_09_CD_1_Total.d

Column 1 : Det: 0005
Process Host: CTX1647

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	OnCol Amt ug/ml	Flags
1 Fluoride	2.043	2.073	-0.030	780265	0.1042	
2 Chloride	2.907	2.928	-0.021	2739847451	387.3	E
3 Nitrite as N		3.543			ND	
4 Bromide	4.345	4.828	-0.483	55053177	19.3	E
6 Sulfate	5.100	5.202	-0.102	304862979	58.0	
5 Nitrate as N		5.678			ND	
7 Orthophosphate as P		5.720			ND	

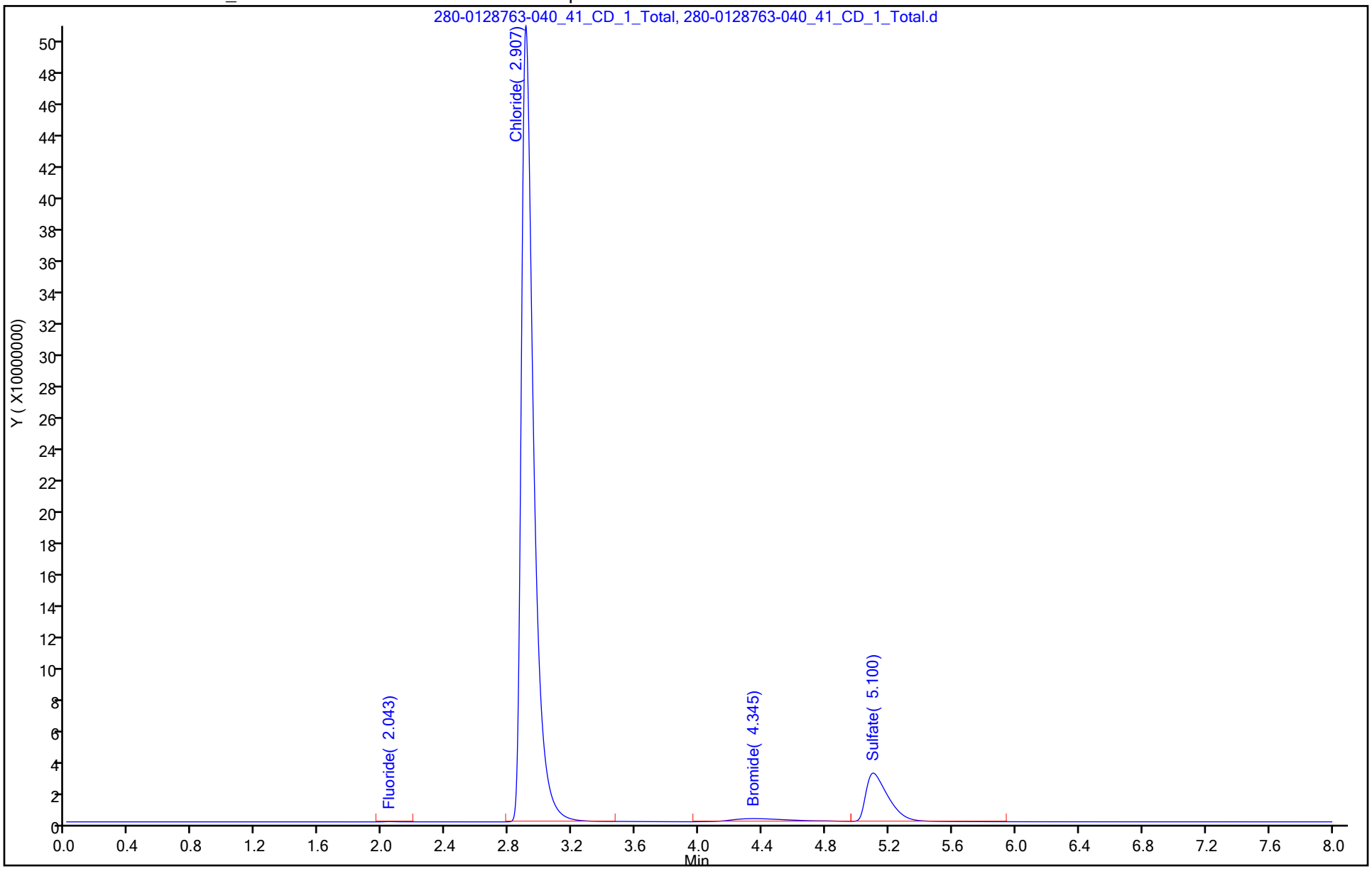
QC Flag Legend

Processing Flags
E - Exceeded Maximum Amount

Report Date: 21-Dec-2023 15:09:45 Chrom Revision: 2.3 15-Nov-2023 20:54:34

Eurofins Denver

Data File:	\\chromfs\Denver\ChromData\WC_IonChrom17\20231220-128763.b\280-0128763-040_41_CD_1_Total.d				
Injection Date:	21-Dec-2023 00:21:00	Instrument ID:	WC_IonChrom17	Operator ID:	
Lims ID:	280-185797-C-10	Lab Sample ID:	280-185797-10	Worklist Smp#:	40
Client ID:	TV044-MW21223A				
Injection Vol:	5.0 ul	Dil. Factor:	5.0000	ALS Bottle#:	0
Method:	Anions_IC17	Limit Group:	Wet - Anions 28D		



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Eurofins Denver
Target Compound Quantitation Report

Data File: \\chromfs\Denver\ChromData\WC_IonChrom17\20231220-128763.b\280-0128763-041_42_CD_1_Total.d
Lims ID: 280-185797-C-11
Client ID: TV044-MW25I1223A
Sample Type: Client
Inject. Date: 21-Dec-2023 00:32:00 ALS Bottle#: 0 Worklist Smp#: 41
Injection Vol: 5.0 ul Dil. Factor: 5.0000
Sample Info: 280-0128763-041
Misc. Info.: 280-185797-C-11
Operator ID: Instrument ID: WC_IonChrom17

Method: \\chromfs\Denver\ChromData\WC_IonChrom17\20231220-128763.b\Anions_IC17.m
Limit Group: Wet - Anions 28D
Last Update: 21-Dec-2023 15:09:42 Calib Date: 29-Nov-2023 16:52:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Denver\ChromData\WC_IonChrom17\20231129-128099.b\280-0128099-007_09_CD_1_Total.d

Column 1 : Det: 0005
Process Host: CTX1647

First Level Reviewer: XAY4 Date: 21-Dec-2023 15:05:00

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	OnCol Amt ug/ml	Flags
1 Fluoride	2.058	2.073	-0.015	2299208	0.2305	
2 Chloride	2.928	2.928	0.000	840643351	118.9	
3 Nitrite as N		3.543			ND	
4 Bromide		4.828			ND	U
6 Sulfate	5.175	5.202	-0.027	102268256	19.5	
5 Nitrate as N		5.678			ND	
7 Orthophosphate as P	5.712	5.720	-0.008	11347459	NC	

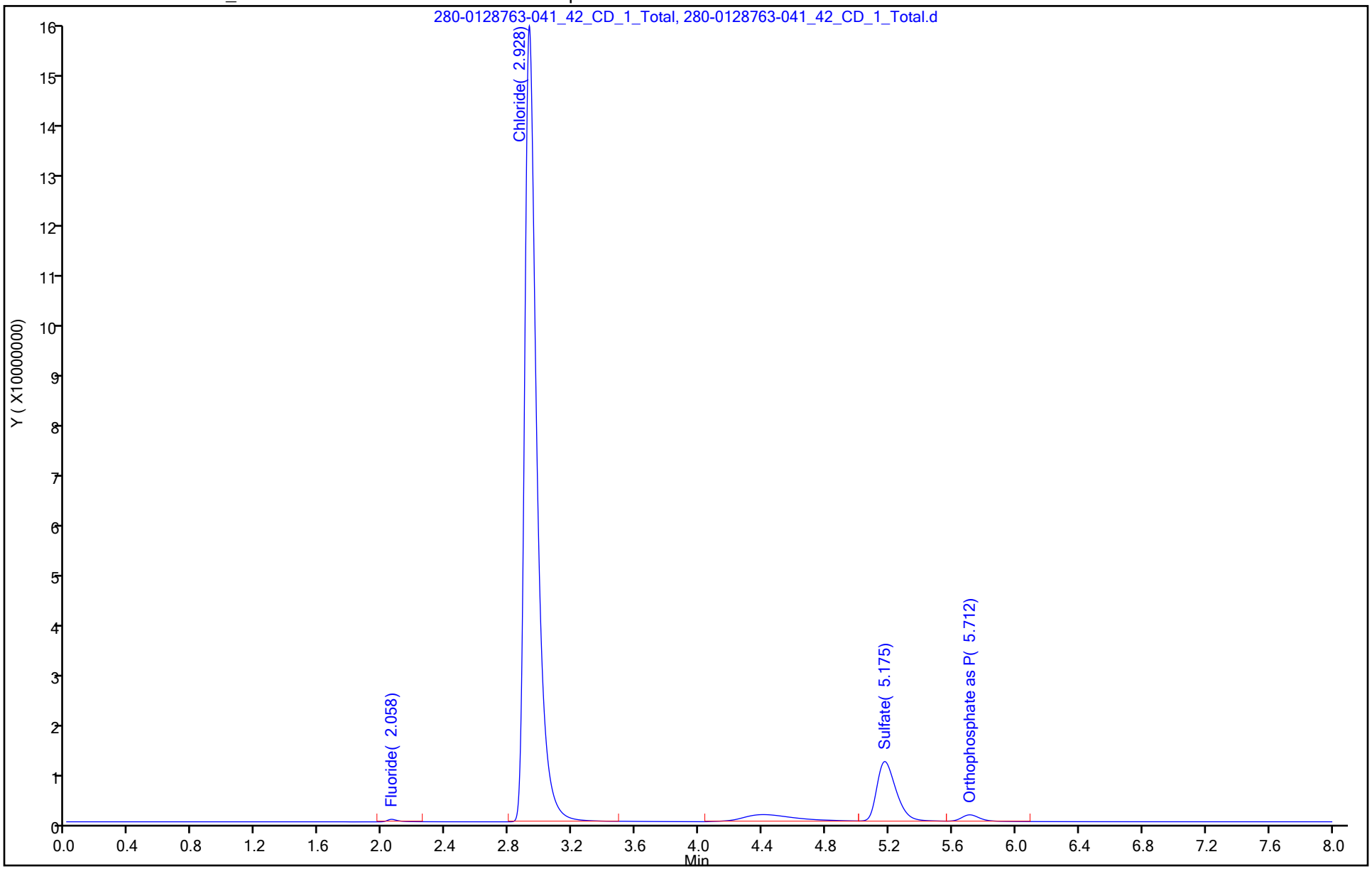
QC Flag Legend

Processing Flags
NC - Not Calibrated
Review Flags
U - Marked Undetected

Report Date: 21-Dec-2023 15:09:46 Chrom Revision: 2.3 15-Nov-2023 20:54:34

Eurofins Denver

Data File:	\\chromfs\Denver\ChromData\WC_IonChrom17\20231220-128763.b\280-0128763-041_42_CD_1_Total.d				
Injection Date:	21-Dec-2023 00:32:00	Instrument ID:	WC_IonChrom17	Operator ID:	
Lims ID:	280-185797-C-11	Lab Sample ID:	280-185797-11	Worklist Smp#:	41
Client ID:	TV044-MW25I1223A				
Injection Vol:	5.0 ul	Dil. Factor:	5.0000	ALS Bottle#:	0
Method:	Anions_IC17	Limit Group:	Wet - Anions 28D		



12/29/2023
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Eurofins Denver
Target Compound Quantitation Report

Data File: \\chromfs\Denver\ChromData\WC_IonChrom17\20231220-128763.b\280-0128763-042_43_CD_1_Total.d
Lims ID: lcs
Client ID:
Sample Type: LCS
Inject. Date: 21-Dec-2023 00:43:00 ALS Bottle#: 0 Worklist Smp#: 42
Injection Vol: 5.0 ul Dil. Factor: 1.0000
Sample Info: 280-0128763-042
Misc. Info.: LCS
Operator ID: Instrument ID: WC_IonChrom17

Method: \\chromfs\Denver\ChromData\WC_IonChrom17\20231220-128763.b\Anions_IC17.m
Limit Group: Wet - Anions 28D
Last Update: 21-Dec-2023 15:09:42 Calib Date: 29-Nov-2023 16:52:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Denver\ChromData\WC_IonChrom17\20231129-128099.b\280-0128099-007_09_CD_1_Total.d

Column 1 : Det: 0005
Process Host: CTX1647

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
1 Fluoride	2.067	2.073	-0.006	57395829	5.00	4.81	
2 Chloride	2.927	2.928	-0.001	755378998	100.0	106.8	
3 Nitrite as N	3.537	3.543	-0.006	88220873	NC	NC	
4 Bromide	4.818	4.828	-0.010	10430082	5.00	3.69	
6 Sulfate	5.065	5.202	-0.137	543775550	100.0	103.5	
5 Nitrate as N	5.667	5.678	-0.011	96460429	NC	NC	
7 Orthophosphate as P		5.720			ND	ND	

QC Flag Legend

Processing Flags
NC - Not Calibrated
ND - Not Detected or Marked ND

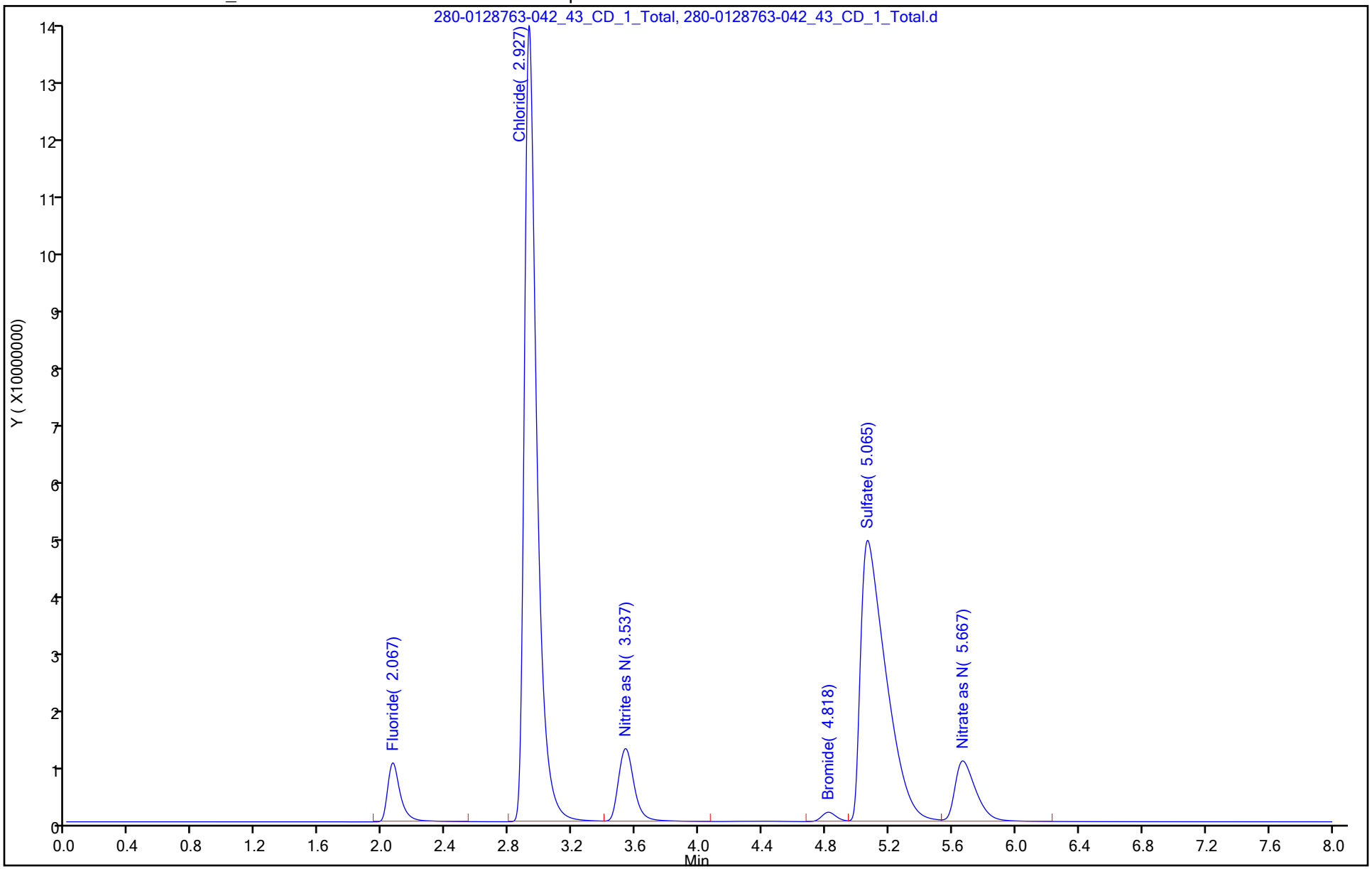
Reagents:

IC LCS_01998 Amount Added: 10.00 Units: mL

Report Date: 21-Dec-2023 15:09:47 Chrom Revision: 2.3 15-Nov-2023 20:54:34

Eurofins Denver

Data File:	\\chromfs\Denver\ChromData\WC_IonChrom17\20231220-128763.b\280-0128763-042_43_CD_1_Total.d				
Injection Date:	21-Dec-2023 00:43:00	Instrument ID:	WC_IonChrom17	Operator ID:	
Lims ID:	lcs			Worklist Smp#:	42
Client ID:					
Injection Vol:	5.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	Anions_IC17	Limit Group:	Wet - Anions 28D		



12/29/2023
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Eurofins Denver
Target Compound Quantitation Report

Data File: \\chromfs\Denver\ChromData\WC_IonChrom17\20231220-128763.b\280-0128763-043_44_CD_1_Total.d
Lims ID: lcsd
Client ID:
Sample Type: LCSD
Inject. Date: 21-Dec-2023 00:54:00 ALS Bottle#: 0 Worklist Smp#: 43
Injection Vol: 5.0 ul Dil. Factor: 1.0000
Sample Info: 280-0128763-043
Misc. Info.: LCSD
Operator ID: Instrument ID: WC_IonChrom17

Method: \\chromfs\Denver\ChromData\WC_IonChrom17\20231220-128763.b\Anions_IC17.m
Limit Group: Wet - Anions 28D
Last Update: 21-Dec-2023 15:09:42 Calib Date: 29-Nov-2023 16:52:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Denver\ChromData\WC_IonChrom17\20231129-128099.b\280-0128099-007_09_CD_1_Total.d

Column 1 : Det: 0005
Process Host: CTX1647

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
1 Fluoride	2.065	2.073	-0.008	58021109	5.00	4.87	
2 Chloride	2.925	2.928	-0.003	768522827	100.0	108.7	
3 Nitrite as N	3.535	3.543	-0.008	89760567	NC	NC	
4 Bromide	4.815	4.828	-0.013	10625517	5.00	3.76	
6 Sulfate	5.063	5.202	-0.139	552911730	100.0	105.2	
5 Nitrate as N	5.663	5.678	-0.015	98313184	NC	NC	
7 Orthophosphate as P		5.720			ND	ND	

QC Flag Legend

Processing Flags
NC - Not Calibrated
ND - Not Detected or Marked ND

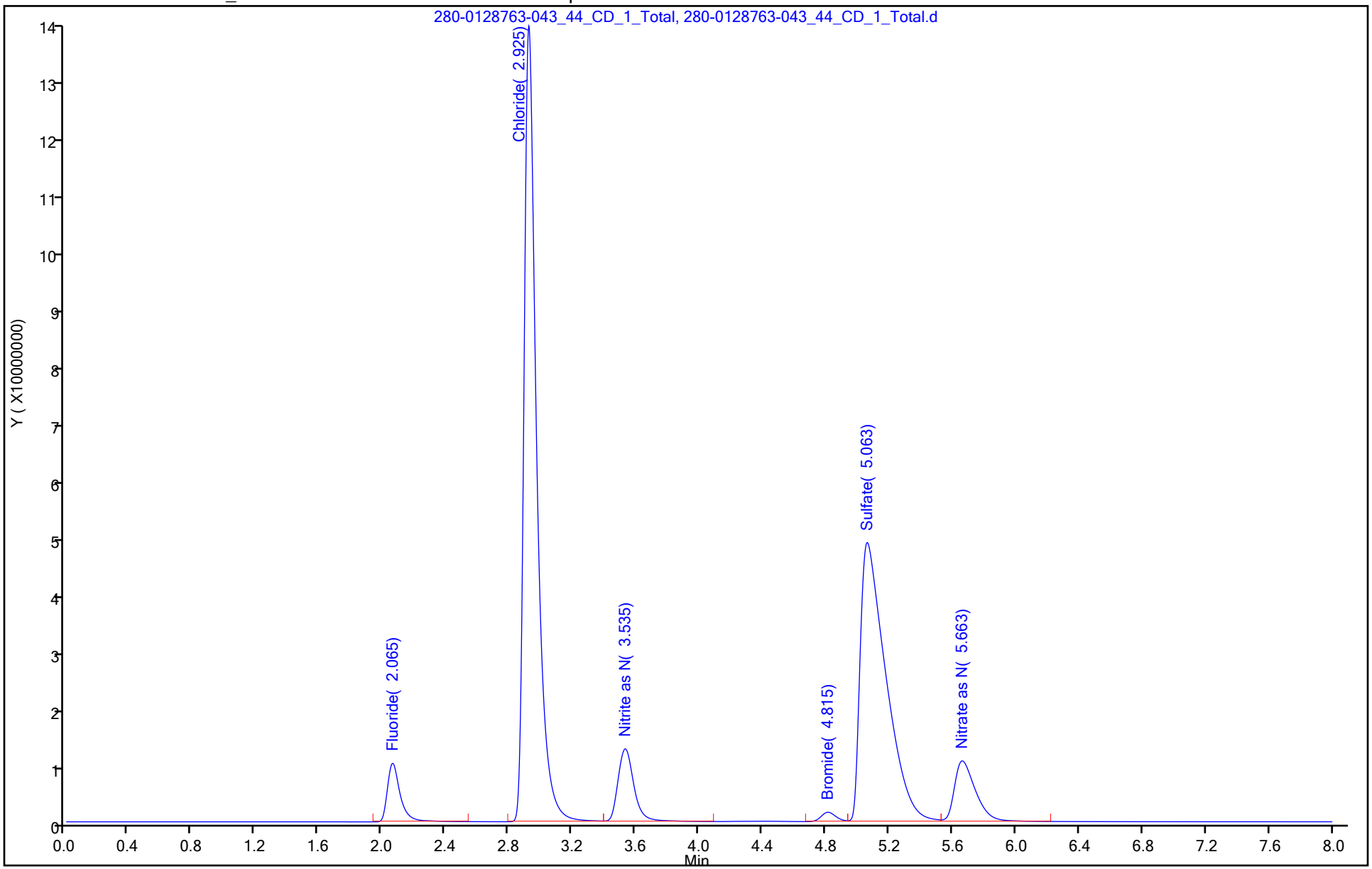
Reagents:

IC LCS_01998 Amount Added: 10.00 Units: mL

Report Date: 21-Dec-2023 15:09:47 Chrom Revision: 2.3 15-Nov-2023 20:54:34

Eurofins Denver

Data File:	\\chromfs\Denver\ChromData\WC_IonChrom17\20231220-128763.b\280-0128763-043_44_CD_1_Total.d				
Injection Date:	21-Dec-2023 00:54:00	Instrument ID:	WC_IonChrom17	Operator ID:	
Lims ID:	lcsd			Worklist Smp#:	43
Client ID:					
Injection Vol:	5.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	Anions_IC17	Limit Group:	Wet - Anions 28D		



12/29/2023
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Eurofins Denver
Target Compound Quantitation Report

Data File: \\chromfs\Denver\ChromData\WC_IonChrom17\20231220-128763.b\280-0128763-044_45_CD_1_Total.d
Lims ID: mb
Client ID:
Sample Type: MB
Inject. Date: 21-Dec-2023 01:05:00 ALS Bottle#: 0 Worklist Smp#: 44
Injection Vol: 5.0 ul Dil. Factor: 1.0000
Sample Info: 280-0128763-044
Misc. Info.: MB
Operator ID: Instrument ID: WC_IonChrom17

Method: \\chromfs\Denver\ChromData\WC_IonChrom17\20231220-128763.b\Anions_IC17.m
Limit Group: Wet - Anions 28D
Last Update: 21-Dec-2023 15:09:42 Calib Date: 29-Nov-2023 16:52:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Denver\ChromData\WC_IonChrom17\20231129-128099.b\280-0128099-007_09_CD_1_Total.d

Column 1 : Det: 0005
Process Host: CTX1647

First Level Reviewer: XAY4 Date: 21-Dec-2023 15:06:18

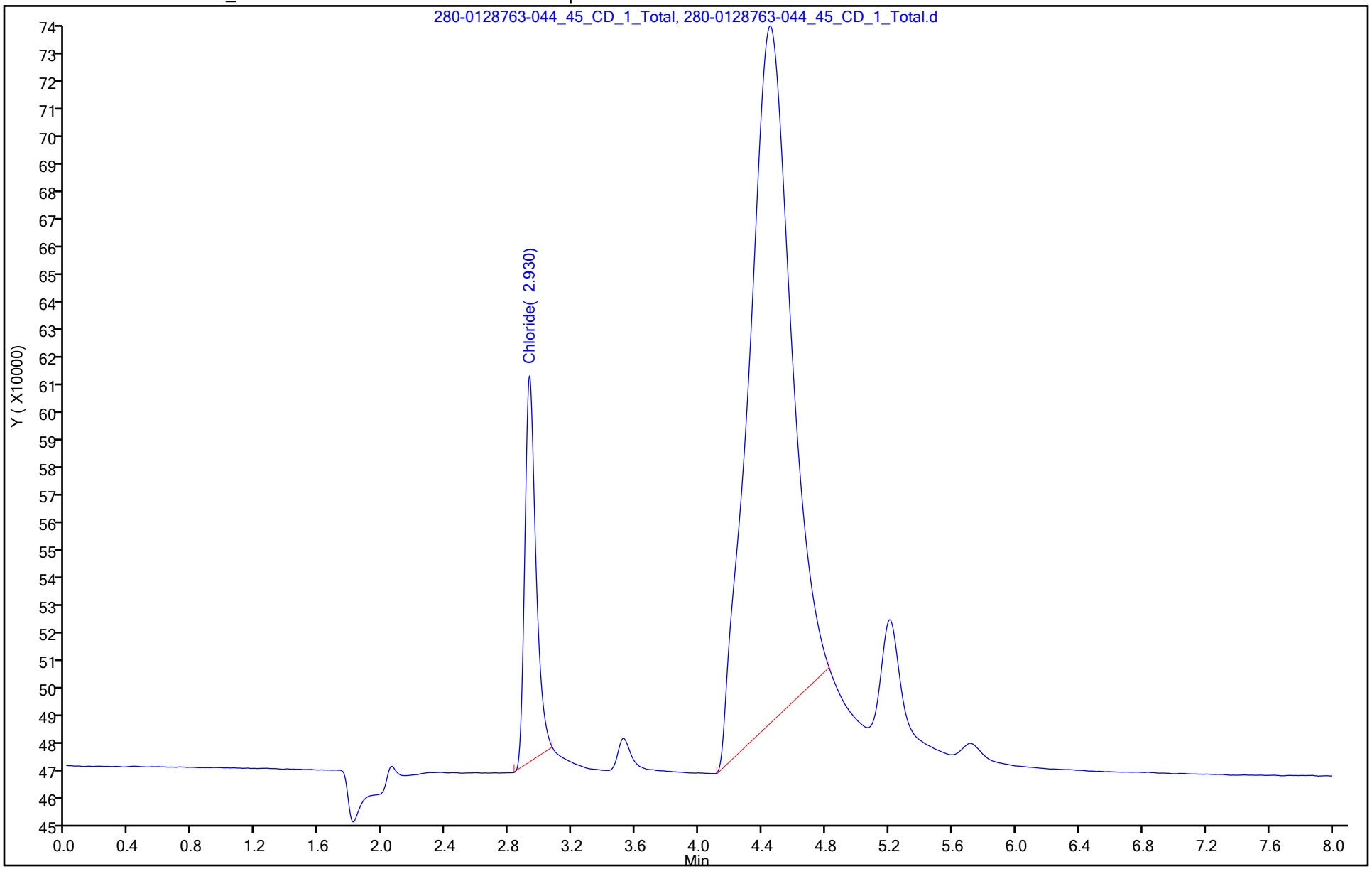
Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
1 Fluoride		2.073				ND	
2 Chloride	2.930	2.928	0.002	665684		0.1465	
3 Nitrite as N		3.543				ND	
4 Bromide		4.828				ND	U
6 Sulfate		5.202				ND	
5 Nitrate as N		5.678				ND	
7 Orthophosphate as P		5.720				ND	

QC Flag Legend

Processing Flags
Review Flags
U - Marked Undetected

Eurofins Denver

Data File:	\\chromfs\Denver\ChromData\WC_IonChrom17\20231220-128763.b\280-0128763-044_45_CD_1_Total.d				
Injection Date:	21-Dec-2023 01:05:00	Instrument ID:	WC_IonChrom17	Operator ID:	
Lims ID:	mb			Worklist Smp#:	44
Client ID:					
Injection Vol:	5.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	Anions_IC17	Limit Group:	Wet - Anions 28D		



Eurofins Denver
Target Compound Quantitation Report

Data File: \\chromfs\Denver\ChromData\WC_IonChrom17\20231220-128763.b\280-0128763-053_54_CD_1_Total.d
Lims ID: ccv
Client ID:
Sample Type: CCV
Inject. Date: 21-Dec-2023 02:43:00 ALS Bottle#: 0 Worklist Smp#: 53
Injection Vol: 5.0 ul Dil. Factor: 1.0000
Sample Info: 280-0128763-053
Misc. Info.: CCV
Operator ID: Instrument ID: WC_IonChrom17
Sublist: chrom-Anions_IC17*sub3

Method: \\chromfs\Denver\ChromData\WC_IonChrom17\20231220-128763.b\Anions_IC17.m
Limit Group: Wet - Anions 28D
Last Update: 21-Dec-2023 15:09:53 Calib Date: 29-Nov-2023 16:52:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Denver\ChromData\WC_IonChrom17\20231129-128099.b\280-0128099-007_09_CD_1_Total.d

Column 1 : Det: 0005
Process Host: CTX1647

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
1 Fluoride	2.070	2.073	-0.003	59487556	5.00	4.99	
2 Chloride	2.932	2.928	0.004	779979091	100.0	110.3	
3 Nitrite as N	3.542	3.543	-0.001	91227061	NC	NC	
4 Bromide	4.823	4.828	-0.005	10722337	5.00	3.80	
6 Sulfate	5.073	5.202	-0.129	561429105	100.0	106.8	
5 Nitrate as N	5.670	5.678	-0.008	99880943	NC	NC	
7 Orthophosphate as P		5.720			ND	ND	

QC Flag Legend

Processing Flags
NC - Not Calibrated
ND - Not Detected or Marked ND

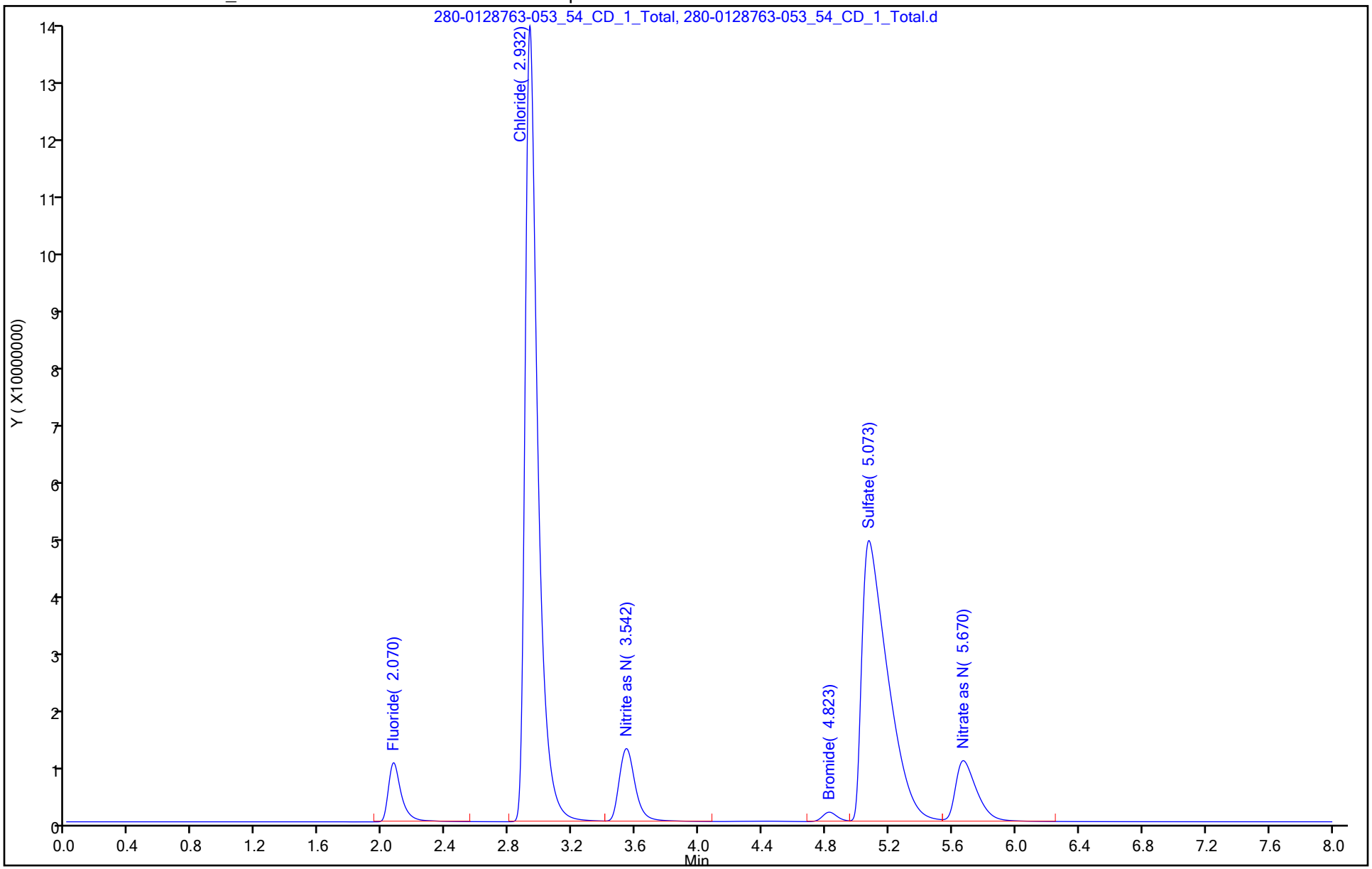
Reagents:

IC LCS_01998 Amount Added: 10.00 Units: mL

Report Date: 21-Dec-2023 15:09:53 Chrom Revision: 2.3 15-Nov-2023 20:54:34

Eurofins Denver

Data File:	\\chromfs\Denver\ChromData\WC_IonChrom17\20231220-128763.b\280-0128763-053_54_CD_1_Total.d				
Injection Date:	21-Dec-2023 02:43:00	Instrument ID:	WC_IonChrom17	Operator ID:	
Lims ID:	ccv			Worklist Smp#:	53
Client ID:					
Injection Vol:	5.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	Anions_IC17	Limit Group:	Wet - Anions 28D		



12/29/2023
10:48 AM

Eurofins Denver
Target Compound Quantitation Report

Data File: \\chromfs\Denver\ChromData\WC_IonChrom17\20231220-128763.b\280-0128763-054_55_CD_1_Total.d
Lims ID: ccb
Client ID:
Sample Type: CCB
Inject. Date: 21-Dec-2023 02:54:00 ALS Bottle#: 0 Worklist Smp#: 54
Injection Vol: 5.0 ul Dil. Factor: 1.0000
Sample Info: 280-0128763-054
Misc. Info.: CCB
Operator ID: Instrument ID: WC_IonChrom17

Method: \\chromfs\Denver\ChromData\WC_IonChrom17\20231220-128763.b\Anions_IC17.m
Limit Group: Wet - Anions 28D
Last Update: 21-Dec-2023 15:09:53 Calib Date: 29-Nov-2023 16:52:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Denver\ChromData\WC_IonChrom17\20231129-128099.b\280-0128099-007_09_CD_1_Total.d

Column 1 : Det: 0005
Process Host: CTX1647

First Level Reviewer: XAY4 Date: 21-Dec-2023 15:07:01

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
1 Fluoride		2.073				ND	
2 Chloride	2.908	2.928	-0.020	372837		0.1051	
3 Nitrite as N		3.543				ND	
4 Bromide		4.828				ND	U
6 Sulfate		5.202				ND	
5 Nitrate as N		5.678				ND	
7 Orthophosphate as P		5.720				ND	

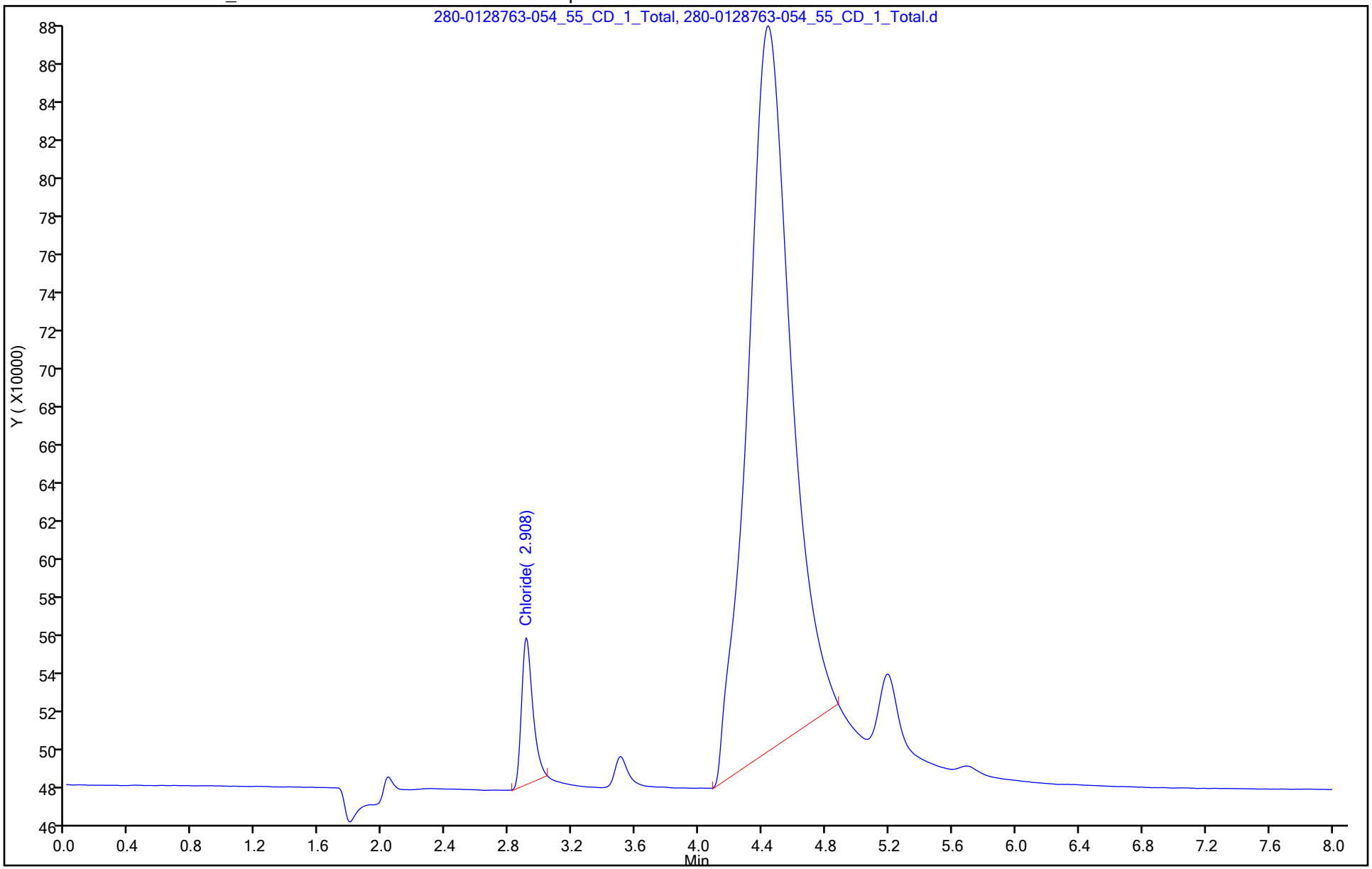
QC Flag Legend

Processing Flags
Review Flags
U - Marked Undetected

Report Date: 21-Dec-2023 15:09:53 Chrom Revision: 2.3 15-Nov-2023 20:54:34

Eurofins Denver

Data File:	\\chromfs\Denver\ChromData\WC_IonChrom17\20231220-128763.b\280-0128763-054_55_CD_1_Total.d				
Injection Date:	21-Dec-2023 02:54:00	Instrument ID:	WC_IonChrom17	Operator ID:	
Lims ID:	ccb			Worklist Smp#:	54
Client ID:					
Injection Vol:	5.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	Anions_IC17	Limit Group:	Wet - Anions 28D		



12/29/2023
10:48 AM

Shipping and Receiving Documents

Eurofins Denver
4955 Yarrow Street
Arvada, CO 80002
Phone (303) 736-0100 Phone (303) 431-7171

Chain of Custody Record

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Client Information	Sampler: Jason P. McDaniel	Lab PM: McElheny, Megan E	Carrier Tracking No(s):	COC No: 280-134612-37320.1
Client Contact: Mr. Chris Coonfare	Phone: 830 328-0851	E-Mail: Megan.Mcelheny@et.eurofinsus.com	State of Origin:	Page: Page ~~1 of 3~~ 1 - 1
Company: FPM Remediations Inc	PWSID:			Job #:

Address: 181 Kenwood Ave	Due Date Requested:	Analysis Requested
City: Oneida	TAT Requested (days): Normal	
State, Zip: NY, 13421	Compliance Project: Δ Yes Δ No	
Phone: 760-427-8282	PO #: Purchase Order Requested	
Email: c.coonfare@fpm-remediations.com	WO #:	
Project Name: Luke AFB Waterdog TU044, AZ	Project #: 28025740	
Site: TU044	SSOW#:	

280-185797 Chain of Custody

Preservation Codes:

A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Y - Trizma, Z - other (specify)

Other:

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	353.2 - Nitrogen	9056A - Sulfate	6020B - Total Lead	8260D - VOCs	Total Number of containers	Special Instructions/Note:
			Preservation Code:				S	N	D	N		
TB01	12/13/23	0950	G	Water	N	N				X		
TU044-MW24D1223A	"	1035	G	Water	N	N	X	X	X	X		
TU044-MW24I1223A	"	1050	G	Water	N	N	X	X	X	X		High Carbon
TU044-MW21M1223A	"	1130	G	Water	N	N	X	X	X	X		
TU044-MW21D1223A	"	1205	G	Water	N	N	X	X	X	X		High Carbon
TU044-MW21D1223C	"	1205	G	Water	N	N	X	X	X	X		High Carbon
TU044-MW23S1223A	"	1220	G	Water	N	N	X			X		High Carbon
TU044-MW31223A	"	1310	G	Water	N	N	X	X	X	X		High Carbon
TU044-MW25D1223A	"	1350	G	Water	N	N	X	X	X	X		
TU044-MW21223A	"	1420	G	Water	N	N	X	X	X	X		
TU044-MW25I1223A	"	1440	G	Water	N	N	X	X	X	X		

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☒ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological	☐ Return To Client ☒ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested: I, II, III, IV, Other (specify) I2 + EDD	Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
	12/14/23 0900			12/15/23 1010	GST BEN
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks: 0.3, 0.7 IR APPA @ 0.2

Ver: 01/16/2019

12/29/2023 10:48 AM

FedEx Express Package US Airbill 8181 4796 5989

1 From
Date 12/14/2023 Sender's FedEx Account Number
Sender's Name Jason P McDonald Phone 512-924-0851
Company FBI Laredo
Address FBI University Hill Ln 101 Dept./Floor/Suite/Room
City San Antonio State TX ZIP 78249

2 Your Internal Billing Reference 1098 24 01.00 UCA

3 To
Recipient's Name Phone
Company
Address We cannot deliver to P.O. boxes or P.O. ZIP codes Dept./Floor/Suite/Room
Address Use this line for the HOLD location address or for continuation of your shipping address.
City State ZIP

Hold Weekday 01 FedEx location address REQUIRED. NOT available for FedEx First Overnight.
Hold Saturday 31 FedEx location address REQUIRED. Available ONLY for FedEx Priority Overnight and FedEx 2Day to select locations.

Next Business Day
06 FedEx First Overnight — Earliest next business morning delivery to select locations. Friday shipments will be delivered on Monday unless Saturday Delivery is selected.
01 FedEx Priority Overnight — Next business morning.* Friday shipments will be delivered on Monday unless Saturday Delivery is selected.
05 FedEx Standard Overnight — Next business afternoon.* Saturday Delivery NOT available.

2 or 3 Business Days
49 FedEx 2Day A.M. — Second business morning.* Saturday Delivery NOT available.
03 FedEx 2Day — Second business afternoon.* Thursday shipments will be delivered on Monday unless Saturday Delivery is selected.
20 FedEx Express Saver — Third business day.* Saturday Delivery NOT available.

5 Packaging *Declared value limit $500.
06 FedEx Envelope* 02 FedEx Pak* 03 FedEx Box 04 FedEx Tube 01 Other

6 Special Handling and Delivery Signature Options Fees may apply. See the FedEx Service Guide.
03 Saturday Delivery
No Signature Required — Package may be left without obtaining a signature for delivery.
10 Direct Signature — Someone at recipient's address may sign for delivery.
34 Indirect Signature — If no one is available at recipient's address, someone at a neighboring address may sign for delivery. For residential deliveries only.

Does this shipment contain dangerous goods? One box must be checked.
No 04 Yes As per associated Shipper's Declaration. Yes Shipper's Declaration not required. 06 Dry Ice — Dry ice, 9, UN 1845 ____ x ____ kg
Restrictions apply for dangerous goods — see the current FedEx Service Guide. Cargo Aircraft Only

7 Payment Bill to:
1 Sender Acct. No. in Section 1 will be billed. 2 Recipient 3 Third Party — Enter FedEx Acct. No. below
Obtain recip. FedEx Acct No.
FedEx Acct. No.
Total Packages Total Weight 1.0 lbs. Total Declared Value† $ .00
†Our liability is limited to US$100 unless you declare a higher value. See the current FedEx Service Guide for details.
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611

171604 818

8181 4796 5989

SIGNATURE
DATE 12/21
Custody Seal

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2398048

FedEx Express MPS Label
FedEx Tracking Number for Customer
Form ID No. 0260

280-185797 Waybill

FRI - 15 DEC AA
PRIORITY OVERNIGHT
80002
NX LAAA
MPS# 8677 8001 4601 0260
Mstr# 8181 4796 5989 0215
2 of 2

Align Open End of FedEx Pouch Here

Visit ups.com for details on our privacy practices.

12/29/2023 10:48 AM

FedEx Express Package US Airbill

FedEx Tracking Number 8181 4796 5989

Form ID No. 0215

1 From

Date 12/14/2022

Sender's Name Jason C. McP[illegible] Phone [illegible]

Company FPI Remed. [illegible]

Address [illegible] Dept./Floor/Suite/Room

City San Antonio State TX ZIP 78249

2 Your Internal Billing Reference 1098-22-01; 0011CA

3 To

Recipient's Name [illegible] Phone [illegible]

Company [illegible]

Address [illegible] Dept./Floor/Suite/Room

We cannot deliver to P.O. boxes or P.O. ZIP codes.

Address

Use this line for the HOLD location address or for continuation of your shipping address.

City State ZIP

Hold Weekday — FedEx location address REQUIRED. NOT available for FedEx First Overnight.

Hold Saturday — FedEx location address REQUIRED. Available ONLY for FedEx Priority Overnight and FedEx 2Day to select locations.

8181 4796 5989

4 Express Package Service * To most locations.

Packages up to 150 lbs. *For packages over 150 lbs., use the FedEx Express Freight US Airbill.*

Next Business Day

- ☐ FedEx First Overnight — Earliest next business morning delivery to select locations. Friday shipments will be delivered on Monday unless Saturday Delivery is selected.
- ☒ FedEx Priority Overnight — Next business morning.* Friday shipments will be delivered on Monday unless Saturday Delivery is selected.
- ☐ FedEx Standard Overnight — Next business afternoon.* Saturday Delivery NOT available.

2 or 3 Business Days

- ☐ FedEx 2Day A.M. — Second business morning.* Saturday Delivery NOT available.
- ☐ FedEx 2Day — Second business afternoon.* Thursday shipments will be delivered on Monday unless Saturday Delivery is selected.
- ☐ FedEx Express Saver — Third business day.* Saturday Delivery NOT available.

5 Packaging * Declared value limit $500.

☐ FedEx Envelope* ☐ FedEx Pak* ☐ FedEx Box ☐ FedEx Tube ☒ Other

6 Special Handling and Delivery Signature Options Fees may apply. See the FedEx Service Guide.

☐ Saturday Delivery — NOT available for FedEx Standard Overnight, FedEx 2Day A.M., or FedEx Express Saver.

☐ No Signature Required — Package may be left without obtaining a signature for delivery.
☐ Direct Signature — Someone at recipient's address may sign for delivery.
☐ Indirect Signature — If no one is available at recipient's address, someone at a neighboring address may sign for delivery. For residential deliveries only.

Does this shipment contain dangerous goods? One box must be checked.

☒ No ☐ Yes As per associated Shipper's Declaration. ☐ Yes Shipper's Declaration not required. ☐ Dry Ice Dry Ice, 9, UN 1845 ____ x ____ kg

Restrictions apply for dangerous goods — see the current FedEx Service Guide. ☐ Cargo Aircraft Only

7 Payment *Bill to:*

☐ Sender Acct. No. in Section 1 will be billed. ☐ Recipient ☐ Third Party — Enter FedEx Acct. No. below — Obtain recip. FedEx Acct No. ☐

[redacted]

Total Packages 2 Total Weight 110 lbs.

†Our liability is limited to US$100 unless you declare a higher value. See the current FedEx Service Guide for details.

611

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2/14/23

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Page 971 of 972

12/29/2023 10:48 AM

Align Open End of FedEx Pouch Here

Login Sample Receipt Checklist

Client: FPM Remediations Inc

Job Number: 280-185797-1

Login Number: 185797
List Number: 1
Creator: Roehsner, Karen P

List Source: Eurofins Denver

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

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ANALYTICAL REPORT

PREPARED FOR

Attn: Chris Coonfare
FPM Remediations Inc
181 Kenwood Ave
Oneida NY 13421

Generated 12/29/2023 12:08 PM

JOB DESCRIPTION

Luke AFB Waterdog TU044, AZ

JOB NUMBER

280-185814-1

Eurofins Denver
4955 Yarrow Street
Arvada CO 80002

See page two for job notes and contact information.

my EOL

Eurofins Denver

Job Notes

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The test results in this report relate only to the samples as received by the laboratory and will meet all requirements of the methodology, with any exceptions noted. This report shall not be reproduced except in full, without the express written approval of the laboratory. All questions should be directed to the Eurofins TestAmerica Project Manager.

Authorization

Generated
12/29/2023 12:08 PM

Authorized for release by
Megan E McElheny, Project Manager I
Megan.Mcelheny@et.eurofinsus.com

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Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
D	The reported value is from a dilution.
J	Estimated: The analyte was positively identified; the quantitation is an estimation
J1	Estimated: The quantitation is an estimation due to discrepancies in meeting certain analyte-specific quality control criteria.
M	Manual integrated compound.
Q	One or more quality control criteria failed.
U	Undetected at the Limit of Detection.

GC/MS VOA TICs

Qualifier	Qualifier Description
U	Undetected at the Limit of Detection.

Metals

Qualifier	Qualifier Description
J	Estimated: The analyte was positively identified; the quantitation is an estimation
U	Undetected at the Limit of Detection.

General Chemistry

Qualifier	Qualifier Description
D	The reported value is from a dilution.
E	Result exceeded calibration range.
J	Estimated: The analyte was positively identified; the quantitation is an estimation
M	Manual integrated compound.
U	Undetected at the Limit of Detection.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)

Glossary (Continued)

Abbreviation	These commonly used abbreviations may or may not be present in this report.
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

CASE NARRATIVE

Client: FPM Remediations Inc

Project: Luke AFB Waterdog TU044, AZ

Report Number: 280-185814-1

With the exceptions noted as flags or footnotes, standard analytical protocols were followed in the analysis of the samples and no problems were encountered or anomalies observed. In addition all laboratory quality control samples were within established control limits, with any exceptions noted below. Each sample was analyzed to achieve the lowest possible reporting limit within the constraints of the method. In some cases, due to interference or analytes present at high concentrations, samples were diluted. For diluted samples, the reporting limits are adjusted relative to the dilution required.

Calculations are performed before rounding to avoid round-off errors in calculated results.

All holding times were met and proper preservation noted for the methods performed on these samples, unless otherwise detailed in the individual sections below.

RECEIPT

The samples were received on 12/16/2023 9:30 AM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperatures of the 2 coolers at receipt time were 2.2º C and 2.3º C.

Receipt Exceptions

The sample collection time was not recorded on the 500mL Nitric Acid preserved sample container received for the MSD sample. Logged per the COC: TV044-MW141223A (280-185814-4[MSD]).

The sample collection time was not recorded on the 250 mL Plastic sample container received. Logged per the COC: TV044-EB011223 (280-185814-2).

There are sample containers missing due to a missing cooler. The missing cooler was received 12/16/2023 at 1010. TV044-TB021223 (280-185814-1), TV044-EB011223 (280-185814-2), TV044-MW81223A (280-185814-3), TV044-MW141223A (280-185814-4), TV044-MW141223A (280-185814-4[MS]), TV044-MW141223A (280-185814-4[MSD]), TV044-MW151223A (280-185814-5), TV044-MW22S1223A (280-185814-6), TV044-MW22D1223A (280-185814-7), TV044-MW111223A (280-185814-8), TV044-MW111223C (280-185814-9), TV044-MW131223A (280-185814-10), TV044-MW91223A (280-185814-11), TV044-MW23D1223A (280-185814-12) and TV044-EB021223 (280-185814-13).

VOLATILE ORGANIC COMPOUNDS (GC/MS)

Samples TV044-TB021223 (280-185814-1), TV044-EB011223 (280-185814-2), TV044-MW81223A (280-185814-3), TV044-MW141223A (280-185814-4), TV044-MW151223A (280-185814-5), TV044-MW22S1223A (280-185814-6), TV044-MW22D1223A (280-185814-7), TV044-MW111223A (280-185814-8), TV044-MW111223C (280-185814-9), TV044-MW131223A (280-185814-10), TV044-MW91223A (280-185814-11), TV044-MW23D1223A (280-185814-12) and TV044-EB021223 (280-185814-13) were analyzed for volatile organic compounds (GC/MS) in accordance with SW-846 8260D. The samples were analyzed on 12/19/2023 and 12/20/2023.

In analytical batch 280-637903 for Method 8260, the following samples were diluted to bring the concentration of target analytes within the calibration range: TV044-MW22S1223A (280-185814-6), TV044-MW22D1223A (280-185814-7), TV044-MW131223A (280-185814-10) and TV044-MW23D1223A (280-185814-12). Elevated reporting limits (RLs) are provided.

The following sample was diluted due to the abundance of non-target analytes: TV044-MW111223A (280-185814-8). Elevated reporting limits (RLs) are provided.

For Method 8260, the continuing calibration verification (CCV) associated with batch 280-637903 recovered above the upper control limit for Cyclohexanone at 20.7% in the CCV (20%) and at 55.8% in the CCVC (50%). The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported. The associated samples are impacted: TV044-TB021223 (280-185814-1), TV044-EB011223 (280-185814-2), TV044-MW81223A (280-185814-3), TV044-MW141223A (280-185814-4), TV044-MW151223A (280-185814-5), TV044-

MW22S1223A (280-185814-6), TV044-MW22D1223A (280-185814-7), TV044-MW111223A (280-185814-8), TV044-MW111223C (280-185814-9), TV044-MW131223A (280-185814-10), TV044-MW91223A (280-185814-11), TV044-MW23D1223A (280-185814-12), TV044-EB021223 (280-185814-13), (CCV 280-637903/2) and (CCVC 280-637903/36). Cyclohexanone is an unstable compound that has tentative quantitation and no calibration criteria are applied.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

TOTAL METALS (ICP/MS)

Samples TV044-EB011223 (280-185814-2), TV044-MW81223A (280-185814-3), TV044-MW141223A (280-185814-4), TV044-MW151223A (280-185814-5), TV044-MW22S1223A (280-185814-6), TV044-MW22D1223A (280-185814-7), TV044-MW111223A (280-185814-8), TV044-MW111223C (280-185814-9), TV044-MW131223A (280-185814-10), TV044-MW91223A (280-185814-11), TV044-MW23D1223A (280-185814-12) and TV044-EB021223 (280-185814-13) were analyzed for total metals (ICP/MS) in accordance with SW846 6020B. The samples were prepared on 12/20/2023 and analyzed on 12/21/2023.

No analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

NITRATE-NITRITE AS NITROGEN

Samples TV044-EB011223 (280-185814-2), TV044-MW81223A (280-185814-3), TV044-MW141223A (280-185814-4), TV044-MW151223A (280-185814-5), TV044-MW22S1223A (280-185814-6), TV044-MW22D1223A (280-185814-7), TV044-MW111223A (280-185814-8), TV044-MW111223C (280-185814-9), TV044-MW131223A (280-185814-10), TV044-MW91223A (280-185814-11), TV044-MW23D1223A (280-185814-12) and TV044-EB021223 (280-185814-13) were analyzed for nitrate-nitrite as nitrogen in accordance with EPA Method 353.2. The samples were analyzed on 12/28/2023.

Samples TV044-MW81223A (280-185814-3)[5X], TV044-MW151223A (280-185814-5)[10X] and TV044-MW91223A (280-185814-11)[5X] required dilution prior to analysis. The reporting limits have been adjusted accordingly.

No analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

ANIONS (28 DAYS)

Samples TV044-EB011223 (280-185814-2), TV044-MW81223A (280-185814-3), TV044-MW141223A (280-185814-4), TV044-MW151223A (280-185814-5), TV044-MW22S1223A (280-185814-6), TV044-MW22D1223A (280-185814-7), TV044-MW111223A (280-185814-8), TV044-MW111223C (280-185814-9), TV044-MW131223A (280-185814-10), TV044-MW91223A (280-185814-11), TV044-MW23D1223A (280-185814-12) and TV044-EB021223 (280-185814-13) were analyzed for anions (28 days) in accordance with 9056A (28 Days). The samples were analyzed on 12/21/2023.

Samples TV044-MW151223A (280-185814-5)[50X], TV044-MW22S1223A (280-185814-6)[50X], TV044-MW111223A (280-185814-8)[5X], TV044-MW111223C (280-185814-9)[5X] and TV044-MW91223A (280-185814-11)[5X] required dilution prior to analysis. The reporting limits have been adjusted accordingly.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Detection Summary

Client: FPM Remediations Inc
Job ID: 280-185814-1
Project/Site: Luke AFB Waterdog TU044, AZ

Client Sample ID: TV044-TB021223 — Lab Sample ID: 280-185814-1

No Detections.

Client Sample ID: TV044-EB011223 — Lab Sample ID: 280-185814-2

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	Dil Fac	D	Method	Prep Type
Nitrate Nitrite as N	0.061	J	0.10	0.080	0.044	mg/L	1		353.2	Total/NA
Sulfate	1.1	J	5.0	2.5	1.0	mg/L	1		9056A	Total/NA

Client Sample ID: TV044-MW81223A — Lab Sample ID: 280-185814-3

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	Dil Fac	D	Method	Prep Type
Nitrate Nitrite as N	15		0.50	0.40	0.22	mg/L	5		353.2	Total/NA
Sulfate	54	M	5.0	2.5	1.0	mg/L	1		9056A	Total/NA

Client Sample ID: TV044-MW141223A — Lab Sample ID: 280-185814-4

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	Dil Fac	D	Method	Prep Type
Methyl tert-butyl ether	2.5	J	5.0	0.80	0.25	ug/L	1		8260D	Total/NA
Nitrate Nitrite as N	0.067	J	0.10	0.080	0.044	mg/L	1		353.2	Total/NA
Sulfate	170	M	5.0	2.5	1.0	mg/L	1		9056A	Total/NA

Client Sample ID: TV044-MW151223A — Lab Sample ID: 280-185814-5

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	Dil Fac	D	Method	Prep Type
Methyl tert-butyl ether	6.2		5.0	0.80	0.25	ug/L	1		8260D	Total/NA
Nitrate Nitrite as N	52		1.0	0.80	0.44	mg/L	10		353.2	Total/NA
Sulfate	2200	D	250	130	52	mg/L	50		9056A	Total/NA

Client Sample ID: TV044-MW22S1223A — Lab Sample ID: 280-185814-6

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	Dil Fac	D	Method	Prep Type
Methyl tert-butyl ether	1200	D	100	16	5.0	ug/L	20		8260D	Total/NA
Lead	0.29	J	1.0	0.70	0.23	ug/L	1		6020B	Total/NA
Sulfate	1500	D	250	130	52	mg/L	50		9056A	Total/NA

Client Sample ID: TV044-MW22D1223A — Lab Sample ID: 280-185814-7

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	Dil Fac	D	Method	Prep Type
Benzene	1200	D	200	160	62	ug/L	200		8260D	Total/NA
Cyclohexane	150	J D	200	160	88	ug/L	200		8260D	Total/NA
Methyl tert-butyl ether	15000	D	1000	160	50	ug/L	200		8260D	Total/NA
Methylcyclohexane	310	D	200	80	63	ug/L	200		8260D	Total/NA
n-Hexane	36	J D	400	160	33	ug/L	200		8260D	Total/NA
Xylenes, Total	77	J D	200	160	66	ug/L	200		8260D	Total/NA
Sulfate	1.0	J M	5.0	2.5	1.0	mg/L	1		9056A	Total/NA

Client Sample ID: TV044-MW111223A — Lab Sample ID: 280-185814-8

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	Dil Fac	D	Method	Prep Type
Methyl tert-butyl ether	3.8	J D	20	3.2	1.0	ug/L	4		8260D	Total/NA
Lead	0.25	J	1.0	0.70	0.23	ug/L	1		6020B	Total/NA
Sulfate	160	D M	25	13	5.2	mg/L	5		9056A	Total/NA

This Detection Summary does not include radiochemical test results.

Detection Summary

Client: FPM Remediations Inc
Job ID: 280-185814-1
Project/Site: Luke AFB Waterdog TU044, AZ

Client Sample ID: TV044-MW111223C — Lab Sample ID: 280-185814-9

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	Dil Fac	D	Method	Prep Type
Methyl tert-butyl ether	3.3	J	5.0	0.80	0.25	ug/L	1		8260D	Total/NA
Lead	0.33	J	1.0	0.70	0.23	ug/L	1		6020B	Total/NA
Sulfate	200	D	25	13	5.2	mg/L	5		9056A	Total/NA

Client Sample ID: TV044-MW131223A — Lab Sample ID: 280-185814-10

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	Dil Fac	D	Method	Prep Type
1,2,3-Trimethylbenzene	110	J D	200	80	27	ug/L	100		8260D	Total/NA
1,2,4-Trimethylbenzene	60	J D	100	40	15	ug/L	100		8260D	Total/NA
Benzene	6400	D	100	80	31	ug/L	100		8260D	Total/NA
Cyclohexane	130	D	100	80	44	ug/L	100		8260D	Total/NA
Ethylbenzene	95	J D	100	40	30	ug/L	100		8260D	Total/NA
Methyl tert-butyl ether	6000	D	500	80	25	ug/L	100		8260D	Total/NA
Methylcyclohexane	240	D	100	40	31	ug/L	100		8260D	Total/NA
Naphthalene	96	J D	200	80	63	ug/L	100		8260D	Total/NA
n-Hexane	77	J D	200	80	16	ug/L	100		8260D	Total/NA
Toluene	61	J D	100	40	32	ug/L	100		8260D	Total/NA
Xylenes, Total	70	J D	100	80	33	ug/L	100		8260D	Total/NA

Client Sample ID: TV044-MW91223A — Lab Sample ID: 280-185814-11

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	Dil Fac	D	Method	Prep Type
Methyl tert-butyl ether	68		5.0	0.80	0.25	ug/L	1		8260D	Total/NA
Nitrate Nitrite as N	14		0.50	0.40	0.22	mg/L	5		353.2	Total/NA
Sulfate	310	D	25	13	5.2	mg/L	5		9056A	Total/NA

Client Sample ID: TV044-MW23D1223A — Lab Sample ID: 280-185814-12

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	Dil Fac	D	Method	Prep Type
Methyl tert-butyl ether	12000	D	1000	160	50	ug/L	200		8260D	Total/NA
Lead	0.30	J	1.0	0.70	0.23	ug/L	1		6020B	Total/NA
Sulfate	160	M	5.0	2.5	1.0	mg/L	1		9056A	Total/NA

Client Sample ID: TV044-EB021223 — Lab Sample ID: 280-185814-13

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	Dil Fac	D	Method	Prep Type
Nitrate Nitrite as N	0.056	J	0.10	0.080	0.044	mg/L	1		353.2	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample ID: TV044-TB021223
Lab Sample ID: 280-185814-1

Date Collected: 12/14/23 10:10
Matrix: Water
Date Received: 12/16/23 09:30

Method: SW846 8260D - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
1,1,1-Trichloroethane	0.50	U	1.0	0.50	0.39	ug/L		12/19/23 20:18	1
1,1,2,2-Tetrachloroethane	0.80	U	1.0	0.80	0.21	ug/L		12/19/23 20:18	1
1,1,2-Trichloroethane	0.80	U	1.0	0.80	0.27	ug/L		12/19/23 20:18	1
1,1-Dichloroethane	0.80	U	1.0	0.80	0.22	ug/L		12/19/23 20:18	1
1,1-Dichloroethylene	0.80	U	1.0	0.80	0.23	ug/L		12/19/23 20:18	1
1,1-Dichloropropene	0.80	U	1.0	0.80	0.42	ug/L		12/19/23 20:18	1
1,2,3-Trichlorobenzene	0.80	U	2.0	0.80	0.70	ug/L		12/19/23 20:18	1
1,2,3-Trichloropropane	1.8	U	2.5	1.8	0.86	ug/L		12/19/23 20:18	1
1,2,3-Trimethylbenzene	0.80	U	2.0	0.80	0.27	ug/L		12/19/23 20:18	1
1,2,4-Trichlorobenzene	0.80	U	1.0	0.80	0.58	ug/L		12/19/23 20:18	1
1,2,4-Trimethylbenzene	0.40	U	1.0	0.40	0.15	ug/L		12/19/23 20:18	1
1,2-Dibromo-3-Chloropropane	4.0	U	5.0	4.0	1.8	ug/L		12/19/23 20:18	1
1,2-Dibromoethane	0.80	U	1.0	0.80	0.40	ug/L		12/19/23 20:18	1
1,2-Dichlorobenzene	0.50	U	1.0	0.50	0.37	ug/L		12/19/23 20:18	1
1,2-Dichloroethane	0.80	U	1.0	0.80	0.54	ug/L		12/19/23 20:18	1
1,2-Dichloropropane	0.80	U	1.0	0.80	0.52	ug/L		12/19/23 20:18	1
1,3,5-Trimethylbenzene	0.50	U	1.0	0.50	0.37	ug/L		12/19/23 20:18	1
1,3-Dichlorobenzene	0.40	U	1.0	0.40	0.33	ug/L		12/19/23 20:18	1
1,3-Dichloropropane	0.80	U	1.0	0.80	0.38	ug/L		12/19/23 20:18	1
1,4-Dichlorobenzene	0.50	U	1.0	0.50	0.39	ug/L		12/19/23 20:18	1
2,2-Dichloropropane	0.80	U	1.0	0.80	0.38	ug/L		12/19/23 20:18	1
2-Butanone (MEK)	12	U	15	12	6.0	ug/L		12/19/23 20:18	1
2-Chloroethyl vinyl ether	0.80	U	3.0	0.80	0.44	ug/L		12/19/23 20:18	1
2-Hexanone	4.0	U	5.0	4.0	1.7	ug/L		12/19/23 20:18	1
4-Isopropyltoluene	0.80	U	1.0	0.80	0.43	ug/L		12/19/23 20:18	1
4-Methyl-2-pentanone (MIBK)	3.2	U	5.0	3.2	0.98	ug/L		12/19/23 20:18	1
Acetone	8.0	U	15	8.0	6.6	ug/L		12/19/23 20:18	1
Acrylonitrile	8.0	U	20	8.0	4.5	ug/L		12/19/23 20:18	1
Benzene	0.80	U	1.0	0.80	0.31	ug/L		12/19/23 20:18	1
Bromobenzene	0.50	U	1.0	0.50	0.40	ug/L		12/19/23 20:18	1
Bromochloromethane	0.80	U	1.0	0.80	0.40	ug/L		12/19/23 20:18	1
Bromodichloromethane	0.50	U	1.0	0.50	0.39	ug/L		12/19/23 20:18	1
Bromoform	1.8	U	2.0	1.8	1.2	ug/L		12/19/23 20:18	1
Carbon disulfide	0.80	U	2.0	0.80	0.63	ug/L		12/19/23 20:18	1
Carbon tetrachloride	0.80	U	1.0	0.80	0.57	ug/L		12/19/23 20:18	1
Chlorobenzene	0.80	U	1.0	0.80	0.42	ug/L		12/19/23 20:18	1
Chloroethane	1.6	U	4.0	1.6	1.4	ug/L		12/19/23 20:18	1
Chloroform	0.80	U	1.0	0.80	0.36	ug/L		12/19/23 20:18	1
Chloromethane	1.0	U	2.0	1.0	0.75	ug/L		12/19/23 20:18	1
cis-1,2-Dichloroethylene	0.40	U	1.0	0.40	0.32	ug/L		12/19/23 20:18	1
cis-1,3-Dichloropropene	1.8	U	2.0	1.8	0.63	ug/L		12/19/23 20:18	1
Cyclohexane	0.80	U	1.0	0.80	0.44	ug/L		12/19/23 20:18	1
Cyclohexanone	64	U M Q	100	64	32	ug/L		12/19/23 20:18	1
Dibromochloromethane	1.8	U	2.0	1.8	0.62	ug/L		12/19/23 20:18	1
Dibromomethane	0.40	U	1.0	0.40	0.34	ug/L		12/19/23 20:18	1
Dichlorodifluoromethane	2.5	U	3.0	2.5	0.96	ug/L		12/19/23 20:18	1
Ethylbenzene	0.40	U	1.0	0.40	0.30	ug/L		12/19/23 20:18	1
Hexachlorobutadiene	1.8	U	2.0	1.8	1.2	ug/L		12/19/23 20:18	1
Isopropyl ether	2.0	U	10	2.0	1.1	ug/L		12/19/23 20:18	1

Client Sample ID: TV044-TB021223
Lab Sample ID: 280-185814-1

Date Collected: 12/14/23 10:10
Matrix: Water
Date Received: 12/16/23 09:30

Method: SW846 8260D - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Isopropylbenzene	0.50	U	1.0	0.50	0.36	ug/L		12/19/23 20:18	1
Methyl tert-butyl ether	0.80	U	5.0	0.80	0.25	ug/L		12/19/23 20:18	1
Methylcyclohexane	0.40	U	1.0	0.40	0.31	ug/L		12/19/23 20:18	1
Methylene Chloride	1.8	U	2.0	1.8	0.94	ug/L		12/19/23 20:18	1
Naphthalene	0.80	U	2.0	0.80	0.63	ug/L		12/19/23 20:18	1
n-Butylbenzene	0.80	U	1.0	0.80	0.48	ug/L		12/19/23 20:18	1
n-Hexane	0.80	U	2.0	0.80	0.16	ug/L		12/19/23 20:18	1
N-Propylbenzene	0.80	U	1.0	0.80	0.53	ug/L		12/19/23 20:18	1
o-Chlorotoluene	0.40	U	1.0	0.40	0.34	ug/L		12/19/23 20:18	1
p-Chlorotoluene	0.80	U	1.0	0.80	0.21	ug/L		12/19/23 20:18	1
sec-Butylbenzene	0.80	U	1.0	0.80	0.45	ug/L		12/19/23 20:18	1
Styrene	0.80	U	1.0	0.80	0.36	ug/L		12/19/23 20:18	1
tert-Butylbenzene	0.80	U	1.0	0.80	0.42	ug/L		12/19/23 20:18	1
Tetrachloroethene	0.80	U	1.0	0.80	0.40	ug/L		12/19/23 20:18	1
Toluene	0.40	U	1.0	0.40	0.32	ug/L		12/19/23 20:18	1
trans-1,2-Dichloroethylene	0.50	U	1.0	0.50	0.37	ug/L		12/19/23 20:18	1
trans-1,3-Dichloropropene	1.8	U	2.0	1.8	0.65	ug/L		12/19/23 20:18	1
Trichloroethene	0.40	U	1.0	0.40	0.30	ug/L		12/19/23 20:18	1
Trichlorofluoromethane	0.80	U	2.0	0.80	0.57	ug/L		12/19/23 20:18	1
Vinyl acetate	2.0	U	3.0	2.0	0.94	ug/L		12/19/23 20:18	1
Vinyl chloride	1.0	U	2.0	1.0	0.51	ug/L		12/19/23 20:18	1
Xylenes, Total	0.80	U	1.0	0.80	0.33	ug/L		12/19/23 20:18	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
1,3-Butadiene TIC	*1.0*	*U*	*ug/L*			*106-99-0*		*12/19/23 20:18*	*1*
4-Ethyltoluene TIC	*1.0*	*U*	*ug/L*			*622-96-8*		*12/19/23 20:18*	*1*
Dicyclopentadiene TIC	*1.0*	*U*	*ug/L*			*77-73-6*		*12/19/23 20:18*	*1*
Propene TIC	*1.0*	*U*	*ug/L*			*115-07-1*		*12/19/23 20:18*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*103*		*81 - 118*		*12/19/23 20:18*	*1*
4-Bromofluorobenzene (Surr)	*91*		*85 - 114*		*12/19/23 20:18*	*1*
Dibromofluoromethane (Surr)	*110*		*80 - 119*		*12/19/23 20:18*	*1*
Toluene-d8 (Surr)	*100*		*89 - 112*		*12/19/23 20:18*	*1*

Client Sample ID: TV044-EB011223
Lab Sample ID: 280-185814-2

Date Collected: 12/14/23 10:20
Matrix: Water
Date Received: 12/16/23 09:30

Method: SW846 8260D - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
1,1,1-Trichloroethane	0.50	U	1.0	0.50	0.39	ug/L		12/19/23 20:39	1
1,1,2,2-Tetrachloroethane	0.80	U	1.0	0.80	0.21	ug/L		12/19/23 20:39	1
1,1,2-Trichloroethane	0.80	U	1.0	0.80	0.27	ug/L		12/19/23 20:39	1
1,1-Dichloroethane	0.80	U	1.0	0.80	0.22	ug/L		12/19/23 20:39	1
1,1-Dichloroethylene	0.80	U	1.0	0.80	0.23	ug/L		12/19/23 20:39	1
1,1-Dichloropropene	0.80	U	1.0	0.80	0.42	ug/L		12/19/23 20:39	1
1,2,3-Trichlorobenzene	0.80	U	2.0	0.80	0.70	ug/L		12/19/23 20:39	1
1,2,3-Trichloropropane	1.8	U	2.5	1.8	0.86	ug/L		12/19/23 20:39	1
1,2,3-Trimethylbenzene	0.80	U	2.0	0.80	0.27	ug/L		12/19/23 20:39	1

Client Sample ID: TV044-EB011223
Lab Sample ID: 280-185814-2

Date Collected: 12/14/23 10:20
Matrix: Water
Date Received: 12/16/23 09:30

Method: SW846 8260D - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
1,2,4-Trichlorobenzene	0.80	U	1.0	0.80	0.58	ug/L		12/19/23 20:39	1
1,2,4-Trimethylbenzene	0.40	U	1.0	0.40	0.15	ug/L		12/19/23 20:39	1
1,2-Dibromo-3-Chloropropane	4.0	U	5.0	4.0	1.8	ug/L		12/19/23 20:39	1
1,2-Dibromoethane	0.80	U	1.0	0.80	0.40	ug/L		12/19/23 20:39	1
1,2-Dichlorobenzene	0.50	U	1.0	0.50	0.37	ug/L		12/19/23 20:39	1
1,2-Dichloroethane	0.80	U	1.0	0.80	0.54	ug/L		12/19/23 20:39	1
1,2-Dichloropropane	0.80	U	1.0	0.80	0.52	ug/L		12/19/23 20:39	1
1,3,5-Trimethylbenzene	0.50	U	1.0	0.50	0.37	ug/L		12/19/23 20:39	1
1,3-Dichlorobenzene	0.40	U	1.0	0.40	0.33	ug/L		12/19/23 20:39	1
1,3-Dichloropropane	0.80	U	1.0	0.80	0.38	ug/L		12/19/23 20:39	1
1,4-Dichlorobenzene	0.50	U	1.0	0.50	0.39	ug/L		12/19/23 20:39	1
2,2-Dichloropropane	0.80	U	1.0	0.80	0.38	ug/L		12/19/23 20:39	1
2-Butanone (MEK)	12	U	15	12	6.0	ug/L		12/19/23 20:39	1
2-Chloroethyl vinyl ether	0.80	U	3.0	0.80	0.44	ug/L		12/19/23 20:39	1
2-Hexanone	4.0	U	5.0	4.0	1.7	ug/L		12/19/23 20:39	1
4-Isopropyltoluene	0.80	U	1.0	0.80	0.43	ug/L		12/19/23 20:39	1
4-Methyl-2-pentanone (MIBK)	3.2	U	5.0	3.2	0.98	ug/L		12/19/23 20:39	1
Acetone	8.0	U	15	8.0	6.6	ug/L		12/19/23 20:39	1
Acrylonitrile	8.0	U	20	8.0	4.5	ug/L		12/19/23 20:39	1
Benzene	0.80	U	1.0	0.80	0.31	ug/L		12/19/23 20:39	1
Bromobenzene	0.50	U	1.0	0.50	0.40	ug/L		12/19/23 20:39	1
Bromochloromethane	0.80	U	1.0	0.80	0.40	ug/L		12/19/23 20:39	1
Bromodichloromethane	0.50	U	1.0	0.50	0.39	ug/L		12/19/23 20:39	1
Bromoform	1.8	U	2.0	1.8	1.2	ug/L		12/19/23 20:39	1
Carbon disulfide	0.80	U	2.0	0.80	0.63	ug/L		12/19/23 20:39	1
Carbon tetrachloride	0.80	U	1.0	0.80	0.57	ug/L		12/19/23 20:39	1
Chlorobenzene	0.80	U	1.0	0.80	0.42	ug/L		12/19/23 20:39	1
Chloroethane	1.6	U	4.0	1.6	1.4	ug/L		12/19/23 20:39	1
Chloroform	0.80	U	1.0	0.80	0.36	ug/L		12/19/23 20:39	1
Chloromethane	1.0	U	2.0	1.0	0.75	ug/L		12/19/23 20:39	1
cis-1,2-Dichloroethylene	0.40	U	1.0	0.40	0.32	ug/L		12/19/23 20:39	1
cis-1,3-Dichloropropene	1.8	U	2.0	1.8	0.63	ug/L		12/19/23 20:39	1
Cyclohexane	0.80	U	1.0	0.80	0.44	ug/L		12/19/23 20:39	1
Cyclohexanone	64	U M Q	100	64	32	ug/L		12/19/23 20:39	1
Dibromochloromethane	1.8	U	2.0	1.8	0.62	ug/L		12/19/23 20:39	1
Dibromomethane	0.40	U	1.0	0.40	0.34	ug/L		12/19/23 20:39	1
Dichlorodifluoromethane	2.5	U	3.0	2.5	0.96	ug/L		12/19/23 20:39	1
Ethylbenzene	0.40	U	1.0	0.40	0.30	ug/L		12/19/23 20:39	1
Hexachlorobutadiene	1.8	U	2.0	1.8	1.2	ug/L		12/19/23 20:39	1
Isopropyl ether	2.0	U	10	2.0	1.1	ug/L		12/19/23 20:39	1
Isopropylbenzene	0.50	U	1.0	0.50	0.36	ug/L		12/19/23 20:39	1
Methyl tert-butyl ether	0.80	U	5.0	0.80	0.25	ug/L		12/19/23 20:39	1
Methylcyclohexane	0.40	U	1.0	0.40	0.31	ug/L		12/19/23 20:39	1
Methylene Chloride	1.8	U	2.0	1.8	0.94	ug/L		12/19/23 20:39	1
Naphthalene	0.80	U	2.0	0.80	0.63	ug/L		12/19/23 20:39	1
n-Butylbenzene	0.80	U	1.0	0.80	0.48	ug/L		12/19/23 20:39	1
n-Hexane	0.80	U	2.0	0.80	0.16	ug/L		12/19/23 20:39	1
N-Propylbenzene	0.80	U	1.0	0.80	0.53	ug/L		12/19/23 20:39	1
o-Chlorotoluene	0.40	U	1.0	0.40	0.34	ug/L		12/19/23 20:39	1

Client Sample ID: TV044-EB011223
Lab Sample ID: 280-185814-2

Date Collected: 12/14/23 10:20
Matrix: Water
Date Received: 12/16/23 09:30

Method: SW846 8260D - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
p-Chlorotoluene	0.80	U	1.0	0.80	0.21	ug/L		12/19/23 20:39	1
sec-Butylbenzene	0.80	U	1.0	0.80	0.45	ug/L		12/19/23 20:39	1
Styrene	0.80	U	1.0	0.80	0.36	ug/L		12/19/23 20:39	1
tert-Butylbenzene	0.80	U	1.0	0.80	0.42	ug/L		12/19/23 20:39	1
Tetrachloroethene	0.80	U	1.0	0.80	0.40	ug/L		12/19/23 20:39	1
Toluene	0.40	U	1.0	0.40	0.32	ug/L		12/19/23 20:39	1
trans-1,2-Dichloroethylene	0.50	U	1.0	0.50	0.37	ug/L		12/19/23 20:39	1
trans-1,3-Dichloropropene	1.8	U	2.0	1.8	0.65	ug/L		12/19/23 20:39	1
Trichloroethene	0.40	U	1.0	0.40	0.30	ug/L		12/19/23 20:39	1
Trichlorofluoromethane	0.80	U	2.0	0.80	0.57	ug/L		12/19/23 20:39	1
Vinyl acetate	2.0	U	3.0	2.0	0.94	ug/L		12/19/23 20:39	1
Vinyl chloride	1.0	U	2.0	1.0	0.51	ug/L		12/19/23 20:39	1
Xylenes, Total	0.80	U	1.0	0.80	0.33	ug/L		12/19/23 20:39	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
1,3-Butadiene TIC	*1.0*	*U*	*ug/L*			*106-99-0*		*12/19/23 20:39*	*1*
4-Ethyltoluene TIC	*1.0*	*U*	*ug/L*			*622-96-8*		*12/19/23 20:39*	*1*
Dicyclopentadiene TIC	*1.0*	*U*	*ug/L*			*77-73-6*		*12/19/23 20:39*	*1*
Propene TIC	*1.0*	*U*	*ug/L*			*115-07-1*		*12/19/23 20:39*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*104*		*81 - 118*		*12/19/23 20:39*	*1*
4-Bromofluorobenzene (Surr)	*91*		*85 - 114*		*12/19/23 20:39*	*1*
Dibromofluoromethane (Surr)	*108*		*80 - 119*		*12/19/23 20:39*	*1*
Toluene-d8 (Surr)	*96*		*89 - 112*		*12/19/23 20:39*	*1*

Method: SW846 6020B - Metals (ICP/MS)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Lead	0.70	U	1.0	0.70	0.23	ug/L		12/21/23 15:59	1

General Chemistry

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Nitrate Nitrite as N (EPA 353.2)	**0.061**	**J**	0.10	0.080	0.044	mg/L		12/28/23 13:36	1
Sulfate (SW846 9056A)	**1.1**	**J**	5.0	2.5	1.0	mg/L		12/21/23 14:32	1

Client Sample ID: TV044-MW81223A
Lab Sample ID: 280-185814-3

Date Collected: 12/14/23 10:30
Matrix: Water
Date Received: 12/16/23 09:30

Method: SW846 8260D - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
1,1,1-Trichloroethane	0.50	U	1.0	0.50	0.39	ug/L		12/19/23 22:49	1
1,1,2,2-Tetrachloroethane	0.80	U	1.0	0.80	0.21	ug/L		12/19/23 22:49	1
1,1,2-Trichloroethane	0.80	U	1.0	0.80	0.27	ug/L		12/19/23 22:49	1
1,1-Dichloroethane	0.80	U	1.0	0.80	0.22	ug/L		12/19/23 22:49	1
1,1-Dichloroethylene	0.80	U	1.0	0.80	0.23	ug/L		12/19/23 22:49	1
1,1-Dichloropropene	0.80	U	1.0	0.80	0.42	ug/L		12/19/23 22:49	1
1,2,3-Trichlorobenzene	0.80	U	2.0	0.80	0.70	ug/L		12/19/23 22:49	1
1,2,3-Trichloropropane	1.8	U	2.5	1.8	0.86	ug/L		12/19/23 22:49	1
1,2,3-Trimethylbenzene	0.80	U	2.0	0.80	0.27	ug/L		12/19/23 22:49	1
1,2,4-Trichlorobenzene	0.80	U	1.0	0.80	0.58	ug/L		12/19/23 22:49	1

Client Sample ID: TV044-MW81223A
Lab Sample ID: 280-185814-3

Date Collected: 12/14/23 10:30
Matrix: Water
Date Received: 12/16/23 09:30

Method: SW846 8260D - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
1,2,4-Trimethylbenzene	0.40	U	1.0	0.40	0.15	ug/L		12/19/23 22:49	1
1,2-Dibromo-3-Chloropropane	4.0	U	5.0	4.0	1.8	ug/L		12/19/23 22:49	1
1,2-Dibromoethane	0.80	U	1.0	0.80	0.40	ug/L		12/19/23 22:49	1
1,2-Dichlorobenzene	0.50	U	1.0	0.50	0.37	ug/L		12/19/23 22:49	1
1,2-Dichloroethane	0.80	U	1.0	0.80	0.54	ug/L		12/19/23 22:49	1
1,2-Dichloropropane	0.80	U	1.0	0.80	0.52	ug/L		12/19/23 22:49	1
1,3,5-Trimethylbenzene	0.50	U	1.0	0.50	0.37	ug/L		12/19/23 22:49	1
1,3-Dichlorobenzene	0.40	U	1.0	0.40	0.33	ug/L		12/19/23 22:49	1
1,3-Dichloropropane	0.80	U	1.0	0.80	0.38	ug/L		12/19/23 22:49	1
1,4-Dichlorobenzene	0.50	U	1.0	0.50	0.39	ug/L		12/19/23 22:49	1
2,2-Dichloropropane	0.80	U	1.0	0.80	0.38	ug/L		12/19/23 22:49	1
2-Butanone (MEK)	12	U	15	12	6.0	ug/L		12/19/23 22:49	1
2-Chloroethyl vinyl ether	0.80	U	3.0	0.80	0.44	ug/L		12/19/23 22:49	1
2-Hexanone	4.0	U	5.0	4.0	1.7	ug/L		12/19/23 22:49	1
4-Isopropyltoluene	0.80	U	1.0	0.80	0.43	ug/L		12/19/23 22:49	1
4-Methyl-2-pentanone (MIBK)	3.2	U	5.0	3.2	0.98	ug/L		12/19/23 22:49	1
Acetone	8.0	U	15	8.0	6.6	ug/L		12/19/23 22:49	1
Acrylonitrile	8.0	U	20	8.0	4.5	ug/L		12/19/23 22:49	1
Benzene	0.80	U	1.0	0.80	0.31	ug/L		12/19/23 22:49	1
Bromobenzene	0.50	U	1.0	0.50	0.40	ug/L		12/19/23 22:49	1
Bromochloromethane	0.80	U	1.0	0.80	0.40	ug/L		12/19/23 22:49	1
Bromodichloromethane	0.50	U	1.0	0.50	0.39	ug/L		12/19/23 22:49	1
Bromoform	1.8	U	2.0	1.8	1.2	ug/L		12/19/23 22:49	1
Carbon disulfide	0.80	U	2.0	0.80	0.63	ug/L		12/19/23 22:49	1
Carbon tetrachloride	0.80	U	1.0	0.80	0.57	ug/L		12/19/23 22:49	1
Chlorobenzene	0.80	U	1.0	0.80	0.42	ug/L		12/19/23 22:49	1
Chloroethane	1.6	U	4.0	1.6	1.4	ug/L		12/19/23 22:49	1
Chloroform	0.80	U	1.0	0.80	0.36	ug/L		12/19/23 22:49	1
Chloromethane	1.0	U	2.0	1.0	0.75	ug/L		12/19/23 22:49	1
cis-1,2-Dichloroethylene	0.40	U	1.0	0.40	0.32	ug/L		12/19/23 22:49	1
cis-1,3-Dichloropropene	1.8	U	2.0	1.8	0.63	ug/L		12/19/23 22:49	1
Cyclohexane	0.80	U	1.0	0.80	0.44	ug/L		12/19/23 22:49	1
Cyclohexanone	64	U M Q	100	64	32	ug/L		12/19/23 22:49	1
Dibromochloromethane	1.8	U	2.0	1.8	0.62	ug/L		12/19/23 22:49	1
Dibromomethane	0.40	U	1.0	0.40	0.34	ug/L		12/19/23 22:49	1
Dichlorodifluoromethane	2.5	U	3.0	2.5	0.96	ug/L		12/19/23 22:49	1
Ethylbenzene	0.40	U	1.0	0.40	0.30	ug/L		12/19/23 22:49	1
Hexachlorobutadiene	1.8	U	2.0	1.8	1.2	ug/L		12/19/23 22:49	1
Isopropyl ether	2.0	U	10	2.0	1.1	ug/L		12/19/23 22:49	1
Isopropylbenzene	0.50	U	1.0	0.50	0.36	ug/L		12/19/23 22:49	1
Methyl tert-butyl ether	0.80	U	5.0	0.80	0.25	ug/L		12/19/23 22:49	1
Methylcyclohexane	0.40	U	1.0	0.40	0.31	ug/L		12/19/23 22:49	1
Methylene Chloride	1.8	U	2.0	1.8	0.94	ug/L		12/19/23 22:49	1
Naphthalene	0.80	U	2.0	0.80	0.63	ug/L		12/19/23 22:49	1
n-Butylbenzene	0.80	U	1.0	0.80	0.48	ug/L		12/19/23 22:49	1
n-Hexane	0.80	U	2.0	0.80	0.16	ug/L		12/19/23 22:49	1
N-Propylbenzene	0.80	U	1.0	0.80	0.53	ug/L		12/19/23 22:49	1
o-Chlorotoluene	0.40	U	1.0	0.40	0.34	ug/L		12/19/23 22:49	1
p-Chlorotoluene	0.80	U	1.0	0.80	0.21	ug/L		12/19/23 22:49	1

Client Sample ID: TV044-MW81223A
Lab Sample ID: 280-185814-3

Date Collected: 12/14/23 10:30
Matrix: Water
Date Received: 12/16/23 09:30

Method: SW846 8260D - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
sec-Butylbenzene	0.80	U	1.0	0.80	0.45	ug/L		12/19/23 22:49	1
Styrene	0.80	U	1.0	0.80	0.36	ug/L		12/19/23 22:49	1
tert-Butylbenzene	0.80	U	1.0	0.80	0.42	ug/L		12/19/23 22:49	1
Tetrachloroethene	0.80	U	1.0	0.80	0.40	ug/L		12/19/23 22:49	1
Toluene	0.40	U	1.0	0.40	0.32	ug/L		12/19/23 22:49	1
trans-1,2-Dichloroethylene	0.50	U	1.0	0.50	0.37	ug/L		12/19/23 22:49	1
trans-1,3-Dichloropropene	1.8	U	2.0	1.8	0.65	ug/L		12/19/23 22:49	1
Trichloroethene	0.40	U	1.0	0.40	0.30	ug/L		12/19/23 22:49	1
Trichlorofluoromethane	0.80	U	2.0	0.80	0.57	ug/L		12/19/23 22:49	1
Vinyl acetate	2.0	U	3.0	2.0	0.94	ug/L		12/19/23 22:49	1
Vinyl chloride	1.0	U	2.0	1.0	0.51	ug/L		12/19/23 22:49	1
Xylenes, Total	0.80	U	1.0	0.80	0.33	ug/L		12/19/23 22:49	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
1,3-Butadiene TIC	*1.0*	*U*	*ug/L*			*106-99-0*		*12/19/23 22:49*	*1*
4-Ethyltoluene TIC	*1.0*	*U*	*ug/L*			*622-96-8*		*12/19/23 22:49*	*1*
Dicyclopentadiene TIC	*1.0*	*U*	*ug/L*			*77-73-6*		*12/19/23 22:49*	*1*
Propene TIC	*1.0*	*U*	*ug/L*			*115-07-1*		*12/19/23 22:49*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*104*		*81 - 118*		*12/19/23 22:49*	*1*
4-Bromofluorobenzene (Surr)	*89*		*85 - 114*		*12/19/23 22:49*	*1*
Dibromofluoromethane (Surr)	*109*		*80 - 119*		*12/19/23 22:49*	*1*
Toluene-d8 (Surr)	*97*		*89 - 112*		*12/19/23 22:49*	*1*

Method: SW846 6020B - Metals (ICP/MS)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Lead	0.70	U	1.0	0.70	0.23	ug/L		12/21/23 16:02	1

General Chemistry

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Nitrate Nitrite as N (EPA 353.2)	**15**		0.50	0.40	0.22	mg/L		12/28/23 13:37	5
Sulfate (SW846 9056A)	**54**	**M**	5.0	2.5	1.0	mg/L		12/21/23 14:43	1

Client Sample ID: TV044-MW141223A
Lab Sample ID: 280-185814-4

Date Collected: 12/14/23 11:10
Matrix: Water
Date Received: 12/16/23 09:30

Method: SW846 8260D - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
1,1,1-Trichloroethane	0.50	U	1.0	0.50	0.39	ug/L		12/19/23 23:10	1
1,1,2,2-Tetrachloroethane	0.80	U	1.0	0.80	0.21	ug/L		12/19/23 23:10	1
1,1,2-Trichloroethane	0.80	U	1.0	0.80	0.27	ug/L		12/19/23 23:10	1
1,1-Dichloroethane	0.80	U	1.0	0.80	0.22	ug/L		12/19/23 23:10	1
1,1-Dichloroethylene	0.80	U	1.0	0.80	0.23	ug/L		12/19/23 23:10	1
1,1-Dichloropropene	0.80	U	1.0	0.80	0.42	ug/L		12/19/23 23:10	1
1,2,3-Trichlorobenzene	0.80	U	2.0	0.80	0.70	ug/L		12/19/23 23:10	1
1,2,3-Trichloropropane	1.8	U	2.5	1.8	0.86	ug/L		12/19/23 23:10	1
1,2,3-Trimethylbenzene	0.80	U	2.0	0.80	0.27	ug/L		12/19/23 23:10	1
1,2,4-Trichlorobenzene	0.80	U	1.0	0.80	0.58	ug/L		12/19/23 23:10	1
1,2,4-Trimethylbenzene	0.40	U	1.0	0.40	0.15	ug/L		12/19/23 23:10	1

Client Sample ID: TV044-MW141223A
Lab Sample ID: 280-185814-4

Date Collected: 12/14/23 11:10
Matrix: Water
Date Received: 12/16/23 09:30

Method: SW846 8260D - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
1,2-Dibromo-3-Chloropropane	4.0	U	5.0	4.0	1.8	ug/L		12/19/23 23:10	1
1,2-Dibromoethane	0.80	U	1.0	0.80	0.40	ug/L		12/19/23 23:10	1
1,2-Dichlorobenzene	0.50	U	1.0	0.50	0.37	ug/L		12/19/23 23:10	1
1,2-Dichloroethane	0.80	U	1.0	0.80	0.54	ug/L		12/19/23 23:10	1
1,2-Dichloropropane	0.80	U	1.0	0.80	0.52	ug/L		12/19/23 23:10	1
1,3,5-Trimethylbenzene	0.50	U	1.0	0.50	0.37	ug/L		12/19/23 23:10	1
1,3-Dichlorobenzene	0.40	U	1.0	0.40	0.33	ug/L		12/19/23 23:10	1
1,3-Dichloropropane	0.80	U	1.0	0.80	0.38	ug/L		12/19/23 23:10	1
1,4-Dichlorobenzene	0.50	U	1.0	0.50	0.39	ug/L		12/19/23 23:10	1
2,2-Dichloropropane	0.80	U	1.0	0.80	0.38	ug/L		12/19/23 23:10	1
2-Butanone (MEK)	12	U	15	12	6.0	ug/L		12/19/23 23:10	1
2-Chloroethyl vinyl ether	0.80	U J1	3.0	0.80	0.44	ug/L		12/19/23 23:10	1
2-Hexanone	4.0	U	5.0	4.0	1.7	ug/L		12/19/23 23:10	1
4-Isopropyltoluene	0.80	U	1.0	0.80	0.43	ug/L		12/19/23 23:10	1
4-Methyl-2-pentanone (MIBK)	3.2	U	5.0	3.2	0.98	ug/L		12/19/23 23:10	1
Acetone	8.0	U M	15	8.0	6.6	ug/L		12/19/23 23:10	1
Acrylonitrile	8.0	U	20	8.0	4.5	ug/L		12/19/23 23:10	1
Benzene	0.80	U	1.0	0.80	0.31	ug/L		12/19/23 23:10	1
Bromobenzene	0.50	U	1.0	0.50	0.40	ug/L		12/19/23 23:10	1
Bromochloromethane	0.80	U	1.0	0.80	0.40	ug/L		12/19/23 23:10	1
Bromodichloromethane	0.50	U	1.0	0.50	0.39	ug/L		12/19/23 23:10	1
Bromoform	1.8	U	2.0	1.8	1.2	ug/L		12/19/23 23:10	1
Carbon disulfide	0.80	U	2.0	0.80	0.63	ug/L		12/19/23 23:10	1
Carbon tetrachloride	0.80	U	1.0	0.80	0.57	ug/L		12/19/23 23:10	1
Chlorobenzene	0.80	U	1.0	0.80	0.42	ug/L		12/19/23 23:10	1
Chloroethane	1.6	U M J1	4.0	1.6	1.4	ug/L		12/19/23 23:10	1
Chloroform	0.80	U	1.0	0.80	0.36	ug/L		12/19/23 23:10	1
Chloromethane	1.0	U J1	2.0	1.0	0.75	ug/L		12/19/23 23:10	1
cis-1,2-Dichloroethylene	0.40	U	1.0	0.40	0.32	ug/L		12/19/23 23:10	1
cis-1,3-Dichloropropene	1.8	U	2.0	1.8	0.63	ug/L		12/19/23 23:10	1
Cyclohexane	0.80	U	1.0	0.80	0.44	ug/L		12/19/23 23:10	1
Cyclohexanone	64	U M Q	100	64	32	ug/L		12/19/23 23:10	1
Dibromochloromethane	1.8	U	2.0	1.8	0.62	ug/L		12/19/23 23:10	1
Dibromomethane	0.40	U	1.0	0.40	0.34	ug/L		12/19/23 23:10	1
Dichlorodifluoromethane	2.5	U J1	3.0	2.5	0.96	ug/L		12/19/23 23:10	1
Ethylbenzene	0.40	U	1.0	0.40	0.30	ug/L		12/19/23 23:10	1
Hexachlorobutadiene	1.8	U	2.0	1.8	1.2	ug/L		12/19/23 23:10	1
Isopropyl ether	2.0	U	10	2.0	1.1	ug/L		12/19/23 23:10	1
Isopropylbenzene	0.50	U	1.0	0.50	0.36	ug/L		12/19/23 23:10	1
Methyl tert-butyl ether	**2.5**	**J**	5.0	0.80	0.25	ug/L		12/19/23 23:10	1
Methylcyclohexane	0.40	U	1.0	0.40	0.31	ug/L		12/19/23 23:10	1
Methylene Chloride	1.8	U	2.0	1.8	0.94	ug/L		12/19/23 23:10	1
Naphthalene	0.80	U	2.0	0.80	0.63	ug/L		12/19/23 23:10	1
n-Butylbenzene	0.80	U	1.0	0.80	0.48	ug/L		12/19/23 23:10	1
n-Hexane	0.80	U	2.0	0.80	0.16	ug/L		12/19/23 23:10	1
N-Propylbenzene	0.80	U	1.0	0.80	0.53	ug/L		12/19/23 23:10	1
o-Chlorotoluene	0.40	U	1.0	0.40	0.34	ug/L		12/19/23 23:10	1
p-Chlorotoluene	0.80	U	1.0	0.80	0.21	ug/L		12/19/23 23:10	1
sec-Butylbenzene	0.80	U	1.0	0.80	0.45	ug/L		12/19/23 23:10	1

Client Sample ID: TV044-MW141223A
Lab Sample ID: 280-185814-4

Date Collected: 12/14/23 11:10
Matrix: Water
Date Received: 12/16/23 09:30

Method: SW846 8260D - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Styrene	0.80	U	1.0	0.80	0.36	ug/L		12/19/23 23:10	1
tert-Butylbenzene	0.80	U	1.0	0.80	0.42	ug/L		12/19/23 23:10	1
Tetrachloroethene	0.80	U	1.0	0.80	0.40	ug/L		12/19/23 23:10	1
Toluene	0.40	U	1.0	0.40	0.32	ug/L		12/19/23 23:10	1
trans-1,2-Dichloroethylene	0.50	U	1.0	0.50	0.37	ug/L		12/19/23 23:10	1
trans-1,3-Dichloropropene	1.8	U	2.0	1.8	0.65	ug/L		12/19/23 23:10	1
Trichloroethene	0.40	U	1.0	0.40	0.30	ug/L		12/19/23 23:10	1
Trichlorofluoromethane	0.80	U	2.0	0.80	0.57	ug/L		12/19/23 23:10	1
Vinyl acetate	2.0	U	3.0	2.0	0.94	ug/L		12/19/23 23:10	1
Vinyl chloride	1.0	U J1	2.0	1.0	0.51	ug/L		12/19/23 23:10	1
Xylenes, Total	0.80	U	1.0	0.80	0.33	ug/L		12/19/23 23:10	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
1,3-Butadiene TIC	*1.0*	*U*	*ug/L*			*106-99-0*		*12/19/23 23:10*	*1*
4-Ethyltoluene TIC	*1.0*	*U*	*ug/L*			*622-96-8*		*12/19/23 23:10*	*1*
Dicyclopentadiene TIC	*1.0*	*U*	*ug/L*			*77-73-6*		*12/19/23 23:10*	*1*
Propene TIC	*1.0*	*U*	*ug/L*			*115-07-1*		*12/19/23 23:10*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*105*		*81 - 118*		*12/19/23 23:10*	*1*
4-Bromofluorobenzene (Surr)	*90*		*85 - 114*		*12/19/23 23:10*	*1*
Dibromofluoromethane (Surr)	*110*		*80 - 119*		*12/19/23 23:10*	*1*
Toluene-d8 (Surr)	*100*		*89 - 112*		*12/19/23 23:10*	*1*

Method: SW846 6020B - Metals (ICP/MS)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Lead	0.70	U	1.0	0.70	0.23	ug/L		12/21/23 16:04	1

General Chemistry

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Nitrate Nitrite as N (EPA 353.2)	**0.067**	**J**	0.10	0.080	0.044	mg/L		12/28/23 13:32	1
Sulfate (SW846 9056A)	**170**	**M**	5.0	2.5	1.0	mg/L		12/21/23 16:00	1

Client Sample ID: TV044-MW151223A
Lab Sample ID: 280-185814-5

Date Collected: 12/14/23 11:30
Matrix: Water
Date Received: 12/16/23 09:30

Method: SW846 8260D - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
1,1,1-Trichloroethane	0.50	U	1.0	0.50	0.39	ug/L		12/19/23 23:32	1
1,1,2,2-Tetrachloroethane	0.80	U	1.0	0.80	0.21	ug/L		12/19/23 23:32	1
1,1,2-Trichloroethane	0.80	U	1.0	0.80	0.27	ug/L		12/19/23 23:32	1
1,1-Dichloroethane	0.80	U	1.0	0.80	0.22	ug/L		12/19/23 23:32	1
1,1-Dichloroethylene	0.80	U	1.0	0.80	0.23	ug/L		12/19/23 23:32	1
1,1-Dichloropropene	0.80	U	1.0	0.80	0.42	ug/L		12/19/23 23:32	1
1,2,3-Trichlorobenzene	0.80	U	2.0	0.80	0.70	ug/L		12/19/23 23:32	1
1,2,3-Trichloropropane	1.8	U	2.5	1.8	0.86	ug/L		12/19/23 23:32	1
1,2,3-Trimethylbenzene	0.80	U	2.0	0.80	0.27	ug/L		12/19/23 23:32	1
1,2,4-Trichlorobenzene	0.80	U	1.0	0.80	0.58	ug/L		12/19/23 23:32	1
1,2,4-Trimethylbenzene	0.40	U	1.0	0.40	0.15	ug/L		12/19/23 23:32	1
1,2-Dibromo-3-Chloropropane	4.0	U	5.0	4.0	1.8	ug/L		12/19/23 23:32	1

Client Sample ID: TV044-MW151223A
Lab Sample ID: 280-185814-5

Date Collected: 12/14/23 11:30
Matrix: Water

Date Received: 12/16/23 09:30

Method: SW846 8260D - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
1,2-Dibromoethane	0.80	U	1.0	0.80	0.40	ug/L		12/19/23 23:32	1
1,2-Dichlorobenzene	0.50	U	1.0	0.50	0.37	ug/L		12/19/23 23:32	1
1,2-Dichloroethane	0.80	U	1.0	0.80	0.54	ug/L		12/19/23 23:32	1
1,2-Dichloropropane	0.80	U	1.0	0.80	0.52	ug/L		12/19/23 23:32	1
1,3,5-Trimethylbenzene	0.50	U	1.0	0.50	0.37	ug/L		12/19/23 23:32	1
1,3-Dichlorobenzene	0.40	U	1.0	0.40	0.33	ug/L		12/19/23 23:32	1
1,3-Dichloropropane	0.80	U	1.0	0.80	0.38	ug/L		12/19/23 23:32	1
1,4-Dichlorobenzene	0.50	U	1.0	0.50	0.39	ug/L		12/19/23 23:32	1
2,2-Dichloropropane	0.80	U	1.0	0.80	0.38	ug/L		12/19/23 23:32	1
2-Butanone (MEK)	12	U	15	12	6.0	ug/L		12/19/23 23:32	1
2-Chloroethyl vinyl ether	0.80	U	3.0	0.80	0.44	ug/L		12/19/23 23:32	1
2-Hexanone	4.0	U	5.0	4.0	1.7	ug/L		12/19/23 23:32	1
4-Isopropyltoluene	0.80	U	1.0	0.80	0.43	ug/L		12/19/23 23:32	1
4-Methyl-2-pentanone (MIBK)	3.2	U	5.0	3.2	0.98	ug/L		12/19/23 23:32	1
Acetone	8.0	U M	15	8.0	6.6	ug/L		12/19/23 23:32	1
Acrylonitrile	8.0	U	20	8.0	4.5	ug/L		12/19/23 23:32	1
Benzene	0.80	U	1.0	0.80	0.31	ug/L		12/19/23 23:32	1
Bromobenzene	0.50	U	1.0	0.50	0.40	ug/L		12/19/23 23:32	1
Bromochloromethane	0.80	U	1.0	0.80	0.40	ug/L		12/19/23 23:32	1
Bromodichloromethane	0.50	U	1.0	0.50	0.39	ug/L		12/19/23 23:32	1
Bromoform	1.8	U	2.0	1.8	1.2	ug/L		12/19/23 23:32	1
Carbon disulfide	0.80	U	2.0	0.80	0.63	ug/L		12/19/23 23:32	1
Carbon tetrachloride	0.80	U	1.0	0.80	0.57	ug/L		12/19/23 23:32	1
Chlorobenzene	0.80	U	1.0	0.80	0.42	ug/L		12/19/23 23:32	1
Chloroethane	1.6	U M	4.0	1.6	1.4	ug/L		12/19/23 23:32	1
Chloroform	0.80	U	1.0	0.80	0.36	ug/L		12/19/23 23:32	1
Chloromethane	1.0	U	2.0	1.0	0.75	ug/L		12/19/23 23:32	1
cis-1,2-Dichloroethylene	0.40	U	1.0	0.40	0.32	ug/L		12/19/23 23:32	1
cis-1,3-Dichloropropene	1.8	U	2.0	1.8	0.63	ug/L		12/19/23 23:32	1
Cyclohexane	0.80	U	1.0	0.80	0.44	ug/L		12/19/23 23:32	1
Cyclohexanone	64	U M Q	100	64	32	ug/L		12/19/23 23:32	1
Dibromochloromethane	1.8	U	2.0	1.8	0.62	ug/L		12/19/23 23:32	1
Dibromomethane	0.40	U	1.0	0.40	0.34	ug/L		12/19/23 23:32	1
Dichlorodifluoromethane	2.5	U	3.0	2.5	0.96	ug/L		12/19/23 23:32	1
Ethylbenzene	0.40	U	1.0	0.40	0.30	ug/L		12/19/23 23:32	1
Hexachlorobutadiene	1.8	U	2.0	1.8	1.2	ug/L		12/19/23 23:32	1
Isopropyl ether	2.0	U	10	2.0	1.1	ug/L		12/19/23 23:32	1
Isopropylbenzene	0.50	U	1.0	0.50	0.36	ug/L		12/19/23 23:32	1
Methyl tert-butyl ether	**6.2**		5.0	0.80	0.25	ug/L		12/19/23 23:32	1
Methylcyclohexane	0.40	U	1.0	0.40	0.31	ug/L		12/19/23 23:32	1
Methylene Chloride	1.8	U	2.0	1.8	0.94	ug/L		12/19/23 23:32	1
Naphthalene	0.80	U	2.0	0.80	0.63	ug/L		12/19/23 23:32	1
n-Butylbenzene	0.80	U	1.0	0.80	0.48	ug/L		12/19/23 23:32	1
n-Hexane	0.80	U	2.0	0.80	0.16	ug/L		12/19/23 23:32	1
N-Propylbenzene	0.80	U	1.0	0.80	0.53	ug/L		12/19/23 23:32	1
o-Chlorotoluene	0.40	U	1.0	0.40	0.34	ug/L		12/19/23 23:32	1
p-Chlorotoluene	0.80	U	1.0	0.80	0.21	ug/L		12/19/23 23:32	1
sec-Butylbenzene	0.80	U	1.0	0.80	0.45	ug/L		12/19/23 23:32	1
Styrene	0.80	U	1.0	0.80	0.36	ug/L		12/19/23 23:32	1

Client Sample ID: TV044-MW151223A
Lab Sample ID: 280-185814-5

Date Collected: 12/14/23 11:30
Matrix: Water
Date Received: 12/16/23 09:30

Method: SW846 8260D - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
tert-Butylbenzene	0.80	U	1.0	0.80	0.42	ug/L		12/19/23 23:32	1
Tetrachloroethene	0.80	U	1.0	0.80	0.40	ug/L		12/19/23 23:32	1
Toluene	0.40	U	1.0	0.40	0.32	ug/L		12/19/23 23:32	1
trans-1,2-Dichloroethylene	0.50	U	1.0	0.50	0.37	ug/L		12/19/23 23:32	1
trans-1,3-Dichloropropene	1.8	U	2.0	1.8	0.65	ug/L		12/19/23 23:32	1
Trichloroethene	0.40	U	1.0	0.40	0.30	ug/L		12/19/23 23:32	1
Trichlorofluoromethane	0.80	U	2.0	0.80	0.57	ug/L		12/19/23 23:32	1
Vinyl acetate	2.0	U	3.0	2.0	0.94	ug/L		12/19/23 23:32	1
Vinyl chloride	1.0	U	2.0	1.0	0.51	ug/L		12/19/23 23:32	1
Xylenes, Total	0.80	U	1.0	0.80	0.33	ug/L		12/19/23 23:32	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
1,3-Butadiene TIC	*1.0*	*U*	*ug/L*			*106-99-0*		*12/19/23 23:32*	*1*
4-Ethyltoluene TIC	*1.0*	*U*	*ug/L*			*622-96-8*		*12/19/23 23:32*	*1*
Dicyclopentadiene TIC	*1.0*	*U*	*ug/L*			*77-73-6*		*12/19/23 23:32*	*1*
Propene TIC	*1.0*	*U*	*ug/L*			*115-07-1*		*12/19/23 23:32*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*105*		*81 - 118*		*12/19/23 23:32*	*1*
4-Bromofluorobenzene (Surr)	*97*		*85 - 114*		*12/19/23 23:32*	*1*
Dibromofluoromethane (Surr)	*109*		*80 - 119*		*12/19/23 23:32*	*1*
Toluene-d8 (Surr)	*97*		*89 - 112*		*12/19/23 23:32*	*1*

Method: SW846 6020B - Metals (ICP/MS)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Lead	0.70	U	1.0	0.70	0.23	ug/L		12/21/23 16:20	1

General Chemistry

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Nitrate Nitrite as N (EPA 353.2)	**52**		1.0	0.80	0.44	mg/L		12/28/23 13:39	10
Sulfate (SW846 9056A)	**2200**	**D**	250	130	52	mg/L		12/21/23 18:45	50

Client Sample ID: TV044-MW22S1223A
Lab Sample ID: 280-185814-6

Date Collected: 12/14/23 12:05
Matrix: Water
Date Received: 12/16/23 09:30

Method: SW846 8260D - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
1,1,1-Trichloroethane	10	U	20	10	7.8	ug/L		12/20/23 01:00	20
1,1,2,2-Tetrachloroethane	16	U	20	16	4.2	ug/L		12/20/23 01:00	20
1,1,2-Trichloroethane	16	U	20	16	5.4	ug/L		12/20/23 01:00	20
1,1-Dichloroethane	16	U	20	16	4.4	ug/L		12/20/23 01:00	20
1,1-Dichloroethylene	16	U	20	16	4.6	ug/L		12/20/23 01:00	20
1,1-Dichloropropene	16	U	20	16	8.3	ug/L		12/20/23 01:00	20
1,2,3-Trichlorobenzene	16	U	40	16	14	ug/L		12/20/23 01:00	20
1,2,3-Trichloropropane	36	U	50	36	17	ug/L		12/20/23 01:00	20
1,2,3-Trimethylbenzene	16	U	40	16	5.4	ug/L		12/20/23 01:00	20
1,2,4-Trichlorobenzene	16	U	20	16	12	ug/L		12/20/23 01:00	20
1,2,4-Trimethylbenzene	8.0	U	20	8.0	3.0	ug/L		12/20/23 01:00	20
1,2-Dibromo-3-Chloropropane	80	U	100	80	35	ug/L		12/20/23 01:00	20
1,2-Dibromoethane	16	U	20	16	8.1	ug/L		12/20/23 01:00	20

Client Sample ID: TV044-MW22S1223A
Lab Sample ID: 280-185814-6

Date Collected: 12/14/23 12:05
Matrix: Water
Date Received: 12/16/23 09:30

Method: SW846 8260D - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
1,2-Dichlorobenzene	10	U	20	10	7.4	ug/L		12/20/23 01:00	20
1,2-Dichloroethane	16	U	20	16	11	ug/L		12/20/23 01:00	20
1,2-Dichloropropane	16	U	20	16	10	ug/L		12/20/23 01:00	20
1,3,5-Trimethylbenzene	10	U	20	10	7.4	ug/L		12/20/23 01:00	20
1,3-Dichlorobenzene	8.0	U	20	8.0	6.7	ug/L		12/20/23 01:00	20
1,3-Dichloropropane	16	U	20	16	7.6	ug/L		12/20/23 01:00	20
1,4-Dichlorobenzene	10	U	20	10	7.8	ug/L		12/20/23 01:00	20
2,2-Dichloropropane	16	U	20	16	7.6	ug/L		12/20/23 01:00	20
2-Butanone (MEK)	240	U	300	240	120	ug/L		12/20/23 01:00	20
2-Chloroethyl vinyl ether	16	U	60	16	8.8	ug/L		12/20/23 01:00	20
2-Hexanone	80	U	100	80	34	ug/L		12/20/23 01:00	20
4-Isopropyltoluene	16	U	20	16	8.6	ug/L		12/20/23 01:00	20
4-Methyl-2-pentanone (MIBK)	64	U	100	64	20	ug/L		12/20/23 01:00	20
Acetone	160	U	300	160	130	ug/L		12/20/23 01:00	20
Acrylonitrile	160	U M	400	160	89	ug/L		12/20/23 01:00	20
Benzene	16	U	20	16	6.2	ug/L		12/20/23 01:00	20
Bromobenzene	10	U	20	10	7.9	ug/L		12/20/23 01:00	20
Bromochloromethane	16	U	20	16	8.1	ug/L		12/20/23 01:00	20
Bromodichloromethane	10	U	20	10	7.7	ug/L		12/20/23 01:00	20
Bromoform	36	U	40	36	24	ug/L		12/20/23 01:00	20
Carbon disulfide	16	U	40	16	13	ug/L		12/20/23 01:00	20
Carbon tetrachloride	16	U	20	16	11	ug/L		12/20/23 01:00	20
Chlorobenzene	16	U	20	16	8.4	ug/L		12/20/23 01:00	20
Chloroethane	32	U	80	32	27	ug/L		12/20/23 01:00	20
Chloroform	16	U	20	16	7.2	ug/L		12/20/23 01:00	20
Chloromethane	20	U	40	20	15	ug/L		12/20/23 01:00	20
cis-1,2-Dichloroethylene	8.0	U	20	8.0	6.4	ug/L		12/20/23 01:00	20
cis-1,3-Dichloropropene	36	U	40	36	13	ug/L		12/20/23 01:00	20
Cyclohexane	16	U	20	16	8.8	ug/L		12/20/23 01:00	20
Cyclohexanone	1300	U M Q	2000	1300	630	ug/L		12/20/23 01:00	20
Dibromochloromethane	36	U	40	36	12	ug/L		12/20/23 01:00	20
Dibromomethane	8.0	U	20	8.0	6.9	ug/L		12/20/23 01:00	20
Dichlorodifluoromethane	50	U	60	50	19	ug/L		12/20/23 01:00	20
Ethylbenzene	8.0	U	20	8.0	6.1	ug/L		12/20/23 01:00	20
Hexachlorobutadiene	36	U	40	36	23	ug/L		12/20/23 01:00	20
Isopropyl ether	40	U	200	40	22	ug/L		12/20/23 01:00	20
Isopropylbenzene	10	U	20	10	7.3	ug/L		12/20/23 01:00	20
Methyl tert-butyl ether	**1200**	**D**	100	16	5.0	ug/L		12/20/23 01:00	20
Methylcyclohexane	8.0	U	20	8.0	6.3	ug/L		12/20/23 01:00	20
Methylene Chloride	36	U	40	36	19	ug/L		12/20/23 01:00	20
Naphthalene	16	U	40	16	13	ug/L		12/20/23 01:00	20
n-Butylbenzene	16	U	20	16	9.5	ug/L		12/20/23 01:00	20
n-Hexane	16	U	40	16	3.3	ug/L		12/20/23 01:00	20
N-Propylbenzene	16	U	20	16	11	ug/L		12/20/23 01:00	20
o-Chlorotoluene	8.0	U	20	8.0	6.8	ug/L		12/20/23 01:00	20
p-Chlorotoluene	16	U	20	16	4.2	ug/L		12/20/23 01:00	20
sec-Butylbenzene	16	U	20	16	8.9	ug/L		12/20/23 01:00	20
Styrene	16	U	20	16	7.1	ug/L		12/20/23 01:00	20
tert-Butylbenzene	16	U	20	16	8.4	ug/L		12/20/23 01:00	20

Client Sample ID: TV044-MW22S1223A
Lab Sample ID: 280-185814-6

Date Collected: 12/14/23 12:05
Matrix: Water
Date Received: 12/16/23 09:30

Method: SW846 8260D - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Tetrachloroethene	16	U	20	16	8.1	ug/L		12/20/23 01:00	20
Toluene	8.0	U	20	8.0	6.4	ug/L		12/20/23 01:00	20
trans-1,2-Dichloroethylene	10	U	20	10	7.4	ug/L		12/20/23 01:00	20
trans-1,3-Dichloropropene	36	U	40	36	13	ug/L		12/20/23 01:00	20
Trichloroethene	8.0	U	20	8.0	6.0	ug/L		12/20/23 01:00	20
Trichlorofluoromethane	16	U	40	16	11	ug/L		12/20/23 01:00	20
Vinyl acetate	40	U	60	40	19	ug/L		12/20/23 01:00	20
Vinyl chloride	20	U	40	20	10	ug/L		12/20/23 01:00	20
Xylenes, Total	16	U	20	16	6.6	ug/L		12/20/23 01:00	20

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
1,3-Butadiene TIC	*20*	*U*	*ug/L*			*106-99-0*		*12/20/23 01:00*	*20*
4-Ethyltoluene TIC	*20*	*U*	*ug/L*			*622-96-8*		*12/20/23 01:00*	*20*
Dicyclopentadiene TIC	*20*	*U*	*ug/L*			*77-73-6*		*12/20/23 01:00*	*20*
Propene TIC	*20*	*U*	*ug/L*			*115-07-1*		*12/20/23 01:00*	*20*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*106*		*81 - 118*		*12/20/23 01:00*	*20*
4-Bromofluorobenzene (Surr)	*88*		*85 - 114*		*12/20/23 01:00*	*20*
Dibromofluoromethane (Surr)	*110*		*80 - 119*		*12/20/23 01:00*	*20*
Toluene-d8 (Surr)	*98*		*89 - 112*		*12/20/23 01:00*	*20*

Method: SW846 6020B - Metals (ICP/MS)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Lead	**0.29**	**J**	1.0	0.70	0.23	ug/L		12/21/23 16:22	1

General Chemistry

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Nitrate Nitrite as N (EPA 353.2)	0.080	U	0.10	0.080	0.044	mg/L		12/28/23 13:40	1
Sulfate (SW846 9056A)	**1500**	**D**	250	130	52	mg/L		12/21/23 18:12	50

Client Sample ID: TV044-MW22D1223A
Lab Sample ID: 280-185814-7

Date Collected: 12/14/23 12:35
Matrix: Water
Date Received: 12/16/23 09:30

Method: SW846 8260D - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
1,1,1-Trichloroethane	100	U	200	100	78	ug/L		12/20/23 01:44	200
1,1,2,2-Tetrachloroethane	160	U	200	160	42	ug/L		12/20/23 01:44	200
1,1,2-Trichloroethane	160	U	200	160	54	ug/L		12/20/23 01:44	200
1,1-Dichloroethane	160	U	200	160	44	ug/L		12/20/23 01:44	200
1,1-Dichloroethylene	160	U	200	160	46	ug/L		12/20/23 01:44	200
1,1-Dichloropropene	160	U	200	160	83	ug/L		12/20/23 01:44	200
1,2,3-Trichlorobenzene	160	U	400	160	140	ug/L		12/20/23 01:44	200
1,2,3-Trichloropropane	360	U	500	360	170	ug/L		12/20/23 01:44	200
1,2,3-Trimethylbenzene	160	U	400	160	54	ug/L		12/20/23 01:44	200
1,2,4-Trichlorobenzene	160	U	200	160	120	ug/L		12/20/23 01:44	200
1,2,4-Trimethylbenzene	80	U	200	80	30	ug/L		12/20/23 01:44	200
1,2-Dibromo-3-Chloropropane	800	U	1000	800	350	ug/L		12/20/23 01:44	200
1,2-Dibromoethane	160	U	200	160	81	ug/L		12/20/23 01:44	200
1,2-Dichlorobenzene	100	U	200	100	74	ug/L		12/20/23 01:44	200

Client Sample ID: TV044-MW22D1223A
Lab Sample ID: 280-185814-7

Date Collected: 12/14/23 12:35
Matrix: Water
Date Received: 12/16/23 09:30

Method: SW846 8260D - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
1,2-Dichloroethane	160	U M	200	160	110	ug/L		12/20/23 01:44	200
1,2-Dichloropropane	160	U	200	160	100	ug/L		12/20/23 01:44	200
1,3,5-Trimethylbenzene	100	U	200	100	74	ug/L		12/20/23 01:44	200
1,3-Dichlorobenzene	80	U	200	80	67	ug/L		12/20/23 01:44	200
1,3-Dichloropropane	160	U	200	160	76	ug/L		12/20/23 01:44	200
1,4-Dichlorobenzene	100	U	200	100	78	ug/L		12/20/23 01:44	200
2,2-Dichloropropane	160	U	200	160	76	ug/L		12/20/23 01:44	200
2-Butanone (MEK)	2400	U	3000	2400	1200	ug/L		12/20/23 01:44	200
2-Chloroethyl vinyl ether	160	U	600	160	88	ug/L		12/20/23 01:44	200
2-Hexanone	800	U	1000	800	340	ug/L		12/20/23 01:44	200
4-Isopropyltoluene	160	U	200	160	86	ug/L		12/20/23 01:44	200
4-Methyl-2-pentanone (MIBK)	640	U	1000	640	200	ug/L		12/20/23 01:44	200
Acetone	1600	U	3000	1600	1300	ug/L		12/20/23 01:44	200
Acrylonitrile	1600	U M	4000	1600	890	ug/L		12/20/23 01:44	200
Benzene	**1200**	**D**	200	160	62	ug/L		12/20/23 01:44	200
Bromobenzene	100	U	200	100	79	ug/L		12/20/23 01:44	200
Bromochloromethane	160	U	200	160	81	ug/L		12/20/23 01:44	200
Bromodichloromethane	100	U	200	100	77	ug/L		12/20/23 01:44	200
Bromoform	360	U	400	360	240	ug/L		12/20/23 01:44	200
Carbon disulfide	160	U	400	160	130	ug/L		12/20/23 01:44	200
Carbon tetrachloride	160	U	200	160	110	ug/L		12/20/23 01:44	200
Chlorobenzene	160	U	200	160	84	ug/L		12/20/23 01:44	200
Chloroethane	320	U	800	320	270	ug/L		12/20/23 01:44	200
Chloroform	160	U	200	160	72	ug/L		12/20/23 01:44	200
Chloromethane	200	U	400	200	150	ug/L		12/20/23 01:44	200
cis-1,2-Dichloroethylene	80	U	200	80	64	ug/L		12/20/23 01:44	200
cis-1,3-Dichloropropene	360	U	400	360	130	ug/L		12/20/23 01:44	200
Cyclohexane	**150**	**J D**	200	160	88	ug/L		12/20/23 01:44	200
Cyclohexanone	13000	U M Q	20000	13000	6300	ug/L		12/20/23 01:44	200
Dibromochloromethane	360	U	400	360	120	ug/L		12/20/23 01:44	200
Dibromomethane	80	U	200	80	69	ug/L		12/20/23 01:44	200
Dichlorodifluoromethane	500	U	600	500	190	ug/L		12/20/23 01:44	200
Ethylbenzene	80	U	200	80	61	ug/L		12/20/23 01:44	200
Hexachlorobutadiene	360	U	400	360	230	ug/L		12/20/23 01:44	200
Isopropyl ether	400	U	2000	400	220	ug/L		12/20/23 01:44	200
Isopropylbenzene	100	U	200	100	73	ug/L		12/20/23 01:44	200
Methyl tert-butyl ether	**15000**	**D**	1000	160	50	ug/L		12/20/23 01:44	200
Methylcyclohexane	**310**	**D**	200	80	63	ug/L		12/20/23 01:44	200
Methylene Chloride	360	U	400	360	190	ug/L		12/20/23 01:44	200
Naphthalene	160	U	400	160	130	ug/L		12/20/23 01:44	200
n-Butylbenzene	160	U	200	160	95	ug/L		12/20/23 01:44	200
n-Hexane	**36**	**J D**	400	160	33	ug/L		12/20/23 01:44	200
N-Propylbenzene	160	U	200	160	110	ug/L		12/20/23 01:44	200
o-Chlorotoluene	80	U	200	80	68	ug/L		12/20/23 01:44	200
p-Chlorotoluene	160	U	200	160	42	ug/L		12/20/23 01:44	200
sec-Butylbenzene	160	U	200	160	89	ug/L		12/20/23 01:44	200
Styrene	160	U	200	160	71	ug/L		12/20/23 01:44	200
tert-Butylbenzene	160	U	200	160	84	ug/L		12/20/23 01:44	200
Tetrachloroethene	160	U	200	160	81	ug/L		12/20/23 01:44	200

Client Sample ID: TV044-MW22D1223A
Lab Sample ID: 280-185814-7
Date Collected: 12/14/23 12:35
Matrix: Water
Date Received: 12/16/23 09:30

Method: SW846 8260D - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Toluene	80	U	200	80	64	ug/L		12/20/23 01:44	200
trans-1,2-Dichloroethylene	100	U	200	100	74	ug/L		12/20/23 01:44	200
trans-1,3-Dichloropropene	360	U	400	360	130	ug/L		12/20/23 01:44	200
Trichloroethene	80	U	200	80	60	ug/L		12/20/23 01:44	200
Trichlorofluoromethane	160	U	400	160	110	ug/L		12/20/23 01:44	200
Vinyl acetate	400	U	600	400	190	ug/L		12/20/23 01:44	200
Vinyl chloride	200	U	400	200	100	ug/L		12/20/23 01:44	200
Xylenes, Total	**77**	**J D**	200	160	66	ug/L		12/20/23 01:44	200

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
1,3-Butadiene TIC	*200*	*U*	*ug/L*			*106-99-0*		*12/20/23 01:44*	*200*
4-Ethyltoluene TIC	*200*	*U*	*ug/L*			*622-96-8*		*12/20/23 01:44*	*200*
Dicyclopentadiene TIC	*200*	*U*	*ug/L*			*77-73-6*		*12/20/23 01:44*	*200*
Propene TIC	*200*	*U*	*ug/L*			*115-07-1*		*12/20/23 01:44*	*200*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*104*		*81 - 118*		*12/20/23 01:44*	*200*
4-Bromofluorobenzene (Surr)	*88*		*85 - 114*		*12/20/23 01:44*	*200*
Dibromofluoromethane (Surr)	*107*		*80 - 119*		*12/20/23 01:44*	*200*
Toluene-d8 (Surr)	*98*		*89 - 112*		*12/20/23 01:44*	*200*

Method: SW846 6020B - Metals (ICP/MS)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Lead	0.70	U	1.0	0.70	0.23	ug/L		12/21/23 16:24	1

General Chemistry

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Nitrate Nitrite as N (EPA 353.2)	0.080	U	0.10	0.080	0.044	mg/L		12/28/23 13:41	1
Sulfate (SW846 9056A)	**1.0**	**J M**	5.0	2.5	1.0	mg/L		12/21/23 14:54	1

Client Sample ID: TV044-MW111223A
Lab Sample ID: 280-185814-8
Date Collected: 12/14/23 12:45
Matrix: Water
Date Received: 12/16/23 09:30

Method: SW846 8260D - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
1,1,1-Trichloroethane	2.0	U	4.0	2.0	1.6	ug/L		12/20/23 00:37	4
1,1,2,2-Tetrachloroethane	3.2	U	4.0	3.2	0.84	ug/L		12/20/23 00:37	4
1,1,2-Trichloroethane	3.2	U	4.0	3.2	1.1	ug/L		12/20/23 00:37	4
1,1-Dichloroethane	3.2	U	4.0	3.2	0.88	ug/L		12/20/23 00:37	4
1,1-Dichloroethylene	3.2	U	4.0	3.2	0.92	ug/L		12/20/23 00:37	4
1,1-Dichloropropene	3.2	U	4.0	3.2	1.7	ug/L		12/20/23 00:37	4
1,2,3-Trichlorobenzene	3.2	U	8.0	3.2	2.8	ug/L		12/20/23 00:37	4
1,2,3-Trichloropropane	7.2	U	10	7.2	3.4	ug/L		12/20/23 00:37	4
1,2,3-Trimethylbenzene	3.2	U	8.0	3.2	1.1	ug/L		12/20/23 00:37	4
1,2,4-Trichlorobenzene	3.2	U	4.0	3.2	2.3	ug/L		12/20/23 00:37	4
1,2,4-Trimethylbenzene	1.6	U	4.0	1.6	0.60	ug/L		12/20/23 00:37	4
1,2-Dibromo-3-Chloropropane	16	U	20	16	7.0	ug/L		12/20/23 00:37	4
1,2-Dibromoethane	3.2	U	4.0	3.2	1.6	ug/L		12/20/23 00:37	4
1,2-Dichlorobenzene	2.0	U	4.0	2.0	1.5	ug/L		12/20/23 00:37	4
1,2-Dichloroethane	3.2	U	4.0	3.2	2.2	ug/L		12/20/23 00:37	4

Client Sample ID: TV044-MW111223A
Lab Sample ID: 280-185814-8

Date Collected: 12/14/23 12:45
Matrix: Water
Date Received: 12/16/23 09:30

Method: SW846 8260D - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
1,2-Dichloropropane	3.2	U	4.0	3.2	2.1	ug/L		12/20/23 00:37	4
1,3,5-Trimethylbenzene	2.0	U	4.0	2.0	1.5	ug/L		12/20/23 00:37	4
1,3-Dichlorobenzene	1.6	U	4.0	1.6	1.3	ug/L		12/20/23 00:37	4
1,3-Dichloropropane	3.2	U	4.0	3.2	1.5	ug/L		12/20/23 00:37	4
1,4-Dichlorobenzene	2.0	U	4.0	2.0	1.6	ug/L		12/20/23 00:37	4
2,2-Dichloropropane	3.2	U	4.0	3.2	1.5	ug/L		12/20/23 00:37	4
2-Butanone (MEK)	48	U	60	48	24	ug/L		12/20/23 00:37	4
2-Chloroethyl vinyl ether	3.2	U	12	3.2	1.8	ug/L		12/20/23 00:37	4
2-Hexanone	16	U	20	16	6.8	ug/L		12/20/23 00:37	4
4-Isopropyltoluene	3.2	U	4.0	3.2	1.7	ug/L		12/20/23 00:37	4
4-Methyl-2-pentanone (MIBK)	13	U	20	13	3.9	ug/L		12/20/23 00:37	4
Acetone	32	U M	60	32	26	ug/L		12/20/23 00:37	4
Acrylonitrile	32	U	80	32	18	ug/L		12/20/23 00:37	4
Benzene	3.2	U	4.0	3.2	1.2	ug/L		12/20/23 00:37	4
Bromobenzene	2.0	U	4.0	2.0	1.6	ug/L		12/20/23 00:37	4
Bromochloromethane	3.2	U	4.0	3.2	1.6	ug/L		12/20/23 00:37	4
Bromodichloromethane	2.0	U	4.0	2.0	1.5	ug/L		12/20/23 00:37	4
Bromoform	7.2	U	8.0	7.2	4.8	ug/L		12/20/23 00:37	4
Carbon disulfide	3.2	U	8.0	3.2	2.5	ug/L		12/20/23 00:37	4
Carbon tetrachloride	3.2	U	4.0	3.2	2.3	ug/L		12/20/23 00:37	4
Chlorobenzene	3.2	U	4.0	3.2	1.7	ug/L		12/20/23 00:37	4
Chloroethane	6.4	U	16	6.4	5.5	ug/L		12/20/23 00:37	4
Chloroform	3.2	U	4.0	3.2	1.4	ug/L		12/20/23 00:37	4
Chloromethane	4.0	U	8.0	4.0	3.0	ug/L		12/20/23 00:37	4
cis-1,2-Dichloroethylene	1.6	U	4.0	1.6	1.3	ug/L		12/20/23 00:37	4
cis-1,3-Dichloropropene	7.2	U	8.0	7.2	2.5	ug/L		12/20/23 00:37	4
Cyclohexane	3.2	U	4.0	3.2	1.8	ug/L		12/20/23 00:37	4
Cyclohexanone	260	U M Q	400	260	130	ug/L		12/20/23 00:37	4
Dibromochloromethane	7.2	U	8.0	7.2	2.5	ug/L		12/20/23 00:37	4
Dibromomethane	1.6	U	4.0	1.6	1.4	ug/L		12/20/23 00:37	4
Dichlorodifluoromethane	10	U	12	10	3.8	ug/L		12/20/23 00:37	4
Ethylbenzene	1.6	U	4.0	1.6	1.2	ug/L		12/20/23 00:37	4
Hexachlorobutadiene	7.2	U	8.0	7.2	4.7	ug/L		12/20/23 00:37	4
Isopropyl ether	8.0	U	40	8.0	4.4	ug/L		12/20/23 00:37	4
Isopropylbenzene	2.0	U	4.0	2.0	1.5	ug/L		12/20/23 00:37	4
Methyl tert-butyl ether	**3.8**	**J D**	20	3.2	1.0	ug/L		12/20/23 00:37	4
Methylcyclohexane	1.6	U	4.0	1.6	1.3	ug/L		12/20/23 00:37	4
Methylene Chloride	7.2	U	8.0	7.2	3.8	ug/L		12/20/23 00:37	4
Naphthalene	3.2	U	8.0	3.2	2.5	ug/L		12/20/23 00:37	4
n-Butylbenzene	3.2	U	4.0	3.2	1.9	ug/L		12/20/23 00:37	4
n-Hexane	3.2	U	8.0	3.2	0.65	ug/L		12/20/23 00:37	4
N-Propylbenzene	3.2	U	4.0	3.2	2.1	ug/L		12/20/23 00:37	4
o-Chlorotoluene	1.6	U	4.0	1.6	1.4	ug/L		12/20/23 00:37	4
p-Chlorotoluene	3.2	U	4.0	3.2	0.84	ug/L		12/20/23 00:37	4
sec-Butylbenzene	3.2	U	4.0	3.2	1.8	ug/L		12/20/23 00:37	4
Styrene	3.2	U	4.0	3.2	1.4	ug/L		12/20/23 00:37	4
tert-Butylbenzene	3.2	U	4.0	3.2	1.7	ug/L		12/20/23 00:37	4
Tetrachloroethene	3.2	U	4.0	3.2	1.6	ug/L		12/20/23 00:37	4
Toluene	1.6	U	4.0	1.6	1.3	ug/L		12/20/23 00:37	4

Client Sample ID: TV044-MW111223A
Lab Sample ID: 280-185814-8

Date Collected: 12/14/23 12:45
Matrix: Water
Date Received: 12/16/23 09:30

Method: SW846 8260D - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
trans-1,2-Dichloroethylene	2.0	U	4.0	2.0	1.5	ug/L		12/20/23 00:37	4
trans-1,3-Dichloropropene	7.2	U	8.0	7.2	2.6	ug/L		12/20/23 00:37	4
Trichloroethene	1.6	U	4.0	1.6	1.2	ug/L		12/20/23 00:37	4
Trichlorofluoromethane	3.2	U	8.0	3.2	2.3	ug/L		12/20/23 00:37	4
Vinyl acetate	8.0	U	12	8.0	3.8	ug/L		12/20/23 00:37	4
Vinyl chloride	4.0	U	8.0	4.0	2.0	ug/L		12/20/23 00:37	4
Xylenes, Total	3.2	U	4.0	3.2	1.3	ug/L		12/20/23 00:37	4

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
1,3-Butadiene TIC	*4.0*	*U*	*ug/L*			*106-99-0*		*12/20/23 00:37*	*4*
4-Ethyltoluene TIC	*4.0*	*U*	*ug/L*			*622-96-8*		*12/20/23 00:37*	*4*
Dicyclopentadiene TIC	*4.0*	*U*	*ug/L*			*77-73-6*		*12/20/23 00:37*	*4*
Propene TIC	*4.0*	*U*	*ug/L*			*115-07-1*		*12/20/23 00:37*	*4*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*104*		*81 - 118*		*12/20/23 00:37*	*4*
4-Bromofluorobenzene (Surr)	*91*		*85 - 114*		*12/20/23 00:37*	*4*
Dibromofluoromethane (Surr)	*107*		*80 - 119*		*12/20/23 00:37*	*4*
Toluene-d8 (Surr)	*98*		*89 - 112*		*12/20/23 00:37*	*4*

Method: SW846 6020B - Metals (ICP/MS)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Lead	**0.25**	**J**	1.0	0.70	0.23	ug/L		12/21/23 16:26	1

General Chemistry

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Nitrate Nitrite as N (EPA 353.2)	0.080	U	0.10	0.080	0.044	mg/L		12/28/23 13:51	1
Sulfate (SW846 9056A)	**160**	**D M**	25	13	5.2	mg/L		12/21/23 18:01	5

Client Sample ID: TV044-MW111223C
Lab Sample ID: 280-185814-9

Date Collected: 12/14/23 12:45
Matrix: Water
Date Received: 12/16/23 09:30

Method: SW846 8260D - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
1,1,1-Trichloroethane	0.50	U	1.0	0.50	0.39	ug/L		12/19/23 23:54	1
1,1,2,2-Tetrachloroethane	0.80	U	1.0	0.80	0.21	ug/L		12/19/23 23:54	1
1,1,2-Trichloroethane	0.80	U	1.0	0.80	0.27	ug/L		12/19/23 23:54	1
1,1-Dichloroethane	0.80	U	1.0	0.80	0.22	ug/L		12/19/23 23:54	1
1,1-Dichloroethylene	0.80	U	1.0	0.80	0.23	ug/L		12/19/23 23:54	1
1,1-Dichloropropene	0.80	U	1.0	0.80	0.42	ug/L		12/19/23 23:54	1
1,2,3-Trichlorobenzene	0.80	U	2.0	0.80	0.70	ug/L		12/19/23 23:54	1
1,2,3-Trichloropropane	1.8	U	2.5	1.8	0.86	ug/L		12/19/23 23:54	1
1,2,3-Trimethylbenzene	0.80	U	2.0	0.80	0.27	ug/L		12/19/23 23:54	1
1,2,4-Trichlorobenzene	0.80	U	1.0	0.80	0.58	ug/L		12/19/23 23:54	1
1,2,4-Trimethylbenzene	0.40	U	1.0	0.40	0.15	ug/L		12/19/23 23:54	1
1,2-Dibromo-3-Chloropropane	4.0	U	5.0	4.0	1.8	ug/L		12/19/23 23:54	1
1,2-Dibromoethane	0.80	U	1.0	0.80	0.40	ug/L		12/19/23 23:54	1
1,2-Dichlorobenzene	0.50	U	1.0	0.50	0.37	ug/L		12/19/23 23:54	1
1,2-Dichloroethane	0.80	U	1.0	0.80	0.54	ug/L		12/19/23 23:54	1
1,2-Dichloropropane	0.80	U	1.0	0.80	0.52	ug/L		12/19/23 23:54	1

Client Sample ID: TV044-MW111223C
Lab Sample ID: 280-185814-9

Date Collected: 12/14/23 12:45
Matrix: Water
Date Received: 12/16/23 09:30

Method: SW846 8260D - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
1,3,5-Trimethylbenzene	0.50	U	1.0	0.50	0.37	ug/L		12/19/23 23:54	1
1,3-Dichlorobenzene	0.40	U	1.0	0.40	0.33	ug/L		12/19/23 23:54	1
1,3-Dichloropropane	0.80	U	1.0	0.80	0.38	ug/L		12/19/23 23:54	1
1,4-Dichlorobenzene	0.50	U	1.0	0.50	0.39	ug/L		12/19/23 23:54	1
2,2-Dichloropropane	0.80	U	1.0	0.80	0.38	ug/L		12/19/23 23:54	1
2-Butanone (MEK)	12	U	15	12	6.0	ug/L		12/19/23 23:54	1
2-Chloroethyl vinyl ether	0.80	U	3.0	0.80	0.44	ug/L		12/19/23 23:54	1
2-Hexanone	4.0	U	5.0	4.0	1.7	ug/L		12/19/23 23:54	1
4-Isopropyltoluene	0.80	U	1.0	0.80	0.43	ug/L		12/19/23 23:54	1
4-Methyl-2-pentanone (MIBK)	3.2	U	5.0	3.2	0.98	ug/L		12/19/23 23:54	1
Acetone	8.0	U M	15	8.0	6.6	ug/L		12/19/23 23:54	1
Acrylonitrile	8.0	U	20	8.0	4.5	ug/L		12/19/23 23:54	1
Benzene	0.80	U	1.0	0.80	0.31	ug/L		12/19/23 23:54	1
Bromobenzene	0.50	U	1.0	0.50	0.40	ug/L		12/19/23 23:54	1
Bromochloromethane	0.80	U	1.0	0.80	0.40	ug/L		12/19/23 23:54	1
Bromodichloromethane	0.50	U	1.0	0.50	0.39	ug/L		12/19/23 23:54	1
Bromoform	1.8	U	2.0	1.8	1.2	ug/L		12/19/23 23:54	1
Carbon disulfide	0.80	U	2.0	0.80	0.63	ug/L		12/19/23 23:54	1
Carbon tetrachloride	0.80	U	1.0	0.80	0.57	ug/L		12/19/23 23:54	1
Chlorobenzene	0.80	U	1.0	0.80	0.42	ug/L		12/19/23 23:54	1
Chloroethane	1.6	U	4.0	1.6	1.4	ug/L		12/19/23 23:54	1
Chloroform	0.80	U	1.0	0.80	0.36	ug/L		12/19/23 23:54	1
Chloromethane	1.0	U	2.0	1.0	0.75	ug/L		12/19/23 23:54	1
cis-1,2-Dichloroethylene	0.40	U	1.0	0.40	0.32	ug/L		12/19/23 23:54	1
cis-1,3-Dichloropropene	1.8	U	2.0	1.8	0.63	ug/L		12/19/23 23:54	1
Cyclohexane	0.80	U	1.0	0.80	0.44	ug/L		12/19/23 23:54	1
Cyclohexanone	64	U M Q	100	64	32	ug/L		12/19/23 23:54	1
Dibromochloromethane	1.8	U	2.0	1.8	0.62	ug/L		12/19/23 23:54	1
Dibromomethane	0.40	U	1.0	0.40	0.34	ug/L		12/19/23 23:54	1
Dichlorodifluoromethane	2.5	U	3.0	2.5	0.96	ug/L		12/19/23 23:54	1
Ethylbenzene	0.40	U	1.0	0.40	0.30	ug/L		12/19/23 23:54	1
Hexachlorobutadiene	1.8	U	2.0	1.8	1.2	ug/L		12/19/23 23:54	1
Isopropyl ether	2.0	U	10	2.0	1.1	ug/L		12/19/23 23:54	1
Isopropylbenzene	0.50	U	1.0	0.50	0.36	ug/L		12/19/23 23:54	1
Methyl tert-butyl ether	**3.3**	**J**	5.0	0.80	0.25	ug/L		12/19/23 23:54	1
Methylcyclohexane	0.40	U	1.0	0.40	0.31	ug/L		12/19/23 23:54	1
Methylene Chloride	1.8	U	2.0	1.8	0.94	ug/L		12/19/23 23:54	1
Naphthalene	0.80	U	2.0	0.80	0.63	ug/L		12/19/23 23:54	1
n-Butylbenzene	0.80	U	1.0	0.80	0.48	ug/L		12/19/23 23:54	1
n-Hexane	0.80	U	2.0	0.80	0.16	ug/L		12/19/23 23:54	1
N-Propylbenzene	0.80	U	1.0	0.80	0.53	ug/L		12/19/23 23:54	1
o-Chlorotoluene	0.40	U	1.0	0.40	0.34	ug/L		12/19/23 23:54	1
p-Chlorotoluene	0.80	U	1.0	0.80	0.21	ug/L		12/19/23 23:54	1
sec-Butylbenzene	0.80	U	1.0	0.80	0.45	ug/L		12/19/23 23:54	1
Styrene	0.80	U	1.0	0.80	0.36	ug/L		12/19/23 23:54	1
tert-Butylbenzene	0.80	U	1.0	0.80	0.42	ug/L		12/19/23 23:54	1
Tetrachloroethene	0.80	U	1.0	0.80	0.40	ug/L		12/19/23 23:54	1
Toluene	0.40	U	1.0	0.40	0.32	ug/L		12/19/23 23:54	1
trans-1,2-Dichloroethylene	0.50	U	1.0	0.50	0.37	ug/L		12/19/23 23:54	1

Client Sample ID: TV044-MW111223C
Lab Sample ID: 280-185814-9

Date Collected: 12/14/23 12:45
Matrix: Water
Date Received: 12/16/23 09:30

Method: SW846 8260D - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
trans-1,3-Dichloropropene	1.8	U	2.0	1.8	0.65	ug/L		12/19/23 23:54	1
Trichloroethene	0.40	U	1.0	0.40	0.30	ug/L		12/19/23 23:54	1
Trichlorofluoromethane	0.80	U	2.0	0.80	0.57	ug/L		12/19/23 23:54	1
Vinyl acetate	2.0	U	3.0	2.0	0.94	ug/L		12/19/23 23:54	1
Vinyl chloride	1.0	U	2.0	1.0	0.51	ug/L		12/19/23 23:54	1
Xylenes, Total	0.80	U	1.0	0.80	0.33	ug/L		12/19/23 23:54	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
1,3-Butadiene TIC	*1.0*	*U*	*ug/L*			*106-99-0*		*12/19/23 23:54*	*1*
4-Ethyltoluene TIC	*1.0*	*U*	*ug/L*			*622-96-8*		*12/19/23 23:54*	*1*
Dicyclopentadiene TIC	*1.0*	*U*	*ug/L*			*77-73-6*		*12/19/23 23:54*	*1*
Propene TIC	*1.0*	*U*	*ug/L*			*115-07-1*		*12/19/23 23:54*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*108*		*81 - 118*		*12/19/23 23:54*	*1*
4-Bromofluorobenzene (Surr)	*90*		*85 - 114*		*12/19/23 23:54*	*1*
Dibromofluoromethane (Surr)	*110*		*80 - 119*		*12/19/23 23:54*	*1*
Toluene-d8 (Surr)	*99*		*89 - 112*		*12/19/23 23:54*	*1*

Method: SW846 6020B - Metals (ICP/MS)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Lead	**0.33**	**J**	1.0	0.70	0.23	ug/L		12/21/23 16:29	1

General Chemistry

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Nitrate Nitrite as N (EPA 353.2)	0.080	U	0.10	0.080	0.044	mg/L		12/28/23 13:52	1
Sulfate (SW846 9056A)	**200**	**D**	25	13	5.2	mg/L		12/21/23 17:39	5

Client Sample ID: TV044-MW131223A
Lab Sample ID: 280-185814-10

Date Collected: 12/14/23 13:00
Matrix: Water
Date Received: 12/16/23 09:30

Method: SW846 8260D - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
1,1,1-Trichloroethane	50	U	100	50	39	ug/L		12/20/23 01:22	100
1,1,2,2-Tetrachloroethane	80	U	100	80	21	ug/L		12/20/23 01:22	100
1,1,2-Trichloroethane	80	U	100	80	27	ug/L		12/20/23 01:22	100
1,1-Dichloroethane	80	U	100	80	22	ug/L		12/20/23 01:22	100
1,1-Dichloroethylene	80	U	100	80	23	ug/L		12/20/23 01:22	100
1,1-Dichloropropene	80	U	100	80	42	ug/L		12/20/23 01:22	100
1,2,3-Trichlorobenzene	80	U	200	80	70	ug/L		12/20/23 01:22	100
1,2,3-Trichloropropane	180	U	250	180	86	ug/L		12/20/23 01:22	100
1,2,3-Trimethylbenzene	**110**	**J D**	200	80	27	ug/L		12/20/23 01:22	100
1,2,4-Trichlorobenzene	80	U	100	80	58	ug/L		12/20/23 01:22	100
1,2,4-Trimethylbenzene	**60**	**J D**	100	40	15	ug/L		12/20/23 01:22	100
1,2-Dibromo-3-Chloropropane	400	U	500	400	180	ug/L		12/20/23 01:22	100
1,2-Dibromoethane	80	U	100	80	40	ug/L		12/20/23 01:22	100
1,2-Dichlorobenzene	50	U	100	50	37	ug/L		12/20/23 01:22	100
1,2-Dichloroethane	80	U M	100	80	54	ug/L		12/20/23 01:22	100
1,2-Dichloropropane	80	U	100	80	52	ug/L		12/20/23 01:22	100
1,3,5-Trimethylbenzene	50	U	100	50	37	ug/L		12/20/23 01:22	100

Client Sample ID: TV044-MW131223A
Lab Sample ID: 280-185814-10

Date Collected: 12/14/23 13:00
Matrix: Water

Date Received: 12/16/23 09:30

Method: SW846 8260D - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
1,3-Dichlorobenzene	40	U	100	40	33	ug/L		12/20/23 01:22	100
1,3-Dichloropropane	80	U	100	80	38	ug/L		12/20/23 01:22	100
1,4-Dichlorobenzene	50	U	100	50	39	ug/L		12/20/23 01:22	100
2,2-Dichloropropane	80	U	100	80	38	ug/L		12/20/23 01:22	100
2-Butanone (MEK)	1200	U	1500	1200	600	ug/L		12/20/23 01:22	100
2-Chloroethyl vinyl ether	80	U	300	80	44	ug/L		12/20/23 01:22	100
2-Hexanone	400	U	500	400	170	ug/L		12/20/23 01:22	100
4-Isopropyltoluene	80	U	100	80	43	ug/L		12/20/23 01:22	100
4-Methyl-2-pentanone (MIBK)	320	U	500	320	98	ug/L		12/20/23 01:22	100
Acetone	800	U	1500	800	660	ug/L		12/20/23 01:22	100
Acrylonitrile	800	U M	2000	800	450	ug/L		12/20/23 01:22	100
Benzene	**6400**	**D**	100	80	31	ug/L		12/20/23 01:22	100
Bromobenzene	50	U	100	50	40	ug/L		12/20/23 01:22	100
Bromochloromethane	80	U	100	80	40	ug/L		12/20/23 01:22	100
Bromodichloromethane	50	U	100	50	39	ug/L		12/20/23 01:22	100
Bromoform	180	U	200	180	120	ug/L		12/20/23 01:22	100
Carbon disulfide	80	U	200	80	63	ug/L		12/20/23 01:22	100
Carbon tetrachloride	80	U	100	80	57	ug/L		12/20/23 01:22	100
Chlorobenzene	80	U	100	80	42	ug/L		12/20/23 01:22	100
Chloroethane	160	U	400	160	140	ug/L		12/20/23 01:22	100
Chloroform	80	U	100	80	36	ug/L		12/20/23 01:22	100
Chloromethane	100	U	200	100	75	ug/L		12/20/23 01:22	100
cis-1,2-Dichloroethylene	40	U	100	40	32	ug/L		12/20/23 01:22	100
cis-1,3-Dichloropropene	180	U	200	180	63	ug/L		12/20/23 01:22	100
Cyclohexane	**130**	**D**	100	80	44	ug/L		12/20/23 01:22	100
Cyclohexanone	6400	U M Q	10000	6400	3200	ug/L		12/20/23 01:22	100
Dibromochloromethane	180	U	200	180	62	ug/L		12/20/23 01:22	100
Dibromomethane	40	U	100	40	34	ug/L		12/20/23 01:22	100
Dichlorodifluoromethane	250	U	300	250	96	ug/L		12/20/23 01:22	100
Ethylbenzene	**95**	**J D**	100	40	30	ug/L		12/20/23 01:22	100
Hexachlorobutadiene	180	U	200	180	120	ug/L		12/20/23 01:22	100
Isopropyl ether	200	U	1000	200	110	ug/L		12/20/23 01:22	100
Isopropylbenzene	50	U	100	50	36	ug/L		12/20/23 01:22	100
Methyl tert-butyl ether	**6000**	**D**	500	80	25	ug/L		12/20/23 01:22	100
Methylcyclohexane	**240**	**D**	100	40	31	ug/L		12/20/23 01:22	100
Methylene Chloride	180	U	200	180	94	ug/L		12/20/23 01:22	100
Naphthalene	**96**	**J D**	200	80	63	ug/L		12/20/23 01:22	100
n-Butylbenzene	80	U	100	80	48	ug/L		12/20/23 01:22	100
n-Hexane	**77**	**J D**	200	80	16	ug/L		12/20/23 01:22	100
N-Propylbenzene	80	U	100	80	53	ug/L		12/20/23 01:22	100
o-Chlorotoluene	40	U	100	40	34	ug/L		12/20/23 01:22	100
p-Chlorotoluene	80	U	100	80	21	ug/L		12/20/23 01:22	100
sec-Butylbenzene	80	U	100	80	45	ug/L		12/20/23 01:22	100
Styrene	80	U	100	80	36	ug/L		12/20/23 01:22	100
tert-Butylbenzene	80	U	100	80	42	ug/L		12/20/23 01:22	100
Tetrachloroethene	80	U	100	80	40	ug/L		12/20/23 01:22	100
Toluene	**61**	**J D**	100	40	32	ug/L		12/20/23 01:22	100
trans-1,2-Dichloroethylene	50	U	100	50	37	ug/L		12/20/23 01:22	100
trans-1,3-Dichloropropene	180	U	200	180	65	ug/L		12/20/23 01:22	100

Client Sample ID: TV044-MW131223A
Lab Sample ID: 280-185814-10

Date Collected: 12/14/23 13:00
Matrix: Water
Date Received: 12/16/23 09:30

Method: SW846 8260D - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Trichloroethene	40	U	100	40	30	ug/L		12/20/23 01:22	100
Trichlorofluoromethane	80	U	200	80	57	ug/L		12/20/23 01:22	100
Vinyl acetate	200	U	300	200	94	ug/L		12/20/23 01:22	100
Vinyl chloride	100	U	200	100	51	ug/L		12/20/23 01:22	100
Xylenes, Total	**70**	**J D**	100	80	33	ug/L		12/20/23 01:22	100

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
1,3-Butadiene TIC	*100*	*U*	*ug/L*			*106-99-0*		*12/20/23 01:22*	*100*
4-Ethyltoluene TIC	*100*	*U*	*ug/L*			*622-96-8*		*12/20/23 01:22*	*100*
Dicyclopentadiene TIC	*100*	*U*	*ug/L*			*77-73-6*		*12/20/23 01:22*	*100*
Propene TIC	*100*	*U*	*ug/L*			*115-07-1*		*12/20/23 01:22*	*100*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*102*		*81 - 118*		*12/20/23 01:22*	*100*
4-Bromofluorobenzene (Surr)	*88*		*85 - 114*		*12/20/23 01:22*	*100*
Dibromofluoromethane (Surr)	*106*		*80 - 119*		*12/20/23 01:22*	*100*
Toluene-d8 (Surr)	*102*		*89 - 112*		*12/20/23 01:22*	*100*

Method: SW846 6020B - Metals (ICP/MS)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Lead	0.70	U	1.0	0.70	0.23	ug/L		12/21/23 16:31	1

General Chemistry

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Nitrate Nitrite as N (EPA 353.2)	0.080	U	0.10	0.080	0.044	mg/L		12/28/23 13:54	1
Sulfate (SW846 9056A)	2.5	U M	5.0	2.5	1.0	mg/L		12/21/23 15:05	1

Client Sample ID: TV044-MW91223A
Lab Sample ID: 280-185814-11

Date Collected: 12/14/23 13:30
Matrix: Water
Date Received: 12/16/23 09:30

Method: SW846 8260D - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
1,1,1-Trichloroethane	0.50	U	1.0	0.50	0.39	ug/L		12/20/23 00:15	1
1,1,2,2-Tetrachloroethane	0.80	U	1.0	0.80	0.21	ug/L		12/20/23 00:15	1
1,1,2-Trichloroethane	0.80	U	1.0	0.80	0.27	ug/L		12/20/23 00:15	1
1,1-Dichloroethane	0.80	U	1.0	0.80	0.22	ug/L		12/20/23 00:15	1
1,1-Dichloroethylene	0.80	U	1.0	0.80	0.23	ug/L		12/20/23 00:15	1
1,1-Dichloropropene	0.80	U	1.0	0.80	0.42	ug/L		12/20/23 00:15	1
1,2,3-Trichlorobenzene	0.80	U	2.0	0.80	0.70	ug/L		12/20/23 00:15	1
1,2,3-Trichloropropane	1.8	U	2.5	1.8	0.86	ug/L		12/20/23 00:15	1
1,2,3-Trimethylbenzene	0.80	U	2.0	0.80	0.27	ug/L		12/20/23 00:15	1
1,2,4-Trichlorobenzene	0.80	U	1.0	0.80	0.58	ug/L		12/20/23 00:15	1
1,2,4-Trimethylbenzene	0.40	U	1.0	0.40	0.15	ug/L		12/20/23 00:15	1
1,2-Dibromo-3-Chloropropane	4.0	U	5.0	4.0	1.8	ug/L		12/20/23 00:15	1
1,2-Dibromoethane	0.80	U	1.0	0.80	0.40	ug/L		12/20/23 00:15	1
1,2-Dichlorobenzene	0.50	U	1.0	0.50	0.37	ug/L		12/20/23 00:15	1
1,2-Dichloroethane	0.80	U	1.0	0.80	0.54	ug/L		12/20/23 00:15	1
1,2-Dichloropropane	0.80	U	1.0	0.80	0.52	ug/L		12/20/23 00:15	1
1,3,5-Trimethylbenzene	0.50	U	1.0	0.50	0.37	ug/L		12/20/23 00:15	1
1,3-Dichlorobenzene	0.40	U	1.0	0.40	0.33	ug/L		12/20/23 00:15	1

Client Sample ID: TV044-MW91223A
Lab Sample ID: 280-185814-11

Date Collected: 12/14/23 13:30
Matrix: Water

Date Received: 12/16/23 09:30

Method: SW846 8260D - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
1,3-Dichloropropane	0.80	U	1.0	0.80	0.38	ug/L		12/20/23 00:15	1
1,4-Dichlorobenzene	0.50	U	1.0	0.50	0.39	ug/L		12/20/23 00:15	1
2,2-Dichloropropane	0.80	U	1.0	0.80	0.38	ug/L		12/20/23 00:15	1
2-Butanone (MEK)	12	U	15	12	6.0	ug/L		12/20/23 00:15	1
2-Chloroethyl vinyl ether	0.80	U	3.0	0.80	0.44	ug/L		12/20/23 00:15	1
2-Hexanone	4.0	U	5.0	4.0	1.7	ug/L		12/20/23 00:15	1
4-Isopropyltoluene	0.80	U	1.0	0.80	0.43	ug/L		12/20/23 00:15	1
4-Methyl-2-pentanone (MIBK)	3.2	U	5.0	3.2	0.98	ug/L		12/20/23 00:15	1
Acetone	8.0	U M	15	8.0	6.6	ug/L		12/20/23 00:15	1
Acrylonitrile	8.0	U M	20	8.0	4.5	ug/L		12/20/23 00:15	1
Benzene	0.80	U	1.0	0.80	0.31	ug/L		12/20/23 00:15	1
Bromobenzene	0.50	U	1.0	0.50	0.40	ug/L		12/20/23 00:15	1
Bromochloromethane	0.80	U	1.0	0.80	0.40	ug/L		12/20/23 00:15	1
Bromodichloromethane	0.50	U	1.0	0.50	0.39	ug/L		12/20/23 00:15	1
Bromoform	1.8	U	2.0	1.8	1.2	ug/L		12/20/23 00:15	1
Carbon disulfide	0.80	U	2.0	0.80	0.63	ug/L		12/20/23 00:15	1
Carbon tetrachloride	0.80	U	1.0	0.80	0.57	ug/L		12/20/23 00:15	1
Chlorobenzene	0.80	U	1.0	0.80	0.42	ug/L		12/20/23 00:15	1
Chloroethane	1.6	U	4.0	1.6	1.4	ug/L		12/20/23 00:15	1
Chloroform	0.80	U	1.0	0.80	0.36	ug/L		12/20/23 00:15	1
Chloromethane	1.0	U	2.0	1.0	0.75	ug/L		12/20/23 00:15	1
cis-1,2-Dichloroethylene	0.40	U	1.0	0.40	0.32	ug/L		12/20/23 00:15	1
cis-1,3-Dichloropropene	1.8	U	2.0	1.8	0.63	ug/L		12/20/23 00:15	1
Cyclohexane	0.80	U	1.0	0.80	0.44	ug/L		12/20/23 00:15	1
Cyclohexanone	64	U M Q	100	64	32	ug/L		12/20/23 00:15	1
Dibromochloromethane	1.8	U	2.0	1.8	0.62	ug/L		12/20/23 00:15	1
Dibromomethane	0.40	U	1.0	0.40	0.34	ug/L		12/20/23 00:15	1
Dichlorodifluoromethane	2.5	U	3.0	2.5	0.96	ug/L		12/20/23 00:15	1
Ethylbenzene	0.40	U	1.0	0.40	0.30	ug/L		12/20/23 00:15	1
Hexachlorobutadiene	1.8	U	2.0	1.8	1.2	ug/L		12/20/23 00:15	1
Isopropyl ether	2.0	U	10	2.0	1.1	ug/L		12/20/23 00:15	1
Isopropylbenzene	0.50	U	1.0	0.50	0.36	ug/L		12/20/23 00:15	1
Methyl tert-butyl ether	**68**		5.0	0.80	0.25	ug/L		12/20/23 00:15	1
Methylcyclohexane	0.40	U	1.0	0.40	0.31	ug/L		12/20/23 00:15	1
Methylene Chloride	1.8	U	2.0	1.8	0.94	ug/L		12/20/23 00:15	1
Naphthalene	0.80	U	2.0	0.80	0.63	ug/L		12/20/23 00:15	1
n-Butylbenzene	0.80	U	1.0	0.80	0.48	ug/L		12/20/23 00:15	1
n-Hexane	0.80	U	2.0	0.80	0.16	ug/L		12/20/23 00:15	1
N-Propylbenzene	0.80	U	1.0	0.80	0.53	ug/L		12/20/23 00:15	1
o-Chlorotoluene	0.40	U	1.0	0.40	0.34	ug/L		12/20/23 00:15	1
p-Chlorotoluene	0.80	U	1.0	0.80	0.21	ug/L		12/20/23 00:15	1
sec-Butylbenzene	0.80	U	1.0	0.80	0.45	ug/L		12/20/23 00:15	1
Styrene	0.80	U	1.0	0.80	0.36	ug/L		12/20/23 00:15	1
tert-Butylbenzene	0.80	U	1.0	0.80	0.42	ug/L		12/20/23 00:15	1
Tetrachloroethene	0.80	U	1.0	0.80	0.40	ug/L		12/20/23 00:15	1
Toluene	0.40	U	1.0	0.40	0.32	ug/L		12/20/23 00:15	1
trans-1,2-Dichloroethylene	0.50	U	1.0	0.50	0.37	ug/L		12/20/23 00:15	1
trans-1,3-Dichloropropene	1.8	U	2.0	1.8	0.65	ug/L		12/20/23 00:15	1
Trichloroethene	0.40	U	1.0	0.40	0.30	ug/L		12/20/23 00:15	1

Client Sample ID: TV044-MW91223A
Lab Sample ID: 280-185814-11
Date Collected: 12/14/23 13:30
Matrix: Water
Date Received: 12/16/23 09:30

Method: SW846 8260D - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Trichlorofluoromethane	0.80	U	2.0	0.80	0.57	ug/L		12/20/23 00:15	1
Vinyl acetate	2.0	U	3.0	2.0	0.94	ug/L		12/20/23 00:15	1
Vinyl chloride	1.0	U	2.0	1.0	0.51	ug/L		12/20/23 00:15	1
Xylenes, Total	0.80	U	1.0	0.80	0.33	ug/L		12/20/23 00:15	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
1,3-Butadiene TIC	*1.0*	*U*	*ug/L*			*106-99-0*		*12/20/23 00:15*	*1*
4-Ethyltoluene TIC	*1.0*	*U*	*ug/L*			*622-96-8*		*12/20/23 00:15*	*1*
Dicyclopentadiene TIC	*1.0*	*U*	*ug/L*			*77-73-6*		*12/20/23 00:15*	*1*
Propene TIC	*1.0*	*U*	*ug/L*			*115-07-1*		*12/20/23 00:15*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*106*		*81 - 118*		*12/20/23 00:15*	*1*
4-Bromofluorobenzene (Surr)	*87*		*85 - 114*		*12/20/23 00:15*	*1*
Dibromofluoromethane (Surr)	*108*		*80 - 119*		*12/20/23 00:15*	*1*
Toluene-d8 (Surr)	*100*		*89 - 112*		*12/20/23 00:15*	*1*

Method: SW846 6020B - Metals (ICP/MS)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Lead	0.70	U	1.0	0.70	0.23	ug/L		12/21/23 16:33	1

General Chemistry

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Nitrate Nitrite as N (EPA 353.2)	**14**		0.50	0.40	0.22	mg/L		12/28/23 13:55	5
Sulfate (SW846 9056A)	**310**	**D**	25	13	5.2	mg/L		12/21/23 17:17	5

Client Sample ID: TV044-MW23D1223A
Lab Sample ID: 280-185814-12
Date Collected: 12/14/23 13:55
Matrix: Water
Date Received: 12/16/23 09:30

Method: SW846 8260D - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
1,1,1-Trichloroethane	100	U	200	100	78	ug/L		12/20/23 02:07	200
1,1,2,2-Tetrachloroethane	160	U	200	160	42	ug/L		12/20/23 02:07	200
1,1,2-Trichloroethane	160	U	200	160	54	ug/L		12/20/23 02:07	200
1,1-Dichloroethane	160	U	200	160	44	ug/L		12/20/23 02:07	200
1,1-Dichloroethylene	160	U	200	160	46	ug/L		12/20/23 02:07	200
1,1-Dichloropropene	160	U	200	160	83	ug/L		12/20/23 02:07	200
1,2,3-Trichlorobenzene	160	U	400	160	140	ug/L		12/20/23 02:07	200
1,2,3-Trichloropropane	360	U	500	360	170	ug/L		12/20/23 02:07	200
1,2,3-Trimethylbenzene	160	U	400	160	54	ug/L		12/20/23 02:07	200
1,2,4-Trichlorobenzene	160	U	200	160	120	ug/L		12/20/23 02:07	200
1,2,4-Trimethylbenzene	80	U	200	80	30	ug/L		12/20/23 02:07	200
1,2-Dibromo-3-Chloropropane	800	U	1000	800	350	ug/L		12/20/23 02:07	200
1,2-Dibromoethane	160	U	200	160	81	ug/L		12/20/23 02:07	200
1,2-Dichlorobenzene	100	U	200	100	74	ug/L		12/20/23 02:07	200
1,2-Dichloroethane	160	U	200	160	110	ug/L		12/20/23 02:07	200
1,2-Dichloropropane	160	U	200	160	100	ug/L		12/20/23 02:07	200
1,3,5-Trimethylbenzene	100	U	200	100	74	ug/L		12/20/23 02:07	200
1,3-Dichlorobenzene	80	U	200	80	67	ug/L		12/20/23 02:07	200
1,3-Dichloropropane	160	U	200	160	76	ug/L		12/20/23 02:07	200

Client Sample ID: TV044-MW23D1223A
Lab Sample ID: 280-185814-12

Date Collected: 12/14/23 13:55
Matrix: Water
Date Received: 12/16/23 09:30

Method: SW846 8260D - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
1,4-Dichlorobenzene	100	U	200	100	78	ug/L		12/20/23 02:07	200
2,2-Dichloropropane	160	U	200	160	76	ug/L		12/20/23 02:07	200
2-Butanone (MEK)	2400	U	3000	2400	1200	ug/L		12/20/23 02:07	200
2-Chloroethyl vinyl ether	160	U	600	160	88	ug/L		12/20/23 02:07	200
2-Hexanone	800	U	1000	800	340	ug/L		12/20/23 02:07	200
4-Isopropyltoluene	160	U	200	160	86	ug/L		12/20/23 02:07	200
4-Methyl-2-pentanone (MIBK)	640	U	1000	640	200	ug/L		12/20/23 02:07	200
Acetone	1600	U	3000	1600	1300	ug/L		12/20/23 02:07	200
Acrylonitrile	1600	U M	4000	1600	890	ug/L		12/20/23 02:07	200
Benzene	160	U	200	160	62	ug/L		12/20/23 02:07	200
Bromobenzene	100	U	200	100	79	ug/L		12/20/23 02:07	200
Bromochloromethane	160	U	200	160	81	ug/L		12/20/23 02:07	200
Bromodichloromethane	100	U	200	100	77	ug/L		12/20/23 02:07	200
Bromoform	360	U	400	360	240	ug/L		12/20/23 02:07	200
Carbon disulfide	160	U	400	160	130	ug/L		12/20/23 02:07	200
Carbon tetrachloride	160	U	200	160	110	ug/L		12/20/23 02:07	200
Chlorobenzene	160	U	200	160	84	ug/L		12/20/23 02:07	200
Chloroethane	320	U	800	320	270	ug/L		12/20/23 02:07	200
Chloroform	160	U	200	160	72	ug/L		12/20/23 02:07	200
Chloromethane	200	U	400	200	150	ug/L		12/20/23 02:07	200
cis-1,2-Dichloroethylene	80	U	200	80	64	ug/L		12/20/23 02:07	200
cis-1,3-Dichloropropene	360	U	400	360	130	ug/L		12/20/23 02:07	200
Cyclohexane	160	U	200	160	88	ug/L		12/20/23 02:07	200
Cyclohexanone	13000	U M Q	20000	13000	6300	ug/L		12/20/23 02:07	200
Dibromochloromethane	360	U	400	360	120	ug/L		12/20/23 02:07	200
Dibromomethane	80	U	200	80	69	ug/L		12/20/23 02:07	200
Dichlorodifluoromethane	500	U	600	500	190	ug/L		12/20/23 02:07	200
Ethylbenzene	80	U	200	80	61	ug/L		12/20/23 02:07	200
Hexachlorobutadiene	360	U	400	360	230	ug/L		12/20/23 02:07	200
Isopropyl ether	400	U	2000	400	220	ug/L		12/20/23 02:07	200
Isopropylbenzene	100	U	200	100	73	ug/L		12/20/23 02:07	200
Methyl tert-butyl ether	**12000**	**D**	1000	160	50	ug/L		12/20/23 02:07	200
Methylcyclohexane	80	U	200	80	63	ug/L		12/20/23 02:07	200
Methylene Chloride	360	U	400	360	190	ug/L		12/20/23 02:07	200
Naphthalene	160	U	400	160	130	ug/L		12/20/23 02:07	200
n-Butylbenzene	160	U	200	160	95	ug/L		12/20/23 02:07	200
n-Hexane	160	U	400	160	33	ug/L		12/20/23 02:07	200
N-Propylbenzene	160	U	200	160	110	ug/L		12/20/23 02:07	200
o-Chlorotoluene	80	U	200	80	68	ug/L		12/20/23 02:07	200
p-Chlorotoluene	160	U	200	160	42	ug/L		12/20/23 02:07	200
sec-Butylbenzene	160	U	200	160	89	ug/L		12/20/23 02:07	200
Styrene	160	U	200	160	71	ug/L		12/20/23 02:07	200
tert-Butylbenzene	160	U	200	160	84	ug/L		12/20/23 02:07	200
Tetrachloroethene	160	U	200	160	81	ug/L		12/20/23 02:07	200
Toluene	80	U	200	80	64	ug/L		12/20/23 02:07	200
trans-1,2-Dichloroethylene	100	U	200	100	74	ug/L		12/20/23 02:07	200
trans-1,3-Dichloropropene	360	U	400	360	130	ug/L		12/20/23 02:07	200
Trichloroethene	80	U	200	80	60	ug/L		12/20/23 02:07	200
Trichlorofluoromethane	160	U	400	160	110	ug/L		12/20/23 02:07	200

Client Sample ID: TV044-MW23D1223A
Lab Sample ID: 280-185814-12

Date Collected: 12/14/23 13:55
Matrix: Water
Date Received: 12/16/23 09:30

Method: SW846 8260D - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Vinyl acetate	400	U	600	400	190	ug/L		12/20/23 02:07	200
Vinyl chloride	200	U	400	200	100	ug/L		12/20/23 02:07	200
Xylenes, Total	160	U	200	160	66	ug/L		12/20/23 02:07	200

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
1,3-Butadiene TIC	*200*	*U*	*ug/L*			*106-99-0*		*12/20/23 02:07*	*200*
4-Ethyltoluene TIC	*200*	*U*	*ug/L*			*622-96-8*		*12/20/23 02:07*	*200*
Dicyclopentadiene TIC	*200*	*U*	*ug/L*			*77-73-6*		*12/20/23 02:07*	*200*
Propene TIC	*200*	*U*	*ug/L*			*115-07-1*		*12/20/23 02:07*	*200*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*104*		*81 - 118*		*12/20/23 02:07*	*200*
4-Bromofluorobenzene (Surr)	*90*		*85 - 114*		*12/20/23 02:07*	*200*
Dibromofluoromethane (Surr)	*107*		*80 - 119*		*12/20/23 02:07*	*200*
Toluene-d8 (Surr)	*96*		*89 - 112*		*12/20/23 02:07*	*200*

Method: SW846 6020B - Metals (ICP/MS)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Lead	**0.30**	**J**	1.0	0.70	0.23	ug/L		12/21/23 16:35	1

General Chemistry

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Nitrate Nitrite as N (EPA 353.2)	0.080	U	0.10	0.080	0.044	mg/L		12/28/23 13:59	1
Sulfate (SW846 9056A)	**160**	**M**	5.0	2.5	1.0	mg/L		12/21/23 16:44	1

Client Sample ID: TV044-EB021223
Lab Sample ID: 280-185814-13

Date Collected: 12/14/23 14:00
Matrix: Water
Date Received: 12/16/23 09:30

Method: SW846 8260D - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
1,1,1-Trichloroethane	0.50	U	1.0	0.50	0.39	ug/L		12/19/23 21:01	1
1,1,2,2-Tetrachloroethane	0.80	U	1.0	0.80	0.21	ug/L		12/19/23 21:01	1
1,1,2-Trichloroethane	0.80	U	1.0	0.80	0.27	ug/L		12/19/23 21:01	1
1,1-Dichloroethane	0.80	U	1.0	0.80	0.22	ug/L		12/19/23 21:01	1
1,1-Dichloroethylene	0.80	U	1.0	0.80	0.23	ug/L		12/19/23 21:01	1
1,1-Dichloropropene	0.80	U	1.0	0.80	0.42	ug/L		12/19/23 21:01	1
1,2,3-Trichlorobenzene	0.80	U	2.0	0.80	0.70	ug/L		12/19/23 21:01	1
1,2,3-Trichloropropane	1.8	U	2.5	1.8	0.86	ug/L		12/19/23 21:01	1
1,2,3-Trimethylbenzene	0.80	U	2.0	0.80	0.27	ug/L		12/19/23 21:01	1
1,2,4-Trichlorobenzene	0.80	U	1.0	0.80	0.58	ug/L		12/19/23 21:01	1
1,2,4-Trimethylbenzene	0.40	U	1.0	0.40	0.15	ug/L		12/19/23 21:01	1
1,2-Dibromo-3-Chloropropane	4.0	U	5.0	4.0	1.8	ug/L		12/19/23 21:01	1
1,2-Dibromoethane	0.80	U	1.0	0.80	0.40	ug/L		12/19/23 21:01	1
1,2-Dichlorobenzene	0.50	U	1.0	0.50	0.37	ug/L		12/19/23 21:01	1
1,2-Dichloroethane	0.80	U	1.0	0.80	0.54	ug/L		12/19/23 21:01	1
1,2-Dichloropropane	0.80	U	1.0	0.80	0.52	ug/L		12/19/23 21:01	1
1,3,5-Trimethylbenzene	0.50	U	1.0	0.50	0.37	ug/L		12/19/23 21:01	1
1,3-Dichlorobenzene	0.40	U	1.0	0.40	0.33	ug/L		12/19/23 21:01	1
1,3-Dichloropropane	0.80	U	1.0	0.80	0.38	ug/L		12/19/23 21:01	1
1,4-Dichlorobenzene	0.50	U	1.0	0.50	0.39	ug/L		12/19/23 21:01	1

Client Sample ID: TV044-EB021223
Lab Sample ID: 280-185814-13

Date Collected: 12/14/23 14:00
Matrix: Water
Date Received: 12/16/23 09:30

Method: SW846 8260D - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
2,2-Dichloropropane	0.80	U	1.0	0.80	0.38	ug/L		12/19/23 21:01	1
2-Butanone (MEK)	12	U	15	12	6.0	ug/L		12/19/23 21:01	1
2-Chloroethyl vinyl ether	0.80	U	3.0	0.80	0.44	ug/L		12/19/23 21:01	1
2-Hexanone	4.0	U	5.0	4.0	1.7	ug/L		12/19/23 21:01	1
4-Isopropyltoluene	0.80	U	1.0	0.80	0.43	ug/L		12/19/23 21:01	1
4-Methyl-2-pentanone (MIBK)	3.2	U	5.0	3.2	0.98	ug/L		12/19/23 21:01	1
Acetone	8.0	U M	15	8.0	6.6	ug/L		12/19/23 21:01	1
Acrylonitrile	8.0	U	20	8.0	4.5	ug/L		12/19/23 21:01	1
Benzene	0.80	U	1.0	0.80	0.31	ug/L		12/19/23 21:01	1
Bromobenzene	0.50	U	1.0	0.50	0.40	ug/L		12/19/23 21:01	1
Bromochloromethane	0.80	U	1.0	0.80	0.40	ug/L		12/19/23 21:01	1
Bromodichloromethane	0.50	U	1.0	0.50	0.39	ug/L		12/19/23 21:01	1
Bromoform	1.8	U	2.0	1.8	1.2	ug/L		12/19/23 21:01	1
Carbon disulfide	0.80	U	2.0	0.80	0.63	ug/L		12/19/23 21:01	1
Carbon tetrachloride	0.80	U	1.0	0.80	0.57	ug/L		12/19/23 21:01	1
Chlorobenzene	0.80	U	1.0	0.80	0.42	ug/L		12/19/23 21:01	1
Chloroethane	1.6	U	4.0	1.6	1.4	ug/L		12/19/23 21:01	1
Chloroform	0.80	U	1.0	0.80	0.36	ug/L		12/19/23 21:01	1
Chloromethane	1.0	U	2.0	1.0	0.75	ug/L		12/19/23 21:01	1
cis-1,2-Dichloroethylene	0.40	U	1.0	0.40	0.32	ug/L		12/19/23 21:01	1
cis-1,3-Dichloropropene	1.8	U	2.0	1.8	0.63	ug/L		12/19/23 21:01	1
Cyclohexane	0.80	U	1.0	0.80	0.44	ug/L		12/19/23 21:01	1
Cyclohexanone	64	U M Q	100	64	32	ug/L		12/19/23 21:01	1
Dibromochloromethane	1.8	U	2.0	1.8	0.62	ug/L		12/19/23 21:01	1
Dibromomethane	0.40	U	1.0	0.40	0.34	ug/L		12/19/23 21:01	1
Dichlorodifluoromethane	2.5	U	3.0	2.5	0.96	ug/L		12/19/23 21:01	1
Ethylbenzene	0.40	U	1.0	0.40	0.30	ug/L		12/19/23 21:01	1
Hexachlorobutadiene	1.8	U	2.0	1.8	1.2	ug/L		12/19/23 21:01	1
Isopropyl ether	2.0	U	10	2.0	1.1	ug/L		12/19/23 21:01	1
Isopropylbenzene	0.50	U	1.0	0.50	0.36	ug/L		12/19/23 21:01	1
Methyl tert-butyl ether	0.80	U	5.0	0.80	0.25	ug/L		12/19/23 21:01	1
Methylcyclohexane	0.40	U	1.0	0.40	0.31	ug/L		12/19/23 21:01	1
Methylene Chloride	1.8	U	2.0	1.8	0.94	ug/L		12/19/23 21:01	1
Naphthalene	0.80	U	2.0	0.80	0.63	ug/L		12/19/23 21:01	1
n-Butylbenzene	0.80	U	1.0	0.80	0.48	ug/L		12/19/23 21:01	1
n-Hexane	0.80	U	2.0	0.80	0.16	ug/L		12/19/23 21:01	1
N-Propylbenzene	0.80	U	1.0	0.80	0.53	ug/L		12/19/23 21:01	1
o-Chlorotoluene	0.40	U	1.0	0.40	0.34	ug/L		12/19/23 21:01	1
p-Chlorotoluene	0.80	U	1.0	0.80	0.21	ug/L		12/19/23 21:01	1
sec-Butylbenzene	0.80	U	1.0	0.80	0.45	ug/L		12/19/23 21:01	1
Styrene	0.80	U	1.0	0.80	0.36	ug/L		12/19/23 21:01	1
tert-Butylbenzene	0.80	U	1.0	0.80	0.42	ug/L		12/19/23 21:01	1
Tetrachloroethene	0.80	U	1.0	0.80	0.40	ug/L		12/19/23 21:01	1
Toluene	0.40	U	1.0	0.40	0.32	ug/L		12/19/23 21:01	1
trans-1,2-Dichloroethylene	0.50	U	1.0	0.50	0.37	ug/L		12/19/23 21:01	1
trans-1,3-Dichloropropene	1.8	U	2.0	1.8	0.65	ug/L		12/19/23 21:01	1
Trichloroethene	0.40	U	1.0	0.40	0.30	ug/L		12/19/23 21:01	1
Trichlorofluoromethane	0.80	U	2.0	0.80	0.57	ug/L		12/19/23 21:01	1
Vinyl acetate	2.0	U	3.0	2.0	0.94	ug/L		12/19/23 21:01	1

Client Sample ID: TV044-EB021223
Lab Sample ID: 280-185814-13

Date Collected: 12/14/23 14:00
Matrix: Water
Date Received: 12/16/23 09:30

Method: SW846 8260D - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Vinyl chloride	1.0	U	2.0	1.0	0.51	ug/L		12/19/23 21:01	1
Xylenes, Total	0.80	U	1.0	0.80	0.33	ug/L		12/19/23 21:01	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
1,3-Butadiene TIC	*1.0*	*U*	*ug/L*			*106-99-0*		*12/19/23 21:01*	*1*
4-Ethyltoluene TIC	*1.0*	*U*	*ug/L*			*622-96-8*		*12/19/23 21:01*	*1*
Dicyclopentadiene TIC	*1.0*	*U*	*ug/L*			*77-73-6*		*12/19/23 21:01*	*1*
Propene TIC	*1.0*	*U*	*ug/L*			*115-07-1*		*12/19/23 21:01*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*104*		*81 - 118*		*12/19/23 21:01*	*1*
4-Bromofluorobenzene (Surr)	*90*		*85 - 114*		*12/19/23 21:01*	*1*
Dibromofluoromethane (Surr)	*111*		*80 - 119*		*12/19/23 21:01*	*1*
Toluene-d8 (Surr)	*97*		*89 - 112*		*12/19/23 21:01*	*1*

Method: SW846 6020B - Metals (ICP/MS)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Lead	0.70	U	1.0	0.70	0.23	ug/L		12/21/23 16:37	1

General Chemistry

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Nitrate Nitrite as N (EPA 353.2)	**0.056**	**J**	0.10	0.080	0.044	mg/L		12/28/23 14:02	1
Sulfate (SW846 9056A)	2.5	U M	5.0	2.5	1.0	mg/L		12/21/23 15:16	1

Method: 8260D - Volatile Organic Compounds (GC/MS)

Analyte	LOQ	DL	Units
1,1,1-Trichloroethane	1.0	0.39	ug/L
1,1,2,2-Tetrachloroethane	1.0	0.21	ug/L
1,1,2-Trichloroethane	1.0	0.27	ug/L
1,1-Dichloroethane	1.0	0.22	ug/L
1,1-Dichloroethylene	1.0	0.23	ug/L
1,1-Dichloropropene	1.0	0.42	ug/L
1,2,3-Trichlorobenzene	2.0	0.70	ug/L
1,2,3-Trichloropropane	2.5	0.86	ug/L
1,2,3-Trimethylbenzene	2.0	0.27	ug/L
1,2,4-Trichlorobenzene	1.0	0.58	ug/L
1,2,4-Trimethylbenzene	1.0	0.15	ug/L
1,2-Dibromo-3-Chloropropane	5.0	1.8	ug/L
1,2-Dibromoethane	1.0	0.40	ug/L
1,2-Dichlorobenzene	1.0	0.37	ug/L
1,2-Dichloroethane	1.0	0.54	ug/L
1,2-Dichloropropane	1.0	0.52	ug/L
1,3,5-Trimethylbenzene	1.0	0.37	ug/L
1,3-Dichlorobenzene	1.0	0.33	ug/L
1,3-Dichloropropane	1.0	0.38	ug/L
1,4-Dichlorobenzene	1.0	0.39	ug/L
2,2-Dichloropropane	1.0	0.38	ug/L
2-Butanone (MEK)	15	6.0	ug/L
2-Chloroethyl vinyl ether	3.0	0.44	ug/L
2-Hexanone	5.0	1.7	ug/L
4-Isopropyltoluene	1.0	0.43	ug/L
4-Methyl-2-pentanone (MIBK)	5.0	0.98	ug/L
Acetone	15	6.6	ug/L
Acrylonitrile	20	4.5	ug/L
Benzene	1.0	0.31	ug/L
Bromobenzene	1.0	0.40	ug/L
Bromochloromethane	1.0	0.40	ug/L
Bromodichloromethane	1.0	0.39	ug/L
Bromoform	2.0	1.2	ug/L
Carbon disulfide	2.0	0.63	ug/L
Carbon tetrachloride	1.0	0.57	ug/L
Chlorobenzene	1.0	0.42	ug/L
Chloroethane	4.0	1.4	ug/L
Chloroform	1.0	0.36	ug/L
Chloromethane	2.0	0.75	ug/L
cis-1,2-Dichloroethylene	1.0	0.32	ug/L
cis-1,3-Dichloropropene	2.0	0.63	ug/L
Cyclohexane	1.0	0.44	ug/L
Cyclohexanone	100	32	ug/L
Dibromochloromethane	2.0	0.62	ug/L
Dibromomethane	1.0	0.34	ug/L
Dichlorodifluoromethane	3.0	0.96	ug/L
Ethylbenzene	1.0	0.30	ug/L
Hexachlorobutadiene	2.0	1.2	ug/L
Isopropyl ether	10	1.1	ug/L
Isopropylbenzene	1.0	0.36	ug/L
Methyl tert-butyl ether	5.0	0.25	ug/L
Methylcyclohexane	1.0	0.31	ug/L
Methylene Chloride	2.0	0.94	ug/L

Method: 8260D - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	LOQ	DL	Units
Naphthalene	2.0	0.63	ug/L
n-Butylbenzene	1.0	0.48	ug/L
n-Hexane	2.0	0.16	ug/L
N-Propylbenzene	1.0	0.53	ug/L
o-Chlorotoluene	1.0	0.34	ug/L
p-Chlorotoluene	1.0	0.21	ug/L
sec-Butylbenzene	1.0	0.45	ug/L
Styrene	1.0	0.36	ug/L
tert-Butylbenzene	1.0	0.42	ug/L
Tetrachloroethene	1.0	0.40	ug/L
Toluene	1.0	0.32	ug/L
trans-1,2-Dichloroethylene	1.0	0.37	ug/L
trans-1,3-Dichloropropene	2.0	0.65	ug/L
Trichloroethene	1.0	0.30	ug/L
Trichlorofluoromethane	2.0	0.57	ug/L
Vinyl acetate	3.0	0.94	ug/L
Vinyl chloride	2.0	0.51	ug/L
Xylenes, Total	1.0	0.33	ug/L

Method: 6020B - Metals (ICP/MS)

Prep: 3020A

Analyte	LOQ	DL	Units
Lead	1.0	0.23	ug/L

General Chemistry

Analyte	LOQ	DL	Units
Nitrate Nitrite as N	0.10	0.044	mg/L
Sulfate	5.0	1.0	mg/L

Surrogate Summary

Client: FPM Remediations Inc
Job ID: 280-185814-1
Project/Site: Luke AFB Waterdog TU044, AZ

Method: 8260D - Volatile Organic Compounds (GC/MS)

Matrix: Water **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)			
		DCA	BFB	DBFM	TOL
Lab Sample ID	Client Sample ID	(81-118)	(85-114)	(80-119)	(89-112)
280-185814-1	TV044-TB021223	103	91	110	100
280-185814-2	TV044-EB011223	104	91	108	96
280-185814-3	TV044-MW81223A	104	89	109	97
280-185814-4	TV044-MW141223A	105	90	110	100
280-185814-4 MS	TV044-MW141223A	103	93	106	99
280-185814-4 MSD	TV044-MW141223A	105	91	105	99
280-185814-5	TV044-MW151223A	105	97	109	97
280-185814-6	TV044-MW22S1223A	106	88	110	98
280-185814-7	TV044-MW22D1223A	104	88	107	98
280-185814-8	TV044-MW111223A	104	91	107	98
280-185814-9	TV044-MW111223C	108	90	110	99
280-185814-10	TV044-MW131223A	102	88	106	102
280-185814-11	TV044-MW91223A	106	87	108	100
280-185814-12	TV044-MW23D1223A	104	90	107	96
280-185814-13	TV044-EB021223	104	90	111	97
LCS 280-637903/4	Lab Control Sample	100	87	107	98
LCS 280-637903/6	Lab Control Sample	103	91	106	97
LCSD 280-637903/5	Lab Control Sample Dup	102	90	106	98
LCSD 280-637903/7	Lab Control Sample Dup	103	90	106	98
MB 280-637903/9	Method Blank	103	90	108	100

Surrogate Legend

DCA = 1,2-Dichloroethane-d4 (Surr)
BFB = 4-Bromofluorobenzene (Surr)
DBFM = Dibromofluoromethane (Surr)
TOL = Toluene-d8 (Surr)

Method: 8260D - Volatile Organic Compounds (GC/MS)

Lab Sample ID: MB 280-637903/9
Matrix: Water
Analysis Batch: 637903

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
1,2-Dibromo-3-Chloropropane	4.0	U	5.0	4.0	1.8	ug/L		12/19/23 19:13	1
2-Butanone (MEK)	12	U	15	12	6.0	ug/L		12/19/23 19:13	1
2-Chloroethyl vinyl ether	0.80	U	3.0	0.80	0.44	ug/L		12/19/23 19:13	1
1,2-Dibromoethane	0.80	U	1.0	0.80	0.40	ug/L		12/19/23 19:13	1
1,2-Dichlorobenzene	0.50	U	1.0	0.50	0.37	ug/L		12/19/23 19:13	1
1,3-Dichlorobenzene	0.40	U	1.0	0.40	0.33	ug/L		12/19/23 19:13	1
1,4-Dichlorobenzene	0.50	U	1.0	0.50	0.39	ug/L		12/19/23 19:13	1
1,1-Dichloroethane	0.80	U	1.0	0.80	0.22	ug/L		12/19/23 19:13	1
1,2-Dichloroethane	0.80	U	1.0	0.80	0.54	ug/L		12/19/23 19:13	1
Acetone	8.0	U	15	8.0	6.6	ug/L		12/19/23 19:13	1
1,1-Dichloroethylene	0.80	U	1.0	0.80	0.23	ug/L		12/19/23 19:13	1
Acrylonitrile	8.0	U	20	8.0	4.5	ug/L		12/19/23 19:13	1
Benzene	0.80	U	1.0	0.80	0.31	ug/L		12/19/23 19:13	1
Bromobenzene	0.50	U	1.0	0.50	0.40	ug/L		12/19/23 19:13	1
1,2-Dichloropropane	0.80	U	1.0	0.80	0.52	ug/L		12/19/23 19:13	1
Bromochloromethane	0.80	U	1.0	0.80	0.40	ug/L		12/19/23 19:13	1
1,3-Dichloropropane	0.80	U	1.0	0.80	0.38	ug/L		12/19/23 19:13	1
Bromodichloromethane	0.50	U	1.0	0.50	0.39	ug/L		12/19/23 19:13	1
2,2-Dichloropropane	0.80	U	1.0	0.80	0.38	ug/L		12/19/23 19:13	1
Bromoform	1.8	U	2.0	1.8	1.2	ug/L		12/19/23 19:13	1
1,1-Dichloropropene	0.80	U	1.0	0.80	0.42	ug/L		12/19/23 19:13	1
Carbon disulfide	0.80	U	2.0	0.80	0.63	ug/L		12/19/23 19:13	1
Carbon tetrachloride	0.80	U	1.0	0.80	0.57	ug/L		12/19/23 19:13	1
Chlorobenzene	0.80	U	1.0	0.80	0.42	ug/L		12/19/23 19:13	1
Chloroethane	1.6	U	4.0	1.6	1.4	ug/L		12/19/23 19:13	1
Chloroform	0.80	U	1.0	0.80	0.36	ug/L		12/19/23 19:13	1
Chloromethane	1.0	U	2.0	1.0	0.75	ug/L		12/19/23 19:13	1
2-Hexanone	4.0	U	5.0	4.0	1.7	ug/L		12/19/23 19:13	1
cis-1,2-Dichloroethylene	0.40	U	1.0	0.40	0.32	ug/L		12/19/23 19:13	1
cis-1,3-Dichloropropene	1.8	U	2.0	1.8	0.63	ug/L		12/19/23 19:13	1
Cyclohexane	0.80	U	1.0	0.80	0.44	ug/L		12/19/23 19:13	1
4-Isopropyltoluene	0.80	U	1.0	0.80	0.43	ug/L		12/19/23 19:13	1
Cyclohexanone	64	U M	100	64	32	ug/L		12/19/23 19:13	1
Dibromochloromethane	1.8	U	2.0	1.8	0.62	ug/L		12/19/23 19:13	1
4-Methyl-2-pentanone (MIBK)	3.2	U	5.0	3.2	0.98	ug/L		12/19/23 19:13	1
Dibromomethane	0.40	U	1.0	0.40	0.34	ug/L		12/19/23 19:13	1
Dichlorodifluoromethane	2.5	U	3.0	2.5	0.96	ug/L		12/19/23 19:13	1
Ethylbenzene	0.40	U	1.0	0.40	0.30	ug/L		12/19/23 19:13	1
Hexachlorobutadiene	1.8	U	2.0	1.8	1.2	ug/L		12/19/23 19:13	1
1,1,2,2-Tetrachloroethane	0.80	U	1.0	0.80	0.21	ug/L		12/19/23 19:13	1
Isopropyl ether	2.0	U	10	2.0	1.1	ug/L		12/19/23 19:13	1
Isopropylbenzene	0.50	U	1.0	0.50	0.36	ug/L		12/19/23 19:13	1
Methyl tert-butyl ether	0.80	U	5.0	0.80	0.25	ug/L		12/19/23 19:13	1
1,2,3-Trichlorobenzene	0.80	U	2.0	0.80	0.70	ug/L		12/19/23 19:13	1
Methylcyclohexane	0.40	U	1.0	0.40	0.31	ug/L		12/19/23 19:13	1
1,1,1-Trichloroethane	0.50	U	1.0	0.50	0.39	ug/L		12/19/23 19:13	1
Methylene Chloride	1.8	U	2.0	1.8	0.94	ug/L		12/19/23 19:13	1
1,1,2-Trichloroethane	0.80	U	1.0	0.80	0.27	ug/L		12/19/23 19:13	1

Method: 8260D - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 280-637903/9
Matrix: Water
Analysis Batch: 637903

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Naphthalene	0.80	U	2.0	0.80	0.63	ug/L		12/19/23 19:13	1
n-Butylbenzene	0.80	U	1.0	0.80	0.48	ug/L		12/19/23 19:13	1
n-Hexane	0.80	U	2.0	0.80	0.16	ug/L		12/19/23 19:13	1
1,2,4-Trichlorobenzene	0.80	U M	1.0	0.80	0.58	ug/L		12/19/23 19:13	1
N-Propylbenzene	0.80	U	1.0	0.80	0.53	ug/L		12/19/23 19:13	1
1,2,3-Trichloropropane	1.8	U	2.5	1.8	0.86	ug/L		12/19/23 19:13	1
1,2,3-Trimethylbenzene	0.80	U	2.0	0.80	0.27	ug/L		12/19/23 19:13	1
p-Chlorotoluene	0.80	U	1.0	0.80	0.21	ug/L		12/19/23 19:13	1
1,2,4-Trimethylbenzene	0.40	U	1.0	0.40	0.15	ug/L		12/19/23 19:13	1
1,3,5-Trimethylbenzene	0.50	U	1.0	0.50	0.37	ug/L		12/19/23 19:13	1
sec-Butylbenzene	0.80	U	1.0	0.80	0.45	ug/L		12/19/23 19:13	1
Styrene	0.80	U	1.0	0.80	0.36	ug/L		12/19/23 19:13	1
tert-Butylbenzene	0.80	U	1.0	0.80	0.42	ug/L		12/19/23 19:13	1
Tetrachloroethene	0.80	U	1.0	0.80	0.40	ug/L		12/19/23 19:13	1
Toluene	0.40	U	1.0	0.40	0.32	ug/L		12/19/23 19:13	1
trans-1,2-Dichloroethylene	0.50	U	1.0	0.50	0.37	ug/L		12/19/23 19:13	1
trans-1,3-Dichloropropene	1.8	U	2.0	1.8	0.65	ug/L		12/19/23 19:13	1
o-Chlorotoluene	0.40	U	1.0	0.40	0.34	ug/L		12/19/23 19:13	1
Trichloroethene	0.40	U	1.0	0.40	0.30	ug/L		12/19/23 19:13	1
Trichlorofluoromethane	0.80	U	2.0	0.80	0.57	ug/L		12/19/23 19:13	1
Vinyl acetate	2.0	U	3.0	2.0	0.94	ug/L		12/19/23 19:13	1
Vinyl chloride	1.0	U	2.0	1.0	0.51	ug/L		12/19/23 19:13	1
Xylenes, Total	0.80	U	1.0	0.80	0.33	ug/L		12/19/23 19:13	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*103*		*81 - 118*		*12/19/23 19:13*	*1*
Toluene-d8 (Surr)	*100*		*89 - 112*		*12/19/23 19:13*	*1*
4-Bromofluorobenzene (Surr)	*90*		*85 - 114*		*12/19/23 19:13*	*1*
Dibromofluoromethane (Surr)	*108*		*80 - 119*		*12/19/23 19:13*	*1*

Lab Sample ID: LCS 280-637903/4
Matrix: Water
Analysis Batch: 637903

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
1,2-Dibromo-3-Chloropropane	50.0	44.9		ug/L		90	62 - 128
2-Butanone (MEK)	200	176		ug/L		88	56 - 143
2-Chloroethyl vinyl ether	50.0	47.5		ug/L		95	51 - 139
1,2-Dibromoethane	50.0	47.5		ug/L		95	77 - 121
1,2-Dichlorobenzene	50.0	45.6		ug/L		91	80 - 119
1,3-Dichlorobenzene	50.0	48.4		ug/L		97	80 - 119
1,4-Dichlorobenzene	50.0	46.1		ug/L		92	79 - 118
1,1-Dichloroethane	50.0	47.2		ug/L		94	77 - 125
1,2-Dichloroethane	50.0	44.9		ug/L		90	73 - 128
Acetone	200	174		ug/L		87	39 - 160
1,1-Dichloroethylene	50.0	50.1		ug/L		100	71 - 131
Acrylonitrile	500	454		ug/L		91	63 - 135
Benzene	50.0	49.1		ug/L		98	79 - 120

Method: 8260D - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 280-637903/4
Matrix: Water
Analysis Batch: 637903

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Bromobenzene	50.0	46.3		ug/L		93	80 - 120
1,2-Dichloropropane	50.0	46.9		ug/L		94	78 - 122
Bromochloromethane	50.0	56.5		ug/L		113	78 - 123
1,3-Dichloropropane	50.0	46.6		ug/L		93	80 - 119
Bromodichloromethane	50.0	51.7		ug/L		103	79 - 125
2,2-Dichloropropane	50.0	51.1		ug/L		102	60 - 139
Bromoform	50.0	51.8		ug/L		104	66 - 130
1,1-Dichloropropene	50.0	49.1		ug/L		98	79 - 125
Carbon disulfide	50.0	46.2		ug/L		92	64 - 133
Carbon tetrachloride	50.0	53.1		ug/L		106	72 - 136
Chlorobenzene	50.0	48.4		ug/L		97	82 - 118
Chloroethane	50.0	43.1		ug/L		86	60 - 138
Chloroform	50.0	48.6		ug/L		97	79 - 124
Chloromethane	50.0	43.2		ug/L		86	50 - 139
2-Hexanone	200	177		ug/L		88	57 - 139
cis-1,2-Dichloroethylene	50.0	50.2		ug/L		100	78 - 123
cis-1,3-Dichloropropene	50.0	46.1		ug/L		92	75 - 124
Cyclohexane	50.0	49.1		ug/L		98	71 - 130
4-Isopropyltoluene	50.0	48.0		ug/L		96	77 - 127
Cyclohexanone	1500	1810		ug/L		121	50 - 150
Dibromochloromethane	50.0	50.7		ug/L		101	74 - 126
4-Methyl-2-pentanone (MIBK)	200	197		ug/L		98	67 - 130
Dibromomethane	50.0	47.8		ug/L		96	79 - 123
Dichlorodifluoromethane	50.0	45.4		ug/L		91	32 - 152
Ethylbenzene	50.0	49.2		ug/L		98	79 - 121
Hexachlorobutadiene	50.0	58.6		ug/L		117	66 - 134
1,1,2,2-Tetrachloroethane	50.0	41.8		ug/L		84	71 - 121
Isopropylbenzene	50.0	45.6		ug/L		91	72 - 131
Methyl tert-butyl ether	50.0	50.6		ug/L		101	71 - 124
1,2,3-Trichlorobenzene	50.0	46.5		ug/L		93	69 - 129
Methylcyclohexane	50.0	51.5		ug/L		103	72 - 132
1,1,1-Trichloroethane	50.0	50.0		ug/L		100	74 - 131
Methylene Chloride	50.0	45.8		ug/L		92	74 - 124
1,1,2-Trichloroethane	50.0	50.1		ug/L		100	80 - 119
Naphthalene	50.0	42.7		ug/L		85	61 - 128
n-Butylbenzene	50.0	47.0		ug/L		94	75 - 128
n-Hexane	50.0	47.1		ug/L		94	48 - 143
1,2,4-Trichlorobenzene	50.0	48.1		ug/L		96	69 - 130
N-Propylbenzene	50.0	48.9		ug/L		98	76 - 126
1,2,3-Trichloropropane	50.0	45.3		ug/L		91	73 - 122
p-Chlorotoluene	50.0	46.5		ug/L		93	78 - 122
1,2,4-Trimethylbenzene	50.0	47.0		ug/L		94	76 - 124
1,3,5-Trimethylbenzene	50.0	46.8		ug/L		94	75 - 124
sec-Butylbenzene	50.0	48.8		ug/L		98	77 - 126
Styrene	50.0	50.1		ug/L		100	78 - 123
tert-Butylbenzene	50.0	46.6		ug/L		93	78 - 124
Tetrachloroethene	50.0	51.1		ug/L		102	74 - 129
Toluene	50.0	50.5		ug/L		101	80 - 121
trans-1,2-Dichloroethylene	50.0	49.4		ug/L		99	75 - 124

Method: 8260D - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 280-637903/4
Matrix: Water
Analysis Batch: 637903

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
trans-1,3-Dichloropropene	50.0	51.9		ug/L		104	73 - 127
o-Chlorotoluene	50.0	45.5		ug/L		91	79 - 122
Trichloroethene	50.0	46.3		ug/L		93	79 - 123
Trichlorofluoromethane	50.0	49.2		ug/L		98	65 - 141
Vinyl acetate	100	107		ug/L		107	54 - 146
Vinyl chloride	50.0	45.8		ug/L		92	58 - 137
Xylenes, Total	100	97.4		ug/L		97	79 - 121

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*100*		*81 - 118*
Toluene-d8 (Surr)	*98*		*89 - 112*
4-Bromofluorobenzene (Surr)	*87*		*85 - 114*
Dibromofluoromethane (Surr)	*107*		*80 - 119*

Lab Sample ID: LCS 280-637903/6
Matrix: Water
Analysis Batch: 637903

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Isopropyl ether	25.0	24.4		ug/L		97	67 - 128
1,2,3-Trimethylbenzene	25.0	22.4		ug/L		90	82 - 120

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*103*		*81 - 118*
Toluene-d8 (Surr)	*97*		*89 - 112*
4-Bromofluorobenzene (Surr)	*91*		*85 - 114*
Dibromofluoromethane (Surr)	*106*		*80 - 119*

Lab Sample ID: LCSD 280-637903/5
Matrix: Water
Analysis Batch: 637903

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
1,2-Dibromo-3-Chloropropane	50.0	49.6		ug/L		99	62 - 128	10	20
2-Butanone (MEK)	200	186		ug/L		93	56 - 143	5	20
2-Chloroethyl vinyl ether	50.0	43.5		ug/L		87	51 - 139	9	20
1,2-Dibromoethane	50.0	46.4		ug/L		93	77 - 121	2	20
1,2-Dichlorobenzene	50.0	46.6		ug/L		93	80 - 119	2	20
1,3-Dichlorobenzene	50.0	49.3		ug/L		99	80 - 119	2	20
1,4-Dichlorobenzene	50.0	46.0		ug/L		92	79 - 118	0	20
1,1-Dichloroethane	50.0	46.6		ug/L		93	77 - 125	1	20
1,2-Dichloroethane	50.0	44.4		ug/L		89	73 - 128	1	20
Acetone	200	185		ug/L		92	39 - 160	6	20
1,1-Dichloroethylene	50.0	49.9		ug/L		100	71 - 131	0	20
Acrylonitrile	500	469		ug/L		94	63 - 135	3	20
Benzene	50.0	47.1		ug/L		94	79 - 120	4	20
Bromobenzene	50.0	47.4		ug/L		95	80 - 120	2	20
1,2-Dichloropropane	50.0	45.9		ug/L		92	78 - 122	2	20

Method: 8260D - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCSD 280-637903/5
Matrix: Water
Analysis Batch: 637903

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Bromochloromethane			50.0	54.7		ug/L		109	78 - 123	3	20
1,3-Dichloropropane			50.0	45.2		ug/L		90	80 - 119	3	20
Bromodichloromethane			50.0	50.3		ug/L		101	79 - 125	3	20
2,2-Dichloropropane			50.0	49.4		ug/L		99	60 - 139	3	20
Bromoform			50.0	53.2		ug/L		106	66 - 130	3	20
1,1-Dichloropropene			50.0	48.3		ug/L		97	79 - 125	2	20
Carbon disulfide			50.0	46.1		ug/L		92	64 - 133	0	20
Carbon tetrachloride			50.0	52.3		ug/L		105	72 - 136	2	20
Chlorobenzene			50.0	48.0		ug/L		96	82 - 118	1	20
Chloroethane			50.0	44.5		ug/L		89	60 - 138	3	20
Chloroform			50.0	47.1		ug/L		94	79 - 124	3	20
Chloromethane			50.0	43.7		ug/L		87	50 - 139	1	20
2-Hexanone			200	184		ug/L		92	57 - 139	4	20
cis-1,2-Dichloroethylene			50.0	49.6		ug/L		99	78 - 123	1	20
cis-1,3-Dichloropropene			50.0	46.3		ug/L		93	75 - 124	0	20
Cyclohexane			50.0	48.1		ug/L		96	71 - 130	2	20
4-Isopropyltoluene			50.0	48.6		ug/L		97	77 - 127	1	20
Cyclohexanone			1500	2000		ug/L		133	50 - 150	10	20
Dibromochloromethane			50.0	50.3		ug/L		101	74 - 126	1	20
4-Methyl-2-pentanone (MIBK)			200	199		ug/L		100	67 - 130	1	20
Dibromomethane			50.0	46.4		ug/L		93	79 - 123	3	20
Dichlorodifluoromethane			50.0	45.0		ug/L		90	32 - 152	1	20
Ethylbenzene			50.0	48.4		ug/L		97	79 - 121	2	20
Hexachlorobutadiene			50.0	57.4		ug/L		115	66 - 134	2	20
1,1,2,2-Tetrachloroethane			50.0	43.9		ug/L		88	71 - 121	5	20
Isopropylbenzene			50.0	46.6		ug/L		93	72 - 131	2	20
Methyl tert-butyl ether			50.0	51.4		ug/L		103	71 - 124	2	20
1,2,3-Trichlorobenzene			50.0	48.4		ug/L		97	69 - 129	4	20
Methylcyclohexane			50.0	49.7		ug/L		99	72 - 132	4	20
1,1,1-Trichloroethane			50.0	49.9		ug/L		100	74 - 131	0	20
Methylene Chloride			50.0	45.4		ug/L		91	74 - 124	1	20
1,1,2-Trichloroethane			50.0	49.8		ug/L		100	80 - 119	1	20
Naphthalene			50.0	45.4		ug/L		91	61 - 128	6	20
n-Butylbenzene			50.0	46.8		ug/L		94	75 - 128	0	20
n-Hexane			50.0	46.7		ug/L		93	48 - 143	1	20
1,2,4-Trichlorobenzene			50.0	48.9		ug/L		98	69 - 130	2	20
N-Propylbenzene			50.0	48.9		ug/L		98	76 - 126	0	20
1,2,3-Trichloropropane			50.0	47.3		ug/L		95	73 - 122	4	20
p-Chlorotoluene			50.0	46.7		ug/L		93	78 - 122	0	20
1,2,4-Trimethylbenzene			50.0	47.4		ug/L		95	76 - 124	1	20
1,3,5-Trimethylbenzene			50.0	47.8		ug/L		96	75 - 124	2	20
sec-Butylbenzene			50.0	48.5		ug/L		97	77 - 126	0	20
Styrene			50.0	48.9		ug/L		98	78 - 123	2	20
tert-Butylbenzene			50.0	47.9		ug/L		96	78 - 124	3	20
Tetrachloroethene			50.0	50.0		ug/L		100	74 - 129	2	20
Toluene			50.0	48.3		ug/L		97	80 - 121	5	20
trans-1,2-Dichloroethylene			50.0	49.3		ug/L		99	75 - 124	0	20
trans-1,3-Dichloropropene			50.0	49.6		ug/L		99	73 - 127	5	20
o-Chlorotoluene			50.0	47.2		ug/L		94	79 - 122	4	20

Method: 8260D - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCSD 280-637903/5
Matrix: Water
Analysis Batch: 637903

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Trichloroethene			50.0	46.0		ug/L		92	79 - 123	1	20
Trichlorofluoromethane			50.0	47.6		ug/L		95	65 - 141	3	20
Vinyl acetate			100	105		ug/L		105	54 - 146	2	20
Vinyl chloride			50.0	45.6		ug/L		91	58 - 137	0	20
Xylenes, Total			100	96.1		ug/L		96	79 - 121	1	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*102*		*81 - 118*
Toluene-d8 (Surr)	*98*		*89 - 112*
4-Bromofluorobenzene (Surr)	*90*		*85 - 114*
Dibromofluoromethane (Surr)	*106*		*80 - 119*

Lab Sample ID: LCSD 280-637903/7
Matrix: Water
Analysis Batch: 637903

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Isopropyl ether			25.0	23.2		ug/L		93	67 - 128	5	20
1,2,3-Trimethylbenzene			25.0	21.9		ug/L		88	82 - 120	2	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*103*		*81 - 118*
Toluene-d8 (Surr)	*98*		*89 - 112*
4-Bromofluorobenzene (Surr)	*90*		*85 - 114*
Dibromofluoromethane (Surr)	*106*		*80 - 119*

Lab Sample ID: 280-185814-4 MS
Matrix: Water
Analysis Batch: 637903

Client Sample ID: TV044-MW141223A
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Acetone	8.0	U M	200	207		ug/L		103	39 - 160
Acrylonitrile	8.0	U	500	534		ug/L		107	63 - 135
Benzene	0.80	U	50.0	53.3		ug/L		107	79 - 120
Bromobenzene	0.50	U	50.0	53.2		ug/L		106	80 - 120
Bromochloromethane	0.80	U	50.0	60.8		ug/L		122	78 - 123
Bromodichloromethane	0.50	U	50.0	55.7		ug/L		111	79 - 125
Bromoform	1.8	U	50.0	58.9		ug/L		118	66 - 130
2-Butanone (MEK)	12	U	200	214		ug/L		107	56 - 143
n-Butylbenzene	0.80	U	50.0	50.2		ug/L		100	75 - 128
sec-Butylbenzene	0.80	U	50.0	52.5		ug/L		105	77 - 126
tert-Butylbenzene	0.80	U	50.0	52.5		ug/L		105	78 - 124
Carbon disulfide	0.80	U	50.0	49.1		ug/L		98	64 - 133
Carbon tetrachloride	0.80	U	50.0	58.2		ug/L		116	72 - 136
Chlorobenzene	0.80	U	50.0	53.5		ug/L		107	82 - 118
Chloroethane	1.6	U M J1	50.0	48.2		ug/L		96	60 - 138
2-Chloroethyl vinyl ether	0.80	U J1	50.0	55.3		ug/L		111	51 - 139
Chloroform	0.80	U	50.0	52.5		ug/L		105	79 - 124

Method: 8260D - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 280-185814-4 MS
Client Sample ID: TV044-MW141223A
Matrix: Water
Prep Type: Total/NA
Analysis Batch: 637903

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Chloromethane	1.0	U J1	50.0	47.9		ug/L		96	50 - 139
p-Chlorotoluene	0.80	U	50.0	51.3		ug/L		103	78 - 122
Cyclohexane	0.80	U	50.0	52.6		ug/L		105	71 - 130
Cyclohexanone	64	U M Q	1500	2140		ug/L		143	50 - 150
Dibromochloromethane	1.8	U	50.0	56.4		ug/L		113	74 - 126
1,2-Dibromo-3-Chloropropane	4.0	U	50.0	59.0		ug/L		118	62 - 128
Dichlorodifluoromethane	2.5	U J1	50.0	46.9		ug/L		94	32 - 152
Dibromomethane	0.40	U	50.0	52.9		ug/L		106	79 - 123
1,2-Dibromoethane	0.80	U	50.0	54.4		ug/L		109	77 - 121
1,2-Dichlorobenzene	0.50	U	50.0	52.5		ug/L		105	80 - 119
1,3-Dichlorobenzene	0.40	U	50.0	54.2		ug/L		108	80 - 119
1,4-Dichlorobenzene	0.50	U	50.0	51.8		ug/L		104	79 - 118
1,1-Dichloroethane	0.80	U	50.0	51.5		ug/L		103	77 - 125
1,2-Dichloroethane	0.80	U	50.0	50.8		ug/L		102	73 - 128
1,1-Dichloroethylene	0.80	U	50.0	53.8		ug/L		108	71 - 131
cis-1,2-Dichloroethylene	0.40	U	50.0	54.9		ug/L		110	78 - 123
trans-1,2-Dichloroethylene	0.50	U	50.0	53.7		ug/L		107	75 - 124
1,2-Dichloropropane	0.80	U	50.0	51.5		ug/L		103	78 - 122
1,3-Dichloropropane	0.80	U	50.0	51.9		ug/L		104	80 - 119
2,2-Dichloropropane	0.80	U	50.0	47.8		ug/L		96	60 - 139
1,1-Dichloropropene	0.80	U	50.0	52.9		ug/L		106	79 - 125
cis-1,3-Dichloropropene	1.8	U	50.0	51.2		ug/L		102	75 - 124
trans-1,3-Dichloropropene	1.8	U	50.0	55.5		ug/L		111	73 - 127
Ethylbenzene	0.40	U	50.0	54.2		ug/L		108	79 - 121
n-Hexane	0.80	U	50.0	48.7		ug/L		97	48 - 143
2-Hexanone	4.0	U	200	218		ug/L		109	57 - 139
Hexachlorobutadiene	1.8	U	50.0	59.1		ug/L		118	66 - 134
Isopropylbenzene	0.50	U	50.0	51.4		ug/L		103	72 - 131
4-Isopropyltoluene	0.80	U	50.0	52.0		ug/L		104	77 - 127
Methylcyclohexane	0.40	U	50.0	53.7		ug/L		107	72 - 132
Methylene Chloride	1.8	U	50.0	50.0		ug/L		100	74 - 124
4-Methyl-2-pentanone (MIBK)	3.2	U	200	230		ug/L		115	67 - 130
Methyl tert-butyl ether	2.5	J	50.0	61.2		ug/L		118	71 - 124
Naphthalene	0.80	U	50.0	57.0		ug/L		114	61 - 128
N-Propylbenzene	0.80	U	50.0	55.4		ug/L		111	76 - 126
Styrene	0.80	U	50.0	54.7		ug/L		109	78 - 123
1,1,2,2-Tetrachloroethane	0.80	U	50.0	50.7		ug/L		101	71 - 121
Tetrachloroethene	0.80	U	50.0	53.6		ug/L		107	74 - 129
Toluene	0.40	U	50.0	53.3		ug/L		107	80 - 121
1,2,3-Trichlorobenzene	0.80	U	50.0	57.8		ug/L		116	69 - 129
1,1,1-Trichloroethane	0.50	U	50.0	55.5		ug/L		111	74 - 131
1,1,2-Trichloroethane	0.80	U	50.0	56.0		ug/L		112	80 - 119
Trichloroethene	0.40	U	50.0	51.7		ug/L		103	79 - 123
Trichlorofluoromethane	0.80	U	50.0	47.5		ug/L		95	65 - 141
1,2,4-Trichlorobenzene	0.80	U	50.0	54.4		ug/L		109	69 - 130
1,2,3-Trichloropropane	1.8	U	50.0	55.0		ug/L		110	73 - 122
1,2,4-Trimethylbenzene	0.40	U	50.0	52.5		ug/L		105	76 - 124
1,3,5-Trimethylbenzene	0.50	U	50.0	52.6		ug/L		105	75 - 124
Vinyl acetate	2.0	U	100	122		ug/L		122	54 - 146

Method: 8260D - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 280-185814-4 MS
Client Sample ID: TV044-MW141223A
Matrix: Water
Prep Type: Total/NA
Analysis Batch: 637903

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Vinyl chloride	1.0	U J1	50.0	48.1		ug/L		96	58 - 137
Xylenes, Total	0.80	U	100	107		ug/L		107	79 - 121
o-Chlorotoluene	0.40	U	50.0	52.9		ug/L		106	79 - 122

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
Toluene-d8 (Surr)	*99*		*89 - 112*
1,2-Dichloroethane-d4 (Surr)	*103*		*81 - 118*
4-Bromofluorobenzene (Surr)	*93*		*85 - 114*
Dibromofluoromethane (Surr)	*106*		*80 - 119*

Lab Sample ID: 280-185814-4 MSD
Client Sample ID: TV044-MW141223A
Matrix: Water
Prep Type: Total/NA
Analysis Batch: 637903

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Acetone	8.0	U M	200	173		ug/L		87	39 - 160	18	20
Acrylonitrile	8.0	U	500	440		ug/L		88	63 - 135	19	20
Benzene	0.80	U	50.0	46.9		ug/L		94	79 - 120	13	20
Bromobenzene	0.50	U	50.0	46.3		ug/L		93	80 - 120	14	20
Bromochloromethane	0.80	U	50.0	52.9		ug/L		106	78 - 123	14	20
Bromodichloromethane	0.50	U	50.0	50.6		ug/L		101	79 - 125	10	20
Bromoform	1.8	U	50.0	51.5		ug/L		103	66 - 130	13	20
2-Butanone (MEK)	12	U	200	180		ug/L		90	56 - 143	17	20
n-Butylbenzene	0.80	U	50.0	43.7		ug/L		87	75 - 128	14	20
sec-Butylbenzene	0.80	U	50.0	46.3		ug/L		93	77 - 126	13	20
tert-Butylbenzene	0.80	U	50.0	46.8		ug/L		94	78 - 124	12	20
Carbon disulfide	0.80	U	50.0	42.6		ug/L		85	64 - 133	14	20
Carbon tetrachloride	0.80	U	50.0	51.4		ug/L		103	72 - 136	12	20
Chlorobenzene	0.80	U	50.0	47.1		ug/L		94	82 - 118	13	20
Chloroethane	1.6	U M J1	50.0	39.0	J1	ug/L		78	60 - 138	21	20
2-Chloroethyl vinyl ether	0.80	U J1	50.0	43.5	J1	ug/L		87	51 - 139	24	20
Chloroform	0.80	U	50.0	46.1		ug/L		92	79 - 124	13	20
Chloromethane	1.0	U J1	50.0	38.8	J1	ug/L		78	50 - 139	21	20
p-Chlorotoluene	0.80	U	50.0	45.3		ug/L		91	78 - 122	12	20
Cyclohexane	0.80	U	50.0	46.2		ug/L		92	71 - 130	13	20
Cyclohexanone	64	U M Q	1500	1860		ug/L		124	50 - 150	14	20
Dibromochloromethane	1.8	U	50.0	50.0		ug/L		100	74 - 126	12	20
1,2-Dibromo-3-Chloropropane	4.0	U	50.0	55.2		ug/L		110	62 - 128	7	20
Dichlorodifluoromethane	2.5	U J1	50.0	37.5	J1	ug/L		75	32 - 152	22	20
Dibromomethane	0.40	U	50.0	47.7		ug/L		95	79 - 123	10	20
1,2-Dibromoethane	0.80	U	50.0	45.9		ug/L		92	77 - 121	17	20
1,2-Dichlorobenzene	0.50	U	50.0	45.6		ug/L		91	80 - 119	14	20
1,3-Dichlorobenzene	0.40	U	50.0	47.4		ug/L		95	80 - 119	13	20
1,4-Dichlorobenzene	0.50	U	50.0	45.1		ug/L		90	79 - 118	14	20
1,1-Dichloroethane	0.80	U	50.0	45.1		ug/L		90	77 - 125	13	20
1,2-Dichloroethane	0.80	U	50.0	43.6		ug/L		87	73 - 128	15	20
1,1-Dichloroethylene	0.80	U	50.0	46.6		ug/L		93	71 - 131	14	20
cis-1,2-Dichloroethylene	0.40	U	50.0	48.2		ug/L		96	78 - 123	13	20

Method: 8260D - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 280-185814-4 MSD
Client Sample ID: TV044-MW141223A
Matrix: Water
Prep Type: Total/NA
Analysis Batch: 637903

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
trans-1,2-Dichloroethylene	0.50	U	50.0	47.1		ug/L		94	75 - 124	13	20
1,2-Dichloropropane	0.80	U	50.0	45.5		ug/L		91	78 - 122	12	20
1,3-Dichloropropane	0.80	U	50.0	44.9		ug/L		90	80 - 119	14	20
2,2-Dichloropropane	0.80	U	50.0	42.3		ug/L		85	60 - 139	12	20
1,1-Dichloropropene	0.80	U	50.0	46.1		ug/L		92	79 - 125	14	20
cis-1,3-Dichloropropene	1.8	U	50.0	45.0		ug/L		90	75 - 124	13	20
trans-1,3-Dichloropropene	1.8	U	50.0	49.2		ug/L		98	73 - 127	12	20
Ethylbenzene	0.40	U	50.0	47.2		ug/L		94	79 - 121	14	20
n-Hexane	0.80	U	50.0	39.9		ug/L		80	48 - 143	20	20
2-Hexanone	4.0	U	200	184		ug/L		92	57 - 139	17	20
Hexachlorobutadiene	1.8	U	50.0	51.3		ug/L		103	66 - 134	14	20
Isopropylbenzene	0.50	U	50.0	45.2		ug/L		90	72 - 131	13	20
4-Isopropyltoluene	0.80	U	50.0	46.2		ug/L		92	77 - 127	12	20
Methylcyclohexane	0.40	U	50.0	47.3		ug/L		95	72 - 132	13	20
Methylene Chloride	1.8	U	50.0	44.1		ug/L		88	74 - 124	13	20
4-Methyl-2-pentanone (MIBK)	3.2	U	200	200		ug/L		100	67 - 130	14	20
Methyl tert-butyl ether	2.5	J	50.0	51.8		ug/L		99	71 - 124	17	20
Naphthalene	0.80	U	50.0	50.4		ug/L		101	61 - 128	12	20
N-Propylbenzene	0.80	U	50.0	47.8		ug/L		96	76 - 126	15	20
Styrene	0.80	U	50.0	48.3		ug/L		97	78 - 123	12	20
1,1,2,2-Tetrachloroethane	0.80	U	50.0	44.1		ug/L		88	71 - 121	14	20
Tetrachloroethene	0.80	U	50.0	48.4		ug/L		97	74 - 129	10	20
Toluene	0.40	U	50.0	47.9		ug/L		96	80 - 121	11	20
1,2,3-Trichlorobenzene	0.80	U	50.0	50.6		ug/L		101	69 - 129	13	20
1,1,1-Trichloroethane	0.50	U	50.0	48.8		ug/L		98	74 - 131	13	20
1,1,2-Trichloroethane	0.80	U	50.0	49.1		ug/L		98	80 - 119	13	20
Trichloroethene	0.40	U	50.0	45.7		ug/L		91	79 - 123	12	20
Trichlorofluoromethane	0.80	U	50.0	39.1		ug/L		78	65 - 141	19	20
1,2,4-Trichlorobenzene	0.80	U	50.0	48.2		ug/L		96	69 - 130	12	20
1,2,3-Trichloropropane	1.8	U	50.0	48.0		ug/L		96	73 - 122	13	20
1,2,4-Trimethylbenzene	0.40	U	50.0	46.1		ug/L		92	76 - 124	13	20
1,3,5-Trimethylbenzene	0.50	U	50.0	45.8		ug/L		92	75 - 124	14	20
Vinyl acetate	2.0	U	100	101		ug/L		101	54 - 146	18	20
Vinyl chloride	1.0	U J1	50.0	39.1	J1	ug/L		78	58 - 137	21	20
Xylenes, Total	0.80	U	100	94.1		ug/L		94	79 - 121	12	20
o-Chlorotoluene	0.40	U	50.0	45.4		ug/L		91	79 - 122	15	20

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
Toluene-d8 (Surr)	*99*		*89 - 112*
1,2-Dichloroethane-d4 (Surr)	*105*		*81 - 118*
4-Bromofluorobenzene (Surr)	*91*		*85 - 114*
Dibromofluoromethane (Surr)	*105*		*80 - 119*

Method: 6020B - Metals (ICP/MS)

Lab Sample ID: MB 280-637852/1-A
Matrix: Water
Analysis Batch: 638215

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 637852

Analyte	MB Result	MB Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Lead	0.70	U	1.0	0.70	0.23	ug/L		12/21/23 15:53	1

Lab Sample ID: LCS 280-637852/2-A
Matrix: Water
Analysis Batch: 638215

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 637852

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Lead			40.0	35.7		ug/L		89	88 - 115		

Lab Sample ID: LCSD 280-637852/3-A
Matrix: Water
Analysis Batch: 638215

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 637852

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Lead			40.0	38.1		ug/L		95	88 - 115	6	20

Lab Sample ID: 280-185814-4 MS
Matrix: Water
Analysis Batch: 638215

Client Sample ID: TV044-MW141223A
Prep Type: Total/NA
Prep Batch: 637852

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Lead	0.70	U	40.0	39.9		ug/L		100	88 - 115		

Lab Sample ID: 280-185814-4 MSD
Matrix: Water
Analysis Batch: 638215

Client Sample ID: TV044-MW141223A
Prep Type: Total/NA
Prep Batch: 637852

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Lead	0.70	U	40.0	40.6		ug/L		102	88 - 115	2	20

Method: 353.2 - Nitrogen, Nitrate-Nitrite

Lab Sample ID: MB 280-638644/21
Matrix: Water
Analysis Batch: 638644

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Nitrate Nitrite as N	0.080	U	0.10	0.080	0.044	mg/L		12/28/23 13:07	1

Lab Sample ID: MB 280-638644/61
Matrix: Water
Analysis Batch: 638644

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Nitrate Nitrite as N	0.080	U	0.10	0.080	0.044	mg/L		12/28/23 13:57	1

Method: 353.2 - Nitrogen, Nitrate-Nitrite (Continued)

Lab Sample ID: LCS 280-638644/20
Matrix: Water
Analysis Batch: 638644

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Nitrate Nitrite as N			5.00	5.19		mg/L		104	90 - 110		

Lab Sample ID: LCS 280-638644/60
Matrix: Water
Analysis Batch: 638644

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Nitrate Nitrite as N			5.00	4.98		mg/L		100	90 - 110		

Lab Sample ID: 280-185814-4 MS
Matrix: Water
Analysis Batch: 638644

Client Sample ID: TV044-MW141223A
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Nitrate Nitrite as N	0.067	J	4.00	3.97		mg/L		98	90 - 110		

Lab Sample ID: 280-185814-4 MSD
Matrix: Water
Analysis Batch: 638644

Client Sample ID: TV044-MW141223A
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Nitrate Nitrite as N	0.067	J	4.00	3.84		mg/L		94	90 - 110	3	10

Lab Sample ID: 280-185814-12 MS
Matrix: Water
Analysis Batch: 638644

Client Sample ID: TV044-MW23D1223A
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Nitrate Nitrite as N	0.080	U	4.00	3.70		mg/L		93	90 - 110		

Lab Sample ID: 280-185814-12 MSD
Matrix: Water
Analysis Batch: 638644

Client Sample ID: TV044-MW23D1223A
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Nitrate Nitrite as N	0.080	U	4.00	3.77		mg/L		94	90 - 110	2	10

Method: 9056A - Anions, Ion Chromatography

Lab Sample ID: MB 280-638123/6
Matrix: Water
Analysis Batch: 638123

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Sulfate	2.5	U	5.0	2.5	1.0	mg/L		12/21/23 11:11	1

Method: 9056A - Anions, Ion Chromatography (Continued)

Lab Sample ID: LCS 280-638123/4
Matrix: Water
Analysis Batch: 638123

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Sulfate			100	98.8		mg/L		99	87 - 112		

Lab Sample ID: LCSD 280-638123/5
Matrix: Water
Analysis Batch: 638123

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Sulfate			100	98.4		mg/L		98	87 - 112	0	10

Lab Sample ID: MRL 280-638123/3
Matrix: Water
Analysis Batch: 638123

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits		
Sulfate			5.00	5.39		mg/L		108	50 - 150		

Lab Sample ID: 280-185814-4 MS
Matrix: Water
Analysis Batch: 638123

Client Sample ID: TV044-MW141223A
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Sulfate	170	M	50.0	212	E M	mg/L		87	87 - 112		

Lab Sample ID: 280-185814-4 MSD
Matrix: Water
Analysis Batch: 638123

Client Sample ID: TV044-MW141223A
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Sulfate	170	M	50.0	212	E M	mg/L		88	87 - 112	0	10

Lab Sample ID: 280-185814-4 DU
Matrix: Water
Analysis Batch: 638123

Client Sample ID: TV044-MW141223A
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Sulfate	170	M		170	M	mg/L				0.9	10

GC/MS VOA

Analysis Batch: 637903

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-185814-1	TV044-TB021223	Total/NA	Water	8260D	
280-185814-2	TV044-EB011223	Total/NA	Water	8260D	
280-185814-3	TV044-MW81223A	Total/NA	Water	8260D	
280-185814-4	TV044-MW141223A	Total/NA	Water	8260D	
280-185814-5	TV044-MW151223A	Total/NA	Water	8260D	
280-185814-6	TV044-MW22S1223A	Total/NA	Water	8260D	
280-185814-7	TV044-MW22D1223A	Total/NA	Water	8260D	
280-185814-8	TV044-MW111223A	Total/NA	Water	8260D	
280-185814-9	TV044-MW111223C	Total/NA	Water	8260D	
280-185814-10	TV044-MW131223A	Total/NA	Water	8260D	
280-185814-11	TV044-MW91223A	Total/NA	Water	8260D	
280-185814-12	TV044-MW23D1223A	Total/NA	Water	8260D	
280-185814-13	TV044-EB021223	Total/NA	Water	8260D	
MB 280-637903/9	Method Blank	Total/NA	Water	8260D	
LCS 280-637903/4	Lab Control Sample	Total/NA	Water	8260D	
LCS 280-637903/6	Lab Control Sample	Total/NA	Water	8260D	
LCSD 280-637903/5	Lab Control Sample Dup	Total/NA	Water	8260D	
LCSD 280-637903/7	Lab Control Sample Dup	Total/NA	Water	8260D	
280-185814-4 MS	TV044-MW141223A	Total/NA	Water	8260D	
280-185814-4 MSD	TV044-MW141223A	Total/NA	Water	8260D	

Metals

Prep Batch: 637852

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-185814-2	TV044-EB011223	Total/NA	Water	3020A	
280-185814-3	TV044-MW81223A	Total/NA	Water	3020A	
280-185814-4	TV044-MW141223A	Total/NA	Water	3020A	
280-185814-5	TV044-MW151223A	Total/NA	Water	3020A	
280-185814-6	TV044-MW22S1223A	Total/NA	Water	3020A	
280-185814-7	TV044-MW22D1223A	Total/NA	Water	3020A	
280-185814-8	TV044-MW111223A	Total/NA	Water	3020A	
280-185814-9	TV044-MW111223C	Total/NA	Water	3020A	
280-185814-10	TV044-MW131223A	Total/NA	Water	3020A	
280-185814-11	TV044-MW91223A	Total/NA	Water	3020A	
280-185814-12	TV044-MW23D1223A	Total/NA	Water	3020A	
280-185814-13	TV044-EB021223	Total/NA	Water	3020A	
MB 280-637852/1-A	Method Blank	Total/NA	Water	3020A	
LCS 280-637852/2-A	Lab Control Sample	Total/NA	Water	3020A	
LCSD 280-637852/3-A	Lab Control Sample Dup	Total/NA	Water	3020A	
280-185814-4 MS	TV044-MW141223A	Total/NA	Water	3020A	
280-185814-4 MSD	TV044-MW141223A	Total/NA	Water	3020A	

Analysis Batch: 638215

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-185814-2	TV044-EB011223	Total/NA	Water	6020B	637852
280-185814-3	TV044-MW81223A	Total/NA	Water	6020B	637852
280-185814-4	TV044-MW141223A	Total/NA	Water	6020B	637852
280-185814-5	TV044-MW151223A	Total/NA	Water	6020B	637852
280-185814-6	TV044-MW22S1223A	Total/NA	Water	6020B	637852
280-185814-7	TV044-MW22D1223A	Total/NA	Water	6020B	637852

Metals (Continued)

Analysis Batch: 638215 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-185814-8	TV044-MW111223A	Total/NA	Water	6020B	637852
280-185814-9	TV044-MW111223C	Total/NA	Water	6020B	637852
280-185814-10	TV044-MW131223A	Total/NA	Water	6020B	637852
280-185814-11	TV044-MW91223A	Total/NA	Water	6020B	637852
280-185814-12	TV044-MW23D1223A	Total/NA	Water	6020B	637852
280-185814-13	TV044-EB021223	Total/NA	Water	6020B	637852
MB 280-637852/1-A	Method Blank	Total/NA	Water	6020B	637852
LCS 280-637852/2-A	Lab Control Sample	Total/NA	Water	6020B	637852
LCSD 280-637852/3-A	Lab Control Sample Dup	Total/NA	Water	6020B	637852
280-185814-4 MS	TV044-MW141223A	Total/NA	Water	6020B	637852
280-185814-4 MSD	TV044-MW141223A	Total/NA	Water	6020B	637852

General Chemistry

Analysis Batch: 638123

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-185814-2	TV044-EB011223	Total/NA	Water	9056A	
280-185814-3	TV044-MW81223A	Total/NA	Water	9056A	
280-185814-4	TV044-MW141223A	Total/NA	Water	9056A	
280-185814-5	TV044-MW151223A	Total/NA	Water	9056A	
280-185814-6	TV044-MW22S1223A	Total/NA	Water	9056A	
280-185814-7	TV044-MW22D1223A	Total/NA	Water	9056A	
280-185814-8	TV044-MW111223A	Total/NA	Water	9056A	
280-185814-9	TV044-MW111223C	Total/NA	Water	9056A	
280-185814-10	TV044-MW131223A	Total/NA	Water	9056A	
280-185814-11	TV044-MW91223A	Total/NA	Water	9056A	
280-185814-12	TV044-MW23D1223A	Total/NA	Water	9056A	
280-185814-13	TV044-EB021223	Total/NA	Water	9056A	
MB 280-638123/6	Method Blank	Total/NA	Water	9056A	
LCS 280-638123/4	Lab Control Sample	Total/NA	Water	9056A	
LCSD 280-638123/5	Lab Control Sample Dup	Total/NA	Water	9056A	
MRL 280-638123/3	Lab Control Sample	Total/NA	Water	9056A	
280-185814-4 MS	TV044-MW141223A	Total/NA	Water	9056A	
280-185814-4 MSD	TV044-MW141223A	Total/NA	Water	9056A	
280-185814-4 DU	TV044-MW141223A	Total/NA	Water	9056A	

Analysis Batch: 638644

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-185814-2	TV044-EB011223	Total/NA	Water	353.2	
280-185814-3	TV044-MW81223A	Total/NA	Water	353.2	
280-185814-4	TV044-MW141223A	Total/NA	Water	353.2	
280-185814-5	TV044-MW151223A	Total/NA	Water	353.2	
280-185814-6	TV044-MW22S1223A	Total/NA	Water	353.2	
280-185814-7	TV044-MW22D1223A	Total/NA	Water	353.2	
280-185814-8	TV044-MW111223A	Total/NA	Water	353.2	
280-185814-9	TV044-MW111223C	Total/NA	Water	353.2	
280-185814-10	TV044-MW131223A	Total/NA	Water	353.2	
280-185814-11	TV044-MW91223A	Total/NA	Water	353.2	
280-185814-12	TV044-MW23D1223A	Total/NA	Water	353.2	
280-185814-13	TV044-EB021223	Total/NA	Water	353.2	
MB 280-638644/21	Method Blank	Total/NA	Water	353.2	

General Chemistry (Continued)

Analysis Batch: 638644 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 280-638644/61	Method Blank	Total/NA	Water	353.2	
LCS 280-638644/20	Lab Control Sample	Total/NA	Water	353.2	
LCS 280-638644/60	Lab Control Sample	Total/NA	Water	353.2	
280-185814-4 MS	TV044-MW141223A	Total/NA	Water	353.2	
280-185814-4 MSD	TV044-MW141223A	Total/NA	Water	353.2	
280-185814-12 MS	TV044-MW23D1223A	Total/NA	Water	353.2	
280-185814-12 MSD	TV044-MW23D1223A	Total/NA	Water	353.2	

Client Sample ID: TV044-TB021223
Lab Sample ID: 280-185814-1
Date Collected: 12/14/23 10:10
Matrix: Water
Date Received: 12/16/23 09:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D		1	5 mL	5 mL	637903	12/19/23 20:18	CCF	EET DEN

Client Sample ID: TV044-EB011223
Lab Sample ID: 280-185814-2
Date Collected: 12/14/23 10:20
Matrix: Water
Date Received: 12/16/23 09:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D		1	5 mL	5 mL	637903	12/19/23 20:39	CCF	EET DEN
Total/NA	Prep	3020A			50 mL	50 mL	637852	12/20/23 16:50	MSM	EET DEN
Total/NA	Analysis	6020B		1			638215	12/21/23 15:59	LMT	EET DEN
Total/NA	Analysis	353.2		1	100 mL	100 mL	638644	12/28/23 13:36	BCR	EET DEN
Total/NA	Analysis	9056A		1	10 mL	10 mL	638123	12/21/23 14:32	EJS	EET DEN

Client Sample ID: TV044-MW81223A
Lab Sample ID: 280-185814-3
Date Collected: 12/14/23 10:30
Matrix: Water
Date Received: 12/16/23 09:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D		1	5 mL	5 mL	637903	12/19/23 22:49	CCF	EET DEN
Total/NA	Prep	3020A			50 mL	50 mL	637852	12/20/23 16:50	MSM	EET DEN
Total/NA	Analysis	6020B		1			638215	12/21/23 16:02	LMT	EET DEN
Total/NA	Analysis	353.2		5	100 mL	100 mL	638644	12/28/23 13:37	BCR	EET DEN
Total/NA	Analysis	9056A		1	10 mL	10 mL	638123	12/21/23 14:43	EJS	EET DEN

Client Sample ID: TV044-MW141223A
Lab Sample ID: 280-185814-4
Date Collected: 12/14/23 11:10
Matrix: Water
Date Received: 12/16/23 09:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D		1	5 mL	5 mL	637903	12/19/23 23:10	CCF	EET DEN
Total/NA	Prep	3020A			50 mL	50 mL	637852	12/20/23 16:50	MSM	EET DEN
Total/NA	Analysis	6020B		1			638215	12/21/23 16:04	LMT	EET DEN
Total/NA	Analysis	353.2		1	100 mL	100 mL	638644	12/28/23 13:32	BCR	EET DEN
Total/NA	Analysis	9056A		1	10 mL	10 mL	638123	12/21/23 16:00	EJS	EET DEN

Client Sample ID: TV044-MW151223A
Lab Sample ID: 280-185814-5
Date Collected: 12/14/23 11:30
Matrix: Water
Date Received: 12/16/23 09:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D		1	5 mL	5 mL	637903	12/19/23 23:32	CCF	EET DEN
Total/NA	Prep	3020A			50 mL	50 mL	637852	12/20/23 16:50	MSM	EET DEN
Total/NA	Analysis	6020B		1			638215	12/21/23 16:20	LMT	EET DEN
Total/NA	Analysis	353.2		10	100 mL	100 mL	638644	12/28/23 13:39	BCR	EET DEN

Client Sample ID: TV044-MW151223A
Lab Sample ID: 280-185814-5
Date Collected: 12/14/23 11:30
Matrix: Water
Date Received: 12/16/23 09:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		50	10 mL	10 mL	638123	12/21/23 18:45	EJS	EET DEN

Client Sample ID: TV044-MW22S1223A
Lab Sample ID: 280-185814-6
Date Collected: 12/14/23 12:05
Matrix: Water
Date Received: 12/16/23 09:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D		20	5 mL	5 mL	637903	12/20/23 01:00	CCF	EET DEN
Total/NA	Prep	3020A			50 mL	50 mL	637852	12/20/23 16:50	MSM	EET DEN
Total/NA	Analysis	6020B		1			638215	12/21/23 16:22	LMT	EET DEN
Total/NA	Analysis	353.2		1	100 mL	100 mL	638644	12/28/23 13:40	BCR	EET DEN
Total/NA	Analysis	9056A		50	10 mL	10 mL	638123	12/21/23 18:12	EJS	EET DEN

Client Sample ID: TV044-MW22D1223A
Lab Sample ID: 280-185814-7
Date Collected: 12/14/23 12:35
Matrix: Water
Date Received: 12/16/23 09:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D		200	5 mL	5 mL	637903	12/20/23 01:44	CCF	EET DEN
Total/NA	Prep	3020A			50 mL	50 mL	637852	12/20/23 16:50	MSM	EET DEN
Total/NA	Analysis	6020B		1			638215	12/21/23 16:24	LMT	EET DEN
Total/NA	Analysis	353.2		1	100 mL	100 mL	638644	12/28/23 13:41	BCR	EET DEN
Total/NA	Analysis	9056A		1	10 mL	10 mL	638123	12/21/23 14:54	EJS	EET DEN

Client Sample ID: TV044-MW111223A
Lab Sample ID: 280-185814-8
Date Collected: 12/14/23 12:45
Matrix: Water
Date Received: 12/16/23 09:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D		4	5 mL	5 mL	637903	12/20/23 00:37	CCF	EET DEN
Total/NA	Prep	3020A			50 mL	50 mL	637852	12/20/23 16:50	MSM	EET DEN
Total/NA	Analysis	6020B		1			638215	12/21/23 16:26	LMT	EET DEN
Total/NA	Analysis	353.2		1	100 mL	100 mL	638644	12/28/23 13:51	BCR	EET DEN
Total/NA	Analysis	9056A		5	10 mL	10 mL	638123	12/21/23 18:01	EJS	EET DEN

Client Sample ID: TV044-MW111223C
Lab Sample ID: 280-185814-9
Date Collected: 12/14/23 12:45
Matrix: Water
Date Received: 12/16/23 09:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D		1	5 mL	5 mL	637903	12/19/23 23:54	CCF	EET DEN
Total/NA	Prep	3020A			50 mL	50 mL	637852	12/20/23 16:50	MSM	EET DEN
Total/NA	Analysis	6020B		1			638215	12/21/23 16:29	LMT	EET DEN
Total/NA	Analysis	353.2		1	100 mL	100 mL	638644	12/28/23 13:52	BCR	EET DEN

Client Sample ID: TV044-MW111223C
Lab Sample ID: 280-185814-9
Date Collected: 12/14/23 12:45
Matrix: Water
Date Received: 12/16/23 09:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		5	10 mL	10 mL	638123	12/21/23 17:39	EJS	EET DEN

Client Sample ID: TV044-MW131223A
Lab Sample ID: 280-185814-10
Date Collected: 12/14/23 13:00
Matrix: Water
Date Received: 12/16/23 09:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D		100	5 mL	5 mL	637903	12/20/23 01:22	CCF	EET DEN
Total/NA	Prep	3020A			50 mL	50 mL	637852	12/20/23 16:50	MSM	EET DEN
Total/NA	Analysis	6020B		1			638215	12/21/23 16:31	LMT	EET DEN
Total/NA	Analysis	353.2		1	100 mL	100 mL	638644	12/28/23 13:54	BCR	EET DEN
Total/NA	Analysis	9056A		1	10 mL	10 mL	638123	12/21/23 15:05	EJS	EET DEN

Client Sample ID: TV044-MW91223A
Lab Sample ID: 280-185814-11
Date Collected: 12/14/23 13:30
Matrix: Water
Date Received: 12/16/23 09:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D		1	5 mL	5 mL	637903	12/20/23 00:15	CCF	EET DEN
Total/NA	Prep	3020A			50 mL	50 mL	637852	12/20/23 16:50	MSM	EET DEN
Total/NA	Analysis	6020B		1			638215	12/21/23 16:33	LMT	EET DEN
Total/NA	Analysis	353.2		5	100 mL	100 mL	638644	12/28/23 13:55	BCR	EET DEN
Total/NA	Analysis	9056A		5	10 mL	10 mL	638123	12/21/23 17:17	EJS	EET DEN

Client Sample ID: TV044-MW23D1223A
Lab Sample ID: 280-185814-12
Date Collected: 12/14/23 13:55
Matrix: Water
Date Received: 12/16/23 09:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D		200	5 mL	5 mL	637903	12/20/23 02:07	CCF	EET DEN
Total/NA	Prep	3020A			50 mL	50 mL	637852	12/20/23 16:50	MSM	EET DEN
Total/NA	Analysis	6020B		1			638215	12/21/23 16:35	LMT	EET DEN
Total/NA	Analysis	353.2		1	100 mL	100 mL	638644	12/28/23 13:59	BCR	EET DEN
Total/NA	Analysis	9056A		1	10 mL	10 mL	638123	12/21/23 16:44	EJS	EET DEN

Client Sample ID: TV044-EB021223
Lab Sample ID: 280-185814-13
Date Collected: 12/14/23 14:00
Matrix: Water
Date Received: 12/16/23 09:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D		1	5 mL	5 mL	637903	12/19/23 21:01	CCF	EET DEN
Total/NA	Prep	3020A			50 mL	50 mL	637852	12/20/23 16:50	MSM	EET DEN
Total/NA	Analysis	6020B		1			638215	12/21/23 16:37	LMT	EET DEN
Total/NA	Analysis	353.2		1	100 mL	100 mL	638644	12/28/23 14:02	BCR	EET DEN

Lab Chronicle

Client: FPM Remediations Inc
Job ID: 280-185814-1
Project/Site: Luke AFB Waterdog TU044, AZ

Client Sample ID: TV044-EB021223
Lab Sample ID: 280-185814-13

Date Collected: 12/14/23 14:00
Matrix: Water
Date Received: 12/16/23 09:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		1	10 mL	10 mL	638123	12/21/23 15:16	EJS	EET DEN

Laboratory References:

EET DEN = Eurofins Denver, 4955 Yarrow Street, Arvada, CO 80002, TEL (303)736-0100

Accreditation/Certification Summary

Client: FPM Remediations Inc
Job ID: 280-185814-1
Project/Site: Luke AFB Waterdog TU044, AZ

Laboratory: Eurofins Denver

The accreditations/certifications listed below are applicable to this report.

Authority	Program	Identification Number	Expiration Date
A2LA	Dept. of Defense ELAP	2907.01	10-31-24
Arizona	State	AZ0713	12-20-24

Method Summary

Client: FPM Remediations Inc
Job ID: 280-185814-1
Project/Site: Luke AFB Waterdog TU044, AZ

Method	Method Description	Protocol	Laboratory
8260D	Volatile Organic Compounds (GC/MS)	SW846	EET DEN
6020B	Metals (ICP/MS)	SW846	EET DEN
353.2	Nitrogen, Nitrate-Nitrite	EPA	EET DEN
9056A	Anions, Ion Chromatography	SW846	EET DEN
3020A	Preparation, Total Metals	SW846	EET DEN
5030B	Purge and Trap	SW846	EET DEN

Protocol References:

EPA = US Environmental Protection Agency

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

EET DEN = Eurofins Denver, 4955 Yarrow Street, Arvada, CO 80002, TEL (303)736-0100

Sample Summary

Client: FPM Remediations Inc
Job ID: 280-185814-1
Project/Site: Luke AFB Waterdog TU044, AZ

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
280-185814-1	TV044-TB021223	Water	12/14/23 10:10	12/16/23 09:30
280-185814-2	TV044-EB011223	Water	12/14/23 10:20	12/16/23 09:30
280-185814-3	TV044-MW81223A	Water	12/14/23 10:30	12/16/23 09:30
280-185814-4	TV044-MW141223A	Water	12/14/23 11:10	12/16/23 09:30
280-185814-5	TV044-MW151223A	Water	12/14/23 11:30	12/16/23 09:30
280-185814-6	TV044-MW22S1223A	Water	12/14/23 12:05	12/16/23 09:30
280-185814-7	TV044-MW22D1223A	Water	12/14/23 12:35	12/16/23 09:30
280-185814-8	TV044-MW111223A	Water	12/14/23 12:45	12/16/23 09:30
280-185814-9	TV044-MW111223C	Water	12/14/23 12:45	12/16/23 09:30
280-185814-10	TV044-MW131223A	Water	12/14/23 13:00	12/16/23 09:30
280-185814-11	TV044-MW91223A	Water	12/14/23 13:30	12/16/23 09:30
280-185814-12	TV044-MW23D1223A	Water	12/14/23 13:55	12/16/23 09:30
280-185814-13	TV044-EB021223	Water	12/14/23 14:00	12/16/23 09:30

Eurofins Denver

GC/MS VOA MANUAL INTEGRATION SUMMARY

Lab Name: Eurofins Denver Job No.: 280-185814-1

SDG No.:

Instrument ID: VMS_X4 Analysis Batch Number: 637903

Lab Sample ID: MB 280-637903/9 Client Sample ID:

Date Analyzed: 12/19/23 19:13 Lab File ID: X512020.D GC Column: RXI-624SilMS ID: 0.25(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
1,2,4-Trichlorobenzene		Invalid Compound ID	AK2J	12/19/23 20:22
Cyclohexanone		Invalid Compound ID	AK2J	12/19/23 20:22
1,2,3-Trichlorobenzene	12.43	Invalid Compound ID	AK2J	12/19/23 20:22

Lab Sample ID: 280-185814-1 Client Sample ID: TV044-TB021223

Date Analyzed: 12/19/23 20:18 Lab File ID: X512023.D GC Column: RXI-624SilMS ID: 0.25(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Acetone	3.07	Invalid Compound ID	AK2J	12/19/23 20:36
Cyclohexanone		Invalid Compound ID	AK2J	12/19/23 20:36

Lab Sample ID: 280-185814-2 Client Sample ID: TV044-EB011223

Date Analyzed: 12/19/23 20:39 Lab File ID: X512024.D GC Column: RXI-624SilMS ID: 0.25(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Cyclohexanone		Invalid Compound ID	BX8N	12/20/23 03:07

Lab Sample ID: 280-185814-13 Client Sample ID: TV044-EB021223

Date Analyzed: 12/19/23 21:01 Lab File ID: X512025.D GC Column: RXI-624SilMS ID: 0.25(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Acetone		Invalid Compound ID	BX8N	12/20/23 03:07
Cyclohexanone		Invalid Compound ID	BX8N	12/20/23 03:07

GC/MS VOA MANUAL INTEGRATION SUMMARY

Lab Name: Eurofins Denver Job No.: 280-185814-1

SDG No.:

Instrument ID: VMS_X4 Analysis Batch Number: 637903

Lab Sample ID: 280-185814-3 Client Sample ID: TV044-MW81223A

Date Analyzed: 12/19/23 22:49 Lab File ID: X512030.D GC Column: RXI-624SilMS ID: 0.25(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Acetone	3.07	Invalid Compound ID	BX8N	12/20/23 03:10
Cyclohexanone		Invalid Compound ID	BX8N	12/20/23 03:10

Lab Sample ID: 280-185814-4 Client Sample ID: TV044-MW141223A

Date Analyzed: 12/19/23 23:10 Lab File ID: X512031.D GC Column: RXI-624SilMS ID: 0.25(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Acetone		Invalid Compound ID	BX8N	12/20/23 03:10
Chloroethane		Invalid Compound ID	BX8N	12/20/23 03:10
Cyclohexanone		Invalid Compound ID	BX8N	12/20/23 03:10

Lab Sample ID: 280-185814-5 Client Sample ID: TV044-MW151223A

Date Analyzed: 12/19/23 23:32 Lab File ID: X512032.D GC Column: RXI-624SilMS ID: 0.25(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Acetone		Invalid Compound ID	BX8N	12/20/23 03:10
Chloroethane		Invalid Compound ID	BX8N	12/20/23 03:10
Cyclohexanone		Invalid Compound ID	BX8N	12/20/23 03:10

Lab Sample ID: 280-185814-9 Client Sample ID: TV044-MW111223C

Date Analyzed: 12/19/23 23:54 Lab File ID: X512033.D GC Column: RXI-624SilMS ID: 0.25(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Acetone		Invalid Compound ID	BX8N	12/20/23 03:11
Cyclohexanone		Invalid Compound ID	BX8N	12/20/23 03:11

GC/MS VOA MANUAL INTEGRATION SUMMARY

Lab Name: Eurofins Denver Job No.: 280-185814-1

SDG No.:

Instrument ID: VMS_X4 Analysis Batch Number: 637903

Lab Sample ID: 280-185814-11 Client Sample ID: TV044-MW91223A

Date Analyzed: 12/20/23 00:15 Lab File ID: X512034.D GC Column: RXI-624SilMS ID: 0.25(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Acetone		Invalid Compound ID	BX8N	12/20/23 03:11
Acrylonitrile		Invalid Compound ID	BX8N	12/20/23 03:11
Cyclohexanone		Invalid Compound ID	BX8N	12/20/23 03:11

Lab Sample ID: 280-185814-8 Client Sample ID: TV044-MW111223A

Date Analyzed: 12/20/23 00:37 Lab File ID: X512035.D GC Column: RXI-624SilMS ID: 0.25(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Acetone		Invalid Compound ID	BX8N	12/20/23 03:11
Cyclohexanone		Invalid Compound ID	BX8N	12/20/23 03:11

Lab Sample ID: 280-185814-6 Client Sample ID: TV044-MW22S1223A

Date Analyzed: 12/20/23 01:00 Lab File ID: X512036.D GC Column: RXI-624SilMS ID: 0.25(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Acrylonitrile		Invalid Compound ID	BX8N	12/20/23 03:12
Cyclohexanone		Invalid Compound ID	BX8N	12/20/23 03:12

Lab Sample ID: 280-185814-10 Client Sample ID: TV044-MW131223A

Date Analyzed: 12/20/23 01:22 Lab File ID: X512037.D GC Column: RXI-624SilMS ID: 0.25(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
1,2-Dichloroethane		Invalid Compound ID	BX8N	12/20/23 03:13
Acrylonitrile		Invalid Compound ID	BX8N	12/20/23 03:12
Cyclohexanone		Invalid Compound ID	BX8N	12/20/23 03:13

GC/MS VOA MANUAL INTEGRATION SUMMARY

Lab Name: Eurofins Denver Job No.: 280-185814-1

SDG No.:

Instrument ID: VMS_X4 Analysis Batch Number: 637903

Lab Sample ID: 280-185814-7 Client Sample ID: TV044-MW22D1223A

Date Analyzed: 12/20/23 01:44 Lab File ID: X512038.D GC Column: RXI-624SilMS ID: 0.25(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
1,2-Dichloroethane		Invalid Compound ID	BX8N	12/20/23 03:14
Acrylonitrile		Invalid Compound ID	BX8N	12/20/23 03:14
Cyclohexanone		Invalid Compound ID	BX8N	12/20/23 03:14

Lab Sample ID: 280-185814-12 Client Sample ID: TV044-MW23D1223A

Date Analyzed: 12/20/23 02:07 Lab File ID: X512039.D GC Column: RXI-624SilMS ID: 0.25(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Acrylonitrile		Invalid Compound ID	BX8N	12/20/23 03:14
Cyclohexanone		Invalid Compound ID	BX8N	12/20/23 03:14

GENERAL CHEMISTRY MANUAL INTEGRATION SUMMARY

Lab Name: Eurofins Denver Job No.: 280-185814-1

SDG No.:

Instrument ID: WC_IonChrom16 Analysis Batch Number: 627377

Lab Sample ID: STD1 280-627377/1 IC Client Sample ID:

Date Analyzed: 09/26/23 11:12 Lab File ID: 280-0125815-001_03_CD_1_ GC Column: Ion Pac AS18 ID:

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Bromide	5.74	Baseline Smoothing	XAY4	10/03/23 14:38
Sulfate	6.57	Peak assignment corrected	LVW8	09/26/23 12:22

Lab Sample ID: STD2 280-627377/2 IC Client Sample ID:

Date Analyzed: 09/26/23 11:23 Lab File ID: 280-0125815-002_04_CD_1_ GC Column: Ion Pac AS18 ID:

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Bromide	5.74	Baseline Smoothing	XAY4	10/03/23 14:38
Sulfate	6.57	Peak assignment corrected	LVW8	09/26/23 12:22

Lab Sample ID: STD3 280-627377/3 IC Client Sample ID:

Date Analyzed: 09/26/23 11:34 Lab File ID: 280-0125815-003_05_CD_1_ GC Column: Ion Pac AS18 ID:

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Bromide	5.74	Baseline Smoothing	XAY4	10/03/23 14:37
Sulfate	6.56	Peak assignment corrected	LVW8	09/26/23 12:22

Lab Sample ID: STD4 280-627377/4 IC Client Sample ID:

Date Analyzed: 09/26/23 11:45 Lab File ID: 280-0125815-004_06_CD_1_ GC Column: Ion Pac AS18 ID:

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Bromide	5.73	Baseline Smoothing	XAY4	10/03/23 14:37
Sulfate	6.45	Peak assignment corrected	LVW8	09/26/23 12:22

GENERAL CHEMISTRY MANUAL INTEGRATION SUMMARY

Lab Name: Eurofins Denver Job No.: 280-185814-1

SDG No.:

Instrument ID: WC_IonChrom16 Analysis Batch Number: 627377

Lab Sample ID: STD5 280-627377/5 IC Client Sample ID:

Date Analyzed: 09/26/23 11:56 Lab File ID: 280-0125815-005_07_CD_1_ GC Column: Ion Pac AS18 ID:

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Bromide	5.72	Baseline Smoothing	XAY4	10/03/23 14:37
Sulfate	6.35	Peak assignment corrected	LVW8	09/26/23 12:22

Lab Sample ID: STD6 280-627377/6 IC Client Sample ID:

Date Analyzed: 09/26/23 12:07 Lab File ID: 280-0125815-006_08_CD_1_ GC Column: Ion Pac AS18 ID:

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Bromide	5.70	Baseline Smoothing	XAY4	10/03/23 14:37

Lab Sample ID: ICV 280-627377/8 Client Sample ID:

Date Analyzed: 09/26/23 12:29 Lab File ID: 280-0125815-008_10_CD_1_ GC Column: Ion Pac AS18 ID:

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Bromide	5.72	Baseline Smoothing	XAY4	10/03/23 14:45

GENERAL CHEMISTRY MANUAL INTEGRATION SUMMARY

Lab Name: Eurofins Denver Job No.: 280-185814-1

SDG No.:

Instrument ID: WC_IonChrom16 Analysis Batch Number: 638123

Lab Sample ID: 280-185814-3 Client Sample ID: TV044-MW81223A

Date Analyzed: 12/21/23 14:43 Lab File ID: 280-0128814-016_17_CD_1_ GC Column: Ion Pac AS18 ID:

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Sulfate	4.36	Baseline Smoothing	BMJ3	12/22/23 11:32

Lab Sample ID: 280-185814-7 Client Sample ID: TV044-MW22D1223A

Date Analyzed: 12/21/23 14:54 Lab File ID: 280-0128814-017_18_CD_1_ GC Column: Ion Pac AS18 ID:

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Sulfate	4.40	Baseline Smoothing	BMJ3	12/22/23 11:32

Lab Sample ID: 280-185814-10 Client Sample ID: TV044-MW131223A

Date Analyzed: 12/21/23 15:05 Lab File ID: 280-0128814-018_19_CD_1_ GC Column: Ion Pac AS18 ID:

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Sulfate	4.40	Baseline Smoothing	BMJ3	12/22/23 11:32

Lab Sample ID: 280-185814-13 Client Sample ID: TV044-EB021223

Date Analyzed: 12/21/23 15:16 Lab File ID: 280-0128814-019_20_CD_1_ GC Column: Ion Pac AS18 ID:

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Sulfate	4.43	Assign Peak	BMJ3	12/22/23 11:33

Lab Sample ID: CCV 280-638123/21 Client Sample ID:

Date Analyzed: 12/21/23 15:38 Lab File ID: 280-0128814-021_22_CD_1_ GC Column: Ion Pac AS18 ID:

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Sulfate	4.32	Assign Peak	BMJ3	12/22/23 11:34

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GENERAL CHEMISTRY MANUAL INTEGRATION SUMMARY

Lab Name: Eurofins Denver Job No.: 280-185814-1

SDG No.:

Instrument ID: WC_IonChrom16 Analysis Batch Number: 638123

Lab Sample ID: 280-185814-4 Client Sample ID: TV044-MW141223A

Date Analyzed: 12/21/23 16:00 Lab File ID: 280-0128814-023_24_CD_1_ GC Column: Ion Pac AS18 ID:

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Sulfate	4.27	Assign Peak	BMJ3	12/22/23 11:34

Lab Sample ID: 280-185814-4 DU Client Sample ID: TV044-MW141223A DU

Date Analyzed: 12/21/23 16:11 Lab File ID: 280-0128814-024_25_CD_1_ GC Column: Ion Pac AS18 ID:

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Sulfate	4.27	Assign Peak	BMJ3	12/22/23 11:34

Lab Sample ID: 280-185814-4 MS Client Sample ID: TV044-MW141223A MS

Date Analyzed: 12/21/23 16:22 Lab File ID: 280-0128814-025_26_CD_1_ GC Column: Ion Pac AS18 ID:

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Sulfate	4.23	Assign Peak	BMJ3	12/22/23 11:35

Lab Sample ID: 280-185814-4 MSD Client Sample ID: TV044-MW141223A MSD

Date Analyzed: 12/21/23 16:33 Lab File ID: 280-0128814-026_27_CD_1_ GC Column: Ion Pac AS18 ID:

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Sulfate	4.23	Assign Peak	BMJ3	12/22/23 11:35

Lab Sample ID: 280-185814-12 Client Sample ID: TV044-MW23D1223A

Date Analyzed: 12/21/23 16:44 Lab File ID: 280-0128814-027_28_CD_1_ GC Column: Ion Pac AS18 ID:

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Sulfate	4.27	Assign Peak	BMJ3	12/22/23 11:35

GENERAL CHEMISTRY MANUAL INTEGRATION SUMMARY

Lab Name: Eurofins Denver Job No.: 280-185814-1

SDG No.:

Instrument ID: WC_IonChrom16 Analysis Batch Number: 638123

Lab Sample ID: 280-185814-8 Client Sample ID: TV044-MW111223A

Date Analyzed: 12/21/23 18:01 Lab File ID: 280-0128814-034_35_CD_1_ GC Column: Ion Pac AS18 ID:

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Sulfate	4.39	Baseline Smoothing	BMJ3	12/22/23 11:38

Lab Sample ID: CCV 280-638123/36 Client Sample ID:

Date Analyzed: 12/21/23 18:23 Lab File ID: 280-0128814-036_37_CD_1_ GC Column: Ion Pac AS18 ID:

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Sulfate	4.32	Assign Peak	BMJ3	12/22/23 11:38

Lab Sample ID: CCV 280-638123/41 Client Sample ID:

Date Analyzed: 12/21/23 19:18 Lab File ID: 280-0128814-041_42_CD_1_ GC Column: Ion Pac AS18 ID:

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Sulfate	4.32	Assign Peak	BMJ3	12/22/23 11:41

Lab Name: Eurofins Denver Job No.: 280-185814-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
Cal Dil Std_00280	12/15/23	12/08/23	P&T Methanol, Lot ED137-US	100 uL	MV-Gas A_00174	2 uL	Bromomethane	5 ug/mL
							Chloroethane	5 ug/mL
							Chloromethane	5 ug/mL
							Dichlorodifluoromethane	5 ug/mL
							Dichlorofluoromethane	5 ug/mL
							Trichlorofluoromethane	5 ug/mL
							Vinyl chloride	5 ug/mL
							2-Chloroethyl vinyl ether	5 ug/mL
					MV-MegaMainA_00100	5 uL	Acrolein	49.375 ug/mL
							2-Butanone (MEK)	20 ug/mL
							2-Hexanone	20 ug/mL
							4-Methyl-2-pentanone (MIBK)	20 ug/mL
							Acetone	20 ug/mL
							Vinyl acetate	10 ug/mL
							Cyclohexanone	150 ug/mL
							1,1,1,2-Tetrachloroethane	5 ug/mL
							1,1,1-Trichloroethane	5 ug/mL
							1,1,2,2-Tetrachloroethane	5 ug/mL
							1,1,2-Trichloro-1,2,2-trifluoroethane	5 ug/mL
							1,1,2-Trichloroethane	5 ug/mL
							1,1-Dichloroethane	5 ug/mL
							1,1-Dichloroethylene	5 ug/mL
							1,1-Dichloropropene	5 ug/mL
							1,2,3-Trichlorobenzene	5 ug/mL
							1,2,3-Trichloropropane	5 ug/mL
							1,2,4-Trichlorobenzene	5 ug/mL
							1,2,4-Trimethylbenzene	5 ug/mL
							1,2-Dibromo-3-Chloropropane	5 ug/mL
							1,2-Dibromoethane	5 ug/mL
							1,2-Dichlorobenzene	5 ug/mL
							1,2-Dichloroethane	5 ug/mL
							1,2-Dichloropropane	5 ug/mL
							1,3,5-Trimethylbenzene	5 ug/mL
							1,3-Dichlorobenzene	5 ug/mL
							1,3-Dichloropropane	5 ug/mL
							1,4-Dichlorobenzene	5 ug/mL
							1,4-Dioxane	100 ug/mL
							2,2-Dichloropropane	5 ug/mL
							2-Methyl-2-propanol	50 ug/mL
							3-Chloro-1-propene	5 ug/mL
							4-Isopropyltoluene	5 ug/mL
							Acrylonitrile	50 ug/mL
							Benzene	5 ug/mL
							Bromobenzene	5 ug/mL
							Bromochloromethane	5 ug/mL

Lab Name: Eurofins Denver Job No.: 280-185814-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Bromodichloromethane	5 ug/mL
							Bromoform	5 ug/mL
							Carbon disulfide	5 ug/mL
							Carbon tetrachloride	5 ug/mL
							Chlorobenzene	5 ug/mL
							Chloroform	5 ug/mL
							cis-1,2-Dichloroethylene	5 ug/mL
							cis-1,3-Dichloropropene	5 ug/mL
							Cyclohexane	5 ug/mL
							Dibromochloromethane	5 ug/mL
							Dibromomethane	5 ug/mL
							Ethyl ether	5 ug/mL
							Ethyl methacrylate	5 ug/mL
							Ethylbenzene	5 ug/mL
							Hexachlorobutadiene	5 ug/mL
							Iodomethane	5 ug/mL
							Isobutyl alcohol	125 ug/mL
							Isopropylbenzene	5 ug/mL
							m-Xylene & p-Xylene	5 ug/mL
							Methyl acetate	10 ug/mL
							Methyl tert-butyl ether	5 ug/mL
							Methylcyclohexane	5 ug/mL
							Methylene Chloride	5 ug/mL
							n-Butylbenzene	5 ug/mL
							n-Heptane	5 ug/mL
							n-Hexane	5 ug/mL
							N-Propylbenzene	5 ug/mL
							Naphthalene	5 ug/mL
							o-Chlorotoluene	5 ug/mL
							o-Xylene	5 ug/mL
							p-Chlorotoluene	5 ug/mL
							sec-Butylbenzene	5 ug/mL
							Styrene	5 ug/mL
							tert-Butylbenzene	5 ug/mL
							Tetrachloroethene	5 ug/mL
							Tetrahydrofuran	10 ug/mL
							Toluene	5 ug/mL
							trans-1,2-Dichloroethylene	5 ug/mL
							trans-1,3-Dichloropropene	5 ug/mL
							trans-1,4-Dichloro-2-butene	5 ug/mL
							Trichloroethene	5 ug/mL
							1-Chlorohexane	4 ug/mL
							2-Pentanone	16 ug/mL
							sec-Butyl Alcohol	120 ug/mL
.MV-Gas A_00174	01/08/24	12/06/23	P&T Methanol, Lot 198123	12.5 mL	MV-569722_00023	1250 uL	Bromomethane	250 ug/mL
							Chloroethane	250 ug/mL
							Chloromethane	250 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins Denver Job No.: 280-185814-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Dichlorodifluoromethane	250 ug/mL
							Dichlorofluoromethane	250 ug/mL
							Trichlorofluoromethane	250 ug/mL
							Vinyl chloride	250 ug/mL
					MV-569723_00018	1250 uL	2-Chloroethyl vinyl ether	250 ug/mL
..MV-569722_00023	05/31/26		RESTEK, Lot A0198219		(Purchased Reagent)		Bromomethane	2500 ug/mL
							Chloroethane	2500 ug/mL
							Chloromethane	2500 ug/mL
							Dichlorodifluoromethane	2500 ug/mL
							Dichlorofluoromethane	2500 ug/mL
							Trichlorofluoromethane	2500 ug/mL
							Vinyl chloride	2500 ug/mL
..MV-569723_00018	01/31/26		RESTEK, Lot A0193735		(Purchased Reagent)		2-Chloroethyl vinyl ether	2500 ug/mL
.MV-MegaMainA_00100	01/11/24	12/06/23	P&T Methanol, Lot 181124	25 mL	MV-568720_00046	1250 uL	Acrolein	987.5 ug/mL
					MV-569721_00015	800 uL	2-Butanone (MEK)	400 ug/mL
							2-Hexanone	400 ug/mL
							4-Methyl-2-pentanone (MIBK)	400 ug/mL
							Acetone	400 ug/mL
					MV-569724_00037	1000 uL	Vinyl acetate	200 ug/mL
					MV-569727_00024	3000 uL	Cyclohexanone	3000 ug/mL
					MV-571992_00015	1000 uL	1,1,1,2-Tetrachloroethane	100 ug/mL
							1,1,1-Trichloroethane	100 ug/mL
							1,1,2,2-Tetrachloroethane	100 ug/mL
							1,1,2-Trichloro-1,2,2-trifluoroethane	100 ug/mL
							1,1,2-Trichloroethane	100 ug/mL
							1,1-Dichloroethane	100 ug/mL
							1,1-Dichloroethylene	100 ug/mL
							1,1-Dichloropropene	100 ug/mL
							1,2,3-Trichlorobenzene	100 ug/mL
							1,2,3-Trichloropropane	100 ug/mL
							1,2,4-Trichlorobenzene	100 ug/mL
							1,2,4-Trimethylbenzene	100 ug/mL
							1,2-Dibromo-3-Chloropropane	100 ug/mL
							1,2-Dibromoethane	100 ug/mL
							1,2-Dichlorobenzene	100 ug/mL
							1,2-Dichloroethane	100 ug/mL
							1,2-Dichloropropane	100 ug/mL
							1,3,5-Trimethylbenzene	100 ug/mL
							1,3-Dichlorobenzene	100 ug/mL
							1,3-Dichloropropane	100 ug/mL
							1,4-Dichlorobenzene	100 ug/mL
							1,4-Dioxane	2000 ug/mL
							2,2-Dichloropropane	100 ug/mL
							2-Methyl-2-propanol	1000 ug/mL
							3-Chloro-1-propene	100 ug/mL
							4-Isopropyltoluene	100 ug/mL

Lab Name: Eurofins Denver Job No.: 280-185814-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Acrylonitrile	1000 ug/mL
							Benzene	100 ug/mL
							Bromobenzene	100 ug/mL
							Bromochloromethane	100 ug/mL
							Bromodichloromethane	100 ug/mL
							Bromoform	100 ug/mL
							Carbon disulfide	100 ug/mL
							Carbon tetrachloride	100 ug/mL
							Chlorobenzene	100 ug/mL
							Chloroform	100 ug/mL
							cis-1,2-Dichloroethylene	100 ug/mL
							cis-1,3-Dichloropropene	100 ug/mL
							Cyclohexane	100 ug/mL
							Dibromochloromethane	100 ug/mL
							Dibromomethane	100 ug/mL
							Ethyl ether	100 ug/mL
							Ethyl methacrylate	100 ug/mL
							Ethylbenzene	100 ug/mL
							Hexachlorobutadiene	100 ug/mL
							Iodomethane	100 ug/mL
							Isobutyl alcohol	2500 ug/mL
							Isopropylbenzene	100 ug/mL
							m-Xylene & p-Xylene	100 ug/mL
							Methyl acetate	200 ug/mL
							Methyl tert-butyl ether	100 ug/mL
							Methylcyclohexane	100 ug/mL
							Methylene Chloride	100 ug/mL
							n-Butylbenzene	100 ug/mL
							n-Heptane	100 ug/mL
							n-Hexane	100 ug/mL
							N-Propylbenzene	100 ug/mL
							Naphthalene	100 ug/mL
							o-Chlorotoluene	100 ug/mL
							o-Xylene	100 ug/mL
							p-Chlorotoluene	100 ug/mL
							sec-Butylbenzene	100 ug/mL
							Styrene	100 ug/mL
							tert-Butylbenzene	100 ug/mL
							Tetrachloroethene	100 ug/mL
							Tetrahydrofuran	200 ug/mL
							Toluene	100 ug/mL
							trans-1,2-Dichloroethylene	100 ug/mL
							trans-1,3-Dichloropropene	100 ug/mL
							trans-1,4-Dichloro-2-butene	100 ug/mL
							Trichloroethene	100 ug/mL
					MV-CUS17739.s_00011	2000 uL	1-Chlorohexane	80 ug/mL
							2-Pentanone	320 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins Denver Job No.: 280-185814-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							sec-Butyl Alcohol	2400 ug/mL
..MV-568720_00046	07/31/24		RESTEK, Lot A0193730		(Purchased Reagent)		Acrolein	19750 ug/mL
..MV-569721_00015	01/31/26		RESTEK, Lot A0193494		(Purchased Reagent)		2-Butanone (MEK)	12500 ug/mL
							2-Hexanone	12500 ug/mL
							4-Methyl-2-pentanone (MIBK)	12500 ug/mL
							Acetone	12500 ug/mL
..MV-569724_00037	01/31/25		RESTEK, Lot A0200199		(Purchased Reagent)		Vinyl acetate	5000 ug/mL
..MV-569727_00024	04/30/26		RESTEK, Lot A0197009		(Purchased Reagent)		Cyclohexanone	25000 ug/mL
..MV-571992_00015	09/30/24		RESTEK, Lot A0183568		(Purchased Reagent)		1,1,1,2-Tetrachloroethane	2500 ug/mL
							1,1,1-Trichloroethane	2500 ug/mL
							1,1,2,2-Tetrachloroethane	2500 ug/mL
							1,1,2-Trichloro-1,2,2-trifluoroethane	2500 ug/mL
							1,1,2-Trichloroethane	2500 ug/mL
							1,1-Dichloroethane	2500 ug/mL
							1,1-Dichloroethylene	2500 ug/mL
							1,1-Dichloropropene	2500 ug/mL
							1,2,3-Trichlorobenzene	2500 ug/mL
							1,2,3-Trichloropropane	2500 ug/mL
							1,2,4-Trichlorobenzene	2500 ug/mL
							1,2,4-Trimethylbenzene	2500 ug/mL
							1,2-Dibromo-3-Chloropropane	2500 ug/mL
							1,2-Dibromoethane	2500 ug/mL
							1,2-Dichlorobenzene	2500 ug/mL
							1,2-Dichloroethane	2500 ug/mL
							1,2-Dichloropropane	2500 ug/mL
							1,3,5-Trimethylbenzene	2500 ug/mL
							1,3-Dichlorobenzene	2500 ug/mL
							1,3-Dichloropropane	2500 ug/mL
							1,4-Dichlorobenzene	2500 ug/mL
							1,4-Dioxane	50000 ug/mL
							2,2-Dichloropropane	2500 ug/mL
							2-Methyl-2-propanol	25000 ug/mL
							3-Chloro-1-propene	2500 ug/mL
							4-Isopropyltoluene	2500 ug/mL
							Acrylonitrile	25000 ug/mL
							Benzene	2500 ug/mL
							Bromobenzene	2500 ug/mL
							Bromochloromethane	2500 ug/mL
							Bromodichloromethane	2500 ug/mL
							Bromoform	2500 ug/mL
							Carbon disulfide	2500 ug/mL
							Carbon tetrachloride	2500 ug/mL
							Chlorobenzene	2500 ug/mL
							Chloroform	2500 ug/mL
							cis-1,2-Dichloroethylene	2500 ug/mL
							cis-1,3-Dichloropropene	2500 ug/mL
							Cyclohexane	2500 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins Denver Job No.: 280-185814-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Dibromochloromethane	2500 ug/mL
							Dibromomethane	2500 ug/mL
							Ethyl ether	2500 ug/mL
							Ethyl methacrylate	2500 ug/mL
							Ethylbenzene	2500 ug/mL
							Hexachlorobutadiene	2500 ug/mL
							Iodomethane	2500 ug/mL
							Isobutyl alcohol	62500 ug/mL
							Isopropylbenzene	2500 ug/mL
							m-Xylene & p-Xylene	2500 ug/mL
							Methyl acetate	5000 ug/mL
							Methyl tert-butyl ether	2500 ug/mL
							Methylcyclohexane	2500 ug/mL
							Methylene Chloride	2500 ug/mL
							n-Butylbenzene	2500 ug/mL
							n-Heptane	2500 ug/mL
							n-Hexane	2500 ug/mL
							N-Propylbenzene	2500 ug/mL
							Naphthalene	2500 ug/mL
							o-Chlorotoluene	2500 ug/mL
							o-Xylene	2500 ug/mL
							p-Chlorotoluene	2500 ug/mL
							sec-Butylbenzene	2500 ug/mL
							Styrene	2500 ug/mL
							tert-Butylbenzene	2500 ug/mL
							Tetrachloroethene	2500 ug/mL
							Tetrahydrofuran	5000 ug/mL
							Toluene	2500 ug/mL
							trans-1,2-Dichloroethylene	2500 ug/mL
							trans-1,3-Dichloropropene	2500 ug/mL
							trans-1,4-Dichloro-2-butene	2500 ug/mL
							Trichloroethene	2500 ug/mL
..MV-CUS17739.s_00011	05/31/24	Agilent, Lot 6676357.sec			(Purchased Reagent)		1-Chlorohexane	1000 ug/mL
							2-Pentanone	4000 ug/mL
							sec-Butyl Alcohol	30000 ug/mL
IC CAL cl/so4_00500	09/27/23	09/20/23	Di Water, Lot na	100 mL	IC CL cal_00076	25 mL	Chloride	250 mg/L
					IC SO4 Cal_00010	25 mL	Sulfate	250 mg/L
.IC CL cal_00076	11/30/23	SPEX CertiPrep, Lot 5-146CL-2X			(Purchased Reagent)		Chloride	1000 mg/L
.IC SO4 Cal_00010	11/30/23	SPEX CertiPrep, Lot 5-160SO4-2X			(Purchased Reagent)		Sulfate	1000 mg/L
IC CAL cl/so4_00515	12/27/23	12/20/23	Di Water, Lot na	100 mL	IC SO4 Cal_00011	25 mL	Sulfate	250 mg/L
.IC SO4 Cal_00011	10/30/24	SPEX CertiPrep, Lot 6-05SO4-2X			(Purchased Reagent)		Sulfate	1000 mg/L
IC Cal low_00730	09/27/23	09/20/23	Di Water, Lot NA	100 mL	IC BR ICV_00024	5 mL	Bromide	50 mg/L
					IC FL cal_00023	5 mL	Fluoride	50 mg/L
.IC BR ICV_00024	10/31/23	ricca, Lot 1204B86			(Purchased Reagent)		Bromide	1000 mg/L
.IC FL cal_00023	01/31/24	Ricca, Lot 2207H13			(Purchased Reagent)		Fluoride	1000 mg/L
IC LCS_01998	12/27/23	12/20/23	Di Water, Lot 27	200 mL	IC SO4 Cal_00011	20 mL	Sulfate	100 mg/L

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins Denver Job No.: 280-185814-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
.IC SO4 Cal_00011	10/30/24	SPEX CertiPrep, Lot 6-05SO4-2X			(Purchased Reagent)		Sulfate	1000 mg/L
IC SO4 ICV_00024	12/01/23	ERA, Lot 021221m			(Purchased Reagent)		Sulfate	1000 mg/L
ICMS/MSD WEEK_00850	12/27/23	12/20/23	Di Water, Lot NA	5 mL	IC SPK 6 ANIO_00033	2.5 mL	Sulfate	5000.51 mg/L
.IC SPK 6 ANIO_00033	10/12/24	10/12/23	Di Water, Lot NA	1000 mL	IC MS/MSD S04_00007	18.1408 g	Sulfate	10001 mg/L
..IC MS/MSD S04_00007	10/31/24	FISHER, Lot 215870			(Purchased Reagent)		Sulfate	0.5513 g/g
ms 77 cal std_03129	12/22/23	12/21/23	5%HNO3/5% HCl, Lot 232617/231497	250 mL	CALSTD-1_00004	0.25 mL	Lead	100 ug/L
.CALSTD-1_00004	11/02/24	CPI, Lot 1321095			(Purchased Reagent)		Lead	100 mg/L
ms 77 ccv_03136	12/22/23	12/21/23	5%HNO3/5% HCl, Lot 232617/231497	200 mL	ms 77 cal std_03129	100 mL	Lead	50 ug/L
.ms 77 cal std_03129	12/22/23	12/21/23	5%HNO3/5% HCl, Lot 232617/231497	250 mL	CALSTD-1_00004	0.25 mL	Lead	100 ug/L
..CALSTD-1_00004	11/02/24	CPI, Lot 1321095			(Purchased Reagent)		Lead	100 mg/L
ms 77 icsa_00712	12/27/23	12/20/23	5%HNO3/5% HCl, Lot 230665/'22c1662007	100 mL	MS ICSA STOCK_00051	5 mL	Al	100 mg/L
							Ca	100 mg/L
							Fe	100 mg/L
							K	100 mg/L
							Mg	100 mg/L
							Mo	2 mg/L
							Na	100 mg/L
					MS ICSA STOCK_00052	5 mL	Al	100 mg/L
							Ca	100 mg/L
							Fe	100 mg/L
							K	100 mg/L
							Mg	100 mg/L
							Mo	2 mg/L
							Na	100 mg/L
.MS ICSA STOCK_00051	04/20/24	CPI, Lot 1267033-1			(Purchased Reagent)		Al	1000 mg/L
							Ca	1000 mg/L
							Fe	1000 mg/L
							K	1000 mg/L
							Mg	1000 mg/L
							Mo	20 mg/L
							Na	1000 mg/L
.MS ICSA STOCK_00052	03/27/24	IV, Lot s2-meb706044			(Purchased Reagent)		Al	1000 mg/L
							Ca	1000 mg/L
							Fe	1000 mg/L
							K	1000 mg/L
							Mg	1000 mg/L
							Mo	20 mg/L
							Na	1000 mg/L
ms 77 icsab_00709	12/27/23	12/20/23	5%HNO3/5% HCl, Lot 230665/'22c1662007	100 mL	ICV MIX--3_00001	0.1 mL	U	0.1 mg/L
					ICV MIX-1a_00003	0.1 mL	As	0.1 mg/L

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins Denver Job No.: 280-185814-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Ba	0.1 mg/L
							Be	0.1 mg/L
							Cd	0.1 mg/L
							Co	0.1 mg/L
							Cr	0.1 mg/L
							Cu	0.1 mg/L
							Lead	0.1 mg/L
							Mn	0.1 mg/L
							Ni	0.1 mg/L
							Se	0.1 mg/L
							Sr	0.2 mg/L
							Tl	0.1 mg/L
							V	0.1 mg/L
					ICV MIX-1B_00003	0.1 mL	Mo	2.1 mg/L
							Sb	0.1 mg/L
							Sn	0.1 mg/L
					MS ICSA STOCK_00053	10 mL	Al	102 mg/L
							Ca	107 mg/L
							Fe	102 mg/L
							K	107 mg/L
							Mg	107 mg/L
							Mo	2.1 mg/L
							Na	107 mg/L
					MS ICVMIX--5_00003	0.1 mL	Ag	0.1 mg/L
							Ca	107 mg/L
							K	107 mg/L
							Mg	107 mg/L
							Na	107 mg/L
							Sr	0.2 mg/L
							Th	0.1 mg/L
							Zn	0.1 mg/L
					MS ICVMIX-2_00007	0.1 mL	Al	102 mg/L
							Ca	107 mg/L
							Fe	102 mg/L
							K	107 mg/L
							Mg	107 mg/L
							Na	107 mg/L
.ICV MIX--3_00001	04/24/24		IV, Lot u2-meb731885		(Purchased Reagent)		U	100 mg/L
.ICV MIX-1a_00003	07/31/24		IV, Lot u2-meb734729		(Purchased Reagent)		As	100 mg/L
							Ba	100 mg/L
							Be	100 mg/L
							Cd	100 mg/L
							Co	100 mg/L
							Cr	100 mg/L
							Cu	100 mg/L
							Lead	100 mg/L
							Mn	100 mg/L

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins Denver Job No.: 280-185814-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Ni	100 mg/L
							Se	100 mg/L
							Sr	100 mg/L
							Tl	100 mg/L
							V	100 mg/L
.ICV MIX-1B_00003	07/31/24		IV, Lot u2-meb734068		(Purchased Reagent)		Mo	100 mg/L
							Sb	100 mg/L
							Sn	100 mg/L
.MS ICSA STOCK_00053	11/21/24		IV, Lot u2-meb735840		(Purchased Reagent)		Al	1000 mg/L
							Ca	1000 mg/L
							Fe	1000 mg/L
							K	1000 mg/L
							Mg	1000 mg/L
							Mo	20 mg/L
							Na	1000 mg/L
.MS ICVMIX--5_00003	01/24/24		IV, Lot t2-meb722096		(Purchased Reagent)		Ag	100 mg/L
							Ca	5000 mg/L
							K	5000 mg/L
							Mg	5000 mg/L
							Na	5000 mg/L
							Sr	100 mg/L
							Th	100 mg/L
							Zn	100 mg/L
.MS ICVMIX-2_00007	11/02/24		CPI, Lot 1294936-1		(Purchased Reagent)		Al	2000 mg/L
							Ca	2000 mg/L
							Fe	2000 mg/L
							K	2000 mg/L
							Mg	2000 mg/L
							Na	2000 mg/L
ms 77 icv_03140	12/22/23	12/21/23	5%HNO3/5% HCl, Lot 232617/231497	250 mL	ICV MIX-1a_00003	0.1 mL	Lead	40 ug/L
.ICV MIX-1a_00003	07/31/24		IV, Lot u2-meb734729		(Purchased Reagent)		Lead	100 mg/L
MS 77 LLCCV_02967	12/22/23	12/21/23	5%HNO3/5% HCl, Lot 232617/231497	100 mL	MS LLCCV_00010	1 mL	Lead	0.001 mg/L
.MS LLCCV_00010	11/19/24		IV, Lot t2-meb722097		(Purchased Reagent)		Lead	0.1 mg/L
ms pds1 cpi_00017	03/27/24	11/07/23	1% HNO3, Lot 215109	100 mL	CALSTD-1_00003	20 mL	Lead	20 mg/L
.CALSTD-1_00003	07/10/24		CPI, Lot 1321095		(Purchased Reagent)		Lead	100 mg/L
ms spike 1_00021	05/01/24	11/01/23	1% HNO3, Lot 231496	500 mL	10000 Ca_00027	5 mL	Ca	500000 ug/L
					10000 K_00018	5 mL	K	500000 ug/L
					10000 Mg_00025	5 mL	Mg	500000 ug/L
					10000 Na_00093	5 mL	Na	500000 ug/L
					CALSTD-1_00003	100 mL	As	20000 ug/L
							Ba	20000 ug/L
							Be	20000 ug/L
							Cd	20000 ug/L
							Co	20000 ug/L

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins Denver Job No.: 280-185814-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Cr	20000 ug/L
							Cu	20000 ug/L
							Lead	20000 ug/L
							Li	20000 ug/L
							Mn	20000 ug/L
							Mo	20000 ug/L
							Ni	20000 ug/L
							Sb	20000 ug/L
							Se	20000 ug/L
							Si	200000 ug/L
							SiO2	428000 ug/L
							Sn	20000 ug/L
							Sr	20000 ug/L
							Tl	20000 ug/L
							V	20000 ug/L
					MS CALSTD-2_00104	100 mL	Al	400000 ug/L
							Ca	500000 ug/L
							Fe	400000 ug/L
							K	500000 ug/L
							Mg	500000 ug/L
							Na	500000 ug/L
.10000 Ca_00027	08/28/24		CPI, Lot 1268108-19		(Purchased Reagent)		Ca	10000 mg/L
.10000 K_00018	08/28/24		CPI, Lot 1137797-60		(Purchased Reagent)		K	10000 mg/L
.10000 Mg_00025	08/28/24		CPI, Lot 1303817-6		(Purchased Reagent)		Mg	10000 mg/L
.10000 Na_00093	03/06/26		CPI, Lot 1390063		(Purchased Reagent)		Na	10000 mg/L
.CALSTD-1_00003	07/10/24		CPI, Lot 1321095		(Purchased Reagent)		As	100 mg/L
							Ba	100 mg/L
							Be	100 mg/L
							Cd	100 mg/L
							Co	100 mg/L
							Cr	100 mg/L
							Cu	100 mg/L
							Lead	100 mg/L
							Li	100 mg/L
							Mn	100 mg/L
							Mo	100 mg/L
							Ni	100 mg/L
							Sb	100 mg/L
							Se	100 mg/L
							Si	1000 mg/L
							SiO2	2140 mg/L
							Sn	100 mg/L
							Sr	100 mg/L
							Tl	100 mg/L
							V	100 mg/L
.MS CALSTD-2_00104	05/30/24		CPI, Lot 1274823-1		(Purchased Reagent)		Al	2000 mg/L
							Ca	2000 mg/L

Lab Name: Eurofins Denver Job No.: 280-185814-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Fe	2000 mg/L
							K	2000 mg/L
							Mg	2000 mg/L
							Na	2000 mg/L
MS spike 2_00110	03/27/24	11/04/23	1% HNO3, Lot 231496	500 mL	1000 Ag_00018	10 mL	Ag	20 mg/L
					1000 Sr_00017	10 mL	Sr	20 mg/L
					1000 U_00046	10 mL	U	20 mg/L
					1000 Zn_00031	10 mL	Zn	20 mg/L
					10000 Th_00030	1 mL	Th	20 mg/L
.1000 Ag_00018	03/27/24		CPI, Lot 1211976-35		(Purchased Reagent)		Ag	1000 mg/L
.1000 Sr_00017	07/13/24		CPI, Lot 1194650-27		(Purchased Reagent)		Sr	1000 mg/L
.1000 U_00046	07/13/24		CPI, Lot 1249254-2		(Purchased Reagent)		U	1000 mg/L
.1000 Zn_00031	03/05/26		CPI, Lot 1390097		(Purchased Reagent)		Zn	1000 mg/L
.10000 Th_00030	04/03/26		CPI, Lot 1396827		(Purchased Reagent)		Th	10000 mg/L
mv-Cent BFB_00007							1,2-Dichloroethene, Total	
							1,3-Dichloropropene, Total	
							Tentatively Identified Compound	
							Total BTEX	
							Trihalomethanes, Total	
							Xylenes, Total	
					mv-IS/SS Tune_00001	10 mL	BFB	50 ug/mL
.mv-IS/SS Tune_00001	11/30/23		Restek, Lot A0143593		(Purchased Reagent)		BFB	250 ug/mL
mv-Cent IS_00008	07/31/24	08/01/23	P&T Methanol, Lot 1996628	5 mL	mv-30241_00010	0.1 mL	1,4-Dichlorobenzene-d4	50 ug/mL
							Chlorobenzene-d5	50 ug/mL
							Fluorobenzene	50 ug/mL
.mv-30241_00010	01/31/27		Restek, Lot A0180349		(Purchased Reagent)		1,4-Dichlorobenzene-d4	2500 ug/mL
							Chlorobenzene-d5	2500 ug/mL
							Fluorobenzene	2500 ug/mL
MV-Gas A_00174	01/08/24	12/06/23	P&T Methanol, Lot 198123	12.5 mL	MV-569722_00023	1250 uL	Bromomethane	250 ug/mL
							Chloroethane	250 ug/mL
							Chloromethane	250 ug/mL
							Dichlorodifluoromethane	250 ug/mL
							Dichlorofluoromethane	250 ug/mL
							Trichlorofluoromethane	250 ug/mL
							Vinyl chloride	250 ug/mL
					MV-569723_00018	1250 uL	2-Chloroethyl vinyl ether	250 ug/mL
.MV-569722_00023	05/31/26		RESTEK, Lot A0198219		(Purchased Reagent)		Bromomethane	2500 ug/mL
							Chloroethane	2500 ug/mL
							Chloromethane	2500 ug/mL
							Dichlorodifluoromethane	2500 ug/mL
							Dichlorofluoromethane	2500 ug/mL
							Trichlorofluoromethane	2500 ug/mL
							Vinyl chloride	2500 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins Denver Job No.: 280-185814-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
.MV-569723_00018	01/31/26		RESTEK, Lot A0193735		(Purchased Reagent)		2-Chloroethyl vinyl ether	2500 ug/mL
MV-Gas B_00152	12/26/23	11/27/23	P&T Methanol, Lot ea1899-us	12.5 mL	MV-569722.sec_00017	1250 uL	Chloroethane	250 ug/mL
							Chloromethane	250 ug/mL
							Dichlorodifluoromethane	250 ug/mL
							Trichlorofluoromethane	250 ug/mL
							Vinyl chloride	250 ug/mL
					MV-569723.sec_00015	1250 uL	2-Chloroethyl vinyl ether	250 ug/mL
.MV-569722.sec_00017	05/31/26		RESTEK, Lot A0197640		(Purchased Reagent)		Chloroethane	2500 ug/mL
							Chloromethane	2500 ug/mL
							Dichlorodifluoromethane	2500 ug/mL
							Trichlorofluoromethane	2500 ug/mL
							Vinyl chloride	2500 ug/mL
.MV-569723.sec_00015	01/31/26		RESTEK, Lot A0193808		(Purchased Reagent)		2-Chloroethyl vinyl ether	2500 ug/mL
mv-IS_SS_00074	04/01/24	12/01/23	P&T Methanol, Lot 198123	50 mL	mv-30241_00012	1000 uL	1,4-Dichlorobenzene-d4	50 ug/mL
							Chlorobenzene-d5	50 ug/mL
							Fluorobenzene	50 ug/mL
					MV-567650_00030	1000 uL	1,2-Dichloroethane-d4 (Surr)	50 ug/mL
							4-Bromofluorobenzene (Surr)	50 ug/mL
							Dibromofluoromethane (Surr)	50 ug/mL
							Toluene-d8 (Surr)	50 ug/mL
.mv-30241_00012	05/31/27		Restek, Lot A0185733		(Purchased Reagent)		1,4-Dichlorobenzene-d4	2500 ug/mL
							Chlorobenzene-d5	2500 ug/mL
							Fluorobenzene	2500 ug/mL
.MV-567650_00030	05/31/26		Restek, Lot A0172587		(Purchased Reagent)		1,2-Dichloroethane-d4 (Surr)	2500 ug/mL
							4-Bromofluorobenzene (Surr)	2500 ug/mL
							Dibromofluoromethane (Surr)	2500 ug/mL
							Toluene-d8 (Surr)	2500 ug/mL
MV-MegaMain B_00094	12/18/23	11/16/23	P&T Methanol, Lot 181124	25 mL	MV-569721.sec_00011	800 uL	2-Butanone (MEK)	400 ug/mL
							2-Hexanone	400 ug/mL
							4-Methyl-2-pentanone (MIBK)	400 ug/mL
							Acetone	400 ug/mL
					MV-569724.sec_00037	1000 uL	Vinyl acetate	200 ug/mL
					MV-569727.sec_00013	3000 uL	Cyclohexanone	3000 ug/mL
					MV-571992.sec_00010	1000 uL	1,1,1-Trichloroethane	100 ug/mL
							1,1,2,2-Tetrachloroethane	100 ug/mL
							1,1,2-Trichloroethane	100 ug/mL
							1,1-Dichloroethane	100 ug/mL
							1,1-Dichloroethylene	100 ug/mL
							1,1-Dichloropropene	100 ug/mL
							1,2,3-Trichlorobenzene	100 ug/mL
							1,2,3-Trichloropropane	100 ug/mL
							1,2,4-Trichlorobenzene	100 ug/mL
							1,2,4-Trimethylbenzene	100 ug/mL
							1,2-Dibromo-3-Chloropropane	100 ug/mL

Lab Name: Eurofins Denver Job No.: 280-185814-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							1,2-Dibromoethane	100 ug/mL
							1,2-Dichlorobenzene	100 ug/mL
							1,2-Dichloroethane	100 ug/mL
							1,2-Dichloropropane	100 ug/mL
							1,3,5-Trimethylbenzene	100 ug/mL
							1,3-Dichlorobenzene	100 ug/mL
							1,3-Dichloropropane	100 ug/mL
							1,4-Dichlorobenzene	100 ug/mL
							2,2-Dichloropropane	100 ug/mL
							4-Isopropyltoluene	100 ug/mL
							Acrylonitrile	1000 ug/mL
							Benzene	100 ug/mL
							Bromobenzene	100 ug/mL
							Bromochloromethane	100 ug/mL
							Bromodichloromethane	100 ug/mL
							Bromoform	100 ug/mL
							Carbon disulfide	100 ug/mL
							Carbon tetrachloride	100 ug/mL
							Chlorobenzene	100 ug/mL
							Chloroform	100 ug/mL
							cis-1,2-Dichloroethylene	100 ug/mL
							cis-1,3-Dichloropropene	100 ug/mL
							Cyclohexane	100 ug/mL
							Dibromochloromethane	100 ug/mL
							Dibromomethane	100 ug/mL
							Ethylbenzene	100 ug/mL
							Hexachlorobutadiene	100 ug/mL
							Isopropylbenzene	100 ug/mL
							Methyl tert-butyl ether	100 ug/mL
							Methylcyclohexane	100 ug/mL
							Methylene Chloride	100 ug/mL
							n-Butylbenzene	100 ug/mL
							n-Hexane	100 ug/mL
							N-Propylbenzene	100 ug/mL
							Naphthalene	100 ug/mL
							o-Chlorotoluene	100 ug/mL
							p-Chlorotoluene	100 ug/mL
							sec-Butylbenzene	100 ug/mL
							Styrene	100 ug/mL
							tert-Butylbenzene	100 ug/mL
							Tetrachloroethene	100 ug/mL
							Toluene	100 ug/mL
							trans-1,2-Dichloroethylene	100 ug/mL
							trans-1,3-Dichloropropene	100 ug/mL
							Trichloroethene	100 ug/mL
							Xylenes, Total	200 ug/mL
.MV-569721.sec_00011	02/28/26		RESTEK, Lot A0194631		(Purchased Reagent)		2-Butanone (MEK)	12500 ug/mL

Lab Name: Eurofins Denver Job No.: 280-185814-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							2-Hexanone	12500 ug/mL
							4-Methyl-2-pentanone (MIBK)	12500 ug/mL
							Acetone	12500 ug/mL
.MV-569724.sec_00037	11/30/24		RESTEK, Lot A0197959		(Purchased Reagent)		Vinyl acetate	5000 ug/mL
.MV-569727.sec_00013	03/31/26		RESTEK, Lot A0195344		(Purchased Reagent)		Cyclohexanone	25000 ug/mL
.MV-571992.sec_00010	08/31/25		RESTEK, Lot A0195252		(Purchased Reagent)		1,1,1-Trichloroethane	2500 ug/mL
							1,1,2,2-Tetrachloroethane	2500 ug/mL
							1,1,2-Trichloroethane	2500 ug/mL
							1,1-Dichloroethane	2500 ug/mL
							1,1-Dichloroethylene	2500 ug/mL
							1,1-Dichloropropene	2500 ug/mL
							1,2,3-Trichlorobenzene	2500 ug/mL
							1,2,3-Trichloropropane	2500 ug/mL
							1,2,4-Trichlorobenzene	2500 ug/mL
							1,2,4-Trimethylbenzene	2500 ug/mL
							1,2-Dibromo-3-Chloropropane	2500 ug/mL
							1,2-Dibromoethane	2500 ug/mL
							1,2-Dichlorobenzene	2500 ug/mL
							1,2-Dichloroethane	2500 ug/mL
							1,2-Dichloropropane	2500 ug/mL
							1,3,5-Trimethylbenzene	2500 ug/mL
							1,3-Dichlorobenzene	2500 ug/mL
							1,3-Dichloropropane	2500 ug/mL
							1,4-Dichlorobenzene	2500 ug/mL
							2,2-Dichloropropane	2500 ug/mL
							4-Isopropyltoluene	2500 ug/mL
							Acrylonitrile	25000 ug/mL
							Benzene	2500 ug/mL
							Bromobenzene	2500 ug/mL
							Bromochloromethane	2500 ug/mL
							Bromodichloromethane	2500 ug/mL
							Bromoform	2500 ug/mL
							Carbon disulfide	2500 ug/mL
							Carbon tetrachloride	2500 ug/mL
							Chlorobenzene	2500 ug/mL
							Chloroform	2500 ug/mL
							cis-1,2-Dichloroethylene	2500 ug/mL
							cis-1,3-Dichloropropene	2500 ug/mL
							Cyclohexane	2500 ug/mL
							Dibromochloromethane	2500 ug/mL
							Dibromomethane	2500 ug/mL
							Ethylbenzene	2500 ug/mL
							Hexachlorobutadiene	2500 ug/mL
							Isopropylbenzene	2500 ug/mL
							Methyl tert-butyl ether	2500 ug/mL
							Methylcyclohexane	2500 ug/mL
							Methylene Chloride	2500 ug/mL

Lab Name: Eurofins Denver Job No.: 280-185814-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							n-Butylbenzene	2500 ug/mL
							n-Hexane	2500 ug/mL
							N-Propylbenzene	2500 ug/mL
							Naphthalene	2500 ug/mL
							o-Chlorotoluene	2500 ug/mL
							p-Chlorotoluene	2500 ug/mL
							sec-Butylbenzene	2500 ug/mL
							Styrene	2500 ug/mL
							tert-Butylbenzene	2500 ug/mL
							Tetrachloroethene	2500 ug/mL
							Toluene	2500 ug/mL
							trans-1,2-Dichloroethylene	2500 ug/mL
							trans-1,3-Dichloropropene	2500 ug/mL
							Trichloroethene	2500 ug/mL
							Xylenes, Total	5000 ug/mL
MV-MegaMainA_00100	01/11/24	12/06/23	P&T Methanol, Lot 181124	25 mL	MV-568720_00046	1250 uL	Acrolein	987.5 ug/mL
					MV-569721_00015	800 uL	2-Butanone (MEK)	400 ug/mL
							2-Hexanone	400 ug/mL
							4-Methyl-2-pentanone (MIBK)	400 ug/mL
							Acetone	400 ug/mL
					MV-569724_00037	1000 uL	Vinyl acetate	200 ug/mL
					MV-569727_00024	3000 uL	Cyclohexanone	3000 ug/mL
					MV-571992_00015	1000 uL	1,1,1,2-Tetrachloroethane	100 ug/mL
							1,1,1-Trichloroethane	100 ug/mL
							1,1,2,2-Tetrachloroethane	100 ug/mL
							1,1,2-Trichloro-1,2,2-trifluoroethane	100 ug/mL
							1,1,2-Trichloroethane	100 ug/mL
							1,1-Dichloroethane	100 ug/mL
							1,1-Dichloroethylene	100 ug/mL
							1,1-Dichloropropene	100 ug/mL
							1,2,3-Trichlorobenzene	100 ug/mL
							1,2,3-Trichloropropane	100 ug/mL
							1,2,4-Trichlorobenzene	100 ug/mL
							1,2,4-Trimethylbenzene	100 ug/mL
							1,2-Dibromo-3-Chloropropane	100 ug/mL
							1,2-Dibromoethane	100 ug/mL
							1,2-Dichlorobenzene	100 ug/mL
							1,2-Dichloroethane	100 ug/mL
							1,2-Dichloropropane	100 ug/mL
							1,3,5-Trimethylbenzene	100 ug/mL
							1,3-Dichlorobenzene	100 ug/mL
							1,3-Dichloropropane	100 ug/mL
							1,4-Dichlorobenzene	100 ug/mL
							1,4-Dioxane	2000 ug/mL
							2,2-Dichloropropane	100 ug/mL

Lab Name: Eurofins Denver Job No.: 280-185814-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							2-Methyl-2-propanol	1000 ug/mL
							3-Chloro-1-propene	100 ug/mL
							4-Isopropyltoluene	100 ug/mL
							Acrylonitrile	1000 ug/mL
							Benzene	100 ug/mL
							Bromobenzene	100 ug/mL
							Bromochloromethane	100 ug/mL
							Bromodichloromethane	100 ug/mL
							Bromoform	100 ug/mL
							Carbon disulfide	100 ug/mL
							Carbon tetrachloride	100 ug/mL
							Chlorobenzene	100 ug/mL
							Chloroform	100 ug/mL
							cis-1,2-Dichloroethylene	100 ug/mL
							cis-1,3-Dichloropropene	100 ug/mL
							Cyclohexane	100 ug/mL
							Dibromochloromethane	100 ug/mL
							Dibromomethane	100 ug/mL
							Ethyl ether	100 ug/mL
							Ethyl methacrylate	100 ug/mL
							Ethylbenzene	100 ug/mL
							Hexachlorobutadiene	100 ug/mL
							Iodomethane	100 ug/mL
							Isobutyl alcohol	2500 ug/mL
							Isopropylbenzene	100 ug/mL
							m-Xylene & p-Xylene	100 ug/mL
							Methyl acetate	200 ug/mL
							Methyl tert-butyl ether	100 ug/mL
							Methylcyclohexane	100 ug/mL
							Methylene Chloride	100 ug/mL
							n-Butylbenzene	100 ug/mL
							n-Heptane	100 ug/mL
							n-Hexane	100 ug/mL
							N-Propylbenzene	100 ug/mL
							Naphthalene	100 ug/mL
							o-Chlorotoluene	100 ug/mL
							o-Xylene	100 ug/mL
							p-Chlorotoluene	100 ug/mL
							sec-Butylbenzene	100 ug/mL
							Styrene	100 ug/mL
							tert-Butylbenzene	100 ug/mL
							Tetrachloroethene	100 ug/mL
							Tetrahydrofuran	200 ug/mL
							Toluene	100 ug/mL
							trans-1,2-Dichloroethylene	100 ug/mL
							trans-1,3-Dichloropropene	100 ug/mL
							trans-1,4-Dichloro-2-butene	100 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins Denver Job No.: 280-185814-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Trichloroethene	100 ug/mL
					MV-CUS17739.s_00011	2000 uL	1-Chlorohexane	80 ug/mL
							2-Pentanone	320 ug/mL
							sec-Butyl Alcohol	2400 ug/mL
.MV-568720_00046	07/31/24		RESTEK, Lot A0193730		(Purchased Reagent)		Acrolein	19750 ug/mL
.MV-569721_00015	01/31/26		RESTEK, Lot A0193494		(Purchased Reagent)		2-Butanone (MEK)	12500 ug/mL
							2-Hexanone	12500 ug/mL
							4-Methyl-2-pentanone (MIBK)	12500 ug/mL
							Acetone	12500 ug/mL
.MV-569724_00037	01/31/25		RESTEK, Lot A0200199		(Purchased Reagent)		Vinyl acetate	5000 ug/mL
.MV-569727_00024	04/30/26		RESTEK, Lot A0197009		(Purchased Reagent)		Cyclohexanone	25000 ug/mL
.MV-571992_00015	09/30/24		RESTEK, Lot A0183568		(Purchased Reagent)		1,1,1,2-Tetrachloroethane	2500 ug/mL
							1,1,1-Trichloroethane	2500 ug/mL
							1,1,2,2-Tetrachloroethane	2500 ug/mL
							1,1,2-Trichloro-1,2,2-trifluoroethane	2500 ug/mL
							1,1,2-Trichloroethane	2500 ug/mL
							1,1-Dichloroethane	2500 ug/mL
							1,1-Dichloroethylene	2500 ug/mL
							1,1-Dichloropropene	2500 ug/mL
							1,2,3-Trichlorobenzene	2500 ug/mL
							1,2,3-Trichloropropane	2500 ug/mL
							1,2,4-Trichlorobenzene	2500 ug/mL
							1,2,4-Trimethylbenzene	2500 ug/mL
							1,2-Dibromo-3-Chloropropane	2500 ug/mL
							1,2-Dibromoethane	2500 ug/mL
							1,2-Dichlorobenzene	2500 ug/mL
							1,2-Dichloroethane	2500 ug/mL
							1,2-Dichloropropane	2500 ug/mL
							1,3,5-Trimethylbenzene	2500 ug/mL
							1,3-Dichlorobenzene	2500 ug/mL
							1,3-Dichloropropane	2500 ug/mL
							1,4-Dichlorobenzene	2500 ug/mL
							1,4-Dioxane	50000 ug/mL
							2,2-Dichloropropane	2500 ug/mL
							2-Methyl-2-propanol	25000 ug/mL
							3-Chloro-1-propene	2500 ug/mL
							4-Isopropyltoluene	2500 ug/mL
							Acrylonitrile	25000 ug/mL
							Benzene	2500 ug/mL
							Bromobenzene	2500 ug/mL
							Bromochloromethane	2500 ug/mL
							Bromodichloromethane	2500 ug/mL
							Bromoform	2500 ug/mL
							Carbon disulfide	2500 ug/mL
							Carbon tetrachloride	2500 ug/mL
							Chlorobenzene	2500 ug/mL
							Chloroform	2500 ug/mL

Lab Name: Eurofins Denver Job No.: 280-185814-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							cis-1,2-Dichloroethylene	2500 ug/mL
							cis-1,3-Dichloropropene	2500 ug/mL
							Cyclohexane	2500 ug/mL
							Dibromochloromethane	2500 ug/mL
							Dibromomethane	2500 ug/mL
							Ethyl ether	2500 ug/mL
							Ethyl methacrylate	2500 ug/mL
							Ethylbenzene	2500 ug/mL
							Hexachlorobutadiene	2500 ug/mL
							Iodomethane	2500 ug/mL
							Isobutyl alcohol	62500 ug/mL
							Isopropylbenzene	2500 ug/mL
							m-Xylene & p-Xylene	2500 ug/mL
							Methyl acetate	5000 ug/mL
							Methyl tert-butyl ether	2500 ug/mL
							Methylcyclohexane	2500 ug/mL
							Methylene Chloride	2500 ug/mL
							n-Butylbenzene	2500 ug/mL
							n-Heptane	2500 ug/mL
							n-Hexane	2500 ug/mL
							N-Propylbenzene	2500 ug/mL
							Naphthalene	2500 ug/mL
							o-Chlorotoluene	2500 ug/mL
							o-Xylene	2500 ug/mL
							p-Chlorotoluene	2500 ug/mL
							sec-Butylbenzene	2500 ug/mL
							Styrene	2500 ug/mL
							tert-Butylbenzene	2500 ug/mL
							Tetrachloroethene	2500 ug/mL
							Tetrahydrofuran	5000 ug/mL
							Toluene	2500 ug/mL
							trans-1,2-Dichloroethylene	2500 ug/mL
							trans-1,3-Dichloropropene	2500 ug/mL
							trans-1,4-Dichloro-2-butene	2500 ug/mL
							Trichloroethene	2500 ug/mL
.MV-CUS17739.s_00011	05/31/24	Agilent, Lot 6676357.sec			(Purchased Reagent)		1-Chlorohexane	1000 ug/mL
							2-Pentanone	4000 ug/mL
							sec-Butyl Alcohol	30000 ug/mL
MV-MegaMainA_00100	01/11/24	12/06/23	P&T Methanol, Lot 181124	25 mL	MV-571992_00015	1000 uL	Xylenes, Total	200 ug/mL
.MV-571992_00015	09/30/24	RESTEK, Lot A0183568			(Purchased Reagent)		Xylenes, Total	5000 ug/mL
MV-Supp A_00087	01/31/24	11/30/23	P&T Methanol, Lot 199628	20 mL	mv-570808_00016	400 uL	1,2,3-Trimethylbenzene	50 ug/mL
							1,3,5-Trichlorobenzene	50 ug/mL
							2-Chloro-1,3-butadiene	50 ug/mL
							2-Nitropropane	100 ug/mL
							Isopropyl alcohol	500 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins Denver Job No.: 280-185814-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Methacrylonitrile	500 ug/mL
							n-Butanol	1250 ug/mL
					mv-570809_00014	400 uL	Ethyl acetate	100 ug/mL
							Methyl methacrylate	100 ug/mL
					mv-571993_00010	400 uL	Acetonitrile	500 ug/mL
							Isopropyl ether	50 ug/mL
							Propionitrile	500 ug/mL
							Tert-amyl methyl ether	50 ug/mL
							Tert-butyl ethyl ether	50 ug/mL
					mv-571994_00009	600 uL	Ethanol	3000 ug/mL
					Z-020209-01_00004	2000 uL	cis-1,4-Dichloro-2-butene	100 ug/mL
.mv-570808_00016	09/30/24		Restek, Lot A0195733		(Purchased Reagent)		1,2,3-Trimethylbenzene	2500 ug/mL
							1,3,5-Trichlorobenzene	2500 ug/mL
							2-Chloro-1,3-butadiene	2500 ug/mL
							2-Nitropropane	5000 ug/mL
							Isopropyl alcohol	25000 ug/mL
							Methacrylonitrile	25000 ug/mL
							n-Butanol	62500 ug/mL
.mv-570809_00014	01/31/25		Restek, Lot A0200274		(Purchased Reagent)		Ethyl acetate	5000 ug/mL
							Methyl methacrylate	5000 ug/mL
.mv-571993_00010	02/28/25		RESTEK, Lot A0194786		(Purchased Reagent)		Acetonitrile	25000 ug/mL
							Isopropyl ether	2500 ug/mL
							Propionitrile	25000 ug/mL
							Tert-amyl methyl ether	2500 ug/mL
							Tert-butyl ethyl ether	2500 ug/mL
.mv-571994_00009	07/31/25		RESTEK, Lot A0187957		(Purchased Reagent)		Ethanol	100000 ug/mL
.Z-020209-01_00004	08/15/25		CPI, Lot 507909		(Purchased Reagent)		cis-1,4-Dichloro-2-butene	1000 ug/mL
MV-Supp B_00068	01/08/24	11/30/23	P&T Methanol, Lot 127999	20 mL	mv-570808.sec_00009	400 uL	1,2,3-Trimethylbenzene	50 ug/mL
					mv-571993.sec_00008	400 uL	Isopropyl ether	50 ug/mL
.mv-570808.sec_00009	07/31/24		Restek, Lot A0193865		(Purchased Reagent)		1,2,3-Trimethylbenzene	2500 ug/mL
.mv-571993.sec_00008	09/30/24		RESTEK, Lot A0189867		(Purchased Reagent)		Isopropyl ether	2500 ug/mL
NXN CAL INT_00699	01/03/24	12/27/23	Di Water, Lot NA	100 mL	NOXT Cal STD_00028	10 mL	Nitrate Nitrite as N	100 mg/L
.NOXT Cal STD_00028	10/30/24		RICCA, Lot 1304R00		(Purchased Reagent)		Nitrate Nitrite as N	1000 mg/L
NXN ICV INT_00676	01/03/24	12/27/23	Di Water, Lot NA	100 mL	NOXT ICV STD_00032	10 mL	Nitrate Nitrite as N	100 mg/L
.NOXT ICV STD_00032	08/30/24		RICCA, Lot 2302K34		(Purchased Reagent)		Nitrate Nitrite as N	1000 mg/L

Reagent

1000 Ag_00018

CPI INTERNATIONAL

7396303
ID: 1000 Ag_00018
Exp:03/27/24 Prpd:LRD Opn:10/06/22
1000 Ag CPI

CERTIFICATE OF ANALYSIS

Single-Element Aqueous CRM

Product #: TA-1000511

SE Std Silver (Ag) – 1000 µg/mL

Product Lot #: 1211976-35

Matrix: 5% HNO_3

Source Material Lot #: X24E070

Element	Certified Concentration & Uncertainty
Ag	1006 ± 2 µg/mL (w/v)
	999.0 ± 2.0 µg/g (w/w)

Intended Use: This solution is intended for use as a certified reference material (CRM) or calibration standard for inductively coupled plasma optical emission spectroscopy (ICP-OES), inductively coupled plasma mass spectrometry (ICP-MS), flame or furnace atomic absorption spectroscopy (AA or GFAA), and other techniques for elemental analysis.

Certification & Traceability: This CRM was manufactured, processed, and/or certified under a quality management system that is registered/accredited to **ISO 9001**, **ISO 17034**, and **ISO/IEC 17025**. This CRM was prepared to a nominal concentration of 1000 µg/mL by gravimetric methods using 99.999% pure silver (Ag) dissolved in high purity nitric acid (HNO_3) and diluted with filtered (0.22 µm), 18 M-ohm deionized water. The balances used in the preparation of this CRM are calibrated regularly with traceability to NIST, using a calibration provider that is accredited to ISO/IEC 17025 by a mutually recognized accreditation body. All volumetric dilutions are performed in Class A calibrated glassware. The certified concentration and uncertainty were determined using the "High Performance ICP-OES" protocol developed by NIST, and both the certified concentration and uncertainty values are traceable to **NIST SRM 3151, lot #160729**. The uncertainty associated with the certified concentration represents the expanded uncertainty at the 95% confidence level using a coverage factor of k=2.

Indicative Values: ICP-MS was used to determine trace metal concentrations for this product (nd = not determined).

Trace Concentrations (µg/L)

Ag	MAJOR	Co	<1	Ge	<0.5	Lu	<0.2	P	<100	Sb	<0.5	Te	<1
Al	<2	Cs	<0.5	Hf	<0.2	Mg	<5	Pb	<1	Sc	<5	Ti	<2
As	<2	Cr	<0.5	Hg	<0.5	Mn	<1	Pd	<0.5	Se	<2	Tl	<0.5
Au	<0.5	Cu	<1	Ho	<0.2	Mo	<0.5	Pr	<0.2	Si	<100	Tm	<0.2
B	<5	Dy	<0.2	In	nd	Na	<25	Pt	<0.5	Sm	<0.2	V	<1
Ba	<1	Er	<0.2	Ir	<0.2	Nb	<0.5	Rb	<0.5	Sn	<0.5	W	<0.5
Bi	0.6	Eu	<0.2	K	<25	Nd	<0.2	Re	<0.2	Sr	<1	Y	<0.5
Ca	<25	Fe	<10	La	<0.5	Ni	<2	Rh	<0.5	Ta	<0.5	Yb	<0.2
Cd	0.6	Ga	<0.5	Li	<2	Os	<0.5	Ru	<0.5	Tb	<0.5	Zn	<2
Ce	<0.2	Gd	<0.2										

Instructions for Use: We recommend that the solution be thoroughly mixed by repeated shaking or swirling of the bottle immediately prior to use. To achieve the highest accuracy, the analyst should: (1) use only pre-cleaned containers and transferware, (2) not pipette directly from the CRM's original container, (3) never pour used product back into the original container, (4) make dilutions using calibrated balances or certified class A volumetric flasks and pipettes, (5) use a minimum sub-sample size of 500 µL, and (6) dilute with the same matrix as the original CRM or other chemically suitable matrix. The solution should be kept tightly capped and stored under normal laboratory conditions. Do not freeze, heat, or immerse the bottle or its contents, and avoid exposure to direct sunlight or moisture.

Period of Validity: CPI International ensures the accuracy of this solution for **18 months** from the certification date shown below, provided the instructions for use are followed. During the period of validity, the purchaser will be notified if this product is recalled due to any significant changes in the stability of the solution.

Chuck Goudreau

Chuck Goudreau, Certifying Officer

September 27, 2022
Certification Date

CPI International waives all responsibility for any damages resulting from the usage and/or implementation of the products/data described herein.

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1013BG Amsterdam F: +31 20 420 28 36
The Netherlands

Health and Safety Information: Refer to the Safety Data Sheet (SDS).

Homogeneity: This solution was determined to be homogeneous by procedures consistent with the requirements of ISO 17034 and ISO Guide 35. Replicate samples of the finished solution were analyzed to confirm its homogeneity, in accordance with internal procedures for the assessment of homogeneity and stability. To ensure homogeneity, users should not take a smaller sub-sample than specified in the Instructions for Use, as doing so will invalidate the certified values and uncertainties.

Further Information: Please contact CPI International for further information about this material.

Quality Certifications: This material was prepared under a quality management system that is registered/accredited to the following:

- ISO 17034 Accredited: Reference Materials Producer, A2LA Certificate No. 2848.02 – General Requirements for the Competence of Reference Material Producers
    - ISO 17034 references additional requirements specified in ISO Guide 31 and ISO Guide 35
- ISO/IEC 17025 Accredited: Chemical Testing, A2LA Certificate No. 2848.01 – General Requirements for the Competence of Testing and Calibration Laboratories
- ISO 9001 Certified: Quality Management Systems, Certificate Registration No. 56 100 19560101 – Requirements *(Registrar: TUV NORD)*

Reagent

1000 Sr_00017

CERTIFICATE OF ANALYSIS

Single-Element Aqueous CRM

Product #: TA-1000531

SE Std Strontium (Sr) – 1000 µg/mL

Lot #: 1194650-27

Matrix: 5% HNO_3

Source Material Lot #: SRZ082018A1/SRE082017A2

Element	Certified Concentration & Uncertainty
Sr	997.0 ± 6.0 µg/mL (w/v)
	992.0 ± 6.0 µg/g (w/w)

Intended Use: This solution is intended for use as a certified reference material (CRM) or calibration standard for inductively coupled plasma optical emission spectroscopy (ICP-OES), inductively coupled plasma mass spectrometry (ICP-MS), flame or furnace atomic absorption spectroscopy (AA or GFAA), and other techniques for elemental analysis.

Certification & Traceability: This CRM was manufactured, processed, and/or certified under a quality management system that is registered/accredited to **ISO 9001**, **ISO 17034**, and **ISO/IEC 17025**. This CRM was prepared to a nominal concentration of 1000 µg/mL by gravimetric methods using 99.9965% pure strontium nitrate [$Sr(NO_3)_2$] dissolved in high purity nitric acid (HNO_3) and diluted with filtered (0.22 µm), 18 M-ohm deionized water. The balances used in the preparation of this CRM are calibrated regularly with traceability to NIST, using a calibration provider that is accredited to ISO/IEC 17025 by a mutually recognized accreditation body. All volumetric dilutions are performed in Class A calibrated glassware. The certified concentration and uncertainty were determined using the "High Performance ICP-OES" protocol developed by NIST, and both the certified concentration and uncertainty values are traceable to **NIST SRM 3153a, lot #990906**. The uncertainty associated with the certified concentration represents the expanded uncertainty at the 95% confidence level using a coverage factor of k=2.

Indicative Values: ICP-MS was used to determine trace metal concentrations for this product (nd = not determined).

Trace Concentrations (µg/L)

Ag	<0.5	Co	<1	Ge	<0.5	Lu	<0.2	P	<100	Sb	<0.5	Te	<1
Al	<2	Cs	<0.5	Hf	<0.2	Mg	<5	Pb	<1	Sc	<5	Ti	<2
As	<2	Cr	<0.5	Hg	<0.5	Mn	<1	Pd	<0.5	Se	<2	Tl	<0.5
Au	<0.5	Cu	<1	Ho	<0.2	Mo	<0.5	Pr	<0.2	Si	<100	Tm	<0.2
B	<5	Dy	<0.2	In	nd	Na	<25	Pt	<0.5	Sm	<0.2	V	<1
Ba	64	Er	<0.2	Ir	<0.2	Nb	<0.5	Rb	<0.5	Sn	<0.5	W	<0.5
Bi	<0.2	Eu	<0.2	K	<25	Nd	<0.2	Re	<0.2	Sr	MAJOR	Y	1
Ca	277	Fe	<10	La	<0.5	Ni	<2	Rh	0.8	Ta	<0.5	Yb	<0.2
Cd	<0.5	Ga	<0.5	Li	<2	Os	<0.5	Ru	<0.5	Tb	<0.5	Zn	4
Ce	0.4	Gd	<0.2										

Instructions for Use: We recommend that the solution be thoroughly mixed by repeated shaking or swirling of the bottle immediately prior to use. To achieve the highest accuracy, the analyst should: (1) use only pre-cleaned containers and transferware, (2) not pipette directly from the CRM's original container, (3) never pour used product back into the original container, (4) make dilutions using calibrated balances or certified class A volumetric flasks and pipettes, (5) use a minimum sub-sample size of 500 µL, and (6) dilute with the same matrix as the original CRM or other chemically suitable matrix. The solution should be kept tightly capped and stored under normal laboratory conditions. Do not freeze, heat, or immerse the bottle or its contents, and avoid exposure to direct sunlight or moisture.

Period of Validity: CPI International ensures the accuracy of this solution for **18 months** from the certification date shown below, provided the instructions for use are followed. During the period of validity, the purchaser will be notified if this product is recalled due to any significant changes in the stability of the solution.

Chuck Goudreau, Certifying Officer

January 13, 2023
Certification Date

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The Netherlands

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Health and Safety Information: Refer to the Safety Data Sheet (SDS).

Homogeneity: This solution was determined to be homogeneous by procedures consistent with the requirements of ISO 17034 and ISO Guide 35. Replicate samples of the finished solution were analyzed to confirm its homogeneity, in accordance with internal procedures for the assessment of homogeneity and stability. To ensure homogeneity, users should not take a smaller sub-sample than specified in the Instructions for Use, as doing so will invalidate the certified values and uncertainties.

Further Information: Please contact CPI International for further information about this material.

Quality Certifications: This material was prepared under a quality management system that is registered/accredited to the following:

- ISO 17034 Accredited: Reference Materials Producer, Certificate No. 2848.02 – General Requirements for the Competence of Reference Material Producers
    - ISO 17034 references additional requirements specified in ISO Guide 31 and ISO Guide 35
- ISO/IEC 17025 Accredited: Chemical Testing, Certificate No. 2848.01 – General Requirements for the Competence of Testing and Calibration Laboratories
- ISO 9001 Certified: Quality Management Systems, Certificate Registration No. 56 100 19560101 – Requirements *(Registrar: TUV NORD)*

This CRM is traceable to the following NIST SRMs:

Analyte	Aq. SRM	MO SRM	Analyte	Aq. SRM	MO SRM	Analyte	Aq. SRM	MO SRM
Ag	3151	-	Hf	3122	-	S	3154	2770
Al	3101a	-	Hg	3133	3133	Sb	3102a	3102a
As	3103a	3103a	Ho	3123a	-	Sc	3148a	3148a
Au	3121	-	In	3124a	3124a	Se	3149	3149
B	3107	3107	K	3141a	3141a	Si	3150	-
Ba	3104a	-	La	3127a	3127a	Sm	3147a	-
Be	3105a	3105a	Li	3129a	3129a	Sn	3161a	-
Bi	3106	3106	Lu	3130a	-	SO_4^{-2}	3181	-
Br	3184	-	Mg	3131a	3131a	Sr	3153a	3153a
Ca	3109a	3109a	Mn	3132	3132	Ta	3155	-
Cd	3108	-	Mo	3134	3134	Tb	3157a	-
Ce	3110	3110	Na	3152a	-	Te	3156	-
Cl	3182	1818a	Nb	3137	-	Th	-	-
Co	3113	3113	Nd	3135a	-	Ti	3162a	3162a
Cr	3112a	-	Ni	3136	-	Tl	3158	3158
Cs	3111a	-	NO_3^-	3185	-	Tm	3160a	-
Cu	3114	-	P	3139a	3139a	U	3164	-
Dy	3115a	-	Pb	3128	-	V	3165	-
Er	3116a	-	Pd	3138	-	W	3163	3163
Eu	3117a	-	PO_4^{-3}	3186	-	Y	3167a	3167a
F-	3183	-	Pr	3142a	-	Yb	3166a	-
Fe	3126a	-	Pt	3140	3140	Zn	3168a	3168a
Ga	3119a	-	Rb	3145a	-	Zr	3169	3169
Gd	3118a	-	Re	3143	-			
Ge	3120a	-	Rh	3144	3144			

Reagent

1000 u_00046

CPI INTERNATIONAL

7676362
ID: 1000 U_00046
Exp:07/13/24 Prpd:LMT Opn:04/11/23
1000 U CPI

CERTIFICATE OF ANALYSIS

Single-Element Aqueous CRM

SE Std Uranium (U) – 1000 µg/mL

Matrix: 5% HNO_3

Product #: TA-1000641

Product Lot #: 1249254-2

Source Material Lot #: 12030222-100

Element	Certified Concentration & Uncertainty
U	995.0 ± 5.0 µg/mL (w/v)
	990.0 ± 5.0 µg/g (w/w)

Intended Use: This solution is intended for use as a certified reference material (CRM) or calibration standard for inductively coupled plasma optical emission spectroscopy (ICP-OES), inductively coupled plasma mass spectrometry (ICP-MS), flame or furnace atomic absorption spectroscopy (AA or GFAA), and other techniques for elemental analysis.

Certification & Traceability: This CRM was manufactured, processed, and/or certified under a quality management system that is registered/accredited to **ISO 9001**, **ISO 17034**, and **ISO/IEC 17025**. This CRM was prepared to a nominal concentration of 1000 µg/mL by gravimetric methods using 99.99% pure uranyl nitrate hexahydrate [$UO_2(NO_3)_2{\cdot}6H_2O$] dissolved in high purity nitric acid (HNO_3) and diluted with filtered (0.22 µm), 18 M-ohm deionized water. The balances used in the preparation of this CRM are calibrated regularly with traceability to NIST, using a calibration provider that is accredited to ISO/IEC 17025 by a mutually recognized accreditation body. All volumetric dilutions are performed in Class A calibrated glassware. The certified concentration and uncertainty were determined using the "High Performance ICP-OES" protocol developed by NIST, and both the certified concentration and uncertainty values are traceable to **NIST SRM 3164, lot #080521**. The uncertainty associated with the certified concentration represents the expanded uncertainty at the 95% confidence level using a coverage factor of k=2.

Indicative Values: ICP-MS was used to determine trace metal concentrations for this product (nd = not determined).

Trace Concentrations (µg/L)

Ag	<0.5	Co	<1	Ge	<0.5	Lu	<0.2	P	<100	Sb	<0.5	Te	<1
Al	<2	Cs	<0.5	Hf	<0.2	Mg	<5	Pb	<1	Sc	<5	Ti	<2
As	<2	Cr	4	Hg	<0.5	Mn	<1	Pd	<0.5	Se	<2	Tl	<0.5
Au	<0.5	Cu	<1	Ho	<0.2	Mo	<0.5	Pr	<0.2	Si	<100	Tm	<0.2
B	<5	Dy	<0.2	In	nd	Na	<25	Pt	<0.5	Sm	<0.2	V	<1
Ba	<1	Er	<0.2	Ir	<0.2	Nb	<0.5	Rb	<0.5	Sn	<0.5	W	<0.5
Bi	<0.2	Eu	<0.2	K	<25	Nd	<0.2	Re	<0.2	Sr	<1	Y	<0.5
Ca	<25	Fe	<10	La	<0.5	Ni	3	Rh	<0.5	Ta	<0.5	Yb	<0.2
Cd	<0.5	Ga	<0.5	Li	<2	Os	<0.5	Ru	<0.5	Tb	<0.5	Zn	<2
Ce	<0.2	Gd	<0.2										

Instructions for Use: We recommend that the solution be thoroughly mixed by repeated shaking or swirling of the bottle immediately prior to use. To achieve the highest accuracy, the analyst should: (1) use only pre-cleaned containers and transferware, (2) not pipette directly from the CRM's original container, (3) never pour used product back into the original container, (4) make dilutions using calibrated balances or certified class A volumetric flasks and pipettes, (5) use a minimum sub-sample size of 500 µL, and (6) dilute with the same matrix as the original CRM or other chemically suitable matrix. The solution should be kept tightly capped and stored under normal laboratory conditions. Do not freeze, heat, or immerse the bottle or its contents, and avoid exposure to direct sunlight or moisture.

Period of Validity: CPI International ensures the accuracy of this solution for **18 months** from the certification date shown below, provided the instructions for use are followed. During the period of validity, the purchaser will be notified if this product is recalled due to any significant changes in the stability of the solution.

Chuck Goudreau

Chuck Goudreau, Certifying Officer

January 13, 2023
Certification Date

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Health and Safety Information: Refer to the Safety Data Sheet (SDS).

Homogeneity: This solution was determined to be homogeneous by procedures consistent with the requirements of ISO 17034 and ISO Guide 35. Replicate samples of the finished solution were analyzed to confirm its homogeneity, in accordance with internal procedures for the assessment of homogeneity and stability. To ensure homogeneity, users should not take a smaller sub-sample than specified in the Instructions for Use, as doing so will invalidate the certified values and uncertainties.

Further Information: Please contact CPI International for further information about this material.

Quality Certifications: This material was prepared under a quality management system that is registered/accredited to the following:

- ISO 17034 Accredited: Reference Materials Producer, A2LA Certificate No. 2848.02 – General Requirements for the Competence of Reference Material Producers
    - ISO 17034 references additional requirements specified in ISO Guide 31 and ISO Guide 35
- ISO/IEC 17025 Accredited: Chemical Testing, A2LA Certificate No. 2848.01 – General Requirements for the Competence of Testing and Calibration Laboratories
- ISO 9001 Certified: Quality Management Systems, Certificate Registration No. 56 100 19560101 – Requirements *(Registrar: TUV NORD)*

Reagent

1000 Zn_00031

logged in 9/20/23
logged in tracker
7951016
COA attached

CPI INTERNATIONAL

CERTIFICATE OF ANALYSIS

Single-Element Aqueous CRM

SE Std Zinc (Zn) – 1000 µg/mL

Matrix: 5% HNO_3

7951016
ID: 1000 Zn_00031
Exp: 03/05/26 Prpd:
1000 Zn CPI

Product #: TA-1000681

Lot #: 1390097

Source Material Lot #: Y28D045

*Expiration Date: 5 March 2026

Element	Certified Concentration & Uncertainty
Zn	998.0 ± 5.0 µg/mL (w/v)
	986.0 ± 5.0 µg/g (w/w)

Intended Use: This solution is intended for use as a certified reference material (CRM) or calibration standard for inductively coupled plasma optical emission spectroscopy (ICP-OES), inductively coupled plasma mass spectrometry (ICP-MS), flame or furnace atomic absorption spectroscopy (AA or GFAA), and other techniques for elemental analysis.

Certification & Traceability: This CRM was manufactured, processed, and/or certified under a quality management system that is registered/accredited to **ISO 9001**, **ISO 17034**, and **ISO/IEC 17025**. This CRM was prepared to a nominal concentration of 1000 µg/mL by gravimetric methods using 99.9999% pure zinc (Zn) dissolved in high purity nitric acid (HNO_3) and diluted with filtered (0.22 µm), 18 M-ohm deionized water. The balances used in the preparation of this CRM are calibrated regularly with traceability to NIST, using a calibration provider that is accredited to ISO/IEC 17025 by a mutually recognized accreditation body. All volumetric dilutions are performed in Class A calibrated glassware. The certified concentration and uncertainty were determined using the "High Performance ICP-OES" protocol developed by NIST, and both the certified concentration and uncertainty values are traceable to **NIST SRM 3168a**, **lot #120629**. The uncertainty associated with the certified concentration represents the expanded uncertainty at the 95% confidence level using a coverage factor of k=2.

Indicative Values: ICP-MS was used to determine trace metal concentrations for this product (nd = not determined).

Trace Concentrations (µg/L)

Ag	<0.5	Co	<1	Ge	<0.5	Lu	<0.2	P	<100	Sb	<0.5	Te	<1
Al	<2	Cs	<0.5	Hf	<0.2	Mg	<5	Pb	<1	Sc	<5	Ti	<2
As	<2	Cr	<0.5	Hg	<0.5	Mn	<1	Pd	<0.5	Se	<2	Tl	<0.5
Au	<0.5	Cu	<1	Ho	<0.2	Mo	<0.5	Pr	<0.2	Si	<100	Tm	<0.2
B	<5	Dy	<0.2	In	nd	Na	<25	Pt	<0.5	Sm	<0.2	V	<1
Ba	<1	Er	<0.2	Ir	<0.2	Nb	<0.5	Rb	<0.5	Sn	<0.5	W	<0.5
Bi	<0.2	Eu	<0.2	K	<25	Nd	<0.2	Re	<0.2	Sr	<1	Y	<0.5
Ca	<25	Fe	<10	La	<0.5	Ni	<2	Rh	<0.5	Ta	<0.5	Yb	<0.2
Cd	<0.5	Ga	<0.5	Li	<2	Os	<0.5	Ru	<0.5	Tb	<0.5	Zn	MAJOR
Ce	<0.2	Gd	<0.2										

Instructions for Use: We recommend that the solution be thoroughly mixed by repeated shaking or swirling of the bottle immediately prior to use. To achieve the highest accuracy, the analyst should: (1) use only pre-cleaned containers and transferware, (2) not pipette directly from the CRM's original container, (3) never pour used product back into the original container, (4) make dilutions using calibrated balances or certified class A volumetric flasks and pipettes, (5) use a minimum sub-sample size of 500 µL, and (6) dilute with the same matrix as the original CRM or other chemically suitable matrix. The solution should be kept tightly capped and stored under normal laboratory conditions. Do not freeze, heat, or immerse the bottle or its contents, and avoid exposure to direct sunlight or moisture.

Period of Validity: CPI International ensures the accuracy of this solution until the date shown above or ***12 Months** from the date opened, provided the instructions for use are followed. During the period of validity, the purchaser will be notified if this product is recalled due to any significant changes in the stability of the solution.

Chuck Goudreau

Chuck Goudreau, Certifying Officer

21 March 2023
Certification Date

Date Opened

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The Netherlands

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Health and Safety Information: Refer to the Safety Data Sheet (SDS).

Homogeneity: This solution was determined to be homogeneous by procedures consistent with the requirements of ISO 17034 and ISO Guide 35. Replicate samples of the finished solution were analyzed to confirm its homogeneity, in accordance with internal procedures for the assessment of homogeneity and stability. To ensure homogeneity, users should not take a smaller sub-sample than specified in the Instructions for Use, as doing so will invalidate the certified values and uncertainties.

Further Information: Please contact CPI International for further information about this material.

Quality Certifications: This material was prepared under a quality management system that is registered/accredited to the following:

- ISO 17034 Accredited: Reference Materials Producer, A2LA Certificate No. 2848.02 – General Requirements for the Competence of Reference Material Producers
    - ISO 17034 references additional requirements specified in ISO Guide 31 and ISO Guide 35
- ISO/IEC 17025 Accredited: Chemical Testing, A2LA Certificate No. 2848.01 – General Requirements for the Competence of Testing and Calibration Laboratories
- ISO 9001 Certified: Quality Management Systems, Certificate Registration No. 56 100 19560101 – Requirements *(Registrar: TUV NORD)*

This CRM is traceable to the following NIST SRMs:

Analyte	Aq. SRM	MO SRM	Analyte	Aq. SRM	MO SRM	Analyte	Aq. SRM	MO SRM
Ag	3151	-	Hf	3122	-	S	3154	2770
Al	3101a	-	Hg	3133	3133	Sb	3102a	3102a
As	3103a	3103a	Ho	3123a	-	Sc	3148a	3148a
Au	3121	-	In	3124a	3124a	Se	3149	3149
B	3107	3107	K	3141a	3141a	Si	3150	-
Ba	3104a	-	La	3127a	3127a	Sm	3147a	-
Be	3105a	3105a	Li	3129a	3129a	Sn	3161a	-
Bi	3106	3106	Lu	3130a	-	SO_4^{-2}	3181	-
Br^-	3184	-	Mg	3131a	3131a	Sr	3153a	3153a
Ca	3109a	3109a	Mn	3132	3132	Ta	3155	-
Cd	3108	-	Mo	3134	3134	Tb	3157a	-
Ce	3110	3110	Na	3152a	-	Te	3156	-
Cl^-	3182	1818a	Nb	3137	-	Th	-	-
Co	3113	3113	Nd	3135a	-	Ti	3162a	3162a
Cr	3112a	-	Ni	3136	-	Tl	3158	3158
Cs	3111a	-	NO_3^-	3185	-	Tm	3160a	-
Cu	3114	-	P	3139a	3139a	U	3164	-
Dy	3115a	-	Pb	3128	-	V	3165	-
Er	3116a	-	Pd	3138	-	W	3163	3163
Eu	3117a	-	PO_4^{-3}	3186	-	Y	3167a	3167a
F^-	3183	-	Pr	3142a	-	Yb	3166a	-
Fe	3126a	-	Pt	3140	3140	Zn	3168a	3168a
Ga	3119a	-	Rb	3145a	-	Zr	3169	3169
Gd	3118a	-	Re	3143	-			
Ge	3120a	-	Rh	3144	3144			

Reagent

10000 Ca_00027

CPI INTERNATIONAL

CERTIFICATE OF ANALYSIS

Single-Element Aqueous CRM

Product #: 4400-10M91-500

Calcium (Ca) – 10,000 µg/mL

Lot #: 1268108-19

Matrix: 4% HNO_3

Element	Certified Concentration & Uncertainty
Ca	9998 ± 23 µg/mL (w/v)
	9633 ± 22 µg/g (w/w)

Intended Use: This solution is intended for use as a certified reference material (CRM) or calibration standard for inductively coupled plasma optical emission spectroscopy (ICP-OES), inductively coupled plasma mass spectrometry (ICP-MS), flame or furnace atomic absorption spectroscopy (AA or GFAA), and other techniques for elemental analysis.

Certification & Traceability: This CRM was manufactured, processed, and/or certified under a quality management system that is registered/accredited to **ISO 17034, ISO/IEC 17025 and ISO 9001**. This CRM was prepared to a nominal concentration of 10,000 µg/mL by gravimetric methods using 99.999% pure calcium carbonate ($CaCO_3$). The solution was diluted with filtered (0.22um), 18 M-ohm water and stabilized with the appropriate high-purity acid as indicated in the listed matrix. The balances used in the preparation of this CRM are calibrated regularly with traceability to NIST, using a calibration provider that is accredited to ISO/IEC 17025 by a mutually recognized accreditation body. All volumetric dilutions are performed in Class A calibrated glassware. The certified concentration and uncertainty were determined using the "High Performance ICP-OES" protocol developed by NIST, and both the certified concentration and uncertainty values are traceable to **NIST SRM 3109a, lot #130213**. The uncertainty associated with the certified concentration represents the expanded uncertainty at the 95% confidence level using a coverage factor of k=2.

Indicative Values: ICP-MS was used to determine trace metal concentrations for this product (nd = not determined).

Trace Concentrations (µg/L)

Ag	<5	Co	<10	Ge	<5	Lu	<2	P	<1000	Sb	<5	Te	<10
Al	<20	Cs	<5	Hf	<2	Mg	175	Pb	<10	Sc	<50	Tl	<20
As	<20	Cr	<5	Hg	<5	Mn	<10	Pd	<5	Se	<20	Tl	<5
Au	<5	Cu	<10	Ho	<2	Mo	<5	Pr	<2	Si	<1000	Tm	<2
B	<50	Dy	<2	In	nd	Na	<250	Pt	<5	Sm	<2	V	<10
Ba	<10	Er	<2	Ir	<2	Nb	<5	Rb	<5	Sn	<5	W	<5
Bi	<2	Eu	<2	K	<250	Nd	<2	Re	<2	Sr	234	Y	<5
Ca	MAJOR	Fe	<100	La	<5	Ni	<20	Rh	<5	Ta	<5	Yb	<2
Cd	<5	Ga	<5	Li	<20	Os	<5	Ru	<5	Tb	<5	Zn	<20
Ce	<2	Gd	<2										

Instructions for Use: We recommend that the solution be thoroughly mixed by repeated shaking or swirling of the bottle immediately prior to use. To achieve the highest accuracy, the analyst should: (1) use only pre-cleaned containers and transferware, (2) not pipette directly from the CRM's original container, (3) never pour used product back into the original container, (4) make dilutions using calibrated balances or certified class A volumetric flasks and pipettes, (5) use a minimum sub-sample size of 500 µL, and (6) dilute with the same matrix as the original CRM or other chemically suitable matrix. The solution should be kept tightly capped and stored under normal laboratory conditions. Do not freeze, heat, or immerse the bottle or its contents, and avoid exposure to direct sunlight or moisture.

Period of Validity: CPI International ensures the accuracy of this solution for **18 months** from the certification date shown below, provided the instructions for use are followed. During the period of validity, the purchaser will be notified if this product is recalled due to any significant changes in the stability of the solution.

Chuck Goudreau

Chuck Goudreau, Certifying Officer

February 28, 2023
Certification Date

CPI International waives all responsibility for any damages resulting from the usage and/or implementation of the products/data described herein.

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www.cpiinternational.com

Health and Safety Information: Refer to the Safety Data Sheet (SDS).

Homogeneity: This solution was determined to be homogeneous by procedures consistent with the requirements of ISO 17034 and ISO Guide 35. Replicate samples of the finished solution were analyzed to confirm its homogeneity, in accordance with internal procedures for the assessment of homogeneity and stability. To ensure homogeneity, users should not take a smaller sub-sample than specified in the Instructions for Use, as doing so will invalidate the certified values and uncertainties.

Further Information: Please contact CPI International for further information about this material.

Quality Certifications: This material was prepared under a quality management system that is registered/accredited to the following:

- ISO 17034 Accredited: Reference Materials Producer, A2LA Certificate No. 2848.02 – General Requirements for the Competence of Reference Material Producers
    - ISO 17034 references additional requirements specified in ISO Guide 31 and ISO Guide 35
- ISO/IEC 17025 Accredited: Chemical Testing, A2LA Certificate No. 2848.01 – General Requirements for the Competence of Testing and Calibration Laboratories
- ISO 9001 Certified: Quality Management Systems, Certificate Registration No. 56 100 19560101 – Requirements *(Registrar: TUV NORD)*

Reagent

10000 K_00018

CPI INTERNATIONAL

CERTIFICATE OF ANALYSIS

Single-Element Aqueous CRM

Product #: 4400-10M411-500

Potassium (K) – 10,000 µg/mL

Lot #: 1137797-60

Matrix: 5% HNO_3

Element	Certified Concentration & Uncertainty
K	10,092 ± 47 µg/mL (w/v)
	9893 ± 46 µg/g (w/w)

Intended Use: This solution is intended for use as a certified reference material (CRM) or calibration standard for inductively coupled plasma optical emission spectroscopy (ICP-OES), inductively coupled plasma mass spectrometry (ICP-MS), flame or furnace atomic absorption spectroscopy (AA or GFAA), and other techniques for elemental analysis.

Certification & Traceability: This CRM was manufactured, processed, and/or certified under a quality management system that is registered/accredited to **ISO 17034, ISO/IEC 17025 and ISO 9001**. This CRM was prepared to a nominal concentration of 10,000 µg/mL by gravimetric methods using 99.997% pure potassium nitrate (KNO_3). The solution was diluted with filtered (0.22um), 18 M-ohm water and stabilized with the appropriate high-purity acid as indicated in the listed matrix. The balances used in the preparation of this CRM are calibrated regularly with traceability to NIST, using a calibration provider that is accredited to ISO/IEC 17025 by a mutually recognized accreditation body. All volumetric dilutions are performed in Class A calibrated glassware. The certified concentration and uncertainty were determined using the "High Performance ICP-OES" protocol developed by NIST, and both the certified concentration and uncertainty values are traceable to **NIST SRM 3141a, lot #140813**. The uncertainty associated with the certified concentration represents the expanded uncertainty at the 95% confidence level using a coverage factor of k=2.

Indicative Values: ICP-MS was used to determine trace metal concentrations for this product (nd = not determined).

Trace Concentrations (µg/L)

Ag	<5	Co	<10	Ge	<5	Lu	<2	P	<1000	Sb	<5	Te	<10
Al	<20	Cs	<5	Hf	<2	Mg	<50	Pb	<10	Sc	<50	Ti	<20
As	<20	Cr	<5	Hg	<5	Mn	<10	Pd	<5	Se	<20	Tl	<5
Au	<5	Cu	<10	Ho	<2	Mo	<5	Pr	<2	Si	<1000	Tm	<2
B	<50	Dy	<2	In	nd	Na	<250	Pt	<5	Sm	<2	V	<10
Ba	<10	Er	<2	Ir	<2	Nb	<5	Rb	<5	Sn	<5	W	<5
Bi	<2	Eu	<2	K	MAJOR	Nd	<2	Re	<2	Sr	<10	Y	<5
Ca	<250	Fe	<100	La	<5	Ni	<20	Rh	<5	Ta	<5	Yb	<2
Cd	394	Ga	<5	Li	<20	Os	<5	Ru	<5	Tb	<5	Zn	<20
Ce	<2	Gd	<2										

Instructions for Use: We recommend that the solution be thoroughly mixed by repeated shaking or swirling of the bottle immediately prior to use. To achieve the highest accuracy, the analyst should: (1) use only pre-cleaned containers and transferware, (2) not pipette directly from the CRM's original container, (3) never pour used product back into the original container, (4) make dilutions using calibrated balances or certified class A volumetric flasks and pipettes, (5) use a minimum sub-sample size of 500 µL, and (6) dilute with the same matrix as the original CRM or other chemically suitable matrix. The solution should be kept tightly capped and stored under normal laboratory conditions. Do not freeze, heat, or immerse the bottle or its contents, and avoid exposure to direct sunlight or moisture.

Period of Validity: CPI International ensures the accuracy of this solution for **18 months** from the certification date shown below, provided the instructions for use are followed. During the period of validity, the purchaser will be notified if this product is recalled due to any significant changes in the stability of the solution.

Chuck Goudreau

Chuck Goudreau, Certifying Officer

February 28, 2023
Certification Date

CPI International waives all responsibility for any damages resulting from the usage and/or implementation of the products/data described herein.

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Health and Safety Information: Refer to the Safety Data Sheet (SDS).

Homogeneity: This solution was determined to be homogeneous by procedures consistent with the requirements of ISO 17034 and ISO Guide 35. Replicate samples of the finished solution were analyzed to confirm its homogeneity, in accordance with internal procedures for the assessment of homogeneity and stability. To ensure homogeneity, users should not take a smaller sub-sample than specified in the Instructions for Use, as doing so will invalidate the certified values and uncertainties.

Quality Manual Rev: No. 7, July 24, 2019

Further Information: Please contact CPI International for further information about this material.

Quality Certifications: This material was prepared under a quality management system that is registered/accredited to the following:

- ISO 17034 Accredited: Reference Materials Producer, A2LA Certificate No. 2848.02 – General Requirements for the Competence of Reference Material Producers
    - ISO 17034 references additional requirements specified in ISO Guide 31 and ISO Guide 35
- ISO/IEC 17025 Accredited: Chemical Testing, A2LA Certificate No. 2848.01 – General Requirements for the Competence of Testing and Calibration Laboratories
- ISO 9001 Certified: Quality Management Systems, Certificate Registration No. 56 100 19560101 – Requirements *(Registrar: TUV NORD)*

Reagent

10000 Mg_00025

CERTIFICATE OF ANALYSIS

Single-Element Aqueous CRM

Product #: 4400-10M311-500

Magnesium (Mg) – 10,000 µg/mL

Lot #: 1303817-6

Matrix: 4% HNO_3

Element	Certified Concentration & Uncertainty
Mg	10,060 ± 21 µg/mL (w/v)
	9544 ± 20 µg/g (w/w)

Intended Use: This solution is intended for use as a certified reference material (CRM) or calibration standard for inductively coupled plasma optical emission spectroscopy (ICP-OES), inductively coupled plasma mass spectrometry (ICP-MS), flame or furnace atomic absorption spectroscopy (AA or GFAA), and other techniques for elemental analysis.

Certification & Traceability: This CRM was manufactured, processed, and/or certified under a quality management system that is registered/accredited to **ISO 17034, ISO/IEC 17025 and ISO 9001**. This CRM was prepared to a nominal concentration of 10,000 µg/mL by gravimetric methods using 99.999% pure magnesium nitrate [$Mg(NO_3)_2$]. The solution was diluted with filtered (0.22um), 18 M-ohm water and stabilized with the appropriate high-purity acid as indicated in the listed matrix. The balances used in the preparation of this CRM are calibrated regularly with traceability to NIST, using a calibration provider that is accredited to ISO/IEC 17025 by a mutually recognized accreditation body. All volumetric dilutions are performed in Class A calibrated glassware. The certified concentration and uncertainty were determined using the "High Performance ICP-OES" protocol developed by NIST, and both the certified concentration and uncertainty values are traceable to **NIST SRM 3131a, lot #140110**. The uncertainty associated with the certified concentration represents the expanded uncertainty at the 95% confidence level using a coverage factor of k=2.

Indicative Values: ICP-MS was used to determine trace metal concentrations for this product (nd = not determined).

Trace Concentrations (µg/L)

Ag	<5	Co	<10	Ge	<5	Lu	<2	P	<1000	Sb	9	Te	<10
Al	<20	Cs	<5	Hf	<2	Mg	MAJOR	Pb	11	Sc	<50	Ti	<20
As	<20	Cr	<5	Hg	<5	Mn	11	Pd	<5	Se	<20	Tl	<5
Au	<5	Cu	<10	Ho	<2	Mo	7	Pr	<2	Si	<1000	Tm	<2
B	<50	Dy	<2	In	nd	Na	<250	Pt	<5	Sm	<2	V	<10
Ba	232	Er	<2	Ir	<2	Nb	<5	Rb	<5	Sn	7	W	<5
Bi	<2	Eu	<2	K	<250	Nd	<2	Re	<2	Sr	<10	Y	<5
Ca	568	Fe	<100	La	<5	Ni	<20	Rh	<5	Ta	<5	Yb	<2
Cd	<5	Ga	<5	Li	<20	Os	<5	Ru	9	Tb	<5	Zn	<20
Ce	<2	Gd	<2										

Instructions for Use: We recommend that the solution be thoroughly mixed by repeated shaking or swirling of the bottle immediately prior to use. To achieve the highest accuracy, the analyst should: (1) use only pre-cleaned containers and transferware, (2) not pipette directly from the CRM's original container, (3) never pour used product back into the original container, (4) make dilutions using calibrated balances or certified class A volumetric flasks and pipettes, (5) use a minimum sub-sample size of 500 µL, and (6) dilute with the same matrix as the original CRM or other chemically suitable matrix. The solution should be kept tightly capped and stored under normal laboratory conditions. Do not freeze, heat, or immerse the bottle or its contents, and avoid exposure to direct sunlight or moisture.

Period of Validity: CPI International ensures the accuracy of this solution for **18 months** from the certification date shown below, provided the instructions for use are followed. During the period of validity, the purchaser will be notified if this product is recalled due to any significant changes in the stability of the solution.

Chuck Goudreau

Chuck Goudreau, Certifying Officer

February 28, 2023
Certification Date

CPI International waives all responsibility for any damages resulting from the usage and/or implementation of the products/data described herein.

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www.cpiinternational.com

Health and Safety Information: Refer to the Safety Data Sheet (SDS).

Homogeneity: This solution was determined to be homogeneous by procedures consistent with the requirements of ISO 17034 and ISO Guide 35. Replicate samples of the finished solution were analyzed to confirm its homogeneity, in accordance with internal procedures for the assessment of homogeneity and stability. To ensure homogeneity, users should not take a smaller sub-sample than specified in the Instructions for Use, as doing so will invalidate the certified values and uncertainties.

Further Information: Please contact CPI International for further information about this material.

Quality Certifications: This material was prepared under a quality management system that is registered/accredited to the following:

- ISO 17034 Accredited: Reference Materials Producer, A2LA Certificate No. 2848.02 – General Requirements for the Competence of Reference Material Producers
    - ISO 17034 references additional requirements specified in ISO Guide 31 and ISO Guide 35
- ISO/IEC 17025 Accredited: Chemical Testing, A2LA Certificate No. 2848.01 – General Requirements for the Competence of Testing and Calibration Laboratories
- ISO 9001 Certified: Quality Management Systems, Certificate Registration No. 56 100 19560101 – Requirements *(Registrar: TUV NORD)*

Reagent

10000 Na_00093

logged 9-14-23
logged in tracker
7941881
CoA attached

CPI INTERNATIONAL

CERTIFICATE OF ANALYSIS

Single-Element Aqueous CRM

Sodium (Na) – 10,000 µg/mL

Matrix: 3% HNO_3

7941881
ID: 10000 Na_00093
Exp: 03/06/26 Prpd:
10000 Na CPI

Product #: 4400-10M521-500

Lot #: 1390063

*Expiration Date: 6 March 2026

Element	Certified Concentration & Uncertainty
Na	10,050 ± 22 µg/mL (w/v)
	9758 ± 21 µg/g (w/w)

Intended Use: This solution is intended for use as a certified reference material (CRM) or calibration standard for inductively coupled plasma optical emission spectroscopy (ICP-OES), inductively coupled plasma mass spectrometry (ICP-MS), flame or furnace atomic absorption spectroscopy (AA or GFAA), and other techniques for elemental analysis.

Certification & Traceability: This CRM was manufactured, processed, and/or certified under a quality management system that is registered/accredited to **ISO 17034, ISO/IEC 17025 and ISO 9001**. This CRM was prepared to a nominal concentration of 10,000 µg/mL by gravimetric methods using 99.997% pure sodium carbonate (Na_2CO_3). The solution was diluted with filtered (0.22um), 18 M-ohm water and stabilized with the appropriate high-purity acid as indicated in the listed matrix. The balances used in the preparation of this CRM are calibrated regularly with traceability to NIST, using a calibration provider that is accredited to ISO/IEC 17025 by a mutually recognized accreditation body. All volumetric dilutions are performed in Class A calibrated glassware. The certified concentration and uncertainty were determined using the "High Performance ICP-OES" protocol developed by NIST, and both the certified concentration and uncertainty values are traceable to **NIST SRM 3152a, lot #200413.** The uncertainty associated with the certified concentration represents the expanded uncertainty at the 95% confidence level using a coverage factor of k=2.

Indicative Values: ICP-MS was used to determine trace metal concentrations for this product (nd = not determined).

Trace Concentrations (µg/L)

Ag	<5	Co	<10	Ge	<5	Lu	<2	P	<1000	Sb	<5	Te	<10
Al	<20	Cs	<5	Hf	<2	Mg	<50	Pb	<10	Sc	<50	Ti	<20
As	<20	Cr	<5	Hg	<5	Mn	<10	Pd	<5	Se	<20	Tl	<5
Au	<5	Cu	<10	Ho	<2	Mo	<5	Pr	<2	Si	<1000	Tm	<2
B	<50	Dy	<2	In	nd	Na	MAJOR	Pt	<5	Sm	<2	V	<10
Ba	<10	Er	<2	Ir	<2	Nb	<5	Rb	<5	Sn	<5	W	<5
Bi	<2	Eu	<2	K	<250	Nd	<2	Re	<2	Sr	<10	Y	<5
Ca	<250	Fe	<100	La	<5	Ni	<20	Rh	<5	Ta	<5	Yb	<2
Cd	<5	Ga	<5	Li	<20	Os	<5	Ru	<5	Tb	<5	Zn	<20
Ce	<2	Gd	<2										

Instructions for Use: We recommend that the solution be thoroughly mixed by repeated shaking or swirling of the bottle immediately prior to use. To achieve the highest accuracy, the analyst should: (1) use only pre-cleaned containers and transferware, (2) not pipette directly from the CRM's original container, (3) never pour used product back into the original container, (4) make dilutions using calibrated balances or certified class A volumetric flasks and pipettes, (5) use a minimum sub-sample size of 500 µL, and (6) dilute with the same matrix as the original CRM or other chemically suitable matrix. The solution should be kept tightly capped and stored under normal laboratory conditions. Do not freeze, heat, or immerse the bottle or its contents, and avoid exposure to direct sunlight or moisture.

Period of Validity: CPI International ensures the accuracy of this solution until the date shown above or ***12 Months** from the date opened, provided the instructions for use are followed. During the period of validity, the purchaser will be notified if this product is recalled due to any significant changes in the stability of the solution.

Chuck Goudreau

Chuck Goudreau, Certifying Officer

21 March 2023
Certification Date

Date Opened

CPI International waives all responsibility for any damages resulting from the usage and/or implementation of the products/data described herein.

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Health and Safety Information: Refer to the Safety Data Sheet (SDS).

Homogeneity: This solution was determined to be homogeneous by procedures consistent with the requirements of ISO 17034 and ISO Guide 35. Replicate samples of the finished solution were analyzed to confirm its homogeneity, in accordance with internal procedures for assessment of homogeneity and stability. To ensure homogeneity, users should not take a smaller sub-sample than specified in the Instructions for Use, as doing so will invalidate the certified values and uncertainties.

Further Information: Please contact CPI International for further information about this material.

Quality Certifications: This material was prepared under a quality management system that is registered/accredited to the following:

- ISO 17034 Accredited: Reference Materials Producer, A2LA Certificate No. 2848.02 – General Requirements for the Competence of Reference Material Producers
  - ISO 17034 references additional requirements specified in ISO Guide 31 and ISO Guide 35
- ISO/IEC 17025 Accredited: Chemical Testing, A2LA Certificate No. 2848.01 – General Requirements for the Competence of Testing and Calibration Laboratories
- ISO 9001 Certified: Quality Management Systems, Certificate Registration No. 56 100 195601O1 – Requirements *(Registrar: TUV NORD)*

Reagent

10000 Th_00030

logged in 4/20/23
logged in tracker
7951024
CoA attached

CPI INTERNATIONAL

CERTIFICATE OF ANALYSIS

Single-Element Aqueous RM

Thorium (Th) – 10,000 µg/mL

Matrix: 3% HNO_3

7951024

ID: 10000 Th_00030

Exp:04/03/26 Prpd: Opn:09/20/23

10,000 Th CPI

Product #: S4400-10M591

Lot #: 1396827

*Expiration Date: 3 April 2026

Element	Certified Concentration & Uncertainty
Th	9954 ± 52 µg/mL (w/v)
	9054 ± 47 µg/g (w/w)

Intended Use: This solution is intended for use as a certified reference material (RM) or calibration standard for inductively coupled plasma optical emission spectroscopy (ICP-OES), inductively coupled plasma mass spectrometry (ICP-MS), flame or furnace atomic absorption spectroscopy (AA or GFAA), and other techniques for elemental analysis.

Certification & Traceability: This RM was manufactured, processed, and/or certified under a quality management system that is registered/accredited to, **ISO 17034**, **ISO/IEC 17025** and **ISO 9001**. This RM was prepared to a nominal concentration of 10,000 µg/mL by gravimetric methods using pure thorium nitrate [$Th(NO_3)_4$]. The solution was diluted with filtered (0.22um), 18 M-ohm water and stabilized with the appropriate high-purity acid as indicated in the listed matrix. The balances used in the preparation of this RM are calibrated regularly with traceability to NIST, using a calibration provider that is accredited to ISO/IEC 17025 by a mutually recognized accreditation body. All volumetric dilutions are performed in Class A calibrated glassware. The certified concentration and uncertainty were determined using the "High Performance ICP-OES" protocol developed by NIST, and both the certified concentration and uncertainty values are traceable method against an alternate lot as NIST SRM is not available. The uncertainty associated with the certified concentration represents the expanded uncertainty at the 95% confidence level using a coverage factor of k=2.

Indicative Values: ICP-MS was used to determine trace metal concentrations for this product (nd = not determined).

Trace Concentrations (µg/L)

Ag	<5	Co	<10	Ge	<5	Lu	<2	P	<1000	Sb	<5	Te	<10
Al	85	Cs	<5	Hf	<2	Mg	<50	Pb	<10	Sc	<50	Ti	<20
As	<20	Cr	14	Hg	<5	Mn	<10	Pd	<5	Se	<20	Tl	<5
Au	<5	Cu	<10	Ho	<2	Mo	<5	Pr	8	Si	<1000	Tm	<2
B	<50	Dy	<2	In	nd	Na	<250	Pt	<5	Sm	3	V	<10
Ba	<10	Er	<2	Ir	<2	Nb	<5	Rb	17	Sn	<5	W	<5
Bi	<2	Eu	<2	K	<250	Nd	3	Re	<2	Sr	<10	Y	<5
Ca	<250	Fe	<100	La	27	Ni	<20	Rh	<5	Ta	<5	Yb	<2
Cd	<5	Ga	<5	Li	<20	Os	<5	Ru	<5	Tb	<5	Zn	<20
Ce	51	Gd	<2										

Instructions for Use: We recommend that the solution be thoroughly mixed by repeated shaking or swirling of the bottle immediately prior to use. To achieve the highest accuracy, the analyst should: (1) use only pre-cleaned containers and transferware, (2) not pipette directly from the RM's original container, (3) never pour used product back into the original container, (4) make dilutions using calibrated balances or certified class A volumetric flasks and pipettes, (5) use a minimum sub-sample size of 500 µL, and (6) dilute with the same matrix as the original RM or other chemically suitable matrix. The solution should be kept tightly capped and stored under normal laboratory conditions. Do not freeze, heat, or immerse the bottle or its contents, and avoid exposure to direct sunlight or moisture.

Period of Validity: CPI International ensures the accuracy of this solution until the date shown above or ***12 Months** from the date opened, provided the instructions for use are followed. During the period of validity, the purchaser will be notified if this product is recalled due to any significant changes in the stability of the solution.

Chuck Goudreau

Chuck Goudreau, Certifying Officer

29 March 2023
Certification Date

Date Opened

CPI International waives all responsibility for any damages resulting from the usage and/or implementation of the products/data described herein.

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Health and Safety Information: Refer to the Safety Data Sheet (SDS).

Homogeneity: This solution was determined to be homogeneous by procedures consistent with the requirements of ISO 17034 and ISO Guide 35. Replicate samples of the finished solution were analyzed to confirm its homogeneity, in accordance with internal procedures for the assessment of homogeneity and stability. To ensure homogeneity, users should not take a smaller sub-sample than specified in the Instructions for Use, as doing so will invalidate the certified values and uncertainties.

Further Information: Please contact CPI International for further information about this material.

Quality Certifications: This material was prepared under a quality management system that is registered/accredited to the following:

- ISO 17034:2016 Accredited: Reference Materials Producer, A2LA Certificate No. 2848.02 – General Requirements for the Competence of Reference Material Producers
    - ISO 17034 references additional requirements specified in ISO Guide 31 and ISO Guide 35
- ISO/IEC 17025:2017 Accredited: Chemical Testing, A2LA Certificate No. 2848.01 – General Requirements for the Competence of Testing and Calibration Laboratories
- ISO 9001:2015 Certified: Quality Management Systems, Certificate Registration No. 56 100 19560101 – Requirements *(Registrar: TUV NORD)*

Reagent

CALSTD-1_00003

CPI INTERNATIONAL

7555479

ID: CALSTD-1_00003

Exp:07/10/24 Prpd:LMT Opn:12/26/22

ICP MS C... Std 1 CPI new

CERTIFICATE OF ANALYSIS

Multi-Element Aqueous CRM

Product #: TA-CAL1

ICP ICPMS CAL Mix # 1

Lot #: 1321095-1

Matrix: 5% HNO_3/tr. HF

Element	Certified Concentration & Uncertainty	Element	Certified Concentration & Uncertainty	Element	Certified Concentration & Uncertainty
As	99.95 ± 0.50 mg/L	Li	99.98 ± 0.50 mg/L	Si	1000 ± 5 mg/L
Ba	100.1 ± 0.5 mg/L	Mn	99.99 ± 0.50 mg/L	Sn	99.99 ± 0.50 mg/L
Be	100.0 ± 0.5 mg/L	Mo	100.0 ± 0.5 mg/L	Sr	100.0 ± 0.5 mg/L
Cd	99.99 ± 0.50 mg/L	Ni	100.0 ± 0.5 mg/L	Ti	100.0 ± 0.5 mg/L
Co	99.95 ± 0.50 mg/L	Pb	100.0 ± 0.5 mg/L	Tl	100.0 ± 0.5 mg/L
Cr	100.0 ± 0.5 mg/L	Sb	99.99 ± 0.50 mg/L	V	99.99 ± 0.50 mg/L
Cu	100.0 ± 0.5 mg/L	Se	99.99 ± 0.50 mg/L		

Source Material Lot # Chart

Element	Source Material Lot #	Element	Source Material Lot #	Element	Source Material Lot #
As	1299133	Li	1195499	Si	1271053
Ba	1162561	Mn	1136846	Sn	1116280
Be	1270256	Mo	1205113	Sr	1123421
Cd	1240656	Ni	1084161	Ti	1237770
Co	1237802	Pb	1035677	Tl	1059794
Cr	1242583	Sb	978317	V	1139942
Cu	1207839	Se	1285040		

Intended Use: This solution is intended for use as a certified reference material (CRM) or calibration standard for inductively coupled plasma optical emission spectroscopy (ICP-OES), inductively coupled plasma mass spectrometry (ICP-MS), flame or furnace atomic absorption spectroscopy (AA or GFAA), and other techniques for elemental analysis.

Certification & Traceability: This CRM was manufactured, processed, and/or certified under a quality management system that is registered/accredited to **ISO 9001**, **ISO 17034**, and **ISO/IEC 17025**. This CRM was prepared to the certified concentrations shown above by gravimetric methods, using single-element concentrates that were certified using the "High Performance ICP-OES" protocol developed by NIST and are directly traceable to **NIST SRMs (see final page)**. The solution was stabilized using high purity nitric acid (HNO_3), trace hydrofluoric acid (HF) and diluted with filtered (0.22 µm), 18 M-ohm deionized water. The balances used in the preparation of this CRM are calibrated regularly with traceability to NIST, using a calibration provider that is accredited to ISO/IEC 17025 by a mutually recognized accreditation body. All volumetric dilutions are performed in Class A calibrated glassware. The certified concentrations were determined based upon gravimetric procedures. Secondary verification of the certified concentrations was performed using ICP-OES that was calibrated and/or referenced against **NIST SRMs (see final page)**. The uncertainty associated with each certified concentration represents the expanded uncertainty at the 95% confidence level using a coverage factor of k=2.

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Instructions for Use: We recommend that the solution be thoroughly mixed by repeated shaking or swirling of the bottle immediately prior to use. To achieve the highest accuracy, the analyst should: (1) use only pre-cleaned containers and transferware, (2) not pipette directly from the CRM's original container, (3) never pour used product back into the original container, (4) make dilutions using calibrated balances or certified class A volumetric flasks and pipettes, (5) use a minimum sub-sample size of 500 µL, and (6) dilute with the same matrix as the original CRM or other chemically suitable matrix. The solution should be kept tightly capped and stored under normal laboratory conditions. Do not freeze, heat, or immerse the bottle or its contents, and avoid exposure to direct sunlight or moisture.

Period of Validity: CPI International ensures the accuracy of this solution for **18 months** from the certification date shown below, provided the instructions for use are followed. During the period of validity, the purchaser will be notified if this product is recalled due to any significant changes in the stability of the solution.

Chuck Goudreau

Chuck Goudreau, Certifying Officer

January 10, 2023
Certification Date

CPI International waives all responsibility for any damages resulting from the usage and/or implementation of the products/data described herein.

...h and Safety Information: Refer to the Safety Data Sheet (SDS).

Homogeneity: This solution was determined to be homogeneous by procedures consistent with the requirements of ISO 17034 and ISO Guide 35. Replicate samples of the finished solution were analyzed to confirm its homogeneity, in accordance with internal procedures for the assessment of homogeneity and stability. To ensure homogeneity, users should not take a smaller sub-sample than specified in the Instructions for Use, as doing so will invalidate the certified values and uncertainties.

Further Information: Please contact CPI International for further information about this material.

Quality Certifications: This material was prepared under a quality management system that is registered/accredited to the following:

- ISO 17034 Accredited: Reference Materials Producer, A2LA Certificate No. 2848.02 – General Requirements for the Competence of Reference Material Producers
    - ISO 17034 references additional requirements specified in ISO Guide 31 and ISO Guide 35
- ISO/IEC 17025 Accredited: Chemical Testing, A2LA Certificate No. 2848.01 – General Requirements for the Competence of Testing and Calibration Laboratories
- ISO 9001 Certified: Quality Management Systems, Certificate Registration No. 56 100 19560101 – Requirements *(Registrar: TUV NORD)*

This CRM is traceable to the following NIST SRMs:

Analyte	Aq. SRM	MO SRM	Analyte	Aq. SRM	MO SRM	Analyte	Aq. SRM	MO SRM
Ag	3151	-	Hf	3122	-	S	3154	2770
Al	3101a	-	Hg	3133	3133	Sb	3102a	3102a
As	3103a	3103a	Ho	3123a	-	Sc	3148a	3148a
Au	3121	-	In	3124a	3124a	Se	3149	3149
B	3107	3107	K	3141a	3141a	Si	3150	-
Ba	3104a	-	La	3127a	3127a	Sm	3147a	-
Be	3105a	3105a	Li	3129a	3129a	Sn	3161a	-
Bi	3106	3106	Lu	3130a	-	SO_4^{-2}	3181	-
Br^-	3184	-	Mg	3131a	3131a	Sr	3153a	3153a
Ca	3109a	3109a	Mn	3132	3132	Ta	3155	-
Cd	3108	-	Mo	3134	3134	Tb	3157a	-
Ce	3110	3110	Na	3152a	-	Te	3156	-
Cl^-	3182	1818a	Nb	3137	-	Th	-	-
Co	3113	3113	Nd	3135a	-	Ti	3162a	3162a
Cr	3112a	-	Ni	3136	-	Tl	3158	3158
Cs	3111a	-	NO_3^-	3185	-	Tm	3160a	-
Cu	3114	-	P	3139a	3139a	U	3164	-
Dy	3115a	-	Pb	3128	-	V	3165	-
Er	3116a	-	Pd	3138	-	W	3163	3163
Eu	3117a	-	PO_4^{-3}	3186	-	Y	3167a	3167a
F^-	3183	-	Pr	3142a	-	Yb	3166a	-
Fe	3126a	-	Pt	3140	3140	Zn	3168a	3168a
Ga	3119a	-	Rb	3145a	-	Zr	3169	3169
Gd	3118a	-	Re	3143	-			
Ge	3120a	-	Rh	3144	3144			

Reagent

CALSTD-1_00004

8020686
ID: CALSTD-1_00004
Exp:11/02/24 Prpd:LMT Opn:10/21/23
ICP-MS Cal Std 1 CPI new

CPI INTERNATIONAL

CERTIFICATE OF ANALYSIS

Product #: TA-CAL1

Lot #: 1321095-1

Multi-Element Aqueous CRM

ICP ICPMS CAL Mix # 1

Matrix: 5% HNO_3/tr. HF

Element	Certified Concentration & Uncertainty	Element	Certified Concentration & Uncertainty	Element	Certified Concentration & Uncertainty
As	99.95 ± 0.50 mg/L	Li	99.98 ± 0.50 mg/L	Si	1000 ± 5 mg/L
Ba	100.1 ± 0.5 mg/L	Mn	99.99 ± 0.50 mg/L	Sn	99.99 ± 0.50 mg/L
Be	100.0 ± 0.5 mg/L	Mo	100.0 ± 0.5 mg/L	Sr	100.0 ± 0.5 mg/L
Cd	99.99 ± 0.50 mg/L	Ni	100.0 ± 0.5 mg/L	Ti	100.0 ± 0.5 mg/L
Co	99.95 ± 0.50 mg/L	Pb	100.0 ± 0.5 mg/L	Tl	100.0 ± 0.5 mg/L
Cr	100.0 ± 0.5 mg/L	Sb	99.99 ± 0.50 mg/L	V	99.99 ± 0.50 mg/L
Cu	100.0 ± 0.5 mg/L	Se	99.99 ± 0.50 mg/L		

Source Material Lot # Chart

Element	Source Material Lot #	Element	Source Material Lot #	Element	Source Material Lot #
As	1299133	Li	1195499	Si	1271053
Ba	1162561	Mn	1136846	Sn	1116280
Be	1270256	Mo	1205113	Sr	1123421
Cd	1240656	Ni	1084161	Ti	1237770
Co	1237802	Pb	1035677	Tl	1059794
Cr	1242583	Sb	978317	V	1139942
Cu	1207839	Se	1285040		

Intended Use: This solution is intended for use as a certified reference material (CRM) or calibration standard for inductively coupled plasma optical emission spectroscopy (ICP-OES), inductively coupled plasma mass spectrometry (ICP-MS), flame or furnace atomic absorption spectroscopy (AA or GFAA), and other techniques for elemental analysis.

Certification & Traceability: This CRM was manufactured, processed, and/or certified under a quality management system that is registered/accredited to **ISO 9001**, **ISO 17034**, and **ISO/IEC 17025**. This CRM was prepared to the certified concentrations shown above by gravimetric methods, using single-element concentrates that were certified using the "High Performance ICP-OES" protocol developed by NIST and are directly traceable to **NIST SRMs (see final page)**. The solution was stabilized using high purity nitric acid (HNO_3), trace hydrofluoric acid (HF) and diluted with filtered (0.22 µm), 18 M-ohm deionized water. The balances used in the preparation of this CRM are calibrated regularly with traceability to NIST, using a calibration provider that is accredited to ISO/IEC 17025 by a mutually recognized accreditation body. All volumetric dilutions are performed in Class A calibrated glassware. The certified concentrations were determined based upon gravimetric procedures. Secondary verification of the certified concentrations was performed using ICP-OES that was calibrated and/or referenced against **NIST SRMs (see final page)**. The uncertainty associated with each certified concentration represents the expanded uncertainty at the 95% confidence level using a coverage factor of k=2.

USA
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F: 707.545.7901

Europe
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1013BG Amsterdam F: +31 20 420 28 36
The Netherlands

www.cpiinternational.com

Instructions for Use: We recommend that the solution be thoroughly mixed by repeated shaking or swirling of the bottle immediately prior to use. To achieve the highest accuracy, the analyst should: (1) use only pre-cleaned containers and transferware, (2) not pipette directly from the CRM's original container, (3) never pour used product back into the original container, (4) make dilutions using calibrated balances or certified class A volumetric flasks and pipettes, (5) use a minimum sub-sample size of 500 µL, and (6) dilute with the same matrix as the original CRM or other chemically suitable matrix. The solution should be kept tightly capped and stored under normal laboratory conditions. Do not freeze, heat, or immerse the bottle or its contents, and avoid exposure to direct sunlight or moisture.

Period of Validity: CPI International ensures the accuracy of this solution for **18 months** from the certification date shown below, provided the instructions for use are followed. During the period of validity, the purchaser will be notified if this product is recalled due to any significant changes in the stability of the solution.

Chuck Goudreau

Chuck Goudreau, Certifying Officer

May 2, 2023
Certification Date

CPI International waives all responsibility for any damages resulting from the usage and/or implementation of the products/data described herein.

May 2, 2023
Certification Date

...n the usage and/or implementation of the product/data described herein.

...s from the certification date shown below, provided the ...ed if this product is recalled due to any significant changes in ...

...the bottle immediately prior to use; (2) not pipette directly from the CRM's ...g calibrated balances or certified, class A ...ory conditions. Do not freeze, heat, or immerse ... same matrix as the original CRM or other

...Safety Information:** Refer to the Safety Data Sheet (SDS).

...mogeneity: This solution was determined to be homogeneous by procedures consistent with the requirements of ISO 17034 and ISO Guide 35. ...plicate samples of the finished solution were analyzed to confirm its homogeneity, in accordance with internal procedures for the assessment of homogeneity and stability. To ensure homogeneity, users should not take a smaller sub-sample than specified in the Instructions for Use, as doing so will invalidate the certified values and uncertainties.

Further Information: Please contact CPI International for further information about this material.

Quality Certifications: This material was prepared under a quality management system that is registered/accredited to the following:

- ISO 17034 Accredited: Reference Materials Producer, A2LA Certificate No. 2848.02 – General Requirements for the Competence of Reference Material Producers
  - ISO 17034 references additional requirements specified in ISO Guide 31 and ISO Guide 35
- ISO/IEC 17025 Accredited: Chemical Testing, A2LA Certificate No. 2848.01 – General Requirements for the Competence of Testing and Calibration Laboratories
- ISO 9001 Certified: Quality Management Systems, Certificate Registration No. 56 100 19560101 – Requirements *(Registrar: TUV NORD)*

This CRM is traceable to the following NIST SRMs:

Analyte	Aq. SRM	MO SRM
Ag	3151	-
Al	3101a	-
As	3103a	3103a
Au	3121	-
B	3107	3107
Ba	3104a	-
Be	3105a	3105a
Bi	3106	3106
Br-	3184	-
Ca	3109a	3109a
Cd	3108	-
Ce	3110	3110
Cl-	3182	1818a
Co	3113	3113
Cr	3112a	-
Cs	3111a	-
Cu	3114	-
Dy	3115a	-
Er	3116a	-
Eu	3117a	-
F-	3183	-
Fe	3126a	-
Ga	3119a	-
Gd	3118a	-
Ge	3120a	-

Analyte	Aq. SRM	MO SRM
Hf	3122	-
Hg	3133	3133
Ho	3123a	-
In	3124a	3124a
K	3141a	3141a
La	3127a	3127a
Li	3129a	3129a
Lu	3130a	-
Mg	3131a	3131a
Mn	3132	3132
Mo	3134	3134
Na	3152a	-
Nb	3137	-
Nd	3135a	-
Ni	3136	-
NO_3^-	3185	-
P	3139a	3139a
Pb	3128	-
Pd	3138	-
PO_4^{-3}	3186	-
Pr	3142a	-
Pt	3140	3140
Rb	3145a	-
Re	3143	-
Rh	3144	3144

Analyte	Aq. SRM	MO SRM
S	3154	2770
Sb	3102a	3102a
Sc	3148a	3148a
Se	3149	3149
Si	3150	-
Sm	3147a	-
Sn	3161a	-
SO_4^{-2}	3181	-
Sr	3153a	3153a
Ta	3155	-
Tb	3157a	-
Te	3156	-
Th	-	-
Ti	3162a	3162a
Tl	3158	3158
Tm	3160a	-
U	3164	-
V	3165	-
W	3163	3163
Y	3167a	3167a
Yb	3166a	-
Zn	3168a	3168a
Zr	3169	3169

Reagent

IC BR ICV_00024

RICCA CHEMICAL COMPANY®

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Arlington, TX 76012
http://www.riccachemical.com
1-888-GO-RICCA
customerservice@riccachemical.com

Certificate of Analysis

Bromide Standard, 1000 ppm Br^-

Lot Number: 1204B86 **Product Number:** 1180

Manufacture Date: APR 26, 2022
Expiration Date: OCT 2023

The certified value reported is the prepared value based upon the method of preparation of the material. The uncertainty in the prepared value is based upon the volumetric method of preparation.

Name	CAS#	Grade
Water	7732-18-5	ACS/ASTM/USP/EP
Sodium Bromide	7647-15-6	High Purity

Test	Specification	Result
Appearance	Colorless liquid	Passed
Bromide (Br)	995-1005 ppm	1000 ppm

Specification	Reference
Bromide Solution, Standard (1 mL = 1 mg Br^-)	ASTM (D 3869 D)
Standard Bromide Solution, 1000 mg/L	APHA (4110 B)
Bromide Stock Solution (1.00 mL = 1.00 mg Br^-)	EPA (SW-846) (9056)
Sodium Bromide Standard Solution, 1000 mg/L	ASTM (D 1246)
Bromide Stock Solution (1.00 mL = 1.00 mg Br?)	ASTM (D 4327)

Volumetric glassware complies with Class A tolerance requirements of ASTM E 288 and NIST Circular 434; it is calibrated before first use and recalibrated regularly in accordance with ASTM E 542 and NIST Procedure NBSIR 74-461. Balances are calibrated regularly with weights certified traceable to the NIST national mass standard. Thermometers and temperature probes are calibrated before first use and recalibrated regularly with a thermometer traceable to NIST standards. All products are prepared according to master documents that assure manufacture according to validated methods. Batch records document raw material traceability and production and testing history for each lot manufactured.

Part Number	Size / Package Type	Shelf Life (Unopened Container)
1180-16	500 mL natural poly	18 months

Recommended Storage: 15°C - 30°C (59°F - 86°F)

Jason Thomas (04/26/2022)
Operations Manager

This Certificate of Analysis is designed to comply with ISO Guide 31 "Reference Materials -- Contents of Certificates and Labels."

This test report shall not be reproduced, except in full, without the written approval of Ricca Chemical Company.

Reagent

IC CL cal_00076

spex certiprep

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Reference Materials Producer
Cert #2495.01

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Certificate of Reference Material

ilac-MRA ACCREDITED
Chemical Testing
Cert #2495.02

Catalog Number: AS-CL9-2X **Lot No.** 5-146CL-2X

Description: 1000 µg/mL Chloride

Matrix: H_2O

This **Ion Chromatography** Certified Reference Material, CRM, is intended primarily for use as a calibration standard or quality control standard for ion chromatography instrumentation. It can be employed in USEPA, ASTM and other methods relevant to the certified properties listed below.

Certified Value: 1000 µg/mL ±5 µg/mL

Certified Value is Traceable to: 3182*

* - indicates NIST SRM † - indicates SPEX CertiPrep CRM (when NIST SRM is not available) ‡ - prepared gravimetrically

The CRM is prepared gravimetrically using high purity Sodium Chloride, Lot# 09141H. The certified value listed is the average of values obtained by classical wet assay and ion chromatography analysis.

Refer to side 2 for details of measurement uncertainties.

Classical Wet Assay: 999 µg/mL

Method: Precipitation using Silver Nitrate. Filter, dry and weigh as AgCl.

Instrumental Analysis by Ion Chromatography: 1000 µg/mL

Uncertified Properties

Trace Ionic Impurities in the Actual Solution via IC Analysis:

Element	µg/mL	Element	µg/mL
Br^-	<0.01	NO_3^-	<0.06
F^-	<0.05	$PO4^{-3}$	<0.03
NO_2^-	<0.05	$SO4^{-2}$	<0.08

Balances are calibrated regularly with weight sets traceable to NIST #32856, #32867 and others. This CRM is guaranteed stable and accurate to +/- 0.5% of the certified value. This includes uncertainty components due to preparation, homogeneity by the most precise method, and short-term and long-term stability. This guarantee is valid for a period of one year from the date of certification only when the material is kept tightly capped and stored under ambient laboratory conditions.

Date of Certification: Nov--2022 Certifying Officer: Katherine Cullinan

Katherine Cullinan, QC Manager

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Report of Certification

This Certified Reference Material (CRM) has been prepared and certified under an ISO 9001 (certified by DQS), ISO/IEC 17025 (accredited by A2LA) and ISO 17034 (accredited by A2LA) quality system consistent with the following guides:

- ISO 9001: Quality management systems – Requirements
- ISO/IEC 17025: General requirements for the competence of testing and calibration laboratories
- ISO 17034: General requirements for the competence of reference material producers
- ISO Guide 30: Reference Materials – Selected terms and definitions
- ISO Guide 31: Reference Materials – Contents of certificates, labels, and accompanying documentation
- ISO Guide 35: Reference Materials – Guidance for characterization and assessment of homogeneity and stability
- Guide to the Expression of Uncertainty in Measurement, 2008
- EURACHEM/CITAC Guide: Qualifying Uncertainty in Analytical Measurement – Third Edition
- NIST Technical Note 1297

Material Source:
All analytes and matrix materials are obtained and verified by Spex CertiPrep from pre-qualified vendors as per ISO 9001, ISO/IEC 17025 and ISO 17034 guidelines. Vendor identifications are proprietary; however, sources of all materials used in the preparation and testing of Spex CertiPrep CRMs are tracked and documented. For further assistance, please contact Sales Support at USMet-CRMSales@antylia.com.

Instructions for Use:
Primary usage of this CRM is in neat form or diluted serially with matrix of a purity at or greater than the purity of the original matrix solution. If dilution is required, the diluent must be compatible with all certified analytes and contain stabilizers appropriate for the period of intended use. The CRM can also be used as a spike or with a spike, again with appropriate compatibility considerations. All solutions should be thoroughly mixed, by shaking, prior to use and never pipetted directly from the bottle. Do not return excess solution to the bottle. All surfaces that come in contact with the solution must be thoroughly cleaned and leached prior to use. Dilutions should be performed only with Class A volumetric glassware. See SDS for health and safety information.

Method of Preparation:
Clean laboratory procedures and techniques have been used throughout the preparation. All materials, equipment, analytical instrumentation and personnel have been qualified prior to use. The highest purity acids applicable, 18 megohm, double deionized water, acid-leached triple-rinsed bottles (where appropriate), and Class A/calibrated volumetrics have been used in all preparations.

Homogeneity:
The homogeneity of the CRM has been confirmed by procedures consistent with ISO/IEC 17025, ISO 17034, and ASTM D6362-98 Appendix X2. Random, replicate samples of the final, packaged material have been analyzed to prove homogeneity in accordance with our internal procedure 4600-HOMOGEN-1A. Since the product is highly homogeneous, any sample size taken for analysis would be within the uncertainty budget. This is consistent with the intended use of the CRM.

Statistical Estimator and Confidence Limits:
The certified value 'X' listed on the reverse of this document is at the 95% level of confidence and can be expressed as:

- $X = x \pm U$ where X = certified value, U = expanded uncertainty, x = property value
- $U = ku_c$ where k = 2 is the coverage factor at the 95% confidence level
- u_c = combined standard uncertainty obtained by combining the individual element standard uncertainty components u_i and $u_c = \sqrt{\Sigma u_i^2}$

Certification Report:
All certified values reported were derived from the Certification Report, Spex CertiPrep's traceability documentation, identified by the lot number of this CRM. During the stated period of validity, the purchaser will be notified if this product is recalled due to any significant changes in the stability of the solution. For further assistance, please contact Sales Support at USMet-CRMSales@antylia.com.

Legal Notice:
Spex CertiPrep reference materials are not for any cosmetic, drug or household application and are to be used only by qualified individuals who are trained in appropriate procedures. No claims against Spex CertiPrep, LLC. of any kind whatsoever, whether based on breach of warranty, alleged negligence, or otherwise, with respect to this Reference Material shall be greater than the purchase price. In no event shall Spex CertiPrep, LLC. be liable for any loss of profits or any incidental, special, or consequential damages.

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Accredited to 17025 & 17034 ISO Certified to 9001

Reagent

IC FL cal_00023

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Certificate of Analysis

Fluoride Standard, 1000 ppm F^-

Lot Number: 2207H13 **Product Number:** 3173

Manufacture Date: JUL 29, 2022
Expiration Date: JAN 2024

The certified value reported is the prepared value based upon the method of preparation of the material. The uncertainty in the prepared value is based upon the volumetric method of preparation.
The concentration is confirmed by Fluoride ISE and is certified traceable to NIST SRM 2203.

Name	CAS#	Grade
Water	7732-18-5	ACS/ASTM/USP/EP
Sodium Fluoride	7681-49-4	High Purity

Test	Specification	Result
Appearance	Colorless liquid	Passed
Fluoride (F)	995-1005 ppm	1005 ppm

Specification	Reference
Fluoride Solution, Stock (1.00 mL = 1.00 mg F)	ASTM (D 5542)
Fluoride Stock Solution (1.00 mL = 1.00 mg F^-)	EPA (SW-846) (9056)
Fluoride Calibration Stock Solution (1,000 mg/L F^-)	EPA (SW-846) (9214)
Stock Solution, 1.0 mL = 1.0 mg F	EPA (340.3)
Fluoride Solution, Stock (1.00 mL = 1.00 mg F)	ASTM (D 5996)
Fluoride Stock Solution (1.00 mL = 1.00 mg F?)	ASTM (D 4327)
Fluoride Stock Standard Solution (1 mg of F in 1 mL)	ACS (N/A)

Volumetric glassware complies with Class A tolerance requirements of ASTM E 288 and NIST Circular 434; it is calibrated before first use and recalibrated regularly in accordance with ASTM E 542 and NIST Procedure NBSIR 74-461. Balances are calibrated regularly with weights certified traceable to the NIST national mass standard. Thermometers and temperature probes are calibrated before first use and recalibrated regularly with a thermometer traceable to NIST standards. All products are prepared according to master documents that assure manufacture according to validated methods. Batch records document raw material traceability and production and testing history for each lot manufactured.

Part Number	Size / Package Type	Shelf Life (Unopened Container)
3173-16	500 mL natural poly	18 months
3173-32	1 L natural poly	18 months

Recommended Storage: 15°C - 30°C (59°F - 86°F)

Myrlande Gilles (07/29/2022)
Quality Control
This Certificate of Analysis is designed to comply with ISO Guide 31 "Reference Materials -- Contents of Certificates and Labels."

This test report shall not be reproduced, except in full, without the written approval of Ricca Chemical Company.

Reagent

IC SO4 Cal_00010

spex certiprep

Reference Materials Producer
Cert #2495.01

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Certificate of Reference Material

Chemical Testing
Cert #2495.02

Catalog Number: AS-SO49-2X **Lot No.** 5-160SO4-2X

Description: 1000 µg/mL Sulfate

Matrix: H_2O

This **Ion Chromatography** Certified Reference Material, CRM, is intended primarily for use as a calibration standard or quality control standard for ion chromatography instrumentation. It can be employed in USEPA, ASTM and other methods relevant to the certified properties listed below.

Certified Value: 1000 µg/mL ±5 µg/mL

Certified Value is Traceable to: 3181*

* - indicates NIST SRM † - indicates SPEX CertiPrep CRM (when NIST SRM is not available) ‡ - prepared gravimetrically

The CRM is prepared gravimetrically using high purity Potassium Sulfate, Lot# AN07201A. The certified value listed is the average of values obtained by classical wet assay and ion chromatography analysis.

Refer to side 2 for details of measurement uncertainties.

Classical Wet Assay: 999 µg/mL

Method: Precipitation using Barium Chloride. Filter, ignite, and weigh as BaSO4.

Instrumental Analysis by Ion Chromatography: 1000 µg/mL

Uncertified Properties

Trace Ionic Impurities in the Actual Solution via IC Analysis:

Element	µg/mL	Element	µg/mL
Br^-	<0.01	NO_2^-	<0.01
Cl^-	<0.03	NO_3^-	<0.02
F^-	<0.003	$PO4^{-3}$	<0.08

Balances are calibrated regularly with weight sets traceable to NIST #32856, #32867 and others. This CRM is guaranteed stable and accurate to +/- 0.5% of the certified value. This includes uncertainty components due to preparation, homogeneity by the most precise method, and short-term and long-term stability. This guarantee is valid for a period of one year from the date of certification only when the material is kept tightly capped and stored under ambient laboratory conditions.

Date of Certification: Nov--2022 Certifying Officer: Katherine Cullinan, QC Manager

Page 1 of 2
Rev. 0

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Report of Certification

This Certified Reference Material (CRM) has been prepared and certified under an ISO 9001 (certified by DQS), ISO/IEC 17025 (accredited by A2LA) and ISO 17034 (accredited by A2LA) quality system consistent with the following guides:

- ISO 9001: Quality management systems – Requirements
- ISO/IEC 17025: General requirements for the competence of testing and calibration laboratories
- ISO 17034: General requirements for the competence of reference material producers
- ISO Guide 30: Reference Materials – Selected terms and definitions
- ISO Guide 31: Reference Materials – Contents of certificates, labels, and accompanying documentation
- ISO Guide 35: Reference Materials – Guidance for characterization and assessment of homogeneity and stability
- Guide to the Expression of Uncertainty in Measurement, 2008
- EURACHEM/CITAC Guide: Qualifying Uncertainty in Analytical Measurement – Third Edition
- NIST Technical Note 1297

Material Source:
All analytes and matrix materials are obtained and verified by Spex CertiPrep from pre-qualified vendors as per ISO 9001, ISO/IEC 17025 and ISO 17034 guidelines. Vendor identifications are proprietary; however, sources of all materials used in the preparation and testing of Spex CertiPrep CRMs are tracked and documented. For further assistance, please contact Sales Support at USMet-CRMSales@antylia.com.

Instructions for Use:
Primary usage of this CRM is in neat form or diluted serially with matrix of a purity at or greater than the purity of the original matrix solution. If dilution is required, the diluent must be compatible with all certified analytes and contain stabilizers appropriate for the period of intended use. The CRM can also be used as a spike or with a spike, again with appropriate compatibility considerations. All solutions should be thoroughly mixed, by shaking, prior to use and never pipetted directly from the bottle. Do not return excess solution to the bottle. All surfaces that come in contact with the solution must be thoroughly cleaned and leached prior to use. Dilutions should be performed only with Class A volumetric glassware. See SDS for health and safety information.

Method of Preparation:
Clean laboratory procedures and techniques have been used throughout the preparation. All materials, equipment, analytical instrumentation and personnel have been qualified prior to use. The highest purity acids applicable, 18 megohm, double deionized water, acid-leached triple-rinsed bottles (where appropriate), and Class A/calibrated volumetrics have been used in all preparations.

Homogeneity:
The homogeneity of the CRM has been confirmed by procedures consistent with ISO/IEC 17025, ISO 17034, and ASTM D6362-98 Appendix X2. Random, replicate samples of the final, packaged material have been analyzed to prove homogeneity in accordance with our internal procedure 4600-HOMOGEN-1A. Since the product is highly homogeneous, any sample size taken for analysis would be within the uncertainty budget. This is consistent with the intended use of the CRM.

Statistical Estimator and Confidence Limits:
The certified value 'X' listed on the reverse of this document is at the 95% level of confidence and can be expressed as:

- $X = x \pm U$ where X = certified value, U = expanded uncertainty, x = property value
- $U = ku_c$ where k = 2 is the coverage factor at the 95% confidence level
- u_c = combined standard uncertainty obtained by combining the individual element standard uncertainty components u_i and $u_c = \sqrt{\Sigma u_i^2}$

Certification Report:
All certified values reported were derived from the Certification Report, Spex CertiPrep's traceability documentation, identified by the lot number of this CRM. During the stated period of validity, the purchaser will be notified if this product is recalled due to any significant changes in the stability of the solution. For further assistance, please contact Sales Support at USMet-CRMSales@antylia.com.

Legal Notice:
Spex CertiPrep reference materials are not for any cosmetic, drug or household application and are to be used only by qualified individuals who are trained in appropriate procedures. No claims against Spex CertiPrep, LLC. of any kind whatsoever, whether based on breach of warranty, alleged negligence, or otherwise, with respect to this Reference Material shall be greater than the purchase price. In no event shall Spex CertiPrep, LLC. be liable for any loss of profits or any incidental, special, or consequential damages.

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Accredited to 17025 & 17034 ISO Certified to 9001

Reagent

IC SO4 Cal_00011

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Reference Materials Producer
Cert #2495.01

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Certificate of Reference Material

Chemical Testing
Cert #2495.02

Catalog Number: AS-SO49-2X **Lot No.** 6-05SO4-2X

Description: 1000 µg/mL Sulfate

Matrix: H_2O

This **Ion Chromatography** Certified Reference Material, CRM, is intended primarily for use as a calibration standard or quality control standard for ion chromatography instrumentation. It can be employed in USEPA, ASTM and other methods relevant to the certified properties listed below.

Certified Value: 1001 µg/mL ±5 µg/mL

Certified Value is Traceable to: 3181*

* - indicates NIST SRM † - indicates SPEX CertiPrep CRM (when NIST SRM is not available) ‡ - prepared gravimetrically

The CRM is prepared gravimetrically using high purity Potassium Sulfate, Lot# AN02221A. The certified value listed is the average of values obtained by classical wet assay and ion chromatography analysis.

Refer to side 2 for details of measurement uncertainties.

Classical Wet Assay: 999 µg/mL

Method: Precipitation using Barium Chloride. Filter, ignite, and weigh as BaSO4.

Instrumental Analysis by Ion Chromatography: 1003 µg/mL

Uncertified Properties

Trace Ionic Impurities in the Actual Solution via IC Analysis:

Element	µg/mL	Element	µg/mL
Br^-	<0.02	NO_2^-	<0.02
Cl^-	<0.02	NO_3^-	<0.02
F^-	<0.02	$PO4^{-3}$	<0.02

Balances are calibrated regularly with weight sets traceable to NIST #32856, #32867 and others. This CRM is guaranteed stable and accurate to +/- 0.5% of the certified value. This includes uncertainty components due to preparation, homogeneity by the most precise method, and short-term and long-term stability. This guarantee is valid for a period of one year from the date of certification only when the material is kept tightly capped and stored under ambient laboratory conditions.

Date of Certification: OCT - - 2023 Certifying Officer: Katherine Cullinan, QC Manager

Page 1 of 2
Rev. 0

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12/29/2023
12:08 PM

spex certiprep

Safety Data Sheet
acc. to OSHA HCS

Printing date 07/12/2023 Reviewed on 07/12/2023

1 Identification

· **Product identifier**

· **Product Name: 1000 µg/mL Sulfate**

· **Part Name:**
AS-SO49-2Y
AS-SO49-2X
· **Application of the substance / the mixture** Certified Reference Material

· **Details of the supplier of the safety data sheet**
· **Manufacturer/Supplier:**
Spex CertiPrep, LLC.
203 Norcross Ave, Metuchen,
NJ 08840 USA
732-549-7144
USMet-CRMSales@antylia.com

· **Information department:** product safety department
· **Emergency telephone number:**
Emergency Phone Number (24 hours)
CHEMTREC (800-424-9300)
Outside US: 703-527-3887

2 Hazard(s) identification

· **Classification of the substance or mixture** The product is not classified, according to the Globally Harmonized System (GHS).

· **Label elements**
· **GHS label elements** Not Regulated
· **Hazard pictograms** Not Regulated
· **Signal word** Not Regulated
· **Hazard statements** Not Regulated
· **Classification system:**
· **NFPA ratings (scale 0 - 4)**

Health = 0
Fire = 0
Reactivity = 0

· **HMIS-ratings (scale 0 - 4)**

HEALTH	0
FIRE	0
REACTIVITY	0

Health = 0
Fire = 0
Reactivity = 0

· **Other hazards**
· **Results of PBT and vPvB assessment**
· **PBT:** Not applicable.
· **vPvB:** Not applicable.

3 Composition/information on ingredients

· **Chemical characterization: Mixtures**
· **Description:** Mixture of the substances listed below with nonhazardous additions.

· **Dangerous components:** Not Regulated

· Chemical identification of the substance/preparation		99.87%
7732-18-5	water, distilled, conductivity or of similar purity	0.13%
7778-80-5	potassium sulfate	

4 First-aid measures

· **Description of first aid measures**
· **General information:** No special measures required.
· **After inhalation:** Supply fresh air; consult doctor in case of complaints.
· **After skin contact:** Generally the product does not irritate the skin.
· **After eye contact:** Rinse opened eye for several minutes under running water.
· **After swallowing:** Do not give anything to eat or drink - Do not induce vomiting
· **Information for Doctor:**
· **Most important symptoms and effects, both acute and delayed** No further relevant information available.

(Contd. on page 2)

spex certiprep

Safety Data Sheet
acc. to OSHA HCS

Printing date 07/12/2023 Reviewed on 07/12/2023

Product Name: 1000 µg/mL Sulfate

(Contd. of page 1)

· **Indication of any immediate medical attention and special treatment needed** No further relevant information available.

5 Fire-fighting measures

· **Extinguishing media**
· **Suitable extinguishing agents:** Use fire fighting measures that suit the environment.
· **Special hazards arising from the substance or mixture** No further relevant information available.
· **Advice for firefighters**
· **Protective equipment:** No special measures required.

6 Accidental release measures

· **Personal precautions, protective equipment and emergency procedures** Not required.
· **Environmental precautions:** Dilute with plenty of water.
· **Methods and material for containment and cleaning up:** Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).
· **Reference to other sections**
See Section 7 for information on safe handling.
See Section 8 for information on personal protection equipment.
See Section 13 for disposal information.
· **Protective Action Criteria for Chemicals**

· PAC-1:		20 mg/m³
7778-80-5	potassium sulfate	
· PAC-2:		220 mg/m³
7778-80-5	potassium sulfate	
· PAC-3:		1,300 mg/m³
7778-80-5	potassium sulfate	

7 Handling and storage

· **Handling:**
· **Precautions for safe handling**
No special measures required.
Follow good laboratory practices.
· **Information about protection against explosions and fires:** No special measures required.

· **Conditions for safe storage, including any incompatibilities**
· **Storage:**
· **Requirements to be met by storerooms and receptacles:** No special requirements.
· **Information about storage in one common storage facility:** Not required.
· **Further information about storage conditions:** None.
· **Specific end use(s)** No further relevant information available.

8 Exposure controls/personal protection

· **Additional information about design of technical systems:** No further data; see section 7.

· **Control parameters**
· **Components with limit values that require monitoring at the workplace:**
The product does not contain any relevant quantities of materials with critical values that have to be monitored at the workplace.
· **Additional information:** The lists that were valid during the creation were used as basis.

· **Exposure controls**
· **Personal protective equipment:**
· **General protective and hygienic measures:** The usual precautionary measures for handling chemicals should be followed.
· **Respiratory protection:** Not required.
· **Protection of hands:**
The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.
Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.
Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation
· **Material of gloves**
The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.
· **Penetration time of glove material** The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.
· **Eye protection:** Goggles recommended during refilling.

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Safety Data Sheet
acc. to OSHA HCS

Printing date 07/12/2023 Reviewed on 07/12/2023

Product Name: 1000 µg/mL Sulfate

(Contd. of page 4)

· **Proposition 65**

· **Chemicals known to cause cancer:**
None of the ingredients is listed.

· **Chemicals known to cause reproductive toxicity for females:**
None of the ingredients is listed.

· **Chemicals known to cause reproductive toxicity for males:**
None of the ingredients is listed.

· **Chemicals known to cause developmental toxicity:**
None of the ingredients is listed.

· **Carcinogenic categories**

· **EPA (Environmental Protection Agency)**
None of the ingredients is listed.

· **TLV (Threshold Limit Value)**
None of the ingredients is listed.

· **NIOSH-Ca (National Institute for Occupational Safety and Health)**
None of the ingredients is listed.

· **GHS label elements** Not Regulated
· **Hazard pictograms** Not Regulated
· **Signal word** Not Regulated
· **Hazard statements** Not Regulated
· **Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

16 Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

· **Department issuing SDS:** product safety department
· **Contact:**
Spex CertiPrep, LLC.
1-732-549-7144
· **Date of preparation / last revision** 07/12/2023
· **Abbreviations and acronyms:**
ADR: Accord relatif au transport international des marchandises dangereuses par route (European Agreement Concerning the International Carriage of Dangerous Goods by Road)
IMDG: International Maritime Code for Dangerous Goods
DOT: US Department of Transportation
IATA: International Air Transport Association
EINECS: European Inventory of Existing Commercial Chemical Substances
ELINCS: European List of Notified Chemical Substances
CAS: Chemical Abstracts Service (division of the American Chemical Society)
NFPA: National Fire Protection Association (USA)
HMIS: Hazardous Materials Identification System (USA)
VOC: Volatile Organic Compounds (USA, EU)
PBT: Persistent, Bioaccumulative and Toxic
vPvB: very Persistent and very Bioaccumulative
NIOSH: National Institute for Occupational Safety
OSHA: Occupational Safety & Health
TLV: Threshold Limit Value
PEL: Permissible Exposure Limit
REL: Recommended Exposure Limit

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Reagent

IC SO4 ICV_00024

ERA
A Waters Company

Certified Reference Material

▪ Certificate of Analysis ▪

Product:	1000 mg/L Sulfate
Catalog Number:	062-125mL, 995-500mL
Lot No.	021221m
Starting Material:	Potassium Sulfate (K_2SO_4)
Matrix:	18 megohm deionized water
Density:	1.0002 ± 0.0005 g/mL 20.4 °C and 748 mm Hg
Verification Method:	Ion Chromatography
Certificate Issue Date:	December 22, 2021
Expiration Date:	December 1, 2023
Revision Number:	Original

CERTIFICATION

Parameter	Certified Value[1]	Uncertainty[2]	NIST Traceability	
	mg/L	%	SRM Number[3]	Recovery %
Sulfate	1000	0.994	3181	97.5

16341 Table Mountain Pkwy ▪ Golden, CO 80403 ▪ 800.372.0122 ▪ 303.431.8454 ▪ fax 303.421.0159 ▪ www.eraqc.com

1. The **Certified Value** is the actual gravimetric/volumetric "made-to" concentration confirmed by ERA analytical verification. The certified value is monitored and the purchasers will be notified of any significant changes resulting in recertification or withdrawal of this certified reference material during the period of validity of this certificate.

2. The **Uncertainty** represents an expanded uncertainty and approximates a 95% confidence interval. The uncertainty is based on the characterization, homogeneity and stability characteristics of the product, multiplied by a coverage factor (k=2). The uncertainty applies to the product as supplied and does not take into account any required or optional dilution and/or preparations the laboratory may perform while using this product. The formula used to calculate the expanded uncertainty is:
$U_{expanded} = k * SQRT((U_{char}^2) + (U_{homogen}^2) + (U_{LTS}^2) + (U_{STS}^2) + (U_{RSS}^2))$

Where:

$U_{expanded}$ = Expanded uncertainty.
k = Coverage factor.
U_{char} = Combined standard uncertainty of the manufacturing and/or analytical verification assessment.
$U_{homogen}$ = Standard uncertainty of the homogeneity assessment.
U_{LTS} = Standard uncertainty associated with long-term stability.
U_{STS} = Standard uncertainty associated with short-term (transport) stability.
U_{RSS} = Standard uncertainty associated with repeated sampling of the product (where permitted by product use instructions).

3. Where NIST Standard Reference Materials (SRMs) are available, each analyte has been analytically traced to the NIST SRM listed. **Analytical Traceability Recovery (%)** = [(% recovery ERA certified reference material)/(% recovery NIST SRM)]*100
The traceability data shown were compiled by analyzing this ERA certified reference material and/or it's associated stock solution(s) against the applicable NIST SRMs.

4. **Metrological Traceability.** This certified reference material is metrologically traceable to NIST mass reference materials through an unbroken chain of comparisons.

5. **Storage**: 20-25°C

6. **Intended Use**: This standard is intended to be used to calibrate your analytical process and/or as a quality control check of the entire process for the analytes/matrix included in the standard.

7. **Minimum Sample Size**: ERA suggests that when subsampling this product prior to analysis, you use a minimum sample size of at least 1 mL. Using a smaller sample size may invalidate the assigned value and/or uncertainty shown.

8. **Repeat Sampling**: Repeated Sampling of this product is permitted, provided minimum sample sizes and storage instructions are adhered to.

9. **Safety**: ERA products may be hazardous and are intended for use by professional laboratory personnel trained in the competent handling of such materials. Responsibility for the safe use of these products rests entirely with the buyer and/or user. Safety Data Sheets (SDS) for all ERA products are available through our website: www.eraqc.com

If you have any questions or need technical assistance, please call ERA technical assistance at 1-800-372-0122 or send an email to info@eraqc.com.

Certifying Officer
Brian Miller

Brian Miller

Quality Officer
Matthew Seebeck

ISO 17034:2016 ACCREDITED Reference Material Producer CERT #1539.03

ISO/IEC 17025:2017 ACCREDITED Chemical Testing Laboratory CERT #1539.02

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Reagent

ICV MIX--3_00001

Certificate of Analysis

Refine your results. Redefine your industry.

300 Technology Drive
Christiansburg, VA 24073 USA
inorganicventures.com

P: 800-669-6799/540-585-3030
F: 540-585-3012
info@inorganicventures.com

1.0 ACCREDITATION / REGISTRATION

INORGANIC VENTURES is accredited to ISO 17034, "General Requirements for the Competence of Reference Material Producers" and ISO/IEC 17025, "General Requirements for the Competence of Testing and Calibration Laboratories". Inorganic Ventures is also an ISO 9001 registered manufacturer (QSR Certificate Number QSR-1034).

ACCREDITED Testing Laboratory Certificate 883.01

ACCREDITED Reference Material Producer Certificate 883.02

2.0 PRODUCT DESCRIPTION

Product Code:	Multi Analyte Custom Grade Solution
Catalog Number:	ICP ICPMS CAL 3
Lot Number:	U2-MEB731885
Matrix:	5% (v/v) HNO3
Value / Analyte(s):	1 000 µg/mL ea: Phosphorus, Sulfur, 100 µg/mL ea: Uranium

3.0 CERTIFIED VALUES AND UNCERTAINTIES

ANALYTE	CERTIFIED VALUE	ANALYTE	CERTIFIED VALUE
Phosphorus, P	**1 000 ± 5 µg/mL**	**Sulfur, S**	**1 000 ± 5 µg/mL**
Uranium, U	**100.0 ± 0.5 µg/mL**		

Density: 1.027 g/mL (measured at 20 ± 4 ºC)

Assay Information:

ANALYTE	METHOD	NIST SRM#	SRM LOT#
P	ICP Assay	3139a	060717
P	Acidimetric	84L	84L
S	Acidimetric	84L	84L
S	ICP Assay	traceable to 3154	P2-S680745
U	ICP Assay	3164	080521
U	Calculated		See Sec. 4.2
U	X_U_CRM		See Sec. 4.2

The following equations are used in the calculation of the certified value and the uncertainty. Reported uncertainties represent expanded uncertainties expressed at approximately the 95% confidence level using a coverage factor of k = 2.

Characterization of CRM/RM by Two or More Methods

Certified Value, $X_{CRM/RM}$, where two or more methods of characterization are used is the weighted mean of the results:

$X_{CRM/RM} = \Sigma(w_i)(X_i)$

X_i = mean of Assay Method i with standard uncertainty $u_{char\ i}$

w_i = the weighting factors for each method calculated using the inverse square of the variance:

$w_i = (1/u_{char\ i})^2 / (\Sigma(1/(u_{char\ i})^2)$

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{½}$

k = coverage factor = 2

$u_{char} = [\Sigma((w_i)^2\ (u_{char\ i})^2)]^{½}$ where $u_{char\ i}$ are the errors from each characterization method

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{lts} = long term stability standard uncertainty (storage)

u_{ts} = transport stability standard uncertainty

Characterization of CRM/RM by One Method

Certified Value, $X_{CRM/RM}$, where one method of characterization is used is the mean of individual results:

$X_{CRM/RM} = (X_a)\ (u_{char\ a})$

X_a = mean of Assay Method A with

$u_{char\ a}$ = the standard uncertainty of characterization Method A

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char\ a} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{½}$

k = coverage factor = 2

$u_{char\ a}$ = the errors from characterization

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{lts} = long term stability standard uncertainty (storage)

u_{ts} = transport stability standard uncertainty

Certified Abundance:

IV's Certified Abundance

Isotope	Atom %
Uranium 238U	99.8 ± 0.1
Uranium 235U	0.19 ± 0.05

4.0 TRACEABILITY TO NIST

- This product is traceable to NIST via an unbroken chain of comparisons. The uncertainties for each certified value are reported, taking into account the SRM/RM uncertainty error and the measurement, weighing and volume dilution errors. In rare cases where no NIST SRM/RM are available, the term 'in-house std.' is specified.

4.1 Thermometer Calibration

- All thermometers are NIST traceable through thermometers that are calibrated by an accredited calibration laboratory.

4.2 Balance Calibration

- All analytical balances are calibrated by an accredited calibration laboratory and procedure. The weights used for testing are annually compared to master weights and are traceable to NIST.

4.3 Glassware Calibration

- An in-house procedure is used to calibrate all Class A glassware used in the manufacturing and quality control of CRM/RMs.

5.0 TRACE METALLIC IMPURITIES (TMI) DETERMINED BY ICP-MS AND ICP-OES (µg/mL)

N/A

6.0 INTENDED USE

6.1 This standard is intended for the calibration of analytical instruments and validation of analytical methods as appropriate. This CRM may be used in connection with EPA Methods 6010, 6020 (all versions), Standard Methods 3120 B and USP <232> / ICH Q3D.

6.2 For products attaining traceability through Inorganic Ventures' Primary Certified Reference Materials (PCRM™) see the Limited License to Use PCRM™ in the Inorganic Ventures Terms and Conditions of Sale, https://www.inorganicventures.com/terms-and-conditions-sale. The Terms and Conditions contain information on the use of materials traceable to PCRM™ certified reference materials. This Limited License agreement is especially pertinent for laboratories accredited under ISO:17034.

7.0 INSTRUCTIONS FOR THE CORRECT USE OF THIS REFERENCE MATERIAL

7.1 Storage and Handling Recommendations

- Store between approximately 4° - 30° C while in sealed TCT bag.

- While stored in the sealed TCT bag, transpiration of this CRM/RM is negligible. After opening the sealed TCT bag transpiration of the CRM/RM will occur, resulting in a gradual increase in the analyte concentration(s). It is the responsibility of the user to account for this effect. When the bottle is weighed both before and after being placed in storage, the mass difference observed will be a measure of transpiration mass loss.

- After opening the sealed TCT bag, keep cap tightly sealed when not in use and store between 4° - 24° C to minimize the effects of transpiration. Use at 20° ± 4° C to minimize volumetric dilution error when using the reported density. Do not pipette from the container. Do not return removed aliquots to container.

- For more information, visit **www.inorganicventures.com/TCT**

8.0 HAZARDOUS INFORMATION

- Please refer to the Safety Data Sheet for information regarding this CRM/RM.

9.0 HOMOGENEITY

- This solution was mixed according to an in-house procedure and is guaranteed to be homogeneous. Homogeneity data indicate that the end user should take a minimum sample size of 0.2 mL to assure homogeneity.

10.0 QUALITY STANDARD DOCUMENTATION

10.1 ISO 9001 Quality Management System Registration

- QSR Certificate Number QSR-1034

10.2 ISO/IEC 17025 "General Requirements for the Competence of Testing and Calibration Laboratories"

- Chemical Testing - Accredited / A2LA Certificate Number 883.01

10.3 ISO 17034 "General Requirements for the Competence of Reference Material Producers"

- Reference Material Producer - Accredited / A2LA Certificate Number 883.02

Inorganic Ventures, 300 Technology Drive, Christiansburg, Va. 24073, USA; Telephone: 800.669.6799; 540.585.3030, Fax: 540.585.3012; inorganicventures.com; info@inorganicventures.com

11.0 CERTIFICATION, LOT EXPIRATION AND PERIOD OF VALIDITY

11.1 Certification Issue Date

April 06, 2023

- The certification is valid within the measurement uncertainty specified provided the CRM/RM is stored and handled in accordance with instructions given in Sec 7.1. This certification is nullified if instructions in Sec 7.1 are not followed or if the CRM/RM is damaged, contaminated, or otherwise modified.

11.2 Lot Expiration Date

- **April 06, 2028**

- The date after which this CRM/RM should not be used.

- The lot expiration date reflects the period of time that the stability of a CRM/RM can be supported by long term stability studies conducted on properly stored and handled CRM/RMs. Lot expiration is limited primarily by transpiration (loss of water from the solution) and infrequently by chemical stability.

11.3 Period of Validity

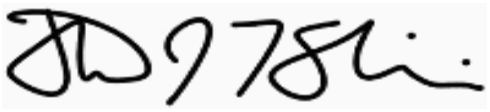
- Sealed TCT Bag Open Date: _____

- This CRM/RM should not be used longer than one year (or six months in the case of a 30 mL bottle) from the date of opening the aluminized bag or after the date given in Sec. 11.2, whichever comes first. This is contingent upon the CRM/RM being stored and handled in accordance with the instructions given in Sec. 7.1.

12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

Certificate Approved By:

Thomas Kozikowski
Manager, Quality Control



Certifying Officer:

Paul Gaines
Chairman / Senior Technical Director

Reagent

ICV MIX-1a_00003

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Certificate of Analysis

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Christiansburg, VA 24073 USA
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1.0 ACCREDITATION / REGISTRATION

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ACCREDITED Testing Laboratory Certificate 883.01
ACCREDITED Reference Material Producer Certificate 883.02

2.0 PRODUCT DESCRIPTION

Product Code:	Multi Analyte Custom Grade Solution
Catalog Number:	IV-67795-A
Lot Number:	U2-MEB734729
Matrix:	5% (v/v) HNO3
Value / Analyte(s):	100 µg/mL ea:

Arsenic, Barium,
Beryllium, Cadmium,
Cobalt, Chromium,
Copper, Lithium,
Manganese, Nickel,
Lead, Selenium,
Strontium, Thallium,
Vanadium

3.0 CERTIFIED VALUES AND UNCERTAINTIES

ANALYTE	CERTIFIED VALUE	ANALYTE	CERTIFIED VALUE
Arsenic, As	**100.0 ± 0.7 µg/mL**	**Barium, Ba**	**100.0 ± 0.4 µg/mL**
Beryllium, Be	**100.0 ± 0.6 µg/mL**	**Cadmium, Cd**	**100.0 ± 0.4 µg/mL**
Chromium, Cr	**100.0 ± 0.6 µg/mL**	**Cobalt, Co**	**100.0 ± 0.5 µg/mL**
Copper, Cu	**100.1 ± 0.4 µg/mL**	**Lead, Pb**	**100.0 ± 0.5 µg/mL**
Lithium, Li	**100.1 ± 0.4 µg/mL**	**Manganese, Mn**	**100.0 ± 0.4 µg/mL**
Nickel, Ni	**100.0 ± 0.4 µg/mL**	**Selenium, Se**	**100.0 ± 0.6 µg/mL**
Strontium, Sr	**100.0 ± 0.4 µg/mL**	**Thallium, Tl**	**100.0 ± 0.5 µg/mL**
Vanadium, V	**100.0 ± 0.4 µg/mL**		

Density: 1.029 g/mL (measured at 20 ± 4 ºC)

Assay Information:

ANALYTE	METHOD	NIST SRM#	SRM LOT#
As	ICP Assay	3103a	100818
As	Calculated		See Sec. 4.2
Ba	ICP Assay	3104a	140909
Ba	Gravimetric		See Sec. 4.2
Be	ICP Assay	3105a	090514
Cd	ICP Assay	3108	130116
Cd	EDTA	928	928
Co	ICP Assay	3113	190630
Co	EDTA	928	928
Cr	ICP Assay	3112a	170630
Cu	ICP Assay	3114	121207
Cu	EDTA	928	928
Li	ICP Assay	3129a	100714
Li	Gravimetric		See Sec. 4.2
Mn	ICP Assay	3132	050429
Mn	EDTA	928	928
Ni	ICP Assay	3136	120619
Ni	EDTA	928	928
Pb	ICP Assay	3128	101026
Pb	EDTA	928	928
Se	ICP Assay	3149	100901
Sr	EDTA	928	928
Sr	ICP Assay	Traceable to 3153a	K2-SR650985
Sr	Calculated		See Sec. 4.2
Tl	ICP Assay	3158	151215
V	ICP Assay	3165	160906
V	EDTA	928	928

The following equations are used in the calculation of the certified value and the uncertainty. Reported uncertainties represent expanded uncertainties expressed at approximately the 95% confidence level using a coverage factor of k = 2.

Characterization of CRM/RM by Two or More Methods

Certified Value, $X_{CRM/RM}$, where two or more methods of characterization are used is the weighted mean of the results:

$X_{CRM/RM} = \Sigma(w_i)(X_i)$

X_i = mean of Assay Method i with standard uncertainty $u_{char\ i}$

w_i = the weighting factors for each method calculated using the inverse square of the variance:

$w_i = (1/u_{char\ i})^2 / (\Sigma(1/(u_{char\ i})^2)$

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{½}$

k = coverage factor = 2

$u_{char} = [\Sigma((w_i)^2\ (u_{char\ i})^2)]^{½}$ where $u_{char\ i}$ are the errors from each characterization method

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{lts} = long term stability standard uncertainty (storage)

u_{ts} = transport stability standard uncertainty

Characterization of CRM/RM by One Method

Certified Value, $X_{CRM/RM}$, where one method of characterization is used is the mean of individual results:

$X_{CRM/RM} = (X_a)\ (u_{char\ a})$

X_a = mean of Assay Method A with

$u_{char\ a}$ = the standard uncertainty of characterization Method A

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char\ a} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{½}$

k = coverage factor = 2

$u_{char\ a}$ = the errors from characterization

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{lts} = long term stability standard uncertainty (storage)

u_{ts} = transport stability standard uncertainty

4.0 TRACEABILITY TO NIST

- This product is traceable to NIST via an unbroken chain of comparisons. The uncertainties for each certified value are reported, taking into account the SRM/RM uncertainty error and the measurement, weighing and volume dilution errors. In rare cases where no NIST SRM/RM are available, the term 'in-house std.' is specified.

4.1 Thermometer Calibration

- All thermometers are NIST traceable through thermometers that are calibrated by an accredited calibration laboratory.

4.2 Balance Calibration

- All analytical balances are calibrated by an accredited calibration laboratory and procedure. The weights used for testing are annually compared to master weights and are traceable to NIST.

4.3 Glassware Calibration

- An in-house procedure is used to calibrate all Class A glassware used in the manufacturing and quality control of CRM/RMs.

5.0 TRACE METALLIC IMPURITIES (TMI) DETERMINED BY ICP-MS AND ICP-OES (µg/mL)

N/A

6.0 INTENDED USE

6.1 This standard is intended for the calibration of analytical instruments and validation of analytical methods as appropriate. This CRM may be used in connection with EPA Methods 6010, 6020 (all versions), Standard Methods 3120 B and USP <232> / ICH Q3D.

6.2 For products attaining traceability through Inorganic Ventures' Primary Certified Reference Materials (PCRM™) see the Limited License to Use PCRM™ in the Inorganic Ventures Terms and Conditions of Sale, https://www.inorganicventures.com/terms-and-conditions-sale. The Terms and Conditions contain information on the use of materials traceable to PCRM™ certified reference materials. This Limited License agreement is especially pertinent for laboratories accredited under ISO:17034.

7.0 INSTRUCTIONS FOR THE CORRECT USE OF THIS REFERENCE MATERIAL

7.1 Storage and Handling Recommendations

- Store between approximately 4° - 30° C while in sealed TCT bag.

- While stored in the sealed TCT bag, transpiration of this CRM/RM is negligible. After opening the sealed TCT bag transpiration of the CRM/RM will occur, resulting in a gradual increase in the analyte concentration(s). It is the responsibility of the user to account for this effect. When the bottle is weighed both before and after being placed in storage, the mass difference observed will be a measure of transpiration mass loss.

- After opening the sealed TCT bag, keep cap tightly sealed when not in use and store between 4° - 24° C to minimize the effects of transpiration. Use at 20° ± 4° C to minimize volumetric dilution error when using the reported density. Do not pipette from the container. Do not return removed aliquots to container.

- For more information, visit **www.inorganicventures.com/TCT**

8.0 HAZARDOUS INFORMATION

- Please refer to the Safety Data Sheet for information regarding this CRM/RM.

9.0 HOMOGENEITY

- This solution was mixed according to an in-house procedure and is guaranteed to be homogeneous. Homogeneity data indicate that the end user should take a minimum sample size of 0.2 mL to assure homogeneity.

10.0 QUALITY STANDARD DOCUMENTATION

10.1 ISO 9001 Quality Management System Registration

- QSR Certificate Number QSR-1034

10.2 ISO/IEC 17025 "General Requirements for the Competence of Testing and Calibration Laboratories"

- Chemical Testing - Accredited / A2LA Certificate Number 883.01

10.3 ISO 17034 "General Requirements for the Competence of Reference Material Producers"

- Reference Material Producer - Accredited / A2LA Certificate Number 883.02

Inorganic Ventures, 300 Technology Drive, Christiansburg, Va. 24073, USA; Telephone: 800.669.6799; 540.585.3030, Fax: 540.585.3012; inorganicventures.com; info@inorganicventures.com

11.0 CERTIFICATION, LOT EXPIRATION AND PERIOD OF VALIDITY

11.1 Certification Issue Date

July 12, 2023

- The certification is valid within the measurement uncertainty specified provided the CRM/RM is stored and handled in accordance with instructions given in Sec 7.1. This certification is nullified if instructions in Sec 7.1 are not followed or if the CRM/RM is damaged, contaminated, or otherwise modified.

11.2 Lot Expiration Date

- **July 12, 2028**

- The date after which this CRM/RM should not be used.

- The lot expiration date reflects the period of time that the stability of a CRM/RM can be supported by long term stability studies conducted on properly stored and handled CRM/RMs. Lot expiration is limited primarily by transpiration (loss of water from the solution) and infrequently by chemical stability.

11.3 Period of Validity

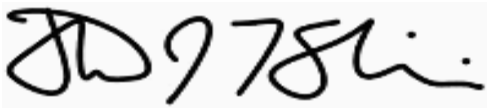
- Sealed TCT Bag Open Date: _____

- This CRM/RM should not be used longer than one year (or six months in the case of a 30 mL bottle) from the date of opening the aluminized bag or after the date given in Sec. 11.2, whichever comes first. This is contingent upon the CRM/RM being stored and handled in accordance with the instructions given in Sec. 7.1.

12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

Certificate Approved By:

Thomas Kozikowski
Stock VS Manager



Certifying Officer:

Paul Gaines
Chairman / Senior Technical Director

Reagent

MS CALSTD-2_00104

CPI INTERNATIONAL

7555501

ID: MS CAL STD-2_00104

Exp: 10/24 Prpd:LM1

MS CAL STD 2

CERTIFICATE OF ANALYSIS

Multi-Element Aqueous CRM

Product #: TA-CAL2

ICP ICPMS CAL Mix # 2

Lot #: 1274823-1

Matrix: 5% HNO_3

Element	Certified Concentration & Uncertainty	Element	Certified Concentration & Uncertainty	Element	Certified Concentration & Uncertainty
Al	2000 ± 10 mg/L	Fe	2000 ± 10 mg/L	Mg	2000 ± 10 mg/L
Ca	2000 ± 10 mg/L	K	2000 ± 10 mg/L	Na	2000 ± 10 mg/L

Source Material Lot # Chart

Element	Source Material Lot #	Element	Source Material Lot #	Element	Source Material Lot #
Al	1249289	Fe	1249266	Mg	1222806
Ca	1232112	K	1287603	Na	1245609

Intended Use: This solution is intended for use as a certified reference material (CRM) or calibration standard for inductively coupled plasma optical emission spectroscopy (ICP-OES), inductively coupled plasma mass spectrometry (ICP-MS), flame or furnace atomic absorption spectroscopy (AA or GFAA), and other techniques for elemental analysis.

Certification & Traceability: This CRM was manufactured, processed, and/or certified under a quality management system that is registered/accredited to **ISO 9001**, **ISO 17034**, and **ISO/IEC 17025**. This CRM was prepared to the certified concentrations shown above by gravimetric methods, using single-element concentrates that were certified using the "High Performance ICP-OES" protocol developed by NIST and are directly traceable to **NIST SRMs (see reverse side)**. The solution was stabilized using high purity nitric acid (HNO_3) and diluted with filtered (0.22 µm), 18 M-ohm deionized water. The balances used in the preparation of this CRM are calibrated regularly with traceability to NIST, using a calibration provider that is accredited to ISO/IEC 17025 by a mutually recognized accreditation body. All volumetric dilutions are performed in Class A calibrated glassware. The certified concentrations were determined based upon gravimetric procedures. Secondary verification of the certified concentrations was performed using ICP-OES that was calibrated and/or referenced against **NIST SRMs (see reverse side)**. The uncertainty associated with each certified concentration represents the expanded uncertainty at the 95% confidence level using a coverage factor of k=2.

Instructions for Use: We recommend that the solution be thoroughly mixed by repeated shaking or swirling of the bottle immediately prior to use. To achieve the highest accuracy, the analyst should: (1) use only pre-cleaned containers and transferware, (2) not pipette directly from the CRM's original container, (3) never pour used product back into the original container, (4) make dilutions using calibrated balances or certified class A volumetric flasks and pipettes, (5) use a minimum sub-sample size of 500 µL, and (6) dilute with the same matrix as the original CRM or other chemically suitable matrix. The solution should be kept tightly capped and stored under normal laboratory conditions. Do not freeze, heat, or immerse the bottle or its contents, and avoid exposure to direct sunlight or moisture.

Period of Validity: CPI International ensures the accuracy of this solution for **18 months** from the certification date shown below, provided the instructions for use are followed. During the period of validity, the purchaser will be notified if this product is recalled due to any significant changes in the stability of the solution.

Chuck Goudreau

Chuck Goudreau, Certifying Officer

November 30, 2022
Certification Date

CPI International waives all responsibility for any damages resulting from the usage and/or implementation of the products/data described herein.

USA
5580 Skylane Boulevard P: 707.525.5788
Santa Rosa, CA 95403 P: 800.878.7654
F: 707.545.7901

Europe
Nieuwe Hemweg 7P P: +31 20 638 05 97
1013BG Amsterdam F: +31 20 420 28 36
The Netherlands

www.cpiinternational.com

Health and Safety Information: Refer to the Safety Data Sheet (SDS).

Homogeneity: This solution was determined to be homogeneous by procedures consistent with the requirements of ISO 17034 and ISO Guide 35. Replicate samples of the finished solution were analyzed to confirm its homogeneity, in accordance with internal procedures for the assessment of homogeneity and stability. To ensure homogeneity, users should not take a smaller sub-sample than specified in the Instructions for Use, as doing so will invalidate the certified values and uncertainties.

Further Information: Please contact CPI International for further information about this material.

Quality Certifications: This material was prepared under a quality management system that is registered/accredited to the following:

- ISO 17034 Accredited: Reference Materials Producer, A2LA Certificate No. 2848.02 – General Requirements for the Competence of Reference Material Producers
    - ISO 17034 references additional requirements specified in ISO Guide 31 and ISO Guide 35
- ISO/IEC 17025 Accredited: Chemical Testing, A2LA Certificate No. 2848.01 – General Requirements for the Competence of Testing and Calibration Laboratories
- ISO 9001 Certified: Quality Management Systems, Certificate Registration No. 56 100 19560101 – Requirements *(Registrar: TUV NORD)*

This CRM is traceable to the following NIST SRMs:

Analyte	Aq. SRM	MO SRM	Analyte	Aq. SRM	MO SRM	Analyte	Aq. SRM	MO SRM
Ag	3151	-	Hf	3122	-	S	3154	2770
Al	3101a	-	Hg	3133	3133	Sb	3102a	3102a
As	3103a	3103a	Ho	3123a	-	Sc	3148a	3148a
Au	3121	-	In	3124a	3124a	Se	3149	3149
B	3107	3107	K	3141a	3141a	Si	3150	-
Ba	3104a	-	La	3127a	3127a	Sm	3147a	-
Be	3105a	3105a	Li	3129a	3129a	Sn	3161a	-
Bi	3106	3106	Lu	3130a	-	SO_4^{-2}	3181	-
Br	3184	-	Mg	3131a	3131a	Sr	3153a	3153a
Ca	3109a	3109a	Mn	3132	3132	Ta	3155	-
Cd	3108	-	Mo	3134	3134	Tb	3157a	-
Ce	3110	3110	Na	3152a	-	Te	3156	-
Cl	3182	1818a	Nb	3137	-	Th	-	-
Co	3113	3113	Nd	3135a	-	Ti	3162a	3162a
Cr	3112a	-	Ni	3136	-	Tl	3158	3158
Cs	3111a	-	NO_3^-	3185	-	Tm	3160a	-
Cu	3114	-	P	3139a	3139a	U	3164	-
Dy	3115a	-	Pb	3128	-	V	3165	-
Er	3116a	-	Pd	3138	-	W	3163	3163
Eu	3117a	-	PO_4^{-3}	3186	-	Y	3167a	3167a
F-	3183	-	Pr	3142a	-	Yb	3166a	-
Fe	3126a	-	Pt	3140	3140	Zn	3168a	3168a
Ga	3119a	-	Rb	3145a	-	Zr	3169	3169
Gd	3118a	-	Re	3143	-			
Ge	3120a	-	Rh	3144	3144			

Reagent

MS ICSA STOCK_00051

CPI INTERNATIONAL

CERTIFICATE OF ANALYSIS

Multi-Element Aqueous CRM

ICPMS ICSA Mix

7510937

ID: MS ICSA STOCK_00051
Exp:04/20/24 Prpd:LRD Opn:12/13/22
ICP-MS ICS-0A STOCK SOLUT

Product #: TA-ICPMS-ICSA

Lot #: 1267033-1

Matrix: 2% HNO_3

Element	Certified Concentration & Uncertainty	Element	Certified Concentration & Uncertainty	Element	Certified Concentration & Uncertainty
Al	1000 ± 5 mg/L	Fe	1000 ± 5 mg/L	Na	1000 ± 5 mg/L
C	2000 ± 10 mg/L	K	1000 ± 5 mg/L	P	1000 ± 5 mg/L
Ca	1000 ± 5 mg/L	Mg	1000 ± 5 mg/L	S	1000 ± 5 mg/L
Cl	10,000 ± 50 mg/L	Mo	19.99 ± 0.10 mg/L	Ti	20.00 ± 0.10 mg/L

Source Material Lot # Chart

Element	Source Material Lot #	Element	Source Material Lot #	Element	Source Material Lot #
Al	1249289	Fe	1249266	Na	1245609
C	R11H037	K	1156013	P	1225600
Ca	1232112	Mg	1075231	S	1207779
Cl	220348	Mo	1207790	Ti	1094307

Intended Use: This solution is intended for use as a certified reference material (CRM) or calibration standard for inductively coupled plasma optical emission spectroscopy (ICP-OES), inductively coupled plasma mass spectrometry (ICP-MS), flame or furnace atomic absorption spectroscopy (AA or GFAA), and other techniques for elemental analysis.

Certification & Traceability: This CRM was manufactured, processed, and/or certified under a quality management system that is registered/accredited to **ISO 9001**, **ISO 17034**, and **ISO/IEC 17025**. This CRM was prepared to the certified concentrations shown above by gravimetric methods, using single-element concentrates that were certified using the "High Performance ICP-OES" protocol developed by NIST and are directly traceable to **NIST SRMs (see final page)**. The solution was stabilized using high purity nitric acid (HNO_3) and diluted with filtered (0.22 µm), 18 M-ohm deionized water. The balances used in the preparation of this CRM are calibrated regularly with traceability to NIST, using a calibration provider that is accredited to ISO/IEC 17025 by a mutually recognized accreditation body. All volumetric dilutions are performed in Class A calibrated glassware. The certified concentrations were determined based upon gravimetric procedures. Secondary verification of the certified concentrations was performed using ICP-OES that was calibrated and/or referenced against **NIST SRMs (see final page)**. The uncertainty associated with each certified concentration represents the expanded uncertainty at the 95% confidence level using a coverage factor of k=2.

Trace Concentrations (µg/L)

Ag	<0.5	Co	<1	Ge	<0.5	Lu	<0.2	P	MAJOR	Sb	<0.5	Te	<1
Al	MAJOR	Cs	<0.5	Hf	<0.2	Mg	MAJOR	Pb	<1	Sc	<5	Ti	MAJOR
As	<2	Cr	<0.5	Hg	<0.5	Mn	<1	Pd	<0.5	Se	<2	Tl	<0.5
Au	3	Cu	<1	Ho	<0.2	Mo	MAJOR	Pr	<0.2	Si	<100	Tm	<0.2
B	<5	Dy	<0.2	In	nd	Na	MAJOR	Pt	<0.5	Sm	<0.2	V	<1
Ba	22	Er	<0.2	Ir	<0.2	Nb	<0.5	Rb	<0.5	Sn	3	W	<0.5
Bi	<0.2	Eu	<0.2	K	MAJOR	Nd	<0.2	Re	<0.2	Sr	<1	Y	<0.5
Ca	MAJOR	Fe	MAJOR	La	<0.5	Ni	<2	Rh	<0.5	Ta	<0.5	Yb	<0.2
Cd	<0.5	Ga	18	Li	<2	Os	<0.5	Ru	<0.5	Tb	<0.5	Zn	<2
Ce	<0.2	Gd	<0.2										

USA
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Santa Rosa, CA 95403 P: 800.878.7654
F: 707.545.7901

Europe
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1013BG Amsterdam F: +31 20 420 28 36
The Netherlands

Instructions for Use: We recommend that the solution be thoroughly mixed by repeated shaking or swirling of the bottle immediately prior to use. To achieve the highest accuracy, the analyst should: (1) use only pre-cleaned containers and transferware, (2) not pipette directly from the CRM's original container, (3) never pour used product back into the original container, (4) make dilutions using calibrated balances or certified class A volumetric flasks and pipettes, (5) use a minimum sub-sample size of 500 µL, and (6) dilute with the same matrix as the original CRM or other chemically suitable matrix. The solution should be kept tightly capped and stored under normal laboratory conditions. Do not freeze, heat, or immerse the bottle or its contents, and avoid exposure to direct sunlight or moisture.

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Chuck Goudreau

Chuck Goudreau, Certifying Officer

October 20, 2022
Certification Date

CPI International waives all responsibility for any damages resulting from the usage and/or implementation of the products/data described herein.

Health and Safety Information: Refer to the Safety Data Sheet (SDS).

Homogeneity: This solution was determined to be homogeneous by procedures consistent with the requirements of ISO 17034 and ISO Guide 35. Replicate samples of the finished solution were analyzed to confirm its homogeneity, in accordance with internal procedures for the assessment of homogeneity and stability. To ensure homogeneity, users should not take a smaller sub-sample than specified in the Instructions for Use, as doing so will invalidate the certified values and uncertainties.

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    - ISO 17034 references additional requirements specified in ISO Guide 31 and ISO Guide 35
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- ISO 9001 Certified: Quality Management Systems, Certificate Registration No. 56 100 19560101 – Requirements *(Registrar: TUV NORD)*

This CRM is traceable to the following NIST SRMs:

Analyte	Aq. SRM	MO SRM	Analyte	Aq. SRM	MO SRM	Analyte	Aq. SRM	MO SRM
Ag	3151	-	Hf	3122	-	S	3154	2770
Al	3101a	-	Hg	3133	3133	Sb	3102a	3102a
As	3103a	3103a	Ho	3123a	-	Sc	3148a	3148a
Au	3121	-	In	3124a	3124a	Se	3149	3149
B	3107	3107	K	3141a	3141a	Si	3150	-
Ba	3104a	-	La	3127a	3127a	Sm	3147a	-
Be	3105a	3105a	Li	3129a	3129a	Sn	3161a	-
Bi	3106	3106	Lu	3130a	-	SO_4^{-2}	3181	-
Br	3184	-	Mg	3131a	3131a	Sr	3153a	3153a
Ca	3109a	3109a	Mn	3132	3132	Ta	3155	-
Cd	3108	-	Mo	3134	3134	Tb	3157a	-
Ce	3110	3110	Na	3152a	-	Te	3156	-
Cl	3182	1818a	Nb	3137	-	Th	-	-
Co	3113	3113	Nd	3135a	-	Ti	3162a	3162a
Cr	3112a	-	Ni	3136	-	Tl	3158	3158
Cs	3111a	-	NO_3^-	3185	-	Tm	3160a	-
Cu	3114	-	P	3139a	3139a	U	3164	-
Dy	3115a	-	Pb	3128	-	V	3165	-
Er	3116a	-	Pd	3138	-	W	3163	3163
Eu	3117a	-	PO_4^{-3}	3186	-	Y	3167a	3167a
F	3183	-	Pr	3142a	-	Yb	3166a	-
Fe	3126a	-	Pt	3140	3140	Zn	3168a	3168a
Ga	3119a	-	Rb	3145a	-	Zr	3169	3169
Gd	3118a	-	Re	3143	-			
Ge	3120a	-	Rh	3144	3144			

Reagent

MS ICSA STOCK_00052

INORGANIC VENTURES™
Refine your results. Redefine your industry.

Certificate of Analysis

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inorganicventures.com

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1.0 ACCREDITATION / REGISTRATION

INORGANIC VENTURES is accredited to ISO 17034, "General Requirements for the Competence of Reference Material Producers" and ISO/IEC 17025, "General Requirements for the Competence of Testing and Calibration Laboratories". Inorganic Ventures is also an ISO 9001 registered manufacturer (QSR Certificate Number QSR-1034).

ACCREDITED Testing Laboratory Certificate 883.01
ACCREDITED Reference Material Producer Certificate 883.02

2.0 PRODUCT DESCRIPTION

Product Code:	Multi Analyte Custom Grade Solution
Catalog Number:	6020ICS-0A
Lot Number:	S2-MEB706044
Matrix:	1% (v/v) HNO3
Value / Analyte(s):	10 000 µg/mL ea: Chloride,
	2 000 µg/mL ea: Carbon,
	1 000 µg/mL ea: Calcium, Aluminum, Iron, Potassium, Magnesium, Sodium, Phosphorus, Sulfur,
	20 µg/mL ea: Titanium, Molybdenum

3.0 CERTIFIED VALUES AND UNCERTAINTIES

ANALYTE	CERTIFIED VALUE	ANALYTE	CERTIFIED VALUE
Aluminum, Al	**1 000 ± 3 µg/mL**	**Calcium, Ca**	**1 000 ± 4 µg/mL**
Carbon, C	**2 001 ± 4 µg/mL**	**Chloride, Cl**	**10 000.0 ± 50.0 µg/mL**
Iron, Fe	**1 000 ± 4 µg/mL**	**Magnesium, Mg**	**1 000 ± 4 µg/mL**
Molybdenum, Mo	**20.01 ± 0.12 µg/mL**	**Phosphorus, P**	**1 000 ± 6 µg/mL**
Potassium, K	**1 000 ± 4 µg/mL**	**Sodium, Na**	**1 000 ± 4 µg/mL**
Sulfur, S	**1 000 ± 4 µg/mL**	**Titanium, Ti**	**20.01 ± 0.14 µg/mL**

Density: 1.031 g/mL (measured at 20 ± 4 ºC)

Assay Information:

ANALYTE	METHOD	NIST SRM#	SRM LOT#
Al	ICP Assay	3101a	140903
Al	EDTA	928	928
C	Acidimetric	84L	84L
Ca	ICP Assay	3109a	130213
Ca	EDTA	928	928
Fe	ICP Assay	3126a	140812
Fe	EDTA	928	928
K	ICP Assay	3141a	140813
K	Gravimetric		See Sec. 4.2
Mg	ICP Assay	3131a	140110
Mg	EDTA	928	928
Mo	ICP Assay	3134	130418
Na	ICP Assay	3152a	120715
Na	Gravimetric		See Sec. 4.2
P	ICP Assay	3139a	060717
P	Acidimetric	84L	84L
S	Acidimetric	84L	84L
S	ICP Assay	traceable to 3154	P2-S680745
Ti	ICP Assay	3162a	130925

The following equations are used in the calculation of the certified value and the uncertainty. Reported uncertainties represent expanded uncertainties expressed at approximately the 95% confidence level using a coverage factor of k = 2.

Characterization of CRM/RM by Two or More Methods

Certified Value, $X_{CRM/RM}$, where two or more methods of characterization are used is the weighted mean of the results:

$X_{CRM/RM} = \Sigma(w_i)(X_i)$

X_i = mean of Assay Method i with standard uncertainty $u_{char\ i}$

w_i = the weighting factors for each method calculated using the inverse square of the variance:

$w_i = (1/u_{char\ i})^2 / (\Sigma(1/(u_{char\ i})^2)$

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{1/2}$

k = coverage factor = 2

$u_{char} = [\Sigma((w_i)^2\,(u_{char\ i})^2)]^{1/2}$ where $u_{char\ i}$ are the errors from each characterization method

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{lts} = long term stability standard uncertainty (storage)

u_{ts} = transport stability standard uncertainty

Characterization of CRM/RM by One Method

Certified Value, $X_{CRM/RM}$, where one method of characterization is used is the mean of individual results:

$X_{CRM/RM} = (X_a)\,(u_{char\ a})$

X_a = mean of Assay Method A with

$u_{char\ a}$ = the standard uncertainty of characterization Method A

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char\ a} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{1/2}$

k = coverage factor = 2

$u_{char\ a}$ = the errors from characterization

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{lts} = long term stability standard uncertainty (storage)

u_{ts} = transport stability standard uncertainty

4.0 TRACEABILITY TO NIST

- This product is traceable to NIST via an unbroken chain of comparisons. The uncertainties for each certified value are reported, taking into account the SRM/RM uncertainty error and the measurement, weighing and volume dilution errors. In rare cases where no NIST SRM/RM are available, the term 'in-house std.' is specified.

4.1 Thermometer Calibration

- All thermometers are NIST traceable through thermometers that are calibrated by an accredited calibration laboratory.

4.2 Balance Calibration

- All analytical balances are calibrated by an accredited calibration laboratory and procedure. The weights used for testing are annually compared to master weights and are traceable to NIST.

4.3 Glassware Calibration

- An in-house procedure is used to calibrate all Class A glassware used in the manufacturing and quality control of CRM/RMs.

5.0 TRACE METALLIC IMPURITIES (TMI) DETERMINED BY ICP-MS AND ICP-OES (µg/mL)

CRM/RMs are tested for trace metallic impurities by Axial ICP-OES and ICP-MS. The result from the most sensitive method for each element, is reported below. Solutions tested by ICP-MS were analyzed in an ULPA-Filtered Clean Room. An ULPA-Filter is 99.9985% efficient for the removal of particles down to 0.3 µm.

M	Ag	<	0.000260	O	Cu	<	0.007300	M	La	<	0.000120	M	Pr	<	0.000010	M	Ta		0.000230
s	Al	<		M	Dy	<	0.000360	O	Li		0.002200	M	Pt	<	0.000120	M	Tb	<	0.000040
O	As	<	0.029000	M	Er	<	0.000040	M	Lu	<	0.000010	M	Rb		0.052000	M	Te	<	0.000860
M	Au	<	0.000240	M	Eu	<	0.000010	s	Mg	<		M	Re	<	0.000040	M	Th	<	0.000060
M	B	<	0.007400	s	Fe	<		M	Mn		0.002400	M	Rh	<	0.000080	s	Ti	<	
M	Ba		0.004600	M	Ga		0.026000	s	Mo	<		M	Ru	<	0.000290	M	Tl	<	0.000050
M	Be	<	0.000070	M	Gd	<	0.000100	s	Na	<		s	S	<		M	Tm	<	0.000010
M	Bi	<	0.000220	M	Ge	<	0.003100	M	Nb	<	0.000100	M	Sb		0.000540	M	U		0.000180
s	Ca	<		M	Hf	<	0.000100	M	Nd	<	0.000040	O	Sc	<	0.000520	O	V	<	0.002900
O	Cd	<	0.001100	M	Hg	<	0.000260	O	Ni		0.002500	M	Se	<	0.002400	M	W		0.001600
M	Ce	<	0.000220	M	Ho	<	0.000100	M	Os	<	0.000020	M	Si	<	0.024000	M	Y	<	0.000120
M	Co		0.002200	M	In	<	0.000260	s	P	<		M	Sm	<	0.000080	M	Yb	<	0.000020
M	Cr		0.020000	M	Ir	<	0.000010	M	Pb		0.000480	M	Sn		0.000430	M	Zn		0.005600
M	Cs		0.000700	s	K	<		M	Pd	<	0.000060	O	Sr		0.005800	M	Zr		0.000960

M - Checked by ICP-MS O - Checked by ICP-OES i - Spectral Interference
n - Not Checked For s - Solution Standard Element

6.0 INTENDED USE

- For the calibration of analytical instruments and validation of analytical methods as appropriate.

7.0 INSTRUCTIONS FOR THE CORRECT USE OF THIS REFERENCE MATERIAL

7.1 Storage and Handling Recommendations

- Store between approximately 4° - 30° C while in sealed TCT bag.

- While stored in the sealed TCT bag, transpiration of this CRM/RM is negligible. After opening the sealed TCT bag transpiration of the CRM/RM will occur, resulting in a gradual increase in the analyte concentration(s). It is the responsibility of the user to account for this effect. When the bottle is weighed both before and after being placed in storage, the mass difference observed will be a measure of transpiration mass loss.

- After opening the sealed TCT bag, keep cap tightly sealed when not in use and store between 4° - 24° C to minimize the effects of transpiration. Use at 20° ± 4° C to minimize volumetric dilution error when using the reported density. Do not pipette from the container. Do not return removed aliquots to container.

- For more information, visit **www.inorganicventures.com/TCT**

8.0 HAZARDOUS INFORMATION

- Please refer to the Safety Data Sheet for information regarding this CRM/RM.

9.0 HOMOGENEITY

- This solution was mixed according to an in-house procedure and is guaranteed to be homogeneous. Homogeneity data indicate that the end user should take a minimum sample size of 0.2 mL to assure homogeneity.

10.0 QUALITY STANDARD DOCUMENTATION

10.1 ISO 9001 Quality Management System Registration

- QSR Certificate Number QSR-1034

10.2 ISO/IEC 17025 "General Requirements for the Competence of Testing and Calibration Laboratories"

- Chemical Testing - Accredited / A2LA Certificate Number 883.01

10.3 ISO 17034 "General Requirements for the Competence of Reference Material Producers"

- Reference Material Producer - Accredited / A2LA Certificate Number 883.02

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11.0 CERTIFICATION, LOT EXPIRATION AND PERIOD OF VALIDITY

11.1 Certification Issue Date

July 06, 2021

- The certification is valid within the measurement uncertainty specified provided the CRM/RM is stored and handled in accordance with instructions given in Sec 7.1. This certification is nullified if instructions in Sec 7.1 are not followed or if the CRM/RM is damaged, contaminated, or otherwise modified.

11.2 Lot Expiration Date

- **July 06, 2025**

- The date after which this CRM/RM should not be used.

- The lot expiration date reflects the period of time that the stability of a CRM/RM can be supported by long term stability studies conducted on properly stored and handled CRM/RMs. Lot expiration is limited primarily by transpiration (loss of water from the solution) and infrequently by chemical stability.

11.3 Period of Validity

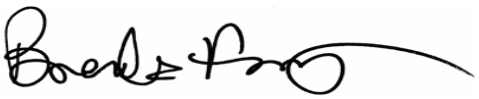
- Sealed TCT Bag Open Date: _____

- This CRM/RM should not be used longer than one year (or six months in the case of a 30 mL bottle) from the date of opening the aluminized bag or after the date given in Sec. 11.2, whichever comes first. This is contingent upon the CRM/RM being stored and handled in accordance with the instructions given in Sec. 7.1.

12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

Certificate Prepared By:

Brenda Francis
Product Documentation Technician



Certificate Approved By:

Michael Booth
Director, Quality Control

Certifying Officer:

Paul Gaines
Chairman / Senior Technical Director

Reagent

MS ICSA STOCK_00053

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Certificate of Analysis

300 Technology Drive
Christiansburg, VA 24073 USA
inorganicventures.com

P: 800-669-6799/540-585-3030
F: 540-585-3012
info@inorganicventures.com

1.0 ACCREDITATION / REGISTRATION

INORGANIC VENTURES is accredited to ISO 17034, "General Requirements for the Competence of Reference Material Producers" and ISO/IEC 17025, "General Requirements for the Competence of Testing and Calibration Laboratories". Inorganic Ventures is also an ISO 9001 registered manufacturer (QSR Certificate Number QSR-1034).

ACCREDITED
Testing Laboratory
Certificate 883.01

ACCREDITED
Reference Material Producer
Certificate 883.02

2.0 PRODUCT DESCRIPTION

Product Code:	Multi Analyte Custom Grade Solution
Catalog Number:	6020ICS-0A
Lot Number:	U2-MEB735840
Matrix:	1% (v/v) HNO3
Value / Analyte(s):	10 000 µg/mL ea: Chloride,
	2 000 µg/mL ea: Carbon,
	1 000 µg/mL ea: Calcium, Aluminum, Iron, Potassium, Magnesium, Sodium, Phosphorus, Sulfur,
	20 µg/mL ea: Titanium, Molybdenum

3.0 CERTIFIED VALUES AND UNCERTAINTIES

ANALYTE	CERTIFIED VALUE	ANALYTE	CERTIFIED VALUE
Aluminum, Al	**999 ± 3 µg/mL**	**Calcium, Ca**	**999 ± 3 µg/mL**
Carbon, C	**1 998 ± 4 µg/mL**	**Chloride, Cl**	**9 990.0 ± 30.0 µg/mL**
Iron, Fe	**999 ± 4 µg/mL**	**Magnesium, Mg**	**999 ± 4 µg/mL**
Molybdenum, Mo	**19.98 ± 0.11 µg/mL**	**Phosphorus, P**	**999 ± 5 µg/mL**
Potassium, K	**999 ± 4 µg/mL**	**Sodium, Na**	**999 ± 4 µg/mL**
Sulfur, S	**999 ± 5 µg/mL**	**Titanium, Ti**	**19.98 ± 0.15 µg/mL**

Density: 1.030 g/mL (measured at 20 ± 4 ºC)

Assay Information:

ANALYTE	METHOD	NIST SRM#	SRM LOT#
Al	ICP Assay	3101a	140903
Al	EDTA	928	928
C	Acidimetric	84L	84L
Ca	ICP Assay	3109a	130213
Ca	EDTA	928	928
Cl	Acidimetric	84L	84L
Fe	ICP Assay	3126a	140812
Fe	EDTA	928	928
K	ICP Assay	3141a	140813
K	Gravimetric		See Sec. 4.2
Mg	ICP Assay	3131a	140110
Mg	EDTA	928	928
Mo	ICP Assay	3134	130418
Na	ICP Assay	3152a	200413
Na	Gravimetric		See Sec. 4.2
P	ICP Assay	3139a	060717
P	Acidimetric	84L	84L
S	Acidimetric	84L	84L
S	ICP Assay	traceable to 3154	P2-S680745
Ti	ICP Assay	3162a	130925

The following equations are used in the calculation of the certified value and the uncertainty. Reported uncertainties represent expanded uncertainties expressed at approximately the 95% confidence level using a coverage factor of k = 2.

Characterization of CRM/RM by Two or More Methods

Certified Value, $X_{CRM/RM}$, where two or more methods of characterization are used is the weighted mean of the results:

$X_{CRM/RM} = \Sigma(w_i)(X_i)$

X_i = mean of Assay Method i with standard uncertainty $u_{char\ i}$

w_i = the weighting factors for each method calculated using the inverse square of the variance:

$w_i = (1/u_{char\ i})^2 / (\Sigma(1/(u_{char\ i})^2)$

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{½}$

k = coverage factor = 2

$u_{char} = [\Sigma((w_i)^2\ (u_{char\ i})^2)]^{½}$ where $u_{char\ i}$ are the errors from each characterization method

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{lts} = long term stability standard uncertainty (storage)

u_{ts} = transport stability standard uncertainty

Characterization of CRM/RM by One Method

Certified Value, $X_{CRM/RM}$, where one method of characterization is used is the mean of individual results:

$X_{CRM/RM} = (X_a)\ (u_{char\ a})$

X_a = mean of Assay Method A with

$u_{char\ a}$ = the standard uncertainty of characterization Method A

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char\ a} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{½}$

k = coverage factor = 2

$u_{char\ a}$ = the errors from characterization

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{lts} = long term stability standard uncertainty (storage)

u_{ts} = transport stability standard uncertainty

4.0 TRACEABILITY TO NIST

- This product is traceable to NIST via an unbroken chain of comparisons. The uncertainties for each certified value are reported, taking into account the SRM/RM uncertainty error and the measurement, weighing and volume dilution errors. In rare cases where no NIST SRM/RM are available, the term 'in-house std.' is specified.

4.1 Thermometer Calibration

- All thermometers are NIST traceable through thermometers that are calibrated by an accredited calibration laboratory.

4.2 Balance Calibration

- All analytical balances are calibrated by an accredited calibration laboratory and procedure. The weights used for testing are annually compared to master weights and are traceable to NIST.

4.3 Glassware Calibration

- An in-house procedure is used to calibrate all Class A glassware used in the manufacturing and quality control of CRM/RMs.

5.0 TRACE METALLIC IMPURITIES (TMI) DETERMINED BY ICP-MS AND ICP-OES (µg/mL)

CRM/RMs are tested for trace metallic impurities by Axial ICP-OES and ICP-MS. The result from the most sensitive method for each element, is reported below. Solutions tested by ICP-MS were analyzed in an ULPA-Filtered Clean Room. An ULPA-Filter is 99.9985% efficient for the removal of particles down to 0.3 µm.

M	Ag	<	0.000120	M	Er	<	0.000009	M	Mn		0.003100	s	S	<		O	V	<	0.004400
s	Al	<		M	Eu	<	0.000059	s	Mo	<		M	Sb		0.000940	M	W		0.003600
M	As		0.007300	s	Fe	<		s	Na	<		M	Sc	<	0.000810	M	Y	<	0.000079
M	Au	<	0.000081	M	Ga		0.028000	M	Nb	<	0.000079	M	Se	<	0.003600	M	Yb	<	0.000098
M	B	<	0.004700	M	Gd	<	0.000040	M	Nd	<	0.000030	O	Si	<	0.021000	M	Zn		0.003700
M	Ba		0.006300	M	Ge	<	0.001800	M	Ni		0.008800	M	Sm	<	0.000009	M	Zr		0.001400
O	Be	<	0.000310	M	Hf	<	0.000098	M	Os	<	0.000011	M	Sn		0.000510				
M	Bi	<	0.000630	M	Hg	<	0.000011	s	P	<		M	Sr		0.009200				
s	Ca	<		M	Ho	<	0.000009	M	Pb		0.000610	M	Ta		0.000200				
O	Cd	<	0.003900	M	In	<	0.000380	M	Pd	<	0.000040	M	Tb	<	0.000009				
M	Ce	<	0.000120	M	Ir	<	0.000011	M	Pr	<	0.000020	M	Te	<	0.000040				
M	Co		0.001900	s	K	<		M	Pt	<	0.000009	M	Th	<	0.000098				
M	Cr		0.013000	M	La	<	0.000300	M	Rb		0.040000	s	Ti	<					
M	Cs		0.000960	O	Li		0.001300	M	Re	<	0.000040	M	Tl	<	0.000020				
M	Cu		0.017000	M	Lu	<	0.000009	M	Rh	<	0.000030	M	Tm	<	0.000009				
M	Dy	<	0.000009	s	Mg	<		M	Ru	<	0.000110	M	U	<	0.000079				

M - Checked by ICP-MS O - Checked by ICP-OES i - Spectral Interference
n - Not Checked For s - Solution Standard Element

6.0 INTENDED USE

6.1 This standard is intended for the calibration of analytical instruments and validation of analytical methods as appropriate. This CRM may be used in connection with EPA Methods 6010, 6020 (all versions), Standard Methods 3120 B and USP <232> / ICH Q3D.

6.2 For products attaining traceability through Inorganic Ventures' Primary Certified Reference Materials (PCRM™) see the Limited License to Use PCRM™ in the Inorganic Ventures Terms and Conditions of Sale, https://www.inorganicventures.com/terms-and-conditions-sale. The Terms and Conditions contain information on the use of materials traceable to PCRM™ certified reference materials. This Limited License agreement is especially pertinent for laboratories accredited under ISO:17034.

7.0 INSTRUCTIONS FOR THE CORRECT USE OF THIS REFERENCE MATERIAL

7.1 Storage and Handling Recommendations

- Store between approximately 4° - 30° C while in sealed TCT bag.

- While stored in the sealed TCT bag, transpiration of this CRM/RM is negligible. After opening the sealed TCT bag transpiration of the CRM/RM will occur, resulting in a gradual increase in the analyte concentration(s). It is the responsibility of the user to account for this effect. When the bottle is weighed both before and after being placed in storage, the mass difference observed will be a measure of transpiration mass loss.

- After opening the sealed TCT bag, keep cap tightly sealed when not in use and store between 4° - 24° C to minimize the effects of transpiration. Use at 20° ± 4° C to minimize volumetric dilution error when using the reported density. Do not pipette from the container. Do not return removed aliquots to container.

- For more information, visit **www.inorganicventures.com/TCT**

8.0 HAZARDOUS INFORMATION

- Please refer to the Safety Data Sheet for information regarding this CRM/RM.

9.0 HOMOGENEITY

- This solution was mixed according to an in-house procedure and is guaranteed to be homogeneous. Homogeneity data indicate that the end user should take a minimum sample size of 0.2 mL to assure homogeneity.

10.0 QUALITY STANDARD DOCUMENTATION

10.1 ISO 9001 Quality Management System Registration

- QSR Certificate Number QSR-1034

10.2 ISO/IEC 17025 "General Requirements for the Competence of Testing and Calibration Laboratories"

- Chemical Testing - Accredited / A2LA Certificate Number 883.01

10.3 ISO 17034 "General Requirements for the Competence of Reference Material Producers"

- Reference Material Producer - Accredited / A2LA Certificate Number 883.02

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11.0 CERTIFICATION, LOT EXPIRATION AND PERIOD OF VALIDITY

11.1 Certification Issue Date

November 18, 2023

- The certification is valid within the measurement uncertainty specified provided the CRM/RM is stored and handled in accordance with instructions given in Sec 7.1. This certification is nullified if instructions in Sec 7.1 are not followed or if the CRM/RM is damaged, contaminated, or otherwise modified.

11.2 Lot Expiration Date

- **November 18, 2028**

- The date after which this CRM/RM should not be used.

- The lot expiration date reflects the period of time that the stability of a CRM/RM can be supported by long term stability studies conducted on properly stored and handled CRM/RMs. Lot expiration is limited primarily by transpiration (loss of water from the solution) and infrequently by chemical stability.

11.3 Period of Validity

- Sealed TCT Bag Open Date: _____

- This CRM/RM should not be used longer than one year (or six months in the case of a 30 mL bottle) from the date of opening the aluminized bag or after the date given in Sec. 11.2, whichever comes first. This is contingent upon the CRM/RM being stored and handled in accordance with the instructions given in Sec. 7.1.

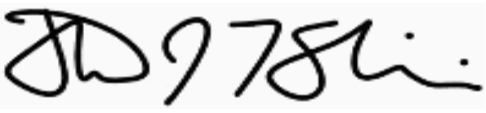
12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

Certificate Prepared By:

Uyen Truong
Custom Processing Supervisor

Certificate Approved By:

Thomas Kozikowski
Stock VS Manager



Certifying Officer:

Paul Gaines
Chairman / Senior Technical Director

Reagent

MS ICVMIX--5_00003

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Certificate of Analysis

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inorganicventures.com

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F: 540-585-3012
info@inorganicventures.com

1.0 ACCREDITATION / REGISTRATION

INORGANIC VENTURES is accredited to ISO 17034, "General Requirements for the Competence of Reference Material Producers" and ISO/IEC 17025, "General Requirements for the Competence of Testing and Calibration Laboratories". Inorganic Ventures is also an ISO 9001 registered manufacturer (QSR Certificate Number QSR-1034).

ACCREDITED Testing Laboratory Certificate 883.01
ACCREDITED Reference Material Producer Certificate 883.02

2.0 PRODUCT DESCRIPTION

Product Code:	Multi Analyte Custom Grade Solution
Catalog Number:	IV-67385
Lot Number:	T2-MEB722096
Matrix:	5% (v/v) HNO3
Value / Analyte(s):	5 000 µg/mL ea: Calcium, Potassium, Magnesium, Sodium, 1 000 µg/mL ea: Phosphorus, Boron, 100 µg/mL ea: Silver, Lithium, Strontium, Thorium, Zinc

3.0 CERTIFIED VALUES AND UNCERTAINTIES

ANALYTE	CERTIFIED VALUE	ANALYTE	CERTIFIED VALUE
Boron, B	**1 000 ± 6 µg/mL**	**Calcium, Ca**	**5 000 ± 22 µg/mL**
Lithium, Li	**100.0 ± 0.4 µg/mL**	**Magnesium, Mg**	**5 000 ± 20 µg/mL**
Phosphorus, P	**1 000 ± 4 µg/mL**	**Potassium, K**	**5 000 ± 22 µg/mL**
Silver, Ag	**100.0 ± 0.4 µg/mL**	**Sodium, Na**	**4 999 ± 23 µg/mL**
Strontium, Sr	**100.0 ± 0.4 µg/mL**	**Thorium, Th**	**100.0 ± 0.5 µg/mL**
Zinc, Zn	**100.0 ± 0.4 µg/mL**		

Density: 1.087 g/mL (measured at 20 ± 4 ºC)

Assay Information:

ANALYTE	METHOD	NIST SRM#	SRM LOT#
Ag	ICP Assay	3151	160729
Ag	Volhard	999c	999c
Ag	Calculated		See Sec. 4.2
B	ICP Assay	3107	190605
Ca	ICP Assay	3109a	130213
Ca	EDTA	928	928
K	ICP Assay	3141a	140813
K	Gravimetric		See Sec. 4.2
Li	ICP Assay	3129a	100714
Li	Calculated		See Sec. 4.2
Li	Gravimetric		See Sec. 4.2
Mg	ICP Assay	3131a	140110
Mg	EDTA	928	928
Na	ICP Assay	Traceable to 3152A	S2-NA700842
Na	Gravimetric		See Sec. 4.2
P	ICP Assay	3139a	060717
P	Acidimetric	84L	84L
Sr	EDTA	928	928
Sr	ICP Assay	Traceable to 3153a	K2-SR650985
Sr	Calculated		See Sec. 4.2
Th	EDTA	928	928
Th	Calculated		See Sec. 4.2
Zn	ICP Assay	3168a	120629
Zn	EDTA	928	928
Zn	Calculated		See Sec. 4.2

The following equations are used in the calculation of the certified value and the uncertainty. Reported uncertainties represent expanded uncertainties expressed at approximately the 95% confidence level using a coverage factor of k = 2.

Characterization of CRM/RM by Two or More Methods

Certified Value, $X_{CRM/RM}$, where two or more methods of characterization are used is the weighted mean of the results:

$X_{CRM/RM} = \Sigma(w_i)(X_i)$

X_i = mean of Assay Method i with standard uncertainty $u_{char\ i}$

w_i = the weighting factors for each method calculated using the inverse square of the variance:

$w_i = (1/u_{char\ i})^2 / (\Sigma(1/(u_{char\ i})^2)$

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{½}$

k = coverage factor = 2

$u_{char} = [\Sigma((w_i)^2\ (u_{char\ i})^2)]^{½}$ where $u_{char\ i}$ are the errors from each characterization method

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{lts} = long term stability standard uncertainty (storage)

u_{ts} = transport stability standard uncertainty

Characterization of CRM/RM by One Method

Certified Value, $X_{CRM/RM}$, where one method of characterization is used is the mean of individual results:

$X_{CRM/RM} = (X_a)(u_{char\ a})$

X_a = mean of Assay Method A with

$u_{char\ a}$ = the standard uncertainty of characterization Method A

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char\ a} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{½}$

k = coverage factor = 2

$u_{char\ a}$ = the errors from characterization

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{lts} = long term stability standard uncertainty (storage)

u_{ts} = transport stability standard uncertainty

4.0 TRACEABILITY TO NIST

- This product is traceable to NIST via an unbroken chain of comparisons. The uncertainties for each certified value are reported, taking into account the SRM/RM uncertainty error and the measurement, weighing and volume dilution errors. In rare cases where no NIST SRM/RM are available, the term 'in-house std.' is specified.

4.1 Thermometer Calibration

- All thermometers are NIST traceable through thermometers that are calibrated by an accredited calibration laboratory.

4.2 Balance Calibration

- All analytical balances are calibrated by an accredited calibration laboratory and procedure. The weights used for testing are annually compared to master weights and are traceable to NIST.

4.3 Glassware Calibration

- An in-house procedure is used to calibrate all Class A glassware used in the manufacturing and quality control of CRM/RMs.

5.0 TRACE METALLIC IMPURITIES (TMI) DETERMINED BY ICP-MS AND ICP-OES (µg/mL)

N/A

6.0 INTENDED USE

- For the calibration of analytical instruments and validation of analytical methods as appropriate.

7.0 INSTRUCTIONS FOR THE CORRECT USE OF THIS REFERENCE MATERIAL

7.1 Storage and Handling Recommendations

- Store between approximately 4° - 30° C while in sealed TCT bag.

- While stored in the sealed TCT bag, transpiration of this CRM/RM is negligible. After opening the sealed TCT bag transpiration of the CRM/RM will occur, resulting in a gradual increase in the analyte concentration(s). It is the responsibility of the user to account for this effect. When the bottle is weighed both before and after being placed in storage, the mass difference observed will be a measure of transpiration mass loss.

- After opening the sealed TCT bag, keep cap tightly sealed when not in use and store between 4° - 24° C to minimize the effects of transpiration. Use at 20° ± 4° C to minimize volumetric dilution error when using the reported density. Do not pipette from the container. Do not return removed aliquots to container.

- For more information, visit **www.inorganicventures.com/TCT**

Note: This solution contains Silver (Ag), please refer to our Sample Preparation Guide for more information.

https://www.inorganicventures.com/sample-preparation-guide/samples-containing-silver

8.0 HAZARDOUS INFORMATION

- Please refer to the Safety Data Sheet for information regarding this CRM/RM.

9.0 HOMOGENEITY

- This solution was mixed according to an in-house procedure and is guaranteed to be homogeneous. Homogeneity data indicate that the end user should take a minimum sample size of 0.2 mL to assure homogeneity.

10.0 QUALITY STANDARD DOCUMENTATION

10.1 ISO 9001 Quality Management System Registration

- QSR Certificate Number QSR-1034

10.2 ISO/IEC 17025 "General Requirements for the Competence of Testing and Calibration Laboratories"

- Chemical Testing - Accredited / A2LA Certificate Number 883.01

10.3 ISO 17034 "General Requirements for the Competence of Reference Material Producers"

- Reference Material Producer - Accredited / A2LA Certificate Number 883.02

11.0 CERTIFICATION, LOT EXPIRATION AND PERIOD OF VALIDITY

11.1 Certification Issue Date

July 28, 2022

- The certification is valid within the measurement uncertainty specified provided the CRM/RM is stored and handled in accordance with instructions given in Sec 7.1. This certification is nullified if instructions in Sec 7.1 are not followed or if the CRM/RM is damaged, contaminated, or otherwise modified.

11.2 Lot Expiration Date

- **July 28, 2027**

- The date after which this CRM/RM should not be used.

- The lot expiration date reflects the period of time that the stability of a CRM/RM can be supported by long term stability studies conducted on properly stored and handled CRM/RMs. Lot expiration is limited primarily by transpiration (loss of water from the solution) and infrequently by chemical stability.

11.3 Period of Validity

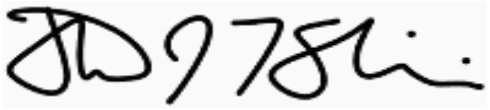
- Sealed TCT Bag Open Date: _____

- This CRM/RM should not be used longer than one year (or six months in the case of a 30 mL bottle) from the date of opening the aluminized bag or after the date given in Sec. 11.2, whichever comes first. This is contingent upon the CRM/RM being stored and handled in accordance with the instructions given in Sec. 7.1.

12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

Certificate Approved By:

Thomas Kozikowski
Manager, Quality Control



Certifying Officer:

Paul Gaines
Chairman / Senior Technical Director

Reagent

MS ICVMIX-2_00007

7759049
ID: MS ICVMIX-2_00007
Exp:11/02/24 Prpd:LMT Opn:05/22/23
ICP-MS ICV Std 2 CPI reve

CPI INTERNATIONAL

CERTIFICATE OF ANALYSIS

Multi-Element Aqueous CRM

Product #: TA-CAL2-SS

ICP ICPMS CAL Mix # 2

Lot #: 1294936-1

Matrix: 5% HNO_3

Element	Certified Concentration & Uncertainty	Element	Certified Concentration & Uncertainty	Element	Certified Concentration & Uncertainty
Al	2000 ± 10 mg/L	Fe	2000 ± 10 mg/L	Mg	2000 ± 10 mg/L
Ca	2000 ± 10 mg/L	K	2000 ± 10 mg/L	Na	2000 ± 10 mg/L

Source Material Lot # Chart

Element	Source Material Lot #	Element	Source Material Lot #	Element	Source Material Lot #
Al	AR19-12ALX	Fe	AS18-178FEX	Mg	AR19-13MGX
Ca	BB19-08CAX	K	AZ18-163KX	Na	AU18-172NAX

Intended Use: This solution is intended for use as a second source certified reference material (CRM) or calibration standard for inductively coupled plasma optical emission spectroscopy (ICP-OES), inductively coupled plasma mass spectrometry (ICP-MS), flame or furnace atomic absorption spectroscopy (AA or GFAA), and other techniques for elemental analysis.

Certification & Traceability: This CRM was manufactured, processed, and/or certified under a quality management system that is registered/accredited to **ISO 9001**, **ISO 17034**, and **ISO/IEC 17025**. This CRM was prepared to the certified concentrations shown above by gravimetric methods, using single-element concentrates that were certified using the "High Performance ICP-OES" protocol developed by NIST and are directly traceable to **NIST SRMs (see reverse side)**. The solution was stabilized using high purity nitric acid (HNO_3) and diluted with filtered (0.22 µm), 18 M-ohm deionized water. The balances used in the preparation of this CRM are calibrated regularly with traceability to NIST, using a calibration provider that is accredited to ISO/IEC 17025 by a mutually recognized accreditation body. All volumetric dilutions are performed in Class A calibrated glassware. The certified concentrations were determined based upon gravimetric procedures. Secondary verification of the certified concentrations was performed using ICP-OES that was calibrated and/or referenced against **NIST SRMs (see reverse side)**. The uncertainty associated with each certified concentration represents the expanded uncertainty at the 95% confidence level using a coverage factor of k=2.

Instructions for Use: We recommend that the solution be thoroughly mixed by repeated shaking or swirling of the bottle immediately prior to use. To achieve the highest accuracy, the analyst should: (1) use only pre-cleaned containers and transferware, (2) not pipette directly from the CRM's original container, (3) never pour used product back into the original container, (4) make dilutions using calibrated balances or certified class A volumetric flasks and pipettes, (5) use a minimum sub-sample size of 500 µL, and (6) dilute with the same matrix as the original CRM or other chemically suitable matrix. The solution should be kept tightly capped and stored under normal laboratory conditions. Do not freeze, heat, or immerse the bottle or its contents, and avoid exposure to direct sunlight or moisture.

Period of Validity: CPI International ensures the accuracy of this solution for **18 months** from the certification date shown below, provided the instructions for use are followed. During the period of validity, the purchaser will be notified if this product is recalled due to any significant changes in the stability of the solution.

Chuck Goudreau

Chuck Goudreau, Certifying Officer

May 2, 2023
Certification Date

CPI International waives all responsibility for any damages resulting from the usage and/or implementation of the products/data described herein.

USA
5580 Skylane Boulevard P: 707.525.5788
Santa Rosa, CA 95403 P: 800.878.7654
F: 707.545.7901

Europe
Nieuwe Hemweg 7P P: +31 20 638 05 97
1013BG Amsterdam F: +31 20 420 28 36
The Netherlands

www.cpiinternational.com

Health and Safety Information: Refer to the Safety Data Sheet (SDS).

Homogeneity: This solution was determined to be homogeneous by procedures consistent with the requirements of ISO 17034 and ISO Guide 35. Replicate samples of the finished solution were analyzed to confirm its homogeneity, in accordance with internal procedures for the assessment of homogeneity and stability. To ensure homogeneity, users should not take a smaller sub-sample than specified in the Instructions for Use, as doing so will invalidate the certified values and uncertainties.

Further Information: Please contact CPI International for further information about this material.

Quality Certifications: This material was prepared under a quality management system that is registered/accredited to the following:

- ISO 17034 Accredited: Reference Materials Producer, A2LA Certificate No. 2848.02 – General Requirements for the Competence of Reference Material Producers
  - ISO 17034 references additional requirements specified in ISO Guide 31 and ISO Guide 35
- ISO/IEC 17025 Accredited: Chemical Testing, A2LA Certificate No. 2848.01 – General Requirements for the Competence of Testing and Calibration Laboratories
- ISO 9001 Certified: Quality Management Systems, Certificate Registration No. 56 100 19560101 – Requirements *(Registrar: TUV NORD)*

This CRM is traceable to the following NIST SRMs:

Analyte	Aq. SRM	MO SRM	Analyte	Aq. SRM	MO SRM	Analyte	Aq. SRM	MO SRM
Ag	3151	-	Hf	3122	-	S	3154	2770
Al	3101a	-	Hg	3133	3133	Sb	3102a	3102a
As	3103a	3103a	Ho	3123a	-	Sc	3148a	3148a
Au	3121	-	In	3124a	3124a	Se	3149	3149
B	3107	3107	K	3141a	3141a	Si	3150	-
Ba	3104a	-	La	3127a	3127a	Sm	3147a	-
Be	3105a	3105a	Li	3129a	3129a	Sn	3161a	-
Bi	3106	3106	Lu	3130a	-	SO_4^{-2}	3181	-
Br	3184	-	Mg	3131a	3131a	Sr	3153a	3153a
Ca	3109a	3109a	Mn	3132	3132	Ta	3155	-
Cd	3108	-	Mo	3134	3134	Tb	3157a	-
Ce	3110	3110	Na	3152a	-	Te	3156	-
Cl	3182	1818a	Nb	3137	-	Th	-	-
Co	3113	3113	Nd	3135a	-	Ti	3162a	3162a
Cr	3112a	-	Ni	3136	-	Tl	3158	3158
Cs	3111a	-	NO_3^-	3185	-	Tm	3160a	-
Cu	3114	-	P	3139a	3139a	U	3164	-
Dy	3115a	-	Pb	3128	-	V	3165	-
Er	3116a	-	Pd	3138	-	W	3163	3163
Eu	3117a	-	PO_4^{-3}	3186	-	Y	3167a	3167a
F-	3183	-	Pr	3142a	-	Yb	3166a	-
Fe	3126a	-	Pt	3140	3140	Zn	3168a	3168a
Ga	3119a	-	Rb	3145a	-	Zr	3169	3169
Gd	3118a	-	Re	3143	-			
Ge	3120a	-	Rh	3144	3144			

Reagent

MS LLCCV_00010

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F: 540-585-3012
info@inorganicventures.com

1.0 ACCREDITATION / REGISTRATION

INORGANIC VENTURES is accredited to ISO 17034, "General Requirements for the Competence of Reference Material Producers" and ISO/IEC 17025, "General Requirements for the Competence of Testing and Calibration Laboratories". Inorganic Ventures is also an ISO 9001 registered manufacturer (QSR Certificate Number QSR-1034).

ACCREDITED Testing Laboratory Certificate 883.01
ACCREDITED Reference Material Producer Certificate 883.02

2.0 PRODUCT DESCRIPTION

Product Code:	Multi Analyte Custom Grade Solution
Catalog Number:	IV-67794
Lot Number:	T2-MEB722097
Matrix:	5% (v/v) HNO3 tr. HF
Value / Analyte(s):	30 µg/mL ea: Sodium,
	20 µg/mL ea: Calcium,
	12 µg/mL ea: Potassium,
	10 µg/mL ea: Boron, Phosphorus,
	5 µg/mL ea: Aluminum, Iron, Magnesium,
	1 µg/mL ea: Lithium, Tin, Zinc,
	0.5 µg/mL ea: Selenium, Vanadium, Strontium, Titanium, Arsenic,
	0.2 µg/mL ea: Chromium, Copper, Nickel, Molybdenum, Antimony,
	0.1 µg/mL ea: Lead, Thallium, Uranium, Thorium, Manganese, Silver, Cadmium, Cobalt, Barium, Beryllium

3.0 CERTIFIED VALUES AND UNCERTAINTIES

ANALYTE	CERTIFIED VALUE	ANALYTE	CERTIFIED VALUE
Aluminum, Al	4.997 ± 0.025 µg/mL	Antimony, Sb	0.2001 ± 0.0017 µg/mL
Arsenic, As	0.5003 ± 0.0030 µg/mL	Barium, Ba	0.1000 ± 0.0006 µg/mL
Beryllium, Be	0.1000 ± 0.0008 µg/mL	Boron, B	10.00 ± 0.06 µg/mL
Cadmium, Cd	0.1000 ± 0.0007 µg/mL	Calcium, Ca	20.00 ± 0.09 µg/mL
Chromium, Cr	0.2000 ± 0.0013 µg/mL	Cobalt, Co	0.1000 ± 0.0008 µg/mL
Copper, Cu	0.1998 ± 0.0009 µg/mL	Iron, Fe	4.995 ± 0.026 µg/mL
Lead, Pb	0.1000 ± 0.0007 µg/mL	Lithium, Li	1.000 ± 0.006 µg/mL
Magnesium, Mg	4.998 ± 0.026 µg/mL	Manganese, Mn	0.1000 ± 0.0008 µg/mL
Molybdenum, Mo	0.1998 ± 0.0013 µg/mL	Nickel, Ni	0.2002 ± 0.0010 µg/mL
Phosphorus, P	10.00 ± 0.05 µg/mL	Potassium, K	12.00 ± 0.06 µg/mL
Selenium, Se	0.5001 ± 0.0041 µg/mL	Silver, Ag	0.1000 ± 0.0009 µg/mL
Sodium, Na	29.98 ± 0.13 µg/mL	Strontium, Sr	0.4999 ± 0.0030 µg/mL
Thallium, Tl	0.1000 ± 0.0008 µg/mL	Thorium, Th	0.1000 ± 0.0006 µg/mL
Tin, Sn	1.000 ± 0.007 µg/mL	Titanium, Ti	0.4998 ± 0.0042 µg/mL
Uranium, U	0.1000 ± 0.0008 µg/mL	Vanadium, V	0.4996 ± 0.0029 µg/mL
Zinc, Zn	1.000 ± 0.006 µg/mL		

Density: 1.026 g/mL (measured at 20 ± 4 ºC)

Assay Information:

ANALYTE	METHOD	NIST SRM#	SRM LOT#
Ag	Calculated		See Sec. 4.2
Al	ICP Assay	3101a	140903
Al	EDTA	928	928
Al	Calculated		See Sec. 4.2
As	ICP Assay	3103a	100818
B	ICP Assay	3107	190605
B	Calculated		See Sec. 4.2
Ba	Calculated		See Sec. 4.2
Be	Calculated		See Sec. 4.2
Ca	ICP Assay	3109a	130213
Ca	EDTA	928	928
Ca	Calculated		See Sec. 4.2
Cd	Calculated		See Sec. 4.2
Co	Calculated		See Sec. 4.2
Cr	Calculated		See Sec. 4.2
Cu	Calculated		See Sec. 4.2
Fe	ICP Assay	3126a	140812
Fe	EDTA	928	928
Fe	Calculated		See Sec. 4.2
K	ICP Assay	3141a	140813
K	Calculated		See Sec. 4.2
K	Gravimetric		See Sec. 4.2
Li	Calculated		See Sec. 4.2
Mg	ICP Assay	3131a	140110
Mg	EDTA	928	928
Mg	Calculated		See Sec. 4.2
Mn	Calculated		See Sec. 4.2
Mo	Calculated		See Sec. 4.2
Na	ICP Assay	Traceable to 3152A	S2-NA700842
Na	Calculated		See Sec. 4.2
Na	Gravimetric		See Sec. 4.2
Ni	Calculated		See Sec. 4.2
P	ICP Assay	3139a	060717
P	Acidimetric	84L	84L
P	Calculated		See Sec. 4.2
Pb	Calculated		See Sec. 4.2
Sb	ICP Assay	3102a	140911
Se	Calculated		See Sec. 4.2
Sn	Calculated		See Sec. 4.2
Sr	Calculated		See Sec. 4.2
Th	Calculated		See Sec. 4.2
Ti	Calculated		See Sec. 4.2
Tl	Calculated		See Sec. 4.2
U	Calculated		See Sec. 4.2
V	Calculated		See Sec. 4.2
Zn	Calculated		See Sec. 4.2

The following equations are used in the calculation of the certified value and the uncertainty. Reported uncertainties represent expanded uncertainties expressed at approximately the 95% confidence level using a coverage factor of k = 2.

Characterization of CRM/RM by Two or More Methods

Certified Value, $X_{CRM/RM}$, where two or more methods of characterization are used is the weighted mean of the results:

$X_{CRM/RM} = \Sigma(w_i)(X_i)$

X_i = mean of Assay Method i with standard uncertainty $u_{char\ i}$

w_i = the weighting factors for each method calculated using the inverse square of the variance:

$w_i = (1/u_{char\ i})^2 / (\Sigma(1/(u_{char\ i})^2)$

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{½}$

k = coverage factor = 2

$u_{char} = [\Sigma((w_i)^2\,(u_{char\ i})^2)]^{½}$ where $u_{char\ i}$ are the errors from each characterization method

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{lts} = long term stability standard uncertainty (storage)

u_{ts} = transport stability standard uncertainty

Characterization of CRM/RM by One Method

Certified Value, $X_{CRM/RM}$, where one method of characterization is used is the mean of individual results:

$X_{CRM/RM} = (X_a)\,(u_{char\ a})$

X_a = mean of Assay Method A with

$u_{char\ a}$ = the standard uncertainty of characterization Method A

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char\ a} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{½}$

k = coverage factor = 2

$u_{char\ a}$ = the errors from characterization

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{lts} = long term stability standard uncertainty (storage)

u_{ts} = transport stability standard uncertainty

Certified Abundance:

IV's Certified Abundance

Isotope	Atom %
Uranium 238U	99.8 ± 0.1
Uranium 235U	0.24 ± 0.05

4.0 TRACEABILITY TO NIST

- This product is traceable to NIST via an unbroken chain of comparisons. The uncertainties for each certified value are reported, taking into account the SRM/RM uncertainty error and the measurement, weighing and volume dilution errors. In rare cases where no NIST SRM/RM are available, the term 'in-house std.' is specified.

4.1 Thermometer Calibration

- All thermometers are NIST traceable through thermometers that are calibrated by an accredited calibration laboratory.

4.2 Balance Calibration

- All analytical balances are calibrated by an accredited calibration laboratory and procedure. The weights used for testing are annually compared to master weights and are traceable to NIST.

4.3 Glassware Calibration

- An in-house procedure is used to calibrate all Class A glassware used in the manufacturing and quality control of CRM/RMs.

5.0 TRACE METALLIC IMPURITIES (TMI) DETERMINED BY ICP-MS AND ICP-OES (µg/mL)

N/A

6.0 INTENDED USE

- For the calibration of analytical instruments and validation of analytical methods as appropriate.

7.0 INSTRUCTIONS FOR THE CORRECT USE OF THIS REFERENCE MATERIAL

7.1 Storage and Handling Recommendations

- Store between approximately 4° - 30° C while in sealed TCT bag.

- While stored in the sealed TCT bag, transpiration of this CRM/RM is negligible. After opening the sealed TCT bag transpiration of the CRM/RM will occur, resulting in a gradual increase in the analyte concentration(s). It is the responsibility of the user to account for this effect. When the bottle is weighed both before and after being placed in storage, the mass difference observed will be a measure of transpiration mass loss.

- After opening the sealed TCT bag, keep cap tightly sealed when not in use and store between 4° - 24° C to minimize the effects of transpiration. Use at 20° ± 4° C to minimize volumetric dilution error when using the reported density. Do not pipette from the container. Do not return removed aliquots to container.

- For more information, visit **www.inorganicventures.com/TCT**

HF Note: This standard should not be prepared or stored in glass.

Note: This solution contains Silver (Ag), please refer to our Sample Preparation Guide for more information.

https://www.inorganicventures.com/sample-preparation-guide/samples-containing-silver

8.0 HAZARDOUS INFORMATION

- Please refer to the Safety Data Sheet for information regarding this CRM/RM.

9.0 HOMOGENEITY

- This solution was mixed according to an in-house procedure and is guaranteed to be homogeneous. Homogeneity data indicate that the end user should take a minimum sample size of 0.2 mL to assure homogeneity.

10.0 QUALITY STANDARD DOCUMENTATION

10.1 ISO 9001 Quality Management System Registration

- QSR Certificate Number QSR-1034

10.2 ISO/IEC 17025 "General Requirements for the Competence of Testing and Calibration Laboratories"

- Chemical Testing - Accredited / A2LA Certificate Number 883.01

10.3 ISO 17034 "General Requirements for the Competence of Reference Material Producers"

- Reference Material Producer - Accredited / A2LA Certificate Number 883.02

Inorganic Ventures, 300 Technology Drive, Christiansburg, Va. 24073, USA; Telephone: 800.669.6799; 540.585.3030, Fax: 540.585.3012; inorganicventures.com; info@inorganicventures.com

11.0 CERTIFICATION, LOT EXPIRATION AND PERIOD OF VALIDITY

11.1 Certification Issue Date

July 29, 2022

- The certification is valid within the measurement uncertainty specified provided the CRM/RM is stored and handled in accordance with instructions given in Sec 7.1. This certification is nullified if instructions in Sec 7.1 are not followed or if the CRM/RM is damaged, contaminated, or otherwise modified.

11.2 Lot Expiration Date

- **July 29, 2027**

- The date after which this CRM/RM should not be used.

- The lot expiration date reflects the period of time that the stability of a CRM/RM can be supported by long term stability studies conducted on properly stored and handled CRM/RMs. Lot expiration is limited primarily by transpiration (loss of water from the solution) and infrequently by chemical stability.

11.3 Period of Validity

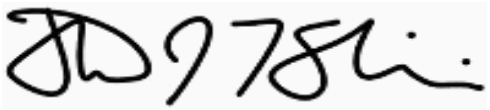
- Sealed TCT Bag Open Date: _____

- This CRM/RM should not be used longer than one year (or six months in the case of a 30 mL bottle) from the date of opening the aluminized bag or after the date given in Sec. 11.2, whichever comes first. This is contingent upon the CRM/RM being stored and handled in accordance with the instructions given in Sec. 7.1.

12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

Certificate Approved By:

Thomas Kozikowski
Manager, Quality Control



Certifying Officer:

Paul Gaines
Chairman / Senior Technical Director

Reagent

mv-30241_00010

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CERTIFIED REFERENCE MATERIAL

Certificate of Analysis

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ISO 17034 Accredited
Reference Material Producer
Certificate #3222.01

ACCREDITED
ISO/IEC 17025 Accredited
Testing Laboratory
Certificate #3222.02

FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 30241 **Lot No.:** A0180349

Description : 8260A Internal Standard Mix

8260A Internal Standard Mix 2,500 µg/mL, P&T Methanol, 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : January 31, 2027 **Storage:** 0°C or colder

Ship: Ambient

CERTIFIED VALUES

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)	
1	Fluorobenzene **CAS #** 462-06-6 (Lot BCBZ5549) **Purity** 99%	2,500.6 µg/mL	+/- 14.5387 µg/mL +/- 140.2062 µg/mL +/- 143.4868 µg/mL	Gravimetric Unstressed Stressed
2	Chlorobenzene-d5 **CAS #** 3114-55-4 (Lot PR-29571) **Purity** 99%	2,500.8 µg/mL	+/- 14.5399 µg/mL +/- 140.2174 µg/mL +/- 143.4983 µg/mL	Gravimetric Unstressed Stressed
3	1,4-Dichlorobenzene-d4 **CAS #** 3855-82-1 (Lot PR-30447) **Purity** 99%	2,500.2 µg/mL	+/- 14.5364 µg/mL +/- 140.1837 µg/mL +/- 143.4639 µg/mL	Gravimetric Unstressed Stressed

Solvent: P&T Methanol
CAS # 67-56-1
Purity 99%

Revd 4/5/22

Column:
105m x 0.53mm x 3.0µm
Rtx-502.2 (cat.#10910)

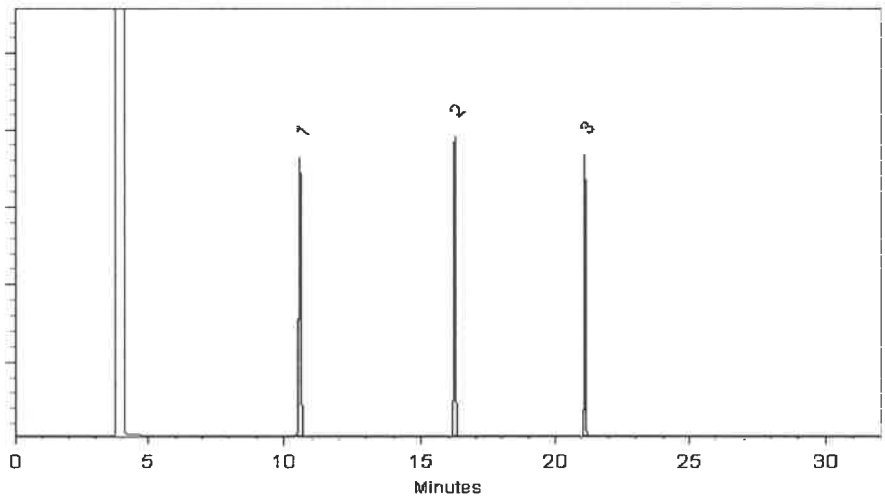
Carrier Gas:
hydrogen-constant pressure 11.0 psi.

Temp. Program:
40°C (hold 2 min.) to 240°C
@ 8°C/min. (hold 5 min.)

Inj. Temp:
200°C

Det. Temp:
250°C

Det. Type:
FID



This chromatogram represents a general set of testing conditions chosen for product acceptance. For optimal results in your lab, conditions should be adjusted for your specific instrument, method, and application.

Penelope Riglin - Operations Tech I

Date Mixed: 06-Jan-2022 **Balance:** B707717271

Marlina Cowan - Operations Tech I

Date Passed: 10-Jan-2022

Manufactured under Restek's ISO 9001:2015 Registered Quality System Certificate #FM 80397

Reagent

mv-30241_00012

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Certificate #3222.01

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ISO/IEC 17025 Accredited
Testing Laboratory
Certificate #3222.02

FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 30241 **Lot No.:** A0185733

Description : 8260A Internal Standard Mix

8260A Internal Standard Mix 2,500 µg/mL, P&T Methanol, 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : May 31, 2027 **Storage:** 0°C or colder

Ship: Ambient

CERTIFIED VALUES

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)	
1	Fluorobenzene **CAS #** 462-06-6 (Lot BCBZ5549) **Purity** 99%	2,504.0 µg/mL	+/- 14.5585 µg/mL +/- 140.3968 µg/mL +/- 143.6819 µg/mL	Gravimetric Unstressed Stressed
2	Chlorobenzene-d5 **CAS #** 3114-55-4 (Lot PR-29571) **Purity** 99%	2,508.0 µg/mL	+/- 14.5817 µg/mL +/- 140.6211 µg/mL +/- 143.9114 µg/mL	Gravimetric Unstressed Stressed
3	1,4-Dichlorobenzene-d4 **CAS #** 3855-82-1 (Lot PR-30447) **Purity** 99%	2,500.6 µg/mL	+/- 14.5387 µg/mL +/- 140.2062 µg/mL +/- 143.4868 µg/mL	Gravimetric Unstressed Stressed

Solvent: P&T Methanol
CAS # 67-56-1
Purity 99%

Rcvd 8/11/22

Column:
105m x 0.53mm x 3.0µm
Rtx-502.2 (cat.#10910)

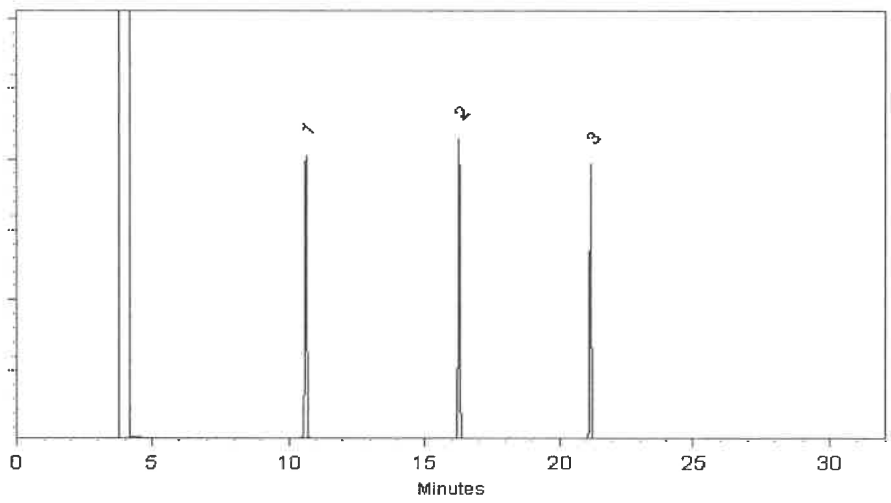
Carrier Gas:
hydrogen-constant pressure 11.0 psi.

Temp. Program:
40°C (hold 2 min.) to 240°C
@ 8°C/min. (hold 5 min.)

Inj. Temp:
200°C

Det. Temp:
250°C

Det. Type:
FID



This chromatogram represents a general set of testing conditions chosen for product acceptance. For optimal results in your lab, conditions should be adjusted for your specific instrument, method, and application.

Josh McCloskey - Operations Technician I

Date Mixed: 26-May-2022 **Balance:** B707717271

Jennifer Pollino - Operations Tech-ARM QC

Date Passed: 31-May-2022

Manufactured under Restek's ISO 9001:2015 Registered Quality System Certificate #FM 80397

Reagent

MV-567650_00030

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CERTIFIED REFERENCE MATERIAL

Certificate of Analysis

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ISO 17034 Accredited
Reference Material Producer
Certificate #3222.01

ACCREDITED
ISO/IEC 17025 Accredited
Testing Laboratory
Certificate #3222.02

FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 567650 **Lot No.:** A0172587

Description : 8260 Surrogate Standard

8260 Surrogate Standard 2,500µg/mL, P&T Methanol, 5mL/ampul

Container Size : 5 mL **Pkg Amt:** > 5 mL

Expiration Date : May 31, 2026 **Storage:** 0°C or colder

Ship: Ambient

CERTIFIED VALUES

Elution Order	Compound		Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)	
1	Dibromofluoromethane **CAS #** 1868-53-7 **Purity** 99%	(Lot 012021)	2,510.9 µg/mL	+/- 14.5983 µg/mL +/- 140.7809 µg/mL +/- 144.0750 µg/mL	Gravimetric Unstressed Stressed
2	1,2-Dichloroethane-d4 **CAS #** 17060-07-0 **Purity** 99%	(Lot PR-29377)	2,518.0 µg/mL	+/- 14.6399 µg/mL +/- 141.1818 µg/mL +/- 144.4852 µg/mL	Gravimetric Unstressed Stressed
3	Toluene-d8 **CAS #** 2037-26-5 **Purity** 99%	(Lot PR-31750)	2,500.4 µg/mL	+/- 14.5375 µg/mL +/- 140.1949 µg/mL +/- 143.4753 µg/mL	Gravimetric Unstressed Stressed
4	1-Bromo-4-fluorobenzene (BFB) **CAS #** 460-00-4 **Purity** 99%	(Lot 20401KO)	2,520.9 µg/mL	+/- 14.6567 µg/mL +/- 141.3444 µg/mL +/- 144.6516 µg/mL	Gravimetric Unstressed Stressed

Solvent: P&T Methanol
CAS # 67-56-1
Purity 99%

Rcvd 4/5/20

Column:
105m x 0.53mm x 3.0µm
Rtx-502.2 (cat.#10910)

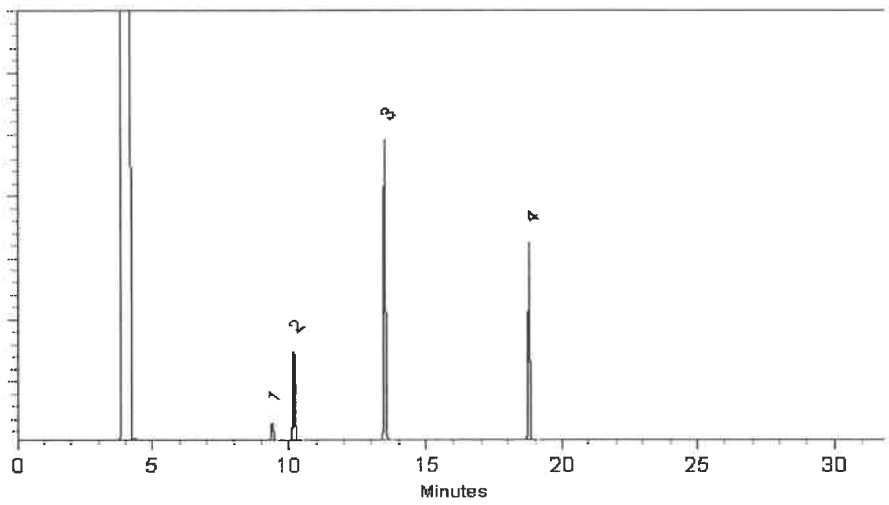
Carrier Gas:
hydrogen-constant pressure 11.0 psi.

Temp. Program:
40°C (hold 2 min.) to 240°C
@ 8°C/min. (hold 5 min.)

Inj. Temp:
200°C

Det. Temp:
250°C

Det. Type:
FID



This chromatogram represents a general set of testing conditions chosen for product acceptance. For optimal results in your lab, conditions should be adjusted for your specific instrument, method, and application.

Sam Moodler - Operations Tech I

Date Mixed: 19-May-2021 **Balance:** B707717271

Alexis Shelow - Operations Tech I

Date Passed: 21-May-2021

Manufactured under Restek's ISO 9001:2015 Registered Quality System Certificate #FM 80397

Reagent

MV-568720_00046

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FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 568720 **Lot No.:** A0193730

Description : 8260 List 1/Std #5 Acrolein High

8260 List 1/Std #5 Acrolein High 19,750µg/mL, Water, 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : July 31, 2024 **Storage:** -20°C or colder

Handling: This product is photosensitive. **Ship:** On Ice

CERTIFIED VALUES

Elution Order	Compound	CAS #	Lot #	Purity	Grav. Conc. (weight/volume)	Expanded Uncertainty * (95% C.L.; K=2)
1	Acrolein	107-02-8	RD221019	99%	19,924.7 µg/mL	+/- 585.3463

* Expanded Uncertainty displayed in same units as Grav. Conc.

Solvent: Water
CAS # 7732-18-5
Purity 99%

5/5/23

Quality Confirmation Test

Column:
105m x 0.53mm x 3.0µm
Rtx-502.2 (cat.#10910)

Carrier Gas:
hydrogen-constant pressure 11.0 psi.

Temp. Program:
40°C (hold 2 min.) to 240°C
@ 8°C/min. (hold 5 min.)

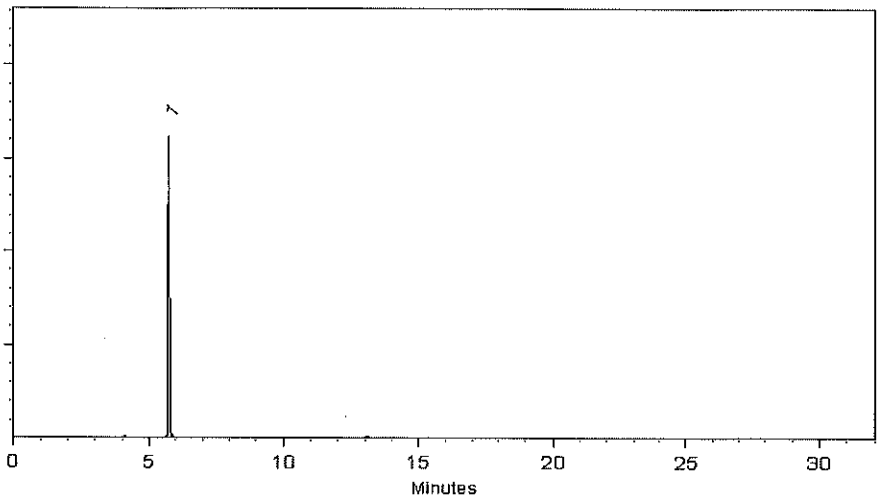
Inj. Temp:
200°C

Det. Temp:
250°C

Det. Type:
FID

Split Vent:
40 ml/min

Inj. Vol
1µl



This chromatogram represents a general set of testing conditions chosen for product acceptance. For optimal results in your lab, conditions should be adjusted for your specific instrument, method, and application.

Brittany Federinko - Operations Tech I

Date Mixed: 19-Jan-2023 **Balance Serial #** 1128360905

Christie Mills - Operations Tech II - ARM QC

Date Passed: 20-Feb-2023

Manufactured under Restek's ISO 9001:2015 Registered Quality System Certificate #FM 80397

Reagent

MV-569721.sec_00011

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FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 569721.SEC **Lot No.:** A0194631

Description : 8260 List 1/ Std #2 Ketones (2015)

8260 List 1/ Std #2 Ketones (2015) 12,500µg/mL, P&T Methanol/Water (90:10), 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : February 28, 2026 **Storage:** 0°C or colder

Ship: Ambient

CERTIFIED VALUES

Elution Order	Compound	CAS #	Lot #	Purity	Grav. Conc. (weight/volume)	Expanded Uncertainty * (95% C.L.; K=2)
1	Acetone	67-64-1.SEC	S25F025	99%	12,530.8 µg/mL	+/- 433.0935
2	2-Butanone (MEK)	78-93-3.SEC	HDLUO	99%	12,522.8 µg/mL	+/- 432.8170
3	4-Methyl-2-pentanone (MIBK)	108-10-1.SEC	E29T040	99%	12,555.6 µg/mL	+/- 433.9507
4	2-Hexanone	591-78-6.SEC	Y3TUO	99%	12,580.4 µg/mL	+/- 434.8078

* Expanded Uncertainty displayed in same units as Grav. Conc.

Solvent: P&T Methanol/Water (90:10)
CAS # 67-56-1/7732-18-5
Purity 99%

Rev 12/26/23

Quality Confirmation Test

Column:
105m x 0.53mm x 3.0µm
Rtx-502.2 (cat.#10910)

Carrier Gas:
hydrogen-constant pressure 11.0 psi.

Temp. Program:
40°C (hold 2 min.) to 240°C
@ 8°C/min. (hold 5 min.)

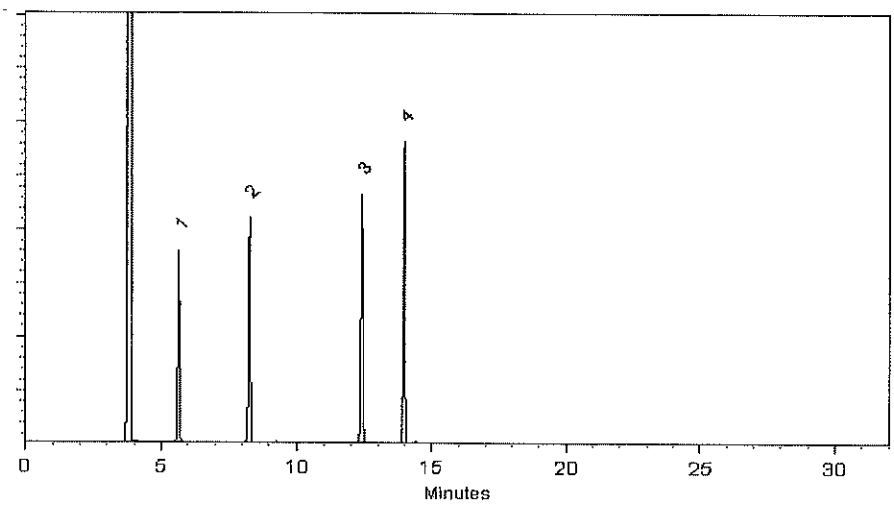
Inj. Temp:
200°C

Det. Temp:
250°C

Det. Type:
FID

Split Vent:
40 ml/min

Inj. Vol
0.2µl



This chromatogram represents a general set of testing conditions chosen for product acceptance. For optimal results in your lab, conditions should be adjusted for your specific instrument, method, and application.

Bryan Snyder - Operations Tech I

Date Mixed: 14-Feb-2023 **Balance Serial #** 1128342314

Jennifer Pollino - Operations Tech III - ARM QC

Date Passed: 16-Feb-2023

Manufactured under Restek's ISO 9001:2015 Registered Quality System Certificate #FM 80397

Reagent

MV-569721_00015

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This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 569721 **Lot No.:** A0193494

Description : 8260 List 1/ Std #2 Ketones (2015)

8260 List 1/ Std #2 Ketones (2015) 12,500µg/mL, P&T Methanol/Water (90:10), 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : January 31, 2026 **Storage:** 0°C or colder

Ship: Ambient

CERTIFIED VALUES

Elution Order	Compound	CAS #	Lot #	Purity	Grav. Conc. (weight/volume)	Expanded Uncertainty * (95% C.L.; K=2)
1	Acetone	67-64-1	SHBP8774	99%	12,581.8 µg/mL	+/- 434.7671
2	2-Butanone (MEK)	78-93-3	SHBL5543	99%	12,578.5 µg/mL	+/- 434.6548
3	4-Methyl-2-pentanone (MIBK)	108-10-1	SHBP4724	99%	12,602.3 µg/mL	+/- 435.4755
4	2-Hexanone	591-78-6	MKCQ6663	99%	12,587.5 µg/mL	+/- 434.9658

* Expanded Uncertainty displayed in same units as Grav. Conc.

Solvent: P&T Methanol/Water (90:10)
CAS # 67-56-1/7732-18-5
Purity 99%

5/16/23

Quality Confirmation Test

Column:
105m x 0.53mm x 3.0µm
Rtx-502.2 (cat.#10910)

Carrier Gas:
hydrogen-constant pressure 11.0 psi.

Temp. Program:
40°C (hold 2 min.) to 240°C
@ 8°C/min. (hold 5 min.)

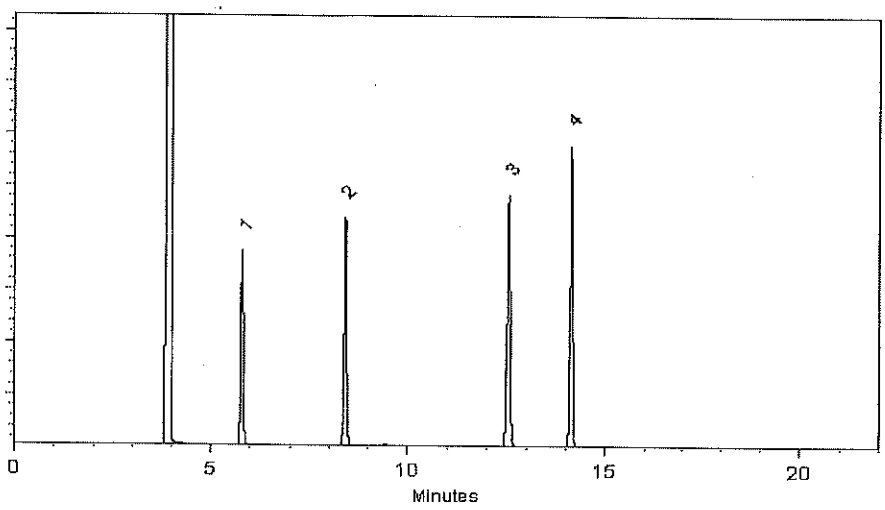
Inj. Temp:
200°C

Det. Temp:
250°C

Det. Type:
FID

Split Vent:
40 ml/min

Inj. Vol
0.2µl



This chromatogram represents a general set of testing conditions chosen for product acceptance. For optimal results in your lab, conditions should be adjusted for your specific instrument, method, and application.

Bethany Lowery - Operations Tech I

Date Mixed: 12-Jan-2023 **Balance Serial #** B251644995

Christie Mills - Operations Tech II - ARM QC

Date Passed: 16-Jan-2023

Manufactured under Restek's ISO 9001:2015
Registered Quality System
Certificate #FM 80397

Reagent

MV-569722.sec_00017

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This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 569722.SEC **Lot No.:** A0197640

Description : 8260 List 1 / Std #3 Gases (2015)

8260 List 1 / Std #3 Gases (2015) 2,500µg/mL, P&T Methanol, 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : May 31, 2026 **Storage:** 0°C or colder

Ship: Ambient

CERTIFIED VALUES

Elution Order	Compound	CAS #	Lot #	Purity	Grav. Conc. (weight/volume)	Expanded Uncertainty * (95% C.L.; K=2)
1	Dichlorodifluoromethane (CFC-12)	75-71-8.SEC	28302	99%	2,519.8 µg/mL	+/- 142.0069
2	Chloromethane (methyl chloride)	74-87-3.SEC	00016950	99%	2,503.3 µg/mL	+/- 142.0942
3	Vinyl chloride	75-01-4.SEC	MKBK6872V	99%	2,508.3 µg/mL	+/- 141.4767
4	1,3-Butadiene	106-99-0.SEC	26996	99%	2,521.0 µg/mL	+/- 142.1930
5	Bromomethane (methyl bromide)	74-83-9.SEC	00017022	99%	2,516.4 µg/mL	+/- 141.9614
6	Chloroethane (ethyl chloride)	75-00-3.SEC	00004202	98%	2,532.0 µg/mL	+/- 143.0282
7	Dichlorofluoromethane (CFC-21)	75-43-4 *	14150400	90%	2,502.0 µg/mL	+/- 140.5515
8	Trichlorofluoromethane (CFC-11)	75-69-4.SEC	00010739	99%	2,524.7 µg/mL	+/- 143.6054

* Expanded Uncertainty displayed in same units as Grav. Conc.

Solvent: P&T Methanol
CAS # 67-56-1
Purity 99%

*** Restek is unable to identify a reliable and/or acceptable second source for this material - the same batch of neat material may have been used to produce both the primary and secondary standard. The primary and secondary standards were prepared using different equipment and personnel.**

Rev'd 5/11/23

Tech Tips:
Raw material may contain trace amounts of tert-Butanol.

Quality Confirmation Test

Column:
60m x 0.25mm x 1.4µm
Rtx-502.2 (cat.#10916)

Carrier Gas:
helium-constant pressure 30 psi

Temp. Program:
40°C (hold 2 min.) to 240°C
@ 8°C/min. (hold 5 min.)

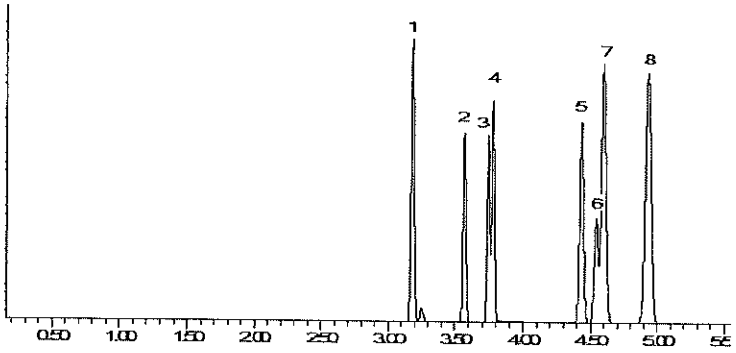
Inj. Temp:
200°C

Det. Temp:
250°C

Det. Type:
MSD

Split Vent:
25.0 ml/min.

Inj. Vol
1µl



This chromatogram represents a general set of testing conditions chosen for product acceptance. For optimal results in your lab, conditions should be adjusted for your specific instrument, method, and application.

Lane Kibe - Mix Technician **Date Mixed:** 02-May-2023 **Balance Serial #** 1128342314

Marlina Cowan – Operations Tech II ARM QC **Date Passed:** 09-May-2023

Manufactured under Restek's ISO 9001:2015
Registered Quality System
Certificate #FM 80397

Reagent

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This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 569722 **Lot No.:** A0198219

Description : 8260 List 1 / Std #3 Gases (2015)

8260 List 1 / Std #3 Gases (2015) 2,500µg/mL, P&T Methanol, 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : May 31, 2026 **Storage:** 0°C or colder

Ship: Ambient

CERTIFIED VALUES

Elution Order	Compound	CAS #	Lot #	Purity	Grav. Conc. (weight/volume)	Expanded Uncertainty * (95% C.L.; K=2)
1	Dichlorodifluoromethane (CFC-12)	75-71-8	00012554	99%	2,501.0 µg/mL	+/- 141.1841
2	Chloromethane (methyl chloride)	74-87-3	SHBM9611	99%	2,503.5 µg/mL	+/- 141.4535
3	Vinyl chloride	75-01-4	00015559	99%	2,504.0 µg/mL	+/- 141.5201
4	1,3-Butadiene	106-99-0	00015314	99%	2,503.4 µg/mL	+/- 140.8433
5	Bromomethane (methyl bromide)	74-83-9	101604	99%	2,508.8 µg/mL	+/- 141.7591
6	Chloroethane (ethyl chloride)	75-00-3	107-401039114-1	99%	2,500.4 µg/mL	+/- 141.1450
7	Dichlorofluoromethane (CFC-21)	75-43-4	14150400	90%	2,502.0 µg/mL	+/- 140.5515
8	Trichlorofluoromethane (CFC-11)	75-69-4	MKCL8411	99%	2,504.2 µg/mL	+/- 141.6568

* Expanded Uncertainty displayed in same units as Grav. Conc.

Solvent: P&T Methanol
CAS # 67-56-1
Purity 99%

Rev 1
10/5/23

Tech Tips:
Raw material may contain trace amounts of tert-Butanol.

Quality Confirmation Test

Column:
60m x 0.25mm x 1.4µm
Rtx-502.2 (cat.#10916)

Carrier Gas:
helium-constant pressure 30 psi

Temp. Program:
40°C (hold 2 min.) to 240°C
@ 8°C/min. (hold 5 min.)

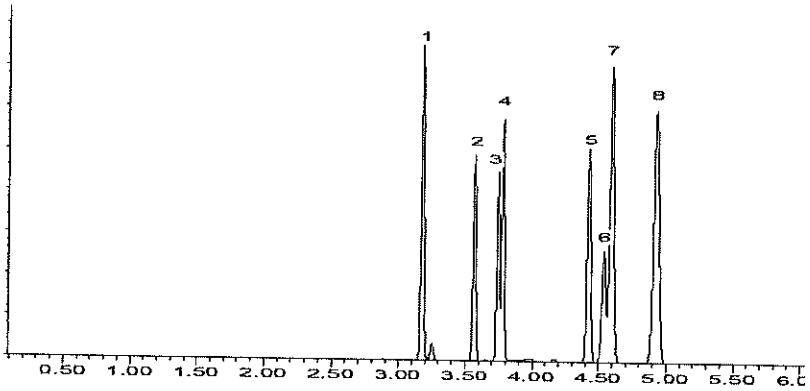
Inj. Temp:
200°C

Det. Temp:
250°C

Det. Type:
MSD

Split Vent:
25.0 ml/min.

Inj. Vol
1µl



This chromatogram represents a general set of testing conditions chosen for product acceptance. For optimal results in your lab, conditions should be adjusted for your specific instrument, method, and application.

Tom Suckar - Mix Technician **Date Mixed:** 18-May-2023 **Balance Serial #** B707717271

Marlina Cowan – Operations Tech II ARM QC **Date Passed:** 23-May-2023

Manufactured under Restek's ISO 9001:2015 Registered Quality System Certificate #FM 80397

Reagent

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This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 569723.SEC **Lot No.:** A0193808

Description : 8260 List 1 / Std #4 2-CEVE (2015)

~~8260 List 1~~ / Std #4 2-CEVE (2015) 2,500µg/mL, P&T Methanol, ~~1mL/ampul~~

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : January 31, 2026 **Storage:** 0°C or colder

Ship: Ambient

CERTIFIED VALUES

Elution Order	Compound	CAS #	Lot #	Purity	Grav. Conc. (weight/volume)	Expanded Uncertainty * (95% C.L.; K=2)
1	2-Chloroethyl vinyl ether	110-75-8.SEC	AMBTF	99%	2,513.3 µg/mL	+/- 31.2789

* Expanded Uncertainty displayed in same units as Grav. Conc.

Solvent: P&T Methanol
CAS # 67-56-1
Purity 99%

rev 5/1/23

Tech Tips:
Degradation of tetrachloroethylene to pentachloroethane may occur if solutions containing 2-chloroethyl vinyl ether are combined with solutions that contain tetrachloroethylene.

Quality Confirmation Test

Column:
105m x 0.53mm x 3.0µm
Rtx-502.2 (cat.#10910)

Carrier Gas:
hydrogen-constant pressure 11.0 psi.

Temp. Program:
40°C (hold 2 min.) to 240°C
@ 8°C/min. (hold 5 min.)

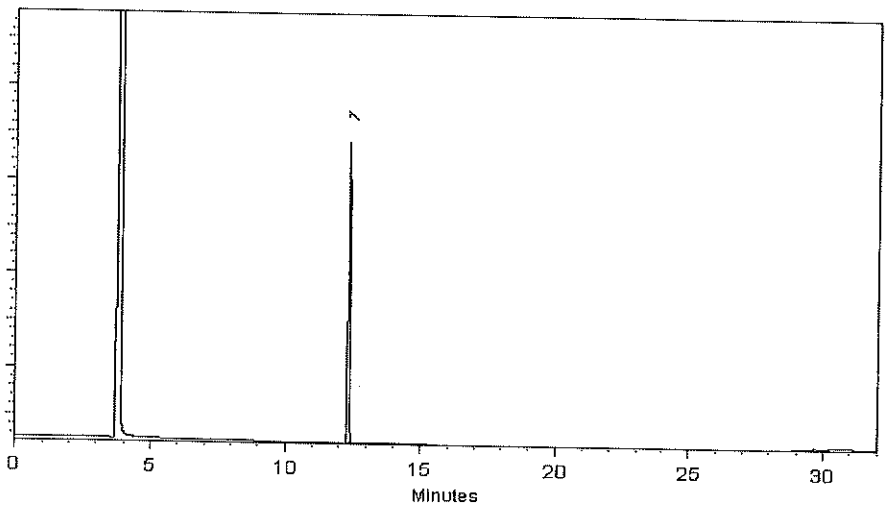
Inj. Temp:
200°C

Det. Temp:
250°C

Det. Type:
FID

Split Vent:
40 ml/min

Inj. Vol
0.2µl



This chromatogram represents a general set of testing conditions chosen for product acceptance. For optimal results in your lab, conditions should be adjusted for your specific instrument, method, and application.

Malina Homan - Operations Technician I

Date Mixed: 20-Jan-2023 **Balance Serial #** 1127510105

Jennifer Pollino - Operations Tech III - ARM QC

Date Passed: 24-Jan-2023

Manufactured under Restek's ISO 9001:2015 Registered Quality System Certificate #FM 80397

Reagent

MV-569723_00018

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This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 569723 **Lot No.:** A0193735

Description : 8260 List 1 / Std #4 2-CEVE (2015)

8260 List 1 / Std #4 2-CEVE (2015) 2,500µg/mL, P&T Methanol, 1mL /ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : January 31, 2026 **Storage:** 0°C or colder

Ship: Ambient

CERTIFIED VALUES

Elution Order	Compound	CAS #	Lot #	Purity	Grav. Conc. (weight/volume)	Expanded Uncertainty * (95% C.L.; K=2)
1	2-Chloroethyl vinyl ether	110-75-8	MKCK6742	99%	2,500.0 µg/mL	+/- 31.1129

* Expanded Uncertainty displayed in same units as Grav. Conc.

Solvent: P&T Methanol
CAS # 67-56-1
Purity 99%

5/1/23 JW -00018

Tech Tips:
Degradation of tetrachloroethylene to pentachloroethane may occur if solutions containing 2-chloroethyl vinyl ether are combined with solutions that contain tetrachloroethylene.

Quality Confirmation Test

Column:
105m x 0.53mm x 3.0µm
Rtx-502.2 (cat.#10910)

Carrier Gas:
hydrogen-constant pressure 11.0 psi.

Temp. Program:
40°C (hold 2 min.) to 240°C
@ 8°C/min. (hold 5 min.)

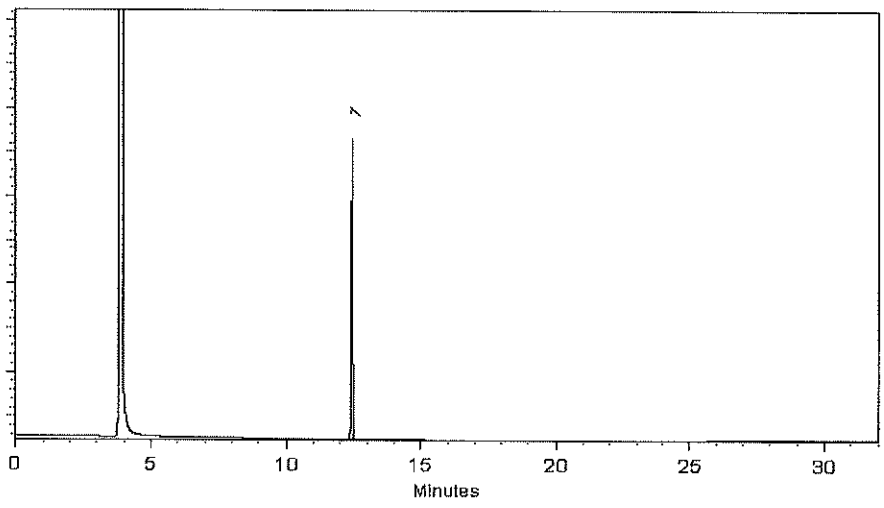
Inj. Temp:
200°C

Det. Temp:
250°C

Det. Type:
FID

Split Vent:
40 ml/min

Inj. Vol
0.2µl



This chromatogram represents a general set of testing conditions chosen for product acceptance. For optimal results in your lab, conditions should be adjusted for your specific instrument, method, and application.

Josh McCloskey - Operations Technician I

Date Mixed: 19-Jan-2023 **Balance Serial #** B707717271

Christie Mills - Operations Tech II - ARM QC

Date Passed: 23-Jan-2023

Manufactured under Restek's ISO 9001:2015 Registered Quality System Certificate #FM 80397

Reagent

MV-569724.sec_00037

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FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 569724.SEC **Lot No.:** A0197959

Description : 8260 List 1 / Std #6 Vinyl Acetate (2015)

8260 List 1 / Std #6 Vinyl Acetate (2015) 5,000µg/mL, P&T Methanol, 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : November 30, 2024 **Storage:** -20°C or colder

Handling: This product is photosensitive. **Ship:** On Ice

CERTIFIED VALUES

Elution Order	Compound	CAS #	Lot #	Purity	Grav. Conc. (weight/volume)	Expanded Uncertainty * (95% C.L.; K=2)
1	Vinyl acetate	108-05-4	SEC RD230301RSRA	98%	5,044.4 µg/mL	+/- 174.3571

* Expanded Uncertainty displayed in same units as Grav. Conc.

Solvent: P&T Methanol
CAS # 67-56-1
Purity 99%

Tech Tips:

Vinyl acetate is a volatile organic ester included in the target lists of several US EPA and other methods . Under acidic conditions, esters react with alcohols to form new esters (transesterification). Methanol-based mixes containing halogenated compounds are slightly acidic, so it is important to minimize exposure of vinyl acetate to mixes of halogenated compounds in methanol. For this reason, we offer vinyl acetate in individual solution, and suggest that it be introduced into the working level calibration solution immediately before use. This will minimize problems and ensure more consistent results.

Quality Confirmation Test

Column:
105m x 0.53mm x 3.0µm
Rtx-502.2 (cat.#10910)

Carrier Gas:
hydrogen-constant pressure 11.0 psi.

Temp. Program:
40°C (hold 2 min.) to 240°C
@ 8°C/min. (hold 5 min.)

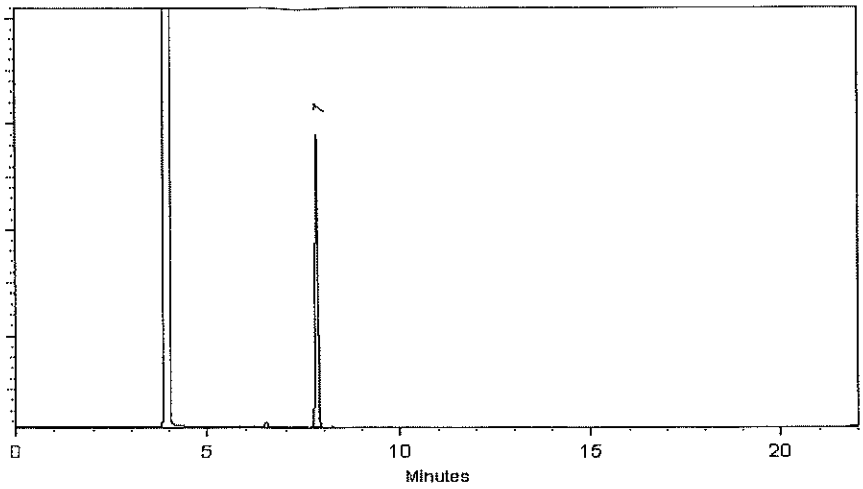
Inj. Temp:
200°C

Det. Temp:
250°C

Det. Type:
FID

Split Vent:
40 ml/min

Inj. Vol
0.2µl



This chromatogram represents a general set of testing conditions chosen for product acceptance. For optimal results in your lab, conditions should be adjusted for your specific instrument, method, and application.

John Friedline - Operations Technician I

Date Mixed: 11-May-2023 **Balance Serial #** 1128342314

Dillan Murphy - Operations Technician I

Date Passed: 17-May-2023

Manufactured under Restek's ISO 9001:2015
Registered Quality System
Certificate #FM 80397

Reagent

MV-569724_00037

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FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 569724 **Lot No.:** A0200199

Description : 8260 List 1 / Std #6 Vinyl Acetate (2015)

8260 List 1 / Std #6 Vinyl Acetate (2015) 5,000µg/mL, P&T Methanol, 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : January 31, 2025 **Storage:** -20°C or colder

Handling: This product is photosensitive. **Ship:** On Ice

CERTIFIED VALUES

Elution Order	Compound	CAS #	Lot #	Purity	Grav. Conc. (weight/volume)	Expanded Uncertainty * (95% C.L.; K=2)
1	Vinyl acetate	108-05-4	RD220630	99%	5,036.0 µg/mL	+/- 174.0672

* Expanded Uncertainty displayed in same units as Grav. Conc.

Solvent: P&T Methanol
CAS # 67-56-1
Purity 99%

Tech Tips:
Vinyl acetate is a volatile organic ester included in the target lists of several US EPA and other methods . Under acidic conditions, esters react with alcohols to form new esters (transesterification). Methanol-based mixes containing halogenated compounds are slightly acidic, so it is important to minimize exposure of vinyl acetate to mixes of halogenated compounds in methanol. For this reason, we offer vinyl acetate in individual solution, and suggest that it be introduced into the working level calibration solution immediately before use. This will minimize problems and ensure more consistent results.

12/6/23
- 00037

Quality Confirmation Test

Column:
105m x 0.53mm x 3.0µm
Rtx-502.2 (cat.#10910)

Carrier Gas:
hydrogen-constant pressure 11.0 psi.

Temp. Program:
40°C (hold 2 min.) to 240°C
@ 8°C/min. (hold 5 min.)

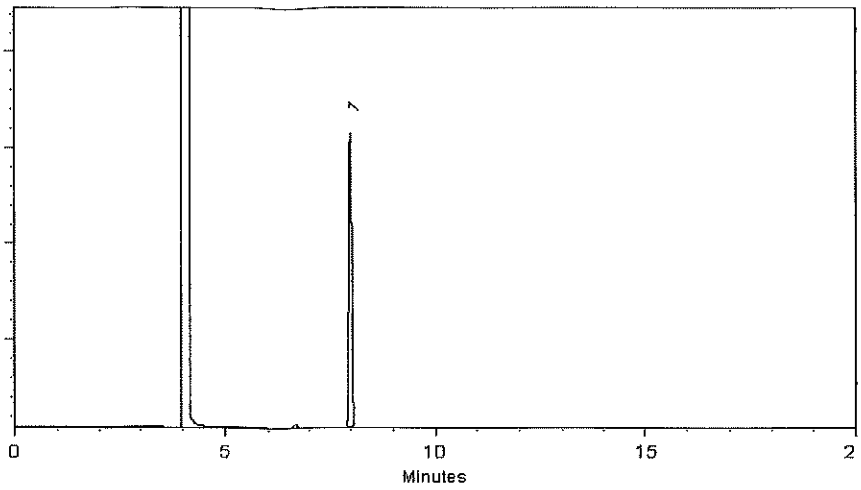
Inj. Temp:
200°C

Det. Temp:
250°C

Det. Type:
FID

Split Vent:
40 ml/min

Inj. Vol
0.2µl



This chromatogram represents a general set of testing conditions chosen for product acceptance. For optimal results in your lab, conditions should be adjusted for your specific instrument, method, and application.

Josh McCloskey - Operations Technician I

Date Mixed: 24-Jul-2023 **Balance Serial #** B707717271

Dillan Murphy - Operations Technician I

Date Passed: 26-Jul-2023

Manufactured under Restek's ISO 9001:2015 Registered Quality System Certificate #FM 80397

Reagent

MV-569727.sec_00013

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This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 569727.SEC **Lot No.:** A0195344

Description : 8260 List 2/ Std #3 Cyclohexanone (2015)

8260 List 2/ Std #3 Cyclohexanone (2015) 25,000µg/mL, Water, 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : March 31, 2026 **Storage:** 10°C or colder

Ship: Ambient

CERTIFIED VALUES

Elution Order	Compound	CAS #	Lot #	Purity	Grav. Conc. (weight/volume)	Expanded Uncertainty * (95% C.L.; K=2)
1	Cyclohexanone	108-94-1.SEC	GA3TF	99%	25,205.1 µg/mL	+/- 871.1479

* Expanded Uncertainty displayed in same units as Grav. Conc.

Solvent: Water
CAS # 7732-18-5
Purity 99%

Rcvd 7/15/23

Quality Confirmation Test

Column:
105m x 0.53mm x 3.0µm
Rtx-502.2 (cat.#10910)

Carrier Gas:
hydrogen-constant pressure 11.0 psi.

Temp. Program:
40°C (hold 2 min.) to 240°C
@ 8°C/min. (hold 5 min.)

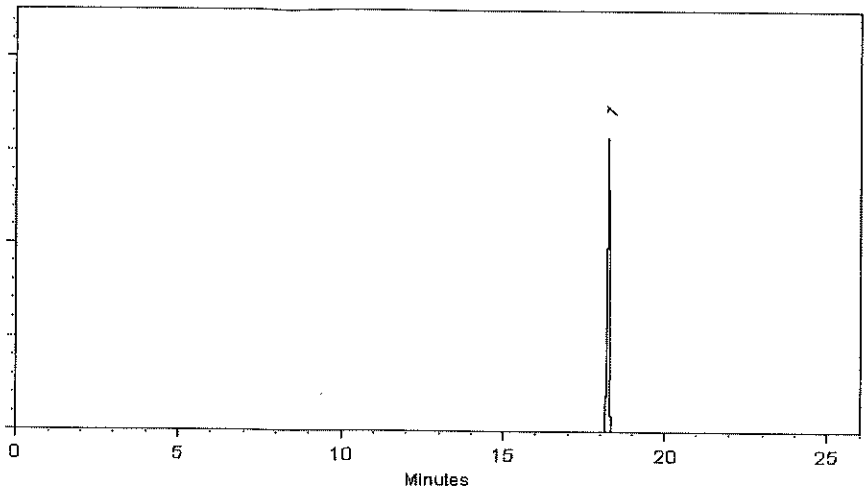
Inj. Temp:
200°C

Det. Temp:
250°C

Det. Type:
FID

Split Vent:
40 ml/min

Inj. Vol
1µl



This chromatogram represents a general set of testing conditions chosen for product acceptance. For optimal results in your lab, conditions should be adjusted for your specific instrument, method, and application.

Jess Hoy - Operations Tech I

Date Mixed: 01-Mar-2023 Balance Serial # 1128353505

Jennifer Pollino - Operations Tech III - ARM QC

Date Passed: 06-Mar-2023

Manufactured under Restek's ISO 9001:2015
Registered Quality System
Certificate #FM 80397

Reagent

MV-569727_00024

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FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 569727 **Lot No.:** A0197009

Description : 8260 List 2/ Std #3 Cyclohexanone (2015)

8260 List 2/ Std #3 Cyclohexanone (2015) 25,000µg/mL, Water, 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : April 30, 2026 **Storage:** 10°C or colder

Ship: Ambient

CERTIFIED VALUES

Elution Order	Compound	CAS #	Lot #	Purity	Grav. Conc. (weight/volume)	Expanded Uncertainty * (95% C.L.; K=2)
1	Cyclohexanone	108-94-1	MKCC7732	99%	25,006.5 µg/mL	+/- 864.2827

* Expanded Uncertainty displayed in same units as Grav. Conc.

Solvent: Water
CAS # 7732-18-5
Purity 99%

Rcvd 1/15/23

Quality Confirmation Test

Column:
105m x 0.53mm x 3.0µm
Rtx-502.2 (cat.#10910)

Carrier Gas:
hydrogen-constant pressure 11.0 psi.

Temp. Program:
40°C (hold 2 min.) to 240°C
@ 8°C/min. (hold 5 min.)

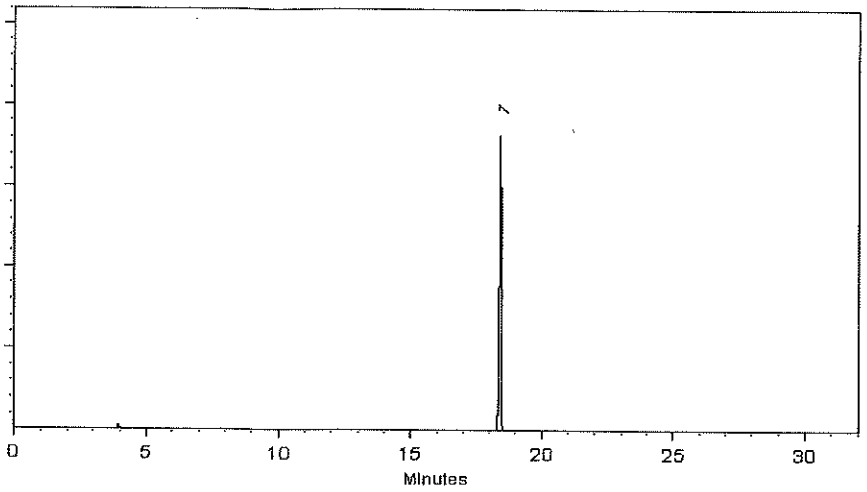
Inj. Temp:
200°C

Det. Temp:
250°C

Det. Type:
FID

Split Vent:
40 ml/min

Inj. Vol
1µl



This chromatogram represents a general set of testing conditions chosen for product acceptance. For optimal results in your lab, conditions should be adjusted for your specific instrument, method, and application.

Russ Bookhamer - Operations Technician I

Date Mixed: 14-Apr-2023 **Balance Serial #** B251644995

Jennifer Pollino - Operations Tech III - ARM QC

Date Passed: 18-Apr-2023

Manufactured under Restek's ISO 9001:2015 Registered Quality System Certificate #FM 80397

Reagent

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mv-570808.sec_00009

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FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 570808.SEC **Lot No.:** A0193865

Description : 8260 List 2 / Std #6

8260 List 2 / Std #6 2,500-62,500µg/mL, P&T Methanol, 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : July 31, 2024 **Storage:** 0°C or colder

Ship: Ambient

CERTIFIED VALUES

Elution Order	Compound	CAS #	Lot #	Purity	Grav. Conc. (weight/volume)	Expanded Uncertainty * (95% C.L.; K=2)
1	2-Propanol (isopropanol)	67-63-0.SEC	G6HNF	99%	25,080.0 µg/mL	+/- 410.1061
2	Chloroprene (2-chloro-1,3-butadiene)	126-99-8 *	220712JLM	99%	2,519.0 µg/mL	+/- 41.2025
3	Methacrylonitrile	126-98-7 *	1012014	99%	25,106.0 µg/mL	+/- 410.5312
4	2,2,4-Trimethylpentane (Isooctane)	540-84-1.SEC	11566800	99%	2,513.0 µg/mL	+/- 41.1044
5	1-Butanol	71-36-3.SEC	RSHAH	99%	62,635.5 µg/mL	+/- 1,024.2037
6	2-Nitropropane	79-46-9.SEC	F431A	99%	5,037.0 µg/mL	+/- 82.3646
7	1-Chlorohexane	544-10-5.SEC	8171700	99%	2,507.0 µg/mL	+/- 41.0062
8	1,2,3-Trimethylbenzene	526-73-8.SEC	12203300	99%	2,512.0 µg/mL	+/- 41.0880
9	Benzyl chloride	100-44-7.SEC	H29N03	99%	2,515.5 µg/mL	+/- 41.1453
10	1,3,5-Trichlorobenzene	108-70-3.SEC	I28U021	99%	2,510.5 µg/mL	+/- 41.0635

* Expanded Uncertainty displayed in same units as Grav. Conc.

Solvent: P&T Methanol
CAS # 67-56-1
Purity 99%

*** Restek is unable to identify a reliable and/or acceptable second source for this material - the same batch of neat material may have been used to produce both the primary and secondary standard. The primary and secondary standards were prepared using different equipment and personnel.**

Revd 5/25/23

Quality Confirmation Test

Column:
105m x 0.53mm x 3.0µm
Rtx-502.2 (cat.#10910)

Carrier Gas:
hydrogen-constant pressure 11.0 psi.

Temp. Program:
40°C (hold 2 min.) to 240°C
@ 8°C/min. (hold 5 min.)

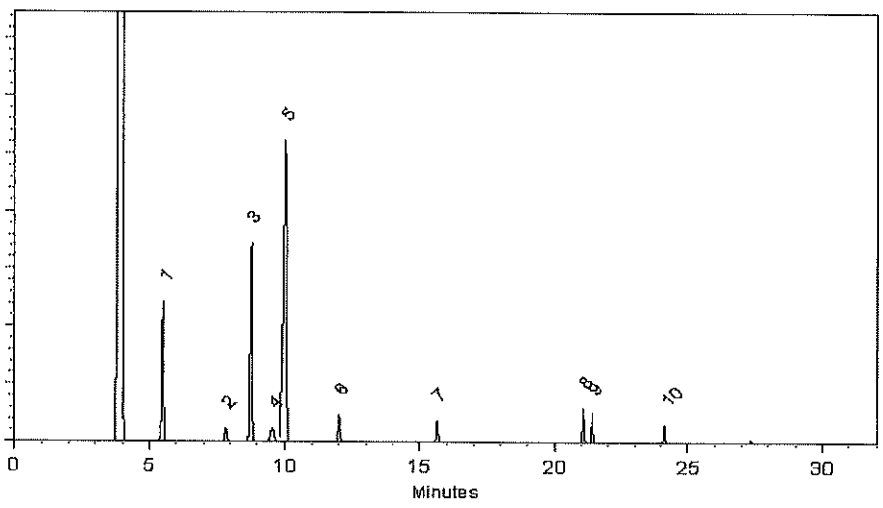
Inj. Temp:
200°C

Det. Temp:
250°C

Det. Type:
FID

Split Vent:
40 ml/min

Inj. Vol
1µl



This chromatogram represents a general set of testing conditions chosen for product acceptance. For optimal results in your lab, conditions should be adjusted for your specific instrument, method, and application.

Katelyn McGlinn - Operations Tech I

Date Mixed: 23-Jan-2023 **Balance Serial #** 1128342314

Christie Mills - Operations Tech II - ARM QC

Date Passed: 02-Feb-2023

Manufactured under Restek's ISO 9001:2015 Registered Quality System Certificate #FM 80397

Reagent

mv-570809_00014

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FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 570809 **Lot No.:** A0200274

Description : 8260 List 2 / Std #7

8260 List 2 / Std #7 2,500-5,000µg/mL, P&T Methanol, 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : January 31, 2025 **Storage:** 0°C or colder

Ship: Ambient

CERTIFIED VALUES

Elution Order	Compound	CAS #	Lot #	Purity	Grav. Conc. (weight/volume)	Expanded Uncertainty * (95% C.L.; K=2)
1	Ethyl acetate	141-78-6	SHBP9289	99%	5,031.0 µg/mL	+/- 173.8830
2	Ethyl acrylate	140-88-5	10129902	99%	2,502.5 µg/mL	+/- 86.4979
3	Methyl methacrylate	80-62-6	MKCQ2756	99%	5,000.0 µg/mL	+/- 172.8116
4	Butyl acetate	123-86-4	SHBP6314	99%	2,506.0 µg/mL	+/- 86.6188

* Expanded Uncertainty displayed in same units as Grav. Conc.

Solvent: P&T Methanol
CAS # 67-56-1
Purity 99%

Quality Confirmation Test

Column:
105m x 0.53mm x 3.0µm
Rtx-502.2 (cat.#10910)

Carrier Gas:
hydrogen-constant pressure 11.0 psi.

Temp. Program:
40°C (hold 2 min.) to 240°C
@ 8°C/min. (hold 5 min.)

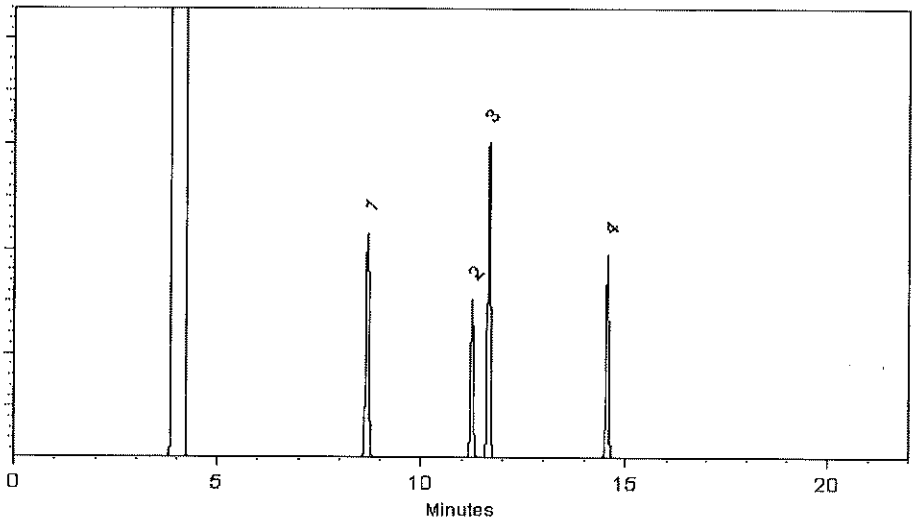
Inj. Temp:
200°C

Det. Temp:
250°C

Det. Type:
FID

Split Vent:
40 ml/min

Inj. Vol
1µl



This chromatogram represents a general set of testing conditions chosen for product acceptance. For optimal results in your lab, conditions should be adjusted for your specific instrument, method, and application.

Laith Clemente - Operations Technician I

Date Mixed: 25-Jul-2023 **Balance Serial #** B707717271

Jennifer Pollino - Operations Tech III - ARM QC

Date Passed: 31-Jul-2023

Manufactured under Restek's ISO 9001:2015 Registered Quality System Certificate #FM 80397

Reagent

MV-571992.sec_00010

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110 Benner Circle
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This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 571992.SEC **Lot No.:** A0195252

Description : 8260 List 1 / Std #1 MegaMix (2017)

8260 List 1 / Std #1 MegaMix (2017) 1,250-62,500µg/mL, P&T Methanol, 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : August 31, 2025 **Storage:** 0°C or colder

Ship: Ambient

CERTIFIED VALUES

Elution Order	Compound	CAS #	Lot #	Purity	Grav. Conc. (weight/volume)	Expanded Uncertainty * (95% C.L.; K=2)
1	Diethyl ether (ethyl ether)	60-29-7.SEC	F23X068	99%	2,516.7 µg/mL	+/- 86.9644
2	1,1,2-Trichlorotrifluoroethane (CFC-113)	76-13-1.SEC	18342	99%	2,520.0 µg/mL	+/- 87.0795
3	1,1-Dichloroethene	75-35-4.SEC	13896500	99%	2,525.0 µg/mL	+/- 87.2523
4	tert-Butanol (TBA)	75-65-0.SEC	DI34O	99%	25,129.5 µg/mL	+/- 868.3580
5	Methyl acetate	79-20-9.SEC	UCNEL	99%	5,029.0 µg/mL	+/- 173.7790
6	Iodomethane (methyl iodide)	74-88-4.SEC	Y25A027	99%	2,521.7 µg/mL	+/- 87.1371
7	Allyl chloride (3-chloropropene)	107-05-1.SEC	RD210329	99%	2,518.2 µg/mL	+/- 87.0162
8	Methylene chloride (dichloromethane)	75-09-2.SEC	FGM02	99%	2,516.7 µg/mL	+/- 86.9644
9	Carbon disulfide	75-15-0.SEC	MKBL1376V	99%	2,511.7 µg/mL	+/- 86.7916
10	Acrylonitrile	107-13-1.SEC	V54AD	99%	25,200.3 µg/mL	+/- 870.8057
11	Methyl-tert-butyl ether (MTBE)	1634-04-4.SEC	CDCQG	99%	2,517.3 µg/mL	+/- 86.9874
12	cis-1,2-Dichloroethene	156-59-2.SEC	YZO5O	99%	2,515.3 µg/mL	+/- 86.9183
13	n-Hexane (C6)	110-54-3.SEC	10188491	99%	2,514.7 µg/mL	+/- 86.8953
14	1,1-Dichloroethane	75-34-3.SEC	1026.30-3	98%	2,512.6 µg/mL	+/- 86.8223
15	2,2-Dichloropropane	594-20-7.SEC	GI01	99%	2,521.5 µg/mL	+/- 87.1314
16	trans-1,2-Dichloroethene	156-60-5.SEC	L5QOH	99%	2,525.0 µg/mL	+/- 87.2523

17	Isobutanol (2-Methyl-1-propanol)	78-83-1.SEC PH2XK	99%	62,830.8	µg/mL	+/- 2,171.1398
18	Chloroform	67-66-3.SEC 1297547	99%	2,511.7	µg/mL	+/- 86.7916
19	Bromochloromethane	74-97-5 * 230206JLM	99%	2,515.7	µg/mL	+/- 86.9298
20	Tetrahydrofuran	109-99-9.SEC 3NYHE	99%	5,018.5	µg/mL	+/- 173.4162
21	1,1,1-Trichloroethane	71-55-6.SEC 13891800	99%	2,506.5	µg/mL	+/- 86.6130
22	Cyclohexane	110-82-7.SEC YADRA	99%	2,523.3	µg/mL	+/- 87.1947
23	1,1-Dichloropropene	563-58-6.SEC 556500	99%	2,520.5	µg/mL	+/- 87.0968
24	Carbon tetrachloride	56-23-5.SEC 11466	99%	2,520.5	µg/mL	+/- 87.0968
25	n-Heptane (C7)	142-82-5.SEC TFHUC	99%	2,516.5	µg/mL	+/- 86.9586
26	1,2-Dichloroethane	107-06-2.SEC 00016165	99%	2,519.8	µg/mL	+/- 87.0738
27	Benzene	71-43-2.SEC 101960P29K	99%	2,518.8	µg/mL	+/- 87.0392
28	Trichloroethene	79-01-6.SEC H04X050	99%	2,524.3	µg/mL	+/- 87.2293
29	Methylcyclohexane	108-87-2.SEC Q02QG	99%	2,515.8	µg/mL	+/- 86.9356
30	1,2-Dichloropropane	78-87-5.SEC ERRBI-RH	99%	2,516.8	µg/mL	+/- 86.9701
31	1,4-Dioxane	123-91-1.SEC QHRWO	99%	50,137.2	µg/mL	+/- 1,732.5061
32	Dibromomethane	74-95-3.SEC MOKKJ	99%	2,516.3	µg/mL	+/- 86.9528
33	cis-1,3-Dichloropropene	10061-01-5.SEC ZLXJ-TJ	99%	2,502.8	µg/mL	+/- 86.4863
34	Toluene	108-88-3.SEC YND2B-BD	99%	2,522.2	µg/mL	+/- 87.1544
35	Ethyl methacrylate	97-63-2.SEC AQSPO	99%	2,510.8	µg/mL	+/- 86.7628
36	trans-1,3-Dichloropropene	10061-02-6.SEC DMSL	98%	2,517.1	µg/mL	+/- 86.9804
37	1,1,2-Trichloroethane	79-00-5.SEC 9245400	99%	2,512.2	µg/mL	+/- 86.8089
38	1,3-Dichloropropane	142-28-9.SEC IQCON	99%	2,519.3	µg/mL	+/- 87.0565
39	Tetrachloroethene	127-18-4.SEC F09W014	99%	2,521.3	µg/mL	+/- 87.1256
40	Dibromochloromethane	124-48-1.SEC 10234064	99%	2,517.5	µg/mL	+/- 86.9932
41	1,2-Dibromoethane (EDB)	106-93-4.SEC 050675P15E	99%	2,518.3	µg/mL	+/- 87.0220
42	Chlorobenzene	108-90-7.SEC 1161936	99%	2,515.8	µg/mL	+/- 86.9356
43	m-Xylene	108-38-3.SEC 7ZV6F	99%	1,255.3	µg/mL	+/- 43.3814
44	p-Xylene	106-42-3.SEC D6UOA	99%	1,260.3	µg/mL	+/- 43.5541
45	Ethylbenzene	100-41-4.SEC PI4SE	99%	2,517.7	µg/mL	+/- 86.9989
46	1,1,1,2-Tetrachloroethane	630-20-6.SEC 13789800	99%	2,517.5	µg/mL	+/- 86.9932
47	o-Xylene	95-47-6.SEC UJ6RI	99%	2,515.8	µg/mL	+/- 86.9356
48	Styrene	100-42-5.SEC QGQ7F	99%	2,521.3	µg/mL	+/- 87.1256
49	Isopropylbenzene (cumene)	98-82-8.SEC 7P24L	99%	2,515.0	µg/mL	+/- 86.9068
50	Bromoform	75-25-2.SEC 13723500	99%	2,522.5	µg/mL	+/- 87.1659
51	Bromodichloromethane	75-27-4.SEC 28128	99%	2,524.2	µg/mL	+/- 87.2235
52	1,1,2,2-Tetrachloroethane	79-34-5.SEC BCCD5088	99%	2,523.7	µg/mL	+/- 87.2063

53	1,2,3-Trichloropropane	96-18-4.SEC 6V2ED	99%	2,522.2	µg/mL	+/- 87.1544
54	trans-1,4-Dichloro-2-butene	110-57-6.SEC RD230316RSR	96%	2,517.0	µg/mL	+/- 86.9745
55	n-Propylbenzene	103-65-1.SEC XCGEC	99%	2,518.8	µg/mL	+/- 87.0392
56	Bromobenzene	108-86-1.SEC 2FUHG-EM	99%	2,518.3	µg/mL	+/- 87.0220
57	1,3,5-Trimethylbenzene	108-67-8.SEC GI2SM	99%	2,514.3	µg/mL	+/- 86.8837
58	2-Chlorotoluene	95-49-8.SEC BRHPM	99%	2,515.7	µg/mL	+/- 86.9298
59	4-Chlorotoluene	106-43-4.SEC S5SKD	99%	2,518.8	µg/mL	+/- 87.0392
60	tert-Butylbenzene	98-06-6.SEC D6OHC	99%	2,522.0	µg/mL	+/- 87.1487
61	1,2,4-Trimethylbenzene	95-63-6.SEC JHZDD	99%	2,517.3	µg/mL	+/- 86.9874
62	sec-Butylbenzene	135-98-8.SEC O4HRF	99%	2,522.0	µg/mL	+/- 87.1487
63	4-Isopropyltoluene (p-cymene)	99-87-6.SEC 13889300	98%	2,518.1	µg/mL	+/- 87.0142
64	1,3-Dichlorobenzene	541-73-1.SEC ZA2ZI	99%	2,515.0	µg/mL	+/- 86.9068
65	1,4-Dichlorobenzene	106-46-7.SEC J5GVD	99%	2,522.5	µg/mL	+/- 87.1659
66	n-Butylbenzene	104-51-8.SEC MMPGA	99%	2,523.7	µg/mL	+/- 87.2063
67	1,2-Dichlorobenzene	95-50-1.SEC R6QDM	99%	2,512.0	µg/mL	+/- 86.8031
68	1,2-Dibromo-3-chloropropane	96-12-8.SEC Q135-105	99%	2,517.7	µg/mL	+/- 86.9989
69	1,2,4-Trichlorobenzene	120-82-1.SEC IGLFA	99%	2,515.7	µg/mL	+/- 86.9298
70	Hexachlorobutadiene	87-68-3.SEC 13889400	97%	2,520.4	µg/mL	+/- 87.0928
71	Naphthalene	91-20-3.SEC AM5NG	99%	2,520.0	µg/mL	+/- 87.0795
72	1,2,3-Trichlorobenzene	87-61-6.SEC A0043055	99%	2,517.8	µg/mL	+/- 87.0047

* Expanded Uncertainty displayed in same units as Grav. Conc.

Solvent: P&T Methanol
CAS # 67-56-1
Purity 99%

*** Restek is unable to identify a reliable and/or acceptable second source for this material - the same batch of neat material may have been used to produce both the primary and secondary standard. The primary and secondary standards were prepared using different equipment and personnel.**

Quality Confirmation Test

Column:
60m x 0.25mm x 1.4µm
Rtx-502.2 (cat.#10916)

Carrier Gas:
hellum-constant pressure 30 psi

Temp. Program:
40°C (hold 6 min.) to 240°C
@ 6°C/min. (hold 10 min.)

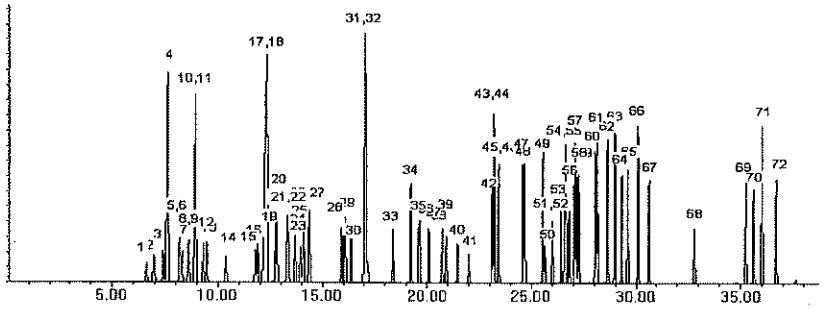
Inj. Temp:
200°C

Det. Temp:
250°C

Det. Type:
MSD

Split Vent:
20.0 ml/min.

Inj. Vol
0.2µl



This chromatogram represents a general set of testing conditions chosen for product acceptance. For optimal results in your lab, conditions should be adjusted for your specific instrument, method, and application.

John Friedline - Operations Technician I

Date Mixed: 28-Feb-2023 **Balance Serial #** 1127510105

Christie Mills - Operations Tech II - ARM QC

Date Passed: 22-Mar-2023

Manufactured under Restek's ISO 9001:2015
Registered Quality System
Certificate #FM 80397

Reagent

MV-571992_00015

RESTEK
110 Benner Circle
Bellefonte, PA 16823-8812
Tel: (800)356-1688
Fax: (814)353-1309

www.restek.com

CERTIFIED REFERENCE MATERIAL

Certificate of Analysis

ACCREDITED ISO 17034 Accredited Reference Material Producer Certificate #3222.01

ACCREDITED ISO/IEC 17025 Accredited Testing Laboratory Certificate #3222.02

FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 571992 **Lot No.:** A0183568

Description : 8260 List 1 / Std #1 MegaMix (2017)

8260 List 1 / Std #1 MegaMix (2017) 1,250-62,500µg/mL, P&T Methanol, 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : September 30, 2024 **Storage:** 0°C or colder

Ship: Ambient

CERTIFIED VALUES

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)	
1	Diethyl ether (ethyl ether) **CAS #** 60-29-7 (Lot SHBN4280) **Purity** 99%	2,506.6 µg/mL	+/- 14.5737 µg/mL +/- 151.2358 µg/mL +/- 151.5949 µg/mL	Gravimetric Unstressed Stressed
2	1,1,2-Trichlorotrifluoroethane (CFC-113) **CAS #** 76-13-1 (Lot 00016133) **Purity** 99%	2,514.5 µg/mL	+/- 14.6195 µg/mL +/- 151.7109 µg/mL +/- 152.0711 µg/mL	Gravimetric Unstressed Stressed
3	1,1-dichloroethene **CAS #** 75-35-4 (Lot SHBG8609V) **Purity** 99%	2,515.1 µg/mL	+/- 14.6232 µg/mL +/- 151.7486 µg/mL +/- 152.1089 µg/mL	Gravimetric Unstressed Stressed
4	tert-Butanol (TBA) **CAS #** 75-65-0 (Lot 101619K21F-1) **Purity** 99%	25,080.8 µg/mL	+/- 145.8140 µg/mL +/- 1,513.2321 µg/mL +/- 1,516.8247 µg/mL	Gravimetric Unstressed Stressed
5	Methyl acetate **CAS #** 79-20-9 (Lot SHBM1320) **Purity** 99%	5,026.6 µg/mL	+/- 29.2252 µg/mL +/- 303.2786 µg/mL +/- 303.9986 µg/mL	Gravimetric Unstressed Stressed
6	Iodomethane (methyl iodide) **CAS #** 74-88-4 (Lot RD220125) **Purity** 99%	2,505.3 µg/mL	+/- 14.5657 µg/mL +/- 151.1528 µg/mL +/- 151.5117 µg/mL	Gravimetric Unstressed Stressed
7	Allyl chloride (3-chloropropene) **CAS #** 107-05-1 (Lot RD211021) **Purity** 99%	2,509.1 µg/mL	+/- 14.5883 µg/mL +/- 151.3866 µg/mL +/- 151.7460 µg/mL	Gravimetric Unstressed Stressed

8	Methylene chloride (dichloromethane)		2,513.3	µg/mL	+/-	14.6123	µg/mL	Gravimetric
	CAS # 75-09-2	(Lot SHBP1417)			+/-	151.6355	µg/mL	Unstressed
	Purity 99%				+/-	151.9955	µg/mL	Stressed
9	Carbon disulfide		2,510.1	µg/mL	+/-	14.5941	µg/mL	Gravimetric
	CAS # 75-15-0	(Lot N28F701)			+/-	151.4470	µg/mL	Unstressed
	Purity 99%				+/-	151.8065	µg/mL	Stressed
10	Acrylonitrile		25,102.9	µg/mL	+/-	145.9426	µg/mL	Gravimetric
	CAS # 107-13-1	(Lot SHBK4954)			+/-	1,514.5670	µg/mL	Unstressed
	Purity 99%				+/-	1,518.1628	µg/mL	Stressed
11	Methyl-tert-butyl ether (MTBE)		2,513.8	µg/mL	+/-	14.6152	µg/mL	Gravimetric
	CAS # 1634-04-4	(Lot SHBN6497)			+/-	151.6657	µg/mL	Unstressed
	Purity 99%				+/-	152.0258	µg/mL	Stressed
12	cis-1,2-Dichloroethene		2,515.1	µg/mL	+/-	14.6232	µg/mL	Gravimetric
	CAS # 156-59-2	(Lot MKCP7830)			+/-	151.7486	µg/mL	Unstressed
	Purity 99%				+/-	152.1089	µg/mL	Stressed
13	n-Hexane (C6)		2,515.5	µg/mL	+/-	14.6253	µg/mL	Gravimetric
	CAS # 110-54-3	(Lot SHBL9879)			+/-	151.7713	µg/mL	Unstressed
	Purity 99%				+/-	152.1316	µg/mL	Stressed
14	1,1-Dichloroethane		2,517.9	µg/mL	+/-	14.6391	µg/mL	Gravimetric
	CAS # 75-34-3	(Lot 760200)			+/-	151.9146	µg/mL	Unstressed
	Purity 99%				+/-	152.2752	µg/mL	Stressed
15	2,2-Dichloropropane		2,517.9	µg/mL	+/-	14.6391	µg/mL	Gravimetric
	CAS # 594-20-7	(Lot RD211103)			+/-	151.9146	µg/mL	Unstressed
	Purity 99%				+/-	152.2752	µg/mL	Stressed
16	trans-1,2-Dichloroethene		2,511.4	µg/mL	+/-	14.6014	µg/mL	Gravimetric
	CAS # 156-60-5	(Lot MKBH9850V)			+/-	151.5224	µg/mL	Unstressed
	Purity 99%				+/-	151.8821	µg/mL	Stressed
17	Isobutanol (2-Methyl-1-propanol)		62,633.1	µg/mL	+/-	364.1354	µg/mL	Gravimetric
	CAS # 78-83-1	(Lot 098794J01H)			+/-	3,778.9321	µg/mL	Unstressed
	Purity 99%				+/-	3,787.9040	µg/mL	Stressed
18	chloroform		2,510.9	µg/mL	+/-	14.5984	µg/mL	Gravimetric
	CAS # 67-66-3	(Lot SHBN8469)			+/-	151.4922	µg/mL	Unstressed
	Purity 99%				+/-	151.8519	µg/mL	Stressed
19	Bromochloromethane		2,517.0	µg/mL	+/-	14.6341	µg/mL	Gravimetric
	CAS # 74-97-5	(Lot 00008541)			+/-	151.8618	µg/mL	Unstressed
	Purity 99%				+/-	152.2223	µg/mL	Stressed
20	Tetrahydrofuran		5,036.1	µg/mL	+/-	29.2805	µg/mL	Gravimetric
	CAS # 109-99-9	(Lot SHBN3757)			+/-	303.8517	µg/mL	Unstressed
	Purity 99%				+/-	304.5731	µg/mL	Stressed
21	1,1,1-trichloroethane		2,509.6	µg/mL	+/-	14.5912	µg/mL	Gravimetric
	CAS # 71-55-6	(Lot RD220215)			+/-	151.4168	µg/mL	Unstressed
	Purity 99%				+/-	151.7763	µg/mL	Stressed
22	Cyclohexane		2,510.0	µg/mL	+/-	14.5934	µg/mL	Gravimetric
	CAS # 110-82-7	(Lot EA003-US)			+/-	151.4394	µg/mL	Unstressed
	Purity 99%				+/-	151.7990	µg/mL	Stressed
23	1,1-Dichloropropene		2,513.8	µg/mL	+/-	14.6152	µg/mL	Gravimetric
	CAS # 563-58-6	(Lot 220217JLM)			+/-	151.6657	µg/mL	Unstressed
	Purity 99%				+/-	152.0258	µg/mL	Stressed

24	carbon tetrachloride		2,513.5	µg/mL	+/-	14.6137	µg/mL	Gravimetric
	CAS # 56-23-5	(Lot SHBL8097)			+/-	151.6506	µg/mL	Unstressed
	Purity 99%				+/-	152.0106	µg/mL	Stressed
25	n-Heptane (C7)		2,511.4	µg/mL	+/-	14.6014	µg/mL	Gravimetric
	CAS # 142-82-5	(Lot SGBL9221)			+/-	151.5224	µg/mL	Unstressed
	Purity 99%				+/-	151.8821	µg/mL	Stressed
26	1,2-Dichloroethane		2,514.4	µg/mL	+/-	14.6188	µg/mL	Gravimetric
	CAS # 107-06-2	(Lot MKCN9758)			+/-	151.7034	µg/mL	Unstressed
	Purity 99%				+/-	152.0636	µg/mL	Stressed
27	Benzene		2,509.3	µg/mL	+/-	14.5890	µg/mL	Gravimetric
	CAS # 71-43-2	(Lot MKCM9242)			+/-	151.3942	µg/mL	Unstressed
	Purity 99%				+/-	151.7536	µg/mL	Stressed
28	Trichloroethene		2,507.5	µg/mL	+/-	14.5788	µg/mL	Gravimetric
	CAS # 79-01-6	(Lot SHBL5816)			+/-	151.2886	µg/mL	Unstressed
	Purity 99%				+/-	151.6478	µg/mL	Stressed
29	Methylcyclohexane		2,510.3	µg/mL	+/-	14.5948	µg/mL	Gravimetric
	CAS # 108-87-2	(Lot SHBL0078)			+/-	151.4545	µg/mL	Unstressed
	Purity 99%				+/-	151.8141	µg/mL	Stressed
30	1,2-Dichloropropane		2,510.9	µg/mL	+/-	14.5984	µg/mL	Gravimetric
	CAS # 78-87-5	(Lot BCBR0882V)			+/-	151.4922	µg/mL	Unstressed
	Purity 99%				+/-	151.8519	µg/mL	Stressed
31	1,4-Dioxane		50,187.5	µg/mL	+/-	291.7792	µg/mL	Gravimetric
	CAS # 123-91-1	(Lot SHBM9675)			+/-	3,028.0328	µg/mL	Unstressed
	Purity 99%				+/-	3,035.2219	µg/mL	Stressed
32	Dibromomethane		2,511.0	µg/mL	+/-	14.5992	µg/mL	Gravimetric
	CAS # 74-95-3	(Lot 10201030)			+/-	151.4998	µg/mL	Unstressed
	Purity 99%				+/-	151.8594	µg/mL	Stressed
33	cis-1,3-Dichloropropene		2,513.8	µg/mL	+/-	14.6152	µg/mL	Gravimetric
	CAS # 10061-01-5	(Lot RD220311)			+/-	151.6657	µg/mL	Unstressed
	Purity 99%				+/-	152.0258	µg/mL	Stressed
34	Toluene		2,518.4	µg/mL	+/-	14.6420	µg/mL	Gravimetric
	CAS # 108-88-3	(Lot MKCQ2779)			+/-	151.9447	µg/mL	Unstressed
	Purity 99%				+/-	152.3055	µg/mL	Stressed
35	Ethyl methacrylate		2,511.4	µg/mL	+/-	14.6014	µg/mL	Gravimetric
	CAS # 97-63-2	(Lot MKCL0907)			+/-	151.5224	µg/mL	Unstressed
	Purity 99%				+/-	151.8821	µg/mL	Stressed
36	trans-1,3-Dichloropropene		2,504.5	µg/mL	+/-	14.5615	µg/mL	Gravimetric
	CAS # 10061-02-6	(Lot RD211104)			+/-	151.1083	µg/mL	Unstressed
	Purity 98%				+/-	151.4671	µg/mL	Stressed
37	1,1,2-Trichloroethane		2,513.6	µg/mL	+/-	14.6144	µg/mL	Gravimetric
	CAS # 79-00-5	(Lot FGB01)			+/-	151.6581	µg/mL	Unstressed
	Purity 99%				+/-	152.0182	µg/mL	Stressed
38	1,3-Dichloropropane		2,513.6	µg/mL	+/-	14.6144	µg/mL	Gravimetric
	CAS # 142-28-9	(Lot BCBC6265)			+/-	151.6581	µg/mL	Unstressed
	Purity 99%				+/-	152.0182	µg/mL	Stressed
39	Tetrachloroethene		2,507.5	µg/mL	+/-	14.5788	µg/mL	Gravimetric
	CAS # 127-18-4	(Lot SHBJ7422)			+/-	151.2886	µg/mL	Unstressed
	Purity 99%				+/-	151.6478	µg/mL	Stressed

40	dibromochloromethane		2,514.8	µg/mL	+/-	14.6210	µg/mL	Gravimetric
	CAS # 124-48-1	(Lot MKCM8659)			+/-	151.7260	µg/mL	Unstressed
	Purity 99%				+/-	152.0862	µg/mL	Stressed
41	1,2-Dibromoethane (EDB)		2,513.9	µg/mL	+/-	14.6159	µg/mL	Gravimetric
	CAS # 106-93-4	(Lot BCCF5058)			+/-	151.6732	µg/mL	Unstressed
	Purity 99%				+/-	152.0333	µg/mL	Stressed
42	Chlorobenzene		2,507.9	µg/mL	+/-	14.5810	µg/mL	Gravimetric
	CAS # 108-90-7	(Lot SHBL8110)			+/-	151.3112	µg/mL	Unstressed
	Purity 99%				+/-	151.6704	µg/mL	Stressed
43	m-Xylene		1,260.0	µg/mL	+/-	7.3257	µg/mL	Gravimetric
	CAS # 108-38-3	(Lot Q13G020)			+/-	76.0214	µg/mL	Unstressed
	Purity 99%				+/-	76.2019	µg/mL	Stressed
44	p-Xylene		1,258.6	µg/mL	+/-	7.3178	µg/mL	Gravimetric
	CAS # 106-42-3	(Lot 10234437)			+/-	75.9384	µg/mL	Unstressed
	Purity 99%				+/-	76.1187	µg/mL	Stressed
45	Ethylbenzene		2,516.0	µg/mL	+/-	14.6282	µg/mL	Gravimetric
	CAS # 100-41-4	(Lot SHBM4308)			+/-	151.8014	µg/mL	Unstressed
	Purity 99%				+/-	152.1618	µg/mL	Stressed
46	1,1,1,2-Tetrachloroethane		2,519.1	µg/mL	+/-	14.6464	µg/mL	Gravimetric
	CAS # 630-20-6	(Lot TMWGK)			+/-	151.9900	µg/mL	Unstressed
	Purity 99%				+/-	152.3508	µg/mL	Stressed
47	o-Xylene		2,513.5	µg/mL	+/-	14.6134	µg/mL	Gravimetric
	CAS # 95-47-6	(Lot SHBN5105)			+/-	151.6479	µg/mL	Unstressed
	Purity 98%				+/-	152.0079	µg/mL	Stressed
48	Styrene		2,509.1	µg/mL	+/-	14.5883	µg/mL	Gravimetric
	CAS # 100-42-5	(Lot MKCP3941)			+/-	151.3866	µg/mL	Unstressed
	Purity 99%				+/-	151.7460	µg/mL	Stressed
49	Isopropylbenzene (cumene)		2,518.5	µg/mL	+/-	14.6428	µg/mL	Gravimetric
	CAS # 98-82-8	(Lot Z20D022)			+/-	151.9523	µg/mL	Unstressed
	Purity 99%				+/-	152.3130	µg/mL	Stressed
50	bromoform		2,511.0	µg/mL	+/-	14.5992	µg/mL	Gravimetric
	CAS # 75-25-2	(Lot SHBK4455)			+/-	151.5001	µg/mL	Unstressed
	Purity 98%				+/-	151.8597	µg/mL	Stressed
51	bromodichloromethane		2,518.1	µg/mL	+/-	14.6406	µg/mL	Gravimetric
	CAS # 75-27-4	(Lot MKCM7156)			+/-	151.9296	µg/mL	Unstressed
	Purity 99%				+/-	152.2903	µg/mL	Stressed
52	1,1,2,2-Tetrachloroethane		2,515.5	µg/mL	+/-	14.6253	µg/mL	Gravimetric
	CAS # 79-34-5	(Lot CFA4D)			+/-	151.7713	µg/mL	Unstressed
	Purity 99%				+/-	152.1316	µg/mL	Stressed
53	1,2,3-Trichloropropane		2,512.5	µg/mL	+/-	14.6079	µg/mL	Gravimetric
	CAS # 96-18-4	(Lot 332900)			+/-	151.5903	µg/mL	Unstressed
	Purity 99%				+/-	151.9502	µg/mL	Stressed
54	trans-1,4-dichloro-2-butene		2,511.8	µg/mL	+/-	14.6038	µg/mL	Gravimetric
	CAS # 110-57-6	(Lot RD220405A)			+/-	151.5480	µg/mL	Unstressed
	Purity 95%				+/-	151.9078	µg/mL	Stressed
55	n-Propylbenzene		2,515.6	µg/mL	+/-	14.6261	µg/mL	Gravimetric
	CAS # 103-65-1	(Lot MKCN1126)			+/-	151.7788	µg/mL	Unstressed
	Purity 99%				+/-	152.1392	µg/mL	Stressed

56	Bromobenzene		2,516.9	µg/mL	+/-	14.6333	µg/mL	Gravimetric
	CAS # 108-86-1	(Lot MKBD4032V)			+/-	151.8542	µg/mL	Unstressed
	Purity 99%				+/-	152.2147	µg/mL	Stressed
57	1,3,5-Trimethylbenzene		2,512.3	µg/mL	+/-	14.6064	µg/mL	Gravimetric
	CAS # 108-67-8	(Lot BCCD0427)			+/-	151.5752	µg/mL	Unstressed
	Purity 99%				+/-	151.9350	µg/mL	Stressed
58	2-Chlorotoluene		2,510.9	µg/mL	+/-	14.5984	µg/mL	Gravimetric
	CAS # 95-49-8	(Lot MKCF5243)			+/-	151.4922	µg/mL	Unstressed
	Purity 99%				+/-	151.8519	µg/mL	Stressed
59	4-Chlorotoluene		2,513.1	µg/mL	+/-	14.6115	µg/mL	Gravimetric
	CAS # 106-43-4	(Lot MKCC8496)			+/-	151.6280	µg/mL	Unstressed
	Purity 99%				+/-	151.9880	µg/mL	Stressed
60	tert-Butylbenzene		2,514.6	µg/mL	+/-	14.6202	µg/mL	Gravimetric
	CAS # 98-06-6	(Lot STBD6954V)			+/-	151.7185	µg/mL	Unstressed
	Purity 99%				+/-	152.0787	µg/mL	Stressed
61	1,2,4-Trimethylbenzene		2,517.1	µg/mL	+/-	14.6348	µg/mL	Gravimetric
	CAS # 95-63-6	(Lot WXBC9428V)			+/-	151.8696	µg/mL	Unstressed
	Purity 98%				+/-	152.2302	µg/mL	Stressed
62	sec-Butylbenzene		2,519.3	µg/mL	+/-	14.6471	µg/mL	Gravimetric
	CAS # 135-98-8	(Lot MKCN2920)			+/-	151.9975	µg/mL	Unstressed
	Purity 99%				+/-	152.3584	µg/mL	Stressed
63	p-Isopropyltoluene (p-Cymene)		2,512.0	µg/mL	+/-	14.6050	µg/mL	Gravimetric
	CAS # 99-87-6	(Lot MKCP6638)			+/-	151.5601	µg/mL	Unstressed
	Purity 99%				+/-	151.9199	µg/mL	Stressed
64	1,3-Dichlorobenzene		2,515.5	µg/mL	+/-	14.6253	µg/mL	Gravimetric
	CAS # 541-73-1	(Lot BCBZ7498)			+/-	151.7713	µg/mL	Unstressed
	Purity 99%				+/-	152.1316	µg/mL	Stressed
65	1,4-Dichlorobenzene		2,513.4	µg/mL	+/-	14.6130	µg/mL	Gravimetric
	CAS # 106-46-7	(Lot MKBS4401V)			+/-	151.6431	µg/mL	Unstressed
	Purity 99%				+/-	152.0031	µg/mL	Stressed
66	n-Butylbenzene		2,511.0	µg/mL	+/-	14.5992	µg/mL	Gravimetric
	CAS # 104-51-8	(Lot 09418JJ)			+/-	151.4998	µg/mL	Unstressed
	Purity 99%				+/-	151.8594	µg/mL	Stressed
67	1,2-Dichlorobenzene		2,511.4	µg/mL	+/-	14.6014	µg/mL	Gravimetric
	CAS # 95-50-1	(Lot SHBN3835)			+/-	151.5224	µg/mL	Unstressed
	Purity 99%				+/-	151.8821	µg/mL	Stressed
68	1,2-Dibromo-3-chloropropane		2,512.4	µg/mL	+/-	14.6074	µg/mL	Gravimetric
	CAS # 96-12-8	(Lot HBMVB)			+/-	151.5855	µg/mL	Unstressed
	Purity 97%				+/-	151.9454	µg/mL	Stressed
69	1,2,4-Trichlorobenzene		2,510.4	µg/mL	+/-	14.5955	µg/mL	Gravimetric
	CAS # 120-82-1	(Lot SHBM0526)			+/-	151.4620	µg/mL	Unstressed
	Purity 99%				+/-	151.8216	µg/mL	Stressed
70	Hexachlorobutadiene		2,509.3	µg/mL	+/-	14.5890	µg/mL	Gravimetric
	CAS # 87-68-3	(Lot X05J)			+/-	151.3942	µg/mL	Unstressed
	Purity 99%				+/-	151.7536	µg/mL	Stressed
71	Naphthalene		2,520.6	µg/mL	+/-	14.6551	µg/mL	Gravimetric
	CAS # 91-20-3	(Lot MKCH0219)			+/-	152.0805	µg/mL	Unstressed
	Purity 99%				+/-	152.4415	µg/mL	Stressed

72	1,2,3-Trichlorobenzene		2,513.0	µg/mL	+/-	14.6108	µg/mL	Gravimetric
	CAS # 87-61-6	(Lot MKBX7627V)			+/-	151.6204	µg/mL	Unstressed
	Purity 99%				+/-	151.9804	µg/mL	Stressed

Solvent: P&T Methanol
CAS # 67-56-1
Purity 99%

Column:
60m x 0.25mm x 1.4µm
Rtx-502.2 (cat.#10916)

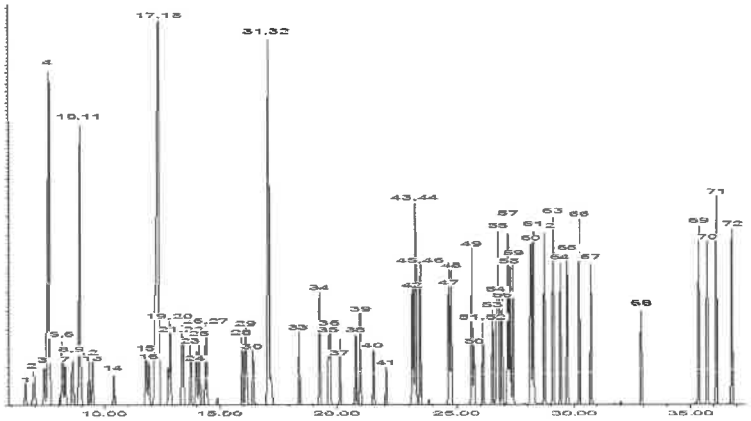
Carrier Gas:
helium-constant pressure 30 psi

Temp. Program:
40°C (hold 6 min.) to 240°C
@ 6°C/min. (hold 10 min.)

Inj. Temp:
200°C

Det. Temp:
250°C

Det. Type:
MSD



This chromatogram represents a general set of testing conditions chosen for product acceptance. For optimal results in your lab, conditions should be adjusted for your specific instrument, method, and application.

Tom Suckar - Mix Technician

Date Mixed: 31-Mar-2022 **Balance:** B707717271

Feng-Yun Lo - QC Analyst

Date Passed: 21-Apr-2022

Manufactured under Restek's ISO 9001:2015 Registered Quality System Certificate #FM 80397

Reagent

mv-571993.sec_00008

RESTEK
110 Benner Circle
Bellefonte, PA 16823-8812
Tel: (800)356-1688
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CERTIFIED REFERENCE MATERIAL

Certificate of Analysis

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Testing Laboratory
Certificate #3222.02

FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 571993.SEC **Lot No.:** A0189867

Description : 8260 List 3/ Std#1 Polar Additions (2017)

8260 List 3/ Std#1 Polar Additions (2017) 2,500-25,000µg/mL, P&T Methanol, 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : September 30, 2024 **Storage:** 0°C or colder

Ship: Ambient

CERTIFIED VALUES

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)	
1	Acetonitrile **CAS #** 75-05-8.SEC (Lot 3ZDOE) **Purity** 99%	25,064.5 µg/mL	+/- 146.7582 µg/mL +/- 1,240.0085 µg/mL +/- 1,270.8364 µg/mL	Gravimetric Unstressed Stressed
2	Diisopropyl ether (DIPE) **CAS #** 108-20-3.SEC (Lot LL7TN-SH) **Purity** 99%	2,511.0 µg/mL	+/- 14.7360 µg/mL +/- 124.2299 µg/mL +/- 127.3182 µg/mL	Gravimetric Unstressed Stressed
3	Ethyl-tert-butyl ether (ETBE) **CAS #** 637-92-3.SEC (Lot UCI5B) **Purity** 98%	2,499.2 µg/mL	+/- 14.6667 µg/mL +/- 123.6459 µg/mL +/- 126.7197 µg/mL	Gravimetric Unstressed Stressed
4	Propionitrile **CAS #** 107-12-0.SEC (Lot N44LF) **Purity** 99%	25,000.9 µg/mL	+/- 146.3858 µg/mL +/- 1,236.8620 µg/mL +/- 1,267.6117 µg/mL	Gravimetric Unstressed Stressed
5	tert-Amyl alcohol **CAS #** 75-85-4.SEC (Lot REJPI) **Purity** 99%	25,023.6 µg/mL	+/- 146.5187 µg/mL +/- 1,237.9850 µg/mL +/- 1,268.7627 µg/mL	Gravimetric Unstressed Stressed
6	tert-Amyl methyl ether (TAME) **CAS #** 994-05-8.SEC (Lot 12075100) **Purity** 98%	2,504.0 µg/mL	+/- 14.6949 µg/mL +/- 123.8835 µg/mL +/- 126.9632 µg/mL	Gravimetric Unstressed Stressed

12/5/22

Solvent: P&T Methanol
CAS # 67-56-1
Purity 99%

Column:
105m x 0.53mm x 3.0µm
Rtx-502.2 (cat.#10910)

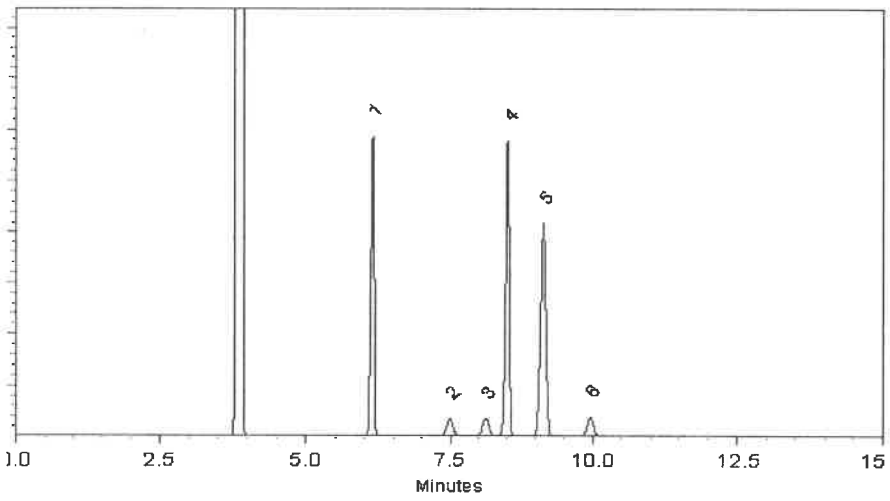
Carrier Gas:
hydrogen-constant pressure 11.0 psi.

Temp. Program:
40°C (hold 2 min.) to 240°C
@ 8°C/min. (hold 5 min.)

Inj. Temp:
200°C

Det. Temp:
250°C

Det. Type:
FID



This chromatogram represents a general set of testing conditions chosen for product acceptance. For optimal results in your lab, conditions should be adjusted for your specific instrument, method, and application.

Daniel Wasson - Operations Tech I **Date Mixed:** 22-Sep-2022 **Balance:** 1128342314

Marlina Cowan – Operations Tech II ARM QC **Date Passed:** 26-Sep-2022

Manufactured under Restek's ISO 9001:2015 Registered Quality System Certificate #FM 80397

Reagent

mv-571994_00009

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Testing Laboratory
Certificate #3222.02

FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 571994 **Lot No.:** A0187957

Description : 8260 Ethanol Standard

8260 Ethanol Standard 100,000µg/mL, P&T Methanol, 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : July 31, 2025 **Storage:** 0°C or colder

Ship: Ambient

CERTIFIED VALUES

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)	
1	Ethanol	100,997.0 µg/mL	+/- 591.3291 µg/mL	Gravimetric
	CAS # 64-17-5 (Lot SHBN4889)		+/- 2,163.4813 µg/mL	Unstressed
	Purity 99%		+/- 2,226.3131 µg/mL	Stressed

Solvent: P&T Methanol
CAS # 67-56-1
Purity 99%

5/10/23

Column:
105m x 0.53mm x 3.0µm
Rtx-502.2 (cat.# 10910)

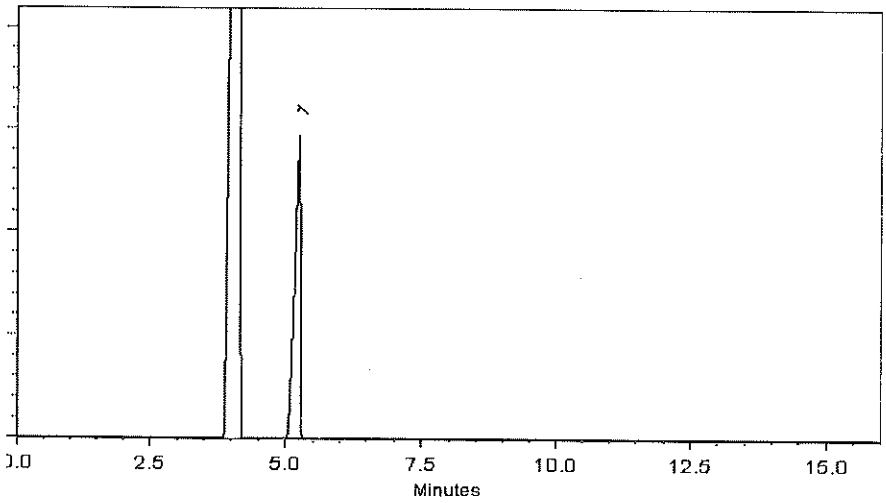
Carrier Gas:
hydrogen-constant pressure 11 psi.

Temp. Program:
40°C (hold 6 min.) to 100°C
@ 6°C/min.

Inj. Temp:
200°C

Det. Temp:
250°C

Det. Type:
FID



This chromatogram represents a general set of testing conditions chosen for product acceptance. For optimal results in your lab, conditions should be adjusted for your specific instrument, method, and application.

Sam Moodler - Operations Tech I

Date Mixed: 29-Jul-2022 **Balance:** B707717271

Fang-Yun Weaver - Operations Lead Tech - ARM QC

Date Passed: 04-Aug-2022

Manufactured under Restek's ISO 9001:2015 Registered Quality System Certificate #FM 80397

Reagent

MV-CUS17739.s_00011

ISO 17034

Agilent
Trusted Answers

Reference Material Certificate

Product Name: Custom Standard
Product Number: CUS-17739
Storage Conditions: Store Frozen (-25° to -10°C).

Lot Number: 0006676357
Lot Issue Date: 15-Apr-2022
Expiration Date: 31-May-2024

Component Name	CERTIFIED VALUES Concentration		Expanded Uncertainty	CAS#	Analyte Lot
1-chlorohexane	1004	±	5 µg/mL	000544-10-5	RM15291
2-pentanone	4019	±	20 µg/mL	000107-87-9	RM13478
sec-butanol	30105	±	151 µg/mL	000078-92-2	RM01299

Matrix: methanol (purge & trap grade)

Description:
This document is prepared in accordance with ISO 17034 and Guide 31. This analytical reference material standard was manufactured and verified in accordance with an ISO 9001 registered quality system and analyte concentrations were verified by an ISO 17025 accredited laboratory. The concentration and uncertainty value at the 95% confidence level for each analyte, determined gravimetrically, is listed above.

Traceability:
The balances used for these measurements are calibrated with weights traceable to NIST in compliance with ANSI/NCSL Z540.3, ISO 9001, ISO 17025, and ISO 17034. Calibrated Class A glassware is used for volumetric measurements. Thermometers are calibrated against a NIST traceable thermometer in accordance with NIST Special Publication 1088.

Homogeneity:
This analytical reference standard was unitized according to an in-house procedure and is guaranteed to be homogeneous. There is no minimum sub-sample size required.

Instructions for Use:
Sample aliquots for analysis should be withdrawn at 20°C to 25°C immediately after opening the container and should be processed without delay for the certified values to be valid within the stated uncertainties.

Safety:
Refer to the Safety Data Sheet on www.agilent.com for information regarding this analytical reference material.

Intended Use:
This analytical reference standard is intended for the preparation of working reference samples for use in routine laboratory analyses, calibration of instruments, validation of analytical methods, assessments of measurement methods, and continuing calibration verification.

Expiration of Certification:

Rcvd 7/4/22

The certification of this analytical reference standard is valid until the expiration date specified above, provided the material is handled and stored in accordance with the instructions given in this certificate. This certification is nullified if the material is damaged, contaminated, or otherwise modified.

Maintenance of Certification:
If substantive changes are noted that affect the certification before the expiration of this certificate, Agilent will notify the purchaser.

Sample lot approver:

Monica Bourgeois
QMS Representative

Reagent

mv-IS/SS Tune_00001

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CERTIFIED REFERENCE MATERIAL

Certificate of Analysis

ISO 17034 Accredited
Reference Material Producer
Certificate #3222.01

ISO/IEC 17025 Accredited
Testing Laboratory
Certificate #3222.02

FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 570812 **Lot No.:** A0143593

Description : 8260 IS/Surrogate Mix (2016)

8260 IS/Surrogate Mix (2016) 250-5,000µg/mL, P&T Methanol, 5mL/ampul

Container Size : 5 mL **Pkg Amt:** > 5 mL

Expiration Date : November 30, 2023 **Storage:** 0°C or colder

CERTIFIED VALUES

Elution Order	Compound		Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)	
1	tert-Butyl-d9-alcohol		5,000.1 µg/mL	+/- 29.0694 µg/mL	Gravimetric
	CAS # 25725-11-5	(Lot CD-107)		+/- 107.0521 µg/mL	Unstressed
	Purity 98%			+/- 110.1643 µg/mL	Stressed
2	Dibromofluoromethane		250.2 µg/mL	+/- 1.4580 µg/mL	Gravimetric
	CAS # 1868-53-7	(Lot 0012017)		+/- 5.3577 µg/mL	Unstressed
	Purity 99%			+/- 5.5134 µg/mL	Stressed
3	1,2-Dichloroethane-d4		250.3 µg/mL	+/- 1.4584 µg/mL	Gravimetric
	CAS # 17060-07-0	(Lot PR-29377)		+/- 5.3592 µg/mL	Unstressed
	Purity 99%			+/- 5.5149 µg/mL	Stressed
4	1,4-Dioxane-d8		5,000.5 µg/mL	+/- 29.0716 µg/mL	Gravimetric
	CAS # 17647-74-4	(Lot I-19942)		+/- 107.0602 µg/mL	Unstressed
	Purity 99%			+/- 110.1726 µg/mL	Stressed
5	Fluorobenzene		250.1 µg/mL	+/- 1.4573 µg/mL	Gravimetric
	CAS # 462-06-6	(Lot BCBK8171V)		+/- 5.3549 µg/mL	Unstressed
	Purity 99%			+/- 5.5105 µg/mL	Stressed
6	Toluene-d8		250.1 µg/mL	+/- 1.4575 µg/mL	Gravimetric
	CAS # 2037-26-5	(Lot PR-27311)		+/- 5.3556 µg/mL	Unstressed
	Purity 99%			+/- 5.5112 µg/mL	Stressed
7	Chlorobenzene-d5		250.5 µg/mL	+/- 1.4600 µg/mL	Gravimetric
	CAS # 3114-55-4	(Lot PR-23926)		+/- 5.3649 µg/mL	Unstressed
	Purity 99%			+/- 5.5208 µg/mL	Stressed

8	1-Bromo-4-fluorobenzene (BFB)		250.1	µg/mL	+/-	1.4575	µg/mL	Gravimetric
	CAS # 460-00-4	(Lot 20401KO)			+/-	5.3556	µg/mL	Unstressed
	Purity 99%				+/-	5.5112	µg/mL	Stressed
9	1,4-Dichlorobenzene-d4		250.2	µg/mL	+/-	1.4580	µg/mL	Gravimetric
	CAS # 3855-82-1	(Lot PR-18488)			+/-	5.3577	µg/mL	Unstressed
	Purity 99%				+/-	5.5134	µg/mL	Stressed

Solvent: P&T Methanol
CAS # 67-56-1
Purity 99%

Column:
105m x 0.53mm x 3.0µm
Rtx-502.2 (cat.#10910)

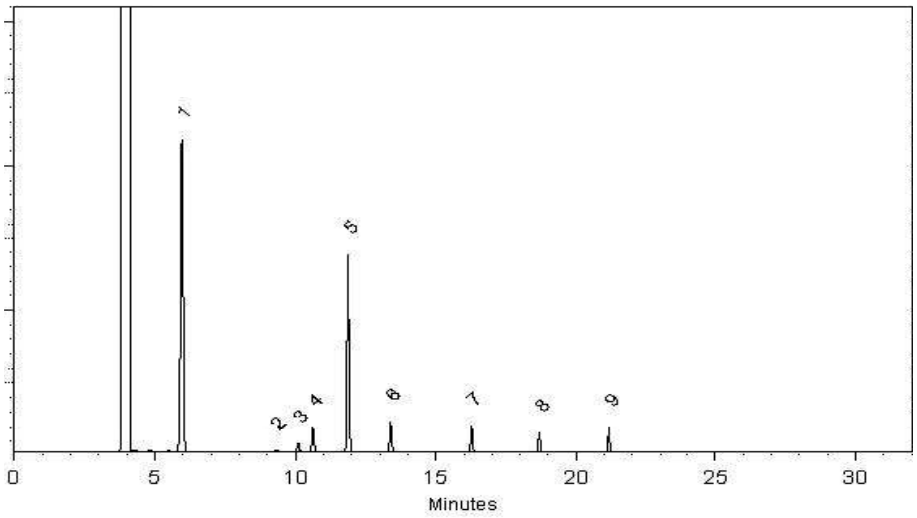
Carrier Gas:
hydrogen-constant pressure 11.0 psi.

Temp. Program:
40°C (hold 2 min.) to 240°C
@ 8°C/min. (hold 5 min.)

Inj. Temp:
200°C

Det. Temp:
250°C

Det. Type:
FID



This chromatogram represents a general set of testing conditions chosen for product acceptance. For optimal results in your lab, conditions should be adjusted for your specific instrument, method, and application.

F. Joseph Tallon - Mix Technician

Date Mixed: 29-Nov-2018 **Balance:** B251644995

Jennifer Pollino - Operations Tech-ARM QC

Date Passed: 18-Dec-2018

Manufactured under Restek's ISO 9001:2015 Registered Quality System Certificate #FM 80397

General Certified Reference Material Notes

Expiration Notes:

- Expiration date valid for unopened ampul stored in compliance with the recommended conditions.
- Uncertainty, concentration, and expiration of the CRM are based on the unopened product being stored according to the recommended condition found in the storage field.

Purity Notes:

- Purity and/or chemical identity are determined by one or more of the following techniques: GC/FID, HPLC, GC/μECD, GC/MS, LC/MS, RI, and/or melting point.
- Compounds with a listed purity of less than 99% have been weight corrected to compensate for impurities and/or salts. A correction factor is used to calculate the amount of compound necessary to achieve the desired concentration of the parent compound in solution.
- Purity of isomeric compounds is reported as the sum of the isomers.
- Purity values are rounded to the nearest whole number.

Certified Uncertainty Value Notes:

- The uncertainties are determined in accordance with ISO 17034 and Guide 35. The certified combined stressed uncertainty value (includes gravimetric uncertainty, homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty and were combined using the following formula:

$$U_{combined\ stressed} = k\sqrt{U^2_{gravimetric} + U^2_{homogeneity} + U^2_{storage\ stability} + U^2_{shipping\ stability}}$$

k is a coverage factor of 2, which gives a level of confidence of approximately 95%.

- It is important to note that the shipping stability uncertainty was obtained under temperature extremes for specific time intervals; therefore, the certified combined stressed uncertainty value should only be applied to the product if it was stored at non-standard temperature conditions up to and including 7 days. Contact Restek Technical Service at www.restek.com/Contact-Us for use recommendations if your shipment was in-transit for more than 7 days at non-standard temperature conditions.
- Apply the certified combined unstressed uncertainty value if the product was received under standard shipping conditions. Apply the certified combined stressed uncertainty value if the product was received under non-standard conditions as specified below.

Label Conditions	Standard Conditions	Non-Standard Conditions
25°C Nominal (Room Temperature)	< 60°C	≥ 60°C up to 7 days
10°C or colder (Refrigerate)	< 40°C	≥ 40°C up to 7 days
0°C or colder (Freezer)	< 25°C	≥ 25°C up to 7 days

- Separate (not combined) uncertainty values for gravimetric uncertainty are also displayed on the certificate, if needed, separate homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty values are available by contacting Restek Technical Service at www.restek.com/Contact-Us.
- The packaged amount is the minimum sample size for which uncertainty is valid. The ampules are over-filled to ensure that the minimum packaged amount can be sufficiently transferred.

Manufacturing Notes:

- Concentration is based upon gravimetric preparation using either a balance whose calibration has been verified daily using NIST traceable weights, and/or dilutions with Class A glassware.

Handling Notes:

- Stability of the unopened product, when stored in compliance with the recommended conditions, is guaranteed through the expiration displayed on the product label and certificate. Contact Restek for additional opened product stability information, with the knowledge/understanding that open product stability is subject to the specific handling and environmental conditions to which the product is exposed. For your convenience Restek supplies deactivated vials with most standards packed in 2mL ampules. Larger volume deactivated vials are available through Restek as a custom ordered item. Additionally, Restek sells DMDCS for the purpose of glassware deactivation as catalog number 31861, which includes complete instructions.
- If any undissolved material is visible inside the ampul, sonicate the unopened ampul until the material is completely dissolved.

Reagent

NOXT Cal STD_00028

RICCA CHEMICAL COMPANY®

448 West Fork Dr
Arlington, TX 76012
http://www.riccachemical.com
1-888-GO-RICCA
customerservice@riccachemical.com

Certificate of Analysis

Nitrate Nitrogen Standard, 1000 ppm N (4427 ppm NO_3^-)

Lot Number: 1304R00 **Product Number:** 5459

Manufacture Date: APR 27, 2023
Expiration Date: OCT 2024

The certified value reported is the prepared value based upon the method of preparation of the material. The uncertainty in the prepared value is based upon the volumetric method of preparation.

Name	CAS#	Grade
Water	7732-18-5	ACS/ASTM/USP/EP
Potassium Nitrate	7757-79-1	High Purity
Chloroform	67-66-3	

Test	Specification	Result
Appearance	Colorless liquid	Passed
Nitrogen (N)	995-1005 ppm	1000 ppm

Specification	Reference
Nitrate Solution, Stock (1.0 mL = 1.0 mg NO3-N)	ASTM (D 3867 A)
Nitrate Solution, Stock (1.0 mL = 1.0 mg NO3-N)	ASTM (D 3867 B)
Stock Nitrate Solution: 1 mL = 1.0 mg NO3-N	EPA (353.2)
Stock Nitrate Solution: 1.0 mL = 1.00 mg NO3-N	EPA (353.3)

Volumetric glassware complies with Class A tolerance requirements of ASTM E 288 and NIST Circular 434; it is calibrated before first use and recalibrated regularly in accordance with ASTM E 542 and NIST Procedure NBSIR 74-461. Balances are calibrated regularly with weights certified traceable to the NIST national mass standard. Thermometers and temperature probes are calibrated before first use and recalibrated regularly with a thermometer traceable to NIST standards. All products are prepared according to master documents that assure manufacture according to validated methods. Batch records document raw material traceability and production and testing history for each lot manufactured.

Part Number	Size / Package Type	Shelf Life (Unopened Container)
5459-16	500 mL natural poly	18 months
5459-4	120 mL natural poly	18 months

Recommended Storage: 15°C - 30°C (59°F - 86°F)

Heidi J Green (04/27/2023)
Operations Manager

This document is designed to comply with ISO Guide 31 "Reference Materials -- Contents of Certificates and Labels."

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Reagent

NOXT ICV STD_00032

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customerservice@riccachemical.com

Certificate of Analysis

Nitrate Nitrogen Standard, 1000 ppm N (4427 ppm NO_3^-)

Lot Number: 2302K34 **Product Number:** 5459

Manufacture Date: FEB 23, 2023
Expiration Date: AUG 2024

The certified value reported is the prepared value based upon the method of preparation of the material. The uncertainty in the prepared value is based upon the volumetric method of preparation.

Name	CAS#	Grade
Water	7732-18-5	ACS/ASTM/USP/EP
Chloroform	67-66-3	
Potassium Nitrate	7757-79-1	High Purity

Test	Specification	Result
Appearance	Colorless liquid	Passed
Nitrogen (N)	995-1005 ppm	1000 ppm

Specification	Reference
Nitrate Solution, Stock (1.0 mL = 1.0 mg NO3-N)	ASTM (D 3867 A)
Nitrate Solution, Stock (1.0 mL = 1.0 mg NO3-N)	ASTM (D 3867 B)
Stock Nitrate Solution: 1 mL = 1.0 mg NO3-N	EPA (353.2)
Stock Nitrate Solution: 1.0 mL = 1.00 mg NO3-N	EPA (353.3)

Volumetric glassware complies with Class A tolerance requirements of ASTM E 288 and NIST Circular 434; it is calibrated before first use and recalibrated regularly in accordance with ASTM E 542 and NIST Procedure NBSIR 74-461. Balances are calibrated regularly with weights certified traceable to the NIST national mass standard. Thermometers and temperature probes are calibrated before first use and recalibrated regularly with a thermometer traceable to NIST standards. All products are prepared according to master documents that assure manufacture according to validated methods. Batch records document raw material traceability and production and testing history for each lot manufactured.

Part Number	Size / Package Type	Shelf Life (Unopened Container)
5459-16	500 mL natural poly	18 months
5459-4	120 mL natural poly	18 months

Recommended Storage: 15°C - 30°C (59°F - 86°F)

Myrlande Gilles (02/23/2023)
Quality Control
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Reagent

Z-020209-01_00004

CPI INTERNATIONAL

5580 Skylane Blvd
Santa Rosa, CA 95403

(707)525-5788
(800)878-7654 Toll Free
(707)545-7901 Fax

Manufacturer's Quality System
Audited & Registered
by TUV USA to ISO 9001:2015

Date Received: 8/23

Certificate of Analysis

Rev 0

Catalog No.:	Lot No.:	Storage:	Solvent:	Exp. Date:	Description:
Z-020209-01	507909	-18°C +/- 4°C	P/T Methanol	8/15/2025	cis-1,4-Dichloro-2-butene Solution, 1000 mg/L, 1 ml

Compound	CAS No.	Purity (%)	Compound Lot No.	Concentration, mg/L
cis-1,4-dichloro-2-butene	1476-11-5	98	209.1.5P	992.4 ± 15.84

10/23/23

*Not a certified value

Briana Smith

Certified By: _____

Briana Smith
Chemist

All weights are traceable through N. I. S. T. Test No. 822/264157-00. Concentration (correct for purity) and uncertainty (95% confidence) values listed are determined gravimetrically.

Method 8260D DOD

Volatile Organic Compounds by GC/MS by Method 8260D DOD

FORM II
GC/MS VOA SURROGATE RECOVERY

Lab Name: Eurofins Denver Job No.: 280-185814-1

SDG No.:

Matrix: Water Level: Low

GC Column (1): RXI-624SilM ID: 0.25(mm)

Client Sample ID	Lab Sample ID	DBFM #	DCA #	TOL #	BFB #
TV044-TB021223	280-185814-1	110	103	100	91
TV044-EB011223	280-185814-2	108	104	96	91
TV044-MW81223A	280-185814-3	109	104	97	89
TV044-MW141223A	280-185814-4	110	105	100	90
TV044-MW151223A	280-185814-5	109	105	97	97
TV044-MW22S1223A	280-185814-6	110	106	98	88
TV044-MW22D1223A	280-185814-7	107	104	98	88
TV044-MW111223A	280-185814-8	107	104	98	91
TV044-MW111223C	280-185814-9	110	108	99	90
TV044-MW131223A	280-185814-10	106	102	102	88
TV044-MW91223A	280-185814-11	108	106	100	87
TV044-MW23D1223A	280-185814-12	107	104	96	90
TV044-EB021223	280-185814-13	111	104	97	90
	MB 280-637903/9	108	103	100	90
	LCS 280-637903/4	107	100	98	87
	LCS 280-637903/6	106	103	97	91
	LCSD 280-637903/5	106	102	98	90
	LCSD 280-637903/7	106	103	98	90
TV044-MW141223A MS	280-185814-4 MS	106	103	99	93
TV044-MW141223A MSD	280-185814-4 MSD	105	105	99	91

	QC LIMITS
DBFM = Dibromofluoromethane (Surr)	80-119
DCA = 1,2-Dichloroethane-d4 (Surr)	81-118
TOL = Toluene-d8 (Surr)	89-112
BFB = 4-Bromofluorobenzene (Surr)	85-114

Column to be used to flag recovery values

FORM II 8260D

FORM III
GC/MS VOA LAB CONTROL SAMPLE RECOVERY

Lab Name: Eurofins Denver Job No.: 280-185814-1

SDG No.:

Matrix: Water Level: Low Lab File ID: X512014A.D

Lab ID: LCS 280-637903/4 Client ID:

COMPOUND	SPIKE ADDED (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC	QC LIMITS REC	#
1,2-Dibromo-3-Chloropropane	50.0	44.9	90	62-128	
2-Butanone (MEK)	200	176	88	56-143	
2-Chloroethyl vinyl ether	50.0	47.5	95	51-139	
1,2-Dibromoethane	50.0	47.5	95	77-121	
1,2-Dichlorobenzene	50.0	45.6	91	80-119	
1,3-Dichlorobenzene	50.0	48.4	97	80-119	
1,4-Dichlorobenzene	50.0	46.1	92	79-118	
1,1-Dichloroethane	50.0	47.2	94	77-125	
1,2-Dichloroethane	50.0	44.9	90	73-128	
Acetone	200	174	87	39-160	
1,1-Dichloroethylene	50.0	50.1	100	71-131	
Acrylonitrile	500	454	91	63-135	
Benzene	50.0	49.1	98	79-120	
Bromobenzene	50.0	46.3	93	80-120	
1,2-Dichloropropane	50.0	46.9	94	78-122	
Bromochloromethane	50.0	56.5	113	78-123	
1,3-Dichloropropane	50.0	46.6	93	80-119	
Bromodichloromethane	50.0	51.7	103	79-125	
2,2-Dichloropropane	50.0	51.1	102	60-139	
Bromoform	50.0	51.8	104	66-130	
1,1-Dichloropropene	50.0	49.1	98	79-125	
Carbon disulfide	50.0	46.2	92	64-133	
Carbon tetrachloride	50.0	53.1	106	72-136	
Chlorobenzene	50.0	48.4	97	82-118	
Chloroethane	50.0	43.1	86	60-138	
Chloroform	50.0	48.6	97	79-124	
Chloromethane	50.0	43.2	86	50-139	
2-Hexanone	200	177	88	57-139	
cis-1,2-Dichloroethylene	50.0	50.2	100	78-123	
cis-1,3-Dichloropropene	50.0	46.1	92	75-124	
Cyclohexane	50.0	49.1	98	71-130	
4-Isopropyltoluene	50.0	48.0	96	77-127	
Cyclohexanone	1500	1810	121	50-150	
Dibromochloromethane	50.0	50.7	101	74-126	
4-Methyl-2-pentanone (MIBK)	200	197	98	67-130	
Dibromomethane	50.0	47.8	96	79-123	
Dichlorodifluoromethane	50.0	45.4	91	32-152	
Ethylbenzene	50.0	49.2	98	79-121	
Hexachlorobutadiene	50.0	58.6	117	66-134	
1,1,2,2-Tetrachloroethane	50.0	41.8	84	71-121	
Isopropylbenzene	50.0	45.6	91	72-131	
Methyl tert-butyl ether	50.0	50.6	101	71-124	

Column to be used to flag recovery and RPD values

FORM III 8260D

FORM III
GC/MS VOA LAB CONTROL SAMPLE RECOVERY

Lab Name: Eurofins Denver Job No.: 280-185814-1

SDG No.:

Matrix: Water Level: Low Lab File ID: X512014A.D

Lab ID: LCS 280-637903/4 Client ID:

COMPOUND	SPIKE ADDED (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC	QC LIMITS REC	#
1,2,3-Trichlorobenzene	50.0	46.5	93	69-129	
Methylcyclohexane	50.0	51.5	103	72-132	
1,1,1-Trichloroethane	50.0	50.0	100	74-131	
Methylene Chloride	50.0	45.8	92	74-124	
1,1,2-Trichloroethane	50.0	50.1	100	80-119	
Naphthalene	50.0	42.7	85	61-128	
n-Butylbenzene	50.0	47.0	94	75-128	
n-Hexane	50.0	47.1	94	48-143	
1,2,4-Trichlorobenzene	50.0	48.1	96	69-130	
N-Propylbenzene	50.0	48.9	98	76-126	
1,2,3-Trichloropropane	50.0	45.3	91	73-122	
p-Chlorotoluene	50.0	46.5	93	78-122	
1,2,4-Trimethylbenzene	50.0	47.0	94	76-124	
1,3,5-Trimethylbenzene	50.0	46.8	94	75-124	
sec-Butylbenzene	50.0	48.8	98	77-126	
Styrene	50.0	50.1	100	78-123	
tert-Butylbenzene	50.0	46.6	93	78-124	
Tetrachloroethene	50.0	51.1	102	74-129	
Toluene	50.0	50.5	101	80-121	
trans-1,2-Dichloroethylene	50.0	49.4	99	75-124	
trans-1,3-Dichloropropene	50.0	51.9	104	73-127	
o-Chlorotoluene	50.0	45.5	91	79-122	
Trichloroethene	50.0	46.3	93	79-123	
Trichlorofluoromethane	50.0	49.2	98	65-141	
Vinyl acetate	100	107	107	54-146	
Vinyl chloride	50.0	45.8	92	58-137	
Xylenes, Total	100	97.4	97	79-121	

Column to be used to flag recovery and RPD values

FORM III 8260D

FORM III
GC/MS VOA LAB CONTROL SAMPLE RECOVERY

Lab Name: Eurofins Denver Job No.: 280-185814-1

SDG No.:

Matrix: Water Level: Low Lab File ID: X512015A.D

Lab ID: LCS 280-637903/6 Client ID:

COMPOUND	SPIKE ADDED (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC	QC LIMITS REC	#
Isopropyl ether	25.0	24.4	97	67-128	
1,2,3-Trimethylbenzene	25.0	22.4	90	82-120	

Column to be used to flag recovery and RPD values

FORM III 8260D

FORM III
GC/MS VOA LAB CONTROL SAMPLE DUPLICATE RECOVERY

Lab Name: Eurofins Denver Job No.: 280-185814-1

SDG No.:

Matrix: Water Level: Low Lab File ID: X512017.D

Lab ID: LCSD 280-637903/5 Client ID:

COMPOUND	SPIKE ADDED (ug/L)	LCSD CONCENTRATION (ug/L)	LCSD % REC	% RPD	QC LIMITS RPD	QC LIMITS REC	#
1,2-Dibromo-3-Chloropropane	50.0	49.6	99	10	20	62-128	
2-Butanone (MEK)	200	186	93	5	20	56-143	
2-Chloroethyl vinyl ether	50.0	43.5	87	9	20	51-139	
1,2-Dibromoethane	50.0	46.4	93	2	20	77-121	
1,2-Dichlorobenzene	50.0	46.6	93	2	20	80-119	
1,3-Dichlorobenzene	50.0	49.3	99	2	20	80-119	
1,4-Dichlorobenzene	50.0	46.0	92	0	20	79-118	
1,1-Dichloroethane	50.0	46.6	93	1	20	77-125	
1,2-Dichloroethane	50.0	44.4	89	1	20	73-128	
Acetone	200	185	92	6	20	39-160	
1,1-Dichloroethylene	50.0	49.9	100	0	20	71-131	
Acrylonitrile	500	469	94	3	20	63-135	
Benzene	50.0	47.1	94	4	20	79-120	
Bromobenzene	50.0	47.4	95	2	20	80-120	
1,2-Dichloropropane	50.0	45.9	92	2	20	78-122	
Bromochloromethane	50.0	54.7	109	3	20	78-123	
1,3-Dichloropropane	50.0	45.2	90	3	20	80-119	
Bromodichloromethane	50.0	50.3	101	3	20	79-125	
2,2-Dichloropropane	50.0	49.4	99	3	20	60-139	
Bromoform	50.0	53.2	106	3	20	66-130	
1,1-Dichloropropene	50.0	48.3	97	2	20	79-125	
Carbon disulfide	50.0	46.1	92	0	20	64-133	
Carbon tetrachloride	50.0	52.3	105	2	20	72-136	
Chlorobenzene	50.0	48.0	96	1	20	82-118	
Chloroethane	50.0	44.5	89	3	20	60-138	
Chloroform	50.0	47.1	94	3	20	79-124	
Chloromethane	50.0	43.7	87	1	20	50-139	
2-Hexanone	200	184	92	4	20	57-139	
cis-1,2-Dichloroethylene	50.0	49.6	99	1	20	78-123	
cis-1,3-Dichloropropene	50.0	46.3	93	0	20	75-124	
Cyclohexane	50.0	48.1	96	2	20	71-130	
4-Isopropyltoluene	50.0	48.6	97	1	20	77-127	
Cyclohexanone	1500	2000	133	10	20	50-150	
Dibromochloromethane	50.0	50.3	101	1	20	74-126	
4-Methyl-2-pentanone (MIBK)	200	199	100	1	20	67-130	
Dibromomethane	50.0	46.4	93	3	20	79-123	
Dichlorodifluoromethane	50.0	45.0	90	1	20	32-152	
Ethylbenzene	50.0	48.4	97	2	20	79-121	
Hexachlorobutadiene	50.0	57.4	115	2	20	66-134	
1,1,2,2-Tetrachloroethane	50.0	43.9	88	5	20	71-121	
Isopropylbenzene	50.0	46.6	93	2	20	72-131	
Methyl tert-butyl ether	50.0	51.4	103	2	20	71-124	

Column to be used to flag recovery and RPD values

FORM III 8260D

FORM III
GC/MS VOA LAB CONTROL SAMPLE DUPLICATE RECOVERY

Lab Name: Eurofins Denver Job No.: 280-185814-1

SDG No.:

Matrix: Water Level: Low Lab File ID: X512017.D

Lab ID: LCSD 280-637903/5 Client ID:

COMPOUND	SPIKE ADDED (ug/L)	LCSD CONCENTRATION (ug/L)	LCSD % REC	% RPD	QC LIMITS RPD	QC LIMITS REC	#
1,2,3-Trichlorobenzene	50.0	48.4	97	4	20	69-129	
Methylcyclohexane	50.0	49.7	99	4	20	72-132	
1,1,1-Trichloroethane	50.0	49.9	100	0	20	74-131	
Methylene Chloride	50.0	45.4	91	1	20	74-124	
1,1,2-Trichloroethane	50.0	49.8	100	1	20	80-119	
Naphthalene	50.0	45.4	91	6	20	61-128	
n-Butylbenzene	50.0	46.8	94	0	20	75-128	
n-Hexane	50.0	46.7	93	1	20	48-143	
1,2,4-Trichlorobenzene	50.0	48.9	98	2	20	69-130	
N-Propylbenzene	50.0	48.9	98	0	20	76-126	
1,2,3-Trichloropropane	50.0	47.3	95	4	20	73-122	
p-Chlorotoluene	50.0	46.7	93	0	20	78-122	
1,2,4-Trimethylbenzene	50.0	47.4	95	1	20	76-124	
1,3,5-Trimethylbenzene	50.0	47.8	96	2	20	75-124	
sec-Butylbenzene	50.0	48.5	97	0	20	77-126	
Styrene	50.0	48.9	98	2	20	78-123	
tert-Butylbenzene	50.0	47.9	96	3	20	78-124	
Tetrachloroethene	50.0	50.0	100	2	20	74-129	
Toluene	50.0	48.3	97	5	20	80-121	
trans-1,2-Dichloroethylene	50.0	49.3	99	0	20	75-124	
trans-1,3-Dichloropropene	50.0	49.6	99	5	20	73-127	
o-Chlorotoluene	50.0	47.2	94	4	20	79-122	
Trichloroethene	50.0	46.0	92	1	20	79-123	
Trichlorofluoromethane	50.0	47.6	95	3	20	65-141	
Vinyl acetate	100	105	105	2	20	54-146	
Vinyl chloride	50.0	45.6	91	0	20	58-137	
Xylenes, Total	100	96.1	96	1	20	79-121	

Column to be used to flag recovery and RPD values

FORM III 8260D

FORM III
GC/MS VOA LAB CONTROL SAMPLE DUPLICATE RECOVERY

Lab Name: Eurofins Denver Job No.: 280-185814-1

SDG No.:

Matrix: Water Level: Low Lab File ID: X512016.D

Lab ID: LCSD 280-637903/7 Client ID:

COMPOUND	SPIKE ADDED (ug/L)	LCSD CONCENTRATION (ug/L)	LCSD % REC	% RPD	QC LIMITS RPD	QC LIMITS REC	#
Isopropyl ether	25.0	23.2	93	5	20	67-128	
1,2,3-Trimethylbenzene	25.0	21.9	88	2	20	82-120	

Column to be used to flag recovery and RPD values

FORM III 8260D

FORM III
GC/MS VOA MATRIX SPIKE RECOVERY

Lab Name: Eurofins Denver Job No.: 280-185814-1

SDG No.:

Matrix: Water Level: Low Lab File ID: X512042.D

Lab ID: 280-185814-4 MS Client ID: TV044-MW141223A MS

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	MS CONCENTRATION (ug/L)	MS % REC	QC LIMITS REC	#
Acetone	200	8.0 U	207	103	39-160	
Acrylonitrile	500	8.0 U	534	107	63-135	
Benzene	50.0	0.80 U	53.3	107	79-120	
Bromobenzene	50.0	0.50 U	53.2	106	80-120	
Bromochloromethane	50.0	0.80 U	60.8	122	78-123	
Bromodichloromethane	50.0	0.50 U	55.7	111	79-125	
Bromoform	50.0	1.8 U	58.9	118	66-130	
2-Butanone (MEK)	200	12 U	214	107	56-143	
n-Butylbenzene	50.0	0.80 U	50.2	100	75-128	
sec-Butylbenzene	50.0	0.80 U	52.5	105	77-126	
tert-Butylbenzene	50.0	0.80 U	52.5	105	78-124	
Carbon disulfide	50.0	0.80 U	49.1	98	64-133	
Carbon tetrachloride	50.0	0.80 U	58.2	116	72-136	
Chlorobenzene	50.0	0.80 U	53.5	107	82-118	
Chloroethane	50.0	1.6 U	48.2	96	60-138	
2-Chloroethyl vinyl ether	50.0	0.80 U	55.3	111	51-139	
Chloroform	50.0	0.80 U	52.5	105	79-124	
Chloromethane	50.0	1.0 U	47.9	96	50-139	
p-Chlorotoluene	50.0	0.80 U	51.3	103	78-122	
Cyclohexane	50.0	0.80 U	52.6	105	71-130	
Cyclohexanone	1500	64 U	2140	143	50-150	
Dibromochloromethane	50.0	1.8 U	56.4	113	74-126	
1,2-Dibromo-3-Chloropropane	50.0	4.0 U	59.0	118	62-128	
Dichlorodifluoromethane	50.0	2.5 U	46.9	94	32-152	
Dibromomethane	50.0	0.40 U	52.9	106	79-123	
1,2-Dibromoethane	50.0	0.80 U	54.4	109	77-121	
1,2-Dichlorobenzene	50.0	0.50 U	52.5	105	80-119	
1,3-Dichlorobenzene	50.0	0.40 U	54.2	108	80-119	
1,4-Dichlorobenzene	50.0	0.50 U	51.8	104	79-118	
1,1-Dichloroethane	50.0	0.80 U	51.5	103	77-125	
1,2-Dichloroethane	50.0	0.80 U	50.8	102	73-128	
1,1-Dichloroethylene	50.0	0.80 U	53.8	108	71-131	
cis-1,2-Dichloroethylene	50.0	0.40 U	54.9	110	78-123	
trans-1,2-Dichloroethylene	50.0	0.50 U	53.7	107	75-124	
1,2-Dichloropropane	50.0	0.80 U	51.5	103	78-122	
1,3-Dichloropropane	50.0	0.80 U	51.9	104	80-119	
2,2-Dichloropropane	50.0	0.80 U	47.8	96	60-139	
1,1-Dichloropropene	50.0	0.80 U	52.9	106	79-125	
cis-1,3-Dichloropropene	50.0	1.8 U	51.2	102	75-124	
trans-1,3-Dichloropropene	50.0	1.8 U	55.5	111	73-127	
Ethylbenzene	50.0	0.40 U	54.2	108	79-121	
n-Hexane	50.0	0.80 U	48.7	97	48-143	

Column to be used to flag recovery and RPD values

FORM III 8260D

FORM III
GC/MS VOA MATRIX SPIKE RECOVERY

Lab Name: Eurofins Denver Job No.: 280-185814-1

SDG No.:

Matrix: Water Level: Low Lab File ID: X512042.D

Lab ID: 280-185814-4 MS Client ID: TV044-MW141223A MS

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	MS CONCENTRATION (ug/L)	MS % REC	QC LIMITS REC	#
2-Hexanone	200	4.0 U	218	109	57-139	
Hexachlorobutadiene	50.0	1.8 U	59.1	118	66-134	
Isopropylbenzene	50.0	0.50 U	51.4	103	72-131	
4-Isopropyltoluene	50.0	0.80 U	52.0	104	77-127	
Methylcyclohexane	50.0	0.40 U	53.7	107	72-132	
Methylene Chloride	50.0	1.8 U	50.0	100	74-124	
4-Methyl-2-pentanone (MIBK)	200	3.2 U	230	115	67-130	
Methyl tert-butyl ether	50.0	2.5 J	61.2	118	71-124	
Naphthalene	50.0	0.80 U	57.0	114	61-128	
N-Propylbenzene	50.0	0.80 U	55.4	111	76-126	
Styrene	50.0	0.80 U	54.7	109	78-123	
1,1,2,2-Tetrachloroethane	50.0	0.80 U	50.7	101	71-121	
Tetrachloroethene	50.0	0.80 U	53.6	107	74-129	
Toluene	50.0	0.40 U	53.3	107	80-121	
1,2,3-Trichlorobenzene	50.0	0.80 U	57.8	116	69-129	
1,1,1-Trichloroethane	50.0	0.50 U	55.5	111	74-131	
1,1,2-Trichloroethane	50.0	0.80 U	56.0	112	80-119	
Trichloroethene	50.0	0.40 U	51.7	103	79-123	
Trichlorofluoromethane	50.0	0.80 U	47.5	95	65-141	
1,2,4-Trichlorobenzene	50.0	0.80 U	54.4	109	69-130	
1,2,3-Trichloropropane	50.0	1.8 U	55.0	110	73-122	
1,2,4-Trimethylbenzene	50.0	0.40 U	52.5	105	76-124	
1,3,5-Trimethylbenzene	50.0	0.50 U	52.6	105	75-124	
Vinyl acetate	100	2.0 U	122	122	54-146	
Vinyl chloride	50.0	1.0 U	48.1	96	58-137	
Xylenes, Total	100	0.80 U	107	107	79-121	
o-Chlorotoluene	50.0	0.40 U	52.9	106	79-122	

Column to be used to flag recovery and RPD values

FORM III 8260D

FORM III
GC/MS VOA MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: Eurofins Denver Job No.: 280-185814-1

SDG No.:

Matrix: Water Level: Low Lab File ID: X512043.D

Lab ID: 280-185814-4 MSD Client ID: TV044-MW141223A MSD

COMPOUND	SPIKE ADDED (ug/L)	MSD CONCENTRATION (ug/L)	MSD % REC	% RPD	QC LIMITS RPD	QC LIMITS REC	#
Acetone	200	173	87	18	20	39-160	
Acrylonitrile	500	440	88	19	20	63-135	
Benzene	50.0	46.9	94	13	20	79-120	
Bromobenzene	50.0	46.3	93	14	20	80-120	
Bromochloromethane	50.0	52.9	106	14	20	78-123	
Bromodichloromethane	50.0	50.6	101	10	20	79-125	
Bromoform	50.0	51.5	103	13	20	66-130	
2-Butanone (MEK)	200	180	90	17	20	56-143	
n-Butylbenzene	50.0	43.7	87	14	20	75-128	
sec-Butylbenzene	50.0	46.3	93	13	20	77-126	
tert-Butylbenzene	50.0	46.8	94	12	20	78-124	
Carbon disulfide	50.0	42.6	85	14	20	64-133	
Carbon tetrachloride	50.0	51.4	103	12	20	72-136	
Chlorobenzene	50.0	47.1	94	13	20	82-118	
Chloroethane	50.0	39.0	78	21	20	60-138	J1
2-Chloroethyl vinyl ether	50.0	43.5	87	24	20	51-139	J1
Chloroform	50.0	46.1	92	13	20	79-124	
Chloromethane	50.0	38.8	78	21	20	50-139	J1
p-Chlorotoluene	50.0	45.3	91	12	20	78-122	
Cyclohexane	50.0	46.2	92	13	20	71-130	
Cyclohexanone	1500	1860	124	14	20	50-150	
Dibromochloromethane	50.0	50.0	100	12	20	74-126	
1,2-Dibromo-3-Chloropropane	50.0	55.2	110	7	20	62-128	
Dichlorodifluoromethane	50.0	37.5	75	22	20	32-152	J1
Dibromomethane	50.0	47.7	95	10	20	79-123	
1,2-Dibromoethane	50.0	45.9	92	17	20	77-121	
1,2-Dichlorobenzene	50.0	45.6	91	14	20	80-119	
1,3-Dichlorobenzene	50.0	47.4	95	13	20	80-119	
1,4-Dichlorobenzene	50.0	45.1	90	14	20	79-118	
1,1-Dichloroethane	50.0	45.1	90	13	20	77-125	
1,2-Dichloroethane	50.0	43.6	87	15	20	73-128	
1,1-Dichloroethylene	50.0	46.6	93	14	20	71-131	
cis-1,2-Dichloroethylene	50.0	48.2	96	13	20	78-123	
trans-1,2-Dichloroethylene	50.0	47.1	94	13	20	75-124	
1,2-Dichloropropane	50.0	45.5	91	12	20	78-122	
1,3-Dichloropropane	50.0	44.9	90	14	20	80-119	
2,2-Dichloropropane	50.0	42.3	85	12	20	60-139	
1,1-Dichloropropene	50.0	46.1	92	14	20	79-125	
cis-1,3-Dichloropropene	50.0	45.0	90	13	20	75-124	
trans-1,3-Dichloropropene	50.0	49.2	98	12	20	73-127	
Ethylbenzene	50.0	47.2	94	14	20	79-121	
n-Hexane	50.0	39.9	80	20	20	48-143	

Column to be used to flag recovery and RPD values

FORM III 8260D

FORM III
GC/MS VOA MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: Eurofins Denver Job No.: 280-185814-1

SDG No.:

Matrix: Water Level: Low Lab File ID: X512043.D

Lab ID: 280-185814-4 MSD Client ID: TV044-MW141223A MSD

COMPOUND	SPIKE ADDED (ug/L)	MSD CONCENTRATION (ug/L)	MSD % REC	% RPD	QC LIMITS RPD	QC LIMITS REC	#
2-Hexanone	200	184	92	17	20	57-139	
Hexachlorobutadiene	50.0	51.3	103	14	20	66-134	
Isopropylbenzene	50.0	45.2	90	13	20	72-131	
4-Isopropyltoluene	50.0	46.2	92	12	20	77-127	
Methylcyclohexane	50.0	47.3	95	13	20	72-132	
Methylene Chloride	50.0	44.1	88	13	20	74-124	
4-Methyl-2-pentanone (MIBK)	200	200	100	14	20	67-130	
Methyl tert-butyl ether	50.0	51.8	99	17	20	71-124	
Naphthalene	50.0	50.4	101	12	20	61-128	
N-Propylbenzene	50.0	47.8	96	15	20	76-126	
Styrene	50.0	48.3	97	12	20	78-123	
1,1,2,2-Tetrachloroethane	50.0	44.1	88	14	20	71-121	
Tetrachloroethene	50.0	48.4	97	10	20	74-129	
Toluene	50.0	47.9	96	11	20	80-121	
1,2,3-Trichlorobenzene	50.0	50.6	101	13	20	69-129	
1,1,1-Trichloroethane	50.0	48.8	98	13	20	74-131	
1,1,2-Trichloroethane	50.0	49.1	98	13	20	80-119	
Trichloroethene	50.0	45.7	91	12	20	79-123	
Trichlorofluoromethane	50.0	39.1	78	19	20	65-141	
1,2,4-Trichlorobenzene	50.0	48.2	96	12	20	69-130	
1,2,3-Trichloropropane	50.0	48.0	96	13	20	73-122	
1,2,4-Trimethylbenzene	50.0	46.1	92	13	20	76-124	
1,3,5-Trimethylbenzene	50.0	45.8	92	14	20	75-124	
Vinyl acetate	100	101	101	18	20	54-146	
Vinyl chloride	50.0	39.1	78	21	20	58-137	J1
Xylenes, Total	100	94.1	94	12	20	79-121	
o-Chlorotoluene	50.0	45.4	91	15	20	79-122	

Column to be used to flag recovery and RPD values

FORM III 8260D

FORM IV
GC/MS VOA METHOD BLANK SUMMARY

Lab Name: Eurofins Denver Job No.: 280-185814-1

SDG No.:

Lab File ID: X512020.D Lab Sample ID: MB 280-637903/9

Matrix: Water Heated Purge:(Y/N) N

Instrument ID: VMS_X4 Date Analyzed: 12/19/2023 19:13

GC Column: RXI-624SilMS ID: 0.25(mm)

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES:

CLIENT SAMPLE ID	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED
	LCS 280-637903/4	X512014A.D	12/19/2023 17:03
	LCS 280-637903/6	X512015A.D	12/19/2023 17:25
	LCSD 280-637903/7	X512016.D	12/19/2023 17:46
	LCSD 280-637903/5	X512017.D	12/19/2023 18:08
TV044-TB021223	280-185814-1	X512023.D	12/19/2023 20:18
TV044-EB011223	280-185814-2	X512024.D	12/19/2023 20:39
TV044-EB021223	280-185814-13	X512025.D	12/19/2023 21:01
TV044-MW81223A	280-185814-3	X512030.D	12/19/2023 22:49
TV044-MW141223A	280-185814-4	X512031.D	12/19/2023 23:10
TV044-MW151223A	280-185814-5	X512032.D	12/19/2023 23:32
TV044-MW111223C	280-185814-9	X512033.D	12/19/2023 23:54
TV044-MW91223A	280-185814-11	X512034.D	12/20/2023 00:15
TV044-MW111223A	280-185814-8	X512035.D	12/20/2023 00:37
TV044-MW22S1223A	280-185814-6	X512036.D	12/20/2023 01:00
TV044-MW131223A	280-185814-10	X512037.D	12/20/2023 01:22
TV044-MW22D1223A	280-185814-7	X512038.D	12/20/2023 01:44
TV044-MW23D1223A	280-185814-12	X512039.D	12/20/2023 02:07
TV044-MW141223A MS	280-185814-4 MS	X512042.D	12/20/2023 03:12
TV044-MW141223A MSD	280-185814-4 MSD	X512043.D	12/20/2023 03:33

FORM V
GC/MS VOA INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab Name: Eurofins Denver Job No.: 280-185814-1

SDG No.:

Lab File ID: X511646.D BFB Injection Date: 12/08/2023

Instrument ID: VMS_X4 BFB Injection Time: 21:16

Analysis Batch No.: 636738

M/E	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE	
50	15.0 - 40.0 % of mass 95	22.3	
75	30.0 - 60.0 % of mass 95	54.8	
95	Base Peak, 100% relative abundance	100.0	
96	5.0 - 9.0 % of mass 95	6.6	
173	Less than 2.0 % of mass 174	0.0	(0.0) 1
174	Greater than 50% of mass 95	76.4	
175	5.0 - 9.0 % of mass 174	6.6	(8.6) 1
176	95.0 - 101.0 % of mass 174	74.0	(96.8) 1
177	5.0 - 9.0 % of mass 176	5.0	(6.7) 2

1-Value is % mass 174 2-Value is % mass 176

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS AND STANDARDS:

CLIENT SAMPLE ID	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
	IC 280-636738/2	X511647.D	12/08/2023	21:49
	IC 280-636738/3	X511648.D	12/08/2023	22:09
	IC 280-636738/4	X511649.D	12/08/2023	22:30
	IC 280-636738/5	X511650.D	12/08/2023	22:50
	IC 280-636738/6	X511651.D	12/08/2023	23:11
	ICIS 280-636738/7	X511652.D	12/08/2023	23:31
	IC 280-636738/8	X511653.D	12/08/2023	23:52
	IC 280-636738/9	X511654.D	12/09/2023	0:13
	IC 280-636738/10	X511655.D	12/09/2023	0:33
	ICV 280-636738/11	X511657.D	12/09/2023	1:14

FORM V
GC/MS VOA INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab Name: Eurofins Denver Job No.: 280-185814-1

SDG No.:

Lab File ID: X511694.D BFB Injection Date: 12/11/2023

Instrument ID: VMS_X4 BFB Injection Time: 18:06

Analysis Batch No.: 636906

M/E	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE	
50	15.0 - 40.0 % of mass 95	21.7	
75	30.0 - 60.0 % of mass 95	53.9	
95	Base Peak, 100% relative abundance	100.0	
96	5.0 - 9.0 % of mass 95	6.4	
173	Less than 2.0 % of mass 174	0.0	(0.0) 1
174	Greater than 50% of mass 95	72.0	
175	5.0 - 9.0 % of mass 174	6.1	(8.4) 1
176	95.0 - 101.0 % of mass 174	70.1	(97.4) 1
177	5.0 - 9.0 % of mass 176	4.9	(7.0) 2

1-Value is % mass 174 2-Value is % mass 176

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS AND STANDARDS:

CLIENT SAMPLE ID	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
	IC 280-636906/2	X511695.D	12/11/2023	18:26
	IC 280-636906/3	X511696.D	12/11/2023	18:47
	IC 280-636906/4	X511697.D	12/11/2023	19:07
	IC 280-636906/5	X511698.D	12/11/2023	19:28
	IC 280-636906/6	X511699.D	12/11/2023	19:48
	IC 280-636906/7	X511700.D	12/11/2023	20:09
	IC 280-636906/8	X511701.D	12/11/2023	20:30
	IC 280-636906/9	X511702.D	12/11/2023	20:50
	ICV 280-636906/10	X511705.D	12/11/2023	21:52

FORM V
GC/MS VOA INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab Name: Eurofins Denver Job No.: 280-185814-1

SDG No.:

Lab File ID: X512013.D BFB Injection Date: 12/19/2023

Instrument ID: VMS_X4 BFB Injection Time: 16:43

Analysis Batch No.: 637903

M/E	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE	
50	15.0 - 40.0 % of mass 95	22.8	
75	30.0 - 60.0 % of mass 95	54.5	
95	Base Peak, 100% relative abundance	100.0	
96	5.0 - 9.0 % of mass 95	7.2	
173	Less than 2.0 % of mass 174	0.0	(0.0) 1
174	Greater than 50% of mass 95	80.8	
175	5.0 - 9.0 % of mass 174	6.7	(8.3) 1
176	95.0 - 101.0 % of mass 174	79.0	(97.7) 1
177	5.0 - 9.0 % of mass 176	4.8	(6.1) 2

1-Value is % mass 174 2-Value is % mass 176

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS AND STANDARDS:

CLIENT SAMPLE ID	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
	CCV 280-637903/2	X512014.D	12/19/2023	17:03
	LCS 280-637903/4	X512014A.D	12/19/2023	17:03
	CCV 280-637903/3	X512015.D	12/19/2023	17:25
	LCS 280-637903/6	X512015A.D	12/19/2023	17:25
	LCSD 280-637903/7	X512016.D	12/19/2023	17:46
	LCSD 280-637903/5	X512017.D	12/19/2023	18:08
	MB 280-637903/9	X512020.D	12/19/2023	19:13
TV044-TB021223	280-185814-1	X512023.D	12/19/2023	20:18
TV044-EB011223	280-185814-2	X512024.D	12/19/2023	20:39
TV044-EB021223	280-185814-13	X512025.D	12/19/2023	21:01
TV044-MW81223A	280-185814-3	X512030.D	12/19/2023	22:49
TV044-MW141223A	280-185814-4	X512031.D	12/19/2023	23:10
TV044-MW151223A	280-185814-5	X512032.D	12/19/2023	23:32
TV044-MW111223C	280-185814-9	X512033.D	12/19/2023	23:54
TV044-MW91223A	280-185814-11	X512034.D	12/20/2023	0:15
TV044-MW111223A	280-185814-8	X512035.D	12/20/2023	0:37
TV044-MW22S1223A	280-185814-6	X512036.D	12/20/2023	1:00
TV044-MW131223A	280-185814-10	X512037.D	12/20/2023	1:22
TV044-MW22D1223A	280-185814-7	X512038.D	12/20/2023	1:44
TV044-MW23D1223A	280-185814-12	X512039.D	12/20/2023	2:07
TV044-MW141223A MS	280-185814-4 MS	X512042.D	12/20/2023	3:12
TV044-MW141223A MSD	280-185814-4 MSD	X512043.D	12/20/2023	3:33
	CCVC 280-637903/36	X512044.D	12/20/2023	3:55
	CCVC 280-637903/37	X512045.D	12/20/2023	4:16

FORM VIII
GC/MS VOA INTERNAL STANDARD AREA AND RETENTION TIME SUMMARY

Lab Name: Eurofins Denver Job No.: 280-185814-1

SDG No.:

Sample No.: ICIS 280-636738/7 Date Analyzed: 12/08/2023 23:31

Instrument ID: VMS_X4 GC Column: RXI-624SilMS ID: 0.25(mm)

Lab File ID (Standard): X511652.D Heated Purge: (Y/N) N

Calibration ID: 88018

		FB		CBNZd5		DCBd4	
		AREA #	RT #	AREA #	RT #	AREA #	RT #
INITIAL CALIBRATION MID-POINT		1927914	5.20	487237	7.72	803680	9.95
UPPER LIMIT		3855828	5.70	974474	8.22	1607360	10.45
LOWER LIMIT		963957	4.70	243619	7.22	401840	9.45
LAB SAMPLE ID	CLIENT SAMPLE ID						
ICV 280-636738/11		1909975	5.20	483338	7.72	787898	9.95
CCV 280-637903/2		1723483	5.20	479315	7.72	860763	9.95
LCS 280-637903/4		1723483	5.20	479315	7.72	860763	9.95
CCV 280-637903/3		1665979	5.20	455162	7.73	799882	9.95
LCS 280-637903/6		1665979	5.20	455162	7.73	799882	9.95
LCSD 280-637903/7		1631307	5.20	446628	7.72	784864	9.95
LCSD 280-637903/5		1698523	5.20	462547	7.72	802953	9.95
MB 280-637903/9		1644033	5.20	445413	7.73	791980	9.95
280-185814-1	TV044-TB021223	1652931	5.20	454300	7.73	785886	9.95
280-185814-2	TV044-EB011223	1646510	5.20	455869	7.72	779866	9.95
280-185814-13	TV044-EB021223	1649109	5.20	448372	7.72	791152	9.95
280-185814-3	TV044-MW81223A	1607939	5.20	444098	7.73	776739	9.95
280-185814-4	TV044-MW141223A	1632387	5.20	445236	7.72	795612	9.95
280-185814-5	TV044-MW151223A	1640318	5.20	455735	7.73	712456	9.95
280-185814-9	TV044-MW111223C	1661393	5.20	458489	7.72	796460	9.95
280-185814-11	TV044-MW91223A	1623567	5.20	440864	7.73	788611	9.95
280-185814-8	TV044-MW111223A	1583080	5.20	437115	7.73	751362	9.95
280-185814-6	TV044-MW22S1223A	1598224	5.20	442045	7.73	783309	9.95
280-185814-10	TV044-MW131223A	1606193	5.20	423092	7.73	747152	9.95
280-185814-7	TV044-MW22D1223A	1612641	5.20	434210	7.73	763081	9.95
280-185814-12	TV044-MW23D1223A	1614804	5.20	448807	7.73	772771	9.95
280-185814-4 MS	TV044-MW141223A MS	1733838	5.20	466732	7.73	801536	9.95
280-185814-4 MSD	TV044-MW141223A MSD	1691294	5.20	462178	7.72	800665	9.95
CCVC 280-637903/36		1569454	5.20	425146	7.73	736856	9.95
CCVC 280-637903/37		1561328	5.20	424697	7.73	749064	9.95

FB = Fluorobenzene
CBNZd5 = Chlorobenzene-d5
DCBd4 = 1,4-Dichlorobenzene-d4

Area Limit = 50%-200% of internal standard area
RT Limit = ± 0.5 minutes of internal standard RT

Column used to flag values outside QC limits

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Denver | Job No.: 280-185814-1

SDG No.:

Client Sample ID: TV044-TB021223 | Lab Sample ID: 280-185814-1

Matrix: Water | Lab File ID: X512023.D

Analysis Method: 8260D | Date Collected: 12/14/2023 10:10

Sample wt/vol: 5(mL) | Date Analyzed: 12/19/2023 20:18

Soil Aliquot Vol: | Dilution Factor: 1

Soil Extract Vol.: | GC Column: RXI-624SilMS ID: 0.25(mm)

Purge Volume: 5.0(mL) | Heated Purge: (Y/N) N pH: 5.0

% Moisture: % Solids: | Level: (low/med) Low

Analysis Batch No.: 637903 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
71-55-6	1,1,1-Trichloroethane	0.50	U	1.0	0.50	0.39
79-34-5	1,1,2,2-Tetrachloroethane	0.80	U	1.0	0.80	0.21
79-00-5	1,1,2-Trichloroethane	0.80	U	1.0	0.80	0.27
75-34-3	1,1-Dichloroethane	0.80	U	1.0	0.80	0.22
75-35-4	1,1-Dichloroethylene	0.80	U	1.0	0.80	0.23
563-58-6	1,1-Dichloropropene	0.80	U	1.0	0.80	0.42
87-61-6	1,2,3-Trichlorobenzene	0.80	U	2.0	0.80	0.70
96-18-4	1,2,3-Trichloropropane	1.8	U	2.5	1.8	0.86
526-73-8	1,2,3-Trimethylbenzene	0.80	U	2.0	0.80	0.27
120-82-1	1,2,4-Trichlorobenzene	0.80	U	1.0	0.80	0.58
95-63-6	1,2,4-Trimethylbenzene	0.40	U	1.0	0.40	0.15
96-12-8	1,2-Dibromo-3-Chloropropane	4.0	U	5.0	4.0	1.8
106-93-4	1,2-Dibromoethane	0.80	U	1.0	0.80	0.40
95-50-1	1,2-Dichlorobenzene	0.50	U	1.0	0.50	0.37
107-06-2	1,2-Dichloroethane	0.80	U	1.0	0.80	0.54
78-87-5	1,2-Dichloropropane	0.80	U	1.0	0.80	0.52
108-67-8	1,3,5-Trimethylbenzene	0.50	U	1.0	0.50	0.37
541-73-1	1,3-Dichlorobenzene	0.40	U	1.0	0.40	0.33
142-28-9	1,3-Dichloropropane	0.80	U	1.0	0.80	0.38
106-46-7	1,4-Dichlorobenzene	0.50	U	1.0	0.50	0.39
594-20-7	2,2-Dichloropropane	0.80	U	1.0	0.80	0.38
78-93-3	2-Butanone (MEK)	12	U	15	12	6.0
110-75-8	2-Chloroethyl vinyl ether	0.80	U	3.0	0.80	0.44
591-78-6	2-Hexanone	4.0	U	5.0	4.0	1.7
99-87-6	4-Isopropyltoluene	0.80	U	1.0	0.80	0.43
108-10-1	4-Methyl-2-pentanone (MIBK)	3.2	U	5.0	3.2	0.98
67-64-1	Acetone	8.0	U	15	8.0	6.6
107-13-1	Acrylonitrile	8.0	U	20	8.0	4.5
71-43-2	Benzene	0.80	U	1.0	0.80	0.31
108-86-1	Bromobenzene	0.50	U	1.0	0.50	0.40
74-97-5	Bromochloromethane	0.80	U	1.0	0.80	0.40
75-27-4	Bromodichloromethane	0.50	U	1.0	0.50	0.39
75-25-2	Bromoform	1.8	U	2.0	1.8	1.2
75-15-0	Carbon disulfide	0.80	U	2.0	0.80	0.63

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Denver | Job No.: 280-185814-1

SDG No.:

Client Sample ID: TV044-TB021223 | Lab Sample ID: 280-185814-1

Matrix: Water | Lab File ID: X512023.D

Analysis Method: 8260D | Date Collected: 12/14/2023 10:10

Sample wt/vol: 5(mL) | Date Analyzed: 12/19/2023 20:18

Soil Aliquot Vol: | Dilution Factor: 1

Soil Extract Vol.: | GC Column: RXI-624SilMS ID: 0.25(mm)

Purge Volume: 5.0(mL) | Heated Purge: (Y/N) N pH: 5.0

% Moisture: % Solids: | Level: (low/med) Low

Analysis Batch No.: 637903 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
56-23-5	Carbon tetrachloride	0.80	U	1.0	0.80	0.57
108-90-7	Chlorobenzene	0.80	U	1.0	0.80	0.42
75-00-3	Chloroethane	1.6	U	4.0	1.6	1.4
67-66-3	Chloroform	0.80	U	1.0	0.80	0.36
74-87-3	Chloromethane	1.0	U	2.0	1.0	0.75
156-59-2	cis-1,2-Dichloroethylene	0.40	U	1.0	0.40	0.32
10061-01-5	cis-1,3-Dichloropropene	1.8	U	2.0	1.8	0.63
110-82-7	Cyclohexane	0.80	U	1.0	0.80	0.44
108-94-1	Cyclohexanone	64	U M Q	100	64	32
124-48-1	Dibromochloromethane	1.8	U	2.0	1.8	0.62
74-95-3	Dibromomethane	0.40	U	1.0	0.40	0.34
75-71-8	Dichlorodifluoromethane	2.5	U	3.0	2.5	0.96
100-41-4	Ethylbenzene	0.40	U	1.0	0.40	0.30
87-68-3	Hexachlorobutadiene	1.8	U	2.0	1.8	1.2
108-20-3	Isopropyl ether	2.0	U	10	2.0	1.1
98-82-8	Isopropylbenzene	0.50	U	1.0	0.50	0.36
1634-04-4	Methyl tert-butyl ether	0.80	U	5.0	0.80	0.25
108-87-2	Methylcyclohexane	0.40	U	1.0	0.40	0.31
75-09-2	Methylene Chloride	1.8	U	2.0	1.8	0.94
91-20-3	Naphthalene	0.80	U	2.0	0.80	0.63
104-51-8	n-Butylbenzene	0.80	U	1.0	0.80	0.48
110-54-3	n-Hexane	0.80	U	2.0	0.80	0.16
103-65-1	N-Propylbenzene	0.80	U	1.0	0.80	0.53
95-49-8	o-Chlorotoluene	0.40	U	1.0	0.40	0.34
106-43-4	p-Chlorotoluene	0.80	U	1.0	0.80	0.21
135-98-8	sec-Butylbenzene	0.80	U	1.0	0.80	0.45
100-42-5	Styrene	0.80	U	1.0	0.80	0.36
98-06-6	tert-Butylbenzene	0.80	U	1.0	0.80	0.42
127-18-4	Tetrachloroethene	0.80	U	1.0	0.80	0.40
108-88-3	Toluene	0.40	U	1.0	0.40	0.32
156-60-5	trans-1,2-Dichloroethylene	0.50	U	1.0	0.50	0.37
10061-02-6	trans-1,3-Dichloropropene	1.8	U	2.0	1.8	0.65
79-01-6	Trichloroethene	0.40	U	1.0	0.40	0.30
75-69-4	Trichlorofluoromethane	0.80	U	2.0	0.80	0.57

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Denver | Job No.: 280-185814-1

SDG No.:

Client Sample ID: TV044-TB021223 | Lab Sample ID: 280-185814-1

Matrix: Water | Lab File ID: X512023.D

Analysis Method: 8260D | Date Collected: 12/14/2023 10:10

Sample wt/vol: 5(mL) | Date Analyzed: 12/19/2023 20:18

Soil Aliquot Vol: | Dilution Factor: 1

Soil Extract Vol.: | GC Column: RXI-624SilMS ID: 0.25(mm)

Purge Volume: 5.0(mL) | Heated Purge: (Y/N) N pH: 5.0

% Moisture: % Solids: | Level: (low/med) Low

Analysis Batch No.: 637903 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
108-05-4	Vinyl acetate	2.0	U	3.0	2.0	0.94
75-01-4	Vinyl chloride	1.0	U	2.0	1.0	0.51
1330-20-7	Xylenes, Total	0.80	U	1.0	0.80	0.33

CAS NO.	SURROGATE	%REC	Q	LIMITS
17060-07-0	1,2-Dichloroethane-d4 (Surr)	103		81-118
460-00-4	4-Bromofluorobenzene (Surr)	91		85-114
1868-53-7	Dibromofluoromethane (Surr)	110		80-119
2037-26-5	Toluene-d8 (Surr)	100		89-112

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET
TARGETED TENATIVELY IDENTIFIED COMPOUNDS

Lab Name: Eurofins Denver | Job No.: 280-185814-1

SDG No.:

Client Sample ID: TV044-TB021223 | Lab Sample ID: 280-185814-1

Matrix: Water | Lab File ID: X512023.D

Analysis Method: 8260D | Date Collected: 12/14/2023 10:10

Sample wt/vol: 5(mL) | Date Analyzed: 12/19/2023 20:18

Soil Aliquot Vol: | Dilution Factor: 1

Soil Extract Vol.: | GC Column: RXI-624SilMS ID: 0.25(mm)

Purge Volume: 5.0(mL) | Heated Purge: (Y/N) N pH: 5.0

% Moisture: % Solids: | Level: (low/med) Low

Analysis Batch No.: 637903 | Units: ug/L

CAS NO.	COMPOUND NAME	RT	RESULT	Q	MATCH QUALITY
106-99-0	1,3-Butadiene TIC		1.0	U	
622-96-8	4-Ethyltoluene TIC		1.0	U	
77-73-6	Dicyclopentadiene TIC		1.0	U	
115-07-1	Propene TIC		1.0	U	

Eurofins Denver
Target Compound Quantitation Report

Data File: \\chromfs\Denver\ChromData\VMS_X4\20231219-128742.b\X512023.D
Lims ID: 280-185814-B-1
Client ID: TV044-TB021223
Sample Type: Client
Inject. Date: 19-Dec-2023 20:18:30 ALS Bottle#: 10 Worklist Smp#: 15
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Sample Info: 280-185814-b-1
Operator ID: CF Instrument ID: VMS_X4

Method: \\chromfs\Denver\ChromData\VMS_X4\20231219-128742.b\VMS_X4_8260.m
Limit Group: MSV - 8260B Water and Solid
Last Update: 19-Dec-2023 20:36:30 Calib Date: 11-Dec-2023 20:50:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Denver\ChromData\VMS_X4\20231211-128477.b\X511702.D

Column 1 : Rxi-624Sil MS (0.25 mm) Det: MS SCAN
Process Host: CTX1675

First Level Reviewer: AK2J Date: 19-Dec-2023 20:36:30

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	OnCol Amt ug/l	Flags
* 1 Fluorobenzene	96	5.199	5.199	0.000	98	1652931	50.0	
* 2 Chlorobenzene-d5	119	7.730	7.730	0.000	89	454300	50.0	
* 3 1,4-Dichlorobenzene-d4	152	9.947	9.947	0.000	97	785886	50.0	
$ 4 Dibromofluoromethane (Surr)	111	4.692	4.691	0.001	92	464359	54.9	
$ 5 1,2-Dichloroethane-d4 (Surr)	65	4.956	4.956	0.000	0	565726	51.7	
$ 6 Toluene-d8 (Surr)	98	6.458	6.458	0.000	95	1946070	49.8	
$ 7 4-Bromofluorobenzene (Surr)	95	8.817	8.817	0.000	89	679616	45.3	
$ 8 BFB	95	8.817	8.817	0.000	86	679616	NR	
9 Dichlorodifluoromethane	85		1.760				ND	
10 Chloromethane	50		1.939				ND	
11 Vinyl chloride	62		2.039				ND	
12 Bromomethane	94		2.332				ND	7
13 Chloroethane	64		2.425				ND	
15 Propene oxide	58		2.504				ND	
14 Dichlorofluoromethane	67		2.596				ND	
16 Trichlorofluoromethane	101		2.632				ND	
17 Ethanol	45		2.754				ND	
18 Ethyl ether	59		2.847				ND	
19 Acrolein	56		2.961				ND	
20 1,1,2-Trichloro-1,2,2-trifluoroe	151		3.040				ND	
21 1,1-Dichloroethene	96		3.047				ND	
22 Acetone	43	3.069	3.061	0.007	36	1833	0.5682	
23 Isopropyl alcohol	45		3.147				ND	
24 Iodomethane	142		3.169				ND	
25 Carbon disulfide	76		3.233				ND	
26 Acetonitrile	41		3.276				ND	
27 Methyl acetate	43		3.290				ND	
28 3-Chloro-1-propene	41		3.319				ND	
29 Methylene Chloride	84		3.412				ND	
30 2-Methyl-2-propanol	59		3.455				ND	
31 Acrylonitrile	53		3.576				ND	
32 Methyl tert-butyl ether	73		3.598				ND	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	OnCol Amt ug/l	Flags
33 trans-1,2-Dichloroethene	96		3.612				ND	
34 Hexane	57		3.805				ND	
35 Vinyl acetate	43		3.905				ND	
37 Isopropyl ether	87		3.926				ND	
36 1,1-Dichloroethane	63		3.934				ND	
38 2-Chloro-1,3-butadiene	53		3.984				ND	
39 Tert-butyl ethyl ether	59		4.191				ND	
40 2-Butanone (MEK)	43		4.320				ND	
41 Ethyl acetate	43		4.327				ND	
42 cis-1,2-Dichloroethene	96		4.341				ND	
43 2,2-Dichloropropane	77		4.355				ND	
44 Propionitrile	54		4.370				ND	
45 sec-Butyl Alcohol	45		4.420				ND	
46 Methacrylonitrile	41		4.484				ND	
47 Chlorobromomethane	128		4.520				ND	
48 Tetrahydrofuran	42		4.527				ND	
49 Chloroform	83		4.577				ND	
50 1,1,1-Trichloroethane	97		4.720				ND	
51 Cyclohexane	56		4.784				ND	
52 1,1-Dichloropropene	75		4.835				ND	
54 Isobutyl alcohol	41		4.842				ND	
53 Carbon tetrachloride	117		4.842				ND	
55 Benzene	78		4.985				ND	
56 1,2-Dichloroethane	62		5.013				ND	
57 Tert-amyl methyl ether	73		5.056				ND	
58 n-Heptane	43		5.171				ND	
59 n-Butanol	56		5.335				ND	
60 Trichloroethene	95		5.471				ND	
61 2-Pentanone	43		5.578				ND	
62 Methylcyclohexane	55		5.671				ND	
64 Methyl methacrylate	100		5.678				ND	
63 1,2-Dichloropropane	63		5.678				ND	
65 1,4-Dioxane	88		5.721				ND	
66 Dibromomethane	93		5.750				ND	
67 Dichlorobromomethane	83		5.871				ND	
68 2-Nitropropane	41		6.043				ND	
69 2-Chloroethyl vinyl ether	63		6.072				ND	
70 cis-1,3-Dichloropropene	75		6.222				ND	
71 4-Methyl-2-pentanone (MIBK)	43		6.322				ND	
72 Toluene	91		6.515				ND	
73 trans-1,3-Dichloropropene	75		6.686				ND	
74 Ethyl methacrylate	69		6.701				ND	
75 1,1,2-Trichloroethane	97		6.858				ND	
76 Tetrachloroethene	164		6.951				ND	
77 1,3-Dichloropropane	76		7.008				ND	
78 2-Hexanone	43		7.022				ND	
79 Chlorodibromomethane	129		7.201				ND	
80 Ethylene Dibromide	107		7.323				ND	
81 1-Chlorohexane	91		7.709				ND	U
82 Chlorobenzene	112		7.752				ND	
83 1,1,1,2-Tetrachloroethane	131		7.823				ND	
84 Ethylbenzene	106		7.830				ND	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	OnCol Amt ug/l	Flags
85 m-Xylene & p-Xylene	106		7.945				ND	
86 o-Xylene	106		8.302				ND	
87 Styrene	104		8.324				ND	
88 Bromoform	173		8.503				ND	
89 Isopropylbenzene	105		8.646				ND	
90 cis-1,4-Dichloro-2-butene	53		8.696				ND	
91 Cyclohexanone	55		8.746				ND	U
92 1,1,2,2-Tetrachloroethane	83		8.932				ND	
93 Bromobenzene	156		8.967				ND	
94 trans-1,4-Dichloro-2-butene	53		8.967				ND	
95 1,2,3-Trichloropropane	110		8.996				ND	
96 N-Propylbenzene	120		9.046				ND	
97 2-Chlorotoluene	126		9.146				ND	
98 1,3,5-Trimethylbenzene	105		9.218				ND	
99 4-Chlorotoluene	126		9.261				ND	
101 Pentachloroethane	167		9.411				ND	
100 tert-Butylbenzene	119		9.525				ND	
102 1,2,4-Trimethylbenzene	105		9.582				ND	
103 sec-Butylbenzene	134		9.747				ND	
104 1,3-Dichlorobenzene	146		9.875				ND	
105 4-Isopropyltoluene	119		9.890				ND	
106 1,4-Dichlorobenzene	146		9.976				ND	
107 1,2,3-Trimethylbenzene	105		9.990				ND	
108 n-Butylbenzene	91		10.297				ND	
109 1,2-Dichlorobenzene	146		10.333				ND	
110 1,2-Dibromo-3-Chloropropane	157		11.112				ND	
111 1,3,5-Trichlorobenzene	180		11.298				ND	
112 1,2,4-Trichlorobenzene	180		11.935				ND	
113 Hexachlorobutadiene	225		12.071				ND	
114 Naphthalene	128		12.206				ND	
115 1,2,3-Trichlorobenzene	180		12.428				ND	
116 Ethylene oxide TIC	1		0.000				ND	
117 t-Amyl alcohol	1		0.000				ND	
118 Ethyl acrylate	55		0.000				ND	
119 1-Chloro-1-fluoroethane TIC	1		0.000				ND	
120 Tetrahydrothiophene TIC	1		0.000				ND	
121 Propene oxide TIC	58		5.334				ND	
S 122 1,2-Dichloroethene, Total (URS)	96		2.000				ND	7
S 129 1,2-Dichloroethene, Total	1		0.000				ND	7
S 124 1,3-Dichloropropene, Total	1		0.000				ND	7
S 123 Xylenes, Total (URS)	1		0.000				ND	7
S 127 Trihalomethanes, Total	1		0.000				ND	7
S 126 Total BTEX	1		0.000				ND	7
S 128 TAH	1				0		0	
S 125 Xylenes, Total	106		0.000				ND	7
T 130 Dichloroacetonitrile TIC	74		1.000				ND	
T 132 1-Chlorohexane TIC	1		0.000				ND	
T 131 Methyl cyclohexane TIC	1		0.000				ND	
T 140 2,3-Dichloro-1-propene TIC	75		0.000				ND	
T 139 Propene TIC	1		0.000				ND	
T 138 n-Nonane TIC	1		0.000				ND	
T 137 1,3-Butadiene TIC	1		0.000				ND	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	OnCol Amt ug/l	Flags
T 136 Cyclohexane TIC	1		0.000				ND	
T 135 4-Ethyltoluene TIC	1		0.000				ND	
T 134 2-Butoxyethanol TIC	1		0.000				ND	
T 133 Dicyclopentadiene TIC	1		0.000				ND	

QC Flag Legend

Processing Flags
- NR - Missing Quant Standard
- 7 - Failed Limit of Detection

Review Flags
- U - Marked Undetected

Reagents:

mv-IS_SS_00074 Amount Added: 5.00 Units: uL Run Reagent

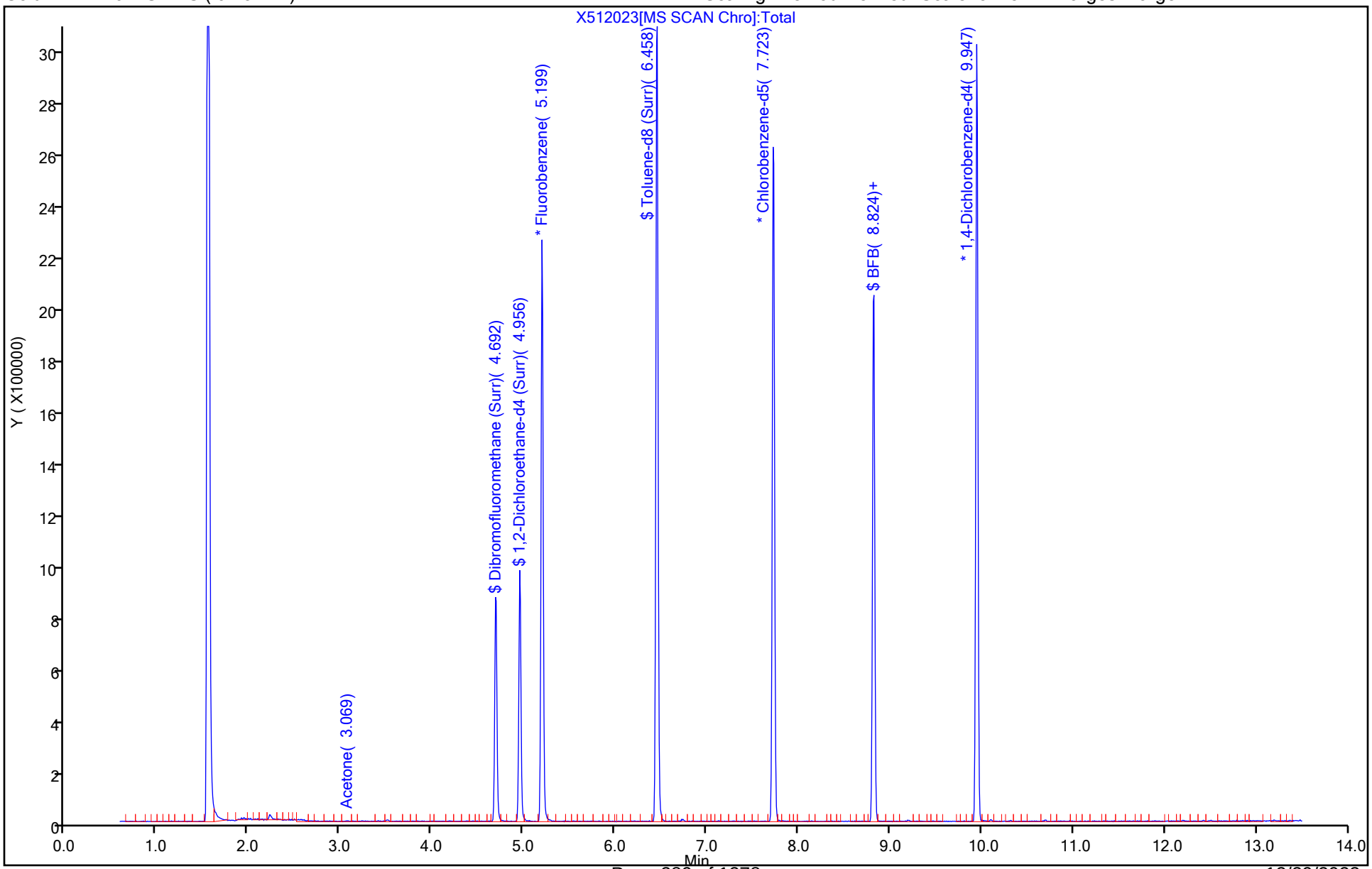
Report Date: 19-Dec-2023 20:37:57 Chrom Revision: 2.3 15-Nov-2023 20:54:34

Eurofins Denver

Data File: \\chromfs\Denver\ChromData\VMS_X4\20231219-128742.b\X512023.D

Injection Date:	19-Dec-2023 20:18:30	Instrument ID:	VMS_X4	Operator ID:	CF
Lims ID:	280-185814-B-1	Lab Sample ID:	280-185814-1	Worklist Smp#:	15
Client ID:	TV044-TB021223				
Purge Vol:	5.000 mL	Dil. Factor:	1.0000	ALS Bottle#:	10
Method:	VMS_X4_8260	Limit Group:	MSV - 8260B Water and Solid		

Column: Rxi-624Sil MS (0.25 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 1



Eurofins Denver
Recovery Report

Data File:	\\chromfs\Denver\ChromData\VMS_X4\20231219-128742.b\X512023.D				
Lims ID:	280-185814-B-1				
Client ID:	TV044-TB021223				
Sample Type:	Client				
Inject. Date:	19-Dec-2023 20:18:30	ALS Bottle#:	10	Worklist Smp#:	15
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Sample Info:	280-185814-b-1				
Operator ID:	CF	Instrument ID:	VMS_X4		
Method:	\\chromfs\Denver\ChromData\VMS_X4\20231219-128742.b\VMS_X4_8260.m				
Limit Group:	MSV - 8260B Water and Solid				
Last Update:	19-Dec-2023 20:36:30	Calib Date:	11-Dec-2023 20:50:30		
Integrator:	RTE	ID Type:	Deconvolution ID		
Quant Method:	Internal Standard	Quant By:	Initial Calibration		
Last ICal File:	\\chromfs\Denver\ChromData\VMS_X4\20231211-128477.b\X511702.D				
Column 1 :	Rxi-624Sil MS (0.25 mm)		Det: MS SCAN		
Process Host:	CTX1675				

First Level Reviewer: AK2J Date: 19-Dec-2023 20:36:30

Compound	Amount Added	Amount Recovered	% Rec.
$ 4 Dibromofluoromethane (Surr)	50.0	54.9	109.83
$ 5 1,2-Dichloroethane-d4 (Surr)	50.0	51.7	103.45
$ 6 Toluene-d8 (Surr)	50.0	49.8	99.51
$ 7 4-Bromofluorobenzene (Surr)	50.0	45.3	90.62

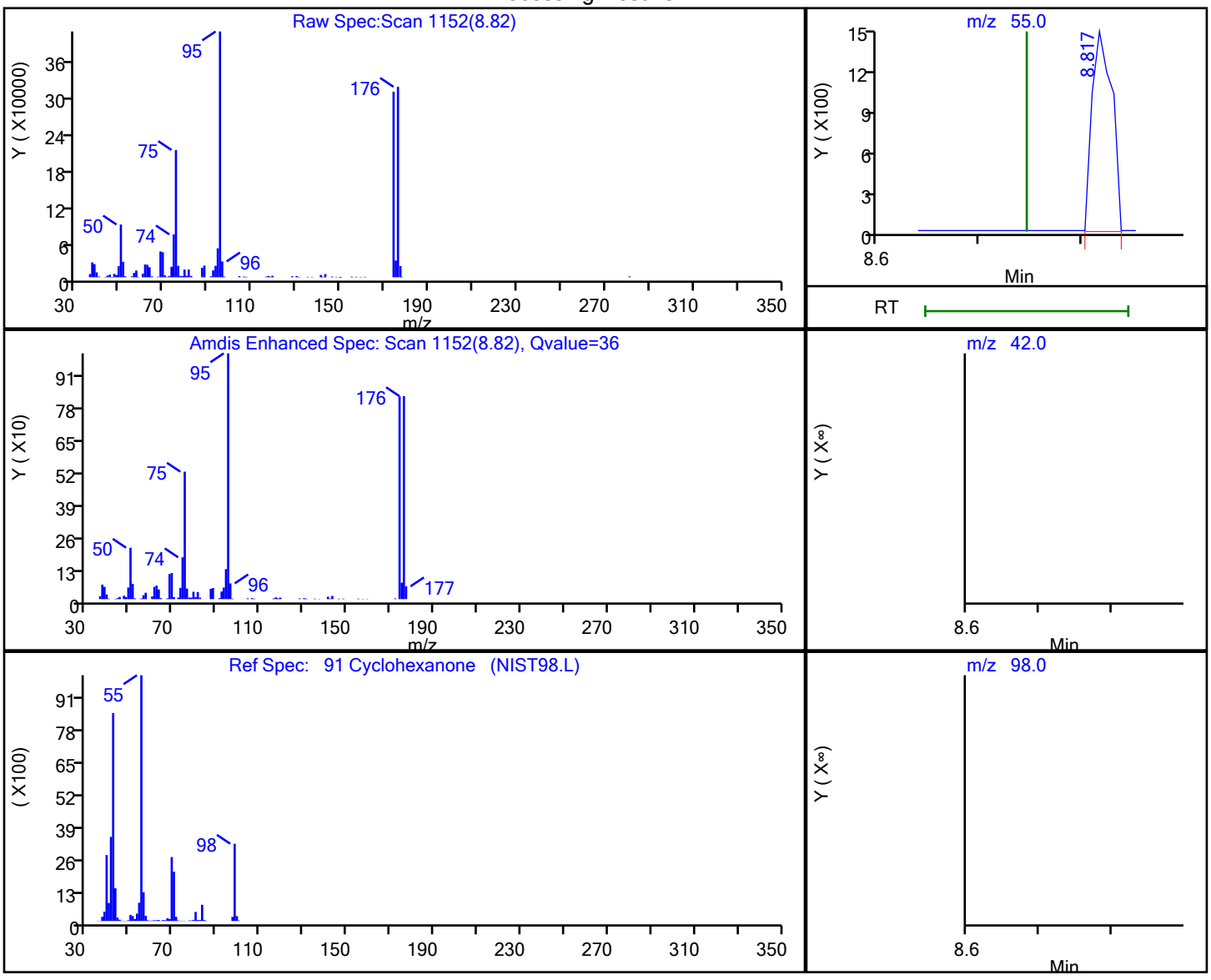
User Disabled Compound Report

Eurofins Denver

Data File:	\\chromfs\Denver\ChromData\VMS_X4\20231219-128742.b\X512023.D				
Injection Date:	19-Dec-2023 20:18:30	Instrument ID:	VMS_X4		
Lims ID:	280-185814-B-1	Lab Sample ID:	280-185814-1		
Client ID:	TV044-TB021223				
Operator ID:	CF	ALS Bottle#:	10	Worklist Smp#:	15
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	VMS_X4_8260	Limit Group:	MSV - 8260B Water and Solid		
Column:	Rxi-624Sil MS (0.25 mm)	Detector	MS SCAN		

91 Cyclohexanone, CAS: 108-94-1

Processing Results



RT	Mass	Response	Amount
8.82	55.00	1955	4.210484
8.75	42.00	0	
8.75	98.00	0	

Reviewer: AK2J, 19-Dec-2023 20:36:24 -07:00:00 (UTC)

Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Denver | Job No.: 280-185814-1

SDG No.:

Client Sample ID: TV044-EB011223 | Lab Sample ID: 280-185814-2

Matrix: Water | Lab File ID: X512024.D

Analysis Method: 8260D | Date Collected: 12/14/2023 10:20

Sample wt/vol: 5(mL) | Date Analyzed: 12/19/2023 20:39

Soil Aliquot Vol: | Dilution Factor: 1

Soil Extract Vol.: | GC Column: RXI-624SilMS ID: 0.25(mm)

Purge Volume: 5.0(mL) | Heated Purge: (Y/N) N pH: 5.0

% Moisture: % Solids: | Level: (low/med) Low

Analysis Batch No.: 637903 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
71-55-6	1,1,1-Trichloroethane	0.50	U	1.0	0.50	0.39
79-34-5	1,1,2,2-Tetrachloroethane	0.80	U	1.0	0.80	0.21
79-00-5	1,1,2-Trichloroethane	0.80	U	1.0	0.80	0.27
75-34-3	1,1-Dichloroethane	0.80	U	1.0	0.80	0.22
75-35-4	1,1-Dichloroethylene	0.80	U	1.0	0.80	0.23
563-58-6	1,1-Dichloropropene	0.80	U	1.0	0.80	0.42
87-61-6	1,2,3-Trichlorobenzene	0.80	U	2.0	0.80	0.70
96-18-4	1,2,3-Trichloropropane	1.8	U	2.5	1.8	0.86
526-73-8	1,2,3-Trimethylbenzene	0.80	U	2.0	0.80	0.27
120-82-1	1,2,4-Trichlorobenzene	0.80	U	1.0	0.80	0.58
95-63-6	1,2,4-Trimethylbenzene	0.40	U	1.0	0.40	0.15
96-12-8	1,2-Dibromo-3-Chloropropane	4.0	U	5.0	4.0	1.8
106-93-4	1,2-Dibromoethane	0.80	U	1.0	0.80	0.40
95-50-1	1,2-Dichlorobenzene	0.50	U	1.0	0.50	0.37
107-06-2	1,2-Dichloroethane	0.80	U	1.0	0.80	0.54
78-87-5	1,2-Dichloropropane	0.80	U	1.0	0.80	0.52
108-67-8	1,3,5-Trimethylbenzene	0.50	U	1.0	0.50	0.37
541-73-1	1,3-Dichlorobenzene	0.40	U	1.0	0.40	0.33
142-28-9	1,3-Dichloropropane	0.80	U	1.0	0.80	0.38
106-46-7	1,4-Dichlorobenzene	0.50	U	1.0	0.50	0.39
594-20-7	2,2-Dichloropropane	0.80	U	1.0	0.80	0.38
78-93-3	2-Butanone (MEK)	12	U	15	12	6.0
110-75-8	2-Chloroethyl vinyl ether	0.80	U	3.0	0.80	0.44
591-78-6	2-Hexanone	4.0	U	5.0	4.0	1.7
99-87-6	4-Isopropyltoluene	0.80	U	1.0	0.80	0.43
108-10-1	4-Methyl-2-pentanone (MIBK)	3.2	U	5.0	3.2	0.98
67-64-1	Acetone	8.0	U	15	8.0	6.6
107-13-1	Acrylonitrile	8.0	U	20	8.0	4.5
71-43-2	Benzene	0.80	U	1.0	0.80	0.31
108-86-1	Bromobenzene	0.50	U	1.0	0.50	0.40
74-97-5	Bromochloromethane	0.80	U	1.0	0.80	0.40
75-27-4	Bromodichloromethane	0.50	U	1.0	0.50	0.39
75-25-2	Bromoform	1.8	U	2.0	1.8	1.2
75-15-0	Carbon disulfide	0.80	U	2.0	0.80	0.63

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Denver | Job No.: 280-185814-1

SDG No.:

Client Sample ID: TV044-EB011223 | Lab Sample ID: 280-185814-2

Matrix: Water | Lab File ID: X512024.D

Analysis Method: 8260D | Date Collected: 12/14/2023 10:20

Sample wt/vol: 5(mL) | Date Analyzed: 12/19/2023 20:39

Soil Aliquot Vol: | Dilution Factor: 1

Soil Extract Vol.: | GC Column: RXI-624SilMS ID: 0.25(mm)

Purge Volume: 5.0(mL) | Heated Purge: (Y/N) N pH: 5.0

% Moisture: % Solids: | Level: (low/med) Low

Analysis Batch No.: 637903 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
56-23-5	Carbon tetrachloride	0.80	U	1.0	0.80	0.57
108-90-7	Chlorobenzene	0.80	U	1.0	0.80	0.42
75-00-3	Chloroethane	1.6	U	4.0	1.6	1.4
67-66-3	Chloroform	0.80	U	1.0	0.80	0.36
74-87-3	Chloromethane	1.0	U	2.0	1.0	0.75
156-59-2	cis-1,2-Dichloroethylene	0.40	U	1.0	0.40	0.32
10061-01-5	cis-1,3-Dichloropropene	1.8	U	2.0	1.8	0.63
110-82-7	Cyclohexane	0.80	U	1.0	0.80	0.44
108-94-1	Cyclohexanone	64	U M Q	100	64	32
124-48-1	Dibromochloromethane	1.8	U	2.0	1.8	0.62
74-95-3	Dibromomethane	0.40	U	1.0	0.40	0.34
75-71-8	Dichlorodifluoromethane	2.5	U	3.0	2.5	0.96
100-41-4	Ethylbenzene	0.40	U	1.0	0.40	0.30
87-68-3	Hexachlorobutadiene	1.8	U	2.0	1.8	1.2
108-20-3	Isopropyl ether	2.0	U	10	2.0	1.1
98-82-8	Isopropylbenzene	0.50	U	1.0	0.50	0.36
1634-04-4	Methyl tert-butyl ether	0.80	U	5.0	0.80	0.25
108-87-2	Methylcyclohexane	0.40	U	1.0	0.40	0.31
75-09-2	Methylene Chloride	1.8	U	2.0	1.8	0.94
91-20-3	Naphthalene	0.80	U	2.0	0.80	0.63
104-51-8	n-Butylbenzene	0.80	U	1.0	0.80	0.48
110-54-3	n-Hexane	0.80	U	2.0	0.80	0.16
103-65-1	N-Propylbenzene	0.80	U	1.0	0.80	0.53
95-49-8	o-Chlorotoluene	0.40	U	1.0	0.40	0.34
106-43-4	p-Chlorotoluene	0.80	U	1.0	0.80	0.21
135-98-8	sec-Butylbenzene	0.80	U	1.0	0.80	0.45
100-42-5	Styrene	0.80	U	1.0	0.80	0.36
98-06-6	tert-Butylbenzene	0.80	U	1.0	0.80	0.42
127-18-4	Tetrachloroethene	0.80	U	1.0	0.80	0.40
108-88-3	Toluene	0.40	U	1.0	0.40	0.32
156-60-5	trans-1,2-Dichloroethylene	0.50	U	1.0	0.50	0.37
10061-02-6	trans-1,3-Dichloropropene	1.8	U	2.0	1.8	0.65
79-01-6	Trichloroethene	0.40	U	1.0	0.40	0.30
75-69-4	Trichlorofluoromethane	0.80	U	2.0	0.80	0.57

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Denver | Job No.: 280-185814-1

SDG No.:

Client Sample ID: TV044-EB011223 | Lab Sample ID: 280-185814-2

Matrix: Water | Lab File ID: X512024.D

Analysis Method: 8260D | Date Collected: 12/14/2023 10:20

Sample wt/vol: 5(mL) | Date Analyzed: 12/19/2023 20:39

Soil Aliquot Vol: | Dilution Factor: 1

Soil Extract Vol.: | GC Column: RXI-624SilMS ID: 0.25(mm)

Purge Volume: 5.0(mL) | Heated Purge: (Y/N) N pH: 5.0

% Moisture: % Solids: | Level: (low/med) Low

Analysis Batch No.: 637903 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
108-05-4	Vinyl acetate	2.0	U	3.0	2.0	0.94
75-01-4	Vinyl chloride	1.0	U	2.0	1.0	0.51
1330-20-7	Xylenes, Total	0.80	U	1.0	0.80	0.33

CAS NO.	SURROGATE	%REC	Q	LIMITS
17060-07-0	1,2-Dichloroethane-d4 (Surr)	104		81-118
460-00-4	4-Bromofluorobenzene (Surr)	91		85-114
1868-53-7	Dibromofluoromethane (Surr)	108		80-119
2037-26-5	Toluene-d8 (Surr)	96		89-112

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET
TARGETED TENATIVELY IDENTIFIED COMPOUNDS

Lab Name: Eurofins Denver | Job No.: 280-185814-1

SDG No.:

Client Sample ID: TV044-EB011223 | Lab Sample ID: 280-185814-2

Matrix: Water | Lab File ID: X512024.D

Analysis Method: 8260D | Date Collected: 12/14/2023 10:20

Sample wt/vol: 5(mL) | Date Analyzed: 12/19/2023 20:39

Soil Aliquot Vol: | Dilution Factor: 1

Soil Extract Vol.: | GC Column: RXI-624SilMS ID: 0.25(mm)

Purge Volume: 5.0(mL) | Heated Purge: (Y/N) N pH: 5.0

% Moisture: % Solids: | Level: (low/med) Low

Analysis Batch No.: 637903 | Units: ug/L

CAS NO.	COMPOUND NAME	RT	RESULT	Q	MATCH QUALITY
106-99-0	1,3-Butadiene TIC		1.0	U	
622-96-8	4-Ethyltoluene TIC		1.0	U	
77-73-6	Dicyclopentadiene TIC		1.0	U	
115-07-1	Propene TIC		1.0	U	

Eurofins Denver
Target Compound Quantitation Report

Data File: \\chromfs\Denver\ChromData\VMS_X4\20231219-128742.b\X512024.D
Lims ID: 280-185814-E-2
Client ID: TV044-EB011223
Sample Type: Client
Inject. Date: 19-Dec-2023 20:39:30 ALS Bottle#: 11 Worklist Smp#: 16
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Sample Info: 280-185814-e-2
Operator ID: CF Instrument ID: VMS_X4

Method: \\chromfs\Denver\ChromData\VMS_X4\20231219-128742.b\VMS_X4_8260.m
Limit Group: MSV - 8260B Water and Solid
Last Update: 20-Dec-2023 03:15:50 Calib Date: 11-Dec-2023 20:50:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Denver\ChromData\VMS_X4\20231211-128477.b\X511702.D

Column 1 : Rxi-624Sil MS (0.25 mm) Det: MS SCAN
Process Host: CTX1617

First Level Reviewer: BX8N Date: 20-Dec-2023 03:07:48

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	OnCol Amt ug/l	Flags
* 1 Fluorobenzene	96	5.199	5.199	0.000	98	1646510	50.0	
* 2 Chlorobenzene-d5	119	7.723	7.730	-0.007	89	455869	50.0	
* 3 1,4-Dichlorobenzene-d4	152	9.947	9.947	0.000	97	779866	50.0	
$ 4 Dibromofluoromethane (Surr)	111	4.691	4.691	0.000	93	455821	54.1	
$ 5 1,2-Dichloroethane-d4 (Surr)	65	4.956	4.956	0.000	0	566642	52.0	
$ 6 Toluene-d8 (Surr)	98	6.458	6.458	0.000	95	1890950	48.2	
$ 7 4-Bromofluorobenzene (Surr)	95	8.817	8.817	0.000	88	675010	45.4	
$ 8 BFB	95	8.817	8.817	0.000	85	675010	NR	
9 Dichlorodifluoromethane	85		1.760				ND	
10 Chloromethane	50		1.939				ND	
11 Vinyl chloride	62		2.039				ND	
12 Bromomethane	94		2.332				ND	7
13 Chloroethane	64		2.425				ND	
15 Propene oxide	58		2.504				ND	
14 Dichlorofluoromethane	67		2.596				ND	
16 Trichlorofluoromethane	101		2.632				ND	
17 Ethanol	45		2.754				ND	
18 Ethyl ether	59		2.847				ND	
19 Acrolein	56		2.961				ND	
20 1,1,2-Trichloro-1,2,2-trifluoroe	151		3.040				ND	
21 1,1-Dichloroethene	96		3.047				ND	
22 Acetone	43	3.068	3.061	0.007	65	2125	0.6613	
23 Isopropyl alcohol	45		3.147				ND	
24 Iodomethane	142		3.169				ND	
25 Carbon disulfide	76		3.233				ND	
26 Acetonitrile	41		3.276				ND	
27 Methyl acetate	43		3.290				ND	
28 3-Chloro-1-propene	41		3.319				ND	
29 Methylene Chloride	84		3.412				ND	
30 2-Methyl-2-propanol	59		3.455				ND	
31 Acrylonitrile	53		3.576				ND	
32 Methyl tert-butyl ether	73		3.598				ND	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	OnCol Amt ug/l	Flags
33 trans-1,2-Dichloroethene	96		3.612				ND	
34 Hexane	57		3.805				ND	
35 Vinyl acetate	43		3.905				ND	
37 Isopropyl ether	87		3.926				ND	
36 1,1-Dichloroethane	63		3.934				ND	
38 2-Chloro-1,3-butadiene	53		3.984				ND	
39 Tert-butyl ethyl ether	59		4.191				ND	
40 2-Butanone (MEK)	43		4.320				ND	
41 Ethyl acetate	43		4.327				ND	
42 cis-1,2-Dichloroethene	96		4.341				ND	
43 2,2-Dichloropropane	77		4.355				ND	
44 Propionitrile	54		4.370				ND	
45 sec-Butyl Alcohol	45		4.420				ND	
46 Methacrylonitrile	41		4.484				ND	
47 Chlorobromomethane	128		4.520				ND	
48 Tetrahydrofuran	42		4.527				ND	
49 Chloroform	83		4.577				ND	
50 1,1,1-Trichloroethane	97		4.720				ND	
51 Cyclohexane	56		4.784				ND	
52 1,1-Dichloropropene	75		4.835				ND	
54 Isobutyl alcohol	41		4.842				ND	
53 Carbon tetrachloride	117		4.842				ND	
55 Benzene	78		4.985				ND	
56 1,2-Dichloroethane	62		5.013				ND	7
57 Tert-amyl methyl ether	73		5.056				ND	
58 n-Heptane	43		5.171				ND	
59 n-Butanol	56		5.335				ND	
60 Trichloroethene	95		5.471				ND	
61 2-Pentanone	43		5.578				ND	
62 Methylcyclohexane	55		5.671				ND	
64 Methyl methacrylate	100		5.678				ND	
63 1,2-Dichloropropane	63		5.678				ND	
65 1,4-Dioxane	88		5.721				ND	
66 Dibromomethane	93		5.750				ND	
67 Dichlorobromomethane	83		5.871				ND	
68 2-Nitropropane	41		6.043				ND	
69 2-Chloroethyl vinyl ether	63		6.072				ND	
70 cis-1,3-Dichloropropene	75		6.222				ND	
71 4-Methyl-2-pentanone (MIBK)	43		6.322				ND	
72 Toluene	91		6.515				ND	
73 trans-1,3-Dichloropropene	75		6.686				ND	
74 Ethyl methacrylate	69		6.701				ND	
75 1,1,2-Trichloroethane	97		6.858				ND	
76 Tetrachloroethene	164		6.951				ND	
77 1,3-Dichloropropane	76		7.008				ND	
78 2-Hexanone	43		7.022				ND	
79 Chlorodibromomethane	129		7.201				ND	
80 Ethylene Dibromide	107		7.323				ND	
81 1-Chlorohexane	91		7.709				ND	7
82 Chlorobenzene	112		7.752				ND	
83 1,1,1,2-Tetrachloroethane	131		7.823				ND	
84 Ethylbenzene	106		7.830				ND	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	OnCol Amt ug/l	Flags
85 m-Xylene & p-Xylene	106		7.945				ND	
86 o-Xylene	106		8.302				ND	
87 Styrene	104		8.324				ND	
88 Bromoform	173		8.503				ND	
89 Isopropylbenzene	105		8.646				ND	
90 cis-1,4-Dichloro-2-butene	53		8.696				ND	
91 Cyclohexanone	55		8.746				ND	U
92 1,1,2,2-Tetrachloroethane	83		8.932				ND	
93 Bromobenzene	156		8.967				ND	
94 trans-1,4-Dichloro-2-butene	53		8.967				ND	
95 1,2,3-Trichloropropane	110		8.996				ND	
96 N-Propylbenzene	120		9.046				ND	
97 2-Chlorotoluene	126		9.146				ND	
98 1,3,5-Trimethylbenzene	105		9.218				ND	
99 4-Chlorotoluene	126		9.261				ND	
101 Pentachloroethane	167		9.411				ND	
100 tert-Butylbenzene	119		9.525				ND	
102 1,2,4-Trimethylbenzene	105		9.582				ND	
103 sec-Butylbenzene	134		9.747				ND	
104 1,3-Dichlorobenzene	146		9.875				ND	
105 4-Isopropyltoluene	119		9.890				ND	
106 1,4-Dichlorobenzene	146		9.976				ND	
107 1,2,3-Trimethylbenzene	105		9.990				ND	
108 n-Butylbenzene	91		10.297				ND	
109 1,2-Dichlorobenzene	146		10.333				ND	
110 1,2-Dibromo-3-Chloropropane	157		11.112				ND	
111 1,3,5-Trichlorobenzene	180		11.298				ND	
112 1,2,4-Trichlorobenzene	180		11.935				ND	
113 Hexachlorobutadiene	225		12.071				ND	
114 Naphthalene	128		12.206				ND	
115 1,2,3-Trichlorobenzene	180		12.428				ND	
116 Ethylene oxide TIC	1		0.000				ND	
117 t-Amyl alcohol	1		0.000				ND	
118 Ethyl acrylate	55		0.000				ND	
119 1-Chloro-1-fluoroethane TIC	1		0.000				ND	
120 Tetrahydrothiophene TIC	1		0.000				ND	
121 Propene oxide TIC	58		5.334				ND	
S 122 1,2-Dichloroethene, Total (URS)	96		2.000				ND	7
S 129 1,2-Dichloroethene, Total	1		0.000				ND	7
S 124 1,3-Dichloropropene, Total	1		0.000				ND	7
S 123 Xylenes, Total (URS)	1		0.000				ND	7
S 127 Trihalomethanes, Total	1		0.000				ND	7
S 126 Total BTEX	1		0.000				ND	7
S 128 TAH	1				0		0	
S 125 Xylenes, Total	106		0.000				ND	7
T 130 Dichloroacetonitrile TIC	74		1.000				ND	
T 132 1-Chlorohexane TIC	1		0.000				ND	
T 131 Methyl cyclohexane TIC	1		0.000				ND	
T 140 2,3-Dichloro-1-propene TIC	75		0.000				ND	
T 139 Propene TIC	1		0.000				ND	
T 138 n-Nonane TIC	1		0.000				ND	
T 137 1,3-Butadiene TIC	1		0.000				ND	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	OnCol Amt ug/l	Flags
T 136 Cyclohexane TIC	1		0.000				ND	
T 135 4-Ethyltoluene TIC	1		0.000				ND	
T 134 2-Butoxyethanol TIC	1		0.000				ND	
T 133 Dicyclopentadiene TIC	1		0.000				ND	

QC Flag Legend

Processing Flags
- NR - Missing Quant Standard
- 7 - Failed Limit of Detection

Review Flags
- U - Marked Undetected

Reagents:

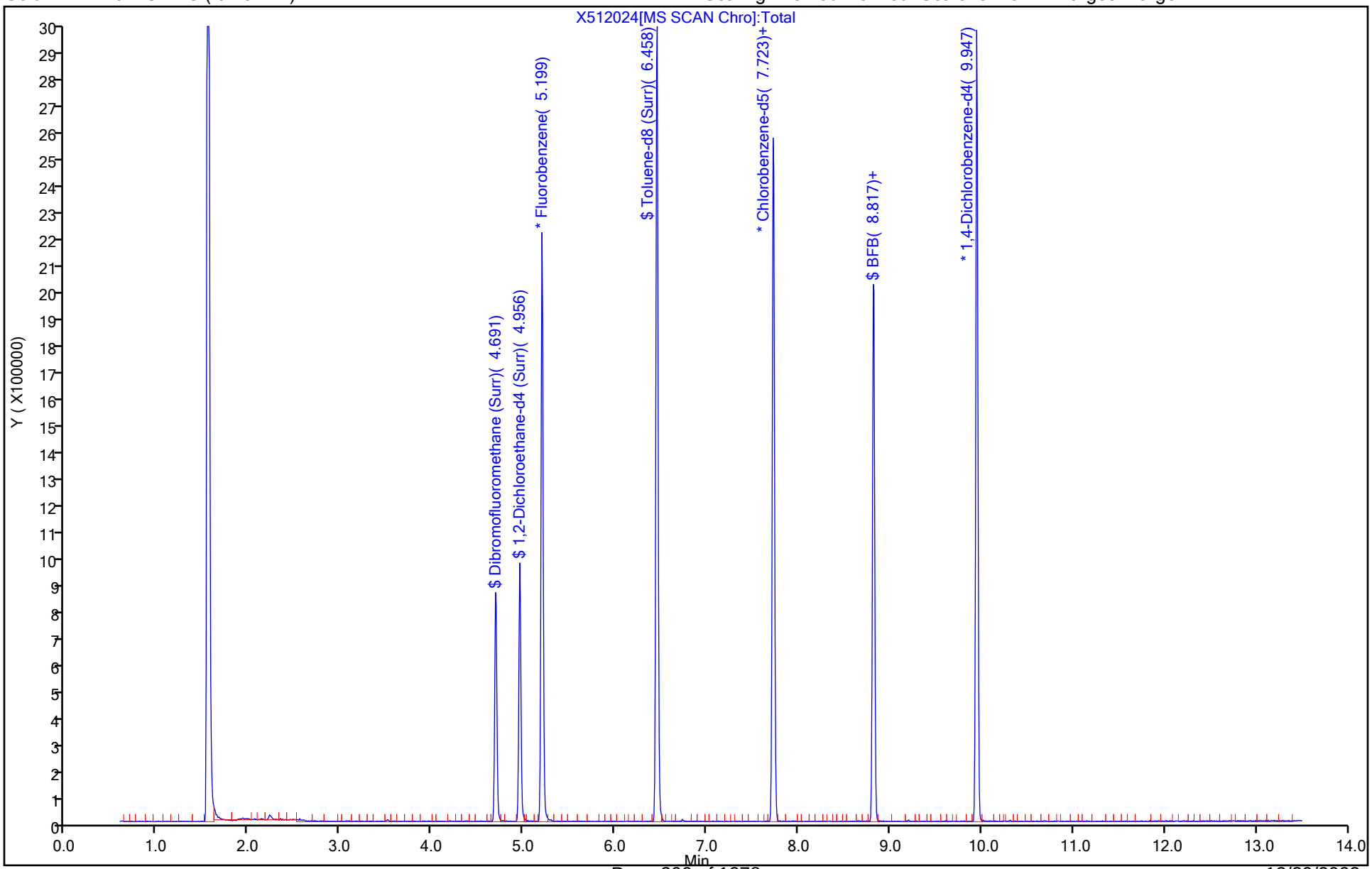
mv-IS_SS_00074 Amount Added: 5.00 Units: uL Run Reagent

Report Date: 20-Dec-2023 03:15:57 Chrom Revision: 2.3 15-Nov-2023 20:54:34

Eurofins Denver

Data File:	\\chromfs\Denver\ChromData\VMS_X4\20231219-128742.b\X512024.D				
Injection Date:	19-Dec-2023 20:39:30	Instrument ID:	VMS_X4	Operator ID:	CF
Lims ID:	280-185814-E-2	Lab Sample ID:	280-185814-2	Worklist Smp#:	16
Client ID:	TV044-EB011223				
Purge Vol:	5.000 mL	Dil. Factor:	1.0000	ALS Bottle#:	11
Method:	VMS_X4_8260	Limit Group:	MSV - 8260B Water and Solid		

Column: Rxi-624Sil MS (0.25 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 1



Eurofins Denver
Recovery Report

Data File: \\chromfs\Denver\ChromData\VMS_X4\20231219-128742.b\X512024.D
Lims ID: 280-185814-E-2
Client ID: TV044-EB011223
Sample Type: Client
Inject. Date: 19-Dec-2023 20:39:30 ALS Bottle#: 11 Worklist Smp#: 16
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Sample Info: 280-185814-e-2
Operator ID: CF Instrument ID: VMS_X4

Method: \\chromfs\Denver\ChromData\VMS_X4\20231219-128742.b\VMS_X4_8260.m
Limit Group: MSV - 8260B Water and Solid
Last Update: 20-Dec-2023 03:15:50 Calib Date: 11-Dec-2023 20:50:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Denver\ChromData\VMS_X4\20231211-128477.b\X511702.D

Column 1 : Rxi-624Sil MS (0.25 mm) Det: MS SCAN
Process Host: CTX1617

First Level Reviewer: BX8N Date: 20-Dec-2023 03:07:48

Compound	Amount Added	Amount Recovered	% Rec.
$ 4 Dibromofluoromethane (Surr)	50.0	54.1	108.23
$ 5 1,2-Dichloroethane-d4 (Surr)	50.0	52.0	104.03
$ 6 Toluene-d8 (Surr)	50.0	48.2	96.36
$ 7 4-Bromofluorobenzene (Surr)	50.0	45.4	90.70

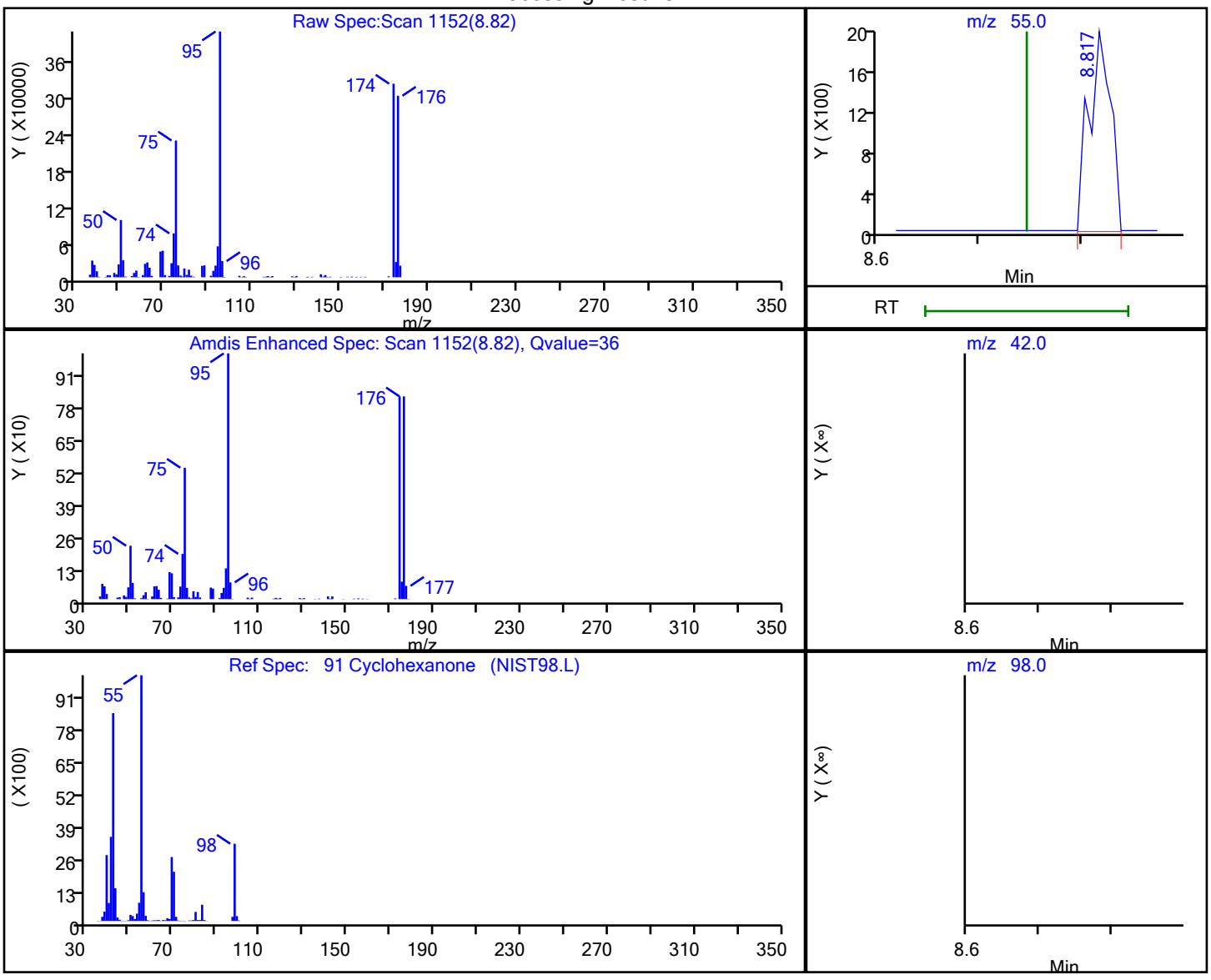
User Disabled Compound Report

Eurofins Denver

Data File:	\\chromfs\Denver\ChromData\VMS_X4\20231219-128742.b\X512024.D				
Injection Date:	19-Dec-2023 20:39:30	Instrument ID:	VMS_X4		
Lims ID:	280-185814-E-2	Lab Sample ID:	280-185814-2		
Client ID:	TV044-EB011223				
Operator ID:	CF	ALS Bottle#:	11	Worklist Smp#:	16
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	VMS_X4_8260	Limit Group:	MSV - 8260B Water and Solid		
Column:	Rxi-624Sil MS (0.25 mm)	Detector	MS SCAN		

91 Cyclohexanone, CAS: 108-94-1

Processing Results



RT	Mass	Response	Amount
8.82	55.00	2964	6.361597
8.75	42.00	0	
8.75	98.00	0	

Reviewer: BX8N, 20-Dec-2023 03:07:46 -07:00:00 (UTC)

Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Denver | Job No.: 280-185814-1

SDG No.:

Client Sample ID: TV044-MW81223A | Lab Sample ID: 280-185814-3

Matrix: Water | Lab File ID: X512030.D

Analysis Method: 8260D | Date Collected: 12/14/2023 10:30

Sample wt/vol: 5(mL) | Date Analyzed: 12/19/2023 22:49

Soil Aliquot Vol: | Dilution Factor: 1

Soil Extract Vol.: | GC Column: RXI-624SilMS ID: 0.25(mm)

Purge Volume: 5.0(mL) | Heated Purge: (Y/N) N pH: 6.0

% Moisture: % Solids: | Level: (low/med) Low

Analysis Batch No.: 637903 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
71-55-6	1,1,1-Trichloroethane	0.50	U	1.0	0.50	0.39
79-34-5	1,1,2,2-Tetrachloroethane	0.80	U	1.0	0.80	0.21
79-00-5	1,1,2-Trichloroethane	0.80	U	1.0	0.80	0.27
75-34-3	1,1-Dichloroethane	0.80	U	1.0	0.80	0.22
75-35-4	1,1-Dichloroethylene	0.80	U	1.0	0.80	0.23
563-58-6	1,1-Dichloropropene	0.80	U	1.0	0.80	0.42
87-61-6	1,2,3-Trichlorobenzene	0.80	U	2.0	0.80	0.70
96-18-4	1,2,3-Trichloropropane	1.8	U	2.5	1.8	0.86
526-73-8	1,2,3-Trimethylbenzene	0.80	U	2.0	0.80	0.27
120-82-1	1,2,4-Trichlorobenzene	0.80	U	1.0	0.80	0.58
95-63-6	1,2,4-Trimethylbenzene	0.40	U	1.0	0.40	0.15
96-12-8	1,2-Dibromo-3-Chloropropane	4.0	U	5.0	4.0	1.8
106-93-4	1,2-Dibromoethane	0.80	U	1.0	0.80	0.40
95-50-1	1,2-Dichlorobenzene	0.50	U	1.0	0.50	0.37
107-06-2	1,2-Dichloroethane	0.80	U	1.0	0.80	0.54
78-87-5	1,2-Dichloropropane	0.80	U	1.0	0.80	0.52
108-67-8	1,3,5-Trimethylbenzene	0.50	U	1.0	0.50	0.37
541-73-1	1,3-Dichlorobenzene	0.40	U	1.0	0.40	0.33
142-28-9	1,3-Dichloropropane	0.80	U	1.0	0.80	0.38
106-46-7	1,4-Dichlorobenzene	0.50	U	1.0	0.50	0.39
594-20-7	2,2-Dichloropropane	0.80	U	1.0	0.80	0.38
78-93-3	2-Butanone (MEK)	12	U	15	12	6.0
110-75-8	2-Chloroethyl vinyl ether	0.80	U	3.0	0.80	0.44
591-78-6	2-Hexanone	4.0	U	5.0	4.0	1.7
99-87-6	4-Isopropyltoluene	0.80	U	1.0	0.80	0.43
108-10-1	4-Methyl-2-pentanone (MIBK)	3.2	U	5.0	3.2	0.98
67-64-1	Acetone	8.0	U	15	8.0	6.6
107-13-1	Acrylonitrile	8.0	U	20	8.0	4.5
71-43-2	Benzene	0.80	U	1.0	0.80	0.31
108-86-1	Bromobenzene	0.50	U	1.0	0.50	0.40
74-97-5	Bromochloromethane	0.80	U	1.0	0.80	0.40
75-27-4	Bromodichloromethane	0.50	U	1.0	0.50	0.39
75-25-2	Bromoform	1.8	U	2.0	1.8	1.2
75-15-0	Carbon disulfide	0.80	U	2.0	0.80	0.63

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Denver | Job No.: 280-185814-1

SDG No.:

Client Sample ID: TV044-MW81223A | Lab Sample ID: 280-185814-3

Matrix: Water | Lab File ID: X512030.D

Analysis Method: 8260D | Date Collected: 12/14/2023 10:30

Sample wt/vol: 5(mL) | Date Analyzed: 12/19/2023 22:49

Soil Aliquot Vol: | Dilution Factor: 1

Soil Extract Vol.: | GC Column: RXI-624SilMS ID: 0.25(mm)

Purge Volume: 5.0(mL) | Heated Purge: (Y/N) N pH: 6.0

% Moisture: % Solids: | Level: (low/med) Low

Analysis Batch No.: 637903 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
56-23-5	Carbon tetrachloride	0.80	U	1.0	0.80	0.57
108-90-7	Chlorobenzene	0.80	U	1.0	0.80	0.42
75-00-3	Chloroethane	1.6	U	4.0	1.6	1.4
67-66-3	Chloroform	0.80	U	1.0	0.80	0.36
74-87-3	Chloromethane	1.0	U	2.0	1.0	0.75
156-59-2	cis-1,2-Dichloroethylene	0.40	U	1.0	0.40	0.32
10061-01-5	cis-1,3-Dichloropropene	1.8	U	2.0	1.8	0.63
110-82-7	Cyclohexane	0.80	U	1.0	0.80	0.44
108-94-1	Cyclohexanone	64	U M Q	100	64	32
124-48-1	Dibromochloromethane	1.8	U	2.0	1.8	0.62
74-95-3	Dibromomethane	0.40	U	1.0	0.40	0.34
75-71-8	Dichlorodifluoromethane	2.5	U	3.0	2.5	0.96
100-41-4	Ethylbenzene	0.40	U	1.0	0.40	0.30
87-68-3	Hexachlorobutadiene	1.8	U	2.0	1.8	1.2
108-20-3	Isopropyl ether	2.0	U	10	2.0	1.1
98-82-8	Isopropylbenzene	0.50	U	1.0	0.50	0.36
1634-04-4	Methyl tert-butyl ether	0.80	U	5.0	0.80	0.25
108-87-2	Methylcyclohexane	0.40	U	1.0	0.40	0.31
75-09-2	Methylene Chloride	1.8	U	2.0	1.8	0.94
91-20-3	Naphthalene	0.80	U	2.0	0.80	0.63
104-51-8	n-Butylbenzene	0.80	U	1.0	0.80	0.48
110-54-3	n-Hexane	0.80	U	2.0	0.80	0.16
103-65-1	N-Propylbenzene	0.80	U	1.0	0.80	0.53
95-49-8	o-Chlorotoluene	0.40	U	1.0	0.40	0.34
106-43-4	p-Chlorotoluene	0.80	U	1.0	0.80	0.21
135-98-8	sec-Butylbenzene	0.80	U	1.0	0.80	0.45
100-42-5	Styrene	0.80	U	1.0	0.80	0.36
98-06-6	tert-Butylbenzene	0.80	U	1.0	0.80	0.42
127-18-4	Tetrachloroethene	0.80	U	1.0	0.80	0.40
108-88-3	Toluene	0.40	U	1.0	0.40	0.32
156-60-5	trans-1,2-Dichloroethylene	0.50	U	1.0	0.50	0.37
10061-02-6	trans-1,3-Dichloropropene	1.8	U	2.0	1.8	0.65
79-01-6	Trichloroethene	0.40	U	1.0	0.40	0.30
75-69-4	Trichlorofluoromethane	0.80	U	2.0	0.80	0.57

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Denver | Job No.: 280-185814-1

SDG No.:

Client Sample ID: TV044-MW81223A | Lab Sample ID: 280-185814-3

Matrix: Water | Lab File ID: X512030.D

Analysis Method: 8260D | Date Collected: 12/14/2023 10:30

Sample wt/vol: 5(mL) | Date Analyzed: 12/19/2023 22:49

Soil Aliquot Vol: | Dilution Factor: 1

Soil Extract Vol.: | GC Column: RXI-624SilMS ID: 0.25(mm)

Purge Volume: 5.0(mL) | Heated Purge: (Y/N) N pH: 6.0

% Moisture: % Solids: | Level: (low/med) Low

Analysis Batch No.: 637903 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
108-05-4	Vinyl acetate	2.0	U	3.0	2.0	0.94
75-01-4	Vinyl chloride	1.0	U	2.0	1.0	0.51
1330-20-7	Xylenes, Total	0.80	U	1.0	0.80	0.33

CAS NO.	SURROGATE	%REC	Q	LIMITS
17060-07-0	1,2-Dichloroethane-d4 (Surr)	104		81-118
460-00-4	4-Bromofluorobenzene (Surr)	89		85-114
1868-53-7	Dibromofluoromethane (Surr)	109		80-119
2037-26-5	Toluene-d8 (Surr)	97		89-112

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET
TARGETED TENATIVELY IDENTIFIED COMPOUNDS

Lab Name: Eurofins Denver | Job No.: 280-185814-1

SDG No.:

Client Sample ID: TV044-MW81223A | Lab Sample ID: 280-185814-3

Matrix: Water | Lab File ID: X512030.D

Analysis Method: 8260D | Date Collected: 12/14/2023 10:30

Sample wt/vol: 5(mL) | Date Analyzed: 12/19/2023 22:49

Soil Aliquot Vol: | Dilution Factor: 1

Soil Extract Vol.: | GC Column: RXI-624SilMS ID: 0.25(mm)

Purge Volume: 5.0(mL) | Heated Purge: (Y/N) N pH: 6.0

% Moisture: % Solids: | Level: (low/med) Low

Analysis Batch No.: 637903 | Units: ug/L

CAS NO.	COMPOUND NAME	RT	RESULT	Q	MATCH QUALITY
106-99-0	1,3-Butadiene TIC		1.0	U	
622-96-8	4-Ethyltoluene TIC		1.0	U	
77-73-6	Dicyclopentadiene TIC		1.0	U	
115-07-1	Propene TIC		1.0	U	

Eurofins Denver
Target Compound Quantitation Report

Data File: \\chromfs\Denver\ChromData\VMS_X4\20231219-128742.b\X512030.D
Lims ID: 280-185814-E-3
Client ID: TV044-MW81223A
Sample Type: Client
Inject. Date: 19-Dec-2023 22:49:30 ALS Bottle#: 17 Worklist Smp#: 22
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Sample Info: 280-185814-e-3
Operator ID: CF Instrument ID: VMS_X4

Method: \\chromfs\Denver\ChromData\VMS_X4\20231219-128742.b\VMS_X4_8260.m
Limit Group: MSV - 8260B Water and Solid
Last Update: 20-Dec-2023 03:15:50 Calib Date: 11-Dec-2023 20:50:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Denver\ChromData\VMS_X4\20231211-128477.b\X511702.D

Column 1 : Rxi-624Sil MS (0.25 mm) Det: MS SCAN
Process Host: CTX1617

First Level Reviewer: BX8N Date: 20-Dec-2023 03:10:15

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	OnCol Amt ug/l	Flags
* 1 Fluorobenzene	96	5.199	5.199	0.000	98	1607939	50.0	
* 2 Chlorobenzene-d5	119	7.730	7.730	0.000	89	444098	50.0	
* 3 1,4-Dichlorobenzene-d4	152	9.947	9.947	0.000	97	776739	50.0	
$ 4 Dibromofluoromethane (Surr)	111	4.692	4.691	0.001	93	449970	54.7	
$ 5 1,2-Dichloroethane-d4 (Surr)	65	4.956	4.956	0.000	0	555501	52.2	
$ 6 Toluene-d8 (Surr)	98	6.458	6.458	0.000	94	1850437	48.4	
$ 7 4-Bromofluorobenzene (Surr)	95	8.817	8.817	0.000	88	660297	44.5	
$ 8 BFB	95	8.817	8.817	0.000	86	660297	NR	
9 Dichlorodifluoromethane	85		1.760				ND	
10 Chloromethane	50		1.939				ND	
11 Vinyl chloride	62		2.039				ND	
12 Bromomethane	94		2.332				ND	
13 Chloroethane	64		2.425				ND	
15 Propene oxide	58		2.504				ND	
14 Dichlorofluoromethane	67		2.596				ND	
16 Trichlorofluoromethane	101		2.632				ND	
17 Ethanol	45		2.754				ND	
18 Ethyl ether	59		2.847				ND	
19 Acrolein	56		2.961				ND	
20 1,1,2-Trichloro-1,2,2-trifluoroe	151		3.040				ND	
21 1,1-Dichloroethene	96		3.047				ND	
22 Acetone	43	3.069	3.061	0.008	70	3375	1.08	
23 Isopropyl alcohol	45		3.147				ND	
24 Iodomethane	142		3.169				ND	
25 Carbon disulfide	76		3.233				ND	
26 Acetonitrile	41		3.276				ND	
27 Methyl acetate	43		3.290				ND	
28 3-Chloro-1-propene	41		3.319				ND	
29 Methylene Chloride	84		3.412				ND	
30 2-Methyl-2-propanol	59		3.455				ND	
31 Acrylonitrile	53		3.576				ND	
32 Methyl tert-butyl ether	73		3.598				ND	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	OnCol Amt ug/l	Flags
33 trans-1,2-Dichloroethene	96		3.612				ND	
34 Hexane	57		3.805				ND	
35 Vinyl acetate	43		3.905				ND	
37 Isopropyl ether	87		3.926				ND	
36 1,1-Dichloroethane	63		3.934				ND	
38 2-Chloro-1,3-butadiene	53		3.984				ND	
39 Tert-butyl ethyl ether	59		4.191				ND	
40 2-Butanone (MEK)	43		4.320				ND	
41 Ethyl acetate	43		4.327				ND	
42 cis-1,2-Dichloroethene	96		4.341				ND	
43 2,2-Dichloropropane	77		4.355				ND	
44 Propionitrile	54		4.370				ND	
45 sec-Butyl Alcohol	45		4.420				ND	
46 Methacrylonitrile	41		4.484				ND	
47 Chlorobromomethane	128		4.520				ND	
48 Tetrahydrofuran	42		4.527				ND	
49 Chloroform	83		4.577				ND	
50 1,1,1-Trichloroethane	97		4.720				ND	
51 Cyclohexane	56		4.784				ND	
52 1,1-Dichloropropene	75		4.835				ND	
54 Isobutyl alcohol	41		4.842				ND	
53 Carbon tetrachloride	117		4.842				ND	
55 Benzene	78		4.985				ND	
56 1,2-Dichloroethane	62		5.013				ND	7
57 Tert-amyl methyl ether	73		5.056				ND	
58 n-Heptane	43		5.171				ND	
59 n-Butanol	56		5.335				ND	
60 Trichloroethene	95		5.471				ND	
61 2-Pentanone	43		5.578				ND	
62 Methylcyclohexane	55		5.671				ND	
64 Methyl methacrylate	100		5.678				ND	
63 1,2-Dichloropropane	63		5.678				ND	
65 1,4-Dioxane	88		5.721				ND	
66 Dibromomethane	93		5.750				ND	
67 Dichlorobromomethane	83		5.871				ND	
68 2-Nitropropane	41		6.043				ND	
69 2-Chloroethyl vinyl ether	63		6.072				ND	
70 cis-1,3-Dichloropropene	75		6.222				ND	
71 4-Methyl-2-pentanone (MIBK)	43		6.322				ND	
72 Toluene	91		6.515				ND	
73 trans-1,3-Dichloropropene	75		6.686				ND	
74 Ethyl methacrylate	69		6.701				ND	
75 1,1,2-Trichloroethane	97		6.858				ND	
76 Tetrachloroethene	164		6.951				ND	
77 1,3-Dichloropropane	76		7.008				ND	
78 2-Hexanone	43		7.022				ND	
79 Chlorodibromomethane	129		7.201				ND	
80 Ethylene Dibromide	107		7.323				ND	
81 1-Chlorohexane	91		7.709				ND	U
82 Chlorobenzene	112		7.752				ND	
83 1,1,1,2-Tetrachloroethane	131		7.823				ND	
84 Ethylbenzene	106		7.830				ND	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	OnCol Amt ug/l	Flags
85 m-Xylene & p-Xylene	106		7.945				ND	
86 o-Xylene	106		8.302				ND	
87 Styrene	104		8.324				ND	
88 Bromoform	173		8.503				ND	
89 Isopropylbenzene	105		8.646				ND	
90 cis-1,4-Dichloro-2-butene	53		8.696				ND	
91 Cyclohexanone	55		8.746				ND	U
92 1,1,2,2-Tetrachloroethane	83		8.932				ND	
93 Bromobenzene	156		8.967				ND	
94 trans-1,4-Dichloro-2-butene	53		8.967				ND	
95 1,2,3-Trichloropropane	110		8.996				ND	
96 N-Propylbenzene	120		9.046				ND	
97 2-Chlorotoluene	126		9.146				ND	
98 1,3,5-Trimethylbenzene	105		9.218				ND	
99 4-Chlorotoluene	126		9.261				ND	
101 Pentachloroethane	167		9.411				ND	
100 tert-Butylbenzene	119		9.525				ND	
102 1,2,4-Trimethylbenzene	105		9.582				ND	
103 sec-Butylbenzene	134		9.747				ND	
104 1,3-Dichlorobenzene	146		9.875				ND	
105 4-Isopropyltoluene	119		9.890				ND	
106 1,4-Dichlorobenzene	146		9.976				ND	
107 1,2,3-Trimethylbenzene	105		9.990				ND	
108 n-Butylbenzene	91		10.297				ND	
109 1,2-Dichlorobenzene	146		10.333				ND	
110 1,2-Dibromo-3-Chloropropane	157		11.112				ND	
111 1,3,5-Trichlorobenzene	180		11.298				ND	
112 1,2,4-Trichlorobenzene	180		11.935				ND	
113 Hexachlorobutadiene	225		12.071				ND	
114 Naphthalene	128		12.206				ND	
115 1,2,3-Trichlorobenzene	180		12.428				ND	
116 Ethylene oxide TIC	1		0.000				ND	
117 t-Amyl alcohol	1		0.000				ND	
118 Ethyl acrylate	55		0.000				ND	
119 1-Chloro-1-fluoroethane TIC	1		0.000				ND	
120 Tetrahydrothiophene TIC	1		0.000				ND	
121 Propene oxide TIC	58		5.334				ND	
S 122 1,2-Dichloroethene, Total (URS)	96		2.000				ND	7
S 129 1,2-Dichloroethene, Total	1		0.000				ND	7
S 124 1,3-Dichloropropene, Total	1		0.000				ND	7
S 123 Xylenes, Total (URS)	1		0.000				ND	7
S 127 Trihalomethanes, Total	1		0.000				ND	7
S 126 Total BTEX	1		0.000				ND	7
S 128 TAH	1				0		0	
S 125 Xylenes, Total	106		0.000				ND	7
T 130 Dichloroacetonitrile TIC	74		1.000				ND	
T 132 1-Chlorohexane TIC	1		0.000				ND	
T 131 Methyl cyclohexane TIC	1		0.000				ND	
T 140 2,3-Dichloro-1-propene TIC	75		0.000				ND	
T 139 Propene TIC	1		0.000				ND	
T 138 n-Nonane TIC	1		0.000				ND	
T 137 1,3-Butadiene TIC	1		0.000				ND	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	OnCol Amt ug/l	Flags
T 136 Cyclohexane TIC	1		0.000				ND	
T 135 4-Ethyltoluene TIC	1		0.000				ND	
T 134 2-Butoxyethanol TIC	1		0.000				ND	
T 133 Dicyclopentadiene TIC	1		0.000				ND	

QC Flag Legend

Processing Flags
- NR - Missing Quant Standard
- 7 - Failed Limit of Detection

Review Flags
- U - Marked Undetected

Reagents:

mv-IS_SS_00074 Amount Added: 5.00 Units: uL Run Reagent

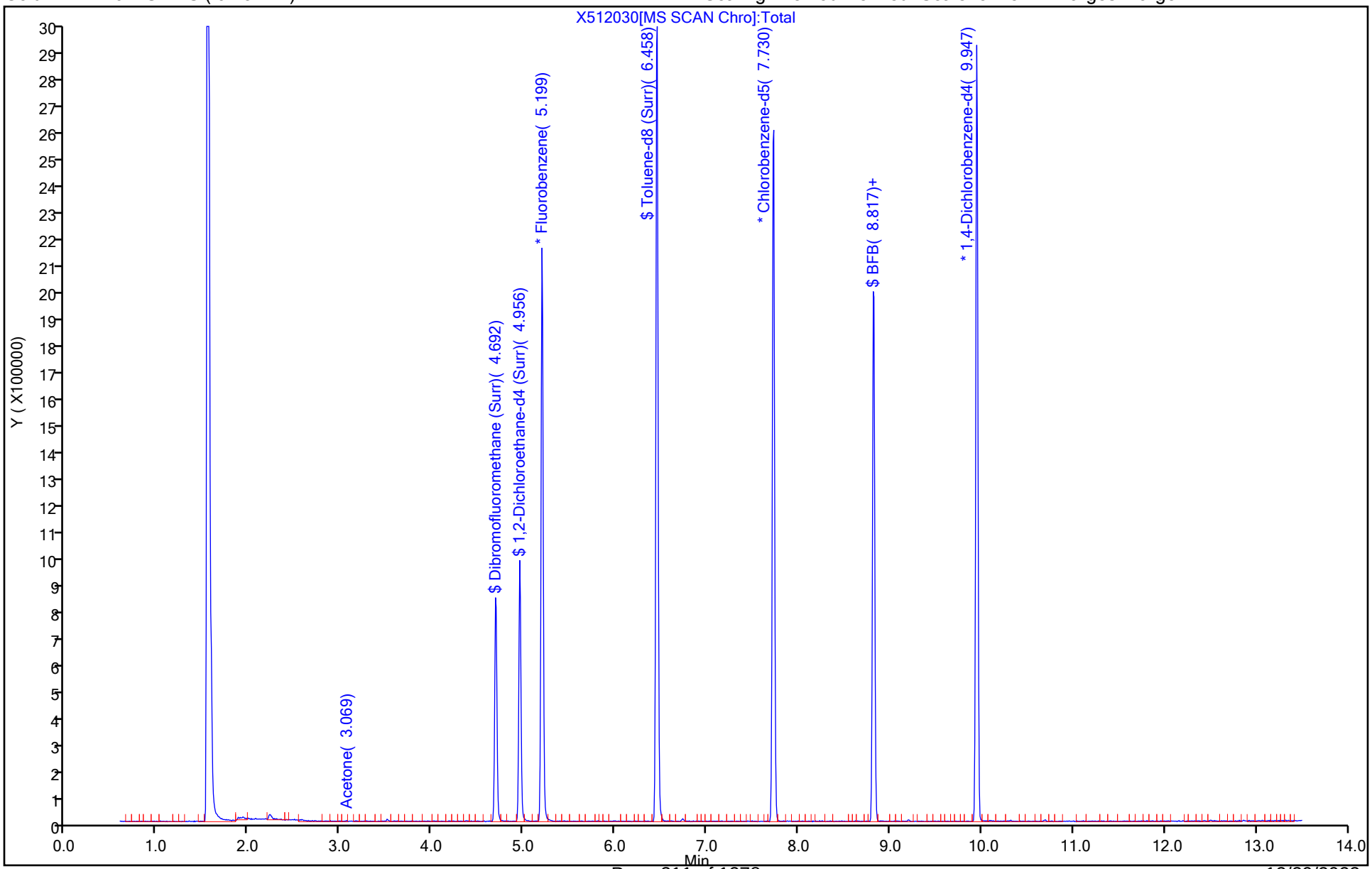
Report Date: 20-Dec-2023 03:16:07 Chrom Revision: 2.3 15-Nov-2023 20:54:34

Eurofins Denver

Data File: \\chromfs\Denver\ChromData\VMS_X4\20231219-128742.b\X512030.D

Injection Date:	19-Dec-2023 22:49:30	Instrument ID:	VMS_X4	Operator ID:	CF
Lims ID:	280-185814-E-3	Lab Sample ID:	280-185814-3	Worklist Smp#:	22
Client ID:	TV044-MW81223A				
Purge Vol:	5.000 mL	Dil. Factor:	1.0000	ALS Bottle#:	17
Method:	VMS_X4_8260	Limit Group:	MSV - 8260B Water and Solid		

Column: Rxi-624Sil MS (0.25 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 1



Eurofins Denver
Recovery Report

Data File: \\chromfs\Denver\ChromData\VMS_X4\20231219-128742.b\X512030.D
Lims ID: 280-185814-E-3
Client ID: TV044-MW81223A
Sample Type: Client
Inject. Date: 19-Dec-2023 22:49:30 ALS Bottle#: 17 Worklist Smp#: 22
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Sample Info: 280-185814-e-3
Operator ID: CF Instrument ID: VMS_X4

Method: \\chromfs\Denver\ChromData\VMS_X4\20231219-128742.b\VMS_X4_8260.m
Limit Group: MSV - 8260B Water and Solid
Last Update: 20-Dec-2023 03:15:50 Calib Date: 11-Dec-2023 20:50:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Denver\ChromData\VMS_X4\20231211-128477.b\X511702.D

Column 1 : Rxi-624Sil MS (0.25 mm) Det: MS SCAN
Process Host: CTX1617

First Level Reviewer: BX8N Date: 20-Dec-2023 03:10:15

Compound	Amount Added	Amount Recovered	% Rec.
$ 4 Dibromofluoromethane (Surr)	50.0	54.7	109.40
$ 5 1,2-Dichloroethane-d4 (Surr)	50.0	52.2	104.43
$ 6 Toluene-d8 (Surr)	50.0	48.4	96.79
$ 7 4-Bromofluorobenzene (Surr)	50.0	44.5	89.08

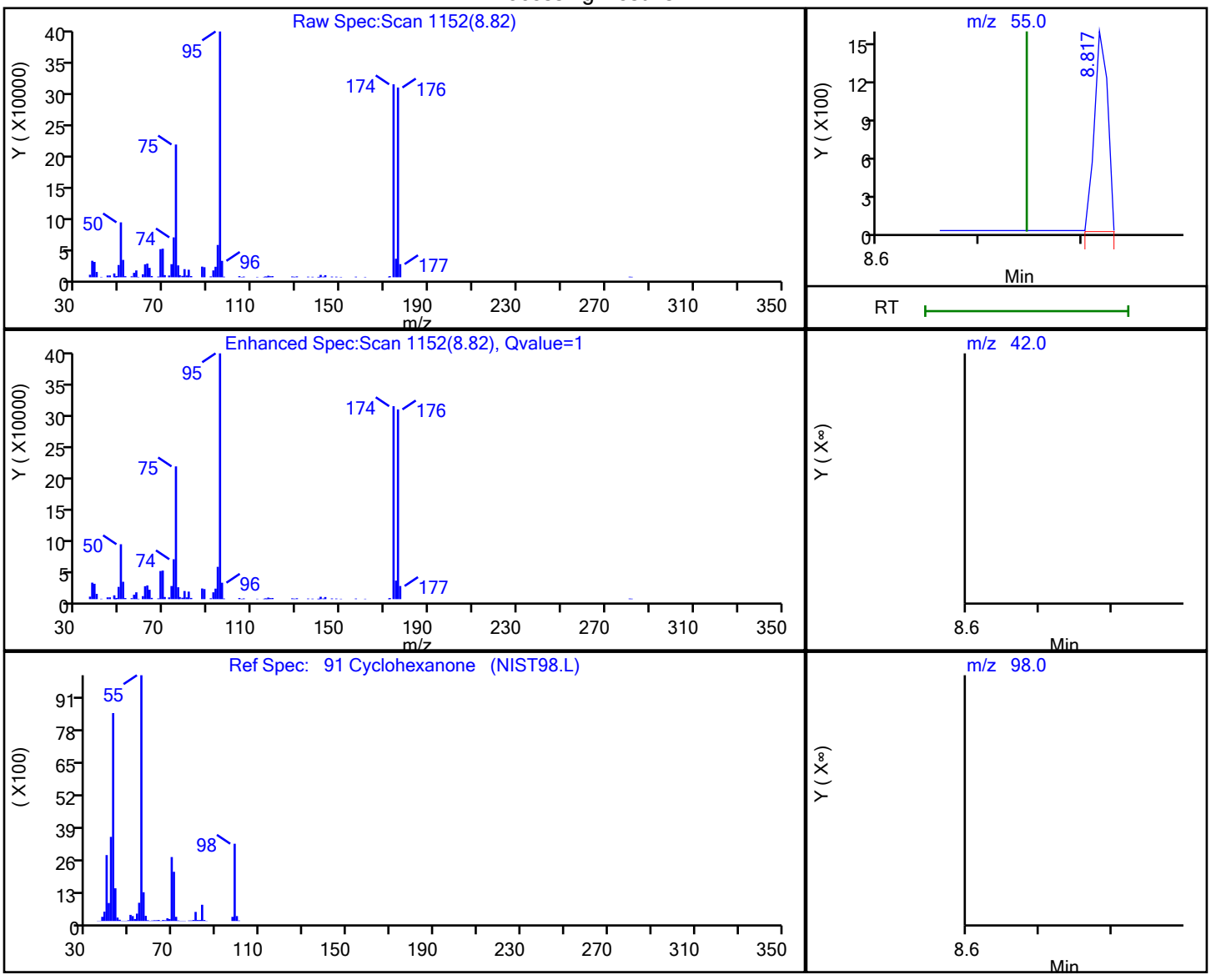
User Disabled Compound Report

Eurofins Denver

Data File:	\\chromfs\Denver\ChromData\VMS_X4\20231219-128742.b\X512030.D				
Injection Date:	19-Dec-2023 22:49:30	Instrument ID:	VMS_X4		
Lims ID:	280-185814-E-3	Lab Sample ID:	280-185814-3		
Client ID:	TV044-MW81223A				
Operator ID:	CF	ALS Bottle#:	17	Worklist Smp#:	22
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	VMS_X4_8260	Limit Group:	MSV - 8260B Water and Solid		
Column:	Rxi-624Sil MS (0.25 mm)	Detector	MS SCAN		

91 Cyclohexanone, CAS: 108-94-1

Processing Results



RT	Mass	Response	Amount
8.82	55.00	1377	3.033773
8.75	42.00	0	
8.75	98.00	0	

Reviewer: BX8N, 20-Dec-2023 03:10:03 -07:00:00 (UTC)

Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Denver | Job No.: 280-185814-1

SDG No.:

Client Sample ID: TV044-MW141223A | Lab Sample ID: 280-185814-4

Matrix: Water | Lab File ID: X512031.D

Analysis Method: 8260D | Date Collected: 12/14/2023 11:10

Sample wt/vol: 5(mL) | Date Analyzed: 12/19/2023 23:10

Soil Aliquot Vol: | Dilution Factor: 1

Soil Extract Vol.: | GC Column: RXI-624SilMS ID: 0.25(mm)

Purge Volume: 5.0(mL) | Heated Purge: (Y/N) N pH: 6.0

% Moisture: % Solids: | Level: (low/med) Low

Analysis Batch No.: 637903 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
71-55-6	1,1,1-Trichloroethane	0.50	U	1.0	0.50	0.39
79-34-5	1,1,2,2-Tetrachloroethane	0.80	U	1.0	0.80	0.21
79-00-5	1,1,2-Trichloroethane	0.80	U	1.0	0.80	0.27
75-34-3	1,1-Dichloroethane	0.80	U	1.0	0.80	0.22
75-35-4	1,1-Dichloroethylene	0.80	U	1.0	0.80	0.23
563-58-6	1,1-Dichloropropene	0.80	U	1.0	0.80	0.42
87-61-6	1,2,3-Trichlorobenzene	0.80	U	2.0	0.80	0.70
96-18-4	1,2,3-Trichloropropane	1.8	U	2.5	1.8	0.86
526-73-8	1,2,3-Trimethylbenzene	0.80	U	2.0	0.80	0.27
120-82-1	1,2,4-Trichlorobenzene	0.80	U	1.0	0.80	0.58
95-63-6	1,2,4-Trimethylbenzene	0.40	U	1.0	0.40	0.15
96-12-8	1,2-Dibromo-3-Chloropropane	4.0	U	5.0	4.0	1.8
106-93-4	1,2-Dibromoethane	0.80	U	1.0	0.80	0.40
95-50-1	1,2-Dichlorobenzene	0.50	U	1.0	0.50	0.37
107-06-2	1,2-Dichloroethane	0.80	U	1.0	0.80	0.54
78-87-5	1,2-Dichloropropane	0.80	U	1.0	0.80	0.52
108-67-8	1,3,5-Trimethylbenzene	0.50	U	1.0	0.50	0.37
541-73-1	1,3-Dichlorobenzene	0.40	U	1.0	0.40	0.33
142-28-9	1,3-Dichloropropane	0.80	U	1.0	0.80	0.38
106-46-7	1,4-Dichlorobenzene	0.50	U	1.0	0.50	0.39
594-20-7	2,2-Dichloropropane	0.80	U	1.0	0.80	0.38
78-93-3	2-Butanone (MEK)	12	U	15	12	6.0
110-75-8	2-Chloroethyl vinyl ether	0.80	U J1	3.0	0.80	0.44
591-78-6	2-Hexanone	4.0	U	5.0	4.0	1.7
99-87-6	4-Isopropyltoluene	0.80	U	1.0	0.80	0.43
108-10-1	4-Methyl-2-pentanone (MIBK)	3.2	U	5.0	3.2	0.98
67-64-1	Acetone	8.0	U M	15	8.0	6.6
107-13-1	Acrylonitrile	8.0	U	20	8.0	4.5
71-43-2	Benzene	0.80	U	1.0	0.80	0.31
108-86-1	Bromobenzene	0.50	U	1.0	0.50	0.40
74-97-5	Bromochloromethane	0.80	U	1.0	0.80	0.40
75-27-4	Bromodichloromethane	0.50	U	1.0	0.50	0.39
75-25-2	Bromoform	1.8	U	2.0	1.8	1.2
75-15-0	Carbon disulfide	0.80	U	2.0	0.80	0.63

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Denver | Job No.: 280-185814-1

SDG No.:

Client Sample ID: TV044-MW141223A | Lab Sample ID: 280-185814-4

Matrix: Water | Lab File ID: X512031.D

Analysis Method: 8260D | Date Collected: 12/14/2023 11:10

Sample wt/vol: 5(mL) | Date Analyzed: 12/19/2023 23:10

Soil Aliquot Vol: | Dilution Factor: 1

Soil Extract Vol.: | GC Column: RXI-624SilMS ID: 0.25(mm)

Purge Volume: 5.0(mL) | Heated Purge: (Y/N) N pH: 6.0

% Moisture: % Solids: | Level: (low/med) Low

Analysis Batch No.: 637903 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
56-23-5	Carbon tetrachloride	0.80	U	1.0	0.80	0.57
108-90-7	Chlorobenzene	0.80	U	1.0	0.80	0.42
75-00-3	Chloroethane	1.6	U M J1	4.0	1.6	1.4
67-66-3	Chloroform	0.80	U	1.0	0.80	0.36
74-87-3	Chloromethane	1.0	U J1	2.0	1.0	0.75
156-59-2	cis-1,2-Dichloroethylene	0.40	U	1.0	0.40	0.32
10061-01-5	cis-1,3-Dichloropropene	1.8	U	2.0	1.8	0.63
110-82-7	Cyclohexane	0.80	U	1.0	0.80	0.44
108-94-1	Cyclohexanone	64	U M Q	100	64	32
124-48-1	Dibromochloromethane	1.8	U	2.0	1.8	0.62
74-95-3	Dibromomethane	0.40	U	1.0	0.40	0.34
75-71-8	Dichlorodifluoromethane	2.5	U J1	3.0	2.5	0.96
100-41-4	Ethylbenzene	0.40	U	1.0	0.40	0.30
87-68-3	Hexachlorobutadiene	1.8	U	2.0	1.8	1.2
108-20-3	Isopropyl ether	2.0	U	10	2.0	1.1
98-82-8	Isopropylbenzene	0.50	U	1.0	0.50	0.36
1634-04-4	Methyl tert-butyl ether	2.5	J	5.0	0.80	0.25
108-87-2	Methylcyclohexane	0.40	U	1.0	0.40	0.31
75-09-2	Methylene Chloride	1.8	U	2.0	1.8	0.94
91-20-3	Naphthalene	0.80	U	2.0	0.80	0.63
104-51-8	n-Butylbenzene	0.80	U	1.0	0.80	0.48
110-54-3	n-Hexane	0.80	U	2.0	0.80	0.16
103-65-1	N-Propylbenzene	0.80	U	1.0	0.80	0.53
95-49-8	o-Chlorotoluene	0.40	U	1.0	0.40	0.34
106-43-4	p-Chlorotoluene	0.80	U	1.0	0.80	0.21
135-98-8	sec-Butylbenzene	0.80	U	1.0	0.80	0.45
100-42-5	Styrene	0.80	U	1.0	0.80	0.36
98-06-6	tert-Butylbenzene	0.80	U	1.0	0.80	0.42
127-18-4	Tetrachloroethene	0.80	U	1.0	0.80	0.40
108-88-3	Toluene	0.40	U	1.0	0.40	0.32
156-60-5	trans-1,2-Dichloroethylene	0.50	U	1.0	0.50	0.37
10061-02-6	trans-1,3-Dichloropropene	1.8	U	2.0	1.8	0.65
79-01-6	Trichloroethene	0.40	U	1.0	0.40	0.30

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Denver | Job No.: 280-185814-1

SDG No.:

Client Sample ID: TV044-MW141223A | Lab Sample ID: 280-185814-4

Matrix: Water | Lab File ID: X512031.D

Analysis Method: 8260D | Date Collected: 12/14/2023 11:10

Sample wt/vol: 5(mL) | Date Analyzed: 12/19/2023 23:10

Soil Aliquot Vol: | Dilution Factor: 1

Soil Extract Vol.: | GC Column: RXI-624SilMS ID: 0.25(mm)

Purge Volume: 5.0(mL) | Heated Purge: (Y/N) N pH: 6.0

% Moisture: % Solids: | Level: (low/med) Low

Analysis Batch No.: 637903 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
75-69-4	Trichlorofluoromethane	0.80	U	2.0	0.80	0.57
108-05-4	Vinyl acetate	2.0	U	3.0	2.0	0.94
75-01-4	Vinyl chloride	1.0	U J1	2.0	1.0	0.51
1330-20-7	Xylenes, Total	0.80	U	1.0	0.80	0.33

CAS NO.	SURROGATE	%REC	Q	LIMITS
17060-07-0	1,2-Dichloroethane-d4 (Surr)	105		81-118
460-00-4	4-Bromofluorobenzene (Surr)	90		85-114
1868-53-7	Dibromofluoromethane (Surr)	110		80-119
2037-26-5	Toluene-d8 (Surr)	100		89-112

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET
TARGETED TENATIVELY IDENTIFIED COMPOUNDS

Lab Name: Eurofins Denver | Job No.: 280-185814-1

SDG No.:

Client Sample ID: TV044-MW141223A | Lab Sample ID: 280-185814-4

Matrix: Water | Lab File ID: X512031.D

Analysis Method: 8260D | Date Collected: 12/14/2023 11:10

Sample wt/vol: 5(mL) | Date Analyzed: 12/19/2023 23:10

Soil Aliquot Vol: | Dilution Factor: 1

Soil Extract Vol.: | GC Column: RXI-624SilMS ID: 0.25(mm)

Purge Volume: 5.0(mL) | Heated Purge: (Y/N) N pH: 6.0

% Moisture: % Solids: | Level: (low/med) Low

Analysis Batch No.: 637903 | Units: ug/L

CAS NO.	COMPOUND NAME	RT	RESULT	Q	MATCH QUALITY
106-99-0	1,3-Butadiene TIC		1.0	U	
622-96-8	4-Ethyltoluene TIC		1.0	U	
77-73-6	Dicyclopentadiene TIC		1.0	U	
115-07-1	Propene TIC		1.0	U	

Eurofins Denver
Target Compound Quantitation Report

Data File: \\chromfs\Denver\ChromData\VMS_X4\20231219-128742.b\X512031.D
Lims ID: 280-185814-E-4
Client ID: TV044-MW141223A
Sample Type: Client
Inject. Date: 19-Dec-2023 23:10:30 ALS Bottle#: 18 Worklist Smp#: 23
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Sample Info: 280-185814-e-4
Operator ID: CF Instrument ID: VMS_X4

Method: \\chromfs\Denver\ChromData\VMS_X4\20231219-128742.b\VMS_X4_8260.m
Limit Group: MSV - 8260B Water and Solid
Last Update: 20-Dec-2023 03:15:50 Calib Date: 11-Dec-2023 20:50:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Denver\ChromData\VMS_X4\20231211-128477.b\X511702.D

Column 1 : Rxi-624Sil MS (0.25 mm) Det: MS SCAN
Process Host: CTX1617

First Level Reviewer: BX8N Date: 20-Dec-2023 03:10:36

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	OnCol Amt ug/l	Flags
* 1 Fluorobenzene	96	5.199	5.199	0.000	97	1632387	50.0	
* 2 Chlorobenzene-d5	119	7.723	7.730	-0.007	89	445236	50.0	
* 3 1,4-Dichlorobenzene-d4	152	9.947	9.947	0.000	97	795612	50.0	
$ 4 Dibromofluoromethane (Surr)	111	4.692	4.691	0.001	92	458256	54.9	
$ 5 1,2-Dichloroethane-d4 (Surr)	65	4.956	4.956	0.000	0	568130	52.6	
$ 6 Toluene-d8 (Surr)	98	6.458	6.458	0.000	94	1907432	49.8	
$ 7 4-Bromofluorobenzene (Surr)	95	8.817	8.817	0.000	88	686358	45.2	
$ 8 BFB	95	8.817	8.817	0.000	85	686358	NR	
9 Dichlorodifluoromethane	85		1.760				ND	
10 Chloromethane	50		1.939				ND	
11 Vinyl chloride	62		2.039				ND	
12 Bromomethane	94		2.332				ND	
13 Chloroethane	64		2.425				ND	U
15 Propene oxide	58		2.504				ND	
14 Dichlorofluoromethane	67		2.596				ND	
16 Trichlorofluoromethane	101		2.632				ND	
17 Ethanol	45		2.754				ND	
18 Ethyl ether	59		2.847				ND	
19 Acrolein	56		2.961				ND	
20 1,1,2-Trichloro-1,2,2-trifluoroe	151		3.040				ND	
21 1,1-Dichloroethene	96		3.047				ND	
22 Acetone	43		3.061				ND	U
23 Isopropyl alcohol	45		3.147				ND	
24 Iodomethane	142		3.169				ND	
25 Carbon disulfide	76		3.233				ND	
26 Acetonitrile	41		3.276				ND	
27 Methyl acetate	43		3.290				ND	
28 3-Chloro-1-propene	41		3.319				ND	
29 Methylene Chloride	84		3.412				ND	
30 2-Methyl-2-propanol	59		3.455				ND	
31 Acrylonitrile	53		3.576				ND	
32 Methyl tert-butyl ether	73	3.598	3.598	0.000	98	61526	2.47	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	OnCol Amt ug/l	Flags
33 trans-1,2-Dichloroethene	96		3.612				ND	
34 Hexane	57		3.805				ND	
35 Vinyl acetate	43		3.905				ND	
37 Isopropyl ether	87		3.926				ND	
36 1,1-Dichloroethane	63		3.934				ND	
38 2-Chloro-1,3-butadiene	53		3.984				ND	
39 Tert-butyl ethyl ether	59		4.191				ND	
40 2-Butanone (MEK)	43		4.320				ND	
41 Ethyl acetate	43		4.327				ND	
42 cis-1,2-Dichloroethene	96		4.341				ND	
43 2,2-Dichloropropane	77		4.355				ND	
44 Propionitrile	54		4.370				ND	
45 sec-Butyl Alcohol	45		4.420				ND	
46 Methacrylonitrile	41		4.484				ND	
47 Chlorobromomethane	128		4.520				ND	
48 Tetrahydrofuran	42		4.527				ND	
49 Chloroform	83		4.577				ND	
50 1,1,1-Trichloroethane	97		4.720				ND	
51 Cyclohexane	56		4.784				ND	
52 1,1-Dichloropropene	75		4.835				ND	
54 Isobutyl alcohol	41		4.842				ND	
53 Carbon tetrachloride	117		4.842				ND	
55 Benzene	78		4.985				ND	
56 1,2-Dichloroethane	62		5.013				ND	7
57 Tert-amyl methyl ether	73		5.056				ND	
58 n-Heptane	43		5.171				ND	
59 n-Butanol	56		5.335				ND	
60 Trichloroethene	95		5.471				ND	
61 2-Pentanone	43		5.578				ND	
62 Methylcyclohexane	55		5.671				ND	
64 Methyl methacrylate	100		5.678				ND	
63 1,2-Dichloropropane	63		5.678				ND	
65 1,4-Dioxane	88		5.721				ND	
66 Dibromomethane	93		5.750				ND	
67 Dichlorobromomethane	83		5.871				ND	
68 2-Nitropropane	41		6.043				ND	
69 2-Chloroethyl vinyl ether	63		6.072				ND	
70 cis-1,3-Dichloropropene	75		6.222				ND	
71 4-Methyl-2-pentanone (MIBK)	43		6.322				ND	
72 Toluene	91		6.515				ND	
73 trans-1,3-Dichloropropene	75		6.686				ND	
74 Ethyl methacrylate	69		6.701				ND	
75 1,1,2-Trichloroethane	97		6.858				ND	
76 Tetrachloroethene	164		6.951				ND	
77 1,3-Dichloropropane	76		7.008				ND	
78 2-Hexanone	43		7.022				ND	
79 Chlorodibromomethane	129		7.201				ND	
80 Ethylene Dibromide	107		7.323				ND	
81 1-Chlorohexane	91		7.709				ND	U
82 Chlorobenzene	112		7.752				ND	
83 1,1,1,2-Tetrachloroethane	131		7.823				ND	
84 Ethylbenzene	106		7.830				ND	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	OnCol Amt ug/l	Flags
85 m-Xylene & p-Xylene	106	7.945	7.945	0.000	0	4325	0.2495	
86 o-Xylene	106		8.302				ND	7
87 Styrene	104		8.324				ND	
88 Bromoform	173		8.503				ND	
89 Isopropylbenzene	105		8.646				ND	
90 cis-1,4-Dichloro-2-butene	53		8.696				ND	
91 Cyclohexanone	55		8.746				ND	U
92 1,1,2,2-Tetrachloroethane	83		8.932				ND	
93 Bromobenzene	156		8.967				ND	
94 trans-1,4-Dichloro-2-butene	53		8.967				ND	
95 1,2,3-Trichloropropane	110		8.996				ND	
96 N-Propylbenzene	120		9.046				ND	
97 2-Chlorotoluene	126		9.146				ND	
98 1,3,5-Trimethylbenzene	105		9.218				ND	
99 4-Chlorotoluene	126		9.261				ND	
101 Pentachloroethane	167		9.411				ND	
100 tert-Butylbenzene	119		9.525				ND	
102 1,2,4-Trimethylbenzene	105		9.582				ND	
103 sec-Butylbenzene	134		9.747				ND	
104 1,3-Dichlorobenzene	146		9.875				ND	
105 4-Isopropyltoluene	119		9.890				ND	
106 1,4-Dichlorobenzene	146		9.976				ND	
107 1,2,3-Trimethylbenzene	105		9.990				ND	
108 n-Butylbenzene	91		10.297				ND	
109 1,2-Dichlorobenzene	146		10.333				ND	
110 1,2-Dibromo-3-Chloropropane	157		11.112				ND	
111 1,3,5-Trichlorobenzene	180		11.298				ND	
112 1,2,4-Trichlorobenzene	180		11.935				ND	
113 Hexachlorobutadiene	225		12.071				ND	
114 Naphthalene	128		12.206				ND	
115 1,2,3-Trichlorobenzene	180		12.428				ND	
116 Ethylene oxide TIC	1		0.000				ND	
117 t-Amyl alcohol	1		0.000				ND	
118 Ethyl acrylate	55		0.000				ND	
119 1-Chloro-1-fluoroethane TIC	1		0.000				ND	
120 Tetrahydrothiophene TIC	1		0.000				ND	
121 Propene oxide TIC	58		5.334				ND	
S 122 1,2-Dichloroethene, Total (URS)	96		2.000				ND	7
S 129 1,2-Dichloroethene, Total	1		0.000				ND	7
S 124 1,3-Dichloropropene, Total	1		0.000				ND	7
S 123 Xylenes, Total (URS)	1				0		0.2495	
S 127 Trihalomethanes, Total	1		0.000				ND	7
S 126 Total BTEX	1				0		0.2495	
S 128 TAH	1				0		0	
S 125 Xylenes, Total	106				0		0.2495	
T 130 Dichloroacetonitrile TIC	74		1.000				ND	
T 132 1-Chlorohexane TIC	1		0.000				ND	
T 131 Methyl cyclohexane TIC	1		0.000				ND	
T 140 2,3-Dichloro-1-propene TIC	75		0.000				ND	
T 139 Propene TIC	1		0.000				ND	
T 138 n-Nonane TIC	1		0.000				ND	
T 137 1,3-Butadiene TIC	1		0.000				ND	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	OnCol Amt ug/l	Flags
T 136 Cyclohexane TIC	1		0.000				ND	
T 135 4-Ethyltoluene TIC	1		0.000				ND	
T 134 2-Butoxyethanol TIC	1		0.000				ND	
T 133 Dicyclopentadiene TIC	1		0.000				ND	

QC Flag Legend

Processing Flags
- NR - Missing Quant Standard
- 7 - Failed Limit of Detection

Review Flags
- U - Marked Undetected

Reagents:

mv-IS_SS_00074 Amount Added: 5.00 Units: uL Run Reagent

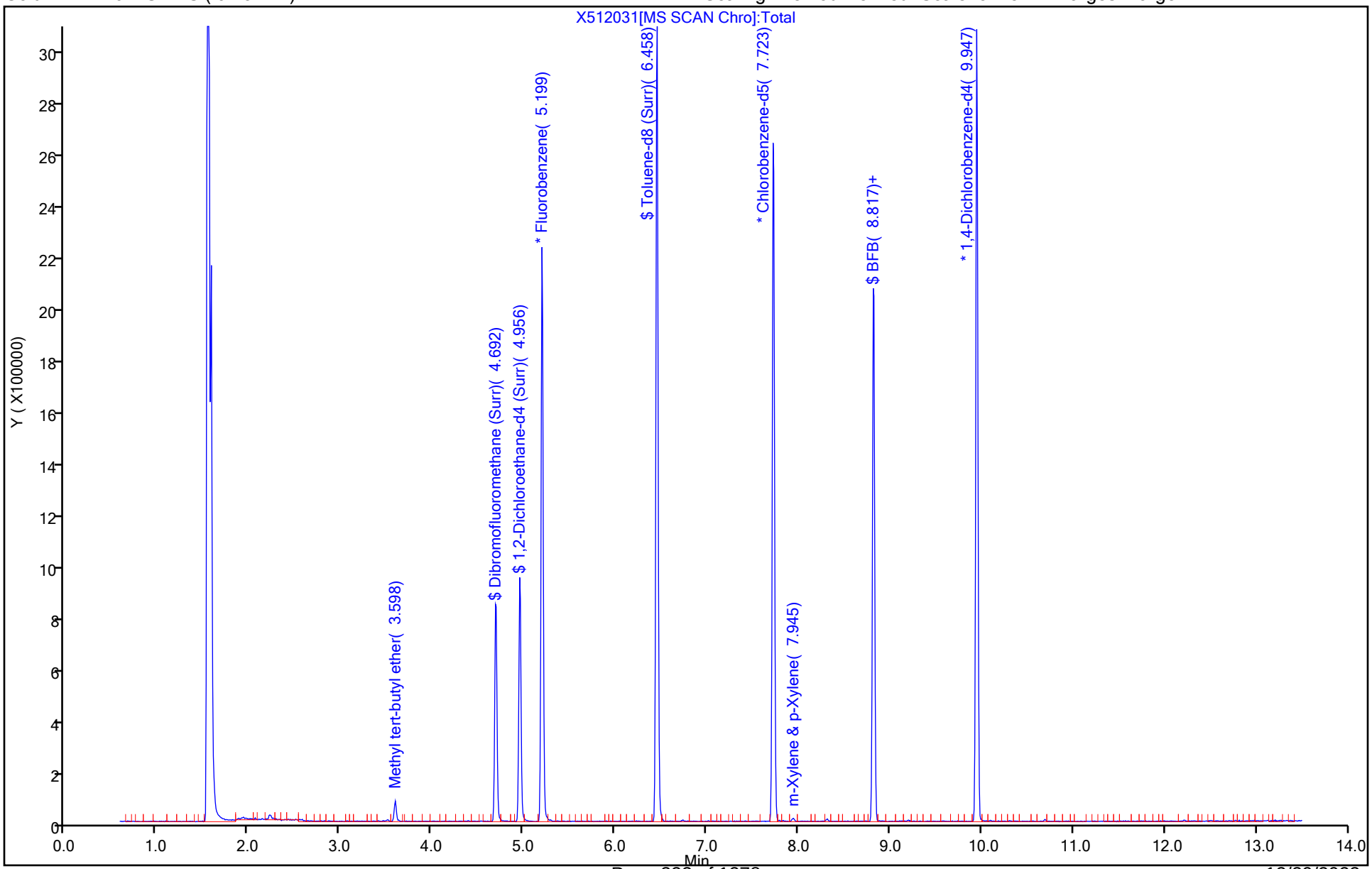
Report Date: 20-Dec-2023 03:16:08 Chrom Revision: 2.3 15-Nov-2023 20:54:34

Eurofins Denver

Data File: \\chromfs\Denver\ChromData\VMS_X4\20231219-128742.b\X512031.D

Injection Date:	19-Dec-2023 23:10:30	Instrument ID:	VMS_X4	Operator ID:	CF
Lims ID:	280-185814-E-4	Lab Sample ID:	280-185814-4	Worklist Smp#:	23
Client ID:	TV044-MW141223A				
Purge Vol:	5.000 mL	Dil. Factor:	1.0000	ALS Bottle#:	18
Method:	VMS_X4_8260	Limit Group:	MSV - 8260B Water and Solid		

Column: Rxi-624Sil MS (0.25 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 1



Eurofins Denver
Recovery Report

Data File: \\chromfs\Denver\ChromData\VMS_X4\20231219-128742.b\X512031.D
Lims ID: 280-185814-E-4
Client ID: TV044-MW141223A
Sample Type: Client
Inject. Date: 19-Dec-2023 23:10:30 ALS Bottle#: 18 Worklist Smp#: 23
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Sample Info: 280-185814-e-4
Operator ID: CF Instrument ID: VMS_X4

Method: \\chromfs\Denver\ChromData\VMS_X4\20231219-128742.b\VMS_X4_8260.m
Limit Group: MSV - 8260B Water and Solid
Last Update: 20-Dec-2023 03:15:50 Calib Date: 11-Dec-2023 20:50:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Denver\ChromData\VMS_X4\20231211-128477.b\X511702.D

Column 1 : Rxi-624Sil MS (0.25 mm) Det: MS SCAN
Process Host: CTX1617

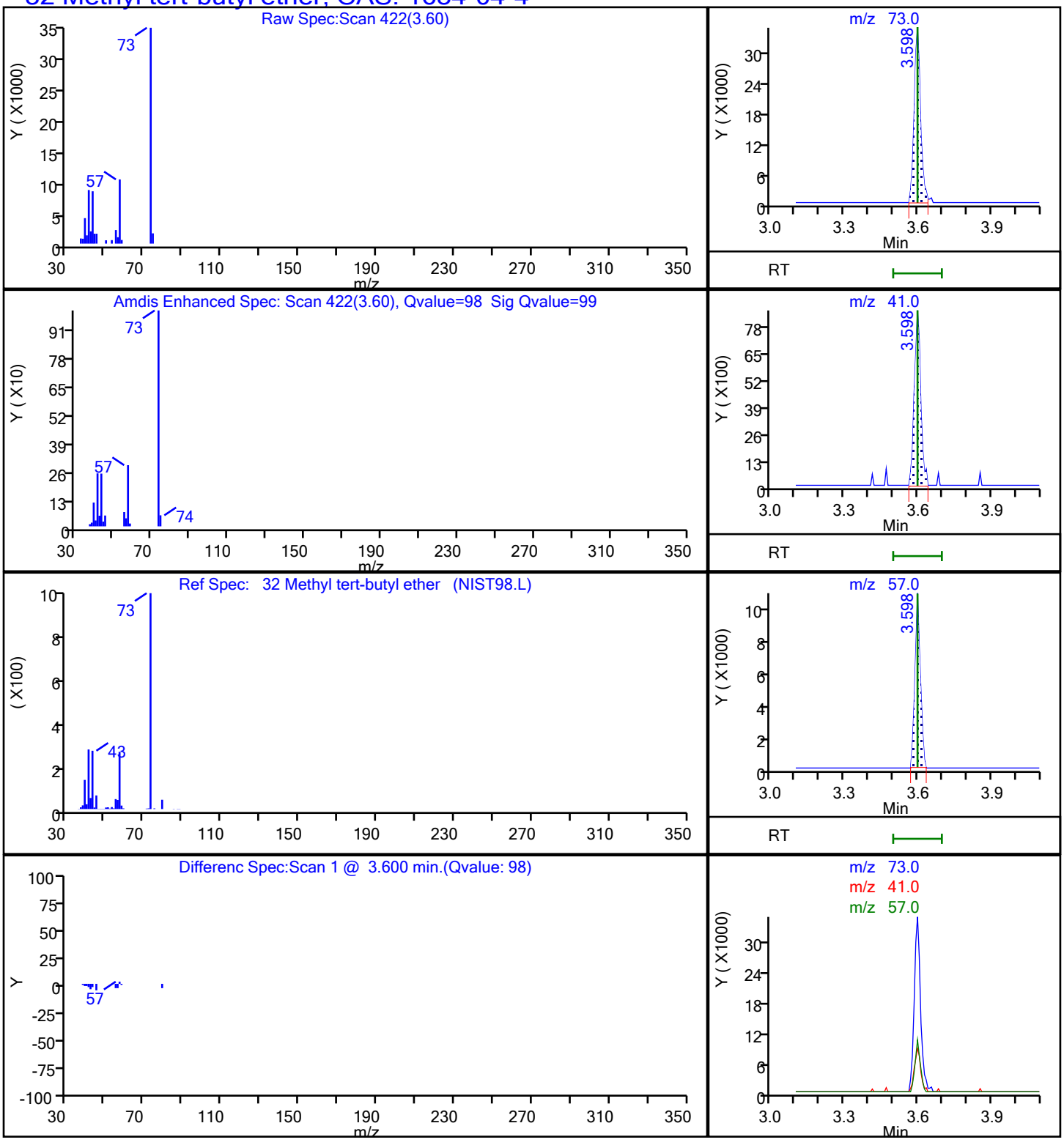
First Level Reviewer: BX8N Date: 20-Dec-2023 03:10:36

Compound	Amount Added	Amount Recovered	% Rec.
$ 4 Dibromofluoromethane (Surr)	50.0	54.9	109.75
$ 5 1,2-Dichloroethane-d4 (Surr)	50.0	52.6	105.20
$ 6 Toluene-d8 (Surr)	50.0	49.8	99.52
$ 7 4-Bromofluorobenzene (Surr)	50.0	45.2	90.40

Eurofins Denver

Data File:	\\chromfs\Denver\ChromData\VMS_X4\20231219-128742.b\X512031.D				
Injection Date:	19-Dec-2023 23:10:30	Instrument ID:	VMS_X4		
Lims ID:	280-185814-E-4	Lab Sample ID:	280-185814-4		
Client ID:	TV044-MW141223A				
Operator ID:	CF	ALS Bottle#:	18	Worklist Smp#:	23
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	VMS_X4_8260	Limit Group:	MSV - 8260B Water and Solid		
Column:	Rxi-624Sil MS (0.25 mm)	Detector	MS SCAN		

32 Methyl tert-butyl ether, CAS: 1634-04-4



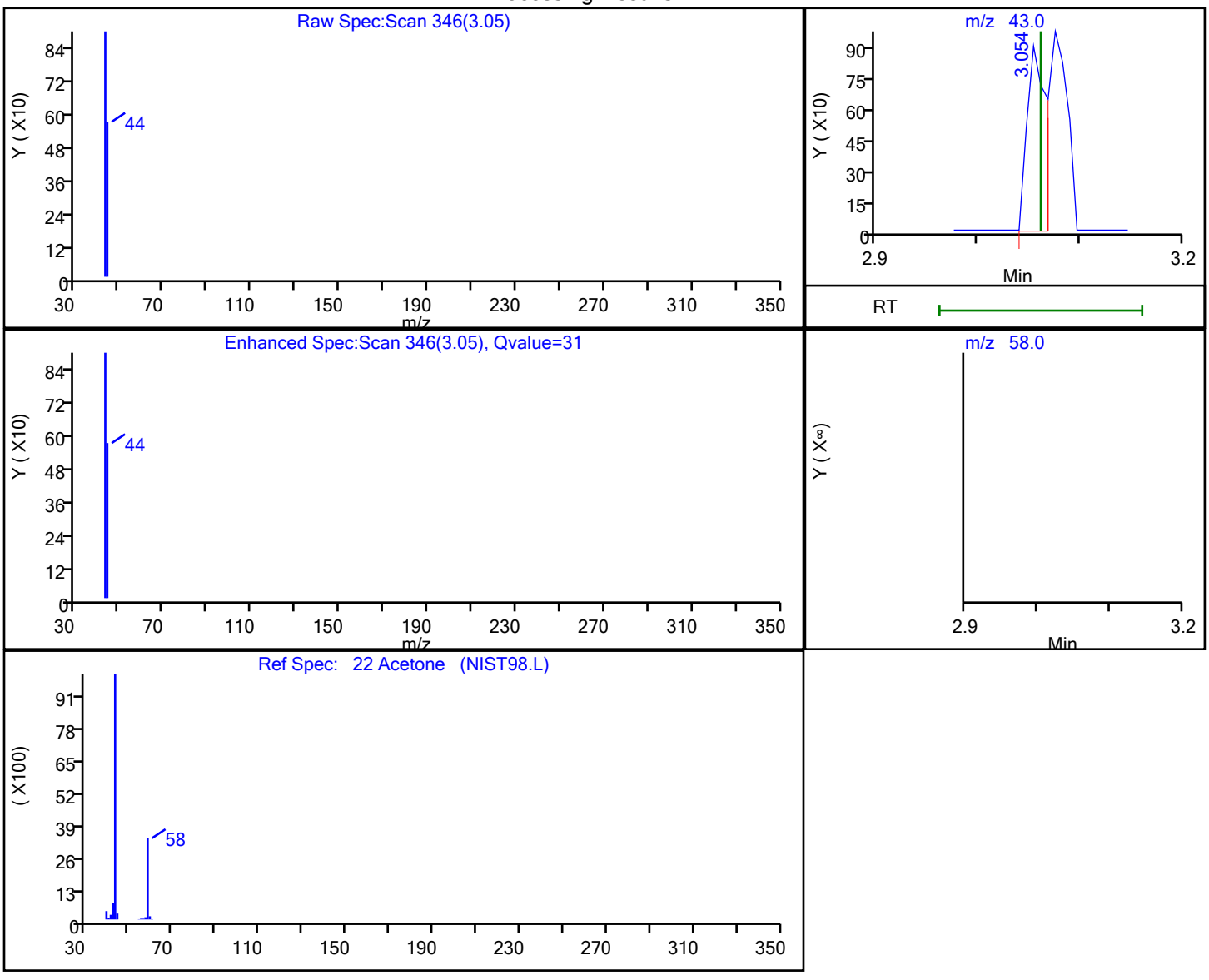
User Disabled Compound Report

Eurofins Denver

Data File:	\\chromfs\Denver\ChromData\VMS_X4\20231219-128742.b\X512031.D				
Injection Date:	19-Dec-2023 23:10:30	Instrument ID:	VMS_X4		
Lims ID:	280-185814-E-4	Lab Sample ID:	280-185814-4		
Client ID:	TV044-MW141223A				
Operator ID:	CF	ALS Bottle#:	18	Worklist Smp#:	23
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	VMS_X4_8260	Limit Group:	MSV - 8260B Water and Solid		
Column:	Rxi-624Sil MS (0.25 mm)	Detector	MS SCAN		

22 Acetone, CAS: 67-64-1

Processing Results



RT	Mass	Response	Amount
3.05	43.00	1178	0.369759
3.06	58.00	0	

Reviewer: BX8N, 20-Dec-2023 03:10:22 -07:00:00 (UTC)

Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

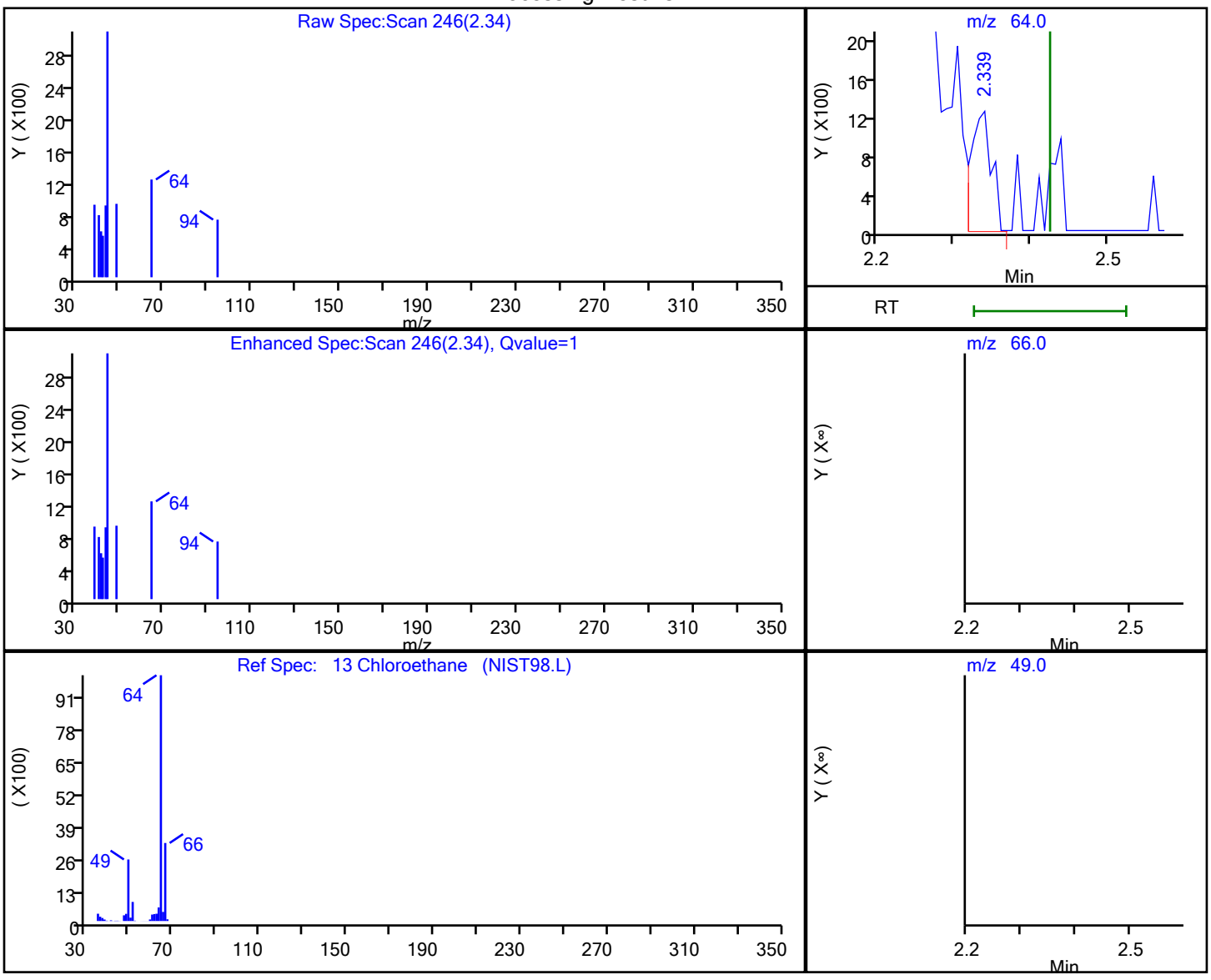
User Disabled Compound Report

Eurofins Denver

Data File:	\\chromfs\Denver\ChromData\VMS_X4\20231219-128742.b\X512031.D				
Injection Date:	19-Dec-2023 23:10:30	Instrument ID:	VMS_X4		
Lims ID:	280-185814-E-4	Lab Sample ID:	280-185814-4		
Client ID:	TV044-MW141223A				
Operator ID:	CF	ALS Bottle#:	18	Worklist Smp#:	23
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	VMS_X4_8260	Limit Group:	MSV - 8260B Water and Solid		
Column:	Rxi-624Sil MS (0.25 mm)	Detector	MS SCAN		

13 Chloroethane, CAS: 75-00-3

Processing Results



RT	Mass	Response	Amount
2.34	64.00	2221	0.256354
2.42	66.00	0	
2.42	49.00	0	

Reviewer: BX8N, 20-Dec-2023 03:10:21 -07:00:00 (UTC)

Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

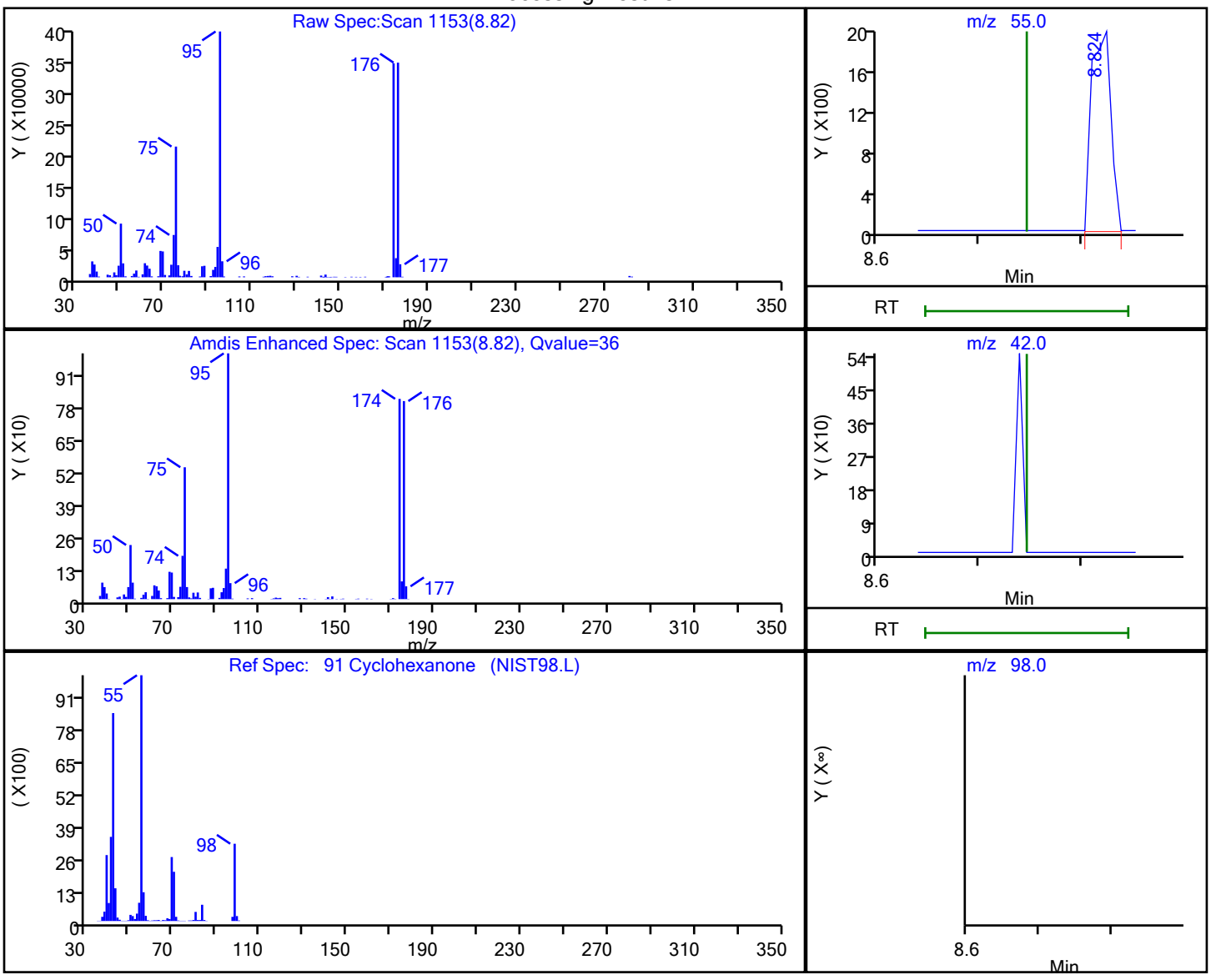
User Disabled Compound Report

Eurofins Denver

Data File:	\\chromfs\Denver\ChromData\VMS_X4\20231219-128742.b\X512031.D				
Injection Date:	19-Dec-2023 23:10:30	Instrument ID:	VMS_X4		
Lims ID:	280-185814-E-4	Lab Sample ID:	280-185814-4		
Client ID:	TV044-MW141223A				
Operator ID:	CF	ALS Bottle#:	18	Worklist Smp#:	23
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	VMS_X4_8260	Limit Group:	MSV - 8260B Water and Solid		
Column:	Rxi-624Sil MS (0.25 mm)	Detector	MS SCAN		

91 Cyclohexanone, CAS: 108-94-1

Processing Results



RT	Mass	Response	Amount
8.82	55.00	2593	5.698234
8.75	42.00	0	
8.75	98.00	0	

Reviewer: BX8N, 20-Dec-2023 03:10:33 -07:00:00 (UTC)

Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Denver | Job No.: 280-185814-1

SDG No.:

Client Sample ID: TV044-MW151223A | Lab Sample ID: 280-185814-5

Matrix: Water | Lab File ID: X512032.D

Analysis Method: 8260D | Date Collected: 12/14/2023 11:30

Sample wt/vol: 5(mL) | Date Analyzed: 12/19/2023 23:32

Soil Aliquot Vol: | Dilution Factor: 1

Soil Extract Vol.: | GC Column: RXI-624SilMS ID: 0.25(mm)

Purge Volume: 5.0(mL) | Heated Purge: (Y/N) N pH: 6.0

% Moisture: % Solids: | Level: (low/med) Low

Analysis Batch No.: 637903 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
71-55-6	1,1,1-Trichloroethane	0.50	U	1.0	0.50	0.39
79-34-5	1,1,2,2-Tetrachloroethane	0.80	U	1.0	0.80	0.21
79-00-5	1,1,2-Trichloroethane	0.80	U	1.0	0.80	0.27
75-34-3	1,1-Dichloroethane	0.80	U	1.0	0.80	0.22
75-35-4	1,1-Dichloroethylene	0.80	U	1.0	0.80	0.23
563-58-6	1,1-Dichloropropene	0.80	U	1.0	0.80	0.42
87-61-6	1,2,3-Trichlorobenzene	0.80	U	2.0	0.80	0.70
96-18-4	1,2,3-Trichloropropane	1.8	U	2.5	1.8	0.86
526-73-8	1,2,3-Trimethylbenzene	0.80	U	2.0	0.80	0.27
120-82-1	1,2,4-Trichlorobenzene	0.80	U	1.0	0.80	0.58
95-63-6	1,2,4-Trimethylbenzene	0.40	U	1.0	0.40	0.15
96-12-8	1,2-Dibromo-3-Chloropropane	4.0	U	5.0	4.0	1.8
106-93-4	1,2-Dibromoethane	0.80	U	1.0	0.80	0.40
95-50-1	1,2-Dichlorobenzene	0.50	U	1.0	0.50	0.37
107-06-2	1,2-Dichloroethane	0.80	U	1.0	0.80	0.54
78-87-5	1,2-Dichloropropane	0.80	U	1.0	0.80	0.52
108-67-8	1,3,5-Trimethylbenzene	0.50	U	1.0	0.50	0.37
541-73-1	1,3-Dichlorobenzene	0.40	U	1.0	0.40	0.33
142-28-9	1,3-Dichloropropane	0.80	U	1.0	0.80	0.38
106-46-7	1,4-Dichlorobenzene	0.50	U	1.0	0.50	0.39
594-20-7	2,2-Dichloropropane	0.80	U	1.0	0.80	0.38
78-93-3	2-Butanone (MEK)	12	U	15	12	6.0
110-75-8	2-Chloroethyl vinyl ether	0.80	U	3.0	0.80	0.44
591-78-6	2-Hexanone	4.0	U	5.0	4.0	1.7
99-87-6	4-Isopropyltoluene	0.80	U	1.0	0.80	0.43
108-10-1	4-Methyl-2-pentanone (MIBK)	3.2	U	5.0	3.2	0.98
67-64-1	Acetone	8.0	U M	15	8.0	6.6
107-13-1	Acrylonitrile	8.0	U	20	8.0	4.5
71-43-2	Benzene	0.80	U	1.0	0.80	0.31
108-86-1	Bromobenzene	0.50	U	1.0	0.50	0.40
74-97-5	Bromochloromethane	0.80	U	1.0	0.80	0.40
75-27-4	Bromodichloromethane	0.50	U	1.0	0.50	0.39
75-25-2	Bromoform	1.8	U	2.0	1.8	1.2
75-15-0	Carbon disulfide	0.80	U	2.0	0.80	0.63

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Denver | Job No.: 280-185814-1

SDG No.:

Client Sample ID: TV044-MW151223A | Lab Sample ID: 280-185814-5

Matrix: Water | Lab File ID: X512032.D

Analysis Method: 8260D | Date Collected: 12/14/2023 11:30

Sample wt/vol: 5(mL) | Date Analyzed: 12/19/2023 23:32

Soil Aliquot Vol: | Dilution Factor: 1

Soil Extract Vol.: | GC Column: RXI-624SilMS ID: 0.25(mm)

Purge Volume: 5.0(mL) | Heated Purge: (Y/N) N pH: 6.0

% Moisture: % Solids: | Level: (low/med) Low

Analysis Batch No.: 637903 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
56-23-5	Carbon tetrachloride	0.80	U	1.0	0.80	0.57
108-90-7	Chlorobenzene	0.80	U	1.0	0.80	0.42
75-00-3	Chloroethane	1.6	U M	4.0	1.6	1.4
67-66-3	Chloroform	0.80	U	1.0	0.80	0.36
74-87-3	Chloromethane	1.0	U	2.0	1.0	0.75
156-59-2	cis-1,2-Dichloroethylene	0.40	U	1.0	0.40	0.32
10061-01-5	cis-1,3-Dichloropropene	1.8	U	2.0	1.8	0.63
110-82-7	Cyclohexane	0.80	U	1.0	0.80	0.44
108-94-1	Cyclohexanone	64	U M Q	100	64	32
124-48-1	Dibromochloromethane	1.8	U	2.0	1.8	0.62
74-95-3	Dibromomethane	0.40	U	1.0	0.40	0.34
75-71-8	Dichlorodifluoromethane	2.5	U	3.0	2.5	0.96
100-41-4	Ethylbenzene	0.40	U	1.0	0.40	0.30
87-68-3	Hexachlorobutadiene	1.8	U	2.0	1.8	1.2
108-20-3	Isopropyl ether	2.0	U	10	2.0	1.1
98-82-8	Isopropylbenzene	0.50	U	1.0	0.50	0.36
1634-04-4	Methyl tert-butyl ether	6.2		5.0	0.80	0.25
108-87-2	Methylcyclohexane	0.40	U	1.0	0.40	0.31
75-09-2	Methylene Chloride	1.8	U	2.0	1.8	0.94
91-20-3	Naphthalene	0.80	U	2.0	0.80	0.63
104-51-8	n-Butylbenzene	0.80	U	1.0	0.80	0.48
110-54-3	n-Hexane	0.80	U	2.0	0.80	0.16
103-65-1	N-Propylbenzene	0.80	U	1.0	0.80	0.53
95-49-8	o-Chlorotoluene	0.40	U	1.0	0.40	0.34
106-43-4	p-Chlorotoluene	0.80	U	1.0	0.80	0.21
135-98-8	sec-Butylbenzene	0.80	U	1.0	0.80	0.45
100-42-5	Styrene	0.80	U	1.0	0.80	0.36
98-06-6	tert-Butylbenzene	0.80	U	1.0	0.80	0.42
127-18-4	Tetrachloroethene	0.80	U	1.0	0.80	0.40
108-88-3	Toluene	0.40	U	1.0	0.40	0.32
156-60-5	trans-1,2-Dichloroethylene	0.50	U	1.0	0.50	0.37
10061-02-6	trans-1,3-Dichloropropene	1.8	U	2.0	1.8	0.65
79-01-6	Trichloroethene	0.40	U	1.0	0.40	0.30
75-69-4	Trichlorofluoromethane	0.80	U	2.0	0.80	0.57

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Denver | Job No.: 280-185814-1

SDG No.:

Client Sample ID: TV044-MW151223A | Lab Sample ID: 280-185814-5

Matrix: Water | Lab File ID: X512032.D

Analysis Method: 8260D | Date Collected: 12/14/2023 11:30

Sample wt/vol: 5(mL) | Date Analyzed: 12/19/2023 23:32

Soil Aliquot Vol: | Dilution Factor: 1

Soil Extract Vol.: | GC Column: RXI-624SilMS ID: 0.25(mm)

Purge Volume: 5.0(mL) | Heated Purge: (Y/N) N pH: 6.0

% Moisture: % Solids: | Level: (low/med) Low

Analysis Batch No.: 637903 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
108-05-4	Vinyl acetate	2.0	U	3.0	2.0	0.94
75-01-4	Vinyl chloride	1.0	U	2.0	1.0	0.51
1330-20-7	Xylenes, Total	0.80	U	1.0	0.80	0.33

CAS NO.	SURROGATE	%REC	Q	LIMITS
17060-07-0	1,2-Dichloroethane-d4 (Surr)	105		81-118
460-00-4	4-Bromofluorobenzene (Surr)	97		85-114
1868-53-7	Dibromofluoromethane (Surr)	109		80-119
2037-26-5	Toluene-d8 (Surr)	97		89-112

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET
TARGETED TENATIVELY IDENTIFIED COMPOUNDS

Lab Name: Eurofins Denver | Job No.: 280-185814-1

SDG No.:

Client Sample ID: TV044-MW151223A | Lab Sample ID: 280-185814-5

Matrix: Water | Lab File ID: X512032.D

Analysis Method: 8260D | Date Collected: 12/14/2023 11:30

Sample wt/vol: 5(mL) | Date Analyzed: 12/19/2023 23:32

Soil Aliquot Vol: | Dilution Factor: 1

Soil Extract Vol.: | GC Column: RXI-624SilMS ID: 0.25(mm)

Purge Volume: 5.0(mL) | Heated Purge: (Y/N) N pH: 6.0

% Moisture: % Solids: | Level: (low/med) Low

Analysis Batch No.: 637903 | Units: ug/L

CAS NO.	COMPOUND NAME	RT	RESULT	Q	MATCH QUALITY
106-99-0	1,3-Butadiene TIC		1.0	U	
622-96-8	4-Ethyltoluene TIC		1.0	U	
77-73-6	Dicyclopentadiene TIC		1.0	U	
115-07-1	Propene TIC		1.0	U	

Eurofins Denver
Target Compound Quantitation Report

Data File: \\chromfs\Denver\ChromData\VMS_X4\20231219-128742.b\X512032.D
Lims ID: 280-185814-F-5
Client ID: TV044-MW151223A
Sample Type: Client
Inject. Date: 19-Dec-2023 23:32:30 ALS Bottle#: 19 Worklist Smp#: 24
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Sample Info: 280-185814-f-5
Operator ID: CF Instrument ID: VMS_X4

Method: \\chromfs\Denver\ChromData\VMS_X4\20231219-128742.b\VMS_X4_8260.m
Limit Group: MSV - 8260B Water and Solid
Last Update: 20-Dec-2023 03:15:50 Calib Date: 11-Dec-2023 20:50:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Denver\ChromData\VMS_X4\20231211-128477.b\X511702.D

Column 1 : Rxi-624Sil MS (0.25 mm) Det: MS SCAN
Process Host: CTX1617

First Level Reviewer: BX8N Date: 20-Dec-2023 03:10:55

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	OnCol Amt ug/l	Flags
* 1 Fluorobenzene	96	5.199	5.199	0.000	98	1640318	50.0	
* 2 Chlorobenzene-d5	119	7.730	7.730	0.000	89	455735	50.0	
* 3 1,4-Dichlorobenzene-d4	152	9.947	9.947	0.000	97	712456	50.0	
$ 4 Dibromofluoromethane (Surr)	111	4.692	4.691	0.001	93	457205	54.5	
$ 5 1,2-Dichloroethane-d4 (Surr)	65	4.956	4.956	0.000	0	568825	52.4	
$ 6 Toluene-d8 (Surr)	98	6.458	6.458	0.000	95	1910698	48.7	
$ 7 4-Bromofluorobenzene (Surr)	95	8.817	8.817	0.000	88	658510	48.4	
$ 8 BFB	95	8.817	8.817	0.000	85	658510	NR	
9 Dichlorodifluoromethane	85		1.760				ND	
10 Chloromethane	50		1.939				ND	
11 Vinyl chloride	62		2.039				ND	
12 Bromomethane	94		2.332				ND	
13 Chloroethane	64		2.425				ND	U
15 Propene oxide	58		2.504				ND	
14 Dichlorofluoromethane	67		2.596				ND	
16 Trichlorofluoromethane	101		2.632				ND	
17 Ethanol	45		2.754				ND	
18 Ethyl ether	59		2.847				ND	
19 Acrolein	56		2.961				ND	
20 1,1,2-Trichloro-1,2,2-trifluoroe	151		3.040				ND	
21 1,1-Dichloroethene	96		3.047				ND	
22 Acetone	43		3.061				ND	U
23 Isopropyl alcohol	45		3.147				ND	
24 Iodomethane	142		3.169				ND	
25 Carbon disulfide	76		3.233				ND	
26 Acetonitrile	41		3.276				ND	
27 Methyl acetate	43		3.290				ND	
28 3-Chloro-1-propene	41		3.319				ND	
29 Methylene Chloride	84		3.412				ND	
30 2-Methyl-2-propanol	59	3.455	3.455	0.000	47	4051	4.69	
31 Acrylonitrile	53		3.576				ND	
32 Methyl tert-butyl ether	73	3.598	3.598	0.000	96	155676	6.21	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	OnCol Amt ug/l	Flags
33 trans-1,2-Dichloroethene	96		3.612				ND	
34 Hexane	57		3.805				ND	
35 Vinyl acetate	43		3.905				ND	
37 Isopropyl ether	87		3.926				ND	
36 1,1-Dichloroethane	63		3.934				ND	
38 2-Chloro-1,3-butadiene	53		3.984				ND	
39 Tert-butyl ethyl ether	59		4.191				ND	
40 2-Butanone (MEK)	43		4.320				ND	
41 Ethyl acetate	43		4.327				ND	
42 cis-1,2-Dichloroethene	96		4.341				ND	
43 2,2-Dichloropropane	77		4.355				ND	
44 Propionitrile	54		4.370				ND	
45 sec-Butyl Alcohol	45		4.420				ND	
46 Methacrylonitrile	41		4.484				ND	
47 Chlorobromomethane	128		4.520				ND	
48 Tetrahydrofuran	42		4.527				ND	
49 Chloroform	83		4.577				ND	
50 1,1,1-Trichloroethane	97		4.720				ND	
51 Cyclohexane	56		4.784				ND	
52 1,1-Dichloropropene	75		4.835				ND	
54 Isobutyl alcohol	41		4.842				ND	U
53 Carbon tetrachloride	117		4.842				ND	
55 Benzene	78		4.985				ND	
56 1,2-Dichloroethane	62		5.013				ND	7
57 Tert-amyl methyl ether	73		5.056				ND	
58 n-Heptane	43		5.171				ND	
59 n-Butanol	56		5.335				ND	
60 Trichloroethene	95		5.471				ND	
61 2-Pentanone	43		5.578				ND	
62 Methylcyclohexane	55		5.671				ND	
64 Methyl methacrylate	100		5.678				ND	
63 1,2-Dichloropropane	63		5.678				ND	
65 1,4-Dioxane	88		5.721				ND	
66 Dibromomethane	93		5.750				ND	
67 Dichlorobromomethane	83		5.871				ND	
68 2-Nitropropane	41		6.043				ND	
69 2-Chloroethyl vinyl ether	63		6.072				ND	
70 cis-1,3-Dichloropropene	75		6.222				ND	
71 4-Methyl-2-pentanone (MIBK)	43		6.322				ND	
72 Toluene	91		6.515				ND	
73 trans-1,3-Dichloropropene	75		6.686				ND	
74 Ethyl methacrylate	69		6.701				ND	
75 1,1,2-Trichloroethane	97		6.858				ND	
76 Tetrachloroethene	164		6.951				ND	
77 1,3-Dichloropropane	76		7.008				ND	
78 2-Hexanone	43		7.022				ND	
79 Chlorodibromomethane	129		7.201				ND	
80 Ethylene Dibromide	107		7.323				ND	
81 1-Chlorohexane	91		7.709				ND	U
82 Chlorobenzene	112		7.752				ND	
83 1,1,1,2-Tetrachloroethane	131		7.823				ND	
84 Ethylbenzene	106		7.830				ND	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	OnCol Amt ug/l	Flags
85 m-Xylene & p-Xylene	106		7.945				ND	
86 o-Xylene	106		8.302				ND	
87 Styrene	104		8.324				ND	
88 Bromoform	173		8.503				ND	
89 Isopropylbenzene	105		8.646				ND	
90 cis-1,4-Dichloro-2-butene	53		8.696				ND	
91 Cyclohexanone	55		8.746				ND	U
92 1,1,2,2-Tetrachloroethane	83		8.932				ND	
93 Bromobenzene	156		8.967				ND	
94 trans-1,4-Dichloro-2-butene	53		8.967				ND	
95 1,2,3-Trichloropropane	110		8.996				ND	
96 N-Propylbenzene	120		9.046				ND	
97 2-Chlorotoluene	126		9.146				ND	
98 1,3,5-Trimethylbenzene	105		9.218				ND	
99 4-Chlorotoluene	126		9.261				ND	
101 Pentachloroethane	167		9.411				ND	
100 tert-Butylbenzene	119		9.525				ND	
102 1,2,4-Trimethylbenzene	105		9.582				ND	
103 sec-Butylbenzene	134		9.747				ND	
104 1,3-Dichlorobenzene	146		9.875				ND	
105 4-Isopropyltoluene	119		9.890				ND	
106 1,4-Dichlorobenzene	146		9.976				ND	
107 1,2,3-Trimethylbenzene	105		9.990				ND	
108 n-Butylbenzene	91		10.297				ND	
109 1,2-Dichlorobenzene	146		10.333				ND	
110 1,2-Dibromo-3-Chloropropane	157		11.112				ND	
111 1,3,5-Trichlorobenzene	180		11.298				ND	
112 1,2,4-Trichlorobenzene	180		11.935				ND	
113 Hexachlorobutadiene	225		12.071				ND	
114 Naphthalene	128		12.206				ND	
115 1,2,3-Trichlorobenzene	180		12.428				ND	
116 Ethylene oxide TIC	1		0.000				ND	
117 t-Amyl alcohol	1		0.000				ND	
118 Ethyl acrylate	55		0.000				ND	
119 1-Chloro-1-fluoroethane TIC	1		0.000				ND	
120 Tetrahydrothiophene TIC	1		0.000				ND	
121 Propene oxide TIC	58		5.334				ND	
S 122 1,2-Dichloroethene, Total (URS)	96		2.000				ND	7
S 129 1,2-Dichloroethene, Total	1		0.000				ND	7
S 124 1,3-Dichloropropene, Total	1		0.000				ND	7
S 123 Xylenes, Total (URS)	1		0.000				ND	7
S 127 Trihalomethanes, Total	1		0.000				ND	7
S 126 Total BTEX	1		0.000				ND	7
S 128 TAH	1				0		0	
S 125 Xylenes, Total	106		0.000				ND	7
T 130 Dichloroacetonitrile TIC	74		1.000				ND	
T 132 1-Chlorohexane TIC	1		0.000				ND	
T 131 Methyl cyclohexane TIC	1		0.000				ND	
T 140 2,3-Dichloro-1-propene TIC	75		0.000				ND	
T 139 Propene TIC	1		0.000				ND	
T 138 n-Nonane TIC	1		0.000				ND	
T 137 1,3-Butadiene TIC	1		0.000				ND	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	OnCol Amt ug/l	Flags
T 136 Cyclohexane TIC	1		0.000				ND	
T 135 4-Ethyltoluene TIC	1		0.000				ND	
T 134 2-Butoxyethanol TIC	1		0.000				ND	
T 133 Dicyclopentadiene TIC	1		0.000				ND	

QC Flag Legend

Processing Flags
- NR - Missing Quant Standard
- 7 - Failed Limit of Detection

Review Flags
- U - Marked Undetected

Reagents:

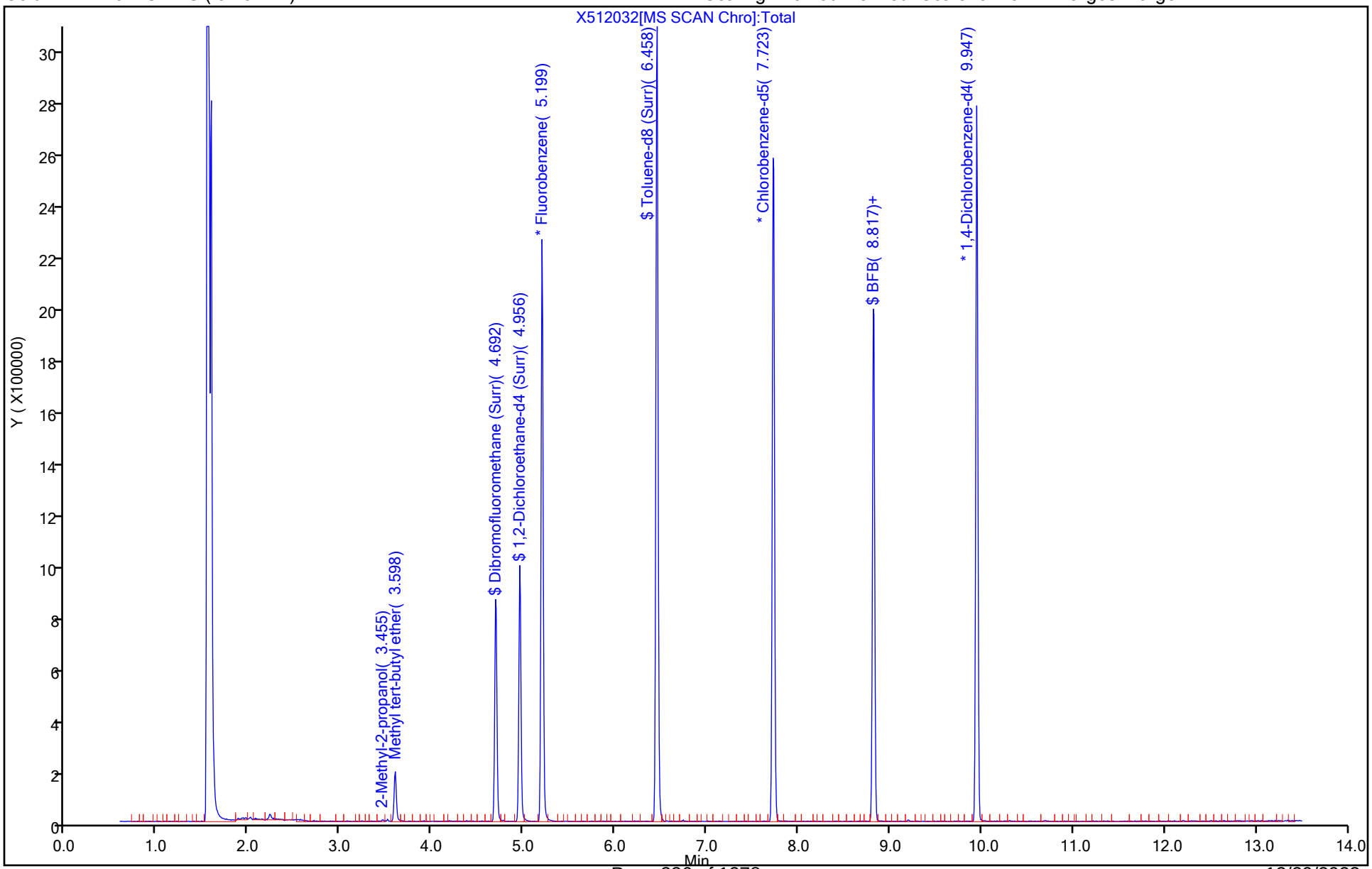
mv-IS_SS_00074 Amount Added: 5.00 Units: uL Run Reagent

Report Date: 20-Dec-2023 03:16:10 Chrom Revision: 2.3 15-Nov-2023 20:54:34

Eurofins Denver

Data File:	\\chromfs\Denver\ChromData\VMS_X4\20231219-128742.b\X512032.D				
Injection Date:	19-Dec-2023 23:32:30	Instrument ID:	VMS_X4	Operator ID:	CF
Lims ID:	280-185814-F-5	Lab Sample ID:	280-185814-5	Worklist Smp#:	24
Client ID:	TV044-MW151223A				
Purge Vol:	5.000 mL	Dil. Factor:	1.0000	ALS Bottle#:	19
Method:	VMS_X4_8260	Limit Group:	MSV - 8260B Water and Solid		

Column: Rxi-624Sil MS (0.25 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 1



Eurofins Denver
Recovery Report

Data File: \\chromfs\Denver\ChromData\VMS_X4\20231219-128742.b\X512032.D
Lims ID: 280-185814-F-5
Client ID: TV044-MW151223A
Sample Type: Client
Inject. Date: 19-Dec-2023 23:32:30 ALS Bottle#: 19 Worklist Smp#: 24
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Sample Info: 280-185814-f-5
Operator ID: CF Instrument ID: VMS_X4

Method: \\chromfs\Denver\ChromData\VMS_X4\20231219-128742.b\VMS_X4_8260.m
Limit Group: MSV - 8260B Water and Solid
Last Update: 20-Dec-2023 03:15:50 Calib Date: 11-Dec-2023 20:50:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Denver\ChromData\VMS_X4\20231211-128477.b\X511702.D

Column 1 : Rxi-624Sil MS (0.25 mm) Det: MS SCAN
Process Host: CTX1617

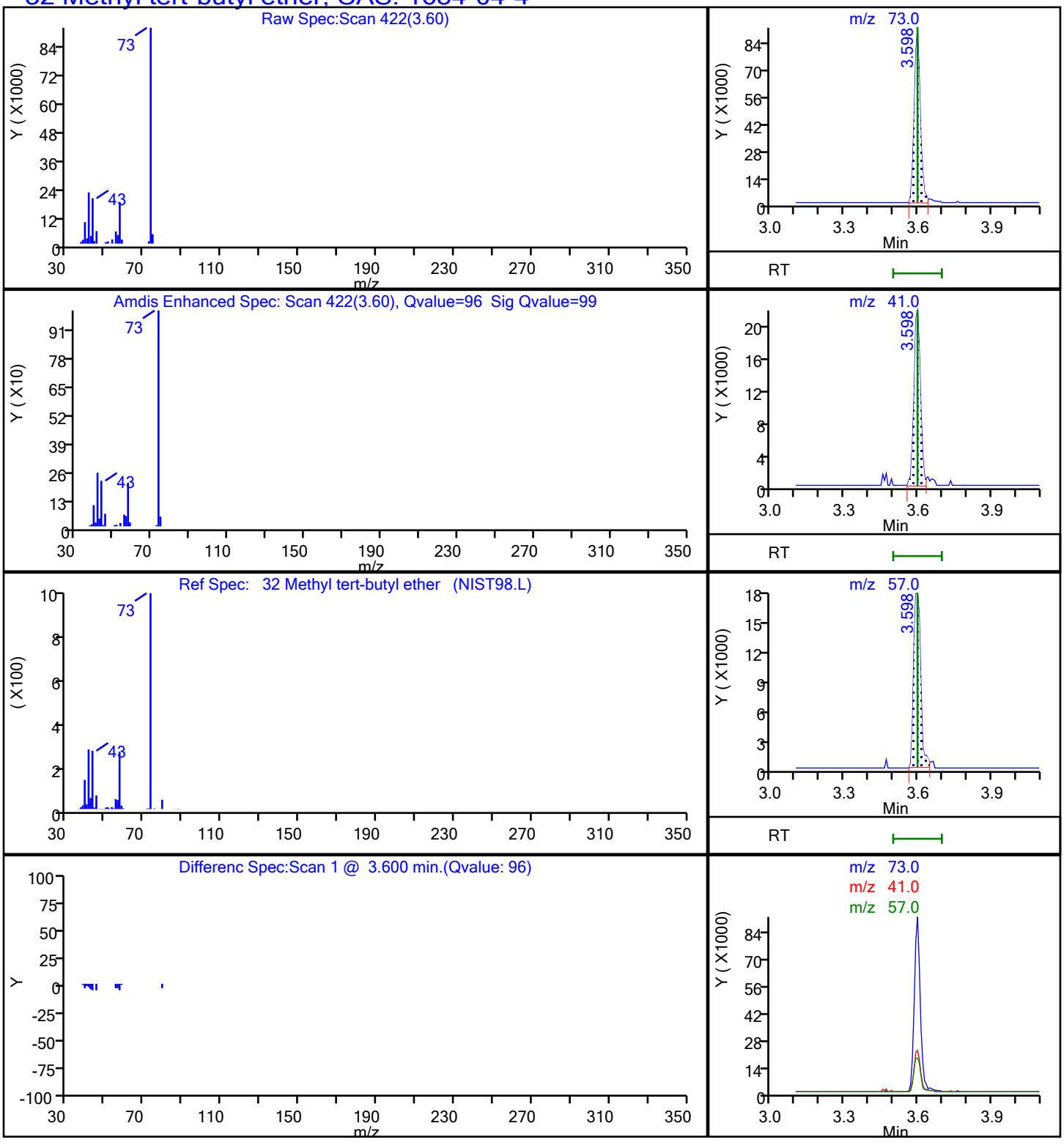
First Level Reviewer: BX8N Date: 20-Dec-2023 03:10:55

Compound	Amount Added	Amount Recovered	% Rec.
$ 4 Dibromofluoromethane (Surr)	50.0	54.5	108.97
$ 5 1,2-Dichloroethane-d4 (Surr)	50.0	52.4	104.82
$ 6 Toluene-d8 (Surr)	50.0	48.7	97.39
$ 7 4-Bromofluorobenzene (Surr)	50.0	48.4	96.86

Eurofins Denver

Data File:	\\chromfs\Denver\ChromData\VMS_X4\20231219-128742.b\X512032.D				
Injection Date:	19-Dec-2023 23:32:30	Instrument ID:	VMS_X4		
Lims ID:	280-185814-F-5	Lab Sample ID:	280-185814-5		
Client ID:	TV044-MW151223A				
Operator ID:	CF	ALS Bottle#:	19	Worklist Smp#:	24
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	VMS_X4_8260	Limit Group:	MSV - 8260B Water and Solid		
Column:	Rxi-624Sil MS (0.25 mm)	Detector	MS SCAN		

32 Methyl tert-butyl ether, CAS: 1634-04-4



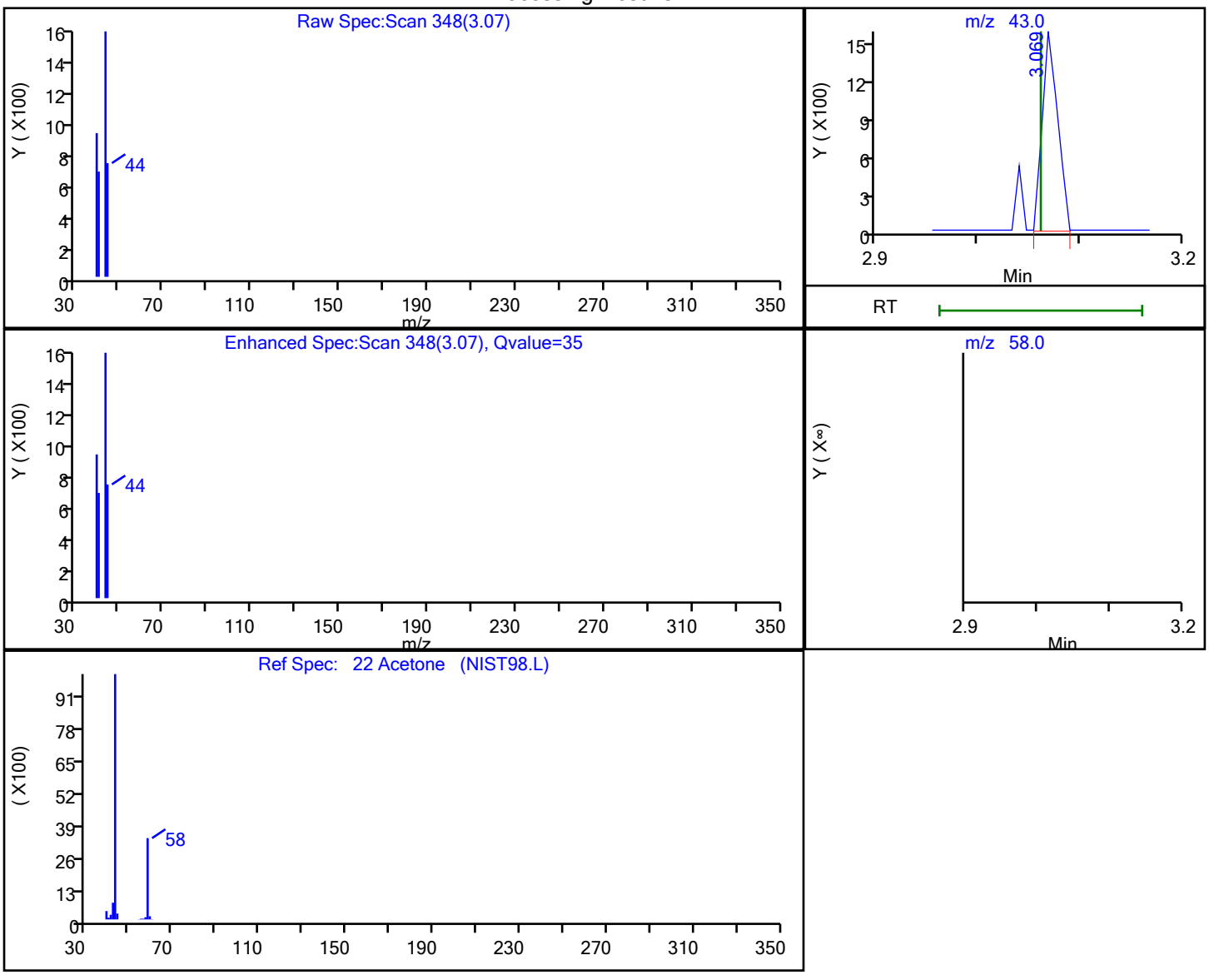
User Disabled Compound Report

Eurofins Denver

Data File:	\\chromfs\Denver\ChromData\VMS_X4\20231219-128742.b\X512032.D				
Injection Date:	19-Dec-2023 23:32:30	Instrument ID:	VMS_X4		
Lims ID:	280-185814-F-5	Lab Sample ID:	280-185814-5		
Client ID:	TV044-MW151223A				
Operator ID:	CF	ALS Bottle#:	19	Worklist Smp#:	24
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	VMS_X4_8260	Limit Group:	MSV - 8260B Water and Solid		
Column:	Rxi-624Sil MS (0.25 mm)	Detector	MS SCAN		

22 Acetone, CAS: 67-64-1

Processing Results



RT	Mass	Response	Amount
3.07	43.00	1680	0.524781
3.06	58.00	0	

Reviewer: BX8N, 20-Dec-2023 03:10:51 -07:00:00 (UTC)

Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

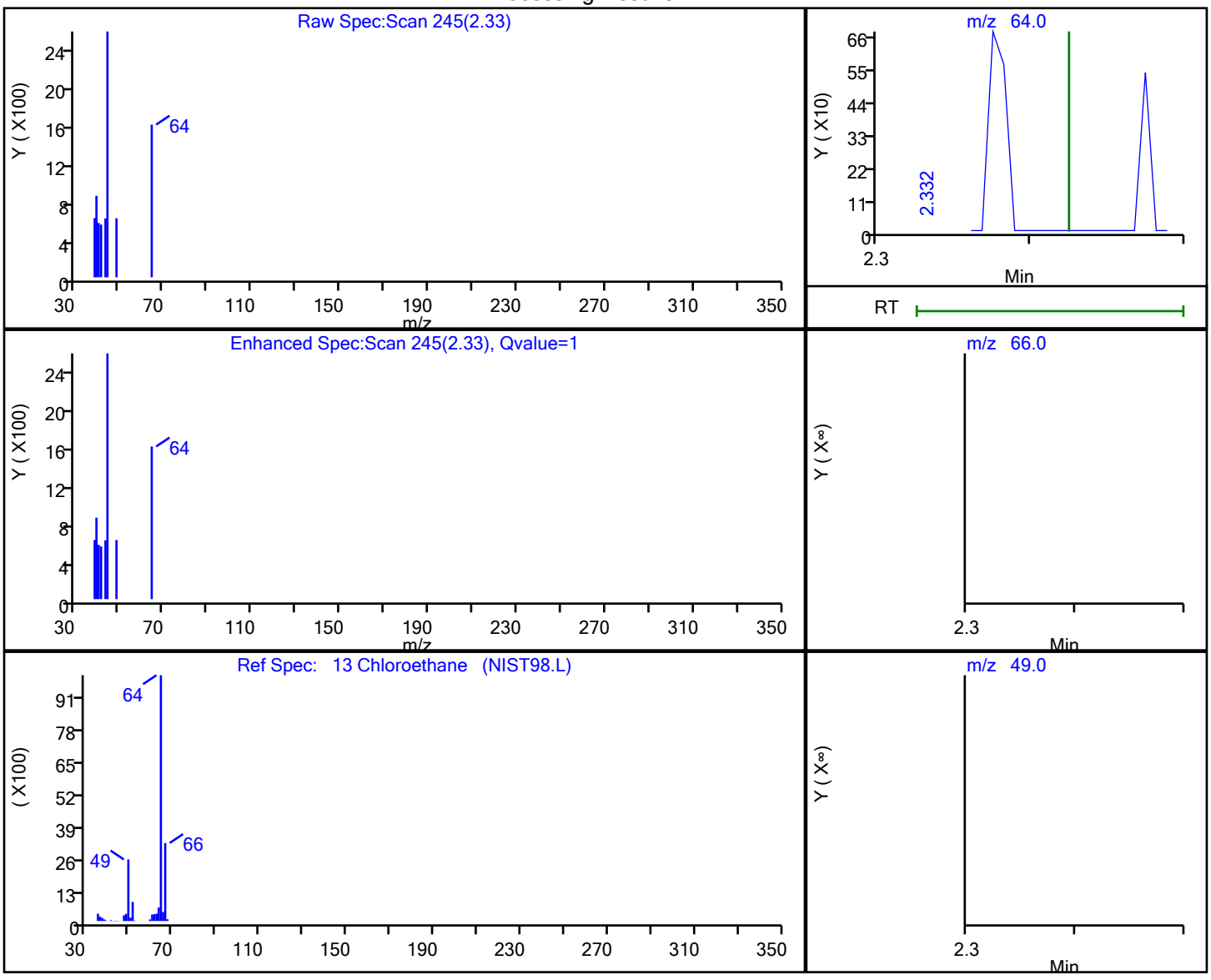
User Disabled Compound Report

Eurofins Denver

Data File:	\\chromfs\Denver\ChromData\VMS_X4\20231219-128742.b\X512032.D				
Injection Date:	19-Dec-2023 23:32:30	Instrument ID:	VMS_X4		
Lims ID:	280-185814-F-5	Lab Sample ID:	280-185814-5		
Client ID:	TV044-MW151223A				
Operator ID:	CF	ALS Bottle#:	19	Worklist Smp#:	24
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	VMS_X4_8260	Limit Group:	MSV - 8260B Water and Solid		
Column:	Rxi-624Sil MS (0.25 mm)	Detector	MS SCAN		

13 Chloroethane, CAS: 75-00-3

Processing Results



RT	Mass	Response	Amount
2.33	64.00	1544	0.177351
2.42	66.00	0	
2.42	49.00	0	

Reviewer: BX8N, 20-Dec-2023 03:10:52 -07:00:00 (UTC)

Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

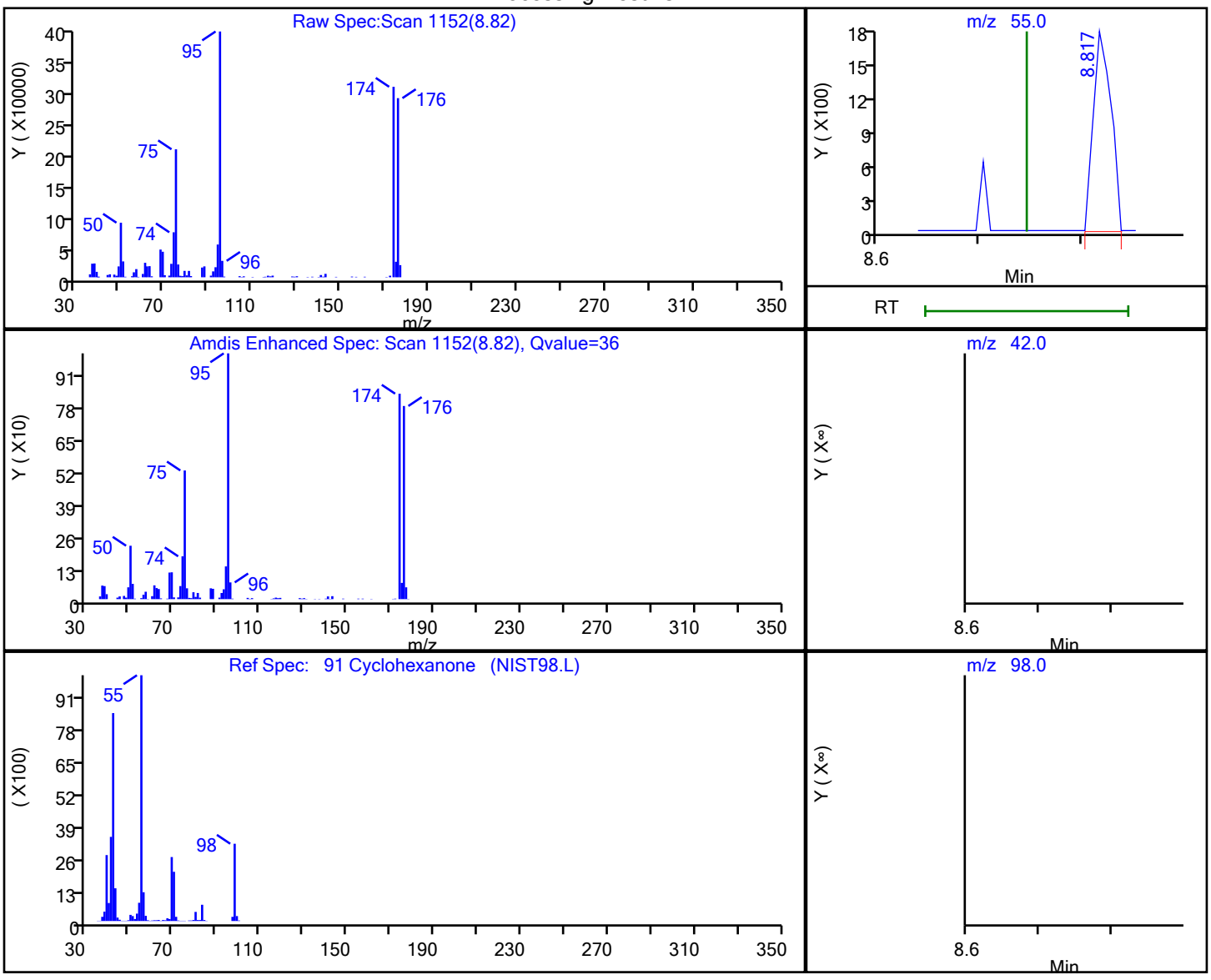
User Disabled Compound Report

Eurofins Denver

Data File:	\\chromfs\Denver\ChromData\VMS_X4\20231219-128742.b\X512032.D				
Injection Date:	19-Dec-2023 23:32:30	Instrument ID:	VMS_X4		
Lims ID:	280-185814-F-5	Lab Sample ID:	280-185814-5		
Client ID:	TV044-MW151223A				
Operator ID:	CF	ALS Bottle#:	19	Worklist Smp#:	24
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	VMS_X4_8260	Limit Group:	MSV - 8260B Water and Solid		
Column:	Rxi-624Sil MS (0.25 mm)	Detector	MS SCAN		

91 Cyclohexanone, CAS: 108-94-1

Processing Results



RT	Mass	Response	Amount
8.82	55.00	2063	4.429094
8.75	42.00	0	
8.75	98.00	0	

Reviewer: BX8N, 20-Dec-2023 03:10:39 -07:00:00 (UTC)

Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Denver | Job No.: 280-185814-1

SDG No.:

Client Sample ID: TV044-MW22S1223A | Lab Sample ID: 280-185814-6

Matrix: Water | Lab File ID: X512036.D

Analysis Method: 8260D | Date Collected: 12/14/2023 12:05

Sample wt/vol: 5(mL) | Date Analyzed: 12/20/2023 01:00

Soil Aliquot Vol: | Dilution Factor: 20

Soil Extract Vol.: | GC Column: RXI-624SilMS ID: 0.25(mm)

Purge Volume: 5.0(mL) | Heated Purge: (Y/N) N pH: 6.0

% Moisture: % Solids: | Level: (low/med) Low

Analysis Batch No.: 637903 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
71-55-6	1,1,1-Trichloroethane	10	U	20	10	7.8
79-34-5	1,1,2,2-Tetrachloroethane	16	U	20	16	4.2
79-00-5	1,1,2-Trichloroethane	16	U	20	16	5.4
75-34-3	1,1-Dichloroethane	16	U	20	16	4.4
75-35-4	1,1-Dichloroethylene	16	U	20	16	4.6
563-58-6	1,1-Dichloropropene	16	U	20	16	8.3
87-61-6	1,2,3-Trichlorobenzene	16	U	40	16	14
96-18-4	1,2,3-Trichloropropane	36	U	50	36	17
526-73-8	1,2,3-Trimethylbenzene	16	U	40	16	5.4
120-82-1	1,2,4-Trichlorobenzene	16	U	20	16	12
95-63-6	1,2,4-Trimethylbenzene	8.0	U	20	8.0	3.0
96-12-8	1,2-Dibromo-3-Chloropropane	80	U	100	80	35
106-93-4	1,2-Dibromoethane	16	U	20	16	8.1
95-50-1	1,2-Dichlorobenzene	10	U	20	10	7.4
107-06-2	1,2-Dichloroethane	16	U	20	16	11
78-87-5	1,2-Dichloropropane	16	U	20	16	10
108-67-8	1,3,5-Trimethylbenzene	10	U	20	10	7.4
541-73-1	1,3-Dichlorobenzene	8.0	U	20	8.0	6.7
142-28-9	1,3-Dichloropropane	16	U	20	16	7.6
106-46-7	1,4-Dichlorobenzene	10	U	20	10	7.8
594-20-7	2,2-Dichloropropane	16	U	20	16	7.6
78-93-3	2-Butanone (MEK)	240	U	300	240	120
110-75-8	2-Chloroethyl vinyl ether	16	U	60	16	8.8
591-78-6	2-Hexanone	80	U	100	80	34
99-87-6	4-Isopropyltoluene	16	U	20	16	8.6
108-10-1	4-Methyl-2-pentanone (MIBK)	64	U	100	64	20
67-64-1	Acetone	160	U	300	160	130
107-13-1	Acrylonitrile	160	U M	400	160	89
71-43-2	Benzene	16	U	20	16	6.2
108-86-1	Bromobenzene	10	U	20	10	7.9
74-97-5	Bromochloromethane	16	U	20	16	8.1
75-27-4	Bromodichloromethane	10	U	20	10	7.7
75-25-2	Bromoform	36	U	40	36	24
75-15-0	Carbon disulfide	16	U	40	16	13

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Denver | Job No.: 280-185814-1

SDG No.:

Client Sample ID: TV044-MW22S1223A | Lab Sample ID: 280-185814-6

Matrix: Water | Lab File ID: X512036.D

Analysis Method: 8260D | Date Collected: 12/14/2023 12:05

Sample wt/vol: 5(mL) | Date Analyzed: 12/20/2023 01:00

Soil Aliquot Vol: | Dilution Factor: 20

Soil Extract Vol.: | GC Column: RXI-624SilMS ID: 0.25(mm)

Purge Volume: 5.0(mL) | Heated Purge: (Y/N) N pH: 6.0

% Moisture: % Solids: | Level: (low/med) Low

Analysis Batch No.: 637903 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
56-23-5	Carbon tetrachloride	16	U	20	16	11
108-90-7	Chlorobenzene	16	U	20	16	8.4
75-00-3	Chloroethane	32	U	80	32	27
67-66-3	Chloroform	16	U	20	16	7.2
74-87-3	Chloromethane	20	U	40	20	15
156-59-2	cis-1,2-Dichloroethylene	8.0	U	20	8.0	6.4
10061-01-5	cis-1,3-Dichloropropene	36	U	40	36	13
110-82-7	Cyclohexane	16	U	20	16	8.8
108-94-1	Cyclohexanone	1300	U M Q	2000	1300	630
124-48-1	Dibromochloromethane	36	U	40	36	12
74-95-3	Dibromomethane	8.0	U	20	8.0	6.9
75-71-8	Dichlorodifluoromethane	50	U	60	50	19
100-41-4	Ethylbenzene	8.0	U	20	8.0	6.1
87-68-3	Hexachlorobutadiene	36	U	40	36	23
108-20-3	Isopropyl ether	40	U	200	40	22
98-82-8	Isopropylbenzene	10	U	20	10	7.3
1634-04-4	Methyl tert-butyl ether	1200	D	100	16	5.0
108-87-2	Methylcyclohexane	8.0	U	20	8.0	6.3
75-09-2	Methylene Chloride	36	U	40	36	19
91-20-3	Naphthalene	16	U	40	16	13
104-51-8	n-Butylbenzene	16	U	20	16	9.5
110-54-3	n-Hexane	16	U	40	16	3.3
103-65-1	N-Propylbenzene	16	U	20	16	11
95-49-8	o-Chlorotoluene	8.0	U	20	8.0	6.8
106-43-4	p-Chlorotoluene	16	U	20	16	4.2
135-98-8	sec-Butylbenzene	16	U	20	16	8.9
100-42-5	Styrene	16	U	20	16	7.1
98-06-6	tert-Butylbenzene	16	U	20	16	8.4
127-18-4	Tetrachloroethene	16	U	20	16	8.1
108-88-3	Toluene	8.0	U	20	8.0	6.4
156-60-5	trans-1,2-Dichloroethylene	10	U	20	10	7.4
10061-02-6	trans-1,3-Dichloropropene	36	U	40	36	13
79-01-6	Trichloroethene	8.0	U	20	8.0	6.0
75-69-4	Trichlorofluoromethane	16	U	40	16	11

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Denver | Job No.: 280-185814-1

SDG No.:

Client Sample ID: TV044-MW22S1223A | Lab Sample ID: 280-185814-6

Matrix: Water | Lab File ID: X512036.D

Analysis Method: 8260D | Date Collected: 12/14/2023 12:05

Sample wt/vol: 5(mL) | Date Analyzed: 12/20/2023 01:00

Soil Aliquot Vol: | Dilution Factor: 20

Soil Extract Vol.: | GC Column: RXI-624SilMS ID: 0.25(mm)

Purge Volume: 5.0(mL) | Heated Purge: (Y/N) N pH: 6.0

% Moisture: % Solids: | Level: (low/med) Low

Analysis Batch No.: 637903 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
108-05-4	Vinyl acetate	40	U	60	40	19
75-01-4	Vinyl chloride	20	U	40	20	10
1330-20-7	Xylenes, Total	16	U	20	16	6.6

CAS NO.	SURROGATE	%REC	Q	LIMITS
17060-07-0	1,2-Dichloroethane-d4 (Surr)	106		81-118
460-00-4	4-Bromofluorobenzene (Surr)	88		85-114
1868-53-7	Dibromofluoromethane (Surr)	110		80-119
2037-26-5	Toluene-d8 (Surr)	98		89-112

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET
TARGETED TENATIVELY IDENTIFIED COMPOUNDS

Lab Name: Eurofins Denver | Job No.: 280-185814-1

SDG No.:

Client Sample ID: TV044-MW22S1223A | Lab Sample ID: 280-185814-6

Matrix: Water | Lab File ID: X512036.D

Analysis Method: 8260D | Date Collected: 12/14/2023 12:05

Sample wt/vol: 5(mL) | Date Analyzed: 12/20/2023 01:00

Soil Aliquot Vol: | Dilution Factor: 20

Soil Extract Vol.: | GC Column: RXI-624SilMS ID: 0.25(mm)

Purge Volume: 5.0(mL) | Heated Purge: (Y/N) N pH: 6.0

% Moisture: % Solids: | Level: (low/med) Low

Analysis Batch No.: 637903 | Units: ug/L

CAS NO.	COMPOUND NAME	RT	RESULT	Q	MATCH QUALITY
106-99-0	1,3-Butadiene TIC		20	U	
622-96-8	4-Ethyltoluene TIC		20	U	
77-73-6	Dicyclopentadiene TIC		20	U	
115-07-1	Propene TIC		20	U	

Eurofins Denver
Target Compound Quantitation Report

Data File: \\chromfs\Denver\ChromData\VMS_X4\20231219-128742.b\X512036.D
Lims ID: 280-185814-F-6
Client ID: TV044-MW22S1223A
Sample Type: Client
Inject. Date: 20-Dec-2023 01:00:30 ALS Bottle#: 23 Worklist Smp#: 28
Purge Vol: 5.000 mL Dil. Factor: 20.0000
Sample Info: 280-185814-f-6
Misc. Info.: 20x
Operator ID: CF Instrument ID: VMS_X4

Method: \\chromfs\Denver\ChromData\VMS_X4\20231219-128742.b\VMS_X4_8260.m
Limit Group: MSV - 8260B Water and Solid
Last Update: 20-Dec-2023 03:15:50 Calib Date: 11-Dec-2023 20:50:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Denver\ChromData\VMS_X4\20231211-128477.b\X511702.D

Column 1 : Rxi-624Sil MS (0.25 mm) Det: MS SCAN
Process Host: CTX1617

First Level Reviewer: BX8N Date: 20-Dec-2023 03:12:25

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	OnCol Amt ug/l	Flags
* 1 Fluorobenzene	96	5.199	5.199	0.000	98	1598224	50.0	
* 2 Chlorobenzene-d5	119	7.730	7.730	0.000	89	442045	50.0	
* 3 1,4-Dichlorobenzene-d4	152	9.947	9.947	0.000	97	783309	50.0	
$ 4 Dibromofluoromethane (Surr)	111	4.691	4.691	0.000	93	448309	54.8	
$ 5 1,2-Dichloroethane-d4 (Surr)	65	4.956	4.956	0.000	0	562636	53.2	
$ 6 Toluene-d8 (Surr)	98	6.458	6.458	0.000	95	1861771	48.9	
$ 7 4-Bromofluorobenzene (Surr)	95	8.817	8.817	0.000	88	659199	44.1	
$ 8 BFB	95	8.817	8.817	0.000	87	659199	NR	
9 Dichlorodifluoromethane	85		1.760				ND	
10 Chloromethane	50		1.939				ND	
11 Vinyl chloride	62		2.039				ND	
12 Bromomethane	94		2.332				ND	
13 Chloroethane	64		2.425				ND	
15 Propene oxide	58		2.504				ND	
14 Dichlorofluoromethane	67		2.596				ND	
16 Trichlorofluoromethane	101		2.632				ND	
17 Ethanol	45		2.754				ND	
18 Ethyl ether	59		2.847				ND	
19 Acrolein	56		2.961				ND	
20 1,1,2-Trichloro-1,2,2-trifluoroe	151		3.040				ND	
21 1,1-Dichloroethene	96		3.047				ND	
22 Acetone	43	3.068	3.061	0.007	73	4803	1.54	
23 Isopropyl alcohol	45		3.147				ND	
24 Iodomethane	142		3.169				ND	
25 Carbon disulfide	76		3.233				ND	
26 Acetonitrile	41		3.276				ND	
27 Methyl acetate	43		3.290				ND	
28 3-Chloro-1-propene	41		3.319				ND	
29 Methylene Chloride	84		3.412				ND	
30 2-Methyl-2-propanol	59	3.447	3.455	-0.008	96	13800	16.4	
31 Acrylonitrile	53		3.576				ND	U

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	OnCol Amt ug/l	Flags
32 Methyl tert-butyl ether	73	3.597	3.598	-0.001	97	1522947	62.4	
33 trans-1,2-Dichloroethene	96		3.612				ND	
34 Hexane	57		3.805				ND	
35 Vinyl acetate	43		3.905				ND	
37 Isopropyl ether	87		3.926				ND	
36 1,1-Dichloroethane	63		3.934				ND	
38 2-Chloro-1,3-butadiene	53		3.984				ND	
39 Tert-butyl ethyl ether	59		4.191				ND	
40 2-Butanone (MEK)	43		4.320				ND	
41 Ethyl acetate	43		4.327				ND	
42 cis-1,2-Dichloroethene	96		4.341				ND	
43 2,2-Dichloropropane	77		4.355				ND	
44 Propionitrile	54		4.370				ND	
45 sec-Butyl Alcohol	45		4.420				ND	
46 Methacrylonitrile	41		4.484				ND	
47 Chlorobromomethane	128		4.520				ND	
48 Tetrahydrofuran	42		4.527				ND	
49 Chloroform	83		4.577				ND	
50 1,1,1-Trichloroethane	97		4.720				ND	
51 Cyclohexane	56		4.784				ND	
52 1,1-Dichloropropene	75		4.835				ND	
54 Isobutyl alcohol	41		4.842				ND	U
53 Carbon tetrachloride	117		4.842				ND	
55 Benzene	78		4.985				ND	7
56 1,2-Dichloroethane	62		5.013				ND	7
57 Tert-amyl methyl ether	73		5.056				ND	
58 n-Heptane	43		5.171				ND	
59 n-Butanol	56		5.335				ND	
60 Trichloroethene	95		5.471				ND	
61 2-Pentanone	43		5.578				ND	
62 Methylcyclohexane	55		5.671				ND	
64 Methyl methacrylate	100		5.678				ND	
63 1,2-Dichloropropane	63		5.678				ND	
65 1,4-Dioxane	88		5.721				ND	
66 Dibromomethane	93		5.750				ND	
67 Dichlorobromomethane	83		5.871				ND	
68 2-Nitropropane	41		6.043				ND	
69 2-Chloroethyl vinyl ether	63		6.072				ND	
70 cis-1,3-Dichloropropene	75		6.222				ND	
71 4-Methyl-2-pentanone (MIBK)	43		6.322				ND	
72 Toluene	91		6.515				ND	
73 trans-1,3-Dichloropropene	75		6.686				ND	
74 Ethyl methacrylate	69		6.701				ND	
75 1,1,2-Trichloroethane	97		6.858				ND	
76 Tetrachloroethene	164		6.951				ND	
77 1,3-Dichloropropane	76		7.008				ND	
78 2-Hexanone	43		7.022				ND	
79 Chlorodibromomethane	129		7.201				ND	
80 Ethylene Dibromide	107		7.323				ND	
81 1-Chlorohexane	91		7.709				ND	U
82 Chlorobenzene	112		7.752				ND	
83 1,1,1,2-Tetrachloroethane	131		7.823				ND	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	OnCol Amt ug/l	Flags
84 Ethylbenzene	106		7.830			ND		
85 m-Xylene & p-Xylene	106		7.945			ND		
86 o-Xylene	106		8.302			ND		
87 Styrene	104		8.324			ND		
88 Bromoform	173		8.503			ND		
89 Isopropylbenzene	105		8.646			ND		
90 cis-1,4-Dichloro-2-butene	53		8.696			ND		
91 Cyclohexanone	55		8.746			ND		U
92 1,1,2,2-Tetrachloroethane	83		8.932			ND		
93 Bromobenzene	156		8.967			ND		
94 trans-1,4-Dichloro-2-butene	53		8.967			ND		
95 1,2,3-Trichloropropane	110		8.996			ND		
96 N-Propylbenzene	120		9.046			ND		
97 2-Chlorotoluene	126		9.146			ND		
98 1,3,5-Trimethylbenzene	105		9.218			ND		
99 4-Chlorotoluene	126		9.261			ND		
101 Pentachloroethane	167		9.411			ND		
100 tert-Butylbenzene	119		9.525			ND		
102 1,2,4-Trimethylbenzene	105		9.582			ND		
103 sec-Butylbenzene	134		9.747			ND		
104 1,3-Dichlorobenzene	146		9.875			ND		
105 4-Isopropyltoluene	119		9.890			ND		
106 1,4-Dichlorobenzene	146		9.976			ND		
107 1,2,3-Trimethylbenzene	105		9.990			ND		
108 n-Butylbenzene	91		10.297			ND		
109 1,2-Dichlorobenzene	146		10.333			ND		
110 1,2-Dibromo-3-Chloropropane	157		11.112			ND		
111 1,3,5-Trichlorobenzene	180		11.298			ND		
112 1,2,4-Trichlorobenzene	180		11.935			ND		
113 Hexachlorobutadiene	225		12.071			ND		
114 Naphthalene	128		12.206			ND		
115 1,2,3-Trichlorobenzene	180		12.428			ND		
116 Ethylene oxide TIC	1		0.000			ND		
117 t-Amyl alcohol	1		0.000			ND		
118 Ethyl acrylate	55		0.000			ND		
119 1-Chloro-1-fluoroethane TIC	1		0.000			ND		
120 Tetrahydrothiophene TIC	1		0.000			ND		
121 Propene oxide TIC	58		5.334			ND		
S 122 1,2-Dichloroethene, Total (URS)	96		2.000			ND		7
S 129 1,2-Dichloroethene, Total	1		0.000			ND		7
S 124 1,3-Dichloropropene, Total	1		0.000			ND		7
S 123 Xylenes, Total (URS)	1		0.000			ND		7
S 127 Trihalomethanes, Total	1		0.000			ND		7
S 126 Total BTEX	1		0.000			ND		7
S 128 TAH	1				0		0	
S 125 Xylenes, Total	106		0.000			ND		7
T 130 Dichloroacetonitrile TIC	74		1.000			ND		
T 132 1-Chlorohexane TIC	1		0.000			ND		
T 131 Methyl cyclohexane TIC	1		0.000			ND		
T 140 2,3-Dichloro-1-propene TIC	75		0.000			ND		
T 139 Propene TIC	1		0.000			ND		
T 138 n-Nonane TIC	1		0.000			ND		

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	OnCol Amt ug/l	Flags
T 137 1,3-Butadiene TIC	1		0.000				ND	
T 136 Cyclohexane TIC	1		0.000				ND	
T 135 4-Ethyltoluene TIC	1		0.000				ND	
T 134 2-Butoxyethanol TIC	1		0.000				ND	
T 133 Dicyclopentadiene TIC	1		0.000				ND	

QC Flag Legend

Processing Flags
- NR - Missing Quant Standard
- 7 - Failed Limit of Detection

Review Flags
- U - Marked Undetected

Reagents:

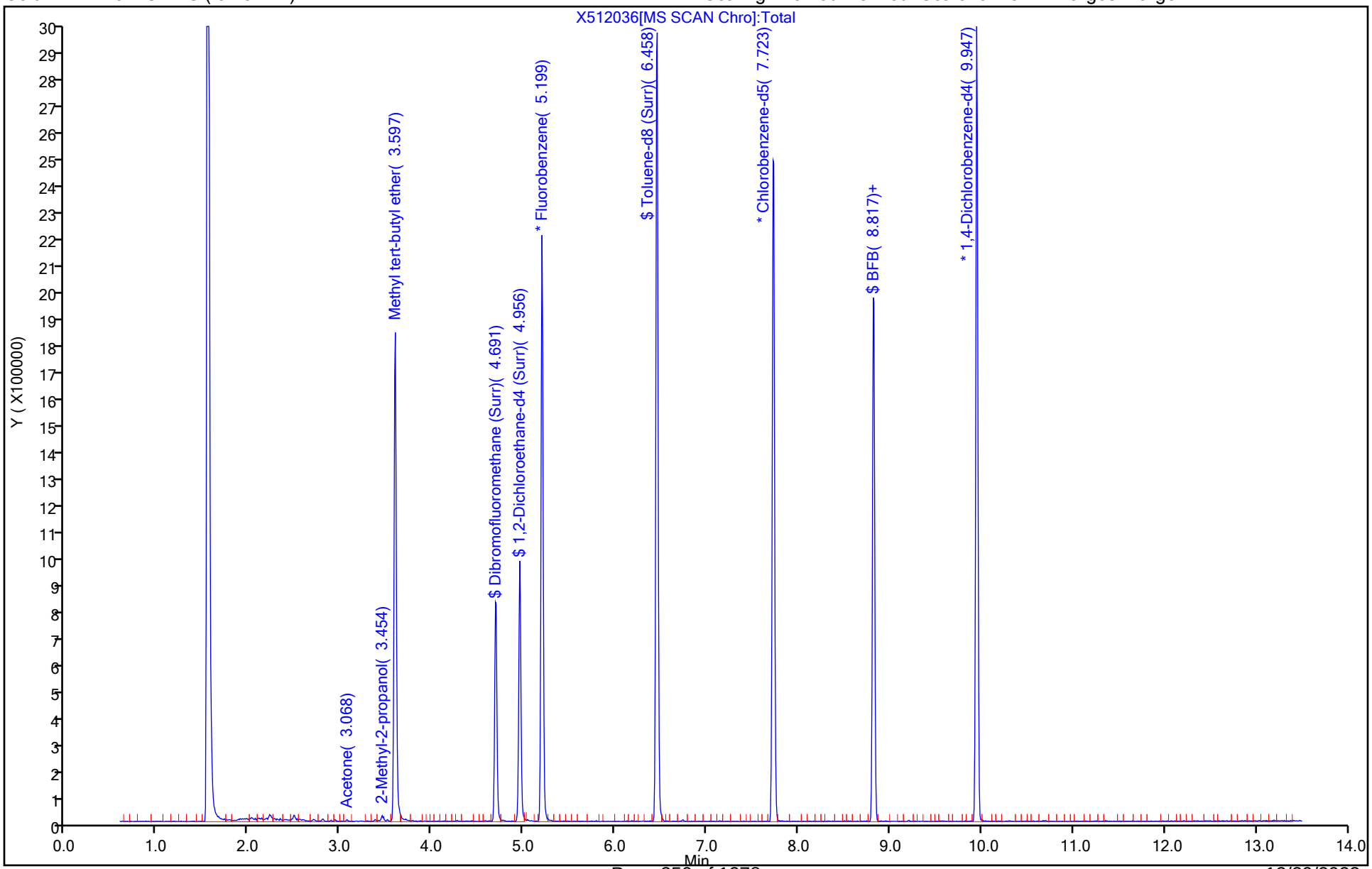
mv-IS_SS_00074 Amount Added: 5.00 Units: uL Run Reagent

Report Date: 20-Dec-2023 03:16:16 Chrom Revision: 2.3 15-Nov-2023 20:54:34

Eurofins Denver

Data File:	\\chromfs\Denver\ChromData\VMS_X4\20231219-128742.b\X512036.D				
Injection Date:	20-Dec-2023 01:00:30	Instrument ID:	VMS_X4	Operator ID:	CF
Lims ID:	280-185814-F-6	Lab Sample ID:	280-185814-6	Worklist Smp#:	28
Client ID:	TV044-MW22S1223A				
Purge Vol:	5.000 mL	Dil. Factor:	20.0000	ALS Bottle#:	23
Method:	VMS_X4_8260	Limit Group:	MSV - 8260B Water and Solid		

Column: Rxi-624Sil MS (0.25 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 1



12/29/2023
12:08 PM

Eurofins Denver
Recovery Report

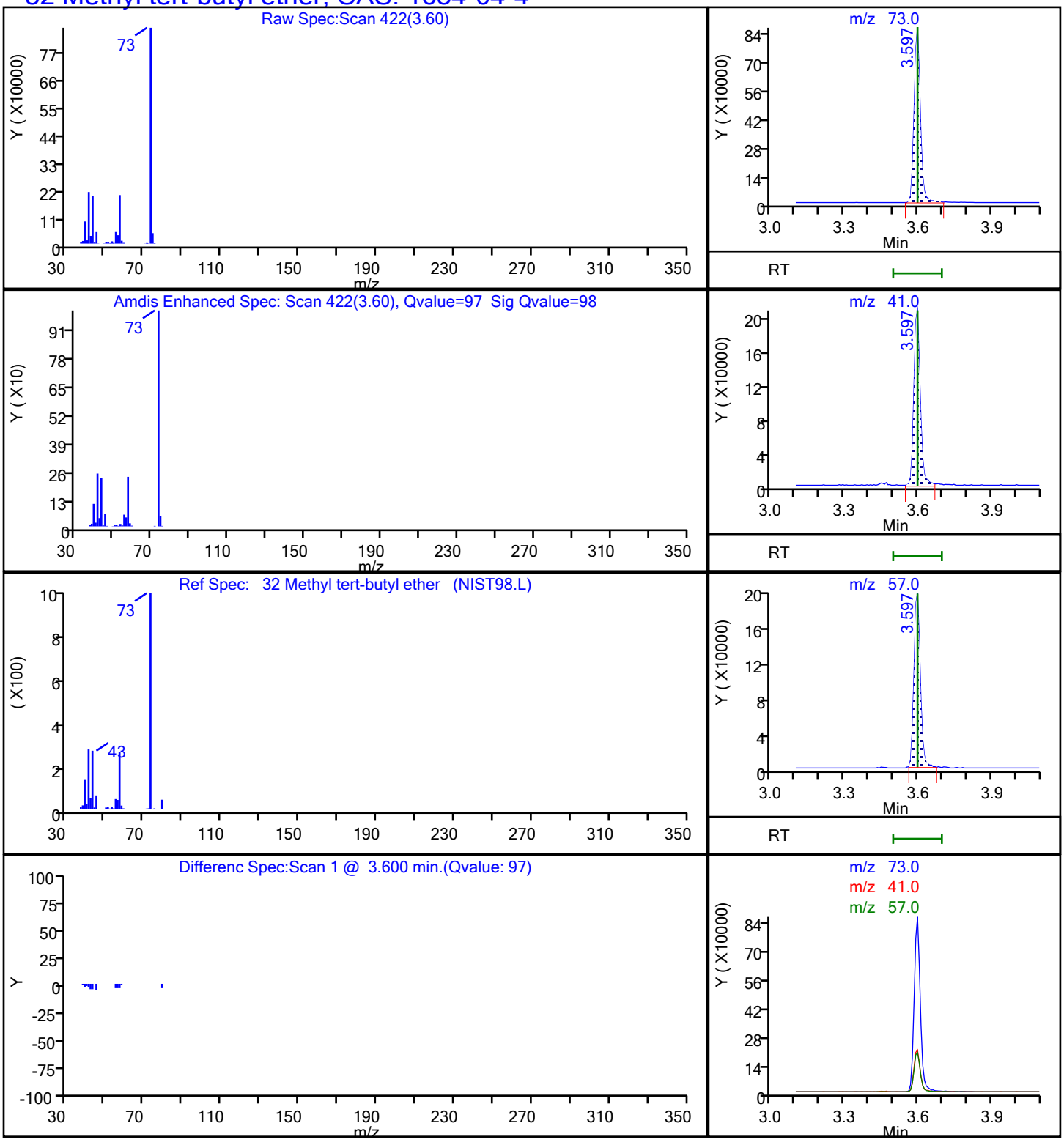
Data File:	\\chromfs\Denver\ChromData\VMS_X4\20231219-128742.b\X512036.D				
Lims ID:	280-185814-F-6				
Client ID:	TV044-MW22S1223A				
Sample Type:	Client				
Inject. Date:	20-Dec-2023 01:00:30	ALS Bottle#:	23	Worklist Smp#:	28
Purge Vol:	5.000 mL	Dil. Factor:	20.0000		
Sample Info:	280-185814-f-6				
Misc. Info.:	20x				
Operator ID:	CF	Instrument ID:	VMS_X4		
Method:	\\chromfs\Denver\ChromData\VMS_X4\20231219-128742.b\VMS_X4_8260.m				
Limit Group:	MSV - 8260B Water and Solid				
Last Update:	20-Dec-2023 03:15:50	Calib Date:	11-Dec-2023 20:50:30		
Integrator:	RTE	ID Type:	Deconvolution ID		
Quant Method:	Internal Standard	Quant By:	Initial Calibration		
Last ICal File:	\\chromfs\Denver\ChromData\VMS_X4\20231211-128477.b\X511702.D				
Column 1 :	Rxi-624Sil MS (0.25 mm)		Det: MS SCAN		
Process Host:	CTX1617				
First Level Reviewer: BX8N		Date:	20-Dec-2023 03:12:25		

Compound	Amount Added	Amount Recovered	% Rec.
$ 4 Dibromofluoromethane (Surr)	50.0	54.8	2193.21
$ 5 1,2-Dichloroethane-d4 (Surr)	50.0	53.2	2128.21
$ 6 Toluene-d8 (Surr)	50.0	48.9	1956.70
$ 7 4-Bromofluorobenzene (Surr)	50.0	44.1	1763.76

Eurofins Denver

Data File:	\\chromfs\Denver\ChromData\VMS_X4\20231219-128742.b\X512036.D				
Injection Date:	20-Dec-2023 01:00:30	Instrument ID:	VMS_X4		
Lims ID:	280-185814-F-6	Lab Sample ID:	280-185814-6		
Client ID:	TV044-MW22S1223A				
Operator ID:	CF	ALS Bottle#:	23	Worklist Smp#:	28
Purge Vol:	5.000 mL	Dil. Factor:	20.0000		
Method:	VMS_X4_8260	Limit Group:	MSV - 8260B Water and Solid		
Column:	Rxi-624Sil MS (0.25 mm)	Detector	MS SCAN		

32 Methyl tert-butyl ether, CAS: 1634-04-4



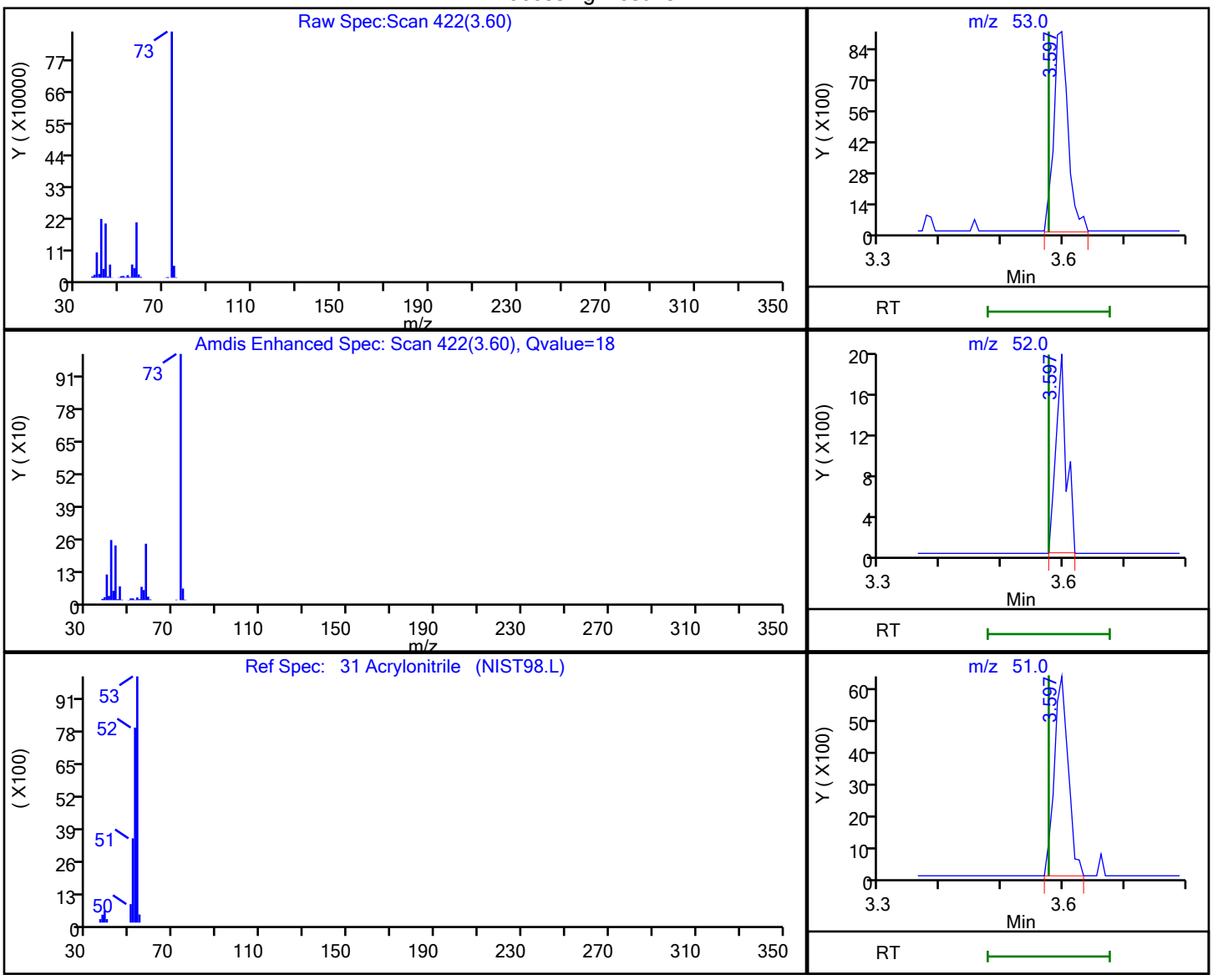
User Disabled Compound Report

Eurofins Denver

Data File:	\\chromfs\Denver\ChromData\VMS_X4\20231219-128742.b\X512036.D				
Injection Date:	20-Dec-2023 01:00:30	Instrument ID:	VMS_X4		
Lims ID:	280-185814-F-6	Lab Sample ID:	280-185814-6		
Client ID:	TV044-MW22S1223A				
Operator ID:	CF	ALS Bottle#:	23	Worklist Smp#:	28
Purge Vol:	5.000 mL	Dil. Factor:	20.0000		
Method:	VMS_X4_8260	Limit Group:	MSV - 8260B Water and Solid		
Column:	Rxi-624Sil MS (0.25 mm)	Detector	MS SCAN		

31 Acrylonitrile, CAS: 107-13-1

Processing Results



RT	Mass	Response	Amount
3.60	53.00	15018	3.795976
3.60	52.00	2338	
3.60	51.00	10115	

Reviewer: BX8N, 20-Dec-2023 03:12:16 -07:00:00 (UTC)

Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

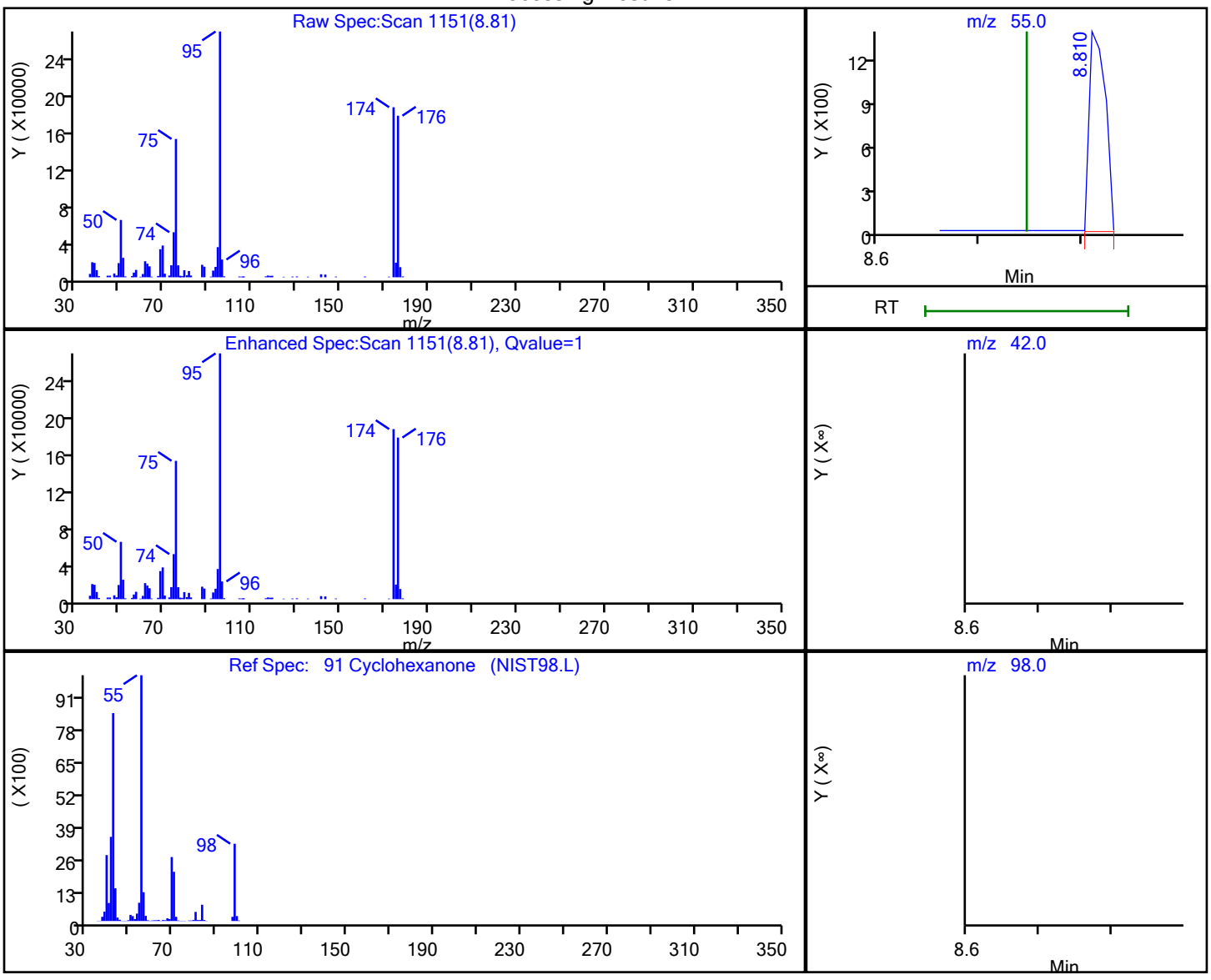
User Disabled Compound Report

Eurofins Denver

Data File:	\\chromfs\Denver\ChromData\VMS_X4\20231219-128742.b\X512036.D				
Injection Date:	20-Dec-2023 01:00:30	Instrument ID:	VMS_X4		
Lims ID:	280-185814-F-6	Lab Sample ID:	280-185814-6		
Client ID:	TV044-MW22S1223A				
Operator ID:	CF	ALS Bottle#:	23	Worklist Smp#:	28
Purge Vol:	5.000 mL	Dil. Factor:	20.0000		
Method:	VMS_X4_8260	Limit Group:	MSV - 8260B Water and Solid		
Column:	Rxi-624Sil MS (0.25 mm)	Detector	MS SCAN		

91 Cyclohexanone, CAS: 108-94-1

Processing Results



RT	Mass	Response	Amount
8.81	55.00	1443	3.193948
8.75	42.00	0	
8.75	98.00	0	

Reviewer: BX8N, 20-Dec-2023 03:12:04 -07:00:00 (UTC)

Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Denver | Job No.: 280-185814-1

SDG No.:

Client Sample ID: TV044-MW22D1223A | Lab Sample ID: 280-185814-7

Matrix: Water | Lab File ID: X512038.D

Analysis Method: 8260D | Date Collected: 12/14/2023 12:35

Sample wt/vol: 5(mL) | Date Analyzed: 12/20/2023 01:44

Soil Aliquot Vol: | Dilution Factor: 200

Soil Extract Vol.: | GC Column: RXI-624SilMS ID: 0.25(mm)

Purge Volume: 5.0(mL) | Heated Purge: (Y/N) N pH: 6.0

% Moisture: % Solids: | Level: (low/med) Low

Analysis Batch No.: 637903 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
71-55-6	1,1,1-Trichloroethane	100	U	200	100	78
79-34-5	1,1,2,2-Tetrachloroethane	160	U	200	160	42
79-00-5	1,1,2-Trichloroethane	160	U	200	160	54
75-34-3	1,1-Dichloroethane	160	U	200	160	44
75-35-4	1,1-Dichloroethylene	160	U	200	160	46
563-58-6	1,1-Dichloropropene	160	U	200	160	83
87-61-6	1,2,3-Trichlorobenzene	160	U	400	160	140
96-18-4	1,2,3-Trichloropropane	360	U	500	360	170
526-73-8	1,2,3-Trimethylbenzene	160	U	400	160	54
120-82-1	1,2,4-Trichlorobenzene	160	U	200	160	120
95-63-6	1,2,4-Trimethylbenzene	80	U	200	80	30
96-12-8	1,2-Dibromo-3-Chloropropane	800	U	1000	800	350
106-93-4	1,2-Dibromoethane	160	U	200	160	81
95-50-1	1,2-Dichlorobenzene	100	U	200	100	74
107-06-2	1,2-Dichloroethane	160	U M	200	160	110
78-87-5	1,2-Dichloropropane	160	U	200	160	100
108-67-8	1,3,5-Trimethylbenzene	100	U	200	100	74
541-73-1	1,3-Dichlorobenzene	80	U	200	80	67
142-28-9	1,3-Dichloropropane	160	U	200	160	76
106-46-7	1,4-Dichlorobenzene	100	U	200	100	78
594-20-7	2,2-Dichloropropane	160	U	200	160	76
78-93-3	2-Butanone (MEK)	2400	U	3000	2400	1200
110-75-8	2-Chloroethyl vinyl ether	160	U	600	160	88
591-78-6	2-Hexanone	800	U	1000	800	340
99-87-6	4-Isopropyltoluene	160	U	200	160	86
108-10-1	4-Methyl-2-pentanone (MIBK)	640	U	1000	640	200
67-64-1	Acetone	1600	U	3000	1600	1300
107-13-1	Acrylonitrile	1600	U M	4000	1600	890
71-43-2	Benzene	1200	D	200	160	62
108-86-1	Bromobenzene	100	U	200	100	79
74-97-5	Bromochloromethane	160	U	200	160	81
75-27-4	Bromodichloromethane	100	U	200	100	77
75-25-2	Bromoform	360	U	400	360	240
75-15-0	Carbon disulfide	160	U	400	160	130

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Denver | Job No.: 280-185814-1

SDG No.:

Client Sample ID: TV044-MW22D1223A | Lab Sample ID: 280-185814-7

Matrix: Water | Lab File ID: X512038.D

Analysis Method: 8260D | Date Collected: 12/14/2023 12:35

Sample wt/vol: 5(mL) | Date Analyzed: 12/20/2023 01:44

Soil Aliquot Vol: | Dilution Factor: 200

Soil Extract Vol.: | GC Column: RXI-624SilMS ID: 0.25(mm)

Purge Volume: 5.0(mL) | Heated Purge: (Y/N) N pH: 6.0

% Moisture: % Solids: | Level: (low/med) Low

Analysis Batch No.: 637903 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
56-23-5	Carbon tetrachloride	160	U	200	160	110
108-90-7	Chlorobenzene	160	U	200	160	84
75-00-3	Chloroethane	320	U	800	320	270
67-66-3	Chloroform	160	U	200	160	72
74-87-3	Chloromethane	200	U	400	200	150
156-59-2	cis-1,2-Dichloroethylene	80	U	200	80	64
10061-01-5	cis-1,3-Dichloropropene	360	U	400	360	130
110-82-7	Cyclohexane	150	J D	200	160	88
108-94-1	Cyclohexanone	13000	U M Q	20000	13000	6300
124-48-1	Dibromochloromethane	360	U	400	360	120
74-95-3	Dibromomethane	80	U	200	80	69
75-71-8	Dichlorodifluoromethane	500	U	600	500	190
100-41-4	Ethylbenzene	80	U	200	80	61
87-68-3	Hexachlorobutadiene	360	U	400	360	230
108-20-3	Isopropyl ether	400	U	2000	400	220
98-82-8	Isopropylbenzene	100	U	200	100	73
1634-04-4	Methyl tert-butyl ether	15000	D	1000	160	50
108-87-2	Methylcyclohexane	310	D	200	80	63
75-09-2	Methylene Chloride	360	U	400	360	190
91-20-3	Naphthalene	160	U	400	160	130
104-51-8	n-Butylbenzene	160	U	200	160	95
110-54-3	n-Hexane	36	J D	400	160	33
103-65-1	N-Propylbenzene	160	U	200	160	110
95-49-8	o-Chlorotoluene	80	U	200	80	68
106-43-4	p-Chlorotoluene	160	U	200	160	42
135-98-8	sec-Butylbenzene	160	U	200	160	89
100-42-5	Styrene	160	U	200	160	71
98-06-6	tert-Butylbenzene	160	U	200	160	84
127-18-4	Tetrachloroethene	160	U	200	160	81
108-88-3	Toluene	80	U	200	80	64
156-60-5	trans-1,2-Dichloroethylene	100	U	200	100	74
10061-02-6	trans-1,3-Dichloropropene	360	U	400	360	130
79-01-6	Trichloroethene	80	U	200	80	60
75-69-4	Trichlorofluoromethane	160	U	400	160	110

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Denver | Job No.: 280-185814-1

SDG No.:

Client Sample ID: TV044-MW22D1223A | Lab Sample ID: 280-185814-7

Matrix: Water | Lab File ID: X512038.D

Analysis Method: 8260D | Date Collected: 12/14/2023 12:35

Sample wt/vol: 5(mL) | Date Analyzed: 12/20/2023 01:44

Soil Aliquot Vol: | Dilution Factor: 200

Soil Extract Vol.: | GC Column: RXI-624SilMS ID: 0.25(mm)

Purge Volume: 5.0(mL) | Heated Purge: (Y/N) N pH: 6.0

% Moisture: % Solids: | Level: (low/med) Low

Analysis Batch No.: 637903 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
108-05-4	Vinyl acetate	400	U	600	400	190
75-01-4	Vinyl chloride	200	U	400	200	100
1330-20-7	Xylenes, Total	77	J D	200	160	66

CAS NO.	SURROGATE	%REC	Q	LIMITS
17060-07-0	1,2-Dichloroethane-d4 (Surr)	104		81-118
460-00-4	4-Bromofluorobenzene (Surr)	88		85-114
1868-53-7	Dibromofluoromethane (Surr)	107		80-119
2037-26-5	Toluene-d8 (Surr)	98		89-112

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET
TARGETED TENATIVELY IDENTIFIED COMPOUNDS

Lab Name: Eurofins Denver | Job No.: 280-185814-1

SDG No.:

Client Sample ID: TV044-MW22D1223A | Lab Sample ID: 280-185814-7

Matrix: Water | Lab File ID: X512038.D

Analysis Method: 8260D | Date Collected: 12/14/2023 12:35

Sample wt/vol: 5(mL) | Date Analyzed: 12/20/2023 01:44

Soil Aliquot Vol: | Dilution Factor: 200

Soil Extract Vol.: | GC Column: RXI-624SilMS ID: 0.25(mm)

Purge Volume: 5.0(mL) | Heated Purge: (Y/N) N pH: 6.0

% Moisture: % Solids: | Level: (low/med) Low

Analysis Batch No.: 637903 | Units: ug/L

CAS NO.	COMPOUND NAME	RT	RESULT	Q	MATCH QUALITY
106-99-0	1,3-Butadiene TIC		200	U	
622-96-8	4-Ethyltoluene TIC		200	U	
77-73-6	Dicyclopentadiene TIC		200	U	
115-07-1	Propene TIC		200	U	

Eurofins Denver
Target Compound Quantitation Report

Data File: \\chromfs\Denver\ChromData\VMS_X4\20231219-128742.b\X512038.D
Lims ID: 280-185814-D-7
Client ID: TV044-MW22D1223A
Sample Type: Client
Inject. Date: 20-Dec-2023 01:44:30 ALS Bottle#: 25 Worklist Smp#: 30
Purge Vol: 5.000 mL Dil. Factor: 200.0000
Sample Info: 280-185814-d-7
Misc. Info.: 200x
Operator ID: CF Instrument ID: VMS_X4

Method: \\chromfs\Denver\ChromData\VMS_X4\20231219-128742.b\VMS_X4_8260.m
Limit Group: MSV - 8260B Water and Solid
Last Update: 20-Dec-2023 03:15:50 Calib Date: 11-Dec-2023 20:50:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Denver\ChromData\VMS_X4\20231211-128477.b\X511702.D

Column 1 : Rxi-624Sil MS (0.25 mm) Det: MS SCAN
Process Host: CTX1617

First Level Reviewer: BX8N Date: 20-Dec-2023 03:14:36

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	OnCol Amt ug/l	Flags
* 1 Fluorobenzene	96	5.199	5.199	0.000	98	1612641	50.0	
* 2 Chlorobenzene-d5	119	7.730	7.730	0.000	89	434210	50.0	
* 3 1,4-Dichlorobenzene-d4	152	9.947	9.947	0.000	97	763081	50.0	
$ 4 Dibromofluoromethane (Surr)	111	4.692	4.691	0.001	93	440909	53.4	
$ 5 1,2-Dichloroethane-d4 (Surr)	65	4.956	4.956	0.000	0	553108	51.8	
$ 6 Toluene-d8 (Surr)	98	6.458	6.458	0.000	94	1833761	49.1	
$ 7 4-Bromofluorobenzene (Surr)	95	8.817	8.817	0.000	88	644131	44.2	
$ 8 BFB	95	8.817	8.817	0.000	86	644131	NR	
9 Dichlorodifluoromethane	85		1.760				ND	
10 Chloromethane	50		1.939				ND	
11 Vinyl chloride	62		2.039				ND	
12 Bromomethane	94		2.332				ND	7
13 Chloroethane	64		2.425				ND	
15 Propene oxide	58	2.496	2.504	-0.008	8	2553	NC	
14 Dichlorofluoromethane	67		2.596				ND	
16 Trichlorofluoromethane	101		2.632				ND	
17 Ethanol	45		2.754				ND	
18 Ethyl ether	59		2.847				ND	
19 Acrolein	56		2.961				ND	U
20 1,1,2-Trichloro-1,2,2-trifluoroe	151		3.040				ND	
21 1,1-Dichloroethene	96		3.047				ND	
22 Acetone	43	3.068	3.061	0.007	88	6145	1.95	
23 Isopropyl alcohol	45		3.147				ND	
24 Iodomethane	142		3.169				ND	
25 Carbon disulfide	76		3.233				ND	
26 Acetonitrile	41		3.276				ND	U
27 Methyl acetate	43		3.290				ND	
28 3-Chloro-1-propene	41		3.319				ND	7
29 Methylene Chloride	84		3.412				ND	
30 2-Methyl-2-propanol	59	3.447	3.455	-0.008	18	3744	4.41	
31 Acrylonitrile	53		3.576				ND	U

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	OnCol Amt ug/l	Flags
32 Methyl tert-butyl ether	73	3.598	3.598	0.000	97	1823721	74.1	
33 trans-1,2-Dichloroethene	96		3.612				ND	
34 Hexane	57	3.805	3.805	0.000	32	2378	0.1784	
35 Vinyl acetate	43		3.905				ND	
37 Isopropyl ether	87		3.926				ND	
36 1,1-Dichloroethane	63		3.934				ND	
38 2-Chloro-1,3-butadiene	53		3.984				ND	
39 Tert-butyl ethyl ether	59		4.191				ND	
40 2-Butanone (MEK)	43		4.320				ND	
41 Ethyl acetate	43		4.327				ND	U
42 cis-1,2-Dichloroethene	96		4.341				ND	
43 2,2-Dichloropropane	77		4.355				ND	
44 Propionitrile	54		4.370				ND	U
45 sec-Butyl Alcohol	45		4.420				ND	
46 Methacrylonitrile	41		4.484				ND	
47 Chlorobromomethane	128		4.520				ND	
48 Tetrahydrofuran	42		4.527				ND	
49 Chloroform	83		4.577				ND	
50 1,1,1-Trichloroethane	97		4.720				ND	
51 Cyclohexane	56	4.777	4.784	-0.007	93	12847	0.7419	
52 1,1-Dichloropropene	75		4.835				ND	
54 Isobutyl alcohol	41	4.842	4.842	0.000	44	2818	8.78	
53 Carbon tetrachloride	117		4.842				ND	
55 Benzene	78	4.985	4.985	0.000	98	226282	5.90	
56 1,2-Dichloroethane	62		5.013				ND	U
57 Tert-amyl methyl ether	73		5.056				ND	7
58 n-Heptane	43		5.171				ND	
59 n-Butanol	56		5.335				ND	
60 Trichloroethene	95		5.471				ND	
61 2-Pentanone	43		5.578				ND	
62 Methylcyclohexane	55	5.671	5.671	0.000	85	18524	1.55	
64 Methyl methacrylate	100		5.678				ND	
63 1,2-Dichloropropane	63		5.678				ND	
65 1,4-Dioxane	88		5.721				ND	
66 Dibromomethane	93		5.750				ND	
67 Dichlorobromomethane	83		5.871				ND	
68 2-Nitropropane	41		6.043				ND	U
69 2-Chloroethyl vinyl ether	63		6.072				ND	
70 cis-1,3-Dichloropropene	75		6.222				ND	
71 4-Methyl-2-pentanone (MIBK)	43		6.322				ND	
72 Toluene	91		6.515				ND	
73 trans-1,3-Dichloropropene	75		6.686				ND	
74 Ethyl methacrylate	69		6.701				ND	
75 1,1,2-Trichloroethane	97		6.858				ND	
76 Tetrachloroethene	164		6.951				ND	
77 1,3-Dichloropropane	76		7.008				ND	
78 2-Hexanone	43		7.022				ND	
79 Chlorodibromomethane	129		7.201				ND	
80 Ethylene Dibromide	107		7.323				ND	
81 1-Chlorohexane	91		7.709				ND	7
82 Chlorobenzene	112		7.752				ND	
83 1,1,1,2-Tetrachloroethane	131		7.823				ND	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	OnCol Amt ug/l	Flags
84 Ethylbenzene	106	7.823	7.830	-0.007	96	2601	0.1936	
85 m-Xylene & p-Xylene	106	7.945	7.945	0.000	0	6480	0.3833	
86 o-Xylene	106		8.302				ND	
87 Styrene	104		8.324				ND	
88 Bromoform	173		8.503				ND	
89 Isopropylbenzene	105		8.646				ND	7
90 cis-1,4-Dichloro-2-butene	53		8.696				ND	
91 Cyclohexanone	55		8.746				ND	U
92 1,1,2,2-Tetrachloroethane	83		8.932				ND	
93 Bromobenzene	156		8.967				ND	
94 trans-1,4-Dichloro-2-butene	53		8.967				ND	
95 1,2,3-Trichloropropane	110		8.996				ND	
96 N-Propylbenzene	120		9.046				ND	
97 2-Chlorotoluene	126		9.146				ND	
98 1,3,5-Trimethylbenzene	105		9.218				ND	
99 4-Chlorotoluene	126		9.261				ND	
101 Pentachloroethane	167		9.411				ND	
100 tert-Butylbenzene	119		9.525				ND	
102 1,2,4-Trimethylbenzene	105		9.582				ND	
103 sec-Butylbenzene	134		9.747				ND	
104 1,3-Dichlorobenzene	146		9.875				ND	
105 4-Isopropyltoluene	119		9.890				ND	
106 1,4-Dichlorobenzene	146		9.976				ND	
107 1,2,3-Trimethylbenzene	105		9.990				ND	
108 n-Butylbenzene	91		10.297				ND	
109 1,2-Dichlorobenzene	146		10.333				ND	
110 1,2-Dibromo-3-Chloropropane	157		11.112				ND	
111 1,3,5-Trichlorobenzene	180		11.298				ND	
112 1,2,4-Trichlorobenzene	180		11.935				ND	
113 Hexachlorobutadiene	225		12.071				ND	
114 Naphthalene	128		12.206				ND	
115 1,2,3-Trichlorobenzene	180		12.428				ND	
116 Ethylene oxide TIC	1		0.000				ND	
117 t-Amyl alcohol	1		0.000				ND	
118 Ethyl acrylate	55		0.000				ND	
119 1-Chloro-1-fluoroethane TIC	1		0.000				ND	
120 Tetrahydrothiophene TIC	1		0.000				ND	
121 Propene oxide TIC	58		5.334				ND	
S 122 1,2-Dichloroethene, Total (URS)	96		2.000				ND	7
S 129 1,2-Dichloroethene, Total	1		0.000				ND	7
S 124 1,3-Dichloropropene, Total	1		0.000				ND	7
S 123 Xylenes, Total (URS)	1				0		0.3833	
S 127 Trihalomethanes, Total	1		0.000				ND	7
S 126 Total BTEX	1				0		6.48	
S 128 TAH	1				0		0	
S 125 Xylenes, Total	106				0		0.3833	
T 130 Dichloroacetonitrile TIC	74		1.000				ND	
T 132 1-Chlorohexane TIC	1		0.000				ND	
T 131 Methyl cyclohexane TIC	1		0.000				ND	
T 140 2,3-Dichloro-1-propene TIC	75		0.000				ND	
T 139 Propene TIC	1		0.000				ND	
T 138 n-Nonane TIC	1		0.000				ND	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	OnCol Amt ug/l	Flags
T 137 1,3-Butadiene TIC	1		0.000				ND	
T 136 Cyclohexane TIC	1		0.000				ND	
T 135 4-Ethyltoluene TIC	1		0.000				ND	
T 134 2-Butoxyethanol TIC	1		0.000				ND	
T 133 Dicyclopentadiene TIC	1		0.000				ND	

QC Flag Legend

Processing Flags
- NR - Missing Quant Standard
- NC - Not Calibrated
- 7 - Failed Limit of Detection

Review Flags
- U - Marked Undetected

Reagents:

mv-IS_SS_00074 Amount Added: 5.00 Units: uL Run Reagent

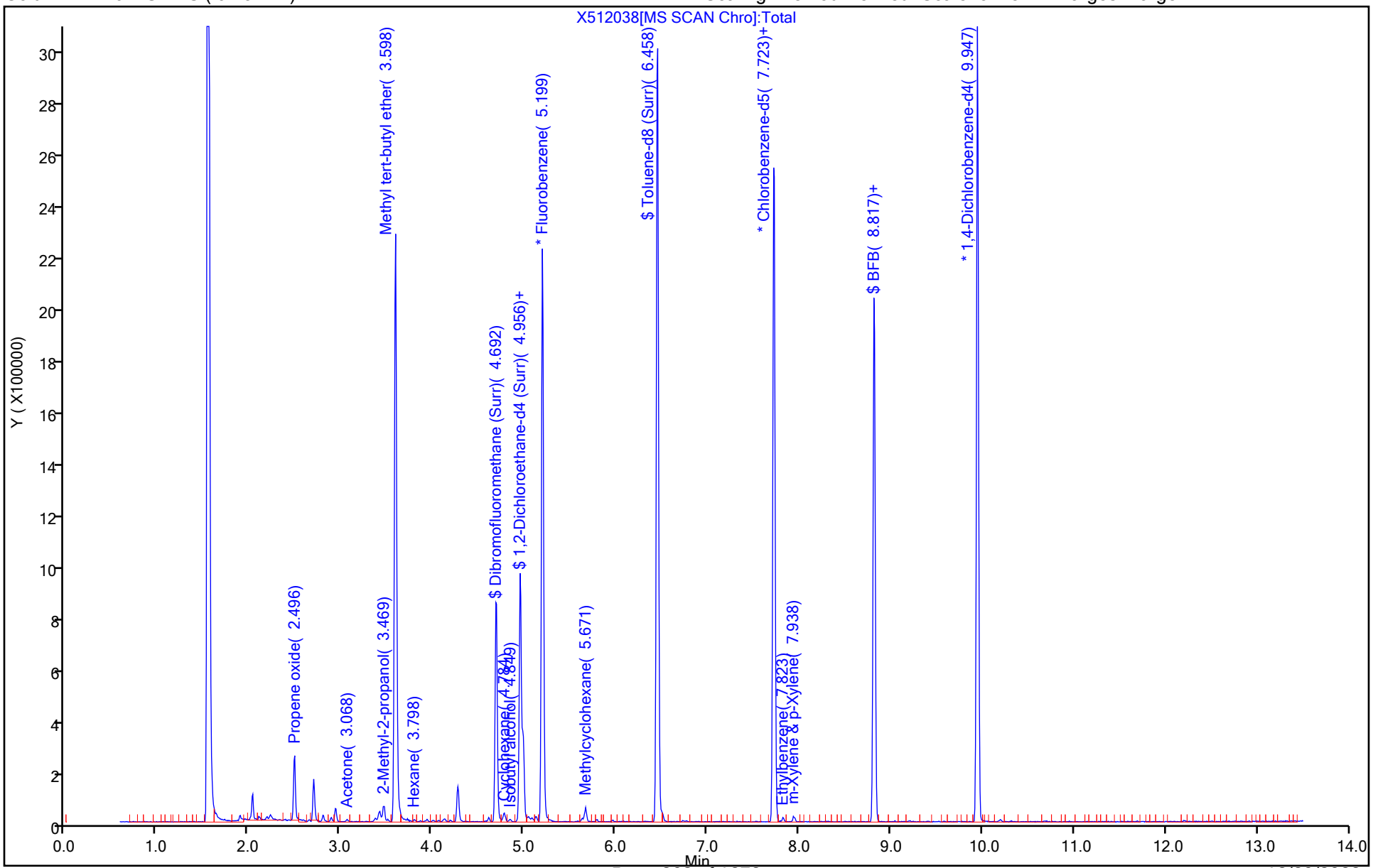
Report Date: 20-Dec-2023 03:16:20 Chrom Revision: 2.3 15-Nov-2023 20:54:34

Eurofins Denver

Data File: \\chromfs\Denver\ChromData\VMS_X4\20231219-128742.b\X512038.D

Injection Date:	20-Dec-2023 01:44:30	Instrument ID:	VMS_X4	Operator ID:	CF
Lims ID:	280-185814-D-7	Lab Sample ID:	280-185814-7	Worklist Smp#:	30
Client ID:	TV044-MW22D1223A				
Purge Vol:	5.000 mL	Dil. Factor:	200.0000	ALS Bottle#:	25
Method:	VMS_X4_8260	Limit Group:	MSV - 8260B Water and Solid		

Column: Rxi-624Sil MS (0.25 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 1



Eurofins Denver
Recovery Report

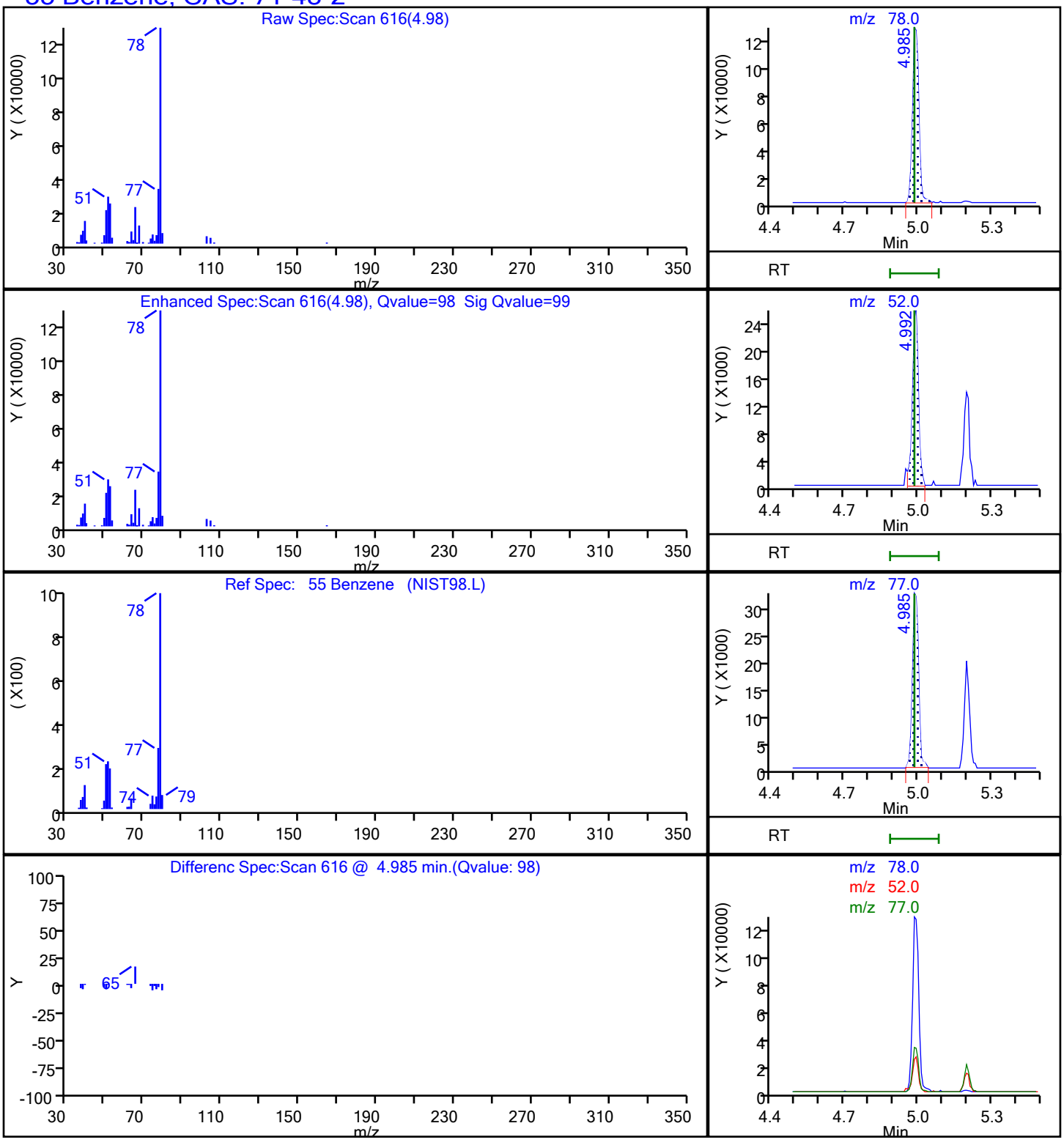
Data File:	\\chromfs\Denver\ChromData\VMS_X4\20231219-128742.b\X512038.D				
Lims ID:	280-185814-D-7				
Client ID:	TV044-MW22D1223A				
Sample Type:	Client				
Inject. Date:	20-Dec-2023 01:44:30	ALS Bottle#:	25	Worklist Smp#:	30
Purge Vol:	5.000 mL	Dil. Factor:	200.0000		
Sample Info:	280-185814-d-7				
Misc. Info.:	200x				
Operator ID:	CF	Instrument ID:	VMS_X4		
Method:	\\chromfs\Denver\ChromData\VMS_X4\20231219-128742.b\VMS_X4_8260.m				
Limit Group:	MSV - 8260B Water and Solid				
Last Update:	20-Dec-2023 03:15:50	Calib Date:	11-Dec-2023 20:50:30		
Integrator:	RTE	ID Type:	Deconvolution ID		
Quant Method:	Internal Standard	Quant By:	Initial Calibration		
Last ICal File:	\\chromfs\Denver\ChromData\VMS_X4\20231211-128477.b\X511702.D				
Column 1 :	Rxi-624Sil MS (0.25 mm)		Det: MS SCAN		
Process Host:	CTX1617				
First Level Reviewer: BX8N		Date:	20-Dec-2023 03:14:36		

Compound	Amount Added	Amount Recovered	% Rec.
$ 4 Dibromofluoromethane (Surr)	50.0	53.4	21377.19
$ 5 1,2-Dichloroethane-d4 (Surr)	50.0	51.8	20734.68
$ 6 Toluene-d8 (Surr)	50.0	49.1	19620.38
$ 7 4-Bromofluorobenzene (Surr)	50.0	44.2	17691.26

Eurofins Denver

Data File: \\chromfs\Denver\ChromData\VMS_X4\20231219-128742.b\X512038.D
Injection Date: 20-Dec-2023 01:44:30 Instrument ID: VMS_X4
Lims ID: 280-185814-D-7 Lab Sample ID: 280-185814-7
Client ID: TV044-MW22D1223A
Operator ID: CF ALS Bottle#: 25 Worklist Smp#: 30
Purge Vol: 5.000 mL Dil. Factor: 200.0000
Method: VMS_X4_8260 Limit Group: MSV - 8260B Water and Solid
Column: Rxi-624Sil MS (0.25 mm) Detector MS SCAN

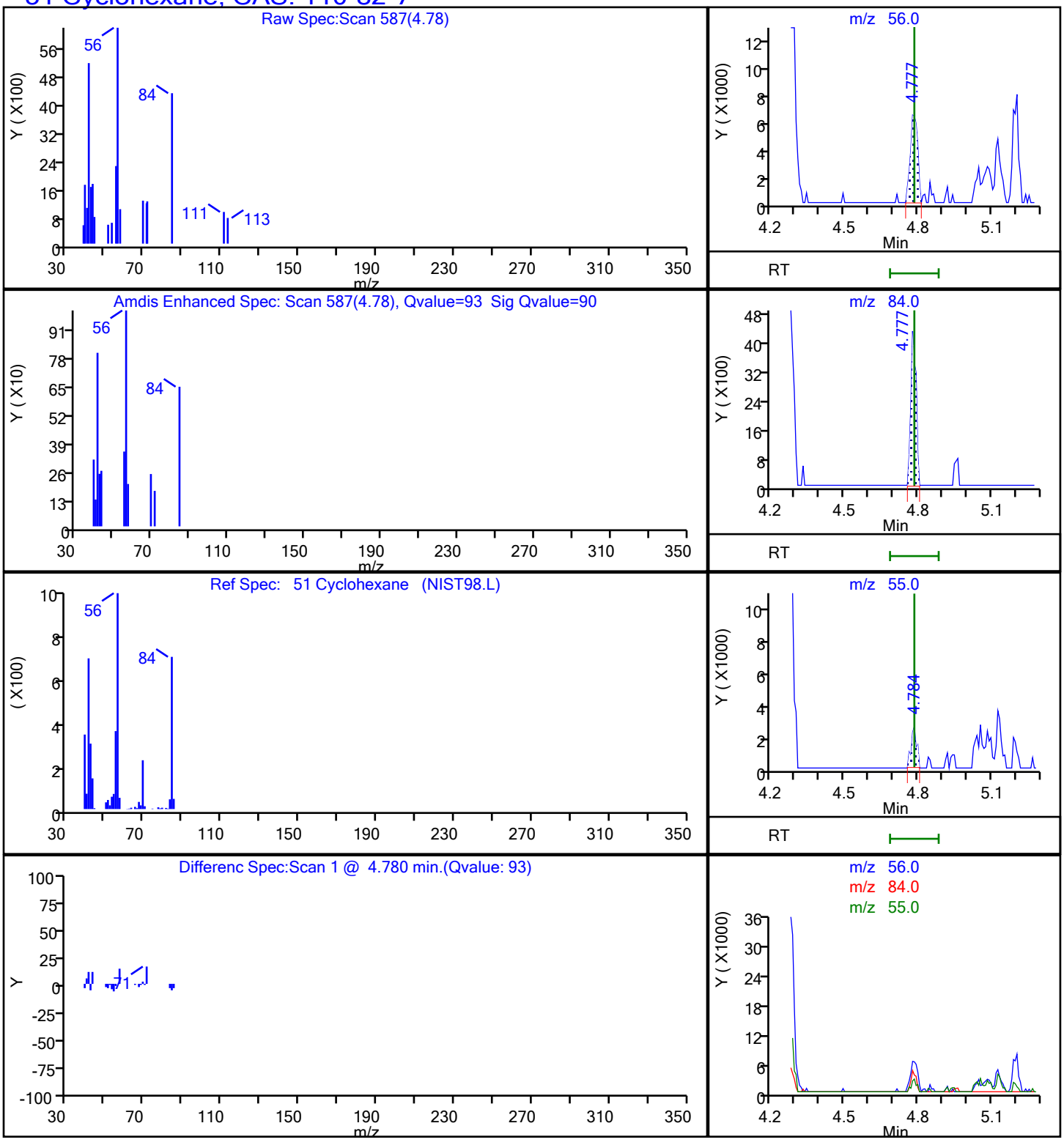
55 Benzene, CAS: 71-43-2



Eurofins Denver

Data File: \\chromfs\Denver\ChromData\VMS_X4\20231219-128742.b\X512038.D
Injection Date: 20-Dec-2023 01:44:30 Instrument ID: VMS_X4
Lims ID: 280-185814-D-7 Lab Sample ID: 280-185814-7
Client ID: TV044-MW22D1223A
Operator ID: CF ALS Bottle#: 25 Worklist Smp#: 30
Purge Vol: 5.000 mL Dil. Factor: 200.0000
Method: VMS_X4_8260 Limit Group: MSV - 8260B Water and Solid
Column: Rxi-624Sil MS (0.25 mm) Detector MS SCAN

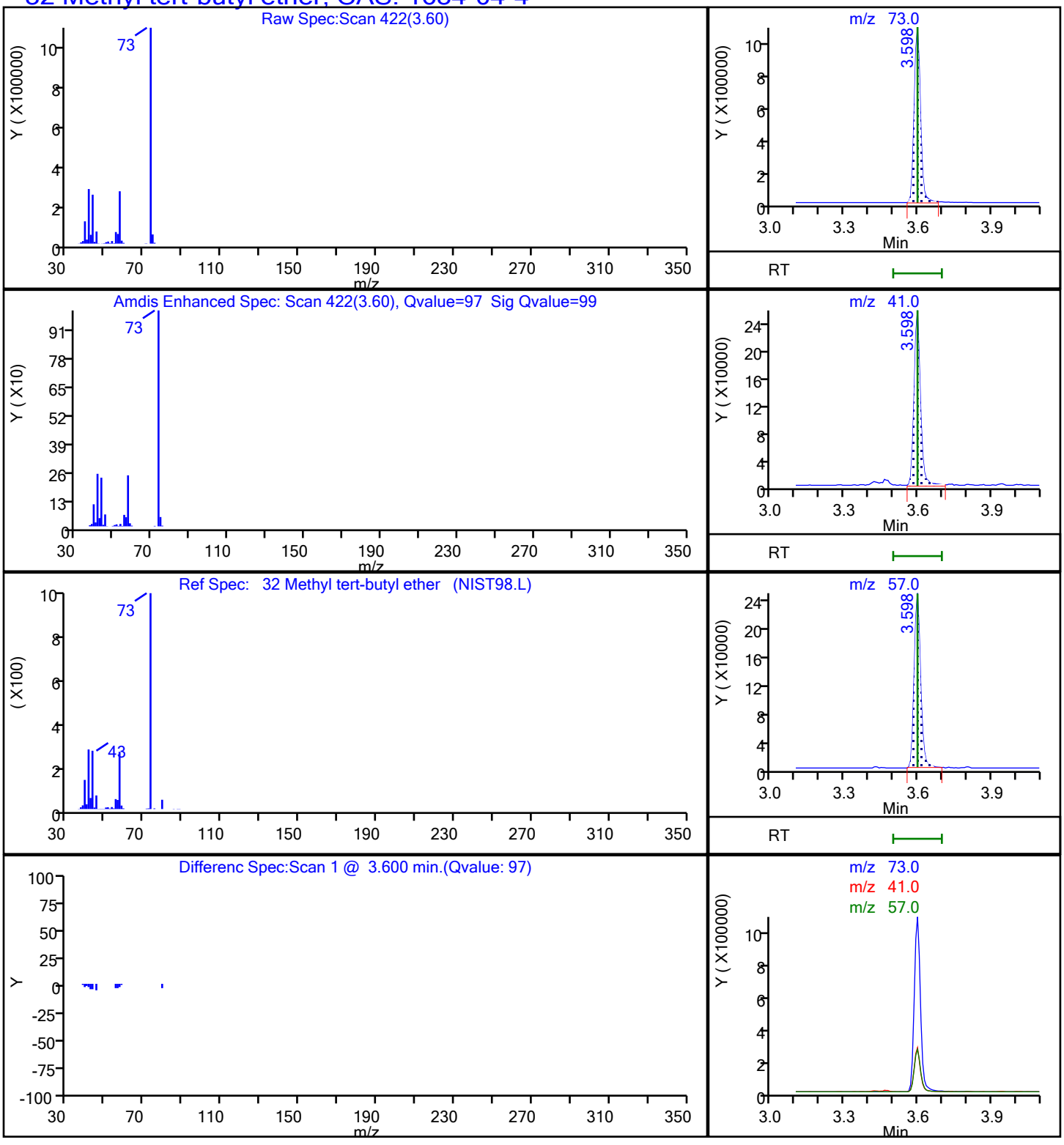
51 Cyclohexane, CAS: 110-82-7



Eurofins Denver

Data File:	\\chromfs\Denver\ChromData\VMS_X4\20231219-128742.b\X512038.D				
Injection Date:	20-Dec-2023 01:44:30	Instrument ID:	VMS_X4		
Lims ID:	280-185814-D-7	Lab Sample ID:	280-185814-7		
Client ID:	TV044-MW22D1223A				
Operator ID:	CF	ALS Bottle#:	25	Worklist Smp#:	30
Purge Vol:	5.000 mL	Dil. Factor:	200.0000		
Method:	VMS_X4_8260	Limit Group:	MSV - 8260B Water and Solid		
Column:	Rxi-624Sil MS (0.25 mm)	Detector	MS SCAN		

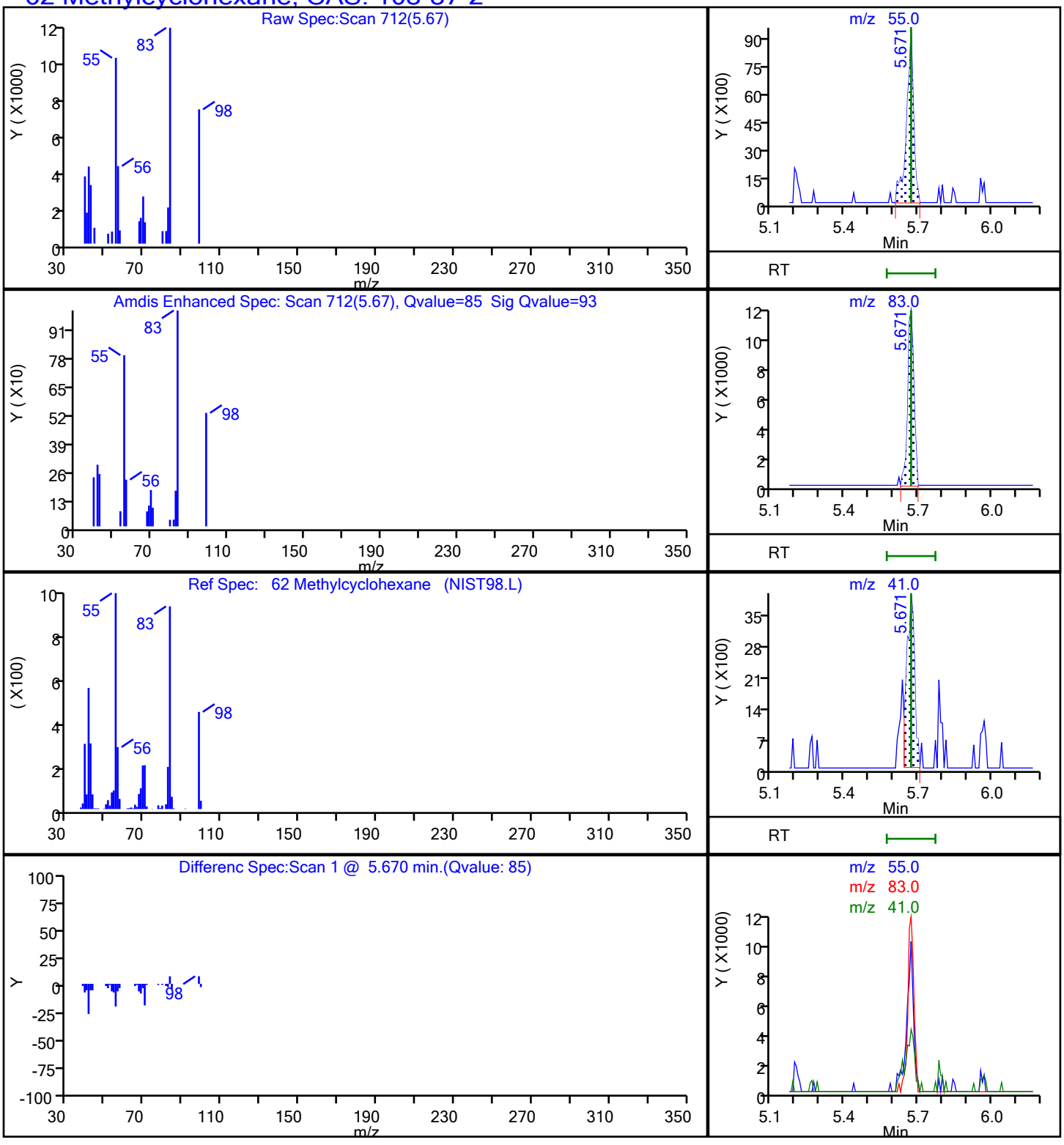
32 Methyl tert-butyl ether, CAS: 1634-04-4



Eurofins Denver

Data File:	\\chromfs\Denver\ChromData\VMS_X4\20231219-128742.b\X512038.D				
Injection Date:	20-Dec-2023 01:44:30	Instrument ID:	VMS_X4		
Lims ID:	280-185814-D-7	Lab Sample ID:	280-185814-7		
Client ID:	TV044-MW22D1223A				
Operator ID:	CF	ALS Bottle#:	25	Worklist Smp#:	30
Purge Vol:	5.000 mL	Dil. Factor:	200.0000		
Method:	VMS_X4_8260	Limit Group:	MSV - 8260B Water and Solid		
Column:	Rxi-624Sil MS (0.25 mm)	Detector	MS SCAN		

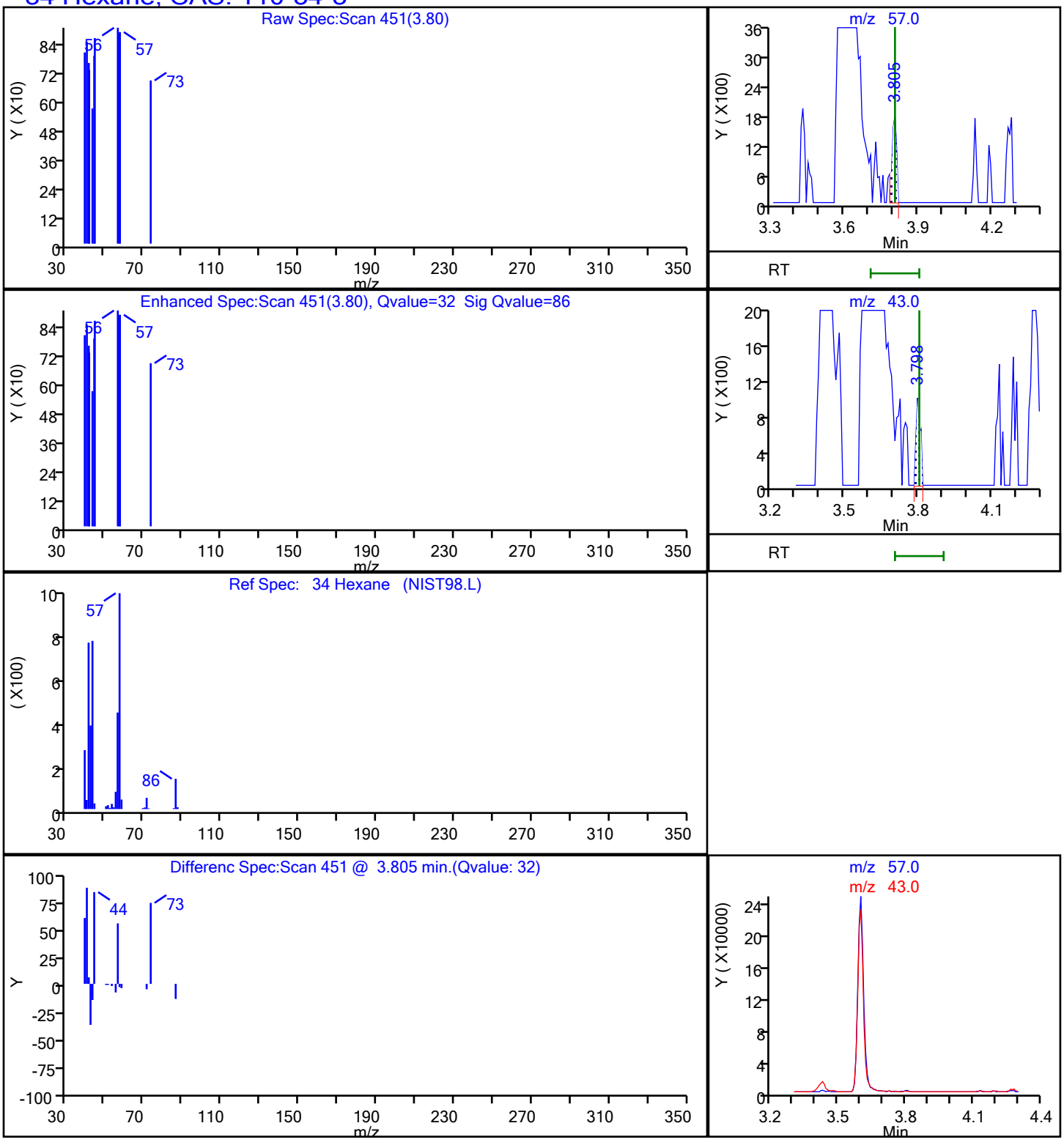
62 Methylcyclohexane, CAS: 108-87-2



Eurofins Denver

Data File:	\\chromfs\Denver\ChromData\VMS_X4\20231219-128742.b\X512038.D		
Injection Date:	20-Dec-2023 01:44:30	Instrument ID:	VMS_X4
Lims ID:	280-185814-D-7	Lab Sample ID:	280-185814-7
Client ID:	TV044-MW22D1223A		
Operator ID:	CF	ALS Bottle#:	25 Worklist Smp#: 30
Purge Vol:	5.000 mL	Dil. Factor:	200.0000
Method:	VMS_X4_8260	Limit Group:	MSV - 8260B Water and Solid
Column:	Rxi-624Sil MS (0.25 mm)	Detector	MS SCAN

34 Hexane, CAS: 110-54-3



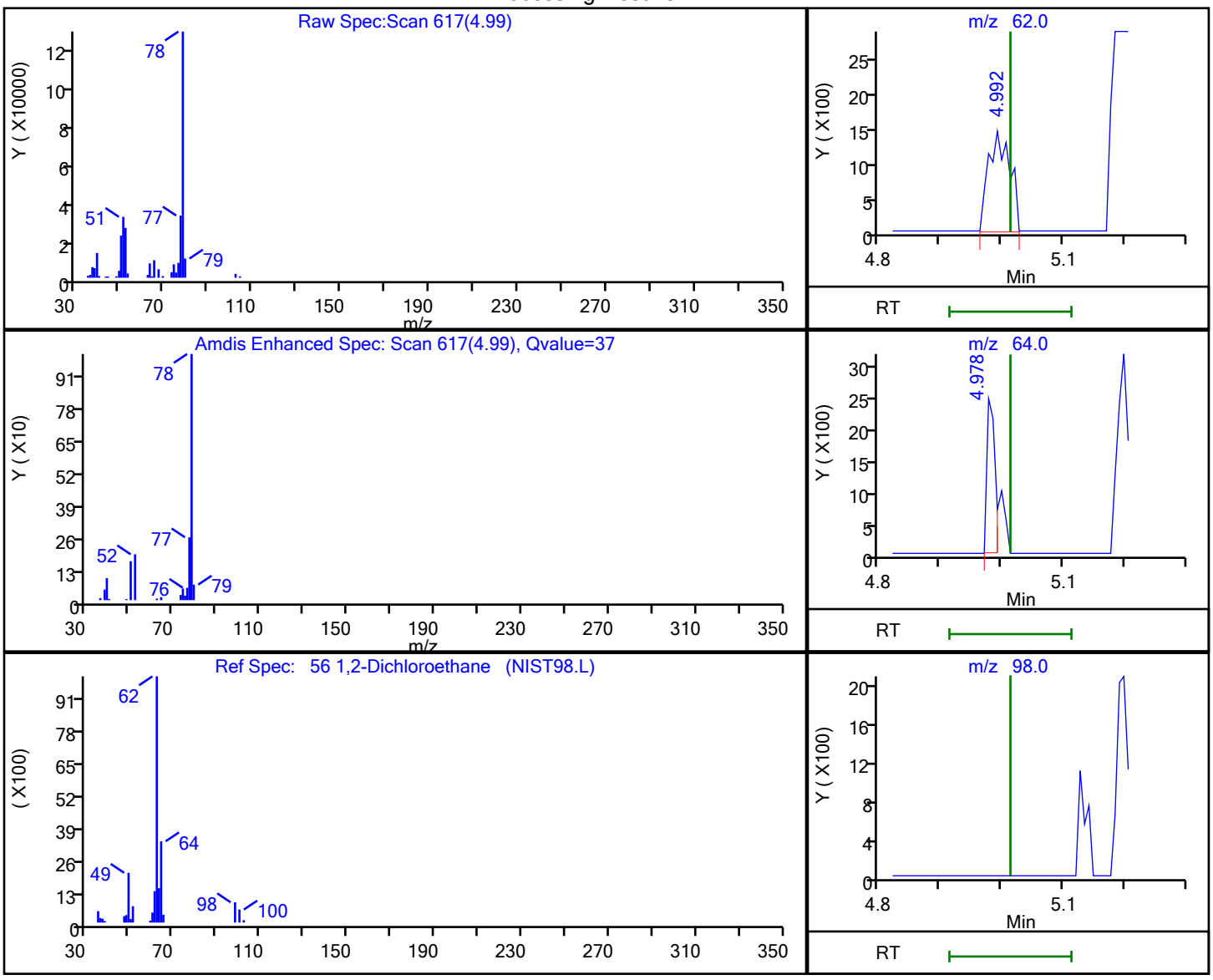
User Disabled Compound Report

Eurofins Denver

Data File:	\\chromfs\Denver\ChromData\VMS_X4\20231219-128742.b\X512038.D				
Injection Date:	20-Dec-2023 01:44:30	Instrument ID:	VMS_X4		
Lims ID:	280-185814-D-7	Lab Sample ID:	280-185814-7		
Client ID:	TV044-MW22D1223A				
Operator ID:	CF	ALS Bottle#:	25	Worklist Smp#:	30
Purge Vol:	5.000 mL	Dil. Factor:	200.0000		
Method:	VMS_X4_8260	Limit Group:	MSV - 8260B Water and Solid		
Column:	Rxi-624Sil MS (0.25 mm)	Detector	MS SCAN		

56 1,2-Dichloroethane, CAS: 107-06-2

Processing Results



RT	Mass	Response	Amount
4.99	62.00	3455	0.243977
4.98	64.00	2231	
5.01	98.00	0	

Reviewer: BX8N, 20-Dec-2023 03:14:23 -07:00:00 (UTC)

Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

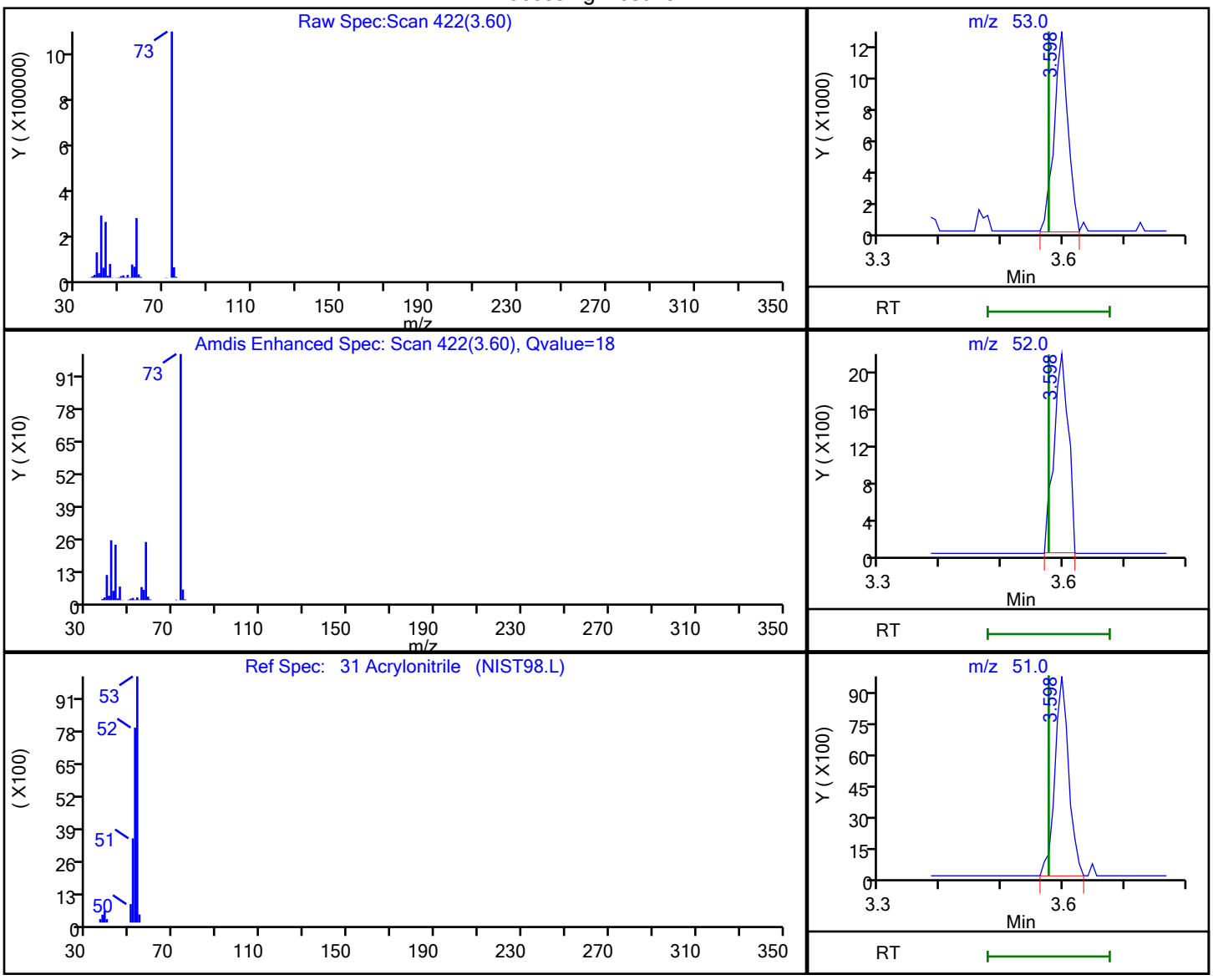
User Disabled Compound Report

Eurofins Denver

Data File:	\\chromfs\Denver\ChromData\VMS_X4\20231219-128742.b\X512038.D				
Injection Date:	20-Dec-2023 01:44:30	Instrument ID:	VMS_X4		
Lims ID:	280-185814-D-7	Lab Sample ID:	280-185814-7		
Client ID:	TV044-MW22D1223A				
Operator ID:	CF	ALS Bottle#:	25	Worklist Smp#:	30
Purge Vol:	5.000 mL	Dil. Factor:	200.0000		
Method:	VMS_X4_8260	Limit Group:	MSV - 8260B Water and Solid		
Column:	Rxi-624Sil MS (0.25 mm)	Detector	MS SCAN		

31 Acrylonitrile, CAS: 107-13-1

Processing Results



RT	Mass	Response	Amount
3.60	53.00	18877	4.728727
3.60	52.00	3547	
3.60	51.00	15344	

Reviewer: BX8N, 20-Dec-2023 03:14:01 -07:00:00 (UTC)

Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

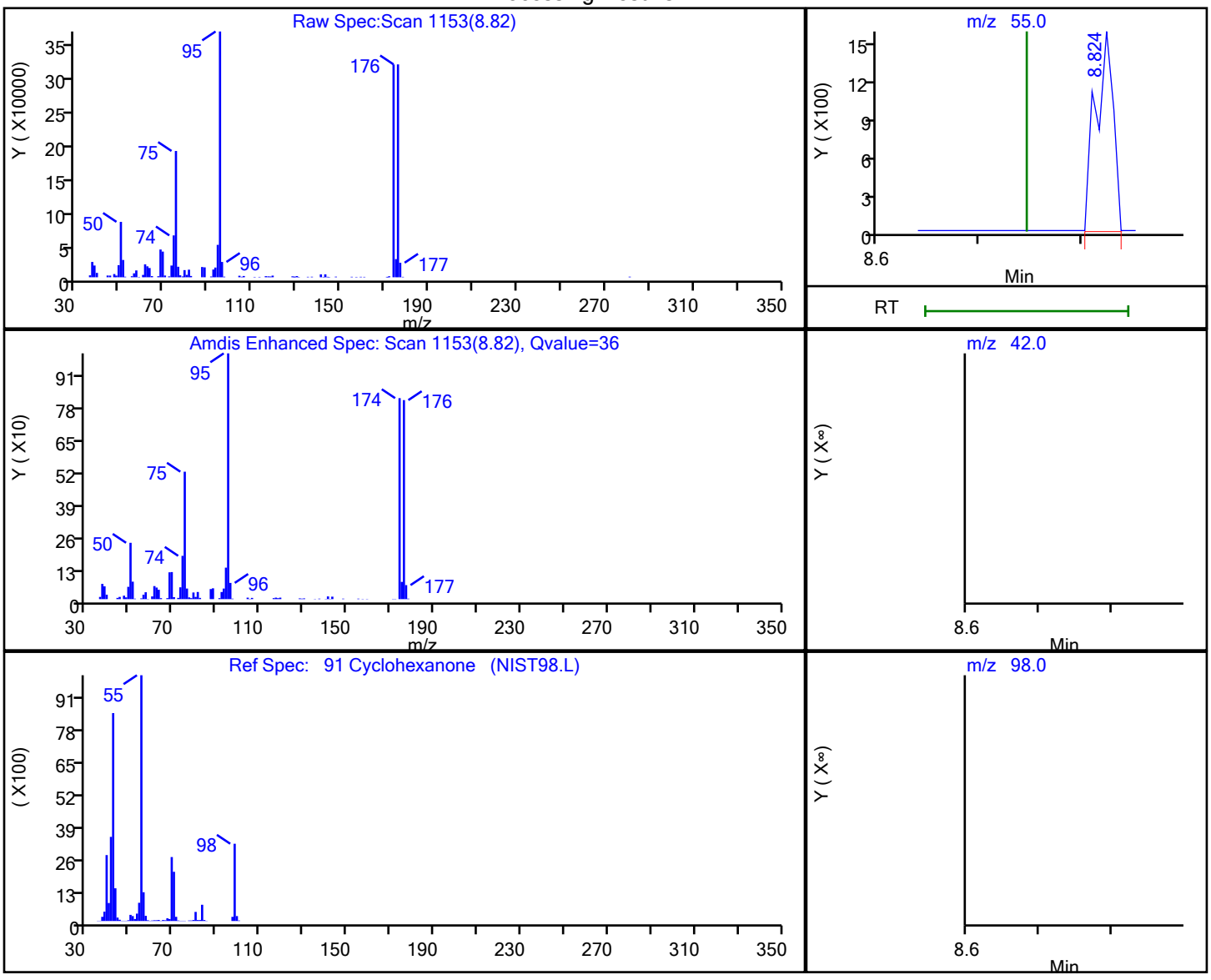
User Disabled Compound Report

Eurofins Denver

Data File:	\\chromfs\Denver\ChromData\VMS_X4\20231219-128742.b\X512038.D				
Injection Date:	20-Dec-2023 01:44:30	Instrument ID:	VMS_X4		
Lims ID:	280-185814-D-7	Lab Sample ID:	280-185814-7		
Client ID:	TV044-MW22D1223A				
Operator ID:	CF	ALS Bottle#:	25	Worklist Smp#:	30
Purge Vol:	5.000 mL	Dil. Factor:	200.0000		
Method:	VMS_X4_8260	Limit Group:	MSV - 8260B Water and Solid		
Column:	Rxi-624Sil MS (0.25 mm)	Detector	MS SCAN		

91 Cyclohexanone, CAS: 108-94-1

Processing Results



RT	Mass	Response	Amount
8.82	55.00	1849	4.166440
8.75	42.00	0	
8.75	98.00	0	

Reviewer: BX8N, 20-Dec-2023 03:14:33 -07:00:00 (UTC)

Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Denver | Job No.: 280-185814-1

SDG No.:

Client Sample ID: TV044-MW111223A | Lab Sample ID: 280-185814-8

Matrix: Water | Lab File ID: X512035.D

Analysis Method: 8260D | Date Collected: 12/14/2023 12:45

Sample wt/vol: 5(mL) | Date Analyzed: 12/20/2023 00:37

Soil Aliquot Vol: | Dilution Factor: 4

Soil Extract Vol.: | GC Column: RXI-624SilMS ID: 0.25(mm)

Purge Volume: 5.0(mL) | Heated Purge: (Y/N) N pH: 6.0

% Moisture: % Solids: | Level: (low/med) Low

Analysis Batch No.: 637903 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
71-55-6	1,1,1-Trichloroethane	2.0	U	4.0	2.0	1.6
79-34-5	1,1,2,2-Tetrachloroethane	3.2	U	4.0	3.2	0.84
79-00-5	1,1,2-Trichloroethane	3.2	U	4.0	3.2	1.1
75-34-3	1,1-Dichloroethane	3.2	U	4.0	3.2	0.88
75-35-4	1,1-Dichloroethylene	3.2	U	4.0	3.2	0.92
563-58-6	1,1-Dichloropropene	3.2	U	4.0	3.2	1.7
87-61-6	1,2,3-Trichlorobenzene	3.2	U	8.0	3.2	2.8
96-18-4	1,2,3-Trichloropropane	7.2	U	10	7.2	3.4
526-73-8	1,2,3-Trimethylbenzene	3.2	U	8.0	3.2	1.1
120-82-1	1,2,4-Trichlorobenzene	3.2	U	4.0	3.2	2.3
95-63-6	1,2,4-Trimethylbenzene	1.6	U	4.0	1.6	0.60
96-12-8	1,2-Dibromo-3-Chloropropane	16	U	20	16	7.0
106-93-4	1,2-Dibromoethane	3.2	U	4.0	3.2	1.6
95-50-1	1,2-Dichlorobenzene	2.0	U	4.0	2.0	1.5
107-06-2	1,2-Dichloroethane	3.2	U	4.0	3.2	2.2
78-87-5	1,2-Dichloropropane	3.2	U	4.0	3.2	2.1
108-67-8	1,3,5-Trimethylbenzene	2.0	U	4.0	2.0	1.5
541-73-1	1,3-Dichlorobenzene	1.6	U	4.0	1.6	1.3
142-28-9	1,3-Dichloropropane	3.2	U	4.0	3.2	1.5
106-46-7	1,4-Dichlorobenzene	2.0	U	4.0	2.0	1.6
594-20-7	2,2-Dichloropropane	3.2	U	4.0	3.2	1.5
78-93-3	2-Butanone (MEK)	48	U	60	48	24
110-75-8	2-Chloroethyl vinyl ether	3.2	U	12	3.2	1.8
591-78-6	2-Hexanone	16	U	20	16	6.8
99-87-6	4-Isopropyltoluene	3.2	U	4.0	3.2	1.7
108-10-1	4-Methyl-2-pentanone (MIBK)	13	U	20	13	3.9
67-64-1	Acetone	32	U M	60	32	26
107-13-1	Acrylonitrile	32	U	80	32	18
71-43-2	Benzene	3.2	U	4.0	3.2	1.2
108-86-1	Bromobenzene	2.0	U	4.0	2.0	1.6
74-97-5	Bromochloromethane	3.2	U	4.0	3.2	1.6
75-27-4	Bromodichloromethane	2.0	U	4.0	2.0	1.5
75-25-2	Bromoform	7.2	U	8.0	7.2	4.8
75-15-0	Carbon disulfide	3.2	U	8.0	3.2	2.5

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Denver | Job No.: 280-185814-1

SDG No.:

Client Sample ID: TV044-MW111223A | Lab Sample ID: 280-185814-8

Matrix: Water | Lab File ID: X512035.D

Analysis Method: 8260D | Date Collected: 12/14/2023 12:45

Sample wt/vol: 5(mL) | Date Analyzed: 12/20/2023 00:37

Soil Aliquot Vol: | Dilution Factor: 4

Soil Extract Vol.: | GC Column: RXI-624SilMS ID: 0.25(mm)

Purge Volume: 5.0(mL) | Heated Purge: (Y/N) N pH: 6.0

% Moisture: % Solids: | Level: (low/med) Low

Analysis Batch No.: 637903 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
56-23-5	Carbon tetrachloride	3.2	U	4.0	3.2	2.3
108-90-7	Chlorobenzene	3.2	U	4.0	3.2	1.7
75-00-3	Chloroethane	6.4	U	16	6.4	5.5
67-66-3	Chloroform	3.2	U	4.0	3.2	1.4
74-87-3	Chloromethane	4.0	U	8.0	4.0	3.0
156-59-2	cis-1,2-Dichloroethylene	1.6	U	4.0	1.6	1.3
10061-01-5	cis-1,3-Dichloropropene	7.2	U	8.0	7.2	2.5
110-82-7	Cyclohexane	3.2	U	4.0	3.2	1.8
108-94-1	Cyclohexanone	260	U M Q	400	260	130
124-48-1	Dibromochloromethane	7.2	U	8.0	7.2	2.5
74-95-3	Dibromomethane	1.6	U	4.0	1.6	1.4
75-71-8	Dichlorodifluoromethane	10	U	12	10	3.8
100-41-4	Ethylbenzene	1.6	U	4.0	1.6	1.2
87-68-3	Hexachlorobutadiene	7.2	U	8.0	7.2	4.7
108-20-3	Isopropyl ether	8.0	U	40	8.0	4.4
98-82-8	Isopropylbenzene	2.0	U	4.0	2.0	1.5
1634-04-4	Methyl tert-butyl ether	3.8	J D	20	3.2	1.0
108-87-2	Methylcyclohexane	1.6	U	4.0	1.6	1.3
75-09-2	Methylene Chloride	7.2	U	8.0	7.2	3.8
91-20-3	Naphthalene	3.2	U	8.0	3.2	2.5
104-51-8	n-Butylbenzene	3.2	U	4.0	3.2	1.9
110-54-3	n-Hexane	3.2	U	8.0	3.2	0.65
103-65-1	N-Propylbenzene	3.2	U	4.0	3.2	2.1
95-49-8	o-Chlorotoluene	1.6	U	4.0	1.6	1.4
106-43-4	p-Chlorotoluene	3.2	U	4.0	3.2	0.84
135-98-8	sec-Butylbenzene	3.2	U	4.0	3.2	1.8
100-42-5	Styrene	3.2	U	4.0	3.2	1.4
98-06-6	tert-Butylbenzene	3.2	U	4.0	3.2	1.7
127-18-4	Tetrachloroethene	3.2	U	4.0	3.2	1.6
108-88-3	Toluene	1.6	U	4.0	1.6	1.3
156-60-5	trans-1,2-Dichloroethylene	2.0	U	4.0	2.0	1.5
10061-02-6	trans-1,3-Dichloropropene	7.2	U	8.0	7.2	2.6
79-01-6	Trichloroethene	1.6	U	4.0	1.6	1.2
75-69-4	Trichlorofluoromethane	3.2	U	8.0	3.2	2.3

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Denver | Job No.: 280-185814-1

SDG No.:

Client Sample ID: TV044-MW111223A | Lab Sample ID: 280-185814-8

Matrix: Water | Lab File ID: X512035.D

Analysis Method: 8260D | Date Collected: 12/14/2023 12:45

Sample wt/vol: 5(mL) | Date Analyzed: 12/20/2023 00:37

Soil Aliquot Vol: | Dilution Factor: 4

Soil Extract Vol.: | GC Column: RXI-624SilMS ID: 0.25(mm)

Purge Volume: 5.0(mL) | Heated Purge: (Y/N) N pH: 6.0

% Moisture: % Solids: | Level: (low/med) Low

Analysis Batch No.: 637903 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
108-05-4	Vinyl acetate	8.0	U	12	8.0	3.8
75-01-4	Vinyl chloride	4.0	U	8.0	4.0	2.0
1330-20-7	Xylenes, Total	3.2	U	4.0	3.2	1.3

CAS NO.	SURROGATE	%REC	Q	LIMITS
17060-07-0	1,2-Dichloroethane-d4 (Surr)	104		81-118
460-00-4	4-Bromofluorobenzene (Surr)	91		85-114
1868-53-7	Dibromofluoromethane (Surr)	107		80-119
2037-26-5	Toluene-d8 (Surr)	98		89-112

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET
TARGETED TENATIVELY IDENTIFIED COMPOUNDS

Lab Name: Eurofins Denver | Job No.: 280-185814-1

SDG No.:

Client Sample ID: TV044-MW111223A | Lab Sample ID: 280-185814-8

Matrix: Water | Lab File ID: X512035.D

Analysis Method: 8260D | Date Collected: 12/14/2023 12:45

Sample wt/vol: 5(mL) | Date Analyzed: 12/20/2023 00:37

Soil Aliquot Vol: | Dilution Factor: 4

Soil Extract Vol.: | GC Column: RXI-624SilMS ID: 0.25(mm)

Purge Volume: 5.0(mL) | Heated Purge: (Y/N) N pH: 6.0

% Moisture: % Solids: | Level: (low/med) Low

Analysis Batch No.: 637903 | Units: ug/L

CAS NO.	COMPOUND NAME	RT	RESULT	Q	MATCH QUALITY
106-99-0	1,3-Butadiene TIC		4.0	U	
622-96-8	4-Ethyltoluene TIC		4.0	U	
77-73-6	Dicyclopentadiene TIC		4.0	U	
115-07-1	Propene TIC		4.0	U	

Eurofins Denver
Target Compound Quantitation Report

Data File: \\chromfs\Denver\ChromData\VMS_X4\20231219-128742.b\X512035.D
Lims ID: 280-185814-E-8
Client ID: TV044-MW111223A
Sample Type: Client
Inject. Date: 20-Dec-2023 00:37:30 ALS Bottle#: 22 Worklist Smp#: 27
Purge Vol: 5.000 mL Dil. Factor: 4.0000
Sample Info: 280-185814-e-8
Misc. Info.: 4x
Operator ID: CF Instrument ID: VMS_X4

Method: \\chromfs\Denver\ChromData\VMS_X4\20231219-128742.b\VMS_X4_8260.m
Limit Group: MSV - 8260B Water and Solid
Last Update: 20-Dec-2023 03:15:50 Calib Date: 11-Dec-2023 20:50:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Denver\ChromData\VMS_X4\20231211-128477.b\X511702.D

Column 1 : Rxi-624Sil MS (0.25 mm) Det: MS SCAN
Process Host: CTX1617

First Level Reviewer: BX8N Date: 20-Dec-2023 03:12:00

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	OnCol Amt ug/l	Flags
* 1 Fluorobenzene	96	5.199	5.199	0.000	98	1583080	50.0	
* 2 Chlorobenzene-d5	119	7.730	7.730	0.000	89	437115	50.0	
* 3 1,4-Dichlorobenzene-d4	152	9.947	9.947	0.000	97	751362	50.0	
$ 4 Dibromofluoromethane (Surr)	111	4.699	4.691	0.008	93	433910	53.6	
$ 5 1,2-Dichloroethane-d4 (Surr)	65	4.956	4.956	0.000	0	546892	52.2	
$ 6 Toluene-d8 (Surr)	98	6.458	6.458	0.000	94	1845826	49.0	
$ 7 4-Bromofluorobenzene (Surr)	95	8.817	8.817	0.000	88	649600	45.3	
$ 8 BFB	95	8.817	8.817	0.000	85	649600	NR	
9 Dichlorodifluoromethane	85		1.760				ND	
10 Chloromethane	50		1.939				ND	
11 Vinyl chloride	62		2.039				ND	
12 Bromomethane	94		2.332				ND	
13 Chloroethane	64		2.425				ND	7
15 Propene oxide	58		2.504				ND	
14 Dichlorofluoromethane	67		2.596				ND	
16 Trichlorofluoromethane	101		2.632				ND	
17 Ethanol	45		2.754				ND	
18 Ethyl ether	59		2.847				ND	
19 Acrolein	56		2.961				ND	
20 1,1,2-Trichloro-1,2,2-trifluoroe	151		3.040				ND	
21 1,1-Dichloroethene	96		3.047				ND	
22 Acetone	43		3.061				ND	U
23 Isopropyl alcohol	45		3.147				ND	
24 Iodomethane	142		3.169				ND	
25 Carbon disulfide	76		3.233				ND	
26 Acetonitrile	41		3.276				ND	
27 Methyl acetate	43		3.290				ND	
28 3-Chloro-1-propene	41		3.319				ND	
29 Methylene Chloride	84		3.412				ND	
30 2-Methyl-2-propanol	59		3.455				ND	
31 Acrylonitrile	53		3.576				ND	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	OnCol Amt ug/l	Flags
32 Methyl tert-butyl ether	73	3.590	3.598	-0.008	95	23063	0.9539	
33 trans-1,2-Dichloroethene	96		3.612				ND	
34 Hexane	57		3.805				ND	
35 Vinyl acetate	43		3.905				ND	
37 Isopropyl ether	87		3.926				ND	
36 1,1-Dichloroethane	63		3.934				ND	
38 2-Chloro-1,3-butadiene	53		3.984				ND	
39 Tert-butyl ethyl ether	59		4.191				ND	
40 2-Butanone (MEK)	43		4.320				ND	
41 Ethyl acetate	43		4.327				ND	
42 cis-1,2-Dichloroethene	96		4.341				ND	
43 2,2-Dichloropropane	77		4.355				ND	
44 Propionitrile	54		4.370				ND	
45 sec-Butyl Alcohol	45		4.420				ND	
46 Methacrylonitrile	41		4.484				ND	
47 Chlorobromomethane	128		4.520				ND	
48 Tetrahydrofuran	42		4.527				ND	
49 Chloroform	83		4.577				ND	
50 1,1,1-Trichloroethane	97		4.720				ND	
51 Cyclohexane	56		4.784				ND	
52 1,1-Dichloropropene	75		4.835				ND	
54 Isobutyl alcohol	41		4.842				ND	
53 Carbon tetrachloride	117		4.842				ND	
55 Benzene	78		4.985				ND	
56 1,2-Dichloroethane	62		5.013				ND	7
57 Tert-amyl methyl ether	73		5.056				ND	
58 n-Heptane	43		5.171				ND	
59 n-Butanol	56		5.335				ND	
60 Trichloroethene	95		5.471				ND	
61 2-Pentanone	43		5.578				ND	
62 Methylcyclohexane	55		5.671				ND	
64 Methyl methacrylate	100		5.678				ND	
63 1,2-Dichloropropane	63		5.678				ND	
65 1,4-Dioxane	88		5.721				ND	
66 Dibromomethane	93		5.750				ND	
67 Dichlorobromomethane	83		5.871				ND	
68 2-Nitropropane	41		6.043				ND	
69 2-Chloroethyl vinyl ether	63		6.072				ND	
70 cis-1,3-Dichloropropene	75		6.222				ND	
71 4-Methyl-2-pentanone (MIBK)	43		6.322				ND	
72 Toluene	91		6.515				ND	
73 trans-1,3-Dichloropropene	75		6.686				ND	
74 Ethyl methacrylate	69		6.701				ND	
75 1,1,2-Trichloroethane	97		6.858				ND	
76 Tetrachloroethene	164		6.951				ND	
77 1,3-Dichloropropane	76		7.008				ND	
78 2-Hexanone	43		7.022				ND	
79 Chlorodibromomethane	129		7.201				ND	
80 Ethylene Dibromide	107		7.323				ND	
81 1-Chlorohexane	91		7.709				ND	U
82 Chlorobenzene	112		7.752				ND	
83 1,1,1,2-Tetrachloroethane	131		7.823				ND	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	OnCol Amt ug/l	Flags
84 Ethylbenzene	106		7.830			ND		
85 m-Xylene & p-Xylene	106		7.945			ND		7
86 o-Xylene	106		8.302			ND		
87 Styrene	104		8.324			ND		
88 Bromoform	173		8.503			ND		
89 Isopropylbenzene	105		8.646			ND		
90 cis-1,4-Dichloro-2-butene	53		8.696			ND		
91 Cyclohexanone	55		8.746			ND		U
92 1,1,2,2-Tetrachloroethane	83		8.932			ND		
93 Bromobenzene	156		8.967			ND		
94 trans-1,4-Dichloro-2-butene	53		8.967			ND		
95 1,2,3-Trichloropropane	110		8.996			ND		
96 N-Propylbenzene	120		9.046			ND		
97 2-Chlorotoluene	126		9.146			ND		
98 1,3,5-Trimethylbenzene	105		9.218			ND		
99 4-Chlorotoluene	126		9.261			ND		
101 Pentachloroethane	167		9.411			ND		
100 tert-Butylbenzene	119		9.525			ND		
102 1,2,4-Trimethylbenzene	105		9.582			ND		
103 sec-Butylbenzene	134		9.747			ND		
104 1,3-Dichlorobenzene	146		9.875			ND		
105 4-Isopropyltoluene	119		9.890			ND		
106 1,4-Dichlorobenzene	146		9.976			ND		
107 1,2,3-Trimethylbenzene	105		9.990			ND		
108 n-Butylbenzene	91		10.297			ND		
109 1,2-Dichlorobenzene	146		10.333			ND		
110 1,2-Dibromo-3-Chloropropane	157		11.112			ND		
111 1,3,5-Trichlorobenzene	180		11.298			ND		
112 1,2,4-Trichlorobenzene	180		11.935			ND		
113 Hexachlorobutadiene	225		12.071			ND		
114 Naphthalene	128		12.206			ND		
115 1,2,3-Trichlorobenzene	180		12.428			ND		
116 Ethylene oxide TIC	1		0.000			ND		
117 t-Amyl alcohol	1		0.000			ND		
118 Ethyl acrylate	55		0.000			ND		
119 1-Chloro-1-fluoroethane TIC	1		0.000			ND		
120 Tetrahydrothiophene TIC	1		0.000			ND		
121 Propene oxide TIC	58		5.334			ND		
S 122 1,2-Dichloroethene, Total (URS)	96		2.000			ND		7
S 129 1,2-Dichloroethene, Total	1		0.000			ND		7
S 124 1,3-Dichloropropene, Total	1		0.000			ND		7
S 123 Xylenes, Total (URS)	1		0.000			ND		7
S 127 Trihalomethanes, Total	1		0.000			ND		7
S 126 Total BTEX	1		0.000			ND		7
S 128 TAH	1				0		0	
S 125 Xylenes, Total	106		0.000			ND		7
T 130 Dichloroacetonitrile TIC	74		1.000			ND		
T 132 1-Chlorohexane TIC	1		0.000			ND		
T 131 Methyl cyclohexane TIC	1		0.000			ND		
T 140 2,3-Dichloro-1-propene TIC	75		0.000			ND		
T 139 Propene TIC	1		0.000			ND		
T 138 n-Nonane TIC	1		0.000			ND		

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	OnCol Amt ug/l	Flags
T 137 1,3-Butadiene TIC	1		0.000				ND	
T 136 Cyclohexane TIC	1		0.000				ND	
T 135 4-Ethyltoluene TIC	1		0.000				ND	
T 134 2-Butoxyethanol TIC	1		0.000				ND	
T 133 Dicyclopentadiene TIC	1		0.000				ND	

QC Flag Legend

Processing Flags

NR - Missing Quant Standard

7 - Failed Limit of Detection

Review Flags

U - Marked Undetected

Reagents:

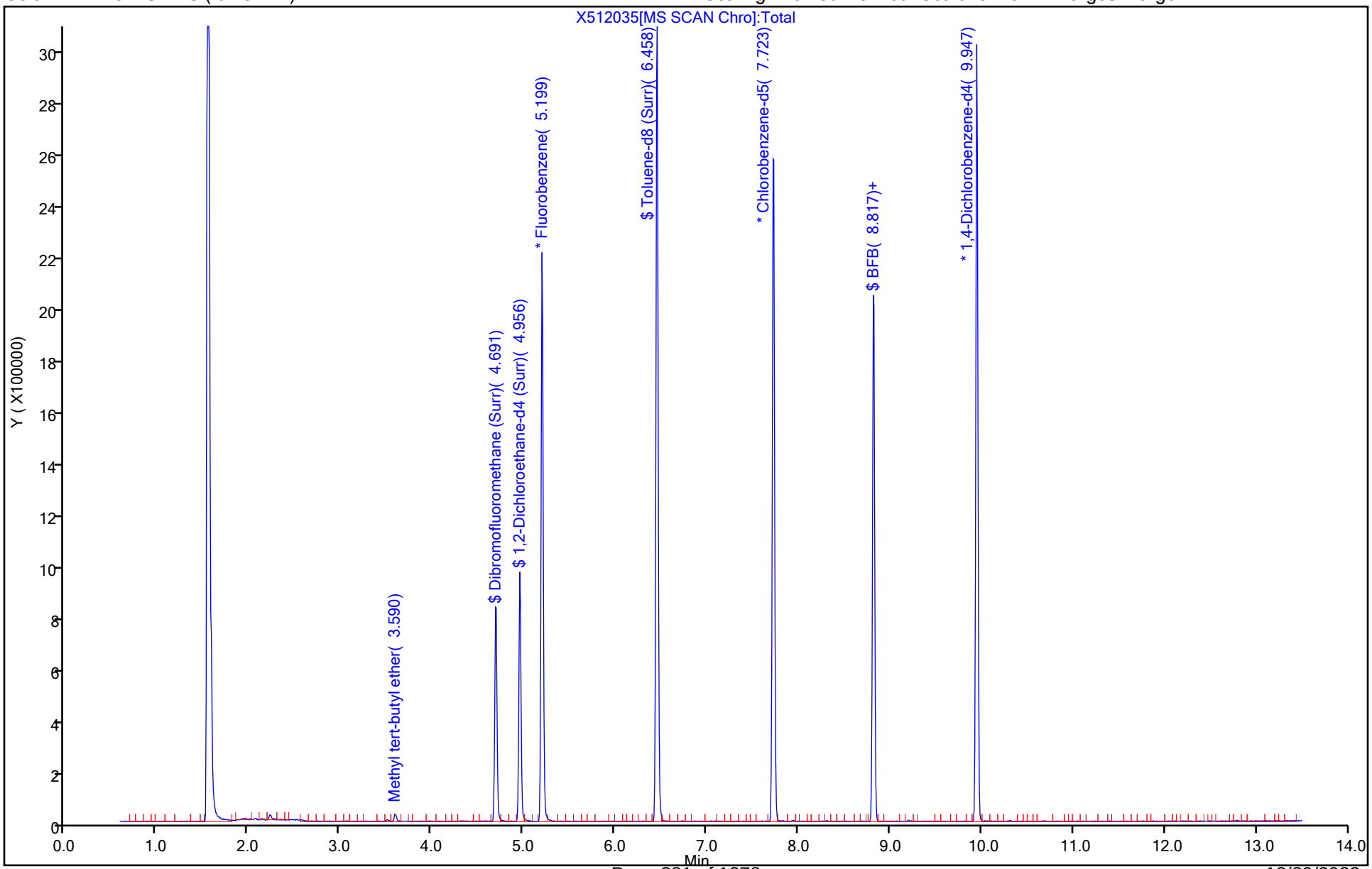
mv-IS_SS_00074 Amount Added: 5.00 Units: uL Run Reagent

Report Date: 20-Dec-2023 03:16:14 Chrom Revision: 2.3 15-Nov-2023 20:54:34

Eurofins Denver

Data File:	\\chromfs\Denver\ChromData\VMS_X4\20231219-128742.b\X512035.D				
Injection Date:	20-Dec-2023 00:37:30	Instrument ID:	VMS_X4	Operator ID:	CF
Lims ID:	280-185814-E-8	Lab Sample ID:	280-185814-8	Worklist Smp#:	27
Client ID:	TV044-MW111223A				
Purge Vol:	5.000 mL	Dil. Factor:	4.0000	ALS Bottle#:	22
Method:	VMS_X4_8260	Limit Group:	MSV - 8260B Water and Solid		

Column: Rxi-624Sil MS (0.25 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 1



Eurofins Denver
Recovery Report

Data File: \\chromfs\Denver\ChromData\VMS_X4\20231219-128742.b\X512035.D
Lims ID: 280-185814-E-8
Client ID: TV044-MW111223A
Sample Type: Client
Inject. Date: 20-Dec-2023 00:37:30 ALS Bottle#: 22 Worklist Smp#: 27
Purge Vol: 5.000 mL Dil. Factor: 4.0000
Sample Info: 280-185814-e-8
Misc. Info.: 4x
Operator ID: CF Instrument ID: VMS_X4

Method: \\chromfs\Denver\ChromData\VMS_X4\20231219-128742.b\VMS_X4_8260.m
Limit Group: MSV - 8260B Water and Solid
Last Update: 20-Dec-2023 03:15:50 Calib Date: 11-Dec-2023 20:50:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Denver\ChromData\VMS_X4\20231211-128477.b\X511702.D

Column 1 : Rxi-624Sil MS (0.25 mm) Det: MS SCAN
Process Host: CTX1617

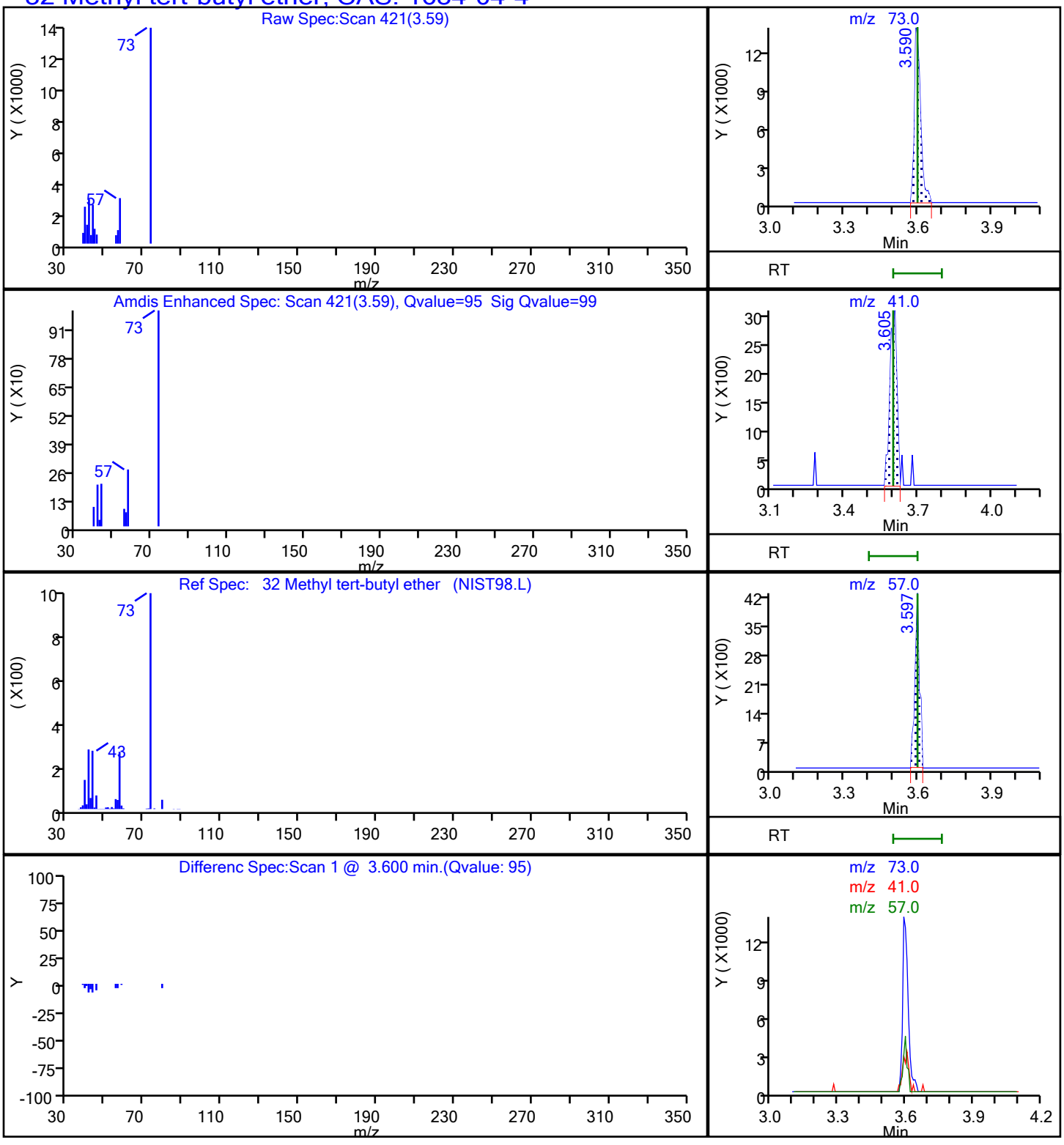
First Level Reviewer: BX8N Date: 20-Dec-2023 03:12:00

Compound	Amount Added	Amount Recovered	% Rec.
$ 4 Dibromofluoromethane (Surr)	50.0	53.6	428.61
$ 5 1,2-Dichloroethane-d4 (Surr)	50.0	52.2	417.69
$ 6 Toluene-d8 (Surr)	50.0	49.0	392.36
$ 7 4-Bromofluorobenzene (Surr)	50.0	45.3	362.39

Eurofins Denver

Data File:	\\chromfs\Denver\ChromData\VMS_X4\20231219-128742.b\X512035.D				
Injection Date:	20-Dec-2023 00:37:30	Instrument ID:	VMS_X4		
Lims ID:	280-185814-E-8	Lab Sample ID:	280-185814-8		
Client ID:	TV044-MW111223A				
Operator ID:	CF	ALS Bottle#:	22	Worklist Smp#:	27
Purge Vol:	5.000 mL	Dil. Factor:	4.0000		
Method:	VMS_X4_8260	Limit Group:	MSV - 8260B Water and Solid		
Column:	Rxi-624Sil MS (0.25 mm)	Detector	MS SCAN		

32 Methyl tert-butyl ether, CAS: 1634-04-4



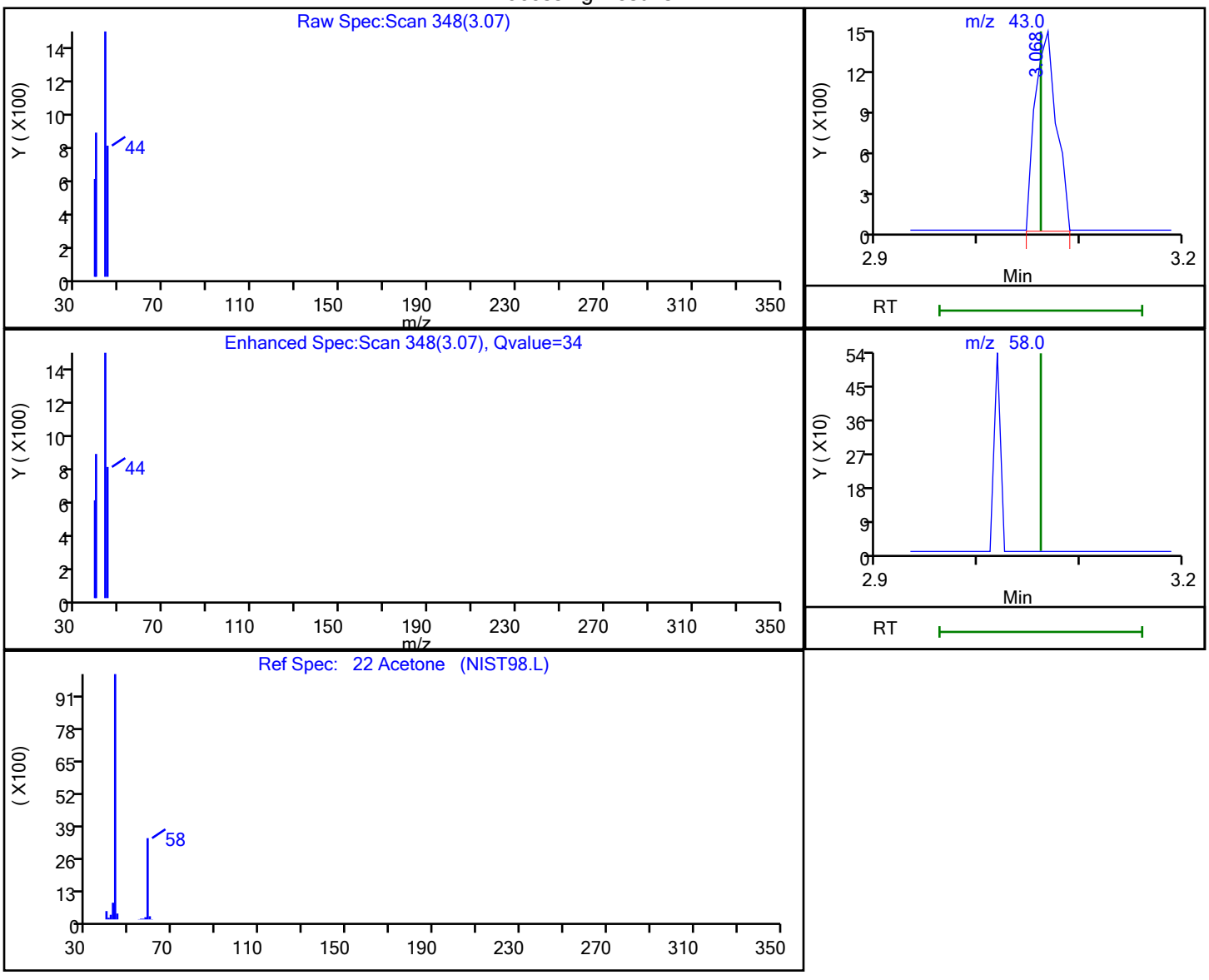
User Disabled Compound Report

Eurofins Denver

Data File:	\\chromfs\Denver\ChromData\VMS_X4\20231219-128742.b\X512035.D				
Injection Date:	20-Dec-2023 00:37:30	Instrument ID:	VMS_X4		
Lims ID:	280-185814-E-8	Lab Sample ID:	280-185814-8		
Client ID:	TV044-MW111223A				
Operator ID:	CF	ALS Bottle#:	22	Worklist Smp#:	27
Purge Vol:	5.000 mL	Dil. Factor:	4.0000		
Method:	VMS_X4_8260	Limit Group:	MSV - 8260B Water and Solid		
Column:	Rxi-624Sil MS (0.25 mm)	Detector	MS SCAN		

22 Acetone, CAS: 67-64-1

Processing Results



RT	Mass	Response	Amount
3.07	43.00	2112	0.683577
3.06	58.00	0	

Reviewer: BX8N, 20-Dec-2023 03:11:45 -07:00:00 (UTC)

Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

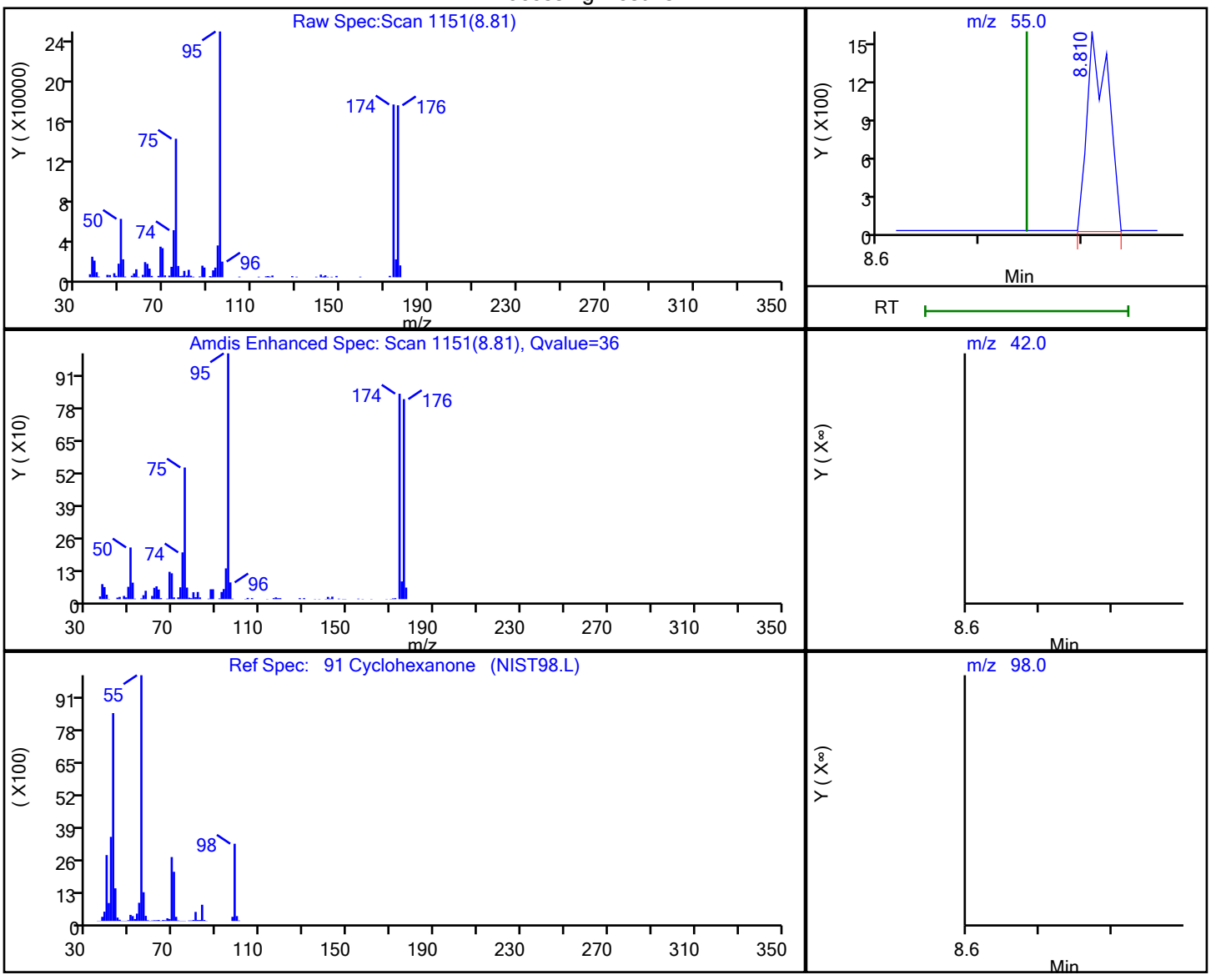
User Disabled Compound Report

Eurofins Denver

Data File:	\\chromfs\Denver\ChromData\VMS_X4\20231219-128742.b\X512035.D				
Injection Date:	20-Dec-2023 00:37:30	Instrument ID:	VMS_X4		
Lims ID:	280-185814-E-8	Lab Sample ID:	280-185814-8		
Client ID:	TV044-MW111223A				
Operator ID:	CF	ALS Bottle#:	22	Worklist Smp#:	27
Purge Vol:	5.000 mL	Dil. Factor:	4.0000		
Method:	VMS_X4_8260	Limit Group:	MSV - 8260B Water and Solid		
Column:	Rxi-624Sil MS (0.25 mm)	Detector	MS SCAN		

91 Cyclohexanone, CAS: 108-94-1

Processing Results



RT	Mass	Response	Amount
8.81	55.00	2186	4.893082
8.75	42.00	0	
8.75	98.00	0	

Reviewer: BX8N, 20-Dec-2023 03:11:56 -07:00:00 (UTC)

Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Denver | Job No.: 280-185814-1

SDG No.:

Client Sample ID: TV044-MW111223C | Lab Sample ID: 280-185814-9

Matrix: Water | Lab File ID: X512033.D

Analysis Method: 8260D | Date Collected: 12/14/2023 12:45

Sample wt/vol: 5(mL) | Date Analyzed: 12/19/2023 23:54

Soil Aliquot Vol: | Dilution Factor: 1

Soil Extract Vol.: | GC Column: RXI-624SilMS ID: 0.25(mm)

Purge Volume: 5.0(mL) | Heated Purge: (Y/N) N pH: 6.0

% Moisture: % Solids: | Level: (low/med) Low

Analysis Batch No.: 637903 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
71-55-6	1,1,1-Trichloroethane	0.50	U	1.0	0.50	0.39
79-34-5	1,1,2,2-Tetrachloroethane	0.80	U	1.0	0.80	0.21
79-00-5	1,1,2-Trichloroethane	0.80	U	1.0	0.80	0.27
75-34-3	1,1-Dichloroethane	0.80	U	1.0	0.80	0.22
75-35-4	1,1-Dichloroethylene	0.80	U	1.0	0.80	0.23
563-58-6	1,1-Dichloropropene	0.80	U	1.0	0.80	0.42
87-61-6	1,2,3-Trichlorobenzene	0.80	U	2.0	0.80	0.70
96-18-4	1,2,3-Trichloropropane	1.8	U	2.5	1.8	0.86
526-73-8	1,2,3-Trimethylbenzene	0.80	U	2.0	0.80	0.27
120-82-1	1,2,4-Trichlorobenzene	0.80	U	1.0	0.80	0.58
95-63-6	1,2,4-Trimethylbenzene	0.40	U	1.0	0.40	0.15
96-12-8	1,2-Dibromo-3-Chloropropane	4.0	U	5.0	4.0	1.8
106-93-4	1,2-Dibromoethane	0.80	U	1.0	0.80	0.40
95-50-1	1,2-Dichlorobenzene	0.50	U	1.0	0.50	0.37
107-06-2	1,2-Dichloroethane	0.80	U	1.0	0.80	0.54
78-87-5	1,2-Dichloropropane	0.80	U	1.0	0.80	0.52
108-67-8	1,3,5-Trimethylbenzene	0.50	U	1.0	0.50	0.37
541-73-1	1,3-Dichlorobenzene	0.40	U	1.0	0.40	0.33
142-28-9	1,3-Dichloropropane	0.80	U	1.0	0.80	0.38
106-46-7	1,4-Dichlorobenzene	0.50	U	1.0	0.50	0.39
594-20-7	2,2-Dichloropropane	0.80	U	1.0	0.80	0.38
78-93-3	2-Butanone (MEK)	12	U	15	12	6.0
110-75-8	2-Chloroethyl vinyl ether	0.80	U	3.0	0.80	0.44
591-78-6	2-Hexanone	4.0	U	5.0	4.0	1.7
99-87-6	4-Isopropyltoluene	0.80	U	1.0	0.80	0.43
108-10-1	4-Methyl-2-pentanone (MIBK)	3.2	U	5.0	3.2	0.98
67-64-1	Acetone	8.0	U M	15	8.0	6.6
107-13-1	Acrylonitrile	8.0	U	20	8.0	4.5
71-43-2	Benzene	0.80	U	1.0	0.80	0.31
108-86-1	Bromobenzene	0.50	U	1.0	0.50	0.40
74-97-5	Bromochloromethane	0.80	U	1.0	0.80	0.40
75-27-4	Bromodichloromethane	0.50	U	1.0	0.50	0.39
75-25-2	Bromoform	1.8	U	2.0	1.8	1.2
75-15-0	Carbon disulfide	0.80	U	2.0	0.80	0.63

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Denver | Job No.: 280-185814-1

SDG No.:

Client Sample ID: TV044-MW111223C | Lab Sample ID: 280-185814-9

Matrix: Water | Lab File ID: X512033.D

Analysis Method: 8260D | Date Collected: 12/14/2023 12:45

Sample wt/vol: 5(mL) | Date Analyzed: 12/19/2023 23:54

Soil Aliquot Vol: | Dilution Factor: 1

Soil Extract Vol.: | GC Column: RXI-624SilMS ID: 0.25(mm)

Purge Volume: 5.0(mL) | Heated Purge: (Y/N) N pH: 6.0

% Moisture: % Solids: | Level: (low/med) Low

Analysis Batch No.: 637903 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
56-23-5	Carbon tetrachloride	0.80	U	1.0	0.80	0.57
108-90-7	Chlorobenzene	0.80	U	1.0	0.80	0.42
75-00-3	Chloroethane	1.6	U	4.0	1.6	1.4
67-66-3	Chloroform	0.80	U	1.0	0.80	0.36
74-87-3	Chloromethane	1.0	U	2.0	1.0	0.75
156-59-2	cis-1,2-Dichloroethylene	0.40	U	1.0	0.40	0.32
10061-01-5	cis-1,3-Dichloropropene	1.8	U	2.0	1.8	0.63
110-82-7	Cyclohexane	0.80	U	1.0	0.80	0.44
108-94-1	Cyclohexanone	64	U M Q	100	64	32
124-48-1	Dibromochloromethane	1.8	U	2.0	1.8	0.62
74-95-3	Dibromomethane	0.40	U	1.0	0.40	0.34
75-71-8	Dichlorodifluoromethane	2.5	U	3.0	2.5	0.96
100-41-4	Ethylbenzene	0.40	U	1.0	0.40	0.30
87-68-3	Hexachlorobutadiene	1.8	U	2.0	1.8	1.2
108-20-3	Isopropyl ether	2.0	U	10	2.0	1.1
98-82-8	Isopropylbenzene	0.50	U	1.0	0.50	0.36
1634-04-4	Methyl tert-butyl ether	3.3	J	5.0	0.80	0.25
108-87-2	Methylcyclohexane	0.40	U	1.0	0.40	0.31
75-09-2	Methylene Chloride	1.8	U	2.0	1.8	0.94
91-20-3	Naphthalene	0.80	U	2.0	0.80	0.63
104-51-8	n-Butylbenzene	0.80	U	1.0	0.80	0.48
110-54-3	n-Hexane	0.80	U	2.0	0.80	0.16
103-65-1	N-Propylbenzene	0.80	U	1.0	0.80	0.53
95-49-8	o-Chlorotoluene	0.40	U	1.0	0.40	0.34
106-43-4	p-Chlorotoluene	0.80	U	1.0	0.80	0.21
135-98-8	sec-Butylbenzene	0.80	U	1.0	0.80	0.45
100-42-5	Styrene	0.80	U	1.0	0.80	0.36
98-06-6	tert-Butylbenzene	0.80	U	1.0	0.80	0.42
127-18-4	Tetrachloroethene	0.80	U	1.0	0.80	0.40
108-88-3	Toluene	0.40	U	1.0	0.40	0.32
156-60-5	trans-1,2-Dichloroethylene	0.50	U	1.0	0.50	0.37
10061-02-6	trans-1,3-Dichloropropene	1.8	U	2.0	1.8	0.65
79-01-6	Trichloroethene	0.40	U	1.0	0.40	0.30
75-69-4	Trichlorofluoromethane	0.80	U	2.0	0.80	0.57

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Denver | Job No.: 280-185814-1

SDG No.:

Client Sample ID: TV044-MW111223C | Lab Sample ID: 280-185814-9

Matrix: Water | Lab File ID: X512033.D

Analysis Method: 8260D | Date Collected: 12/14/2023 12:45

Sample wt/vol: 5(mL) | Date Analyzed: 12/19/2023 23:54

Soil Aliquot Vol: | Dilution Factor: 1

Soil Extract Vol.: | GC Column: RXI-624SilMS ID: 0.25(mm)

Purge Volume: 5.0(mL) | Heated Purge: (Y/N) N pH: 6.0

% Moisture: % Solids: | Level: (low/med) Low

Analysis Batch No.: 637903 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
108-05-4	Vinyl acetate	2.0	U	3.0	2.0	0.94
75-01-4	Vinyl chloride	1.0	U	2.0	1.0	0.51
1330-20-7	Xylenes, Total	0.80	U	1.0	0.80	0.33

CAS NO.	SURROGATE	%REC	Q	LIMITS
17060-07-0	1,2-Dichloroethane-d4 (Surr)	108		81-118
460-00-4	4-Bromofluorobenzene (Surr)	90		85-114
1868-53-7	Dibromofluoromethane (Surr)	110		80-119
2037-26-5	Toluene-d8 (Surr)	99		89-112

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET
TARGETED TENATIVELY IDENTIFIED COMPOUNDS

Lab Name: Eurofins Denver | Job No.: 280-185814-1

SDG No.:

Client Sample ID: TV044-MW111223C | Lab Sample ID: 280-185814-9

Matrix: Water | Lab File ID: X512033.D

Analysis Method: 8260D | Date Collected: 12/14/2023 12:45

Sample wt/vol: 5(mL) | Date Analyzed: 12/19/2023 23:54

Soil Aliquot Vol: | Dilution Factor: 1

Soil Extract Vol.: | GC Column: RXI-624SilMS ID: 0.25(mm)

Purge Volume: 5.0(mL) | Heated Purge: (Y/N) N pH: 6.0

% Moisture: % Solids: | Level: (low/med) Low

Analysis Batch No.: 637903 | Units: ug/L

CAS NO.	COMPOUND NAME	RT	RESULT	Q	MATCH QUALITY
106-99-0	1,3-Butadiene TIC		1.0	U	
622-96-8	4-Ethyltoluene TIC		1.0	U	
77-73-6	Dicyclopentadiene TIC		1.0	U	
115-07-1	Propene TIC		1.0	U	

Eurofins Denver
Target Compound Quantitation Report

Data File: \\chromfs\Denver\ChromData\VMS_X4\20231219-128742.b\X512033.D
Lims ID: 280-185814-D-9
Client ID: TV044-MW111223C
Sample Type: Client
Inject. Date: 19-Dec-2023 23:54:30 ALS Bottle#: 20 Worklist Smp#: 25
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Sample Info: 280-185814-d-9
Operator ID: CF Instrument ID: VMS_X4

Method: \\chromfs\Denver\ChromData\VMS_X4\20231219-128742.b\VMS_X4_8260.m
Limit Group: MSV - 8260B Water and Solid
Last Update: 20-Dec-2023 03:15:50 Calib Date: 11-Dec-2023 20:50:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Denver\ChromData\VMS_X4\20231211-128477.b\X511702.D

Column 1 : Rxi-624Sil MS (0.25 mm) Det: MS SCAN
Process Host: CTX1617

First Level Reviewer: BX8N Date: 20-Dec-2023 03:11:20

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	OnCol Amt ug/l	Flags
* 1 Fluorobenzene	96	5.199	5.199	0.000	98	1661393	50.0	
* 2 Chlorobenzene-d5	119	7.723	7.730	-0.007	89	458489	50.0	
* 3 1,4-Dichlorobenzene-d4	152	9.947	9.947	0.000	97	796460	50.0	
$ 4 Dibromofluoromethane (Surr)	111	4.692	4.691	0.001	92	468887	55.2	
$ 5 1,2-Dichloroethane-d4 (Surr)	65	4.956	4.956	0.000	0	593809	54.0	
$ 6 Toluene-d8 (Surr)	98	6.458	6.458	0.000	95	1955851	49.5	
$ 7 4-Bromofluorobenzene (Surr)	95	8.817	8.817	0.000	88	680905	44.8	
$ 8 BFB	95	8.817	8.817	0.000	86	680905	NR	
9 Dichlorodifluoromethane	85		1.760				ND	
10 Chloromethane	50		1.939				ND	
11 Vinyl chloride	62		2.039				ND	
12 Bromomethane	94		2.332				ND	
13 Chloroethane	64		2.425				ND	
15 Propene oxide	58		2.504				ND	
14 Dichlorofluoromethane	67		2.596				ND	
16 Trichlorofluoromethane	101		2.632				ND	
17 Ethanol	45		2.754				ND	
18 Ethyl ether	59		2.847				ND	
19 Acrolein	56		2.961				ND	
20 1,1,2-Trichloro-1,2,2-trifluoroe	151		3.040				ND	
21 1,1-Dichloroethene	96		3.047				ND	
22 Acetone	43		3.061				ND	U
23 Isopropyl alcohol	45		3.147				ND	
24 Iodomethane	142		3.169				ND	
25 Carbon disulfide	76		3.233				ND	
26 Acetonitrile	41		3.276				ND	
27 Methyl acetate	43		3.290				ND	
28 3-Chloro-1-propene	41		3.319				ND	
29 Methylene Chloride	84		3.412				ND	
30 2-Methyl-2-propanol	59		3.455				ND	
31 Acrylonitrile	53		3.576				ND	
32 Methyl tert-butyl ether	73	3.598	3.598	0.000	97	84817	3.34	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	OnCol Amt ug/l	Flags
33 trans-1,2-Dichloroethene	96		3.612				ND	
34 Hexane	57		3.805				ND	
35 Vinyl acetate	43		3.905				ND	
37 Isopropyl ether	87		3.926				ND	
36 1,1-Dichloroethane	63		3.934				ND	
38 2-Chloro-1,3-butadiene	53		3.984				ND	
39 Tert-butyl ethyl ether	59		4.191				ND	
40 2-Butanone (MEK)	43		4.320				ND	
41 Ethyl acetate	43		4.327				ND	
42 cis-1,2-Dichloroethene	96		4.341				ND	
43 2,2-Dichloropropane	77		4.355				ND	
44 Propionitrile	54		4.370				ND	
45 sec-Butyl Alcohol	45		4.420				ND	
46 Methacrylonitrile	41		4.484				ND	
47 Chlorobromomethane	128		4.520				ND	
48 Tetrahydrofuran	42		4.527				ND	
49 Chloroform	83		4.577				ND	
50 1,1,1-Trichloroethane	97		4.720				ND	
51 Cyclohexane	56		4.784				ND	
52 1,1-Dichloropropene	75		4.835				ND	
54 Isobutyl alcohol	41		4.842				ND	
53 Carbon tetrachloride	117		4.842				ND	
55 Benzene	78		4.985				ND	
56 1,2-Dichloroethane	62		5.013				ND	
57 Tert-amyl methyl ether	73		5.056				ND	
58 n-Heptane	43		5.171				ND	
59 n-Butanol	56		5.335				ND	
60 Trichloroethene	95		5.471				ND	
61 2-Pentanone	43		5.578				ND	
62 Methylcyclohexane	55		5.671				ND	
64 Methyl methacrylate	100		5.678				ND	
63 1,2-Dichloropropane	63		5.678				ND	
65 1,4-Dioxane	88		5.721				ND	
66 Dibromomethane	93		5.750				ND	
67 Dichlorobromomethane	83		5.871				ND	
68 2-Nitropropane	41		6.043				ND	
69 2-Chloroethyl vinyl ether	63		6.072				ND	
70 cis-1,3-Dichloropropene	75		6.222				ND	
71 4-Methyl-2-pentanone (MIBK)	43		6.322				ND	
72 Toluene	91		6.515				ND	
73 trans-1,3-Dichloropropene	75		6.686				ND	
74 Ethyl methacrylate	69		6.701				ND	
75 1,1,2-Trichloroethane	97		6.858				ND	
76 Tetrachloroethene	164		6.951				ND	
77 1,3-Dichloropropane	76		7.008				ND	
78 2-Hexanone	43		7.022				ND	
79 Chlorodibromomethane	129		7.201				ND	
80 Ethylene Dibromide	107		7.323				ND	
81 1-Chlorohexane	91		7.709				ND	U
82 Chlorobenzene	112		7.752				ND	
83 1,1,1,2-Tetrachloroethane	131		7.823				ND	
84 Ethylbenzene	106		7.830				ND	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	OnCol Amt ug/l	Flags
85 m-Xylene & p-Xylene	106	7.931	7.945	-0.014	0	4559	0.2554	
86 o-Xylene	106		8.302				ND	7
87 Styrene	104		8.324				ND	7
88 Bromoform	173		8.503				ND	
89 Isopropylbenzene	105		8.646				ND	
90 cis-1,4-Dichloro-2-butene	53		8.696				ND	
91 Cyclohexanone	55		8.746				ND	U
92 1,1,2,2-Tetrachloroethane	83		8.932				ND	
93 Bromobenzene	156		8.967				ND	
94 trans-1,4-Dichloro-2-butene	53		8.967				ND	
95 1,2,3-Trichloropropane	110		8.996				ND	
96 N-Propylbenzene	120		9.046				ND	
97 2-Chlorotoluene	126		9.146				ND	
98 1,3,5-Trimethylbenzene	105		9.218				ND	
99 4-Chlorotoluene	126		9.261				ND	
101 Pentachloroethane	167		9.411				ND	
100 tert-Butylbenzene	119		9.525				ND	
102 1,2,4-Trimethylbenzene	105		9.582				ND	
103 sec-Butylbenzene	134		9.747				ND	
104 1,3-Dichlorobenzene	146		9.875				ND	
105 4-Isopropyltoluene	119		9.890				ND	
106 1,4-Dichlorobenzene	146		9.976				ND	
107 1,2,3-Trimethylbenzene	105		9.990				ND	
108 n-Butylbenzene	91		10.297				ND	
109 1,2-Dichlorobenzene	146		10.333				ND	
110 1,2-Dibromo-3-Chloropropane	157		11.112				ND	
111 1,3,5-Trichlorobenzene	180		11.298				ND	
112 1,2,4-Trichlorobenzene	180		11.935				ND	
113 Hexachlorobutadiene	225		12.071				ND	
114 Naphthalene	128		12.206				ND	
115 1,2,3-Trichlorobenzene	180		12.428				ND	
116 Ethylene oxide TIC	1		0.000				ND	
117 t-Amyl alcohol	1		0.000				ND	
118 Ethyl acrylate	55		0.000				ND	
119 1-Chloro-1-fluoroethane TIC	1		0.000				ND	
120 Tetrahydrothiophene TIC	1		0.000				ND	
121 Propene oxide TIC	58		5.334				ND	
S 122 1,2-Dichloroethene, Total (URS)	96		2.000				ND	7
S 129 1,2-Dichloroethene, Total	1		0.000				ND	7
S 124 1,3-Dichloropropene, Total	1		0.000				ND	7
S 123 Xylenes, Total (URS)	1				0		0.2554	
S 127 Trihalomethanes, Total	1		0.000				ND	7
S 126 Total BTEX	1				0		0.2554	
S 128 TAH	1				0		0	
S 125 Xylenes, Total	106				0		0.2554	
T 130 Dichloroacetonitrile TIC	74		1.000				ND	
T 132 1-Chlorohexane TIC	1		0.000				ND	
T 131 Methyl cyclohexane TIC	1		0.000				ND	
T 140 2,3-Dichloro-1-propene TIC	75		0.000				ND	
T 139 Propene TIC	1		0.000				ND	
T 138 n-Nonane TIC	1		0.000				ND	
T 137 1,3-Butadiene TIC	1		0.000				ND	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	OnCol Amt ug/l	Flags
T 136 Cyclohexane TIC	1		0.000				ND	
T 135 4-Ethyltoluene TIC	1		0.000				ND	
T 134 2-Butoxyethanol TIC	1		0.000				ND	
T 133 Dicyclopentadiene TIC	1		0.000				ND	

QC Flag Legend

Processing Flags
- NR - Missing Quant Standard
- 7 - Failed Limit of Detection

Review Flags
- U - Marked Undetected

Reagents:

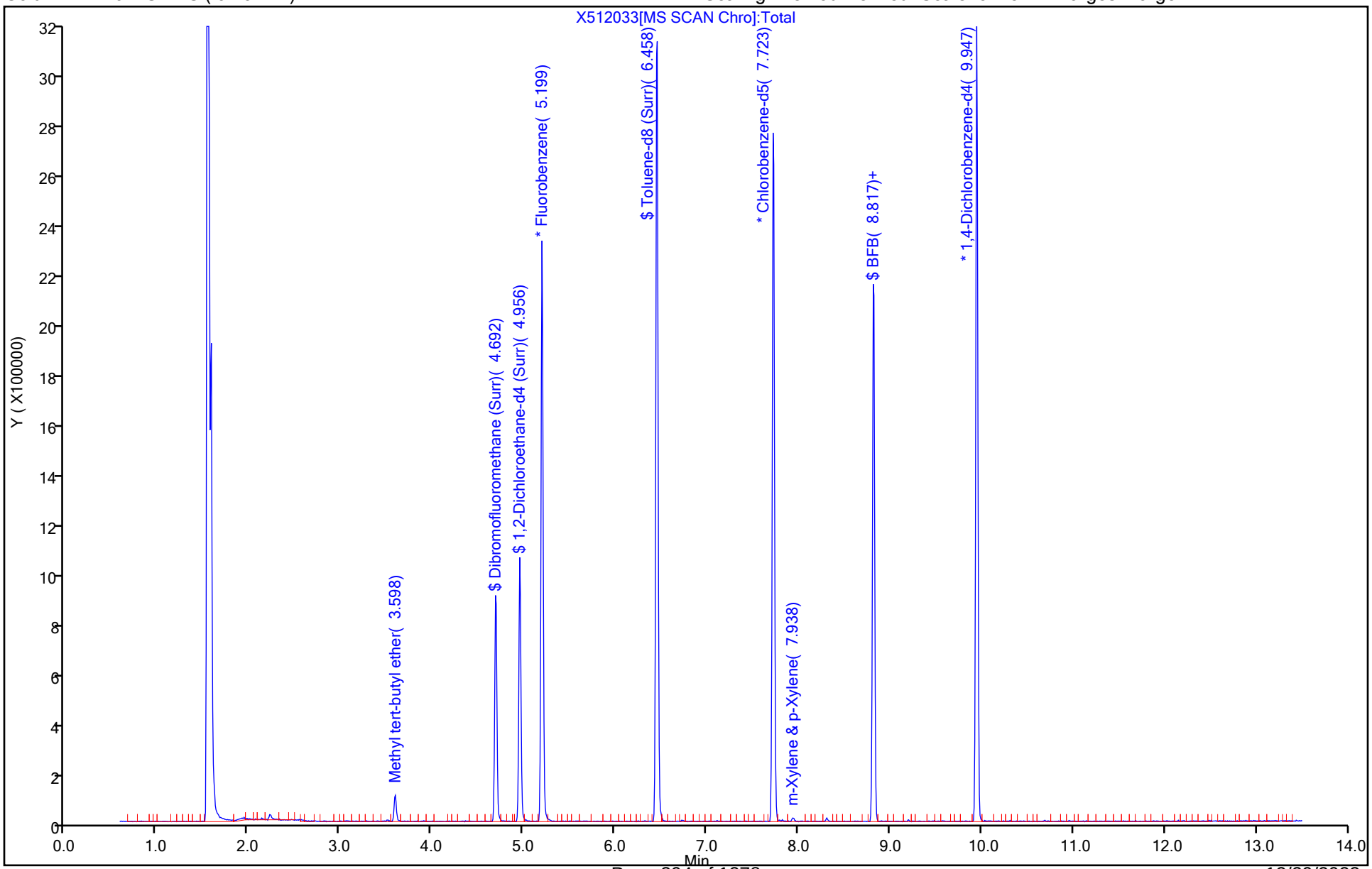
mv-IS_SS_00074 Amount Added: 5.00 Units: uL Run Reagent

Report Date: 20-Dec-2023 03:16:11 Chrom Revision: 2.3 15-Nov-2023 20:54:34

Eurofins Denver

Data File:	\\chromfs\Denver\ChromData\VMS_X4\20231219-128742.b\X512033.D				
Injection Date:	19-Dec-2023 23:54:30	Instrument ID:	VMS_X4	Operator ID:	CF
Lims ID:	280-185814-D-9	Lab Sample ID:	280-185814-9	Worklist Smp#:	25
Client ID:	TV044-MW111223C				
Purge Vol:	5.000 mL	Dil. Factor:	1.0000	ALS Bottle#:	20
Method:	VMS_X4_8260	Limit Group:	MSV - 8260B Water and Solid		

Column: Rxi-624Sil MS (0.25 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 1



Eurofins Denver
Recovery Report

Data File: \\chromfs\Denver\ChromData\VMS_X4\20231219-128742.b\X512033.D
Lims ID: 280-185814-D-9
Client ID: TV044-MW111223C
Sample Type: Client
Inject. Date: 19-Dec-2023 23:54:30 ALS Bottle#: 20 Worklist Smp#: 25
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Sample Info: 280-185814-d-9
Operator ID: CF Instrument ID: VMS_X4

Method: \\chromfs\Denver\ChromData\VMS_X4\20231219-128742.b\VMS_X4_8260.m
Limit Group: MSV - 8260B Water and Solid
Last Update: 20-Dec-2023 03:15:50 Calib Date: 11-Dec-2023 20:50:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Denver\ChromData\VMS_X4\20231211-128477.b\X511702.D

Column 1 : Rxi-624Sil MS (0.25 mm) Det: MS SCAN
Process Host: CTX1617

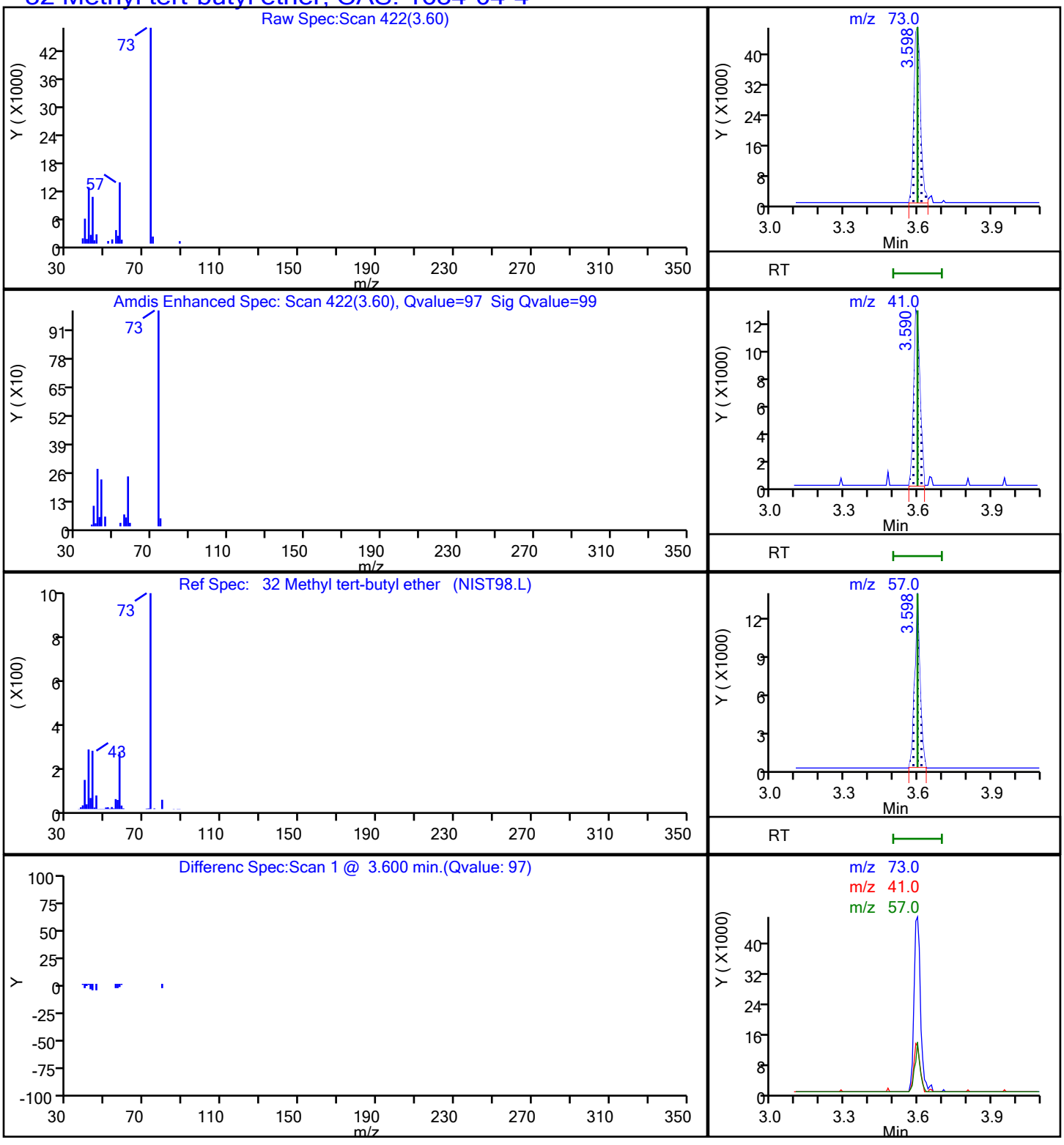
First Level Reviewer: BX8N Date: 20-Dec-2023 03:11:20

Compound	Amount Added	Amount Recovered	% Rec.
$ 4 Dibromofluoromethane (Surr)	50.0	55.2	110.33
$ 5 1,2-Dichloroethane-d4 (Surr)	50.0	54.0	108.04
$ 6 Toluene-d8 (Surr)	50.0	49.5	99.09
$ 7 4-Bromofluorobenzene (Surr)	50.0	44.8	89.59

Eurofins Denver

Data File:	\\chromfs\Denver\ChromData\VMS_X4\20231219-128742.b\X512033.D				
Injection Date:	19-Dec-2023 23:54:30	Instrument ID:	VMS_X4		
Lims ID:	280-185814-D-9	Lab Sample ID:	280-185814-9		
Client ID:	TV044-MW111223C				
Operator ID:	CF	ALS Bottle#:	20	Worklist Smp#:	25
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	VMS_X4_8260	Limit Group:	MSV - 8260B Water and Solid		
Column:	Rxi-624Sil MS (0.25 mm)	Detector	MS SCAN		

32 Methyl tert-butyl ether, CAS: 1634-04-4



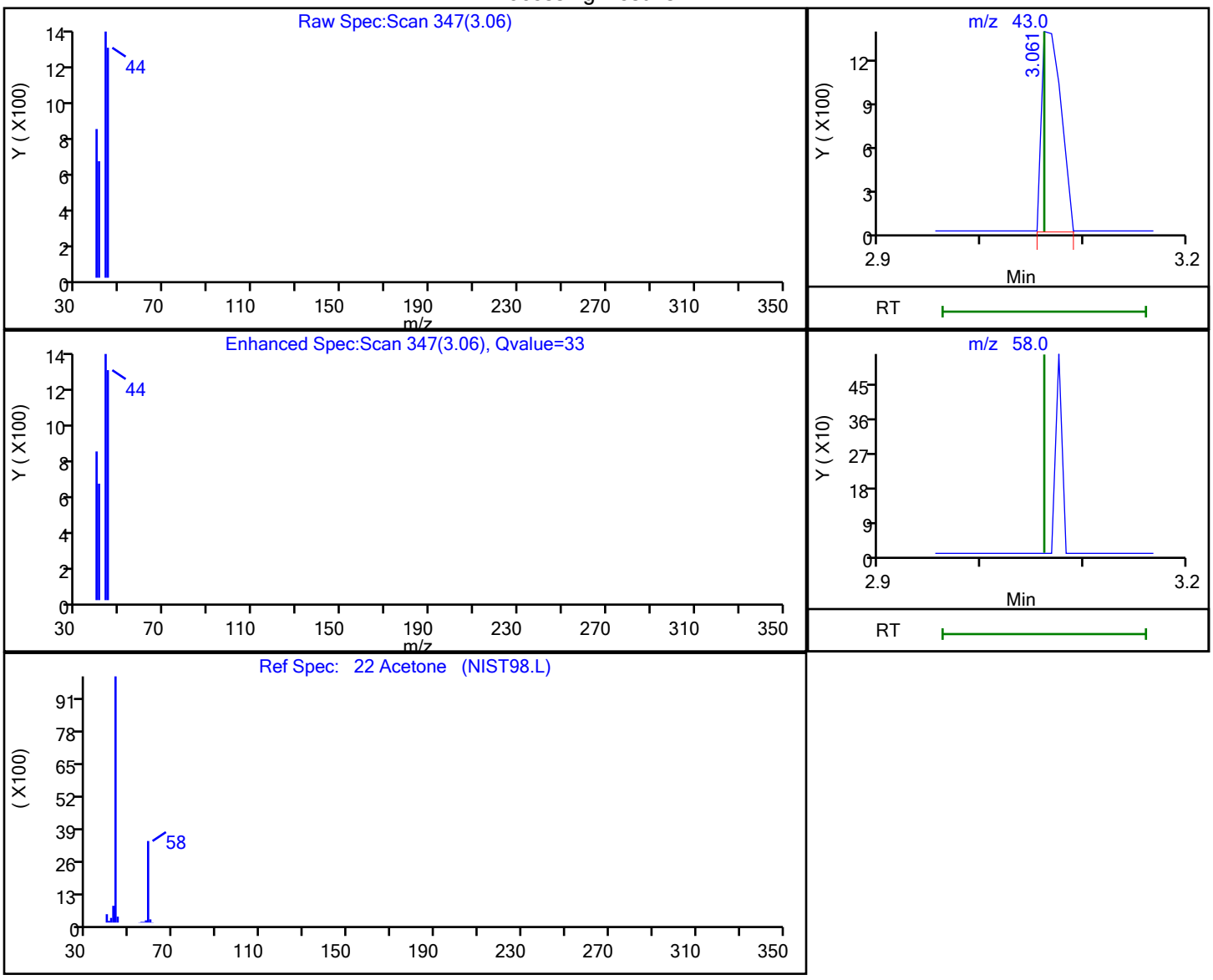
User Disabled Compound Report

Eurofins Denver

Data File:	\\chromfs\Denver\ChromData\VMS_X4\20231219-128742.b\X512033.D				
Injection Date:	19-Dec-2023 23:54:30	Instrument ID:	VMS_X4		
Lims ID:	280-185814-D-9	Lab Sample ID:	280-185814-9		
Client ID:	TV044-MW111223C				
Operator ID:	CF	ALS Bottle#:	20	Worklist Smp#:	25
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	VMS_X4_8260	Limit Group:	MSV - 8260B Water and Solid		
Column:	Rxi-624Sil MS (0.25 mm)	Detector	MS SCAN		

22 Acetone, CAS: 67-64-1

Processing Results



RT	Mass	Response	Amount
3.06	43.00	1860	0.573637
3.06	58.00	0	

Reviewer: BX8N, 20-Dec-2023 03:11:02 -07:00:00 (UTC)

Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

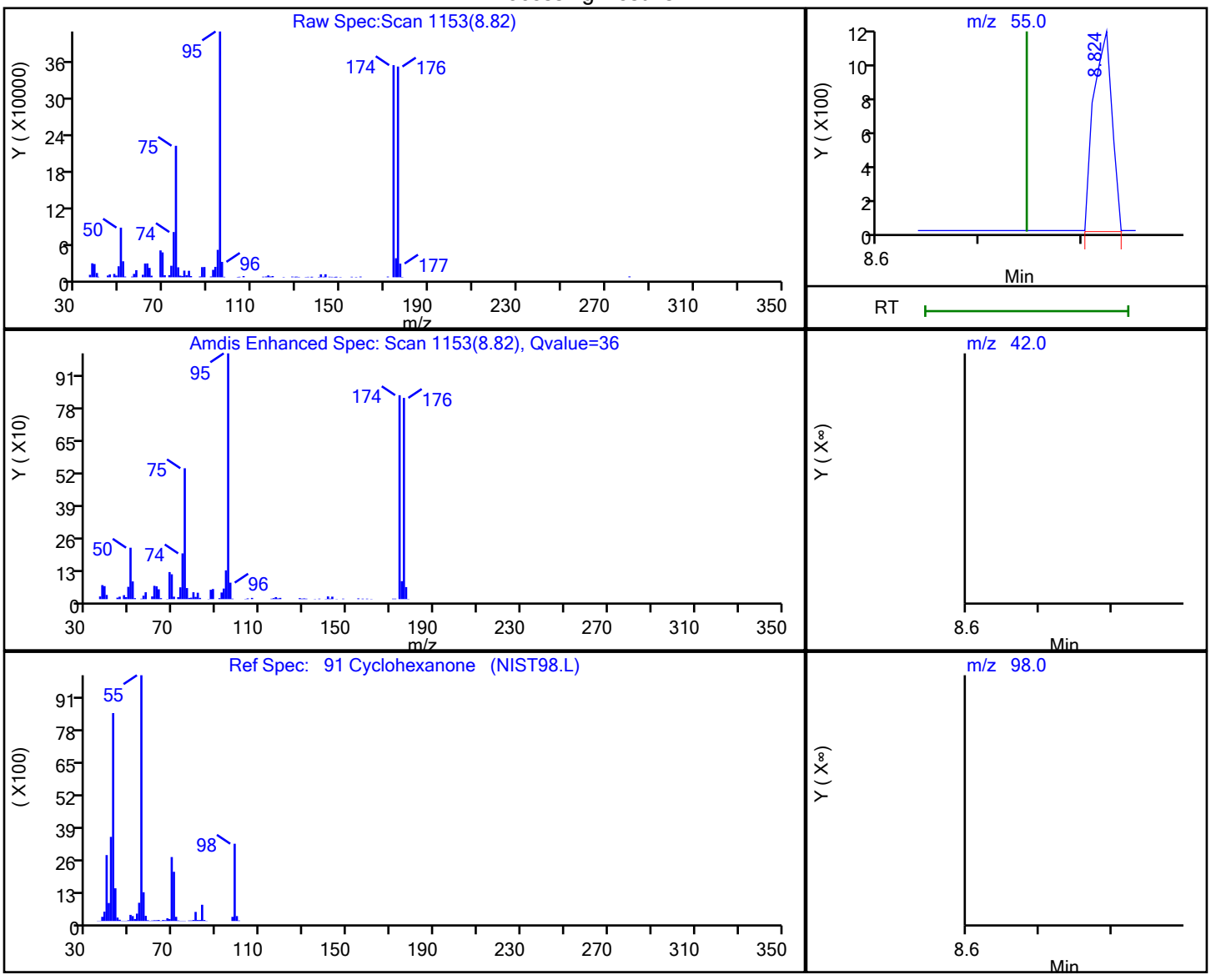
User Disabled Compound Report

Eurofins Denver

Data File:	\\chromfs\Denver\ChromData\VMS_X4\20231219-128742.b\X512033.D				
Injection Date:	19-Dec-2023 23:54:30	Instrument ID:	VMS_X4		
Lims ID:	280-185814-D-9	Lab Sample ID:	280-185814-9		
Client ID:	TV044-MW111223C				
Operator ID:	CF	ALS Bottle#:	20	Worklist Smp#:	25
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	VMS_X4_8260	Limit Group:	MSV - 8260B Water and Solid		
Column:	Rxi-624Sil MS (0.25 mm)	Detector	MS SCAN		

91 Cyclohexanone, CAS: 108-94-1

Processing Results



RT	Mass	Response	Amount
8.82	55.00	1420	3.030313
8.75	42.00	0	
8.75	98.00	0	

Reviewer: BX8N, 20-Dec-2023 03:11:17 -07:00:00 (UTC)

Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Denver | Job No.: 280-185814-1

SDG No.:

Client Sample ID: TV044-MW131223A | Lab Sample ID: 280-185814-10

Matrix: Water | Lab File ID: X512037.D

Analysis Method: 8260D | Date Collected: 12/14/2023 13:00

Sample wt/vol: 5(mL) | Date Analyzed: 12/20/2023 01:22

Soil Aliquot Vol: | Dilution Factor: 100

Soil Extract Vol.: | GC Column: RXI-624SilMS ID: 0.25(mm)

Purge Volume: 5.0(mL) | Heated Purge: (Y/N) N pH: 6.0

% Moisture: % Solids: | Level: (low/med) Low

Analysis Batch No.: 637903 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
71-55-6	1,1,1-Trichloroethane	50	U	100	50	39
79-34-5	1,1,2,2-Tetrachloroethane	80	U	100	80	21
79-00-5	1,1,2-Trichloroethane	80	U	100	80	27
75-34-3	1,1-Dichloroethane	80	U	100	80	22
75-35-4	1,1-Dichloroethylene	80	U	100	80	23
563-58-6	1,1-Dichloropropene	80	U	100	80	42
87-61-6	1,2,3-Trichlorobenzene	80	U	200	80	70
96-18-4	1,2,3-Trichloropropane	180	U	250	180	86
526-73-8	1,2,3-Trimethylbenzene	110	J D	200	80	27
120-82-1	1,2,4-Trichlorobenzene	80	U	100	80	58
95-63-6	1,2,4-Trimethylbenzene	60	J D	100	40	15
96-12-8	1,2-Dibromo-3-Chloropropane	400	U	500	400	180
106-93-4	1,2-Dibromoethane	80	U	100	80	40
95-50-1	1,2-Dichlorobenzene	50	U	100	50	37
107-06-2	1,2-Dichloroethane	80	U M	100	80	54
78-87-5	1,2-Dichloropropane	80	U	100	80	52
108-67-8	1,3,5-Trimethylbenzene	50	U	100	50	37
541-73-1	1,3-Dichlorobenzene	40	U	100	40	33
142-28-9	1,3-Dichloropropane	80	U	100	80	38
106-46-7	1,4-Dichlorobenzene	50	U	100	50	39
594-20-7	2,2-Dichloropropane	80	U	100	80	38
78-93-3	2-Butanone (MEK)	1200	U	1500	1200	600
110-75-8	2-Chloroethyl vinyl ether	80	U	300	80	44
591-78-6	2-Hexanone	400	U	500	400	170
99-87-6	4-Isopropyltoluene	80	U	100	80	43
108-10-1	4-Methyl-2-pentanone (MIBK)	320	U	500	320	98
67-64-1	Acetone	800	U	1500	800	660
107-13-1	Acrylonitrile	800	U M	2000	800	450
71-43-2	Benzene	6400	D	100	80	31
108-86-1	Bromobenzene	50	U	100	50	40
74-97-5	Bromochloromethane	80	U	100	80	40
75-27-4	Bromodichloromethane	50	U	100	50	39
75-25-2	Bromoform	180	U	200	180	120
75-15-0	Carbon disulfide	80	U	200	80	63

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Denver | Job No.: 280-185814-1

SDG No.:

Client Sample ID: TV044-MW131223A | Lab Sample ID: 280-185814-10

Matrix: Water | Lab File ID: X512037.D

Analysis Method: 8260D | Date Collected: 12/14/2023 13:00

Sample wt/vol: 5(mL) | Date Analyzed: 12/20/2023 01:22

Soil Aliquot Vol: | Dilution Factor: 100

Soil Extract Vol.: | GC Column: RXI-624SilMS ID: 0.25(mm)

Purge Volume: 5.0(mL) | Heated Purge: (Y/N) N pH: 6.0

% Moisture: % Solids: | Level: (low/med) Low

Analysis Batch No.: 637903 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
56-23-5	Carbon tetrachloride	80	U	100	80	57
108-90-7	Chlorobenzene	80	U	100	80	42
75-00-3	Chloroethane	160	U	400	160	140
67-66-3	Chloroform	80	U	100	80	36
74-87-3	Chloromethane	100	U	200	100	75
156-59-2	cis-1,2-Dichloroethylene	40	U	100	40	32
10061-01-5	cis-1,3-Dichloropropene	180	U	200	180	63
110-82-7	Cyclohexane	130	D	100	80	44
108-94-1	Cyclohexanone	6400	U M Q	10000	6400	3200
124-48-1	Dibromochloromethane	180	U	200	180	62
74-95-3	Dibromomethane	40	U	100	40	34
75-71-8	Dichlorodifluoromethane	250	U	300	250	96
100-41-4	Ethylbenzene	95	J D	100	40	30
87-68-3	Hexachlorobutadiene	180	U	200	180	120
108-20-3	Isopropyl ether	200	U	1000	200	110
98-82-8	Isopropylbenzene	50	U	100	50	36
1634-04-4	Methyl tert-butyl ether	6000	D	500	80	25
108-87-2	Methylcyclohexane	240	D	100	40	31
75-09-2	Methylene Chloride	180	U	200	180	94
91-20-3	Naphthalene	96	J D	200	80	63
104-51-8	n-Butylbenzene	80	U	100	80	48
110-54-3	n-Hexane	77	J D	200	80	16
103-65-1	N-Propylbenzene	80	U	100	80	53
95-49-8	o-Chlorotoluene	40	U	100	40	34
106-43-4	p-Chlorotoluene	80	U	100	80	21
135-98-8	sec-Butylbenzene	80	U	100	80	45
100-42-5	Styrene	80	U	100	80	36
98-06-6	tert-Butylbenzene	80	U	100	80	42
127-18-4	Tetrachloroethene	80	U	100	80	40
108-88-3	Toluene	61	J D	100	40	32
156-60-5	trans-1,2-Dichloroethylene	50	U	100	50	37
10061-02-6	trans-1,3-Dichloropropene	180	U	200	180	65
79-01-6	Trichloroethene	40	U	100	40	30
75-69-4	Trichlorofluoromethane	80	U	200	80	57

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Denver | Job No.: 280-185814-1

SDG No.:

Client Sample ID: TV044-MW131223A | Lab Sample ID: 280-185814-10

Matrix: Water | Lab File ID: X512037.D

Analysis Method: 8260D | Date Collected: 12/14/2023 13:00

Sample wt/vol: 5(mL) | Date Analyzed: 12/20/2023 01:22

Soil Aliquot Vol: | Dilution Factor: 100

Soil Extract Vol.: | GC Column: RXI-624SilMS ID: 0.25(mm)

Purge Volume: 5.0(mL) | Heated Purge: (Y/N) N pH: 6.0

% Moisture: % Solids: | Level: (low/med) Low

Analysis Batch No.: 637903 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
108-05-4	Vinyl acetate	200	U	300	200	94
75-01-4	Vinyl chloride	100	U	200	100	51
1330-20-7	Xylenes, Total	70	J D	100	80	33

CAS NO.	SURROGATE	%REC	Q	LIMITS
17060-07-0	1,2-Dichloroethane-d4 (Surr)	102		81-118
460-00-4	4-Bromofluorobenzene (Surr)	88		85-114
1868-53-7	Dibromofluoromethane (Surr)	106		80-119
2037-26-5	Toluene-d8 (Surr)	102		89-112

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET
TARGETED TENATIVELY IDENTIFIED COMPOUNDS

Lab Name: Eurofins Denver | Job No.: 280-185814-1

SDG No.:

Client Sample ID: TV044-MW131223A | Lab Sample ID: 280-185814-10

Matrix: Water | Lab File ID: X512037.D

Analysis Method: 8260D | Date Collected: 12/14/2023 13:00

Sample wt/vol: 5(mL) | Date Analyzed: 12/20/2023 01:22

Soil Aliquot Vol: | Dilution Factor: 100

Soil Extract Vol.: | GC Column: RXI-624SilMS ID: 0.25(mm)

Purge Volume: 5.0(mL) | Heated Purge: (Y/N) N pH: 6.0

% Moisture: % Solids: | Level: (low/med) Low

Analysis Batch No.: 637903 | Units: ug/L

CAS NO.	COMPOUND NAME	RT	RESULT	Q	MATCH QUALITY
106-99-0	1,3-Butadiene TIC		100	U	
622-96-8	4-Ethyltoluene TIC		100	U	
77-73-6	Dicyclopentadiene TIC		100	U	
115-07-1	Propene TIC		100	U	

Eurofins Denver
Target Compound Quantitation Report

Data File: \\chromfs\Denver\ChromData\VMS_X4\20231219-128742.b\X512037.D
Lims ID: 280-185814-E-10
Client ID: TV044-MW131223A
Sample Type: Client
Inject. Date: 20-Dec-2023 01:22:30 ALS Bottle#: 24 Worklist Smp#: 29
Purge Vol: 5.000 mL Dil. Factor: 100.0000
Sample Info: 280-185814-e-10
Misc. Info.: 100x
Operator ID: CF Instrument ID: VMS_X4

Method: \\chromfs\Denver\ChromData\VMS_X4\20231219-128742.b\VMS_X4_8260.m
Limit Group: MSV - 8260B Water and Solid
Last Update: 20-Dec-2023 03:15:50 Calib Date: 11-Dec-2023 20:50:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Denver\ChromData\VMS_X4\20231211-128477.b\X511702.D

Column 1 : Rxi-624Sil MS (0.25 mm) Det: MS SCAN
Process Host: CTX1617

First Level Reviewer: BX8N Date: 20-Dec-2023 03:13:36

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	OnCol Amt ug/l	Flags
* 1 Fluorobenzene	96	5.199	5.199	0.000	98	1606193	50.0	
* 2 Chlorobenzene-d5	119	7.730	7.730	0.000	89	423092	50.0	
* 3 1,4-Dichlorobenzene-d4	152	9.947	9.947	0.000	97	747152	50.0	
$ 4 Dibromofluoromethane (Surr)	111	4.699	4.691	0.008	93	433972	52.8	
$ 5 1,2-Dichloroethane-d4 (Surr)	65	4.956	4.956	0.000	0	540888	50.9	
$ 6 Toluene-d8 (Surr)	98	6.458	6.458	0.000	95	1849227	50.8	
$ 7 4-Bromofluorobenzene (Surr)	95	8.817	8.817	0.000	87	630560	44.2	
$ 8 BFB	95	8.817	8.817	0.000	84	630560	NR	
9 Dichlorodifluoromethane	85		1.760				ND	
10 Chloromethane	50		1.939				ND	
11 Vinyl chloride	62		2.039				ND	
12 Bromomethane	94		2.332				ND	
13 Chloroethane	64		2.425				ND	
15 Propene oxide	58	2.489	2.504	-0.015	1	938	NC	
14 Dichlorofluoromethane	67		2.596				ND	
16 Trichlorofluoromethane	101		2.632				ND	
17 Ethanol	45		2.754				ND	
18 Ethyl ether	59		2.847				ND	
19 Acrolein	56		2.961				ND	
20 1,1,2-Trichloro-1,2,2-trifluoroe	151		3.040				ND	
21 1,1-Dichloroethene	96		3.047				ND	
22 Acetone	43	3.068	3.061	0.007	76	3936	1.26	
23 Isopropyl alcohol	45		3.147				ND	
24 Iodomethane	142		3.169				ND	
25 Carbon disulfide	76		3.233				ND	
26 Acetonitrile	41		3.276				ND	
27 Methyl acetate	43		3.290				ND	
28 3-Chloro-1-propene	41		3.319				ND	7
29 Methylene Chloride	84		3.412				ND	
30 2-Methyl-2-propanol	59	3.454	3.455	-0.001	31	6665	7.89	
31 Acrylonitrile	53		3.576				ND	U

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	OnCol Amt ug/l	Flags
32 Methyl tert-butyl ether	73	3.597	3.598	-0.001	97	1470340	59.9	
33 trans-1,2-Dichloroethene	96		3.612				ND	
34 Hexane	57	3.805	3.805	0.000	87	10006	0.7706	
35 Vinyl acetate	43		3.905				ND	
37 Isopropyl ether	87		3.926				ND	
36 1,1-Dichloroethane	63		3.934				ND	
38 2-Chloro-1,3-butadiene	53		3.984				ND	
39 Tert-butyl ethyl ether	59		4.191				ND	
40 2-Butanone (MEK)	43		4.320				ND	
41 Ethyl acetate	43		4.327				ND	U
42 cis-1,2-Dichloroethene	96		4.341				ND	
43 2,2-Dichloropropane	77		4.355				ND	
44 Propionitrile	54		4.370				ND	U
45 sec-Butyl Alcohol	45		4.420				ND	
46 Methacrylonitrile	41		4.484				ND	
47 Chlorobromomethane	128		4.520				ND	
48 Tetrahydrofuran	42		4.527				ND	7
49 Chloroform	83		4.577				ND	
50 1,1,1-Trichloroethane	97		4.720				ND	
51 Cyclohexane	56	4.784	4.784	0.000	89	22427	1.30	
52 1,1-Dichloropropene	75		4.835				ND	
54 Isobutyl alcohol	41	4.842	4.842	0.000	28	2849	8.92	
53 Carbon tetrachloride	117		4.842				ND	
55 Benzene	78	4.992	4.985	0.007	98	2430452	63.6	
56 1,2-Dichloroethane	62		5.013				ND	U
57 Tert-amyl methyl ether	73		5.056				ND	U
58 n-Heptane	43		5.171				ND	
59 n-Butanol	56		5.335				ND	
60 Trichloroethene	95		5.471				ND	
61 2-Pentanone	43		5.578				ND	
62 Methylcyclohexane	55	5.671	5.671	0.000	92	28961	2.44	
64 Methyl methacrylate	100		5.678				ND	
63 1,2-Dichloropropane	63		5.678				ND	
65 1,4-Dioxane	88		5.721				ND	
66 Dibromomethane	93		5.750				ND	
67 Dichlorobromomethane	83		5.871				ND	
68 2-Nitropropane	41		6.043				ND	U
69 2-Chloroethyl vinyl ether	63		6.072				ND	
70 cis-1,3-Dichloropropene	75		6.222				ND	
71 4-Methyl-2-pentanone (MIBK)	43		6.322				ND	
72 Toluene	91	6.508	6.515	-0.007	96	24067	0.6065	
73 trans-1,3-Dichloropropene	75		6.686				ND	
74 Ethyl methacrylate	69		6.701				ND	
75 1,1,2-Trichloroethane	97		6.858				ND	
76 Tetrachloroethene	164		6.951				ND	
77 1,3-Dichloropropane	76		7.008				ND	
78 2-Hexanone	43		7.022				ND	
79 Chlorodibromomethane	129		7.201				ND	
80 Ethylene Dibromide	107		7.323				ND	
81 1-Chlorohexane	91		7.709				ND	U
82 Chlorobenzene	112		7.752				ND	
83 1,1,1,2-Tetrachloroethane	131		7.823				ND	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	OnCol Amt ug/l	Flags
84 Ethylbenzene	106	7.838	7.830	0.008	98	12417	0.9484	
85 m-Xylene & p-Xylene	106	7.938	7.945	-0.007	0	11515	0.6991	
86 o-Xylene	106		8.302				ND	7
87 Styrene	104		8.324				ND	
88 Bromoform	173		8.503				ND	
89 Isopropylbenzene	105		8.646				ND	7
90 cis-1,4-Dichloro-2-butene	53		8.696				ND	
91 Cyclohexanone	55		8.746				ND	U
92 1,1,2,2-Tetrachloroethane	83		8.932				ND	
93 Bromobenzene	156		8.967				ND	
94 trans-1,4-Dichloro-2-butene	53		8.967				ND	
95 1,2,3-Trichloropropane	110		8.996				ND	
96 N-Propylbenzene	120	9.046	9.046	0.000	99	4242	0.3869	
97 2-Chlorotoluene	126		9.146				ND	
98 1,3,5-Trimethylbenzene	105		9.218				ND	
99 4-Chlorotoluene	126		9.261				ND	
101 Pentachloroethane	167		9.411				ND	
100 tert-Butylbenzene	119		9.525				ND	
102 1,2,4-Trimethylbenzene	105	9.589	9.582	0.007	94	21979	0.5956	
103 sec-Butylbenzene	134		9.747				ND	
104 1,3-Dichlorobenzene	146		9.875				ND	
105 4-Isopropyltoluene	119		9.890				ND	
106 1,4-Dichlorobenzene	146		9.976				ND	
107 1,2,3-Trimethylbenzene	105	9.997	9.990	0.007	95	41193	1.09	
108 n-Butylbenzene	91		10.297				ND	
109 1,2-Dichlorobenzene	146		10.333				ND	
110 1,2-Dibromo-3-Chloropropane	157		11.112				ND	
111 1,3,5-Trichlorobenzene	180		11.298				ND	
112 1,2,4-Trichlorobenzene	180		11.935				ND	
113 Hexachlorobutadiene	225		12.071				ND	
114 Naphthalene	128	12.206	12.206	0.000	97	25720	0.9602	
115 1,2,3-Trichlorobenzene	180		12.428				ND	
116 Ethylene oxide TIC	1		0.000				ND	
117 t-Amyl alcohol	1		0.000				ND	
118 Ethyl acrylate	55		0.000				ND	
119 1-Chloro-1-fluoroethane TIC	1		0.000				ND	
120 Tetrahydrothiophene TIC	1		0.000				ND	
121 Propene oxide TIC	58		5.334				ND	
S 122 1,2-Dichloroethene, Total (URS)	96		2.000				ND	7
S 129 1,2-Dichloroethene, Total	1		0.000				ND	7
S 124 1,3-Dichloropropene, Total	1		0.000				ND	7
S 123 Xylenes, Total (URS)	1				0		0.6991	
S 127 Trihalomethanes, Total	1		0.000				ND	7
S 126 Total BTEX	1				0		65.9	
S 128 TAH	1				0		0	
S 125 Xylenes, Total	106				0		0.6991	
T 130 Dichloroacetonitrile TIC	74		1.000				ND	
T 132 1-Chlorohexane TIC	1		0.000				ND	
T 131 Methyl cyclohexane TIC	1		0.000				ND	
T 140 2,3-Dichloro-1-propene TIC	75		0.000				ND	
T 139 Propene TIC	1		0.000				ND	
T 138 n-Nonane TIC	1		0.000				ND	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	OnCol Amt ug/l	Flags
T 137 1,3-Butadiene TIC	1		0.000				ND	
T 136 Cyclohexane TIC	1		0.000				ND	
T 135 4-Ethyltoluene TIC	1		0.000				ND	
T 134 2-Butoxyethanol TIC	1		0.000				ND	
T 133 Dicyclopentadiene TIC	1		0.000				ND	

QC Flag Legend

Processing Flags
- NR - Missing Quant Standard
- NC - Not Calibrated
- 7 - Failed Limit of Detection

Review Flags
- U - Marked Undetected

Reagents:

mv-IS_SS_00074 Amount Added: 5.00 Units: uL Run Reagent

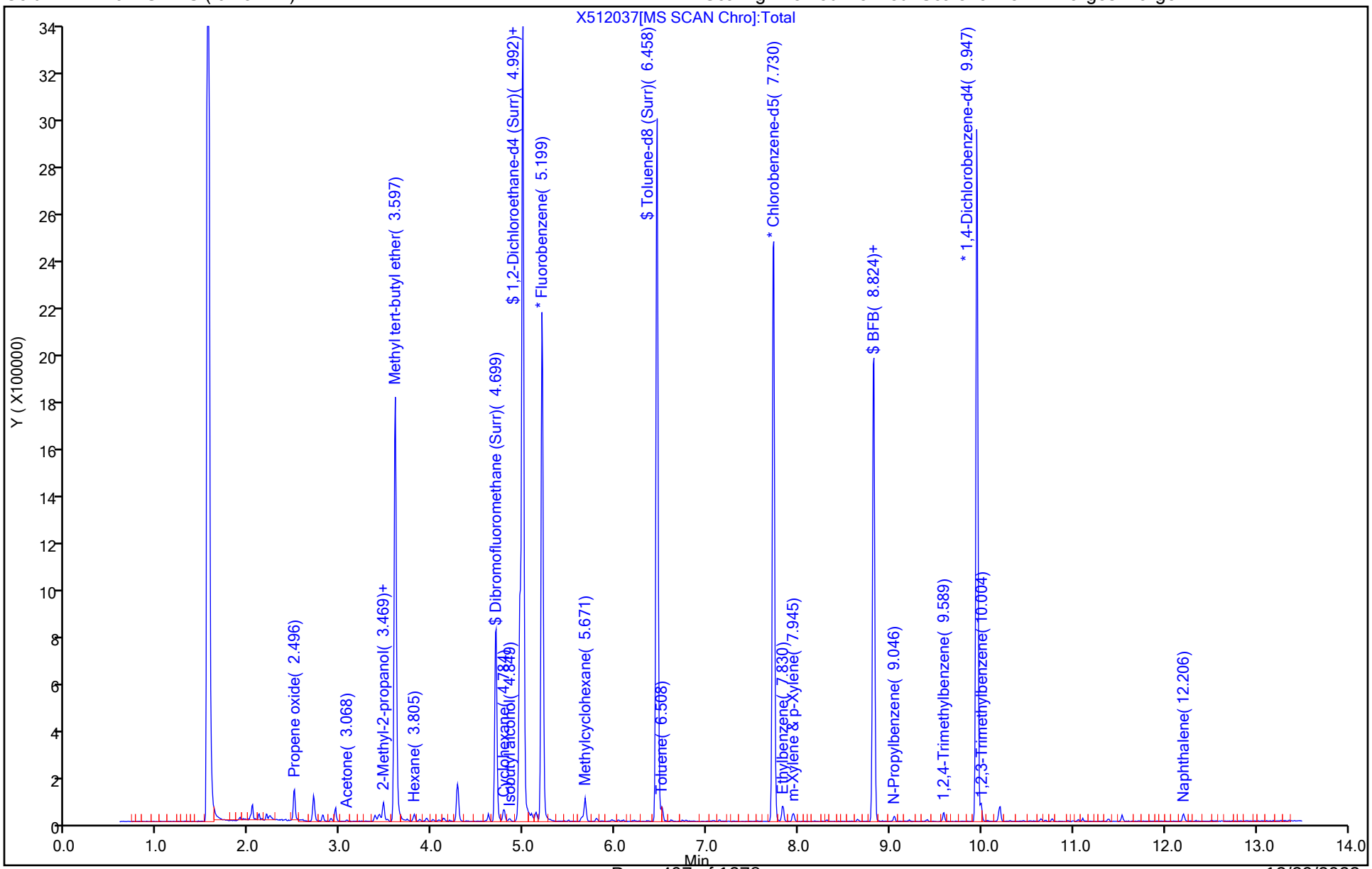
Report Date: 20-Dec-2023 03:16:17 Chrom Revision: 2.3 15-Nov-2023 20:54:34

Eurofins Denver

Data File: \\chromfs\Denver\ChromData\VMS_X4\20231219-128742.b\X512037.D

Injection Date:	20-Dec-2023 01:22:30	Instrument ID:	VMS_X4	Operator ID:	CF
Lims ID:	280-185814-E-10	Lab Sample ID:	280-185814-10	Worklist Smp#:	29
Client ID:	TV044-MW131223A				
Purge Vol:	5.000 mL	Dil. Factor:	100.0000	ALS Bottle#:	24
Method:	VMS_X4_8260	Limit Group:	MSV - 8260B Water and Solid		

Column: Rxi-624Sil MS (0.25 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 1



Eurofins Denver
Recovery Report

Data File: \\chromfs\Denver\ChromData\VMS_X4\20231219-128742.b\X512037.D
Lims ID: 280-185814-E-10
Client ID: TV044-MW131223A
Sample Type: Client
Inject. Date: 20-Dec-2023 01:22:30 ALS Bottle#: 24 Worklist Smp#: 29
Purge Vol: 5.000 mL Dil. Factor: 100.0000
Sample Info: 280-185814-e-10
Misc. Info.: 100x
Operator ID: CF Instrument ID: VMS_X4

Method: \\chromfs\Denver\ChromData\VMS_X4\20231219-128742.b\VMS_X4_8260.m
Limit Group: MSV - 8260B Water and Solid
Last Update: 20-Dec-2023 03:15:50 Calib Date: 11-Dec-2023 20:50:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Denver\ChromData\VMS_X4\20231211-128477.b\X511702.D

Column 1 : Rxi-624Sil MS (0.25 mm) Det: MS SCAN
Process Host: CTX1617

First Level Reviewer: BX8N Date: 20-Dec-2023 03:13:36

Compound	Amount Added	Amount Recovered	% Rec.
$ 4 Dibromofluoromethane (Surr)	50.0	52.8	10562.66
$ 5 1,2-Dichloroethane-d4 (Surr)	50.0	50.9	10178.99
$ 6 Toluene-d8 (Surr)	50.0	50.8	10152.89
$ 7 4-Bromofluorobenzene (Surr)	50.0	44.2	8843.88

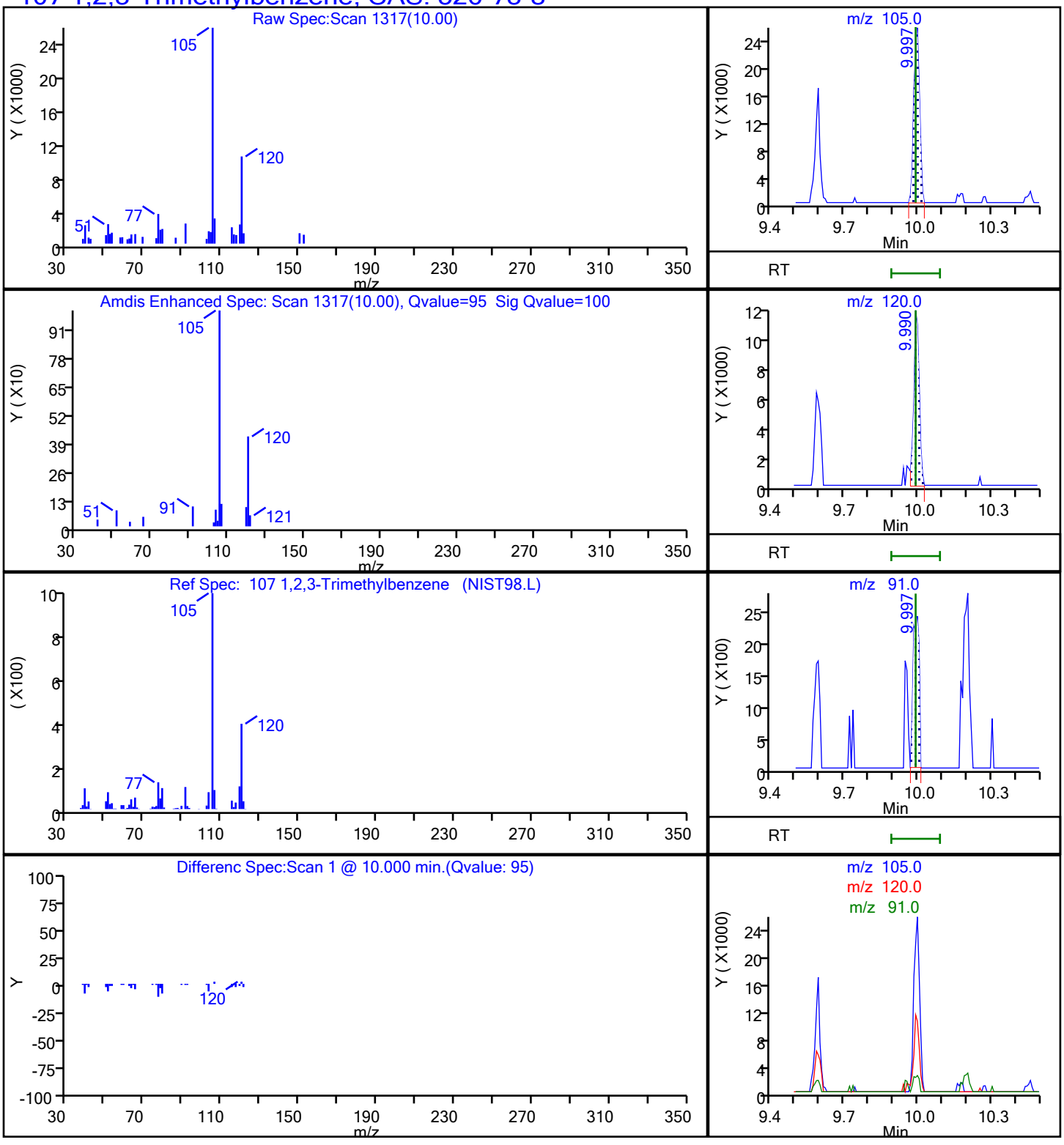
Report Date: 20-Dec-2023 03:16:18 Chrom Revision: 2.3 15-Nov-2023 20:54:34

Eurofins Denver

Data File: \\chromfs\Denver\ChromData\VMS_X4\20231219-128742.b\X512037.D

Injection Date:	20-Dec-2023 01:22:30	Instrument ID:	VMS_X4
Lims ID:	280-185814-E-10	Lab Sample ID:	280-185814-10
Client ID:	TV044-MW131223A		
Operator ID:	CF	ALS Bottle#:	24 Worklist Smp#: 29
Purge Vol:	5.000 mL	Dil. Factor:	100.0000
Method:	VMS_X4_8260	Limit Group:	MSV - 8260B Water and Solid
Column:	Rxi-624Sil MS (0.25 mm)	Detector	MS SCAN

107 1,2,3-Trimethylbenzene, CAS: 526-73-8



12/29/2023
12:08 PM

Report Date: 20-Dec-2023 03:16:18 Chrom Revision: 2.3 15-Nov-2023 20:54:34

Eurofins Denver

Data File: \\chromfs\Denver\ChromData\VMS_X4\20231219-128742.b\X512037.D

Injection Date: 20-Dec-2023 01:22:30 Instrument ID: VMS_X4

Lims ID: 280-185814-E-10 Lab Sample ID: 280-185814-10

Client ID: TV044-MW131223A

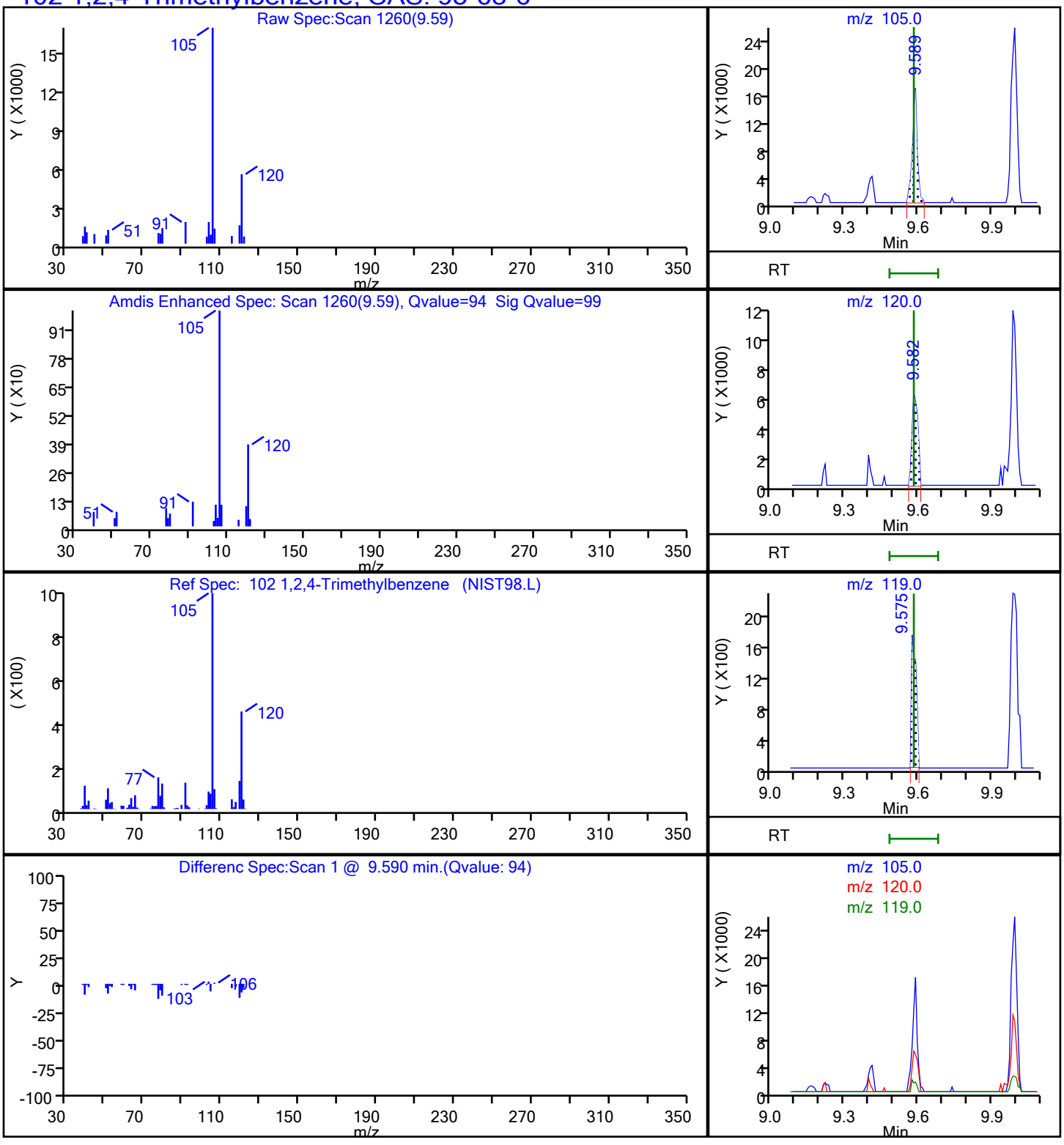
Operator ID: CF ALS Bottle#: 24 Worklist Smp#: 29

Purge Vol: 5.000 mL Dil. Factor: 100.0000

Method: VMS_X4_8260 Limit Group: MSV - 8260B Water and Solid

Column: Rxi-624Sil MS (0.25 mm) Detector MS SCAN

102 1,2,4-Trimethylbenzene, CAS: 95-63-6



Report Date: 20-Dec-2023 03:16:18 Chrom Revision: 2.3 15-Nov-2023 20:54:34

Eurofins Denver

Data File: \\chromfs\Denver\ChromData\VMS_X4\20231219-128742.b\X512037.D

Injection Date: 20-Dec-2023 01:22:30 Instrument ID: VMS_X4

Lims ID: 280-185814-E-10 Lab Sample ID: 280-185814-10

Client ID: TV044-MW131223A

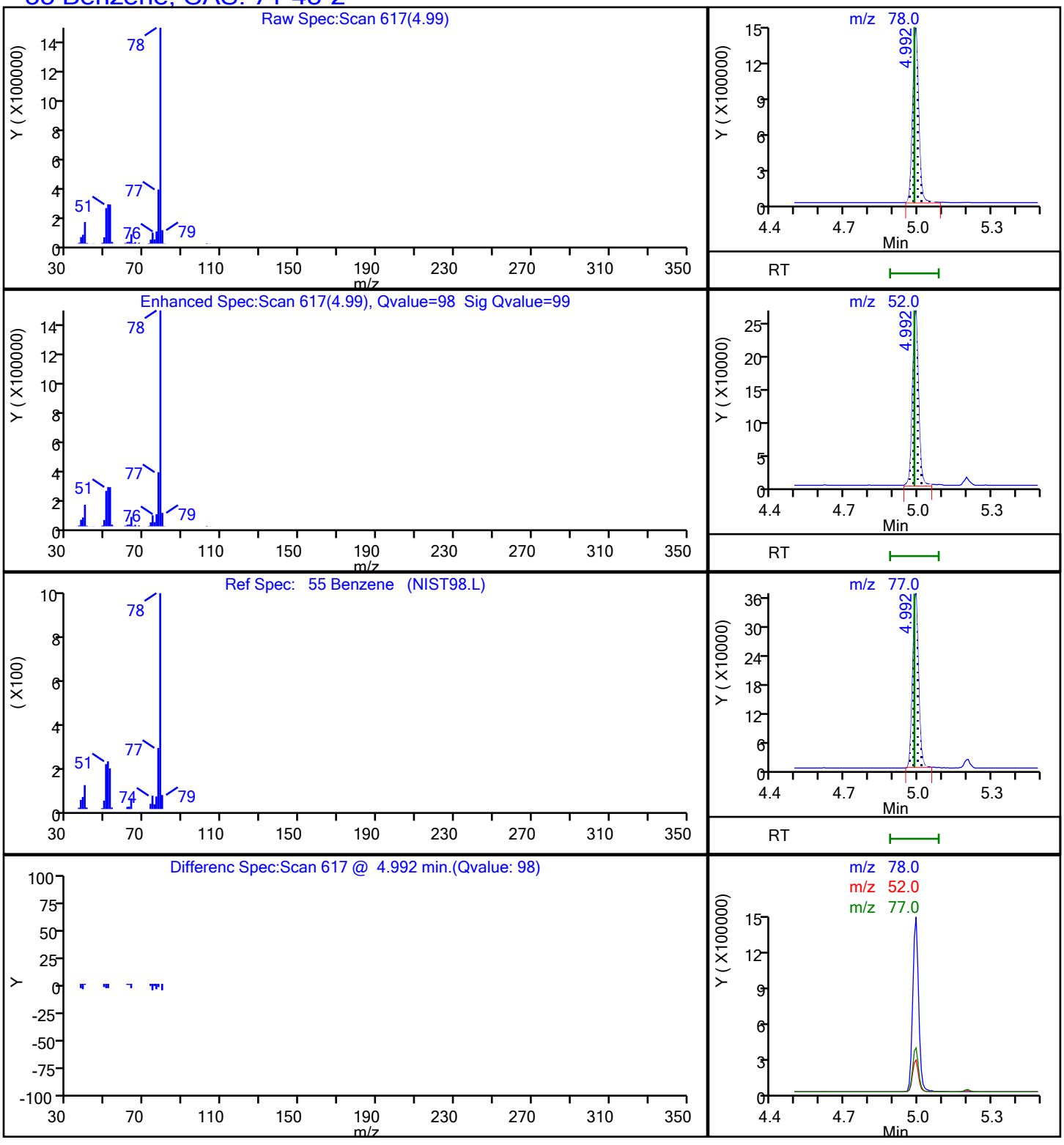
Operator ID: CF ALS Bottle#: 24 Worklist Smp#: 29

Purge Vol: 5.000 mL Dil. Factor: 100.0000

Method: VMS_X4_8260 Limit Group: MSV - 8260B Water and Solid

Column: Rxi-624Sil MS (0.25 mm) Detector MS SCAN

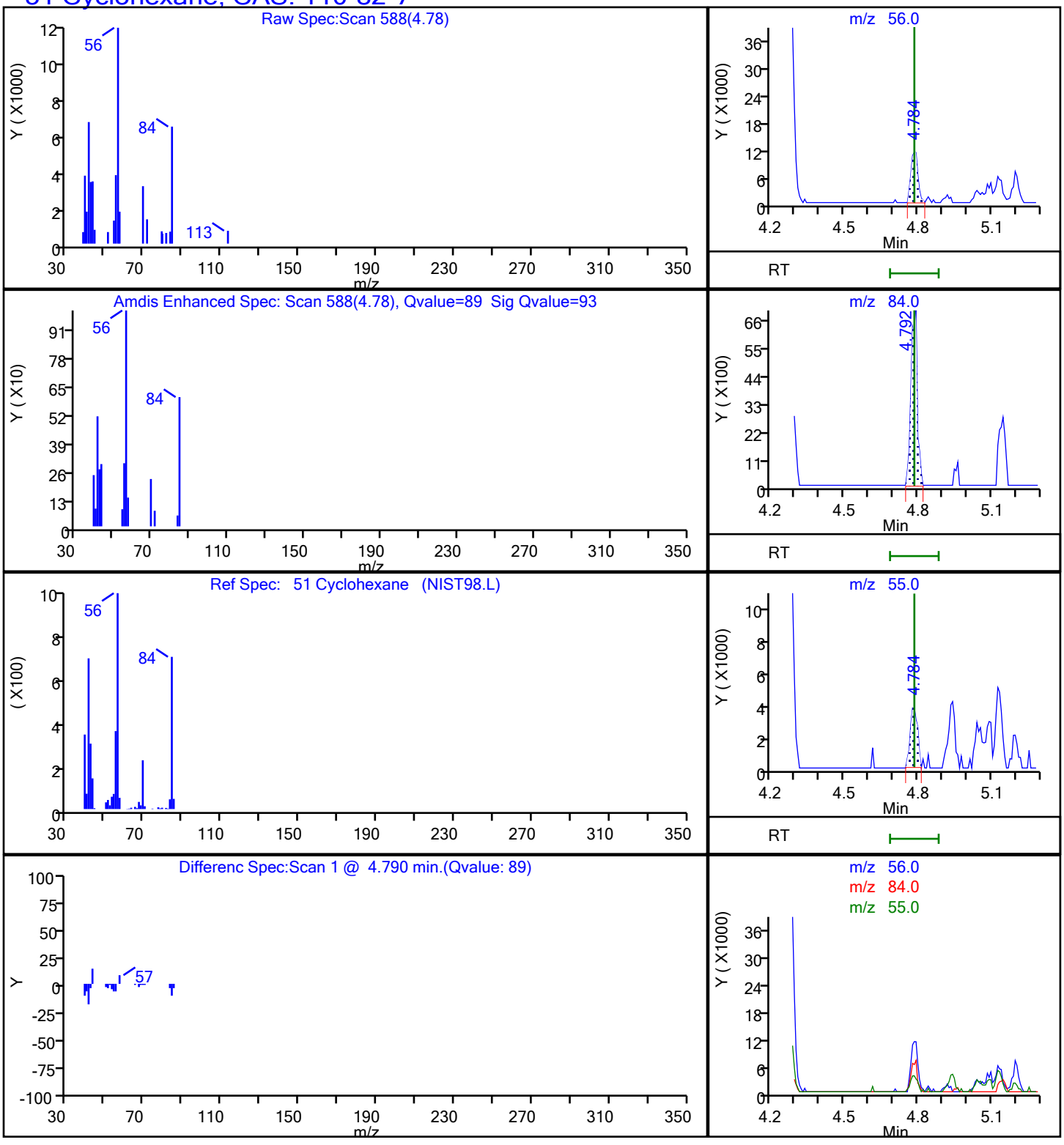
55 Benzene, CAS: 71-43-2



Eurofins Denver

Data File: \\chromfs\Denver\ChromData\VMS_X4\20231219-128742.b\X512037.D
Injection Date: 20-Dec-2023 01:22:30 Instrument ID: VMS_X4
Lims ID: 280-185814-E-10 Lab Sample ID: 280-185814-10
Client ID: TV044-MW131223A
Operator ID: CF ALS Bottle#: 24 Worklist Smp#: 29
Purge Vol: 5.000 mL Dil. Factor: 100.0000
Method: VMS_X4_8260 Limit Group: MSV - 8260B Water and Solid
Column: Rxi-624Sil MS (0.25 mm) Detector MS SCAN

51 Cyclohexane, CAS: 110-82-7



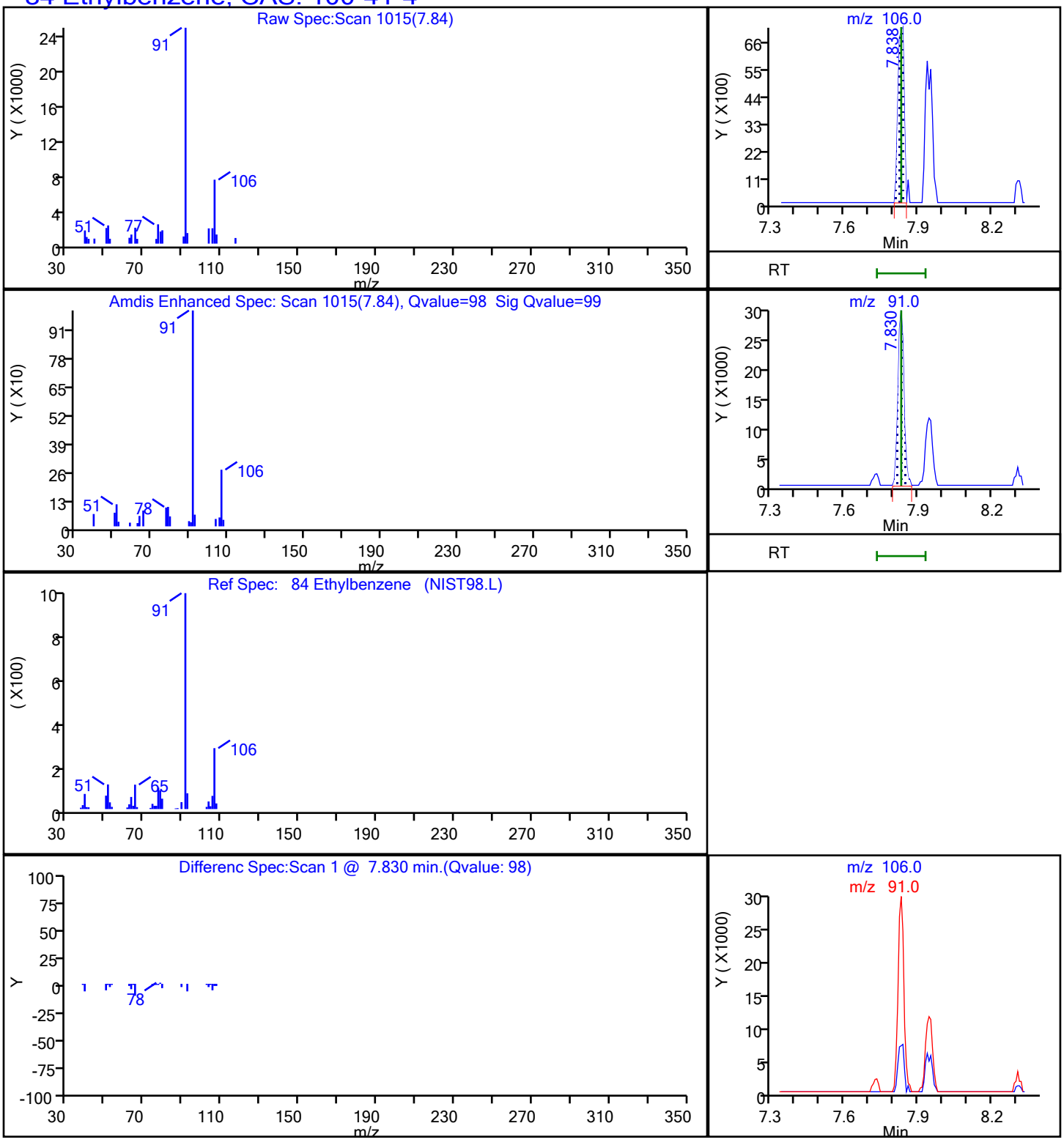
Report Date: 20-Dec-2023 03:16:18 Chrom Revision: 2.3 15-Nov-2023 20:54:34

Eurofins Denver

Data File: \\chromfs\Denver\ChromData\VMS_X4\20231219-128742.b\X512037.D

Injection Date:	20-Dec-2023 01:22:30	Instrument ID:	VMS_X4		
Lims ID:	280-185814-E-10	Lab Sample ID:	280-185814-10		
Client ID:	TV044-MW131223A				
Operator ID:	CF	ALS Bottle#:	24	Worklist Smp#:	29
Purge Vol:	5.000 mL	Dil. Factor:	100.0000		
Method:	VMS_X4_8260	Limit Group:	MSV - 8260B Water and Solid		
Column:	Rxi-624Sil MS (0.25 mm)	Detector	MS SCAN		

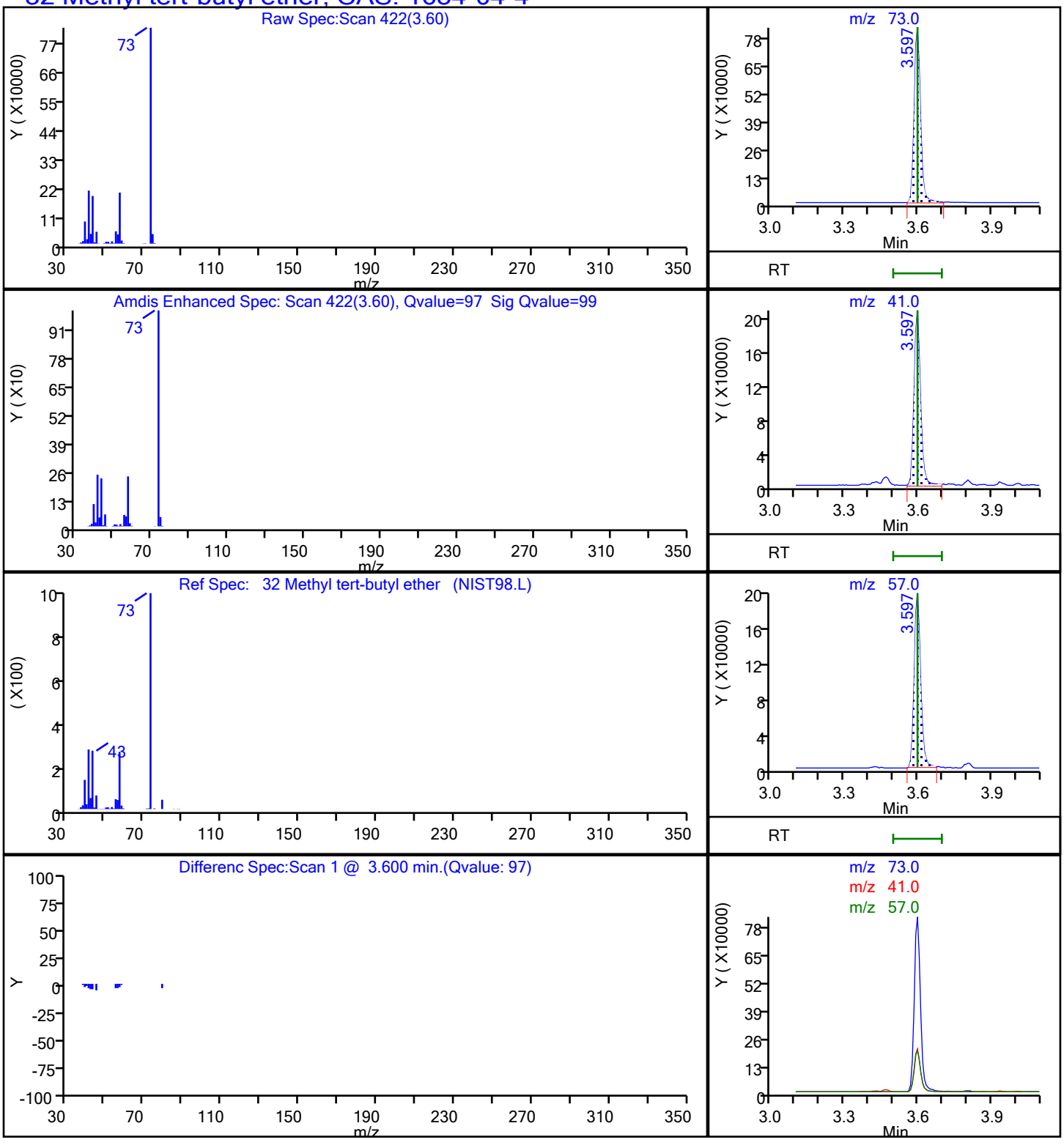
84 Ethylbenzene, CAS: 100-41-4



Eurofins Denver

Data File:	\\chromfs\Denver\ChromData\VMS_X4\20231219-128742.b\X512037.D				
Injection Date:	20-Dec-2023 01:22:30	Instrument ID:	VMS_X4		
Lims ID:	280-185814-E-10	Lab Sample ID:	280-185814-10		
Client ID:	TV044-MW131223A				
Operator ID:	CF	ALS Bottle#:	24	Worklist Smp#:	29
Purge Vol:	5.000 mL	Dil. Factor:	100.0000		
Method:	VMS_X4_8260	Limit Group:	MSV - 8260B Water and Solid		
Column:	Rxi-624Sil MS (0.25 mm)	Detector	MS SCAN		

32 Methyl tert-butyl ether, CAS: 1634-04-4



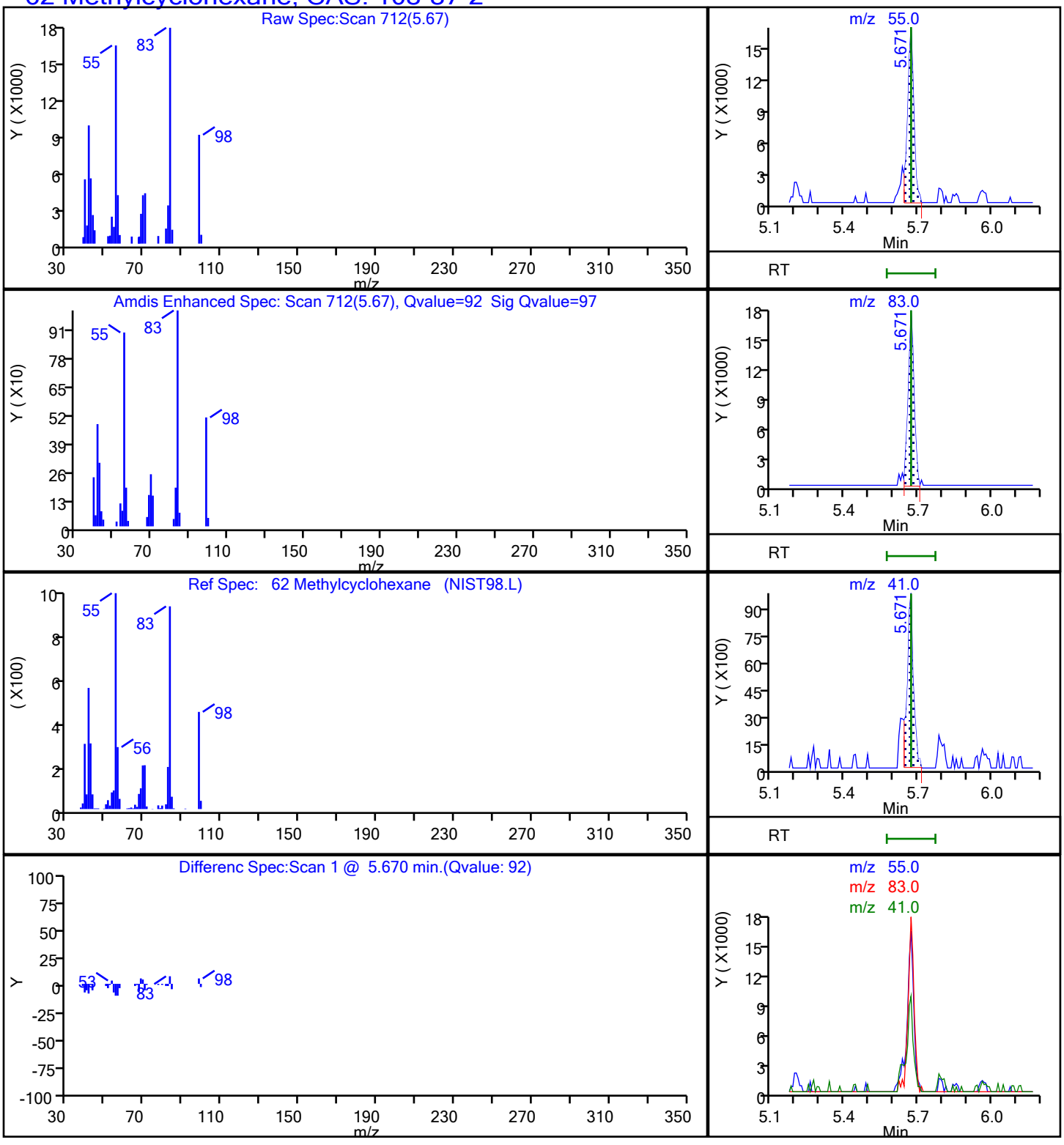
Report Date: 20-Dec-2023 03:16:18 Chrom Revision: 2.3 15-Nov-2023 20:54:34

Eurofins Denver

Data File: \\chromfs\Denver\ChromData\VMS_X4\20231219-128742.b\X512037.D

Injection Date:	20-Dec-2023 01:22:30	Instrument ID:	VMS_X4		
Lims ID:	280-185814-E-10	Lab Sample ID:	280-185814-10		
Client ID:	TV044-MW131223A				
Operator ID:	CF	ALS Bottle#:	24	Worklist Smp#:	29
Purge Vol:	5.000 mL	Dil. Factor:	100.0000		
Method:	VMS_X4_8260	Limit Group:	MSV - 8260B Water and Solid		
Column:	Rxi-624Sil MS (0.25 mm)	Detector	MS SCAN		

62 Methylcyclohexane, CAS: 108-87-2

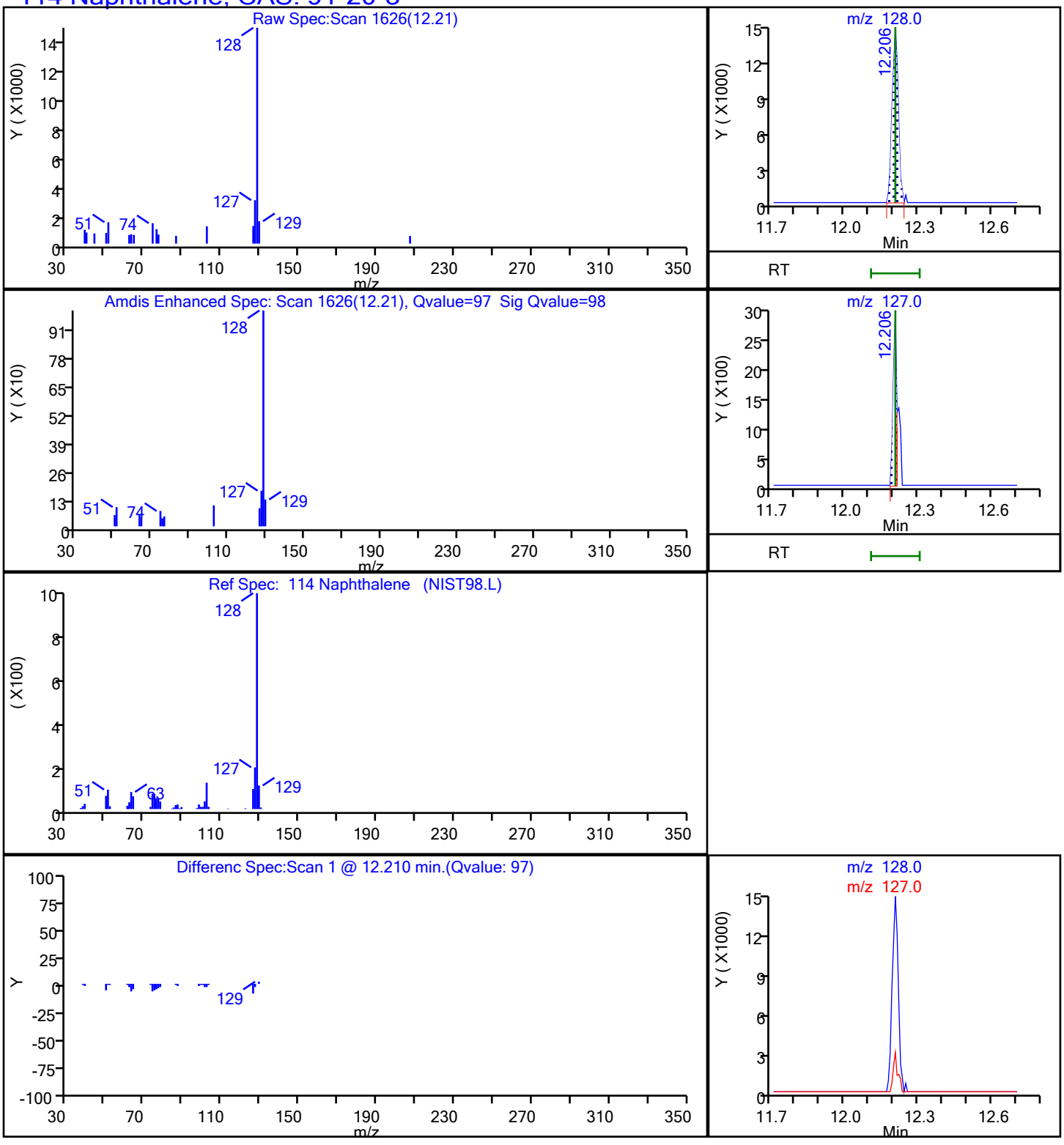


12/29/2023
12:08 PM

Eurofins Denver

Data File:	\\chromfs\Denver\ChromData\VMS_X4\20231219-128742.b\X512037.D				
Injection Date:	20-Dec-2023 01:22:30	Instrument ID:	VMS_X4		
Lims ID:	280-185814-E-10	Lab Sample ID:	280-185814-10		
Client ID:	TV044-MW131223A				
Operator ID:	CF	ALS Bottle#:	24	Worklist Smp#:	29
Purge Vol:	5.000 mL	Dil. Factor:	100.0000		
Method:	VMS_X4_8260	Limit Group:	MSV - 8260B Water and Solid		
Column:	Rxi-624Sil MS (0.25 mm)	Detector	MS SCAN		

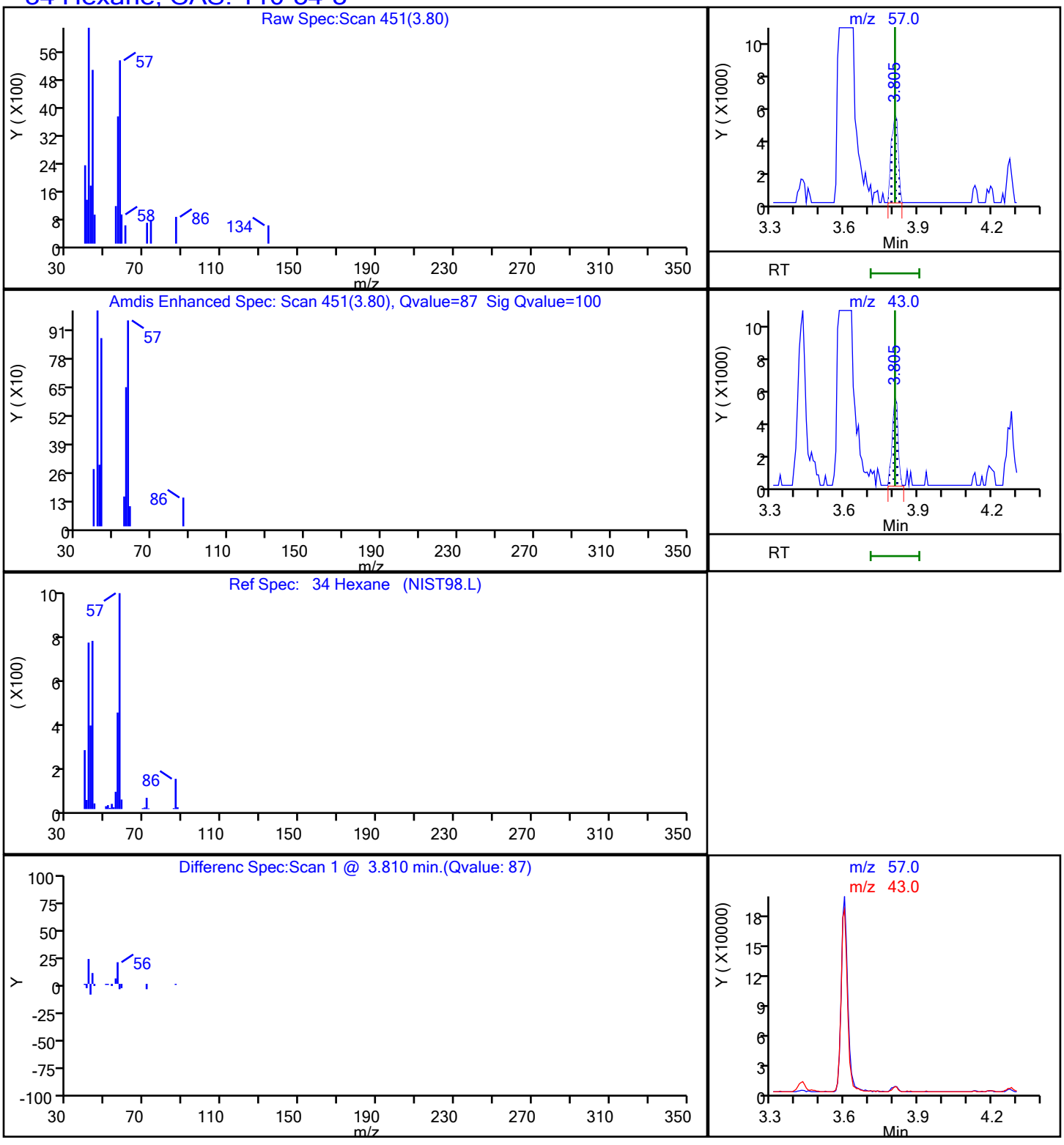
114 Naphthalene, CAS: 91-20-3



Eurofins Denver

Data File:	\\chromfs\Denver\ChromData\VMS_X4\20231219-128742.b\X512037.D				
Injection Date:	20-Dec-2023 01:22:30	Instrument ID:	VMS_X4		
Lims ID:	280-185814-E-10	Lab Sample ID:	280-185814-10		
Client ID:	TV044-MW131223A				
Operator ID:	CF	ALS Bottle#:	24	Worklist Smp#:	29
Purge Vol:	5.000 mL	Dil. Factor:	100.0000		
Method:	VMS_X4_8260	Limit Group:	MSV - 8260B Water and Solid		
Column:	Rxi-624Sil MS (0.25 mm)	Detector	MS SCAN		

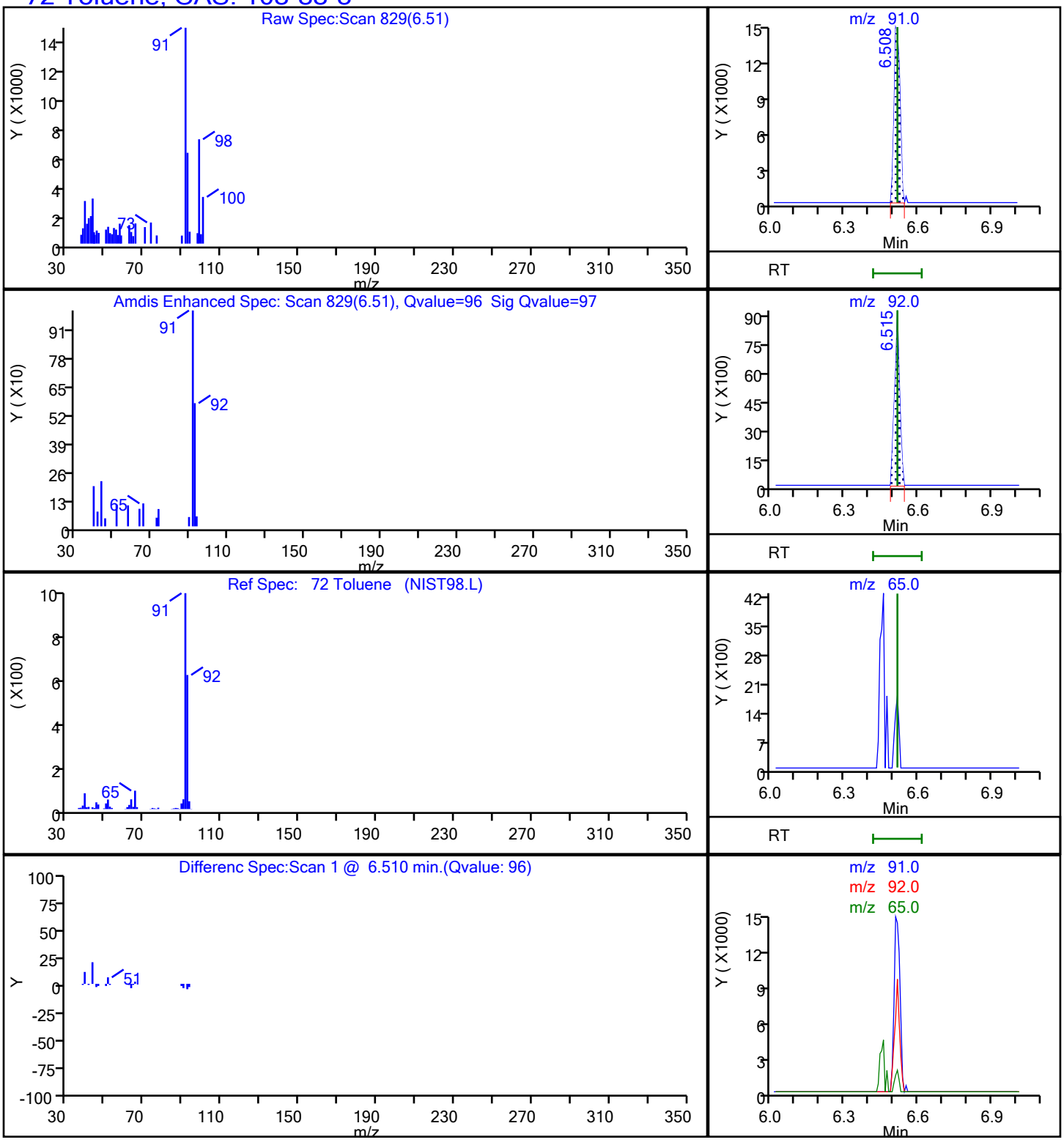
34 Hexane, CAS: 110-54-3



Eurofins Denver

Data File: \\chromfs\Denver\ChromData\VMS_X4\20231219-128742.b\X512037.D
Injection Date: 20-Dec-2023 01:22:30 Instrument ID: VMS_X4
Lims ID: 280-185814-E-10 Lab Sample ID: 280-185814-10
Client ID: TV044-MW131223A
Operator ID: CF ALS Bottle#: 24 Worklist Smp#: 29
Purge Vol: 5.000 mL Dil. Factor: 100.0000
Method: VMS_X4_8260 Limit Group: MSV - 8260B Water and Solid
Column: Rxi-624Sil MS (0.25 mm) Detector MS SCAN

72 Toluene, CAS: 108-88-3



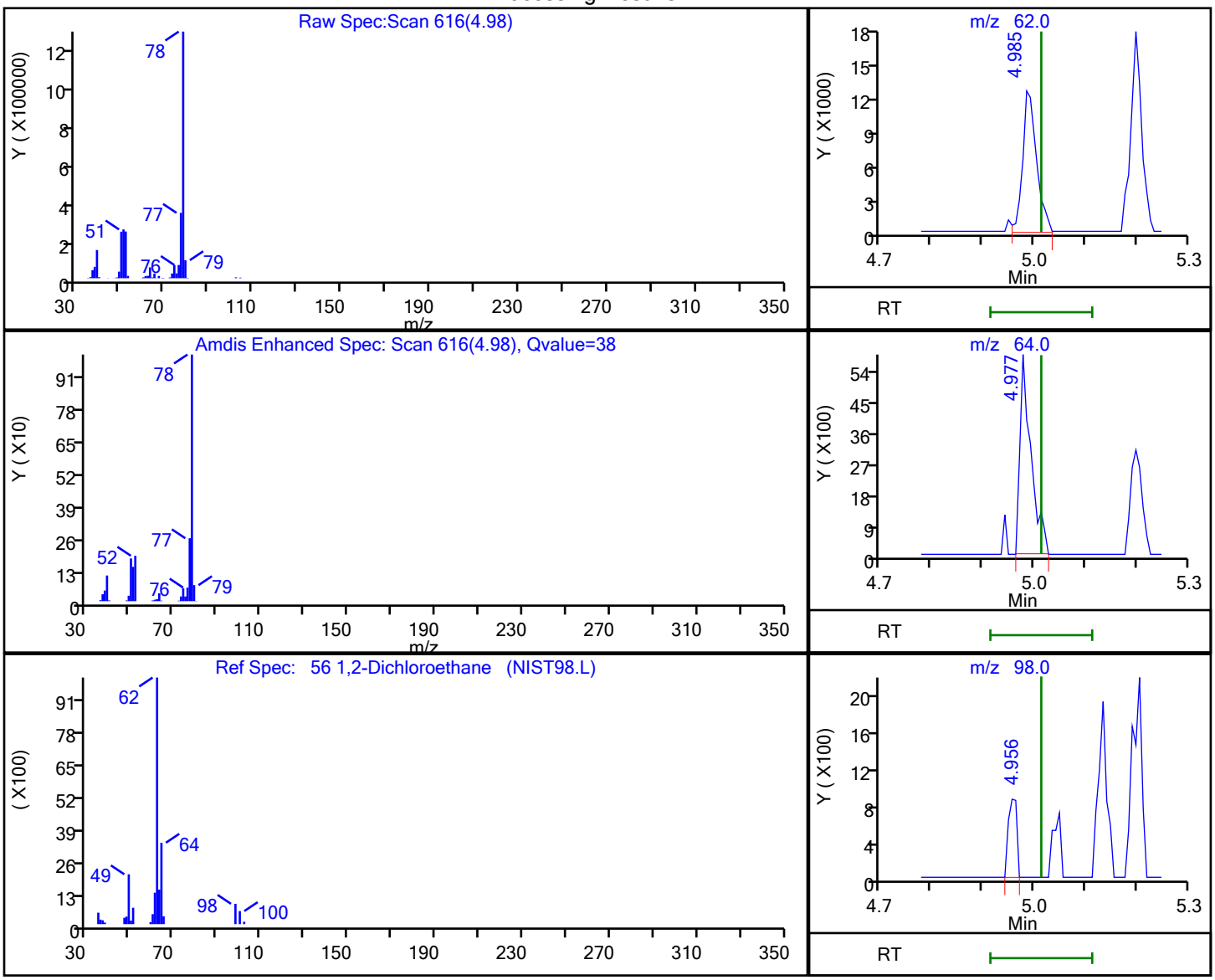
User Disabled Compound Report

Eurofins Denver

Data File:	\\chromfs\Denver\ChromData\VMS_X4\20231219-128742.b\X512037.D				
Injection Date:	20-Dec-2023 01:22:30	Instrument ID:	VMS_X4		
Lims ID:	280-185814-E-10	Lab Sample ID:	280-185814-10		
Client ID:	TV044-MW131223A				
Operator ID:	CF	ALS Bottle#:	24	Worklist Smp#:	29
Purge Vol:	5.000 mL	Dil. Factor:	100.0000		
Method:	VMS_X4_8260	Limit Group:	MSV - 8260B Water and Solid		
Column:	Rxi-624Sil MS (0.25 mm)	Detector	MS SCAN		

56 1,2-Dichloroethane, CAS: 107-06-2

Processing Results



RT	Mass	Response	Amount
4.98	62.00	23675	1.678535
4.98	64.00	8827	
4.96	98.00	990	

Reviewer: BX8N, 20-Dec-2023 03:13:00 -07:00:00 (UTC)

Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

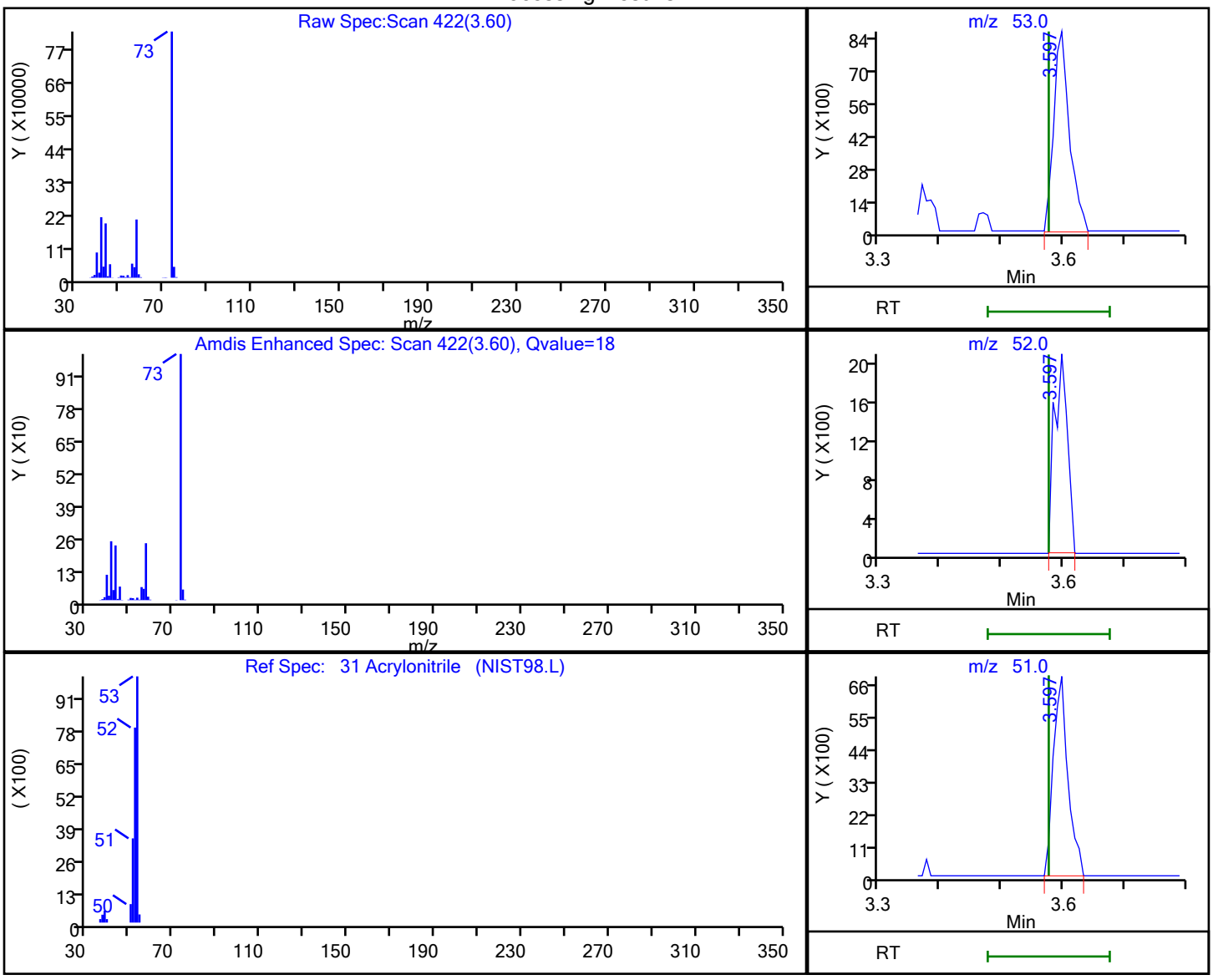
User Disabled Compound Report

Eurofins Denver

Data File:	\\chromfs\Denver\ChromData\VMS_X4\20231219-128742.b\X512037.D				
Injection Date:	20-Dec-2023 01:22:30	Instrument ID:	VMS_X4		
Lims ID:	280-185814-E-10	Lab Sample ID:	280-185814-10		
Client ID:	TV044-MW131223A				
Operator ID:	CF	ALS Bottle#:	24	Worklist Smp#:	29
Purge Vol:	5.000 mL	Dil. Factor:	100.0000		
Method:	VMS_X4_8260	Limit Group:	MSV - 8260B Water and Solid		
Column:	Rxi-624Sil MS (0.25 mm)	Detector	MS SCAN		

31 Acrylonitrile, CAS: 107-13-1

Processing Results



RT	Mass	Response	Amount
3.60	53.00	15495	3.897112
3.60	52.00	3042	
3.60	51.00	11446	

Reviewer: BX8N, 20-Dec-2023 03:12:39 -07:00:00 (UTC)

Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

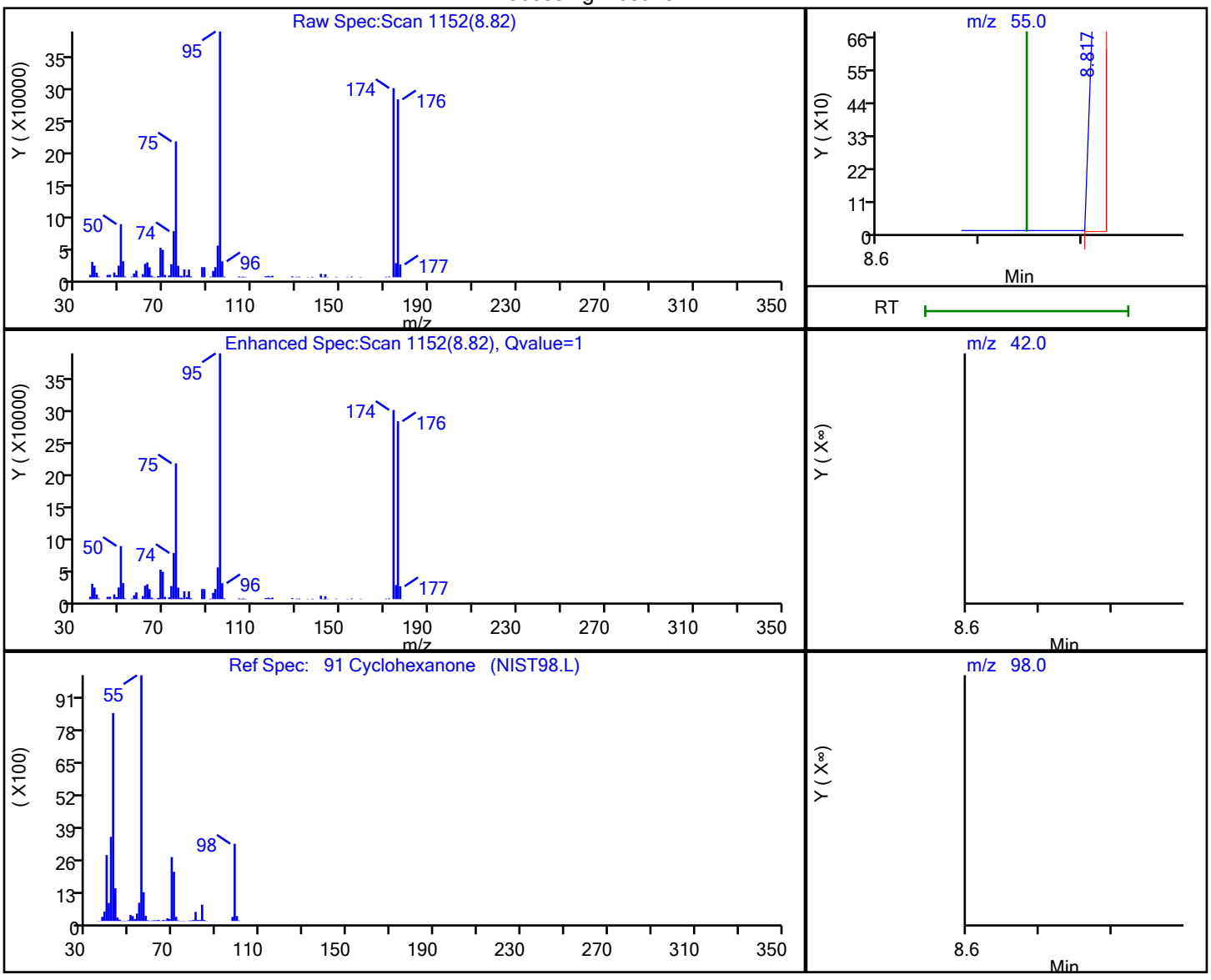
User Disabled Compound Report

Eurofins Denver

Data File:	\\chromfs\Denver\ChromData\VMS_X4\20231219-128742.b\X512037.D				
Injection Date:	20-Dec-2023 01:22:30	Instrument ID:	VMS_X4		
Lims ID:	280-185814-E-10	Lab Sample ID:	280-185814-10		
Client ID:	TV044-MW131223A				
Operator ID:	CF	ALS Bottle#:	24	Worklist Smp#:	29
Purge Vol:	5.000 mL	Dil. Factor:	100.0000		
Method:	VMS_X4_8260	Limit Group:	MSV - 8260B Water and Solid		
Column:	Rxi-624Sil MS (0.25 mm)	Detector	MS SCAN		

91 Cyclohexanone, CAS: 108-94-1

Processing Results



RT	Mass	Response	Amount
8.82	55.00	1028	2.377313
8.75	42.00	0	
8.75	98.00	0	

Reviewer: BX8N, 20-Dec-2023 03:13:17 -07:00:00 (UTC)

Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Denver | Job No.: 280-185814-1

SDG No.:

Client Sample ID: TV044-MW91223A | Lab Sample ID: 280-185814-11

Matrix: Water | Lab File ID: X512034.D

Analysis Method: 8260D | Date Collected: 12/14/2023 13:30

Sample wt/vol: 5(mL) | Date Analyzed: 12/20/2023 00:15

Soil Aliquot Vol: | Dilution Factor: 1

Soil Extract Vol.: | GC Column: RXI-624SilMS ID: 0.25(mm)

Purge Volume: 5.0(mL) | Heated Purge: (Y/N) N pH: 6.0

% Moisture: % Solids: | Level: (low/med) Low

Analysis Batch No.: 637903 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
71-55-6	1,1,1-Trichloroethane	0.50	U	1.0	0.50	0.39
79-34-5	1,1,2,2-Tetrachloroethane	0.80	U	1.0	0.80	0.21
79-00-5	1,1,2-Trichloroethane	0.80	U	1.0	0.80	0.27
75-34-3	1,1-Dichloroethane	0.80	U	1.0	0.80	0.22
75-35-4	1,1-Dichloroethylene	0.80	U	1.0	0.80	0.23
563-58-6	1,1-Dichloropropene	0.80	U	1.0	0.80	0.42
87-61-6	1,2,3-Trichlorobenzene	0.80	U	2.0	0.80	0.70
96-18-4	1,2,3-Trichloropropane	1.8	U	2.5	1.8	0.86
526-73-8	1,2,3-Trimethylbenzene	0.80	U	2.0	0.80	0.27
120-82-1	1,2,4-Trichlorobenzene	0.80	U	1.0	0.80	0.58
95-63-6	1,2,4-Trimethylbenzene	0.40	U	1.0	0.40	0.15
96-12-8	1,2-Dibromo-3-Chloropropane	4.0	U	5.0	4.0	1.8
106-93-4	1,2-Dibromoethane	0.80	U	1.0	0.80	0.40
95-50-1	1,2-Dichlorobenzene	0.50	U	1.0	0.50	0.37
107-06-2	1,2-Dichloroethane	0.80	U	1.0	0.80	0.54
78-87-5	1,2-Dichloropropane	0.80	U	1.0	0.80	0.52
108-67-8	1,3,5-Trimethylbenzene	0.50	U	1.0	0.50	0.37
541-73-1	1,3-Dichlorobenzene	0.40	U	1.0	0.40	0.33
142-28-9	1,3-Dichloropropane	0.80	U	1.0	0.80	0.38
106-46-7	1,4-Dichlorobenzene	0.50	U	1.0	0.50	0.39
594-20-7	2,2-Dichloropropane	0.80	U	1.0	0.80	0.38
78-93-3	2-Butanone (MEK)	12	U	15	12	6.0
110-75-8	2-Chloroethyl vinyl ether	0.80	U	3.0	0.80	0.44
591-78-6	2-Hexanone	4.0	U	5.0	4.0	1.7
99-87-6	4-Isopropyltoluene	0.80	U	1.0	0.80	0.43
108-10-1	4-Methyl-2-pentanone (MIBK)	3.2	U	5.0	3.2	0.98
67-64-1	Acetone	8.0	U M	15	8.0	6.6
107-13-1	Acrylonitrile	8.0	U M	20	8.0	4.5
71-43-2	Benzene	0.80	U	1.0	0.80	0.31
108-86-1	Bromobenzene	0.50	U	1.0	0.50	0.40
74-97-5	Bromochloromethane	0.80	U	1.0	0.80	0.40
75-27-4	Bromodichloromethane	0.50	U	1.0	0.50	0.39
75-25-2	Bromoform	1.8	U	2.0	1.8	1.2
75-15-0	Carbon disulfide	0.80	U	2.0	0.80	0.63

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Denver | Job No.: 280-185814-1

SDG No.:

Client Sample ID: TV044-MW91223A | Lab Sample ID: 280-185814-11

Matrix: Water | Lab File ID: X512034.D

Analysis Method: 8260D | Date Collected: 12/14/2023 13:30

Sample wt/vol: 5(mL) | Date Analyzed: 12/20/2023 00:15

Soil Aliquot Vol: | Dilution Factor: 1

Soil Extract Vol.: | GC Column: RXI-624SilMS ID: 0.25(mm)

Purge Volume: 5.0(mL) | Heated Purge: (Y/N) N pH: 6.0

% Moisture: % Solids: | Level: (low/med) Low

Analysis Batch No.: 637903 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
56-23-5	Carbon tetrachloride	0.80	U	1.0	0.80	0.57
108-90-7	Chlorobenzene	0.80	U	1.0	0.80	0.42
75-00-3	Chloroethane	1.6	U	4.0	1.6	1.4
67-66-3	Chloroform	0.80	U	1.0	0.80	0.36
74-87-3	Chloromethane	1.0	U	2.0	1.0	0.75
156-59-2	cis-1,2-Dichloroethylene	0.40	U	1.0	0.40	0.32
10061-01-5	cis-1,3-Dichloropropene	1.8	U	2.0	1.8	0.63
110-82-7	Cyclohexane	0.80	U	1.0	0.80	0.44
108-94-1	Cyclohexanone	64	U M Q	100	64	32
124-48-1	Dibromochloromethane	1.8	U	2.0	1.8	0.62
74-95-3	Dibromomethane	0.40	U	1.0	0.40	0.34
75-71-8	Dichlorodifluoromethane	2.5	U	3.0	2.5	0.96
100-41-4	Ethylbenzene	0.40	U	1.0	0.40	0.30
87-68-3	Hexachlorobutadiene	1.8	U	2.0	1.8	1.2
108-20-3	Isopropyl ether	2.0	U	10	2.0	1.1
98-82-8	Isopropylbenzene	0.50	U	1.0	0.50	0.36
1634-04-4	Methyl tert-butyl ether	68		5.0	0.80	0.25
108-87-2	Methylcyclohexane	0.40	U	1.0	0.40	0.31
75-09-2	Methylene Chloride	1.8	U	2.0	1.8	0.94
91-20-3	Naphthalene	0.80	U	2.0	0.80	0.63
104-51-8	n-Butylbenzene	0.80	U	1.0	0.80	0.48
110-54-3	n-Hexane	0.80	U	2.0	0.80	0.16
103-65-1	N-Propylbenzene	0.80	U	1.0	0.80	0.53
95-49-8	o-Chlorotoluene	0.40	U	1.0	0.40	0.34
106-43-4	p-Chlorotoluene	0.80	U	1.0	0.80	0.21
135-98-8	sec-Butylbenzene	0.80	U	1.0	0.80	0.45
100-42-5	Styrene	0.80	U	1.0	0.80	0.36
98-06-6	tert-Butylbenzene	0.80	U	1.0	0.80	0.42
127-18-4	Tetrachloroethene	0.80	U	1.0	0.80	0.40
108-88-3	Toluene	0.40	U	1.0	0.40	0.32
156-60-5	trans-1,2-Dichloroethylene	0.50	U	1.0	0.50	0.37
10061-02-6	trans-1,3-Dichloropropene	1.8	U	2.0	1.8	0.65
79-01-6	Trichloroethene	0.40	U	1.0	0.40	0.30
75-69-4	Trichlorofluoromethane	0.80	U	2.0	0.80	0.57

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Denver | Job No.: 280-185814-1

SDG No.:

Client Sample ID: TV044-MW91223A | Lab Sample ID: 280-185814-11

Matrix: Water | Lab File ID: X512034.D

Analysis Method: 8260D | Date Collected: 12/14/2023 13:30

Sample wt/vol: 5(mL) | Date Analyzed: 12/20/2023 00:15

Soil Aliquot Vol: | Dilution Factor: 1

Soil Extract Vol.: | GC Column: RXI-624SilMS ID: 0.25(mm)

Purge Volume: 5.0(mL) | Heated Purge: (Y/N) N pH: 6.0

% Moisture: % Solids: | Level: (low/med) Low

Analysis Batch No.: 637903 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
108-05-4	Vinyl acetate	2.0	U	3.0	2.0	0.94
75-01-4	Vinyl chloride	1.0	U	2.0	1.0	0.51
1330-20-7	Xylenes, Total	0.80	U	1.0	0.80	0.33

CAS NO.	SURROGATE	%REC	Q	LIMITS
17060-07-0	1,2-Dichloroethane-d4 (Surr)	106		81-118
460-00-4	4-Bromofluorobenzene (Surr)	87		85-114
1868-53-7	Dibromofluoromethane (Surr)	108		80-119
2037-26-5	Toluene-d8 (Surr)	100		89-112

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET
TARGETED TENATIVELY IDENTIFIED COMPOUNDS

Lab Name: Eurofins Denver | Job No.: 280-185814-1

SDG No.:

Client Sample ID: TV044-MW91223A | Lab Sample ID: 280-185814-11

Matrix: Water | Lab File ID: X512034.D

Analysis Method: 8260D | Date Collected: 12/14/2023 13:30

Sample wt/vol: 5(mL) | Date Analyzed: 12/20/2023 00:15

Soil Aliquot Vol: | Dilution Factor: 1

Soil Extract Vol.: | GC Column: RXI-624SilMS ID: 0.25(mm)

Purge Volume: 5.0(mL) | Heated Purge: (Y/N) N pH: 6.0

% Moisture: % Solids: | Level: (low/med) Low

Analysis Batch No.: 637903 | Units: ug/L

CAS NO.	COMPOUND NAME	RT	RESULT	Q	MATCH QUALITY
106-99-0	1,3-Butadiene TIC		1.0	U	
622-96-8	4-Ethyltoluene TIC		1.0	U	
77-73-6	Dicyclopentadiene TIC		1.0	U	
115-07-1	Propene TIC		1.0	U	

Eurofins Denver
Target Compound Quantitation Report

Data File: \\chromfs\Denver\ChromData\VMS_X4\20231219-128742.b\X512034.D
Lims ID: 280-185814-D-11
Client ID: TV044-MW91223A
Sample Type: Client
Inject. Date: 20-Dec-2023 00:15:30 ALS Bottle#: 21 Worklist Smp#: 26
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Sample Info: 280-185814-d-11
Operator ID: CF Instrument ID: VMS_X4

Method: \\chromfs\Denver\ChromData\VMS_X4\20231219-128742.b\VMS_X4_8260.m
Limit Group: MSV - 8260B Water and Solid
Last Update: 20-Dec-2023 03:15:50 Calib Date: 11-Dec-2023 20:50:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Denver\ChromData\VMS_X4\20231211-128477.b\X511702.D

Column 1 : Rxi-624Sil MS (0.25 mm) Det: MS SCAN
Process Host: CTX1617

First Level Reviewer: BX8N Date: 20-Dec-2023 03:11:37

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	OnCol Amt ug/l	Flags
* 1 Fluorobenzene	96	5.199	5.199	0.000	98	1623567	50.0	
* 2 Chlorobenzene-d5	119	7.730	7.730	0.000	89	440864	50.0	
* 3 1,4-Dichlorobenzene-d4	152	9.947	9.947	0.000	97	788611	50.0	
$ 4 Dibromofluoromethane (Surr)	111	4.692	4.691	0.001	92	450036	54.2	
$ 5 1,2-Dichloroethane-d4 (Surr)	65	4.956	4.956	0.000	0	566705	52.8	
$ 6 Toluene-d8 (Surr)	98	6.458	6.458	0.000	95	1893209	49.9	
$ 7 4-Bromofluorobenzene (Surr)	95	8.817	8.817	0.000	88	658334	43.7	
$ 8 BFB	95	8.817	8.817	0.000	85	658334	NR	
9 Dichlorodifluoromethane	85		1.760				ND	
10 Chloromethane	50		1.939				ND	
11 Vinyl chloride	62		2.039				ND	
12 Bromomethane	94		2.332				ND	
13 Chloroethane	64		2.425				ND	
15 Propene oxide	58		2.504				ND	
14 Dichlorofluoromethane	67		2.596				ND	
16 Trichlorofluoromethane	101		2.632				ND	
17 Ethanol	45		2.754				ND	
18 Ethyl ether	59		2.847				ND	
19 Acrolein	56		2.961				ND	
20 1,1,2-Trichloro-1,2,2-trifluoroe	151		3.040				ND	
21 1,1-Dichloroethene	96		3.047				ND	
22 Acetone	43		3.061				ND	U
23 Isopropyl alcohol	45		3.147				ND	
24 Iodomethane	142		3.169				ND	
25 Carbon disulfide	76		3.233				ND	
26 Acetonitrile	41		3.276				ND	
27 Methyl acetate	43		3.290				ND	
28 3-Chloro-1-propene	41		3.319				ND	
29 Methylene Chloride	84		3.412				ND	
30 2-Methyl-2-propanol	59		3.455				ND	
31 Acrylonitrile	53		3.576				ND	U
32 Methyl tert-butyl ether	73	3.598	3.598	0.000	97	1685843	68.0	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	OnCol Amt ug/l	Flags
33 trans-1,2-Dichloroethene	96		3.612				ND	
34 Hexane	57		3.805				ND	
35 Vinyl acetate	43		3.905				ND	
37 Isopropyl ether	87		3.926				ND	
36 1,1-Dichloroethane	63		3.934				ND	
38 2-Chloro-1,3-butadiene	53		3.984				ND	
39 Tert-butyl ethyl ether	59		4.191				ND	
40 2-Butanone (MEK)	43		4.320				ND	
41 Ethyl acetate	43		4.327				ND	
42 cis-1,2-Dichloroethene	96		4.341				ND	
43 2,2-Dichloropropane	77		4.355				ND	
44 Propionitrile	54		4.370				ND	
45 sec-Butyl Alcohol	45		4.420				ND	
46 Methacrylonitrile	41		4.484				ND	
47 Chlorobromomethane	128		4.520				ND	
48 Tetrahydrofuran	42		4.527				ND	
49 Chloroform	83		4.577				ND	
50 1,1,1-Trichloroethane	97		4.720				ND	
51 Cyclohexane	56		4.784				ND	
52 1,1-Dichloropropene	75		4.835				ND	
54 Isobutyl alcohol	41		4.842				ND	
53 Carbon tetrachloride	117		4.842				ND	
55 Benzene	78		4.985				ND	
56 1,2-Dichloroethane	62		5.013				ND	7
57 Tert-amyl methyl ether	73		5.056				ND	
58 n-Heptane	43		5.171				ND	
59 n-Butanol	56		5.335				ND	
60 Trichloroethene	95		5.471				ND	
61 2-Pentanone	43		5.578				ND	
62 Methylcyclohexane	55		5.671				ND	
64 Methyl methacrylate	100		5.678				ND	
63 1,2-Dichloropropane	63		5.678				ND	
65 1,4-Dioxane	88		5.721				ND	
66 Dibromomethane	93		5.750				ND	
67 Dichlorobromomethane	83		5.871				ND	
68 2-Nitropropane	41		6.043				ND	
69 2-Chloroethyl vinyl ether	63		6.072				ND	
70 cis-1,3-Dichloropropene	75		6.222				ND	
71 4-Methyl-2-pentanone (MIBK)	43		6.322				ND	
72 Toluene	91		6.515				ND	
73 trans-1,3-Dichloropropene	75		6.686				ND	
74 Ethyl methacrylate	69		6.701				ND	
75 1,1,2-Trichloroethane	97		6.858				ND	
76 Tetrachloroethene	164		6.951				ND	
77 1,3-Dichloropropane	76		7.008				ND	
78 2-Hexanone	43		7.022				ND	
79 Chlorodibromomethane	129		7.201				ND	
80 Ethylene Dibromide	107		7.323				ND	
81 1-Chlorohexane	91		7.709				ND	7
82 Chlorobenzene	112		7.752				ND	
83 1,1,1,2-Tetrachloroethane	131		7.823				ND	
84 Ethylbenzene	106		7.830				ND	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	OnCol Amt ug/l	Flags
85 m-Xylene & p-Xylene	106		7.945				ND	
86 o-Xylene	106		8.302				ND	
87 Styrene	104		8.324				ND	
88 Bromoform	173		8.503				ND	
89 Isopropylbenzene	105		8.646				ND	
90 cis-1,4-Dichloro-2-butene	53		8.696				ND	
91 Cyclohexanone	55		8.746				ND	U
92 1,1,2,2-Tetrachloroethane	83		8.932				ND	
93 Bromobenzene	156		8.967				ND	
94 trans-1,4-Dichloro-2-butene	53		8.967				ND	
95 1,2,3-Trichloropropane	110		8.996				ND	
96 N-Propylbenzene	120		9.046				ND	
97 2-Chlorotoluene	126		9.146				ND	
98 1,3,5-Trimethylbenzene	105		9.218				ND	
99 4-Chlorotoluene	126		9.261				ND	
101 Pentachloroethane	167		9.411				ND	
100 tert-Butylbenzene	119		9.525				ND	
102 1,2,4-Trimethylbenzene	105		9.582				ND	
103 sec-Butylbenzene	134		9.747				ND	
104 1,3-Dichlorobenzene	146		9.875				ND	
105 4-Isopropyltoluene	119		9.890				ND	
106 1,4-Dichlorobenzene	146		9.976				ND	
107 1,2,3-Trimethylbenzene	105		9.990				ND	
108 n-Butylbenzene	91		10.297				ND	
109 1,2-Dichlorobenzene	146		10.333				ND	
110 1,2-Dibromo-3-Chloropropane	157		11.112				ND	
111 1,3,5-Trichlorobenzene	180		11.298				ND	
112 1,2,4-Trichlorobenzene	180		11.935				ND	
113 Hexachlorobutadiene	225		12.071				ND	
114 Naphthalene	128		12.206				ND	
115 1,2,3-Trichlorobenzene	180		12.428				ND	
116 Ethylene oxide TIC	1		0.000				ND	
117 t-Amyl alcohol	1		0.000				ND	
118 Ethyl acrylate	55		0.000				ND	
119 1-Chloro-1-fluoroethane TIC	1		0.000				ND	
120 Tetrahydrothiophene TIC	1		0.000				ND	
121 Propene oxide TIC	58		5.334				ND	
S 122 1,2-Dichloroethene, Total (URS)	96		2.000				ND	7
S 129 1,2-Dichloroethene, Total	1		0.000				ND	7
S 124 1,3-Dichloropropene, Total	1		0.000				ND	7
S 123 Xylenes, Total (URS)	1		0.000				ND	7
S 127 Trihalomethanes, Total	1		0.000				ND	7
S 126 Total BTEX	1		0.000				ND	7
S 128 TAH	1				0		0	
S 125 Xylenes, Total	106		0.000				ND	7
T 130 Dichloroacetonitrile TIC	74		1.000				ND	
T 132 1-Chlorohexane TIC	1		0.000				ND	
T 131 Methyl cyclohexane TIC	1		0.000				ND	
T 140 2,3-Dichloro-1-propene TIC	75		0.000				ND	
T 139 Propene TIC	1		0.000				ND	
T 138 n-Nonane TIC	1		0.000				ND	
T 137 1,3-Butadiene TIC	1		0.000				ND	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	OnCol Amt ug/l	Flags
T 136 Cyclohexane TIC	1		0.000				ND	
T 135 4-Ethyltoluene TIC	1		0.000				ND	
T 134 2-Butoxyethanol TIC	1		0.000				ND	
T 133 Dicyclopentadiene TIC	1		0.000				ND	

QC Flag Legend

Processing Flags
- NR - Missing Quant Standard
- 7 - Failed Limit of Detection

Review Flags
- U - Marked Undetected

Reagents:

mv-IS_SS_00074 Amount Added: 5.00 Units: uL Run Reagent

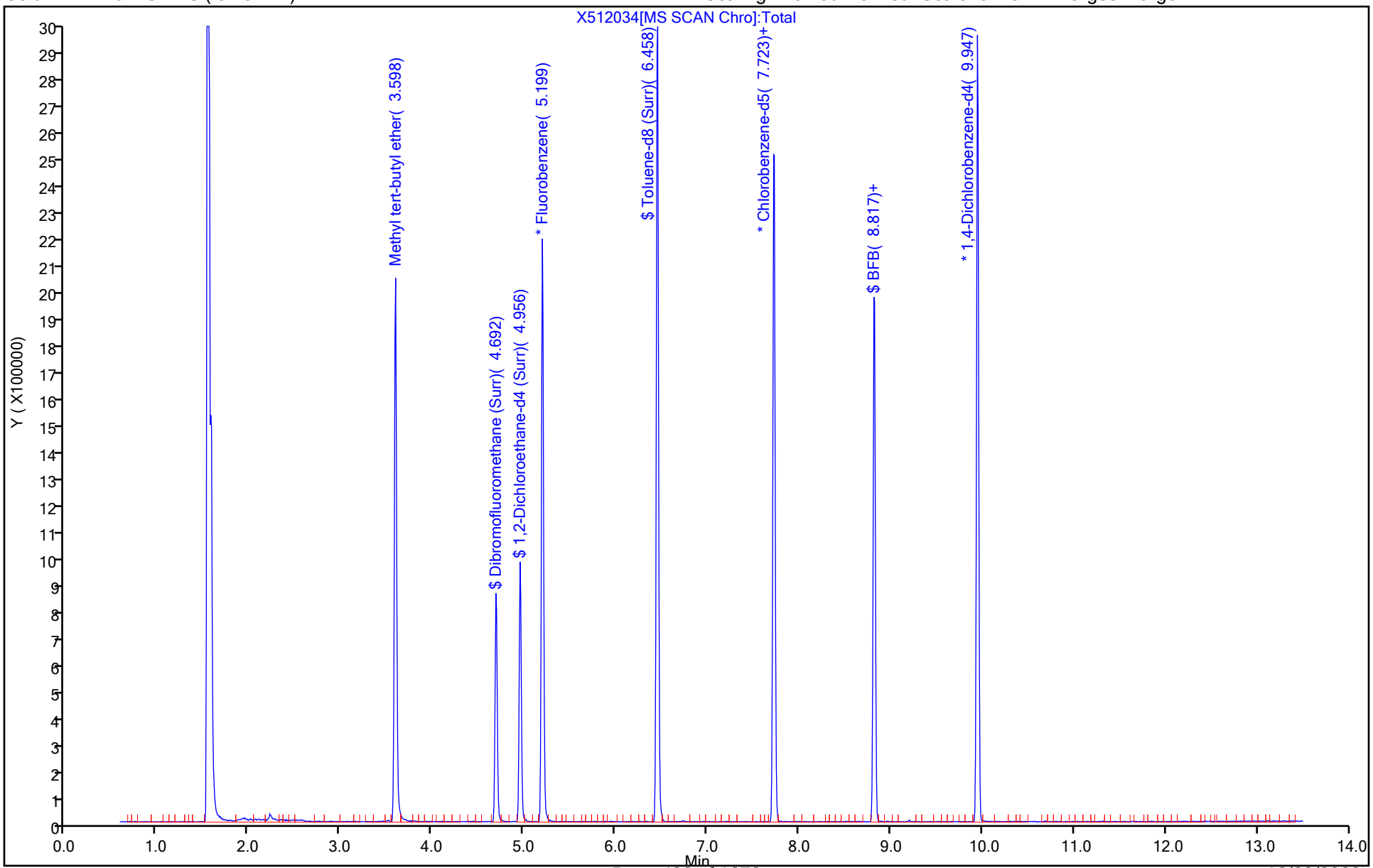
Report Date: 20-Dec-2023 03:16:13 Chrom Revision: 2.3 15-Nov-2023 20:54:34

Eurofins Denver

Data File: \\chromfs\Denver\ChromData\VMS_X4\20231219-128742.b\X512034.D

Injection Date:	20-Dec-2023 00:15:30	Instrument ID:	VMS_X4	Operator ID:	CF
Lims ID:	280-185814-D-11	Lab Sample ID:	280-185814-11	Worklist Smp#:	26
Client ID:	TV044-MW91223A				
Purge Vol:	5.000 mL	Dil. Factor:	1.0000	ALS Bottle#:	21
Method:	VMS_X4_8260	Limit Group:	MSV - 8260B Water and Solid		

Column: Rxi-624Sil MS (0.25 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 1



Eurofins Denver
Recovery Report

Data File: \\chromfs\Denver\ChromData\VMS_X4\20231219-128742.b\X512034.D
Lims ID: 280-185814-D-11
Client ID: TV044-MW91223A
Sample Type: Client
Inject. Date: 20-Dec-2023 00:15:30 ALS Bottle#: 21 Worklist Smp#: 26
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Sample Info: 280-185814-d-11
Operator ID: CF Instrument ID: VMS_X4

Method: \\chromfs\Denver\ChromData\VMS_X4\20231219-128742.b\VMS_X4_8260.m
Limit Group: MSV - 8260B Water and Solid
Last Update: 20-Dec-2023 03:15:50 Calib Date: 11-Dec-2023 20:50:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Denver\ChromData\VMS_X4\20231211-128477.b\X511702.D

Column 1 : Rxi-624Sil MS (0.25 mm) Det: MS SCAN
Process Host: CTX1617

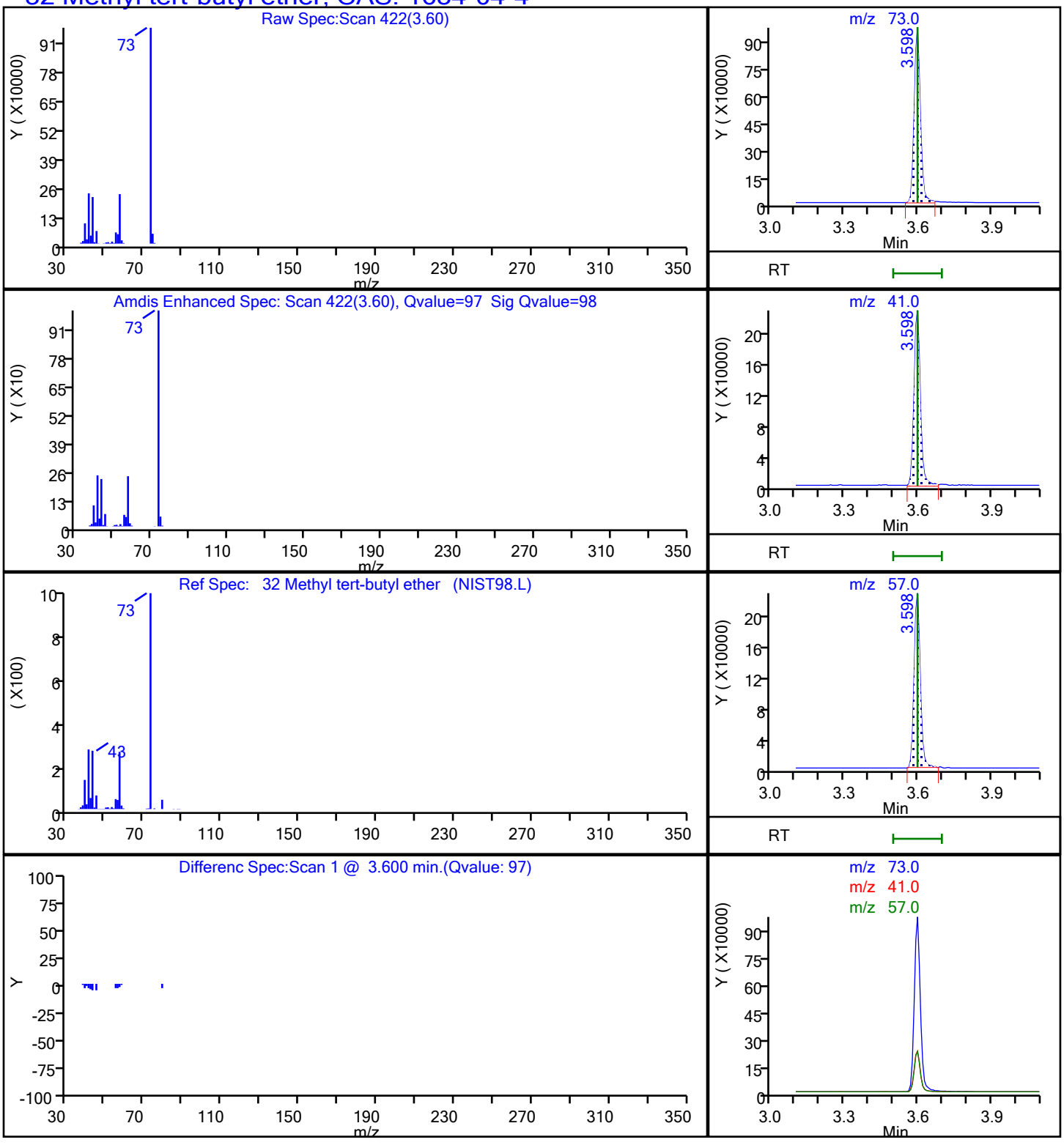
First Level Reviewer: BX8N Date: 20-Dec-2023 03:11:37

Compound	Amount Added	Amount Recovered	% Rec.
$ 4 Dibromofluoromethane (Surr)	50.0	54.2	108.36
$ 5 1,2-Dichloroethane-d4 (Surr)	50.0	52.8	105.51
$ 6 Toluene-d8 (Surr)	50.0	49.9	99.75
$ 7 4-Bromofluorobenzene (Surr)	50.0	43.7	87.48

Eurofins Denver

Data File:	\\chromfs\Denver\ChromData\VMS_X4\20231219-128742.b\X512034.D				
Injection Date:	20-Dec-2023 00:15:30	Instrument ID:	VMS_X4		
Lims ID:	280-185814-D-11	Lab Sample ID:	280-185814-11		
Client ID:	TV044-MW91223A				
Operator ID:	CF	ALS Bottle#:	21	Worklist Smp#:	26
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	VMS_X4_8260	Limit Group:	MSV - 8260B Water and Solid		
Column:	Rxi-624Sil MS (0.25 mm)	Detector	MS SCAN		

32 Methyl tert-butyl ether, CAS: 1634-04-4



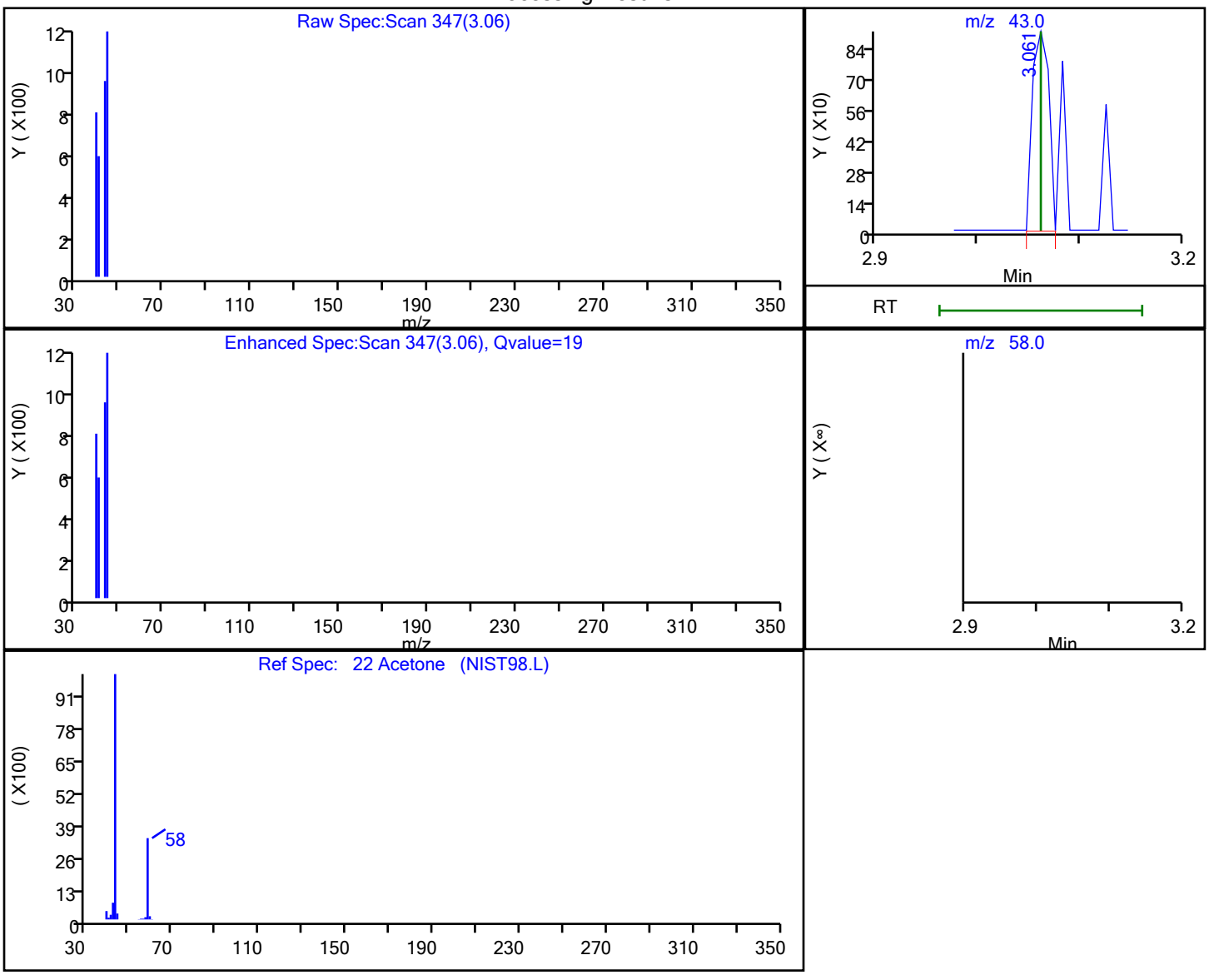
User Disabled Compound Report

Eurofins Denver

Data File:	\\chromfs\Denver\ChromData\VMS_X4\20231219-128742.b\X512034.D				
Injection Date:	20-Dec-2023 00:15:30	Instrument ID:	VMS_X4		
Lims ID:	280-185814-D-11	Lab Sample ID:	280-185814-11		
Client ID:	TV044-MW91223A				
Operator ID:	CF	ALS Bottle#:	21	Worklist Smp#:	26
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	VMS_X4_8260	Limit Group:	MSV - 8260B Water and Solid		
Column:	Rxi-624Sil MS (0.25 mm)	Detector	MS SCAN		

22 Acetone, CAS: 67-64-1

Processing Results



RT	Mass	Response	Amount
3.06	43.00	1033	0.326007
3.06	58.00	0	

Reviewer: BX8N, 20-Dec-2023 03:11:33 -07:00:00 (UTC)

Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

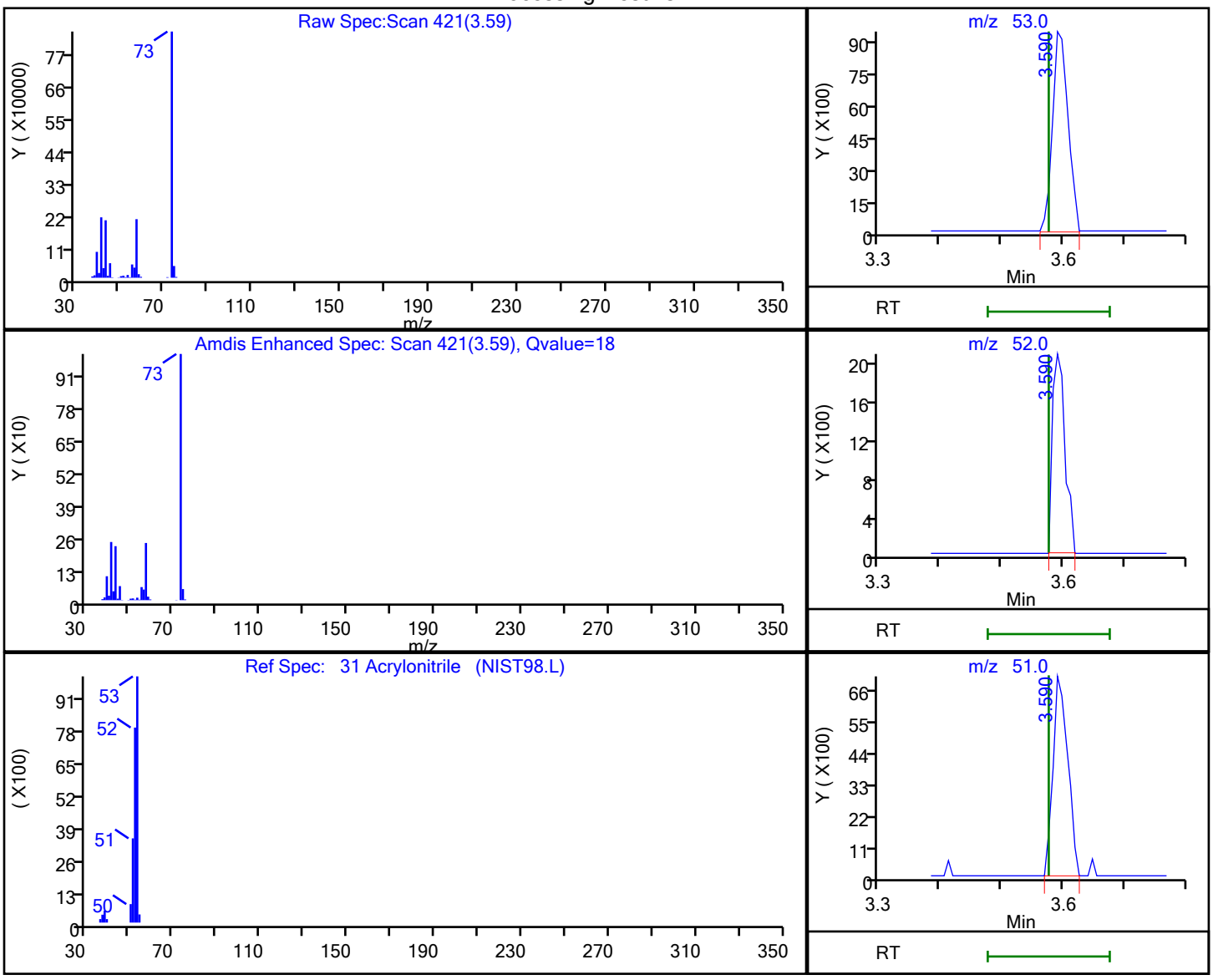
User Disabled Compound Report

Eurofins Denver

Data File:	\\chromfs\Denver\ChromData\VMS_X4\20231219-128742.b\X512034.D				
Injection Date:	20-Dec-2023 00:15:30	Instrument ID:	VMS_X4		
Lims ID:	280-185814-D-11	Lab Sample ID:	280-185814-11		
Client ID:	TV044-MW91223A				
Operator ID:	CF	ALS Bottle#:	21	Worklist Smp#:	26
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	VMS_X4_8260	Limit Group:	MSV - 8260B Water and Solid		
Column:	Rxi-624Sil MS (0.25 mm)	Detector	MS SCAN		

31 Acrylonitrile, CAS: 107-13-1

Processing Results



RT	Mass	Response	Amount
3.59	53.00	16615	4.134082
3.59	52.00	2949	
3.59	51.00	11955	

Reviewer: BX8N, 20-Dec-2023 03:11:30 -07:00:00 (UTC)

Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

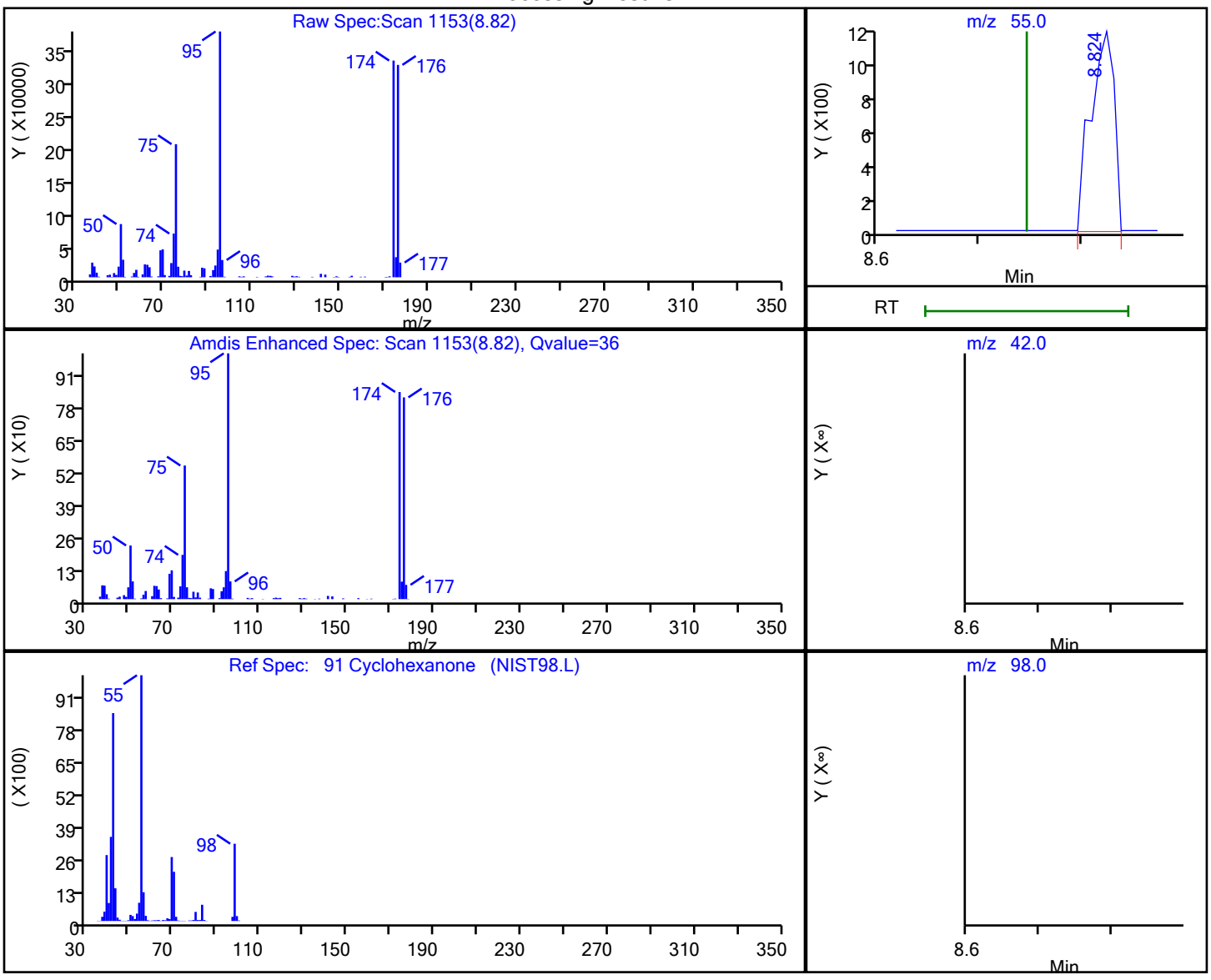
User Disabled Compound Report

Eurofins Denver

Data File:	\\chromfs\Denver\ChromData\VMS_X4\20231219-128742.b\X512034.D				
Injection Date:	20-Dec-2023 00:15:30	Instrument ID:	VMS_X4		
Lims ID:	280-185814-D-11	Lab Sample ID:	280-185814-11		
Client ID:	TV044-MW91223A				
Operator ID:	CF	ALS Bottle#:	21	Worklist Smp#:	26
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	VMS_X4_8260	Limit Group:	MSV - 8260B Water and Solid		
Column:	Rxi-624Sil MS (0.25 mm)	Detector	MS SCAN		

91 Cyclohexanone, CAS: 108-94-1

Processing Results



RT	Mass	Response	Amount
8.82	55.00	1810	4.017001
8.75	42.00	0	
8.75	98.00	0	

Reviewer: BX8N, 20-Dec-2023 03:11:22 -07:00:00 (UTC)

Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Denver | Job No.: 280-185814-1

SDG No.:

Client Sample ID: TV044-MW23D1223A | Lab Sample ID: 280-185814-12

Matrix: Water | Lab File ID: X512039.D

Analysis Method: 8260D | Date Collected: 12/14/2023 13:55

Sample wt/vol: 5(mL) | Date Analyzed: 12/20/2023 02:07

Soil Aliquot Vol: | Dilution Factor: 200

Soil Extract Vol.: | GC Column: RXI-624SilMS ID: 0.25(mm)

Purge Volume: 5.0(mL) | Heated Purge: (Y/N) N pH: 6.0

% Moisture: % Solids: | Level: (low/med) Low

Analysis Batch No.: 637903 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
71-55-6	1,1,1-Trichloroethane	100	U	200	100	78
79-34-5	1,1,2,2-Tetrachloroethane	160	U	200	160	42
79-00-5	1,1,2-Trichloroethane	160	U	200	160	54
75-34-3	1,1-Dichloroethane	160	U	200	160	44
75-35-4	1,1-Dichloroethylene	160	U	200	160	46
563-58-6	1,1-Dichloropropene	160	U	200	160	83
87-61-6	1,2,3-Trichlorobenzene	160	U	400	160	140
96-18-4	1,2,3-Trichloropropane	360	U	500	360	170
526-73-8	1,2,3-Trimethylbenzene	160	U	400	160	54
120-82-1	1,2,4-Trichlorobenzene	160	U	200	160	120
95-63-6	1,2,4-Trimethylbenzene	80	U	200	80	30
96-12-8	1,2-Dibromo-3-Chloropropane	800	U	1000	800	350
106-93-4	1,2-Dibromoethane	160	U	200	160	81
95-50-1	1,2-Dichlorobenzene	100	U	200	100	74
107-06-2	1,2-Dichloroethane	160	U	200	160	110
78-87-5	1,2-Dichloropropane	160	U	200	160	100
108-67-8	1,3,5-Trimethylbenzene	100	U	200	100	74
541-73-1	1,3-Dichlorobenzene	80	U	200	80	67
142-28-9	1,3-Dichloropropane	160	U	200	160	76
106-46-7	1,4-Dichlorobenzene	100	U	200	100	78
594-20-7	2,2-Dichloropropane	160	U	200	160	76
78-93-3	2-Butanone (MEK)	2400	U	3000	2400	1200
110-75-8	2-Chloroethyl vinyl ether	160	U	600	160	88
591-78-6	2-Hexanone	800	U	1000	800	340
99-87-6	4-Isopropyltoluene	160	U	200	160	86
108-10-1	4-Methyl-2-pentanone (MIBK)	640	U	1000	640	200
67-64-1	Acetone	1600	U	3000	1600	1300
107-13-1	Acrylonitrile	1600	U M	4000	1600	890
71-43-2	Benzene	160	U	200	160	62
108-86-1	Bromobenzene	100	U	200	100	79
74-97-5	Bromochloromethane	160	U	200	160	81
75-27-4	Bromodichloromethane	100	U	200	100	77
75-25-2	Bromoform	360	U	400	360	240
75-15-0	Carbon disulfide	160	U	400	160	130

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Denver | Job No.: 280-185814-1

SDG No.:

Client Sample ID: TV044-MW23D1223A | Lab Sample ID: 280-185814-12

Matrix: Water | Lab File ID: X512039.D

Analysis Method: 8260D | Date Collected: 12/14/2023 13:55

Sample wt/vol: 5(mL) | Date Analyzed: 12/20/2023 02:07

Soil Aliquot Vol: | Dilution Factor: 200

Soil Extract Vol.: | GC Column: RXI-624SilMS ID: 0.25(mm)

Purge Volume: 5.0(mL) | Heated Purge: (Y/N) N pH: 6.0

% Moisture: % Solids: | Level: (low/med) Low

Analysis Batch No.: 637903 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
56-23-5	Carbon tetrachloride	160	U	200	160	110
108-90-7	Chlorobenzene	160	U	200	160	84
75-00-3	Chloroethane	320	U	800	320	270
67-66-3	Chloroform	160	U	200	160	72
74-87-3	Chloromethane	200	U	400	200	150
156-59-2	cis-1,2-Dichloroethylene	80	U	200	80	64
10061-01-5	cis-1,3-Dichloropropene	360	U	400	360	130
110-82-7	Cyclohexane	160	U	200	160	88
108-94-1	Cyclohexanone	13000	U M Q	20000	13000	6300
124-48-1	Dibromochloromethane	360	U	400	360	120
74-95-3	Dibromomethane	80	U	200	80	69
75-71-8	Dichlorodifluoromethane	500	U	600	500	190
100-41-4	Ethylbenzene	80	U	200	80	61
87-68-3	Hexachlorobutadiene	360	U	400	360	230
108-20-3	Isopropyl ether	400	U	2000	400	220
98-82-8	Isopropylbenzene	100	U	200	100	73
1634-04-4	Methyl tert-butyl ether	12000	D	1000	160	50
108-87-2	Methylcyclohexane	80	U	200	80	63
75-09-2	Methylene Chloride	360	U	400	360	190
91-20-3	Naphthalene	160	U	400	160	130
104-51-8	n-Butylbenzene	160	U	200	160	95
110-54-3	n-Hexane	160	U	400	160	33
103-65-1	N-Propylbenzene	160	U	200	160	110
95-49-8	o-Chlorotoluene	80	U	200	80	68
106-43-4	p-Chlorotoluene	160	U	200	160	42
135-98-8	sec-Butylbenzene	160	U	200	160	89
100-42-5	Styrene	160	U	200	160	71
98-06-6	tert-Butylbenzene	160	U	200	160	84
127-18-4	Tetrachloroethene	160	U	200	160	81
108-88-3	Toluene	80	U	200	80	64
156-60-5	trans-1,2-Dichloroethylene	100	U	200	100	74
10061-02-6	trans-1,3-Dichloropropene	360	U	400	360	130
79-01-6	Trichloroethene	80	U	200	80	60
75-69-4	Trichlorofluoromethane	160	U	400	160	110

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Denver | Job No.: 280-185814-1

SDG No.:

Client Sample ID: TV044-MW23D1223A | Lab Sample ID: 280-185814-12

Matrix: Water | Lab File ID: X512039.D

Analysis Method: 8260D | Date Collected: 12/14/2023 13:55

Sample wt/vol: 5(mL) | Date Analyzed: 12/20/2023 02:07

Soil Aliquot Vol: | Dilution Factor: 200

Soil Extract Vol.: | GC Column: RXI-624SilMS ID: 0.25(mm)

Purge Volume: 5.0(mL) | Heated Purge: (Y/N) N pH: 6.0

% Moisture: % Solids: | Level: (low/med) Low

Analysis Batch No.: 637903 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
108-05-4	Vinyl acetate	400	U	600	400	190
75-01-4	Vinyl chloride	200	U	400	200	100
1330-20-7	Xylenes, Total	160	U	200	160	66

CAS NO.	SURROGATE	%REC	Q	LIMITS
17060-07-0	1,2-Dichloroethane-d4 (Surr)	104		81-118
460-00-4	4-Bromofluorobenzene (Surr)	90		85-114
1868-53-7	Dibromofluoromethane (Surr)	107		80-119
2037-26-5	Toluene-d8 (Surr)	96		89-112

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET
TARGETED TENATIVELY IDENTIFIED COMPOUNDS

Lab Name: Eurofins Denver | Job No.: 280-185814-1

SDG No.:

Client Sample ID: TV044-MW23D1223A | Lab Sample ID: 280-185814-12

Matrix: Water | Lab File ID: X512039.D

Analysis Method: 8260D | Date Collected: 12/14/2023 13:55

Sample wt/vol: 5(mL) | Date Analyzed: 12/20/2023 02:07

Soil Aliquot Vol: | Dilution Factor: 200

Soil Extract Vol.: | GC Column: RXI-624SilMS ID: 0.25(mm)

Purge Volume: 5.0(mL) | Heated Purge: (Y/N) N pH: 6.0

% Moisture: % Solids: | Level: (low/med) Low

Analysis Batch No.: 637903 | Units: ug/L

CAS NO.	COMPOUND NAME	RT	RESULT	Q	MATCH QUALITY
106-99-0	1,3-Butadiene TIC		200	U	
622-96-8	4-Ethyltoluene TIC		200	U	
77-73-6	Dicyclopentadiene TIC		200	U	
115-07-1	Propene TIC		200	U	

Eurofins Denver
Target Compound Quantitation Report

Data File: \\chromfs\Denver\ChromData\VMS_X4\20231219-128742.b\X512039.D
Lims ID: 280-185814-F-12
Client ID: TV044-MW23D1223A
Sample Type: Client
Inject. Date: 20-Dec-2023 02:07:30 ALS Bottle#: 26 Worklist Smp#: 31
Purge Vol: 5.000 mL Dil. Factor: 200.0000
Sample Info: 280-185814-f-12
Misc. Info.: 200x
Operator ID: CF Instrument ID: VMS_X4

Method: \\chromfs\Denver\ChromData\VMS_X4\20231219-128742.b\VMS_X4_8260.m
Limit Group: MSV - 8260B Water and Solid
Last Update: 20-Dec-2023 03:15:50 Calib Date: 11-Dec-2023 20:50:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Denver\ChromData\VMS_X4\20231211-128477.b\X511702.D

Column 1 : Rxi-624Sil MS (0.25 mm) Det: MS SCAN
Process Host: CTX1617

First Level Reviewer: BX8N Date: 20-Dec-2023 03:14:59

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	OnCol Amt ug/l	Flags
* 1 Fluorobenzene	96	5.199	5.199	0.000	98	1614804	50.0	
* 2 Chlorobenzene-d5	119	7.730	7.730	0.000	89	448807	50.0	
* 3 1,4-Dichlorobenzene-d4	152	9.947	9.947	0.000	97	772771	50.0	
$ 4 Dibromofluoromethane (Surr)	111	4.692	4.691	0.001	93	442654	53.6	
$ 5 1,2-Dichloroethane-d4 (Surr)	65	4.956	4.956	0.000	0	553782	51.8	
$ 6 Toluene-d8 (Surr)	98	6.458	6.458	0.000	94	1863772	48.2	
$ 7 4-Bromofluorobenzene (Surr)	95	8.817	8.817	0.000	88	665513	45.1	
$ 8 BFB	95	8.817	8.817	0.000	85	665513	NR	
9 Dichlorodifluoromethane	85		1.760				ND	
10 Chloromethane	50		1.939				ND	
11 Vinyl chloride	62		2.039				ND	
12 Bromomethane	94		2.332				ND	
13 Chloroethane	64		2.425				ND	
15 Propene oxide	58		2.504				ND	
14 Dichlorofluoromethane	67		2.596				ND	
16 Trichlorofluoromethane	101		2.632				ND	
17 Ethanol	45		2.754				ND	
18 Ethyl ether	59		2.847				ND	
19 Acrolein	56		2.961				ND	
20 1,1,2-Trichloro-1,2,2-trifluoroe	151		3.040				ND	
21 1,1-Dichloroethene	96		3.047				ND	
22 Acetone	43	3.076	3.061	0.015	74	3814	1.21	
23 Isopropyl alcohol	45		3.147				ND	
24 Iodomethane	142		3.169				ND	
25 Carbon disulfide	76		3.233				ND	
26 Acetonitrile	41		3.276				ND	
27 Methyl acetate	43		3.290				ND	
28 3-Chloro-1-propene	41		3.319				ND	
29 Methylene Chloride	84		3.412				ND	
30 2-Methyl-2-propanol	59	3.455	3.455	0.000	57	7570	8.91	
31 Acrylonitrile	53		3.576				ND	U

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	OnCol Amt ug/l	Flags
32 Methyl tert-butyl ether	73	3.598	3.598	0.000	97	1494428	60.6	
33 trans-1,2-Dichloroethene	96		3.612				ND	
34 Hexane	57		3.805				ND	
35 Vinyl acetate	43		3.905				ND	
37 Isopropyl ether	87		3.926				ND	
36 1,1-Dichloroethane	63		3.934				ND	
38 2-Chloro-1,3-butadiene	53		3.984				ND	
39 Tert-butyl ethyl ether	59		4.191				ND	
40 2-Butanone (MEK)	43		4.320				ND	
41 Ethyl acetate	43		4.327				ND	
42 cis-1,2-Dichloroethene	96		4.341				ND	
43 2,2-Dichloropropane	77		4.355				ND	
44 Propionitrile	54		4.370				ND	
45 sec-Butyl Alcohol	45		4.420				ND	
46 Methacrylonitrile	41		4.484				ND	
47 Chlorobromomethane	128		4.520				ND	
48 Tetrahydrofuran	42		4.527				ND	
49 Chloroform	83		4.577				ND	7
50 1,1,1-Trichloroethane	97		4.720				ND	
51 Cyclohexane	56		4.784				ND	
52 1,1-Dichloropropene	75		4.835				ND	
54 Isobutyl alcohol	41		4.842				ND	U
53 Carbon tetrachloride	117		4.842				ND	
55 Benzene	78		4.985				ND	
56 1,2-Dichloroethane	62		5.013				ND	7
57 Tert-amyl methyl ether	73		5.056				ND	
58 n-Heptane	43		5.171				ND	
59 n-Butanol	56		5.335				ND	
60 Trichloroethene	95		5.471				ND	
61 2-Pentanone	43		5.578				ND	
62 Methylcyclohexane	55		5.671				ND	
64 Methyl methacrylate	100		5.678				ND	
63 1,2-Dichloropropane	63		5.678				ND	
65 1,4-Dioxane	88		5.721				ND	
66 Dibromomethane	93		5.750				ND	
67 Dichlorobromomethane	83		5.871				ND	
68 2-Nitropropane	41		6.043				ND	U
69 2-Chloroethyl vinyl ether	63		6.072				ND	
70 cis-1,3-Dichloropropene	75		6.222				ND	
71 4-Methyl-2-pentanone (MIBK)	43		6.322				ND	
72 Toluene	91		6.515				ND	
73 trans-1,3-Dichloropropene	75		6.686				ND	
74 Ethyl methacrylate	69		6.701				ND	
75 1,1,2-Trichloroethane	97		6.858				ND	
76 Tetrachloroethene	164		6.951				ND	
77 1,3-Dichloropropane	76		7.008				ND	
78 2-Hexanone	43		7.022				ND	
79 Chlorodibromomethane	129		7.201				ND	
80 Ethylene Dibromide	107		7.323				ND	
81 1-Chlorohexane	91		7.709				ND	U
82 Chlorobenzene	112		7.752				ND	
83 1,1,1,2-Tetrachloroethane	131		7.823				ND	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	OnCol Amt ug/l	Flags
84 Ethylbenzene	106		7.830			ND		
85 m-Xylene & p-Xylene	106		7.945			ND		
86 o-Xylene	106		8.302			ND		
87 Styrene	104		8.324			ND		
88 Bromoform	173		8.503			ND		
89 Isopropylbenzene	105		8.646			ND		
90 cis-1,4-Dichloro-2-butene	53		8.696			ND		
91 Cyclohexanone	55		8.746			ND		U
92 1,1,2,2-Tetrachloroethane	83		8.932			ND		
93 Bromobenzene	156		8.967			ND		
94 trans-1,4-Dichloro-2-butene	53		8.967			ND		
95 1,2,3-Trichloropropane	110		8.996			ND		
96 N-Propylbenzene	120		9.046			ND		
97 2-Chlorotoluene	126		9.146			ND		
98 1,3,5-Trimethylbenzene	105		9.218			ND		
99 4-Chlorotoluene	126		9.261			ND		
101 Pentachloroethane	167		9.411			ND		
100 tert-Butylbenzene	119		9.525			ND		
102 1,2,4-Trimethylbenzene	105		9.582			ND		
103 sec-Butylbenzene	134		9.747			ND		
104 1,3-Dichlorobenzene	146		9.875			ND		
105 4-Isopropyltoluene	119		9.890			ND		
106 1,4-Dichlorobenzene	146		9.976			ND		
107 1,2,3-Trimethylbenzene	105		9.990			ND		
108 n-Butylbenzene	91		10.297			ND		
109 1,2-Dichlorobenzene	146		10.333			ND		
110 1,2-Dibromo-3-Chloropropane	157		11.112			ND		
111 1,3,5-Trichlorobenzene	180		11.298			ND		
112 1,2,4-Trichlorobenzene	180		11.935			ND		
113 Hexachlorobutadiene	225		12.071			ND		
114 Naphthalene	128		12.206			ND		
115 1,2,3-Trichlorobenzene	180		12.428			ND		
116 Ethylene oxide TIC	1		0.000			ND		
117 t-Amyl alcohol	1		0.000			ND		
118 Ethyl acrylate	55		0.000			ND		
119 1-Chloro-1-fluoroethane TIC	1		0.000			ND		
120 Tetrahydrothiophene TIC	1		0.000			ND		
121 Propene oxide TIC	58		5.334			ND		
S 122 1,2-Dichloroethene, Total (URS)	96		2.000			ND		7
S 129 1,2-Dichloroethene, Total	1		0.000			ND		7
S 124 1,3-Dichloropropene, Total	1		0.000			ND		7
S 123 Xylenes, Total (URS)	1		0.000			ND		7
S 127 Trihalomethanes, Total	1		0.000			ND		7
S 126 Total BTEX	1		0.000			ND		7
S 128 TAH	1				0		0	
S 125 Xylenes, Total	106		0.000			ND		7
T 130 Dichloroacetonitrile TIC	74		1.000			ND		
T 132 1-Chlorohexane TIC	1		0.000			ND		
T 131 Methyl cyclohexane TIC	1		0.000			ND		
T 140 2,3-Dichloro-1-propene TIC	75		0.000			ND		
T 139 Propene TIC	1		0.000			ND		
T 138 n-Nonane TIC	1		0.000			ND		

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	OnCol Amt ug/l	Flags
T 137 1,3-Butadiene TIC	1		0.000				ND	
T 136 Cyclohexane TIC	1		0.000				ND	
T 135 4-Ethyltoluene TIC	1		0.000				ND	
T 134 2-Butoxyethanol TIC	1		0.000				ND	
T 133 Dicyclopentadiene TIC	1		0.000				ND	

QC Flag Legend

Processing Flags
- NR - Missing Quant Standard
- 7 - Failed Limit of Detection

Review Flags
- U - Marked Undetected

Reagents:

mv-IS_SS_00074 Amount Added: 5.00 Units: uL Run Reagent

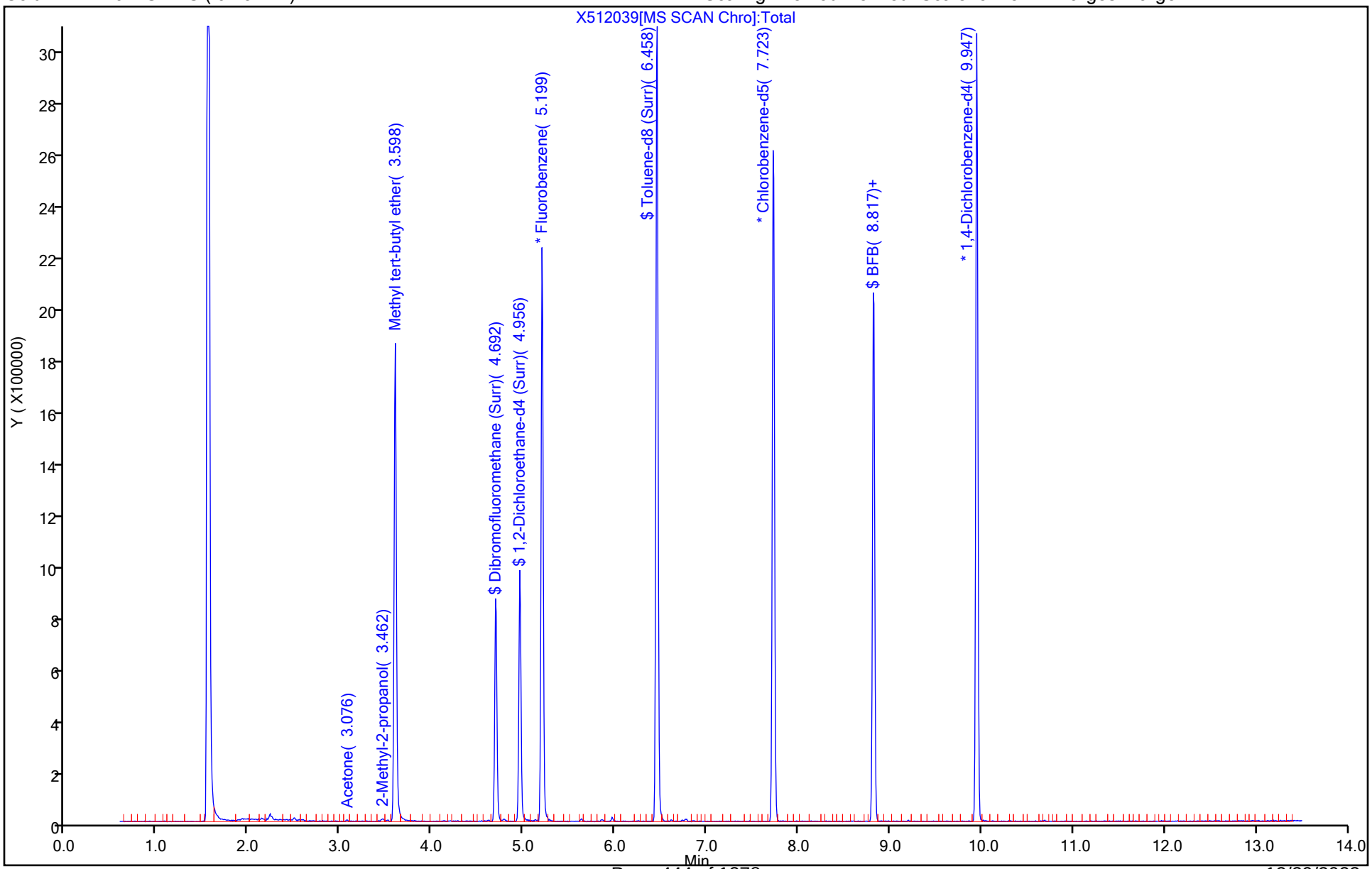
Report Date: 20-Dec-2023 03:16:22 Chrom Revision: 2.3 15-Nov-2023 20:54:34

Eurofins Denver

Data File: \\chromfs\Denver\ChromData\VMS_X4\20231219-128742.b\X512039.D

Injection Date:	20-Dec-2023 02:07:30	Instrument ID:	VMS_X4	Operator ID:	CF
Lims ID:	280-185814-F-12	Lab Sample ID:	280-185814-12	Worklist Smp#:	31
Client ID:	TV044-MW23D1223A				
Purge Vol:	5.000 mL	Dil. Factor:	200.0000	ALS Bottle#:	26
Method:	VMS_X4_8260	Limit Group:	MSV - 8260B Water and Solid		

Column: Rxi-624Sil MS (0.25 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 1



12/29/2023
12:08 PM

Eurofins Denver
Recovery Report

Data File: \\chromfs\Denver\ChromData\VMS_X4\20231219-128742.b\X512039.D
Lims ID: 280-185814-F-12
Client ID: TV044-MW23D1223A
Sample Type: Client
Inject. Date: 20-Dec-2023 02:07:30 ALS Bottle#: 26 Worklist Smp#: 31
Purge Vol: 5.000 mL Dil. Factor: 200.0000
Sample Info: 280-185814-f-12
Misc. Info.: 200x
Operator ID: CF Instrument ID: VMS_X4

Method: \\chromfs\Denver\ChromData\VMS_X4\20231219-128742.b\VMS_X4_8260.m
Limit Group: MSV - 8260B Water and Solid
Last Update: 20-Dec-2023 03:15:50 Calib Date: 11-Dec-2023 20:50:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Denver\ChromData\VMS_X4\20231211-128477.b\X511702.D

Column 1 : Rxi-624Sil MS (0.25 mm) Det: MS SCAN
Process Host: CTX1617

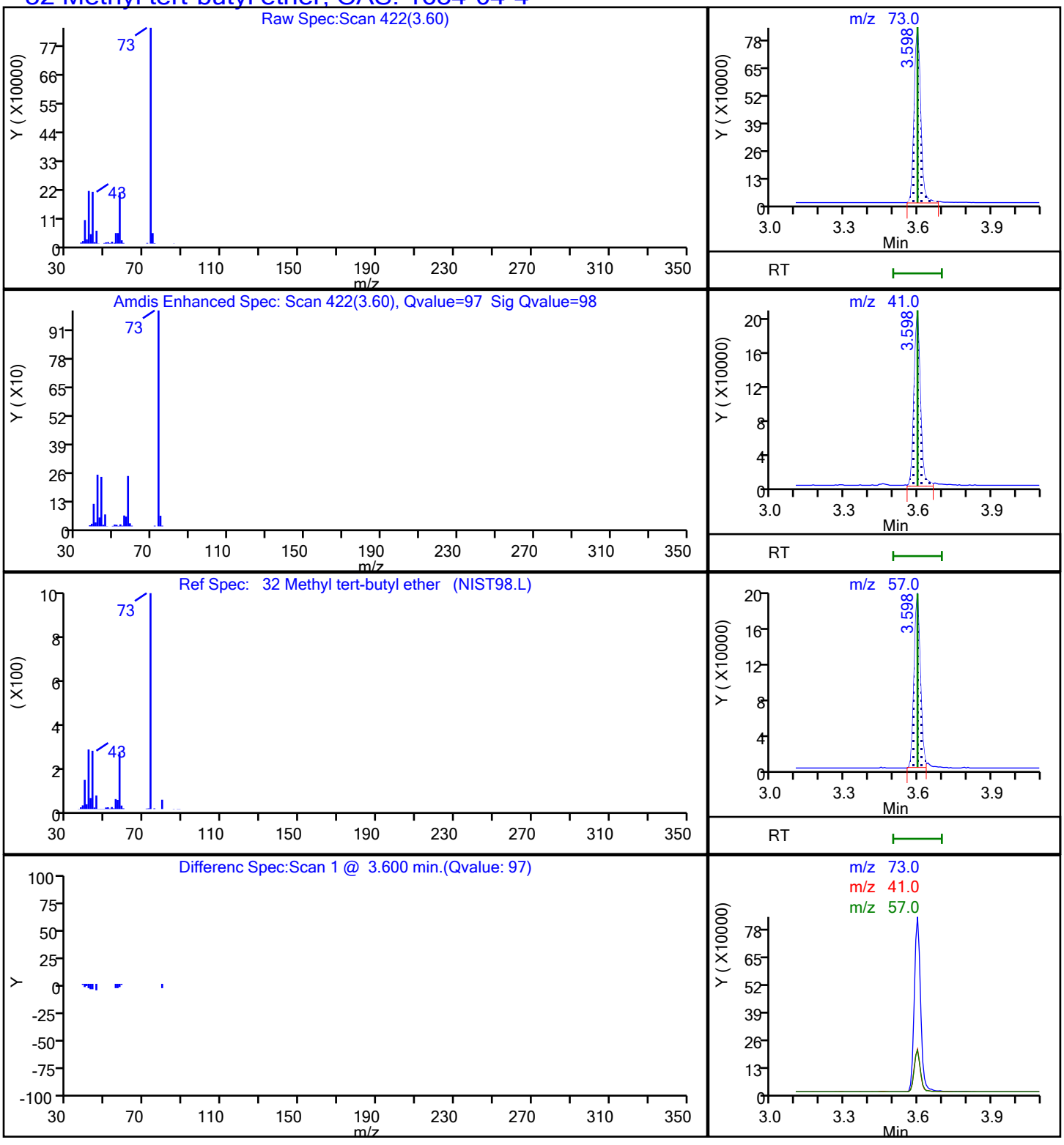
First Level Reviewer: BX8N Date: 20-Dec-2023 03:14:59

Compound	Amount Added	Amount Recovered	% Rec.
$ 4 Dibromofluoromethane (Surr)	50.0	53.6	21433.05
$ 5 1,2-Dichloroethane-d4 (Surr)	50.0	51.8	20732.14
$ 6 Toluene-d8 (Surr)	50.0	48.2	19292.90
$ 7 4-Bromofluorobenzene (Surr)	50.0	45.1	18049.33

Eurofins Denver

Data File:	\\chromfs\Denver\ChromData\VMS_X4\20231219-128742.b\X512039.D				
Injection Date:	20-Dec-2023 02:07:30	Instrument ID:	VMS_X4		
Lims ID:	280-185814-F-12	Lab Sample ID:	280-185814-12		
Client ID:	TV044-MW23D1223A				
Operator ID:	CF	ALS Bottle#:	26	Worklist Smp#:	31
Purge Vol:	5.000 mL	Dil. Factor:	200.0000		
Method:	VMS_X4_8260	Limit Group:	MSV - 8260B Water and Solid		
Column:	Rxi-624Sil MS (0.25 mm)	Detector	MS SCAN		

32 Methyl tert-butyl ether, CAS: 1634-04-4



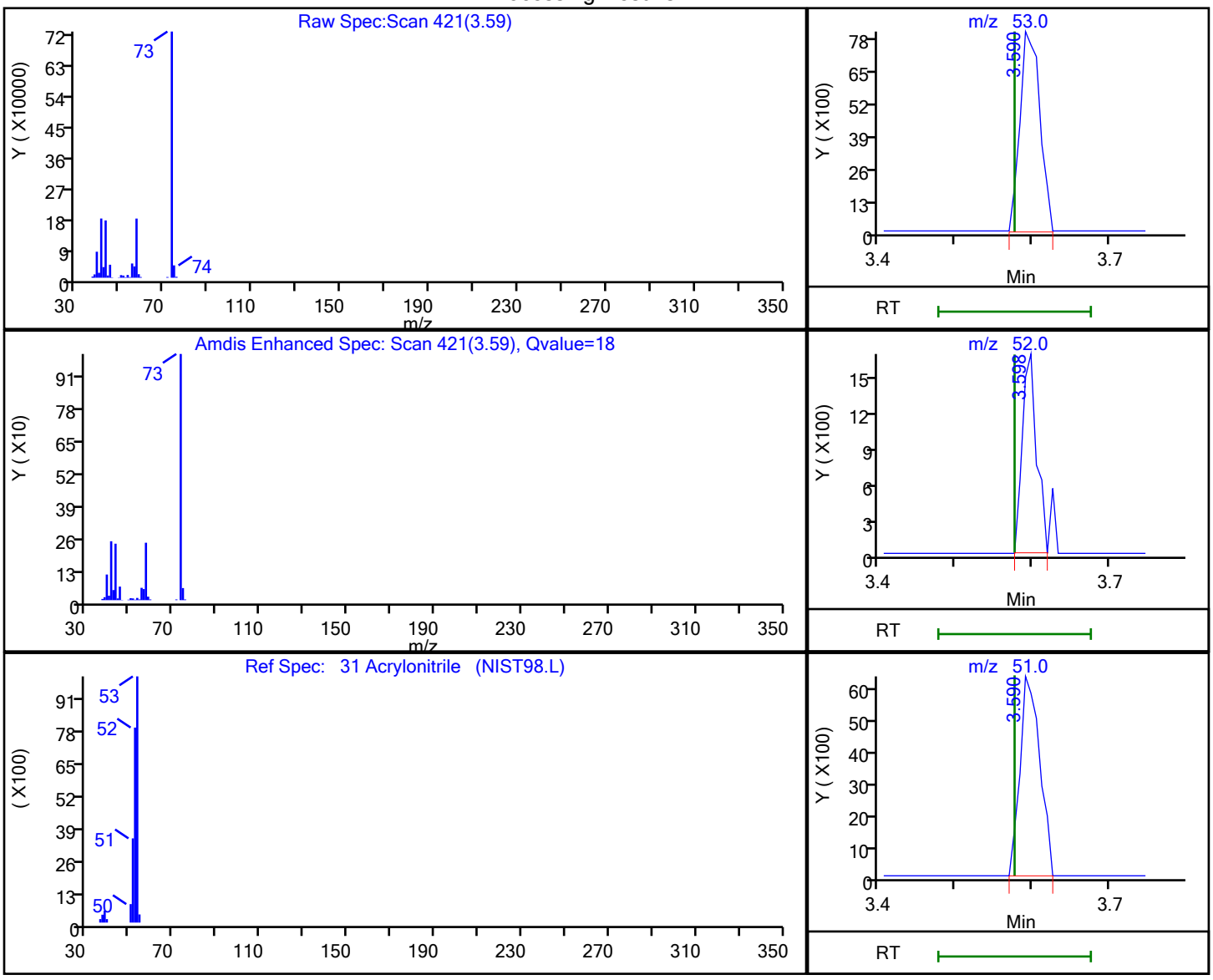
User Disabled Compound Report

Eurofins Denver

Data File:	\\chromfs\Denver\ChromData\VMS_X4\20231219-128742.b\X512039.D				
Injection Date:	20-Dec-2023 02:07:30	Instrument ID:	VMS_X4		
Lims ID:	280-185814-F-12	Lab Sample ID:	280-185814-12		
Client ID:	TV044-MW23D1223A				
Operator ID:	CF	ALS Bottle#:	26	Worklist Smp#:	31
Purge Vol:	5.000 mL	Dil. Factor:	200.0000		
Method:	VMS_X4_8260	Limit Group:	MSV - 8260B Water and Solid		
Column:	Rxi-624Sil MS (0.25 mm)	Detector	MS SCAN		

31 Acrylonitrile, CAS: 107-13-1

Processing Results



RT	Mass	Response	Amount
3.59	53.00	14679	3.672194
3.60	52.00	2148	
3.59	51.00	11431	

Reviewer: BX8N, 20-Dec-2023 03:14:51 -07:00:00 (UTC)

Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

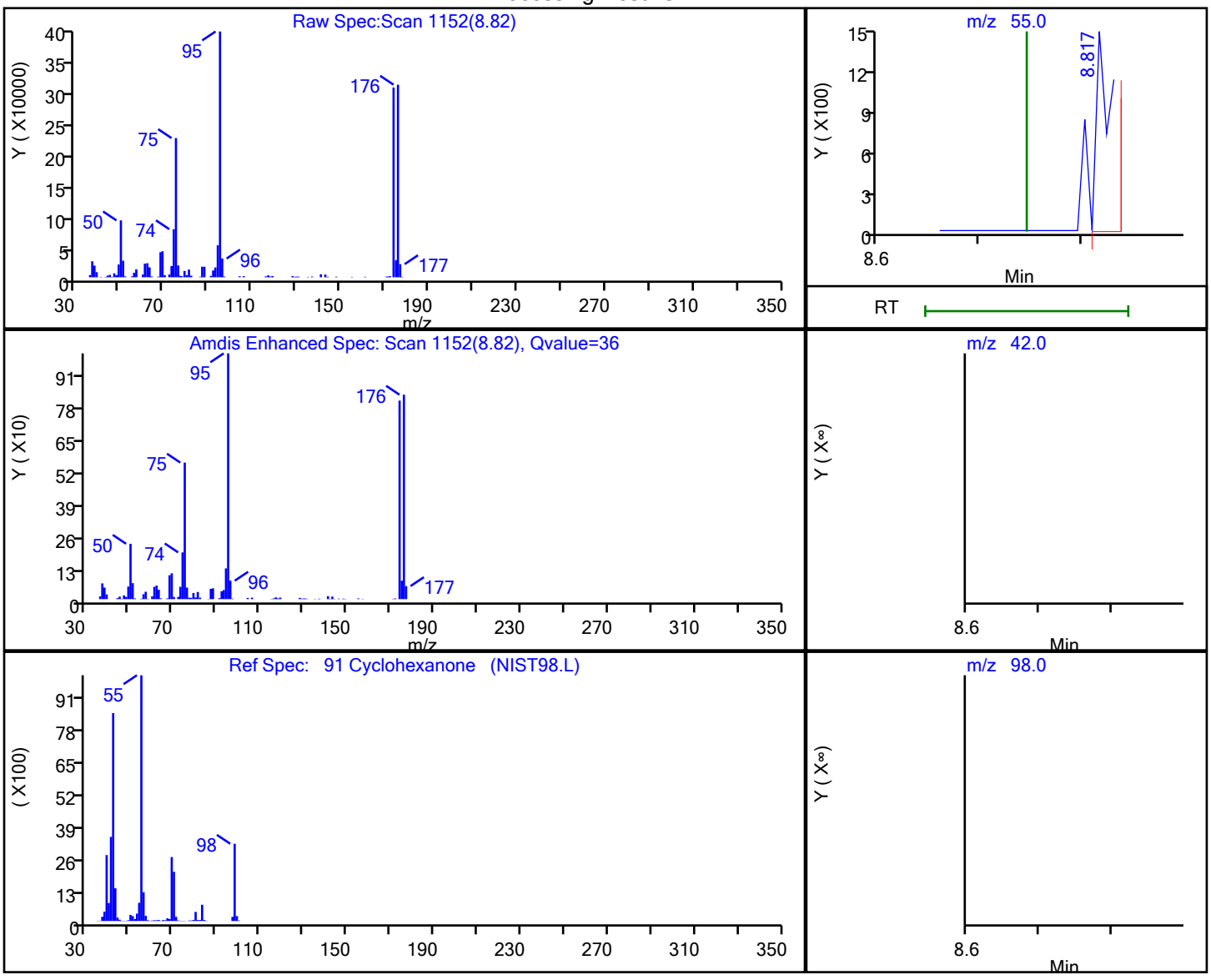
User Disabled Compound Report

Eurofins Denver

Data File:	\\chromfs\Denver\ChromData\VMS_X4\20231219-128742.b\X512039.D				
Injection Date:	20-Dec-2023 02:07:30	Instrument ID:	VMS_X4		
Lims ID:	280-185814-F-12	Lab Sample ID:	280-185814-12		
Client ID:	TV044-MW23D1223A				
Operator ID:	CF	ALS Bottle#:	26	Worklist Smp#:	31
Purge Vol:	5.000 mL	Dil. Factor:	200.0000		
Method:	VMS_X4_8260	Limit Group:	MSV - 8260B Water and Solid		
Column:	Rxi-624Sil MS (0.25 mm)	Detector	MS SCAN		

91 Cyclohexanone, CAS: 108-94-1

Processing Results



RT	Mass	Response	Amount
8.82	55.00	1414	3.082604
8.75	42.00	0	
8.75	98.00	0	

Reviewer: BX8N, 20-Dec-2023 03:14:40 -07:00:00 (UTC)

Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Denver | Job No.: 280-185814-1

SDG No.:

Client Sample ID: TV044-EB021223 | Lab Sample ID: 280-185814-13

Matrix: Water | Lab File ID: X512025.D

Analysis Method: 8260D | Date Collected: 12/14/2023 14:00

Sample wt/vol: 5(mL) | Date Analyzed: 12/19/2023 21:01

Soil Aliquot Vol: | Dilution Factor: 1

Soil Extract Vol.: | GC Column: RXI-624SilMS ID: 0.25(mm)

Purge Volume: 5.0(mL) | Heated Purge: (Y/N) N pH: 5.0

% Moisture: % Solids: | Level: (low/med) Low

Analysis Batch No.: 637903 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
71-55-6	1,1,1-Trichloroethane	0.50	U	1.0	0.50	0.39
79-34-5	1,1,2,2-Tetrachloroethane	0.80	U	1.0	0.80	0.21
79-00-5	1,1,2-Trichloroethane	0.80	U	1.0	0.80	0.27
75-34-3	1,1-Dichloroethane	0.80	U	1.0	0.80	0.22
75-35-4	1,1-Dichloroethylene	0.80	U	1.0	0.80	0.23
563-58-6	1,1-Dichloropropene	0.80	U	1.0	0.80	0.42
87-61-6	1,2,3-Trichlorobenzene	0.80	U	2.0	0.80	0.70
96-18-4	1,2,3-Trichloropropane	1.8	U	2.5	1.8	0.86
526-73-8	1,2,3-Trimethylbenzene	0.80	U	2.0	0.80	0.27
120-82-1	1,2,4-Trichlorobenzene	0.80	U	1.0	0.80	0.58
95-63-6	1,2,4-Trimethylbenzene	0.40	U	1.0	0.40	0.15
96-12-8	1,2-Dibromo-3-Chloropropane	4.0	U	5.0	4.0	1.8
106-93-4	1,2-Dibromoethane	0.80	U	1.0	0.80	0.40
95-50-1	1,2-Dichlorobenzene	0.50	U	1.0	0.50	0.37
107-06-2	1,2-Dichloroethane	0.80	U	1.0	0.80	0.54
78-87-5	1,2-Dichloropropane	0.80	U	1.0	0.80	0.52
108-67-8	1,3,5-Trimethylbenzene	0.50	U	1.0	0.50	0.37
541-73-1	1,3-Dichlorobenzene	0.40	U	1.0	0.40	0.33
142-28-9	1,3-Dichloropropane	0.80	U	1.0	0.80	0.38
106-46-7	1,4-Dichlorobenzene	0.50	U	1.0	0.50	0.39
594-20-7	2,2-Dichloropropane	0.80	U	1.0	0.80	0.38
78-93-3	2-Butanone (MEK)	12	U	15	12	6.0
110-75-8	2-Chloroethyl vinyl ether	0.80	U	3.0	0.80	0.44
591-78-6	2-Hexanone	4.0	U	5.0	4.0	1.7
99-87-6	4-Isopropyltoluene	0.80	U	1.0	0.80	0.43
108-10-1	4-Methyl-2-pentanone (MIBK)	3.2	U	5.0	3.2	0.98
67-64-1	Acetone	8.0	U M	15	8.0	6.6
107-13-1	Acrylonitrile	8.0	U	20	8.0	4.5
71-43-2	Benzene	0.80	U	1.0	0.80	0.31
108-86-1	Bromobenzene	0.50	U	1.0	0.50	0.40
74-97-5	Bromochloromethane	0.80	U	1.0	0.80	0.40
75-27-4	Bromodichloromethane	0.50	U	1.0	0.50	0.39
75-25-2	Bromoform	1.8	U	2.0	1.8	1.2
75-15-0	Carbon disulfide	0.80	U	2.0	0.80	0.63

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Denver | Job No.: 280-185814-1

SDG No.:

Client Sample ID: TV044-EB021223 | Lab Sample ID: 280-185814-13

Matrix: Water | Lab File ID: X512025.D

Analysis Method: 8260D | Date Collected: 12/14/2023 14:00

Sample wt/vol: 5(mL) | Date Analyzed: 12/19/2023 21:01

Soil Aliquot Vol: | Dilution Factor: 1

Soil Extract Vol.: | GC Column: RXI-624SilMS ID: 0.25(mm)

Purge Volume: 5.0(mL) | Heated Purge: (Y/N) N pH: 5.0

% Moisture: % Solids: | Level: (low/med) Low

Analysis Batch No.: 637903 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
56-23-5	Carbon tetrachloride	0.80	U	1.0	0.80	0.57
108-90-7	Chlorobenzene	0.80	U	1.0	0.80	0.42
75-00-3	Chloroethane	1.6	U	4.0	1.6	1.4
67-66-3	Chloroform	0.80	U	1.0	0.80	0.36
74-87-3	Chloromethane	1.0	U	2.0	1.0	0.75
156-59-2	cis-1,2-Dichloroethylene	0.40	U	1.0	0.40	0.32
10061-01-5	cis-1,3-Dichloropropene	1.8	U	2.0	1.8	0.63
110-82-7	Cyclohexane	0.80	U	1.0	0.80	0.44
108-94-1	Cyclohexanone	64	U M Q	100	64	32
124-48-1	Dibromochloromethane	1.8	U	2.0	1.8	0.62
74-95-3	Dibromomethane	0.40	U	1.0	0.40	0.34
75-71-8	Dichlorodifluoromethane	2.5	U	3.0	2.5	0.96
100-41-4	Ethylbenzene	0.40	U	1.0	0.40	0.30
87-68-3	Hexachlorobutadiene	1.8	U	2.0	1.8	1.2
108-20-3	Isopropyl ether	2.0	U	10	2.0	1.1
98-82-8	Isopropylbenzene	0.50	U	1.0	0.50	0.36
1634-04-4	Methyl tert-butyl ether	0.80	U	5.0	0.80	0.25
108-87-2	Methylcyclohexane	0.40	U	1.0	0.40	0.31
75-09-2	Methylene Chloride	1.8	U	2.0	1.8	0.94
91-20-3	Naphthalene	0.80	U	2.0	0.80	0.63
104-51-8	n-Butylbenzene	0.80	U	1.0	0.80	0.48
110-54-3	n-Hexane	0.80	U	2.0	0.80	0.16
103-65-1	N-Propylbenzene	0.80	U	1.0	0.80	0.53
95-49-8	o-Chlorotoluene	0.40	U	1.0	0.40	0.34
106-43-4	p-Chlorotoluene	0.80	U	1.0	0.80	0.21
135-98-8	sec-Butylbenzene	0.80	U	1.0	0.80	0.45
100-42-5	Styrene	0.80	U	1.0	0.80	0.36
98-06-6	tert-Butylbenzene	0.80	U	1.0	0.80	0.42
127-18-4	Tetrachloroethene	0.80	U	1.0	0.80	0.40
108-88-3	Toluene	0.40	U	1.0	0.40	0.32
156-60-5	trans-1,2-Dichloroethylene	0.50	U	1.0	0.50	0.37
10061-02-6	trans-1,3-Dichloropropene	1.8	U	2.0	1.8	0.65
79-01-6	Trichloroethene	0.40	U	1.0	0.40	0.30
75-69-4	Trichlorofluoromethane	0.80	U	2.0	0.80	0.57

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Denver | Job No.: 280-185814-1

SDG No.:

Client Sample ID: TV044-EB021223 | Lab Sample ID: 280-185814-13

Matrix: Water | Lab File ID: X512025.D

Analysis Method: 8260D | Date Collected: 12/14/2023 14:00

Sample wt/vol: 5(mL) | Date Analyzed: 12/19/2023 21:01

Soil Aliquot Vol: | Dilution Factor: 1

Soil Extract Vol.: | GC Column: RXI-624SilMS ID: 0.25(mm)

Purge Volume: 5.0(mL) | Heated Purge: (Y/N) N pH: 5.0

% Moisture: % Solids: | Level: (low/med) Low

Analysis Batch No.: 637903 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
108-05-4	Vinyl acetate	2.0	U	3.0	2.0	0.94
75-01-4	Vinyl chloride	1.0	U	2.0	1.0	0.51
1330-20-7	Xylenes, Total	0.80	U	1.0	0.80	0.33

CAS NO.	SURROGATE	%REC	Q	LIMITS
17060-07-0	1,2-Dichloroethane-d4 (Surr)	104		81-118
460-00-4	4-Bromofluorobenzene (Surr)	90		85-114
1868-53-7	Dibromofluoromethane (Surr)	111		80-119
2037-26-5	Toluene-d8 (Surr)	97		89-112

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET
TARGETED TENATIVELY IDENTIFIED COMPOUNDS

Lab Name: Eurofins Denver | Job No.: 280-185814-1

SDG No.:

Client Sample ID: TV044-EB021223 | Lab Sample ID: 280-185814-13

Matrix: Water | Lab File ID: X512025.D

Analysis Method: 8260D | Date Collected: 12/14/2023 14:00

Sample wt/vol: 5(mL) | Date Analyzed: 12/19/2023 21:01

Soil Aliquot Vol: | Dilution Factor: 1

Soil Extract Vol.: | GC Column: RXI-624SilMS ID: 0.25(mm)

Purge Volume: 5.0(mL) | Heated Purge: (Y/N) N pH: 5.0

% Moisture: % Solids: | Level: (low/med) Low

Analysis Batch No.: 637903 | Units: ug/L

CAS NO.	COMPOUND NAME	RT	RESULT	Q	MATCH QUALITY
106-99-0	1,3-Butadiene TIC		1.0	U	
622-96-8	4-Ethyltoluene TIC		1.0	U	
77-73-6	Dicyclopentadiene TIC		1.0	U	
115-07-1	Propene TIC		1.0	U	

Eurofins Denver
Target Compound Quantitation Report

Data File: \\chromfs\Denver\ChromData\VMS_X4\20231219-128742.b\X512025.D
Lims ID: 280-185814-E-13
Client ID: TV044-EB021223
Sample Type: Client
Inject. Date: 19-Dec-2023 21:01:30 ALS Bottle#: 12 Worklist Smp#: 17
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Sample Info: 280-185814-e-13
Operator ID: CF Instrument ID: VMS_X4

Method: \\chromfs\Denver\ChromData\VMS_X4\20231219-128742.b\VMS_X4_8260.m
Limit Group: MSV - 8260B Water and Solid
Last Update: 20-Dec-2023 03:15:50 Calib Date: 11-Dec-2023 20:50:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Denver\ChromData\VMS_X4\20231211-128477.b\X511702.D

Column 1 : Rxi-624Sil MS (0.25 mm) Det: MS SCAN
Process Host: CTX1617

First Level Reviewer: BX8N Date: 20-Dec-2023 03:08:04

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	OnCol Amt ug/l	Flags
* 1 Fluorobenzene	96	5.199	5.199	0.000	98	1649109	50.0	
* 2 Chlorobenzene-d5	119	7.723	7.730	-0.007	90	448372	50.0	
* 3 1,4-Dichlorobenzene-d4	152	9.947	9.947	0.000	97	791152	50.0	
$ 4 Dibromofluoromethane (Surr)	111	4.691	4.691	0.000	93	468808	55.6	
$ 5 1,2-Dichloroethane-d4 (Surr)	65	4.956	4.956	0.000	0	567843	52.0	
$ 6 Toluene-d8 (Surr)	98	6.458	6.458	0.000	95	1881594	48.7	
$ 7 4-Bromofluorobenzene (Surr)	95	8.817	8.817	0.000	88	676773	44.8	
$ 8 BFB	95	8.817	8.817	0.000	86	676773	NR	
9 Dichlorodifluoromethane	85		1.760				ND	
10 Chloromethane	50		1.939				ND	
11 Vinyl chloride	62		2.039				ND	
12 Bromomethane	94		2.332				ND	7
13 Chloroethane	64		2.425				ND	
15 Propene oxide	58		2.504				ND	
14 Dichlorofluoromethane	67		2.596				ND	
16 Trichlorofluoromethane	101		2.632				ND	
17 Ethanol	45		2.754				ND	
18 Ethyl ether	59		2.847				ND	
19 Acrolein	56		2.961				ND	
20 1,1,2-Trichloro-1,2,2-trifluoroe	151		3.040				ND	
21 1,1-Dichloroethene	96		3.047				ND	
22 Acetone	43		3.061				ND	U
23 Isopropyl alcohol	45		3.147				ND	
24 Iodomethane	142		3.169				ND	
25 Carbon disulfide	76		3.233				ND	
26 Acetonitrile	41		3.276				ND	
27 Methyl acetate	43		3.290				ND	
28 3-Chloro-1-propene	41		3.319				ND	
29 Methylene Chloride	84		3.412				ND	
30 2-Methyl-2-propanol	59		3.455				ND	
31 Acrylonitrile	53		3.576				ND	
32 Methyl tert-butyl ether	73		3.598				ND	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	OnCol Amt ug/l	Flags
33 trans-1,2-Dichloroethene	96		3.612				ND	
34 Hexane	57		3.805				ND	
35 Vinyl acetate	43		3.905				ND	
37 Isopropyl ether	87		3.926				ND	
36 1,1-Dichloroethane	63		3.934				ND	
38 2-Chloro-1,3-butadiene	53		3.984				ND	
39 Tert-butyl ethyl ether	59		4.191				ND	
40 2-Butanone (MEK)	43		4.320				ND	
41 Ethyl acetate	43		4.327				ND	
42 cis-1,2-Dichloroethene	96		4.341				ND	
43 2,2-Dichloropropane	77		4.355				ND	
44 Propionitrile	54		4.370				ND	
45 sec-Butyl Alcohol	45		4.420				ND	
46 Methacrylonitrile	41		4.484				ND	
47 Chlorobromomethane	128		4.520				ND	
48 Tetrahydrofuran	42		4.527				ND	
49 Chloroform	83		4.577				ND	
50 1,1,1-Trichloroethane	97		4.720				ND	
51 Cyclohexane	56		4.784				ND	
52 1,1-Dichloropropene	75		4.835				ND	
54 Isobutyl alcohol	41		4.842				ND	
53 Carbon tetrachloride	117		4.842				ND	
55 Benzene	78		4.985				ND	
56 1,2-Dichloroethane	62		5.013				ND	7
57 Tert-amyl methyl ether	73		5.056				ND	
58 n-Heptane	43		5.171				ND	
59 n-Butanol	56		5.335				ND	
60 Trichloroethene	95		5.471				ND	
61 2-Pentanone	43		5.578				ND	
62 Methylcyclohexane	55		5.671				ND	
64 Methyl methacrylate	100		5.678				ND	
63 1,2-Dichloropropane	63		5.678				ND	
65 1,4-Dioxane	88		5.721				ND	
66 Dibromomethane	93		5.750				ND	
67 Dichlorobromomethane	83		5.871				ND	
68 2-Nitropropane	41		6.043				ND	
69 2-Chloroethyl vinyl ether	63		6.072				ND	
70 cis-1,3-Dichloropropene	75		6.222				ND	
71 4-Methyl-2-pentanone (MIBK)	43		6.322				ND	
72 Toluene	91		6.515				ND	
73 trans-1,3-Dichloropropene	75		6.686				ND	
74 Ethyl methacrylate	69		6.701				ND	
75 1,1,2-Trichloroethane	97		6.858				ND	
76 Tetrachloroethene	164		6.951				ND	
77 1,3-Dichloropropane	76		7.008				ND	
78 2-Hexanone	43		7.022				ND	
79 Chlorodibromomethane	129		7.201				ND	
80 Ethylene Dibromide	107		7.323				ND	
81 1-Chlorohexane	91		7.709				ND	
82 Chlorobenzene	112		7.752				ND	
83 1,1,1,2-Tetrachloroethane	131		7.823				ND	
84 Ethylbenzene	106		7.830				ND	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	OnCol Amt ug/l	Flags
85 m-Xylene & p-Xylene	106		7.945				ND	
86 o-Xylene	106		8.302				ND	
87 Styrene	104		8.324				ND	
88 Bromoform	173		8.503				ND	
89 Isopropylbenzene	105		8.646				ND	
90 cis-1,4-Dichloro-2-butene	53		8.696				ND	
91 Cyclohexanone	55		8.746				ND	U
92 1,1,2,2-Tetrachloroethane	83		8.932				ND	
93 Bromobenzene	156		8.967				ND	
94 trans-1,4-Dichloro-2-butene	53		8.967				ND	
95 1,2,3-Trichloropropane	110		8.996				ND	
96 N-Propylbenzene	120		9.046				ND	
97 2-Chlorotoluene	126		9.146				ND	
98 1,3,5-Trimethylbenzene	105		9.218				ND	
99 4-Chlorotoluene	126		9.261				ND	
101 Pentachloroethane	167		9.411				ND	
100 tert-Butylbenzene	119		9.525				ND	
102 1,2,4-Trimethylbenzene	105		9.582				ND	
103 sec-Butylbenzene	134		9.747				ND	
104 1,3-Dichlorobenzene	146		9.875				ND	
105 4-Isopropyltoluene	119		9.890				ND	
106 1,4-Dichlorobenzene	146		9.976				ND	
107 1,2,3-Trimethylbenzene	105		9.990				ND	
108 n-Butylbenzene	91		10.297				ND	
109 1,2-Dichlorobenzene	146		10.333				ND	
110 1,2-Dibromo-3-Chloropropane	157		11.112				ND	
111 1,3,5-Trichlorobenzene	180		11.298				ND	
112 1,2,4-Trichlorobenzene	180		11.935				ND	
113 Hexachlorobutadiene	225		12.071				ND	
114 Naphthalene	128		12.206				ND	
115 1,2,3-Trichlorobenzene	180		12.428				ND	
116 Ethylene oxide TIC	1		0.000				ND	
117 t-Amyl alcohol	1		0.000				ND	
118 Ethyl acrylate	55		0.000				ND	
119 1-Chloro-1-fluoroethane TIC	1		0.000				ND	
120 Tetrahydrothiophene TIC	1		0.000				ND	
121 Propene oxide TIC	58		5.334				ND	
S 122 1,2-Dichloroethene, Total (URS)	96		2.000				ND	7
S 129 1,2-Dichloroethene, Total	1		0.000				ND	7
S 124 1,3-Dichloropropene, Total	1		0.000				ND	7
S 123 Xylenes, Total (URS)	1		0.000				ND	7
S 127 Trihalomethanes, Total	1		0.000				ND	7
S 126 Total BTEX	1		0.000				ND	7
S 128 TAH	1				0		0	
S 125 Xylenes, Total	106		0.000				ND	7
T 130 Dichloroacetonitrile TIC	74		1.000				ND	
T 132 1-Chlorohexane TIC	1		0.000				ND	
T 131 Methyl cyclohexane TIC	1		0.000				ND	
T 140 2,3-Dichloro-1-propene TIC	75		0.000				ND	
T 139 Propene TIC	1		0.000				ND	
T 138 n-Nonane TIC	1		0.000				ND	
T 137 1,3-Butadiene TIC	1		0.000				ND	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	OnCol Amt ug/l	Flags
T 136 Cyclohexane TIC	1		0.000				ND	
T 135 4-Ethyltoluene TIC	1		0.000				ND	
T 134 2-Butoxyethanol TIC	1		0.000				ND	
T 133 Dicyclopentadiene TIC	1		0.000				ND	

QC Flag Legend

Processing Flags
NR - Missing Quant Standard
7 - Failed Limit of Detection
Review Flags
U - Marked Undetected

Reagents:

mv-IS_SS_00074 Amount Added: 5.00 Units: uL Run Reagent

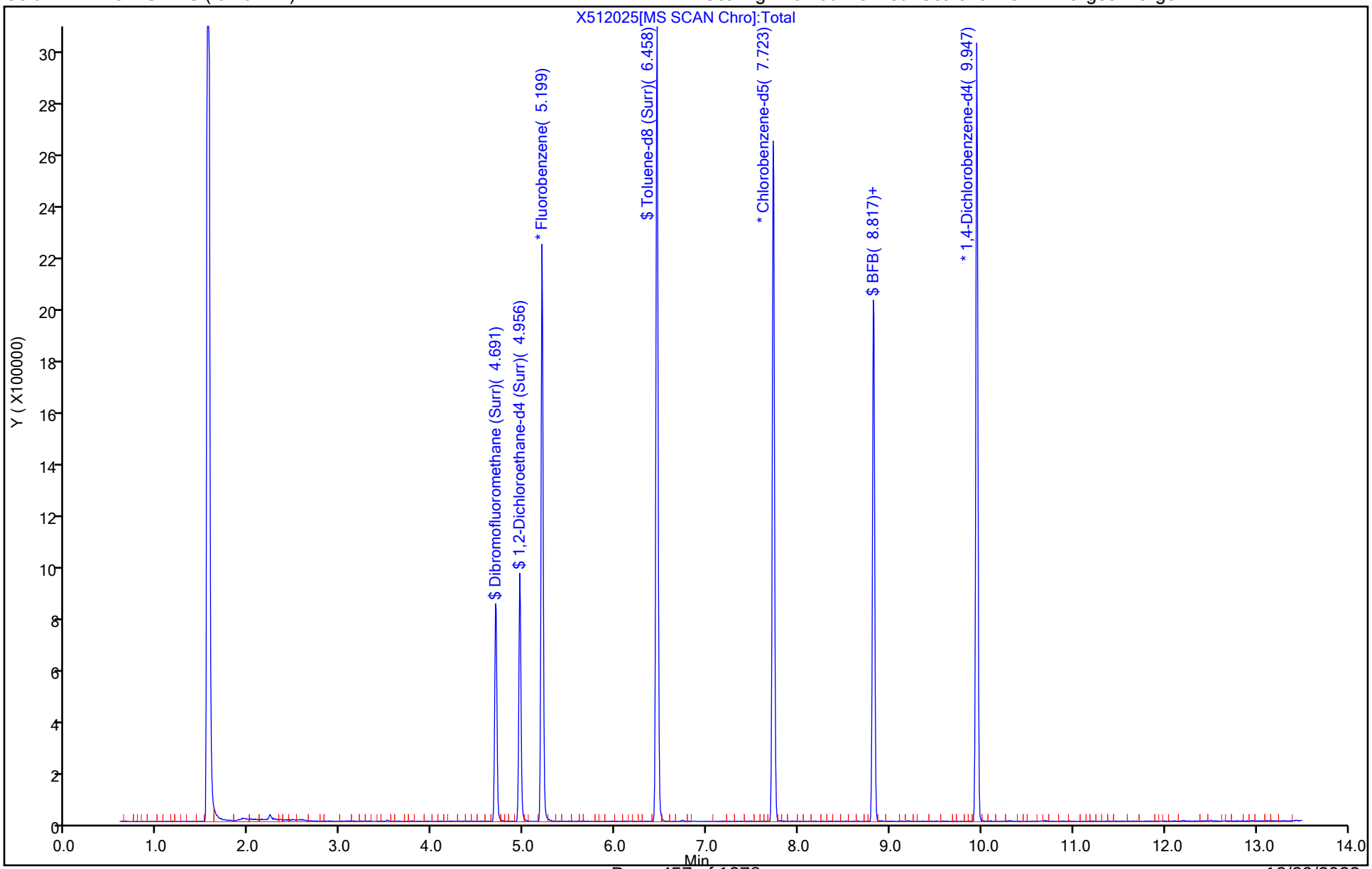
Report Date: 20-Dec-2023 03:15:59 Chrom Revision: 2.3 15-Nov-2023 20:54:34

Eurofins Denver

Data File: \\chromfs\Denver\ChromData\VMS_X4\20231219-128742.b\X512025.D

Injection Date:	19-Dec-2023 21:01:30	Instrument ID:	VMS_X4	Operator ID:	CF
Lims ID:	280-185814-E-13	Lab Sample ID:	280-185814-13	Worklist Smp#:	17
Client ID:	TV044-EB021223				
Purge Vol:	5.000 mL	Dil. Factor:	1.0000	ALS Bottle#:	12
Method:	VMS_X4_8260	Limit Group:	MSV - 8260B Water and Solid		

Column: Rxi-624Sil MS (0.25 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 1



Eurofins Denver
Recovery Report

Data File: \\chromfs\Denver\ChromData\VMS_X4\20231219-128742.b\X512025.D
Lims ID: 280-185814-E-13
Client ID: TV044-EB021223
Sample Type: Client
Inject. Date: 19-Dec-2023 21:01:30 ALS Bottle#: 12 Worklist Smp#: 17
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Sample Info: 280-185814-e-13
Operator ID: CF Instrument ID: VMS_X4

Method: \\chromfs\Denver\ChromData\VMS_X4\20231219-128742.b\VMS_X4_8260.m
Limit Group: MSV - 8260B Water and Solid
Last Update: 20-Dec-2023 03:15:50 Calib Date: 11-Dec-2023 20:50:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Denver\ChromData\VMS_X4\20231211-128477.b\X511702.D

Column 1 : Rxi-624Sil MS (0.25 mm) Det: MS SCAN
Process Host: CTX1617

First Level Reviewer: BX8N Date: 20-Dec-2023 03:08:04

Compound	Amount Added	Amount Recovered	% Rec.
$ 4 Dibromofluoromethane (Surr)	50.0	55.6	111.14
$ 5 1,2-Dichloroethane-d4 (Surr)	50.0	52.0	104.08
$ 6 Toluene-d8 (Surr)	50.0	48.7	97.48
$ 7 4-Bromofluorobenzene (Surr)	50.0	44.8	89.64

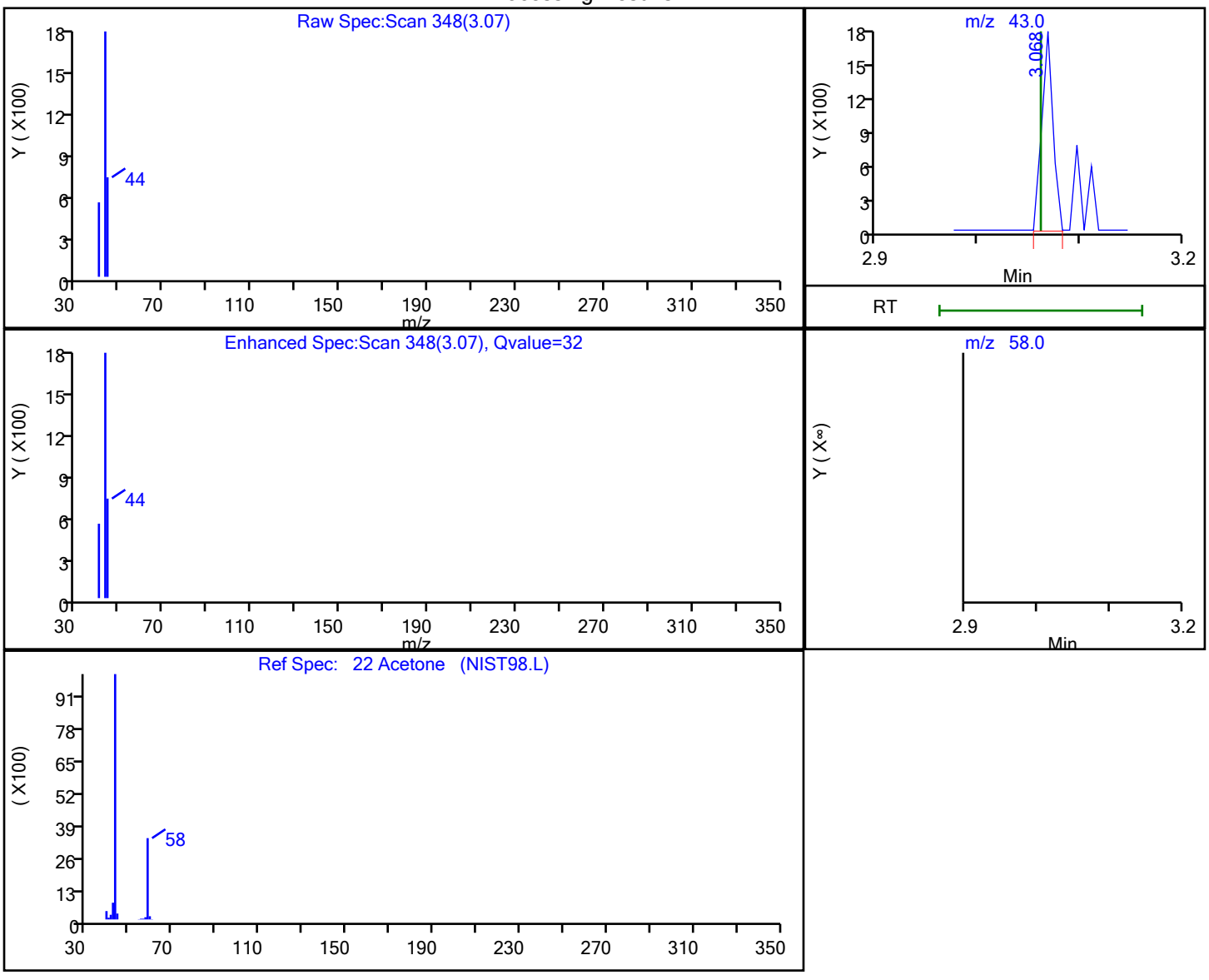
User Disabled Compound Report

Eurofins Denver

Data File:	\\chromfs\Denver\ChromData\VMS_X4\20231219-128742.b\X512025.D				
Injection Date:	19-Dec-2023 21:01:30	Instrument ID:	VMS_X4		
Lims ID:	280-185814-E-13	Lab Sample ID:	280-185814-13		
Client ID:	TV044-EB021223				
Operator ID:	CF	ALS Bottle#:	12	Worklist Smp#:	17
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	VMS_X4_8260	Limit Group:	MSV - 8260B Water and Solid		
Column:	Rxi-624Sil MS (0.25 mm)	Detector	MS SCAN		

22 Acetone, CAS: 67-64-1

Processing Results



RT	Mass	Response	Amount
3.07	43.00	1333	0.414169
3.06	58.00	0	

Reviewer: BX8N, 20-Dec-2023 03:07:59 -07:00:00 (UTC)

Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

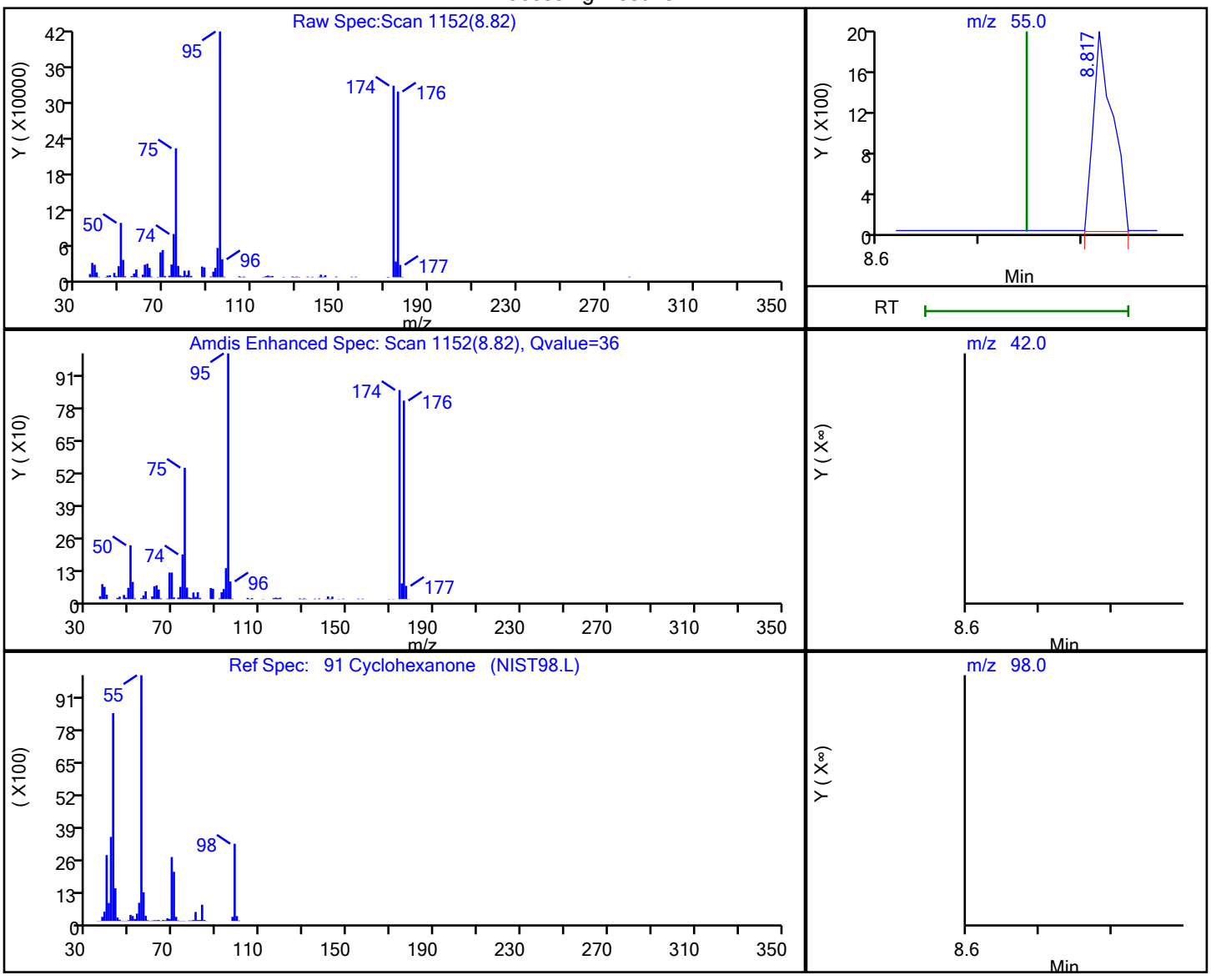
User Disabled Compound Report

Eurofins Denver

Data File:	\\chromfs\Denver\ChromData\VMS_X4\20231219-128742.b\X512025.D				
Injection Date:	19-Dec-2023 21:01:30	Instrument ID:	VMS_X4		
Lims ID:	280-185814-E-13	Lab Sample ID:	280-185814-13		
Client ID:	TV044-EB021223				
Operator ID:	CF	ALS Bottle#:	12	Worklist Smp#:	17
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	VMS_X4_8260	Limit Group:	MSV - 8260B Water and Solid		
Column:	Rxi-624Sil MS (0.25 mm)	Detector	MS SCAN		

91 Cyclohexanone, CAS: 108-94-1

Processing Results



RT	Mass	Response	Amount
8.82	55.00	2536	5.533995
8.75	42.00	0	
8.75	98.00	0	

Reviewer: BX8N, 20-Dec-2023 03:07:53 -07:00:00 (UTC)

Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

FORM VI
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: Eurofins Denver Job No.: 280-185814-1 Analy Batch No.: 636738

SDG No.:

Instrument ID: VMS_X4 GC Column: RXI-624SilM ID: 0.25(mm) Heated Purge: (Y/N) N

Calibration Start Date: 12/08/2023 21:49 Calibration End Date: 12/09/2023 00:33 Calibration ID: 88018

Calibration Files

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 280-636738/2	X511647.D
Level 2	IC 280-636738/3	X511648.D
Level 3	IC 280-636738/4	X511649.D
Level 4	IC 280-636738/5	X511650.D
Level 5	IC 280-636738/6	X511651.D
Level 6	ICIS 280-636738/7	X511652.D
Level 7	IC 280-636738/8	X511653.D
Level 8	IC 280-636738/9	X511654.D
Level 9	IC 280-636738/10	X511655.D

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD /RSE	#	MAX %RSD /RSE	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4 LVL 9	LVL 5		B	M1	M2								
Dichlorodifluoromethane	0.3176 0.3439	0.3794 0.3274	0.3731 0.3530	0.3920 0.3204	0.3799	Ave		0.3541				8.0		15.0			
Chloromethane	0.5055 0.4668	0.5438 0.4551	0.5057 0.4638	0.5207 0.4283	0.5174	Ave		0.4897			0.1000	7.7		15.0			
Vinyl chloride	0.4142 0.4019	0.4685 0.3857	0.4326 0.4208	0.4546 0.3869	0.4335	Ave		0.4221				6.7		30.0			
Bromomethane	+++++ 0.1969	+++++ 0.2067	0.2322 0.2150	0.2157 0.1916	0.2213	Ave		0.2113				6.7		15.0			
Chloroethane	0.3250 0.2436	0.2656 0.2389	0.2963 0.2432	0.2782 0.2245	0.2729	Ave		0.2654				12.0		15.0			
Dichlorofluoromethane	0.6761 0.6133	0.7026 0.5968	0.6549 0.6124	0.6753 0.5686	0.6723	Ave		0.6414				7.0		15.0			
Trichlorofluoromethane	0.4924 0.4005	0.4737 0.3893	0.4571 0.4132	0.4784 0.3947	0.4522	Ave		0.4390				9.1		15.0			
Ethyl ether	0.2820 0.2398	0.2277 0.2517	0.2473 0.2485	0.2564 0.2426	0.2560	Ave		0.2502				5.9		15.0			
Acrolein	0.0437 0.0377	0.0448 0.0404	0.0357 0.0390	0.0410 0.0388	0.0406	Ave		0.0402				7.0		15.0			
1,1,2-Trichloro-1,2,2-trifluoroethane	0.1435 0.1651	0.1429 0.1715	0.1752 0.1744	0.1699 0.1695	0.1816	Ave		0.1660				8.2		15.0			
1,1-Dichloroethylene	0.2382 0.2196	0.2320 0.2270	0.2190 0.2288	0.2318 0.2277	0.2302	Ave		0.2283				2.6		30.0			
Acetone	+++++ 0.0899	+++++ 0.0942	0.1172 0.0926	0.0949 0.0938	0.1006	Ave		0.0976				9.5		15.0			

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type. RSD is calculated for Ave curve types. RSE is used for all other types.

FORM VI
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: Eurofins Denver Job No.: 280-185814-1 Analy Batch No.: 636738

SDG No.:

Instrument ID: VMS_X4 GC Column: RXI-624SilM ID: 0.25(mm) Heated Purge: (Y/N) N

Calibration Start Date: 12/08/2023 21:49 Calibration End Date: 12/09/2023 00:33 Calibration ID: 88018

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD /RSE	#	MAX %RSD /RSE	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4 LVL 9	LVL 5		B	M1	M2								
Iodomethane	+++++ 0.2835	0.2224 0.3099	0.1862 0.3124	0.2304 0.3015	0.2573	Lin1	-0.178	0.3041							0.9980		0.9900
Carbon disulfide	1.0316 0.7735	0.8529 0.8125	0.8767 0.8165	0.8603 0.7741	0.8477	Ave		0.8495				9.1		15.0			
Methyl acetate	0.2482 0.2239	0.2576 0.2414	0.2163 0.2332	0.2300 0.2372	0.2357	Ave		0.2359				5.2		15.0			
3-Chloro-1-propene	0.5632 0.5144	0.5421 0.5245	0.5837 0.5144	0.5745 0.4435	0.5678	Ave		0.5365				8.1		15.0			
Methylene Chloride	+++++ 0.2659	+++++ 0.2820	0.3738 0.2778	0.3296 0.2716	0.3064	Ave		0.3010				13.0		15.0			
2-Methyl-2-propanol	0.0264 0.0275	0.0246 0.0291	0.0236 0.0279	0.0219 0.0304	0.0254	Ave		0.0263				10.4		15.0			
Acrylonitrile	0.1336 0.1189	0.1286 0.1240	0.1195 0.1181	0.1267 0.1159	0.1286	Ave		0.1238				4.9		15.0			
Methyl tert-butyl ether	0.7407 0.7661	0.7557 0.8165	0.6992 0.8078	0.7060 0.7940	0.7864	Ave		0.7636				5.5		15.0			
trans-1,2-Dichloroethylene	0.2475 0.2566	0.2601 0.2661	0.2543 0.2600	0.2693 0.2565	0.2755	Ave		0.2606				3.2		15.0			
n-Hexane	1.6164 1.5375	1.4593 1.5959	1.4621 1.5910	1.5494 1.5427	1.4564	Ave		1.5345				4.1		15.0			
Vinyl acetate	0.6066 0.5992	0.6158 0.6198	0.5510 0.5777	0.5886 0.5640	0.5958	Ave		0.5909				3.9		15.0			
1,1-Dichloroethane	0.5805 0.5326	0.5981 0.5636	0.5638 0.5547	0.5778 0.5345	0.5828	Ave		0.5654			0.1000	3.9		15.0			
2-Butanone (MEK)	0.2103 0.1493	0.1576 0.1560	0.1334 0.1485	0.1465 0.1521	0.1510	Ave		0.1561				13.8		15.0			
cis-1,2-Dichloroethylene	0.3069 0.2763	0.3036 0.2901	0.2744 0.2897	0.2886 0.2838	0.3131	Ave		0.2918				4.6		15.0			
2,2-Dichloropropane	0.4519 0.4081	0.4584 0.4334	0.4123 0.4359	0.4246 0.4245	0.4350	Ave		0.4316				3.8		15.0			
sec-Butyl Alcohol	+++++ 0.0238	0.0198 0.0259	0.0184 0.0253	0.0195 0.0270	0.0218	Ave		0.0227				14.5		15.0			
Bromochloromethane	0.0967 0.1146	0.1066 0.1220	0.1180 0.1202	0.1304 0.1161	0.1292	Ave		0.1171				9.0		15.0			
Tetrahydrofuran	0.1101 0.1027	0.1195 0.1065	0.1006 0.1033	0.0951 0.1052	0.1086	Ave		0.1057				6.4		15.0			

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type. RSD is calculated for Ave curve types. RSE is used for all other types.

FORM VI
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: Eurofins Denver Job No.: 280-185814-1 Analy Batch No.: 636738

SDG No.:

Instrument ID: VMS_X4 GC Column: RXI-624SilM ID: 0.25(mm) Heated Purge: (Y/N) N

Calibration Start Date: 12/08/2023 21:49 Calibration End Date: 12/09/2023 00:33 Calibration ID: 88018

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD /RSE	#	MAX %RSD /RSE	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4 LVL 9	LVL 5		B	M1	M2								
Chloroform	0.5582 0.4692	0.5636 0.4984	0.4930 0.4959	0.5085 0.4748	0.5263	Ave		0.5098				6.6		30.0			
1,1,1-Trichloroethane	0.4087 0.4004	0.4368 0.4266	0.4001 0.4211	0.4116 0.4132	0.4131	Ave		0.4146				2.9		15.0			
Cyclohexane	0.5441 0.5300	0.5280 0.5497	0.5296 0.5457	0.5538 0.5248	0.5264	Ave		0.5369				2.1		15.0			
1,1-Dichloropropene	0.4177 0.3922	0.4415 0.4089	0.3818 0.4147	0.3881 0.4045	0.4084	Ave		0.4064				4.4		15.0			
Carbon tetrachloride	0.3390 0.3263	0.3042 0.3410	0.2949 0.3458	0.3267 0.3427	0.3372	Ave		0.3286				5.5		15.0			
Isobutyl alcohol	0.0099 0.0103	0.0104 0.0110	0.0082 0.0108	0.0076 0.0115	0.0099	Ave		0.0099				13.0		15.0			
Benzene	1.3009 1.1228	1.2808 1.1717	1.1385 1.1651	1.2047 1.0989	1.2167	Ave		1.1889				5.8		15.0			
1,2-Dichloroethane	0.5324 0.3957	0.5160 0.4174	0.4384 0.4038	0.4379 0.3939	0.4160	Ave		0.4391				11.6		15.0			
n-Heptane	0.4122 0.3459	0.3792 0.3555	0.3256 0.3506	0.3638 0.3378	0.3573	Ave		0.3586				7.0		15.0			
Trichloroethene	1.1003 1.0643	1.0702 1.1261	1.0066 1.1440	1.1066 1.1064	1.0545	Ave		1.0866				3.9		15.0			
2-Pentanone	0.2214 0.2307	0.2175 0.2458	0.1960 0.2343	0.2184 0.2366	0.2257	Ave		0.2252				6.4		15.0			
Methylcyclohexane	0.4070 0.3679	0.3217 0.3822	0.3476 0.3866	0.3712 0.3795	0.3674	Ave		0.3701				6.6		15.0			
1,2-Dichloropropane	0.3864 0.3117	0.3455 0.3285	0.3028 0.3292	0.3207 0.3212	0.3347	Ave		0.3312				7.3		30.0			
1,4-Dioxane	+++++ 0.0037	0.0038 0.0038	0.0030 0.0036	0.0038 0.0037	0.0036	Ave		0.0036				7.6		15.0			
Dibromomethane	0.1802 0.1588	0.1985 0.1683	0.1484 0.1643	0.1698 0.1626	0.1722	Ave		0.1692				8.4		15.0			
Bromodichloromethane	0.3791 0.3530	0.3214 0.3792	0.3558 0.3822	0.3613 0.3739	0.3680	Ave		0.3638				5.2		15.0			
2-Chloroethyl vinyl ether	0.1478 0.1924	0.1917 0.1890	0.1354 0.1850	0.1735 0.1850	0.1933	Ave		0.1770				12.0		15.0			
cis-1,3-Dichloropropene	2.2073 1.7555	1.6597 1.9012	1.7144 1.8979	1.7720 1.8645	1.7465	Ave		1.8354				8.9		15.0			

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type. RSD is calculated for Ave curve types. RSE is used for all other types.

FORM VI
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: Eurofins Denver Job No.: 280-185814-1 Analy Batch No.: 636738

SDG No.:

Instrument ID: VMS_X4 GC Column: RXI-624SilM ID: 0.25(mm) Heated Purge: (Y/N) N

Calibration Start Date: 12/08/2023 21:49 Calibration End Date: 12/09/2023 00:33 Calibration ID: 88018

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD /RSE	#	MAX %RSD /RSE	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4 LVL 9	LVL 5		B	M1	M2								
4-Methyl-2-pentanone (MIBK)	0.2957 0.2994	0.2882 0.3182	0.2650 0.3036	0.2786 0.2962	0.2973	Ave		0.2936				5.2		15.0			
Toluene	1.3649 1.1545	1.2892 1.2125	1.2053 1.1990	1.2928 1.1318	1.2666	Ave		1.2352				6.0		30.0			
trans-1,3-Dichloropropene	0.4833 0.4034	0.3920 0.4415	0.3549 0.4369	0.3801 0.4329	0.4117	Ave		0.4152				9.2		15.0			
Ethyl methacrylate	1.5183 1.3812	1.1386 1.4693	1.1980 1.4527	1.3514 1.4569	1.3496	Ave		1.3685				9.3		15.0			
1,1,2-Trichloroethane	0.2294 0.2227	0.2593 0.2411	0.2156 0.2299	0.2303 0.2283	0.2331	Ave		0.2322				5.3		15.0			
Tetrachloroethene	0.8155 0.7565	0.7195 0.7822	0.7825 0.7737	0.7819 0.7693	0.7436	Ave		0.7694				3.5		15.0			
1,3-Dichloropropane	1.7167 1.7357	1.7111 1.7926	1.6428 1.7935	1.6796 1.7344	1.7297	Ave		1.7262				2.8		15.0			
2-Hexanone	0.8740 0.8459	0.7761 0.8641	0.7289 0.8482	0.8140 0.8307	0.8154	Ave		0.8219				5.6		15.0			
Dibromochloromethane	0.9755 0.9244	0.9285 0.9744	0.8130 0.9902	0.8584 0.9854	0.9141	Ave		0.9293				6.6		15.0			
1,2-Dibromoethane	0.9800 0.9005	0.9939 0.9533	0.8243 0.9488	0.8941 0.9261	0.9155	Ave		0.9263				5.5		15.0			
1-Chlorohexane	+++++ 1.3484	1.5793 1.4245	1.3513 1.4528	1.4174 1.4010	1.3510	Ave		1.4157				5.4		15.0			
Chlorobenzene	3.0164 2.6503	2.9959 2.7883	2.7861 2.7960	2.7920 2.6653	2.8345	Ave		2.8139			0.3000	4.5		15.0			
1,1,1,2-Tetrachloroethane	0.8884 0.8775	0.8380 0.9426	0.8300 0.9605	0.8327 0.9452	0.8943	Ave		0.8899				5.7		15.0			
Ethylbenzene	1.5772 1.5193	1.4981 1.6025	1.4288 1.5919	1.5689 1.5454	1.5934	Ave		1.5473				3.7		30.0			
m-Xylene & p-Xylene	2.1935 1.8800	1.8454 1.9531	1.9373 1.9600	1.9415 1.8867	1.9210	Ave		1.9465				5.1		15.0			
o-Xylene	2.1375 1.8367	1.9389 1.9006	1.7711 1.9090	1.8302 1.8505	1.9005	Ave		1.8972				5.5		15.0			
Styrene	3.0492 3.0712	3.3569 3.1981	2.8290 3.2338	3.0715 3.0664	3.0381	Ave		3.1016				4.8		15.0			
Bromoform	0.6334 0.5882	0.5811 0.6300	0.5263 0.6380	0.5632 0.6509	0.5661	Ave		0.5975			0.1000	7.1		15.0			

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type. RSD is calculated for Ave curve types. RSE is used for all other types.

FORM VI
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: Eurofins Denver Job No.: 280-185814-1 Analy Batch No.: 636738

SDG No.:

Instrument ID: VMS_X4 GC Column: RXI-624SilM ID: 0.25(mm) Heated Purge: (Y/N) N

Calibration Start Date: 12/08/2023 21:49 Calibration End Date: 12/09/2023 00:33 Calibration ID: 88018

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD /RSE	#	MAX %RSD /RSE	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4 LVL 9	LVL 5		B	M1	M2								
Isopropylbenzene	3.0720 2.7708	2.7923 2.9097	2.7293 2.9311	2.9077 2.6996	2.9384	Ave		2.8612				4.2		15.0			
Cyclohexanone	0.0488 0.0523	0.0490 0.0556	0.0470 0.0533	0.0484 0.0550	0.0505	Ave		0.0511				6.1		15.0			
1,1,2,2-Tetrachloroethane	0.8673 0.7377	0.7658 0.7825	0.7243 0.7689	0.7673 0.7430	0.7572	Ave		0.7682			0.3000	5.4		15.0			
Bromobenzene	0.7056 0.6342	0.7193 0.6779	0.7146 0.6823	0.6645 0.6469	0.6861	Ave		0.6813				4.3		15.0			
trans-1,4-Dichloro-2-butene	0.2142 0.2525	0.2301 0.2732	0.2287 0.2620	0.2350 0.2648	0.2461	Ave		0.2452				8.0		15.0			
1,2,3-Trichloropropane	0.1961 0.2170	0.1988 0.2266	0.1971 0.2226	0.1893 0.2216	0.2153	Ave		0.2094				6.7		15.0			
N-Propylbenzene	0.6037 0.7274	0.7634 0.7798	0.6807 0.7916	0.7439 0.7552	0.7581	Ave		0.7338				8.0		15.0			
o-Chlorotoluene	0.7079 0.6199	0.7268 0.6733	0.6528 0.6690	0.6252 0.6297	0.6429	Ave		0.6608				5.6		15.0			
1,3,5-Trimethylbenzene	2.2243 2.3313	2.4334 2.4497	2.3357 2.4417	2.4221 2.2874	2.4467	Ave		2.3747				3.5		15.0			
p-Chlorotoluene	0.8249 0.6573	0.6664 0.6927	0.6806 0.6960	0.6976 0.6595	0.6568	Ave		0.6924				7.6		15.0			
tert-Butylbenzene	2.1414 1.8531	1.8722 1.9478	1.8667 1.9705	1.9106 1.8642	1.9398	Ave		1.9296				4.7		15.0			
1,2,4-Trimethylbenzene	2.4525 2.4280	2.5216 2.5700	2.3729 2.5410	2.5148 2.3635	2.4626	Ave		2.4697				3.0		15.0			
sec-Butylbenzene	0.6110 0.5177	0.5196 0.5443	0.5244 0.5424	0.5463 0.5352	0.5292	Ave		0.5411				5.2		15.0			
1,3-Dichlorobenzene	1.2984 1.1799	1.2300 1.2625	1.1694 1.2717	1.2232 1.2058	1.2227	Ave		1.2293				3.4		15.0			
4-Isopropyltoluene	2.6025 2.3384	2.3570 2.4294	2.2948 2.4449	2.3232 2.2822	2.3324	Ave		2.3783				4.2		15.0			
1,4-Dichlorobenzene	1.5731 1.2257	1.3829 1.3041	1.3551 1.2983	1.3214 1.2354	1.2743	Ave		1.3300				7.9		15.0			
n-Butylbenzene	2.3417 2.1478	2.0916 2.2975	2.1218 2.2841	2.2079 2.1204	2.2169	Ave		2.2033				4.1		15.0			
1,2-Dichlorobenzene	1.5352 1.1300	1.2304 1.1932	1.0967 1.2042	1.1785 1.1292	1.2169	Ave		1.2127				10.6		15.0			

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type. RSD is calculated for Ave curve types. RSE is used for all other types.

FORM VI
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: Eurofins Denver Job No.: 280-185814-1 Analy Batch No.: 636738

SDG No.:

Instrument ID: VMS_X4 GC Column: RXI-624SilM ID: 0.25(mm) Heated Purge: (Y/N) N

Calibration Start Date: 12/08/2023 21:49 Calibration End Date: 12/09/2023 00:33 Calibration ID: 88018

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD /RSE	#	MAX %RSD /RSE	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4 LVL 9	LVL 5		B	M1	M2								
1,2-Dibromo-3-Chloropropane	0.1502 0.1370	0.1259 0.1474	0.1186 0.1474	0.1366 0.1488	0.1307	Ave		0.1381				8.2		15.0			
1,2,4-Trichlorobenzene	0.8505 0.6419	0.6230 0.7011	0.6684 0.6931	0.6990 0.6616	0.6710	Ave		0.6900				9.5		15.0			
Hexachlorobutadiene	0.2172 0.2694	0.2632 0.2989	0.2868 0.2910	0.2646 0.2693	0.2706	Ave		0.2701				8.7		15.0			
Naphthalene	2.2427 1.6674	1.8584 1.8129	1.6477 1.8337	1.6313 1.7281	1.7109	Ave		1.7925				10.5		15.0			
1,2,3-Trichlorobenzene	0.6230 0.5240	0.6631 0.5623	0.4901 0.5651	0.5362 0.5349	0.5404	Ave		0.5599				9.5		15.0			
Dibromofluoromethane (Surr)	0.2553 0.2496	0.2643 0.2533	0.2590 0.2519	0.2579 0.2511	0.2597	Ave		0.2558				1.9		15.0			
1,2-Dichloroethane-d4 (Surr)	0.3250 0.3284	0.3394 0.3245	0.3298 0.3264	0.3396 0.3228	0.3415	Ave		0.3308				2.2		15.0			
Toluene-d8 (Surr)	4.3319 4.3507	4.2543 4.2601	4.3509 4.3347	4.3340 4.2873	4.2404	Ave		4.3049				1.0		15.0			
4-Bromofluorobenzene (Surr)	0.9355 0.9369	0.9657 0.9521	0.9527 0.9797	0.9763 0.9439	0.9457	Ave		0.9543				1.7		15.0			

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type. RSD is calculated for Ave curve types. RSE is used for all other types.

FORM VI
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: Eurofins Denver | Job No.: 280-185814-1 | Analy Batch No.: 636738

SDG No.:

Instrument ID: VMS_X4 | GC Column: RXI-624Sil ID: 0.25(mm) | Heated Purge: (Y/N) N

Calibration Start Date: 12/08/2023 21:49 | Calibration End Date: 12/09/2023 00:33 | Calibration ID: 88018

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 280-636738/2	X511647.D
Level 2	IC 280-636738/3	X511648.D
Level 3	IC 280-636738/4	X511649.D
Level 4	IC 280-636738/5	X511650.D
Level 5	IC 280-636738/6	X511651.D
Level 6	ICIS 280-636738/7	X511652.D
Level 7	IC 280-636738/8	X511653.D
Level 8	IC 280-636738/9	X511654.D
Level 9	IC 280-636738/10	X511655.D

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (UG/L)				
			LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4 LVL 9	LVL 5	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4 LVL 9	LVL 5
Dichlorodifluoromethane	FB	Ave	5795 662986	13744 973899	26990 1409272	72071 2621778	139024	0.500 50.0	1.00 75.0	2.00 100	5.00 200	10.0
Chloromethane	FB	Ave	9225 900046	19698 1353876	36576 1851743	95726 3504175	189319	0.500 50.0	1.00 75.0	2.00 100	5.00 200	10.0
Vinyl chloride	FB	Ave	7559 774767	16969 1147558	31293 1680142	83572 3165693	158612	0.500 50.0	1.00 75.0	2.00 100	5.00 200	10.0
Bromomethane	FB	Ave	+++++ 379671	+++++ 614849	16792 858543	39649 1567406	80987	+++++ 50.0	+++++ 75.0	2.00 100	5.00 200	10.0
Chloroethane	FB	Ave	5931 469728	9619 710830	21435 971130	51141 1837183	99866	0.500 50.0	1.00 75.0	2.00 100	5.00 200	10.0
Dichlorofluoromethane	FB	Ave	12338 1182351	25449 1775419	47368 2445101	124155 4652017	246015	0.500 50.0	1.00 75.0	2.00 100	5.00 200	10.0
Trichlorofluoromethane	FB	Ave	8985 772064	17158 1158093	33066 1649692	87959 3229350	165460	0.500 50.0	1.00 75.0	2.00 100	5.00 200	10.0
Ethyl ether	FB	Ave	5146 462289	8247 748852	17885 992238	47142 1984673	93664	0.500 50.0	1.00 75.0	2.00 100	5.00 200	10.0
Acrolein	FB	Ave	7872 718330	16030 1187883	25502 1536959	74512 3133248	146608	4.94 494	9.88 741	19.8 988	49.4 1975	98.8
1,1,2-Trichloro-1,2,2-trifluoroethane	FB	Ave	2619 318245	5177 510084	12673 696434	31245 1386874	66446	0.500 50.0	1.00 75.0	2.00 100	5.00 200	10.0
1,1-Dichloroethylene	FB	Ave	4347 423348	8404 675423	15840 913693	42617 1863380	84223	0.500 50.0	1.00 75.0	2.00 100	5.00 200	10.0
Acetone	FB	Ave	+++++ 693043	+++++ 1120700	33907 1479095	69795 3068471	147193	+++++ 200	+++++ 300	8.00 400	20.0 800	40.0
Iodomethane	FB	Lin1	+++++ 546545	8057 921887	13466 1247496	42366 2467122	94138	+++++ 50.0	1.00 75.0	2.00 100	5.00 200	10.0
Carbon disulfide	FB	Ave	18826 1491254	30894 2417341	63416 3259987	158170 6333345	310167	0.500 50.0	1.00 75.0	2.00 100	5.00 200	10.0

FORM VI
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: Eurofins Denver | Job No.: 280-185814-1 | Analy Batch No.: 636738

SDG No.:

Instrument ID: VMS_X4 | GC Column: RXI-624Sil ID: 0.25(mm) | Heated Purge: (Y/N) N

Calibration Start Date: 12/08/2023 21:49 | Calibration End Date: 12/09/2023 00:33 | Calibration ID: 88018

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (UG/L)				
			LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4 LVL 9	LVL 5	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4 LVL 9	LVL 5
Methyl acetate	FB	Ave	9057 863266	18660 1436290	31284 1862400	84582 3881525	172491	1.00 100	2.00 150	4.00 200	10.0 400	20.0
3-Chloro-1-propene	FB	Ave	10277 991770	19634 1560442	42223 2053980	105621 3628658	207751	0.500 50.0	1.00 75.0	2.00 100	5.00 200	10.0
Methylene Chloride	FB	Ave	+++++ 512619	+++++ 839041	27039 1109068	60595 2221969	112126	+++++ 50.0	+++++ 75.0	2.00 100	5.00 200	10.0
2-Methyl-2-propanol	FB	Ave	4821 530329	8895 866773	17037 1113579	40282 2487770	92886	5.00 500	10.0 750	20.0 1000	50.0 2000	100
Acrylonitrile	FB	Ave	24386 2292677	46587 3688744	86444 4715071	232892 9483511	470564	5.00 500	10.0 750	20.0 1000	50.0 2000	100
Methyl tert-butyl ether	FB	Ave	13516 1477040	27373 2429040	50576 3225474	129790 6496255	287747	0.500 50.0	1.00 75.0	2.00 100	5.00 200	10.0
trans-1,2-Dichloroethylene	FB	Ave	4517 494789	9421 791573	18391 1038295	49503 2098639	100790	0.500 50.0	1.00 75.0	2.00 100	5.00 200	10.0
n-Hexane	CBNZd5	Ave	7498 749122	13782 1209578	27055 1600243	73088 3206323	140322	0.500 50.0	1.00 75.0	2.00 100	5.00 200	10.0
Vinyl acetate	FB	Ave	22140 2310547	44607 3687636	79706 4613455	216419 9229147	436007	1.00 100	2.00 150	4.00 200	10.0 400	20.0
1,1-Dichloroethane	FB	Ave	10594 1026882	21663 1676790	40784 2214703	106227 4372965	213239	0.500 50.0	1.00 75.0	2.00 100	5.00 200	10.0
2-Butanone (MEK)	FB	Ave	15349 1151344	22837 1856643	38596 2371046	107733 4977182	221023	2.00 200	4.00 300	8.00 400	20.0 800	40.0
cis-1,2-Dichloroethylene	FB	Ave	5601 532702	10997 863186	19850 1156585	53056 2322316	114576	0.500 50.0	1.00 75.0	2.00 100	5.00 200	10.0
2,2-Dichloropropane	FB	Ave	8247 786877	16603 1289427	29822 1740504	78071 3473524	159159	0.500 50.0	1.00 75.0	2.00 100	5.00 200	10.0
sec-Butyl Alcohol	FB	Ave	+++++ 1099694	17174 1849533	31914 2426975	85856 5311473	191315	+++++ 1200	24.0 1800	48.0 2400	120 4800	240
Bromochloromethane	FB	Ave	1764 220951	3860 363025	8535 480038	23970 949668	47269	0.500 50.0	1.00 75.0	2.00 100	5.00 200	10.0
Tetrahydrofuran	FB	Ave	4020 396170	8656 633643	14551 825023	34968 1721902	79464	1.00 100	2.00 150	4.00 200	10.0 400	20.0
Chloroform	FB	Ave	10187 904556	20413 1482724	35660 1979908	93487 3884602	192585	0.500 50.0	1.00 75.0	2.00 100	5.00 200	10.0
1,1,1-Trichloroethane	FB	Ave	7459 771864	15820 1269271	28941 1681500	75679 3381129	151144	0.500 50.0	1.00 75.0	2.00 100	5.00 200	10.0
Cyclohexane	FB	Ave	9929 1021709	19125 1635343	38304 2179017	101821 4294175	192606	0.500 50.0	1.00 75.0	2.00 100	5.00 200	10.0
1,1-Dichloropropene	FB	Ave	7623 756074	15992 1216541	27613 1655650	71355 3309804	149428	0.500 50.0	1.00 75.0	2.00 100	5.00 200	10.0

FORM VI
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: Eurofins Denver | Job No.: 280-185814-1 | Analy Batch No.: 636738

SDG No.:

Instrument ID: VMS_X4 | GC Column: RXI-624Sil ID: 0.25(mm) | Heated Purge: (Y/N) N

Calibration Start Date: 12/08/2023 21:49 | Calibration End Date: 12/09/2023 00:33 | Calibration ID: 88018

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (UG/L)				
			LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4 LVL 9	LVL 5	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4 LVL 9	LVL 5
Carbon tetrachloride	FB	Ave	6187 629064	11018 1014502	21332 1380610	60057 2803918	123394	0.500 50.0	1.00 75.0	2.00 100	5.00 200	10.0
Isobutyl alcohol	FB	Ave	4501 495087	9441 819824	14756 1073299	34947 2357768	90545	12.5 1250	25.0 1875	50.0 2500	125 5000	250
Benzene	FB	Ave	23739 2164669	46393 3485867	82350 4652151	221485 8990639	445213	0.500 50.0	1.00 75.0	2.00 100	5.00 200	10.0
1,2-Dichloroethane	FB	Ave	9716 762902	18689 1241882	31712 1612305	80515 3222735	152226	0.500 50.0	1.00 75.0	2.00 100	5.00 200	10.0
n-Heptane	FB	Ave	7522 666914	13734 1057618	23549 1399858	66885 2763824	130726	0.500 50.0	1.00 75.0	2.00 100	5.00 200	10.0
Trichloroethene	CBNZd 5	Ave	5104 518544	10107 853508	18626 1150694	52200 2299614	101597	0.500 50.0	1.00 75.0	2.00 100	5.00 200	10.0
2-Pentanone	FB	Ave	12930 1423338	25215 2340500	45366 2993645	128509 6193403	264285	1.60 160	3.20 240	6.40 320	16.0 640	32.0
Methylcyclohexane	FB	Ave	7427 709314	11652 1136976	25144 1543726	68237 3104765	134420	0.500 50.0	1.00 75.0	2.00 100	5.00 200	10.0
1,2-Dichloropropane	FB	Ave	7051 600946	12516 977268	21900 1314480	58963 2628338	122451	0.500 50.0	1.00 75.0	2.00 100	5.00 200	10.0
1,4-Dioxane	FB	Ave	+++++ 141264	2774 223916	4296 289214	13910 602877	26160	+++++ 1000	20.0 1500	40.0 2000	100 4000	200
Dibromomethane	FB	Ave	3288 306098	7191 500710	10736 656066	31226 1330394	63007	0.500 50.0	1.00 75.0	2.00 100	5.00 200	10.0
Bromodichloromethane	FB	Ave	6918 680598	11642 1128217	25739 1526039	66425 3058785	134646	0.500 50.0	1.00 75.0	2.00 100	5.00 200	10.0
2-Chloroethyl vinyl ether	FB	Ave	2698 370943	6944 562318	9796 738525	31905 1513331	70740	0.500 50.0	1.00 75.0	2.00 100	5.00 200	10.0
cis-1,3-Dichloropropene	CBNZd 5	Ave	10239 855325	15674 1440970	31723 1908924	83588 3875150	168271	0.500 50.0	1.00 75.0	2.00 100	5.00 200	10.0
4-Methyl-2-pentanone (MIBK)	FB	Ave	21583 2308703	41757 3786327	76674 4849186	204853 9693502	435182	2.00 200	4.00 300	8.00 400	20.0 800	40.0
Toluene	FB	Ave	24907 2225868	46697 3607150	87183 4787545	237673 9260574	463466	0.500 50.0	1.00 75.0	2.00 100	5.00 200	10.0
trans-1,3-Dichloropropene	FB	Ave	8819 777679	14199 1313434	25672 1744642	69876 3542079	150657	0.500 50.0	1.00 75.0	2.00 100	5.00 200	10.0
Ethyl methacrylate	CBNZd 5	Ave	7043 672957	10753 1113636	22168 1461196	63749 3028071	130029	0.500 50.0	1.00 75.0	2.00 100	5.00 200	10.0
1,1,2-Trichloroethane	FB	Ave	4187 429367	9392 717428	15593 917969	42334 1867560	85307	0.500 50.0	1.00 75.0	2.00 100	5.00 200	10.0

FORM VI
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: Eurofins Denver | Job No.: 280-185814-1 | Analy Batch No.: 636738

SDG No.:

Instrument ID: VMS_X4 | GC Column: RXI-624Sil ID: 0.25(mm) | Heated Purge: (Y/N) N

Calibration Start Date: 12/08/2023 21:49 | Calibration End Date: 12/09/2023 00:33 | Calibration ID: 88018

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (UG/L)				
			LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4 LVL 9	LVL 5	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4 LVL 9	LVL 5
Tetrachloroethene	CBNZd5	Ave	3783 368577	6795 592844	14479 778225	36884 1598859	71647	0.500 50.0	1.00 75.0	2.00 100	5.00 200	10.0
1,3-Dichloropropane	CBNZd5	Ave	7963 845717	16160 1358706	30399 1803964	79227 3604823	166655	0.500 50.0	1.00 75.0	2.00 100	5.00 200	10.0
2-Hexanone	CBNZd5	Ave	16217 1648692	29317 2619666	53947 3412672	153596 6906153	314267	2.00 200	4.00 300	8.00 400	20.0 800	40.0
Dibromochloromethane	CBNZd5	Ave	4525 450395	8769 738572	15044 995925	40492 2048092	88069	0.500 50.0	1.00 75.0	2.00 100	5.00 200	10.0
1,2-Dibromoethane	CBNZd5	Ave	4546 438780	9386 722531	15253 954315	42178 1924875	88207	0.500 50.0	1.00 75.0	2.00 100	5.00 200	10.0
1-Chlorohexane	CBNZd5	Ave	+++++ 525599	11932 863745	20003 1169030	53489 2329470	104135	+++++ 40.0	0.800 60.0	1.60 80.0	4.00 160	8.00
Chlorobenzene	CBNZd5	Ave	13992 1291335	28293 2113392	51553 2812304	131703 5539547	273103	0.500 50.0	1.00 75.0	2.00 100	5.00 200	10.0
1,1,1,2-Tetrachloroethane	CBNZd5	Ave	4121 427561	7914 714447	15359 966126	39281 1964455	86167	0.500 50.0	1.00 75.0	2.00 100	5.00 200	10.0
Ethylbenzene	CBNZd5	Ave	7316 740282	14148 1214601	26438 1601198	74006 3211834	153524	0.500 50.0	1.00 75.0	2.00 100	5.00 200	10.0
m-Xylene & p-Xylene	CBNZd5	Ave	10175 915999	17428 1480309	35848 1971421	91582 3921260	185084	0.500 50.0	1.00 75.0	2.00 100	5.00 200	10.0
o-Xylene	CBNZd5	Ave	9915 894904	18311 1440572	32773 1920090	86335 3846024	183113	0.500 50.0	1.00 75.0	2.00 100	5.00 200	10.0
Styrene	CBNZd5	Ave	14144 1496418	31703 2424000	52348 3252587	144885 6373202	292716	0.500 50.0	1.00 75.0	2.00 100	5.00 200	10.0
Bromoform	CBNZd5	Ave	2938 286574	5488 477532	9739 641757	26569 1352889	54547	0.500 50.0	1.00 75.0	2.00 100	5.00 200	10.0
Isopropylbenzene	DCBd4	Ave	23559 2226840	43016 3606947	82186 4817445	224602 9322314	464988	0.500 50.0	1.00 75.0	2.00 100	5.00 200	10.0
Cyclohexanone	CBNZd5	Ave	6785	13874	26070	68552	146091	15.0	30.0	60.0	150	300

FORM VI
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: Eurofins Denver | Job No.: 280-185814-1 | Analy Batch No.: 636738

SDG No.:

Instrument ID: VMS_X4 | GC Column: RXI-624Sil ID: 0.25(mm) | Heated Purge: (Y/N) N

Calibration Start Date: 12/08/2023 21:49 | Calibration End Date: 12/09/2023 00:33 | Calibration ID: 88018

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (UG/L)				
			LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4 LVL 9	LVL 5	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4 LVL 9	LVL 5
			764749	1264337	1608490	3430562		1500	2250	3000	6000	
1,1,2,2-Tetrachloroethane	DCBd4	Ave	6651 592846	11798 970013	21812 1263671	59270 2565654	119829	0.500 50.0	1.00 75.0	2.00 100	5.00 200	10.0
Bromobenzene	DCBd4	Ave	5411 509718	11081 840381	21519 1121367	51330 2233939	108571	0.500 50.0	1.00 75.0	2.00 100	5.00 200	10.0
trans-1,4-Dichloro-2-butene	DCBd4	Ave	1643 202923	3544 338634	6887 430574	18156 914291	38940	0.500 50.0	1.00 75.0	2.00 100	5.00 200	10.0
1,2,3-Trichloropropane	DCBd4	Ave	1504 174436	3062 280855	5936 365935	14619 765100	34078	0.500 50.0	1.00 75.0	2.00 100	5.00 200	10.0
N-Propylbenzene	DCBd4	Ave	4630 584633	11760 966623	20499 1300992	57462 2607813	119964	0.500 50.0	1.00 75.0	2.00 100	5.00 200	10.0
o-Chlorotoluene	DCBd4	Ave	5429 498210	11196 834673	19658 1099560	48295 2174390	101738	0.500 50.0	1.00 75.0	2.00 100	5.00 200	10.0
1,3,5-Trimethylbenzene	DCBd4	Ave	17058 1873615	37487 3036689	70335 4013068	187095 7898899	387180	0.500 50.0	1.00 75.0	2.00 100	5.00 200	10.0
p-Chlorotoluene	DCBd4	Ave	6326 528244	10266 858746	20496 1143931	53889 2277283	103933	0.500 50.0	1.00 75.0	2.00 100	5.00 200	10.0
tert-Butylbenzene	DCBd4	Ave	16422 1489289	28842 2414586	56211 3238732	147581 6437417	306965	0.500 50.0	1.00 75.0	2.00 100	5.00 200	10.0
1,2,4-Trimethylbenzene	DCBd4	Ave	18808 1951347	38846 3185853	71455 4176369	194256 8161601	389698	0.500 50.0	1.00 75.0	2.00 100	5.00 200	10.0
sec-Butylbenzene	DCBd4	Ave	4686 416055	8004 674704	15791 891537	42197 1848290	83746	0.500 50.0	1.00 75.0	2.00 100	5.00 200	10.0
1,3-Dichlorobenzene	DCBd4	Ave	9957 948292	18948 1565084	35215 2090161	94481 4163961	193491	0.500 50.0	1.00 75.0	2.00 100	5.00 200	10.0
4-Isopropyltoluene	DCBd4	Ave	19958 1879346	36310 3011584	69102 4018351	179450 7880910	369088	0.500 50.0	1.00 75.0	2.00 100	5.00 200	10.0
1,4-Dichlorobenzene	DCBd4	Ave	12064 985043	21304 1616628	40806 2133830	102070 4266166	201661	0.500 50.0	1.00 75.0	2.00 100	5.00 200	10.0
n-Butylbenzene	DCBd4	Ave	17958 1726145	32221 2848008	63893 3754069	170546 7322150	350811	0.500 50.0	1.00 75.0	2.00 100	5.00 200	10.0
1,2-Dichlorobenzene	DCBd4	Ave	11773 908194	18954 1479083	33026 1979251	91030 3899480	192564	0.500 50.0	1.00 75.0	2.00 100	5.00 200	10.0
1,2-Dibromo-3-Chloropropane	DCBd4	Ave	1152 110133	1940 182729	3570 242191	10550 513677	20683	0.500 50.0	1.00 75.0	2.00 100	5.00 200	10.0
1,2,4-Trichlorobenzene	DCBd4	Ave	6522 515920	9597 869149	20128 1139191	53992 2284772	106189	0.500 50.0	1.00 75.0	2.00 100	5.00 200	10.0
Hexachlorobutadiene	DCBd4	Ave	1666 216527	4055 370557	8637 478282	20440 929930	42821	0.500 50.0	1.00 75.0	2.00 100	5.00 200	10.0
Naphthalene	DCBd4	Ave	17199 1340029	28629 2247268	49616 3013787	126008 5967310	270744	0.500 50.0	1.00 75.0	2.00 100	5.00 200	10.0

FORM VI
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: Eurofins Denver Job No.: 280-185814-1 Analy Batch No.: 636738

SDG No.:

Instrument ID: VMS_X4 GC Column: RXI-624Sil ID: 0.25(mm) Heated Purge: (Y/N) N

Calibration Start Date: 12/08/2023 21:49 Calibration End Date: 12/09/2023 00:33 Calibration ID: 88018

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (UG/L)				
			LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4 LVL 9	LVL 5	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4 LVL 9	LVL 5
1,2,3-Trichlorobenzene	DCBd4	Ave	4778 421119	10215 697064	14758 928778	41419 1847012	85512	0.500 50.0	1.00 75.0	2.00 100	5.00 200	10.0
Dibromofluoromethane (Surr)	FB	Ave	465948 481211	478634 502408	468414 502826	474181 513617	475128	50.0 50.0	50.0 50.0	50.0 50.0	50.0 50.0	50.0
1,2-Dichloroethane-d4 (Surr)	FB	Ave	593087 633202	614683 643695	596345 651566	624279 660318	624868	50.0 50.0	50.0 50.0	50.0 50.0	50.0 50.0	50.0
Toluene-d8 (Surr)	CBNZd5	Ave	2009403 2119806	2008909 2152589	2012702 2179997	2044426 2227669	2042764	50.0 50.0	50.0 50.0	50.0 50.0	50.0 50.0	50.0
4-Bromofluorobenzene (Surr)	DCBd4	Ave	717396 752976	743856 786822	717206 805062	754136 814904	748291	50.0 50.0	50.0 50.0	50.0 50.0	50.0 50.0	50.0

Curve Type Legend:

Ave = Average ISTD
Lin1 = Linear 1/conc ISTD

Eurofins Denver
Target Compound Quantitation Report

Data File: \\chromfs\Denver\ChromData\VMS_X4\20231208-128432.b\X511647.D
Lims ID: IC
Client ID:
Sample Type: IC Calib Level: 1
Inject. Date: 08-Dec-2023 21:49:30 ALS Bottle#: 1 Worklist Smp#: 2
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Sample Info: std
Operator ID: CF Instrument ID: VMS_X4
Sublist: chrom-VMS_X4_8260*sub1

Method: \\chromfs\Denver\ChromData\VMS_X4\20231208-128432.b\VMS_X4_8260.m
Limit Group: MSV - 8260B Water and Solid
Last Update: 11-Dec-2023 03:13:13 Calib Date: 09-Dec-2023 00:33:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Denver\ChromData\VMS_X4\20231208-128432.b\X511655.D

Column 1 : Rxi-624Sil MS (0.25 mm) Det: MS SCAN
Process Host: CTX1656

First Level Reviewer: BX8N Date: 11-Dec-2023 03:03:54

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
* 1 Fluorobenzene	96	5.199	5.199	0.000	97	1824881	50.0	50.0	
* 2 Chlorobenzene-d5	119	7.730	7.730	0.000	90	463863	50.0	50.0	
* 3 1,4-Dichlorobenzene-d4	152	9.947	9.947	0.000	97	766886	50.0	50.0	
$ 4 Dibromofluoromethane (Surr)	111	4.692	4.692	0.000	93	465948	50.0	49.9	
$ 5 1,2-Dichloroethane-d4 (Surr)	65	4.956	4.956	0.000	0	593087	50.0	49.1	
$ 6 Toluene-d8 (Surr)	98	6.458	6.458	0.000	95	2009403	50.0	50.3	
$ 7 4-Bromofluorobenzene (Surr)	95	8.817	8.817	0.000	84	717396	50.0	49.0	
9 Dichlorodifluoromethane	85	1.760	1.760	0.000	97	5795	0.5000	0.4484	
10 Chloromethane	50	1.939	1.939	0.000	95	9225	0.5000	0.5162	
11 Vinyl chloride	62	2.039	2.039	0.000	94	7559	0.5000	0.4907	
12 Bromomethane	94	2.332	2.325	0.007	87	5764	0.5000	0.7473	
13 Chloroethane	64	2.425	2.425	0.000	92	5931	0.5000	0.6124	
14 Dichlorofluoromethane	67	2.604	2.597	0.007	95	12338	0.5000	0.5271	
16 Trichlorofluoromethane	101	2.639	2.632	0.007	97	8985	0.5000	0.5607	
18 Ethyl ether	59	2.854	2.847	0.007	97	5146	0.5000	0.5635	
19 Acrolein	56	2.961	2.961	0.000	91	7872	4.94	5.37	
20 1,1,2-Trichloro-1,2,2-trifluoroe	151	3.047	3.040	0.007	70	2619	0.5000	0.4324	
21 1,1-Dichloroethene	96	3.047	3.047	0.000	91	4347	0.5000	0.5218	
22 Acetone	43	3.068	3.068	0.000	100	17431	2.00	4.89	
24 Iodomethane	142	3.169	3.169	0.000	92	3946	0.5000	0.9409	
25 Carbon disulfide	76	3.233	3.233	0.000	99	18826	0.5000	0.6072	
27 Methyl acetate	43	3.290	3.290	0.000	98	9057	1.00	1.05	
28 3-Chloro-1-propene	41	3.319	3.312	0.007	91	10277	0.5000	0.5249	
29 Methylene Chloride	84	3.412	3.412	0.000	93	11865	0.5000	1.08	
30 2-Methyl-2-propanol	59	3.455	3.455	0.000	91	4821	5.00	5.02	
31 Acrylonitrile	53	3.576	3.576	0.000	99	24386	5.00	5.40	
32 Methyl tert-butyl ether	73	3.598	3.598	0.000	75	13516	0.5000	0.4850	
33 trans-1,2-Dichloroethene	96	3.619	3.612	0.007	95	4517	0.5000	0.4748	
34 Hexane	57	3.805	3.805	0.000	89	7498	0.5000	0.5267	
35 Vinyl acetate	43	3.905	3.905	0.000	98	22140	1.00	1.03	
36 1,1-Dichloroethane	63	3.934	3.934	0.000	93	10594	0.5000	0.5134	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
40 2-Butanone (MEK)	43	4.320	4.320	0.000	99	15349	2.00	2.69	
42 cis-1,2-Dichloroethene	96	4.348	4.341	0.007	84	5601	0.5000	0.5258	
43 2,2-Dichloropropane	77	4.355	4.355	0.000	64	8247	0.5000	0.5236	
45 sec-Butyl Alcohol	45	4.420	4.427	-0.007	95	8256	12.0	9.97	
47 Chlorobromomethane	128	4.520	4.520	0.000	90	1764	0.5000	0.4128	
48 Tetrahydrofuran	42	4.527	4.527	0.000	68	4020	1.00	1.04	
49 Chloroform	83	4.584	4.577	0.007	92	10187	0.5000	0.5475	
50 1,1,1-Trichloroethane	97	4.720	4.727	-0.007	95	7459	0.5000	0.4929	
51 Cyclohexane	56	4.784	4.784	0.000	94	9929	0.5000	0.5067	
52 1,1-Dichloropropene	75	4.835	4.835	0.000	90	7623	0.5000	0.5139	
53 Carbon tetrachloride	117	4.842	4.842	0.000	79	6187	0.5000	0.5158	
54 Isobutyl alcohol	41	4.842	4.842	0.000	59	4501	12.5	12.4	
55 Benzene	78	4.992	4.992	0.000	89	23739	0.5000	0.5471	
56 1,2-Dichloroethane	62	5.013	5.013	0.000	91	9716	0.5000	0.6063	
58 n-Heptane	43	5.171	5.171	0.000	78	7522	0.5000	0.5746	
60 Trichloroethene	95	5.478	5.478	0.000	87	5104	0.5000	0.5063	
61 2-Pentanone	43	5.578	5.578	0.000	98	12930	1.60	1.57	
62 Methylcyclohexane	55	5.671	5.671	0.000	86	7427	0.5000	0.5498	
63 1,2-Dichloropropane	63	5.678	5.685	-0.007	68	7051	0.5000	0.5833	
65 1,4-Dioxane	88		5.721				ND	ND	
66 Dibromomethane	93	5.750	5.757	-0.007	90	3288	0.5000	0.5323	
67 Dichlorobromomethane	83	5.864	5.878	-0.014	95	6918	0.5000	0.5211	
69 2-Chloroethyl vinyl ether	63	6.072	6.072	0.000	83	2698	0.5000	0.4176	
70 cis-1,3-Dichloropropene	75	6.222	6.222	0.000	89	10239	0.5000	0.6013	
71 4-Methyl-2-pentanone (MIBK)	43	6.329	6.329	0.000	98	21583	2.00	2.01	
72 Toluene	91	6.515	6.515	0.000	96	24907	0.5000	0.5525	
73 trans-1,3-Dichloropropene	75	6.686	6.686	0.000	94	8819	0.5000	0.5820	
74 Ethyl methacrylate	69	6.708	6.701	0.007	83	7043	0.5000	0.5548	
75 1,1,2-Trichloroethane	97	6.858	6.865	-0.007	82	4187	0.5000	0.4941	
76 Tetrachloroethene	164	6.958	6.958	0.000	89	3783	0.5000	0.5300	
77 1,3-Dichloropropane	76	7.008	7.008	0.000	91	7963	0.5000	0.4972	
78 2-Hexanone	43	7.030	7.030	0.000	95	16217	2.00	2.13	
79 Chlorodibromomethane	129	7.201	7.201	0.000	91	4525	0.5000	0.5248	
80 Ethylene Dibromide	107	7.323	7.323	0.000	96	4546	0.5000	0.5290	
81 1-Chlorohexane	91	7.709	7.709	0.000	33	8238	0.4000	0.6272	
82 Chlorobenzene	112	7.759	7.752	0.007	93	13992	0.5000	0.5360	
83 1,1,1,2-Tetrachloroethane	131	7.823	7.823	0.000	40	4121	0.5000	0.4991	
84 Ethylbenzene	106	7.830	7.830	0.000	98	7316	0.5000	0.5097	
85 m-Xylene & p-Xylene	106	7.945	7.945	0.000	0	10175	0.5000	0.5635	
86 o-Xylene	106	8.310	8.310	0.000	94	9915	0.5000	0.5633	
87 Styrene	104	8.324	8.324	0.000	87	14144	0.5000	0.4916	
88 Bromoform	173	8.503	8.503	0.000	30	2938	0.5000	0.5300	
89 Isopropylbenzene	105	8.646	8.646	0.000	95	23559	0.5000	0.5368	
91 Cyclohexanone	55	8.753	8.746	0.007	95	6785	15.0	14.3	
92 1,1,2,2-Tetrachloroethane	83	8.924	8.932	-0.008	88	6651	0.5000	0.5645	
94 trans-1,4-Dichloro-2-butene	53	8.967	8.967	0.000	45	1643	0.5000	0.4369	
93 Bromobenzene	156	8.967	8.967	0.000	92	5411	0.5000	0.5178	
95 1,2,3-Trichloropropane	110	8.996	8.996	0.000	82	1504	0.5000	0.4683	
96 N-Propylbenzene	120	9.046	9.046	0.000	98	4630	0.5000	0.4114	
97 2-Chlorotoluene	126	9.139	9.146	-0.007	94	5429	0.5000	0.5356	
98 1,3,5-Trimethylbenzene	105	9.218	9.218	0.000	90	17058	0.5000	0.4683	
99 4-Chlorotoluene	126	9.261	9.261	0.000	96	6326	0.5000	0.5957	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
100 tert-Butylbenzene	119	9.525	9.532	-0.007	93	16422	0.5000	0.5549	
102 1,2,4-Trimethylbenzene	105	9.589	9.582	0.007	96	18808	0.5000	0.4965	
103 sec-Butylbenzene	134	9.747	9.747	0.000	93	4686	0.5000	0.5646	
104 1,3-Dichlorobenzene	146	9.875	9.875	0.000	80	9957	0.5000	0.5281	
105 4-Isopropyltoluene	119	9.890	9.890	0.000	96	19958	0.5000	0.5471	
106 1,4-Dichlorobenzene	146	9.968	9.976	-0.008	83	12064	0.5000	0.5914	
108 n-Butylbenzene	91	10.304	10.297	0.007	97	17958	0.5000	0.5314	
109 1,2-Dichlorobenzene	146	10.340	10.333	0.007	93	11773	0.5000	0.6330	
110 1,2-Dibromo-3-Chloropropane	157	11.112	11.112	0.000	1	1152	0.5000	0.5440	
112 1,2,4-Trichlorobenzene	180	11.935	11.935	0.000	86	6522	0.5000	0.6163	
113 Hexachlorobutadiene	225	12.071	12.071	0.000	78	1666	0.5000	0.4021	
114 Naphthalene	128	12.206	12.206	0.000	95	17199	0.5000	0.6256	
115 1,2,3-Trichlorobenzene	180	12.428	12.428	0.000	89	4778	0.5000	0.5564	
S 122 1,2-Dichloroethene, Total (URS)	96				0		1.00	1.00	
S 127 Trihalomethanes, Total	1				0		2.00	2.12	
S 125 Xylenes, Total	106				0		1.00	1.13	
S 123 Xylenes, Total (URS)	1				0		1.00	1.13	
S 124 1,3-Dichloropropene, Total	1				0		1.00	1.18	
S 129 1,2-Dichloroethene, Total	1				0		1.00	1.00	
S 126 Total BTEX	1				0			2.74	

QC Flag Legend

Processing Flags

ND - Not Detected or Marked ND

Reagents:

Cal Dil Std_00280	Amount Added:	5.00	Units: uL	
mv-IS_SS_00074	Amount Added:	5.00	Units: uL	Run Reagent

Report Date: 11-Dec-2023 03:13:14 Chrom Revision: 2.3 15-Nov-2023 20:54:34

Eurofins Denver

Data File: \\chromfs\Denver\ChromData\VMS_X4\20231208-128432.b\X511647.D

Injection Date: 08-Dec-2023 21:49:30 Instrument ID: VMS_X4 Operator ID: CF

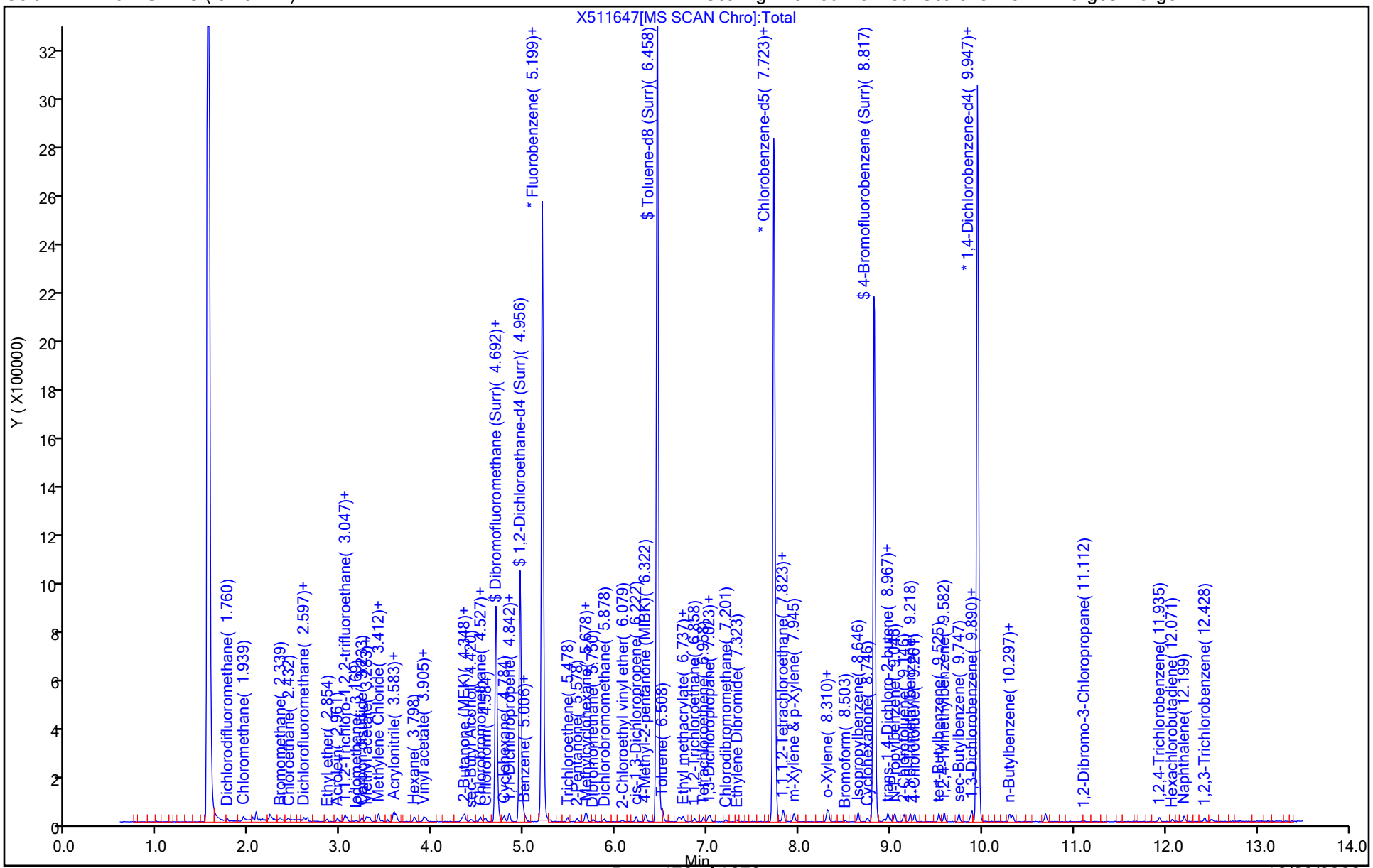
Lims ID: IC Worklist Smp#: 2

Client ID:

Purge Vol: 5.000 mL Dil. Factor: 1.0000 ALS Bottle#: 1

Method: VMS_X4_8260 Limit Group: MSV - 8260B Water and Solid

Column: Rxi-624Sil MS (0.25 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 1



12/29/2023
12:08 PM

Eurofins Denver
Target Compound Quantitation Report

Data File: \\chromfs\Denver\ChromData\VMS_X4\20231208-128432.b\X511648.D
Lims ID: IC
Client ID:
Sample Type: IC Calib Level: 2
Inject. Date: 08-Dec-2023 22:09:30 ALS Bottle#: 2 Worklist Smp#: 3
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Sample Info: std
Operator ID: CF Instrument ID: VMS_X4
Sublist: chrom-VMS_X4_8260*sub1

Method: \\chromfs\Denver\ChromData\VMS_X4\20231208-128432.b\VMS_X4_8260.m
Limit Group: MSV - 8260B Water and Solid
Last Update: 11-Dec-2023 03:13:17 Calib Date: 09-Dec-2023 00:33:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Denver\ChromData\VMS_X4\20231208-128432.b\X511655.D

Column 1 : Rxi-624Sil MS (0.25 mm) Det: MS SCAN
Process Host: CTX1656

First Level Reviewer: BX8N Date: 11-Dec-2023 03:04:13

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
* 1 Fluorobenzene	96	5.199	5.199	0.000	97	1811045	50.0	50.0	
* 2 Chlorobenzene-d5	119	7.723	7.730	-0.007	90	472203	50.0	50.0	
* 3 1,4-Dichlorobenzene-d4	152	9.947	9.947	0.000	98	770262	50.0	50.0	
$ 4 Dibromofluoromethane (Surr)	111	4.691	4.692	-0.001	92	478634	50.0	51.7	
$ 5 1,2-Dichloroethane-d4 (Surr)	65	4.956	4.956	0.000	0	614683	50.0	51.3	
$ 6 Toluene-d8 (Surr)	98	6.458	6.458	0.000	95	2008909	50.0	49.4	
$ 7 4-Bromofluorobenzene (Surr)	95	8.817	8.817	0.000	84	743856	50.0	50.6	
9 Dichlorodifluoromethane	85	1.760	1.760	0.000	97	13744	1.00	1.07	
10 Chloromethane	50	1.939	1.939	0.000	99	19698	1.00	1.11	
11 Vinyl chloride	62	2.039	2.039	0.000	97	16969	1.00	1.11	
12 Bromomethane	94	2.339	2.325	0.014	88	11508	1.00	1.50	
13 Chloroethane	64	2.425	2.425	0.000	96	9619	1.00	1.00	
14 Dichlorofluoromethane	67	2.604	2.597	0.007	98	25449	1.00	1.10	
16 Trichlorofluoromethane	101	2.639	2.632	0.007	98	17158	1.00	1.08	
18 Ethyl ether	59	2.847	2.847	0.000	89	8247	1.00	0.9100	
19 Acrolein	56	2.961	2.961	0.000	98	16030	9.88	11.0	
20 1,1,2-Trichloro-1,2,2-trifluoroe	151	3.047	3.040	0.007	66	5177	1.00	0.8612	
21 1,1-Dichloroethene	96	3.040	3.047	-0.007	93	8404	1.00	1.02	
22 Acetone	43	3.068	3.068	0.000	95	24137	4.00	6.83	
24 Iodomethane	142	3.168	3.169	-0.001	95	8057	1.00	1.32	
25 Carbon disulfide	76	3.226	3.233	-0.007	99	30894	1.00	1.00	
27 Methyl acetate	43	3.297	3.290	0.007	100	18660	2.00	2.18	
28 3-Chloro-1-propene	41	3.311	3.312	-0.001	88	19634	1.00	1.01	
29 Methylene Chloride	84	3.412	3.412	0.000	97	16762	1.00	1.54	
30 2-Methyl-2-propanol	59	3.454	3.455	-0.001	97	8895	10.0	9.34	
31 Acrylonitrile	53	3.576	3.576	0.000	97	46587	10.0	10.4	
32 Methyl tert-butyl ether	73	3.598	3.598	0.000	81	27373	1.00	0.9897	
33 trans-1,2-Dichloroethene	96	3.612	3.612	0.000	97	9421	1.00	1.00	
34 Hexane	57	3.805	3.805	0.000	94	13782	1.00	0.9510	
35 Vinyl acetate	43	3.905	3.905	0.000	97	44607	2.00	2.08	
36 1,1-Dichloroethane	63	3.934	3.934	0.000	94	21663	1.00	1.06	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
40 2-Butanone (MEK)	43	4.313	4.320	-0.007	97	22837	4.00	4.04	
42 cis-1,2-Dichloroethene	96	4.341	4.341	0.000	87	10997	1.00	1.04	
43 2,2-Dichloropropane	77	4.355	4.355	0.000	90	16603	1.00	1.06	
45 sec-Butyl Alcohol	45	4.420	4.427	-0.007	96	17174	24.0	20.9	
47 Chlorobromomethane	128	4.520	4.520	0.000	88	3860	1.00	0.9102	
48 Tetrahydrofuran	42	4.534	4.527	0.007	95	8656	2.00	2.26	
49 Chloroform	83	4.577	4.577	0.000	93	20413	1.00	1.11	
50 1,1,1-Trichloroethane	97	4.720	4.727	-0.007	95	15820	1.00	1.05	
51 Cyclohexane	56	4.784	4.784	0.000	94	19125	1.00	0.9834	
52 1,1-Dichloropropene	75	4.834	4.835	-0.001	88	15992	1.00	1.09	
53 Carbon tetrachloride	117	4.842	4.842	0.000	80	11018	1.00	0.9256	
54 Isobutyl alcohol	41	4.834	4.842	-0.008	61	9441	25.0	26.2	
55 Benzene	78	4.985	4.992	-0.007	95	46393	1.00	1.08	
56 1,2-Dichloroethane	62	5.013	5.013	0.000	94	18689	1.00	1.18	
58 n-Heptane	43	5.171	5.171	0.000	82	13734	1.00	1.06	
60 Trichloroethene	95	5.478	5.478	0.000	94	10107	1.00	0.9849	
61 2-Pentanone	43	5.578	5.578	0.000	96	25215	3.20	3.09	
62 Methylcyclohexane	55	5.671	5.671	0.000	87	11652	1.00	0.8692	
63 1,2-Dichloropropane	63	5.685	5.685	0.000	91	12516	1.00	1.04	
65 1,4-Dioxane	88	5.714	5.721	-0.007	24	2774	20.0	21.2	
66 Dibromomethane	93	5.757	5.757	0.000	93	7191	1.00	1.17	
67 Dichlorobromomethane	83	5.871	5.878	-0.007	91	11642	1.00	0.8836	
69 2-Chloroethyl vinyl ether	63	6.079	6.072	0.007	84	6944	1.00	1.08	
70 cis-1,3-Dichloropropene	75	6.222	6.222	0.000	91	15674	1.00	0.9042	
71 4-Methyl-2-pentanone (MIBK)	43	6.322	6.329	-0.007	96	41757	4.00	3.93	
72 Toluene	91	6.515	6.515	0.000	97	46697	1.00	1.04	
73 trans-1,3-Dichloropropene	75	6.686	6.686	0.000	94	14199	1.00	0.9442	
74 Ethyl methacrylate	69	6.708	6.701	0.007	94	10753	1.00	0.8320	
75 1,1,2-Trichloroethane	97	6.865	6.865	0.000	92	9392	1.00	1.12	
76 Tetrachloroethene	164	6.958	6.958	0.000	94	6795	1.00	0.9351	
77 1,3-Dichloropropane	76	7.008	7.008	0.000	69	16160	1.00	0.99	
78 2-Hexanone	43	7.022	7.030	-0.008	94	29317	4.00	3.78	
79 Chlorodibromomethane	129	7.201	7.201	0.000	83	8769	1.00	1.00	
80 Ethylene Dibromide	107	7.323	7.323	0.000	87	9386	1.00	1.07	
81 1-Chlorohexane	91	7.709	7.709	0.000	33	11932	0.8000	0.8924	
82 Chlorobenzene	112	7.752	7.752	0.000	93	28293	1.00	1.06	
83 1,1,1,2-Tetrachloroethane	131	7.823	7.823	0.000	69	7914	1.00	0.9416	
84 Ethylbenzene	106	7.830	7.830	0.000	98	14148	1.00	0.9682	
85 m-Xylene & p-Xylene	106	7.945	7.945	0.000	0	17428	1.00	0.9481	
86 o-Xylene	106	8.302	8.310	-0.008	97	18311	1.00	1.02	
87 Styrene	104	8.324	8.324	0.000	95	31703	1.00	1.08	
88 Bromoform	173	8.503	8.503	0.000	90	5488	1.00	0.9726	
89 Isopropylbenzene	105	8.646	8.646	0.000	96	43016	1.00	0.9759	
91 Cyclohexanone	55	8.746	8.746	0.000	93	13874	30.0	28.7	
92 1,1,2,2-Tetrachloroethane	83	8.932	8.932	0.000	91	11798	1.00	1.00	
94 trans-1,4-Dichloro-2-butene	53	8.960	8.967	-0.007	44	3544	1.00	0.9383	
93 Bromobenzene	156	8.967	8.967	0.000	94	11081	1.00	1.06	
95 1,2,3-Trichloropropane	110	8.996	8.996	0.000	79	3062	1.00	0.9493	
96 N-Propylbenzene	120	9.046	9.046	0.000	99	11760	1.00	1.04	
97 2-Chlorotoluene	126	9.146	9.146	0.000	94	11196	1.00	1.10	
98 1,3,5-Trimethylbenzene	105	9.218	9.218	0.000	95	37487	1.00	1.02	
99 4-Chlorotoluene	126	9.260	9.261	-0.001	98	10266	1.00	0.9624	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
100 tert-Butylbenzene	119	9.525	9.532	-0.007	93	28842	1.00	0.9703	
102 1,2,4-Trimethylbenzene	105	9.582	9.582	0.000	97	38846	1.00	1.02	
103 sec-Butylbenzene	134	9.740	9.747	-0.007	94	8004	1.00	0.9602	
104 1,3-Dichlorobenzene	146	9.868	9.875	-0.007	95	18948	1.00	1.00	
105 4-Isopropyltoluene	119	9.890	9.890	0.000	96	36310	1.00	0.99	
106 1,4-Dichlorobenzene	146	9.976	9.976	0.000	88	21304	1.00	1.04	
108 n-Butylbenzene	91	10.297	10.297	0.000	98	32221	1.00	0.9493	
109 1,2-Dichlorobenzene	146	10.333	10.333	0.000	93	18954	1.00	1.01	
110 1,2-Dibromo-3-Chloropropane	157	11.112	11.112	0.000	64	1940	1.00	0.9121	
112 1,2,4-Trichlorobenzene	180	11.935	11.935	0.000	92	9597	1.00	0.9029	
113 Hexachlorobutadiene	225	12.078	12.071	0.007	84	4055	1.00	0.9744	
114 Naphthalene	128	12.206	12.206	0.000	97	28629	1.00	1.04	
115 1,2,3-Trichlorobenzene	180	12.428	12.428	0.000	90	10215	1.00	1.18	
S 122 1,2-Dichloroethene, Total (URS)	96				0		2.00	2.04	
S 127 Trihalomethanes, Total	1				0		4.00	3.96	
S 125 Xylenes, Total	106				0		2.00	1.97	
S 123 Xylenes, Total (URS)	1				0		2.00	1.97	
S 124 1,3-Dichloropropene, Total	1				0		2.00	1.85	
S 129 1,2-Dichloroethene, Total	1				0		2.00	2.04	
S 126 Total BTEX	1				0			5.06	

QC Flag Legend

Processing Flags

Reagents:

Cal Dil Std_00280	Amount Added: 10.00	Units: uL	
mv-IS_SS_00074	Amount Added: 5.00	Units: uL	Run Reagent

Report Date: 11-Dec-2023 03:13:17 Chrom Revision: 2.3 15-Nov-2023 20:54:34

Eurofins Denver

Data File: \\chromfs\Denver\ChromData\VMS_X4\20231208-128432.b\X511648.D

Injection Date: 08-Dec-2023 22:09:30 Instrument ID: VMS_X4 Operator ID: CF

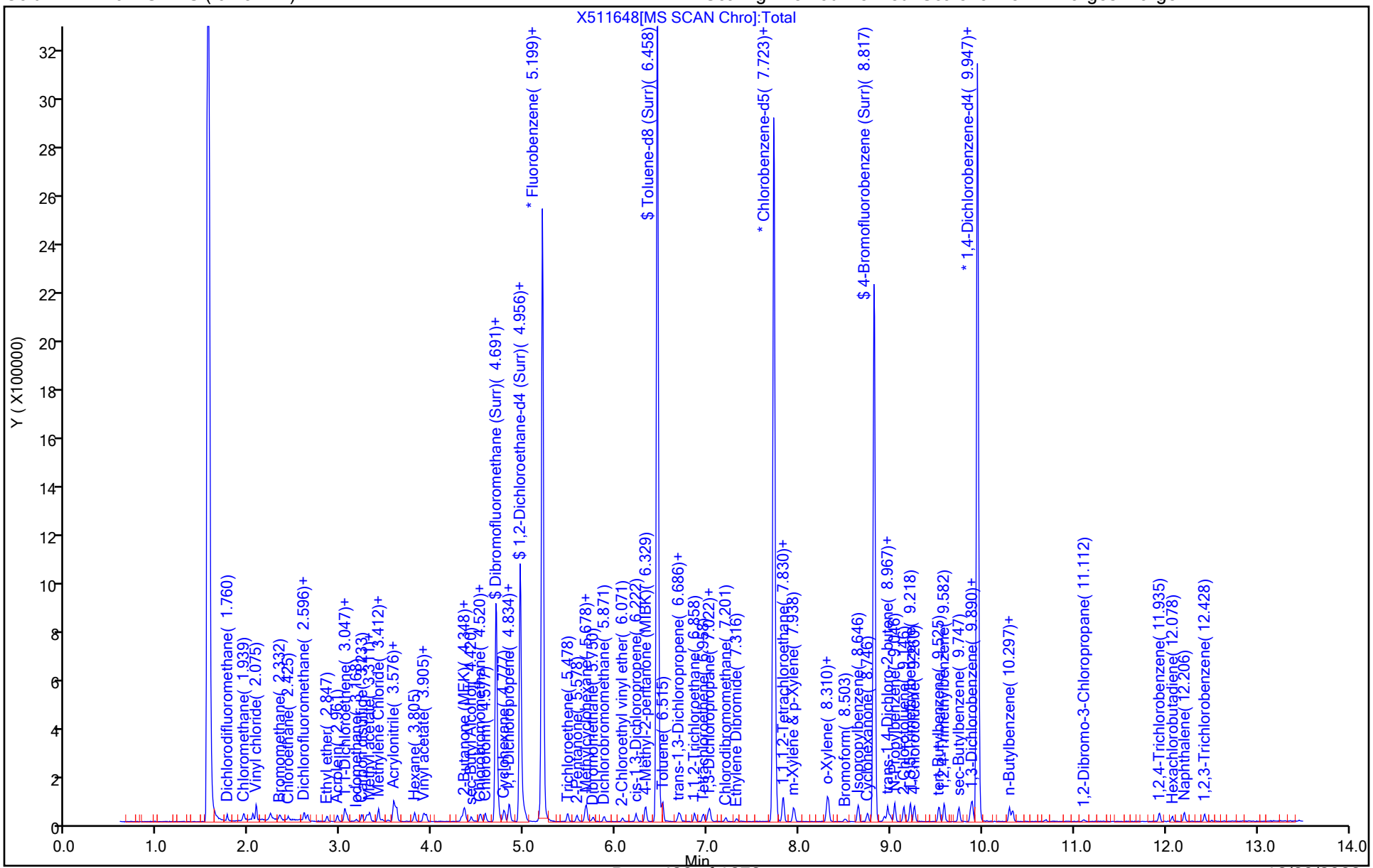
Lims ID: IC Worklist Smp#: 3

Client ID:

Purge Vol: 5.000 mL Dil. Factor: 1.0000 ALS Bottle#: 2

Method: VMS_X4_8260 Limit Group: MSV - 8260B Water and Solid

Column: Rxi-624Sil MS (0.25 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 1



Eurofins Denver
Target Compound Quantitation Report

Data File: \\chromfs\Denver\ChromData\VMS_X4\20231208-128432.b\X511649.D
Lims ID: IC
Client ID:
Sample Type: IC Calib Level: 3
Inject. Date: 08-Dec-2023 22:30:30 ALS Bottle#: 3 Worklist Smp#: 4
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Sample Info: std
Operator ID: CF Instrument ID: VMS_X4
Sublist: chrom-VMS_X4_8260*sub1

Method: \\chromfs\Denver\ChromData\VMS_X4\20231208-128432.b\VMS_X4_8260.m
Limit Group: MSV - 8260B Water and Solid
Last Update: 11-Dec-2023 03:13:21 Calib Date: 09-Dec-2023 00:33:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Denver\ChromData\VMS_X4\20231208-128432.b\X511655.D

Column 1 : Rxi-624Sil MS (0.25 mm) Det: MS SCAN
Process Host: CTX1656

First Level Reviewer: BX8N Date: 11-Dec-2023 03:04:25

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
* 1 Fluorobenzene	96	5.199	5.199	0.000	97	1808310	50.0	50.0	
* 2 Chlorobenzene-d5	119	7.730	7.730	0.000	90	462596	50.0	50.0	
* 3 1,4-Dichlorobenzene-d4	152	9.947	9.947	0.000	98	752823	50.0	50.0	
$ 4 Dibromofluoromethane (Surr)	111	4.691	4.692	-0.001	92	468414	50.0	50.6	
$ 5 1,2-Dichloroethane-d4 (Surr)	65	4.956	4.956	0.000	0	596345	50.0	49.8	
$ 6 Toluene-d8 (Surr)	98	6.458	6.458	0.000	95	2012702	50.0	50.5	
$ 7 4-Bromofluorobenzene (Surr)	95	8.817	8.817	0.000	84	717206	50.0	49.9	
9 Dichlorodifluoromethane	85	1.760	1.760	0.000	99	26990	2.00	2.11	
10 Chloromethane	50	1.939	1.939	0.000	98	36576	2.00	2.07	
11 Vinyl chloride	62	2.039	2.039	0.000	98	31293	2.00	2.05	
12 Bromomethane	94	2.332	2.325	0.007	89	16792	2.00	2.20	
13 Chloroethane	64	2.425	2.425	0.000	99	21435	2.00	2.23	
14 Dichlorofluoromethane	67	2.596	2.597	-0.001	98	47368	2.00	2.04	
16 Trichlorofluoromethane	101	2.632	2.632	0.000	95	33066	2.00	2.08	
18 Ethyl ether	59	2.854	2.847	0.007	95	17885	2.00	1.98	
19 Acrolein	56	2.961	2.961	0.000	98	25502	19.8	17.5	
20 1,1,2-Trichloro-1,2,2-trifluoroe	151	3.040	3.040	0.000	67	12673	2.00	2.11	
21 1,1-Dichloroethene	96	3.047	3.047	0.000	93	15840	2.00	1.92	
22 Acetone	43	3.068	3.068	0.000	100	33907	8.00	9.61	
24 Iodomethane	142	3.168	3.169	-0.001	98	13466	2.00	1.81	
25 Carbon disulfide	76	3.233	3.233	0.000	100	63416	2.00	2.06	
27 Methyl acetate	43	3.290	3.290	0.000	100	31284	4.00	3.67	
28 3-Chloro-1-propene	41	3.311	3.312	-0.001	89	42223	2.00	2.18	
29 Methylene Chloride	84	3.412	3.412	0.000	97	27039	2.00	2.48	
30 2-Methyl-2-propanol	59	3.454	3.455	-0.001	98	17037	20.0	17.9	
31 Acrylonitrile	53	3.576	3.576	0.000	98	86444	20.0	19.3	
32 Methyl tert-butyl ether	73	3.590	3.598	-0.008	99	50576	2.00	1.83	
33 trans-1,2-Dichloroethene	96	3.612	3.612	0.000	92	18391	2.00	1.95	
34 Hexane	57	3.805	3.805	0.000	95	27055	2.00	1.91	
35 Vinyl acetate	43	3.905	3.905	0.000	97	79706	4.00	3.73	
36 1,1-Dichloroethane	63	3.934	3.934	0.000	96	40784	2.00	1.99	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
40 2-Butanone (MEK)	43	4.320	4.320	0.000	100	38596	8.00	6.84	
42 cis-1,2-Dichloroethene	96	4.341	4.341	0.000	87	19850	2.00	1.88	
43 2,2-Dichloropropane	77	4.355	4.355	0.000	76	29822	2.00	1.91	
45 sec-Butyl Alcohol	45	4.427	4.427	0.000	98	31914	48.0	38.9	
47 Chlorobromomethane	128	4.520	4.520	0.000	92	8535	2.00	2.02	
48 Tetrahydrofuran	42	4.527	4.527	0.000	97	14551	4.00	3.80	
49 Chloroform	83	4.577	4.577	0.000	94	35660	2.00	1.93	
50 1,1,1-Trichloroethane	97	4.727	4.727	0.000	97	28941	2.00	1.93	
51 Cyclohexane	56	4.784	4.784	0.000	91	38304	2.00	1.97	
52 1,1-Dichloropropene	75	4.834	4.835	-0.001	87	27613	2.00	1.88	
53 Carbon tetrachloride	117	4.834	4.842	-0.008	77	21332	2.00	1.79	
54 Isobutyl alcohol	41	4.849	4.842	0.007	59	14756	50.0	41.0	
55 Benzene	78	4.985	4.992	-0.007	95	82350	2.00	1.92	
56 1,2-Dichloroethane	62	5.013	5.013	0.000	94	31712	2.00	2.00	
58 n-Heptane	43	5.171	5.171	-0.001	81	23549	2.00	1.82	
60 Trichloroethene	95	5.478	5.478	0.000	97	18626	2.00	1.85	
61 2-Pentanone	43	5.578	5.578	0.000	98	45366	6.40	5.57	
62 Methylcyclohexane	55	5.671	5.671	0.000	91	25144	2.00	1.88	
63 1,2-Dichloropropane	63	5.678	5.685	-0.007	88	21900	2.00	1.83	
65 1,4-Dioxane	88	5.721	5.721	0.000	83	4296	40.0	32.9	
66 Dibromomethane	93	5.757	5.757	0.000	92	10736	2.00	1.75	
67 Dichlorobromomethane	83	5.871	5.878	-0.007	98	25739	2.00	1.96	
69 2-Chloroethyl vinyl ether	63	6.079	6.072	0.007	88	9796	2.00	1.53	
70 cis-1,3-Dichloropropene	75	6.229	6.222	0.007	88	31723	2.00	1.87	
71 4-Methyl-2-pentanone (MIBK)	43	6.322	6.329	-0.007	98	76674	8.00	7.22	
72 Toluene	91	6.515	6.515	0.000	97	87183	2.00	1.95	
73 trans-1,3-Dichloropropene	75	6.686	6.686	0.000	96	25672	2.00	1.71	
74 Ethyl methacrylate	69	6.701	6.701	0.000	90	22168	2.00	1.75	
75 1,1,2-Trichloroethane	97	6.865	6.865	0.000	92	15593	2.00	1.86	
76 Tetrachloroethene	164	6.958	6.958	0.000	95	14479	2.00	2.03	
77 1,3-Dichloropropane	76	7.008	7.008	0.000	93	30399	2.00	1.90	
78 2-Hexanone	43	7.030	7.030	0.000	98	53947	8.00	7.09	
79 Chlorodibromomethane	129	7.201	7.201	0.000	87	15044	2.00	1.75	
80 Ethylene Dibromide	107	7.323	7.323	0.000	96	15253	2.00	1.78	
81 1-Chlorohexane	91	7.709	7.709	0.000	84	20003	1.60	1.53	
82 Chlorobenzene	112	7.752	7.752	0.000	94	51553	2.00	1.98	
83 1,1,1,2-Tetrachloroethane	131	7.823	7.823	0.000	84	15359	2.00	1.87	
84 Ethylbenzene	106	7.830	7.830	0.000	99	26438	2.00	1.85	
85 m-Xylene & p-Xylene	106	7.945	7.945	0.000	0	35848	2.00	1.99	
86 o-Xylene	106	8.309	8.310	-0.001	98	32773	2.00	1.87	
87 Styrene	104	8.324	8.324	0.000	93	52348	2.00	1.82	
88 Bromoform	173	8.510	8.503	0.007	92	9739	2.00	1.76	
89 Isopropylbenzene	105	8.646	8.646	0.000	96	82186	2.00	1.91	
91 Cyclohexanone	55	8.753	8.746	0.007	96	26070	60.0	55.1	
92 1,1,2,2-Tetrachloroethane	83	8.932	8.932	0.000	95	21812	2.00	1.89	
94 trans-1,4-Dichloro-2-butene	53	8.974	8.967	0.007	49	6887	2.00	1.87	
93 Bromobenzene	156	8.967	8.967	0.000	96	21519	2.00	2.10	
95 1,2,3-Trichloropropane	110	8.996	8.996	0.000	77	5936	2.00	1.88	
96 N-Propylbenzene	120	9.046	9.046	0.000	99	20499	2.00	1.86	
97 2-Chlorotoluene	126	9.146	9.146	0.000	94	19658	2.00	1.98	
98 1,3,5-Trimethylbenzene	105	9.218	9.218	0.000	94	70335	2.00	1.97	
99 4-Chlorotoluene	126	9.260	9.261	-0.001	97	20496	2.00	1.97	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
100 tert-Butylbenzene	119	9.525	9.532	-0.007	92	56211	2.00	1.93	
102 1,2,4-Trimethylbenzene	105	9.589	9.582	0.007	98	71455	2.00	1.92	
103 sec-Butylbenzene	134	9.747	9.747	0.000	95	15791	2.00	1.94	
104 1,3-Dichlorobenzene	146	9.875	9.875	0.000	94	35215	2.00	1.90	
105 4-Isopropyltoluene	119	9.897	9.890	0.007	96	69102	2.00	1.93	
106 1,4-Dichlorobenzene	146	9.975	9.976	-0.001	90	40806	2.00	2.04	
108 n-Butylbenzene	91	10.297	10.297	0.000	98	63893	2.00	1.93	
109 1,2-Dichlorobenzene	146	10.333	10.333	0.000	95	33026	2.00	1.81	
110 1,2-Dibromo-3-Chloropropane	157	11.112	11.112	0.000	76	3570	2.00	1.72	
112 1,2,4-Trichlorobenzene	180	11.935	11.935	0.000	90	20128	2.00	1.94	
113 Hexachlorobutadiene	225	12.070	12.071	-0.001	91	8637	2.00	2.12	
114 Naphthalene	128	12.206	12.206	0.000	97	49616	2.00	1.84	
115 1,2,3-Trichlorobenzene	180	12.428	12.428	0.000	91	14758	2.00	1.75	
S 122 1,2-Dichloroethene, Total (URS)	96				0		4.00	3.83	
S 127 Trihalomethanes, Total	1				0		8.00	7.40	
S 125 Xylenes, Total	106				0		4.00	3.86	
S 123 Xylenes, Total (URS)	1				0		4.00	3.86	
S 124 1,3-Dichloropropene, Total	1				0		4.00	3.58	
S 129 1,2-Dichloroethene, Total	1				0		4.00	3.83	
S 126 Total BTEX	1				0			9.57	

QC Flag Legend

Processing Flags

Reagents:

Cal Dil Std_00280	Amount Added: 20.00	Units: uL	
mv-IS_SS_00074	Amount Added: 5.00	Units: uL	Run Reagent

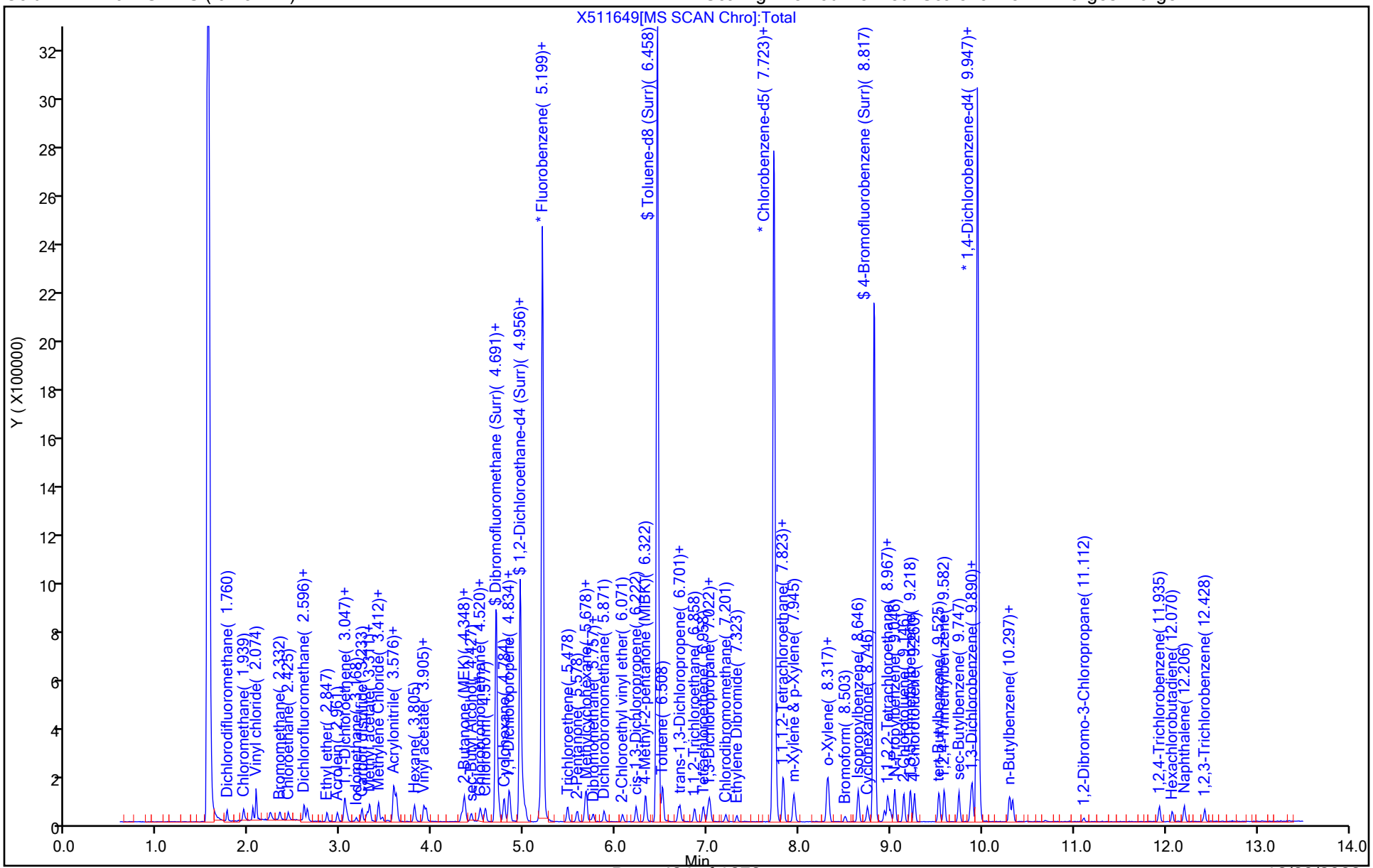
Report Date: 11-Dec-2023 03:13:21 Chrom Revision: 2.3 15-Nov-2023 20:54:34

Eurofins Denver

Data File: \\chromfs\Denver\ChromData\VMS_X4\20231208-128432.b\X511649.D

Injection Date:	08-Dec-2023 22:30:30	Instrument ID:	VMS_X4	Operator ID:	CF
Lims ID:	IC			Worklist Smp#:	4
Client ID:					
Purge Vol:	5.000 mL	Dil. Factor:	1.0000	ALS Bottle#:	3
Method:	VMS_X4_8260	Limit Group:	MSV - 8260B Water and Solid		

Column: Rxi-624Sil MS (0.25 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 1



Eurofins Denver
Target Compound Quantitation Report

Data File: \\chromfs\Denver\ChromData\VMS_X4\20231208-128432.b\X511650.D
Lims ID: IC
Client ID:
Sample Type: IC Calib Level: 4
Inject. Date: 08-Dec-2023 22:50:30 ALS Bottle#: 4 Worklist Smp#: 5
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Sample Info: std
Operator ID: CF Instrument ID: VMS_X4
Sublist: chrom-VMS_X4_8260*sub1

Method: \\chromfs\Denver\ChromData\VMS_X4\20231208-128432.b\VMS_X4_8260.m
Limit Group: MSV - 8260B Water and Solid
Last Update: 11-Dec-2023 03:13:25 Calib Date: 09-Dec-2023 00:33:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Denver\ChromData\VMS_X4\20231208-128432.b\X511655.D

Column 1 : Rxi-624Sil MS (0.25 mm) Det: MS SCAN
Process Host: CTX1656

First Level Reviewer: BX8N Date: 11-Dec-2023 03:04:35

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
* 1 Fluorobenzene	96	5.199	5.199	0.000	98	1838496	50.0	50.0	
* 2 Chlorobenzene-d5	119	7.731	7.730	0.000	91	471713	50.0	50.0	
* 3 1,4-Dichlorobenzene-d4	152	9.947	9.947	0.000	98	772438	50.0	50.0	
$ 4 Dibromofluoromethane (Surr)	111	4.699	4.692	0.007	92	474181	50.0	50.4	
$ 5 1,2-Dichloroethane-d4 (Surr)	65	4.956	4.956	0.000	0	624279	50.0	51.3	
$ 6 Toluene-d8 (Surr)	98	6.458	6.458	0.000	95	2044426	50.0	50.3	
$ 7 4-Bromofluorobenzene (Surr)	95	8.817	8.817	0.000	84	754136	50.0	51.2	
9 Dichlorodifluoromethane	85	1.760	1.760	0.000	98	72071	5.00	5.54	
10 Chloromethane	50	1.939	1.939	0.000	100	95726	5.00	5.32	
11 Vinyl chloride	62	2.039	2.039	0.000	98	83572	5.00	5.38	
12 Bromomethane	94	2.332	2.325	0.007	92	39649	5.00	5.10	
13 Chloroethane	64	2.425	2.425	0.000	99	51141	5.00	5.24	
14 Dichlorofluoromethane	67	2.597	2.597	0.000	98	124155	5.00	5.26	
16 Trichlorofluoromethane	101	2.640	2.632	0.008	97	87959	5.00	5.45	
18 Ethyl ether	59	2.847	2.847	0.000	95	47142	5.00	5.12	
19 Acrolein	56	2.961	2.961	0.000	98	74512	49.4	50.4	
20 1,1,2-Trichloro-1,2,2-trifluoroe	151	3.040	3.040	0.000	64	31245	5.00	5.12	
21 1,1-Dichloroethene	96	3.047	3.047	0.000	94	42617	5.00	5.08	
22 Acetone	43	3.069	3.068	0.001	99	69795	20.0	19.5	
24 Iodomethane	142	3.169	3.169	0.000	98	42366	5.00	4.37	
25 Carbon disulfide	76	3.233	3.233	0.000	100	158170	5.00	5.06	
27 Methyl acetate	43	3.297	3.290	0.007	99	84582	10.0	9.75	
28 3-Chloro-1-propene	41	3.312	3.312	0.000	89	105621	5.00	5.35	
29 Methylene Chloride	84	3.412	3.412	0.000	98	60595	5.00	5.47	
30 2-Methyl-2-propanol	59	3.455	3.455	0.000	98	40282	50.0	41.6	
31 Acrylonitrile	53	3.576	3.576	0.000	99	232892	50.0	51.2	
32 Methyl tert-butyl ether	73	3.598	3.598	0.000	98	129790	5.00	4.62	
33 trans-1,2-Dichloroethene	96	3.612	3.612	0.000	93	49503	5.00	5.17	
34 Hexane	57	3.805	3.805	0.000	96	73088	5.00	5.05	
35 Vinyl acetate	43	3.905	3.905	0.000	97	216419	10.0	9.96	
36 1,1-Dichloroethane	63	3.934	3.934	0.000	96	106227	5.00	5.11	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
40 2-Butanone (MEK)	43	4.320	4.320	0.000	100	107733	20.0	18.8	
42 cis-1,2-Dichloroethene	96	4.341	4.341	0.000	88	53056	5.00	4.94	
43 2,2-Dichloropropane	77	4.356	4.355	0.001	91	78071	5.00	4.92	
45 sec-Butyl Alcohol	45	4.420	4.427	-0.007	99	85856	120.0	103.0	
47 Chlorobromomethane	128	4.520	4.520	0.000	92	23970	5.00	5.57	
48 Tetrahydrofuran	42	4.527	4.527	0.000	88	34968	10.0	8.99	
49 Chloroform	83	4.577	4.577	0.000	94	93487	5.00	4.99	
50 1,1,1-Trichloroethane	97	4.720	4.727	-0.007	97	75679	5.00	4.96	
51 Cyclohexane	56	4.785	4.784	0.001	94	101821	5.00	5.16	
52 1,1-Dichloropropene	75	4.835	4.835	0.000	93	71355	5.00	4.77	
53 Carbon tetrachloride	117	4.842	4.842	0.000	92	60057	5.00	4.97	
54 Isobutyl alcohol	41	4.842	4.842	0.000	89	34947	125.0	95.5	
55 Benzene	78	4.992	4.992	0.000	98	221485	5.00	5.07	
56 1,2-Dichloroethane	62	5.013	5.013	0.000	95	80515	5.00	4.99	
58 n-Heptane	43	5.171	5.171	0.000	95	66885	5.00	5.07	
60 Trichloroethene	95	5.478	5.478	0.000	97	52200	5.00	5.09	
61 2-Pentanone	43	5.578	5.578	0.000	98	128509	16.0	15.5	
62 Methylcyclohexane	55	5.671	5.671	0.000	94	68237	5.00	5.01	
63 1,2-Dichloropropane	63	5.678	5.685	-0.007	95	58963	5.00	4.84	
65 1,4-Dioxane	88	5.728	5.721	0.007	95	13910	100.0	104.8	
66 Dibromomethane	93	5.750	5.757	-0.007	92	31226	5.00	5.02	
67 Dichlorobromomethane	83	5.879	5.878	0.001	98	66425	5.00	4.97	
69 2-Chloroethyl vinyl ether	63	6.072	6.072	0.000	91	31905	5.00	4.90	
70 cis-1,3-Dichloropropene	75	6.222	6.222	0.000	92	83588	5.00	4.83	
71 4-Methyl-2-pentanone (MIBK)	43	6.322	6.329	-0.007	98	204853	20.0	19.0	
72 Toluene	91	6.515	6.515	0.000	96	237673	5.00	5.23	
73 trans-1,3-Dichloropropene	75	6.687	6.686	0.001	98	69876	5.00	4.58	
74 Ethyl methacrylate	69	6.701	6.701	0.000	89	63749	5.00	4.94	
75 1,1,2-Trichloroethane	97	6.858	6.865	-0.007	90	42334	5.00	4.96	
76 Tetrachloroethene	164	6.958	6.958	0.000	88	36884	5.00	5.08	
77 1,3-Dichloropropane	76	7.008	7.008	0.000	95	79227	5.00	4.86	
78 2-Hexanone	43	7.030	7.030	0.000	99	153596	20.0	19.8	
79 Chlorodibromomethane	129	7.201	7.201	0.000	92	40492	5.00	4.62	
80 Ethylene Dibromide	107	7.323	7.323	0.000	99	42178	5.00	4.83	
81 1-Chlorohexane	91	7.709	7.709	0.000	88	53489	4.00	4.00	
82 Chlorobenzene	112	7.752	7.752	0.000	91	131703	5.00	4.96	
83 1,1,1,2-Tetrachloroethane	131	7.823	7.823	0.000	90	39281	5.00	4.68	
84 Ethylbenzene	106	7.831	7.830	0.001	99	74006	5.00	5.07	
85 m-Xylene & p-Xylene	106	7.945	7.945	0.000	0	91582	5.00	4.99	
86 o-Xylene	106	8.310	8.310	0.000	97	86335	5.00	4.82	
87 Styrene	104	8.324	8.324	0.000	96	144885	5.00	4.95	
88 Bromoform	173	8.503	8.503	0.000	93	26569	5.00	4.71	
89 Isopropylbenzene	105	8.646	8.646	0.000	96	224602	5.00	5.08	
91 Cyclohexanone	55	8.746	8.746	0.000	97	68552	150.0	142.2	
92 1,1,2,2-Tetrachloroethane	83	8.932	8.932	0.000	94	59270	5.00	4.99	
94 trans-1,4-Dichloro-2-butene	53	8.967	8.967	0.000	48	18156	5.00	4.79	
93 Bromobenzene	156	8.967	8.967	0.000	97	51330	5.00	4.88	
95 1,2,3-Trichloropropane	110	8.996	8.996	0.000	84	14619	5.00	4.52	
96 N-Propylbenzene	120	9.046	9.046	0.000	99	57462	5.00	5.07	
97 2-Chlorotoluene	126	9.146	9.146	0.000	95	48295	5.00	4.73	
98 1,3,5-Trimethylbenzene	105	9.218	9.218	0.000	95	187095	5.00	5.10	
99 4-Chlorotoluene	126	9.261	9.261	0.000	99	53889	5.00	5.04	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
100 tert-Butylbenzene	119	9.525	9.532	-0.007	94	147581	5.00	4.95	
102 1,2,4-Trimethylbenzene	105	9.582	9.582	0.000	98	194256	5.00	5.09	
103 sec-Butylbenzene	134	9.747	9.747	0.000	95	42197	5.00	5.05	
104 1,3-Dichlorobenzene	146	9.876	9.875	0.001	96	94481	5.00	4.98	
105 4-Isopropyltoluene	119	9.890	9.890	0.000	97	179450	5.00	4.88	
106 1,4-Dichlorobenzene	146	9.976	9.976	0.000	91	102070	5.00	4.97	
108 n-Butylbenzene	91	10.297	10.297	0.000	98	170546	5.00	5.01	
109 1,2-Dichlorobenzene	146	10.333	10.333	0.000	95	91030	5.00	4.86	
110 1,2-Dibromo-3-Chloropropane	157	11.113	11.112	0.001	75	10550	5.00	4.95	
112 1,2,4-Trichlorobenzene	180	11.935	11.935	0.000	90	53992	5.00	5.07	
113 Hexachlorobutadiene	225	12.071	12.071	0.000	93	20440	5.00	4.90	
114 Naphthalene	128	12.207	12.206	0.001	98	126008	5.00	4.55	
115 1,2,3-Trichlorobenzene	180	12.428	12.428	0.000	94	41419	5.00	4.79	
S 122 1,2-Dichloroethene, Total (URS)	96				0		10.0	10.1	
S 127 Trihalomethanes, Total	1				0		20.0	19.3	
S 125 Xylenes, Total	106				0		10.0	9.81	
S 123 Xylenes, Total (URS)	1				0		10.0	9.81	
S 124 1,3-Dichloropropene, Total	1				0		10.0	9.40	
S 129 1,2-Dichloroethene, Total	1				0		10.0	10.1	
S 126 Total BTEX	1				0			25.2	

QC Flag Legend

Processing Flags

Reagents:

Cal Dil Std_00280	Amount Added: 50.00	Units: uL	
mv-IS_SS_00074	Amount Added: 5.00	Units: uL	Run Reagent

Report Date: 11-Dec-2023 03:13:25 Chrom Revision: 2.3 15-Nov-2023 20:54:34

Eurofins Denver

Data File: \\chromfs\Denver\ChromData\VMS_X4\20231208-128432.b\X511650.D

Injection Date: 08-Dec-2023 22:50:30 Instrument ID: VMS_X4 Operator ID: CF

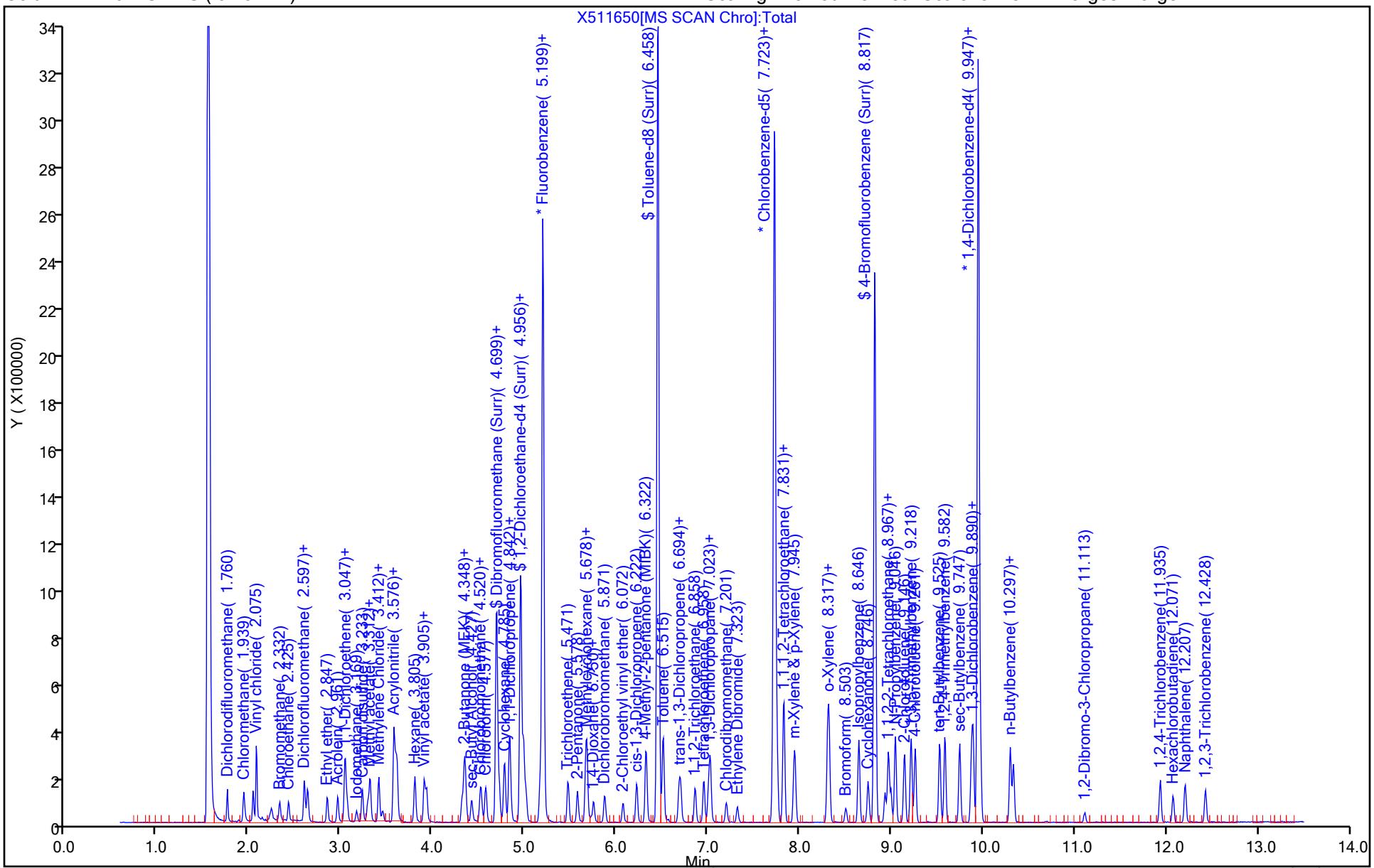
Lims ID: IC Worklist Smp#: 5

Client ID:

Purge Vol: 5.000 mL Dil. Factor: 1.0000 ALS Bottle#: 4

Method: VMS_X4_8260 Limit Group: MSV - 8260B Water and Solid

Column: Rxi-624Sil MS (0.25 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 1



Eurofins Denver
Target Compound Quantitation Report

Data File: \\chromfs\Denver\ChromData\VMS_X4\20231208-128432.b\X511651.D
Lims ID: IC
Client ID:
Sample Type: IC Calib Level: 5
Inject. Date: 08-Dec-2023 23:11:30 ALS Bottle#: 5 Worklist Smp#: 6
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Sample Info: std
Operator ID: CF Instrument ID: VMS_X4
Sublist: chrom-VMS_X4_8260*sub1

Method: \\chromfs\Denver\ChromData\VMS_X4\20231208-128432.b\VMS_X4_8260.m
Limit Group: MSV - 8260B Water and Solid
Last Update: 11-Dec-2023 03:13:29 Calib Date: 09-Dec-2023 00:33:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Denver\ChromData\VMS_X4\20231208-128432.b\X511655.D

Column 1 : Rxi-624Sil MS (0.25 mm) Det: MS SCAN
Process Host: CTX1656

First Level Reviewer: BX8N Date: 11-Dec-2023 03:04:46

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
* 1 Fluorobenzene	96	5.199	5.199	0.000	98	1829520	50.0	50.0	
* 2 Chlorobenzene-d5	119	7.730	7.730	0.000	90	481740	50.0	50.0	
* 3 1,4-Dichlorobenzene-d4	152	9.947	9.947	0.000	97	791235	50.0	50.0	
$ 4 Dibromofluoromethane (Surr)	111	4.692	4.692	0.000	92	475128	50.0	50.8	
$ 5 1,2-Dichloroethane-d4 (Surr)	65	4.956	4.956	0.000	0	624868	50.0	51.6	
$ 6 Toluene-d8 (Surr)	98	6.458	6.458	0.000	95	2042764	50.0	49.3	
$ 7 4-Bromofluorobenzene (Surr)	95	8.817	8.817	0.000	83	748291	50.0	49.6	
9 Dichlorodifluoromethane	85	1.760	1.760	0.000	99	139024	10.0	10.7	
10 Chloromethane	50	1.939	1.939	0.000	100	189319	10.0	10.6	
11 Vinyl chloride	62	2.039	2.039	0.000	99	158612	10.0	10.3	
12 Bromomethane	94	2.325	2.325	0.000	92	80987	10.0	10.5	
13 Chloroethane	64	2.425	2.425	0.000	99	99866	10.0	10.3	
14 Dichlorofluoromethane	67	2.597	2.597	0.000	99	246015	10.0	10.5	
16 Trichlorofluoromethane	101	2.632	2.632	0.000	98	165460	10.0	10.3	
18 Ethyl ether	59	2.847	2.847	0.000	95	93664	10.0	10.2	
19 Acrolein	56	2.961	2.961	0.000	99	146608	98.8	99.7	
20 1,1,2-Trichloro-1,2,2-trifluoroe	151	3.040	3.040	0.000	91	66446	10.0	10.9	
21 1,1-Dichloroethene	96	3.047	3.047	0.000	96	84223	10.0	10.1	
22 Acetone	43	3.068	3.068	0.000	99	147193	40.0	41.2	
24 Iodomethane	142	3.169	3.169	0.000	98	94138	10.0	9.05	
25 Carbon disulfide	76	3.233	3.233	0.000	100	310167	10.0	9.98	
27 Methyl acetate	43	3.290	3.290	0.000	99	172491	20.0	20.0	
28 3-Chloro-1-propene	41	3.312	3.312	0.000	89	207751	10.0	10.6	
29 Methylene Chloride	84	3.412	3.412	0.000	98	112126	10.0	10.2	
30 2-Methyl-2-propanol	59	3.455	3.455	0.000	98	92886	100.0	96.5	
31 Acrylonitrile	53	3.576	3.576	0.000	97	470564	100.0	103.9	
32 Methyl tert-butyl ether	73	3.598	3.598	0.000	97	287747	10.0	10.3	
33 trans-1,2-Dichloroethene	96	3.612	3.612	0.000	96	100790	10.0	10.6	
34 Hexane	57	3.805	3.805	0.000	96	140322	10.0	9.49	
35 Vinyl acetate	43	3.905	3.905	0.000	97	436007	20.0	20.2	
36 1,1-Dichloroethane	63	3.934	3.934	0.000	97	213239	10.0	10.3	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
40 2-Butanone (MEK)	43	4.320	4.320	0.000	98	221023	40.0	38.7	
42 cis-1,2-Dichloroethene	96	4.341	4.341	0.000	87	114576	10.0	10.7	
43 2,2-Dichloropropane	77	4.355	4.355	0.000	91	159159	10.0	10.1	
45 sec-Butyl Alcohol	45	4.427	4.427	0.000	99	191315	240.0	230.5	
47 Chlorobromomethane	128	4.520	4.520	0.000	92	47269	10.0	11.0	
48 Tetrahydrofuran	42	4.527	4.527	0.000	93	79464	20.0	20.5	
49 Chloroform	83	4.577	4.577	0.000	96	192585	10.0	10.3	
50 1,1,1-Trichloroethane	97	4.727	4.727	0.000	97	151144	10.0	9.96	
51 Cyclohexane	56	4.784	4.784	0.000	95	192606	10.0	9.80	
52 1,1-Dichloropropene	75	4.835	4.835	0.000	92	149428	10.0	10.0	
53 Carbon tetrachloride	117	4.842	4.842	0.000	94	123394	10.0	10.3	
54 Isobutyl alcohol	41	4.842	4.842	0.000	94	90545	250.0	248.8	
55 Benzene	78	4.992	4.992	0.000	98	445213	10.0	10.2	
56 1,2-Dichloroethane	62	5.013	5.013	0.000	96	152226	10.0	9.48	
58 n-Heptane	43	5.171	5.171	0.000	96	130726	10.0	9.96	
60 Trichloroethene	95	5.478	5.478	0.000	97	101597	10.0	9.70	
61 2-Pentanone	43	5.578	5.578	0.000	98	264285	32.0	32.1	
62 Methylcyclohexane	55	5.671	5.671	0.000	93	134420	10.0	9.93	
63 1,2-Dichloropropane	63	5.685	5.685	0.000	94	122451	10.0	10.1	
65 1,4-Dioxane	88	5.721	5.721	0.000	96	26160	200.0	198.0	
66 Dibromomethane	93	5.757	5.757	0.000	91	63007	10.0	10.2	
67 Dichlorobromomethane	83	5.878	5.878	0.000	98	134646	10.0	10.1	
69 2-Chloroethyl vinyl ether	63	6.072	6.072	0.000	91	70740	10.0	10.9	
70 cis-1,3-Dichloropropene	75	6.222	6.222	0.000	92	168271	10.0	9.52	
71 4-Methyl-2-pentanone (MIBK)	43	6.329	6.329	0.000	99	435182	40.0	40.5	
72 Toluene	91	6.515	6.515	0.000	97	463466	10.0	10.3	
73 trans-1,3-Dichloropropene	75	6.686	6.686	0.000	99	150657	10.0	9.92	
74 Ethyl methacrylate	69	6.701	6.701	0.000	91	130029	10.0	9.86	
75 1,1,2-Trichloroethane	97	6.865	6.865	0.000	94	85307	10.0	10.0	
76 Tetrachloroethene	164	6.958	6.958	0.000	91	71647	10.0	9.66	
77 1,3-Dichloropropane	76	7.008	7.008	0.000	98	166655	10.0	10.0	
78 2-Hexanone	43	7.030	7.030	0.000	97	314267	40.0	39.7	
79 Chlorodibromomethane	129	7.201	7.201	0.000	89	88069	10.0	9.84	
80 Ethylene Dibromide	107	7.323	7.323	0.000	98	88207	10.0	9.88	
81 1-Chlorohexane	91	7.709	7.709	0.000	88	104135	8.00	7.63	
82 Chlorobenzene	112	7.752	7.752	0.000	92	273103	10.0	10.1	
83 1,1,1,2-Tetrachloroethane	131	7.823	7.823	0.000	90	86167	10.0	10.0	
84 Ethylbenzene	106	7.830	7.830	0.000	99	153524	10.0	10.3	
85 m-Xylene & p-Xylene	106	7.945	7.945	0.000	0	185084	10.0	9.87	
86 o-Xylene	106	8.310	8.310	0.000	98	183113	10.0	10.0	
87 Styrene	104	8.324	8.324	0.000	94	292716	10.0	9.80	
88 Bromoform	173	8.503	8.503	0.000	95	54547	10.0	9.48	
89 Isopropylbenzene	105	8.646	8.646	0.000	96	464988	10.0	10.3	
91 Cyclohexanone	55	8.746	8.746	0.000	96	146091	300.0	296.7	
92 1,1,2,2-Tetrachloroethane	83	8.932	8.932	0.000	94	119829	10.0	9.86	
94 trans-1,4-Dichloro-2-butene	53	8.967	8.967	0.000	49	38940	10.0	10.0	
93 Bromobenzene	156	8.967	8.967	0.000	97	108571	10.0	10.1	
95 1,2,3-Trichloropropane	110	8.996	8.996	0.000	87	34078	10.0	10.3	
96 N-Propylbenzene	120	9.046	9.046	0.000	100	119964	10.0	10.3	
97 2-Chlorotoluene	126	9.146	9.146	0.000	94	101738	10.0	9.73	
98 1,3,5-Trimethylbenzene	105	9.218	9.218	0.000	93	387180	10.0	10.3	
99 4-Chlorotoluene	126	9.261	9.261	0.000	99	103933	10.0	9.49	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
100 tert-Butylbenzene	119	9.532	9.532	0.000	94	306965	10.0	10.1	
102 1,2,4-Trimethylbenzene	105	9.582	9.582	0.000	98	389698	10.0	9.97	
103 sec-Butylbenzene	134	9.747	9.747	0.000	95	83746	10.0	9.78	
104 1,3-Dichlorobenzene	146	9.875	9.875	0.000	95	193491	10.0	9.95	
105 4-Isopropyltoluene	119	9.890	9.890	0.000	97	369088	10.0	9.81	
106 1,4-Dichlorobenzene	146	9.976	9.976	0.000	89	201661	10.0	9.58	
108 n-Butylbenzene	91	10.297	10.297	0.000	99	350811	10.0	10.1	
109 1,2-Dichlorobenzene	146	10.333	10.333	0.000	95	192564	10.0	10.0	
110 1,2-Dibromo-3-Chloropropane	157	11.112	11.112	0.000	74	20683	10.0	9.47	
112 1,2,4-Trichlorobenzene	180	11.935	11.935	0.000	94	106189	10.0	9.73	
113 Hexachlorobutadiene	225	12.071	12.071	0.000	96	42821	10.0	10.0	
114 Naphthalene	128	12.206	12.206	0.000	98	270744	10.0	9.54	
115 1,2,3-Trichlorobenzene	180	12.428	12.428	0.000	92	85512	10.0	9.65	
S 122 1,2-Dichloroethene, Total (URS)	96				0		20.0	21.3	
S 127 Trihalomethanes, Total	1				0		40.0	39.8	
S 125 Xylenes, Total	106				0		20.0	19.9	
S 123 Xylenes, Total (URS)	1				0		20.0	19.9	
S 124 1,3-Dichloropropene, Total	1				0		20.0	19.4	
S 129 1,2-Dichloroethene, Total	1				0		20.0	21.3	
S 126 Total BTEX	1				0			50.7	

QC Flag Legend

Processing Flags

Reagents:

MV-MegaMainA_00100	Amount Added:	5.00	Units: uL	
MV-Gas A_00174	Amount Added:	2.00	Units: uL	
mv-IS_SS_00074	Amount Added:	5.00	Units: uL	Run Reagent

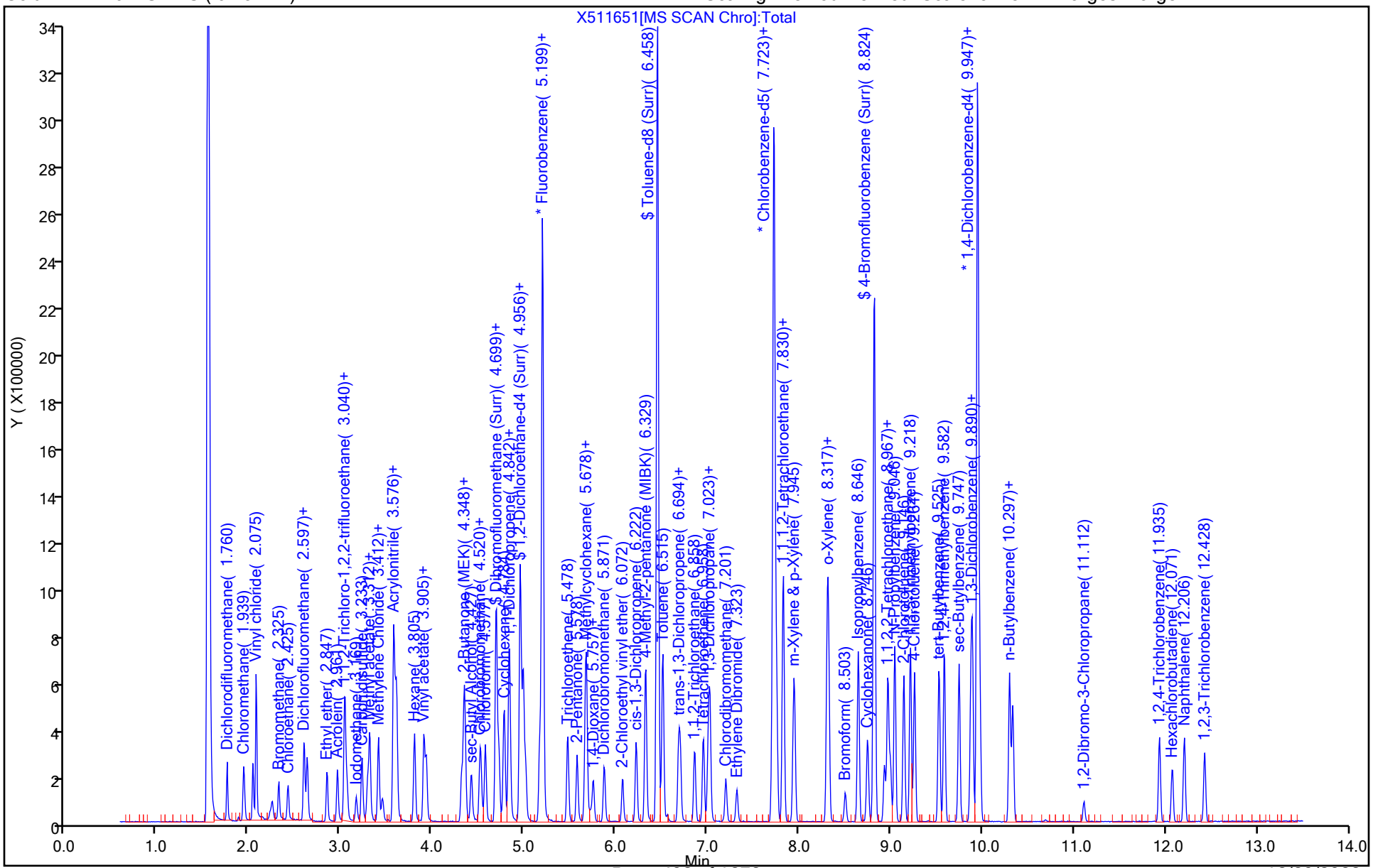
Report Date: 11-Dec-2023 03:13:29 Chrom Revision: 2.3 15-Nov-2023 20:54:34

Eurofins Denver

Data File: \\chromfs\Denver\ChromData\VMS_X4\20231208-128432.b\X511651.D

Injection Date:	08-Dec-2023 23:11:30	Instrument ID:	VMS_X4	Operator ID:	CF
Lims ID:	IC			Worklist Smp#:	6
Client ID:					
Purge Vol:	5.000 mL	Dil. Factor:	1.0000	ALS Bottle#:	5
Method:	VMS_X4_8260	Limit Group:	MSV - 8260B Water and Solid		

Column: Rxi-624Sil MS (0.25 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 1



Eurofins Denver
Target Compound Quantitation Report

Data File: \\chromfs\Denver\ChromData\VMS_X4\20231208-128432.b\X511652.D
Lims ID: ICIS
Client ID:
Sample Type: ICIS Calib Level: 6
Inject. Date: 08-Dec-2023 23:31:30 ALS Bottle#: 6 Worklist Smp#: 7
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Sample Info: icis
Operator ID: CF Instrument ID: VMS_X4
Sublist: chrom-VMS_X4_8260*sub1

Method: \\chromfs\Denver\ChromData\VMS_X4\20231208-128432.b\VMS_X4_8260.m
Limit Group: MSV - 8260B Water and Solid
Last Update: 11-Dec-2023 03:13:33 Calib Date: 09-Dec-2023 00:33:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Denver\ChromData\VMS_X4\20231208-128432.b\X511655.D

Column 1 : Rxi-624Sil MS (0.25 mm) Det: MS SCAN
Process Host: CTX1656

First Level Reviewer: BX8N Date: 11-Dec-2023 03:01:53

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
* 1 Fluorobenzene	96	5.199	5.199	0.000	98	1927914	50.0	50.0	
* 2 Chlorobenzene-d5	119	7.723	7.723	0.000	91	487237	50.0	50.0	
* 3 1,4-Dichlorobenzene-d4	152	9.947	9.947	0.000	97	803680	50.0	50.0	
$ 4 Dibromofluoromethane (Surr)	111	4.691	4.691	0.000	92	481211	50.0	48.8	
$ 5 1,2-Dichloroethane-d4 (Surr)	65	4.956	4.956	0.000	0	633202	50.0	49.6	
$ 6 Toluene-d8 (Surr)	98	6.458	6.458	0.000	95	2119806	50.0	50.5	
$ 7 4-Bromofluorobenzene (Surr)	95	8.817	8.817	0.000	85	752976	50.0	49.1	
9 Dichlorodifluoromethane	85	1.760	1.760	0.000	100	662986	50.0	48.6	
10 Chloromethane	50	1.939	1.939	0.000	99	900046	50.0	47.7	
11 Vinyl chloride	62	2.039	2.039	0.000	99	774767	50.0	47.6	
12 Bromomethane	94	2.332	2.332	0.000	92	379671	50.0	46.6	
13 Chloroethane	64	2.425	2.425	0.000	99	469728	50.0	45.9	
14 Dichlorofluoromethane	67	2.604	2.604	0.000	99	1182351	50.0	47.8	
16 Trichlorofluoromethane	101	2.632	2.632	0.000	100	772064	50.0	45.6	
18 Ethyl ether	59	2.847	2.847	0.000	96	462289	50.0	47.9	
19 Acrolein	56	2.961	2.961	0.000	99	718330	493.8	463.5	
20 1,1,2-Trichloro-1,2,2-trifluoroe	151	3.047	3.047	0.000	98	318245	50.0	49.7	
21 1,1-Dichloroethene	96	3.047	3.047	0.000	95	423348	50.0	48.1	
22 Acetone	43	3.068	3.068	0.000	99	693043	200.0	184.2	
24 Iodomethane	142	3.168	3.168	0.000	100	546545	50.0	47.2	
25 Carbon disulfide	76	3.233	3.233	0.000	100	1491254	50.0	45.5	
27 Methyl acetate	43	3.290	3.290	0.000	99	863266	100.0	94.9	
28 3-Chloro-1-propene	41	3.319	3.319	0.000	90	991770	50.0	47.9	
29 Methylene Chloride	84	3.412	3.412	0.000	99	512619	50.0	44.2	
30 2-Methyl-2-propanol	59	3.454	3.454	0.000	99	530329	500.0	522.8	
31 Acrylonitrile	53	3.576	3.576	0.000	98	2292677	500.0	480.4	
32 Methyl tert-butyl ether	73	3.597	3.597	0.000	97	1477040	50.0	50.2	
33 trans-1,2-Dichloroethene	96	3.612	3.612	0.000	95	494789	50.0	49.2	
34 Hexane	57	3.805	3.805	0.000	97	749122	50.0	50.1	
35 Vinyl acetate	43	3.905	3.905	0.000	97	2310547	100.0	101.4	
36 1,1-Dichloroethane	63	3.933	3.933	0.000	97	1026882	50.0	47.1	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
40 2-Butanone (MEK)	43	4.320	4.320	0.000	99	1151344	200.0	191.3	
42 cis-1,2-Dichloroethene	96	4.341	4.341	0.000	88	532702	50.0	47.3	
43 2,2-Dichloropropane	77	4.355	4.355	0.000	90	786877	50.0	47.3	
45 sec-Butyl Alcohol	45	4.427	4.427	0.000	100	1099694	1200.0	1257.6	
47 Chlorobromomethane	128	4.520	4.520	0.000	92	220951	50.0	48.9	
48 Tetrahydrofuran	42	4.527	4.527	0.000	90	396170	100.0	97.2	
49 Chloroform	83	4.577	4.577	0.000	97	904556	50.0	46.0	
50 1,1,1-Trichloroethane	97	4.720	4.720	0.000	97	771864	50.0	48.3	
51 Cyclohexane	56	4.784	4.784	0.000	95	1021709	50.0	49.4	
52 1,1-Dichloropropene	75	4.834	4.834	0.000	97	756074	50.0	48.2	
53 Carbon tetrachloride	117	4.842	4.842	0.000	94	629064	50.0	49.6	
54 Isobutyl alcohol	41	4.842	4.842	0.000	93	495087	1250.0	1290.8	
55 Benzene	78	4.992	4.992	0.000	98	2164669	50.0	47.2	
56 1,2-Dichloroethane	62	5.013	5.013	0.000	97	762902	50.0	45.1	
58 n-Heptane	43	5.170	5.170	0.000	97	666914	50.0	48.2	
60 Trichloroethene	95	5.471	5.471	0.000	96	518544	50.0	49.0	
61 2-Pentanone	43	5.578	5.578	0.000	98	1423338	160.0	163.9	
62 Methylcyclohexane	55	5.671	5.671	0.000	95	709314	50.0	49.7	
63 1,2-Dichloropropane	63	5.685	5.685	0.000	95	600946	50.0	47.1	
65 1,4-Dioxane	88	5.721	5.721	0.000	96	141264	1000.0	1014.5	
66 Dibromomethane	93	5.750	5.750	0.000	92	306098	50.0	46.9	
67 Dichlorobromomethane	83	5.871	5.871	0.000	98	680598	50.0	48.5	
69 2-Chloroethyl vinyl ether	63	6.071	6.071	0.000	92	370943	50.0	54.3	
70 cis-1,3-Dichloropropene	75	6.222	6.222	0.000	92	855325	50.0	47.8	
71 4-Methyl-2-pentanone (MIBK)	43	6.329	6.329	0.000	98	2308703	200.0	204.0	
72 Toluene	91	6.515	6.515	0.000	97	2225868	50.0	46.7	
73 trans-1,3-Dichloropropene	75	6.686	6.686	0.000	99	777679	50.0	48.6	
74 Ethyl methacrylate	69	6.701	6.701	0.000	93	672957	50.0	50.5	
75 1,1,2-Trichloroethane	97	6.858	6.858	0.000	94	429367	50.0	48.0	
76 Tetrachloroethene	164	6.958	6.958	0.000	92	368577	50.0	49.2	
77 1,3-Dichloropropane	76	7.008	7.008	0.000	98	845717	50.0	50.3	
78 2-Hexanone	43	7.030	7.030	0.000	99	1648692	200.0	205.8	
79 Chlorodibromomethane	129	7.201	7.201	0.000	91	450395	50.0	49.7	
80 Ethylene Dibromide	107	7.323	7.323	0.000	98	438780	50.0	48.6	
81 1-Chlorohexane	91	7.709	7.709	0.000	90	525599	40.0	38.1	
82 Chlorobenzene	112	7.752	7.752	0.000	91	1291335	50.0	47.1	
83 1,1,1,2-Tetrachloroethane	131	7.823	7.823	0.000	94	427561	50.0	49.3	
84 Ethylbenzene	106	7.830	7.830	0.000	99	740282	50.0	49.1	
85 m-Xylene & p-Xylene	106	7.945	7.945	0.000	0	915999	50.0	48.3	
86 o-Xylene	106	8.309	8.309	0.000	98	894904	50.0	48.4	
87 Styrene	104	8.324	8.324	0.000	94	1496418	50.0	49.5	
88 Bromoform	173	8.502	8.502	0.000	94	286574	50.0	49.2	
89 Isopropylbenzene	105	8.645	8.645	0.000	97	2226840	50.0	48.4	
91 Cyclohexanone	55	8.746	8.746	0.000	96	764749	1500.0	1535.7	
92 1,1,2,2-Tetrachloroethane	83	8.932	8.932	0.000	95	592846	50.0	48.0	
94 trans-1,4-Dichloro-2-butene	53	8.967	8.967	0.000	75	202923	50.0	51.5	
93 Bromobenzene	156	8.967	8.967	0.000	96	509718	50.0	46.5	
95 1,2,3-Trichloropropane	110	8.996	8.996	0.000	87	174436	50.0	51.8	
96 N-Propylbenzene	120	9.046	9.046	0.000	100	584633	50.0	49.6	
97 2-Chlorotoluene	126	9.146	9.146	0.000	95	498210	50.0	46.9	
98 1,3,5-Trimethylbenzene	105	9.218	9.218	0.000	94	1873615	50.0	49.1	
99 4-Chlorotoluene	126	9.260	9.260	0.000	99	528244	50.0	47.5	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
100 tert-Butylbenzene	119	9.525	9.525	0.000	94	1489289	50.0	48.0	
102 1,2,4-Trimethylbenzene	105	9.582	9.582	0.000	99	1951347	50.0	49.2	
103 sec-Butylbenzene	134	9.747	9.747	0.000	95	416055	50.0	47.8	
104 1,3-Dichlorobenzene	146	9.875	9.875	0.000	96	948292	50.0	48.0	
105 4-Isopropyltoluene	119	9.890	9.890	0.000	97	1879346	50.0	49.2	
106 1,4-Dichlorobenzene	146	9.975	9.975	0.000	91	985043	50.0	46.1	
108 n-Butylbenzene	91	10.297	10.297	0.000	98	1726145	50.0	48.7	
109 1,2-Dichlorobenzene	146	10.333	10.333	0.000	96	908194	50.0	46.6	
110 1,2-Dibromo-3-Chloropropane	157	11.112	11.112	0.000	78	110133	50.0	49.6	
112 1,2,4-Trichlorobenzene	180	11.935	11.935	0.000	94	515920	50.0	46.5	
113 Hexachlorobutadiene	225	12.078	12.078	0.000	97	216527	50.0	49.9	
114 Naphthalene	128	12.206	12.206	0.000	98	1340029	50.0	46.5	
115 1,2,3-Trichlorobenzene	180	12.428	12.428	0.000	95	421119	50.0	46.8	
S 122 1,2-Dichloroethene, Total (URS)	96				0		100.0	96.6	
S 127 Trihalomethanes, Total	1				0		200.0	193.5	
S 125 Xylenes, Total	106				0		100.0	96.7	
S 123 Xylenes, Total (URS)	1				0		100.0	96.7	
S 124 1,3-Dichloropropene, Total	1				0		100.0	96.4	
S 129 1,2-Dichloroethene, Total	1				0		100.0	96.6	

QC Flag Legend

Processing Flags

Reagents:

MV-MegaMainA_00100	Amount Added: 25.00	Units: uL	
MV-Gas A_00174	Amount Added: 10.00	Units: uL	
mv-IS_SS_00074	Amount Added: 5.00	Units: uL	Run Reagent

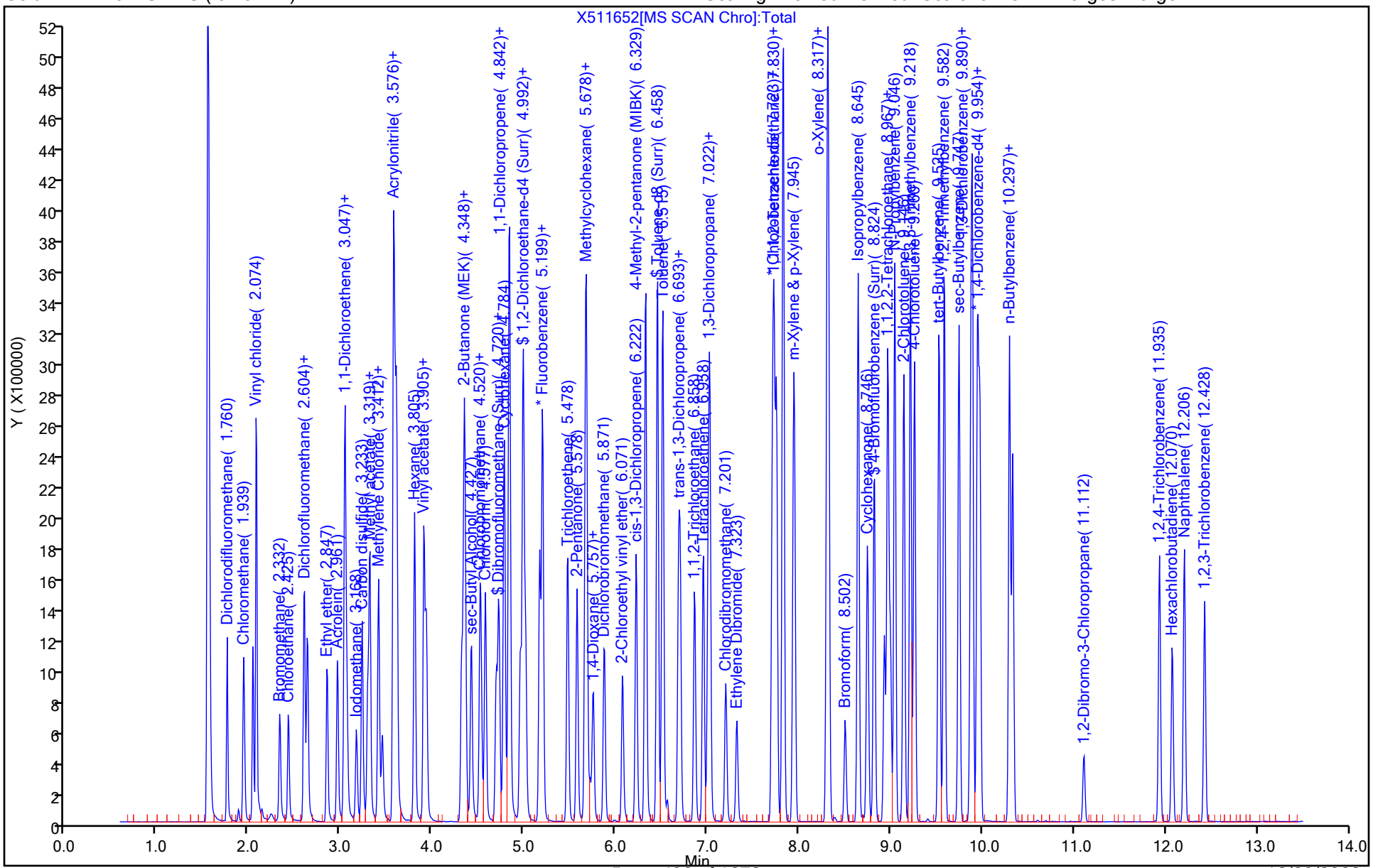
Report Date: 11-Dec-2023 03:13:34 Chrom Revision: 2.3 15-Nov-2023 20:54:34

Eurofins Denver

Data File: \\chromfs\Denver\ChromData\VMS_X4\20231208-128432.b\X511652.D

Injection Date:	08-Dec-2023 23:31:30	Instrument ID:	VMS_X4	Operator ID:	CF
Lims ID:	ICIS			Worklist Smp#:	7
Client ID:					
Purge Vol:	5.000 mL	Dil. Factor:	1.0000	ALS Bottle#:	6
Method:	VMS_X4_8260	Limit Group:	MSV - 8260B Water and Solid		

Column: Rxi-624Sil MS (0.25 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 1



Eurofins Denver
Target Compound Quantitation Report

Data File: \\chromfs\Denver\ChromData\VMS_X4\20231208-128432.b\X511653.D
Lims ID: IC
Client ID:
Sample Type: IC Calib Level: 7
Inject. Date: 08-Dec-2023 23:52:30 ALS Bottle#: 7 Worklist Smp#: 8
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Sample Info: std
Operator ID: CF Instrument ID: VMS_X4
Sublist: chrom-VMS_X4_8260*sub1

Method: \\chromfs\Denver\ChromData\VMS_X4\20231208-128432.b\VMS_X4_8260.m
Limit Group: MSV - 8260B Water and Solid
Last Update: 11-Dec-2023 03:13:38 Calib Date: 09-Dec-2023 00:33:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Denver\ChromData\VMS_X4\20231208-128432.b\X511655.D

Column 1 : Rxi-624Sil MS (0.25 mm) Det: MS SCAN
Process Host: CTX1656

First Level Reviewer: BX8N Date: 11-Dec-2023 03:04:56

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
* 1 Fluorobenzene	96	5.199	5.199	0.000	98	1983388	50.0	50.0	
* 2 Chlorobenzene-d5	119	7.730	7.723	0.007	90	505296	50.0	50.0	
* 3 1,4-Dichlorobenzene-d4	152	9.947	9.947	0.000	98	826417	50.0	50.0	
$ 4 Dibromofluoromethane (Surr)	111	4.699	4.691	0.008	92	502408	50.0	49.5	
$ 5 1,2-Dichloroethane-d4 (Surr)	65	4.956	4.956	0.000	0	643695	50.0	49.0	
$ 6 Toluene-d8 (Surr)	98	6.458	6.458	0.000	95	2152589	50.0	49.5	
$ 7 4-Bromofluorobenzene (Surr)	95	8.817	8.817	0.000	85	786822	50.0	49.9	
9 Dichlorodifluoromethane	85	1.760	1.760	0.000	100	973899	75.0	69.3	
10 Chloromethane	50	1.939	1.939	0.000	100	1353876	75.0	69.7	
11 Vinyl chloride	62	2.039	2.039	0.000	99	1147558	75.0	68.5	
12 Bromomethane	94	2.332	2.332	0.000	92	614849	75.0	73.3	
13 Chloroethane	64	2.425	2.425	0.000	99	710830	75.0	67.5	
14 Dichlorofluoromethane	67	2.604	2.604	0.000	99	1775419	75.0	69.8	
16 Trichlorofluoromethane	101	2.632	2.632	0.000	100	1158093	75.0	66.5	
18 Ethyl ether	59	2.847	2.847	0.000	97	748852	75.0	75.4	
19 Acrolein	56	2.961	2.961	0.000	99	1187883	740.6	745.0	
21 1,1-Dichloroethene	96	3.047	3.047	0.000	95	675423	75.0	74.6	
20 1,1,2-Trichloro-1,2,2-trifluoroe	151	3.047	3.047	0.000	98	510084	75.0	77.5	
22 Acetone	43	3.068	3.068	0.000	99	1120700	300.0	289.5	
24 Iodomethane	142	3.168	3.168	0.000	99	921887	75.0	77.0	
25 Carbon disulfide	76	3.233	3.233	0.000	100	2417341	75.0	71.7	
27 Methyl acetate	43	3.290	3.290	0.000	99	1436290	150.0	153.5	
28 3-Chloro-1-propene	41	3.319	3.319	0.000	90	1560442	75.0	73.3	
29 Methylene Chloride	84	3.412	3.412	0.000	99	839041	75.0	70.3	
30 2-Methyl-2-propanol	59	3.454	3.454	0.000	99	866773	750.0	830.6	
31 Acrylonitrile	53	3.576	3.576	0.000	97	3688744	750.0	751.3	
32 Methyl tert-butyl ether	73	3.597	3.597	0.000	97	2429040	75.0	80.2	
33 trans-1,2-Dichloroethene	96	3.612	3.612	0.000	94	791573	75.0	76.6	
34 Hexane	57	3.805	3.805	0.000	96	1209578	75.0	78.0	
35 Vinyl acetate	43	3.905	3.905	0.000	97	3687636	150.0	157.3	
36 1,1-Dichloroethane	63	3.934	3.933	0.001	97	1676790	75.0	74.8	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
40 2-Butanone (MEK)	43	4.320	4.320	0.000	99	1856643	300.0	299.9	
42 cis-1,2-Dichloroethene	96	4.341	4.341	0.000	88	863186	75.0	74.6	
43 2,2-Dichloropropane	77	4.355	4.355	0.000	90	1289427	75.0	75.3	
45 sec-Butyl Alcohol	45	4.427	4.427	0.000	100	1849533	1800.0	2055.9	
47 Chlorobromomethane	128	4.520	4.520	0.000	92	363025	75.0	78.2	
48 Tetrahydrofuran	42	4.534	4.527	0.007	92	633643	150.0	151.1	
49 Chloroform	83	4.577	4.577	0.000	97	1482724	75.0	73.3	
50 1,1,1-Trichloroethane	97	4.727	4.720	0.007	98	1269271	75.0	77.2	
51 Cyclohexane	56	4.784	4.784	0.000	95	1635343	75.0	76.8	
52 1,1-Dichloropropene	75	4.834	4.834	0.000	97	1216541	75.0	75.5	
53 Carbon tetrachloride	117	4.842	4.842	0.000	93	1014502	75.0	77.8	
54 Isobutyl alcohol	41	4.842	4.842	0.000	95	819824	1875.0	2077.6	
55 Benzene	78	4.992	4.992	0.000	98	3485867	75.0	73.9	
56 1,2-Dichloroethane	62	5.020	5.013	0.007	97	1241882	75.0	71.3	
58 n-Heptane	43	5.171	5.170	0.000	96	1057618	75.0	74.3	
60 Trichloroethene	95	5.478	5.471	0.007	96	853508	75.0	77.7	
61 2-Pentanone	43	5.578	5.578	0.000	98	2340500	240.0	262.0	
62 Methylcyclohexane	55	5.671	5.671	0.000	95	1136976	75.0	77.4	
63 1,2-Dichloropropane	63	5.685	5.685	0.000	95	977268	75.0	74.4	
65 1,4-Dioxane	88	5.721	5.721	0.000	98	223916	1500.0	1563.1	
66 Dibromomethane	93	5.757	5.750	0.007	91	500710	75.0	74.6	
67 Dichlorobromomethane	83	5.871	5.871	0.000	98	1128217	75.0	78.2	
69 2-Chloroethyl vinyl ether	63	6.071	6.071	0.000	92	562318	75.0	80.1	
70 cis-1,3-Dichloropropene	75	6.222	6.222	0.000	93	1440970	75.0	77.7	
71 4-Methyl-2-pentanone (MIBK)	43	6.329	6.329	0.000	98	3786327	300.0	325.1	
72 Toluene	91	6.515	6.515	0.000	97	3607150	75.0	73.6	
73 trans-1,3-Dichloropropene	75	6.686	6.686	0.000	100	1313434	75.0	79.7	
74 Ethyl methacrylate	69	6.708	6.701	0.007	93	1113636	75.0	80.5	
75 1,1,2-Trichloroethane	97	6.858	6.858	0.000	93	717428	75.0	77.9	
76 Tetrachloroethene	164	6.958	6.958	0.000	95	592844	75.0	76.2	
77 1,3-Dichloropropane	76	7.008	7.008	0.000	99	1358706	75.0	77.9	
78 2-Hexanone	43	7.030	7.030	0.000	99	2619666	300.0	315.4	
79 Chlorodibromomethane	129	7.201	7.201	0.000	91	738572	75.0	78.6	
80 Ethylene Dibromide	107	7.323	7.323	0.000	98	722531	75.0	77.2	
81 1-Chlorohexane	91	7.709	7.709	0.000	91	863745	60.0	60.4	
82 Chlorobenzene	112	7.752	7.752	0.000	91	2113392	75.0	74.3	
83 1,1,1,2-Tetrachloroethane	131	7.823	7.823	0.000	94	714447	75.0	79.4	
84 Ethylbenzene	106	7.830	7.830	0.000	99	1214601	75.0	77.7	
85 m-Xylene & p-Xylene	106	7.945	7.945	0.000	0	1480309	75.0	75.3	
86 o-Xylene	106	8.309	8.309	0.000	98	1440572	75.0	75.1	
87 Styrene	104	8.324	8.324	0.000	94	2424000	75.0	77.3	
88 Bromoform	173	8.503	8.502	0.001	95	477532	75.0	79.1	
89 Isopropylbenzene	105	8.646	8.645	0.001	97	3606947	75.0	76.3	
91 Cyclohexanone	55	8.746	8.746	0.000	96	1264337	2250.0	2448.2	
92 1,1,2,2-Tetrachloroethane	83	8.932	8.932	0.000	94	970013	75.0	76.4	
94 trans-1,4-Dichloro-2-butene	53	8.967	8.967	0.000	74	338634	75.0	83.6	
93 Bromobenzene	156	8.967	8.967	0.000	97	840381	75.0	74.6	
95 1,2,3-Trichloropropane	110	8.996	8.996	0.000	87	280855	75.0	81.2	
96 N-Propylbenzene	120	9.046	9.046	0.000	99	966623	75.0	79.7	
97 2-Chlorotoluene	126	9.146	9.146	0.000	95	834673	75.0	76.4	
98 1,3,5-Trimethylbenzene	105	9.218	9.218	0.000	95	3036689	75.0	77.4	
99 4-Chlorotoluene	126	9.260	9.260	0.000	99	858746	75.0	75.0	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
100 tert-Butylbenzene	119	9.532	9.525	0.007	94	2414586	75.0	75.7	
102 1,2,4-Trimethylbenzene	105	9.582	9.582	0.000	98	3185853	75.0	78.0	
103 sec-Butylbenzene	134	9.747	9.747	0.000	96	674704	75.0	75.4	
104 1,3-Dichlorobenzene	146	9.875	9.875	0.000	96	1565084	75.0	77.0	
105 4-Isopropyltoluene	119	9.890	9.890	0.000	97	3011584	75.0	76.6	
106 1,4-Dichlorobenzene	146	9.975	9.975	0.000	92	1616628	75.0	73.5	
108 n-Butylbenzene	91	10.297	10.297	0.000	98	2848008	75.0	78.2	
109 1,2-Dichlorobenzene	146	10.333	10.333	0.000	96	1479083	75.0	73.8	
110 1,2-Dibromo-3-Chloropropane	157	11.112	11.112	0.000	78	182729	75.0	80.1	
112 1,2,4-Trichlorobenzene	180	11.935	11.935	0.000	94	869149	75.0	76.2	
113 Hexachlorobutadiene	225	12.078	12.078	0.000	96	370557	75.0	83.0	
114 Naphthalene	128	12.206	12.206	0.000	98	2247268	75.0	75.8	
115 1,2,3-Trichlorobenzene	180	12.428	12.428	0.000	94	697064	75.0	75.3	
S 122 1,2-Dichloroethene, Total (URS)	96				0		150.0	151.1	
S 127 Trihalomethanes, Total	1				0		300.0	309.2	
S 125 Xylenes, Total	106				0		150.0	150.4	
S 123 Xylenes, Total (URS)	1				0		150.0	150.4	
S 124 1,3-Dichloropropene, Total	1				0		150.0	157.4	
S 129 1,2-Dichloroethene, Total	1				0		150.0	151.1	
S 126 Total BTEX	1				0			375.6	

QC Flag Legend

Processing Flags

Reagents:

MV-MegaMainA_00100	Amount Added: 37.50	Units: uL	
MV-Gas A_00174	Amount Added: 15.00	Units: uL	
mv-IS_SS_00074	Amount Added: 5.00	Units: uL	Run Reagent

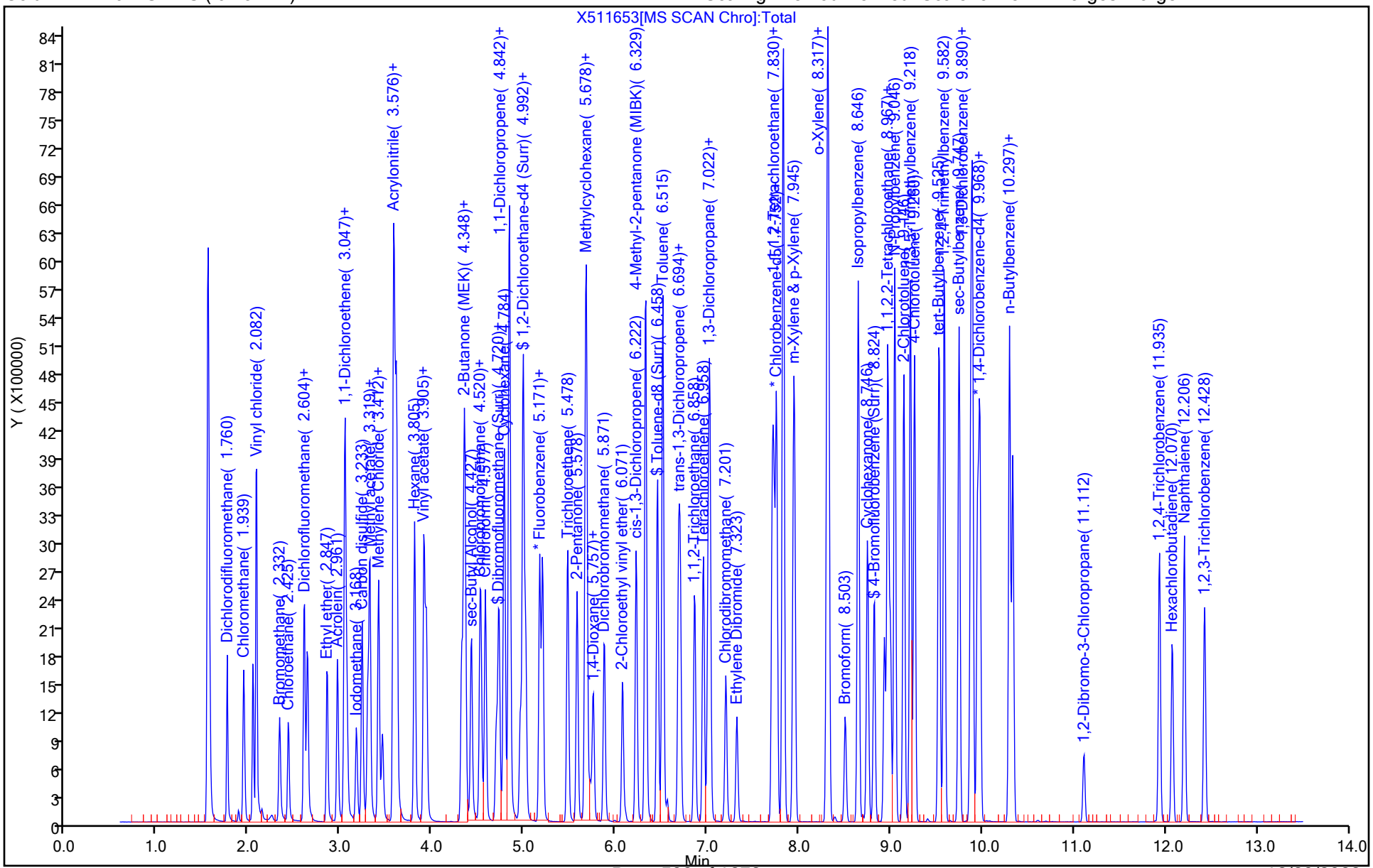
Report Date: 11-Dec-2023 03:13:38 Chrom Revision: 2.3 15-Nov-2023 20:54:34

Eurofins Denver

Data File: \\chromfs\Denver\ChromData\VMS_X4\20231208-128432.b\X511653.D

Injection Date:	08-Dec-2023 23:52:30	Instrument ID:	VMS_X4	Operator ID:	CF
Lims ID:	IC			Worklist Smp#:	8
Client ID:					
Purge Vol:	5.000 mL	Dil. Factor:	1.0000	ALS Bottle#:	7
Method:	VMS_X4_8260	Limit Group:	MSV - 8260B Water and Solid		

Column: Rxi-624Sil MS (0.25 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 1



Eurofins Denver
Target Compound Quantitation Report

Data File: \\chromfs\Denver\ChromData\VMS_X4\20231208-128432.b\X511654.D
Lims ID: IC
Client ID:
Sample Type: IC Calib Level: 8
Inject. Date: 09-Dec-2023 00:13:30 ALS Bottle#: 8 Worklist Smp#: 9
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Sample Info: std
Operator ID: CF Instrument ID: VMS_X4
Sublist: chrom-VMS_X4_8260*sub1

Method: \\chromfs\Denver\ChromData\VMS_X4\20231208-128432.b\VMS_X4_8260.m
Limit Group: MSV - 8260B Water and Solid
Last Update: 11-Dec-2023 03:13:42 Calib Date: 09-Dec-2023 00:33:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Denver\ChromData\VMS_X4\20231208-128432.b\X511655.D

Column 1 : Rxi-624Sil MS (0.25 mm) Det: MS SCAN
Process Host: CTX1656

First Level Reviewer: BX8N Date: 11-Dec-2023 03:05:08

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
* 1 Fluorobenzene	96	5.199	5.199	0.000	98	1996396	50.0	50.0	
* 2 Chlorobenzene-d5	119	7.730	7.723	0.007	90	502912	50.0	50.0	
* 3 1,4-Dichlorobenzene-d4	152	9.947	9.947	0.000	97	821785	50.0	50.0	
$ 4 Dibromofluoromethane (Surr)	111	4.699	4.691	0.008	92	502826	50.0	49.2	
$ 5 1,2-Dichloroethane-d4 (Surr)	65	4.956	4.956	0.000	0	651566	50.0	49.3	
$ 6 Toluene-d8 (Surr)	98	6.458	6.458	0.000	95	2179997	50.0	50.3	
$ 7 4-Bromofluorobenzene (Surr)	95	8.817	8.817	0.000	91	805062	50.0	51.3	
9 Dichlorodifluoromethane	85	1.760	1.760	0.000	100	1409272	100.0	99.7	
10 Chloromethane	50	1.939	1.939	0.000	100	1851743	100.0	94.7	
11 Vinyl chloride	62	2.039	2.039	0.000	99	1680142	100.0	99.7	
12 Bromomethane	94	2.332	2.332	0.000	92	858543	100.0	101.7	
13 Chloroethane	64	2.425	2.425	0.000	99	971130	100.0	91.7	
14 Dichlorofluoromethane	67	2.597	2.604	-0.007	99	2445101	100.0	95.5	
16 Trichlorofluoromethane	101	2.632	2.632	0.000	99	1649692	100.0	94.1	
18 Ethyl ether	59	2.847	2.847	0.000	96	992238	100.0	99.3	
19 Acrolein	56	2.961	2.961	0.000	99	1536959	987.5	957.7	
21 1,1-Dichloroethene	96	3.047	3.047	0.000	95	913693	100.0	100.2	
20 1,1,2-Trichloro-1,2,2-trifluoroe	151	3.040	3.047	-0.007	97	696434	100.0	105.1	
22 Acetone	43	3.069	3.068	0.001	99	1479095	400.0	379.6	
24 Iodomethane	142	3.169	3.168	0.001	100	1247496	100.0	103.3	
25 Carbon disulfide	76	3.233	3.233	0.000	100	3259987	100.0	96.1	
27 Methyl acetate	43	3.290	3.290	0.000	99	1862400	200.0	197.7	
28 3-Chloro-1-propene	41	3.319	3.319	0.000	90	2053980	100.0	95.9	
29 Methylene Chloride	84	3.412	3.412	0.000	99	1109068	100.0	92.3	
30 2-Methyl-2-propanol	59	3.455	3.454	0.001	99	1113579	1000.0	1060.2	
31 Acrylonitrile	53	3.576	3.576	0.000	97	4715071	1000.0	954.1	
32 Methyl tert-butyl ether	73	3.598	3.597	0.001	98	3225474	100.0	105.8	
33 trans-1,2-Dichloroethene	96	3.612	3.612	0.000	94	1038295	100.0	99.8	
34 Hexane	57	3.805	3.805	0.000	97	1600243	100.0	103.7	
35 Vinyl acetate	43	3.905	3.905	0.000	97	4613455	200.0	195.5	
36 1,1-Dichloroethane	63	3.934	3.933	0.001	97	2214703	100.0	98.1	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
40 2-Butanone (MEK)	43	4.320	4.320	0.000	100	2371046	400.0	380.5	
42 cis-1,2-Dichloroethene	96	4.341	4.341	0.000	88	1156585	100.0	99.3	
43 2,2-Dichloropropane	77	4.356	4.355	0.001	90	1740504	100.0	101.0	
45 sec-Butyl Alcohol	45	4.420	4.427	-0.007	100	2426975	2400.0	2680.2	
47 Chlorobromomethane	128	4.520	4.520	0.000	92	480038	100.0	102.7	
48 Tetrahydrofuran	42	4.527	4.527	0.000	91	825023	200.0	195.4	
49 Chloroform	83	4.577	4.577	0.000	97	1979908	100.0	97.3	
50 1,1,1-Trichloroethane	97	4.720	4.720	0.000	98	1681500	100.0	101.6	
51 Cyclohexane	56	4.785	4.784	0.001	95	2179017	100.0	101.6	
52 1,1-Dichloropropene	75	4.835	4.834	0.001	96	1655650	100.0	102.0	
53 Carbon tetrachloride	117	4.842	4.842	0.000	93	1380610	100.0	105.2	
54 Isobutyl alcohol	41	4.842	4.842	0.000	95	1073299	2500.0	2702.3	
55 Benzene	78	4.992	4.992	0.000	98	4652151	100.0	98.0	
56 1,2-Dichloroethane	62	5.013	5.013	0.000	97	1612305	100.0	92.0	
58 n-Heptane	43	5.171	5.170	0.001	97	1399858	100.0	97.8	
60 Trichloroethene	95	5.478	5.471	0.007	96	1150694	100.0	105.3	
61 2-Pentanone	43	5.578	5.578	0.000	98	2993645	320.0	333.0	
62 Methylcyclohexane	55	5.671	5.671	0.000	95	1543726	100.0	104.5	
63 1,2-Dichloropropane	63	5.678	5.685	-0.007	94	1314480	100.0	99.4	
65 1,4-Dioxane	88	5.721	5.721	0.000	98	289214	2000.0	2005.8	
66 Dibromomethane	93	5.750	5.750	0.000	93	656066	100.0	97.1	
67 Dichlorobromomethane	83	5.871	5.871	0.000	99	1526039	100.0	105.1	
69 2-Chloroethyl vinyl ether	63	6.072	6.071	0.001	92	738525	100.0	104.5	
70 cis-1,3-Dichloropropene	75	6.222	6.222	0.000	92	1908924	100.0	103.4	
71 4-Methyl-2-pentanone (MIBK)	43	6.329	6.329	0.000	99	4849186	400.0	413.7	
72 Toluene	91	6.515	6.515	0.000	97	4787545	100.0	97.1	
73 trans-1,3-Dichloropropene	75	6.687	6.686	0.001	99	1744642	100.0	105.2	
74 Ethyl methacrylate	69	6.708	6.701	0.007	92	1461196	100.0	106.2	
75 1,1,2-Trichloroethane	97	6.858	6.858	0.000	93	917969	100.0	99.0	
76 Tetrachloroethene	164	6.958	6.958	0.000	96	778225	100.0	100.6	
77 1,3-Dichloropropane	76	7.008	7.008	0.000	98	1803964	100.0	103.9	
78 2-Hexanone	43	7.030	7.030	0.000	99	3412672	400.0	412.8	
79 Chlorodibromomethane	129	7.201	7.201	0.000	91	995925	100.0	106.5	
80 Ethylene Dibromide	107	7.323	7.323	0.000	98	954315	100.0	102.4	
81 1-Chlorohexane	91	7.709	7.709	0.000	92	1169030	80.0	82.1	
82 Chlorobenzene	112	7.752	7.752	0.000	90	2812304	100.0	99.4	
83 1,1,1,2-Tetrachloroethane	131	7.823	7.823	0.000	94	966126	100.0	107.9	
84 Ethylbenzene	106	7.831	7.830	0.001	99	1601198	100.0	102.9	
85 m-Xylene & p-Xylene	106	7.945	7.945	0.000	0	1971421	100.0	100.7	
86 o-Xylene	106	8.310	8.309	0.001	98	1920090	100.0	100.6	
87 Styrene	104	8.324	8.324	0.000	92	3252587	100.0	104.3	
88 Bromoform	173	8.503	8.502	0.001	95	641757	100.0	106.8	
89 Isopropylbenzene	105	8.646	8.645	0.001	98	4817445	100.0	102.4	
91 Cyclohexanone	55	8.746	8.746	0.000	96	1608490	3000.0	3129.4	
92 1,1,2,2-Tetrachloroethane	83	8.932	8.932	0.000	95	1263671	100.0	100.1	
94 trans-1,4-Dichloro-2-butene	53	8.967	8.967	0.000	69	430574	100.0	106.9	
93 Bromobenzene	156	8.967	8.967	0.000	98	1121367	100.0	100.1	
95 1,2,3-Trichloropropane	110	8.996	8.996	0.000	88	365935	100.0	106.3	
96 N-Propylbenzene	120	9.046	9.046	0.000	99	1300992	100.0	107.9	
97 2-Chlorotoluene	126	9.146	9.146	0.000	95	1099560	100.0	101.2	
98 1,3,5-Trimethylbenzene	105	9.218	9.218	0.000	95	4013068	100.0	102.8	
99 4-Chlorotoluene	126	9.261	9.260	0.001	99	1143931	100.0	100.5	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
100 tert-Butylbenzene	119	9.525	9.525	0.000	94	3238732	100.0	102.1	
102 1,2,4-Trimethylbenzene	105	9.582	9.582	0.000	99	4176369	100.0	102.9	
103 sec-Butylbenzene	134	9.747	9.747	0.000	96	891537	100.0	100.2	
104 1,3-Dichlorobenzene	146	9.876	9.875	0.001	96	2090161	100.0	103.5	
105 4-Isopropyltoluene	119	9.890	9.890	0.000	97	4018351	100.0	102.8	
106 1,4-Dichlorobenzene	146	9.976	9.975	0.001	91	2133830	100.0	97.6	
108 n-Butylbenzene	91	10.297	10.297	0.000	99	3754069	100.0	103.7	
109 1,2-Dichlorobenzene	146	10.333	10.333	0.000	95	1979251	100.0	99.3	
110 1,2-Dibromo-3-Chloropropane	157	11.113	11.112	0.001	79	242191	100.0	106.7	
112 1,2,4-Trichlorobenzene	180	11.935	11.935	0.000	93	1139191	100.0	100.5	
113 Hexachlorobutadiene	225	12.071	12.078	-0.007	97	478282	100.0	107.7	
114 Naphthalene	128	12.207	12.206	0.001	98	3013787	100.0	102.3	
115 1,2,3-Trichlorobenzene	180	12.428	12.428	0.000	94	928778	100.0	100.9	
S 122 1,2-Dichloroethene, Total (URS)	96				0		200.0	199.0	
S 127 Trihalomethanes, Total	1				0		400.0	415.7	
S 125 Xylenes, Total	106				0		200.0	201.3	
S 123 Xylenes, Total (URS)	1				0		200.0	201.3	
S 124 1,3-Dichloropropene, Total	1				0		200.0	208.6	
S 129 1,2-Dichloroethene, Total	1				0		200.0	199.0	
S 126 Total BTEX	1				0			499.3	

QC Flag Legend

Processing Flags

Reagents:

MV-MegaMainA_00100	Amount Added: 50.00	Units: uL	
MV-Gas A_00174	Amount Added: 20.00	Units: uL	
mv-IS_SS_00074	Amount Added: 5.00	Units: uL	Run Reagent

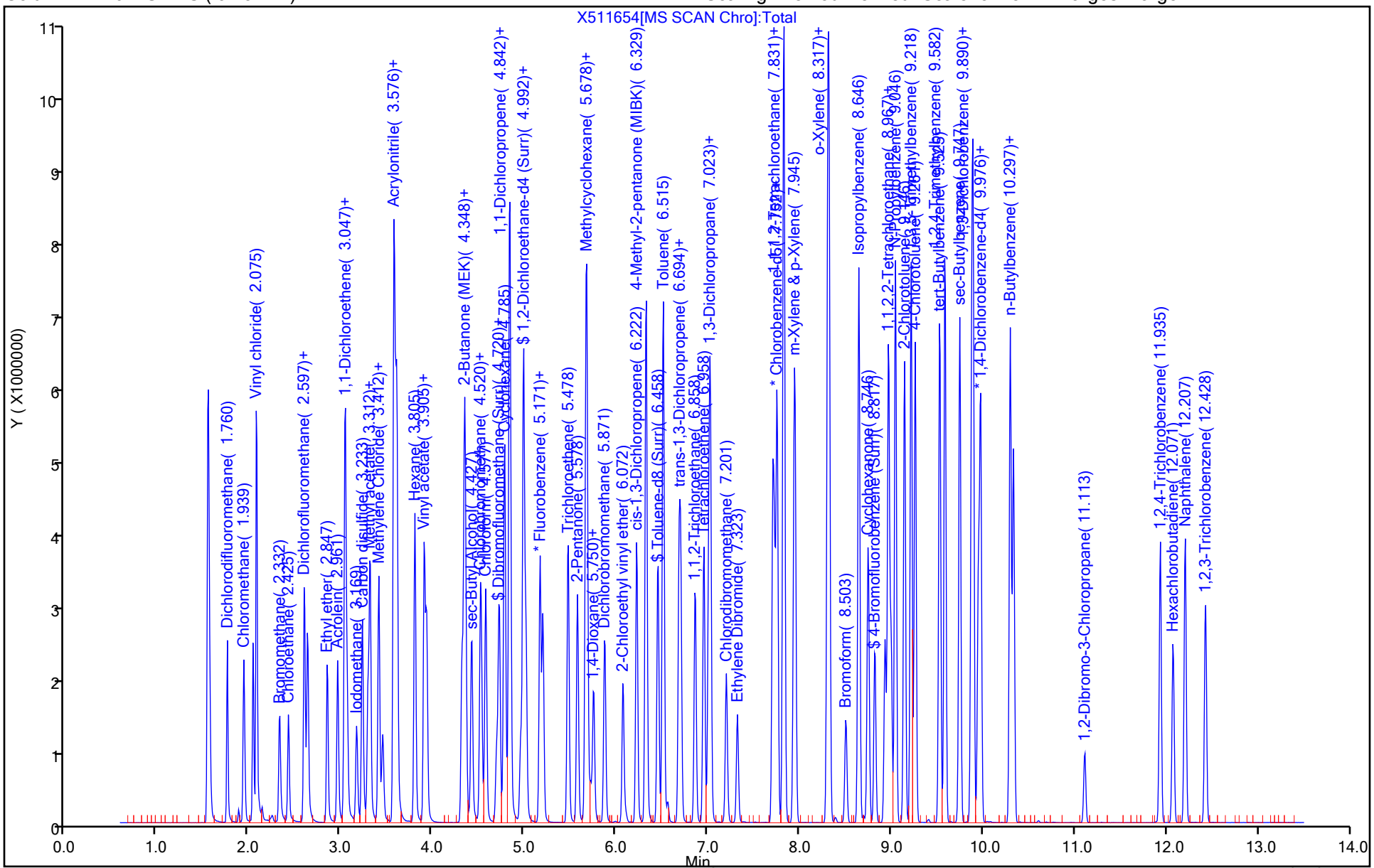
Report Date: 11-Dec-2023 03:13:42 Chrom Revision: 2.3 15-Nov-2023 20:54:34

Eurofins Denver

Data File: \\chromfs\Denver\ChromData\VMS_X4\20231208-128432.b\X511654.D

Injection Date:	09-Dec-2023 00:13:30	Instrument ID:	VMS_X4	Operator ID:	CF
Lims ID:	IC			Worklist Smp#:	9
Client ID:					
Purge Vol:	5.000 mL	Dil. Factor:	1.0000	ALS Bottle#:	8
Method:	VMS_X4_8260	Limit Group:	MSV - 8260B Water and Solid		

Column: Rxi-624Sil MS (0.25 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 1



Eurofins Denver
Target Compound Quantitation Report

Data File: \\chromfs\Denver\ChromData\VMS_X4\20231208-128432.b\X511655.D
Lims ID: IC
Client ID:
Sample Type: IC Calib Level: 9
Inject. Date: 09-Dec-2023 00:33:30 ALS Bottle#: 9 Worklist Smp#: 10
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Sample Info: std
Operator ID: CF Instrument ID: VMS_X4
Sublist: chrom-VMS_X4_8260*sub1

Method: \\chromfs\Denver\ChromData\VMS_X4\20231208-128432.b\VMS_X4_8260.m
Limit Group: MSV - 8260B Water and Solid
Last Update: 11-Dec-2023 03:13:46 Calib Date: 09-Dec-2023 00:33:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Denver\ChromData\VMS_X4\20231208-128432.b\X511655.D

Column 1 : Rxi-624Sil MS (0.25 mm) Det: MS SCAN
Process Host: CTX1656

First Level Reviewer: BX8N Date: 11-Dec-2023 03:11:03

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
* 1 Fluorobenzene	96	5.199	5.199	0.000	98	2045461	50.0	50.0	
* 2 Chlorobenzene-d5	119	7.723	7.723	0.000	90	519596	50.0	50.0	
* 3 1,4-Dichlorobenzene-d4	152	9.947	9.947	0.000	97	863296	50.0	50.0	
$ 4 Dibromofluoromethane (Surr)	111	4.692	4.691	0.001	93	513617	50.0	49.1	
$ 5 1,2-Dichloroethane-d4 (Surr)	65	4.956	4.956	0.000	0	660318	50.0	48.8	
$ 6 Toluene-d8 (Surr)	98	6.458	6.458	0.000	95	2227669	50.0	49.8	
$ 7 4-Bromofluorobenzene (Surr)	95	8.817	8.817	0.000	84	814904	50.0	49.5	
9 Dichlorodifluoromethane	85	1.760	1.760	0.000	100	2621778	200.0	181.0	
10 Chloromethane	50	1.939	1.939	0.000	99	3504175	200.0	174.9	
11 Vinyl chloride	62	2.039	2.039	0.000	99	3165693	200.0	183.3	
12 Bromomethane	94	2.318	2.332	-0.014	92	1567406	200.0	181.3	
13 Chloroethane	64	2.418	2.425	-0.007	99	1837183	200.0	169.2	
14 Dichlorofluoromethane	67	2.597	2.604	-0.007	98	4652017	200.0	177.3	
16 Trichlorofluoromethane	101	2.632	2.632	0.000	99	3229350	200.0	179.8	
18 Ethyl ether	59	2.847	2.847	0.000	96	1984673	200.0	193.9	
19 Acrolein	56	2.961	2.961	0.000	99	3133248	1975.0	1905.5	
21 1,1-Dichloroethene	96	3.047	3.047	0.000	96	1863380	200.0	199.5	
20 1,1,2-Trichloro-1,2,2-trifluoroe	151	3.040	3.047	-0.007	98	1386874	200.0	204.3	
22 Acetone	43	3.069	3.068	0.001	99	3068471	800.0	768.6	
24 Iodomethane	142	3.169	3.168	0.001	100	2467122	200.0	198.9	
25 Carbon disulfide	76	3.233	3.233	0.000	100	6333345	200.0	182.2	
27 Methyl acetate	43	3.290	3.290	0.000	99	3881525	400.0	402.1	
28 3-Chloro-1-propene	41	3.312	3.319	-0.007	90	3628658	200.0	165.3	
29 Methylene Chloride	84	3.412	3.412	0.000	98	2221969	200.0	180.4	
30 2-Methyl-2-propanol	59	3.455	3.454	0.001	99	2487770	2000.0	2311.6	
31 Acrylonitrile	53	3.576	3.576	0.000	96	9483511	2000.0	1873.0	
32 Methyl tert-butyl ether	73	3.598	3.597	0.001	98	6496255	200.0	208.0	
33 trans-1,2-Dichloroethene	96	3.612	3.612	0.000	95	2098639	200.0	196.8	
34 Hexane	57	3.805	3.805	0.000	96	3206323	200.0	201.1	
35 Vinyl acetate	43	3.905	3.905	0.000	97	9229147	400.0	381.8	
36 1,1-Dichloroethane	63	3.934	3.933	0.001	97	4372965	200.0	189.1	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
40 2-Butanone (MEK)	43	4.320	4.320	0.000	99	4977182	800.0	779.5	
42 cis-1,2-Dichloroethene	96	4.341	4.341	0.000	88	2322316	200.0	194.5	
43 2,2-Dichloropropane	77	4.356	4.355	0.001	92	3473524	200.0	196.7	
45 sec-Butyl Alcohol	45	4.427	4.427	0.000	100	5311473	4800.0	5725.0	
47 Chlorobromomethane	128	4.520	4.520	0.000	92	949668	200.0	198.3	
48 Tetrahydrofuran	42	4.527	4.527	0.000	91	1721902	400.0	398.1	
49 Chloroform	83	4.577	4.577	0.000	96	3884602	200.0	186.3	
50 1,1,1-Trichloroethane	97	4.720	4.720	0.000	98	3381129	200.0	199.3	
51 Cyclohexane	56	4.785	4.784	0.001	95	4294175	200.0	195.5	
52 1,1-Dichloropropene	75	4.835	4.834	0.001	96	3309804	200.0	199.1	
53 Carbon tetrachloride	117	4.842	4.842	0.000	91	2803918	200.0	208.6	
54 Isobutyl alcohol	41	4.842	4.842	0.000	96	2357768	5000.0	5793.8	
55 Benzene	78	4.992	4.992	0.000	99	8990639	200.0	184.9	
56 1,2-Dichloroethane	62	5.013	5.013	0.000	97	3222735	200.0	179.4	
58 n-Heptane	43	5.171	5.170	0.001	97	2763824	200.0	188.4	
60 Trichloroethene	95	5.478	5.471	0.007	97	2299614	200.0	203.7	
61 2-Pentanone	43	5.578	5.578	0.000	98	6193403	640.0	672.4	
62 Methylcyclohexane	55	5.671	5.671	0.000	95	3104765	200.0	205.1	
63 1,2-Dichloropropane	63	5.686	5.685	0.001	95	2628338	200.0	194.0	
65 1,4-Dioxane	88	5.721	5.721	0.000	98	602877	4000.0	4080.9	
66 Dibromomethane	93	5.750	5.750	0.000	93	1330394	200.0	192.2	
67 Dichlorobromomethane	83	5.871	5.871	0.000	99	3058785	200.0	205.5	
69 2-Chloroethyl vinyl ether	63	6.072	6.071	0.001	92	1513331	200.0	209.0	
70 cis-1,3-Dichloropropene	75	6.222	6.222	0.000	92	3875150	200.0	203.2	
71 4-Methyl-2-pentanone (MIBK)	43	6.329	6.329	0.000	98	9693502	800.0	807.1	
72 Toluene	91	6.515	6.515	0.000	98	9260574	200.0	183.3	
73 trans-1,3-Dichloropropene	75	6.687	6.686	0.001	99	3542079	200.0	208.5	
74 Ethyl methacrylate	69	6.708	6.701	0.007	92	3028071	200.0	212.9	
75 1,1,2-Trichloroethane	97	6.858	6.858	0.000	94	1867560	200.0	196.6	
76 Tetrachloroethene	164	6.958	6.958	0.000	95	1598859	200.0	200.0	
77 1,3-Dichloropropane	76	7.008	7.008	0.000	98	3604823	200.0	200.9	
78 2-Hexanone	43	7.030	7.030	0.000	98	6906153	800.0	808.5	
79 Chlorodibromomethane	129	7.201	7.201	0.000	91	2048092	200.0	212.1	
80 Ethylene Dibromide	107	7.323	7.323	0.000	98	1924875	200.0	200.0	
81 1-Chlorohexane	91	7.709	7.709	0.000	91	2329470	160.0	158.3	
82 Chlorobenzene	112	7.752	7.752	0.000	90	5539547	200.0	189.4	
83 1,1,1,2-Tetrachloroethane	131	7.823	7.823	0.000	95	1964455	200.0	212.4	
84 Ethylbenzene	106	7.831	7.830	0.001	99	3211834	200.0	199.8	
85 m-Xylene & p-Xylene	106	7.945	7.945	0.000	0	3921260	200.0	193.9	
86 o-Xylene	106	8.310	8.309	0.001	98	3846024	200.0	195.1	
87 Styrene	104	8.324	8.324	0.000	93	6373202	200.0	197.7	
88 Bromoform	173	8.503	8.502	0.001	94	1352889	200.0	217.9	
89 Isopropylbenzene	105	8.646	8.645	0.001	98	9322314	200.0	188.7	
91 Cyclohexanone	55	8.746	8.746	0.000	96	3430562	6000.0	6459.9	
92 1,1,2,2-Tetrachloroethane	83	8.932	8.932	0.000	95	2565654	200.0	193.4	
94 trans-1,4-Dichloro-2-butene	53	8.968	8.967	0.001	76	914291	200.0	216.0	
93 Bromobenzene	156	8.968	8.967	0.001	98	2233939	200.0	189.9	
95 1,2,3-Trichloropropane	110	8.996	8.996	0.000	88	765100	200.0	211.6	
96 N-Propylbenzene	120	9.046	9.046	0.000	98	2607813	200.0	205.8	
97 2-Chlorotoluene	126	9.146	9.146	0.000	95	2174390	200.0	190.6	
98 1,3,5-Trimethylbenzene	105	9.218	9.218	0.000	95	7898899	200.0	192.6	
99 4-Chlorotoluene	126	9.261	9.260	0.001	99	2277283	200.0	190.5	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
100 tert-Butylbenzene	119	9.525	9.525	0.000	94	6437417	200.0	193.2	
102 1,2,4-Trimethylbenzene	105	9.590	9.582	0.008	99	8161601	200.0	191.4	
103 sec-Butylbenzene	134	9.747	9.747	0.000	96	1848290	200.0	197.8	
104 1,3-Dichlorobenzene	146	9.876	9.875	0.001	96	4163961	200.0	196.2	
105 4-Isopropyltoluene	119	9.897	9.890	0.007	96	7880910	200.0	191.9	
106 1,4-Dichlorobenzene	146	9.976	9.975	0.001	91	4266166	200.0	185.8	
108 n-Butylbenzene	91	10.297	10.297	0.000	98	7322150	200.0	192.5	
109 1,2-Dichlorobenzene	146	10.333	10.333	0.000	95	3899480	200.0	186.2	
110 1,2-Dibromo-3-Chloropropane	157	11.113	11.112	0.001	82	513677	200.0	215.5	
112 1,2,4-Trichlorobenzene	180	11.935	11.935	0.000	94	2284772	200.0	191.8	
113 Hexachlorobutadiene	225	12.078	12.078	0.000	97	929930	200.0	199.4	
114 Naphthalene	128	12.207	12.206	0.001	98	5967310	200.0	192.8	
115 1,2,3-Trichlorobenzene	180	12.428	12.428	0.000	94	1847012	200.0	191.1	
S 122 1,2-Dichloroethene, Total (URS)	96				0		400.0	391.3	
S 127 Trihalomethanes, Total	1				0		800.0	821.8	
S 125 Xylenes, Total	106				0		400.0	388.9	
S 123 Xylenes, Total (URS)	1				0		400.0	388.9	
S 124 1,3-Dichloropropene, Total	1				0		400.0	411.7	
S 129 1,2-Dichloroethene, Total	1				0		400.0	391.3	
S 126 Total BTEX	1				0			956.8	

QC Flag Legend

Processing Flags

Reagents:

MV-MegaMainA_00100	Amount Added: 100.00	Units: uL	
MV-Gas A_00174	Amount Added: 40.00	Units: uL	
mv-IS_SS_00074	Amount Added: 5.00	Units: uL	Run Reagent

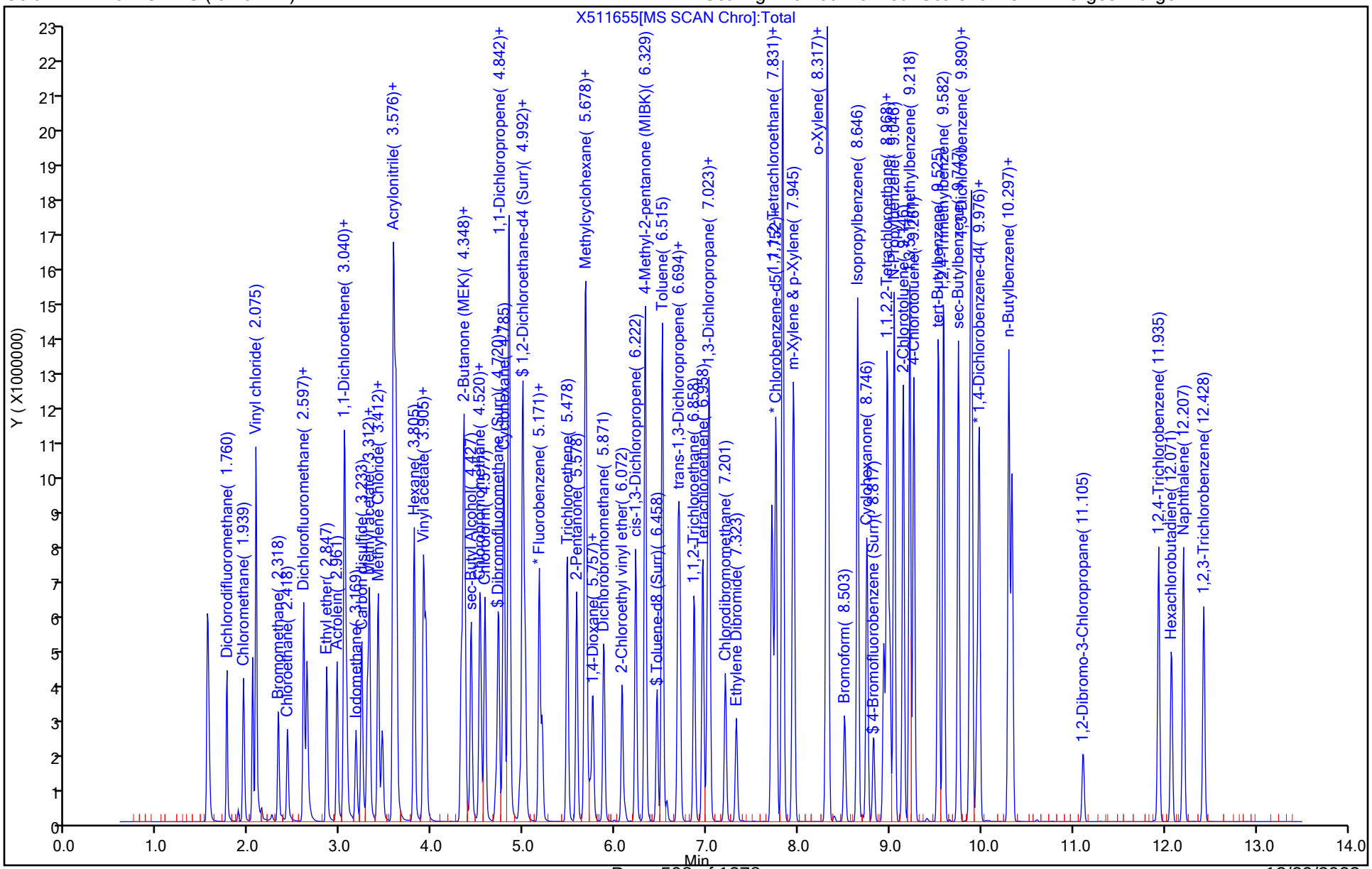
Report Date: 11-Dec-2023 03:13:47 Chrom Revision: 2.3 15-Nov-2023 20:54:34

Eurofins Denver

Data File: \\chromfs\Denver\ChromData\VMS_X4\20231208-128432.b\X511655.D

Injection Date:	09-Dec-2023 00:33:30	Instrument ID:	VMS_X4	Operator ID:	CF
Lims ID:	IC			Worklist Smp#:	10
Client ID:					
Purge Vol:	5.000 mL	Dil. Factor:	1.0000	ALS Bottle#:	9
Method:	VMS_X4_8260	Limit Group:	MSV - 8260B Water and Solid		

Column: Rxi-624Sil MS (0.25 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 1



Calibration / Dichlorodifluoromethane

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	ISTD
Response Base:	AREA
RF Rounding:	0

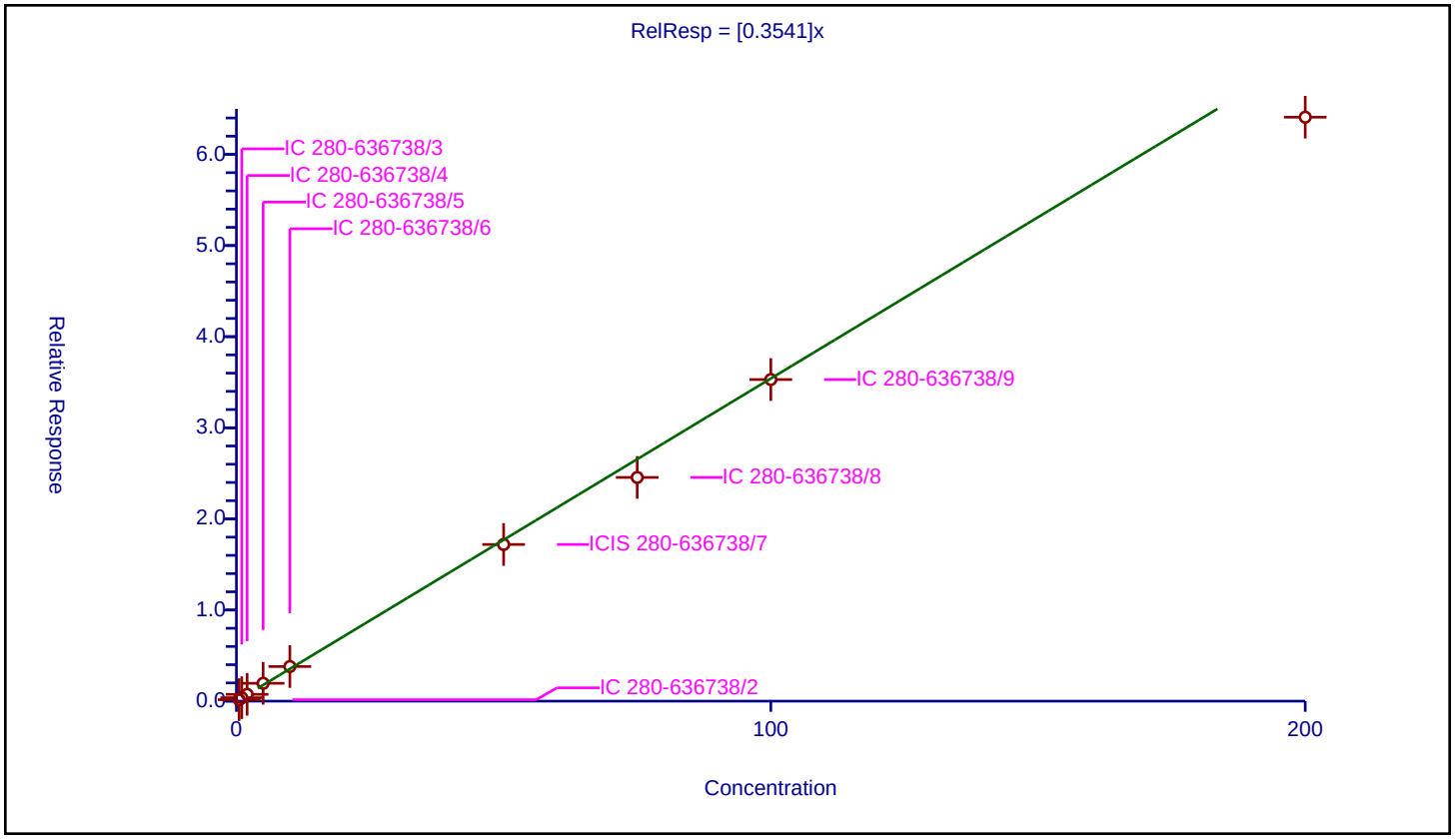
Curve Coefficients

Intercept:	0
Slope:	0.3541

Error Coefficients

Standard Error:	1130000
Relative Standard Error:	8.0
Correlation Coefficient:	0.999
Coefficient of Determination (Adjusted):	0.992

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 280-636738/2	0.5	0.158777	50.0	1824881.0	0.317555	Y
2	IC 280-636738/3	1.0	0.379449	50.0	1811045.0	0.379449	Y
3	IC 280-636738/4	2.0	0.746277	50.0	1808310.0	0.373138	Y
4	IC 280-636738/5	5.0	1.960053	50.0	1838496.0	0.392011	Y
5	IC 280-636738/6	10.0	3.799467	50.0	1829520.0	0.379947	Y
6	ICIS 280-636738/7	50.0	17.194387	50.0	1927914.0	0.343888	Y
7	IC 280-636738/8	75.0	24.551399	50.0	1983388.0	0.327352	Y
8	IC 280-636738/9	100.0	35.295402	50.0	1996396.0	0.352954	Y
9	IC 280-636738/10	200.0	64.087704	50.0	2045461.0	0.320439	Y



Calibration / Chloromethane

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	ISTD
Response Base:	AREA
RF Rounding:	0

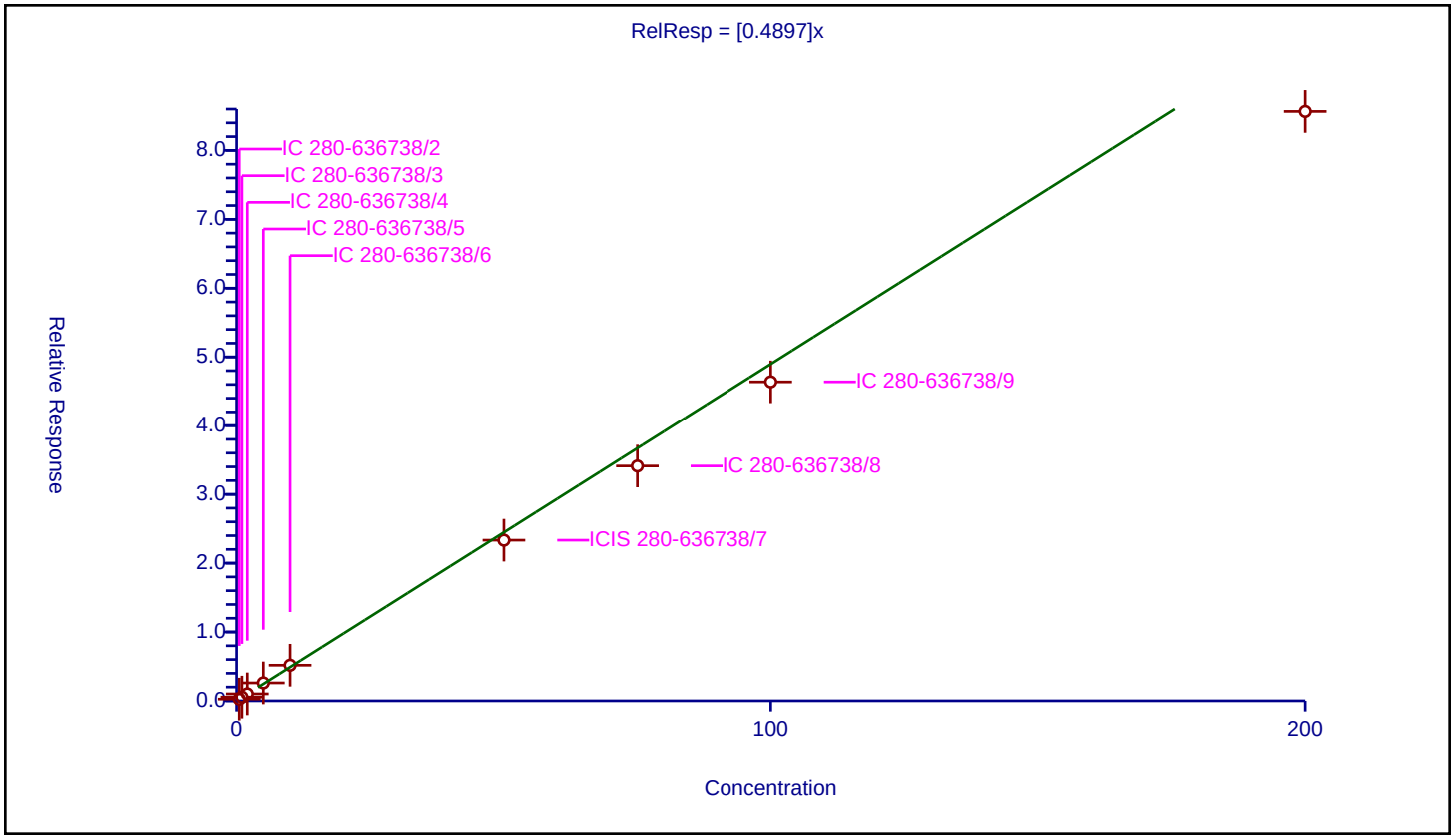
Curve Coefficients

Intercept:	0
Slope:	0.4897

Error Coefficients

Standard Error:	1520000
Relative Standard Error:	7.7
Correlation Coefficient:	0.999
Coefficient of Determination (Adjusted):	0.992

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 280-636738/2	0.5	0.252756	50.0	1824881.0	0.505512	Y
2	IC 280-636738/3	1.0	0.54383	50.0	1811045.0	0.54383	Y
3	IC 280-636738/4	2.0	1.011331	50.0	1808310.0	0.505666	Y
4	IC 280-636738/5	5.0	2.603378	50.0	1838496.0	0.520676	Y
5	IC 280-636738/6	10.0	5.174007	50.0	1829520.0	0.517401	Y
6	ICIS 280-636738/7	50.0	23.342483	50.0	1927914.0	0.46685	Y
7	IC 280-636738/8	75.0	34.130387	50.0	1983388.0	0.455072	Y
8	IC 280-636738/9	100.0	46.377147	50.0	1996396.0	0.463771	Y
9	IC 280-636738/10	200.0	85.657341	50.0	2045461.0	0.428287	Y



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Calibration / Vinyl chloride

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	ISTD
Response Base:	AREA
RF Rounding:	0

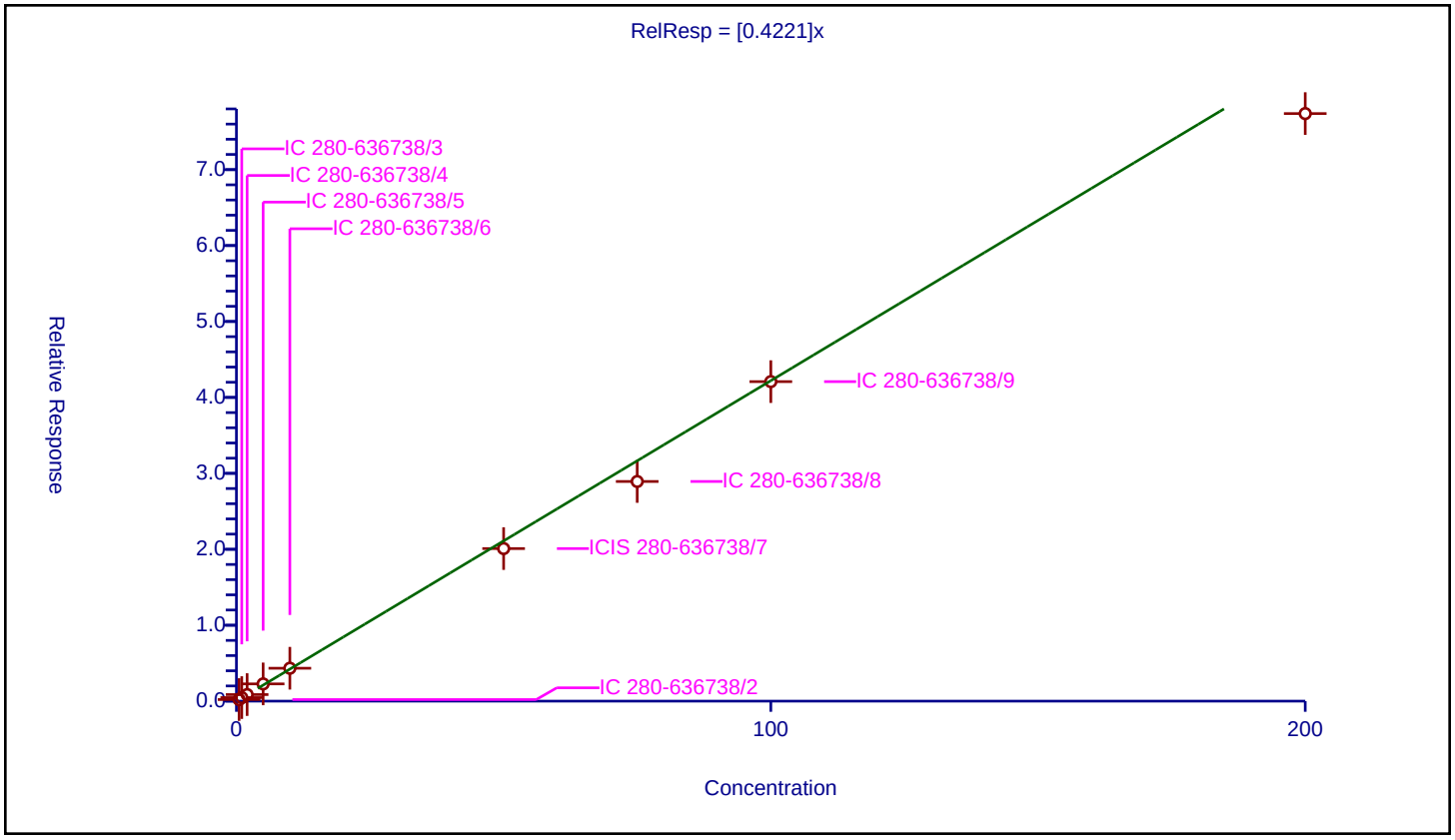
Curve Coefficients

Intercept:	0
Slope:	0.4221

Error Coefficients

Standard Error:	1360000
Relative Standard Error:	6.7
Correlation Coefficient:	0.999
Coefficient of Determination (Adjusted):	0.994

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 280-636738/2	0.5	0.207109	50.0	1824881.0	0.414219	Y
2	IC 280-636738/3	1.0	0.468486	50.0	1811045.0	0.468486	Y
3	IC 280-636738/4	2.0	0.865255	50.0	1808310.0	0.432628	Y
4	IC 280-636738/5	5.0	2.272836	50.0	1838496.0	0.454567	Y
5	IC 280-636738/6	10.0	4.334798	50.0	1829520.0	0.43348	Y
6	ICIS 280-636738/7	50.0	20.093401	50.0	1927914.0	0.401868	Y
7	IC 280-636738/8	75.0	28.929236	50.0	1983388.0	0.385723	Y
8	IC 280-636738/9	100.0	42.079377	50.0	1996396.0	0.420794	Y
9	IC 280-636738/10	200.0	77.383362	50.0	2045461.0	0.386917	Y



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Calibration / Bromomethane

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	ISTD
Response Base:	AREA
RF Rounding:	0

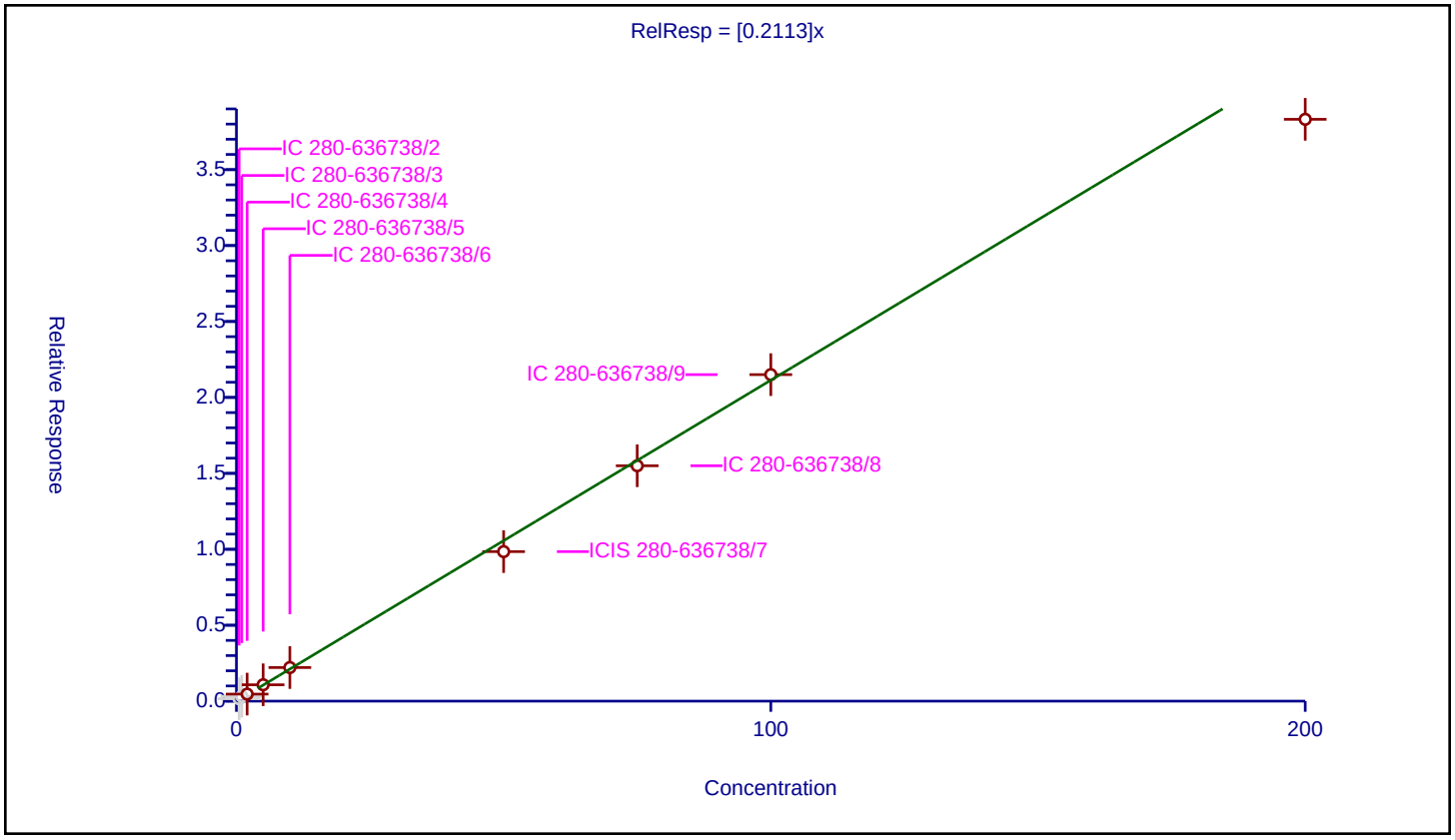
Curve Coefficients

Intercept:	0
Slope:	0.2113

Error Coefficients

Standard Error:	788000
Relative Standard Error:	6.7
Correlation Coefficient:	0.997
Coefficient of Determination (Adjusted):	0.994

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 280-636738/2	0.5	0.157928	50.0	1824881.0	0.315856	N
2	IC 280-636738/3	1.0	0.317717	50.0	1811045.0	0.317717	N
3	IC 280-636738/4	2.0	0.464301	50.0	1808310.0	0.23215	Y
4	IC 280-636738/5	5.0	1.0783	50.0	1838496.0	0.21566	Y
5	IC 280-636738/6	10.0	2.21334	50.0	1829520.0	0.221334	Y
6	ICIS 280-636738/7	50.0	9.846679	50.0	1927914.0	0.196934	Y
7	IC 280-636738/8	75.0	15.499968	50.0	1983388.0	0.206666	Y
8	IC 280-636738/9	100.0	21.502322	50.0	1996396.0	0.215023	Y
9	IC 280-636738/10	200.0	38.314248	50.0	2045461.0	0.191571	Y



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Calibration / Chloroethane

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	ISTD
Response Base:	AREA
RF Rounding:	0

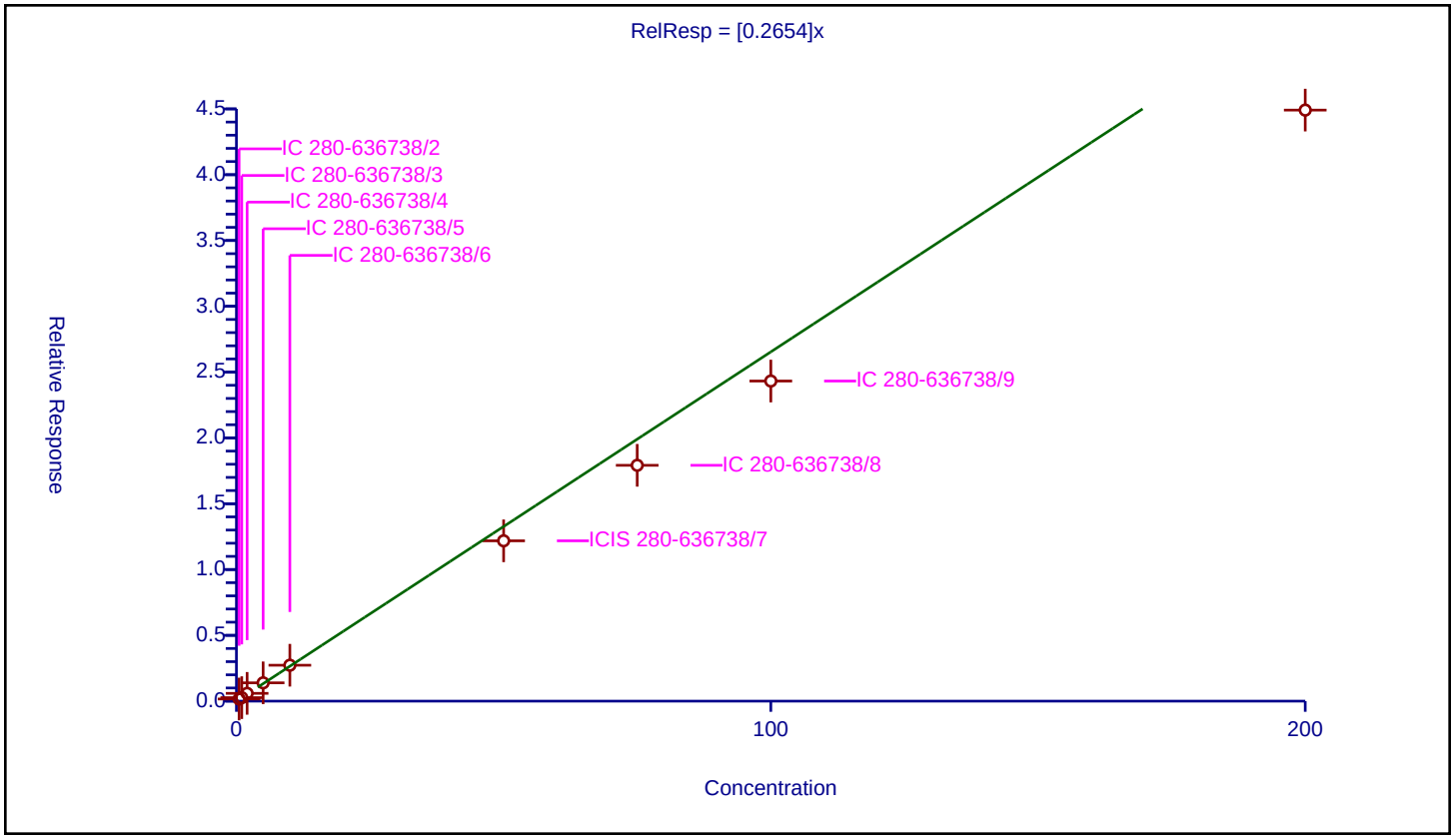
Curve Coefficients

Intercept:	0
Slope:	0.2654

Error Coefficients

Standard Error:	795000
Relative Standard Error:	12.0
Correlation Coefficient:	0.999
Coefficient of Determination (Adjusted):	0.979

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 280-636738/2	0.5	0.162504	50.0	1824881.0	0.325007	Y
2	IC 280-636738/3	1.0	0.265565	50.0	1811045.0	0.265565	Y
3	IC 280-636738/4	2.0	0.59268	50.0	1808310.0	0.29634	Y
4	IC 280-636738/5	5.0	1.390838	50.0	1838496.0	0.278168	Y
5	IC 280-636738/6	10.0	2.729295	50.0	1829520.0	0.27293	Y
6	ICIS 280-636738/7	50.0	12.182286	50.0	1927914.0	0.243646	Y
7	IC 280-636738/8	75.0	17.91959	50.0	1983388.0	0.238928	Y
8	IC 280-636738/9	100.0	24.322078	50.0	1996396.0	0.243221	Y
9	IC 280-636738/10	200.0	44.908776	50.0	2045461.0	0.224544	Y



Calibration / Dichlorofluoromethane

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	ISTD
Response Base:	AREA
RF Rounding:	0

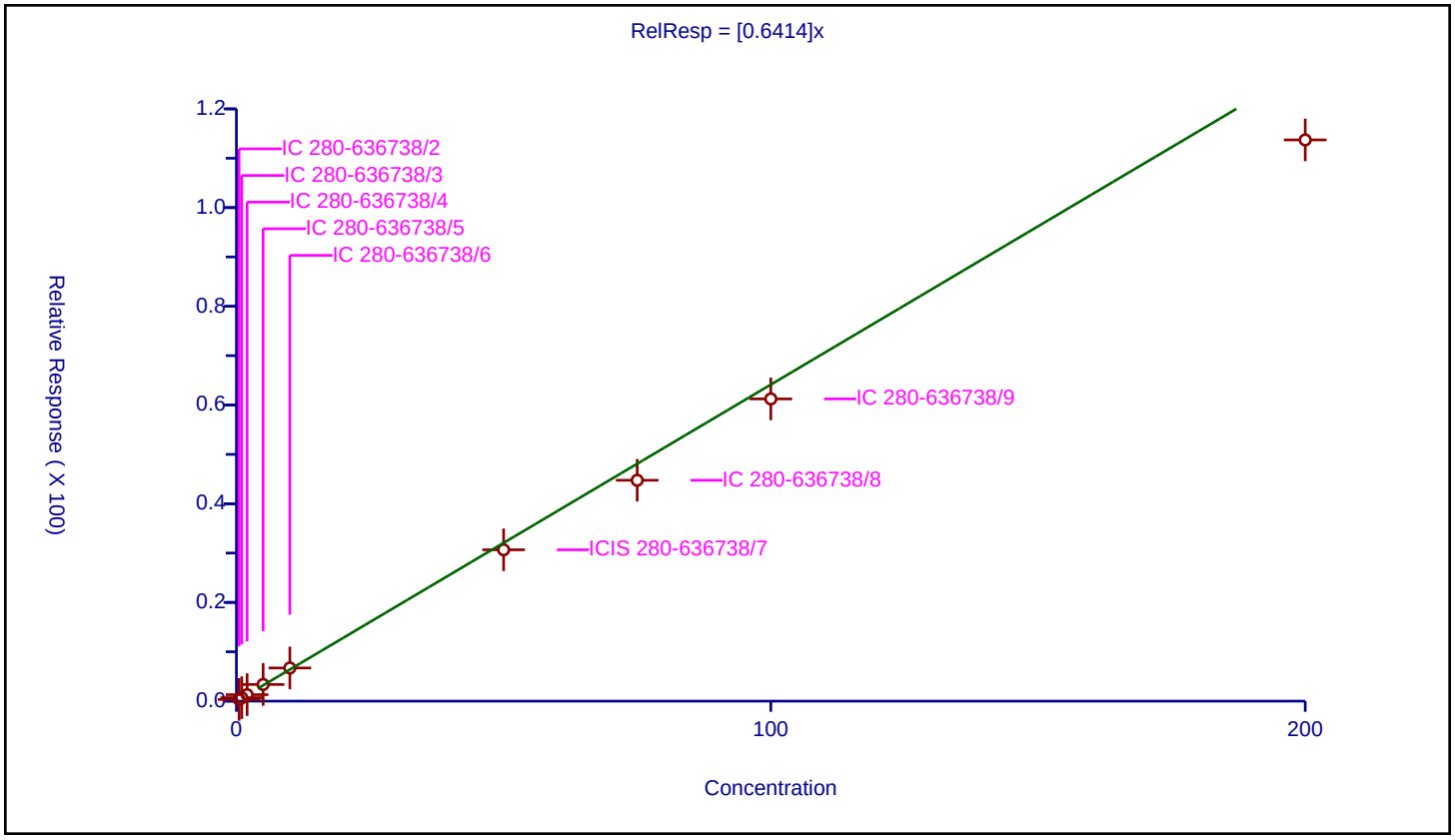
Curve Coefficients

Intercept:	0
Slope:	0.6414

Error Coefficients

Standard Error:	2010000
Relative Standard Error:	7.0
Correlation Coefficient:	0.999
Coefficient of Determination (Adjusted):	0.993

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 280-636738/2	0.5	0.338049	50.0	1824881.0	0.676099	Y
2	IC 280-636738/3	1.0	0.702605	50.0	1811045.0	0.702605	Y
3	IC 280-636738/4	2.0	1.309731	50.0	1808310.0	0.654866	Y
4	IC 280-636738/5	5.0	3.376537	50.0	1838496.0	0.675307	Y
5	IC 280-636738/6	10.0	6.723485	50.0	1829520.0	0.672348	Y
6	ICIS 280-636738/7	50.0	30.663997	50.0	1927914.0	0.61328	Y
7	IC 280-636738/8	75.0	44.757229	50.0	1983388.0	0.596763	Y
8	IC 280-636738/9	100.0	61.237876	50.0	1996396.0	0.612379	Y
9	IC 280-636738/10	200.0	113.715612	50.0	2045461.0	0.568578	Y



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Calibration / Trichlorofluoromethane

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	ISTD
Response Base:	AREA
RF Rounding:	0

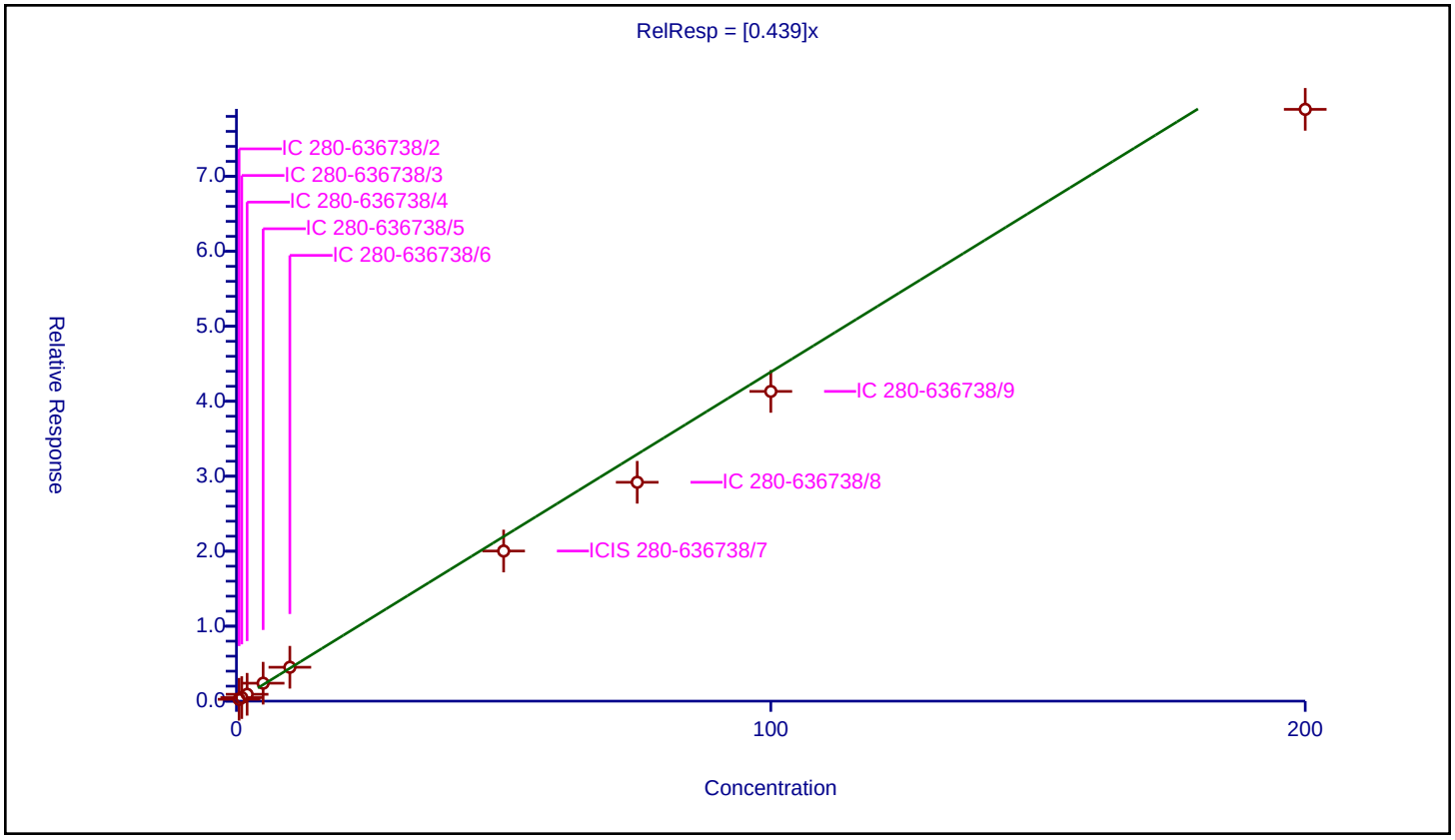
Curve Coefficients

Intercept:	0
Slope:	0.439

Error Coefficients

Standard Error:	1370000
Relative Standard Error:	9.1
Correlation Coefficient:	0.999
Coefficient of Determination (Adjusted):	0.988

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 280-636738/2	0.5	0.24618	50.0	1824881.0	0.492361	Y
2	IC 280-636738/3	1.0	0.473704	50.0	1811045.0	0.473704	Y
3	IC 280-636738/4	2.0	0.914279	50.0	1808310.0	0.45714	Y
4	IC 280-636738/5	5.0	2.392146	50.0	1838496.0	0.478429	Y
5	IC 280-636738/6	10.0	4.521951	50.0	1829520.0	0.452195	Y
6	ICIS 280-636738/7	50.0	20.0233	50.0	1927914.0	0.400466	Y
7	IC 280-636738/8	75.0	29.194817	50.0	1983388.0	0.389264	Y
8	IC 280-636738/9	100.0	41.316753	50.0	1996396.0	0.413168	Y
9	IC 280-636738/10	200.0	78.939418	50.0	2045461.0	0.394697	Y



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Calibration / Ethyl ether

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	ISTD
Response Base:	AREA
RF Rounding:	0

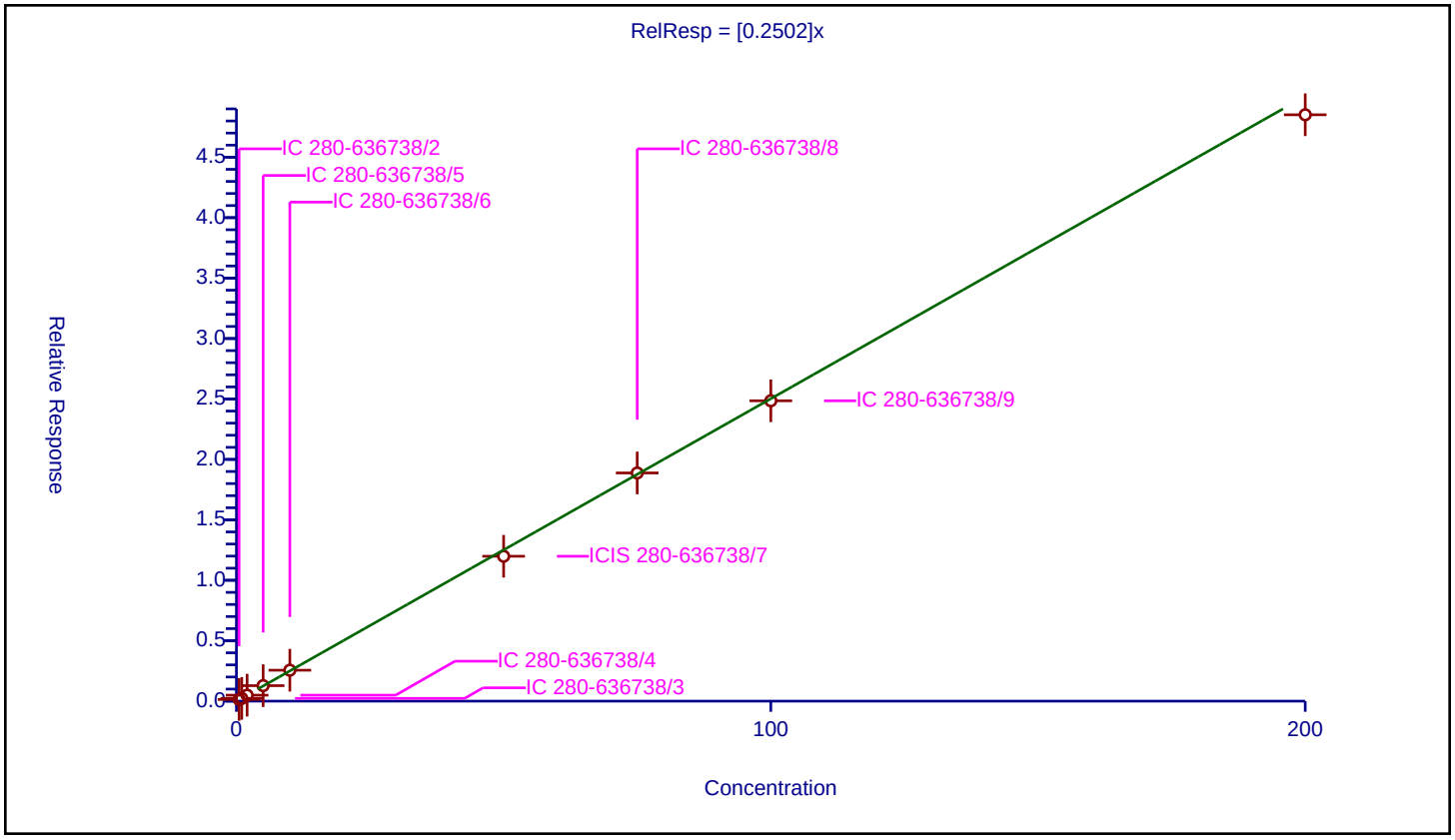
Curve Coefficients

Intercept:	0
Slope:	0.2502

Error Coefficients

Standard Error:	845000
Relative Standard Error:	5.9
Correlation Coefficient:	1.000
Coefficient of Determination (Adjusted):	0.995

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 280-636738/2	0.5	0.140995	50.0	1824881.0	0.281991	Y
2	IC 280-636738/3	1.0	0.227686	50.0	1811045.0	0.227686	Y
3	IC 280-636738/4	2.0	0.494523	50.0	1808310.0	0.247261	Y
4	IC 280-636738/5	5.0	1.282081	50.0	1838496.0	0.256416	Y
5	IC 280-636738/6	10.0	2.559797	50.0	1829520.0	0.25598	Y
6	ICIS 280-636738/7	50.0	11.989357	50.0	1927914.0	0.239787	Y
7	IC 280-636738/8	75.0	18.878102	50.0	1983388.0	0.251708	Y
8	IC 280-636738/9	100.0	24.850731	50.0	1996396.0	0.248507	Y
9	IC 280-636738/10	200.0	48.514076	50.0	2045461.0	0.24257	Y



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Calibration / Acrolein

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	ISTD
Response Base:	AREA
RF Rounding:	0

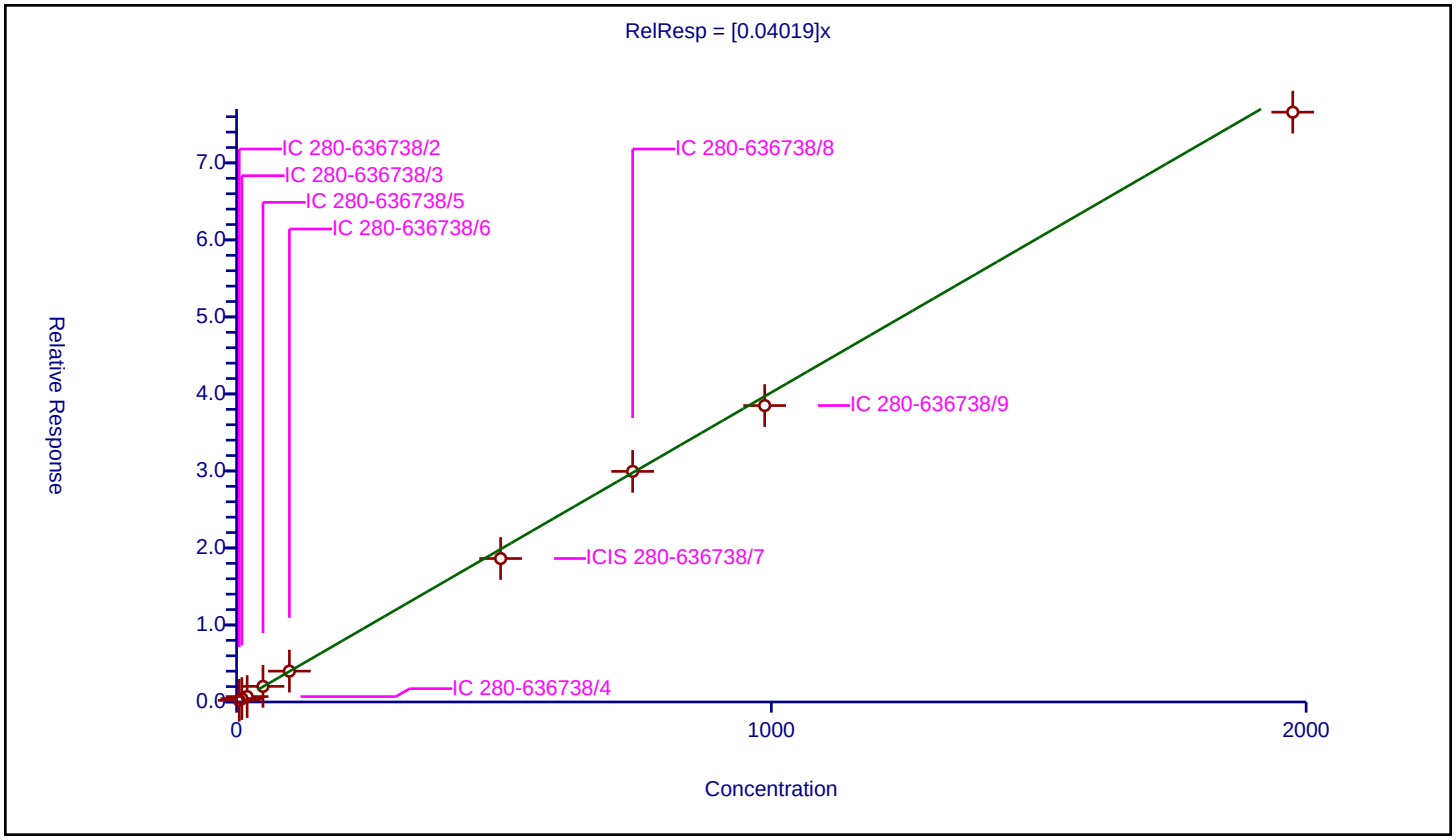
Curve Coefficients

Intercept:	0
Slope:	0.04019

Error Coefficients

Standard Error:	1330000
Relative Standard Error:	7.0
Correlation Coefficient:	1.000
Coefficient of Determination (Adjusted):	0.993

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 280-636738/2	4.9375	0.215685	50.0	1824881.0	0.043683	Y
2	IC 280-636738/3	9.875	0.442562	50.0	1811045.0	0.044816	Y
3	IC 280-636738/4	19.75	0.705134	50.0	1808310.0	0.035703	Y
4	IC 280-636738/5	49.375	2.026439	50.0	1838496.0	0.041042	Y
5	IC 280-636738/6	98.75	4.006734	50.0	1829520.0	0.040575	Y
6	ICIS 280-636738/7	493.75	18.629721	50.0	1927914.0	0.037731	Y
7	IC 280-636738/8	740.625	29.945805	50.0	1983388.0	0.040433	Y
8	IC 280-636738/9	987.5	38.49334	50.0	1996396.0	0.038981	Y
9	IC 280-636738/10	1975.0	76.590265	50.0	2045461.0	0.03878	Y



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Calibration / 1,1,2-Trichloro-1,2,2-trifluoroethane

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	ISTD
Response Base:	AREA
RF Rounding:	0

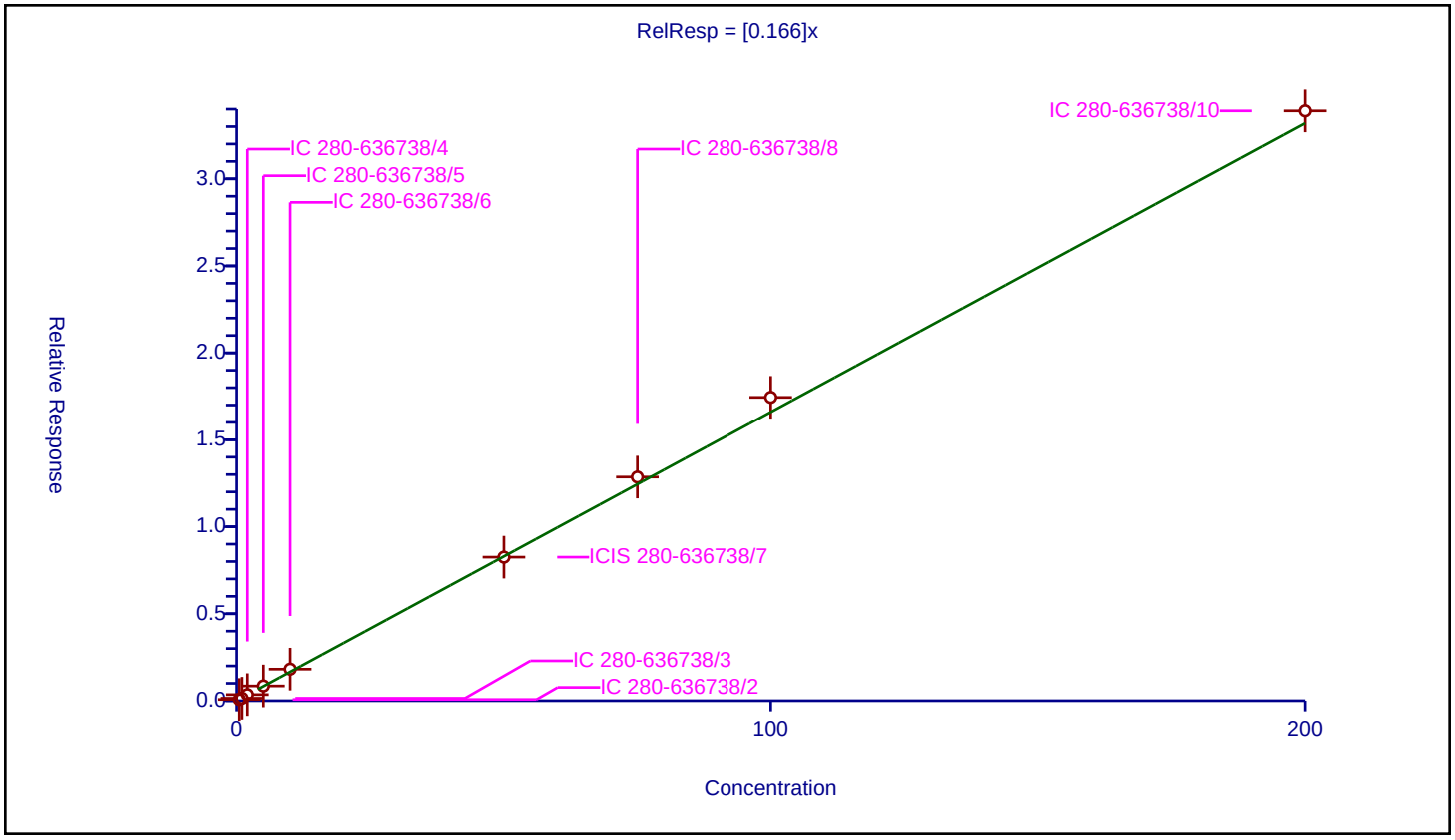
Curve Coefficients

Intercept:	0
Slope:	0.166

Error Coefficients

Standard Error:	589000
Relative Standard Error:	8.2
Correlation Coefficient:	1.000
Coefficient of Determination (Adjusted):	0.992

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 280-636738/2	0.5	0.071758	50.0	1824881.0	0.143516	Y
2	IC 280-636738/3	1.0	0.142929	50.0	1811045.0	0.142929	Y
3	IC 280-636738/4	2.0	0.35041	50.0	1808310.0	0.175205	Y
4	IC 280-636738/5	5.0	0.849743	50.0	1838496.0	0.169949	Y
5	IC 280-636738/6	10.0	1.815941	50.0	1829520.0	0.181594	Y
6	ICIS 280-636738/7	50.0	8.25361	50.0	1927914.0	0.165072	Y
7	IC 280-636738/8	75.0	12.858906	50.0	1983388.0	0.171452	Y
8	IC 280-636738/9	100.0	17.442281	50.0	1996396.0	0.174423	Y
9	IC 280-636738/10	200.0	33.901257	50.0	2045461.0	0.169506	Y



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Calibration / 1,1-Dichloroethene

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	ISTD
Response Base:	AREA
RF Rounding:	0

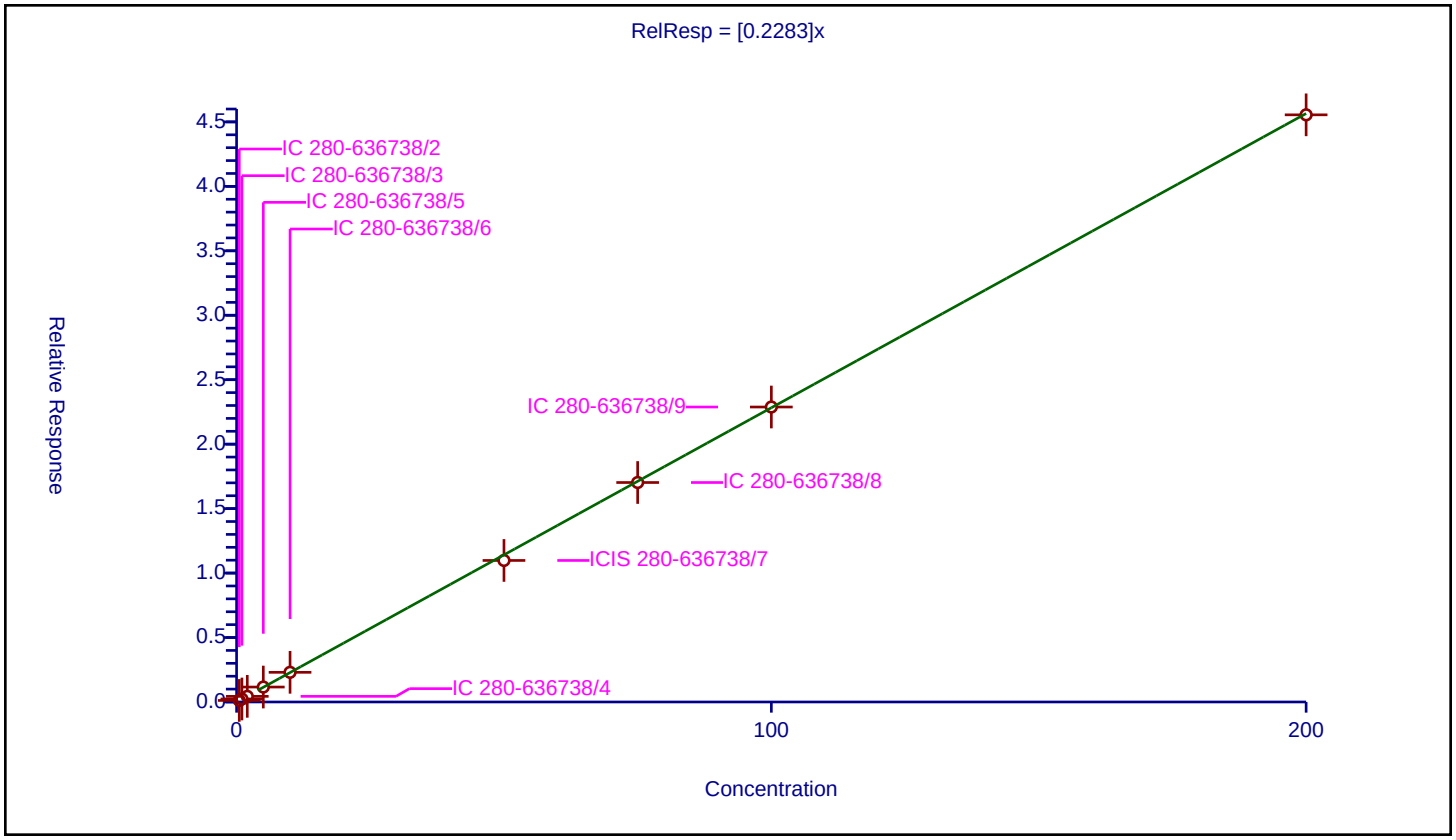
Curve Coefficients

Intercept:	0
Slope:	0.2283

Error Coefficients

Standard Error:	787000
Relative Standard Error:	2.6
Correlation Coefficient:	0.999
Coefficient of Determination (Adjusted):	0.999

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 280-636738/2	0.5	0.119104	50.0	1824881.0	0.238207	Y
2	IC 280-636738/3	1.0	0.232021	50.0	1811045.0	0.232021	Y
3	IC 280-636738/4	2.0	0.437978	50.0	1808310.0	0.218989	Y
4	IC 280-636738/5	5.0	1.159018	50.0	1838496.0	0.231804	Y
5	IC 280-636738/6	10.0	2.301779	50.0	1829520.0	0.230178	Y
6	ICIS 280-636738/7	50.0	10.979432	50.0	1927914.0	0.219589	Y
7	IC 280-636738/8	75.0	17.027001	50.0	1983388.0	0.227027	Y
8	IC 280-636738/9	100.0	22.883561	50.0	1996396.0	0.228836	Y
9	IC 280-636738/10	200.0	45.549145	50.0	2045461.0	0.227746	Y



Calibration / Acetone

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	ISTD
Response Base:	AREA
RF Rounding:	0

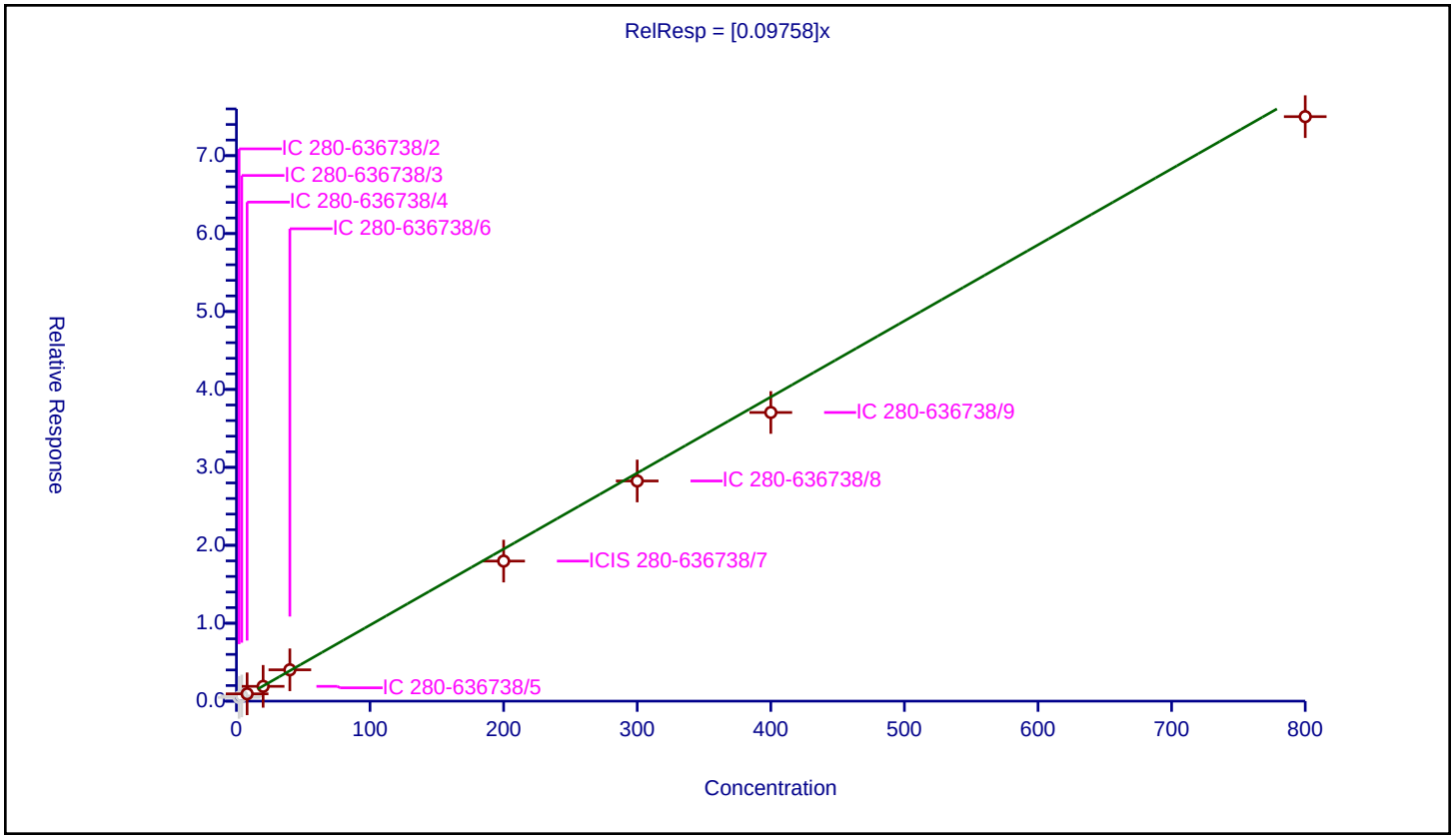
Curve Coefficients

Intercept:	0
Slope:	0.09758

Error Coefficients

Standard Error:	1490000
Relative Standard Error:	9.5
Correlation Coefficient:	0.999
Coefficient of Determination (Adjusted):	0.987

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 280-636738/2	2.0	0.477593	50.0	1824881.0	0.238796	N
2	IC 280-636738/3	4.0	0.666383	50.0	1811045.0	0.166596	N
3	IC 280-636738/4	8.0	0.937533	50.0	1808310.0	0.117192	Y
4	IC 280-636738/5	20.0	1.898155	50.0	1838496.0	0.094908	Y
5	IC 280-636738/6	40.0	4.022722	50.0	1829520.0	0.100568	Y
6	ICIS 280-636738/7	200.0	17.973909	50.0	1927914.0	0.08987	Y
7	IC 280-636738/8	300.0	28.252162	50.0	1983388.0	0.094174	Y
8	IC 280-636738/9	400.0	37.044129	50.0	1996396.0	0.09261	Y
9	IC 280-636738/10	800.0	75.006832	50.0	2045461.0	0.093759	Y



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Calibration / Iodomethane

Curve Type:	Linear
Weighting:	Conc
Origin:	None
Dependency:	Response
Calib Mode:	ISTD
Response Base:	AREA
RF Rounding:	0

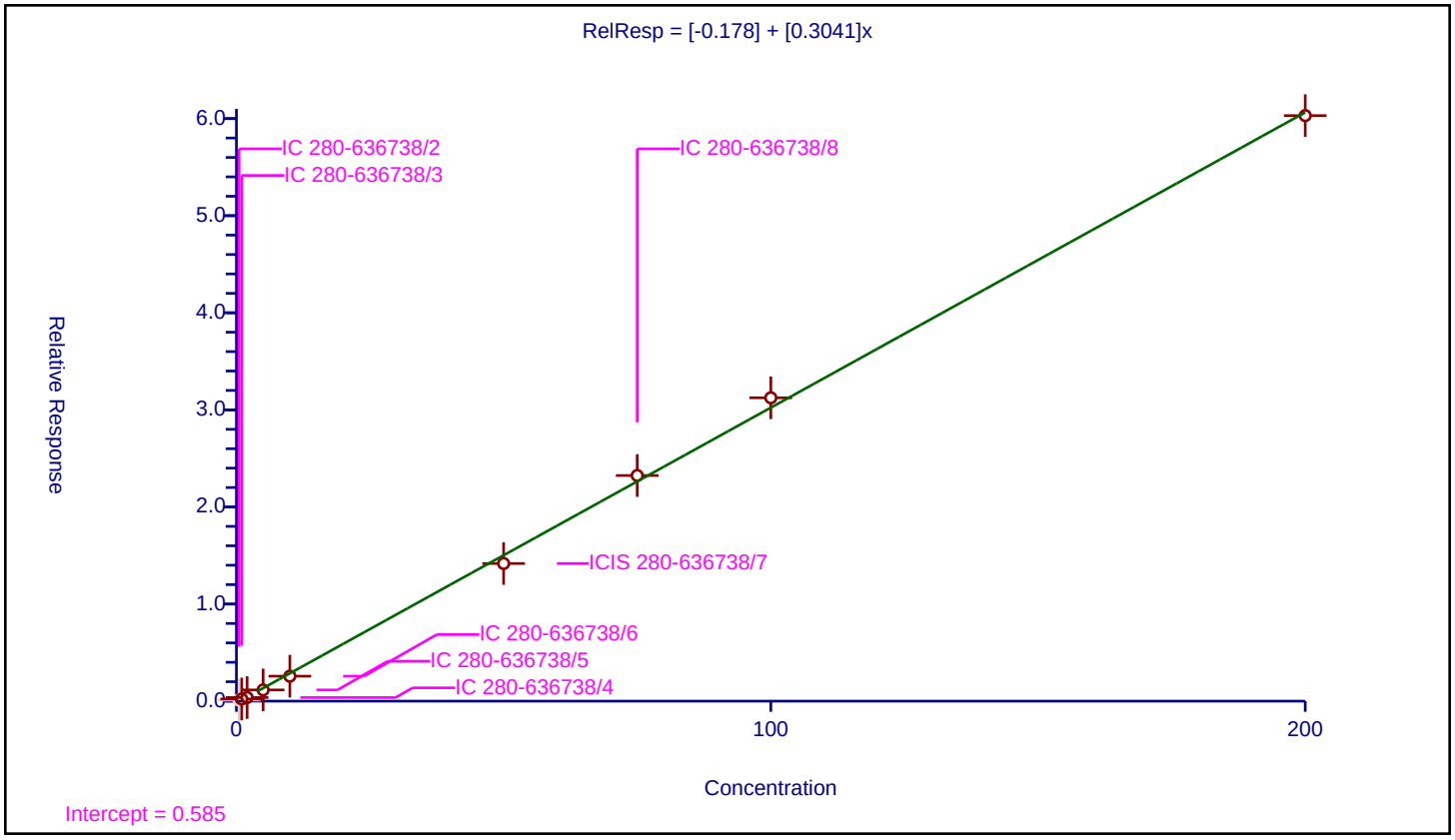
Curve Coefficients

Intercept:	-0.178
Slope:	0.3041

Error Coefficients

Standard Error:	1210000
Relative Standard Error:	15.2
Correlation Coefficient:	0.999
Coefficient of Determination (Adjusted):	0.998

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 280-636738/2	0.5	0.108117	50.0	1824881.0	0.216233	N
2	IC 280-636738/3	1.0	0.222441	50.0	1811045.0	0.222441	Y
3	IC 280-636738/4	2.0	0.372337	50.0	1808310.0	0.186168	Y
4	IC 280-636738/5	5.0	1.152192	50.0	1838496.0	0.230438	Y
5	IC 280-636738/6	10.0	2.572751	50.0	1829520.0	0.257275	Y
6	ICIS 280-636738/7	50.0	14.174517	50.0	1927914.0	0.28349	Y
7	IC 280-636738/8	75.0	23.240208	50.0	1983388.0	0.309869	Y
8	IC 280-636738/9	100.0	31.243701	50.0	1996396.0	0.312437	Y
9	IC 280-636738/10	200.0	60.307236	50.0	2045461.0	0.301536	Y



Calibration / Carbon disulfide

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	ISTD
Response Base:	AREA
RF Rounding:	0

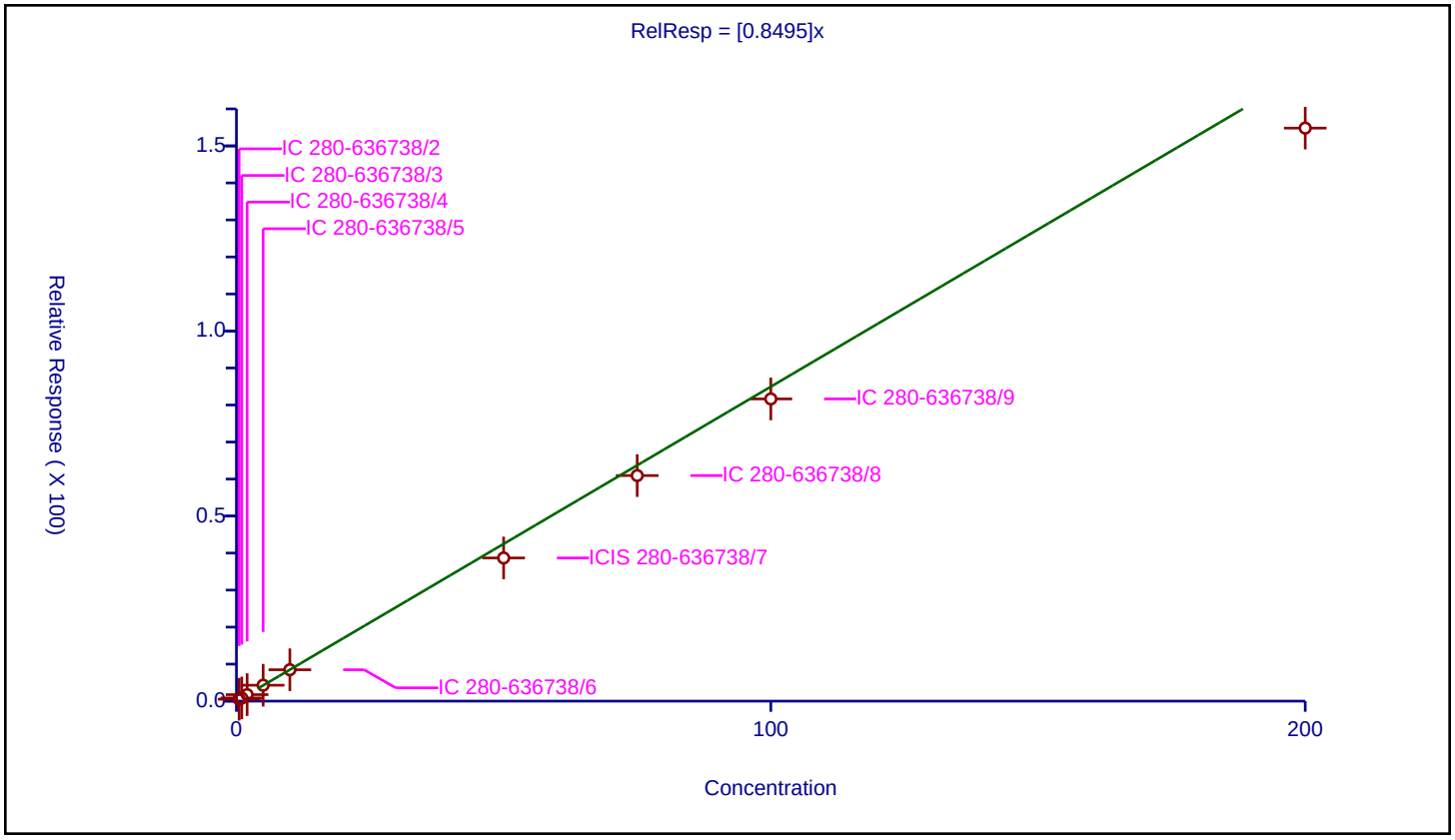
Curve Coefficients

Intercept:	0
Slope:	0.8495

Error Coefficients

Standard Error:	2710000
Relative Standard Error:	9.1
Correlation Coefficient:	1.000
Coefficient of Determination (Adjusted):	0.988

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 280-636738/2	0.5	0.515814	50.0	1824881.0	1.031629	Y
2	IC 280-636738/3	1.0	0.852933	50.0	1811045.0	0.852933	Y
3	IC 280-636738/4	2.0	1.75346	50.0	1808310.0	0.87673	Y
4	IC 280-636738/5	5.0	4.301614	50.0	1838496.0	0.860323	Y
5	IC 280-636738/6	10.0	8.476732	50.0	1829520.0	0.847673	Y
6	ICIS 280-636738/7	50.0	38.675325	50.0	1927914.0	0.773506	Y
7	IC 280-636738/8	75.0	60.93969	50.0	1983388.0	0.812529	Y
8	IC 280-636738/9	100.0	81.646803	50.0	1996396.0	0.816468	Y
9	IC 280-636738/10	200.0	154.814611	50.0	2045461.0	0.774073	Y



Calibration / Methyl acetate

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	ISTD
Response Base:	AREA
RF Rounding:	0

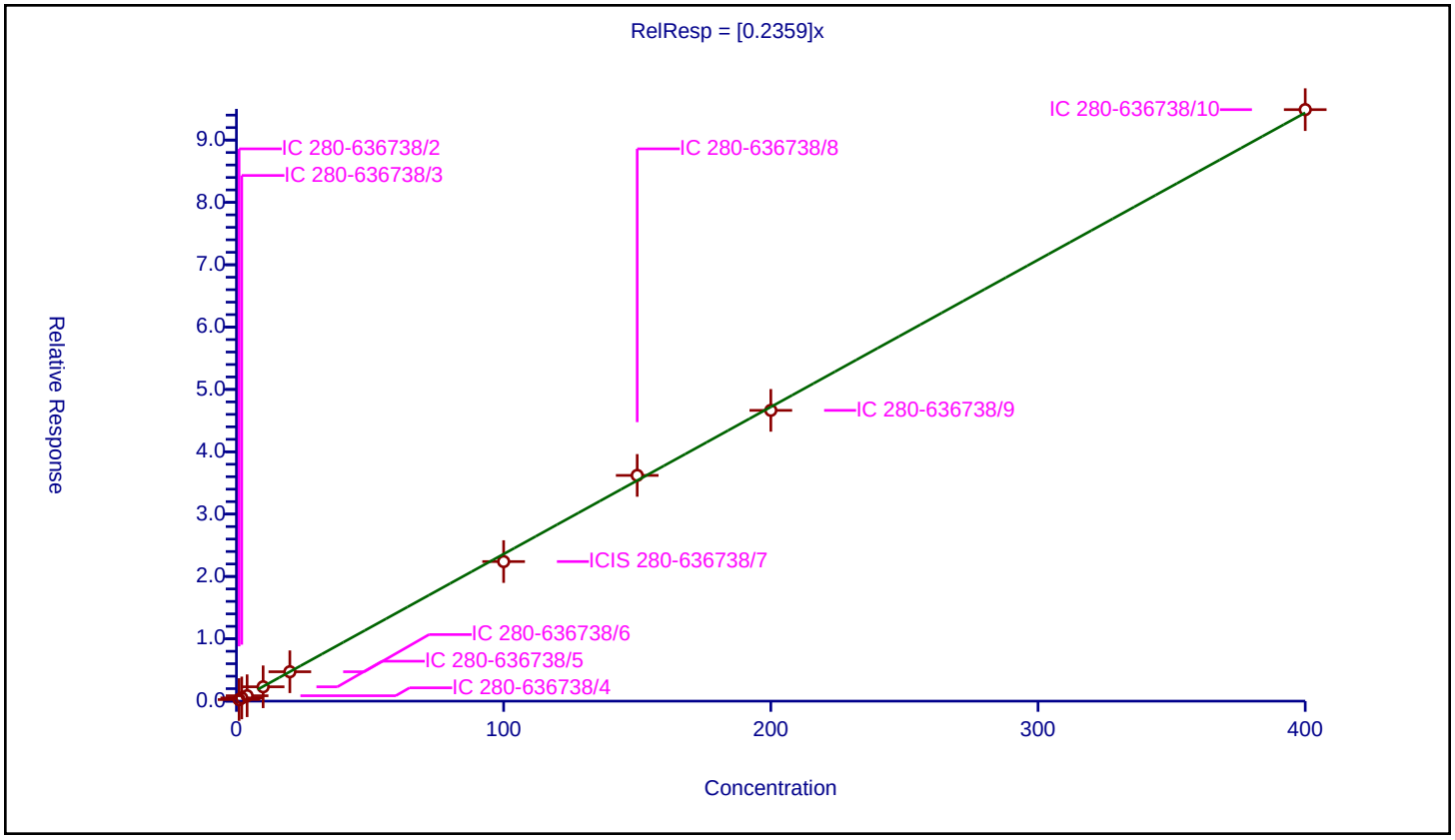
Curve Coefficients

Intercept:	0
Slope:	0.2359

Error Coefficients

Standard Error:	1630000
Relative Standard Error:	5.2
Correlation Coefficient:	0.999
Coefficient of Determination (Adjusted):	0.996

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 280-636738/2	1.0	0.248153	50.0	1824881.0	0.248153	Y
2	IC 280-636738/3	2.0	0.515172	50.0	1811045.0	0.257586	Y
3	IC 280-636738/4	4.0	0.865007	50.0	1808310.0	0.216252	Y
4	IC 280-636738/5	10.0	2.300304	50.0	1838496.0	0.23003	Y
5	IC 280-636738/6	20.0	4.714105	50.0	1829520.0	0.235705	Y
6	ICIS 280-636738/7	100.0	22.388602	50.0	1927914.0	0.223886	Y
7	IC 280-636738/8	150.0	36.207994	50.0	1983388.0	0.241387	Y
8	IC 280-636738/9	200.0	46.644053	50.0	1996396.0	0.23322	Y
9	IC 280-636738/10	400.0	94.881423	50.0	2045461.0	0.237204	Y



Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	ISTD
Response Base:	AREA
RF Rounding:	0

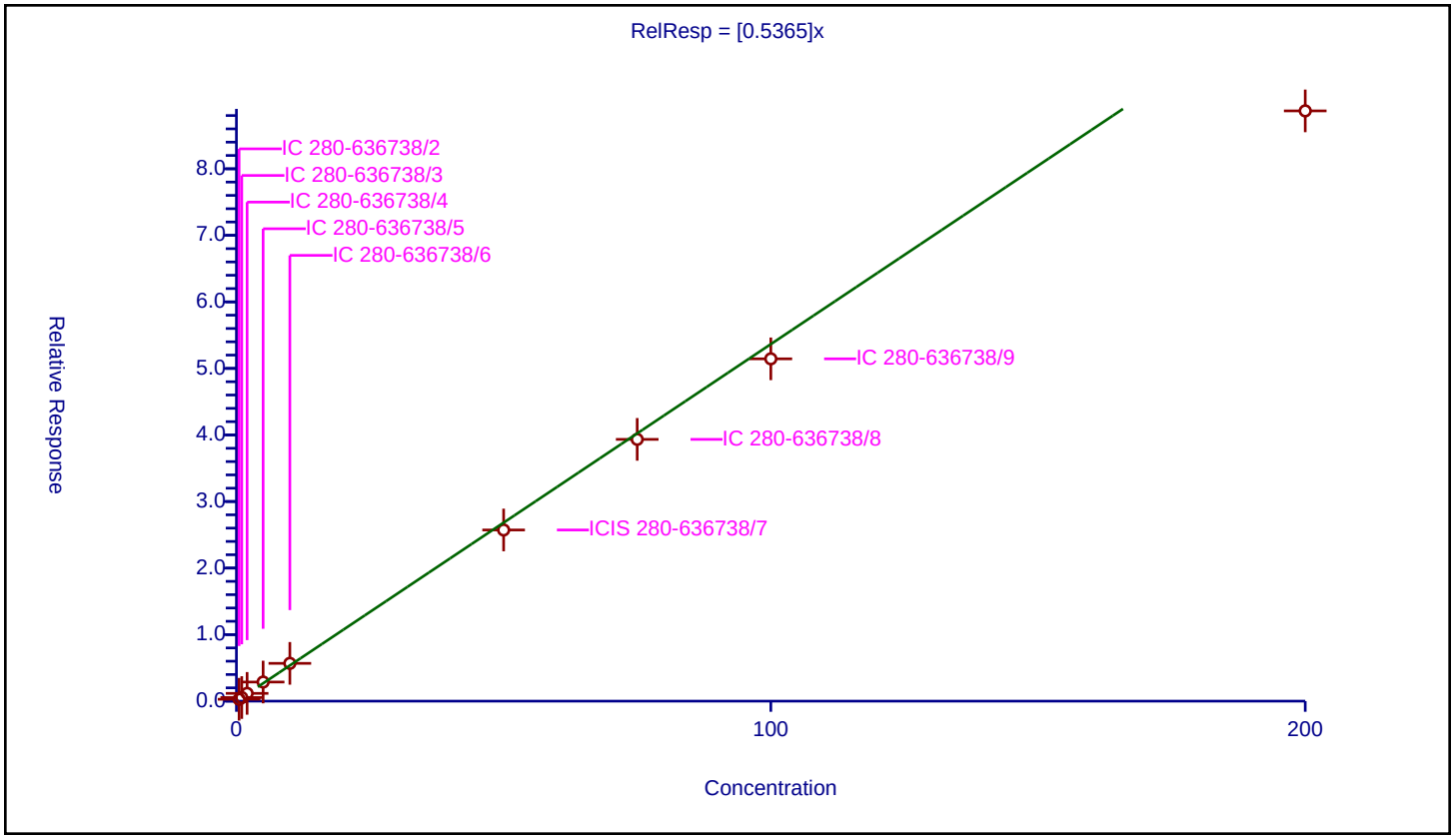
Curve Coefficients

Intercept:	0
Slope:	0.5365

Error Coefficients

Standard Error:	1610000
Relative Standard Error:	8.1
Correlation Coefficient:	0.995
Coefficient of Determination (Adjusted):	0.991

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 280-636738/2	0.5	0.28158	50.0	1824881.0	0.56316	Y
2	IC 280-636738/3	1.0	0.542063	50.0	1811045.0	0.542063	Y
3	IC 280-636738/4	2.0	1.167471	50.0	1808310.0	0.583736	Y
4	IC 280-636738/5	5.0	2.872484	50.0	1838496.0	0.574497	Y
5	IC 280-636738/6	10.0	5.677746	50.0	1829520.0	0.567775	Y
6	ICIS 280-636738/7	50.0	25.721324	50.0	1927914.0	0.514426	Y
7	IC 280-636738/8	75.0	39.33779	50.0	1983388.0	0.524504	Y
8	IC 280-636738/9	100.0	51.442199	50.0	1996396.0	0.514422	Y
9	IC 280-636738/10	200.0	88.700249	50.0	2045461.0	0.443501	Y



Calibration / Methylene Chloride

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	ISTD
Response Base:	AREA
RF Rounding:	0

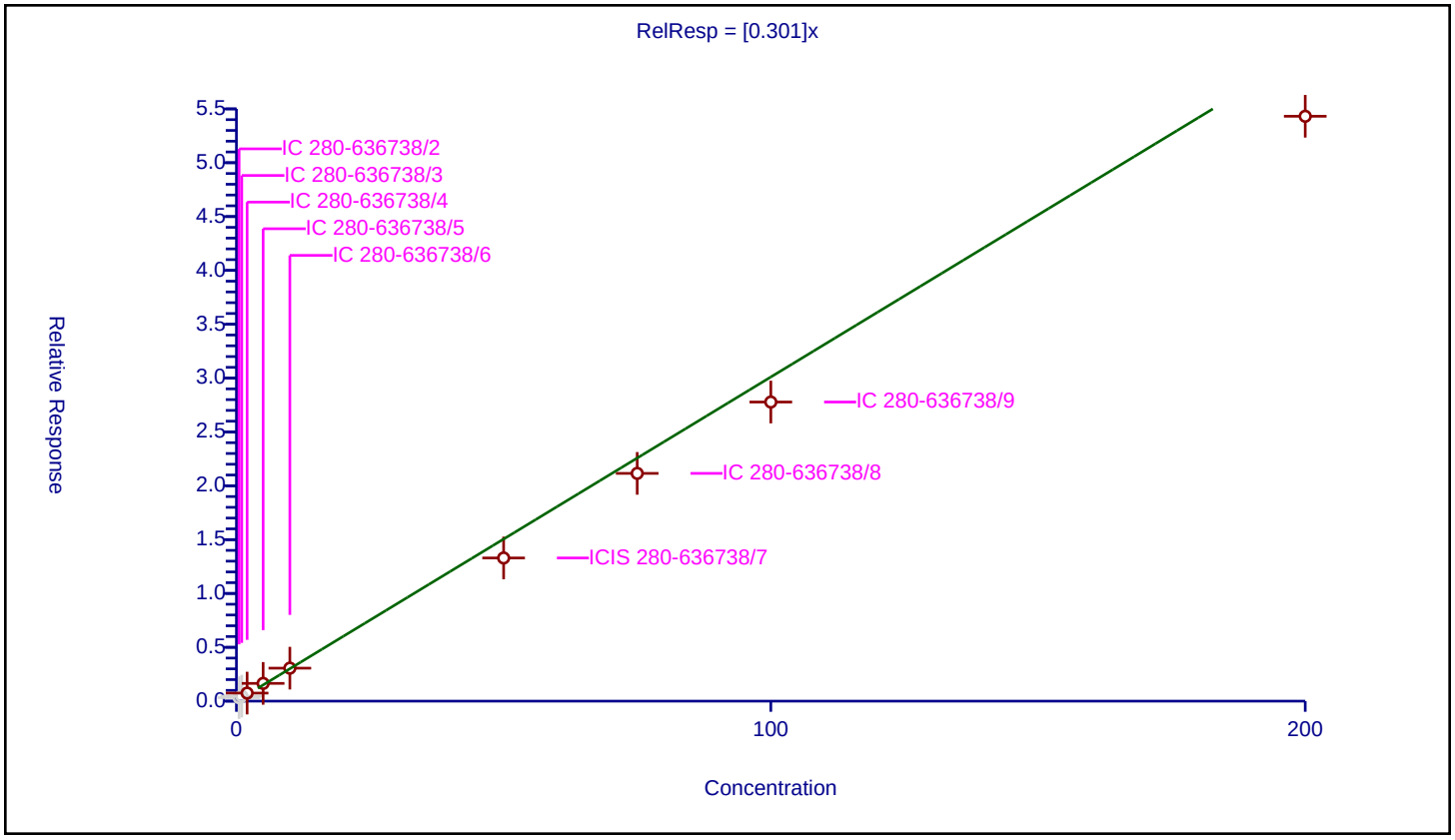
Curve Coefficients

Intercept:	0
Slope:	0.301

Error Coefficients

Standard Error:	1090000
Relative Standard Error:	13.0
Correlation Coefficient:	1.000
Coefficient of Determination (Adjusted):	0.974

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 280-636738/2	0.5	0.32509	50.0	1824881.0	0.650179	N
2	IC 280-636738/3	1.0	0.462771	50.0	1811045.0	0.462771	N
3	IC 280-636738/4	2.0	0.747632	50.0	1808310.0	0.373816	Y
4	IC 280-636738/5	5.0	1.64795	50.0	1838496.0	0.32959	Y
5	IC 280-636738/6	10.0	3.064356	50.0	1829520.0	0.306436	Y
6	ICIS 280-636738/7	50.0	13.294654	50.0	1927914.0	0.265893	Y
7	IC 280-636738/8	75.0	21.151711	50.0	1983388.0	0.282023	Y
8	IC 280-636738/9	100.0	27.776754	50.0	1996396.0	0.277768	Y
9	IC 280-636738/10	200.0	54.314626	50.0	2045461.0	0.271573	Y



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Calibration / 2-Methyl-2-propanol

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	ISTD
Response Base:	AREA
RF Rounding:	0

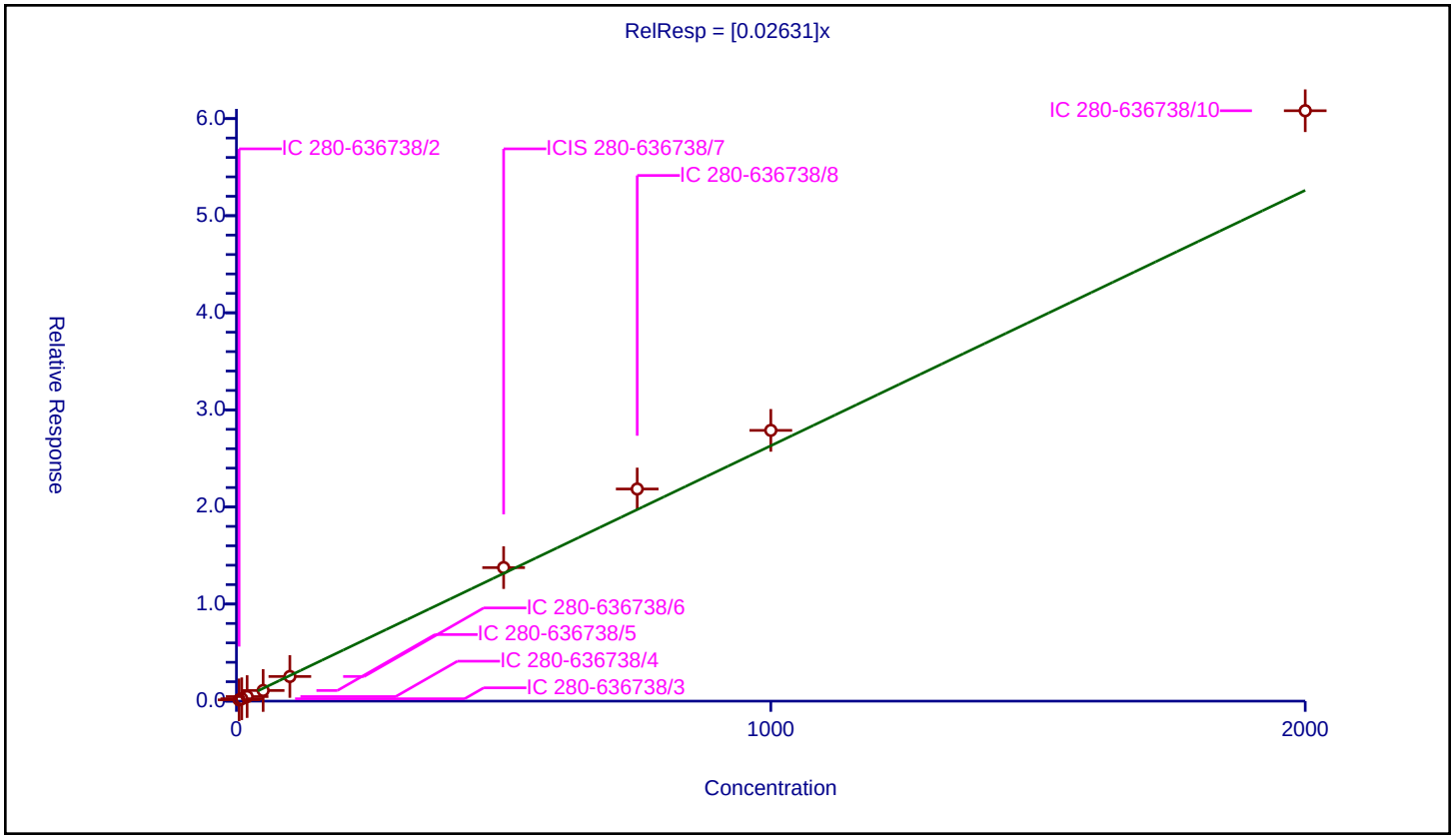
Curve Coefficients

Intercept:	0
Slope:	0.02631

Error Coefficients

Standard Error:	1030000
Relative Standard Error:	10.4
Correlation Coefficient:	0.997
Coefficient of Determination (Adjusted):	0.987

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 280-636738/2	5.0	0.132091	50.0	1824881.0	0.026418	Y
2	IC 280-636738/3	10.0	0.245576	50.0	1811045.0	0.024558	Y
3	IC 280-636738/4	20.0	0.471075	50.0	1808310.0	0.023554	Y
4	IC 280-636738/5	50.0	1.095515	50.0	1838496.0	0.02191	Y
5	IC 280-636738/6	100.0	2.538535	50.0	1829520.0	0.025385	Y
6	ICIS 280-636738/7	500.0	13.753959	50.0	1927914.0	0.027508	Y
7	IC 280-636738/8	750.0	21.850818	50.0	1983388.0	0.029134	Y
8	IC 280-636738/9	1000.0	27.889732	50.0	1996396.0	0.02789	Y
9	IC 280-636738/10	2000.0	60.811964	50.0	2045461.0	0.030406	Y



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Calibration / Acrylonitrile

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	ISTD
Response Base:	AREA
RF Rounding:	0

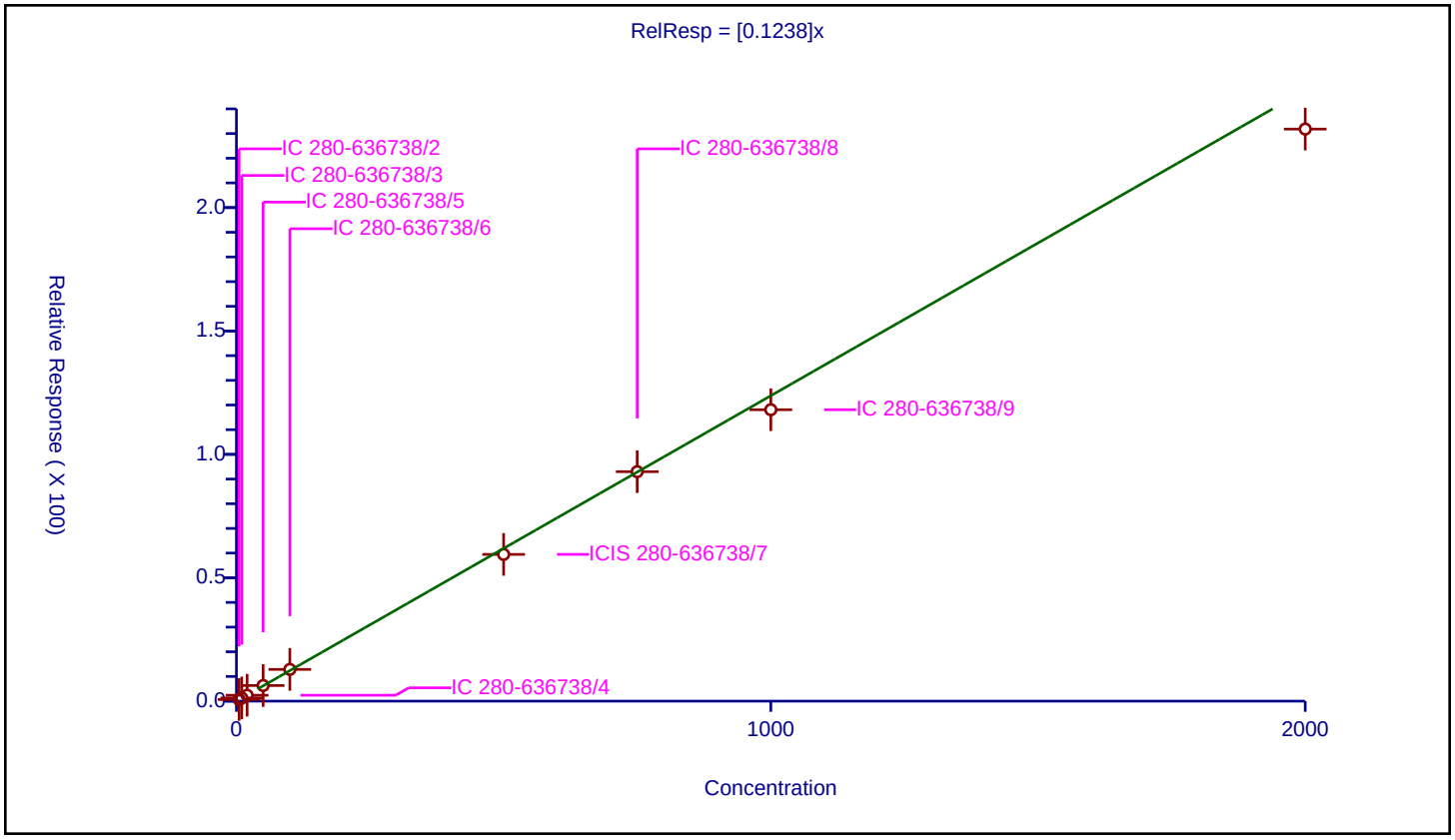
Curve Coefficients

Intercept:	0
Slope:	0.1238

Error Coefficients

Standard Error:	4050000
Relative Standard Error:	4.9
Correlation Coefficient:	1.000
Coefficient of Determination (Adjusted):	0.997

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 280-636738/2	5.0	0.668153	50.0	1824881.0	0.133631	Y
2	IC 280-636738/3	10.0	1.286191	50.0	1811045.0	0.128619	Y
3	IC 280-636738/4	20.0	2.390188	50.0	1808310.0	0.119509	Y
4	IC 280-636738/5	50.0	6.333764	50.0	1838496.0	0.126675	Y
5	IC 280-636738/6	100.0	12.860313	50.0	1829520.0	0.128603	Y
6	ICIS 280-636738/7	500.0	59.460043	50.0	1927914.0	0.11892	Y
7	IC 280-636738/8	750.0	92.990983	50.0	1983388.0	0.123988	Y
8	IC 280-636738/9	1000.0	118.089572	50.0	1996396.0	0.11809	Y
9	IC 280-636738/10	2000.0	231.818426	50.0	2045461.0	0.115909	Y



Calibration / Methyl tert-butyl ether

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	ISTD
Response Base:	AREA
RF Rounding:	0

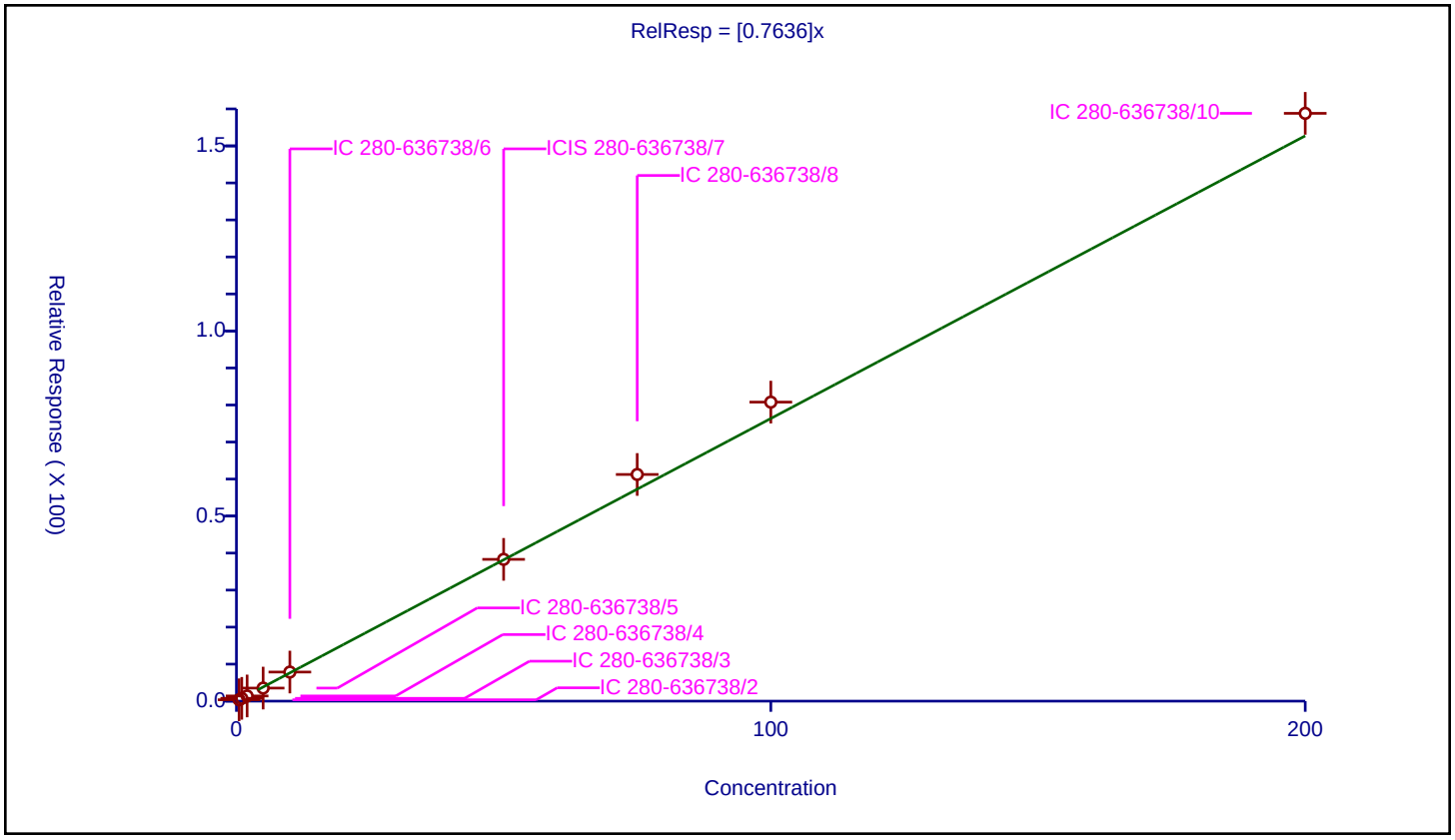
Curve Coefficients

Intercept:	0
Slope:	0.7636

Error Coefficients

Standard Error:	2760000
Relative Standard Error:	5.5
Correlation Coefficient:	1.000
Coefficient of Determination (Adjusted):	0.996

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 280-636738/2	0.5	0.370326	50.0	1824881.0	0.740651	Y
2	IC 280-636738/3	1.0	0.755724	50.0	1811045.0	0.755724	Y
3	IC 280-636738/4	2.0	1.398433	50.0	1808310.0	0.699216	Y
4	IC 280-636738/5	5.0	3.529787	50.0	1838496.0	0.705957	Y
5	IC 280-636738/6	10.0	7.864003	50.0	1829520.0	0.7864	Y
6	ICIS 280-636738/7	50.0	38.306688	50.0	1927914.0	0.766134	Y
7	IC 280-636738/8	75.0	61.234615	50.0	1983388.0	0.816462	Y
8	IC 280-636738/9	100.0	80.78242	50.0	1996396.0	0.807824	Y
9	IC 280-636738/10	200.0	158.796843	50.0	2045461.0	0.793984	Y



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Calibration / trans-1,2-Dichloroethene

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	ISTD
Response Base:	AREA
RF Rounding:	0

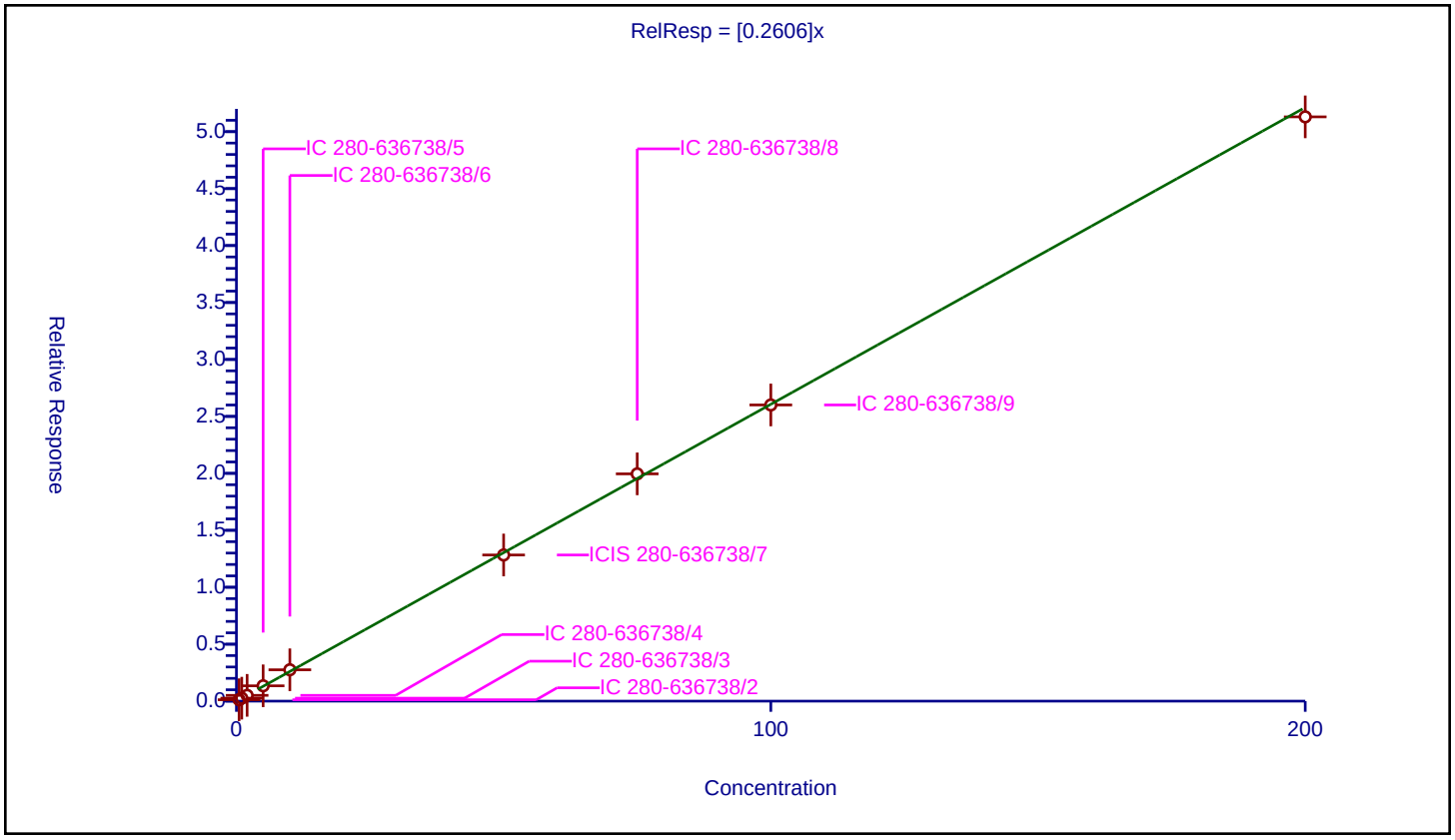
Curve Coefficients

Intercept:	0
Slope:	0.2606

Error Coefficients

Standard Error:	892000
Relative Standard Error:	3.2
Correlation Coefficient:	1.000
Coefficient of Determination (Adjusted):	0.999

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 280-636738/2	0.5	0.123761	50.0	1824881.0	0.247523	Y
2	IC 280-636738/3	1.0	0.260098	50.0	1811045.0	0.260098	Y
3	IC 280-636738/4	2.0	0.508513	50.0	1808310.0	0.254257	Y
4	IC 280-636738/5	5.0	1.346291	50.0	1838496.0	0.269258	Y
5	IC 280-636738/6	10.0	2.754548	50.0	1829520.0	0.275455	Y
6	ICIS 280-636738/7	50.0	12.832237	50.0	1927914.0	0.256645	Y
7	IC 280-636738/8	75.0	19.955072	50.0	1983388.0	0.266068	Y
8	IC 280-636738/9	100.0	26.004235	50.0	1996396.0	0.260042	Y
9	IC 280-636738/10	200.0	51.299903	50.0	2045461.0	0.2565	Y



Calibration / Hexane

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	ISTD
Response Base:	AREA
RF Rounding:	0

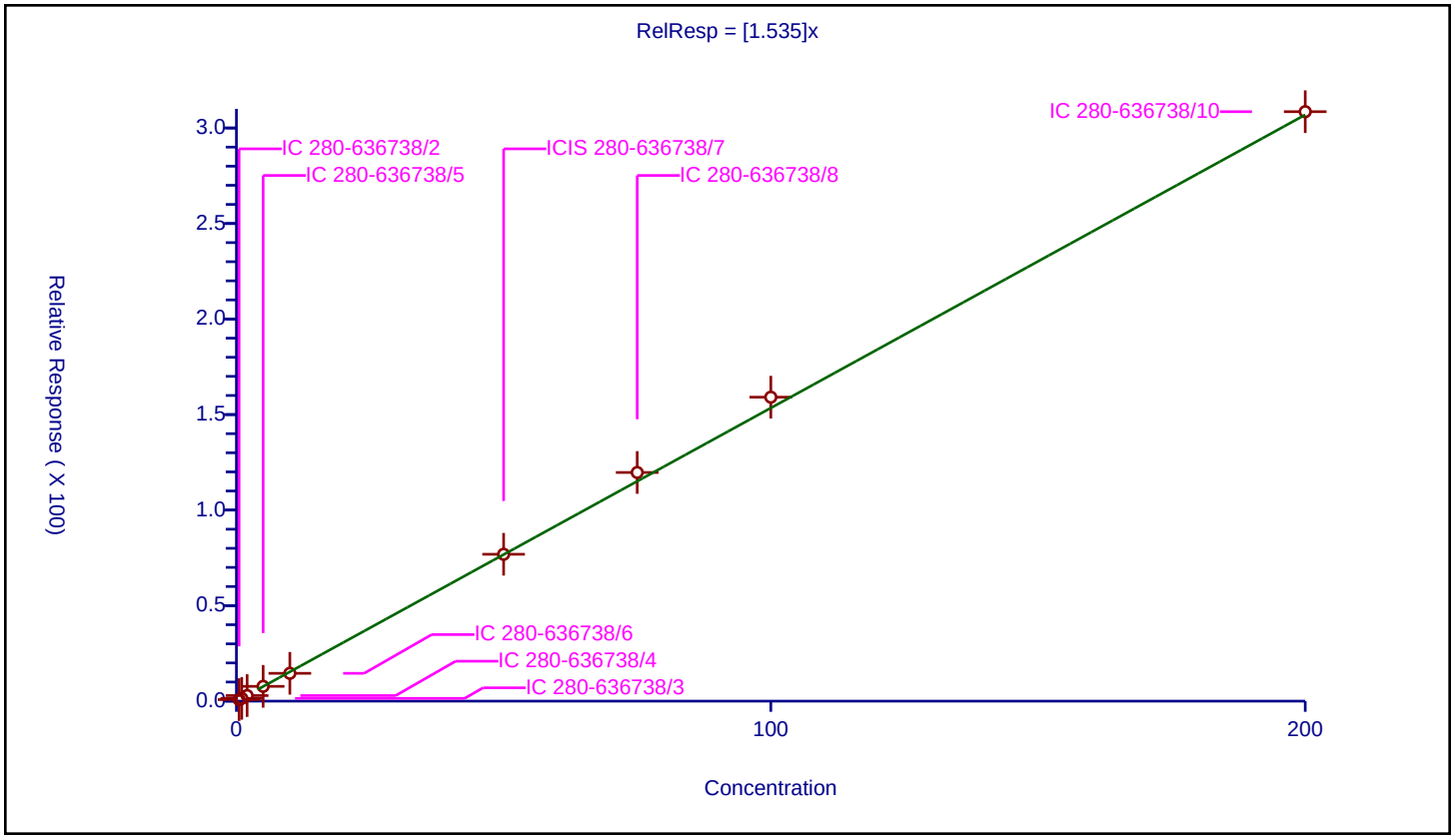
Curve Coefficients

Intercept:	0
Slope:	1.535

Error Coefficients

Standard Error:	1360000
Relative Standard Error:	4.1
Correlation Coefficient:	1.000
Coefficient of Determination (Adjusted):	0.998

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 280-636738/2	0.5	0.808213	50.0	463863.0	1.616426	Y
2	IC 280-636738/3	1.0	1.45933	50.0	472203.0	1.45933	Y
3	IC 280-636738/4	2.0	2.924258	50.0	462596.0	1.462129	Y
4	IC 280-636738/5	5.0	7.747084	50.0	471713.0	1.549417	Y
5	IC 280-636738/6	10.0	14.56408	50.0	481740.0	1.456408	Y
6	ICIS 280-636738/7	50.0	76.874498	50.0	487237.0	1.53749	Y
7	IC 280-636738/8	75.0	119.690043	50.0	505296.0	1.595867	Y
8	IC 280-636738/9	100.0	159.097715	50.0	502912.0	1.590977	Y
9	IC 280-636738/10	200.0	308.54	50.0	519596.0	1.5427	Y



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Calibration / Vinyl acetate

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	ISTD
Response Base:	AREA
RF Rounding:	0

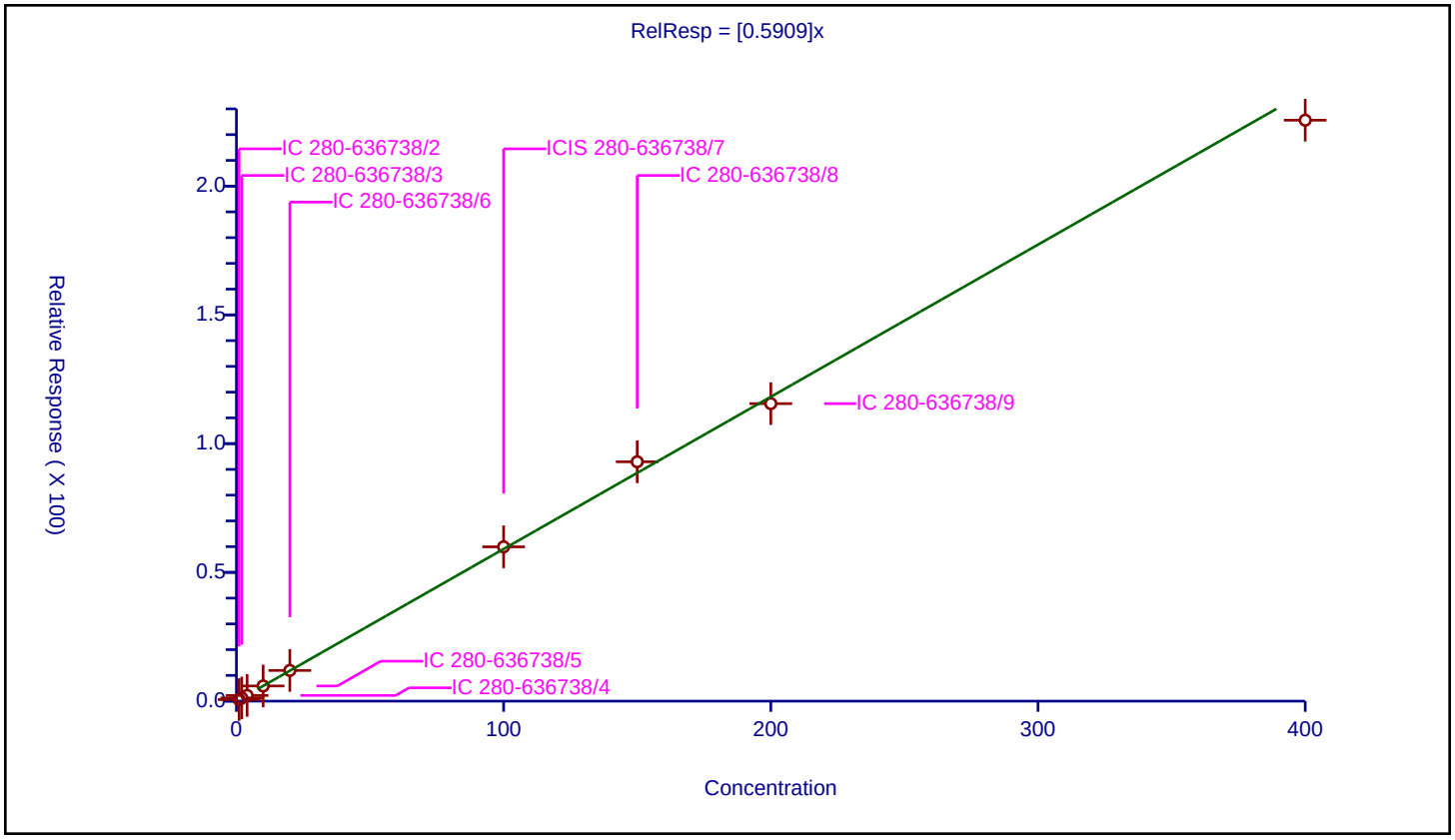
Curve Coefficients

Intercept:	0
Slope:	0.5909

Error Coefficients

Standard Error:	3960000
Relative Standard Error:	3.9
Correlation Coefficient:	0.999
Coefficient of Determination (Adjusted):	0.998

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 280-636738/2	1.0	0.606615	50.0	1824881.0	0.606615	Y
2	IC 280-636738/3	2.0	1.231527	50.0	1811045.0	0.615763	Y
3	IC 280-636738/4	4.0	2.203881	50.0	1808310.0	0.55097	Y
4	IC 280-636738/5	10.0	5.885762	50.0	1838496.0	0.588576	Y
5	IC 280-636738/6	20.0	11.915885	50.0	1829520.0	0.595794	Y
6	ICIS 280-636738/7	100.0	59.923498	50.0	1927914.0	0.599235	Y
7	IC 280-636738/8	150.0	92.963051	50.0	1983388.0	0.619754	Y
8	IC 280-636738/9	200.0	115.544586	50.0	1996396.0	0.577723	Y
9	IC 280-636738/10	400.0	225.600659	50.0	2045461.0	0.564002	Y



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Calibration / 1,1-Dichloroethane

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	ISTD
Response Base:	AREA
RF Rounding:	0

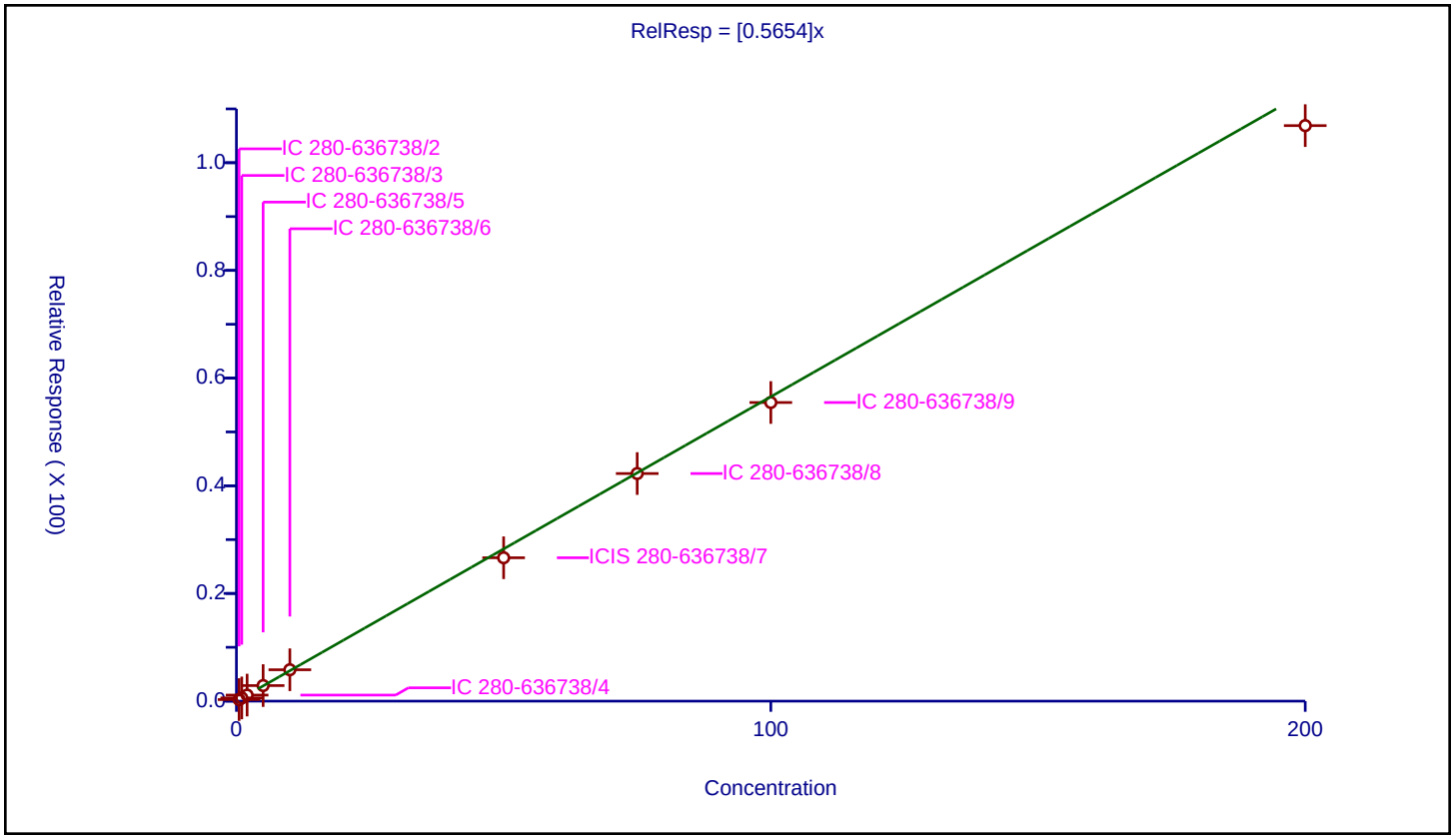
Curve Coefficients

Intercept:	0
Slope:	0.5654

Error Coefficients

Standard Error:	1870000
Relative Standard Error:	3.9
Correlation Coefficient:	1.000
Coefficient of Determination (Adjusted):	0.998

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 280-636738/2	0.5	0.290266	50.0	1824881.0	0.580531	Y
2	IC 280-636738/3	1.0	0.59808	50.0	1811045.0	0.59808	Y
3	IC 280-636738/4	2.0	1.127683	50.0	1808310.0	0.563841	Y
4	IC 280-636738/5	5.0	2.888965	50.0	1838496.0	0.577793	Y
5	IC 280-636738/6	10.0	5.827731	50.0	1829520.0	0.582773	Y
6	ICIS 280-636738/7	50.0	26.631945	50.0	1927914.0	0.532639	Y
7	IC 280-636738/8	75.0	42.270852	50.0	1983388.0	0.563611	Y
8	IC 280-636738/9	100.0	55.467527	50.0	1996396.0	0.554675	Y
9	IC 280-636738/10	200.0	106.894363	50.0	2045461.0	0.534472	Y



Calibration / 2-Butanone (MEK)

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	ISTD
Response Base:	AREA
RF Rounding:	0

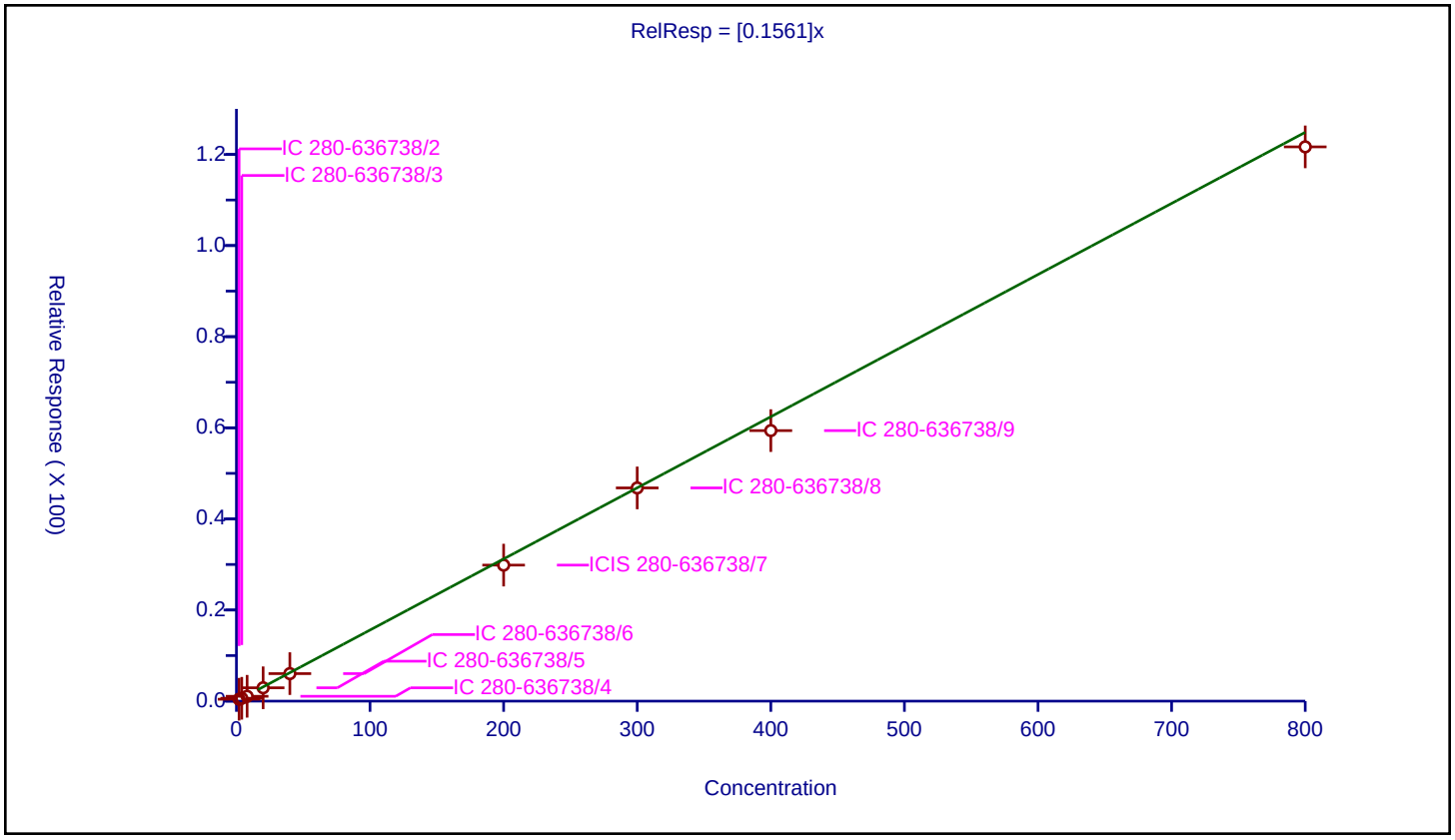
Curve Coefficients

Intercept:	0
Slope:	0.1561

Error Coefficients

Standard Error:	2100000
Relative Standard Error:	13.8
Correlation Coefficient:	0.999
Coefficient of Determination (Adjusted):	0.972

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 280-636738/2	2.0	0.420548	50.0	1824881.0	0.210274	Y
2	IC 280-636738/3	4.0	0.630492	50.0	1811045.0	0.157623	Y
3	IC 280-636738/4	8.0	1.067184	50.0	1808310.0	0.133398	Y
4	IC 280-636738/5	20.0	2.929922	50.0	1838496.0	0.146496	Y
5	IC 280-636738/6	40.0	6.040464	50.0	1829520.0	0.151012	Y
6	ICIS 280-636738/7	200.0	29.859838	50.0	1927914.0	0.149299	Y
7	IC 280-636738/8	300.0	46.804836	50.0	1983388.0	0.156016	Y
8	IC 280-636738/9	400.0	59.383158	50.0	1996396.0	0.148458	Y
9	IC 280-636738/10	800.0	121.664065	50.0	2045461.0	0.15208	Y



Calibration / cis-1,2-Dichloroethene

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	ISTD
Response Base:	AREA
RF Rounding:	0

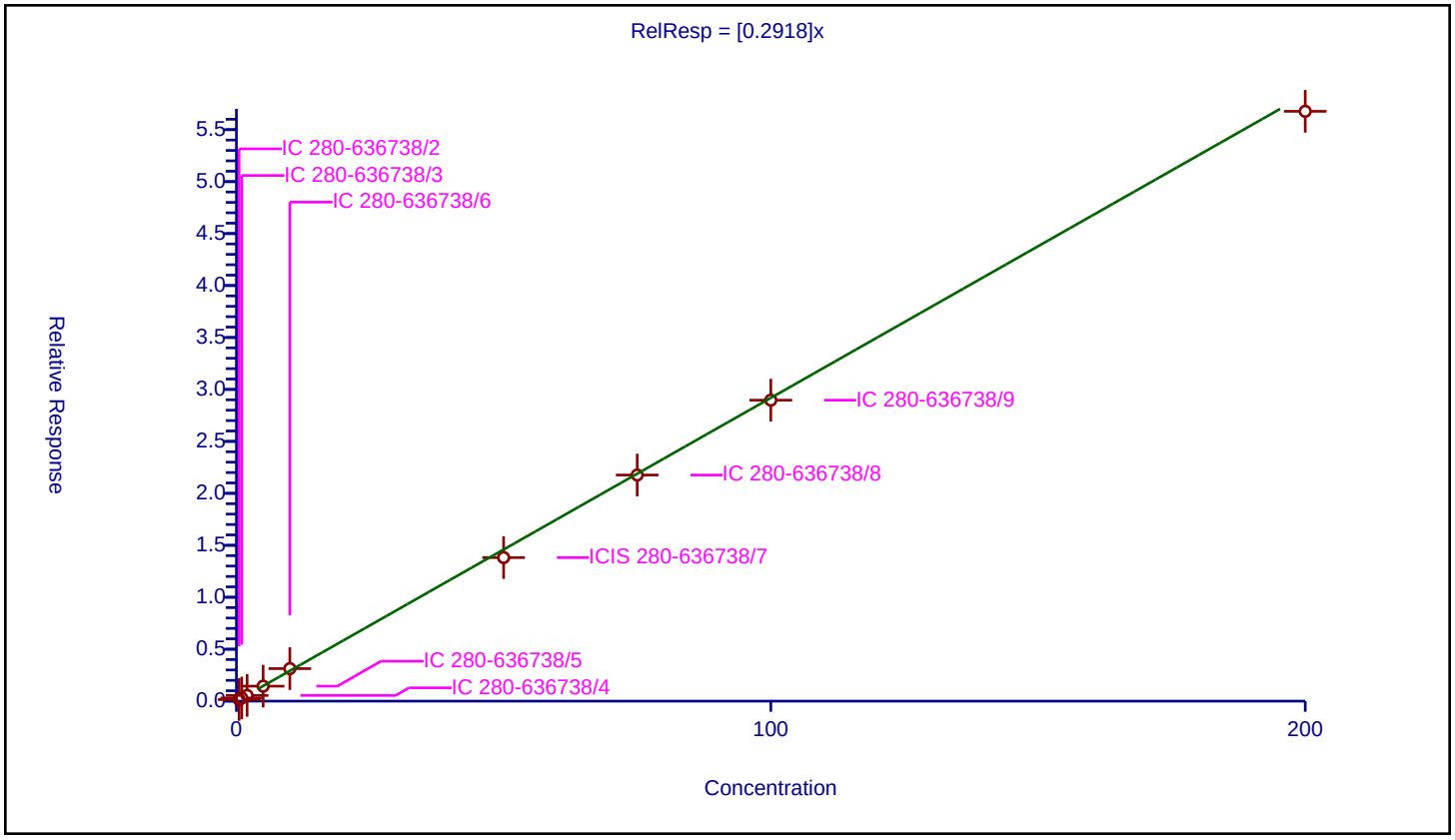
Curve Coefficients

Intercept:	0
Slope:	0.2918

Error Coefficients

Standard Error:	986000
Relative Standard Error:	4.6
Correlation Coefficient:	1.000
Coefficient of Determination (Adjusted):	0.997

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 280-636738/2	0.5	0.153462	50.0	1824881.0	0.306924	Y
2	IC 280-636738/3	1.0	0.303609	50.0	1811045.0	0.303609	Y
3	IC 280-636738/4	2.0	0.548855	50.0	1808310.0	0.274428	Y
4	IC 280-636738/5	5.0	1.442919	50.0	1838496.0	0.288584	Y
5	IC 280-636738/6	10.0	3.131313	50.0	1829520.0	0.313131	Y
6	ICIS 280-636738/7	50.0	13.815502	50.0	1927914.0	0.27631	Y
7	IC 280-636738/8	75.0	21.760392	50.0	1983388.0	0.290139	Y
8	IC 280-636738/9	100.0	28.966823	50.0	1996396.0	0.289668	Y
9	IC 280-636738/10	200.0	56.767545	50.0	2045461.0	0.283838	Y



Calibration / 2,2-Dichloropropane

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	ISTD
Response Base:	AREA
RF Rounding:	0

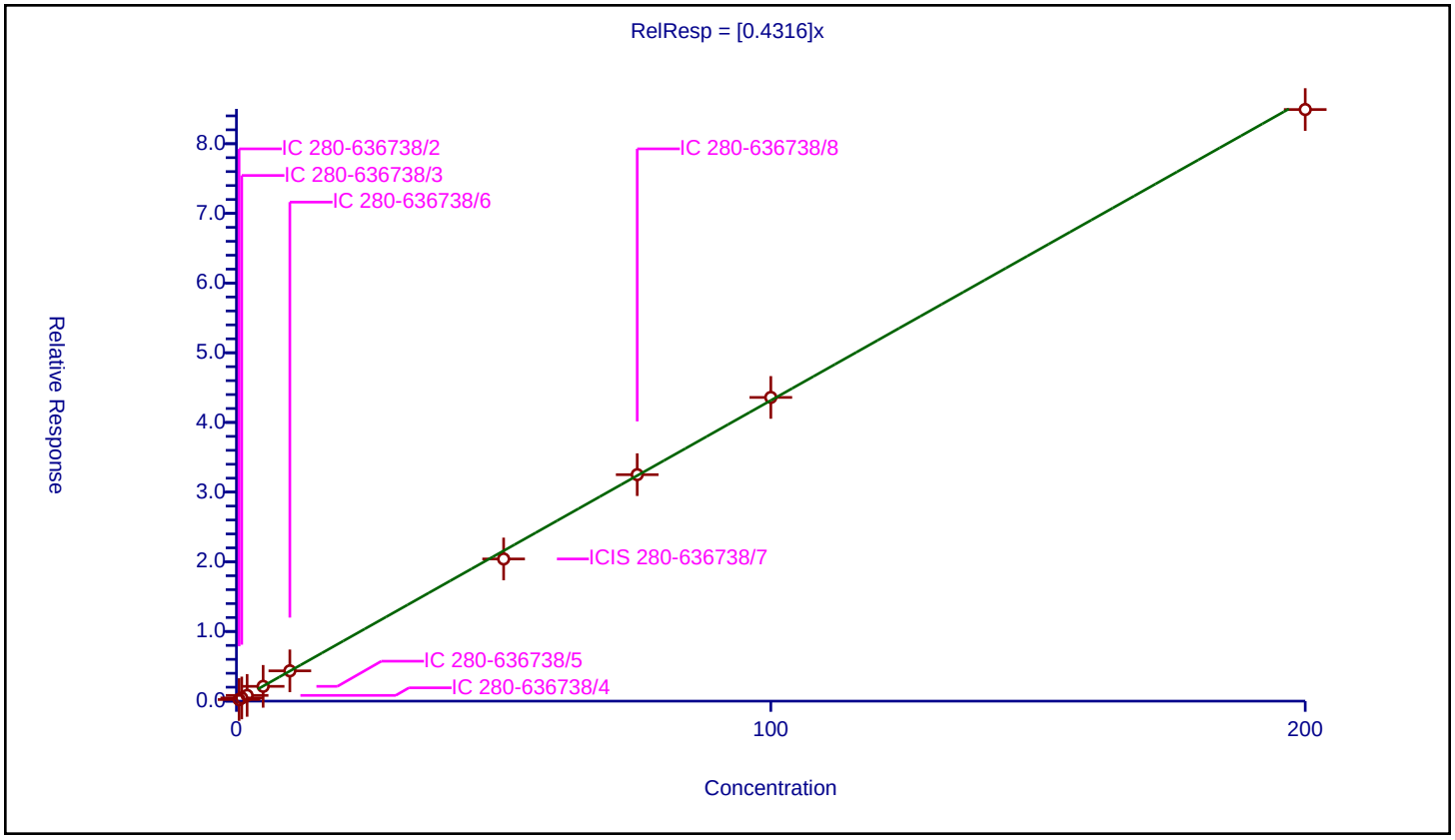
Curve Coefficients

Intercept:	0
Slope:	0.4316

Error Coefficients

Standard Error:	1480000
Relative Standard Error:	3.8
Correlation Coefficient:	1.000
Coefficient of Determination (Adjusted):	0.998

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 280-636738/2	0.5	0.22596	50.0	1824881.0	0.45192	Y
2	IC 280-636738/3	1.0	0.458382	50.0	1811045.0	0.458382	Y
3	IC 280-636738/4	2.0	0.824582	50.0	1808310.0	0.412291	Y
4	IC 280-636738/5	5.0	2.12323	50.0	1838496.0	0.424646	Y
5	IC 280-636738/6	10.0	4.349747	50.0	1829520.0	0.434975	Y
6	ICIS 280-636738/7	50.0	20.407471	50.0	1927914.0	0.408149	Y
7	IC 280-636738/8	75.0	32.505667	50.0	1983388.0	0.433409	Y
8	IC 280-636738/9	100.0	43.591151	50.0	1996396.0	0.435912	Y
9	IC 280-636738/10	200.0	84.908097	50.0	2045461.0	0.42454	Y



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Calibration / sec-Butyl Alcohol

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	ISTD
Response Base:	AREA
RF Rounding:	0

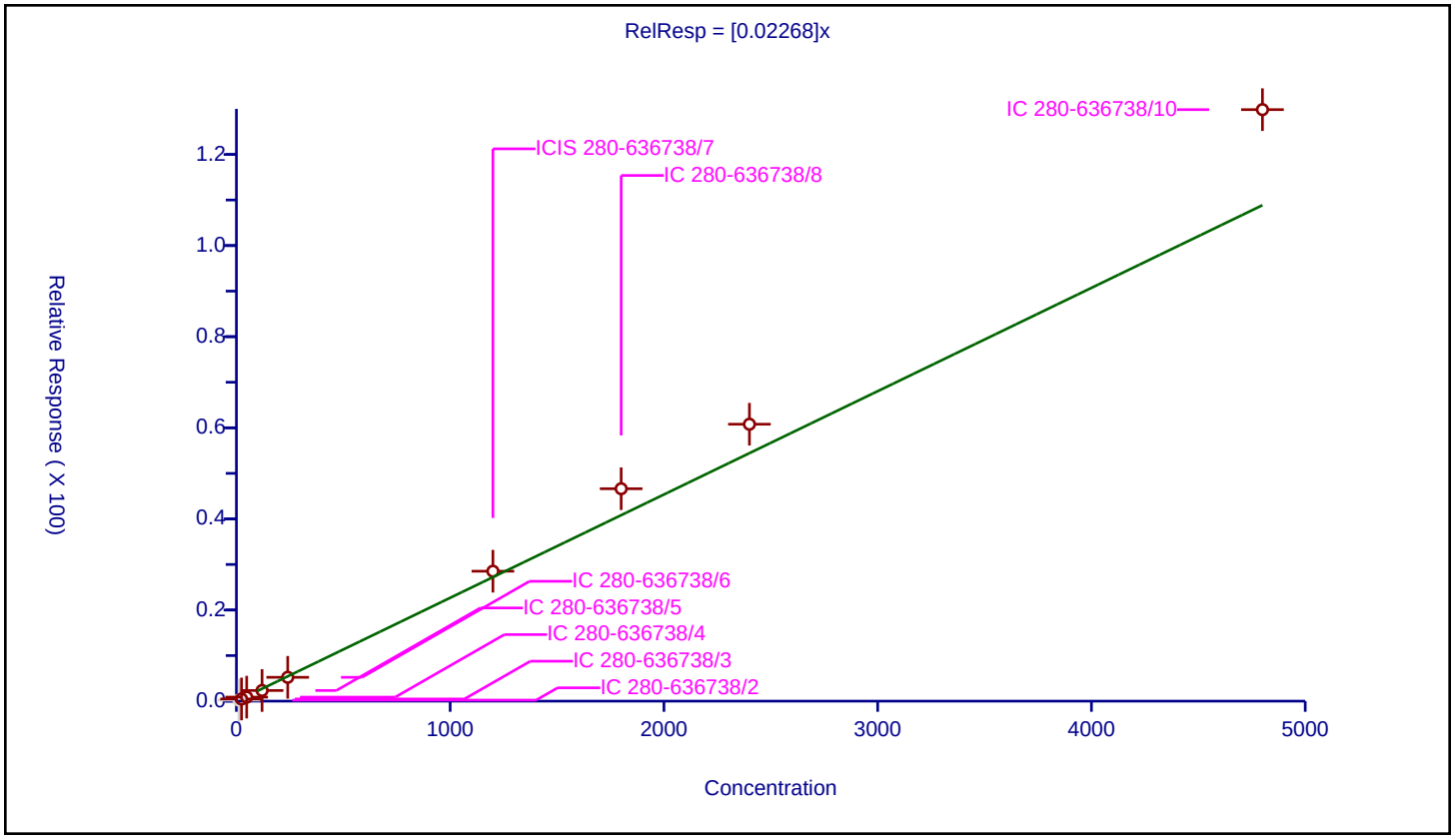
Curve Coefficients

Intercept:	0
Slope:	0.02268

Error Coefficients

Standard Error:	2350000
Relative Standard Error:	14.5
Correlation Coefficient:	0.997
Coefficient of Determination (Adjusted):	0.976

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 280-636738/2	12.0	0.226207	50.0	1824881.0	0.018851	N
2	IC 280-636738/3	24.0	0.474146	50.0	1811045.0	0.019756	Y
3	IC 280-636738/4	48.0	0.882426	50.0	1808310.0	0.018384	Y
4	IC 280-636738/5	120.0	2.334952	50.0	1838496.0	0.019458	Y
5	IC 280-636738/6	240.0	5.228557	50.0	1829520.0	0.021786	Y
6	ICIS 280-636738/7	1200.0	28.520307	50.0	1927914.0	0.023767	Y
7	IC 280-636738/8	1800.0	46.625597	50.0	1983388.0	0.025903	Y
8	IC 280-636738/9	2400.0	60.783908	50.0	1996396.0	0.025327	Y
9	IC 280-636738/10	4800.0	129.835597	50.0	2045461.0	0.027049	Y



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Calibration / Chlorobromomethane

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	ISTD
Response Base:	AREA
RF Rounding:	0

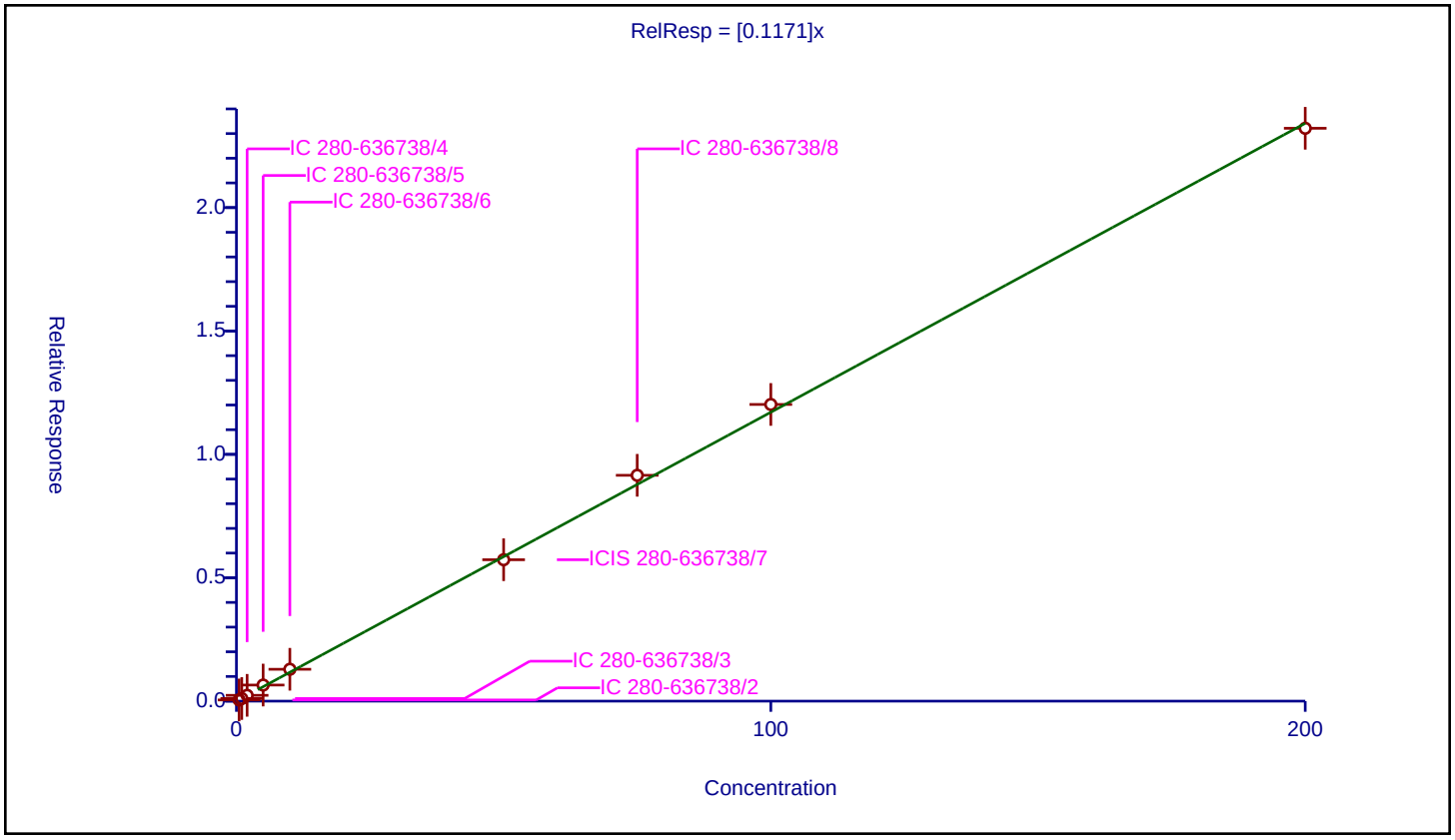
Curve Coefficients

Intercept:	0
Slope:	0.1171

Error Coefficients

Standard Error:	406000
Relative Standard Error:	9.0
Correlation Coefficient:	1.000
Coefficient of Determination (Adjusted):	0.990

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 280-636738/2	0.5	0.048332	50.0	1824881.0	0.096664	Y
2	IC 280-636738/3	1.0	0.106568	50.0	1811045.0	0.106568	Y
3	IC 280-636738/4	2.0	0.235994	50.0	1808310.0	0.117997	Y
4	IC 280-636738/5	5.0	0.651892	50.0	1838496.0	0.130378	Y
5	IC 280-636738/6	10.0	1.291842	50.0	1829520.0	0.129184	Y
6	ICIS 280-636738/7	50.0	5.730313	50.0	1927914.0	0.114606	Y
7	IC 280-636738/8	75.0	9.151639	50.0	1983388.0	0.122022	Y
8	IC 280-636738/9	100.0	12.022615	50.0	1996396.0	0.120226	Y
9	IC 280-636738/10	200.0	23.214033	50.0	2045461.0	0.11607	Y



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Calibration / Tetrahydrofuran

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	ISTD
Response Base:	AREA
RF Rounding:	0

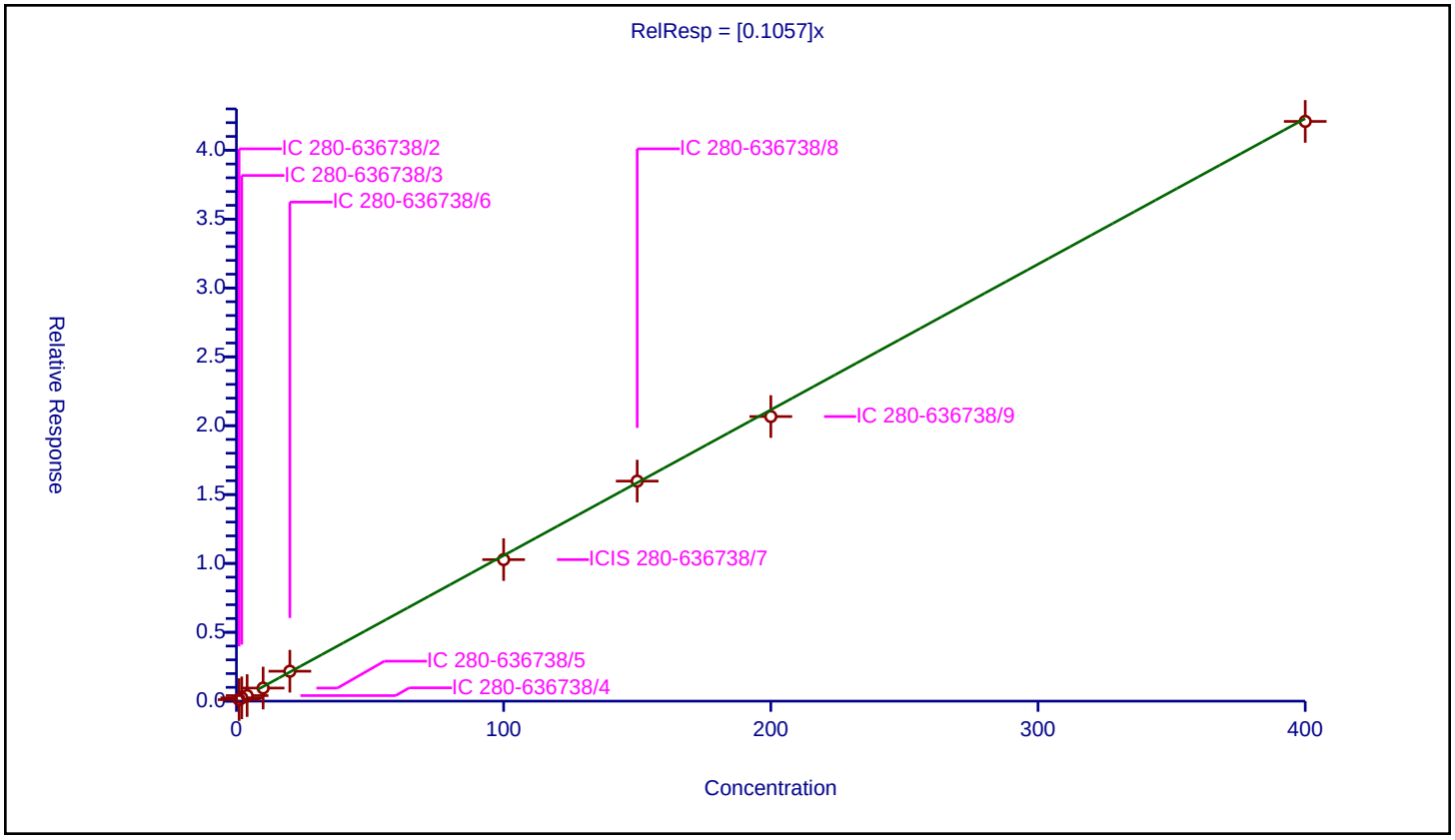
Curve Coefficients

Intercept:	0
Slope:	0.1057

Error Coefficients

Standard Error:	726000
Relative Standard Error:	6.4
Correlation Coefficient:	0.999
Coefficient of Determination (Adjusted):	0.994

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 280-636738/2	1.0	0.110144	50.0	1824881.0	0.110144	Y
2	IC 280-636738/3	2.0	0.238978	50.0	1811045.0	0.119489	Y
3	IC 280-636738/4	4.0	0.402337	50.0	1808310.0	0.100584	Y
4	IC 280-636738/5	10.0	0.950995	50.0	1838496.0	0.095099	Y
5	IC 280-636738/6	20.0	2.171717	50.0	1829520.0	0.108586	Y
6	ICIS 280-636738/7	100.0	10.274577	50.0	1927914.0	0.102746	Y
7	IC 280-636738/8	150.0	15.973753	50.0	1983388.0	0.106492	Y
8	IC 280-636738/9	200.0	20.662809	50.0	1996396.0	0.103314	Y
9	IC 280-636738/10	400.0	42.090805	50.0	2045461.0	0.105227	Y



Calibration / Chloroform

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	ISTD
Response Base:	AREA
RF Rounding:	0

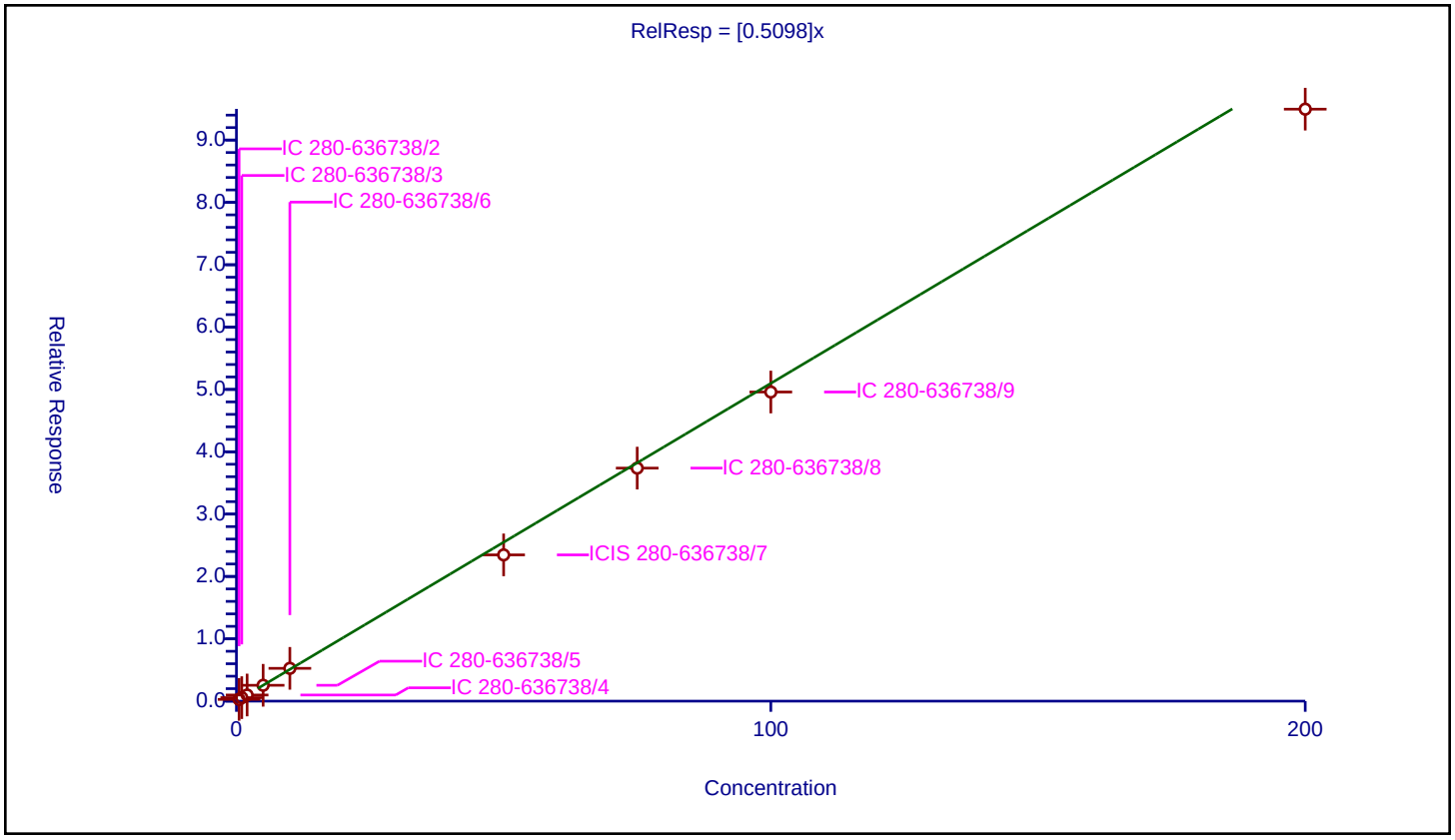
Curve Coefficients

Intercept:	0
Slope:	0.5098

Error Coefficients

Standard Error:	1660000
Relative Standard Error:	6.6
Correlation Coefficient:	1.000
Coefficient of Determination (Adjusted):	0.994

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 280-636738/2	0.5	0.279114	50.0	1824881.0	0.558228	Y
2	IC 280-636738/3	1.0	0.56357	50.0	1811045.0	0.56357	Y
3	IC 280-636738/4	2.0	0.986004	50.0	1808310.0	0.493002	Y
4	IC 280-636738/5	5.0	2.542486	50.0	1838496.0	0.508497	Y
5	IC 280-636738/6	10.0	5.263266	50.0	1829520.0	0.526327	Y
6	ICIS 280-636738/7	50.0	23.459449	50.0	1927914.0	0.469189	Y
7	IC 280-636738/8	75.0	37.378566	50.0	1983388.0	0.498381	Y
8	IC 280-636738/9	100.0	49.587056	50.0	1996396.0	0.495871	Y
9	IC 280-636738/10	200.0	94.956638	50.0	2045461.0	0.474783	Y



Calibration / Dibromofluoromethane (Surr)

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	ISTD
Response Base:	AREA
RF Rounding:	0

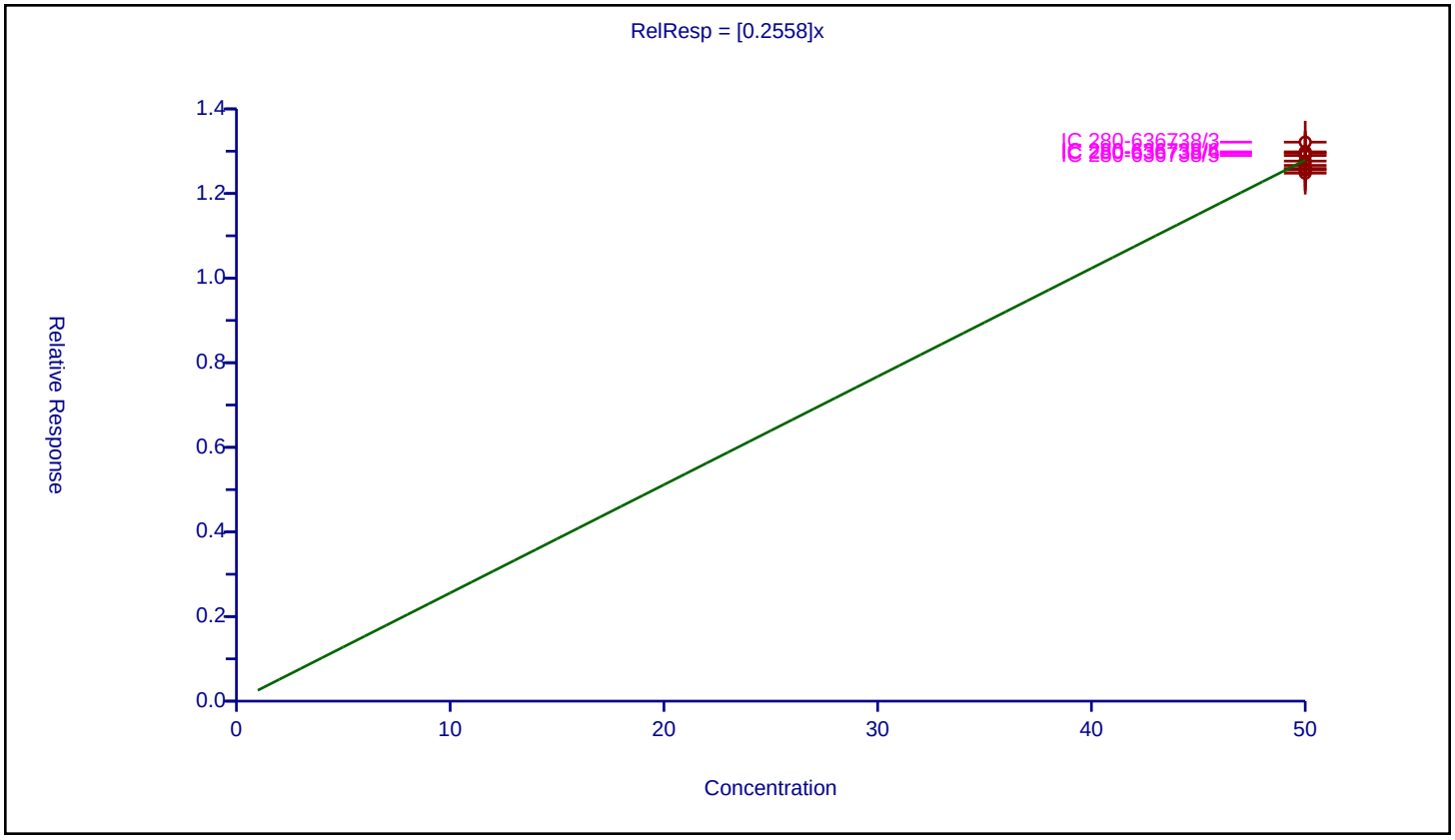
Curve Coefficients

Intercept:	0
Slope:	0.2558

Error Coefficients

Standard Error:	514000
Relative Standard Error:	1.9
Correlation Coefficient:	0.00000000000000000000
Coefficient of Determination (Adjusted):	0

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 280-636738/2	50.0	12.766531	50.0	1824881.0	0.255331	Y
2	IC 280-636738/3	50.0	13.214304	50.0	1811045.0	0.264286	Y
3	IC 280-636738/4	50.0	12.951706	50.0	1808310.0	0.259034	Y
4	IC 280-636738/5	50.0	12.895894	50.0	1838496.0	0.257918	Y
5	IC 280-636738/6	50.0	12.985045	50.0	1829520.0	0.259701	Y
6	ICIS 280-636738/7	50.0	12.480095	50.0	1927914.0	0.249602	Y
7	IC 280-636738/8	50.0	12.665399	50.0	1983388.0	0.253308	Y
8	IC 280-636738/9	50.0	12.593343	50.0	1996396.0	0.251867	Y
9	IC 280-636738/10	50.0	12.555043	50.0	2045461.0	0.251101	Y



Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	ISTD
Response Base:	AREA
RF Rounding:	0

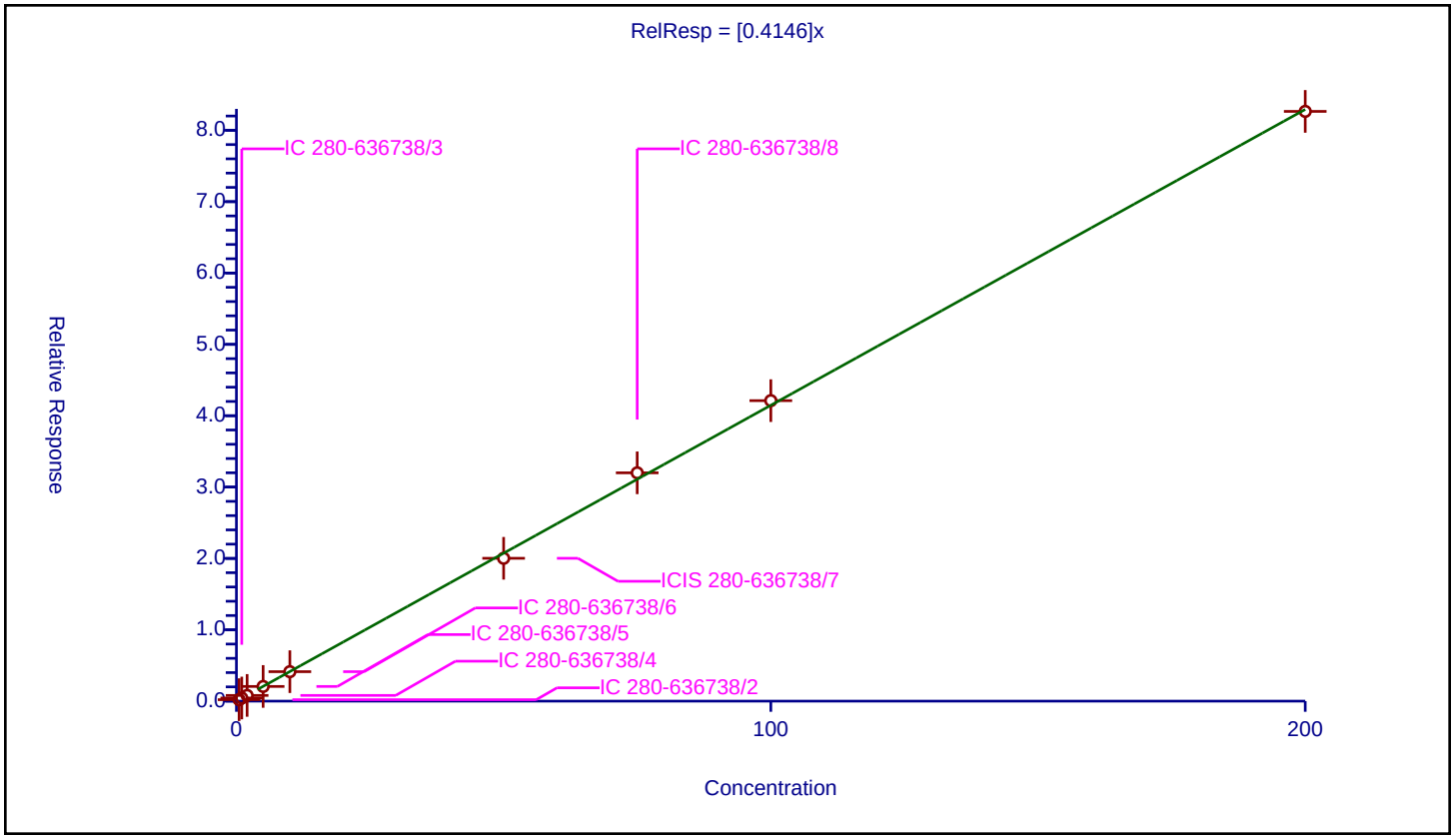
Curve Coefficients

Intercept:	0
Slope:	0.4146

Error Coefficients

Standard Error:	1440000
Relative Standard Error:	2.9
Correlation Coefficient:	1.000
Coefficient of Determination (Adjusted):	0.999

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 280-636738/2	0.5	0.204369	50.0	1824881.0	0.408739	Y
2	IC 280-636738/3	1.0	0.436764	50.0	1811045.0	0.436764	Y
3	IC 280-636738/4	2.0	0.800222	50.0	1808310.0	0.400111	Y
4	IC 280-636738/5	5.0	2.058177	50.0	1838496.0	0.411635	Y
5	IC 280-636738/6	10.0	4.130701	50.0	1829520.0	0.41307	Y
6	ICIS 280-636738/7	50.0	20.018113	50.0	1927914.0	0.400362	Y
7	IC 280-636738/8	75.0	31.997547	50.0	1983388.0	0.426634	Y
8	IC 280-636738/9	100.0	42.113388	50.0	1996396.0	0.421134	Y
9	IC 280-636738/10	200.0	82.649559	50.0	2045461.0	0.413248	Y



Calibration / Cyclohexane

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	ISTD
Response Base:	AREA
RF Rounding:	0

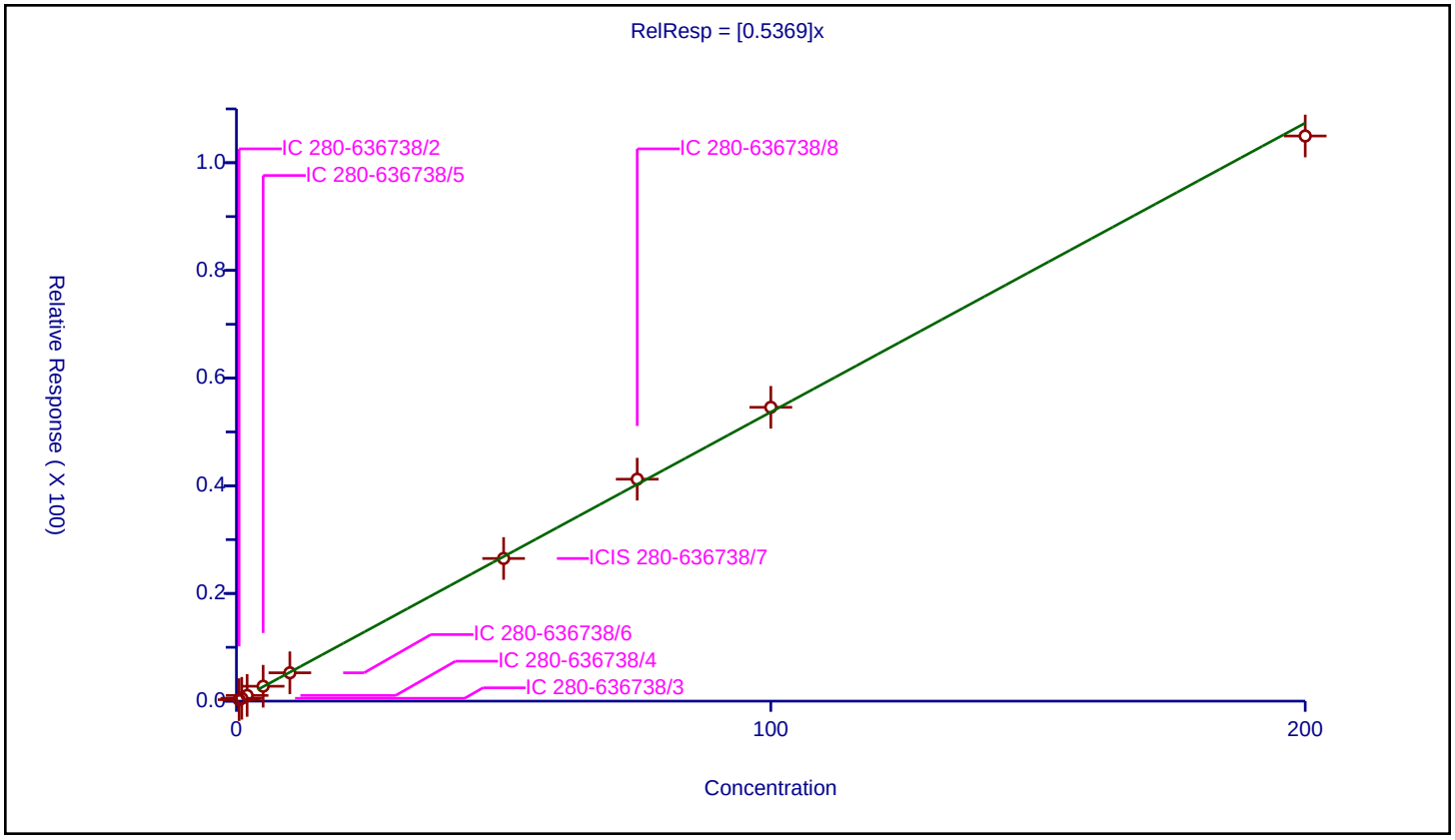
Curve Coefficients

Intercept:	0
Slope:	0.5369

Error Coefficients

Standard Error:	1840000
Relative Standard Error:	2.1
Correlation Coefficient:	1.000
Coefficient of Determination (Adjusted):	0.999

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 280-636738/2	0.5	0.272045	50.0	1824881.0	0.54409	Y
2	IC 280-636738/3	1.0	0.52801	50.0	1811045.0	0.52801	Y
3	IC 280-636738/4	2.0	1.05911	50.0	1808310.0	0.529555	Y
4	IC 280-636738/5	5.0	2.769138	50.0	1838496.0	0.553828	Y
5	IC 280-636738/6	10.0	5.26384	50.0	1829520.0	0.526384	Y
6	ICIS 280-636738/7	50.0	26.497785	50.0	1927914.0	0.529956	Y
7	IC 280-636738/8	75.0	41.225998	50.0	1983388.0	0.54968	Y
8	IC 280-636738/9	100.0	54.573767	50.0	1996396.0	0.545738	Y
9	IC 280-636738/10	200.0	104.968391	50.0	2045461.0	0.524842	Y



Calibration / 1,1-Dichloropropene

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	ISTD
Response Base:	AREA
RF Rounding:	0

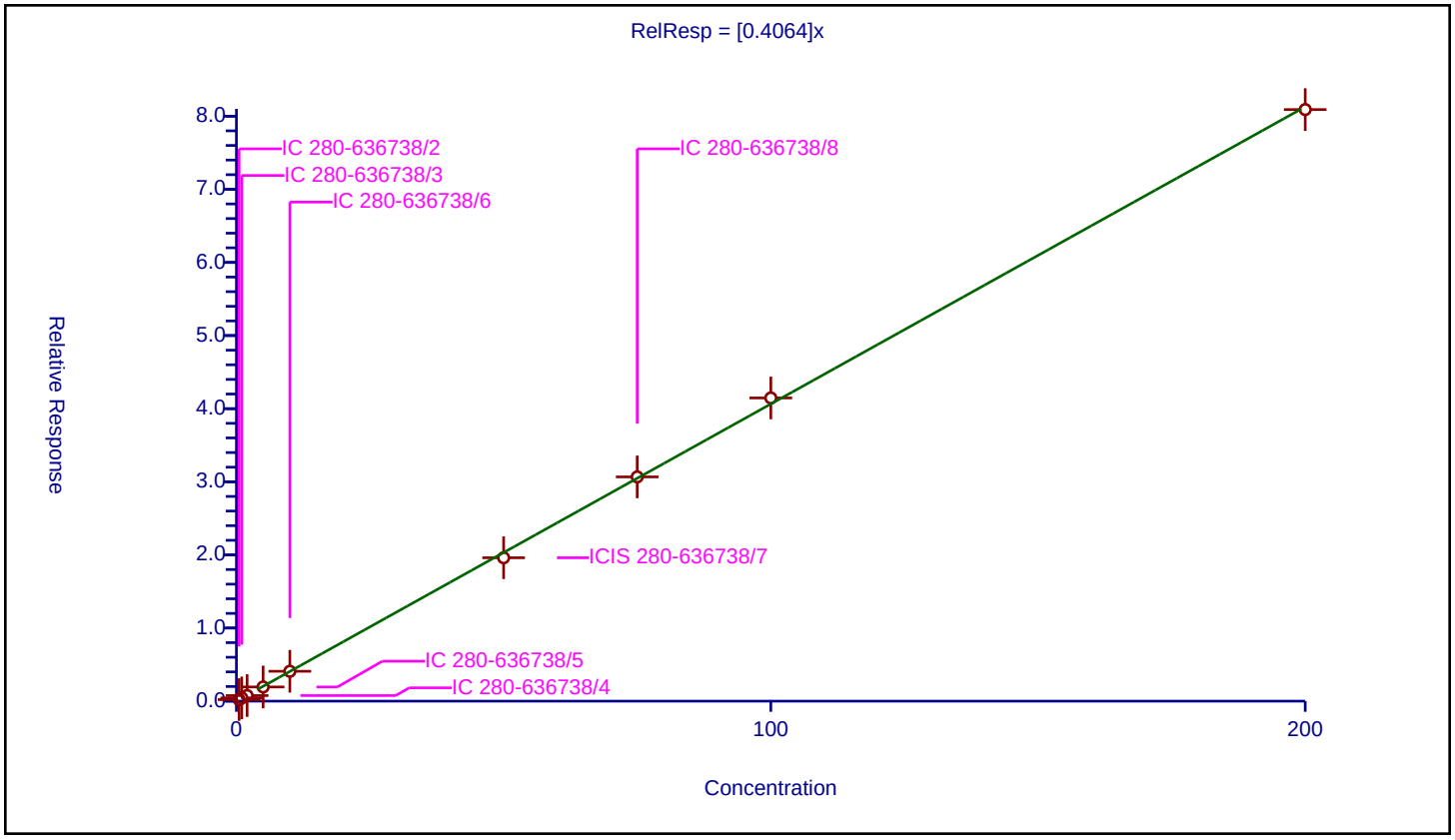
Curve Coefficients

Intercept:	0
Slope:	0.4064

Error Coefficients

Standard Error:	1400000
Relative Standard Error:	4.4
Correlation Coefficient:	1.000
Coefficient of Determination (Adjusted):	0.997

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 280-636738/2	0.5	0.208863	50.0	1824881.0	0.417726	Y
2	IC 280-636738/3	1.0	0.441513	50.0	1811045.0	0.441513	Y
3	IC 280-636738/4	2.0	0.763503	50.0	1808310.0	0.381751	Y
4	IC 280-636738/5	5.0	1.940581	50.0	1838496.0	0.388116	Y
5	IC 280-636738/6	10.0	4.083803	50.0	1829520.0	0.40838	Y
6	ICIS 280-636738/7	50.0	19.608603	50.0	1927914.0	0.392172	Y
7	IC 280-636738/8	75.0	30.668256	50.0	1983388.0	0.40891	Y
8	IC 280-636738/9	100.0	41.465972	50.0	1996396.0	0.41466	Y
9	IC 280-636738/10	200.0	80.906065	50.0	2045461.0	0.40453	Y



Calibration / Carbon tetrachloride

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	ISTD
Response Base:	AREA
RF Rounding:	0

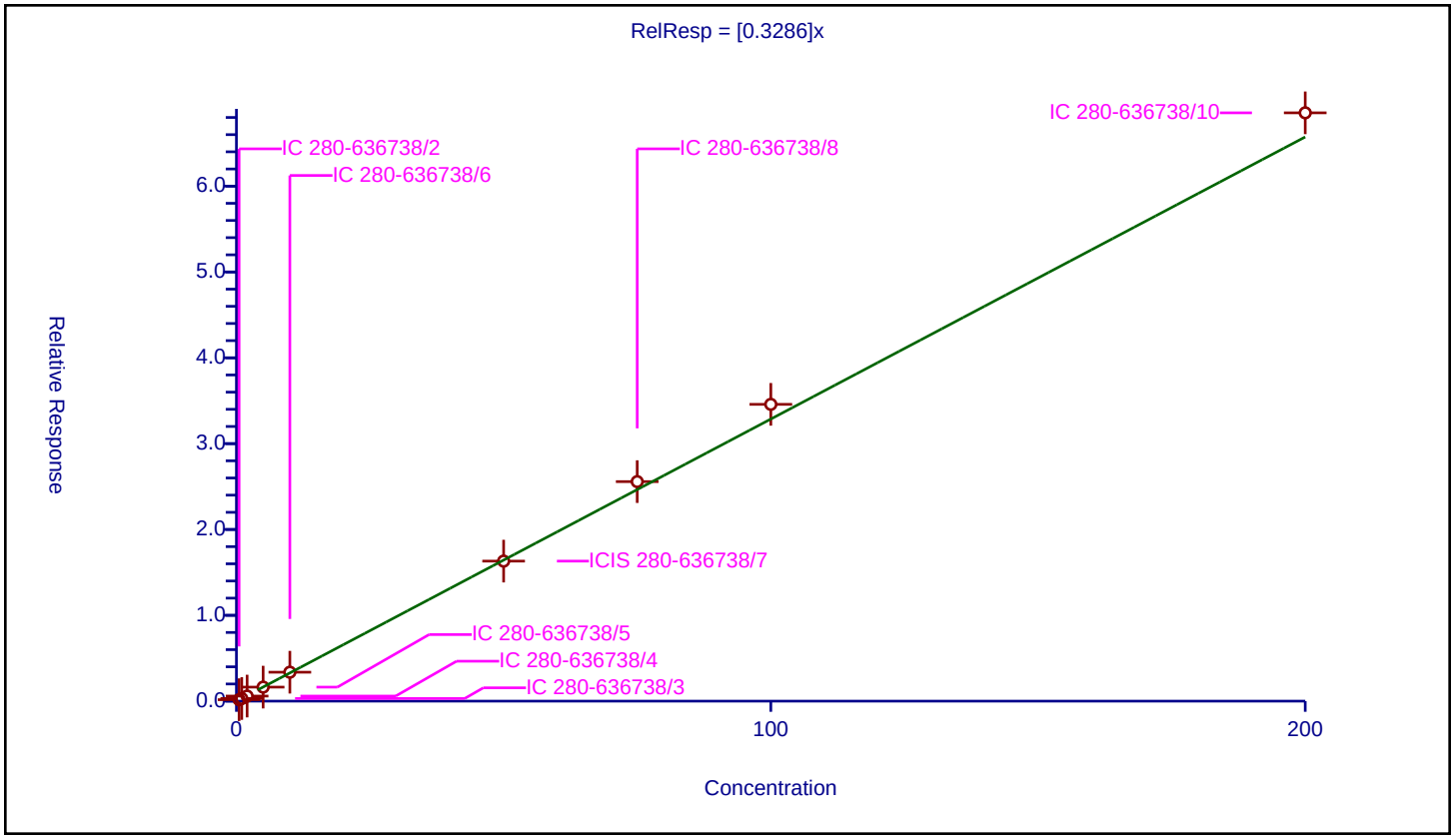
Curve Coefficients

Intercept:	0
Slope:	0.3286

Error Coefficients

Standard Error:	1180000
Relative Standard Error:	5.5
Correlation Coefficient:	0.999
Coefficient of Determination (Adjusted):	0.996

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 280-636738/2	0.5	0.169518	50.0	1824881.0	0.339036	Y
2	IC 280-636738/3	1.0	0.304189	50.0	1811045.0	0.304189	Y
3	IC 280-636738/4	2.0	0.589832	50.0	1808310.0	0.294916	Y
4	IC 280-636738/5	5.0	1.633319	50.0	1838496.0	0.326664	Y
5	IC 280-636738/6	10.0	3.372305	50.0	1829520.0	0.337231	Y
6	ICIS 280-636738/7	50.0	16.314628	50.0	1927914.0	0.326293	Y
7	IC 280-636738/8	75.0	25.574976	50.0	1983388.0	0.341	Y
8	IC 280-636738/9	100.0	34.577559	50.0	1996396.0	0.345776	Y
9	IC 280-636738/10	200.0	68.540001	50.0	2045461.0	0.3427	Y



Calibration / Isobutyl alcohol

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	ISTD
Response Base:	AREA
RF Rounding:	0

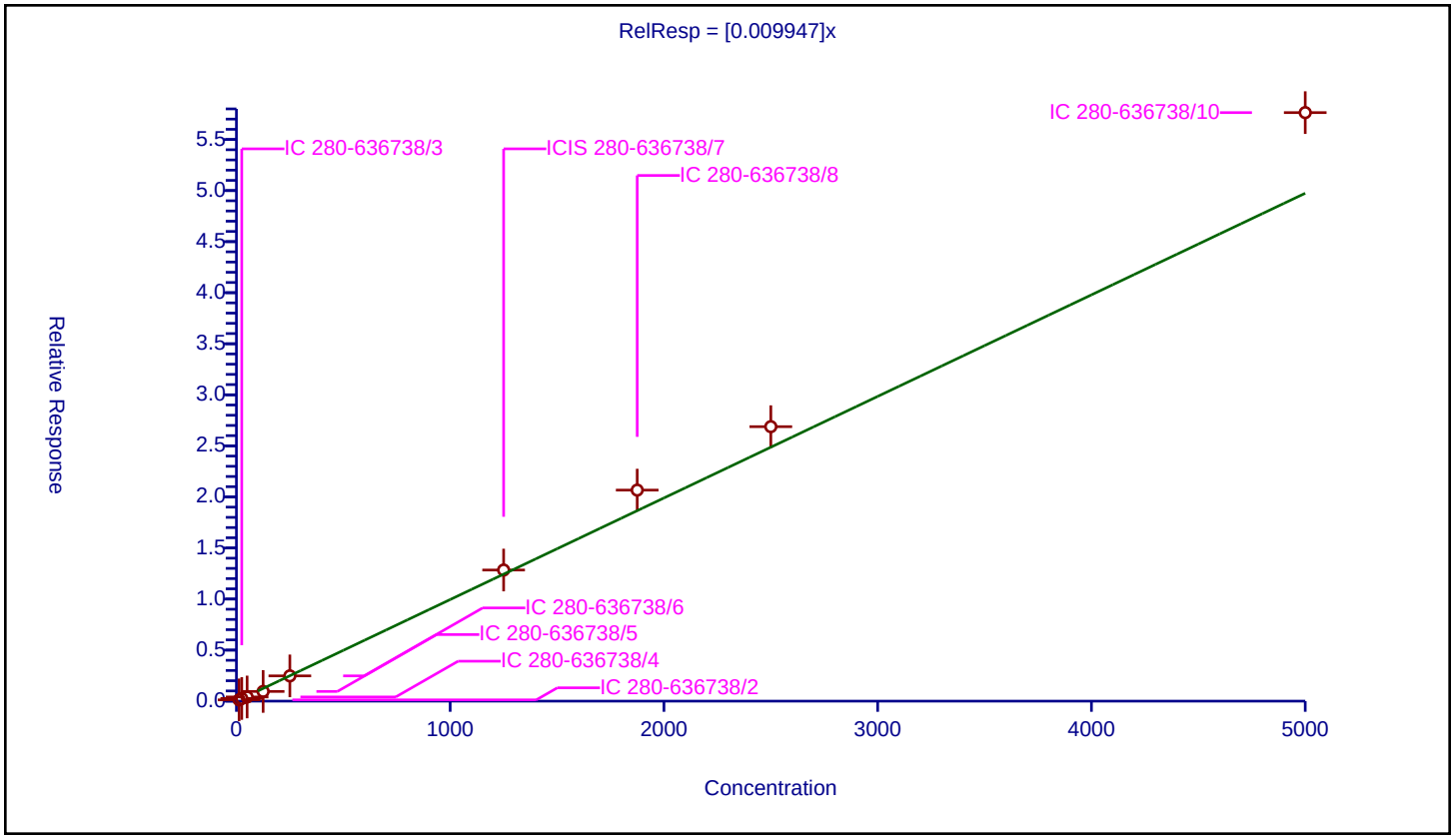
Curve Coefficients

Intercept:	0
Slope:	0.009947

Error Coefficients

Standard Error:	977000
Relative Standard Error:	13.0
Correlation Coefficient:	0.997
Coefficient of Determination (Adjusted):	0.979

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 280-636738/2	12.5	0.123323	50.0	1824881.0	0.009866	Y
2	IC 280-636738/3	25.0	0.260651	50.0	1811045.0	0.010426	Y
3	IC 280-636738/4	50.0	0.408005	50.0	1808310.0	0.00816	Y
4	IC 280-636738/5	125.0	0.950424	50.0	1838496.0	0.007603	Y
5	IC 280-636738/6	250.0	2.474556	50.0	1829520.0	0.009898	Y
6	ICIS 280-636738/7	1250.0	12.839966	50.0	1927914.0	0.010272	Y
7	IC 280-636738/8	1875.0	20.667262	50.0	1983388.0	0.011023	Y
8	IC 280-636738/9	2500.0	26.880914	50.0	1996396.0	0.010752	Y
9	IC 280-636738/10	5000.0	57.634147	50.0	2045461.0	0.011527	Y



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Calibration / 1,2-Dichloroethane-d4 (Surr)

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	ISTD
Response Base:	AREA
RF Rounding:	0

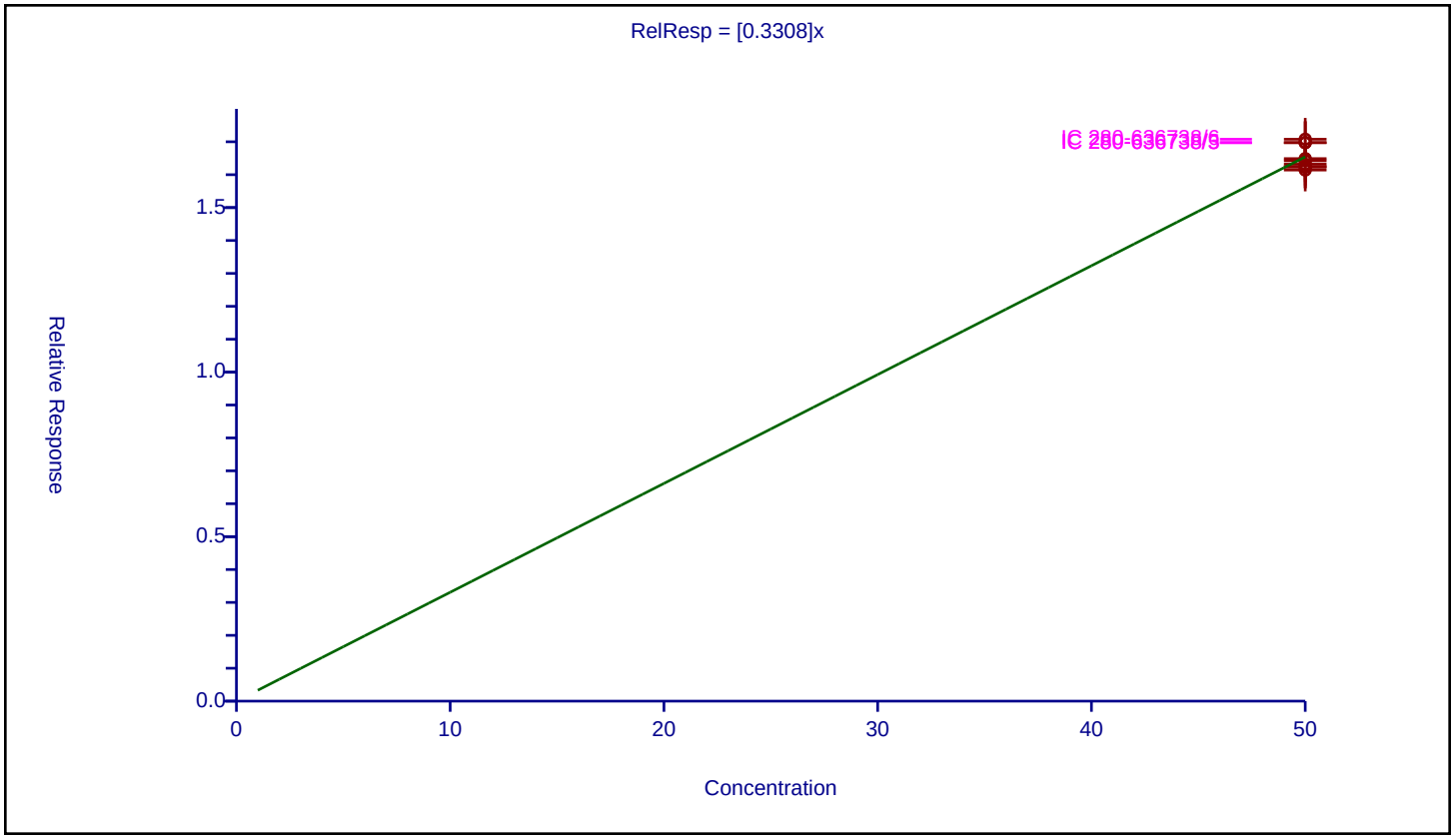
Curve Coefficients

Intercept:	0
Slope:	0.3308

Error Coefficients

Standard Error:	665000
Relative Standard Error:	2.2
Correlation Coefficient:	NA
Coefficient of Determination (Adjusted):	0

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 280-636738/2	50.0	16.250018	50.0	1824881.0	0.325	Y
2	IC 280-636738/3	50.0	16.970396	50.0	1811045.0	0.339408	Y
3	IC 280-636738/4	50.0	16.489015	50.0	1808310.0	0.32978	Y
4	IC 280-636738/5	50.0	16.977981	50.0	1838496.0	0.33956	Y
5	IC 280-636738/6	50.0	17.077375	50.0	1829520.0	0.341548	Y
6	ICIS 280-636738/7	50.0	16.421946	50.0	1927914.0	0.328439	Y
7	IC 280-636738/8	50.0	16.227158	50.0	1983388.0	0.324543	Y
8	IC 280-636738/9	50.0	16.318556	50.0	1996396.0	0.326371	Y
9	IC 280-636738/10	50.0	16.141056	50.0	2045461.0	0.322821	Y



Calibration / Benzene

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	ISTD
Response Base:	AREA
RF Rounding:	0

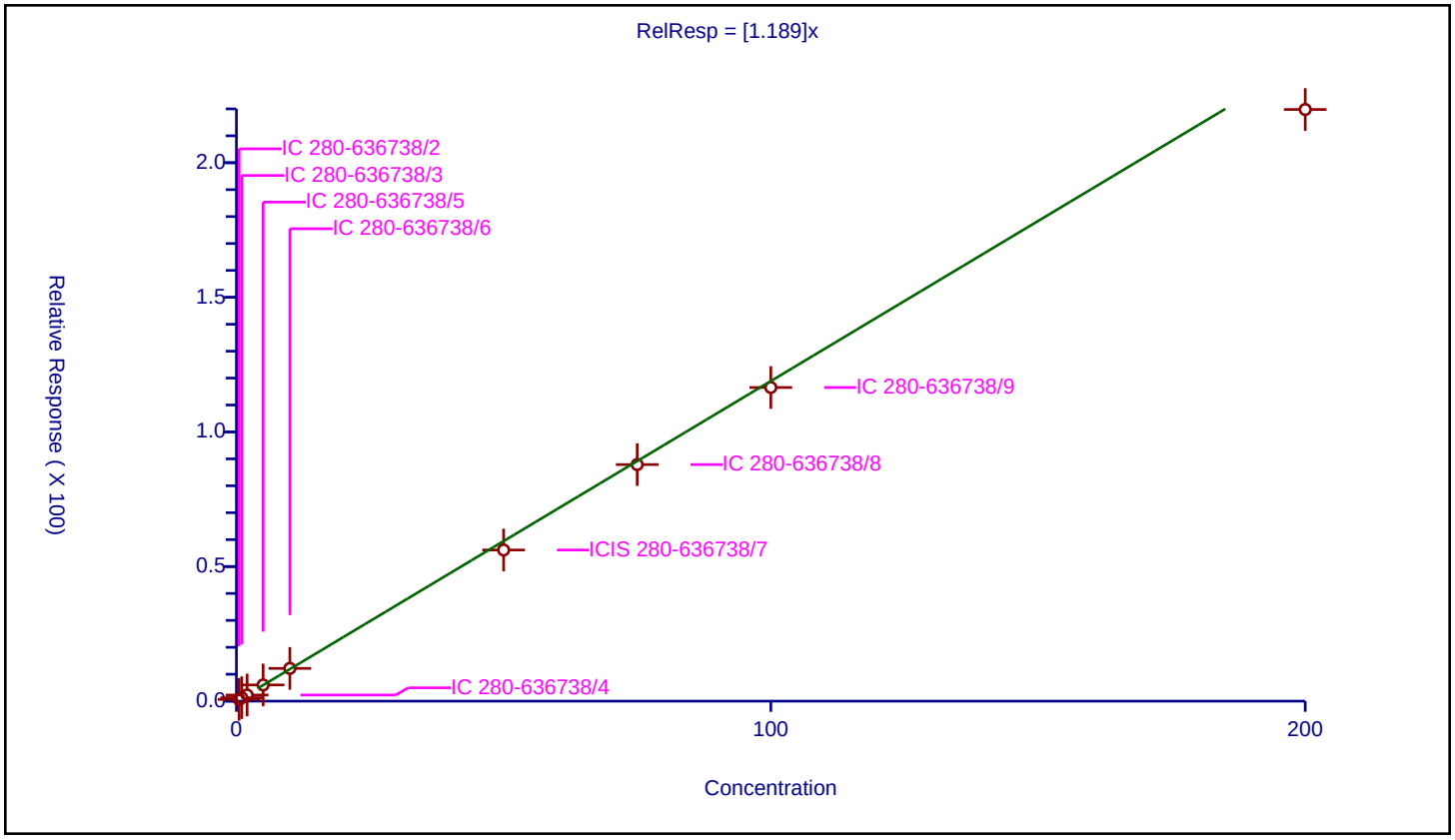
Curve Coefficients

Intercept:	0
Slope:	1.189

Error Coefficients

Standard Error:	3870000
Relative Standard Error:	5.8
Correlation Coefficient:	0.999
Coefficient of Determination (Adjusted):	0.995

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 280-636738/2	0.5	0.650426	50.0	1824881.0	1.300852	Y
2	IC 280-636738/3	1.0	1.280835	50.0	1811045.0	1.280835	Y
3	IC 280-636738/4	2.0	2.276988	50.0	1808310.0	1.138494	Y
4	IC 280-636738/5	5.0	6.023538	50.0	1838496.0	1.204708	Y
5	IC 280-636738/6	10.0	12.167481	50.0	1829520.0	1.216748	Y
6	ICIS 280-636738/7	50.0	56.140186	50.0	1927914.0	1.122804	Y
7	IC 280-636738/8	75.0	87.876578	50.0	1983388.0	1.171688	Y
8	IC 280-636738/9	100.0	116.513733	50.0	1996396.0	1.165137	Y
9	IC 280-636738/10	200.0	219.770482	50.0	2045461.0	1.098852	Y



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Calibration / 1,2-Dichloroethane

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	ISTD
Response Base:	AREA
RF Rounding:	0

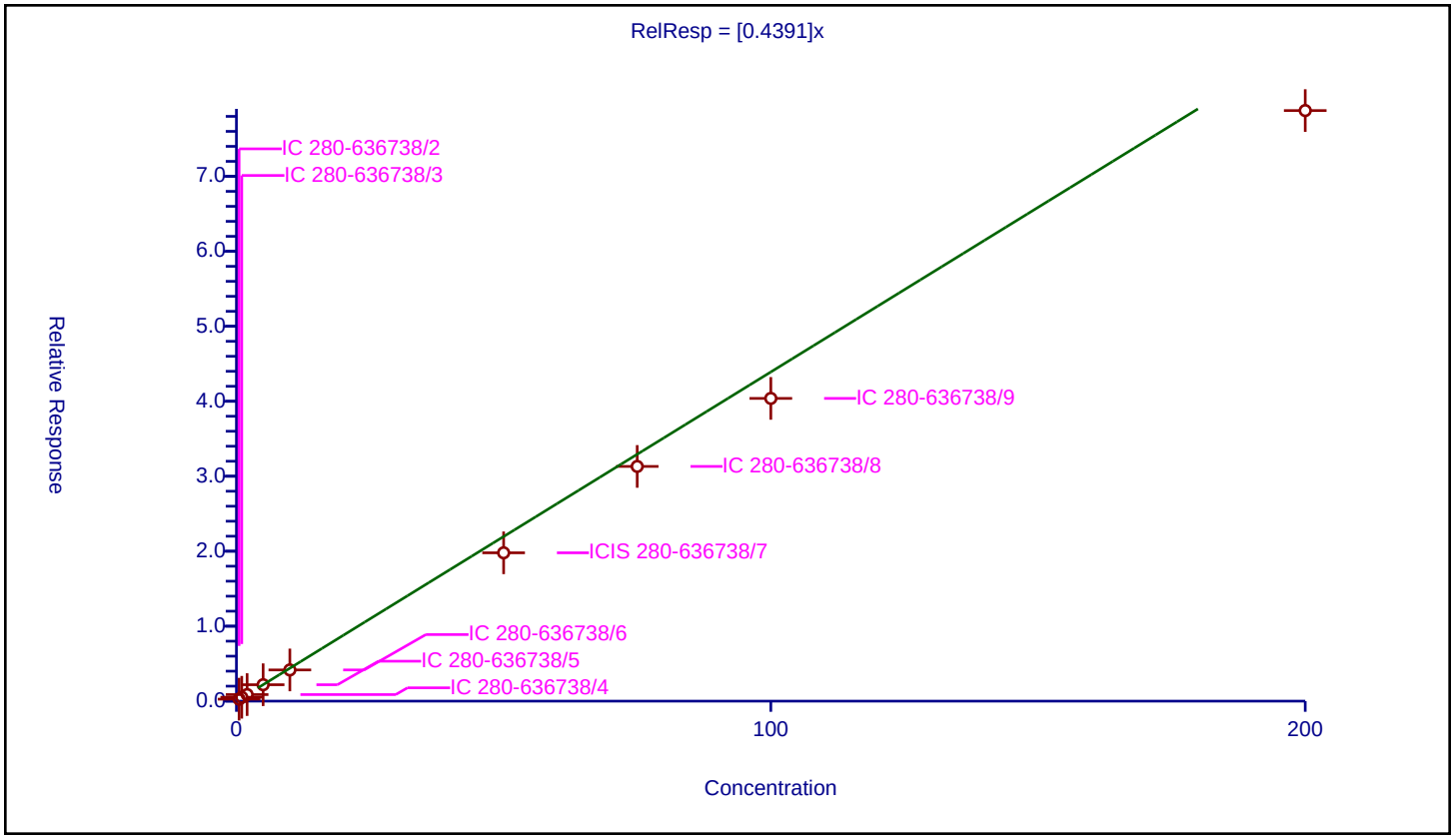
Curve Coefficients

Intercept:	0
Slope:	0.4391

Error Coefficients

Standard Error:	1380000
Relative Standard Error:	11.6
Correlation Coefficient:	1.000
Coefficient of Determination (Adjusted):	0.980

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 280-636738/2	0.5	0.266209	50.0	1824881.0	0.532418	Y
2	IC 280-636738/3	1.0	0.515973	50.0	1811045.0	0.515973	Y
3	IC 280-636738/4	2.0	0.876841	50.0	1808310.0	0.43842	Y
4	IC 280-636738/5	5.0	2.189697	50.0	1838496.0	0.437939	Y
5	IC 280-636738/6	10.0	4.160272	50.0	1829520.0	0.416027	Y
6	ICIS 280-636738/7	50.0	19.785685	50.0	1927914.0	0.395714	Y
7	IC 280-636738/8	75.0	31.307087	50.0	1983388.0	0.417428	Y
8	IC 280-636738/9	100.0	40.38039	50.0	1996396.0	0.403804	Y
9	IC 280-636738/10	200.0	78.777718	50.0	2045461.0	0.393889	Y



Calibration / n-Heptane

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	ISTD
Response Base:	AREA
RF Rounding:	0

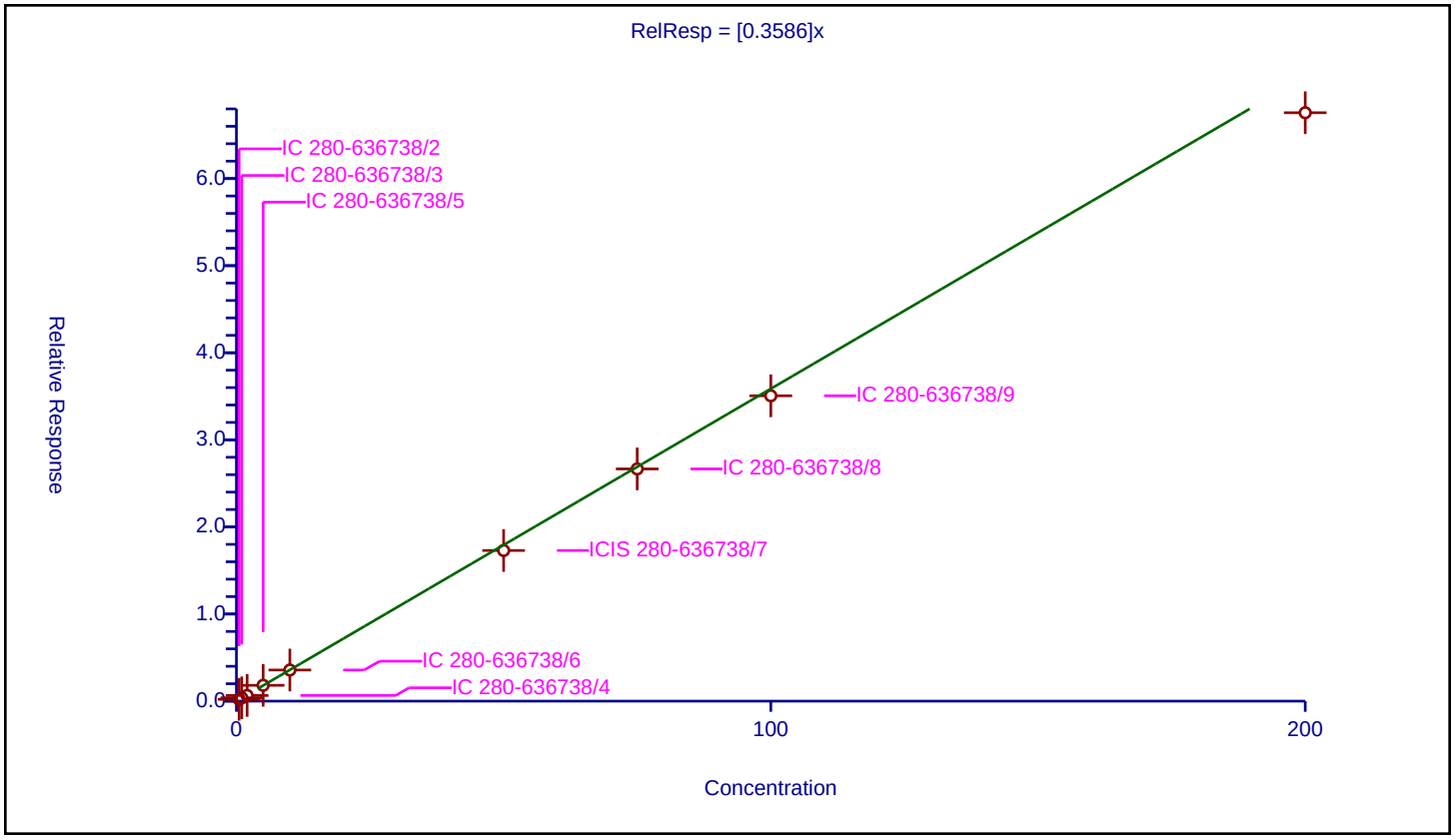
Curve Coefficients

Intercept:	0
Slope:	0.3586

Error Coefficients

Standard Error:	1180000
Relative Standard Error:	7.0
Correlation Coefficient:	1.000
Coefficient of Determination (Adjusted):	0.993

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 280-636738/2	0.5	0.206096	50.0	1824881.0	0.412191	Y
2	IC 280-636738/3	1.0	0.379173	50.0	1811045.0	0.379173	Y
3	IC 280-636738/4	2.0	0.651133	50.0	1808310.0	0.325566	Y
4	IC 280-636738/5	5.0	1.819014	50.0	1838496.0	0.363803	Y
5	IC 280-636738/6	10.0	3.572686	50.0	1829520.0	0.357269	Y
6	ICIS 280-636738/7	50.0	17.296259	50.0	1927914.0	0.345925	Y
7	IC 280-636738/8	75.0	26.661904	50.0	1983388.0	0.355492	Y
8	IC 280-636738/9	100.0	35.059627	50.0	1996396.0	0.350596	Y
9	IC 280-636738/10	200.0	67.559929	50.0	2045461.0	0.3378	Y



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Calibration / Trichloroethene

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	ISTD
Response Base:	AREA
RF Rounding:	0

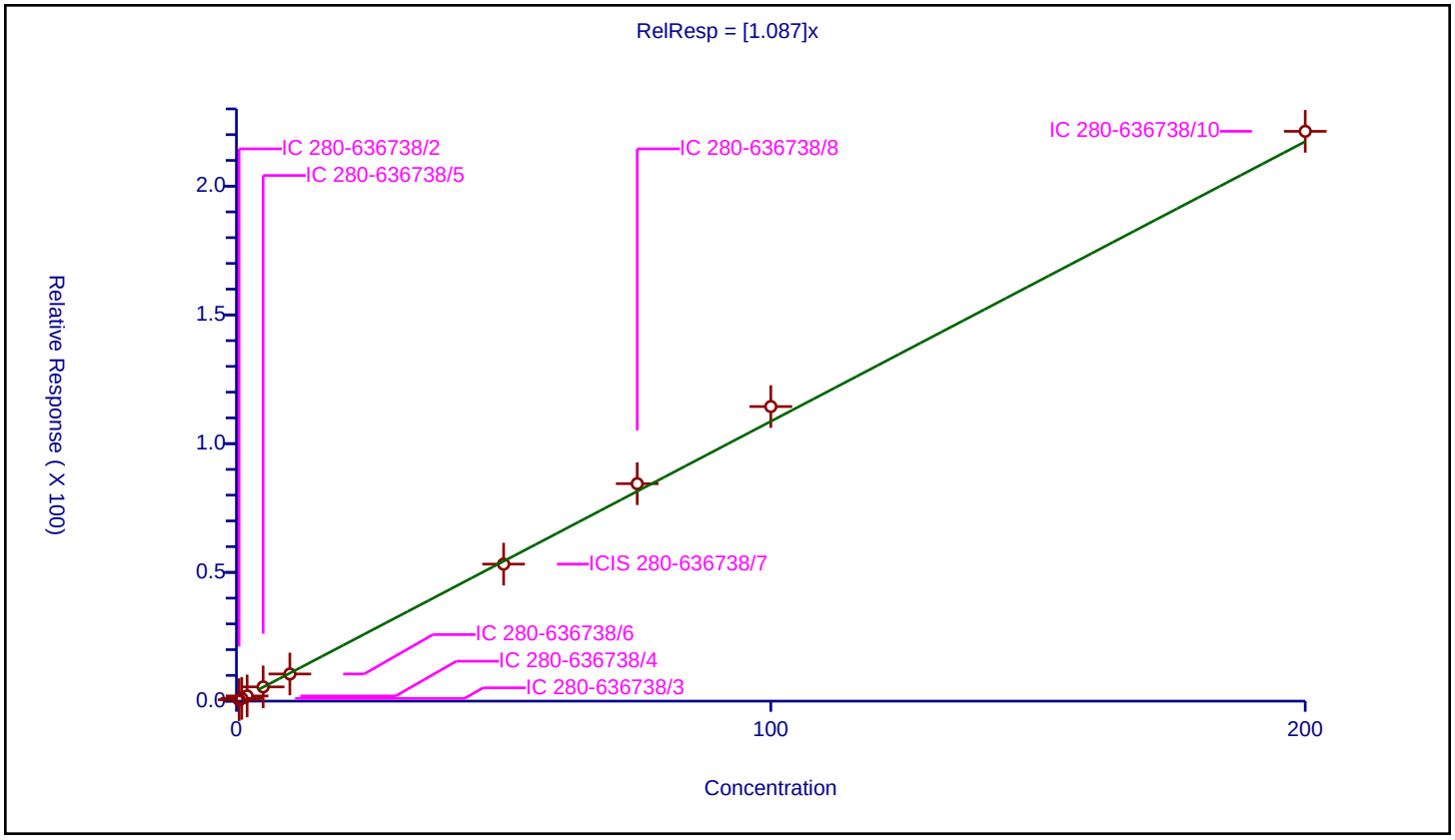
Curve Coefficients

Intercept:	0
Slope:	1.087

Error Coefficients

Standard Error:	976000
Relative Standard Error:	3.9
Correlation Coefficient:	0.999
Coefficient of Determination (Adjusted):	0.998

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 280-636738/2	0.5	0.550162	50.0	463863.0	1.100325	Y
2	IC 280-636738/3	1.0	1.070197	50.0	472203.0	1.070197	Y
3	IC 280-636738/4	2.0	2.013204	50.0	462596.0	1.006602	Y
4	IC 280-636738/5	5.0	5.533025	50.0	471713.0	1.106605	Y
5	IC 280-636738/6	10.0	10.544796	50.0	481740.0	1.05448	Y
6	ICIS 280-636738/7	50.0	53.212708	50.0	487237.0	1.064254	Y
7	IC 280-636738/8	75.0	84.45624	50.0	505296.0	1.126083	Y
8	IC 280-636738/9	100.0	114.403116	50.0	502912.0	1.144031	Y
9	IC 280-636738/10	200.0	221.288655	50.0	519596.0	1.106443	Y



Calibration / 2-Pentanone

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	ISTD
Response Base:	AREA
RF Rounding:	0

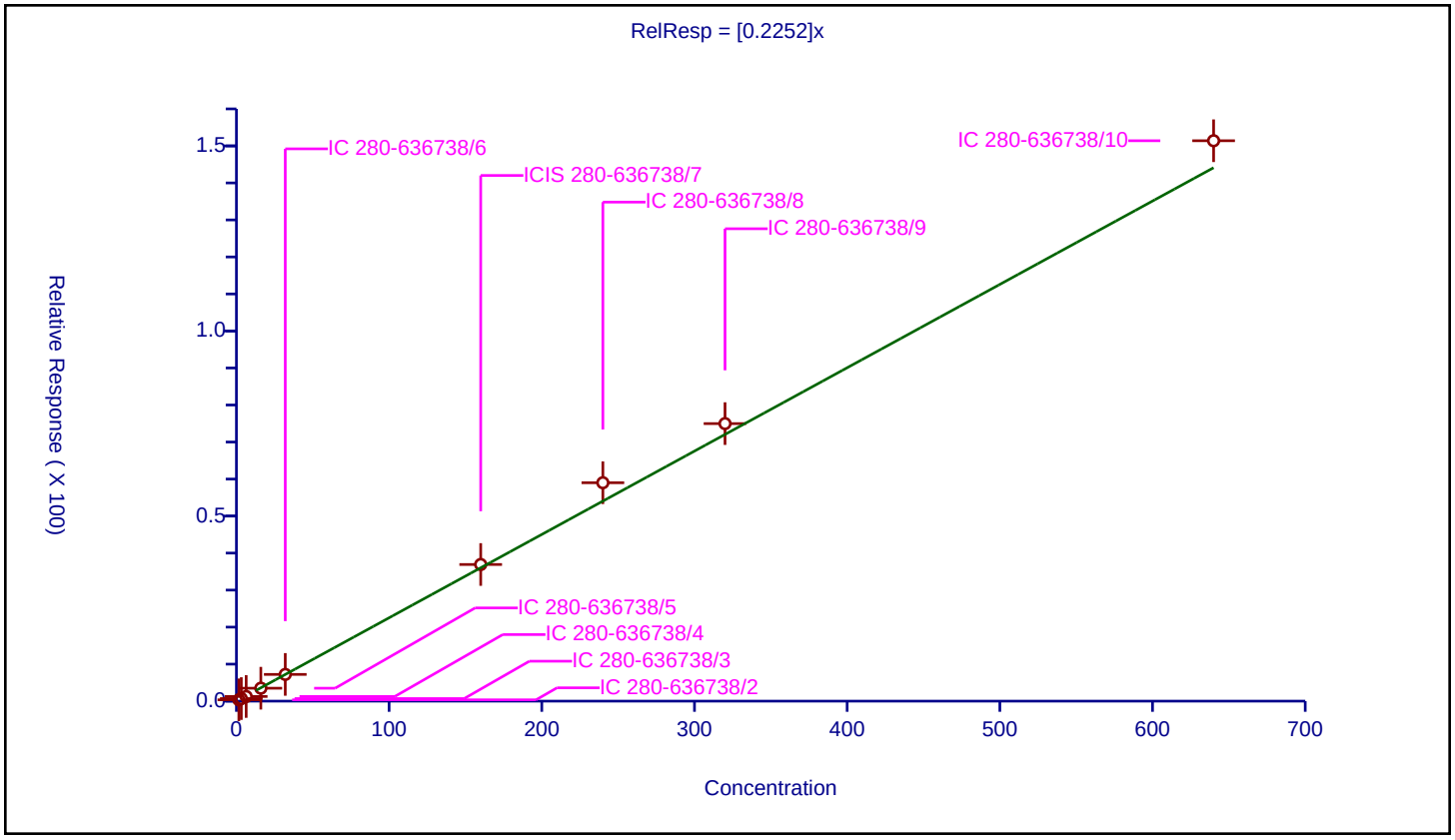
Curve Coefficients

Intercept:	0
Slope:	0.2252

Error Coefficients

Standard Error:	2620000
Relative Standard Error:	6.4
Correlation Coefficient:	0.999
Coefficient of Determination (Adjusted):	0.995

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 280-636738/2	1.6	0.35427	50.0	1824881.0	0.221419	Y
2	IC 280-636738/3	3.2	0.696145	50.0	1811045.0	0.217545	Y
3	IC 280-636738/4	6.4	1.254376	50.0	1808310.0	0.195996	Y
4	IC 280-636738/5	16.0	3.494949	50.0	1838496.0	0.218434	Y
5	IC 280-636738/6	32.0	7.222796	50.0	1829520.0	0.225712	Y
6	ICIS 280-636738/7	160.0	36.913939	50.0	1927914.0	0.230712	Y
7	IC 280-636738/8	240.0	59.002575	50.0	1983388.0	0.245844	Y
8	IC 280-636738/9	320.0	74.976232	50.0	1996396.0	0.234301	Y
9	IC 280-636738/10	640.0	151.393818	50.0	2045461.0	0.236553	Y



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Calibration / Methylcyclohexane

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	ISTD
Response Base:	AREA
RF Rounding:	0

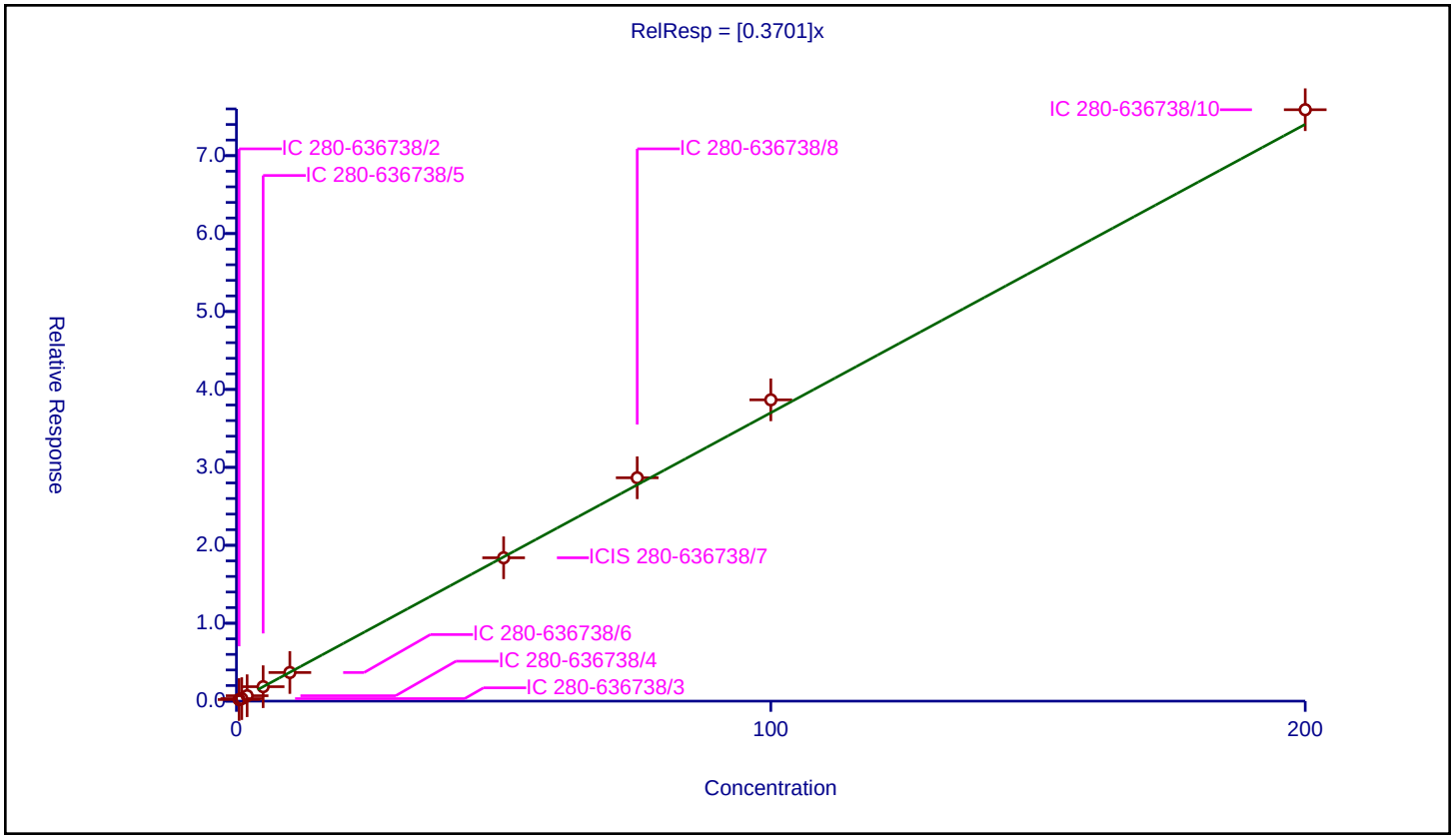
Curve Coefficients

Intercept:	0
Slope:	0.3701

Error Coefficients

Standard Error:	1320000
Relative Standard Error:	6.6
Correlation Coefficient:	1.000
Coefficient of Determination (Adjusted):	0.994

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 280-636738/2	0.5	0.203493	50.0	1824881.0	0.406985	Y
2	IC 280-636738/3	1.0	0.321693	50.0	1811045.0	0.321693	Y
3	IC 280-636738/4	2.0	0.695235	50.0	1808310.0	0.347617	Y
4	IC 280-636738/5	5.0	1.855783	50.0	1838496.0	0.371157	Y
5	IC 280-636738/6	10.0	3.673641	50.0	1829520.0	0.367364	Y
6	ICIS 280-636738/7	50.0	18.395893	50.0	1927914.0	0.367918	Y
7	IC 280-636738/8	75.0	28.66247	50.0	1983388.0	0.382166	Y
8	IC 280-636738/9	100.0	38.66282	50.0	1996396.0	0.386628	Y
9	IC 280-636738/10	200.0	75.894016	50.0	2045461.0	0.37947	Y



Calibration / 1,2-Dichloropropane

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	ISTD
Response Base:	AREA
RF Rounding:	0

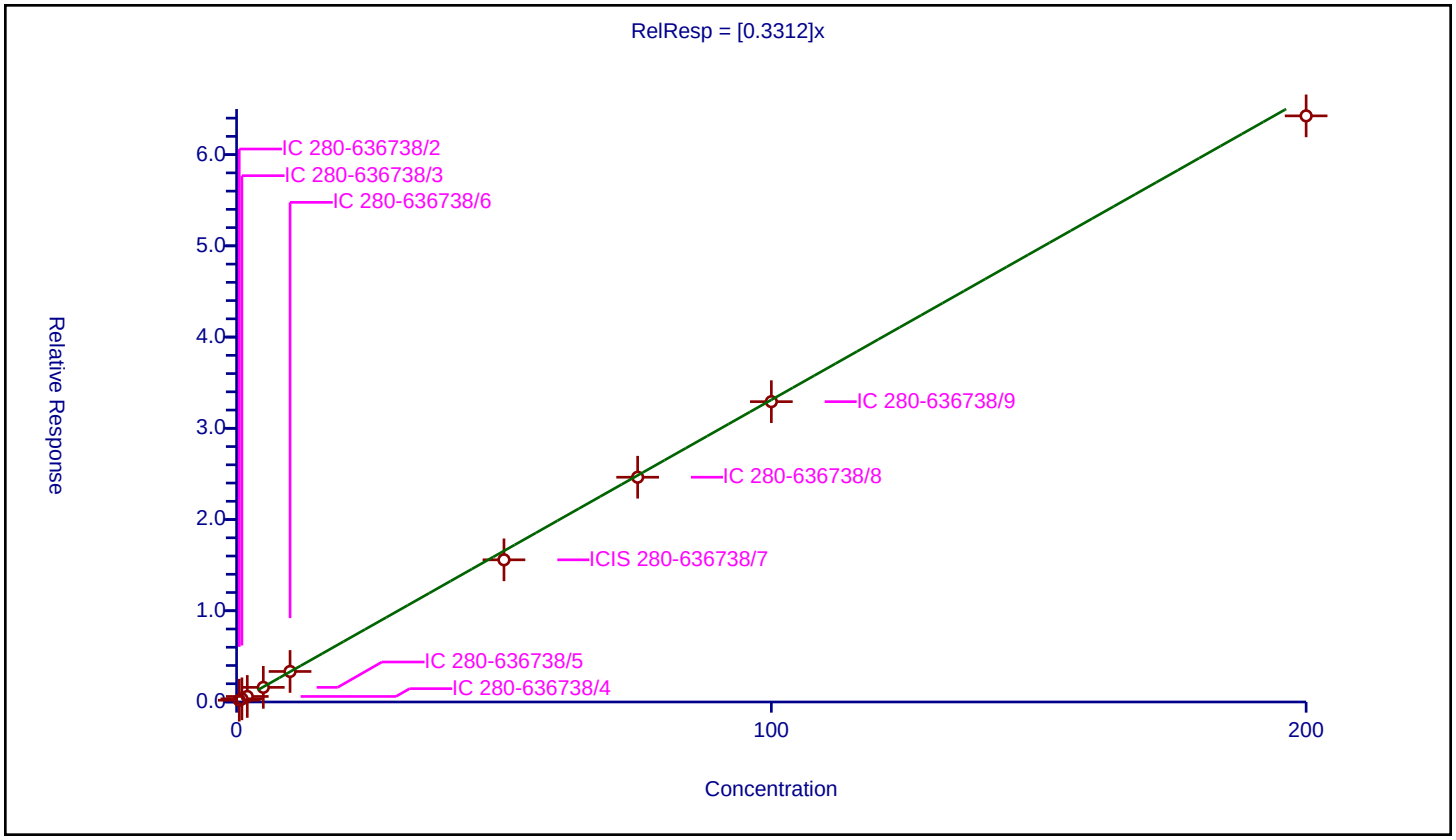
Curve Coefficients

Intercept:	0
Slope:	0.3312

Error Coefficients

Standard Error:	1120000
Relative Standard Error:	7.3
Correlation Coefficient:	1.000
Coefficient of Determination (Adjusted):	0.993

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 280-636738/2	0.5	0.193191	50.0	1824881.0	0.386381	Y
2	IC 280-636738/3	1.0	0.345546	50.0	1811045.0	0.345546	Y
3	IC 280-636738/4	2.0	0.605538	50.0	1808310.0	0.302769	Y
4	IC 280-636738/5	5.0	1.603566	50.0	1838496.0	0.320713	Y
5	IC 280-636738/6	10.0	3.346534	50.0	1829520.0	0.334653	Y
6	ICIS 280-636738/7	50.0	15.585394	50.0	1927914.0	0.311708	Y
7	IC 280-636738/8	75.0	24.636329	50.0	1983388.0	0.328484	Y
8	IC 280-636738/9	100.0	32.921324	50.0	1996396.0	0.329213	Y
9	IC 280-636738/10	200.0	64.248059	50.0	2045461.0	0.32124	Y



Calibration / 1,4-Dioxane

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	ISTD
Response Base:	AREA
RF Rounding:	0

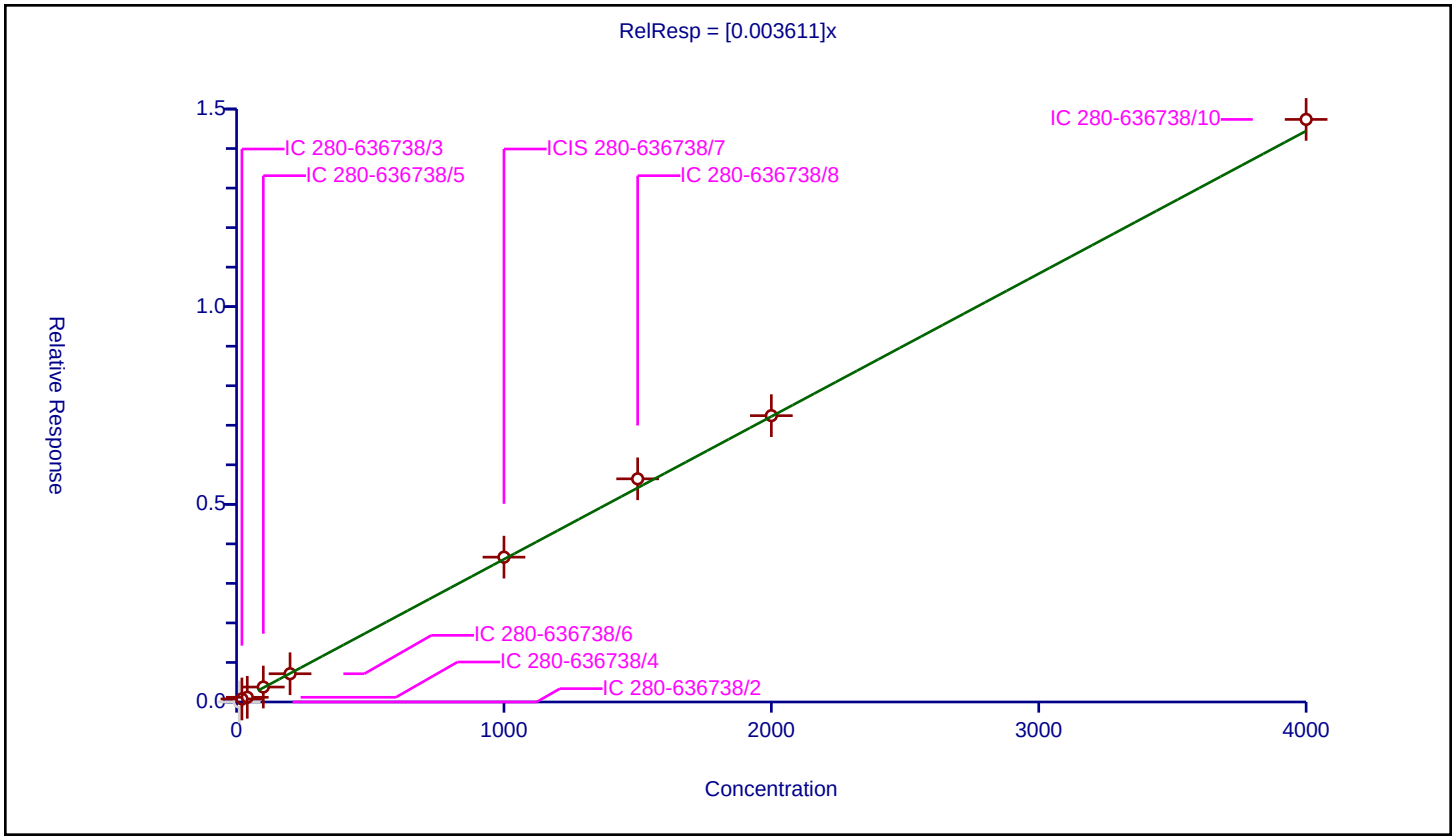
Curve Coefficients

Intercept:	0
Slope:	0.003611

Error Coefficients

Standard Error:	272000
Relative Standard Error:	7.6
Correlation Coefficient:	1.000
Coefficient of Determination (Adjusted):	0.993

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 280-636738/2	10.0	0.0	50.0	1824881.0	0.0	N
2	IC 280-636738/3	20.0	0.076586	50.0	1811045.0	0.003829	Y
3	IC 280-636738/4	40.0	0.118785	50.0	1808310.0	0.00297	Y
4	IC 280-636738/5	100.0	0.378298	50.0	1838496.0	0.003783	Y
5	IC 280-636738/6	200.0	0.714942	50.0	1829520.0	0.003575	Y
6	ICIS 280-636738/7	1000.0	3.663649	50.0	1927914.0	0.003664	Y
7	IC 280-636738/8	1500.0	5.644786	50.0	1983388.0	0.003763	Y
8	IC 280-636738/9	2000.0	7.243403	50.0	1996396.0	0.003622	Y
9	IC 280-636738/10	4000.0	14.736947	50.0	2045461.0	0.003684	Y



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Calibration / Dibromomethane

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	ISTD
Response Base:	AREA
RF Rounding:	0

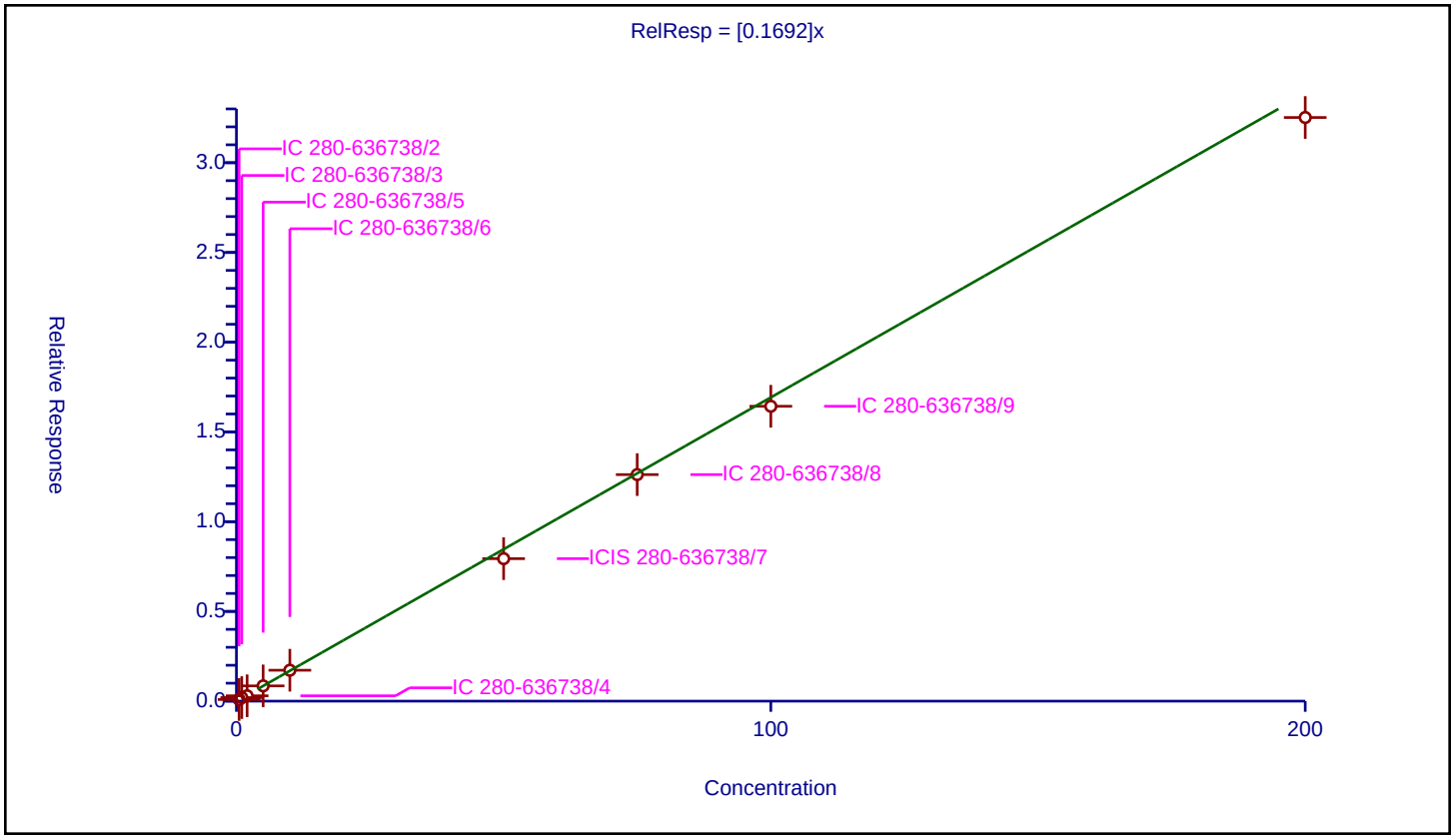
Curve Coefficients

Intercept:	0
Slope:	0.1692

Error Coefficients

Standard Error:	565000
Relative Standard Error:	8.4
Correlation Coefficient:	1.000
Coefficient of Determination (Adjusted):	0.991

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 280-636738/2	0.5	0.090088	50.0	1824881.0	0.180176	Y
2	IC 280-636738/3	1.0	0.198532	50.0	1811045.0	0.198532	Y
3	IC 280-636738/4	2.0	0.296852	50.0	1808310.0	0.148426	Y
4	IC 280-636738/5	5.0	0.849227	50.0	1838496.0	0.169845	Y
5	IC 280-636738/6	10.0	1.721954	50.0	1829520.0	0.172195	Y
6	ICIS 280-636738/7	50.0	7.93858	50.0	1927914.0	0.158772	Y
7	IC 280-636738/8	75.0	12.622593	50.0	1983388.0	0.168301	Y
8	IC 280-636738/9	100.0	16.431259	50.0	1996396.0	0.164313	Y
9	IC 280-636738/10	200.0	32.52064	50.0	2045461.0	0.162603	Y



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Calibration / Dichlorobromomethane

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	ISTD
Response Base:	AREA
RF Rounding:	0

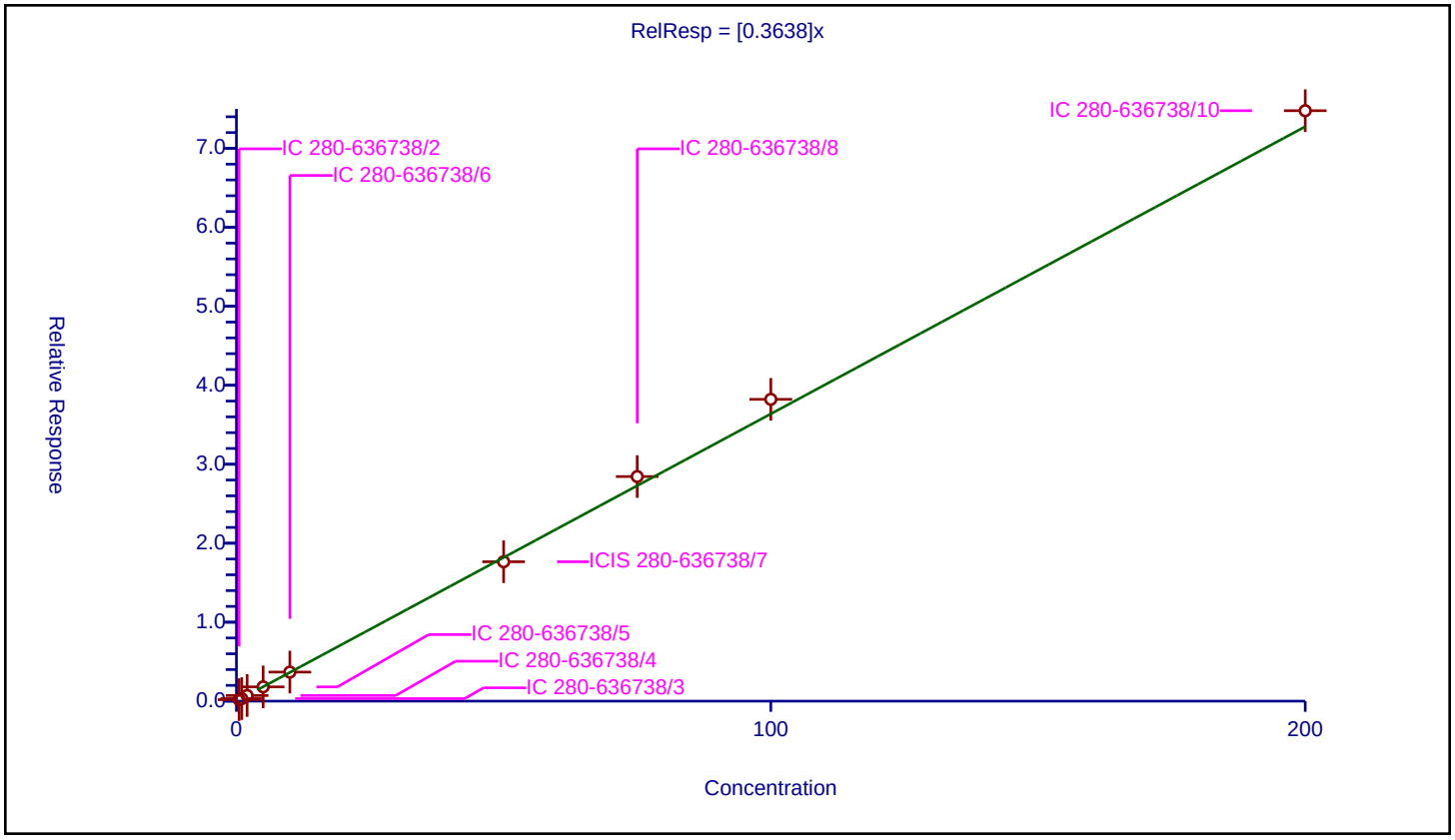
Curve Coefficients

Intercept:	0
Slope:	0.3638

Error Coefficients

Standard Error:	1300000
Relative Standard Error:	5.2
Correlation Coefficient:	0.999
Coefficient of Determination (Adjusted):	0.997

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 280-636738/2	0.5	0.189547	50.0	1824881.0	0.379093	Y
2	IC 280-636738/3	1.0	0.321417	50.0	1811045.0	0.321417	Y
3	IC 280-636738/4	2.0	0.711687	50.0	1808310.0	0.355843	Y
4	IC 280-636738/5	5.0	1.806504	50.0	1838496.0	0.361301	Y
5	IC 280-636738/6	10.0	3.679818	50.0	1829520.0	0.367982	Y
6	ICIS 280-636738/7	50.0	17.65115	50.0	1927914.0	0.353023	Y
7	IC 280-636738/8	75.0	28.441661	50.0	1983388.0	0.379222	Y
8	IC 280-636738/9	100.0	38.219847	50.0	1996396.0	0.382198	Y
9	IC 280-636738/10	200.0	74.770064	50.0	2045461.0	0.37385	Y



Calibration / 2-Chloroethyl vinyl ether

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	ISTD
Response Base:	AREA
RF Rounding:	0

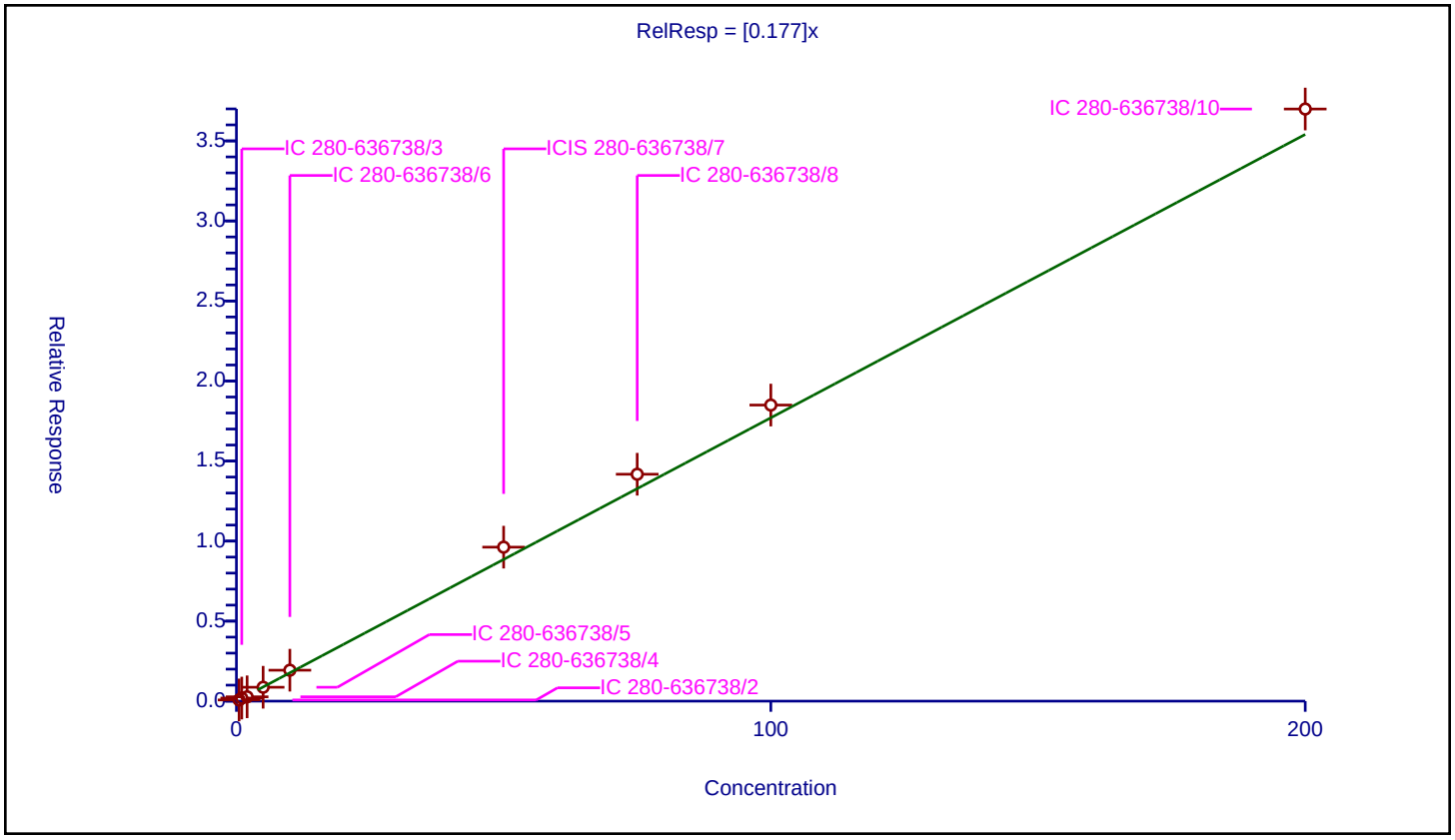
Curve Coefficients

Intercept:	0
Slope:	0.177

Error Coefficients

Standard Error:	642000
Relative Standard Error:	12.0
Correlation Coefficient:	1.000
Coefficient of Determination (Adjusted):	0.983

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 280-636738/2	0.5	0.073923	50.0	1824881.0	0.147845	Y
2	IC 280-636738/3	1.0	0.191713	50.0	1811045.0	0.191713	Y
3	IC 280-636738/4	2.0	0.270861	50.0	1808310.0	0.13543	Y
4	IC 280-636738/5	5.0	0.867693	50.0	1838496.0	0.173539	Y
5	IC 280-636738/6	10.0	1.933294	50.0	1829520.0	0.193329	Y
6	ICIS 280-636738/7	50.0	9.62032	50.0	1927914.0	0.192406	Y
7	IC 280-636738/8	75.0	14.175693	50.0	1983388.0	0.189009	Y
8	IC 280-636738/9	100.0	18.496456	50.0	1996396.0	0.184965	Y
9	IC 280-636738/10	200.0	36.992419	50.0	2045461.0	0.184962	Y



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Calibration / cis-1,3-Dichloropropene

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	ISTD
Response Base:	AREA
RF Rounding:	0

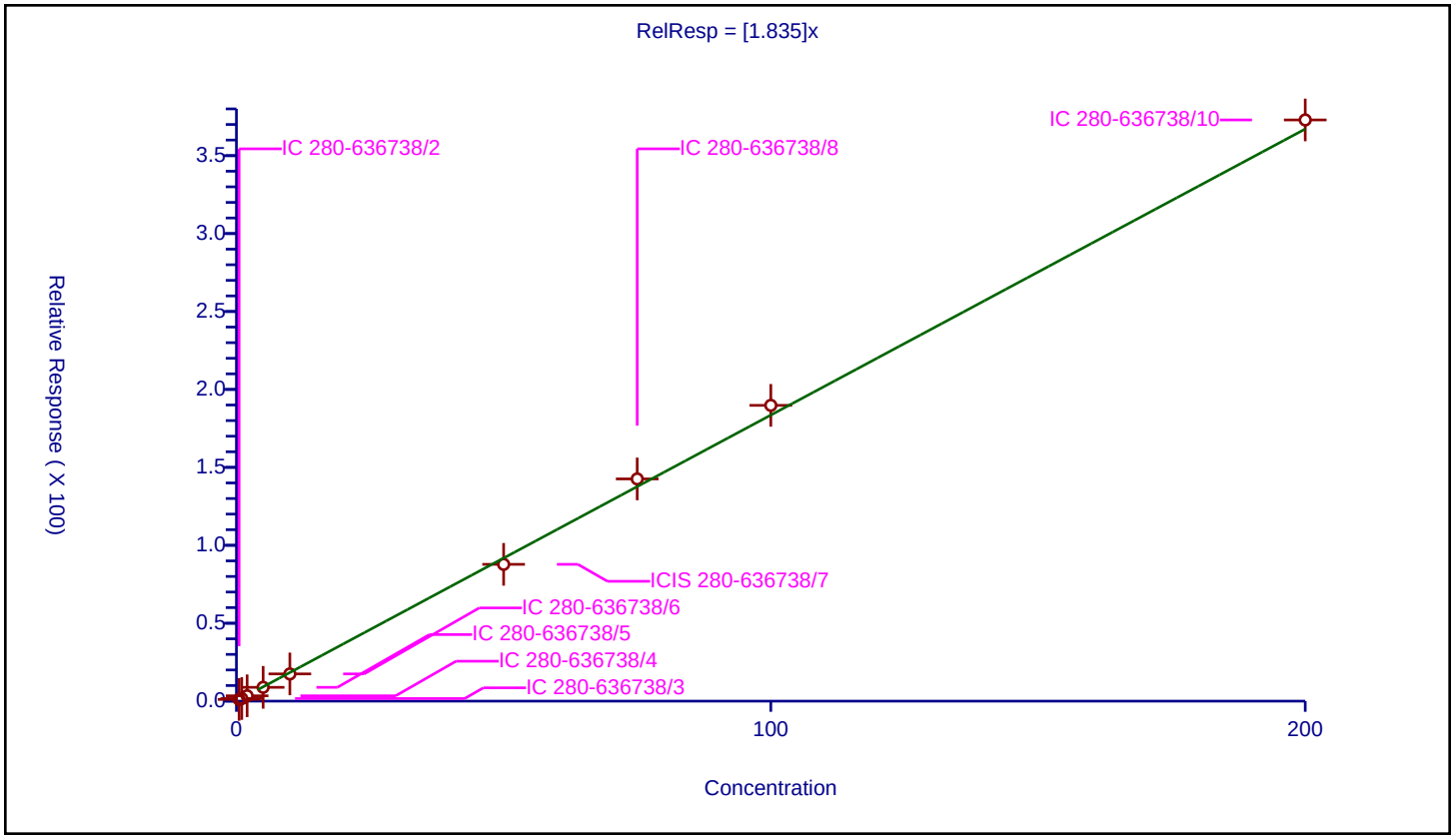
Curve Coefficients

Intercept:	0
Slope:	1.835

Error Coefficients

Standard Error:	1640000
Relative Standard Error:	8.9
Correlation Coefficient:	0.999
Coefficient of Determination (Adjusted):	0.989

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 280-636738/2	0.5	1.103666	50.0	463863.0	2.207333	Y
2	IC 280-636738/3	1.0	1.659668	50.0	472203.0	1.659668	Y
3	IC 280-636738/4	2.0	3.428802	50.0	462596.0	1.714401	Y
4	IC 280-636738/5	5.0	8.860048	50.0	471713.0	1.77201	Y
5	IC 280-636738/6	10.0	17.464919	50.0	481740.0	1.746492	Y
6	ICIS 280-636738/7	50.0	87.772993	50.0	487237.0	1.75546	Y
7	IC 280-636738/8	75.0	142.586721	50.0	505296.0	1.901156	Y
8	IC 280-636738/9	100.0	189.78708	50.0	502912.0	1.897871	Y
9	IC 280-636738/10	200.0	372.900292	50.0	519596.0	1.864501	Y



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Calibration / 4-Methyl-2-pentanone (MIBK)

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	ISTD
Response Base:	AREA
RF Rounding:	0

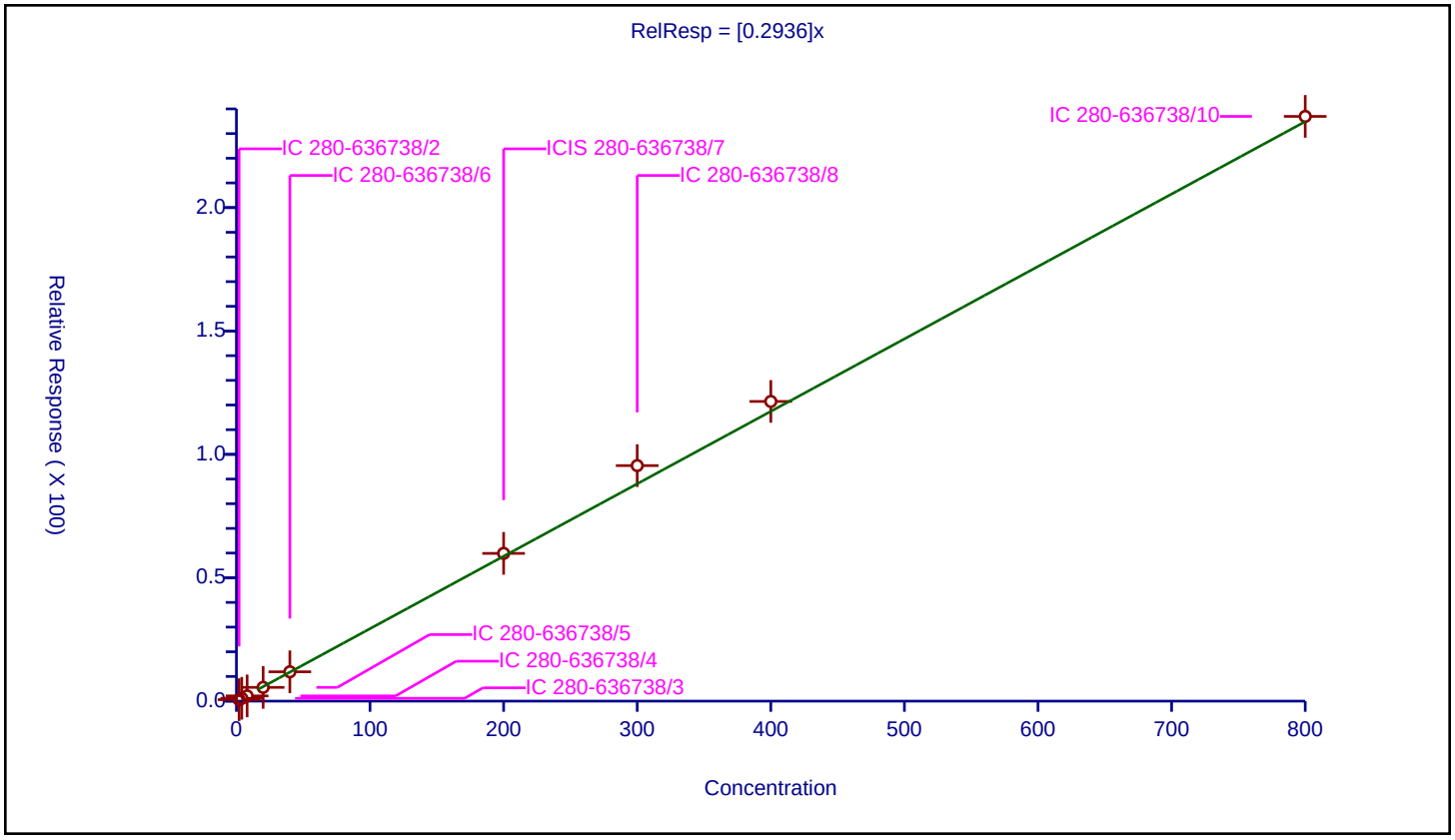
Curve Coefficients

Intercept:	0
Slope:	0.2936

Error Coefficients

Standard Error:	4140000
Relative Standard Error:	5.2
Correlation Coefficient:	1.000
Coefficient of Determination (Adjusted):	0.997

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 280-636738/2	2.0	0.591354	50.0	1824881.0	0.295677	Y
2	IC 280-636738/3	4.0	1.152843	50.0	1811045.0	0.288211	Y
3	IC 280-636738/4	8.0	2.120046	50.0	1808310.0	0.265006	Y
4	IC 280-636738/5	20.0	5.571211	50.0	1838496.0	0.278561	Y
5	IC 280-636738/6	40.0	11.893338	50.0	1829520.0	0.297333	Y
6	ICIS 280-636738/7	200.0	59.875674	50.0	1927914.0	0.299378	Y
7	IC 280-636738/8	300.0	95.450991	50.0	1983388.0	0.31817	Y
8	IC 280-636738/9	400.0	121.4485	50.0	1996396.0	0.303621	Y
9	IC 280-636738/10	800.0	236.951523	50.0	2045461.0	0.296189	Y



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Calibration / Toluene-d8 (Surr)

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	ISTD
Response Base:	AREA
RF Rounding:	0

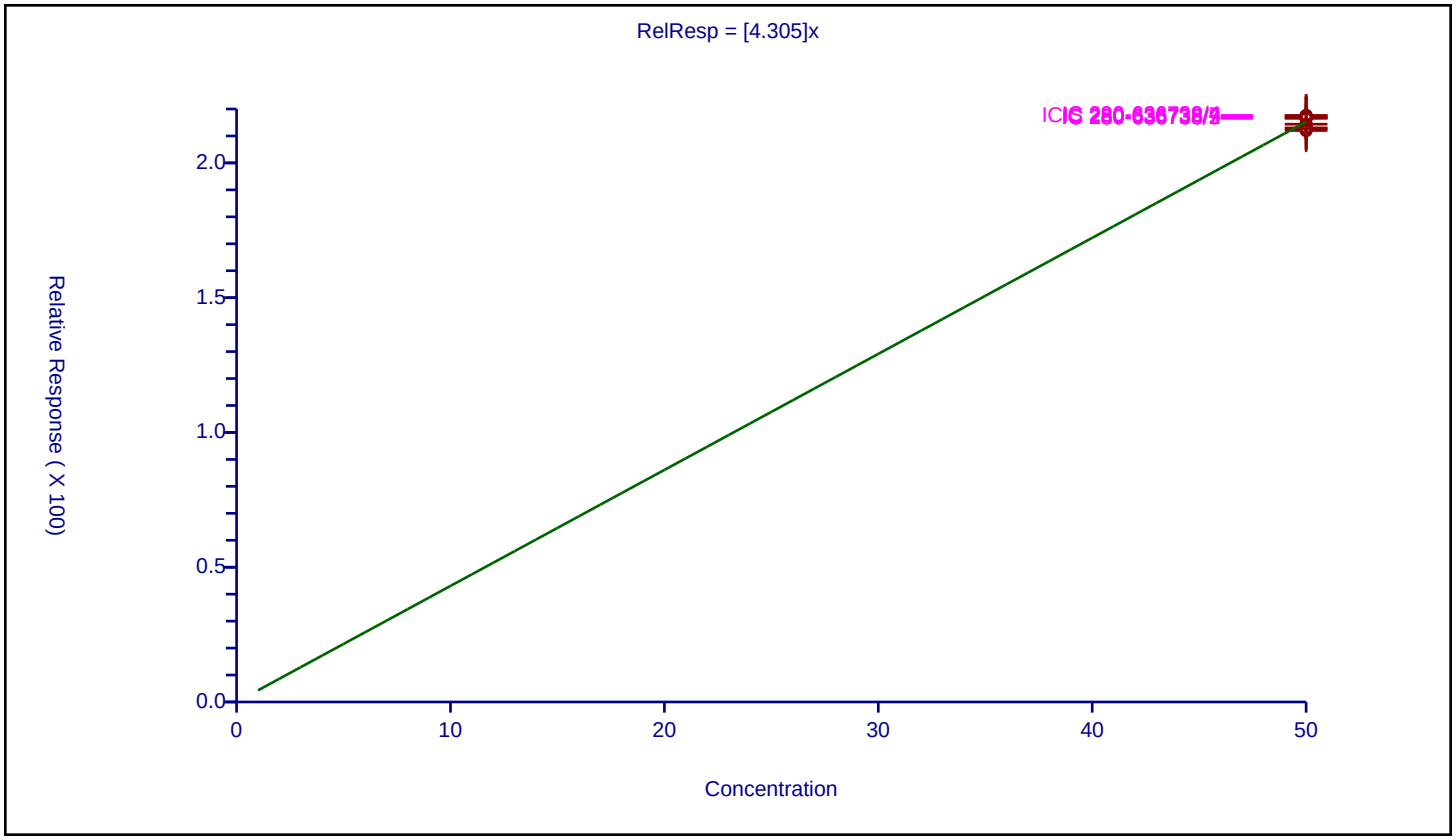
Curve Coefficients

Intercept:	0
Slope:	4.305

Error Coefficients

Standard Error:	2220000
Relative Standard Error:	1.0
Correlation Coefficient:	NA
Coefficient of Determination (Adjusted):	0

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 280-636738/2	50.0	216.594447	50.0	463863.0	4.331889	Y
2	IC 280-636738/3	50.0	212.716671	50.0	472203.0	4.254333	Y
3	IC 280-636738/4	50.0	217.54425	50.0	462596.0	4.350885	Y
4	IC 280-636738/5	50.0	216.702317	50.0	471713.0	4.334046	Y
5	IC 280-636738/6	50.0	212.019347	50.0	481740.0	4.240387	Y
6	ICIS 280-636738/7	50.0	217.533356	50.0	487237.0	4.350667	Y
7	IC 280-636738/8	50.0	213.002775	50.0	505296.0	4.260055	Y
8	IC 280-636738/9	50.0	216.737421	50.0	502912.0	4.334748	Y
9	IC 280-636738/10	50.0	214.365488	50.0	519596.0	4.28731	Y



Calibration / Toluene

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	ISTD
Response Base:	AREA
RF Rounding:	0

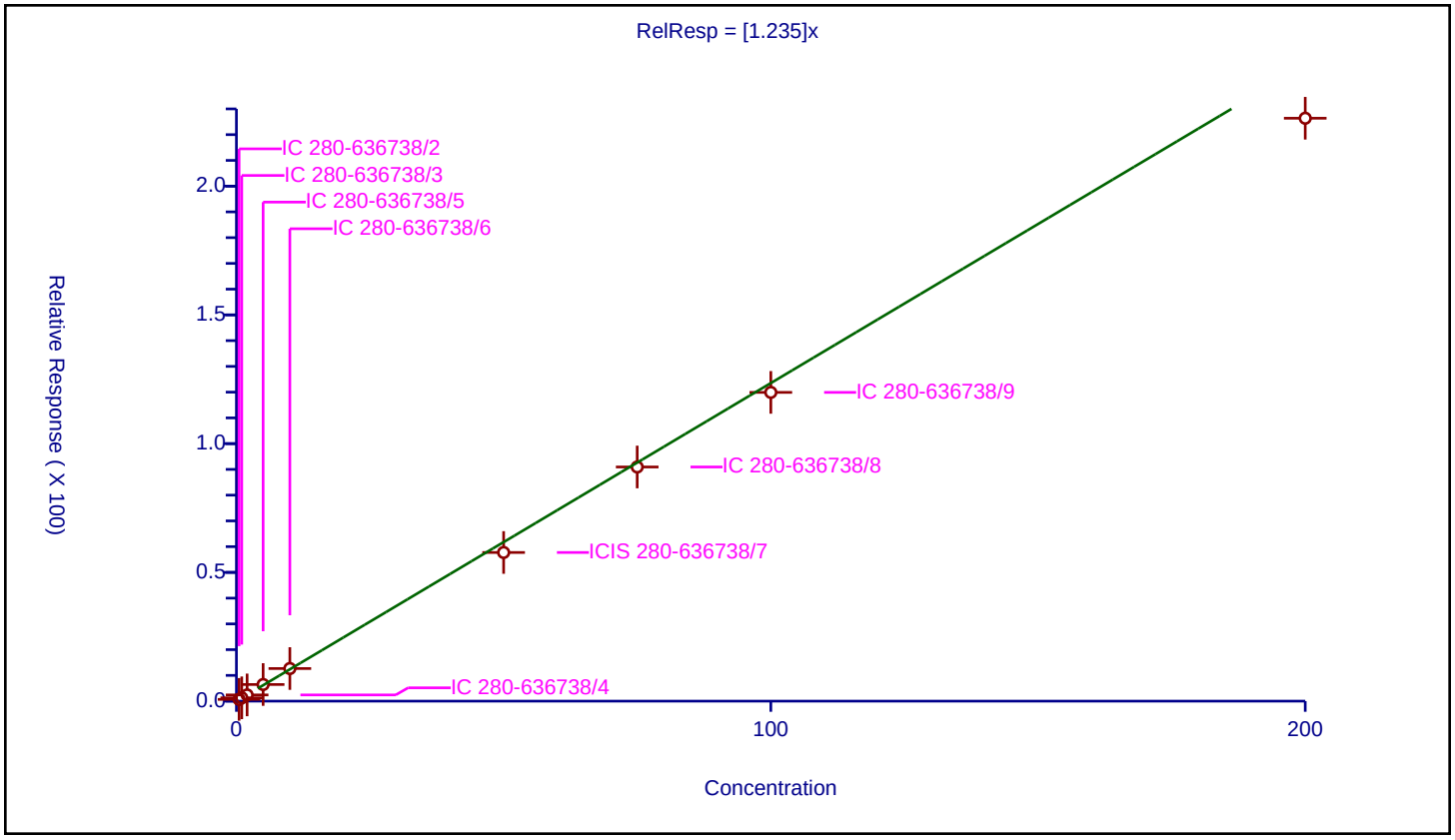
Curve Coefficients

Intercept:	0
Slope:	1.235

Error Coefficients

Standard Error:	3980000
Relative Standard Error:	6.0
Correlation Coefficient:	0.999
Coefficient of Determination (Adjusted):	0.995

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 280-636738/2	0.5	0.682428	50.0	1824881.0	1.364856	Y
2	IC 280-636738/3	1.0	1.289228	50.0	1811045.0	1.289228	Y
3	IC 280-636738/4	2.0	2.410621	50.0	1808310.0	1.20531	Y
4	IC 280-636738/5	5.0	6.463789	50.0	1838496.0	1.292758	Y
5	IC 280-636738/6	10.0	12.666328	50.0	1829520.0	1.266633	Y
6	ICIS 280-636738/7	50.0	57.727368	50.0	1927914.0	1.154547	Y
7	IC 280-636738/8	75.0	90.934048	50.0	1983388.0	1.212454	Y
8	IC 280-636738/9	100.0	119.904693	50.0	1996396.0	1.199047	Y
9	IC 280-636738/10	200.0	226.368872	50.0	2045461.0	1.131844	Y



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Calibration / trans-1,3-Dichloropropene

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	ISTD
Response Base:	AREA
RF Rounding:	0

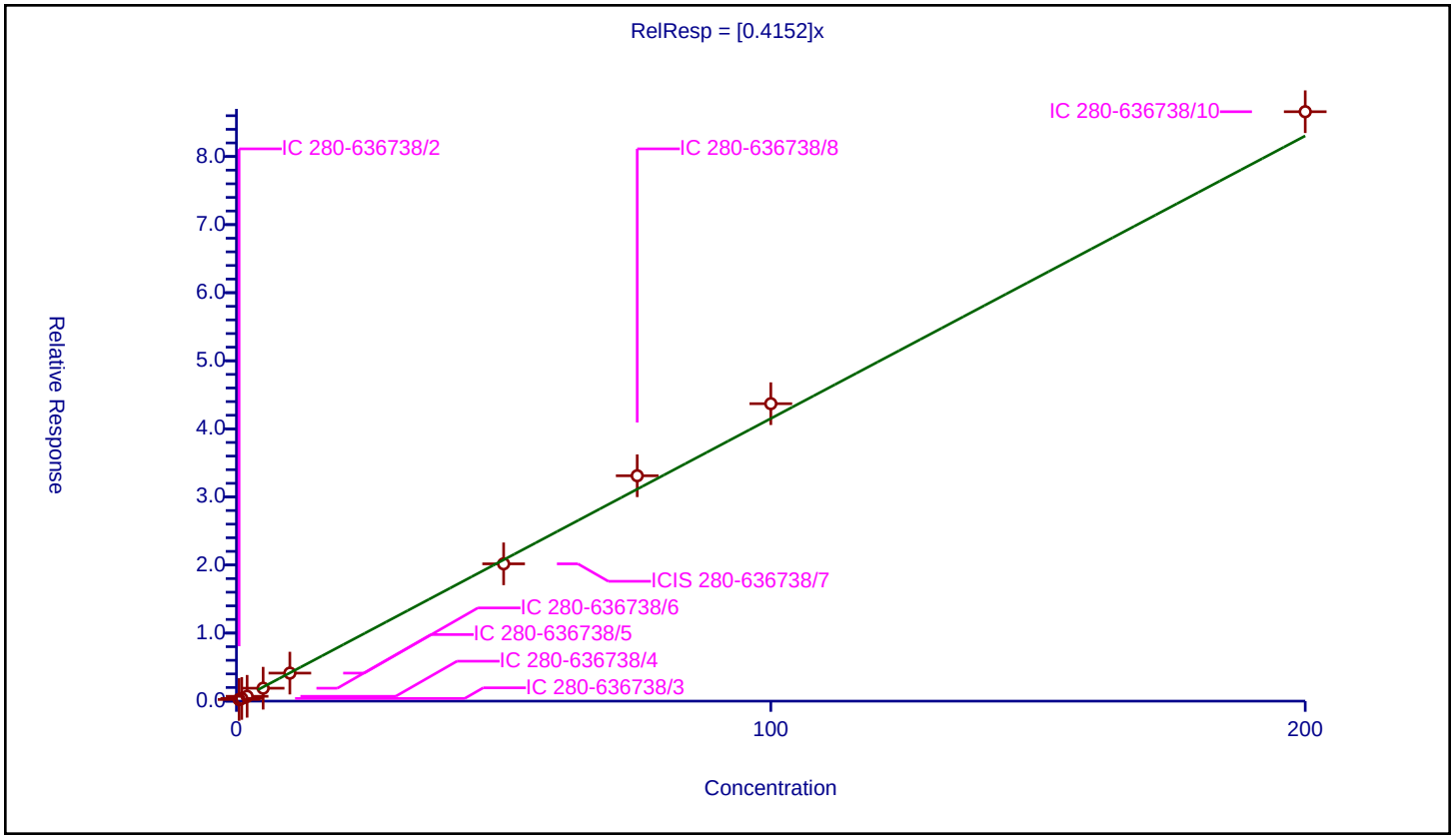
Curve Coefficients

Intercept:	0
Slope:	0.4152

Error Coefficients

Standard Error:	1500000
Relative Standard Error:	9.2
Correlation Coefficient:	0.999
Coefficient of Determination (Adjusted):	0.989

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 280-636738/2	0.5	0.241632	50.0	1824881.0	0.483264	Y
2	IC 280-636738/3	1.0	0.392011	50.0	1811045.0	0.392011	Y
3	IC 280-636738/4	2.0	0.709834	50.0	1808310.0	0.354917	Y
4	IC 280-636738/5	5.0	1.900358	50.0	1838496.0	0.380072	Y
5	IC 280-636738/6	10.0	4.117391	50.0	1829520.0	0.411739	Y
6	ICIS 280-636738/7	50.0	20.168924	50.0	1927914.0	0.403378	Y
7	IC 280-636738/8	75.0	33.110869	50.0	1983388.0	0.441478	Y
8	IC 280-636738/9	100.0	43.694788	50.0	1996396.0	0.436948	Y
9	IC 280-636738/10	200.0	86.58388	50.0	2045461.0	0.432919	Y



Calibration / Ethyl methacrylate

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	ISTD
Response Base:	AREA
RF Rounding:	0

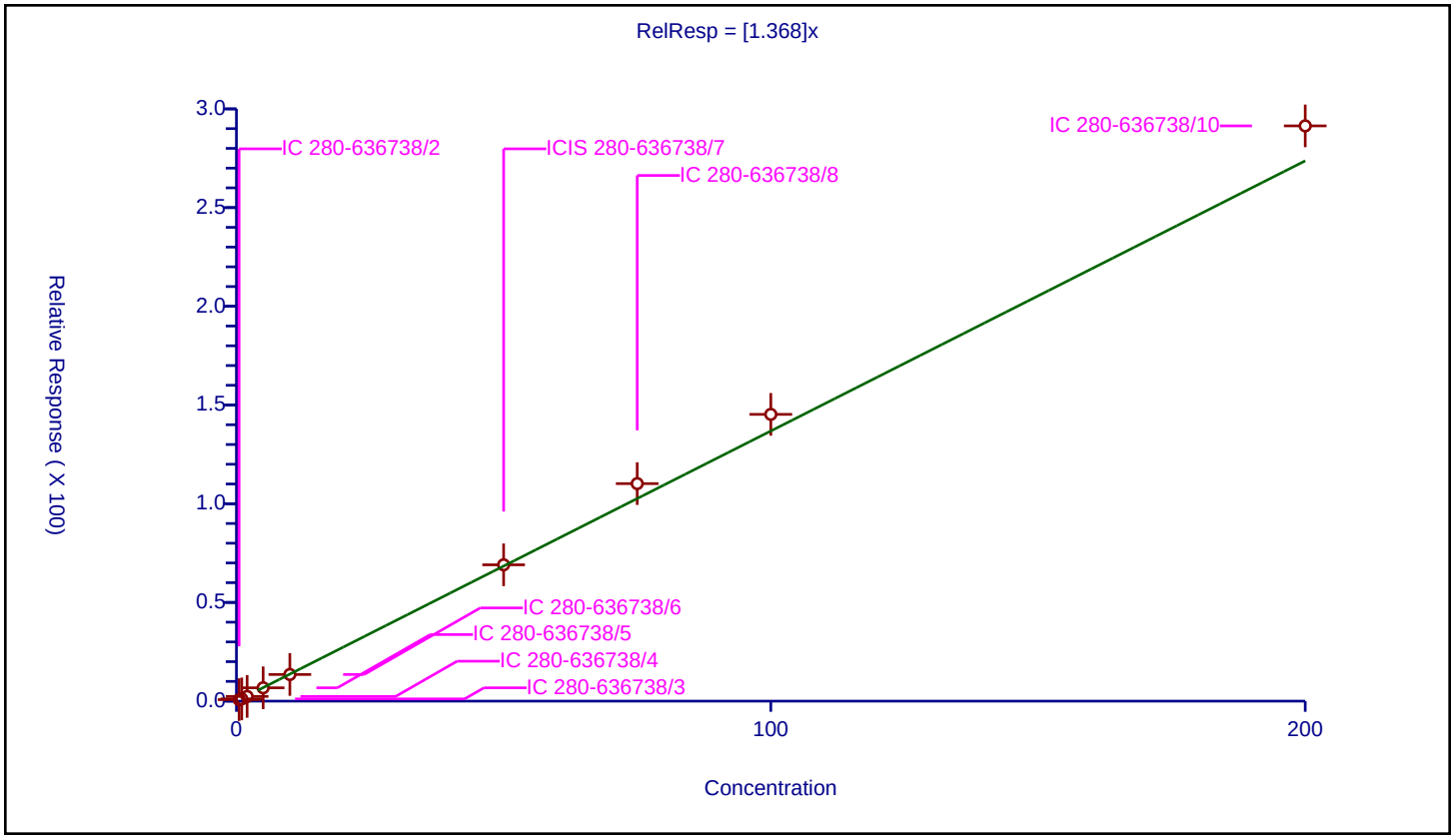
Curve Coefficients

Intercept:	0
Slope:	1.368

Error Coefficients

Standard Error:	1280000
Relative Standard Error:	9.3
Correlation Coefficient:	0.999
Coefficient of Determination (Adjusted):	0.989

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 280-636738/2	0.5	0.759168	50.0	463863.0	1.518336	Y
2	IC 280-636738/3	1.0	1.138599	50.0	472203.0	1.138599	Y
3	IC 280-636738/4	2.0	2.396043	50.0	462596.0	1.198022	Y
4	IC 280-636738/5	5.0	6.757181	50.0	471713.0	1.351436	Y
5	IC 280-636738/6	10.0	13.495765	50.0	481740.0	1.349577	Y
6	ICIS 280-636738/7	50.0	69.058487	50.0	487237.0	1.38117	Y
7	IC 280-636738/8	75.0	110.1964	50.0	505296.0	1.469285	Y
8	IC 280-636738/9	100.0	145.273527	50.0	502912.0	1.452735	Y
9	IC 280-636738/10	200.0	291.387058	50.0	519596.0	1.456935	Y



Calibration / 1,1,2-Trichloroethane

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	ISTD
Response Base:	AREA
RF Rounding:	0

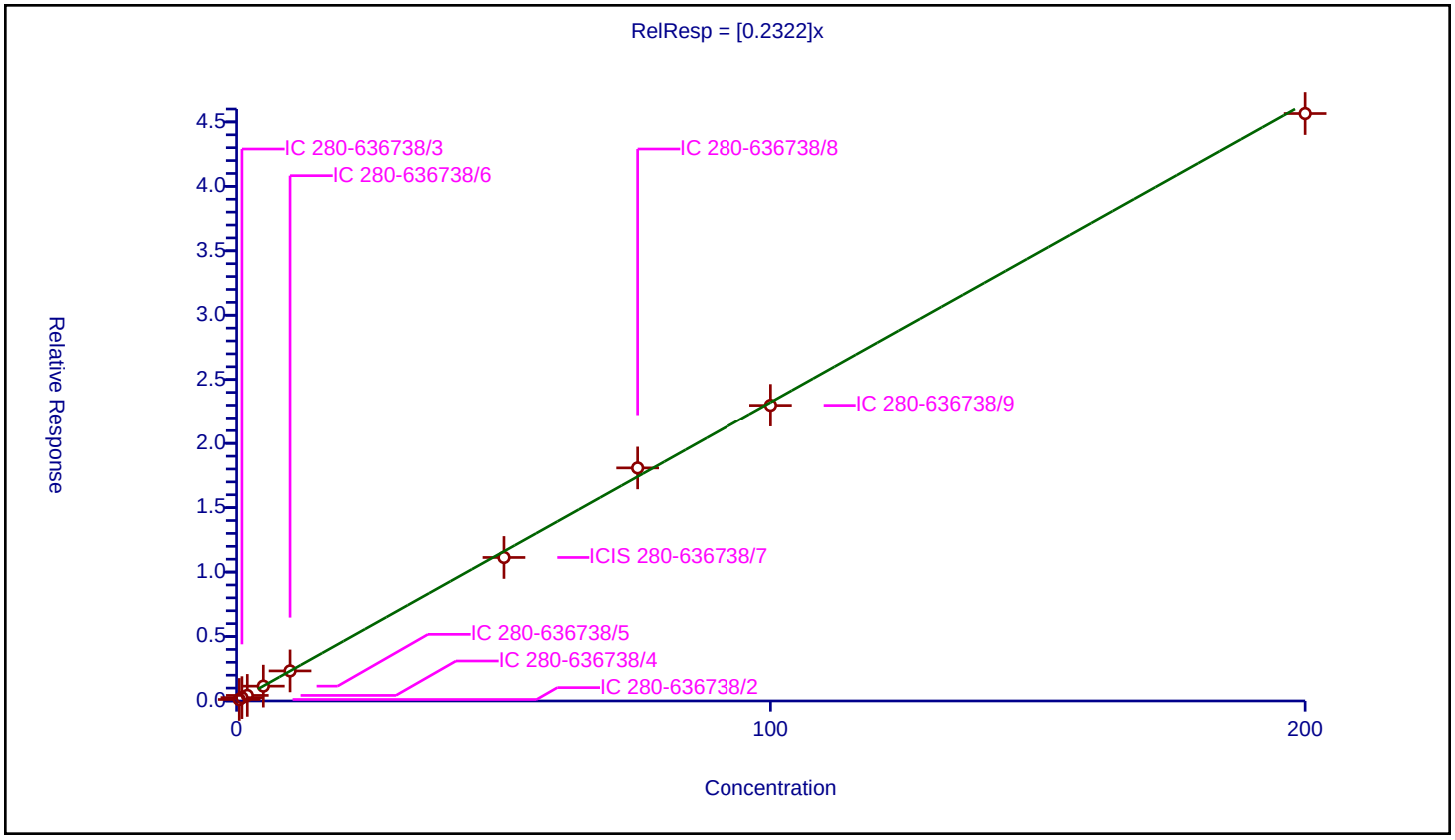
Curve Coefficients

Intercept:	0
Slope:	0.2322

Error Coefficients

Standard Error:	794000
Relative Standard Error:	5.3
Correlation Coefficient:	0.999
Coefficient of Determination (Adjusted):	0.996

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 280-636738/2	0.5	0.11472	50.0	1824881.0	0.22944	Y
2	IC 280-636738/3	1.0	0.259298	50.0	1811045.0	0.259298	Y
3	IC 280-636738/4	2.0	0.431148	50.0	1808310.0	0.215574	Y
4	IC 280-636738/5	5.0	1.151322	50.0	1838496.0	0.230264	Y
5	IC 280-636738/6	10.0	2.331404	50.0	1829520.0	0.23314	Y
6	ICIS 280-636738/7	50.0	11.135533	50.0	1927914.0	0.222711	Y
7	IC 280-636738/8	75.0	18.085922	50.0	1983388.0	0.241146	Y
8	IC 280-636738/9	100.0	22.990654	50.0	1996396.0	0.229907	Y
9	IC 280-636738/10	200.0	45.651323	50.0	2045461.0	0.228257	Y



Calibration / Tetrachloroethene

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	ISTD
Response Base:	AREA
RF Rounding:	0

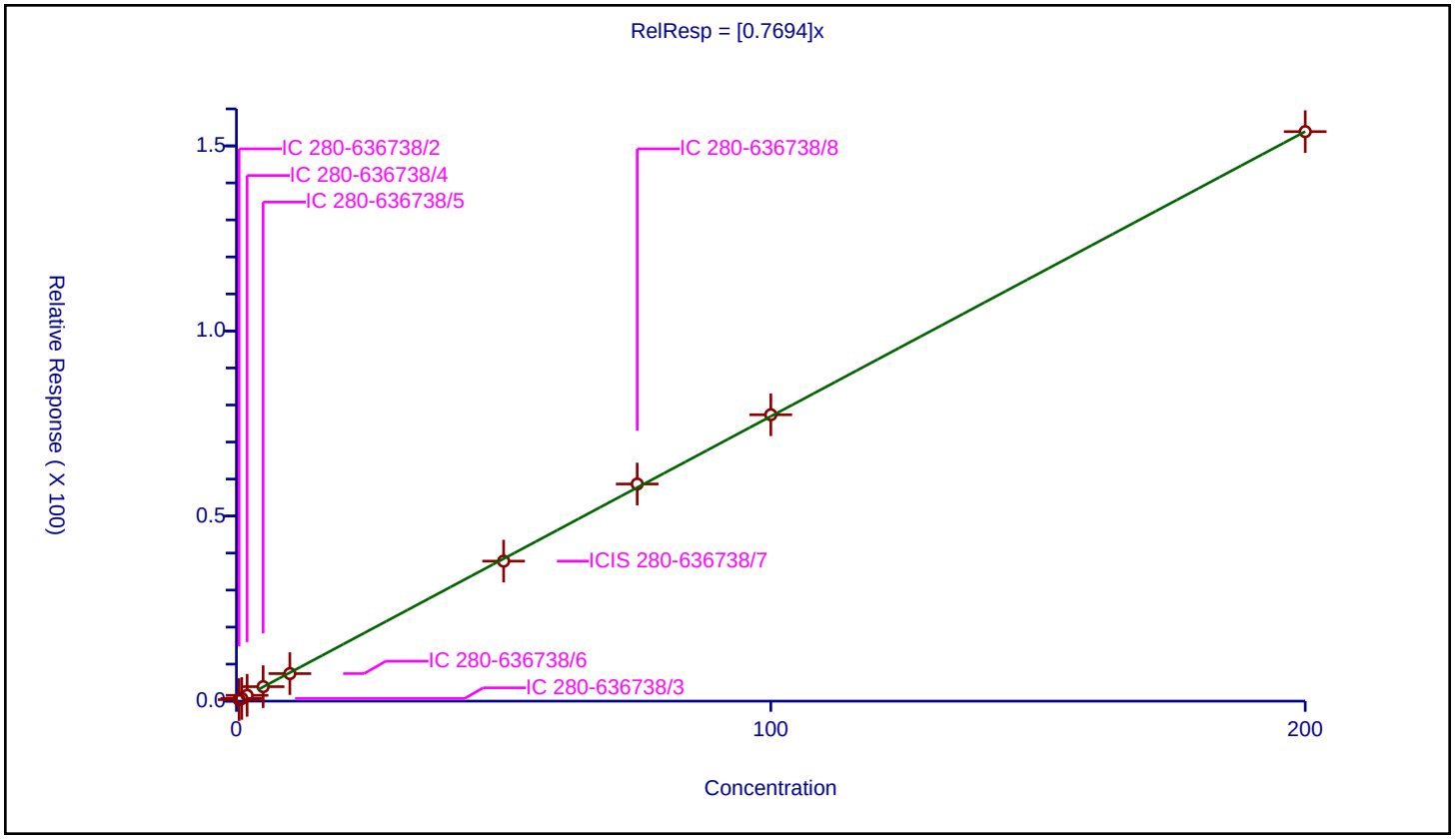
Curve Coefficients

Intercept:	0
Slope:	0.7694

Error Coefficients

Standard Error:	676000
Relative Standard Error:	3.5
Correlation Coefficient:	1.000
Coefficient of Determination (Adjusted):	0.998

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 280-636738/2	0.5	0.407771	50.0	463863.0	0.815543	Y
2	IC 280-636738/3	1.0	0.7195	50.0	472203.0	0.7195	Y
3	IC 280-636738/4	2.0	1.564972	50.0	462596.0	0.782486	Y
4	IC 280-636738/5	5.0	3.909581	50.0	471713.0	0.781916	Y
5	IC 280-636738/6	10.0	7.436273	50.0	481740.0	0.743627	Y
6	ICIS 280-636738/7	50.0	37.823174	50.0	487237.0	0.756463	Y
7	IC 280-636738/8	75.0	58.663041	50.0	505296.0	0.782174	Y
8	IC 280-636738/9	100.0	77.371886	50.0	502912.0	0.773719	Y
9	IC 280-636738/10	200.0	153.855977	50.0	519596.0	0.76928	Y



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Calibration / 1,3-Dichloropropane

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	ISTD
Response Base:	AREA
RF Rounding:	0

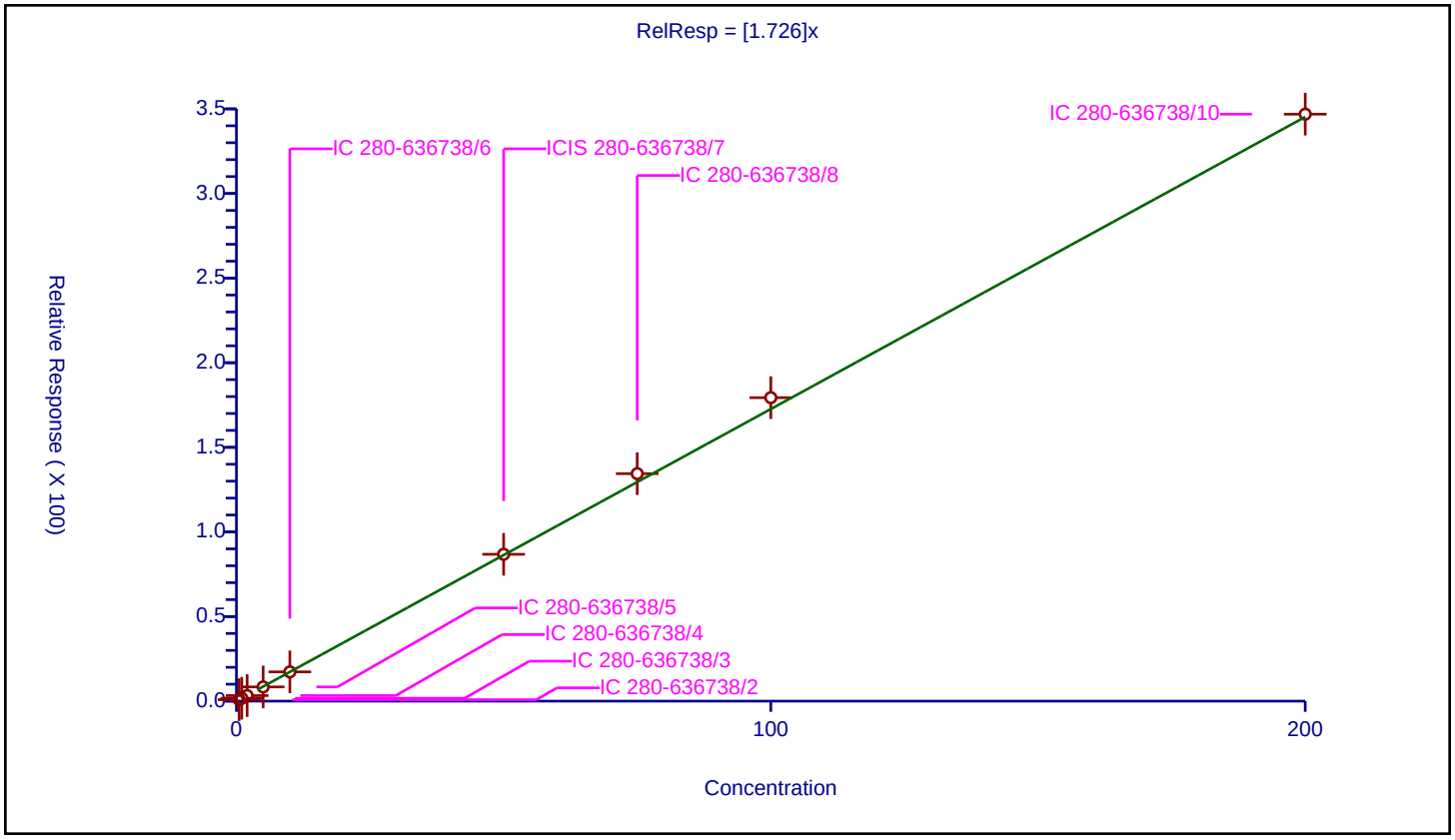
Curve Coefficients

Intercept:	0
Slope:	1.726

Error Coefficients

Standard Error:	1530000
Relative Standard Error:	2.8
Correlation Coefficient:	1.000
Coefficient of Determination (Adjusted):	0.999

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 280-636738/2	0.5	0.858335	50.0	463863.0	1.716671	Y
2	IC 280-636738/3	1.0	1.711128	50.0	472203.0	1.711128	Y
3	IC 280-636738/4	2.0	3.285696	50.0	462596.0	1.642848	Y
4	IC 280-636738/5	5.0	8.397797	50.0	471713.0	1.679559	Y
5	IC 280-636738/6	10.0	17.297194	50.0	481740.0	1.729719	Y
6	ICIS 280-636738/7	50.0	86.787026	50.0	487237.0	1.735741	Y
7	IC 280-636738/8	75.0	134.446542	50.0	505296.0	1.792621	Y
8	IC 280-636738/9	100.0	179.351855	50.0	502912.0	1.793519	Y
9	IC 280-636738/10	200.0	346.887101	50.0	519596.0	1.734436	Y



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Calibration / 2-Hexanone

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	ISTD
Response Base:	AREA
RF Rounding:	0

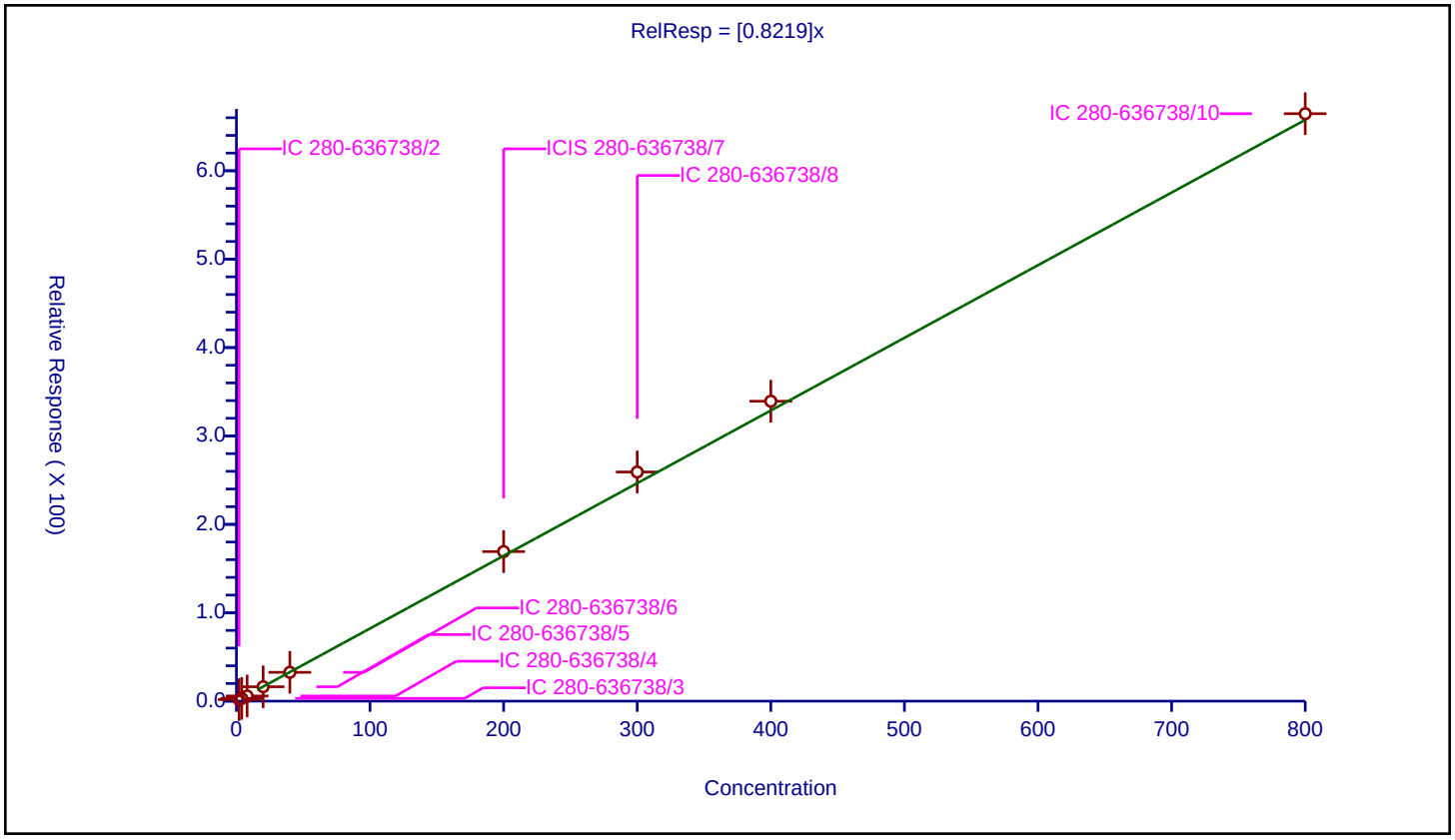
Curve Coefficients

Intercept:	0
Slope:	0.8219

Error Coefficients

Standard Error:	2940000
Relative Standard Error:	5.6
Correlation Coefficient:	1.000
Coefficient of Determination (Adjusted):	0.996

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 280-636738/2	2.0	1.748038	50.0	463863.0	0.874019	Y
2	IC 280-636738/3	4.0	3.104279	50.0	472203.0	0.77607	Y
3	IC 280-636738/4	8.0	5.830898	50.0	462596.0	0.728862	Y
4	IC 280-636738/5	20.0	16.280662	50.0	471713.0	0.814033	Y
5	IC 280-636738/6	40.0	32.617906	50.0	481740.0	0.815448	Y
6	ICIS 280-636738/7	200.0	169.18789	50.0	487237.0	0.845939	Y
7	IC 280-636738/8	300.0	259.220932	50.0	505296.0	0.86407	Y
8	IC 280-636738/9	400.0	339.291168	50.0	502912.0	0.848228	Y
9	IC 280-636738/10	800.0	664.569492	50.0	519596.0	0.830712	Y



Calibration / Chlorodibromomethane

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	ISTD
Response Base:	AREA
RF Rounding:	0

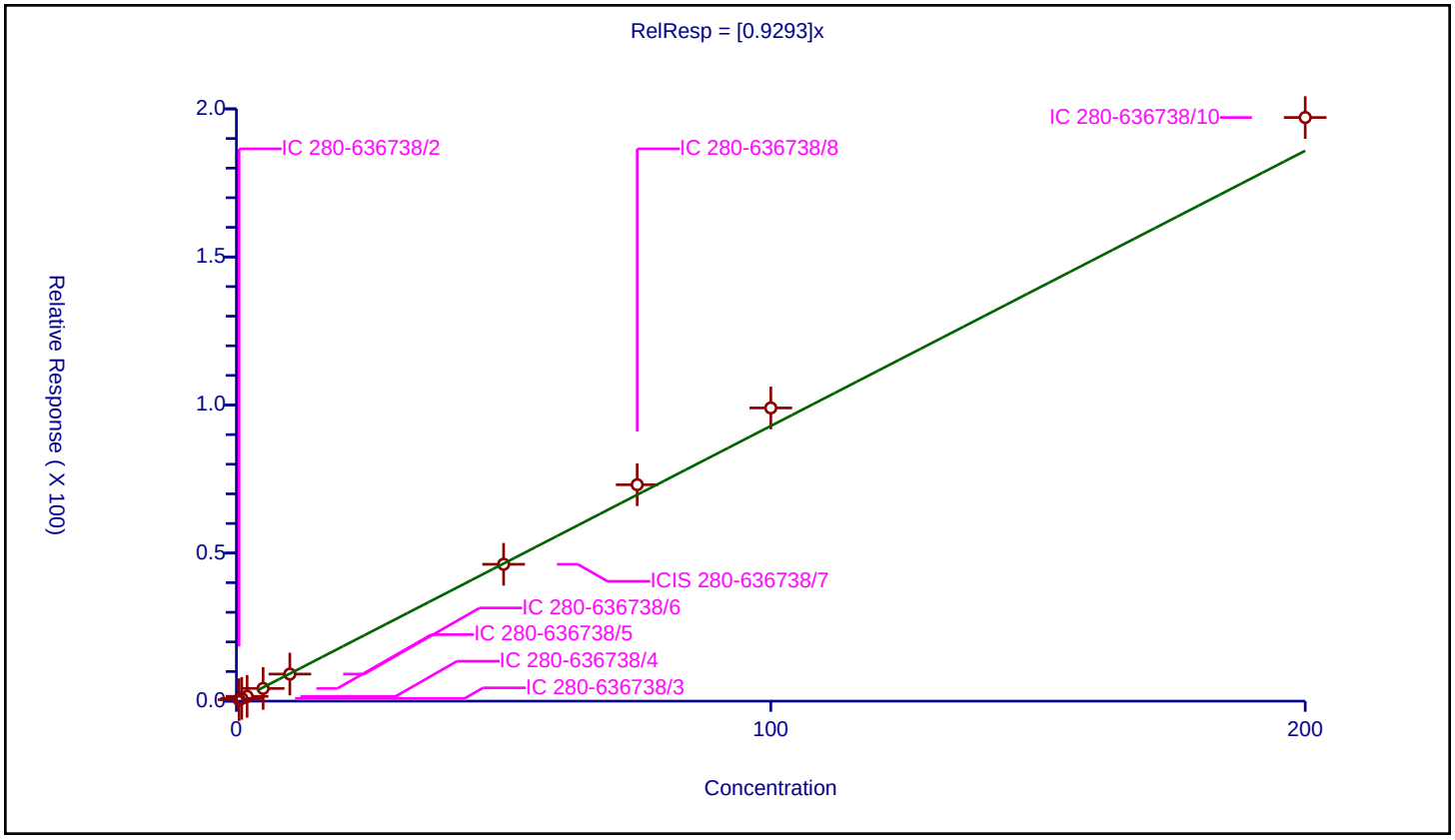
Curve Coefficients

Intercept:	0
Slope:	0.9293

Error Coefficients

Standard Error:	862000
Relative Standard Error:	6.6
Correlation Coefficient:	0.999
Coefficient of Determination (Adjusted):	0.994

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 280-636738/2	0.5	0.487752	50.0	463863.0	0.975504	Y
2	IC 280-636738/3	1.0	0.92852	50.0	472203.0	0.92852	Y
3	IC 280-636738/4	2.0	1.626041	50.0	462596.0	0.81302	Y
4	IC 280-636738/5	5.0	4.292017	50.0	471713.0	0.858403	Y
5	IC 280-636738/6	10.0	9.140719	50.0	481740.0	0.914072	Y
6	ICIS 280-636738/7	50.0	46.219294	50.0	487237.0	0.924386	Y
7	IC 280-636738/8	75.0	73.083104	50.0	505296.0	0.974441	Y
8	IC 280-636738/9	100.0	99.015832	50.0	502912.0	0.990158	Y
9	IC 280-636738/10	200.0	197.085043	50.0	519596.0	0.985425	Y



Calibration / Ethylene Dibromide

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	ISTD
Response Base:	AREA
RF Rounding:	0

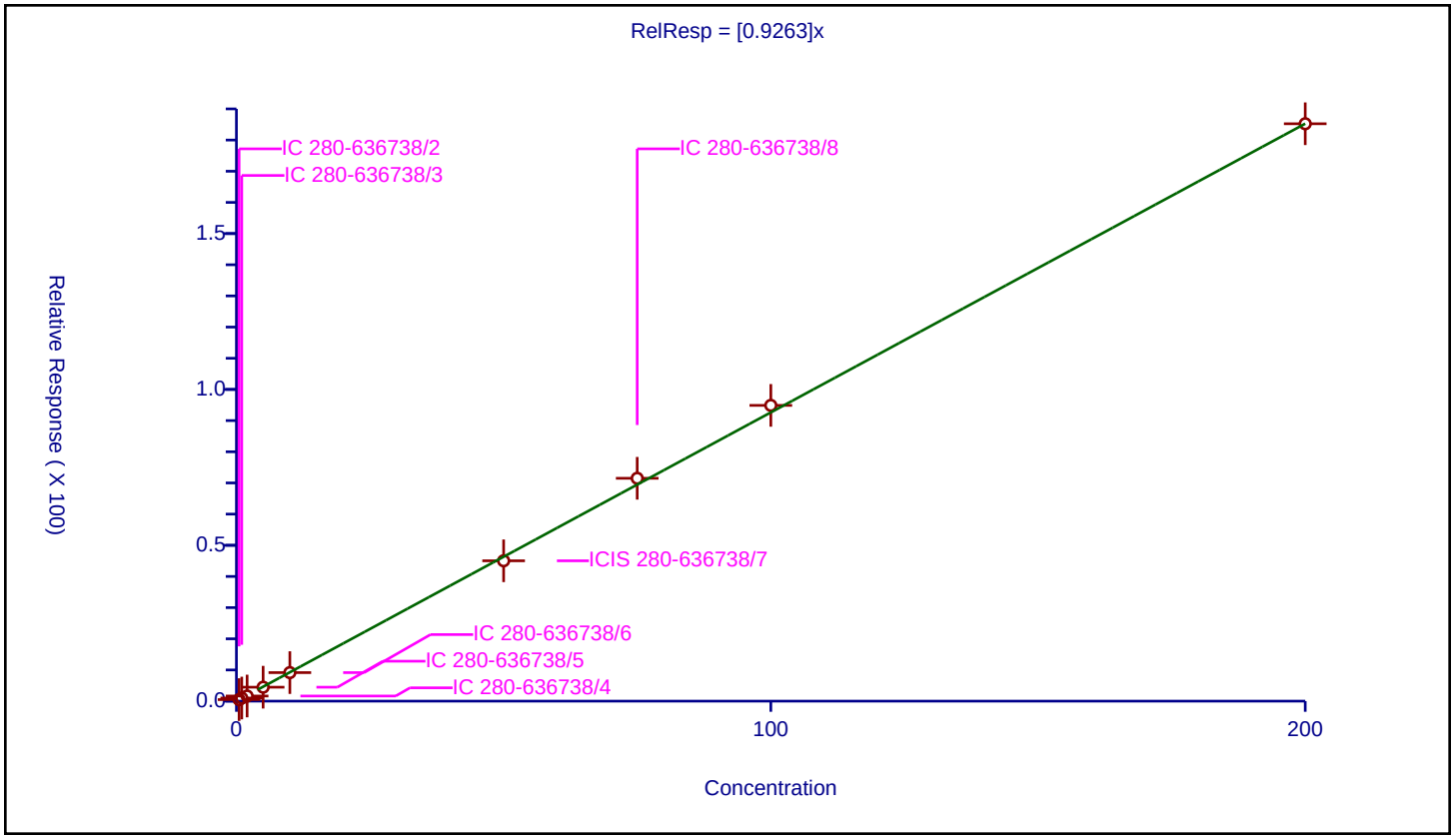
Curve Coefficients

Intercept:	0
Slope:	0.9263

Error Coefficients

Standard Error:	817000
Relative Standard Error:	5.5
Correlation Coefficient:	1.000
Coefficient of Determination (Adjusted):	0.996

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 280-636738/2	0.5	0.490015	50.0	463863.0	0.980031	Y
2	IC 280-636738/3	1.0	0.993852	50.0	472203.0	0.993852	Y
3	IC 280-636738/4	2.0	1.648631	50.0	462596.0	0.824315	Y
4	IC 280-636738/5	5.0	4.470727	50.0	471713.0	0.894145	Y
5	IC 280-636738/6	10.0	9.155042	50.0	481740.0	0.915504	Y
6	ICIS 280-636738/7	50.0	45.027369	50.0	487237.0	0.900547	Y
7	IC 280-636738/8	75.0	71.495816	50.0	505296.0	0.953278	Y
8	IC 280-636738/9	100.0	94.878925	50.0	502912.0	0.948789	Y
9	IC 280-636738/10	200.0	185.228043	50.0	519596.0	0.92614	Y



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Calibration / 1-Chlorohexane

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	ISTD
Response Base:	AREA
RF Rounding:	0

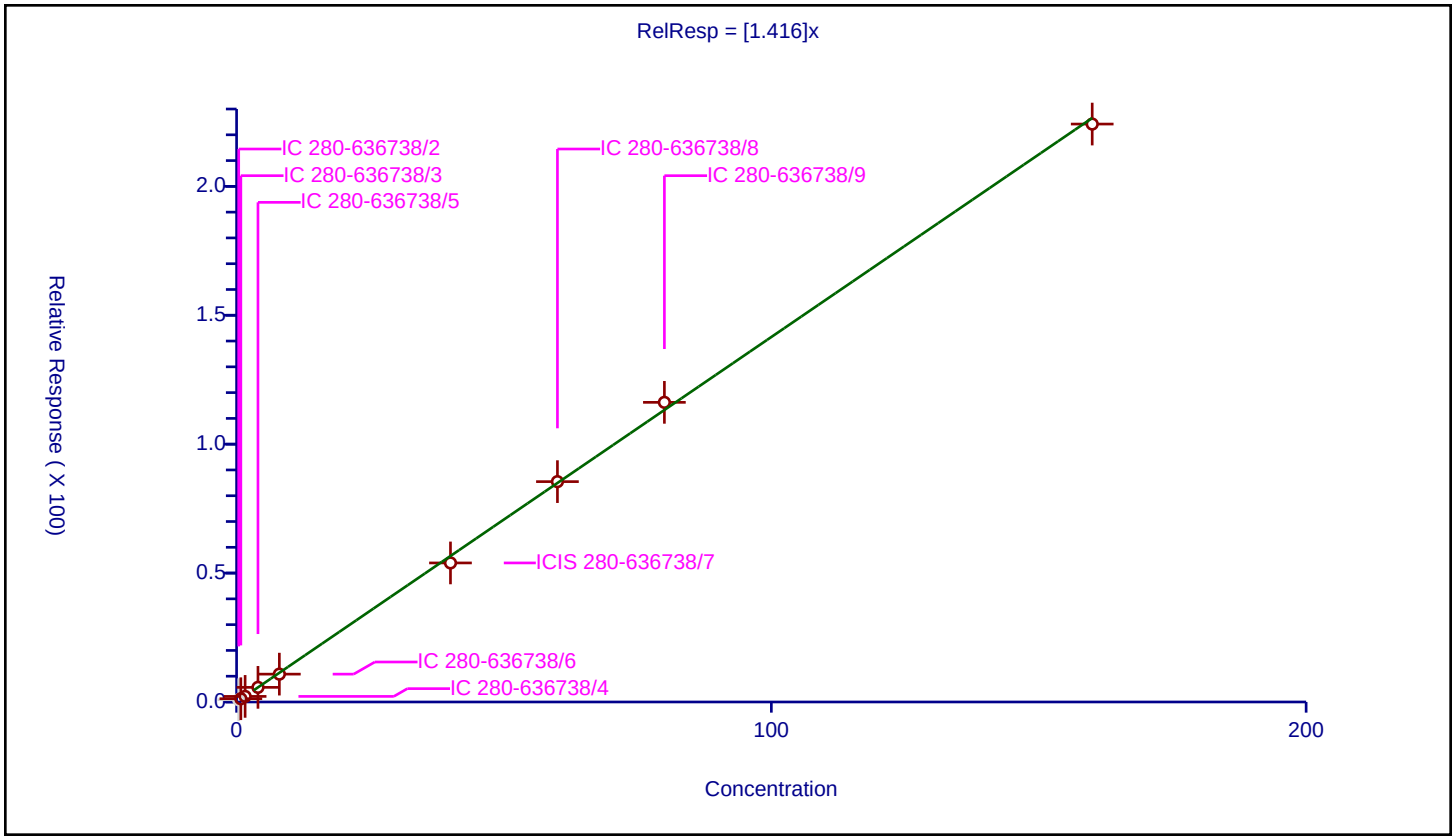
Curve Coefficients

Intercept:	0
Slope:	1.416

Error Coefficients

Standard Error:	1060000
Relative Standard Error:	5.4
Correlation Coefficient:	0.999
Coefficient of Determination (Adjusted):	0.996

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 280-636738/2	0.4	0.887978	50.0	463863.0	2.219944	N
2	IC 280-636738/3	0.8	1.26344	50.0	472203.0	1.5793	Y
3	IC 280-636738/4	1.6	2.162038	50.0	462596.0	1.351274	Y
4	IC 280-636738/5	4.0	5.669655	50.0	471713.0	1.417414	Y
5	IC 280-636738/6	8.0	10.808216	50.0	481740.0	1.351027	Y
6	ICIS 280-636738/7	40.0	53.936688	50.0	487237.0	1.348417	Y
7	IC 280-636738/8	60.0	85.46921	50.0	505296.0	1.424487	Y
8	IC 280-636738/9	80.0	116.226099	50.0	502912.0	1.452826	Y
9	IC 280-636738/10	160.0	224.161656	50.0	519596.0	1.40101	Y



Calibration / Chlorobenzene

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	ISTD
Response Base:	AREA
RF Rounding:	0

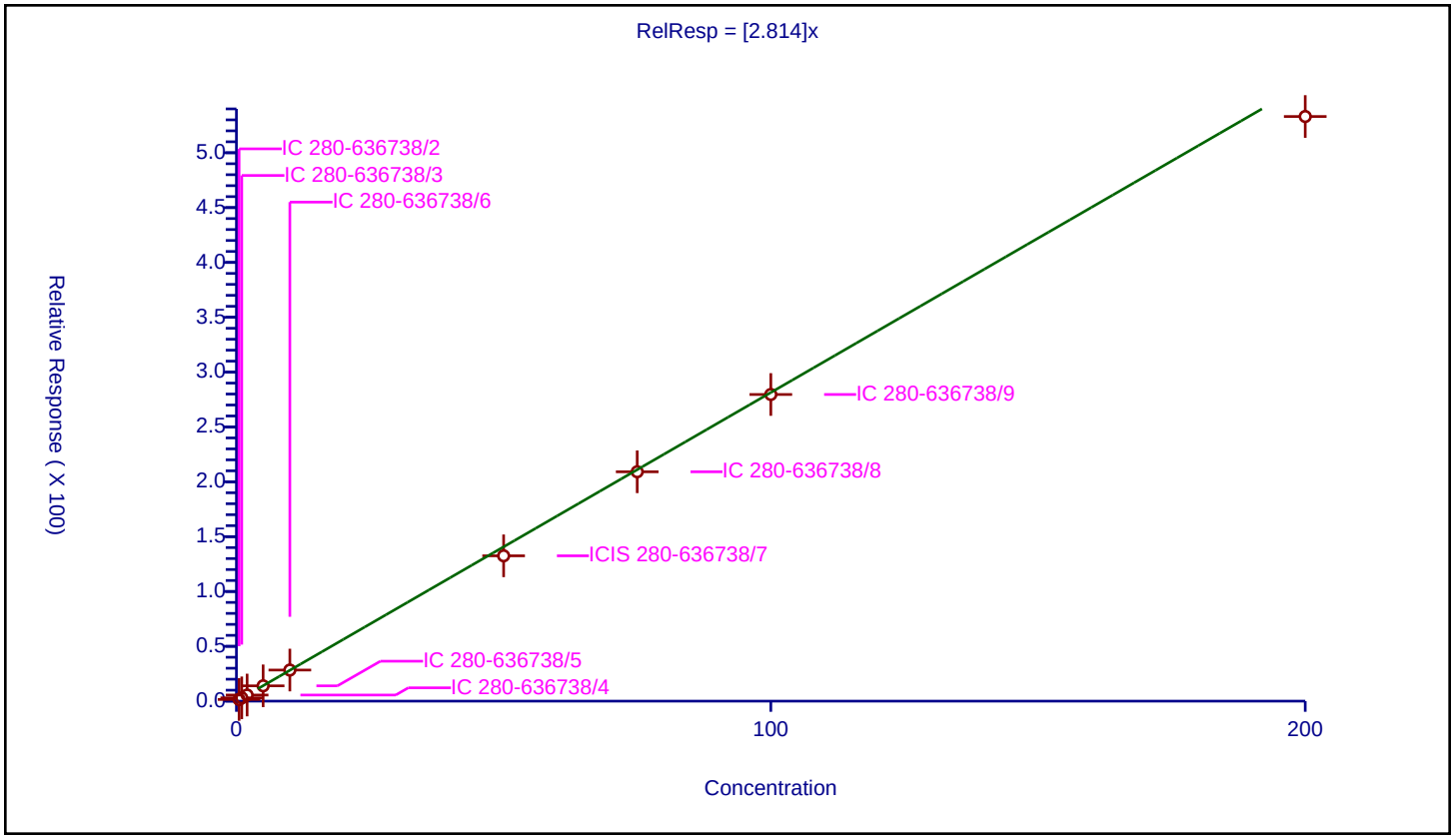
Curve Coefficients

Intercept:	0
Slope:	2.814

Error Coefficients

Standard Error:	2370000
Relative Standard Error:	4.5
Correlation Coefficient:	1.000
Coefficient of Determination (Adjusted):	0.997

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 280-636738/2	0.5	1.508204	50.0	463863.0	3.016408	Y
2	IC 280-636738/3	1.0	2.995851	50.0	472203.0	2.995851	Y
3	IC 280-636738/4	2.0	5.572141	50.0	462596.0	2.78607	Y
4	IC 280-636738/5	5.0	13.960077	50.0	471713.0	2.792015	Y
5	IC 280-636738/6	10.0	28.345477	50.0	481740.0	2.834548	Y
6	ICIS 280-636738/7	50.0	132.516106	50.0	487237.0	2.650322	Y
7	IC 280-636738/8	75.0	209.124157	50.0	505296.0	2.788322	Y
8	IC 280-636738/9	100.0	279.601998	50.0	502912.0	2.79602	Y
9	IC 280-636738/10	200.0	533.062899	50.0	519596.0	2.665314	Y



Calibration / 1,1,1,2-Tetrachloroethane

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	ISTD
Response Base:	AREA
RF Rounding:	0

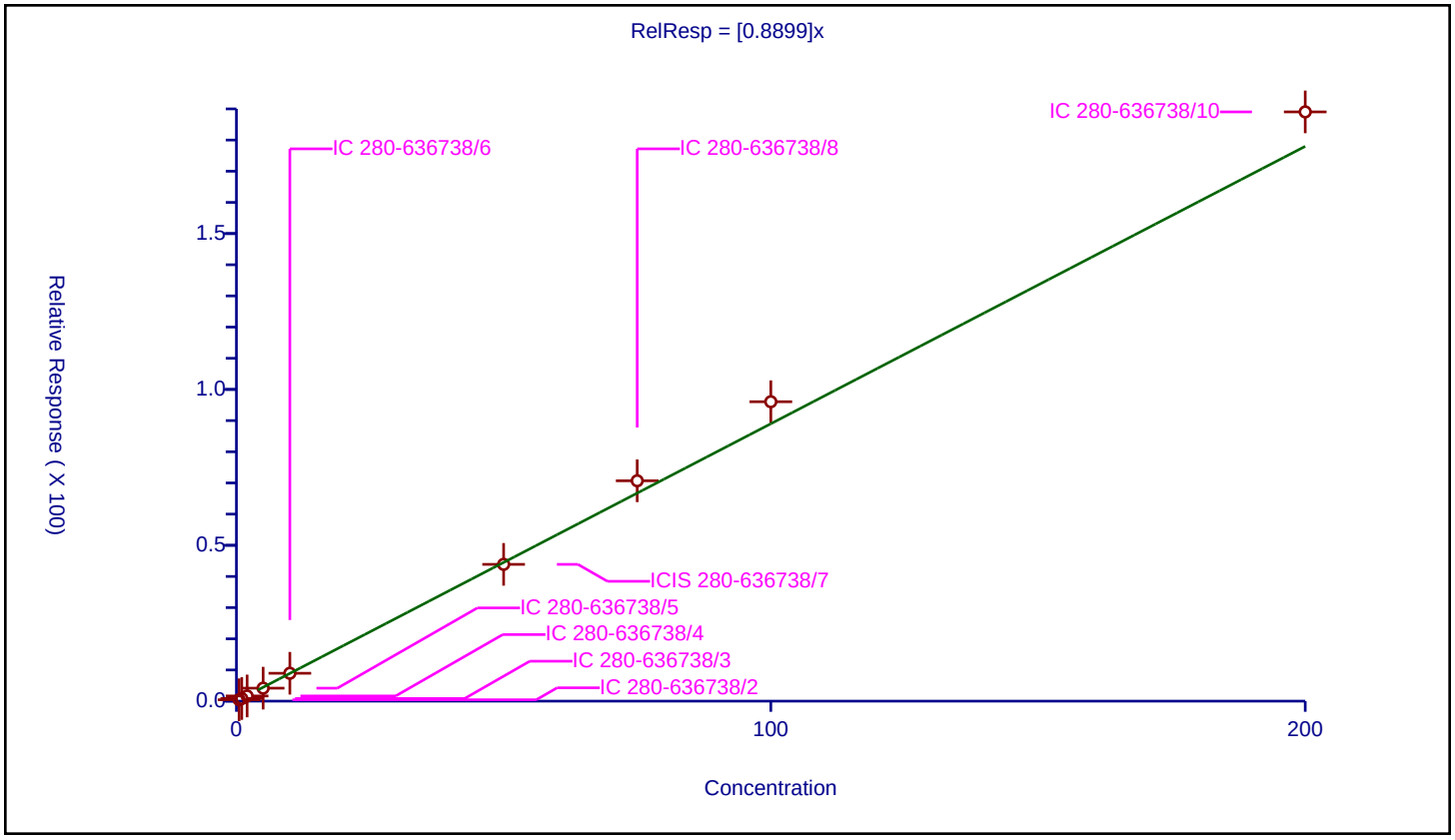
Curve Coefficients

Intercept:	0
Slope:	0.8899

Error Coefficients

Standard Error:	829000
Relative Standard Error:	5.7
Correlation Coefficient:	0.999
Coefficient of Determination (Adjusted):	0.996

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 280-636738/2	0.5	0.444204	50.0	463863.0	0.888409	Y
2	IC 280-636738/3	1.0	0.837987	50.0	472203.0	0.837987	Y
3	IC 280-636738/4	2.0	1.660088	50.0	462596.0	0.830044	Y
4	IC 280-636738/5	5.0	4.163655	50.0	471713.0	0.832731	Y
5	IC 280-636738/6	10.0	8.94331	50.0	481740.0	0.894331	Y
6	ICIS 280-636738/7	50.0	43.876081	50.0	487237.0	0.877522	Y
7	IC 280-636738/8	75.0	70.695889	50.0	505296.0	0.942612	Y
8	IC 280-636738/9	100.0	96.053186	50.0	502912.0	0.960532	Y
9	IC 280-636738/10	200.0	189.036771	50.0	519596.0	0.945184	Y



Calibration / Ethylbenzene

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	ISTD
Response Base:	AREA
RF Rounding:	0

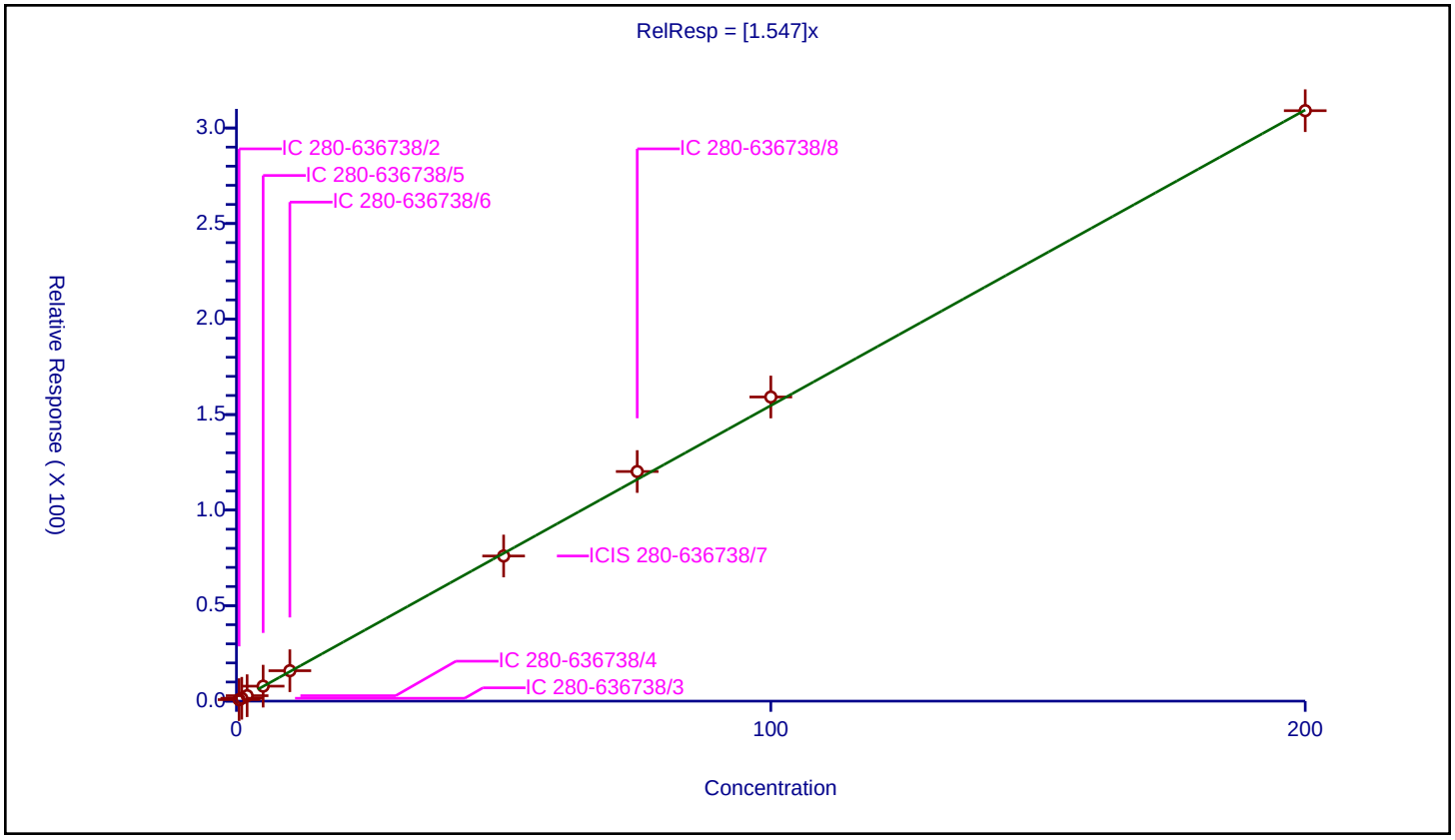
Curve Coefficients

Intercept:	0
Slope:	1.547

Error Coefficients

Standard Error:	1370000
Relative Standard Error:	3.7
Correlation Coefficient:	1.000
Coefficient of Determination (Adjusted):	0.998

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 280-636738/2	0.5	0.788595	50.0	463863.0	1.57719	Y
2	IC 280-636738/3	1.0	1.498085	50.0	472203.0	1.498085	Y
3	IC 280-636738/4	2.0	2.857569	50.0	462596.0	1.428785	Y
4	IC 280-636738/5	5.0	7.844388	50.0	471713.0	1.568878	Y
5	IC 280-636738/6	10.0	15.934321	50.0	481740.0	1.593432	Y
6	ICIS 280-636738/7	50.0	75.967342	50.0	487237.0	1.519347	Y
7	IC 280-636738/8	75.0	120.187078	50.0	505296.0	1.602494	Y
8	IC 280-636738/9	100.0	159.192662	50.0	502912.0	1.591927	Y
9	IC 280-636738/10	200.0	309.070316	50.0	519596.0	1.545352	Y



Calibration / m-Xylene & p-Xylene

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	ISTD
Response Base:	AREA
RF Rounding:	0

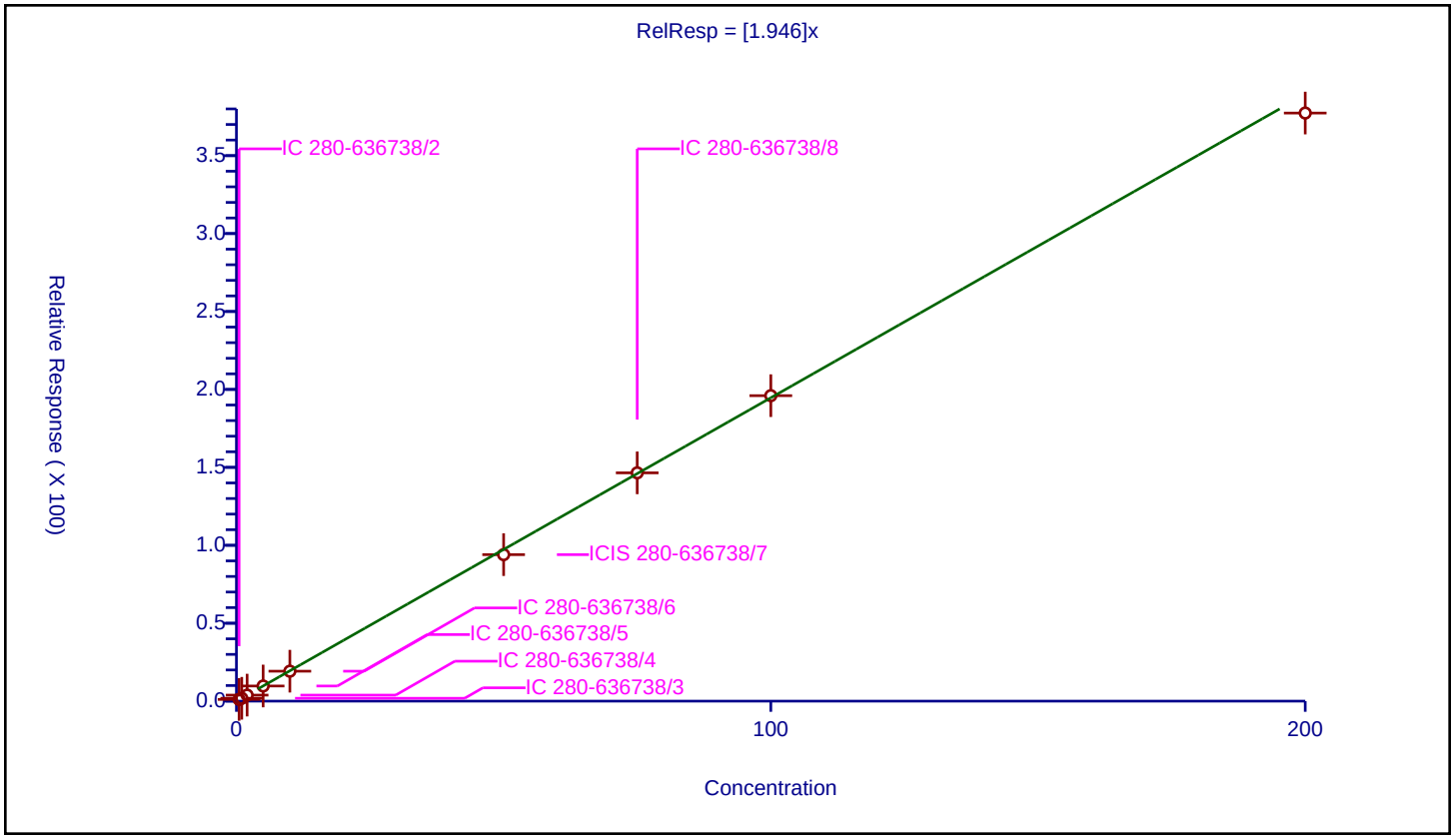
Curve Coefficients

Intercept:	0
Slope:	1.946

Error Coefficients

Standard Error:	1670000
Relative Standard Error:	5.1
Correlation Coefficient:	1.000
Coefficient of Determination (Adjusted):	0.996

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 280-636738/2	0.5	1.096768	50.0	463863.0	2.193536	Y
2	IC 280-636738/3	1.0	1.845393	50.0	472203.0	1.845393	Y
3	IC 280-636738/4	2.0	3.874655	50.0	462596.0	1.937328	Y
4	IC 280-636738/5	5.0	9.707386	50.0	471713.0	1.941477	Y
5	IC 280-636738/6	10.0	19.209947	50.0	481740.0	1.920995	Y
6	ICIS 280-636738/7	50.0	93.999327	50.0	487237.0	1.879987	Y
7	IC 280-636738/8	75.0	146.47939	50.0	505296.0	1.953059	Y
8	IC 280-636738/9	100.0	196.000593	50.0	502912.0	1.960006	Y
9	IC 280-636738/10	200.0	377.337393	50.0	519596.0	1.886687	Y



Calibration / o-Xylene

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	ISTD
Response Base:	AREA
RF Rounding:	0

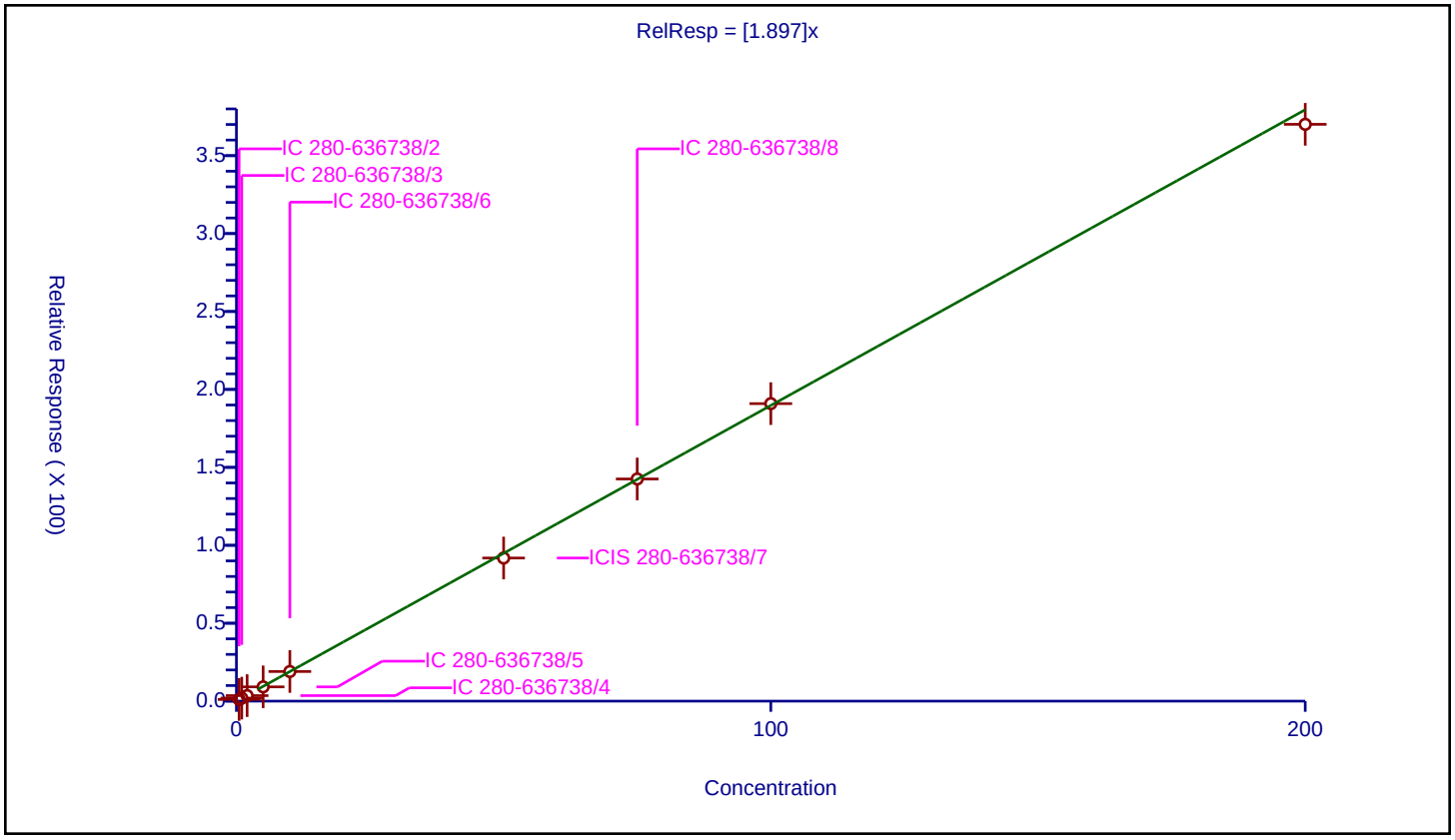
Curve Coefficients

Intercept:	0
Slope:	1.897

Error Coefficients

Standard Error:	1640000
Relative Standard Error:	5.5
Correlation Coefficient:	1.000
Coefficient of Determination (Adjusted):	0.996

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 280-636738/2	0.5	1.068742	50.0	463863.0	2.137485	Y
2	IC 280-636738/3	1.0	1.938891	50.0	472203.0	1.938891	Y
3	IC 280-636738/4	2.0	3.542292	50.0	462596.0	1.771146	Y
4	IC 280-636738/5	5.0	9.151221	50.0	471713.0	1.830244	Y
5	IC 280-636738/6	10.0	19.005376	50.0	481740.0	1.900538	Y
6	ICIS 280-636738/7	50.0	91.834569	50.0	487237.0	1.836691	Y
7	IC 280-636738/8	75.0	142.547339	50.0	505296.0	1.900631	Y
8	IC 280-636738/9	100.0	190.897215	50.0	502912.0	1.908972	Y
9	IC 280-636738/10	200.0	370.097537	50.0	519596.0	1.850488	Y



Calibration / Styrene

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	ISTD
Response Base:	AREA
RF Rounding:	0

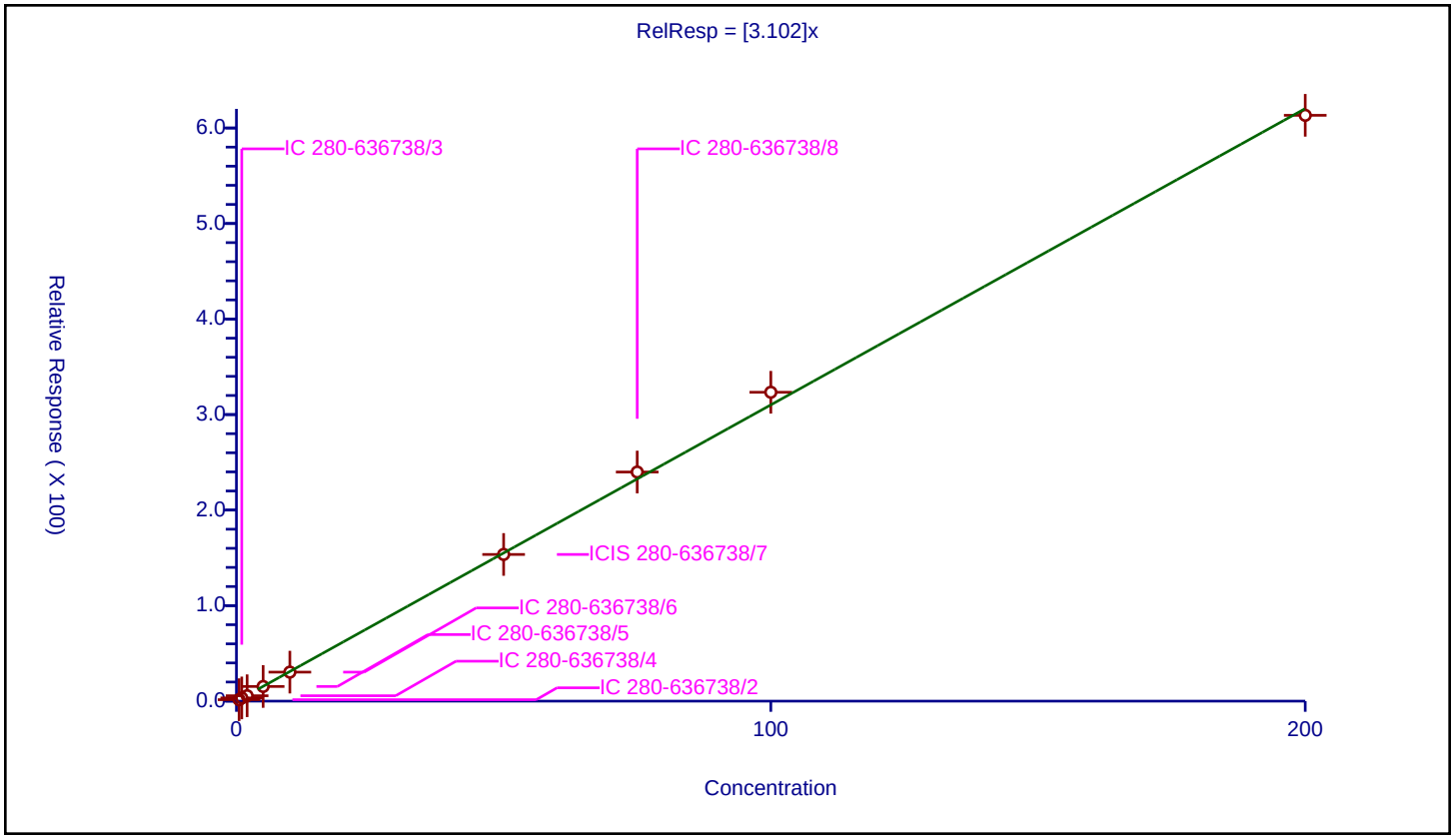
Curve Coefficients

Intercept:	0
Slope:	3.102

Error Coefficients

Standard Error:	2730000
Relative Standard Error:	4.8
Correlation Coefficient:	1.000
Coefficient of Determination (Adjusted):	0.997

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 280-636738/2	0.5	1.524588	50.0	463863.0	3.049176	Y
2	IC 280-636738/3	1.0	3.356925	50.0	472203.0	3.356925	Y
3	IC 280-636738/4	2.0	5.658069	50.0	462596.0	2.829034	Y
4	IC 280-636738/5	5.0	15.357325	50.0	471713.0	3.071465	Y
5	IC 280-636738/6	10.0	30.381118	50.0	481740.0	3.038112	Y
6	ICIS 280-636738/7	50.0	153.561614	50.0	487237.0	3.071232	Y
7	IC 280-636738/8	75.0	239.859409	50.0	505296.0	3.198125	Y
8	IC 280-636738/9	100.0	323.375362	50.0	502912.0	3.233754	Y
9	IC 280-636738/10	200.0	613.284359	50.0	519596.0	3.066422	Y



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Calibration / Bromoform

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	ISTD
Response Base:	AREA
RF Rounding:	0

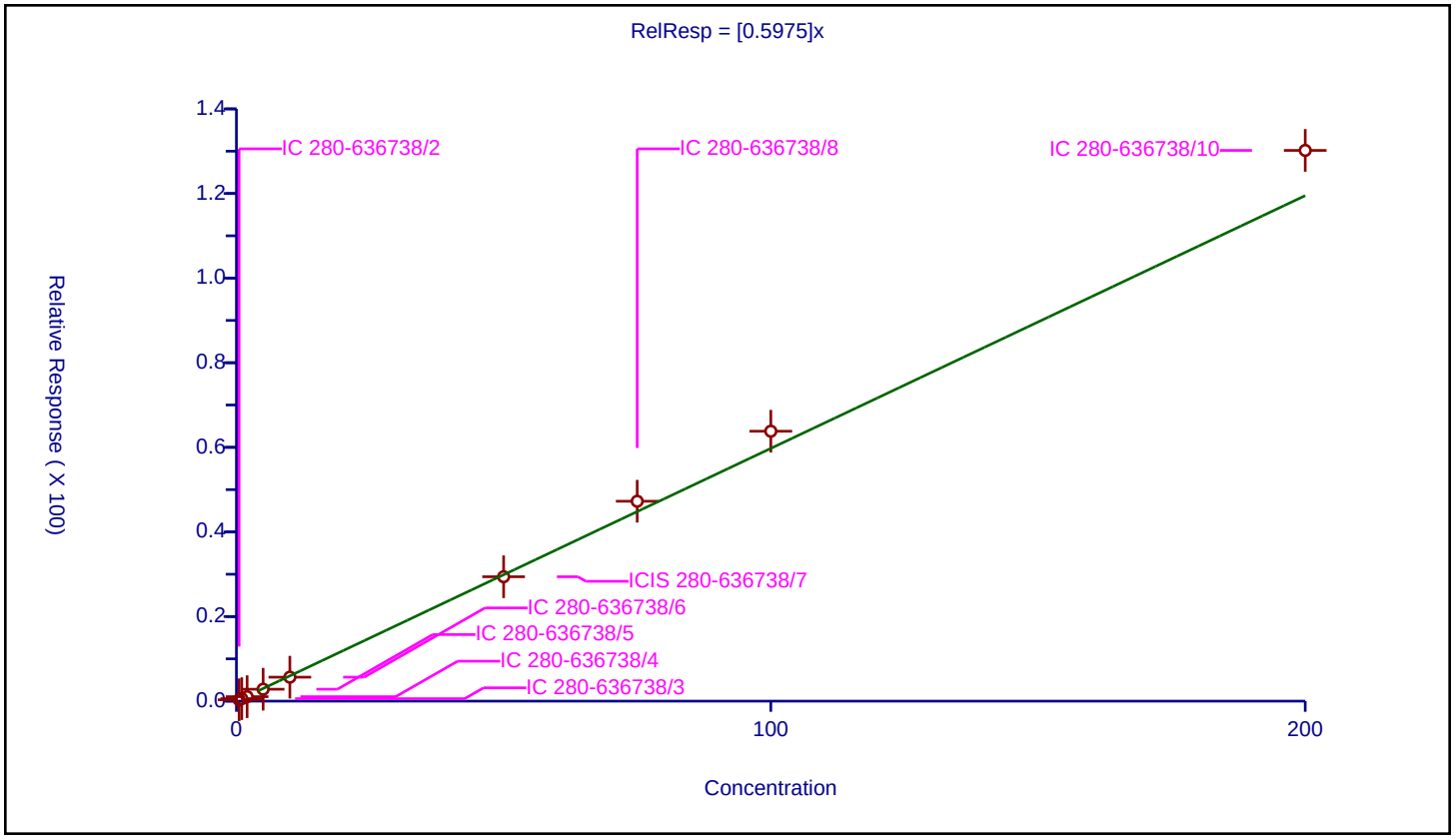
Curve Coefficients

Intercept:	0
Slope:	0.5975

Error Coefficients

Standard Error:	565000
Relative Standard Error:	7.1
Correlation Coefficient:	0.998
Coefficient of Determination (Adjusted):	0.994

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 280-636738/2	0.5	0.316688	50.0	463863.0	0.633377	Y
2	IC 280-636738/3	1.0	0.581106	50.0	472203.0	0.581106	Y
3	IC 280-636738/4	2.0	1.052646	50.0	462596.0	0.526323	Y
4	IC 280-636738/5	5.0	2.816225	50.0	471713.0	0.563245	Y
5	IC 280-636738/6	10.0	5.661456	50.0	481740.0	0.566146	Y
6	ICIS 280-636738/7	50.0	29.40807	50.0	487237.0	0.588161	Y
7	IC 280-636738/8	75.0	47.252699	50.0	505296.0	0.630036	Y
8	IC 280-636738/9	100.0	63.804105	50.0	502912.0	0.638041	Y
9	IC 280-636738/10	200.0	130.186626	50.0	519596.0	0.650933	Y



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Calibration / Isopropylbenzene

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	ISTD
Response Base:	AREA
RF Rounding:	0

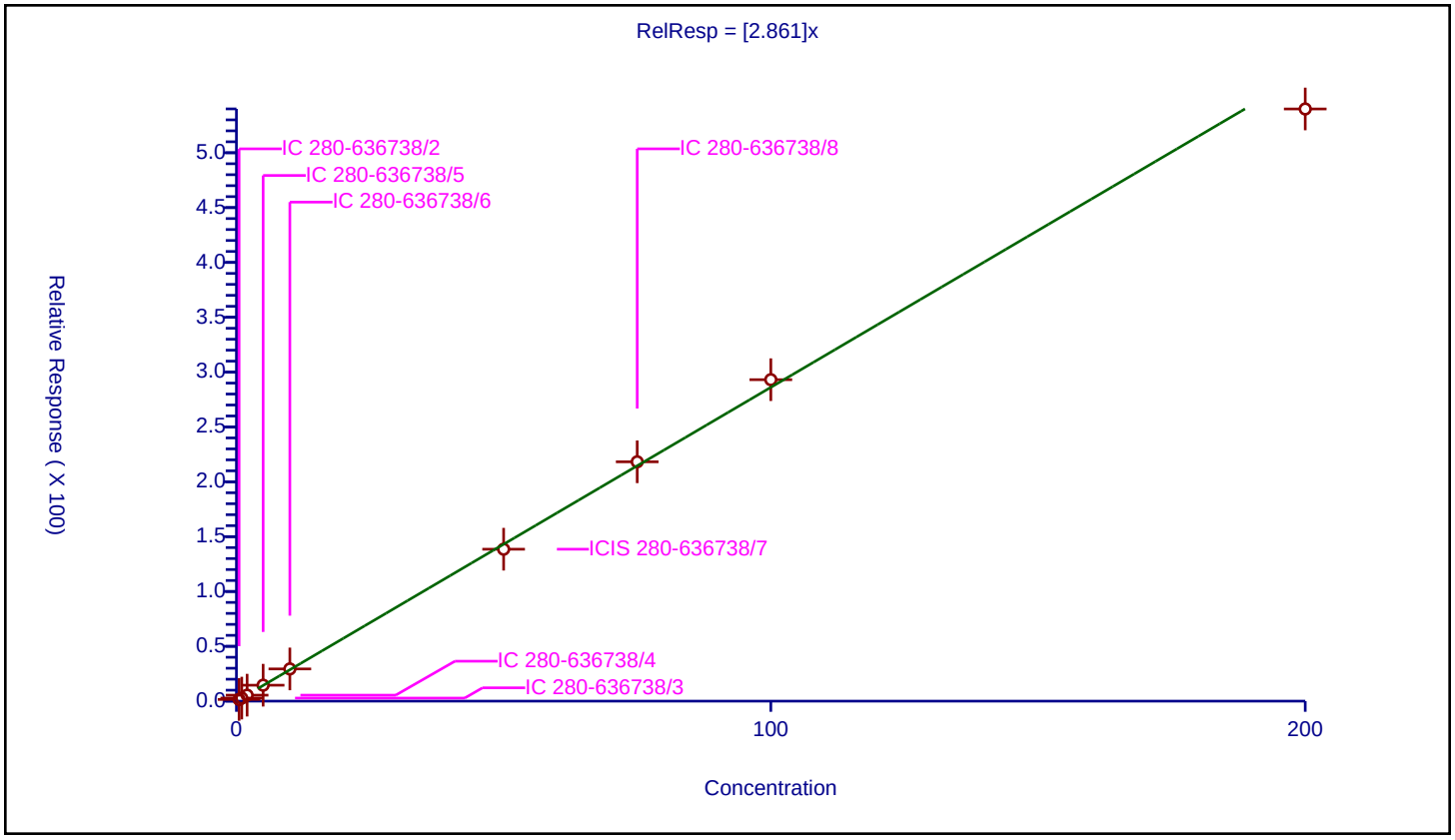
Curve Coefficients

Intercept:	0
Slope:	2.861

Error Coefficients

Standard Error:	4010000
Relative Standard Error:	4.2
Correlation Coefficient:	0.999
Coefficient of Determination (Adjusted):	0.998

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 280-636738/2	0.5	1.536017	50.0	766886.0	3.072034	Y
2	IC 280-636738/3	1.0	2.792297	50.0	770262.0	2.792297	Y
3	IC 280-636738/4	2.0	5.458521	50.0	752823.0	2.72926	Y
4	IC 280-636738/5	5.0	14.538513	50.0	772438.0	2.907703	Y
5	IC 280-636738/6	10.0	29.383685	50.0	791235.0	2.938368	Y
6	ICIS 280-636738/7	50.0	138.540215	50.0	803680.0	2.770804	Y
7	IC 280-636738/8	75.0	218.228025	50.0	826417.0	2.909707	Y
8	IC 280-636738/9	100.0	293.108599	50.0	821785.0	2.931086	Y
9	IC 280-636738/10	200.0	539.925703	50.0	863296.0	2.699629	Y



Calibration / Cyclohexanone

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	ISTD
Response Base:	AREA
RF Rounding:	0

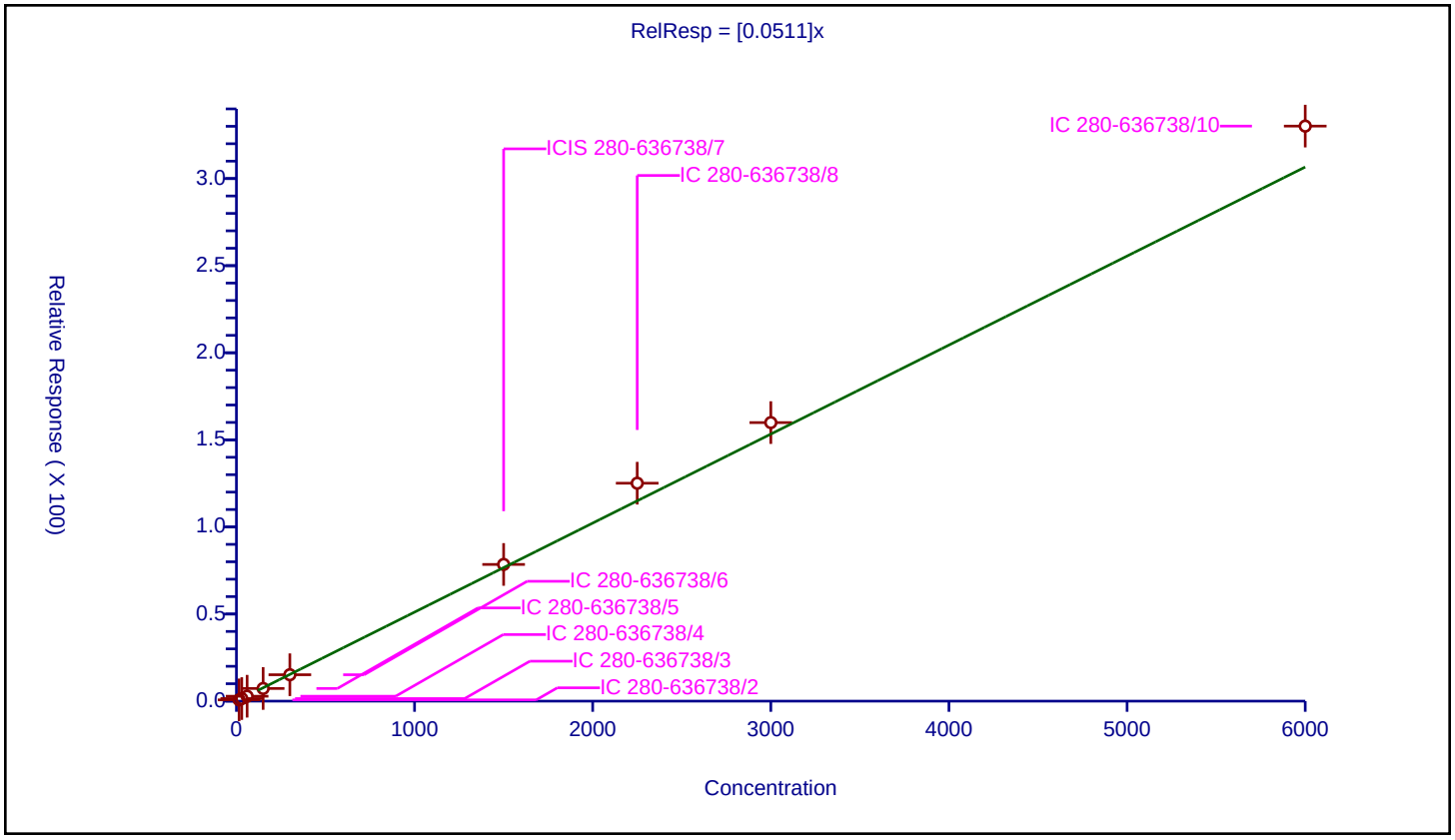
Curve Coefficients

Intercept:	0
Slope:	0.0511

Error Coefficients

Standard Error:	1440000
Relative Standard Error:	6.1
Correlation Coefficient:	0.999
Coefficient of Determination (Adjusted):	0.995

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 280-636738/2	15.0	0.731358	50.0	463863.0	0.048757	Y
2	IC 280-636738/3	30.0	1.469072	50.0	472203.0	0.048969	Y
3	IC 280-636738/4	60.0	2.817793	50.0	462596.0	0.046963	Y
4	IC 280-636738/5	150.0	7.266283	50.0	471713.0	0.048442	Y
5	IC 280-636738/6	300.0	15.162847	50.0	481740.0	0.050543	Y
6	ICIS 280-636738/7	1500.0	78.478133	50.0	487237.0	0.052319	Y
7	IC 280-636738/8	2250.0	125.10855	50.0	505296.0	0.055604	Y
8	IC 280-636738/9	3000.0	159.91764	50.0	502912.0	0.053306	Y
9	IC 280-636738/10	6000.0	330.118207	50.0	519596.0	0.05502	Y



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Calibration / 4-Bromofluorobenzene (Surr)

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	ISTD
Response Base:	AREA
RF Rounding:	0

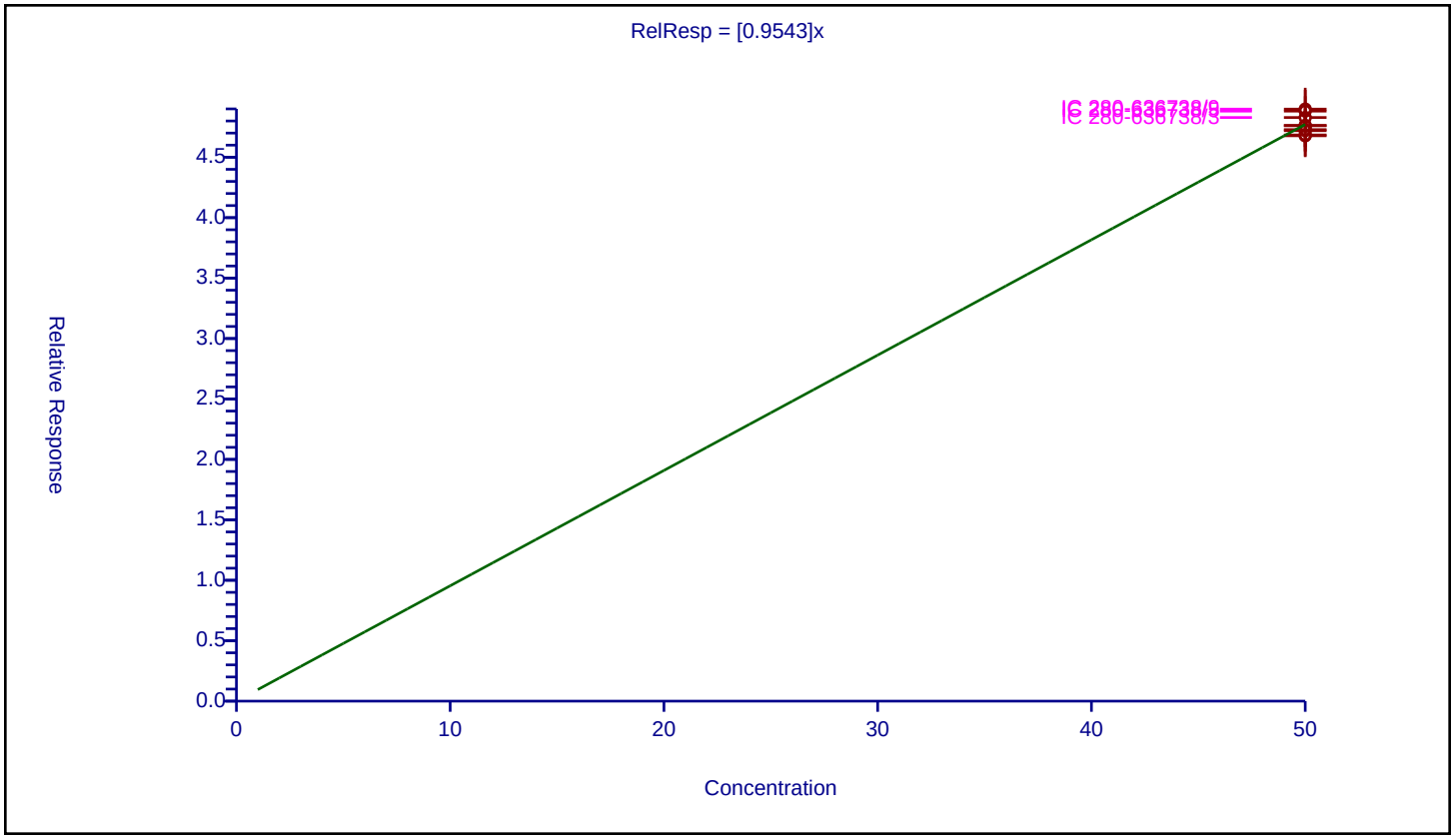
Curve Coefficients

Intercept:	0
Slope:	0.9543

Error Coefficients

Standard Error:	807000
Relative Standard Error:	1.7
Correlation Coefficient:	0.00000000000000000000
Coefficient of Determination (Adjusted):	0

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 280-636738/2	50.0	46.773314	50.0	766886.0	0.935466	Y
2	IC 280-636738/3	50.0	48.285908	50.0	770262.0	0.965718	Y
3	IC 280-636738/4	50.0	47.634437	50.0	752823.0	0.952689	Y
4	IC 280-636738/5	50.0	48.815309	50.0	772438.0	0.976306	Y
5	IC 280-636738/6	50.0	47.286268	50.0	791235.0	0.945725	Y
6	ICIS 280-636738/7	50.0	46.845511	50.0	803680.0	0.93691	Y
7	IC 280-636738/8	50.0	47.604418	50.0	826417.0	0.952088	Y
8	IC 280-636738/9	50.0	48.98252	50.0	821785.0	0.97965	Y
9	IC 280-636738/10	50.0	47.197253	50.0	863296.0	0.943945	Y



Calibration / 1,1,2,2-Tetrachloroethane

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	ISTD
Response Base:	AREA
RF Rounding:	0

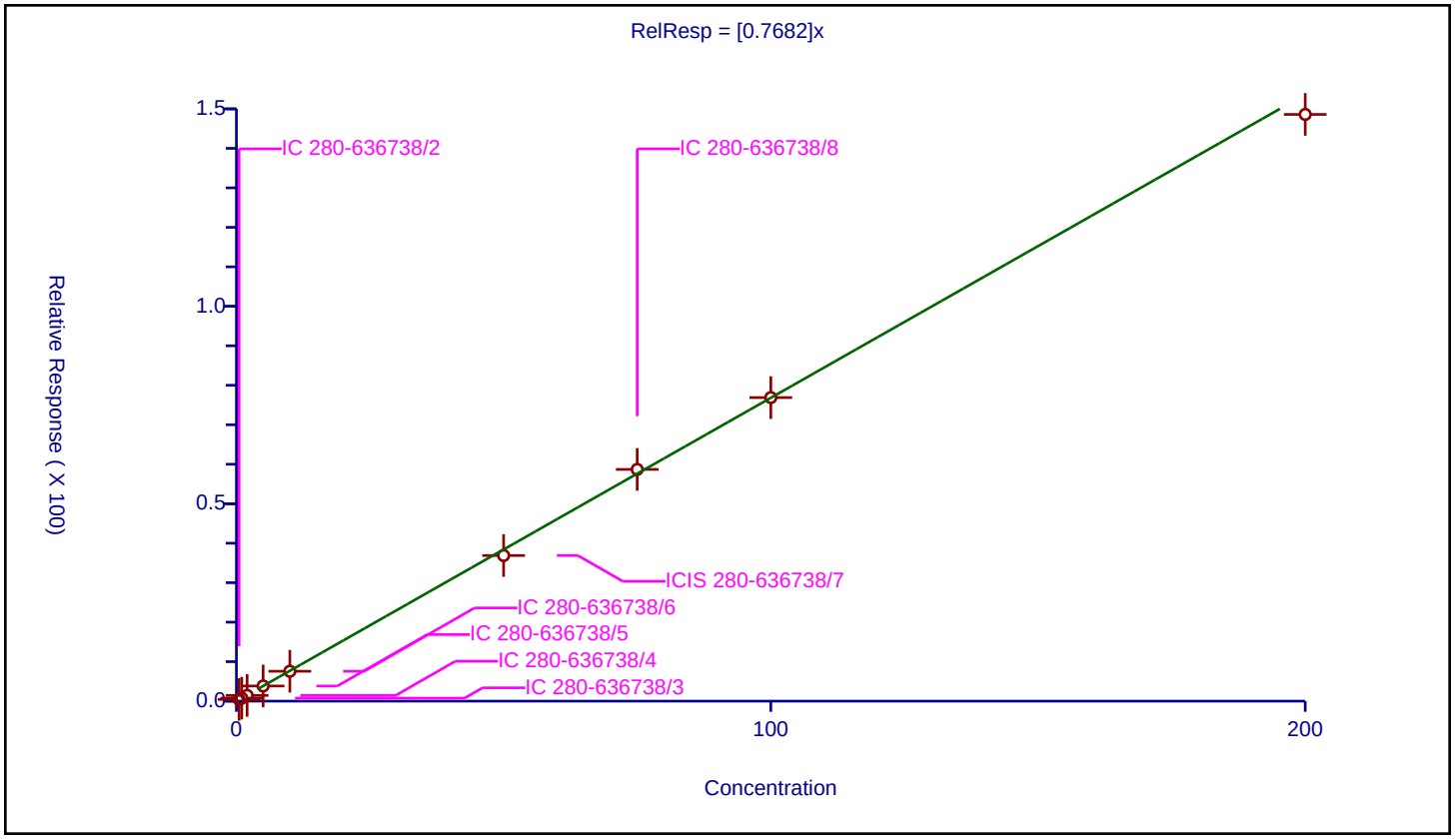
Curve Coefficients

Intercept:	0
Slope:	0.7682

Error Coefficients

Standard Error:	1090000
Relative Standard Error:	5.4
Correlation Coefficient:	1.000
Coefficient of Determination (Adjusted):	0.996

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 280-636738/2	0.5	0.433637	50.0	766886.0	0.867274	Y
2	IC 280-636738/3	1.0	0.765843	50.0	770262.0	0.765843	Y
3	IC 280-636738/4	2.0	1.44868	50.0	752823.0	0.72434	Y
4	IC 280-636738/5	5.0	3.836554	50.0	772438.0	0.767311	Y
5	IC 280-636738/6	10.0	7.572276	50.0	791235.0	0.757228	Y
6	ICIS 280-636738/7	50.0	36.883212	50.0	803680.0	0.737664	Y
7	IC 280-636738/8	75.0	58.687866	50.0	826417.0	0.782505	Y
8	IC 280-636738/9	100.0	76.885743	50.0	821785.0	0.768857	Y
9	IC 280-636738/10	200.0	148.596426	50.0	863296.0	0.742982	Y



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Calibration / trans-1,4-Dichloro-2-butene

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	ISTD
Response Base:	AREA
RF Rounding:	0

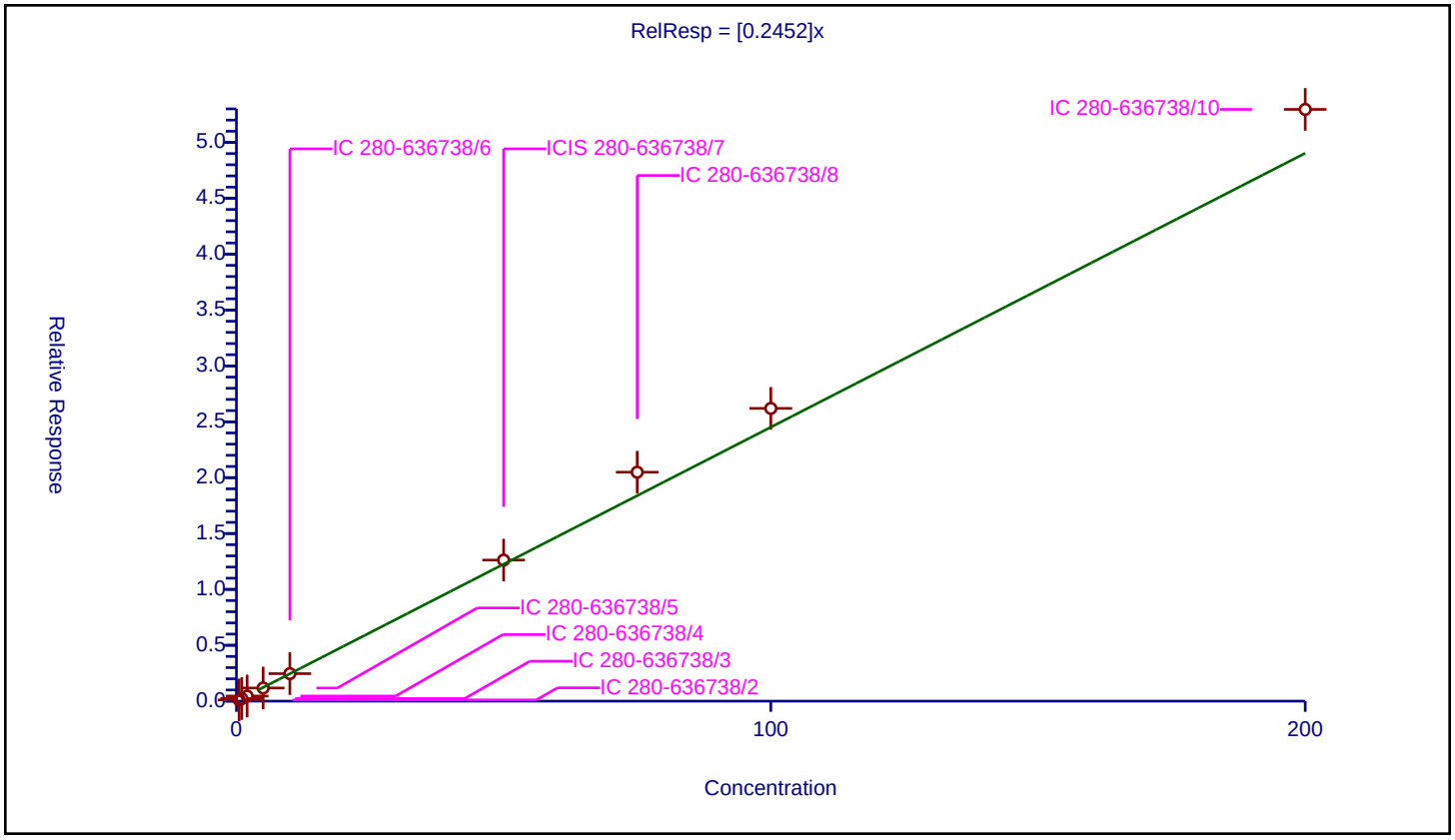
Curve Coefficients

Intercept:	0
Slope:	0.2452

Error Coefficients

Standard Error:	384000
Relative Standard Error:	8.0
Correlation Coefficient:	0.999
Coefficient of Determination (Adjusted):	0.992

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 280-636738/2	0.5	0.107122	50.0	766886.0	0.214243	Y
2	IC 280-636738/3	1.0	0.230052	50.0	770262.0	0.230052	Y
3	IC 280-636738/4	2.0	0.457412	50.0	752823.0	0.228706	Y
4	IC 280-636738/5	5.0	1.17524	50.0	772438.0	0.235048	Y
5	IC 280-636738/6	10.0	2.46071	50.0	791235.0	0.246071	Y
6	ICIS 280-636738/7	50.0	12.624614	50.0	803680.0	0.252492	Y
7	IC 280-636738/8	75.0	20.488083	50.0	826417.0	0.273174	Y
8	IC 280-636738/9	100.0	26.197485	50.0	821785.0	0.261975	Y
9	IC 280-636738/10	200.0	52.953506	50.0	863296.0	0.264768	Y



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Calibration / Bromobenzene

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	ISTD
Response Base:	AREA
RF Rounding:	0

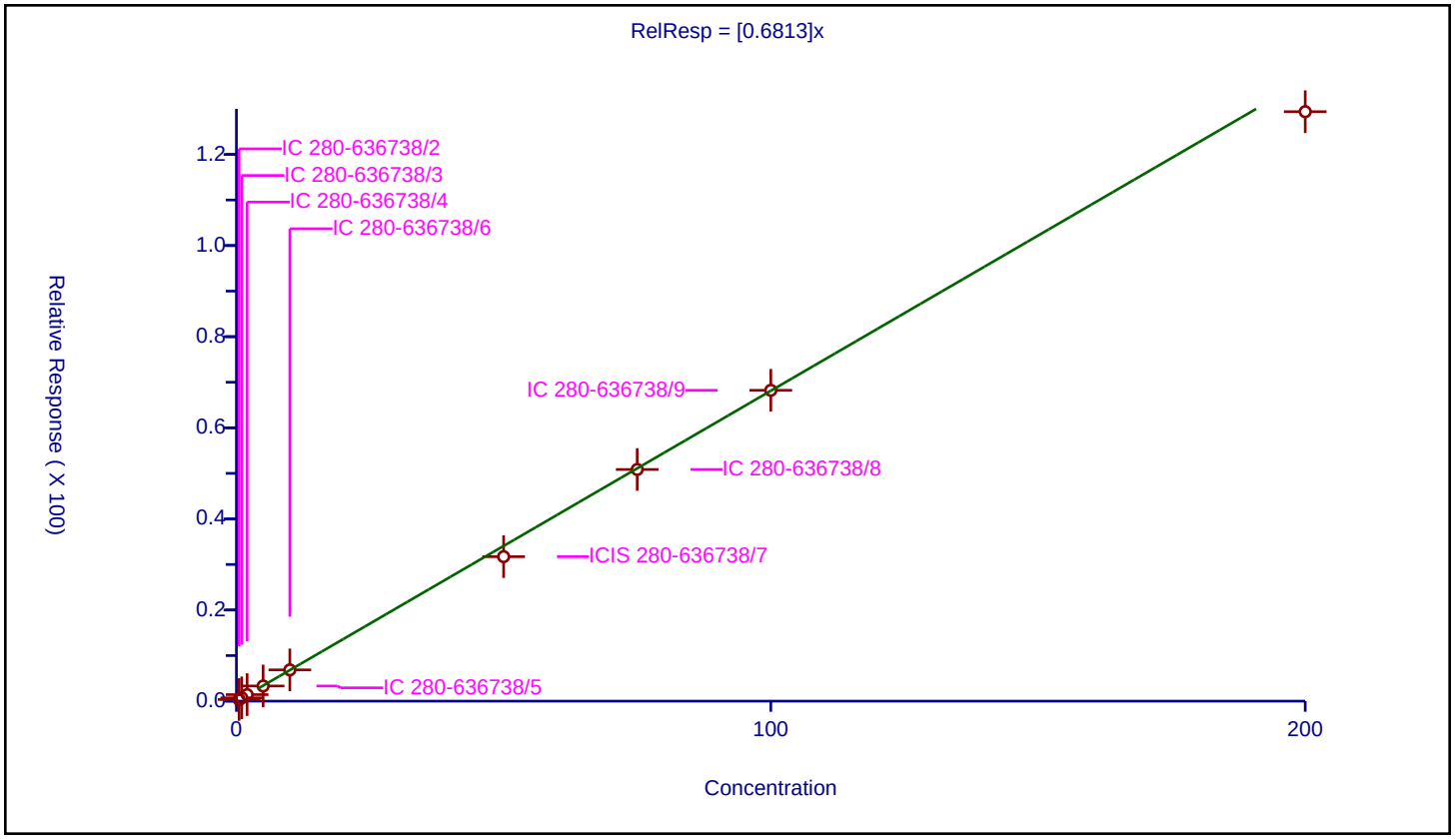
Curve Coefficients

Intercept:	0
Slope:	0.6813

Error Coefficients

Standard Error:	951000
Relative Standard Error:	4.3
Correlation Coefficient:	1.000
Coefficient of Determination (Adjusted):	0.998

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 280-636738/2	0.5	0.35279	50.0	766886.0	0.705581	Y
2	IC 280-636738/3	1.0	0.719301	50.0	770262.0	0.719301	Y
3	IC 280-636738/4	2.0	1.42922	50.0	752823.0	0.71461	Y
4	IC 280-636738/5	5.0	3.322597	50.0	772438.0	0.664519	Y
5	IC 280-636738/6	10.0	6.860857	50.0	791235.0	0.686086	Y
6	ICIS 280-636738/7	50.0	31.711502	50.0	803680.0	0.63423	Y
7	IC 280-636738/8	75.0	50.844852	50.0	826417.0	0.677931	Y
8	IC 280-636738/9	100.0	68.227517	50.0	821785.0	0.682275	Y
9	IC 280-636738/10	200.0	129.384302	50.0	863296.0	0.646922	Y



Calibration / 1,2,3-Trichloropropane

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	ISTD
Response Base:	AREA
RF Rounding:	0

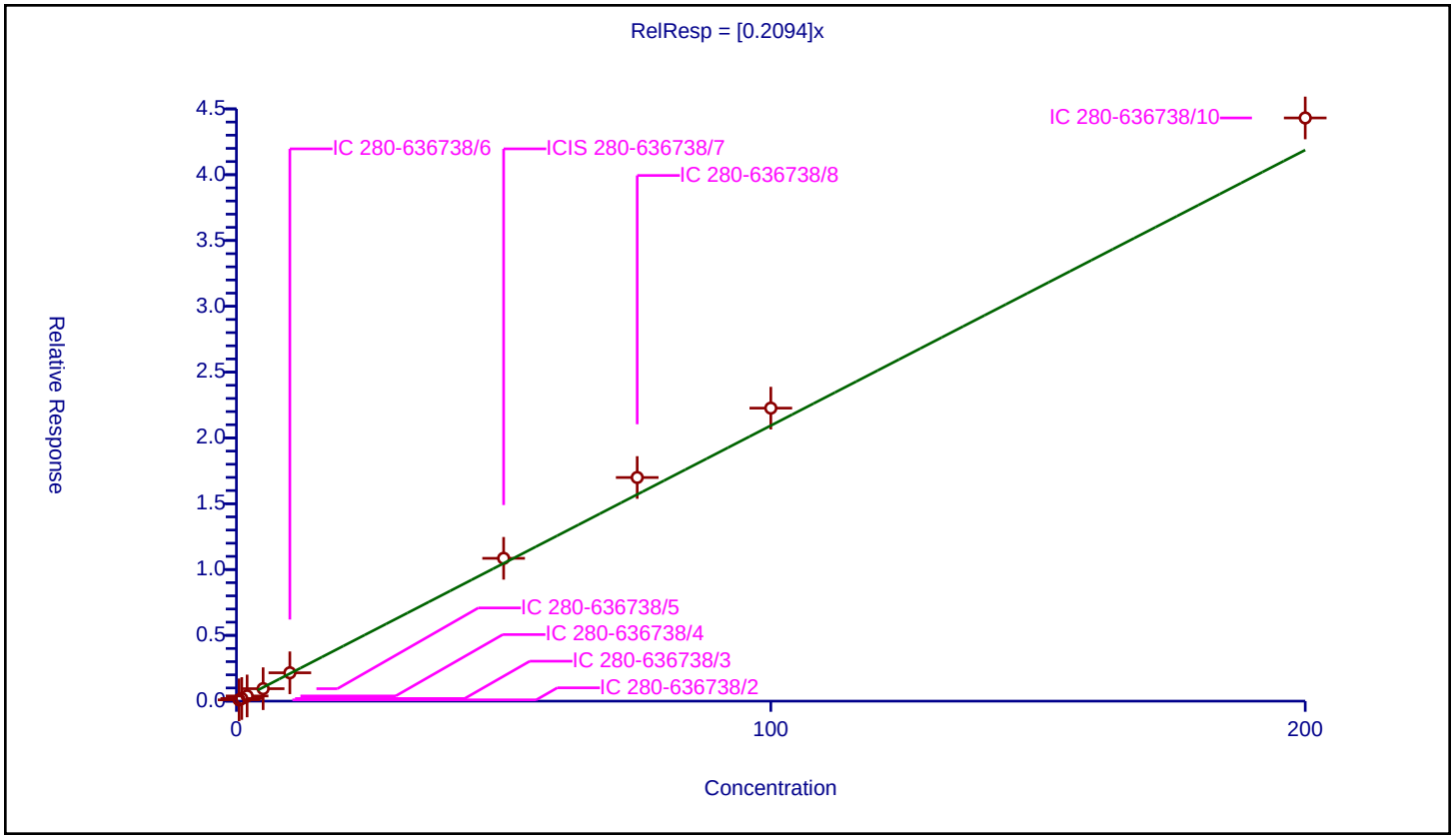
Curve Coefficients

Intercept:	0
Slope:	0.2094

Error Coefficients

Standard Error:	322000
Relative Standard Error:	6.7
Correlation Coefficient:	0.999
Coefficient of Determination (Adjusted):	0.995

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 280-636738/2	0.5	0.098059	50.0	766886.0	0.196118	Y
2	IC 280-636738/3	1.0	0.198764	50.0	770262.0	0.198764	Y
3	IC 280-636738/4	2.0	0.394249	50.0	752823.0	0.197125	Y
4	IC 280-636738/5	5.0	0.94629	50.0	772438.0	0.189258	Y
5	IC 280-636738/6	10.0	2.153469	50.0	791235.0	0.215347	Y
6	ICIS 280-636738/7	50.0	10.852329	50.0	803680.0	0.217047	Y
7	IC 280-636738/8	75.0	16.99233	50.0	826417.0	0.226564	Y
8	IC 280-636738/9	100.0	22.264643	50.0	821785.0	0.222646	Y
9	IC 280-636738/10	200.0	44.312727	50.0	863296.0	0.221564	Y



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Calibration / N-Propylbenzene

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	ISTD
Response Base:	AREA
RF Rounding:	0

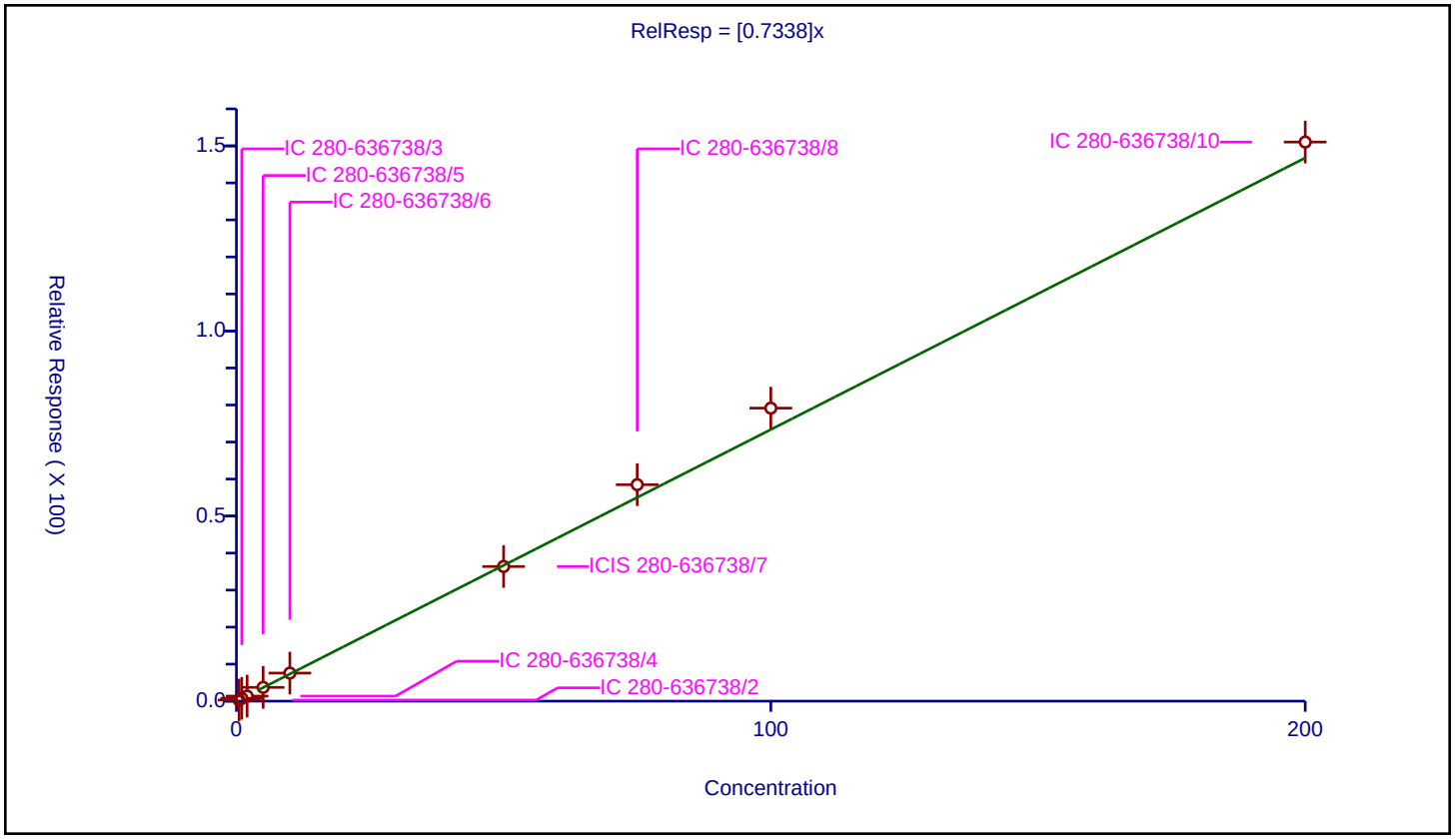
Curve Coefficients

Intercept:	0
Slope:	0.7338

Error Coefficients

Standard Error:	1110000
Relative Standard Error:	8.0
Correlation Coefficient:	0.999
Coefficient of Determination (Adjusted):	0.992

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 280-636738/2	0.5	0.30187	50.0	766886.0	0.60374	Y
2	IC 280-636738/3	1.0	0.763377	50.0	770262.0	0.763377	Y
3	IC 280-636738/4	2.0	1.361475	50.0	752823.0	0.680738	Y
4	IC 280-636738/5	5.0	3.719522	50.0	772438.0	0.743904	Y
5	IC 280-636738/6	10.0	7.580807	50.0	791235.0	0.758081	Y
6	ICIS 280-636738/7	50.0	36.37225	50.0	803680.0	0.727445	Y
7	IC 280-636738/8	75.0	58.482764	50.0	826417.0	0.77977	Y
8	IC 280-636738/9	100.0	79.15647	50.0	821785.0	0.791565	Y
9	IC 280-636738/10	200.0	151.038172	50.0	863296.0	0.755191	Y



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Calibration / 2-Chlorotoluene

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	ISTD
Response Base:	AREA
RF Rounding:	0

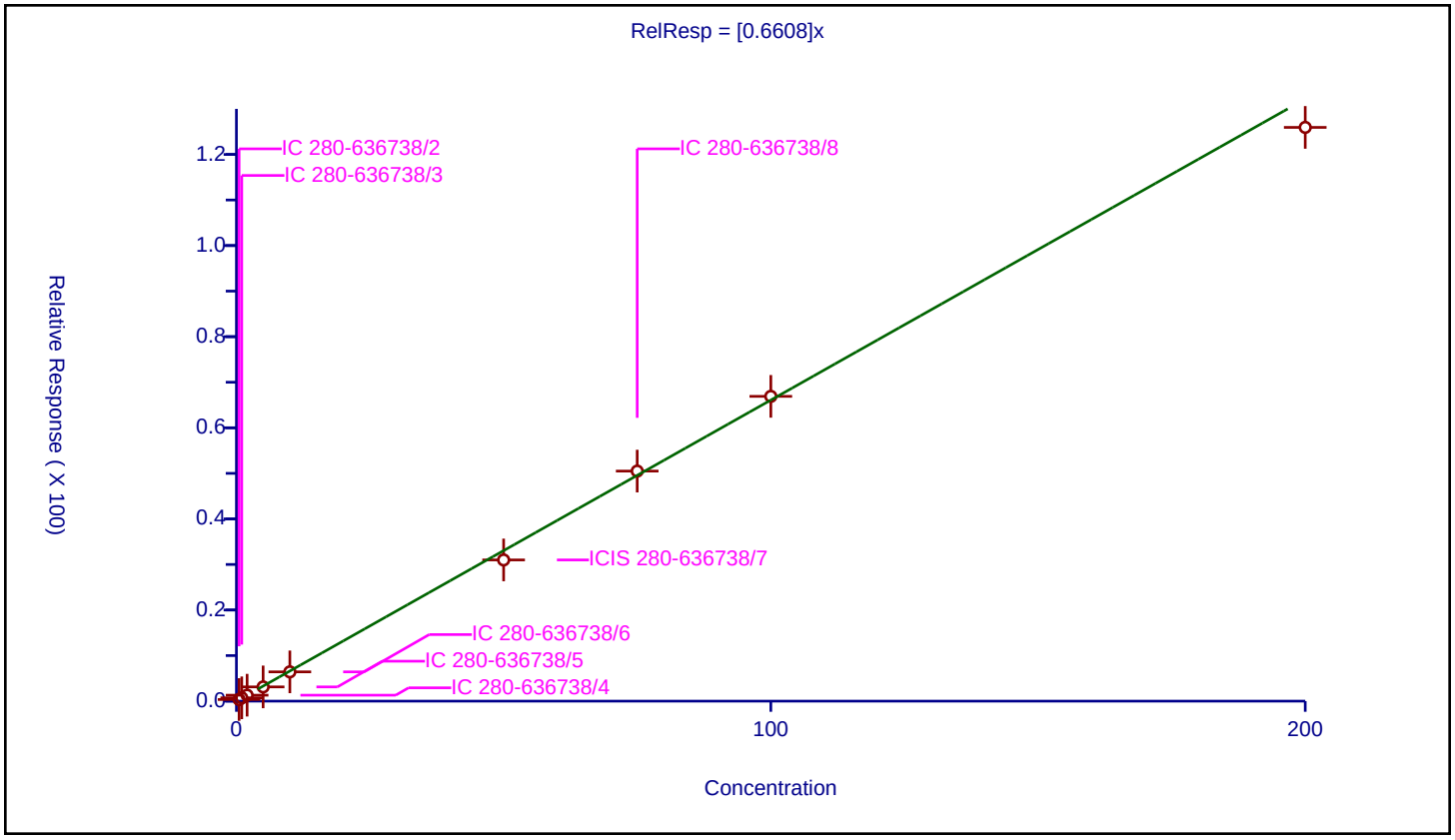
Curve Coefficients

Intercept:	0
Slope:	0.6608

Error Coefficients

Standard Error:	928000
Relative Standard Error:	5.6
Correlation Coefficient:	0.999
Coefficient of Determination (Adjusted):	0.996

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 280-636738/2	0.5	0.353964	50.0	766886.0	0.707928	Y
2	IC 280-636738/3	1.0	0.726766	50.0	770262.0	0.726766	Y
3	IC 280-636738/4	2.0	1.305619	50.0	752823.0	0.652809	Y
4	IC 280-636738/5	5.0	3.126141	50.0	772438.0	0.625228	Y
5	IC 280-636738/6	10.0	6.429063	50.0	791235.0	0.642906	Y
6	ICIS 280-636738/7	50.0	30.995545	50.0	803680.0	0.619911	Y
7	IC 280-636738/8	75.0	50.499506	50.0	826417.0	0.673327	Y
8	IC 280-636738/9	100.0	66.90071	50.0	821785.0	0.669007	Y
9	IC 280-636738/10	200.0	125.935369	50.0	863296.0	0.629677	Y



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Calibration / 1,3,5-Trimethylbenzene

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	ISTD
Response Base:	AREA
RF Rounding:	0

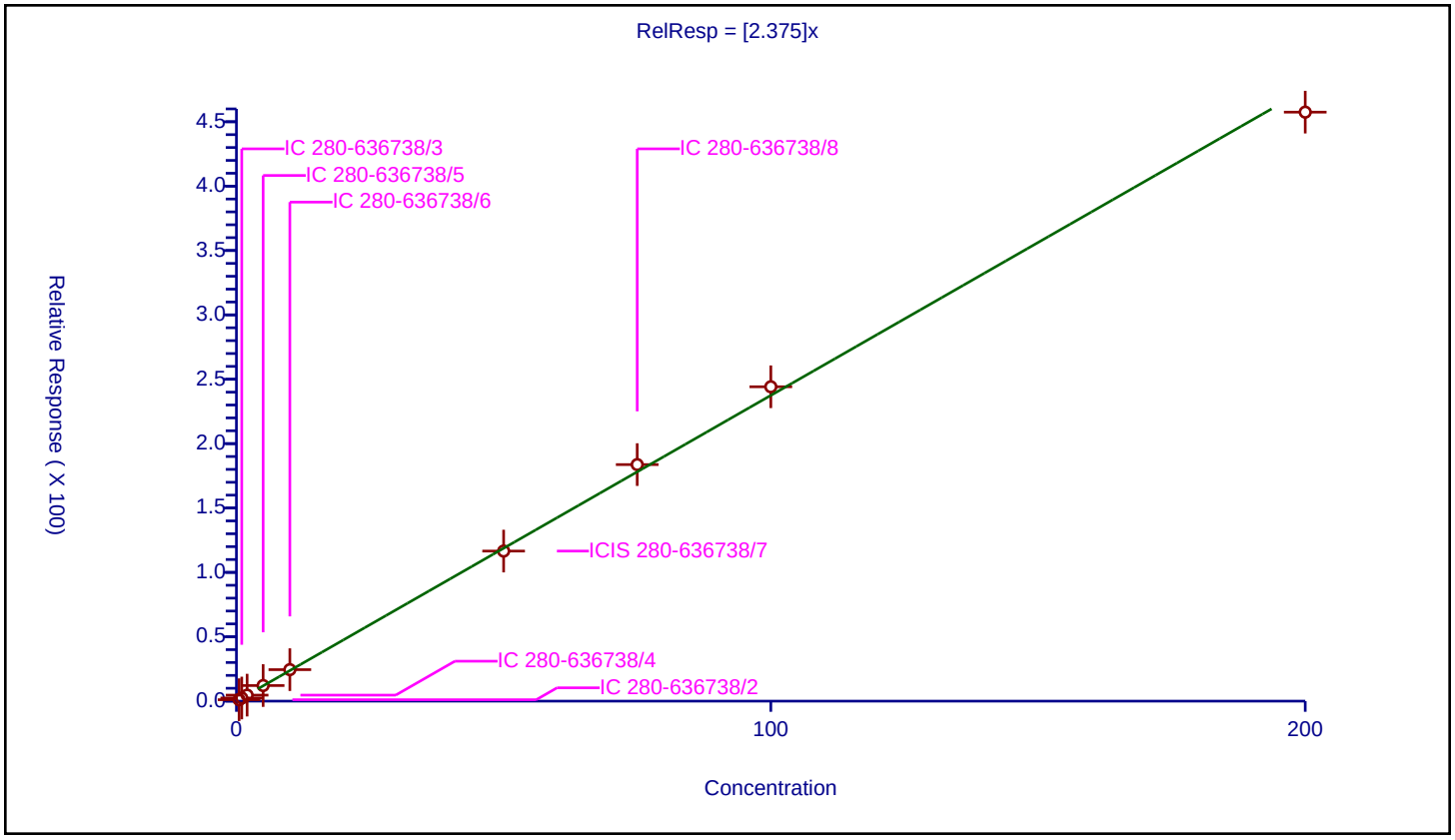
Curve Coefficients

Intercept:	0
Slope:	2.375

Error Coefficients

Standard Error:	3380000
Relative Standard Error:	3.5
Correlation Coefficient:	1.000
Coefficient of Determination (Adjusted):	0.998

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 280-636738/2	0.5	1.11216	50.0	766886.0	2.22432	Y
2	IC 280-636738/3	1.0	2.433393	50.0	770262.0	2.433393	Y
3	IC 280-636738/4	2.0	4.671417	50.0	752823.0	2.335708	Y
4	IC 280-636738/5	5.0	12.110681	50.0	772438.0	2.422136	Y
5	IC 280-636738/6	10.0	24.466815	50.0	791235.0	2.446681	Y
6	ICIS 280-636738/7	50.0	116.56474	50.0	803680.0	2.331295	Y
7	IC 280-636738/8	75.0	183.726194	50.0	826417.0	2.449683	Y
8	IC 280-636738/9	100.0	244.167757	50.0	821785.0	2.441678	Y
9	IC 280-636738/10	200.0	457.484976	50.0	863296.0	2.287425	Y



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Calibration / 4-Chlorotoluene

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	ISTD
Response Base:	AREA
RF Rounding:	0

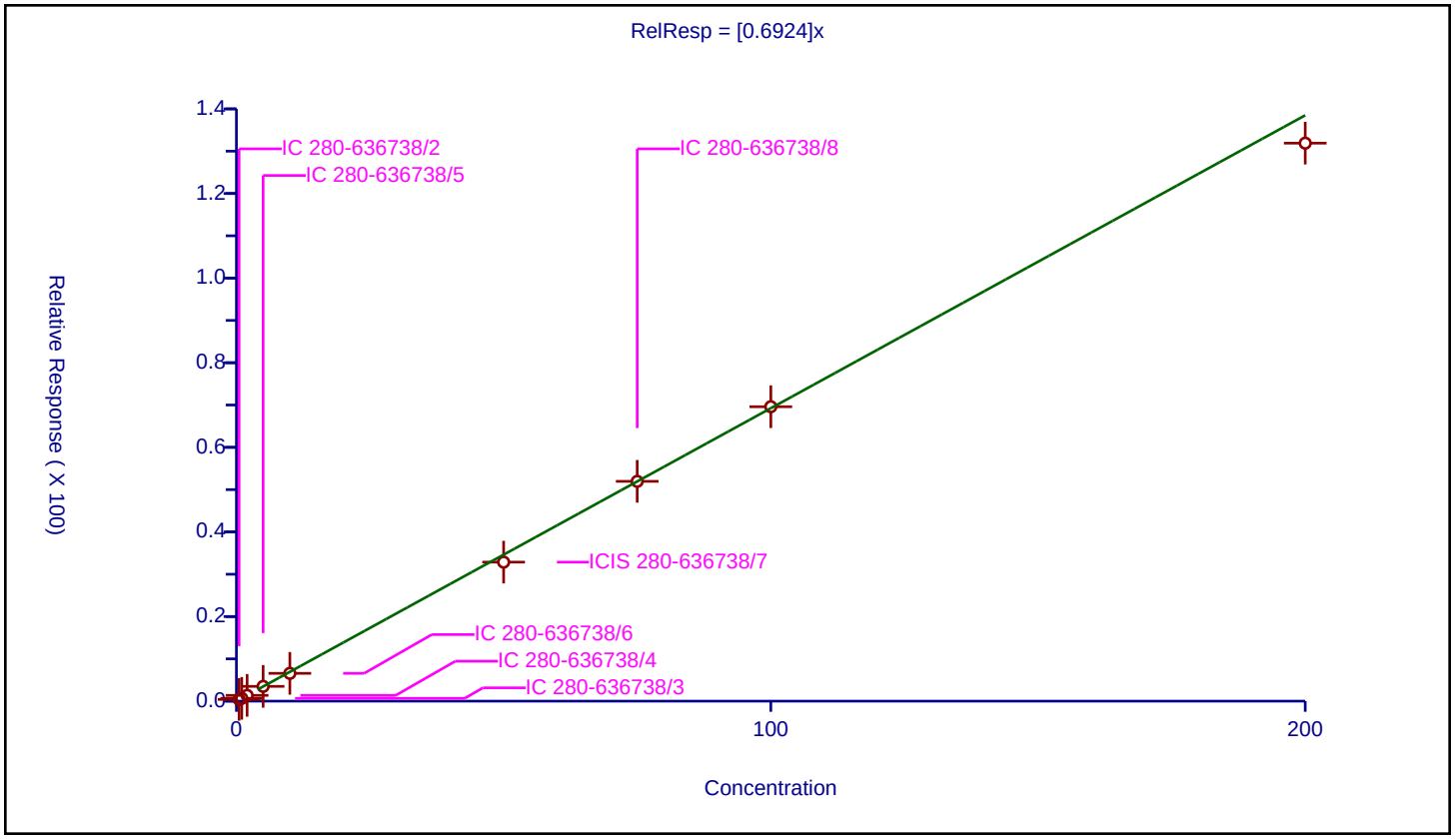
Curve Coefficients

Intercept:	0
Slope:	0.6924

Error Coefficients

Standard Error:	970000
Relative Standard Error:	7.6
Correlation Coefficient:	1.000
Coefficient of Determination (Adjusted):	0.992

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 280-636738/2	0.5	0.412447	50.0	766886.0	0.824894	Y
2	IC 280-636738/3	1.0	0.666397	50.0	770262.0	0.666397	Y
3	IC 280-636738/4	2.0	1.361276	50.0	752823.0	0.680638	Y
4	IC 280-636738/5	5.0	3.488241	50.0	772438.0	0.697648	Y
5	IC 280-636738/6	10.0	6.567771	50.0	791235.0	0.656777	Y
6	ICIS 280-636738/7	50.0	32.864075	50.0	803680.0	0.657282	Y
7	IC 280-636738/8	75.0	51.955974	50.0	826417.0	0.692746	Y
8	IC 280-636738/9	100.0	69.600382	50.0	821785.0	0.696004	Y
9	IC 280-636738/10	200.0	131.89468	50.0	863296.0	0.659473	Y



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Calibration / tert-Butylbenzene

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	ISTD
Response Base:	AREA
RF Rounding:	0

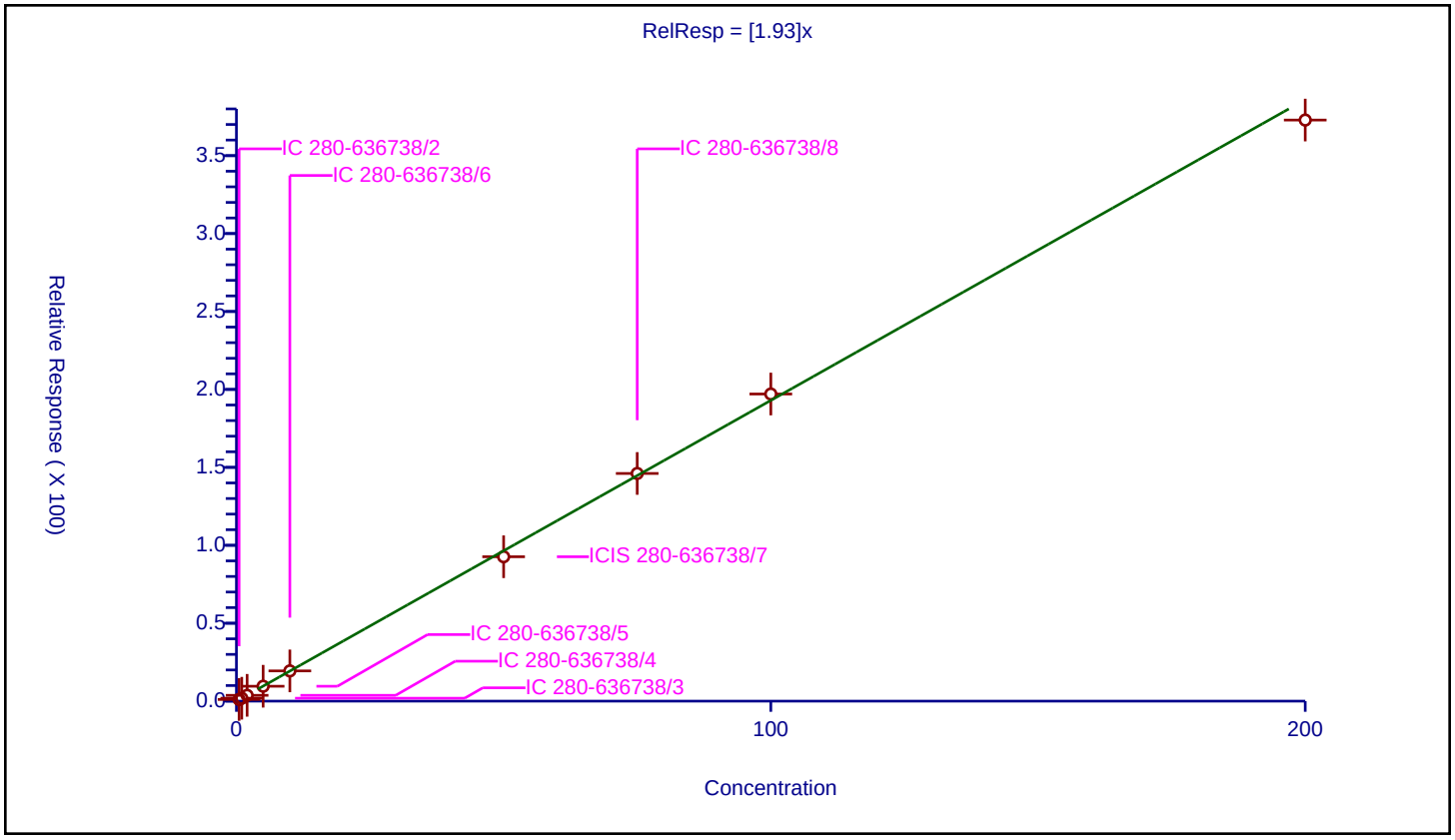
Curve Coefficients

Intercept:	0
Slope:	1.93

Error Coefficients

Standard Error:	2740000
Relative Standard Error:	4.7
Correlation Coefficient:	1.000
Coefficient of Determination (Adjusted):	0.997

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 280-636738/2	0.5	1.070694	50.0	766886.0	2.141387	Y
2	IC 280-636738/3	1.0	1.87222	50.0	770262.0	1.87222	Y
3	IC 280-636738/4	2.0	3.733348	50.0	752823.0	1.866674	Y
4	IC 280-636738/5	5.0	9.552935	50.0	772438.0	1.910587	Y
5	IC 280-636738/6	10.0	19.39784	50.0	791235.0	1.939784	Y
6	ICIS 280-636738/7	50.0	92.654352	50.0	803680.0	1.853087	Y
7	IC 280-636738/8	75.0	146.087629	50.0	826417.0	1.947835	Y
8	IC 280-636738/9	100.0	197.054704	50.0	821785.0	1.970547	Y
9	IC 280-636738/10	200.0	372.839501	50.0	863296.0	1.864198	Y



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Calibration / 1,2,4-Trimethylbenzene

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	ISTD
Response Base:	AREA
RF Rounding:	0

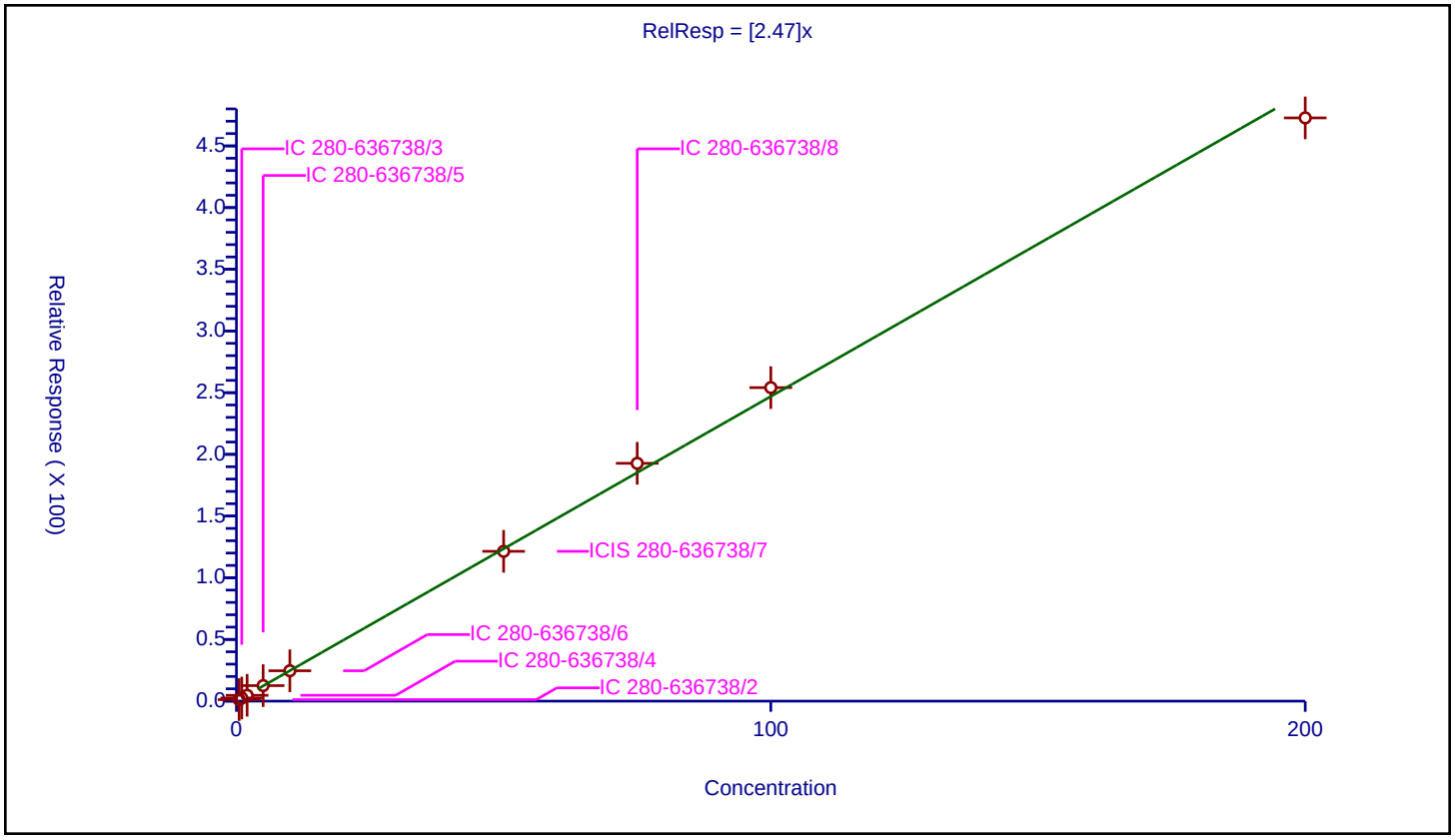
Curve Coefficients

Intercept:	0
Slope:	2.47

Error Coefficients

Standard Error:	3500000
Relative Standard Error:	3.0
Correlation Coefficient:	1.000
Coefficient of Determination (Adjusted):	0.999

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 280-636738/2	0.5	1.226258	50.0	766886.0	2.452516	Y
2	IC 280-636738/3	1.0	2.52161	50.0	770262.0	2.52161	Y
3	IC 280-636738/4	2.0	4.745803	50.0	752823.0	2.372902	Y
4	IC 280-636738/5	5.0	12.574213	50.0	772438.0	2.514843	Y
5	IC 280-636738/6	10.0	24.625933	50.0	791235.0	2.462593	Y
6	ICIS 280-636738/7	50.0	121.400744	50.0	803680.0	2.428015	Y
7	IC 280-636738/8	75.0	192.750936	50.0	826417.0	2.570012	Y
8	IC 280-636738/9	100.0	254.103506	50.0	821785.0	2.541035	Y
9	IC 280-636738/10	200.0	472.700036	50.0	863296.0	2.3635	Y



Calibration / sec-Butylbenzene

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	ISTD
Response Base:	AREA
RF Rounding:	0

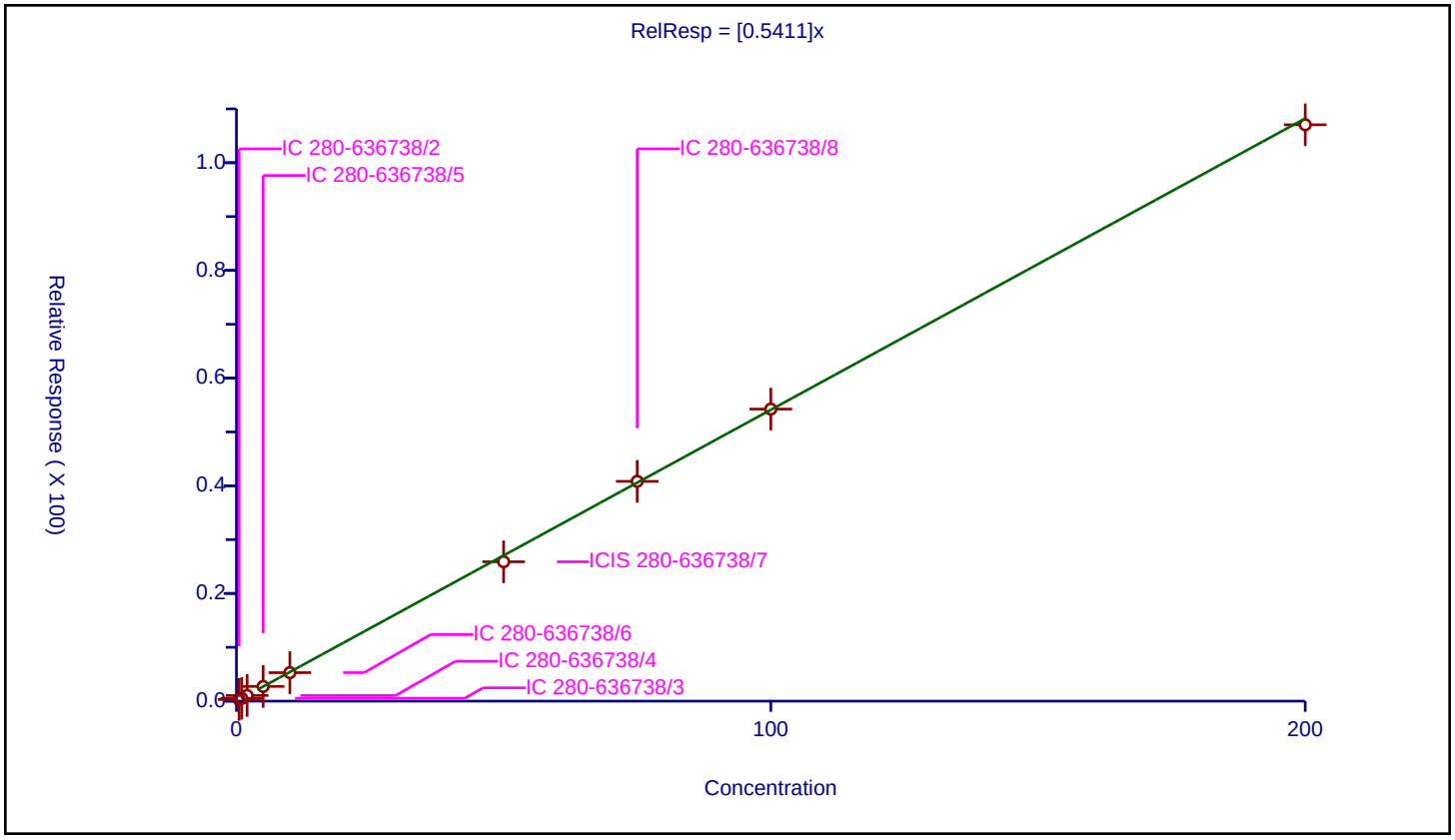
Curve Coefficients

Intercept:	0
Slope:	0.5411

Error Coefficients

Standard Error:	778000
Relative Standard Error:	5.2
Correlation Coefficient:	0.999
Coefficient of Determination (Adjusted):	0.996

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 280-636738/2	0.5	0.305521	50.0	766886.0	0.611043	Y
2	IC 280-636738/3	1.0	0.519563	50.0	770262.0	0.519563	Y
3	IC 280-636738/4	2.0	1.048786	50.0	752823.0	0.524393	Y
4	IC 280-636738/5	5.0	2.731417	50.0	772438.0	0.546283	Y
5	IC 280-636738/6	10.0	5.292107	50.0	791235.0	0.529211	Y
6	ICIS 280-636738/7	50.0	25.884369	50.0	803680.0	0.517687	Y
7	IC 280-636738/8	75.0	40.821038	50.0	826417.0	0.544281	Y
8	IC 280-636738/9	100.0	54.243932	50.0	821785.0	0.542439	Y
9	IC 280-636738/10	200.0	107.048452	50.0	863296.0	0.535242	Y



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Calibration / 1,3-Dichlorobenzene

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	ISTD
Response Base:	AREA
RF Rounding:	0

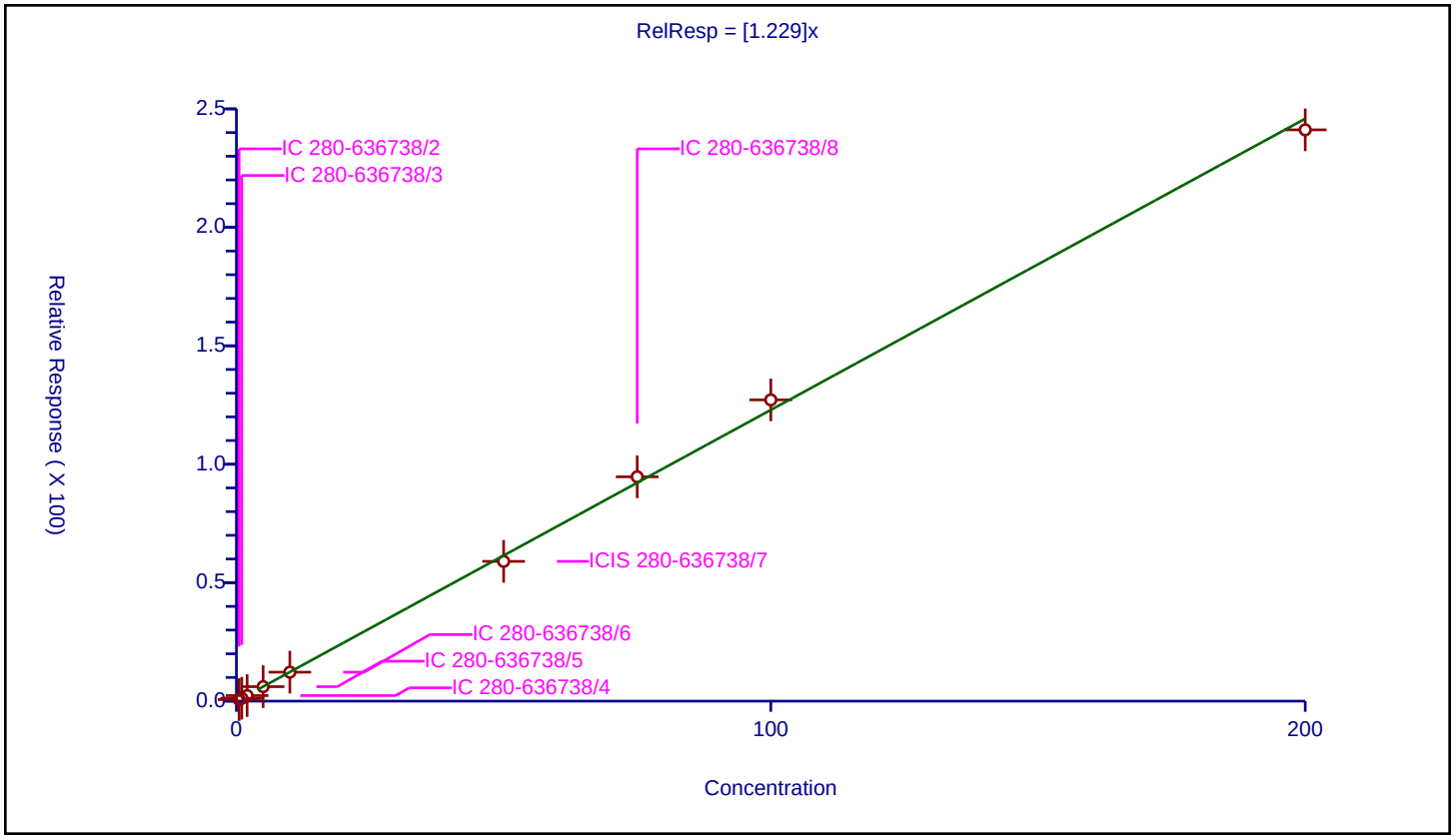
Curve Coefficients

Intercept:	0
Slope:	1.229

Error Coefficients

Standard Error:	1770000
Relative Standard Error:	3.4
Correlation Coefficient:	1.000
Coefficient of Determination (Adjusted):	0.998

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 280-636738/2	0.5	0.649184	50.0	766886.0	1.298368	Y
2	IC 280-636738/3	1.0	1.229971	50.0	770262.0	1.229971	Y
3	IC 280-636738/4	2.0	2.338863	50.0	752823.0	1.169432	Y
4	IC 280-636738/5	5.0	6.115766	50.0	772438.0	1.223153	Y
5	IC 280-636738/6	10.0	12.227151	50.0	791235.0	1.222715	Y
6	ICIS 280-636738/7	50.0	58.996864	50.0	803680.0	1.179937	Y
7	IC 280-636738/8	75.0	94.690937	50.0	826417.0	1.262546	Y
8	IC 280-636738/9	100.0	127.17201	50.0	821785.0	1.27172	Y
9	IC 280-636738/10	200.0	241.166471	50.0	863296.0	1.205832	Y



Calibration / 4-Isopropyltoluene

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	ISTD
Response Base:	AREA
RF Rounding:	0

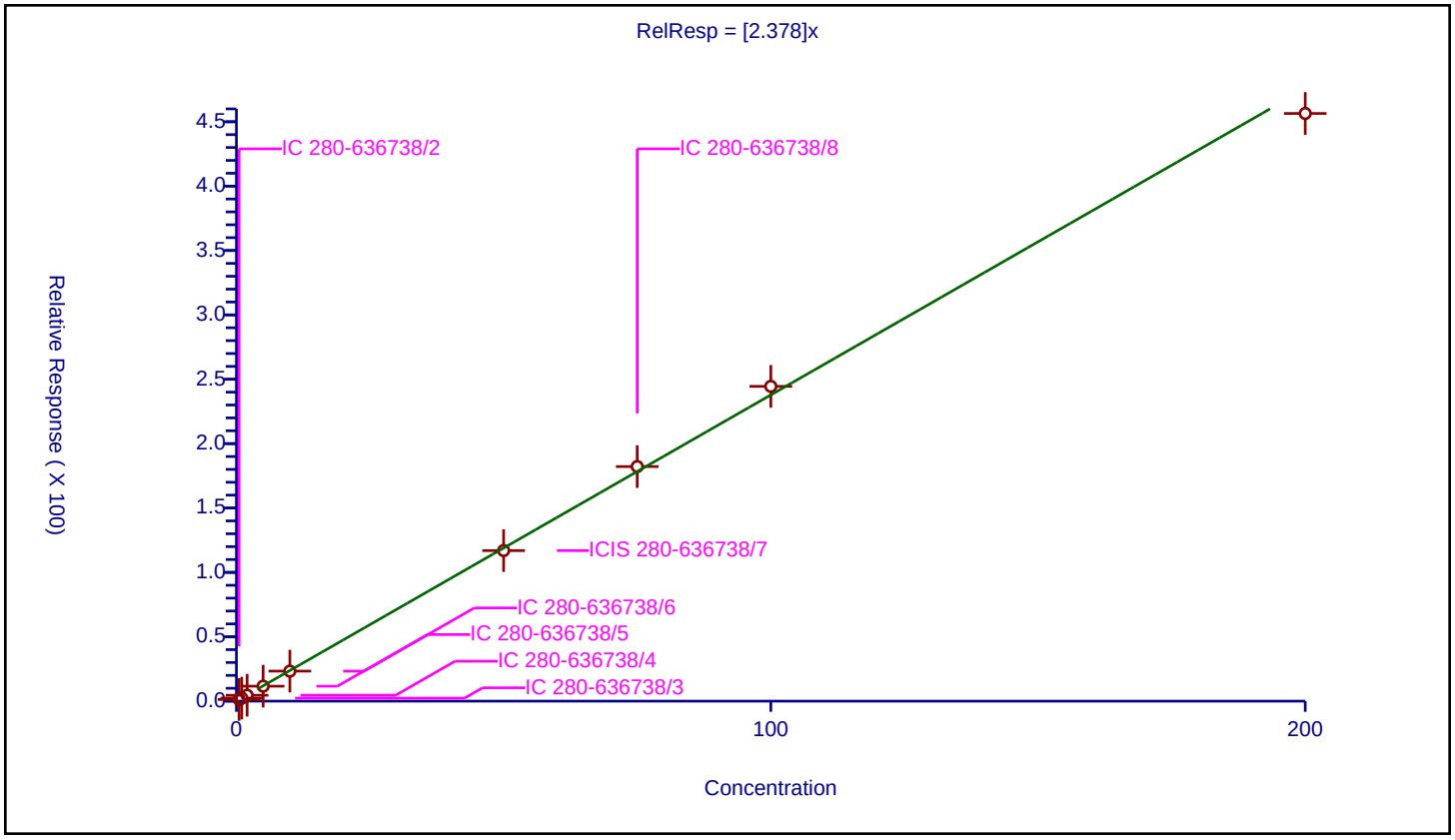
Curve Coefficients

Intercept:	0
Slope:	2.378

Error Coefficients

Standard Error:	3370000
Relative Standard Error:	4.2
Correlation Coefficient:	1.000
Coefficient of Determination (Adjusted):	0.998

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 280-636738/2	0.5	1.301236	50.0	766886.0	2.602473	Y
2	IC 280-636738/3	1.0	2.35699	50.0	770262.0	2.35699	Y
3	IC 280-636738/4	2.0	4.589525	50.0	752823.0	2.294763	Y
4	IC 280-636738/5	5.0	11.615819	50.0	772438.0	2.323164	Y
5	IC 280-636738/6	10.0	23.323539	50.0	791235.0	2.332354	Y
6	ICIS 280-636738/7	50.0	116.921287	50.0	803680.0	2.338426	Y
7	IC 280-636738/8	75.0	182.207288	50.0	826417.0	2.429431	Y
8	IC 280-636738/9	100.0	244.489191	50.0	821785.0	2.444892	Y
9	IC 280-636738/10	200.0	456.443097	50.0	863296.0	2.282215	Y



Calibration / 1,4-Dichlorobenzene

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	ISTD
Response Base:	AREA
RF Rounding:	0

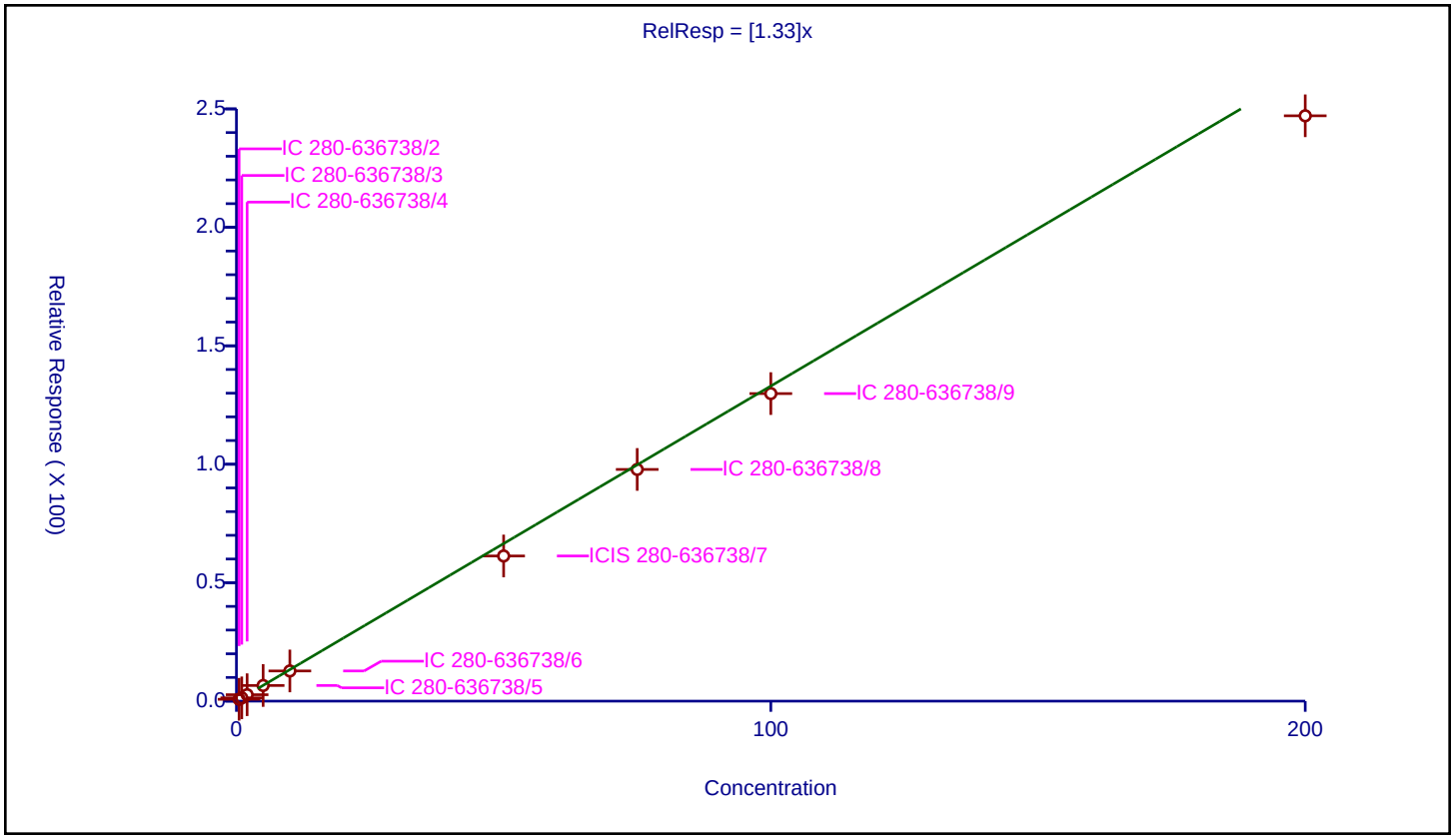
Curve Coefficients

Intercept:	0
Slope:	1.33

Error Coefficients

Standard Error:	1820000
Relative Standard Error:	7.9
Correlation Coefficient:	1.000
Coefficient of Determination (Adjusted):	0.991

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 280-636738/2	0.5	0.786558	50.0	766886.0	1.573115	Y
2	IC 280-636738/3	1.0	1.382906	50.0	770262.0	1.382906	Y
3	IC 280-636738/4	2.0	2.710199	50.0	752823.0	1.355099	Y
4	IC 280-636738/5	5.0	6.607003	50.0	772438.0	1.321401	Y
5	IC 280-636738/6	10.0	12.743433	50.0	791235.0	1.274343	Y
6	ICIS 280-636738/7	50.0	61.283284	50.0	803680.0	1.225666	Y
7	IC 280-636738/8	75.0	97.809459	50.0	826417.0	1.304126	Y
8	IC 280-636738/9	100.0	129.82897	50.0	821785.0	1.29829	Y
9	IC 280-636738/10	200.0	247.085936	50.0	863296.0	1.23543	Y



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Calibration / n-Butylbenzene

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	ISTD
Response Base:	AREA
RF Rounding:	0

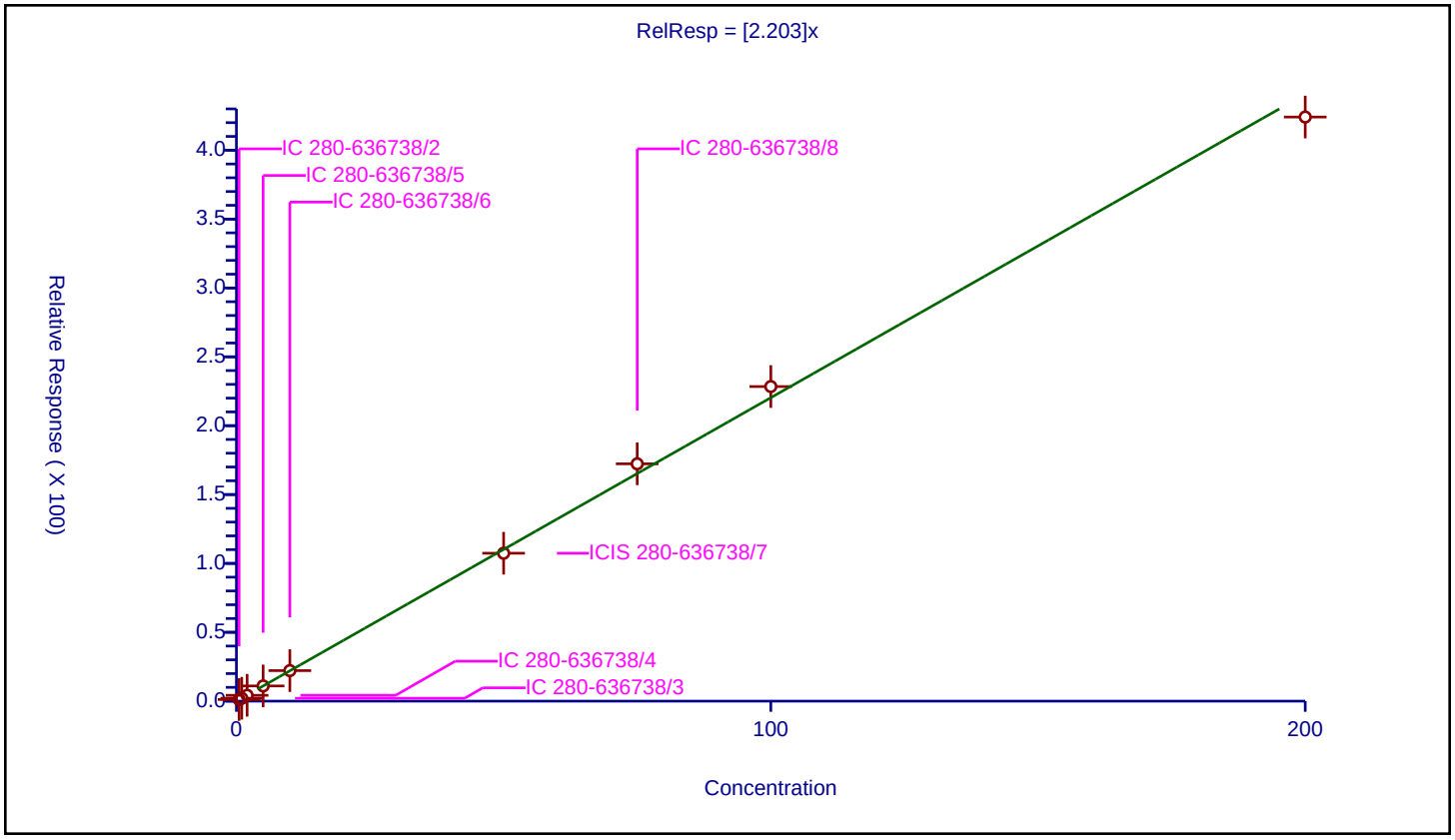
Curve Coefficients

Intercept:	0
Slope:	2.203

Error Coefficients

Standard Error:	3140000
Relative Standard Error:	4.1
Correlation Coefficient:	0.999
Coefficient of Determination (Adjusted):	0.998

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 280-636738/2	0.5	1.170839	50.0	766886.0	2.341678	Y
2	IC 280-636738/3	1.0	2.091561	50.0	770262.0	2.091561	Y
3	IC 280-636738/4	2.0	4.243561	50.0	752823.0	2.12178	Y
4	IC 280-636738/5	5.0	11.039462	50.0	772438.0	2.207892	Y
5	IC 280-636738/6	10.0	22.168572	50.0	791235.0	2.216857	Y
6	ICIS 280-636738/7	50.0	107.390068	50.0	803680.0	2.147801	Y
7	IC 280-636738/8	75.0	172.310589	50.0	826417.0	2.297475	Y
8	IC 280-636738/9	100.0	228.409438	50.0	821785.0	2.284094	Y
9	IC 280-636738/10	200.0	424.08108	50.0	863296.0	2.120405	Y



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Calibration / 1,2-Dichlorobenzene

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	ISTD
Response Base:	AREA
RF Rounding:	0

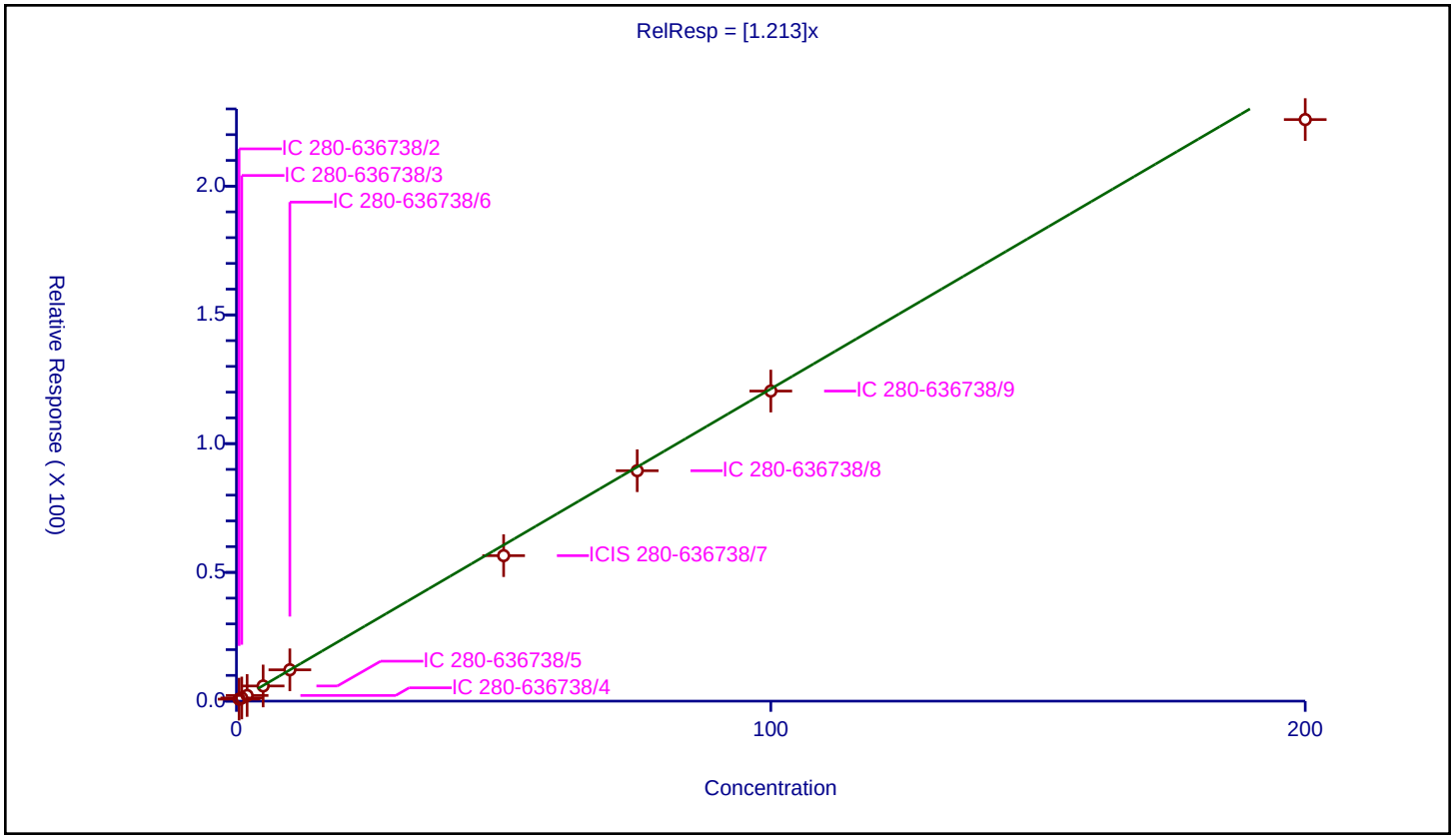
Curve Coefficients

Intercept:	0
Slope:	1.213

Error Coefficients

Standard Error:	1670000
Relative Standard Error:	10.6
Correlation Coefficient:	1.000
Coefficient of Determination (Adjusted):	0.984

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 280-636738/2	0.5	0.767585	50.0	766886.0	1.53517	Y
2	IC 280-636738/3	1.0	1.230361	50.0	770262.0	1.230361	Y
3	IC 280-636738/4	2.0	2.193477	50.0	752823.0	1.096739	Y
4	IC 280-636738/5	5.0	5.892382	50.0	772438.0	1.178476	Y
5	IC 280-636738/6	10.0	12.168572	50.0	791235.0	1.216857	Y
6	ICIS 280-636738/7	50.0	56.502215	50.0	803680.0	1.130044	Y
7	IC 280-636738/8	75.0	89.487692	50.0	826417.0	1.193169	Y
8	IC 280-636738/9	100.0	120.423894	50.0	821785.0	1.204239	Y
9	IC 280-636738/10	200.0	225.848376	50.0	863296.0	1.129242	Y



12/29/2023
12:08 PM

Calibration / 1,2-Dibromo-3-Chloropropane

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	ISTD
Response Base:	AREA
RF Rounding:	0

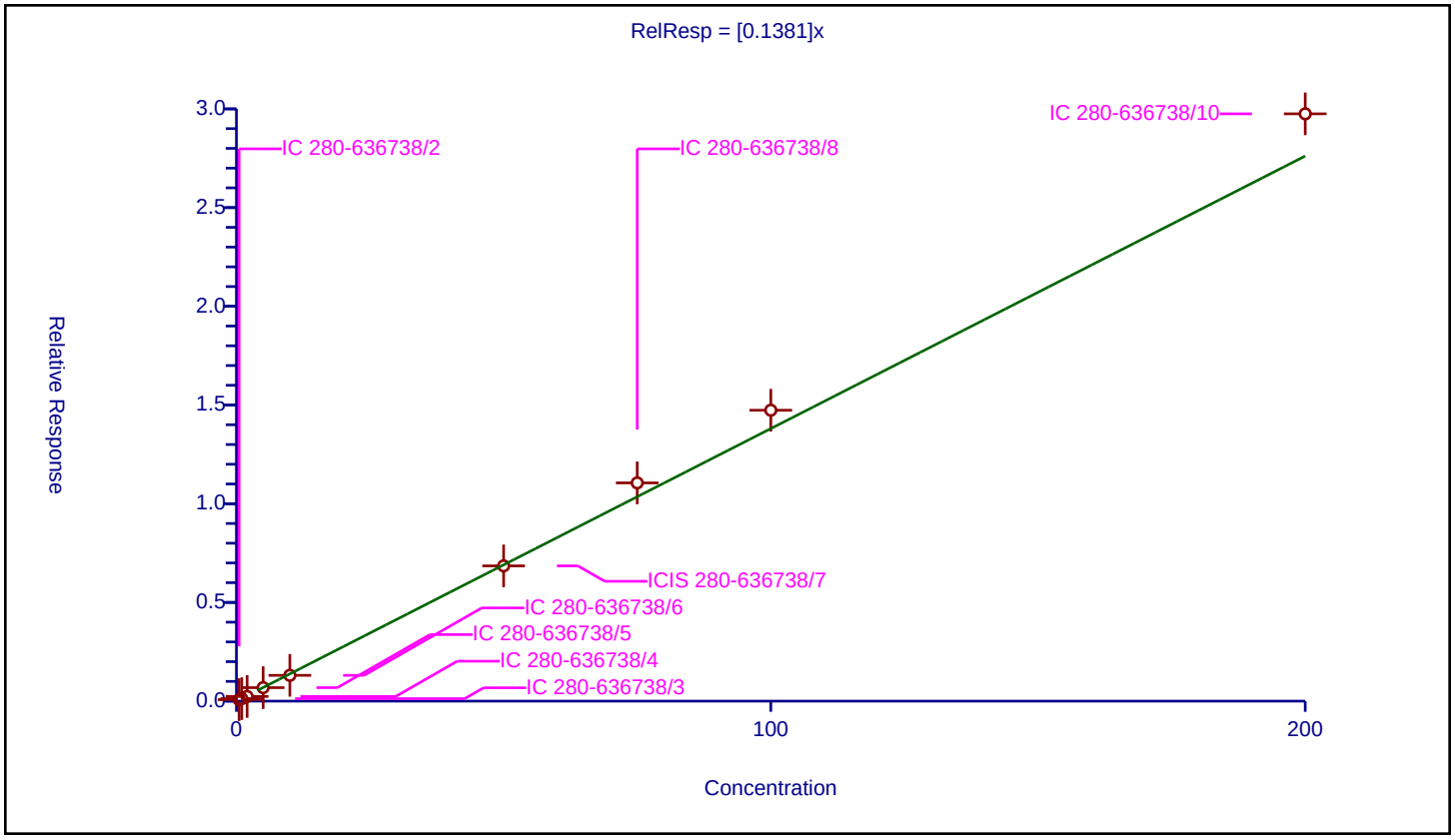
Curve Coefficients

Intercept:	0
Slope:	0.1381

Error Coefficients

Standard Error:	215000
Relative Standard Error:	8.2
Correlation Coefficient:	0.998
Coefficient of Determination (Adjusted):	0.991

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 280-636738/2	0.5	0.075109	50.0	766886.0	0.150218	Y
2	IC 280-636738/3	1.0	0.125931	50.0	770262.0	0.125931	Y
3	IC 280-636738/4	2.0	0.237108	50.0	752823.0	0.118554	Y
4	IC 280-636738/5	5.0	0.682903	50.0	772438.0	0.136581	Y
5	IC 280-636738/6	10.0	1.307007	50.0	791235.0	0.130701	Y
6	ICIS 280-636738/7	50.0	6.851794	50.0	803680.0	0.137036	Y
7	IC 280-636738/8	75.0	11.055496	50.0	826417.0	0.147407	Y
8	IC 280-636738/9	100.0	14.735667	50.0	821785.0	0.147357	Y
9	IC 280-636738/10	200.0	29.75092	50.0	863296.0	0.148755	Y



12/29/2023
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Calibration / 1,2,4-Trichlorobenzene

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	ISTD
Response Base:	AREA
RF Rounding:	0

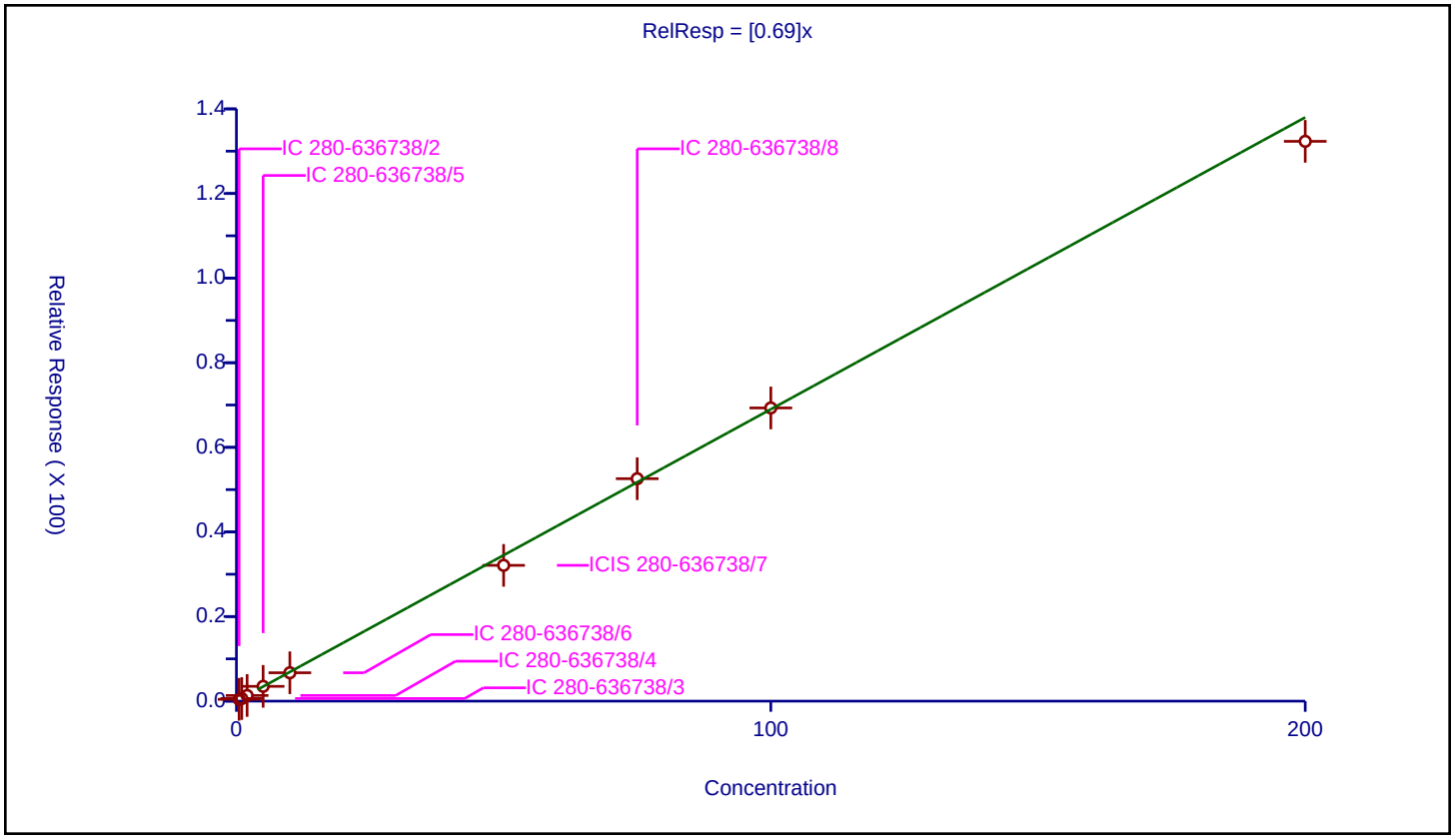
Curve Coefficients

Intercept:	0
Slope:	0.69

Error Coefficients

Standard Error:	972000
Relative Standard Error:	9.5
Correlation Coefficient:	0.999
Coefficient of Determination (Adjusted):	0.987

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 280-636738/2	0.5	0.425226	50.0	766886.0	0.850452	Y
2	IC 280-636738/3	1.0	0.62297	50.0	770262.0	0.62297	Y
3	IC 280-636738/4	2.0	1.336835	50.0	752823.0	0.668417	Y
4	IC 280-636738/5	5.0	3.494908	50.0	772438.0	0.698982	Y
5	IC 280-636738/6	10.0	6.710333	50.0	791235.0	0.671033	Y
6	ICIS 280-636738/7	50.0	32.097352	50.0	803680.0	0.641947	Y
7	IC 280-636738/8	75.0	52.585378	50.0	826417.0	0.701138	Y
8	IC 280-636738/9	100.0	69.311985	50.0	821785.0	0.69312	Y
9	IC 280-636738/10	200.0	132.328425	50.0	863296.0	0.661642	Y



Calibration / Hexachlorobutadiene

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	ISTD
Response Base:	AREA
RF Rounding:	0

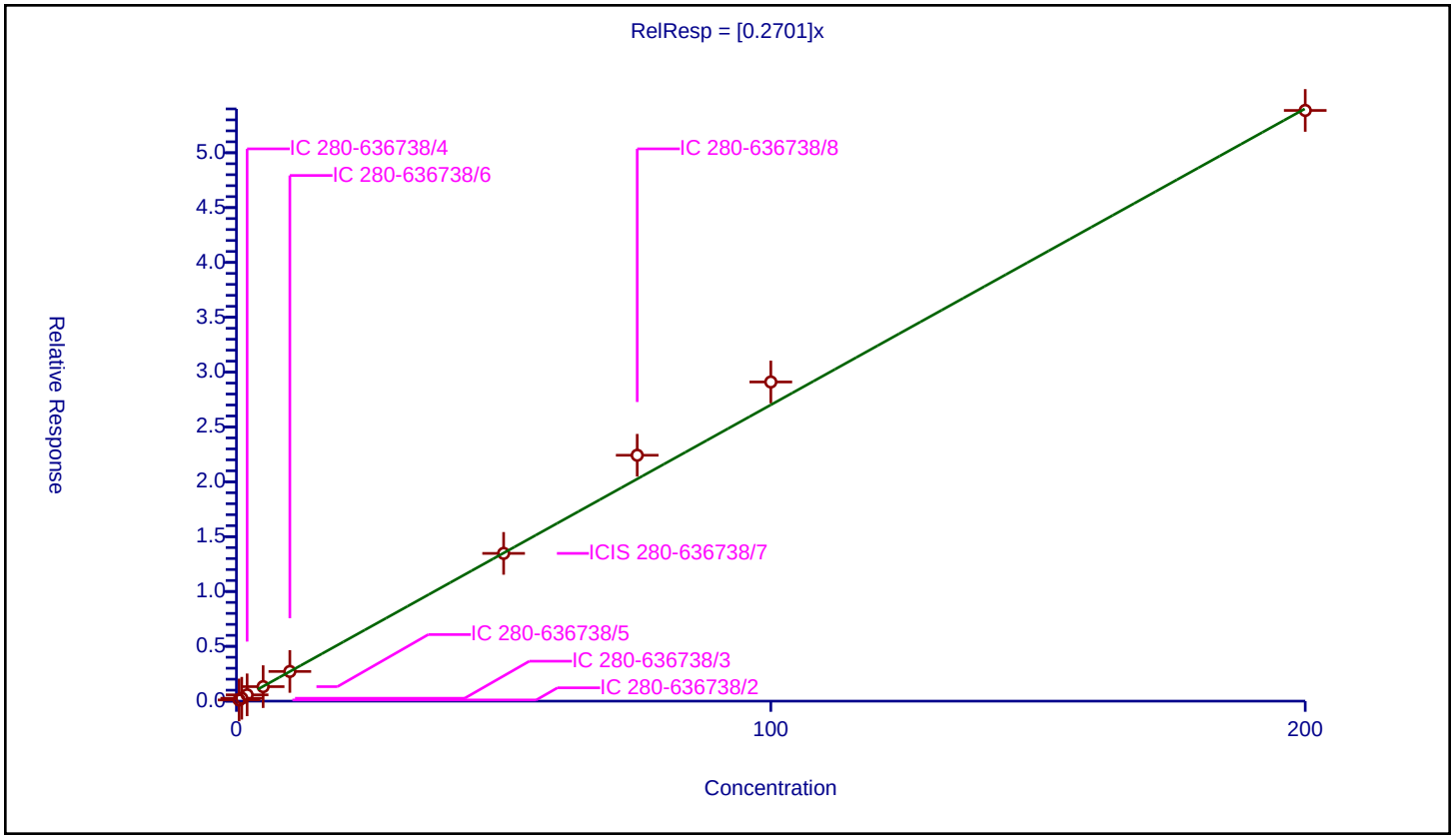
Curve Coefficients

Intercept:	0
Slope:	0.2701

Error Coefficients

Standard Error:	400000
Relative Standard Error:	8.7
Correlation Coefficient:	0.999
Coefficient of Determination (Adjusted):	0.991

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 280-636738/2	0.5	0.108621	50.0	766886.0	0.217242	Y
2	IC 280-636738/3	1.0	0.263222	50.0	770262.0	0.263222	Y
3	IC 280-636738/4	2.0	0.573641	50.0	752823.0	0.28682	Y
4	IC 280-636738/5	5.0	1.323084	50.0	772438.0	0.264617	Y
5	IC 280-636738/6	10.0	2.70596	50.0	791235.0	0.270596	Y
6	ICIS 280-636738/7	50.0	13.470971	50.0	803680.0	0.269419	Y
7	IC 280-636738/8	75.0	22.419493	50.0	826417.0	0.298927	Y
8	IC 280-636738/9	100.0	29.10019	50.0	821785.0	0.291002	Y
9	IC 280-636738/10	200.0	53.859279	50.0	863296.0	0.269296	Y



Calibration / Naphthalene

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	ISTD
Response Base:	AREA
RF Rounding:	0

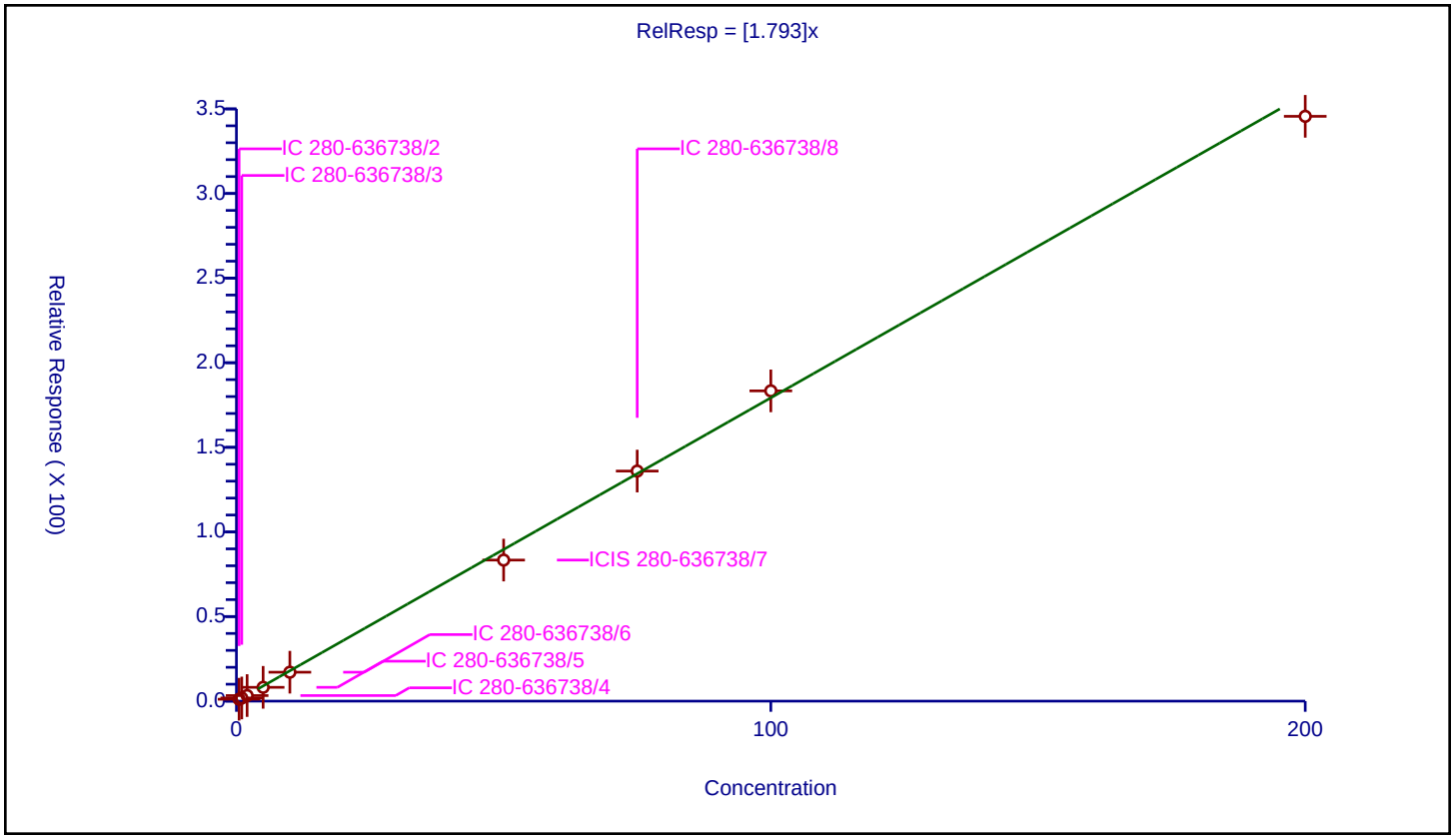
Curve Coefficients

Intercept:	0
Slope:	1.793

Error Coefficients

Standard Error:	2540000
Relative Standard Error:	10.5
Correlation Coefficient:	0.999
Coefficient of Determination (Adjusted):	0.984

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 280-636738/2	0.5	1.121353	50.0	766886.0	2.242706	Y
2	IC 280-636738/3	1.0	1.858394	50.0	770262.0	1.858394	Y
3	IC 280-636738/4	2.0	3.29533	50.0	752823.0	1.647665	Y
4	IC 280-636738/5	5.0	8.156512	50.0	772438.0	1.631302	Y
5	IC 280-636738/6	10.0	17.10895	50.0	791235.0	1.710895	Y
6	ICIS 280-636738/7	50.0	83.368318	50.0	803680.0	1.667366	Y
7	IC 280-636738/8	75.0	135.964531	50.0	826417.0	1.81286	Y
8	IC 280-636738/9	100.0	183.368338	50.0	821785.0	1.833683	Y
9	IC 280-636738/10	200.0	345.61205	50.0	863296.0	1.72806	Y



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Calibration / 1,2,3-Trichlorobenzene

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	ISTD
Response Base:	AREA
RF Rounding:	0

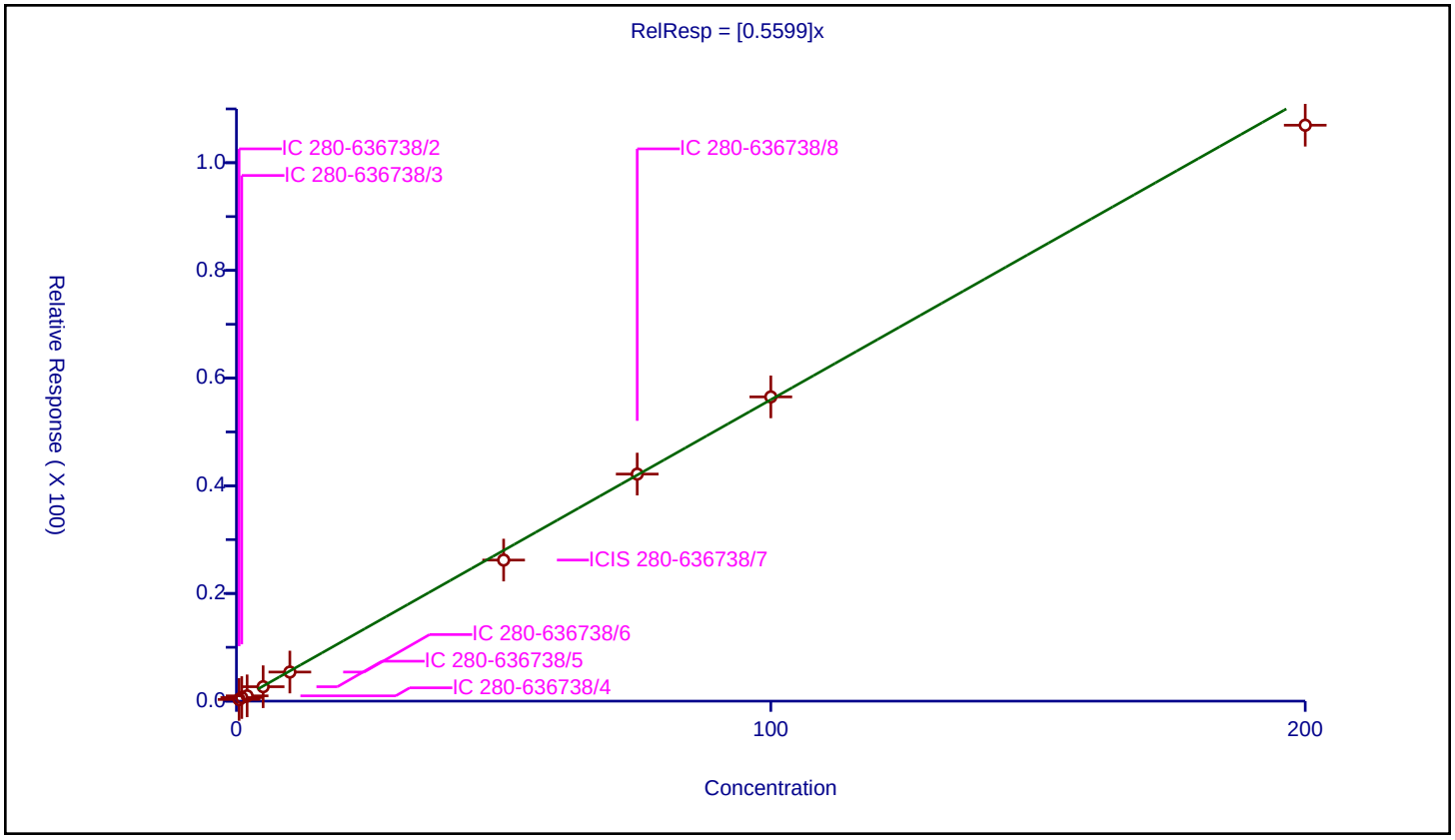
Curve Coefficients

Intercept:	0
Slope:	0.5599

Error Coefficients

Standard Error:	786000
Relative Standard Error:	9.5
Correlation Coefficient:	1.000
Coefficient of Determination (Adjusted):	0.988

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 280-636738/2	0.5	0.31152	50.0	766886.0	0.623039	Y
2	IC 280-636738/3	1.0	0.663086	50.0	770262.0	0.663086	Y
3	IC 280-636738/4	2.0	0.980177	50.0	752823.0	0.490089	Y
4	IC 280-636738/5	5.0	2.681057	50.0	772438.0	0.536211	Y
5	IC 280-636738/6	10.0	5.403704	50.0	791235.0	0.54037	Y
6	ICIS 280-636738/7	50.0	26.19942	50.0	803680.0	0.523988	Y
7	IC 280-636738/8	75.0	42.173866	50.0	826417.0	0.562318	Y
8	IC 280-636738/9	100.0	56.509793	50.0	821785.0	0.565098	Y
9	IC 280-636738/10	200.0	106.974433	50.0	863296.0	0.534872	Y



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FORM VI
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: Eurofins Denver Job No.: 280-185814-1 Analy Batch No.: 636906

SDG No.:

Instrument ID: VMS_X4 GC Column: RXI-624SilM ID: 0.25(mm) Heated Purge: (Y/N) N

Calibration Start Date: 12/11/2023 18:26 Calibration End Date: 12/11/2023 20:50 Calibration ID: 88087

Calibration Files

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 280-636906/2	X511695.D
Level 2	IC 280-636906/3	X511696.D
Level 3	IC 280-636906/4	X511697.D
Level 4	IC 280-636906/5	X511698.D
Level 5	IC 280-636906/6	X511699.D
Level 6	IC 280-636906/7	X511700.D
Level 7	IC 280-636906/8	X511701.D
Level 8	IC 280-636906/9	X511702.D

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD /RSE	#	MAX %RSD /RSE	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4	LVL 5		B	M1	M2								
Ethanol	0.0043 0.0043	0.0048 0.0043	0.0037 0.0041	0.0044	0.0041	Ave		0.0043				7.1		15.0			
Isopropyl alcohol	0.0225 0.0185	0.0161 0.0193	0.0187 0.0197	0.0183	0.0186	Ave		0.0190				9.3		15.0			
Acetonitrile	+++++ 0.0484	0.0700 0.0494	0.0591 0.0477	0.0531	0.0514	Ave		0.0542				14.7		15.0			
Isopropyl ether	0.2037 0.2223	0.2112 0.2271	0.2207 0.2264	0.2121	0.2258	Ave		0.2187				3.9		15.0			
2-Chloro-1,3-butadiene	0.4862 0.4980	0.5165 0.5187	0.4680 0.5123	0.4655	0.5050	Ave		0.4963				4.2		15.0			
Tert-butyl ethyl ether	0.8845 0.8851	0.8994 0.9013	0.8471 0.8982	0.8506	0.9065	Ave		0.8841				2.6		15.0			
Ethyl acetate	0.3704 0.2999	0.3268 0.3048	0.2982 0.3052	0.2915	0.3071	Ave		0.3130				8.1		15.0			
Propionitrile	0.0509 0.0463	0.0504 0.0470	0.0472 0.0465	0.0478	0.0485	Ave		0.0481				3.6		15.0			
Methacrylonitrile	0.2094 0.2003	0.2025 0.2014	0.2034 0.1864	0.2029	0.2104	Ave		0.2021				3.6		15.0			
Tert-amyl methyl ether	0.7339 0.7666	0.7499 0.7831	0.7440 0.7842	0.7394	0.7867	Ave		0.7610				2.9		15.0			
n-Butanol	+++++ 0.0078	0.0055 0.0081	0.0061 0.0086	0.0065	0.0078	Lin2	-0.138	0.0079							0.9930		0.9900
Methyl methacrylate	0.0743 0.0690	0.0593 0.0683	0.0610 0.0697	0.0646	0.0680	Ave		0.0668				7.4		15.0			
2-Nitropropane	0.0722 0.0666	0.0659 0.0684	0.0626 0.0717	0.0637	0.0661	Ave		0.0671				5.1		15.0			

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type. RSD is calculated for Ave curve types. RSE is used for all other types.

FORM VI
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: Eurofins Denver Job No.: 280-185814-1 Analy Batch No.: 636906

SDG No.:

Instrument ID: VMS_X4 GC Column: RXI-624SilM ID: 0.25(mm) Heated Purge: (Y/N) N

Calibration Start Date: 12/11/2023 18:26 Calibration End Date: 12/11/2023 20:50 Calibration ID: 88087

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD /RSE	#	MAX %RSD /RSE	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4	LVL 5		B	M1	M2								
cis-1,4-Dichloro-2-butene	0.2192 0.2282	0.2331 0.2320	0.2112 0.2339	0.2184	0.2337	Ave		0.2262				3.9		15.0			
1,2,3-Trimethylbenzene	2.5511 2.4877	2.6285 2.5337	2.5307 2.4587	2.4376	2.5454	Ave		2.5217				2.4		15.0			
1,3,5-Trichlorobenzene	0.8299 0.7882	0.8211 0.8166	0.7967 0.7902	0.7689	0.7899	Ave		0.8002				2.6		15.0			

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type. RSD is calculated for Ave curve types. RSE is used for all other types.

FORM VI
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: Eurofins Denver | Job No.: 280-185814-1 | Analy Batch No.: 636906

SDG No.:

Instrument ID: VMS_X4 | GC Column: RXI-624Sil ID: 0.25(mm) | Heated Purge: (Y/N) N

Calibration Start Date: 12/11/2023 18:26 | Calibration End Date: 12/11/2023 20:50 | Calibration ID: 88087

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 280-636906/2	X511695.D
Level 2	IC 280-636906/3	X511696.D
Level 3	IC 280-636906/4	X511697.D
Level 4	IC 280-636906/5	X511698.D
Level 5	IC 280-636906/6	X511699.D
Level 6	IC 280-636906/7	X511700.D
Level 7	IC 280-636906/8	X511701.D
Level 8	IC 280-636906/9	X511702.D

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (UG/L)				
			LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4	LVL 5	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4	LVL 5
Ethanol	FB	Ave	9201 704926	19878 971020	39152 1879717	93414	446473	60.0 4500	120 6000	300 12000	600	3000
Isopropyl alcohol	FB	Ave	7997 506564	11217 719678	32902 1497027	64087	334786	10.0 750	20.0 1000	50.0 2000	100	500
Acetonitrile	FB	Ave	+++++ 1322229	48700 1843172	104075 3629624	185818	924581	+++++ 750	20.0 1000	50.0 2000	100	500
Isopropyl ether	FB	Ave	7254 607315	14698 847765	38871 1721652	74226	406097	1.00 75.0	2.00 100	5.00 200	10.0	50.0
2-Chloro-1,3-butadiene	FB	Ave	17314 1360709	35941 1935831	82416 3895580	162899	908167	1.00 75.0	2.00 100	5.00 200	10.0	50.0
Tert-butyl ethyl ether	FB	Ave	31500 2418352	62588 3363984	149183 6830486	297660	1630328	1.00 75.0	2.00 100	5.00 200	10.0	50.0
Ethyl acetate	FB	Ave	26382 1638859	45482 2275126	105045 4642385	204034	1104738	2.00 150	4.00 200	10.0 400	20.0	100
Propionitrile	FB	Ave	18115 1265841	35066 1755657	83201 3534352	167179	871725	10.0 750	20.0 1000	50.0 2000	100	500
Methacrylonitrile	FB	Ave	74574 5472716	140880 7518091	358111 14173242	710129	3783118	10.0 750	20.0 1000	50.0 2000	100	500
Tert-amyl methyl ether	FB	Ave	26134 2094654	52182 2922995	131014 5963297	258742	1414872	1.00 75.0	2.00 100	5.00 200	10.0	50.0
n-Butanol	FB	Lin2	+++++ 530507	9591 753693	26837 1639555	56754	349567	+++++ 1875	50.0 2500	125 5000	250	1250
Methyl methacrylate	FB	Ave	5295 376992	8249 509718	21477 1060680	45243	244515	2.00 150	4.00 200	10.0 400	20.0	100
2-Nitropropane	FB	Ave	5139 363681	9175 510649	22060 1090165	44580	237860	2.00 150	4.00 200	10.0 400	20.0	100
cis-1,4-Dichloro-2-butene	DCBd4	Ave	7004 530301	14088 726453	31912 1527979	66543	361628	2.00 150	4.00 200	10.0 400	20.0	100
1,2,3-Trimethylbenzene	DCBd4	Ave	40752 2890819	79425 3967616	191191 8030267	371384	1969261	1.00 75.0	2.00 100	5.00 200	10.0	50.0

FORM VI
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: Eurofins Denver | Job No.: 280-185814-1 | Analy Batch No.: 636906

SDG No.:

Instrument ID: VMS_X4 | GC Column: RXI-624Sil ID: 0.25(mm) | Heated Purge: (Y/N) N

Calibration Start Date: 12/11/2023 18:26 | Calibration End Date: 12/11/2023 20:50 | Calibration ID: 88087

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (UG/L)				
			LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4	LVL 5	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4	LVL 5
1,3,5-Trichlorobenzene	DCBd4	Ave	13257 915943	24811 1278767	60187 2580689	117153	611071	1.00 75.0	2.00 100	5.00 200	10.0	50.0

Curve Type Legend:

Ave = Average ISTD
Lin2 = Linear 1/conc^2 ISTD

Eurofins Denver
Target Compound Quantitation Report

Data File: \\chromfs\Denver\ChromData\VMS_X4\20231211-128477.b\X511695.D
Lims ID: IC
Client ID:
Sample Type: IC Calib Level: 1
Inject. Date: 11-Dec-2023 18:26:30 ALS Bottle#: 1 Worklist Smp#: 2
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Sample Info: ic
Operator ID: CF Instrument ID: VMS_X4
Sublist: chrom-VMS_X4_8260*sub26

Method: \\chromfs\Denver\ChromData\VMS_X4\20231211-128477.b\VMS_X4_8260.m
Limit Group: MSV - 8260B Water and Solid
Last Update: 12-Dec-2023 05:03:14 Calib Date: 11-Dec-2023 20:50:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Denver\ChromData\VMS_X4\20231211-128477.b\X511702.D

Column 1 : Rxi-624Sil MS (0.25 mm) Det: MS SCAN
Process Host: CTX1609

First Level Reviewer: AK2J Date: 11-Dec-2023 22:19:27

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
* 1 Fluorobenzene	96	5.199	5.199	0.000	97	1780572	50.0	50.0	
* 2 Chlorobenzene-d5	119	7.730	7.730	0.000	90	475217	50.0	50.0	
* 3 1,4-Dichlorobenzene-d4	152	9.947	9.947	0.000	97	798699	50.0	50.0	
17 Ethanol	45	2.747	2.754	-0.007	98	9201	60.0	60.6	
23 Isopropyl alcohol	45	3.154	3.147	0.007	97	7997	10.0	11.8	
26 Acetonitrile	41	3.283	3.276	0.007	95	29618	10.0	15.4	
37 Isopropyl ether	87	3.919	3.926	-0.007	91	7254	1.00	0.9315	
38 2-Chloro-1,3-butadiene	53	3.984	3.984	0.000	91	17314	1.00	0.9797	
39 Tert-butyl ethyl ether	59	4.191	4.191	0.000	98	31500	1.00	1.00	
41 Ethyl acetate	43	4.327	4.327	0.000	100	26382	2.00	2.37	
44 Propionitrile	54	4.370	4.370	0.000	98	18115	10.0	10.6	
46 Methacrylonitrile	41	4.484	4.484	0.000	97	74574	10.0	10.4	
57 Tert-amyl methyl ether	73	5.049	5.056	-0.007	84	26134	1.00	0.9644	
59 n-Butanol	56	5.335	5.335	0.000	92	4748	25.0	34.5	
64 Methyl methacrylate	100	5.678	5.678	0.000	95	5295	2.00	2.23	
68 2-Nitropropane	41	6.043	6.043	0.000	87	5139	2.00	2.15	
90 cis-1,4-Dichloro-2-butene	53	8.696	8.696	0.000	0	7004	2.00	1.94	
107 1,2,3-Trimethylbenzene	105	9.990	9.997	-0.007	95	40752	1.00	1.01	
111 1,3,5-Trichlorobenzene	180	11.298	11.298	0.000	93	13257	1.00	1.04	
118 Ethyl acrylate	55		0.000				ND	ND	
117 t-Amyl alcohol	1		0.000				ND	ND	

QC Flag Legend

Processing Flags
ND - Not Detected or Marked ND

Reagents:

mv-Cent IS_00008	Amount Added:	5.00	Units: uL
MV-Supp A_00087	Amount Added:	1.00	Units: uL

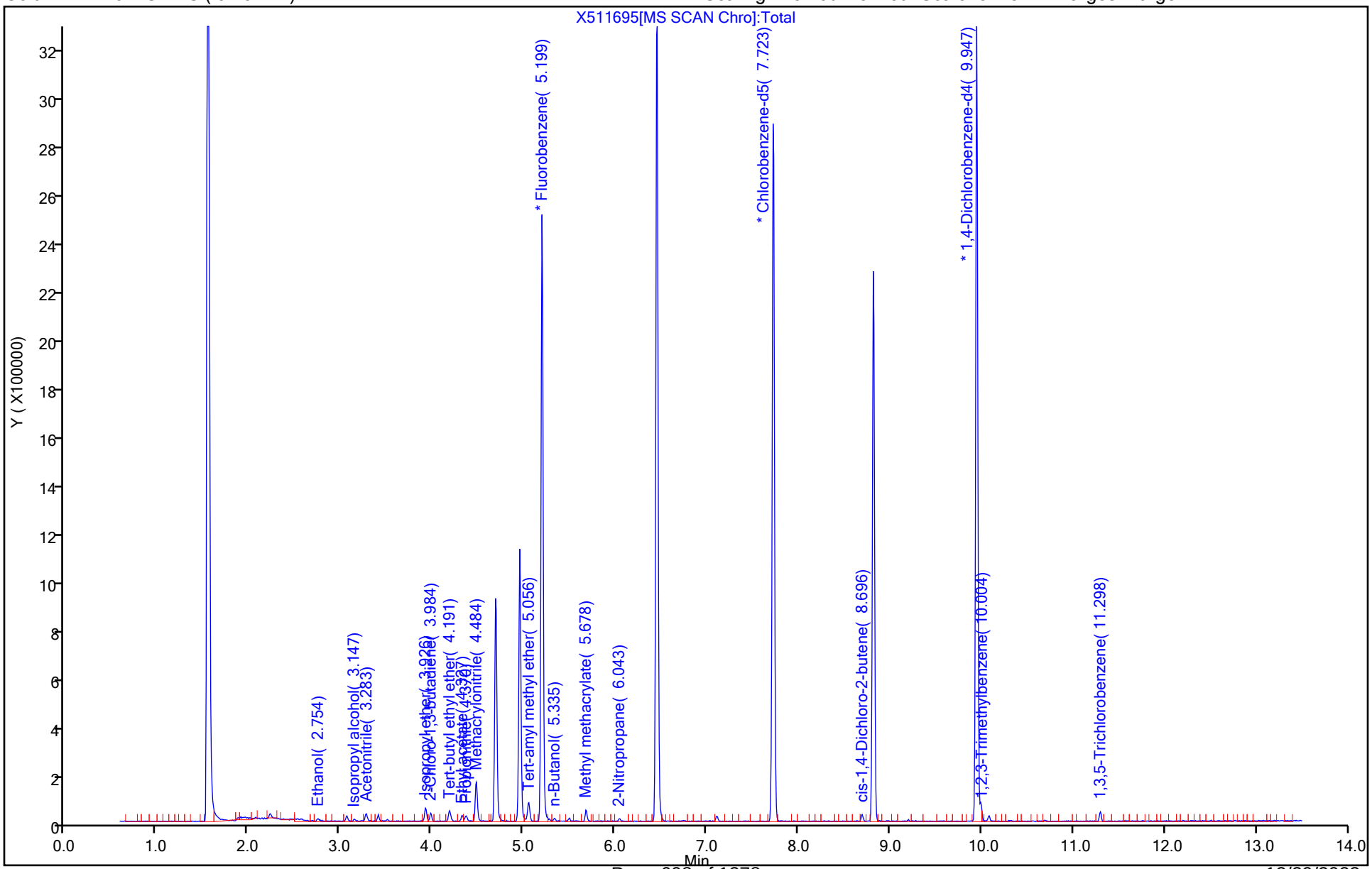
Report Date: 12-Dec-2023 05:03:15 Chrom Revision: 2.3 15-Nov-2023 20:54:34

Eurofins Denver

Data File: \\chromfs\Denver\ChromData\VMS_X4\20231211-128477.b\X511695.D

Injection Date:	11-Dec-2023 18:26:30	Instrument ID:	VMS_X4	Operator ID:	CF
Lims ID:	IC			Worklist Smp#:	2
Client ID:					
Purge Vol:	5.000 mL	Dil. Factor:	1.0000	ALS Bottle#:	1
Method:	VMS_X4_8260	Limit Group:	MSV - 8260B Water and Solid		

Column: Rxi-624Sil MS (0.25 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 1



Eurofins Denver
Target Compound Quantitation Report

Data File: \\chromfs\Denver\ChromData\VMS_X4\20231211-128477.b\X511696.D
Lims ID: IC
Client ID:
Sample Type: IC Calib Level: 2
Inject. Date: 11-Dec-2023 18:47:30 ALS Bottle#: 2 Worklist Smp#: 3
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Sample Info: ic
Operator ID: CF Instrument ID: VMS_X4
Sublist: chrom-VMS_X4_8260*sub26

Method: \\chromfs\Denver\ChromData\VMS_X4\20231211-128477.b\VMS_X4_8260.m
Limit Group: MSV - 8260B Water and Solid
Last Update: 12-Dec-2023 05:03:16 Calib Date: 11-Dec-2023 20:50:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Denver\ChromData\VMS_X4\20231211-128477.b\X511702.D

Column 1 : Rxi-624Sil MS (0.25 mm) Det: MS SCAN
Process Host: CTX1609

First Level Reviewer: BX8N Date: 12-Dec-2023 04:59:05

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
* 1 Fluorobenzene	96	5.199	5.199	0.000	97	1739642	50.0	50.0	
* 2 Chlorobenzene-d5	119	7.723	7.730	-0.007	91	462684	50.0	50.0	
* 3 1,4-Dichlorobenzene-d4	152	9.947	9.947	0.000	97	755426	50.0	50.0	
17 Ethanol	45	2.754	2.754	0.000	98	19878	120.0	134.0	
23 Isopropyl alcohol	45	3.147	3.147	0.000	98	11217	20.0	17.0	
26 Acetonitrile	41	3.276	3.276	0.000	100	48700	20.0	25.8	
37 Isopropyl ether	87	3.926	3.926	0.000	98	14698	2.00	1.93	
38 2-Chloro-1,3-butadiene	53	3.984	3.984	0.000	93	35941	2.00	2.08	
39 Tert-butyl ethyl ether	59	4.191	4.191	0.000	98	62588	2.00	2.03	
41 Ethyl acetate	43	4.327	4.327	0.000	98	45482	4.00	4.18	
44 Propionitrile	54	4.370	4.370	0.000	100	35066	20.0	21.0	
46 Methacrylonitrile	41	4.484	4.484	0.000	95	140880	20.0	20.0	
57 Tert-amyl methyl ether	73	5.056	5.056	0.000	84	52182	2.00	1.97	
59 n-Butanol	56	5.342	5.335	0.007	96	9591	50.0	52.6	
64 Methyl methacrylate	100	5.678	5.678	0.000	91	8249	4.00	3.55	
68 2-Nitropropane	41	6.043	6.043	0.000	97	9175	4.00	3.93	
90 cis-1,4-Dichloro-2-butene	53	8.696	8.696	0.000	0	14088	4.00	4.12	
107 1,2,3-Trimethylbenzene	105	9.990	9.997	-0.007	99	79425	2.00	2.08	
111 1,3,5-Trichlorobenzene	180	11.298	11.298	0.000	93	24811	2.00	2.05	
118 Ethyl acrylate	55		0.000				ND	ND	
117 t-Amyl alcohol	1		0.000				ND	ND	

QC Flag Legend

Processing Flags
ND - Not Detected or Marked ND

Reagents:

mv-Cent IS_00008	Amount Added:	5.00	Units: uL
MV-Supp A_00087	Amount Added:	2.00	Units: uL

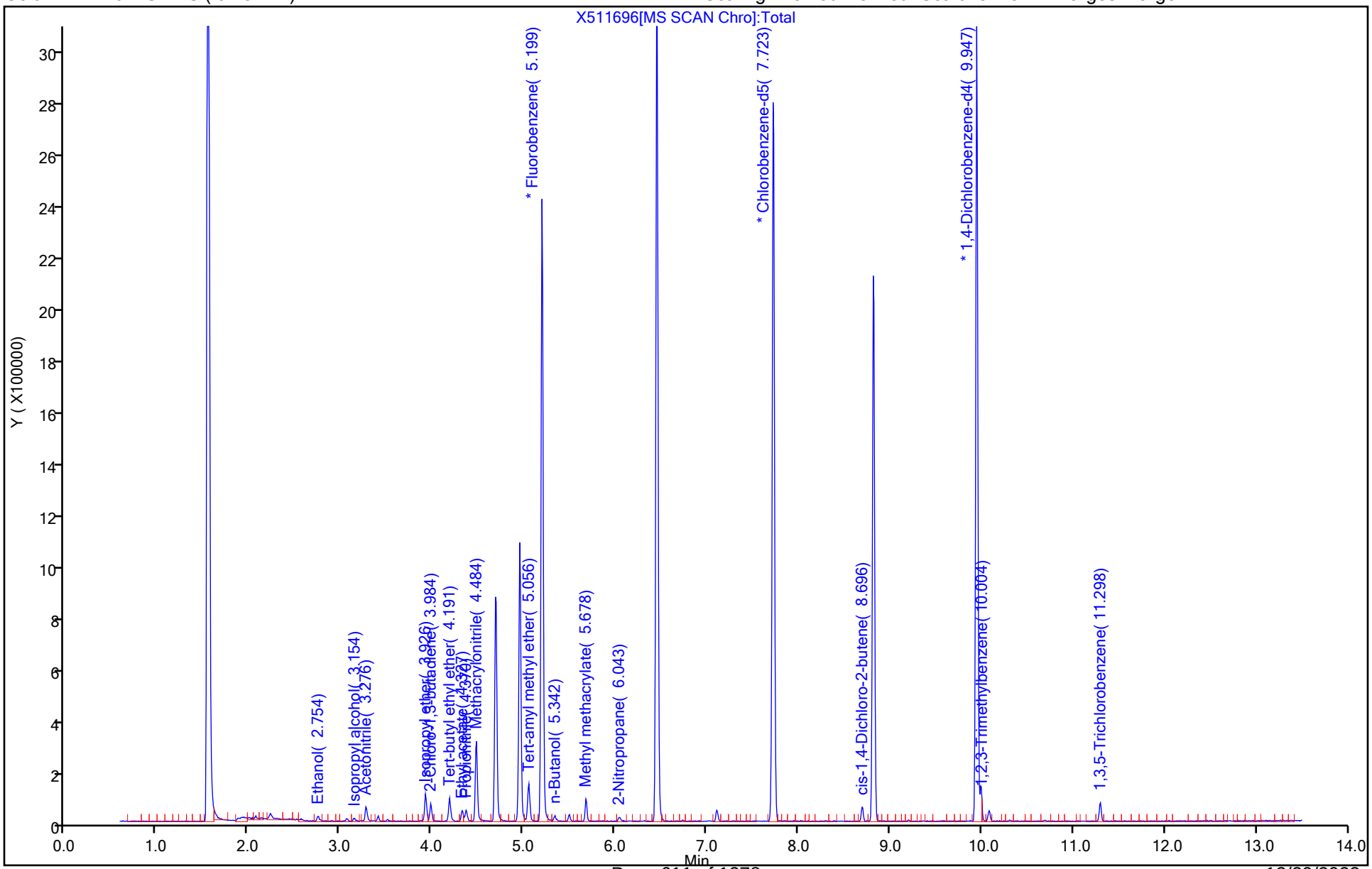
Report Date: 12-Dec-2023 05:03:16 Chrom Revision: 2.3 15-Nov-2023 20:54:34

Eurofins Denver

Data File: \\chromfs\Denver\ChromData\VMS_X4\20231211-128477.b\X511696.D

Injection Date:	11-Dec-2023 18:47:30	Instrument ID:	VMS_X4	Operator ID:	CF
Lims ID:	IC			Worklist Smp#:	3
Client ID:					
Purge Vol:	5.000 mL	Dil. Factor:	1.0000	ALS Bottle#:	2
Method:	VMS_X4_8260	Limit Group:	MSV - 8260B Water and Solid		

Column: Rxi-624Sil MS (0.25 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 1



Eurofins Denver
Target Compound Quantitation Report

Data File: \\chromfs\Denver\ChromData\VMS_X4\20231211-128477.b\X511697.D
Lims ID: IC
Client ID:
Sample Type: IC Calib Level: 3
Inject. Date: 11-Dec-2023 19:07:30 ALS Bottle#: 3 Worklist Smp#: 4
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Sample Info: ic
Operator ID: CF Instrument ID: VMS_X4
Sublist: chrom-VMS_X4_8260*sub26

Method: \\chromfs\Denver\ChromData\VMS_X4\20231211-128477.b\VMS_X4_8260.m
Limit Group: MSV - 8260B Water and Solid
Last Update: 12-Dec-2023 05:03:17 Calib Date: 11-Dec-2023 20:50:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Denver\ChromData\VMS_X4\20231211-128477.b\X511702.D

Column 1 : Rxi-624Sil MS (0.25 mm) Det: MS SCAN
Process Host: CTX1609

First Level Reviewer: BX8N Date: 12-Dec-2023 04:58:54

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
* 1 Fluorobenzene	96	5.199	5.199	0.000	97	1761051	50.0	50.0	
* 2 Chlorobenzene-d5	119	7.723	7.730	-0.007	91	453619	50.0	50.0	
* 3 1,4-Dichlorobenzene-d4	152	9.947	9.947	0.000	98	755498	50.0	50.0	
17 Ethanol	45	2.754	2.754	0.000	99	39152	300.0	260.7	
23 Isopropyl alcohol	45	3.147	3.147	0.000	97	32902	50.0	49.3	
26 Acetonitrile	41	3.276	3.276	0.000	100	104075	50.0	54.6	
37 Isopropyl ether	87	3.927	3.926	0.001	95	38871	5.00	5.05	
38 2-Chloro-1,3-butadiene	53	3.984	3.984	0.000	94	82416	5.00	4.72	
39 Tert-butyl ethyl ether	59	4.191	4.191	0.000	98	149183	5.00	4.79	
41 Ethyl acetate	43	4.327	4.327	0.000	99	105045	10.0	9.53	
44 Propionitrile	54	4.370	4.370	0.000	98	83201	50.0	49.1	
46 Methacrylonitrile	41	4.477	4.484	-0.007	96	358111	50.0	50.3	
57 Tert-amyl methyl ether	73	5.056	5.056	0.000	85	131014	5.00	4.89	
59 n-Butanol	56	5.335	5.335	0.000	93	26837	125.0	114.5	
64 Methyl methacrylate	100	5.686	5.678	0.008	95	21477	10.0	9.13	
68 2-Nitropropane	41	6.050	6.043	0.007	97	22060	10.0	9.33	
90 cis-1,4-Dichloro-2-butene	53	8.696	8.696	0.000	0	31912	10.0	9.34	
107 1,2,3-Trimethylbenzene	105	9.997	9.997	0.000	99	191191	5.00	5.02	
111 1,3,5-Trichlorobenzene	180	11.298	11.298	0.000	94	60187	5.00	4.98	
118 Ethyl acrylate	55		0.000				ND	ND	
117 t-Amyl alcohol	1		0.000				ND	ND	

QC Flag Legend

Processing Flags
ND - Not Detected or Marked ND

Reagents:

mv-Cent IS_00008	Amount Added:	5.00	Units: uL
MV-Supp A_00087	Amount Added:	5.00	Units: uL

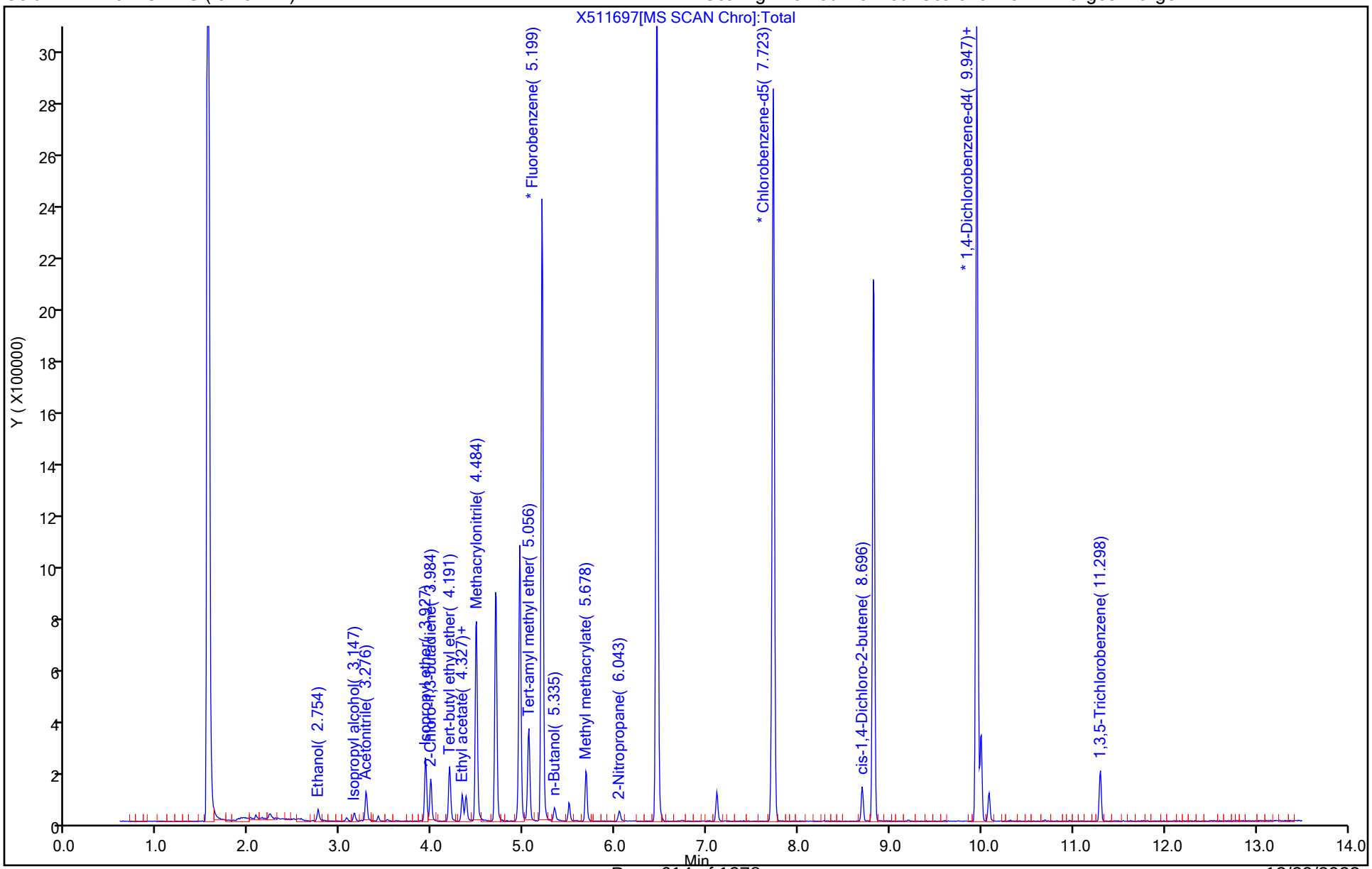
Report Date: 12-Dec-2023 05:03:17 Chrom Revision: 2.3 15-Nov-2023 20:54:34

Eurofins Denver

Data File: \\chromfs\Denver\ChromData\VMS_X4\20231211-128477.b\X511697.D

Injection Date:	11-Dec-2023 19:07:30	Instrument ID:	VMS_X4	Operator ID:	CF
Lims ID:	IC			Worklist Smp#:	4
Client ID:					
Purge Vol:	5.000 mL	Dil. Factor:	1.0000	ALS Bottle#:	3
Method:	VMS_X4_8260	Limit Group:	MSV - 8260B Water and Solid		

Column: Rxi-624Sil MS (0.25 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 1



Eurofins Denver
Target Compound Quantitation Report

Data File: \\chromfs\Denver\ChromData\VMS_X4\20231211-128477.b\X511698.D
Lims ID: IC
Client ID:
Sample Type: IC Calib Level: 4
Inject. Date: 11-Dec-2023 19:28:30 ALS Bottle#: 4 Worklist Smp#: 5
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Sample Info: ic
Misc. Info.: 10
Operator ID: CF Instrument ID: VMS_X4
Sublist: chrom-VMS_X4_8260*sub26

Method: \\chromfs\Denver\ChromData\VMS_X4\20231211-128477.b\VMS_X4_8260.m
Limit Group: MSV - 8260B Water and Solid
Last Update: 12-Dec-2023 05:03:18 Calib Date: 11-Dec-2023 20:50:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Denver\ChromData\VMS_X4\20231211-128477.b\X511702.D

Column 1 : Rxi-624Sil MS (0.25 mm) Det: MS SCAN
Process Host: CTX1609

First Level Reviewer: BX8N Date: 12-Dec-2023 04:58:47

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
* 1 Fluorobenzene	96	5.199	5.199	0.000	97	1749702	50.0	50.0	
* 2 Chlorobenzene-d5	119	7.730	7.730	0.000	90	453577	50.0	50.0	
* 3 1,4-Dichlorobenzene-d4	152	9.947	9.947	0.000	97	761779	50.0	50.0	
17 Ethanol	45	2.754	2.754	0.000	99	93414	600.0	626.0	
23 Isopropyl alcohol	45	3.147	3.147	0.000	98	64087	100.0	96.6	
26 Acetonitrile	41	3.276	3.276	0.000	100	185818	100.0	98.0	
37 Isopropyl ether	87	3.926	3.926	0.000	95	74226	10.0	9.70	
38 2-Chloro-1,3-butadiene	53	3.984	3.984	0.000	95	162899	10.0	9.38	
39 Tert-butyl ethyl ether	59	4.191	4.191	0.000	98	297660	10.0	9.62	
41 Ethyl acetate	43	4.327	4.327	0.000	99	204034	20.0	18.6	
44 Propionitrile	54	4.370	4.370	0.000	99	167179	100.0	99.4	
46 Methacrylonitrile	41	4.484	4.484	0.000	95	710129	100.0	100.4	
57 Tert-amyl methyl ether	73	5.056	5.056	0.000	86	258742	10.0	9.72	
59 n-Butanol	56	5.335	5.335	0.000	96	56754	250.0	223.9	
64 Methyl methacrylate	100	5.678	5.678	0.000	93	45243	20.0	19.4	
68 2-Nitropropane	41	6.043	6.043	0.000	99	44580	20.0	19.0	
90 cis-1,4-Dichloro-2-butene	53	8.696	8.696	0.000	0	66543	20.0	19.3	
107 1,2,3-Trimethylbenzene	105	9.990	9.997	-0.007	99	371384	10.0	9.67	
111 1,3,5-Trichlorobenzene	180	11.298	11.298	0.000	96	117153	10.0	9.61	
118 Ethyl acrylate	55		0.000				ND	ND	
117 t-Amyl alcohol	1		0.000				ND	ND	

QC Flag Legend

Processing Flags
ND - Not Detected or Marked ND

Reagents:

mv-Cent IS_00008	Amount Added:	5.00	Units: uL
MV-Supp A_00087	Amount Added:	10.00	Units: uL

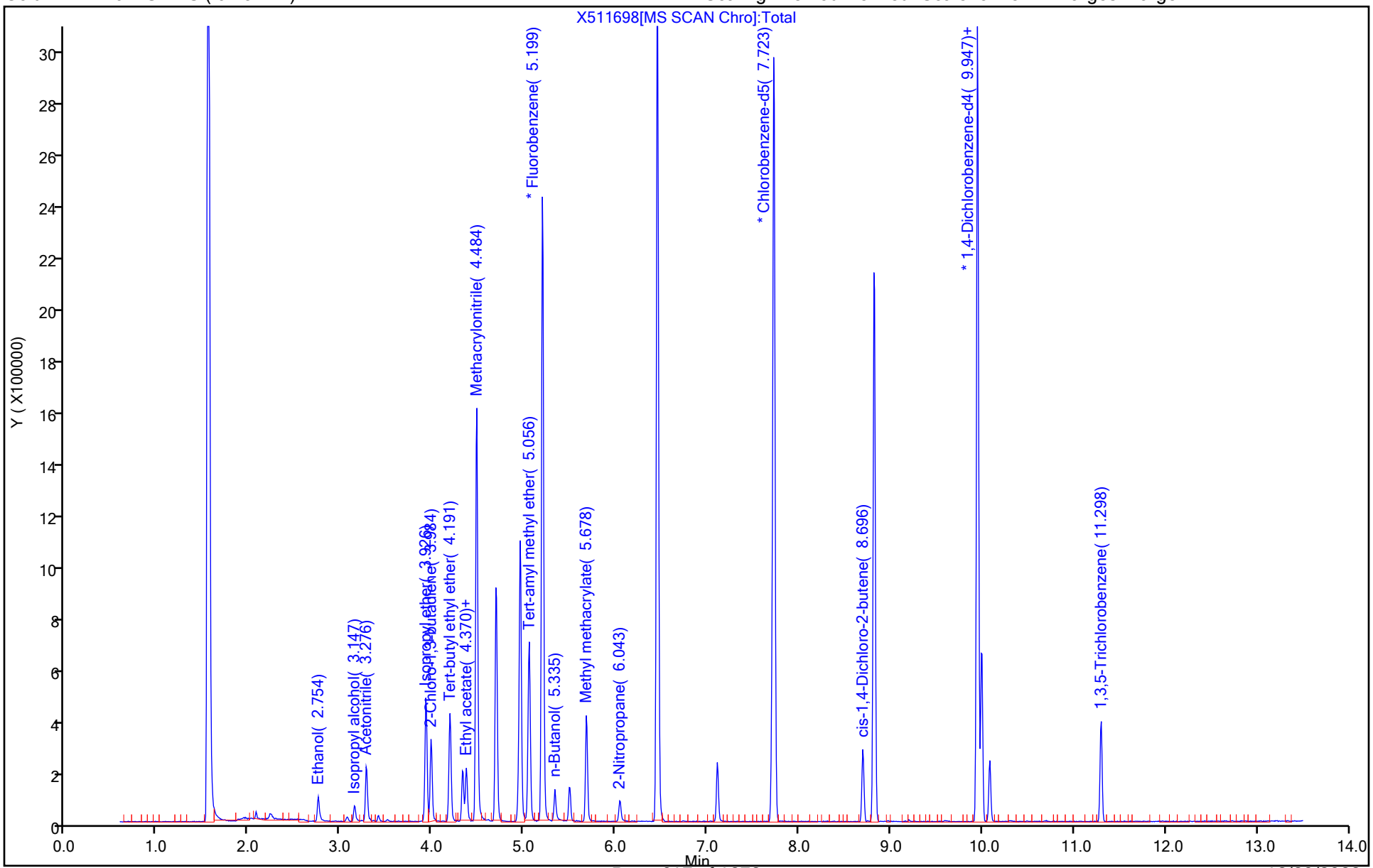
Report Date: 12-Dec-2023 05:03:18 Chrom Revision: 2.3 15-Nov-2023 20:54:34

Eurofins Denver

Data File: \\chromfs\Denver\ChromData\VMS_X4\20231211-128477.b\X511698.D

Injection Date:	11-Dec-2023 19:28:30	Instrument ID:	VMS_X4	Operator ID:	CF
Lims ID:	IC			Worklist Smp#:	5
Client ID:					
Purge Vol:	5.000 mL	Dil. Factor:	1.0000	ALS Bottle#:	4
Method:	VMS_X4_8260	Limit Group:	MSV - 8260B Water and Solid		

Column: Rxi-624Sil MS (0.25 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 1



Eurofins Denver
Target Compound Quantitation Report

Data File: \\chromfs\Denver\ChromData\VMS_X4\20231211-128477.b\X511699.D
Lims ID: IC
Client ID:
Sample Type: IC Calib Level: 5
Inject. Date: 11-Dec-2023 19:48:30 ALS Bottle#: 5 Worklist Smp#: 6
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Sample Info: ic
Misc. Info.: 50
Operator ID: CF Instrument ID: VMS_X4
Sublist: chrom-VMS_X4_8260*sub26

Method: \\chromfs\Denver\ChromData\VMS_X4\20231211-128477.b\VMS_X4_8260.m
Limit Group: MSV - 8260B Water and Solid
Last Update: 12-Dec-2023 05:03:19 Calib Date: 11-Dec-2023 20:50:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Denver\ChromData\VMS_X4\20231211-128477.b\X511702.D

Column 1 : Rxi-624Sil MS (0.25 mm) Det: MS SCAN
Process Host: CTX1609

First Level Reviewer: BX8N Date: 12-Dec-2023 04:58:40

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
* 1 Fluorobenzene	96	5.199	5.199	0.000	97	1798480	50.0	50.0	
* 2 Chlorobenzene-d5	119	7.730	7.730	0.000	91	455036	50.0	50.0	
* 3 1,4-Dichlorobenzene-d4	152	9.947	9.947	0.000	98	773653	50.0	50.0	
17 Ethanol	45	2.754	2.754	0.000	99	446473	3000.0	2910.8	
23 Isopropyl alcohol	45	3.147	3.147	0.000	98	334786	500.0	490.9	
26 Acetonitrile	41	3.276	3.276	0.000	99	924581	500.0	474.6	
37 Isopropyl ether	87	3.926	3.926	0.000	95	406097	50.0	51.6	
38 2-Chloro-1,3-butadiene	53	3.984	3.984	0.000	94	908167	50.0	50.9	
39 Tert-butyl ethyl ether	59	4.191	4.191	0.000	99	1630328	50.0	51.3	
41 Ethyl acetate	43	4.327	4.327	0.000	99	1104738	100.0	98.1	
44 Propionitrile	54	4.370	4.370	0.000	99	871725	500.0	504.1	
46 Methacrylonitrile	41	4.484	4.484	0.000	95	3783118	500.0	520.5	
57 Tert-amyl methyl ether	73	5.056	5.056	0.000	86	1414872	50.0	51.7	
59 n-Butanol	56	5.335	5.335	0.000	92	349567	1250.0	1253.9	
64 Methyl methacrylate	100	5.678	5.678	0.000	93	244515	100.0	101.8	
68 2-Nitropropane	41	6.043	6.043	0.000	98	237860	100.0	98.5	
90 cis-1,4-Dichloro-2-butene	53	8.696	8.696	0.000	0	361628	100.0	103.3	
107 1,2,3-Trimethylbenzene	105	9.997	9.997	0.000	99	1969261	50.0	50.5	
111 1,3,5-Trichlorobenzene	180	11.298	11.298	0.000	96	611071	50.0	49.4	
118 Ethyl acrylate	55		0.000				ND	ND	
117 t-Amyl alcohol	1		0.000				ND	ND	

QC Flag Legend

Processing Flags
ND - Not Detected or Marked ND

Reagents:

mv-Cent IS_00008	Amount Added: 5.00	Units: uL
MV-Supp A_00087	Amount Added: 50.00	Units: uL

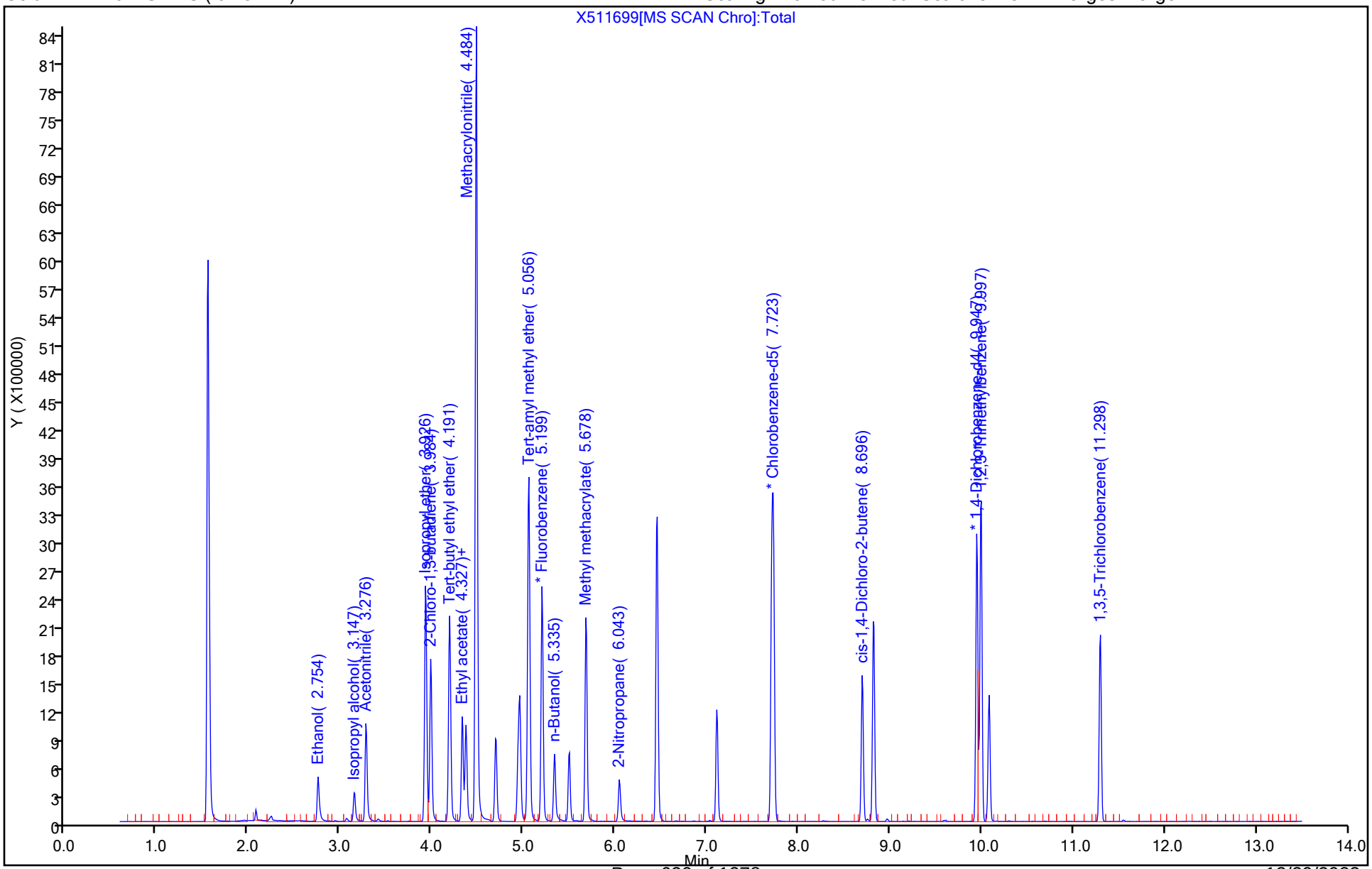
Report Date: 12-Dec-2023 05:03:19 Chrom Revision: 2.3 15-Nov-2023 20:54:34

Eurofins Denver

Data File: \\chromfs\Denver\ChromData\VMS_X4\20231211-128477.b\X511699.D

Injection Date:	11-Dec-2023 19:48:30	Instrument ID:	VMS_X4	Operator ID:	CF
Lims ID:	IC			Worklist Smp#:	6
Client ID:					
Purge Vol:	5.000 mL	Dil. Factor:	1.0000	ALS Bottle#:	5
Method:	VMS_X4_8260	Limit Group:	MSV - 8260B Water and Solid		

Column: Rxi-624Sil MS (0.25 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 1



Eurofins Denver
Target Compound Quantitation Report

Data File: \\chromfs\Denver\ChromData\VMS_X4\20231211-128477.b\X511700.D
Lims ID: IC
Client ID:
Sample Type: IC Calib Level: 6
Inject. Date: 11-Dec-2023 20:09:30 ALS Bottle#: 6 Worklist Smp#: 7
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Sample Info: ic
Misc. Info.: 75
Operator ID: CF Instrument ID: VMS_X4
Sublist: chrom-VMS_X4_8260*sub26

Method: \\chromfs\Denver\ChromData\VMS_X4\20231211-128477.b\VMS_X4_8260.m
Limit Group: MSV - 8260B Water and Solid
Last Update: 12-Dec-2023 05:03:20 Calib Date: 11-Dec-2023 20:50:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Denver\ChromData\VMS_X4\20231211-128477.b\X511702.D

Column 1 : Rxi-624Sil MS (0.25 mm) Det: MS SCAN
Process Host: CTX1609

First Level Reviewer: BX8N Date: 12-Dec-2023 04:58:34

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
* 1 Fluorobenzene	96	5.199	5.199	0.000	97	1821549	50.0	50.0	
* 2 Chlorobenzene-d5	119	7.731	7.730	0.001	90	464828	50.0	50.0	
* 3 1,4-Dichlorobenzene-d4	152	9.947	9.947	0.000	98	774704	50.0	50.0	
17 Ethanol	45	2.754	2.754	0.000	100	704926	4500.0	4537.6	
23 Isopropyl alcohol	45	3.147	3.147	0.000	98	506564	750.0	733.3	
26 Acetonitrile	41	3.276	3.276	0.000	99	1322229	750.0	670.2	
37 Isopropyl ether	87	3.927	3.926	0.001	95	607315	75.0	76.2	
38 2-Chloro-1,3-butadiene	53	3.984	3.984	0.000	95	1360709	75.0	75.3	
39 Tert-butyl ethyl ether	59	4.191	4.191	0.000	99	2418352	75.0	75.1	
41 Ethyl acetate	43	4.327	4.327	0.000	99	1638859	150.0	143.7	
44 Propionitrile	54	4.370	4.370	0.000	99	1265841	750.0	722.8	
46 Methacrylonitrile	41	4.484	4.484	0.000	95	5472716	750.0	743.4	
57 Tert-amyl methyl ether	73	5.056	5.056	0.000	86	2094654	75.0	75.6	
59 n-Butanol	56	5.335	5.335	0.000	93	530507	1875.0	1870.1	
64 Methyl methacrylate	100	5.678	5.678	0.000	94	376992	150.0	155.0	
68 2-Nitropropane	41	6.043	6.043	0.000	99	363681	150.0	148.7	
90 cis-1,4-Dichloro-2-butene	53	8.696	8.696	0.000	0	530301	150.0	151.3	
107 1,2,3-Trimethylbenzene	105	9.997	9.997	0.000	99	2890819	75.0	74.0	
111 1,3,5-Trichlorobenzene	180	11.298	11.298	0.000	96	915943	75.0	73.9	
118 Ethyl acrylate	55		0.000				ND	ND	
117 t-Amyl alcohol	1		0.000				ND	ND	

QC Flag Legend

Processing Flags
ND - Not Detected or Marked ND

Reagents:

mv-Cent IS_00008	Amount Added: 5.00	Units: uL
MV-Supp A_00087	Amount Added: 75.00	Units: uL

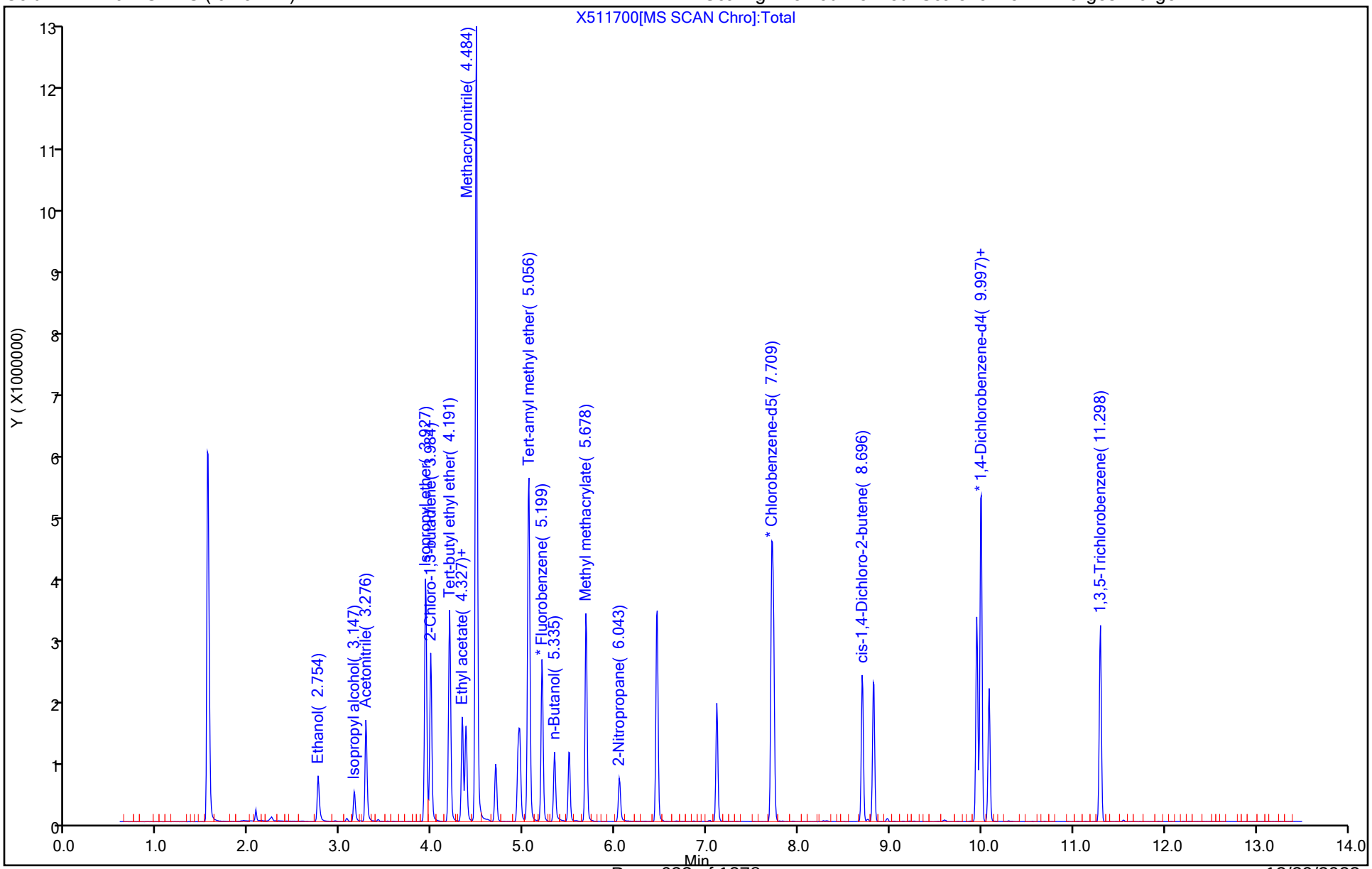
Report Date: 12-Dec-2023 05:03:21 Chrom Revision: 2.3 15-Nov-2023 20:54:34

Eurofins Denver

Data File: \\chromfs\Denver\ChromData\VMS_X4\20231211-128477.b\X511700.D

Injection Date:	11-Dec-2023 20:09:30	Instrument ID:	VMS_X4	Operator ID:	CF
Lims ID:	IC			Worklist Smp#:	7
Client ID:					
Purge Vol:	5.000 mL	Dil. Factor:	1.0000	ALS Bottle#:	6
Method:	VMS_X4_8260	Limit Group:	MSV - 8260B Water and Solid		

Column: Rxi-624Sil MS (0.25 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 1



Eurofins Denver
Target Compound Quantitation Report

Data File: \\chromfs\Denver\ChromData\VMS_X4\20231211-128477.b\X511701.D
Lims ID: IC
Client ID:
Sample Type: IC Calib Level: 7
Inject. Date: 11-Dec-2023 20:30:30 ALS Bottle#: 7 Worklist Smp#: 8
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Sample Info: ic
Misc. Info.: 100
Operator ID: CF Instrument ID: VMS_X4
Sublist: chrom-VMS_X4_8260*sub26

Method: \\chromfs\Denver\ChromData\VMS_X4\20231211-128477.b\VMS_X4_8260.m
Limit Group: MSV - 8260B Water and Solid
Last Update: 12-Dec-2023 05:03:22 Calib Date: 11-Dec-2023 20:50:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Denver\ChromData\VMS_X4\20231211-128477.b\X511702.D

Column 1 : Rxi-624Sil MS (0.25 mm) Det: MS SCAN
Process Host: CTX1609

First Level Reviewer: AK2J Date: 11-Dec-2023 20:58:26

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
* 1 Fluorobenzene	96	5.199	5.199	0.000	97	1866216	50.0	50.0	
* 2 Chlorobenzene-d5	119	7.730	7.730	0.000	90	466656	50.0	50.0	
* 3 1,4-Dichlorobenzene-d4	152	9.947	9.947	0.000	98	782970	50.0	50.0	
17 Ethanol	45	2.754	2.754	0.000	100	971020	6000.0	6100.8	
23 Isopropyl alcohol	45	3.147	3.147	0.000	99	719678	1000.0	1016.9	
26 Acetonitrile	41	3.276	3.276	0.000	99	1843172	1000.0	911.8	
37 Isopropyl ether	87	3.926	3.926	0.000	95	847765	100.0	103.9	
38 2-Chloro-1,3-butadiene	53	3.984	3.984	0.000	94	1935831	100.0	104.5	
39 Tert-butyl ethyl ether	59	4.191	4.191	0.000	99	3363984	100.0	101.9	
41 Ethyl acetate	43	4.327	4.327	0.000	99	2275126	200.0	194.7	
44 Propionitrile	54	4.370	4.370	0.000	99	1755657	1000.0	978.4	
46 Methacrylonitrile	41	4.484	4.484	0.000	95	7518091	1000.0	996.8	
57 Tert-amyl methyl ether	73	5.056	5.056	0.000	86	2922995	100.0	102.9	
59 n-Butanol	56	5.335	5.335	0.000	92	753693	2500.0	2586.5	
64 Methyl methacrylate	100	5.685	5.678	0.007	94	509718	200.0	204.5	
68 2-Nitropropane	41	6.043	6.043	0.000	98	510649	200.0	203.8	
90 cis-1,4-Dichloro-2-butene	53	8.696	8.696	0.000	0	726453	200.0	205.1	
107 1,2,3-Trimethylbenzene	105	9.997	9.997	0.000	99	3967616	100.0	100.5	
111 1,3,5-Trichlorobenzene	180	11.298	11.298	0.000	96	1278767	100.0	102.1	
118 Ethyl acrylate	55		0.000				ND	ND	
117 t-Amyl alcohol	1		0.000				ND	ND	

QC Flag Legend

Processing Flags
ND - Not Detected or Marked ND

Reagents:

mv-Cent IS_00008	Amount Added: 5.00	Units: uL
MV-Supp A_00087	Amount Added: 100.00	Units: uL

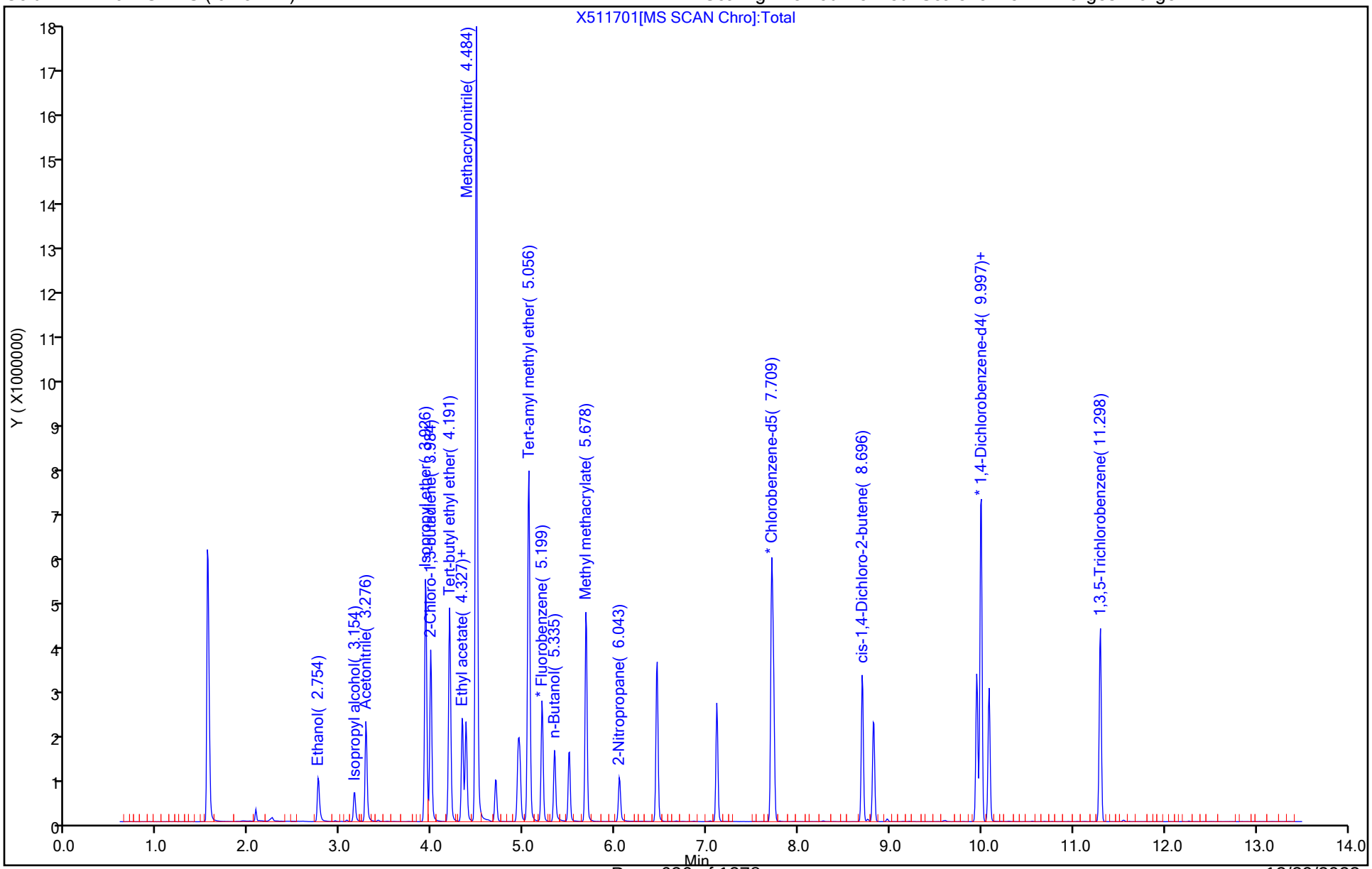
Report Date: 12-Dec-2023 05:03:22 Chrom Revision: 2.3 15-Nov-2023 20:54:34

Eurofins Denver

Data File: \\chromfs\Denver\ChromData\VMS_X4\20231211-128477.b\X511701.D

Injection Date:	11-Dec-2023 20:30:30	Instrument ID:	VMS_X4	Operator ID:	CF
Lims ID:	IC			Worklist Smp#:	8
Client ID:					
Purge Vol:	5.000 mL	Dil. Factor:	1.0000	ALS Bottle#:	7
Method:	VMS_X4_8260	Limit Group:	MSV - 8260B Water and Solid		

Column: Rxi-624Sil MS (0.25 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 1



Eurofins Denver
Target Compound Quantitation Report

Data File: \\chromfs\Denver\ChromData\VMS_X4\20231211-128477.b\X511702.D
Lims ID: IC
Client ID:
Sample Type: IC Calib Level: 8
Inject. Date: 11-Dec-2023 20:50:30 ALS Bottle#: 8 Worklist Smp#: 9
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Sample Info: ic
Misc. Info.: 200
Operator ID: CF Instrument ID: VMS_X4
Sublist: chrom-VMS_X4_8260*sub26

Method: \\chromfs\Denver\ChromData\VMS_X4\20231211-128477.b\VMS_X4_8260.m
Limit Group: MSV - 8260B Water and Solid
Last Update: 12-Dec-2023 05:03:23 Calib Date: 11-Dec-2023 20:50:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Denver\ChromData\VMS_X4\20231211-128477.b\X511702.D

Column 1 : Rxi-624Sil MS (0.25 mm) Det: MS SCAN
Process Host: CTX1609

First Level Reviewer: BX8N Date: 12-Dec-2023 04:58:19

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
* 1 Fluorobenzene	96	5.199	5.199	0.000	97	1901180	50.0	50.0	
* 2 Chlorobenzene-d5	119	7.723	7.730	-0.007	92	491652	50.0	50.0	
* 3 1,4-Dichlorobenzene-d4	152	9.947	9.947	0.000	98	816500	50.0	50.0	
17 Ethanol	45	2.761	2.754	0.007	100	1879717	12000	11593	
23 Isopropyl alcohol	45	3.154	3.147	0.007	98	1497027	2000.0	2076.3	
26 Acetonitrile	41	3.276	3.276	0.000	100	3629624	2000.0	1762.6	
37 Isopropyl ether	87	3.926	3.926	0.000	94	1721652	200.0	207.1	
38 2-Chloro-1,3-butadiene	53	3.984	3.984	0.000	94	3895580	200.0	206.4	
39 Tert-butyl ethyl ether	59	4.191	4.191	0.000	98	6830486	200.0	203.2	
41 Ethyl acetate	43	4.327	4.327	0.000	99	4642385	400.0	390.1	
44 Propionitrile	54	4.370	4.370	0.000	99	3534352	2000.0	1933.5	
46 Methacrylonitrile	41	4.484	4.484	0.000	92	14173242	2000.0	1844.6	
57 Tert-amyl methyl ether	73	5.056	5.056	0.000	85	5963297	200.0	206.1	
59 n-Butanol	56	5.335	5.335	0.000	92	1639555	5000.0	5503.1	
64 Methyl methacrylate	100	5.678	5.678	0.000	94	1060680	400.0	417.7	
68 2-Nitropropane	41	6.043	6.043	0.000	98	1090165	400.0	427.0	
90 cis-1,4-Dichloro-2-butene	53	8.696	8.696	0.000	0	1527979	400.0	413.6	
107 1,2,3-Trimethylbenzene	105	9.997	9.997	0.000	99	8030267	200.0	195.0	
111 1,3,5-Trichlorobenzene	180	11.298	11.298	0.000	96	2580689	200.0	197.5	
118 Ethyl acrylate	55		0.000				ND	ND	
117 t-Amyl alcohol	1		0.000				ND	ND	

QC Flag Legend

Processing Flags
ND - Not Detected or Marked ND

Reagents:

mv-Cent IS_00008	Amount Added: 5.00	Units: uL
MV-Supp A_00087	Amount Added: 200.00	Units: uL

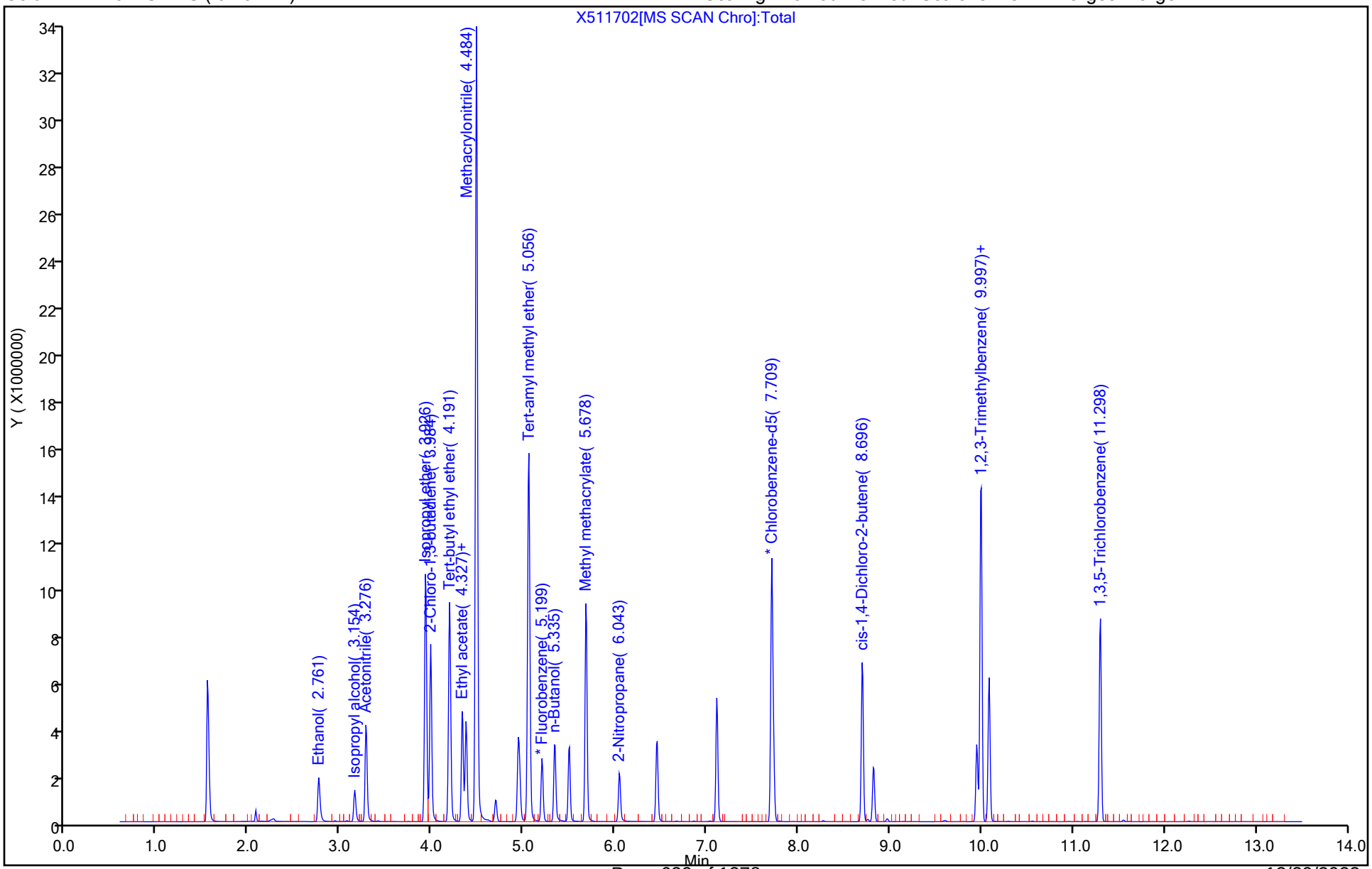
Report Date: 12-Dec-2023 05:03:23 Chrom Revision: 2.3 15-Nov-2023 20:54:34

Eurofins Denver

Data File: \\chromfs\Denver\ChromData\VMS_X4\20231211-128477.b\X511702.D

Injection Date:	11-Dec-2023 20:50:30	Instrument ID:	VMS_X4	Operator ID:	CF
Lims ID:	IC			Worklist Smp#:	9
Client ID:					
Purge Vol:	5.000 mL	Dil. Factor:	1.0000	ALS Bottle#:	8
Method:	VMS_X4_8260	Limit Group:	MSV - 8260B Water and Solid		

Column: Rxi-624Sil MS (0.25 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 1



Calibration / Ethanol

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	ISTD
Response Base:	AREA
RF Rounding:	0

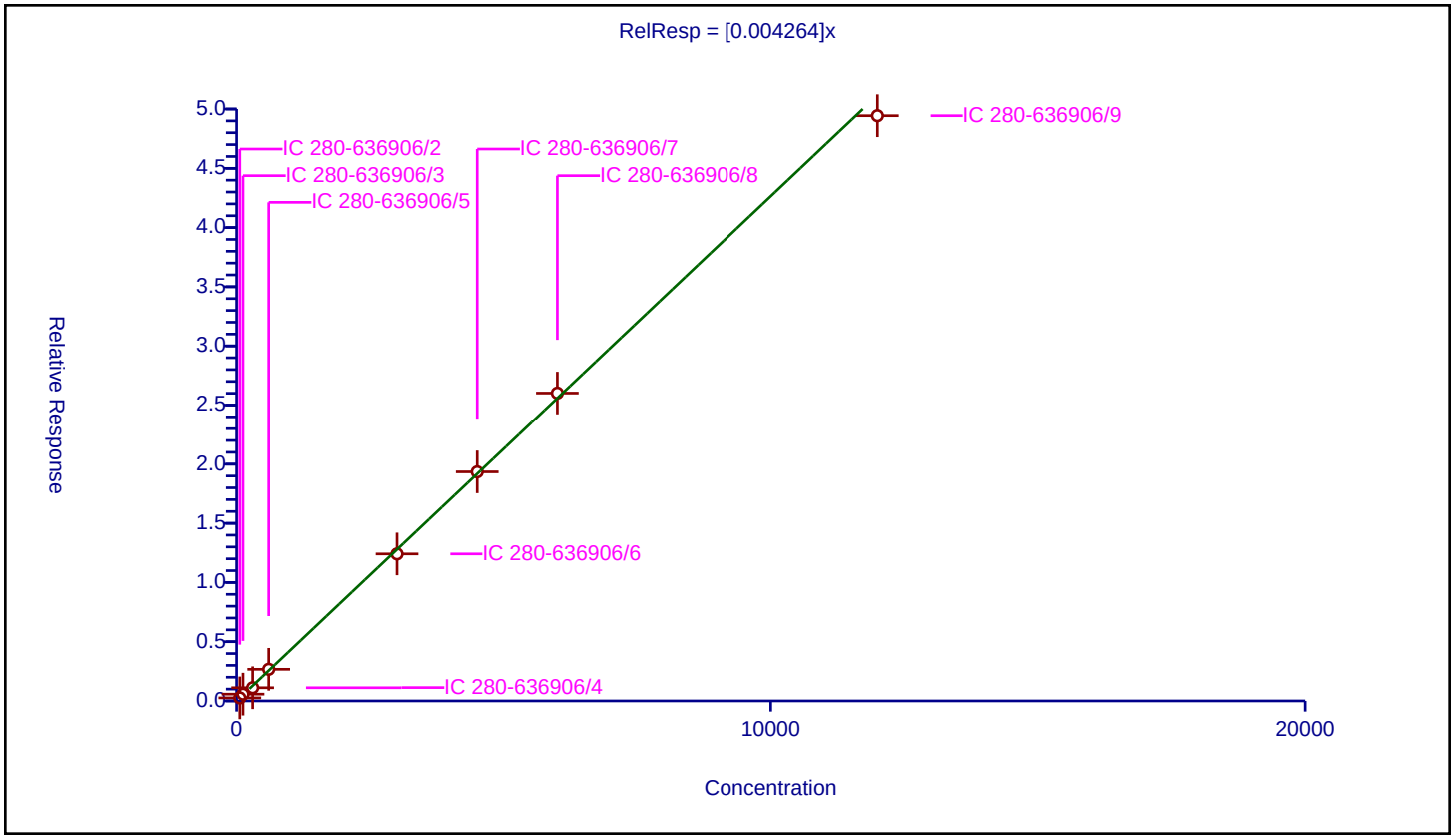
Curve Coefficients

Intercept:	0
Slope:	0.004264

Error Coefficients

Standard Error:	860000
Relative Standard Error:	7.1
Correlation Coefficient:	1.000
Coefficient of Determination (Adjusted):	0.993

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 280-636906/2	60.0	0.258372	50.0	1780572.0	0.004306	Y
2	IC 280-636906/3	120.0	0.571324	50.0	1739642.0	0.004761	Y
3	IC 280-636906/4	300.0	1.111609	50.0	1761051.0	0.003705	Y
4	IC 280-636906/5	600.0	2.669426	50.0	1749702.0	0.004449	Y
5	IC 280-636906/6	3000.0	12.412509	50.0	1798480.0	0.004138	Y
6	IC 280-636906/7	4500.0	19.34963	50.0	1821549.0	0.0043	Y
7	IC 280-636906/8	6000.0	26.015745	50.0	1866216.0	0.004336	Y
8	IC 280-636906/9	12000.0	49.435535	50.0	1901180.0	0.00412	Y



Calibration / Isopropyl alcohol

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	ISTD
Response Base:	AREA
RF Rounding:	0

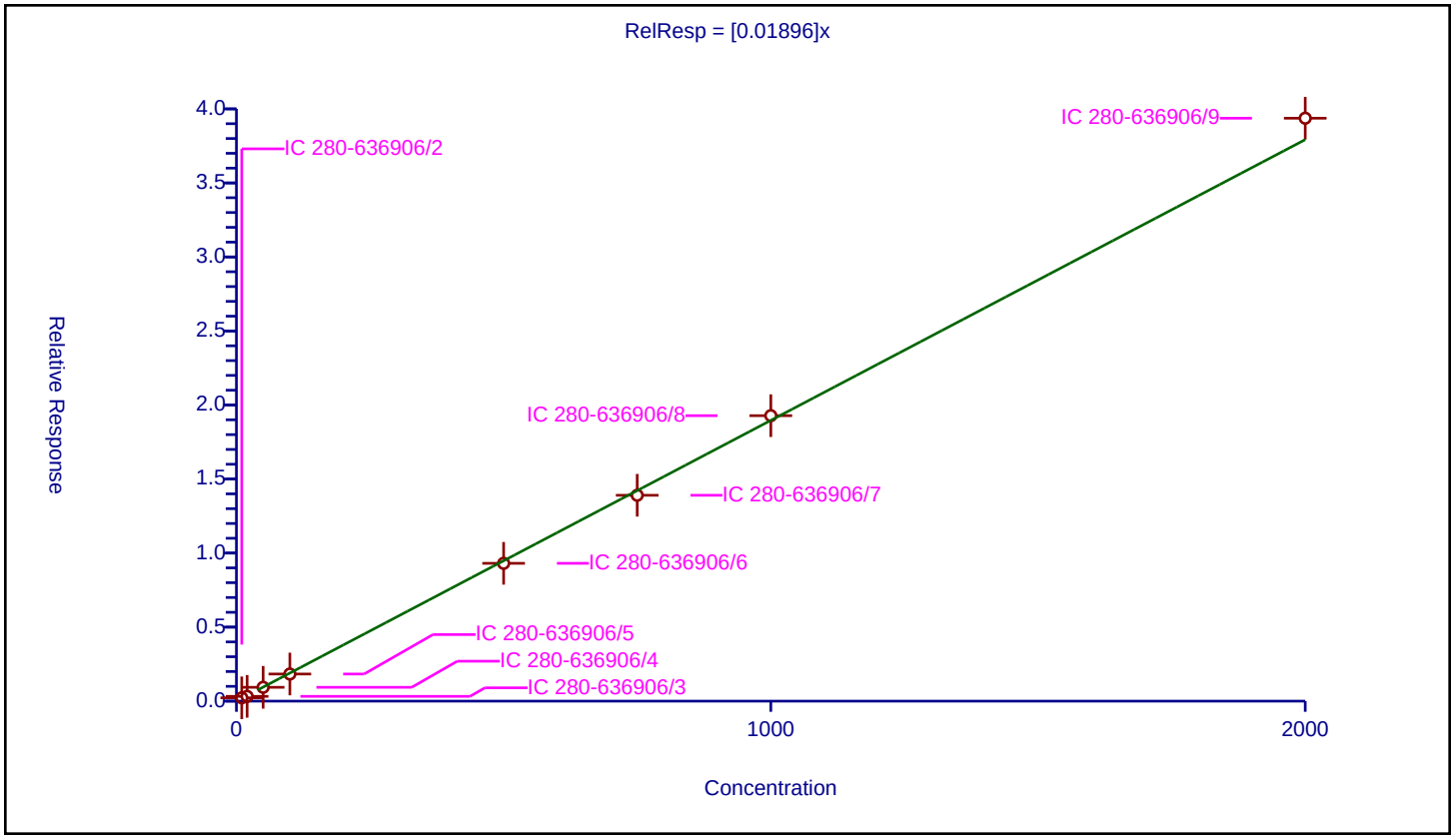
Curve Coefficients

Intercept:	0
Slope:	0.01896

Error Coefficients

Standard Error:	669000
Relative Standard Error:	9.3
Correlation Coefficient:	0.998
Coefficient of Determination (Adjusted):	0.988

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 280-636906/2	10.0	0.224563	50.0	1780572.0	0.022456	Y
2	IC 280-636906/3	20.0	0.322394	50.0	1739642.0	0.01612	Y
3	IC 280-636906/4	50.0	0.934158	50.0	1761051.0	0.018683	Y
4	IC 280-636906/5	100.0	1.831369	50.0	1749702.0	0.018314	Y
5	IC 280-636906/6	500.0	9.307471	50.0	1798480.0	0.018615	Y
6	IC 280-636906/7	750.0	13.904759	50.0	1821549.0	0.01854	Y
7	IC 280-636906/8	1000.0	19.281744	50.0	1866216.0	0.019282	Y
8	IC 280-636906/9	2000.0	39.370996	50.0	1901180.0	0.019685	Y



Calibration / Acetonitrile

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	ISTD
Response Base:	AREA
RF Rounding:	0

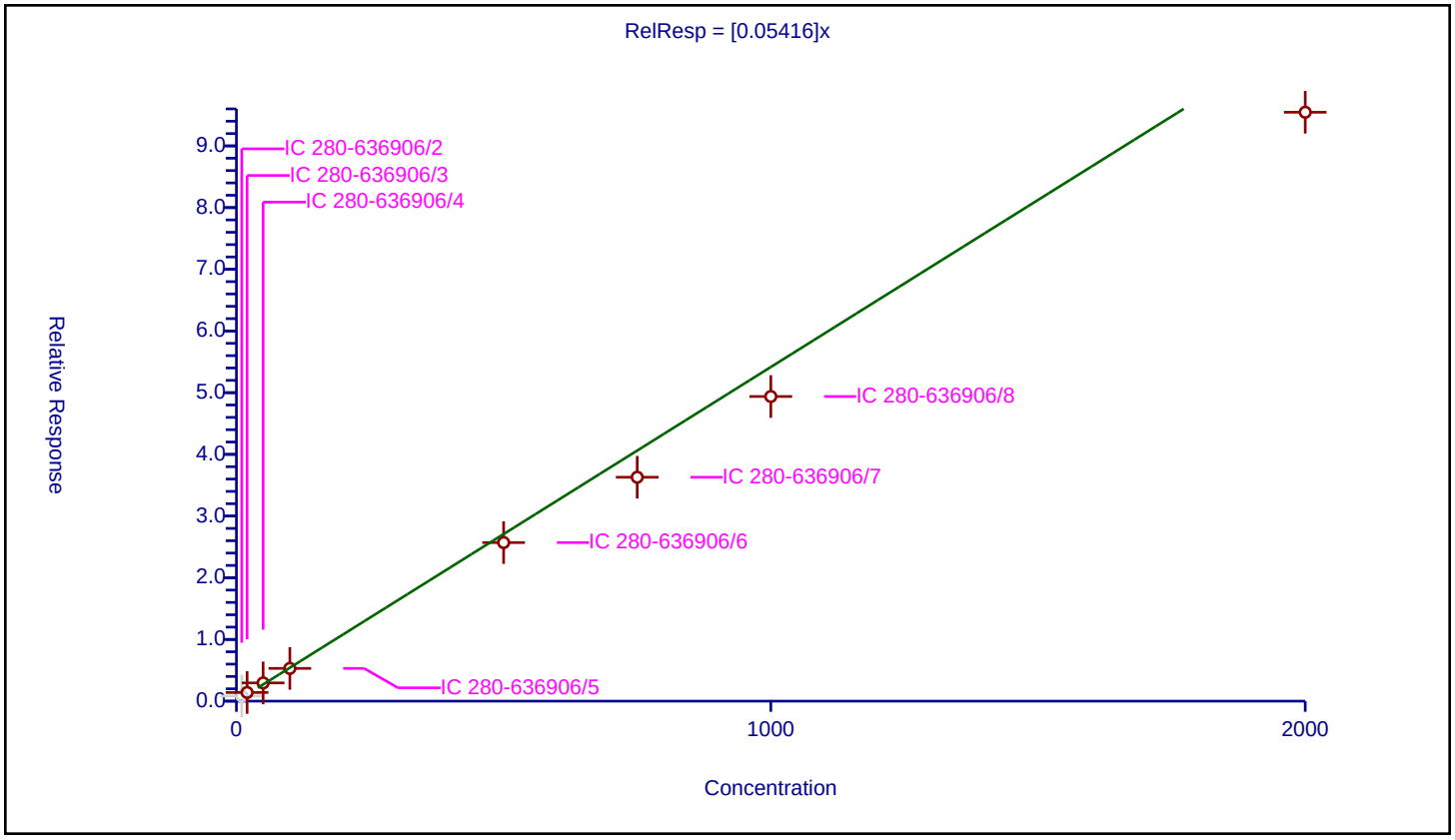
Curve Coefficients

Intercept:	0
Slope:	0.05416

Error Coefficients

Standard Error:	1790000
Relative Standard Error:	14.7
Correlation Coefficient:	1.000
Coefficient of Determination (Adjusted):	0.965

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 280-636906/2	10.0	0.831699	50.0	1780572.0	0.08317	N
2	IC 280-636906/3	20.0	1.399713	50.0	1739642.0	0.069986	Y
3	IC 280-636906/4	50.0	2.954912	50.0	1761051.0	0.059098	Y
4	IC 280-636906/5	100.0	5.30999	50.0	1749702.0	0.0531	Y
5	IC 280-636906/6	500.0	25.704512	50.0	1798480.0	0.051409	Y
6	IC 280-636906/7	750.0	36.294083	50.0	1821549.0	0.048392	Y
7	IC 280-636906/8	1000.0	49.382601	50.0	1866216.0	0.049383	Y
8	IC 280-636906/9	2000.0	95.457137	50.0	1901180.0	0.047729	Y



12/29/2023
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Calibration / Isopropyl ether

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	ISTD
Response Base:	AREA
RF Rounding:	0

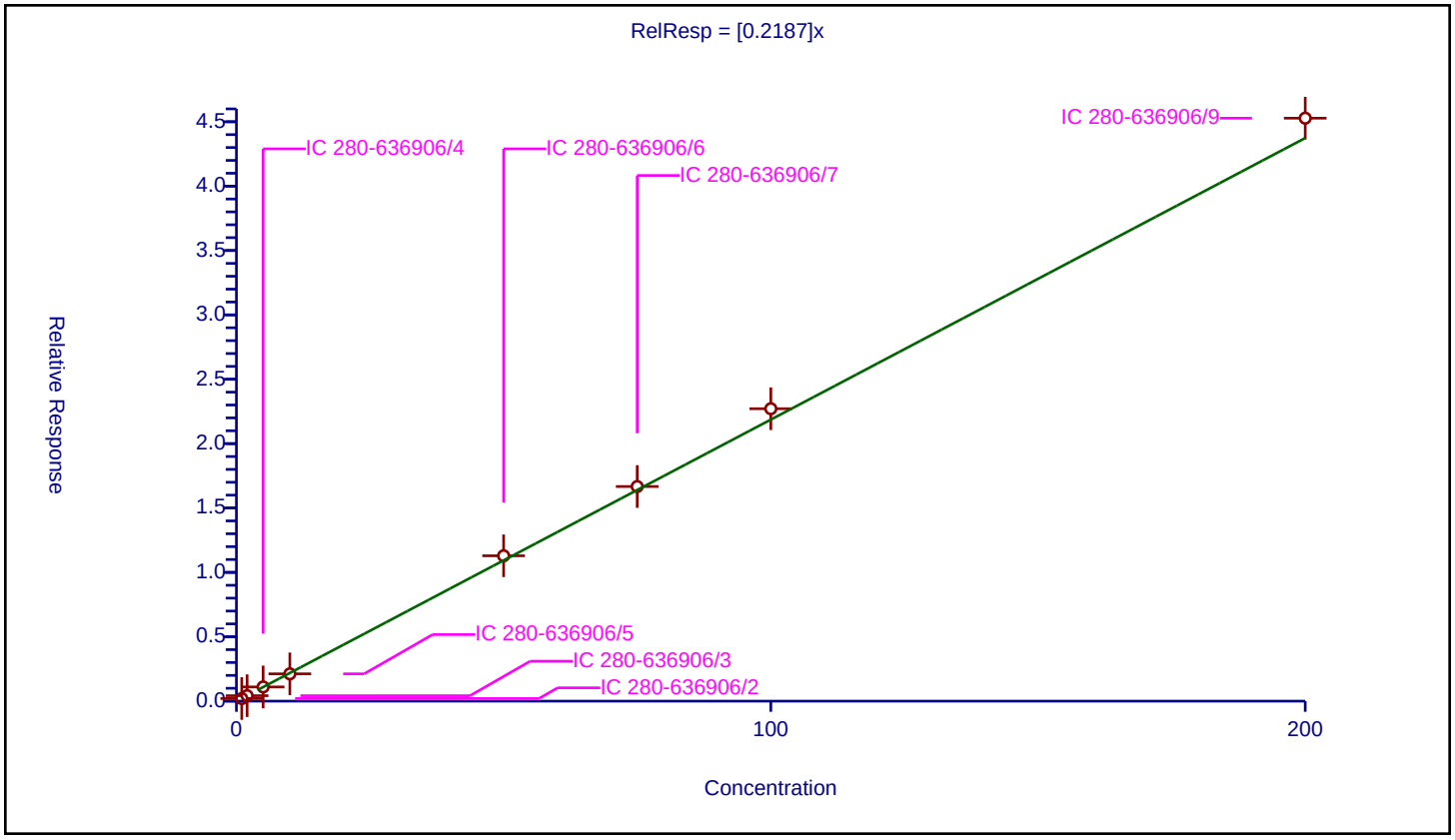
Curve Coefficients

Intercept:	0
Slope:	0.2187

Error Coefficients

Standard Error:	777000
Relative Standard Error:	3.9
Correlation Coefficient:	0.999
Coefficient of Determination (Adjusted):	0.998

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 280-636906/2	1.0	0.203699	50.0	1780572.0	0.203699	Y
2	IC 280-636906/3	2.0	0.422443	50.0	1739642.0	0.211222	Y
3	IC 280-636906/4	5.0	1.103631	50.0	1761051.0	0.220726	Y
4	IC 280-636906/5	10.0	2.121104	50.0	1749702.0	0.21211	Y
5	IC 280-636906/6	50.0	11.290006	50.0	1798480.0	0.2258	Y
6	IC 280-636906/7	75.0	16.67029	50.0	1821549.0	0.222271	Y
7	IC 280-636906/8	100.0	22.713475	50.0	1866216.0	0.227135	Y
8	IC 280-636906/9	200.0	45.278511	50.0	1901180.0	0.226393	Y



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Calibration / 2-Chloro-1,3-butadiene

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	ISTD
Response Base:	AREA
RF Rounding:	0

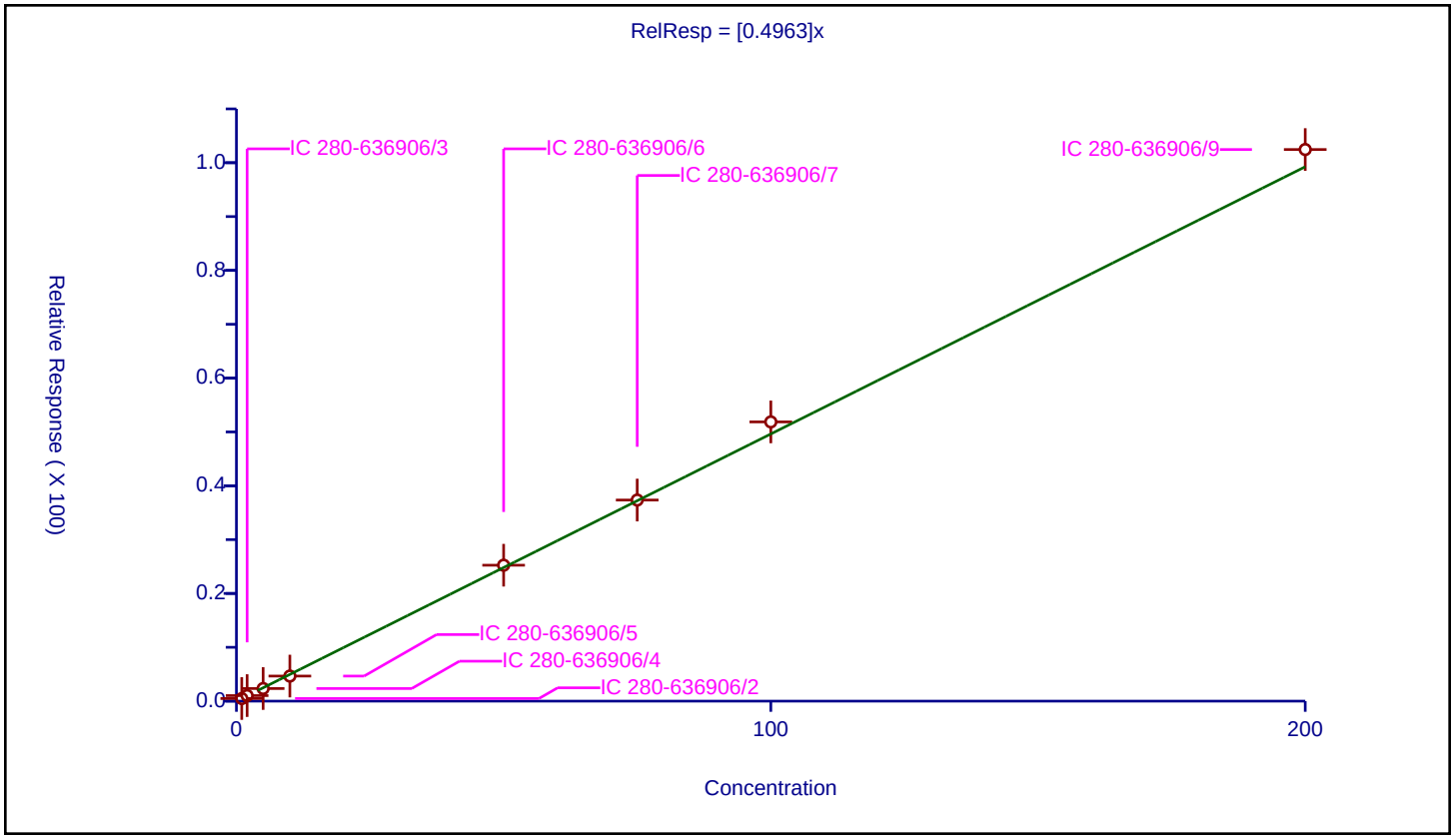
Curve Coefficients

Intercept:	0
Slope:	0.4963

Error Coefficients

Standard Error:	1760000
Relative Standard Error:	4.2
Correlation Coefficient:	0.999
Coefficient of Determination (Adjusted):	0.998

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 280-636906/2	1.0	0.486192	50.0	1780572.0	0.486192	Y
2	IC 280-636906/3	2.0	1.033	50.0	1739642.0	0.5165	Y
3	IC 280-636906/4	5.0	2.339966	50.0	1761051.0	0.467993	Y
4	IC 280-636906/5	10.0	4.65505	50.0	1749702.0	0.465505	Y
5	IC 280-636906/6	50.0	25.248182	50.0	1798480.0	0.504964	Y
6	IC 280-636906/7	75.0	37.350327	50.0	1821549.0	0.498004	Y
7	IC 280-636906/8	100.0	51.865138	50.0	1866216.0	0.518651	Y
8	IC 280-636906/9	200.0	102.451635	50.0	1901180.0	0.512258	Y



Calibration / Tert-butyl ethyl ether

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	ISTD
Response Base:	AREA
RF Rounding:	0

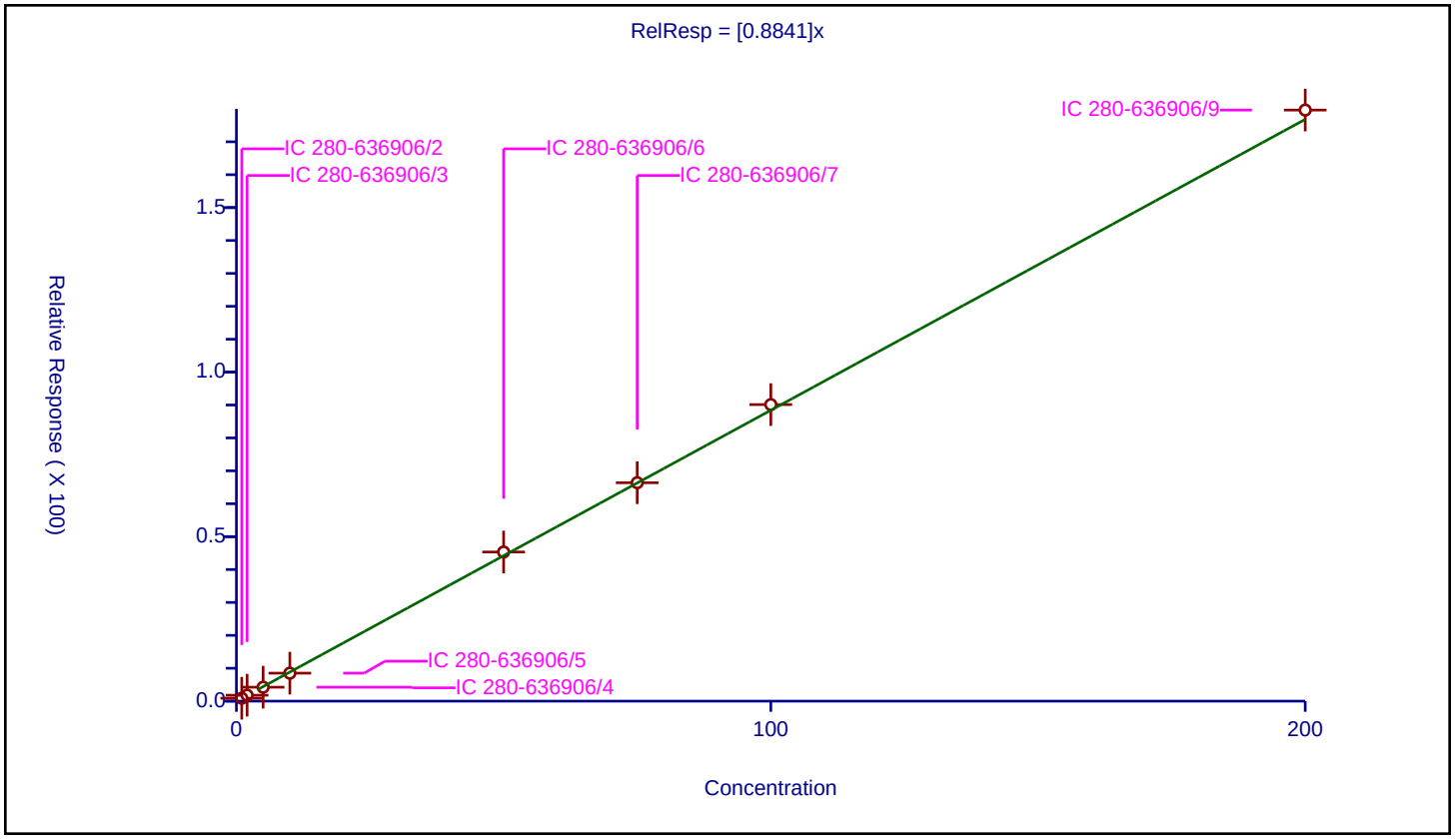
Curve Coefficients

Intercept:	0
Slope:	0.8841

Error Coefficients

Standard Error:	3080000
Relative Standard Error:	2.6
Correlation Coefficient:	1.000
Coefficient of Determination (Adjusted):	0.999

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 280-636906/2	1.0	0.884547	50.0	1780572.0	0.884547	Y
2	IC 280-636906/3	2.0	1.798876	50.0	1739642.0	0.899438	Y
3	IC 280-636906/4	5.0	4.235624	50.0	1761051.0	0.847125	Y
4	IC 280-636906/5	10.0	8.50602	50.0	1749702.0	0.850602	Y
5	IC 280-636906/6	50.0	45.325163	50.0	1798480.0	0.906503	Y
6	IC 280-636906/7	75.0	66.381744	50.0	1821549.0	0.88509	Y
7	IC 280-636906/8	100.0	90.128474	50.0	1866216.0	0.901285	Y
8	IC 280-636906/9	200.0	179.638067	50.0	1901180.0	0.89819	Y



12/29/2023
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Calibration / Ethyl acetate

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	ISTD
Response Base:	AREA
RF Rounding:	0

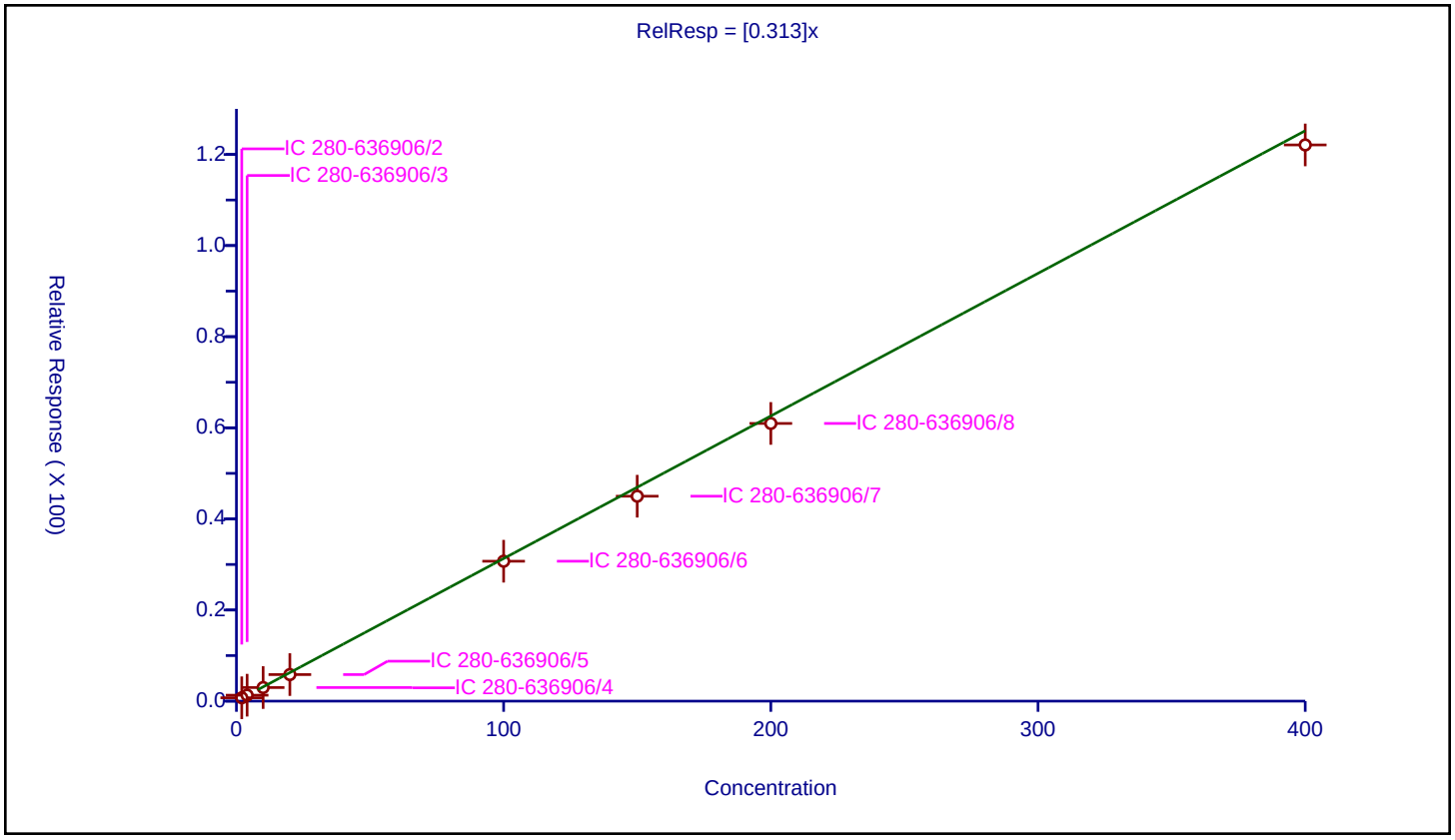
Curve Coefficients

Intercept:	0
Slope:	0.313

Error Coefficients

Standard Error:	2090000
Relative Standard Error:	8.1
Correlation Coefficient:	0.999
Coefficient of Determination (Adjusted):	0.991

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 280-636906/2	2.0	0.740829	50.0	1780572.0	0.370415	Y
2	IC 280-636906/3	4.0	1.307223	50.0	1739642.0	0.326806	Y
3	IC 280-636906/4	10.0	2.982452	50.0	1761051.0	0.298245	Y
4	IC 280-636906/5	20.0	5.830536	50.0	1749702.0	0.291527	Y
5	IC 280-636906/6	100.0	30.713102	50.0	1798480.0	0.307131	Y
6	IC 280-636906/7	150.0	44.985312	50.0	1821549.0	0.299902	Y
7	IC 280-636906/8	200.0	60.955591	50.0	1866216.0	0.304778	Y
8	IC 280-636906/9	400.0	122.092201	50.0	1901180.0	0.305231	Y



Calibration / Propionitrile

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	ISTD
Response Base:	AREA
RF Rounding:	0

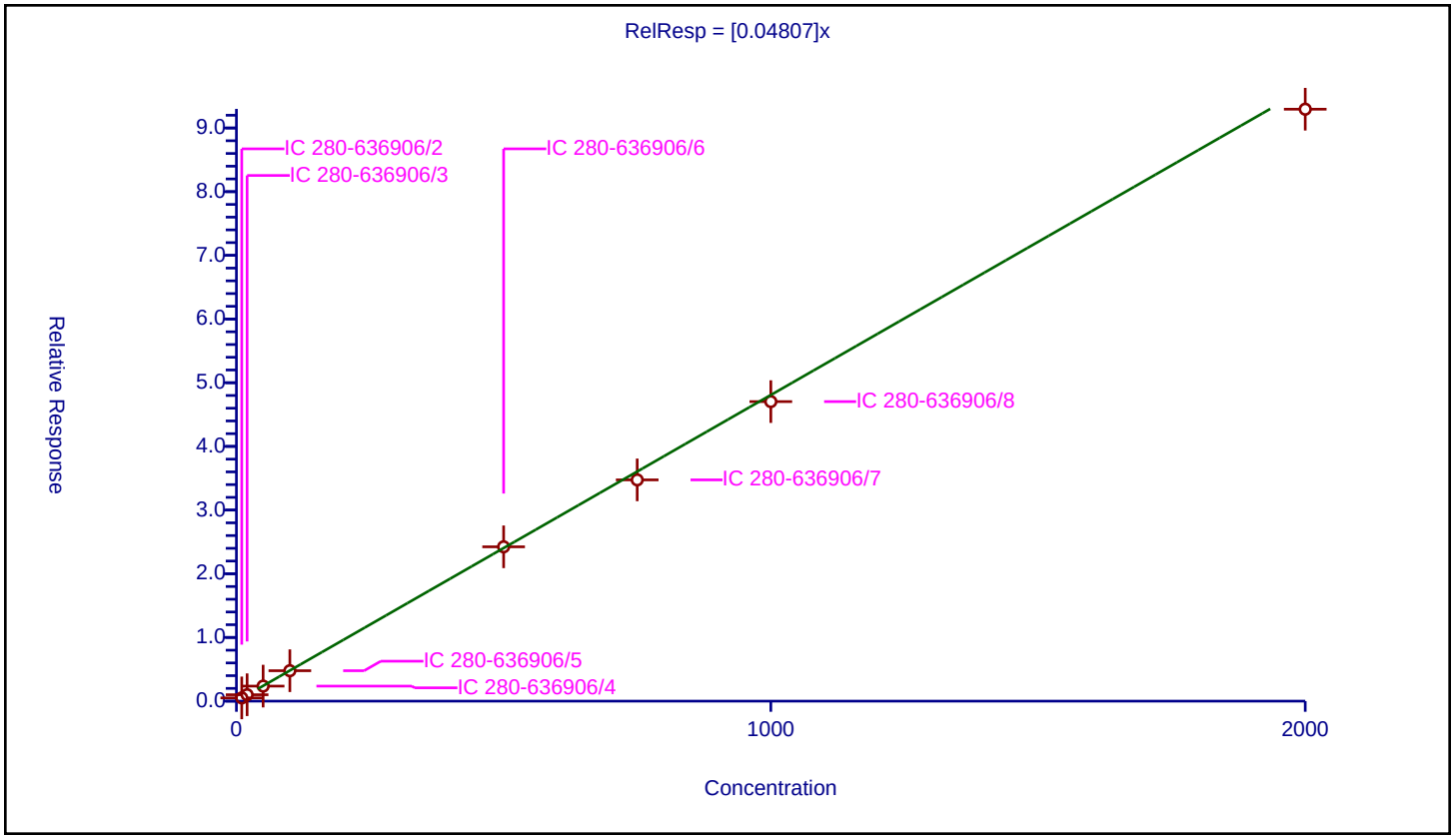
Curve Coefficients

Intercept:	0
Slope:	0.04807

Error Coefficients

Standard Error:	1600000
Relative Standard Error:	3.6
Correlation Coefficient:	1.000
Coefficient of Determination (Adjusted):	0.998

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 280-636906/2	10.0	0.508685	50.0	1780572.0	0.050868	Y
2	IC 280-636906/3	20.0	1.007851	50.0	1739642.0	0.050393	Y
3	IC 280-636906/4	50.0	2.362254	50.0	1761051.0	0.047245	Y
4	IC 280-636906/5	100.0	4.777356	50.0	1749702.0	0.047774	Y
5	IC 280-636906/6	500.0	24.235048	50.0	1798480.0	0.04847	Y
6	IC 280-636906/7	750.0	34.746279	50.0	1821549.0	0.046328	Y
7	IC 280-636906/8	1000.0	47.037883	50.0	1866216.0	0.047038	Y
8	IC 280-636906/9	2000.0	92.951535	50.0	1901180.0	0.046476	Y



Calibration / Methacrylonitrile

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	ISTD
Response Base:	AREA
RF Rounding:	0

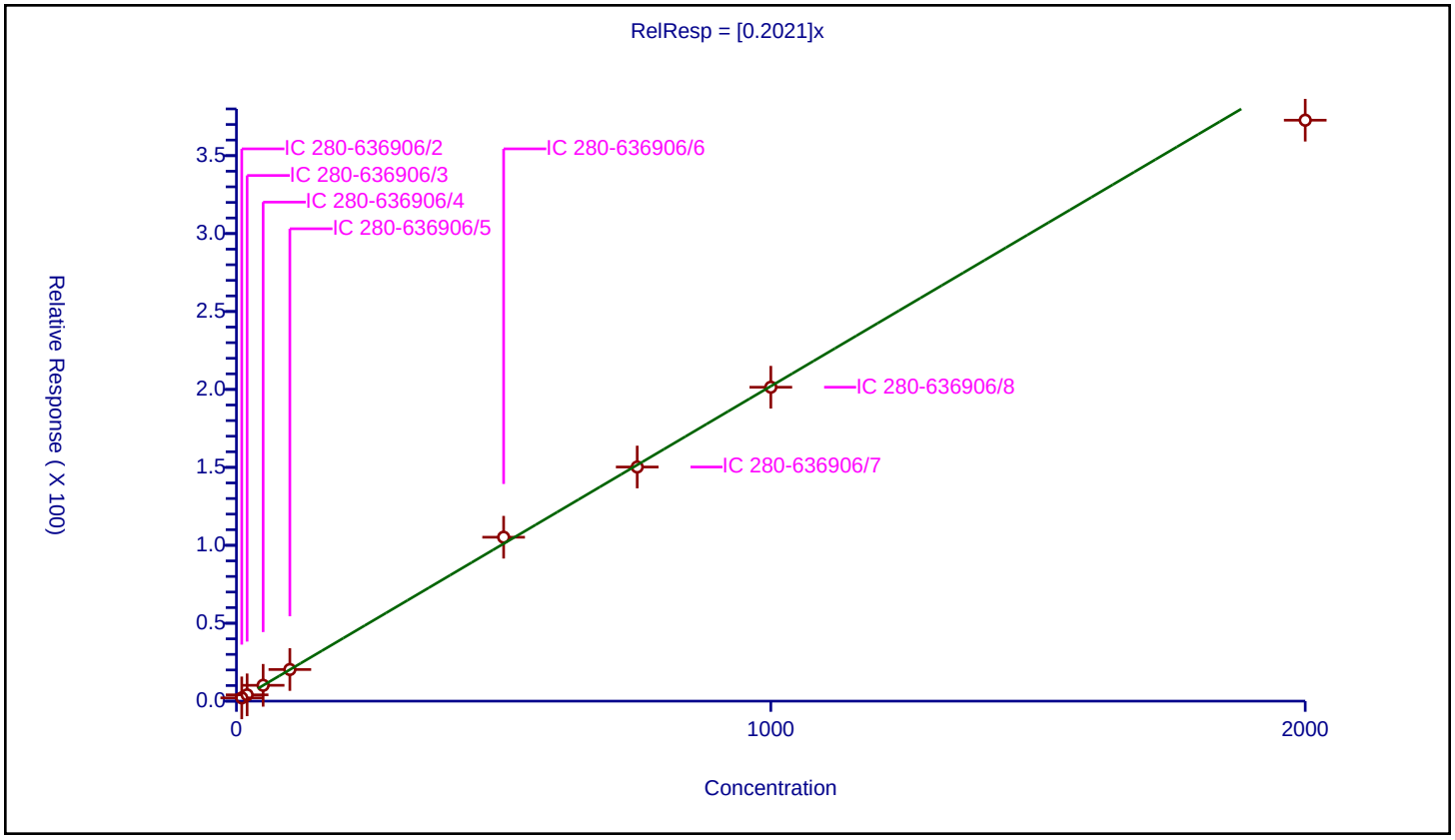
Curve Coefficients

Intercept:	0
Slope:	0.2021

Error Coefficients

Standard Error:	6570000
Relative Standard Error:	3.6
Correlation Coefficient:	0.999
Coefficient of Determination (Adjusted):	0.998

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 280-636906/2	10.0	2.094102	50.0	1780572.0	0.20941	Y
2	IC 280-636906/3	20.0	4.049109	50.0	1739642.0	0.202455	Y
3	IC 280-636906/4	50.0	10.167536	50.0	1761051.0	0.203351	Y
4	IC 280-636906/5	100.0	20.292856	50.0	1749702.0	0.202929	Y
5	IC 280-636906/6	500.0	105.175426	50.0	1798480.0	0.210351	Y
6	IC 280-636906/7	750.0	150.221487	50.0	1821549.0	0.200295	Y
7	IC 280-636906/8	1000.0	201.426068	50.0	1866216.0	0.201426	Y
8	IC 280-636906/9	2000.0	372.748556	50.0	1901180.0	0.186374	Y



Calibration / Tert-amyl methyl ether

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	ISTD
Response Base:	AREA
RF Rounding:	0

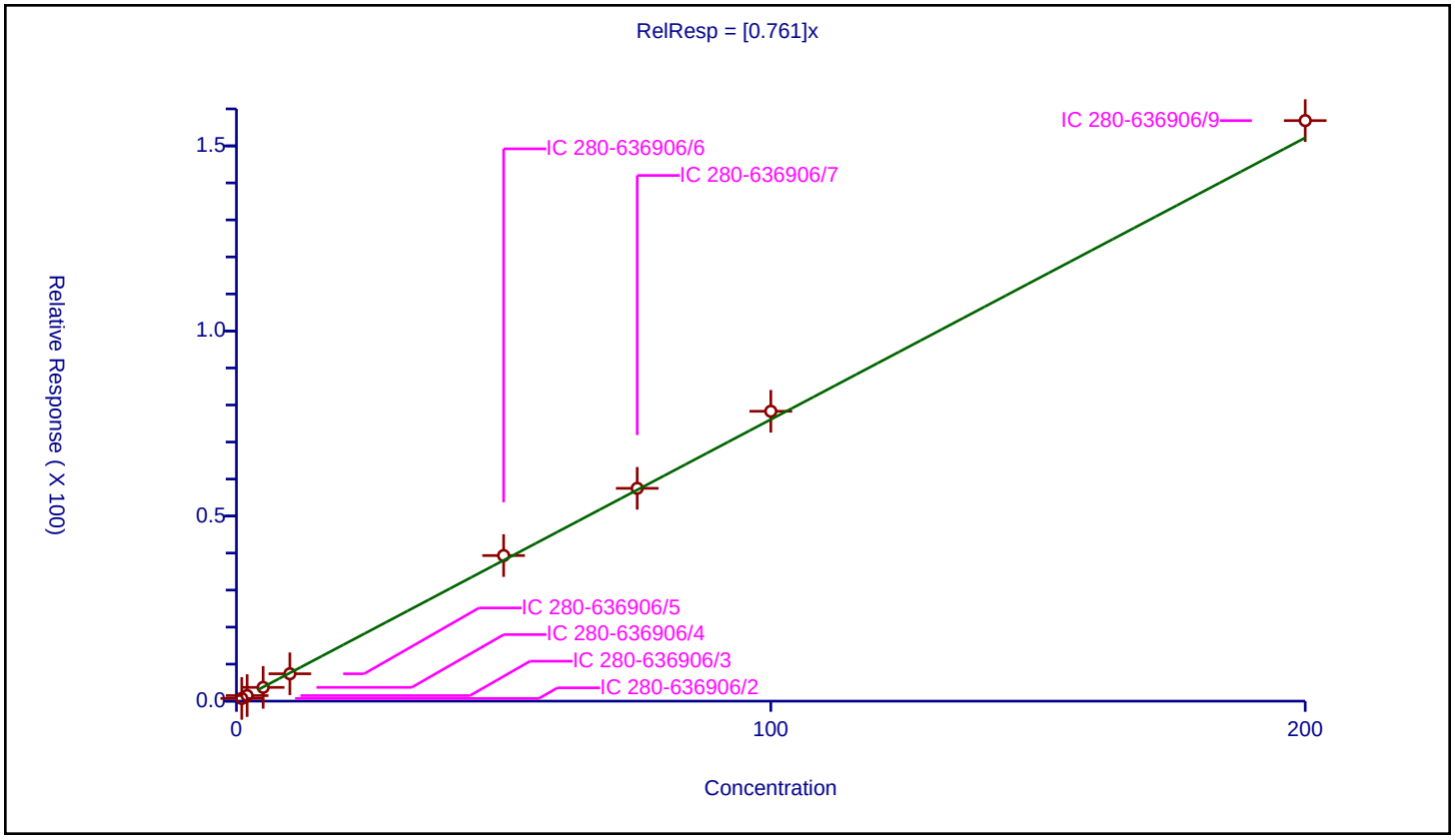
Curve Coefficients

Intercept:	0
Slope:	0.761

Error Coefficients

Standard Error:	2690000
Relative Standard Error:	2.9
Correlation Coefficient:	0.999
Coefficient of Determination (Adjusted):	0.999

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 280-636906/2	1.0	0.733865	50.0	1780572.0	0.733865	Y
2	IC 280-636906/3	2.0	1.499791	50.0	1739642.0	0.749896	Y
3	IC 280-636906/4	5.0	3.719767	50.0	1761051.0	0.743953	Y
4	IC 280-636906/5	10.0	7.393888	50.0	1749702.0	0.739389	Y
5	IC 280-636906/6	50.0	39.335216	50.0	1798480.0	0.786704	Y
6	IC 280-636906/7	75.0	57.496504	50.0	1821549.0	0.76662	Y
7	IC 280-636906/8	100.0	78.313416	50.0	1866216.0	0.783134	Y
8	IC 280-636906/9	200.0	156.831468	50.0	1901180.0	0.784157	Y



Calibration / n-Butanol

Curve Type:	Linear
Weighting:	Conc_Sq
Origin:	None
Dependency:	Response
Calib Mode:	ISTD
Response Base:	AREA
RF Rounding:	0

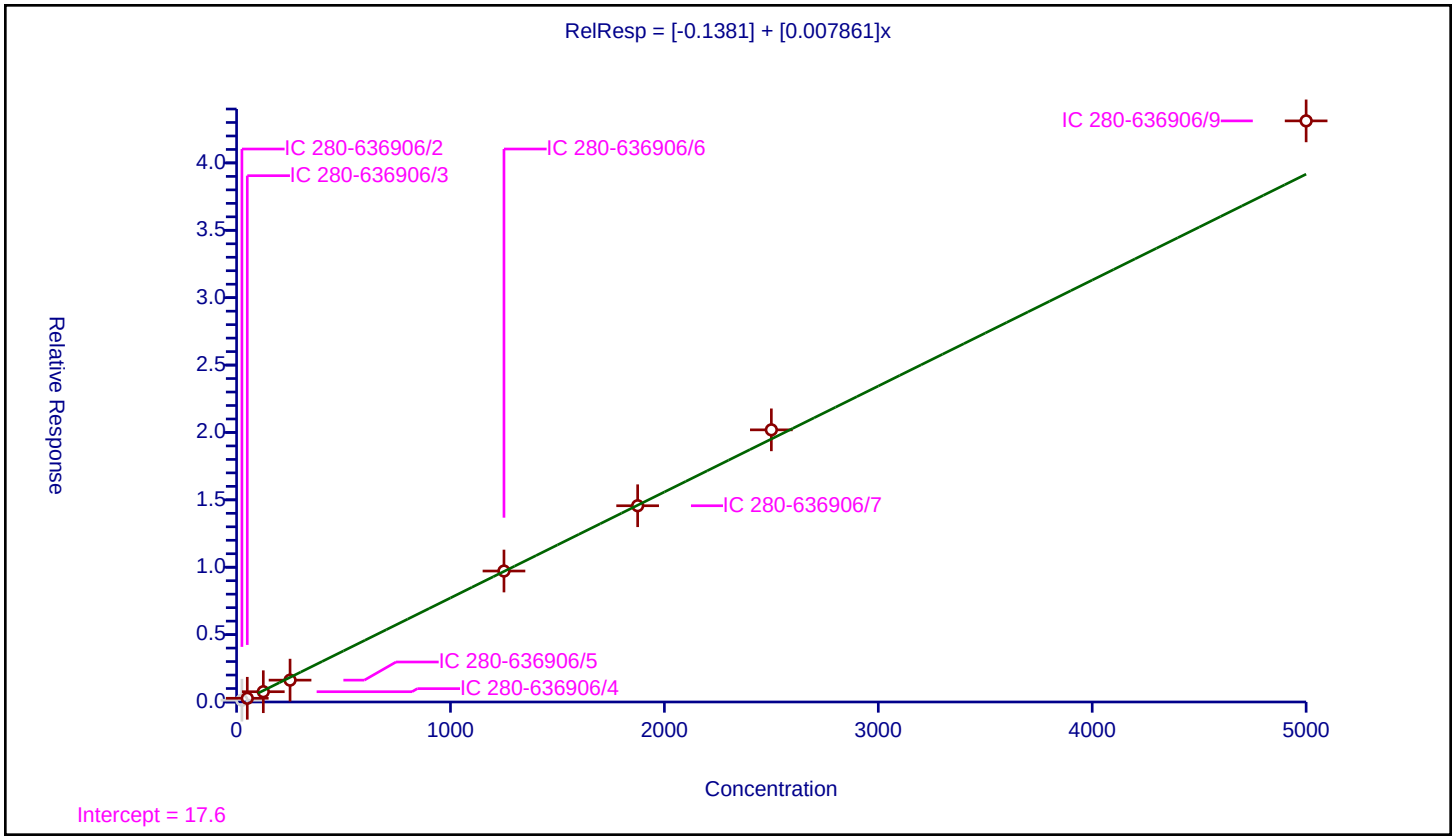
Curve Coefficients

Intercept:	-0.1381
Slope:	0.007861

Error Coefficients

Standard Error:	856000
Relative Standard Error:	8.0
Correlation Coefficient:	0.997
Coefficient of Determination (Adjusted):	0.993

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 280-636906/2	25.0	0.133328	50.0	1780572.0	0.005333	N
2	IC 280-636906/3	50.0	0.27566	50.0	1739642.0	0.005513	Y
3	IC 280-636906/4	125.0	0.76196	50.0	1761051.0	0.006096	Y
4	IC 280-636906/5	250.0	1.621819	50.0	1749702.0	0.006487	Y
5	IC 280-636906/6	1250.0	9.718401	50.0	1798480.0	0.007775	Y
6	IC 280-636906/7	1875.0	14.561974	50.0	1821549.0	0.007766	Y
7	IC 280-636906/8	2500.0	20.193081	50.0	1866216.0	0.008077	Y
8	IC 280-636906/9	5000.0	43.119405	50.0	1901180.0	0.008624	Y



Calibration / Methyl methacrylate

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	ISTD
Response Base:	AREA
RF Rounding:	0

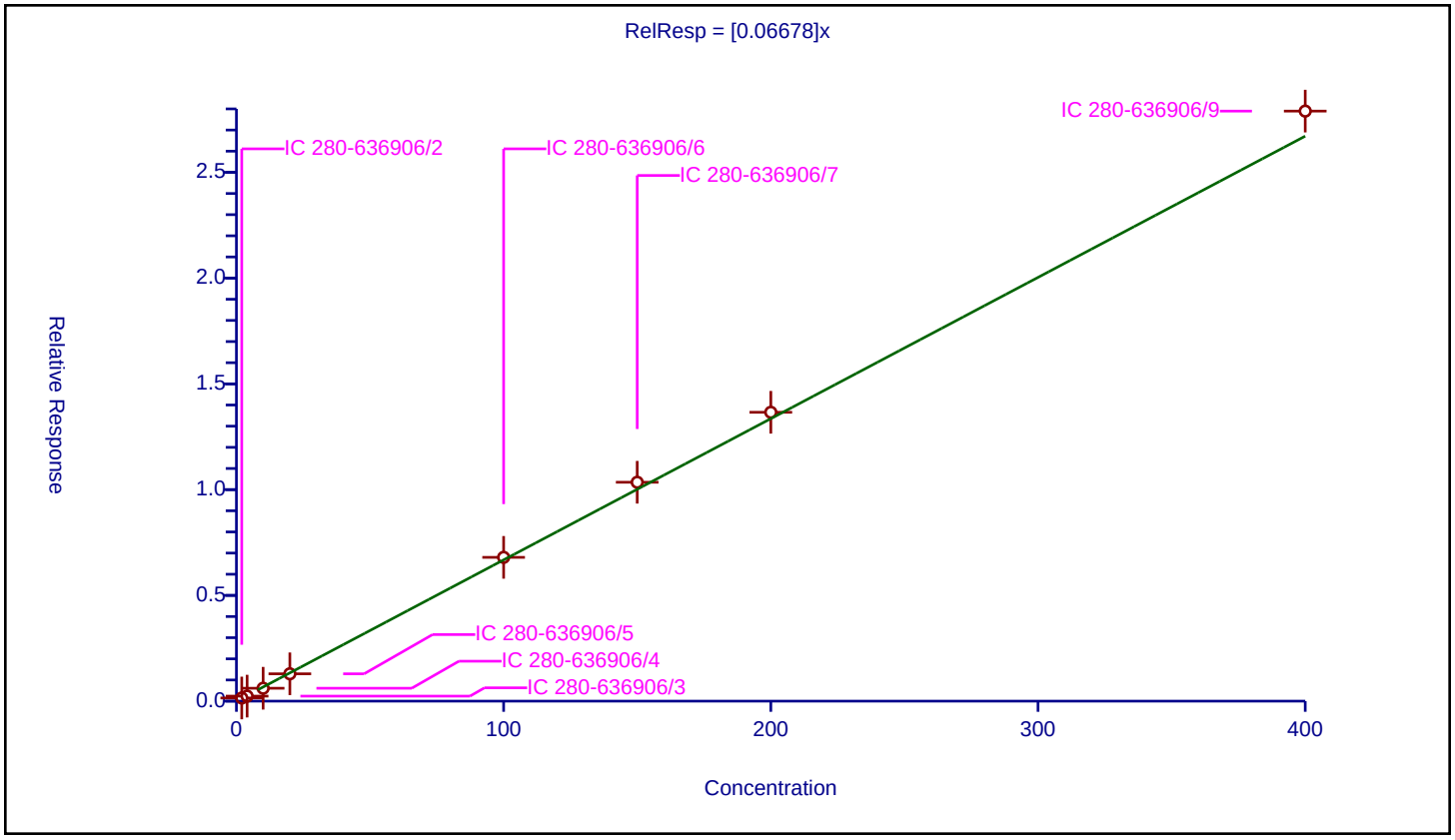
Curve Coefficients

Intercept:	0
Slope:	0.06678

Error Coefficients

Standard Error:	476000
Relative Standard Error:	7.4
Correlation Coefficient:	0.999
Coefficient of Determination (Adjusted):	0.993

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 280-636906/2	2.0	0.148688	50.0	1780572.0	0.074344	Y
2	IC 280-636906/3	4.0	0.237089	50.0	1739642.0	0.059272	Y
3	IC 280-636906/4	10.0	0.609778	50.0	1761051.0	0.060978	Y
4	IC 280-636906/5	20.0	1.292877	50.0	1749702.0	0.064644	Y
5	IC 280-636906/6	100.0	6.797824	50.0	1798480.0	0.067978	Y
6	IC 280-636906/7	150.0	10.348116	50.0	1821549.0	0.068987	Y
7	IC 280-636906/8	200.0	13.656458	50.0	1866216.0	0.068282	Y
8	IC 280-636906/9	400.0	27.895307	50.0	1901180.0	0.069738	Y



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Calibration / 2-Nitropropane

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	ISTD
Response Base:	AREA
RF Rounding:	0

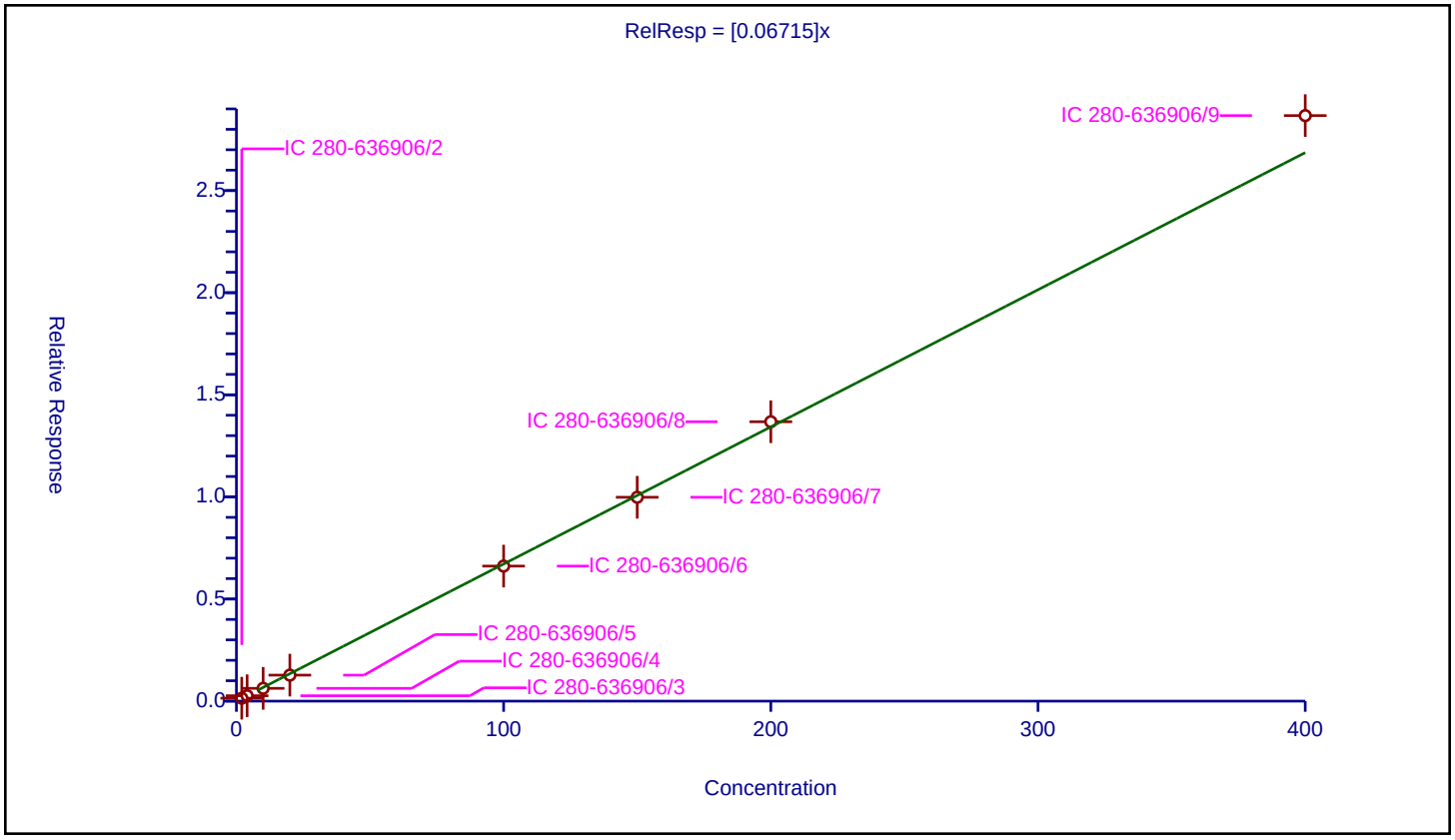
Curve Coefficients

Intercept:	0
Slope:	0.06715

Error Coefficients

Standard Error:	484000
Relative Standard Error:	5.1
Correlation Coefficient:	0.998
Coefficient of Determination (Adjusted):	0.997

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 280-636906/2	2.0	0.144308	50.0	1780572.0	0.072154	Y
2	IC 280-636906/3	4.0	0.263704	50.0	1739642.0	0.065926	Y
3	IC 280-636906/4	10.0	0.626331	50.0	1761051.0	0.062633	Y
4	IC 280-636906/5	20.0	1.273931	50.0	1749702.0	0.063697	Y
5	IC 280-636906/6	100.0	6.612806	50.0	1798480.0	0.066128	Y
6	IC 280-636906/7	150.0	9.98274	50.0	1821549.0	0.066552	Y
7	IC 280-636906/8	200.0	13.681401	50.0	1866216.0	0.068407	Y
8	IC 280-636906/9	400.0	28.670747	50.0	1901180.0	0.071677	Y



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Calibration / cis-1,4-Dichloro-2-butene

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	ISTD
Response Base:	AREA
RF Rounding:	0

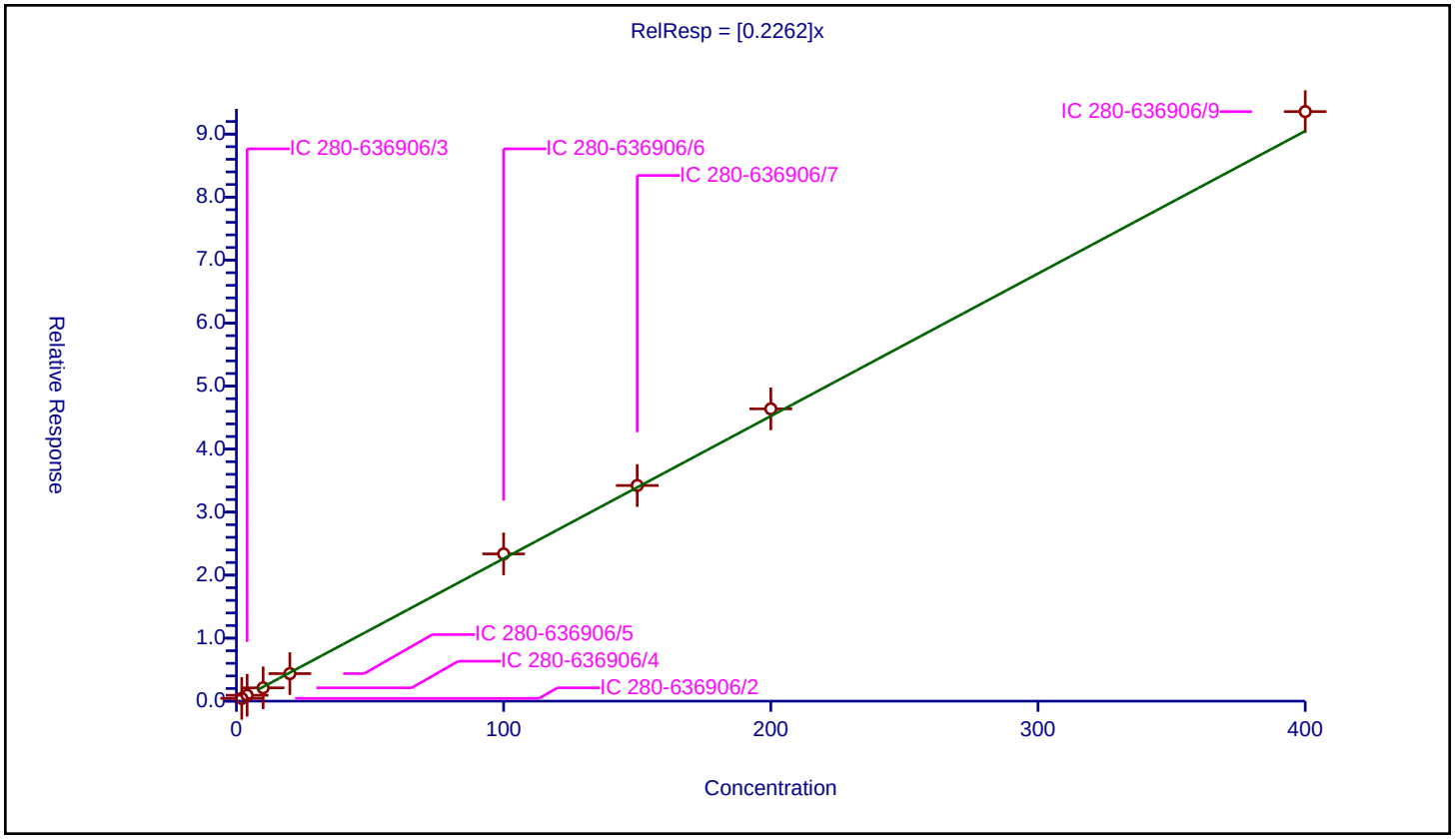
Curve Coefficients

Intercept:	0
Slope:	0.2262

Error Coefficients

Standard Error:	684000
Relative Standard Error:	3.9
Correlation Coefficient:	0.999
Coefficient of Determination (Adjusted):	0.998

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 280-636906/2	2.0	0.438463	50.0	798699.0	0.219232	Y
2	IC 280-636906/3	4.0	0.932454	50.0	755426.0	0.233114	Y
3	IC 280-636906/4	10.0	2.111984	50.0	755498.0	0.211198	Y
4	IC 280-636906/5	20.0	4.367605	50.0	761779.0	0.21838	Y
5	IC 280-636906/6	100.0	23.37146	50.0	773653.0	0.233715	Y
6	IC 280-636906/7	150.0	34.22604	50.0	774704.0	0.228174	Y
7	IC 280-636906/8	200.0	46.390858	50.0	782970.0	0.231954	Y
8	IC 280-636906/9	400.0	93.56883	50.0	816500.0	0.233922	Y



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Calibration / 1,2,3-Trimethylbenzene

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	ISTD
Response Base:	AREA
RF Rounding:	0

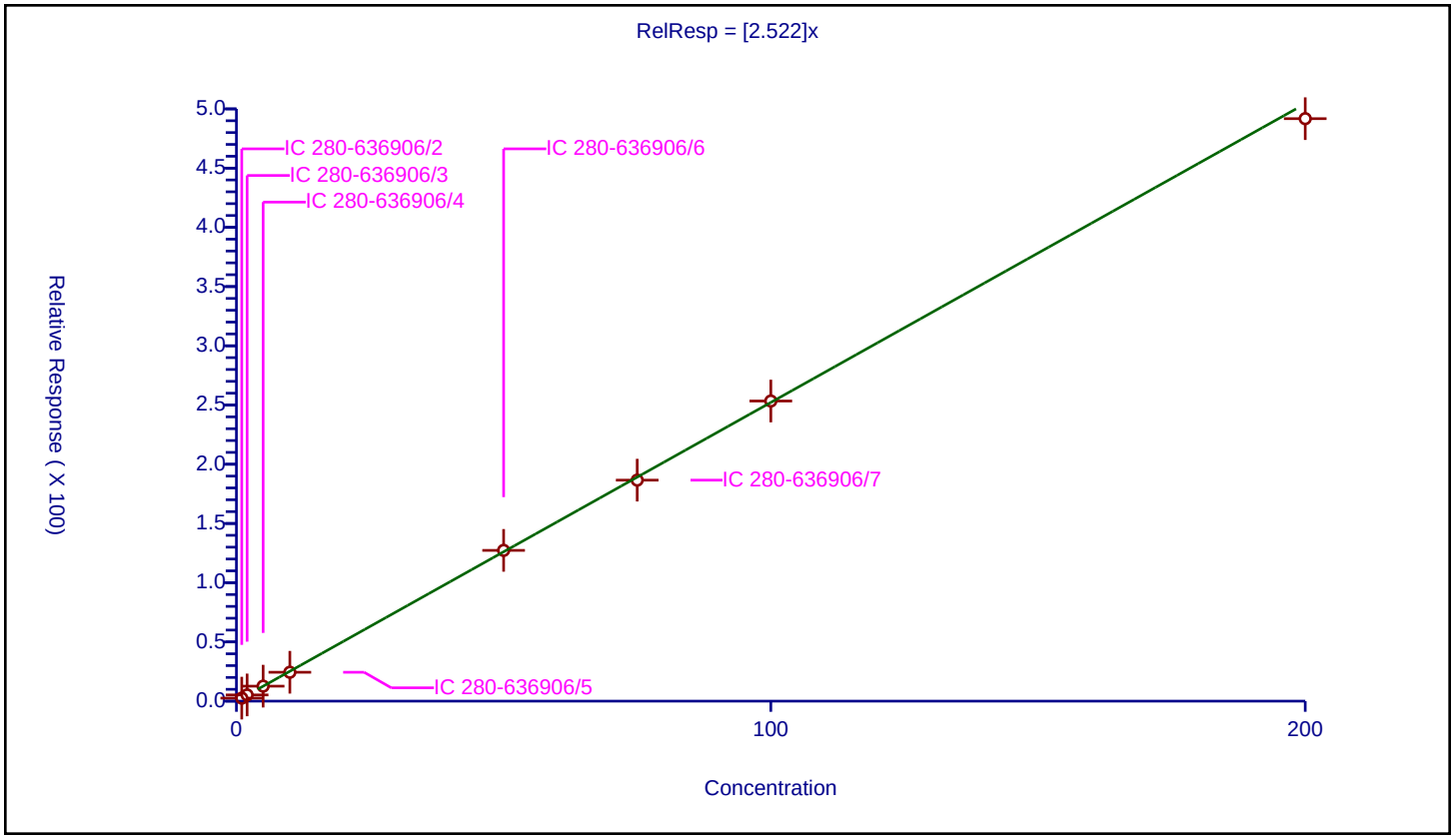
Curve Coefficients

Intercept:	0
Slope:	2.522

Error Coefficients

Standard Error:	3640000
Relative Standard Error:	2.4
Correlation Coefficient:	1.000
Coefficient of Determination (Adjusted):	0.999

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 280-636906/2	1.0	2.551149	50.0	798699.0	2.551149	Y
2	IC 280-636906/3	2.0	5.256968	50.0	755426.0	2.628484	Y
3	IC 280-636906/4	5.0	12.653309	50.0	755498.0	2.530662	Y
4	IC 280-636906/5	10.0	24.376099	50.0	761779.0	2.43761	Y
5	IC 280-636906/6	50.0	127.270301	50.0	773653.0	2.545406	Y
6	IC 280-636906/7	75.0	186.575711	50.0	774704.0	2.487676	Y
7	IC 280-636906/8	100.0	253.369605	50.0	782970.0	2.533696	Y
8	IC 280-636906/9	200.0	491.749357	50.0	816500.0	2.458747	Y



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Calibration / 1,3,5-Trichlorobenzene

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	ISTD
Response Base:	AREA
RF Rounding:	0

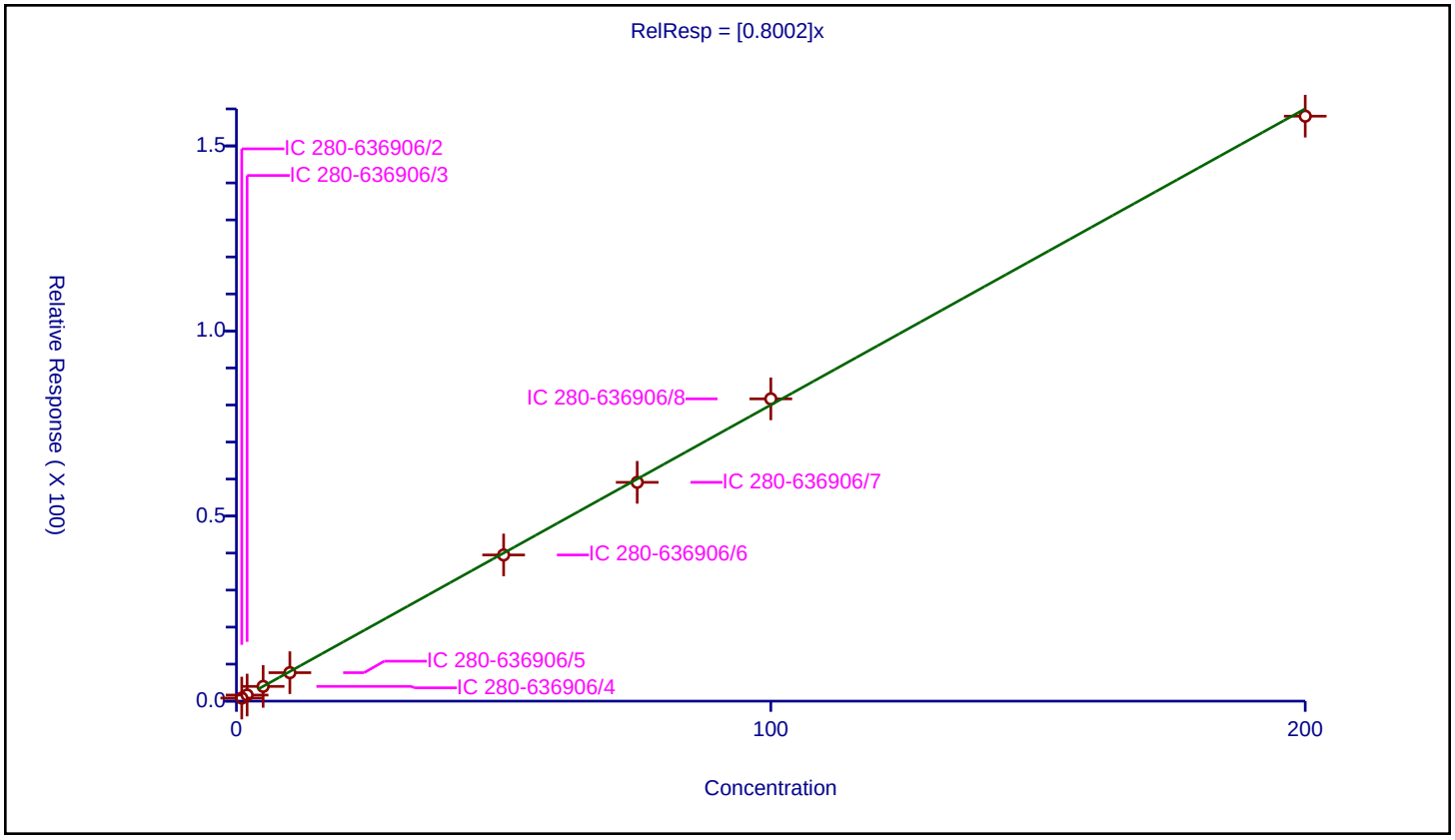
Curve Coefficients

Intercept:	0
Slope:	0.8002

Error Coefficients

Standard Error:	1170000
Relative Standard Error:	2.6
Correlation Coefficient:	1.000
Coefficient of Determination (Adjusted):	0.999

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 280-636906/2	1.0	0.829912	50.0	798699.0	0.829912	Y
2	IC 280-636906/3	2.0	1.642186	50.0	755426.0	0.821093	Y
3	IC 280-636906/4	5.0	3.983267	50.0	755498.0	0.796653	Y
4	IC 280-636906/5	10.0	7.689435	50.0	761779.0	0.768943	Y
5	IC 280-636906/6	50.0	39.492576	50.0	773653.0	0.789852	Y
6	IC 280-636906/7	75.0	59.115675	50.0	774704.0	0.788209	Y
7	IC 280-636906/8	100.0	81.661302	50.0	782970.0	0.816613	Y
8	IC 280-636906/9	200.0	158.033619	50.0	816500.0	0.790168	Y



FORM VII
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: Eurofins Denver Job No.: 280-185814-1

SDG No.:

Lab Sample ID: ICV 280-636738/11 Calibration Date: 12/09/2023 01:14

Instrument ID: VMS_X4 Calib Start Date: 12/08/2023 21:49

GC Column: RXI-624SilMS ID: 0.25(mm) Calib End Date: 12/09/2023 00:33

Lab File ID: X511657.D Conc. Units: ug/L Heated Purge: (Y/N) N

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Dichlorodifluoromethane	Ave	0.3541	0.3169	0.1000	44.7	50.0	-10.5	20.0
Chloromethane	Ave	0.4897	0.4646	0.1000	47.4	50.0	-5.1	20.0
Vinyl chloride	Ave	0.4221	0.3956	0.0100	46.9	50.0	-6.3	20.0
Bromomethane	Ave	0.2113	0.2072	0.0100	49.0	50.0	-1.9	20.0
Chloroethane	Ave	0.2654	0.2444	0.0100	46.0	50.0	-7.9	20.0
Dichlorofluoromethane	Ave	0.6414	0.6026	0.0100	47.0	50.0	-6.0	20.0
Trichlorofluoromethane	Ave	0.4390	0.4074	0.0100	46.4	50.0	-7.2	20.0
Ethyl ether	Ave	0.2502	0.2388	0.0100	47.7	50.0	-4.6	20.0
Acrolein	Ave	0.0402	0.0353	0.0010	433	494	-12.2	20.0
1,1,2-Trichloro-1,2,2-trifluoroethane	Ave	0.1660	0.1711	0.0500	51.5	50.0	3.1	20.0
1,1-Dichloroethylene	Ave	0.2283	0.2238	0.0600	49.0	50.0	-2.0	20.0
Acetone	Ave	0.0976	0.0913	0.0100	187	200	-6.4	20.0
Iodomethane	Lin1		0.2476	0.0100	41.3	50.0	-17.4	20.0
Carbon disulfide	Ave	0.8495	0.7943	0.1000	46.7	50.0	-6.5	20.0
Methyl acetate	Ave	0.2359	0.2329	0.0100	98.7	100	-1.3	20.0
3-Chloro-1-propene	Ave	0.5365	0.4786	0.0100	44.6	50.0	-10.8	20.0
Methylene Chloride	Ave	0.3010	0.2722	0.0100	45.2	50.0	-9.6	20.0
2-Methyl-2-propanol	Ave	0.0263	0.0281	0.0010	534	500	6.7	20.0
Acrylonitrile	Ave	0.1238	0.1191	0.0100	481	500	-3.8	20.0
Methyl tert-butyl ether	Ave	0.7636	0.7809	0.1000	51.1	50.0	2.3	20.0
trans-1,2-Dichloroethylene	Ave	0.2606	0.2500	0.1000	47.9	50.0	-4.1	20.0
n-Hexane	Ave	1.535	1.509	0.0100	49.2	50.0	-1.7	20.0
Vinyl acetate	Ave	0.5909	0.5632	0.0100	95.3	100	-4.7	20.0
1,1-Dichloroethane	Ave	0.5654	0.5369	0.1000	47.5	50.0	-5.0	20.0
2-Butanone (MEK)	Ave	0.1561	0.1505	0.0100	193	200	-3.6	20.0
cis-1,2-Dichloroethylene	Ave	0.2918	0.2788	0.1000	47.8	50.0	-4.5	20.0
2,2-Dichloropropane	Ave	0.4316	0.3957	0.0100	45.8	50.0	-8.3	20.0
sec-Butyl Alcohol	Ave	0.0227	0.0251	0.0100	1330	1200	10.6	20.0
Bromochloromethane	Ave	0.1171	0.1178	0.0500	50.3	50.0	0.6	20.0
Tetrahydrofuran	Ave	0.1057	0.1003	0.0010	94.8	100	-5.2	20.0
Chloroform	Ave	0.5098	0.4869	0.2000	47.8	50.0	-4.5	20.0
1,1,1-Trichloroethane	Ave	0.4146	0.4085	0.0500	49.3	50.0	-1.5	20.0
Cyclohexane	Ave	0.5369	0.5371	0.0100	50.0	50.0	0.0	20.0
1,1-Dichloropropene	Ave	0.4064	0.3948	0.0100	48.6	50.0	-2.9	20.0
Carbon tetrachloride	Ave	0.3286	0.3304	0.1000	50.3	50.0	0.5	20.0
Isobutyl alcohol	Ave	0.0099	0.0105	0.0010	1320	1250	5.4	20.0
Benzene	Ave	1.189	1.150	0.2000	48.4	50.0	-3.3	20.0
1,2-Dichloroethane	Ave	0.4391	0.3963	0.0700	45.1	50.0	-9.7	20.0
n-Heptane	Ave	0.3586	0.3478		48.5	50.0	-3.0	
Trichloroethene	Ave	1.087	1.085	0.2000	49.9	50.0	-0.1	20.0

FORM VII
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: Eurofins Denver Job No.: 280-185814-1

SDG No.:

Lab Sample ID: ICV 280-636738/11 Calibration Date: 12/09/2023 01:14

Instrument ID: VMS_X4 Calib Start Date: 12/08/2023 21:49

GC Column: RXI-624SilMS ID: 0.25(mm) Calib End Date: 12/09/2023 00:33

Lab File ID: X511657.D Conc. Units: ug/L Heated Purge: (Y/N) N

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
2-Pentanone	Ave	0.2252	0.2457	0.0010	175	160	9.1	20.0
Methylcyclohexane	Ave	0.3701	0.3782	0.0500	51.1	50.0	2.2	20.0
1,2-Dichloropropane	Ave	0.3312	0.3212	0.1000	48.5	50.0	-3.0	20.0
1,4-Dioxane	Ave	0.0036	0.0036	0.0010	984	1000	-1.6	20.0
Dibromomethane	Ave	0.1692	0.1653	0.0100	48.8	50.0	-2.3	20.0
Bromodichloromethane	Ave	0.3638	0.3642	0.2000	50.1	50.0	0.1	20.0
2-Chloroethyl vinyl ether	Ave	0.1770	0.1913	0.0100	54.0	50.0	8.0	20.0
cis-1,3-Dichloropropene	Ave	1.835	1.745	0.2000	47.5	50.0	-4.9	20.0
4-Methyl-2-pentanone (MIBK)	Ave	0.2936	0.3113	0.0300	212	200	6.0	20.0
Toluene	Ave	1.235	1.159	0.3000	46.9	50.0	-6.1	20.0
trans-1,3-Dichloropropene	Ave	0.4152	0.4283	0.2000	51.6	50.0	3.2	20.0
Ethyl methacrylate	Ave	1.368	1.460	0.0100	53.3	50.0	6.7	20.0
1,1,2-Trichloroethane	Ave	0.2322	0.2343	0.1000	50.5	50.0	0.9	20.0
Tetrachloroethene	Ave	0.7694	0.7654	0.1000	49.7	50.0	-0.5	20.0
1,3-Dichloropropane	Ave	1.726	1.761	0.0100	51.0	50.0	2.0	20.0
2-Hexanone	Ave	0.8219	0.8742	0.0100	213	200	6.4	20.0
Dibromochloromethane	Ave	0.9293	0.9508	0.1000	51.2	50.0	2.3	20.0
1,2-Dibromoethane	Ave	0.9263	0.9242	0.1000	49.9	50.0	-0.2	20.0
1-Chlorohexane	Ave	1.416	1.421	0.0100	40.2	40.0	0.4	20.0
Chlorobenzene	Ave	2.814	2.763	0.3000	49.1	50.0	-1.8	20.0
1,1,1,2-Tetrachloroethane	Ave	0.8899	0.9171	0.0100	51.5	50.0	3.1	20.0
Ethylbenzene	Ave	1.547	1.552	0.3000	50.2	50.0	0.3	20.0
m-Xylene & p-Xylene	Ave	1.946	1.916	0.1000	49.2	50.0	-1.6	20.0
o-Xylene	Ave	1.897	1.834	0.2000	48.3	50.0	-3.3	20.0
Styrene	Ave	3.102	3.194	0.2000	51.5	50.0	3.0	20.0
Bromoform	Ave	0.5975	0.5890	0.1000	49.3	50.0	-1.4	20.0
Isopropylbenzene	Ave	2.861	2.899	0.3000	50.7	50.0	1.3	20.0
Cyclohexanone	Ave	0.0511	0.0861	0.0010	2530	1500	68.6*	20.0
1,1,2,2-Tetrachloroethane	Ave	0.7682	0.7633	0.3000	49.7	50.0	-0.6	20.0
Bromobenzene	Ave	0.6813	0.6668	0.0100	48.9	50.0	-2.1	20.0
trans-1,4-Dichloro-2-butene	Ave	0.2452	0.2693	0.0100	54.9	50.0	9.9	20.0
1,2,3-Trichloropropane	Ave	0.2094	0.2301	0.0100	54.9	50.0	9.9	20.0
N-Propylbenzene	Ave	0.7338	0.7732	0.0100	52.7	50.0	5.4	20.0
o-Chlorotoluene	Ave	0.6608	0.6471	0.0100	49.0	50.0	-2.1	20.0
1,3,5-Trimethylbenzene	Ave	2.375	2.416	0.0100	50.9	50.0	1.7	20.0
p-Chlorotoluene	Ave	0.6924	0.6751	0.0100	48.8	50.0	-2.5	20.0
tert-Butylbenzene	Ave	1.930	1.941	0.0100	50.3	50.0	0.6	20.0
1,2,4-Trimethylbenzene	Ave	2.470	2.460	0.3000	49.8	50.0	-0.4	20.0
sec-Butylbenzene	Ave	0.5411	0.5330	0.0100	49.3	50.0	-1.5	20.0
1,3-Dichlorobenzene	Ave	1.229	1.238	0.5000	50.3	50.0	0.7	20.0
4-Isopropyltoluene	Ave	2.378	2.367	0.0100	49.8	50.0	-0.5	20.0

FORM VII
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: Eurofins Denver Job No.: 280-185814-1

SDG No.:

Lab Sample ID: ICV 280-636738/11 Calibration Date: 12/09/2023 01:14

Instrument ID: VMS_X4 Calib Start Date: 12/08/2023 21:49

GC Column: RXI-624SilMS ID: 0.25(mm) Calib End Date: 12/09/2023 00:33

Lab File ID: X511657.D Conc. Units: ug/L Heated Purge: (Y/N) N

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
1,4-Dichlorobenzene	Ave	1.330	1.281	0.5000	48.1	50.0	-3.7	20.0
n-Butylbenzene	Ave	2.203	2.231	0.0100	50.6	50.0	1.3	20.0
1,2-Dichlorobenzene	Ave	1.213	1.196	0.5000	49.3	50.0	-1.4	20.0
1,2-Dibromo-3-Chloropropane	Ave	0.1381	0.1421	0.0100	51.5	50.0	2.9	20.0
1,2,4-Trichlorobenzene	Ave	0.6900	0.6998	0.2000	50.7	50.0	1.4	20.0
Hexachlorobutadiene	Ave	0.2701	0.2945	0.0100	54.5	50.0	9.0	20.0
Naphthalene	Ave	1.793	1.845	0.0100	51.5	50.0	2.9	20.0
1,2,3-Trichlorobenzene	Ave	0.5599	0.5655	0.3000	50.5	50.0	1.0	20.0
Dibromofluoromethane (Surr)	Ave	0.2558	0.2494	0.0100	48.7	50.0	-2.5	20.0
1,2-Dichloroethane-d4 (Surr)	Ave	0.3308	0.3223	0.0100	48.7	50.0	-2.6	20.0
Toluene-d8 (Surr)	Ave	4.305	4.398	0.0100	51.1	50.0	2.2	20.0
4-Bromofluorobenzene (Surr)	Ave	0.9543	0.9583	0.0100	50.2	50.0	0.4	20.0

Eurofins Denver
Target Compound Quantitation Report

Data File: \\chromfs\Denver\ChromData\VMS_X4\20231208-128432.b\X511657.D
Lims ID: ICV
Client ID:
Sample Type: ICV
Inject. Date: 09-Dec-2023 01:14:30 ALS Bottle#: 11 Worklist Smp#: 11
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Sample Info: icv
Operator ID: CF Instrument ID: VMS_X4
Sublist:

Method: \\chromfs\Denver\ChromData\VMS_X4\20231208-128432.b\VMS_X4_8260.m
Limit Group: MSV - 8260B Water and Solid
Last Update: 11-Dec-2023 03:16:38 Calib Date: 09-Dec-2023 00:33:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Denver\ChromData\VMS_X4\20231208-128432.b\X511655.D

Column 1 : Rxi-624Sil MS (0.25 mm) Det: MS SCAN
Process Host: CTX1656

First Level Reviewer: BX8N Date: 11-Dec-2023 03:12:48

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
* 1 Fluorobenzene	96	5.199	5.199	0.000	98	1909975	50.0	50.0	
* 2 Chlorobenzene-d5	119	7.723	7.730	-0.007	91	483338	50.0	50.0	
* 3 1,4-Dichlorobenzene-d4	152	9.947	9.947	0.000	98	787898	50.0	50.0	
$ 4 Dibromofluoromethane (Surr)	111	4.692	4.692	0.000	92	476258	50.0	48.7	
$ 5 1,2-Dichloroethane-d4 (Surr)	65	4.956	4.956	0.000	0	615619	50.0	48.7	
$ 6 Toluene-d8 (Surr)	98	6.458	6.458	0.000	95	2125611	50.0	51.1	
$ 7 4-Bromofluorobenzene (Surr)	95	8.817	8.817	0.000	85	755080	50.0	50.2	
9 Dichlorodifluoromethane	85	1.760	1.760	0.000	100	605247	50.0	44.7	
10 Chloromethane	50	1.939	1.939	0.000	100	887299	50.0	47.4	
11 Vinyl chloride	62	2.039	2.039	0.000	99	755585	50.0	46.9	
12 Bromomethane	94	2.332	2.325	0.007	92	395817	50.0	49.0	
13 Chloroethane	64	2.425	2.425	0.000	99	466768	50.0	46.0	
14 Dichlorofluoromethane	67	2.597	2.597	0.000	98	1150930	50.0	47.0	
16 Trichlorofluoromethane	101	2.632	2.632	0.000	99	778049	50.0	46.4	
18 Ethyl ether	59	2.847	2.847	0.000	96	456076	50.0	47.7	
19 Acrolein	56	2.961	2.961	0.000	99	665563	493.8	433.5	
20 1,1,2-Trichloro-1,2,2-trifluoroe	151	3.040	3.040	0.000	97	326798	50.0	51.5	
21 1,1-Dichloroethene	96	3.047	3.047	0.000	95	427414	50.0	49.0	
22 Acetone	43	3.069	3.068	0.001	100	697860	200.0	187.2	
24 Iodomethane	142	3.169	3.169	0.000	100	472924	50.0	41.3	
25 Carbon disulfide	76	3.233	3.233	0.000	100	1517037	50.0	46.7	
27 Methyl acetate	43	3.290	3.290	0.000	99	889542	100.0	98.7	
28 3-Chloro-1-propene	41	3.319	3.312	0.007	89	914122	50.0	44.6	
29 Methylene Chloride	84	3.412	3.412	0.000	98	519878	50.0	45.2	
30 2-Methyl-2-propanol	59	3.455	3.455	0.000	99	536308	500.0	533.7	
31 Acrylonitrile	53	3.576	3.576	0.000	98	2274616	500.0	481.1	
32 Methyl tert-butyl ether	73	3.598	3.598	0.000	97	1491408	50.0	51.1	
33 trans-1,2-Dichloroethene	96	3.612	3.612	0.000	95	477414	50.0	47.9	
34 Hexane	57	3.805	3.805	0.000	97	729194	50.0	49.2	
35 Vinyl acetate	43	3.905	3.905	0.000	97	2151222	100.0	95.3	
36 1,1-Dichloroethane	63	3.934	3.934	0.000	97	1025548	50.0	47.5	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
40 2-Butanone (MEK)	43	4.320	4.320	0.000	99	1149608	200.0	192.8	
42 cis-1,2-Dichloroethene	96	4.341	4.341	0.000	88	532594	50.0	47.8	
43 2,2-Dichloropropane	77	4.356	4.355	0.001	90	755871	50.0	45.8	
45 sec-Butyl Alcohol	45	4.420	4.427	-0.007	99	1150211	1200.0	1327.7	
47 Chlorobromomethane	128	4.520	4.520	0.000	93	224923	50.0	50.3	
48 Tetrahydrofuran	42	4.527	4.527	0.000	92	383119	100.0	94.8	
49 Chloroform	83	4.577	4.577	0.000	96	929994	50.0	47.8	
50 1,1,1-Trichloroethane	97	4.720	4.727	-0.007	98	780204	50.0	49.3	
51 Cyclohexane	56	4.785	4.784	0.001	95	1025868	50.0	50.0	
52 1,1-Dichloropropene	75	4.835	4.835	0.000	96	754039	50.0	48.6	
54 Isobutyl alcohol	41	4.842	4.842	0.000	95	500666	1250.0	1317.6	
53 Carbon tetrachloride	117	4.842	4.842	0.000	91	631046	50.0	50.3	
55 Benzene	78	4.992	4.992	0.000	98	2196314	50.0	48.4	
56 1,2-Dichloroethane	62	5.013	5.013	0.000	97	756965	50.0	45.1	
58 n-Heptane	43	5.171	5.171	0.000	97	664356	50.0	48.5	
60 Trichloroethene	95	5.478	5.478	0.000	96	524575	50.0	49.9	
61 2-Pentanone	43	5.578	5.578	0.000	98	1501538	160.0	174.6	
62 Methylcyclohexane	55	5.671	5.671	0.000	96	722328	50.0	51.1	
63 1,2-Dichloropropane	63	5.686	5.685	0.001	94	613471	50.0	48.5	
65 1,4-Dioxane	88	5.721	5.721	0.000	98	135670	1000.0	983.5	
66 Dibromomethane	93	5.750	5.757	-0.007	93	315749	50.0	48.8	
67 Dichlorobromomethane	83	5.879	5.878	0.001	99	695549	50.0	50.1	
69 2-Chloroethyl vinyl ether	63	6.072	6.072	0.000	91	365317	50.0	54.0	
70 cis-1,3-Dichloropropene	75	6.222	6.222	0.000	92	843518	50.0	47.5	
71 4-Methyl-2-pentanone (MIBK)	43	6.329	6.329	0.000	99	2378416	200.0	212.1	
72 Toluene	91	6.515	6.515	0.000	97	2214499	50.0	46.9	
73 trans-1,3-Dichloropropene	75	6.687	6.686	0.001	98	818096	50.0	51.6	
74 Ethyl methacrylate	69	6.708	6.701	0.007	93	705734	50.0	53.3	
75 1,1,2-Trichloroethane	97	6.858	6.865	-0.007	93	447507	50.0	50.5	
76 Tetrachloroethene	164	6.958	6.958	0.000	95	369956	50.0	49.7	
77 1,3-Dichloropropane	76	7.008	7.008	0.000	98	851130	50.0	51.0	
78 2-Hexanone	43	7.030	7.030	0.000	98	1690079	200.0	212.7	
79 Chlorodibromomethane	129	7.201	7.201	0.000	91	459559	50.0	51.2	
80 Ethylene Dibromide	107	7.323	7.323	0.000	99	446713	50.0	49.9	
81 1-Chlorohexane	91	7.709	7.709	0.000	92	549532	40.0	40.2	
82 Chlorobenzene	112	7.752	7.752	0.000	91	1335451	50.0	49.1	
83 1,1,1,2-Tetrachloroethane	131	7.823	7.823	0.000	95	443282	50.0	51.5	
84 Ethylbenzene	106	7.831	7.830	0.001	99	750312	50.0	50.2	
85 m-Xylene & p-Xylene	106	7.945	7.945	0.000	0	925980	50.0	49.2	
86 o-Xylene	106	8.310	8.310	0.000	98	886336	50.0	48.3	
87 Styrene	104	8.324	8.324	0.000	93	1543871	50.0	51.5	
88 Bromoform	173	8.503	8.503	0.000	94	284687	50.0	49.3	
89 Isopropylbenzene	105	8.646	8.646	0.000	97	2284067	50.0	50.7	
91 Cyclohexanone	55	8.746	8.746	0.000	96	1249027	1500.0	2528.4	
92 1,1,2,2-Tetrachloroethane	83	8.932	8.932	0.000	95	601420	50.0	49.7	
93 Bromobenzene	156	8.967	8.967	0.000	97	525349	50.0	48.9	
94 trans-1,4-Dichloro-2-butene	53	8.967	8.967	0.000	66	212198	50.0	54.9	
95 1,2,3-Trichloropropane	110	8.996	8.996	0.000	88	181303	50.0	54.9	
96 N-Propylbenzene	120	9.046	9.046	0.000	99	609211	50.0	52.7	
97 2-Chlorotoluene	126	9.146	9.146	0.000	95	509867	50.0	49.0	
98 1,3,5-Trimethylbenzene	105	9.218	9.218	0.000	95	1903641	50.0	50.9	
99 4-Chlorotoluene	126	9.261	9.261	0.000	99	531927	50.0	48.8	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
100 tert-Butylbenzene	119	9.525	9.532	-0.007	94	1529641	50.0	50.3	
102 1,2,4-Trimethylbenzene	105	9.582	9.582	0.000	99	1938273	50.0	49.8	
103 sec-Butylbenzene	134	9.747	9.747	0.000	95	419988	50.0	49.3	
104 1,3-Dichlorobenzene	146	9.876	9.875	0.001	96	975112	50.0	50.3	
105 4-Isopropyltoluene	119	9.890	9.890	0.000	97	1864580	50.0	49.8	
106 1,4-Dichlorobenzene	146	9.976	9.976	0.000	93	1008924	50.0	48.1	
108 n-Butylbenzene	91	10.297	10.297	0.000	99	1757737	50.0	50.6	
109 1,2-Dichlorobenzene	146	10.333	10.333	0.000	95	942012	50.0	49.3	
110 1,2-Dibromo-3-Chloropropane	157	11.105	11.112	-0.007	76	111965	50.0	51.5	
112 1,2,4-Trichlorobenzene	180	11.935	11.935	0.000	94	551363	50.0	50.7	
113 Hexachlorobutadiene	225	12.071	12.071	0.000	97	232006	50.0	54.5	
114 Naphthalene	128	12.207	12.206	0.001	98	1453837	50.0	51.5	
115 1,2,3-Trichlorobenzene	180	12.428	12.428	0.000	95	445578	50.0	50.5	
S 122 1,2-Dichloroethene, Total (URS)	96				0		100.0	95.7	
S 127 Trihalomethanes, Total	1				0		200.0	198.3	
S 125 Xylenes, Total	106				0		100.0	97.5	
S 123 Xylenes, Total (URS)	1				0		100.0	97.5	
S 124 1,3-Dichloropropene, Total	1				0		100.0	99.1	
S 129 1,2-Dichloroethene, Total	1				0		100.0	95.7	

QC Flag Legend

Processing Flags

Reagents:

MV-MegaMain B_00094	Amount Added: 25.00	Units: uL	
MV-Gas B_00152	Amount Added: 10.00	Units: uL	
mv-IS_SS_00074	Amount Added: 5.00	Units: uL	Run Reagent

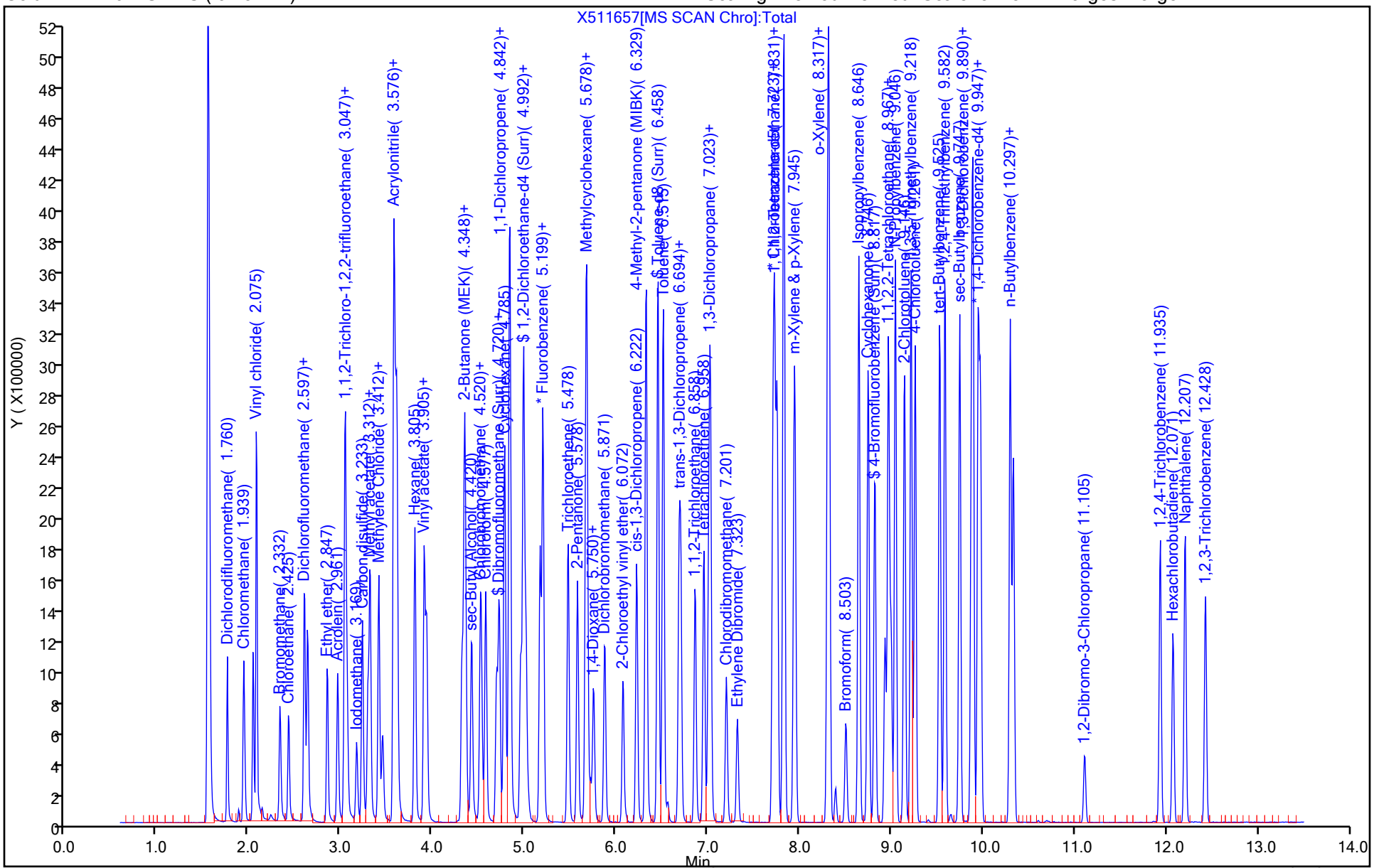
Report Date: 11-Dec-2023 03:16:39 Chrom Revision: 2.3 15-Nov-2023 20:54:34

Eurofins Denver

Data File: \\chromfs\Denver\ChromData\VMS_X4\20231208-128432.b\X511657.D

Injection Date:	09-Dec-2023 01:14:30	Instrument ID:	VMS_X4	Operator ID:	CF
Lims ID:	ICV			Worklist Smp#:	11
Client ID:					
Purge Vol:	5.000 mL	Dil. Factor:	1.0000	ALS Bottle#:	11
Method:	VMS_X4_8260	Limit Group:	MSV - 8260B Water and Solid		

Column: Rxi-624Sil MS (0.25 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 1



FORM VII
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: Eurofins Denver Job No.: 280-185814-1

SDG No.:

Lab Sample ID: ICV 280-636906/10 Calibration Date: 12/11/2023 21:52

Instrument ID: VMS_X4 Calib Start Date: 12/11/2023 18:26

GC Column: RXI-624SilMS ID: 0.25(mm) Calib End Date: 12/11/2023 20:50

Lab File ID: X511705.D Conc. Units: ug/L Heated Purge: (Y/N) N

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Ethanol	Ave	0.0043	0.0044*	0.0100	3070	3000	2.3	20.0
Isopropyl alcohol	Ave	0.0190	0.0186	0.0100	491	500	-1.9	20.0
Acetonitrile	Ave	0.0542	0.0482	0.0100	445	500	-11.0	20.0
Isopropyl ether	Ave	0.2187	0.2111	0.0100	48.3	50.0	-3.4	20.0
2-Chloro-1,3-butadiene	Ave	0.4963	0.4801	0.0100	48.4	50.0	-3.3	20.0
Tert-butyl ethyl ether	Ave	0.8841	0.8713	0.0100	49.3	50.0	-1.5	20.0
Ethyl acetate	Ave	0.3130	0.2849	0.0100	91.0	100	-9.0	20.0
Propionitrile	Ave	0.0481	0.0458	0.0100	477	500	-4.7	20.0
Methacrylonitrile	Ave	0.2021	0.1993	0.0100	493	500	-1.4	20.0
Tert-amyl methyl ether	Ave	0.7610	0.7560	0.0100	49.7	50.0	-0.7	20.0
n-Butanol	Lin2		0.0076*	0.0100	1220	1250	-2.0	20.0
Methyl methacrylate	Ave	0.0668	0.0677	0.0100	101	100	1.4	20.0
2-Nitropropane	Ave	0.0671	0.0639	0.0100	95.1	100	-4.9	20.0
cis-1,4-Dichloro-2-butene	Ave	0.2262	0.2454	0.0100	108	100	8.5	20.0
1,2,3-Trimethylbenzene	Ave	2.522	2.409	0.0100	47.8	50.0	-4.5	20.0
1,3,5-Trichlorobenzene	Ave	0.8002	0.7730	0.0100	48.3	50.0	-3.4	30.0

Eurofins Denver
Target Compound Quantitation Report

Data File: \\chromfs\Denver\ChromData\VMS_X4\20231211-128477.b\X511705.D
Lims ID: ICV
Client ID:
Sample Type: ICV
Inject. Date: 11-Dec-2023 21:52:30 ALS Bottle#: 11 Worklist Smp#: 10
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Sample Info: icv
Operator ID: CF Instrument ID: VMS_X4
Sublist:

Method: \\chromfs\Denver\ChromData\VMS_X4\20231211-128477.b\VMS_X4_8260.m
Limit Group: MSV - 8260B Water and Solid
Last Update: 12-Dec-2023 05:03:42 Calib Date: 11-Dec-2023 20:50:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Denver\ChromData\VMS_X4\20231211-128477.b\X511702.D

Column 1 : Rxi-624Sil MS (0.25 mm) Det: MS SCAN
Process Host: CTX1609

First Level Reviewer: BX8N Date: 12-Dec-2023 05:02:50

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
* 1 Fluorobenzene	96	5.199	5.199	0.000	97	1785278	50.0	50.0	
* 2 Chlorobenzene-d5	119	7.731	7.730	0.000	91	468363	50.0	50.0	
* 3 1,4-Dichlorobenzene-d4	152	9.947	9.947	0.000	97	793046	50.0	50.0	
17 Ethanol	45	2.754	2.754	0.000	99	467081	3000.0	3067.6	
23 Isopropyl alcohol	45	3.147	3.147	0.000	99	332139	500.0	490.6	
26 Acetonitrile	41	3.276	3.276	0.000	99	860110	500.0	444.8	
37 Isopropyl ether	87	3.927	3.926	0.001	95	376940	50.0	48.3	
38 2-Chloro-1,3-butadiene	53	3.984	3.984	0.000	94	857139	50.0	48.4	
39 Tert-butyl ethyl ether	59	4.191	4.191	0.000	99	1555455	50.0	49.3	
41 Ethyl acetate	43	4.327	4.327	0.000	99	1017409	100.0	91.0	
44 Propionitrile	54	4.370	4.370	0.000	99	818166	500.0	476.6	
46 Methacrylonitrile	41	4.484	4.484	0.000	95	3557269	500.0	493.0	
57 Tert-amyl methyl ether	73	5.056	5.056	0.000	86	1349702	50.0	49.7	
59 n-Butanol	56	5.335	5.335	0.000	93	338839	1250.0	1224.8	
64 Methyl methacrylate	100	5.678	5.678	0.000	94	241871	100.0	101.4	
68 2-Nitropropane	41	6.043	6.043	0.000	99	228081	100.0	95.1	
90 cis-1,4-Dichloro-2-butene	53	8.696	8.696	0.000	0	389262	100.0	108.5	
107 1,2,3-Trimethylbenzene	105	9.997	9.997	0.000	99	1910142	50.0	47.8	
111 1,3,5-Trichlorobenzene	180	11.298	11.298	0.000	96	613023	50.0	48.3	
118 Ethyl acrylate	55		0.000				ND	ND	

QC Flag Legend

Processing Flags
ND - Not Detected or Marked ND

Reagents:

mv-Cent IS_00008 Amount Added: 5.00 Units: uL
MV-Supp B_00068 Amount Added: 50.00 Units: uL

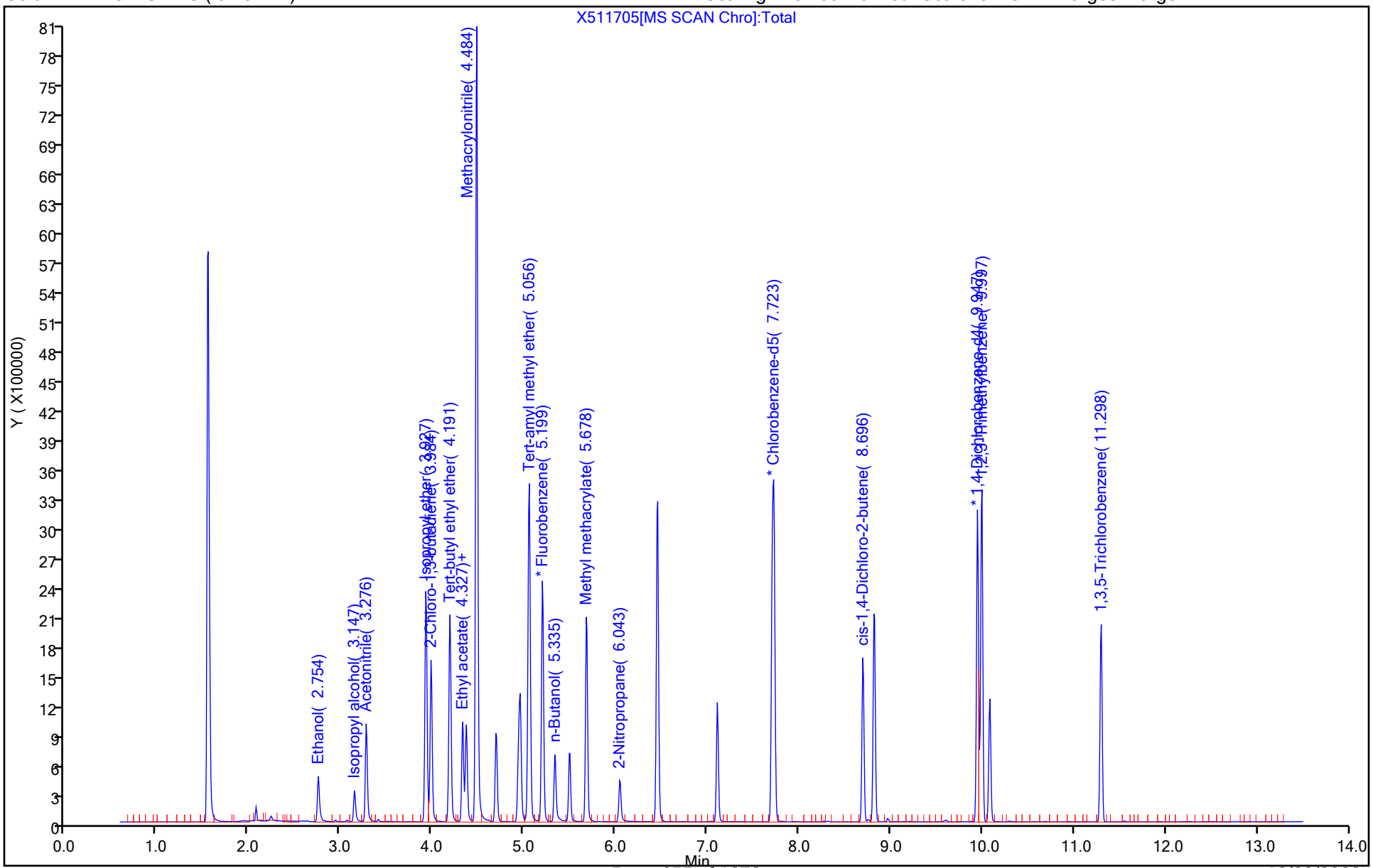
Report Date: 12-Dec-2023 05:03:43 Chrom Revision: 2.3 15-Nov-2023 20:54:34

Eurofins Denver

Data File: \\chromfs\Denver\ChromData\VMS_X4\20231211-128477.b\X511705.D

Injection Date:	11-Dec-2023 21:52:30	Instrument ID:	VMS_X4	Operator ID:	CF
Lims ID:	ICV			Worklist Smp#:	10
Client ID:					
Purge Vol:	5.000 mL	Dil. Factor:	1.0000	ALS Bottle#:	11
Method:	VMS_X4_8260	Limit Group:	MSV - 8260B Water and Solid		

Column: Rxi-624Sil MS (0.25 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 1



FORM VII
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: Eurofins Denver | Job No.: 280-185814-1

SDG No.:

Lab Sample ID: CCV 280-637903/2 | Calibration Date: 12/19/2023 17:03

Instrument ID: VMS_X4 | Calib Start Date: 12/08/2023 21:49

GC Column: RXI-624SilMS ID: 0.25(mm) | Calib End Date: 12/09/2023 00:33

Lab File ID: X512014.D | Conc. Units: ug/L Heated Purge: (Y/N) N

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Dichlorodifluoromethane	Ave	0.3541	0.3213	0.1000	45.4	50.0	-9.3	20.0
Chloromethane	Ave	0.4897	0.4231	0.1000	43.2	50.0	-13.6	20.0
Vinyl chloride	Ave	0.4221	0.3869	0.0100	45.8	50.0	-8.3	20.0
Bromomethane	Ave	0.2113	0.2052	0.0100	48.5	50.0	-2.9	20.0
Chloroethane	Ave	0.2654	0.2285	0.0100	43.1	50.0	-13.9	20.0
Dichlorofluoromethane	Ave	0.6414	0.6267	0.0100	48.9	50.0	-2.3	20.0
Trichlorofluoromethane	Ave	0.4390	0.4324	0.0100	49.2	50.0	-1.5	20.0
Ethyl ether	Ave	0.2502	0.2358	0.0100	47.1	50.0	-5.8	20.0
Acrolein	Ave	0.0402	0.0356	0.0010	438	494	-11.3	20.0
1,1,2-Trichloro-1,2,2-trifluoroethane	Ave	0.1660	0.1794	0.0500	54.1	50.0	8.1	20.0
1,1-Dichloroethylene	Ave	0.2283	0.2285	0.0600	50.1	50.0	0.1	20.0
Acetone	Ave	0.0976	0.0850	0.0100	174	200	-12.9	20.0
Iodomethane	Lin1		0.3269	0.0100	54.3	50.0	8.7	20.0
Carbon disulfide	Ave	0.8495	0.7853	0.1000	46.2	50.0	-7.6	20.0
Methyl acetate	Ave	0.2359	0.2147	0.0100	91.0	100	-9.0	20.0
3-Chloro-1-propene	Ave	0.5365	0.5153	0.0100	48.0	50.0	-3.9	20.0
Methylene Chloride	Ave	0.3010	0.2755	0.0100	45.8	50.0	-8.5	20.0
2-Methyl-2-propanol	Ave	0.0263	0.0249	0.0010	473	500	-5.5	20.0
Acrylonitrile	Ave	0.1238	0.1125	0.0100	454	500	-9.1	20.0
Methyl tert-butyl ether	Ave	0.7636	0.7723	0.1000	50.6	50.0	1.1	20.0
trans-1,2-Dichloroethylene	Ave	0.2606	0.2575	0.1000	49.4	50.0	-1.2	20.0
n-Hexane	Ave	1.535	1.445	0.0100	47.1	50.0	-5.9	20.0
Vinyl acetate	Ave	0.5909	0.6337	0.0100	107	100	7.2	20.0
1,1-Dichloroethane	Ave	0.5654	0.5340	0.1000	47.2	50.0	-5.6	20.0
2-Butanone (MEK)	Ave	0.1561	0.1377	0.0100	176	200	-11.8	20.0
cis-1,2-Dichloroethylene	Ave	0.2918	0.2932	0.1000	50.2	50.0	0.5	20.0
2,2-Dichloropropane	Ave	0.4316	0.4410	0.0100	51.1	50.0	2.2	20.0
sec-Butyl Alcohol	Ave	0.0227	0.0216	0.0100	1140	1200	-4.7	20.0
Bromochloromethane	Ave	0.1171	0.1322	0.0500	56.5	50.0	12.9	20.0
Tetrahydrofuran	Ave	0.1057	0.0950	0.0010	89.8	100	-10.2	20.0
Chloroform	Ave	0.5098	0.4960	0.2000	48.6	50.0	-2.7	20.0
1,1,1-Trichloroethane	Ave	0.4146	0.4146	0.0500	50.0	50.0	-0.0	20.0
Cyclohexane	Ave	0.5369	0.5269	0.0100	49.1	50.0	-1.9	20.0
1,1-Dichloropropene	Ave	0.4064	0.3990	0.0100	49.1	50.0	-1.8	20.0
Carbon tetrachloride	Ave	0.3286	0.3489	0.1000	53.1	50.0	6.2	20.0
Isobutyl alcohol	Ave	0.0099	0.0098	0.0010	1230	1250	-1.4	20.0
Benzene	Ave	1.189	1.167	0.2000	49.1	50.0	-1.8	20.0
1,2-Dichloroethane	Ave	0.4391	0.3944	0.0700	44.9	50.0	-10.2	20.0
n-Heptane	Ave	0.3586	0.3559		49.6	50.0	-0.8	
Trichloroethene	Ave	1.087	1.007	0.2000	46.3	50.0	-7.4	20.0

FORM VII
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: Eurofins Denver Job No.: 280-185814-1

SDG No.:

Lab Sample ID: CCV 280-637903/2 Calibration Date: 12/19/2023 17:03

Instrument ID: VMS_X4 Calib Start Date: 12/08/2023 21:49

GC Column: RXI-624SilMS ID: 0.25(mm) Calib End Date: 12/09/2023 00:33

Lab File ID: X512014.D Conc. Units: ug/L Heated Purge: (Y/N) N

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
2-Pentanone	Ave	0.2252	0.2160	0.0010	153	160	-4.1	20.0
Methylcyclohexane	Ave	0.3701	0.3814	0.0500	51.5	50.0	3.1	20.0
1,2-Dichloropropane	Ave	0.3312	0.3109	0.1000	46.9	50.0	-6.1	20.0
1,4-Dioxane	Ave	0.0036	0.0034	0.0010	948	1000	-5.2	20.0
Dibromomethane	Ave	0.1692	0.1619	0.0100	47.8	50.0	-4.3	20.0
Bromodichloromethane	Ave	0.3638	0.3761	0.2000	51.7	50.0	3.4	20.0
2-Chloroethyl vinyl ether	Ave	0.1770	0.1683	0.0100	47.5	50.0	-4.9	20.0
cis-1,3-Dichloropropene	Ave	1.835	1.691	0.2000	46.1	50.0	-7.8	20.0
4-Methyl-2-pentanone (MIBK)	Ave	0.2936	0.2887	0.0300	197	200	-1.7	20.0
Toluene	Ave	1.235	1.249	0.3000	50.5	50.0	1.1	20.0
trans-1,3-Dichloropropene	Ave	0.4152	0.4313	0.2000	51.9	50.0	3.9	20.0
Ethyl methacrylate	Ave	1.368	1.276	0.0100	46.6	50.0	-6.8	20.0
1,1,2-Trichloroethane	Ave	0.2322	0.2325	0.1000	50.1	50.0	0.1	20.0
Tetrachloroethene	Ave	0.7694	0.7860	0.1000	51.1	50.0	2.2	20.0
1,3-Dichloropropane	Ave	1.726	1.610	0.0100	46.6	50.0	-6.7	20.0
2-Hexanone	Ave	0.8219	0.7272	0.0100	177	200	-11.5	20.0
Dibromochloromethane	Ave	0.9293	0.9426	0.1000	50.7	50.0	1.4	20.0
1,2-Dibromoethane	Ave	0.9263	0.8808	0.1000	47.5	50.0	-4.9	20.0
1-Chlorohexane	Ave	1.416	1.306	0.0100	36.9	40.0	-7.8	20.0
Chlorobenzene	Ave	2.814	2.725	0.3000	48.4	50.0	-3.2	20.0
1,1,1,2-Tetrachloroethane	Ave	0.8899	0.9225	0.0100	51.8	50.0	3.7	20.0
Ethylbenzene	Ave	1.547	1.523	0.3000	49.2	50.0	-1.6	20.0
m-Xylene & p-Xylene	Ave	1.946	1.923	0.1000	49.4	50.0	-1.2	20.0
o-Xylene	Ave	1.897	1.820	0.2000	48.0	50.0	-4.1	20.0
Styrene	Ave	3.102	3.110	0.2000	50.1	50.0	0.3	20.0
Bromoform	Ave	0.5975	0.6187	0.1000	51.8	50.0	3.5	20.0
Isopropylbenzene	Ave	2.861	2.609	0.3000	45.6	50.0	-8.8	20.0
Cyclohexanone	Ave	0.0511	0.0617	0.0010	1810	1500	20.7*	20.0
1,1,2,2-Tetrachloroethane	Ave	0.7682	0.6416	0.3000	41.8	50.0	-16.5	20.0
Bromobenzene	Ave	0.6813	0.6313	0.0100	46.3	50.0	-7.3	20.0
trans-1,4-Dichloro-2-butene	Ave	0.2452	0.2078	0.0100	42.4	50.0	-15.2	20.0
1,2,3-Trichloropropane	Ave	0.2094	0.1899	0.0100	45.3	50.0	-9.3	20.0
N-Propylbenzene	Ave	0.7338	0.7176	0.0100	48.9	50.0	-2.2	20.0
o-Chlorotoluene	Ave	0.6608	0.6017	0.0100	45.5	50.0	-9.0	20.0
1,3,5-Trimethylbenzene	Ave	2.375	2.223	0.0100	46.8	50.0	-6.4	20.0
p-Chlorotoluene	Ave	0.6924	0.6445	0.0100	46.5	50.0	-6.9	20.0
tert-Butylbenzene	Ave	1.930	1.800	0.0100	46.6	50.0	-6.7	20.0
1,2,4-Trimethylbenzene	Ave	2.470	2.323	0.3000	47.0	50.0	-5.9	20.0
sec-Butylbenzene	Ave	0.5411	0.5277	0.0100	48.8	50.0	-2.5	20.0
1,3-Dichlorobenzene	Ave	1.229	1.190	0.5000	48.4	50.0	-3.2	20.0
4-Isopropyltoluene	Ave	2.378	2.282	0.0100	48.0	50.0	-4.0	20.0

FORM VII
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: Eurofins Denver Job No.: 280-185814-1

SDG No.:

Lab Sample ID: CCV 280-637903/2 Calibration Date: 12/19/2023 17:03

Instrument ID: VMS_X4 Calib Start Date: 12/08/2023 21:49

GC Column: RXI-624SilMS ID: 0.25(mm) Calib End Date: 12/09/2023 00:33

Lab File ID: X512014.D Conc. Units: ug/L Heated Purge: (Y/N) N

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
1,4-Dichlorobenzene	Ave	1.330	1.226	0.5000	46.1	50.0	-7.8	20.0
n-Butylbenzene	Ave	2.203	2.069	0.0100	47.0	50.0	-6.1	20.0
1,2-Dichlorobenzene	Ave	1.213	1.107	0.5000	45.6	50.0	-8.7	20.0
1,2-Dibromo-3-Chloropropane	Ave	0.1381	0.1239	0.0100	44.9	50.0	-10.2	20.0
1,2,4-Trichlorobenzene	Ave	0.6900	0.6644	0.2000	48.1	50.0	-3.7	20.0
Hexachlorobutadiene	Ave	0.2701	0.3165	0.0100	58.6	50.0	17.2	20.0
Naphthalene	Ave	1.793	1.530	0.0100	42.7	50.0	-14.6	20.0
1,2,3-Trichlorobenzene	Ave	0.5599	0.5204	0.3000	46.5	50.0	-7.1	20.0
Dibromofluoromethane (Surr)	Ave	0.2558	0.2725	0.0100	53.3	50.0	6.5	20.0
1,2-Dichloroethane-d4 (Surr)	Ave	0.3308	0.3317	0.0100	50.1	50.0	0.3	20.0
Toluene-d8 (Surr)	Ave	4.305	4.232	0.0100	49.2	50.0	-1.7	20.0
4-Bromofluorobenzene (Surr)	Ave	0.9543	0.8274	0.0100	43.4	50.0	-13.3	20.0

Eurofins Denver
Target Compound Quantitation Report

Data File: \\chromfs\Denver\ChromData\VMS_X4\20231219-128742.b\X512014.D
Lims ID: CCV
Client ID:
Sample Type: CCV
Inject. Date: 19-Dec-2023 17:03:30 ALS Bottle#: 1 Worklist Smp#: 2
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Sample Info: CCV M
Operator ID: CF Instrument ID: VMS_X4
Sublist: chrom-VMS_X4_8260*sub1

Method: \\chromfs\Denver\ChromData\VMS_X4\20231219-128742.b\VMS_X4_8260.m
Limit Group: MSV - 8260B Water and Solid
Last Update: 19-Dec-2023 18:24:59 Calib Date: 11-Dec-2023 20:50:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Denver\ChromData\VMS_X4\20231211-128477.b\X511702.D

Column 1 : Rxi-624Sil MS (0.25 mm) Det: MS SCAN
Process Host: CTX1675

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
* 1 Fluorobenzene	96	5.199	5.199	0.000	98	1723483	50.0	50.0	
* 2 Chlorobenzene-d5	119	7.723	7.723	0.000	90	479315	50.0	50.0	
* 3 1,4-Dichlorobenzene-d4	152	9.947	9.947	0.000	97	860763	50.0	50.0	
$ 4 Dibromofluoromethane (Surr)	111	4.692	4.692	0.000	92	469570	50.0	53.3	
$ 5 1,2-Dichloroethane-d4 (Surr)	65	4.956	4.956	0.000	0	571752	50.0	50.1	
$ 6 Toluene-d8 (Surr)	98	6.450	6.450	0.000	94	2028460	50.0	49.2	
$ 7 4-Bromofluorobenzene (Surr)	95	8.817	8.817	0.000	87	712170	50.0	43.4	
9 Dichlorodifluoromethane	85	1.760	1.760	0.000	100	553782	50.0	45.4	
10 Chloromethane	50	1.939	1.939	0.000	99	729217	50.0	43.2	
11 Vinyl chloride	62	2.039	2.039	0.000	99	666760	50.0	45.8	
12 Bromomethane	94	2.332	2.332	0.000	91	353638	50.0	48.5	
13 Chloroethane	64	2.425	2.425	0.000	100	393869	50.0	43.1	
14 Dichlorofluoromethane	67	2.596	2.596	0.000	98	1080174	50.0	48.9	
16 Trichlorofluoromethane	101	2.632	2.632	0.000	100	745162	50.0	49.2	
18 Ethyl ether	59	2.847	2.847	0.000	95	406348	50.0	47.1	
19 Acrolein	56	2.961	2.961	0.000	99	606624	493.8	437.8	
20 1,1,2-Trichloro-1,2,2-trifluoroe	151	3.040	3.040	0.000	96	309247	50.0	54.1	
21 1,1-Dichloroethene	96	3.047	3.047	0.000	96	393817	50.0	50.1	
22 Acetone	43	3.061	3.061	0.000	99	585671	200.0	174.1	
24 Iodomethane	142	3.169	3.169	0.000	99	563486	50.0	54.3	
25 Carbon disulfide	76	3.233	3.233	0.000	100	1353475	50.0	46.2	
27 Methyl acetate	43	3.290	3.290	0.000	99	740212	100.0	91.0	
28 3-Chloro-1-propene	41	3.319	3.319	0.000	91	888072	50.0	48.0	
29 Methylene Chloride	84	3.412	3.412	0.000	98	474756	50.0	45.8	
30 2-Methyl-2-propanol	59	3.455	3.455	0.000	99	428479	500.0	472.5	
31 Acrylonitrile	53	3.576	3.576	0.000	98	1939008	500.0	454.5	
32 Methyl tert-butyl ether	73	3.598	3.598	0.000	97	1330971	50.0	50.6	
33 trans-1,2-Dichloroethene	96	3.612	3.612	0.000	95	443874	50.0	49.4	
34 Hexane	57	3.805	3.805	0.000	97	692392	50.0	47.1	
35 Vinyl acetate	43	3.905	3.905	0.000	97	2184338	100.0	107.2	
36 1,1-Dichloroethane	63	3.934	3.934	0.000	97	920308	50.0	47.2	
40 2-Butanone (MEK)	43	4.320	4.320	0.000	99	948990	200.0	176.4	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
42 cis-1,2-Dichloroethene	96	4.341	4.341	0.000	87	505382	50.0	50.2	
43 2,2-Dichloropropane	77	4.355	4.355	0.000	90	759993	50.0	51.1	
45 sec-Butyl Alcohol	45	4.420	4.420	0.000	99	894327	1200.0	1144.0	
47 Chlorobromomethane	128	4.520	4.520	0.000	95	227843	50.0	56.5	
48 Tetrahydrofuran	42	4.527	4.527	0.000	90	327422	100.0	89.8	
49 Chloroform	83	4.577	4.577	0.000	96	854818	50.0	48.6	
50 1,1,1-Trichloroethane	97	4.720	4.720	0.000	98	714492	50.0	50.0	
51 Cyclohexane	56	4.784	4.784	0.000	94	908045	50.0	49.1	
52 1,1-Dichloropropene	75	4.835	4.835	0.000	96	687672	50.0	49.1	
54 Isobutyl alcohol	41	4.842	4.842	0.000	93	422698	1250.0	1232.8	
53 Carbon tetrachloride	117	4.842	4.842	0.000	96	601384	50.0	53.1	
55 Benzene	78	4.985	4.985	0.000	98	2011827	50.0	49.1	
56 1,2-Dichloroethane	62	5.013	5.013	0.000	97	679672	50.0	44.9	
58 n-Heptane	43	5.171	5.171	0.000	96	613404	50.0	49.6	
60 Trichloroethene	95	5.471	5.471	0.000	98	482492	50.0	46.3	
61 2-Pentanone	43	5.578	5.578	0.000	98	1190997	160.0	153.4	
62 Methylcyclohexane	55	5.671	5.671	0.000	94	657396	50.0	51.5	
63 1,2-Dichloropropane	63	5.678	5.678	0.000	94	535760	50.0	46.9	
65 1,4-Dioxane	88	5.721	5.721	0.000	96	117982	1000.0	947.8	
66 Dibromomethane	93	5.750	5.750	0.000	96	279095	50.0	47.8	
67 Dichlorobromomethane	83	5.871	5.871	0.000	99	648181	50.0	51.7	
69 2-Chloroethyl vinyl ether	63	6.072	6.072	0.000	92	290088	50.0	47.5	
70 cis-1,3-Dichloropropene	75	6.222	6.222	0.000	93	810728	50.0	46.1	
71 4-Methyl-2-pentanone (MIBK)	43	6.322	6.322	0.000	98	1990381	200.0	196.7	
72 Toluene	91	6.515	6.515	0.000	97	2151928	50.0	50.5	
73 trans-1,3-Dichloropropene	75	6.686	6.686	0.000	99	743398	50.0	51.9	
74 Ethyl methacrylate	69	6.701	6.701	0.000	92	611585	50.0	46.6	
75 1,1,2-Trichloroethane	97	6.858	6.858	0.000	93	400636	50.0	50.1	
76 Tetrachloroethene	164	6.951	6.951	0.000	97	376735	50.0	51.1	
77 1,3-Dichloropropane	76	7.008	7.008	0.000	97	771913	50.0	46.6	
78 2-Hexanone	43	7.022	7.022	0.000	99	1394256	200.0	177.0	
79 Chlorodibromomethane	129	7.201	7.201	0.000	91	451823	50.0	50.7	
80 Ethylene Dibromide	107	7.323	7.323	0.000	99	422164	50.0	47.5	
81 1-Chlorohexane	91	7.709	7.709	0.000	92	500670	40.0	36.9	
82 Chlorobenzene	112	7.752	7.752	0.000	92	1305977	50.0	48.4	
83 1,1,1,2-Tetrachloroethane	131	7.823	7.823	0.000	94	442182	50.0	51.8	
84 Ethylbenzene	106	7.830	7.830	0.000	99	729829	50.0	49.2	
85 m-Xylene & p-Xylene	106	7.945	7.945	0.000	0	921517	50.0	49.4	
86 o-Xylene	106	8.302	8.302	0.000	97	872406	50.0	48.0	
87 Styrene	104	8.324	8.324	0.000	95	1490528	50.0	50.1	
88 Bromoform	173	8.503	8.503	0.000	96	296531	50.0	51.8	
89 Isopropylbenzene	105	8.646	8.646	0.000	97	2245711	50.0	45.6	
91 Cyclohexanone	55	8.746	8.746	0.000	95	887042	1500.0	1810.7	
92 1,1,2,2-Tetrachloroethane	83	8.932	8.932	0.000	95	552264	50.0	41.8	
93 Bromobenzene	156	8.967	8.967	0.000	98	543374	50.0	46.3	
94 trans-1,4-Dichloro-2-butene	53	8.967	8.967	0.000	51	178855	50.0	42.4	
95 1,2,3-Trichloropropane	110	8.996	8.996	0.000	88	163434	50.0	45.3	
96 N-Propylbenzene	120	9.046	9.046	0.000	99	617675	50.0	48.9	
97 2-Chlorotoluene	126	9.146	9.146	0.000	96	517912	50.0	45.5	
98 1,3,5-Trimethylbenzene	105	9.218	9.218	0.000	95	1913201	50.0	46.8	
99 4-Chlorotoluene	126	9.261	9.261	0.000	98	554733	50.0	46.5	
100 tert-Butylbenzene	119	9.525	9.525	0.000	94	1549263	50.0	46.6	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
102 1,2,4-Trimethylbenzene	105	9.582	9.582	0.000	98	1999797	50.0	47.0	
103 sec-Butylbenzene	134	9.747	9.747	0.000	95	454210	50.0	48.8	
104 1,3-Dichlorobenzene	146	9.875	9.875	0.000	98	1024730	50.0	48.4	
105 4-Isopropyltoluene	119	9.890	9.890	0.000	97	1964512	50.0	48.0	
106 1,4-Dichlorobenzene	146	9.976	9.976	0.000	93	1055177	50.0	46.1	
108 n-Butylbenzene	91	10.297	10.297	0.000	98	1781163	50.0	47.0	
109 1,2-Dichlorobenzene	146	10.333	10.333	0.000	97	952756	50.0	45.6	
110 1,2-Dibromo-3-Chloropropane	157	11.112	11.112	0.000	81	106661	50.0	44.9	
112 1,2,4-Trichlorobenzene	180	11.935	11.935	0.000	94	571885	50.0	48.1	
113 Hexachlorobutadiene	225	12.071	12.071	0.000	95	272442	50.0	58.6	
114 Naphthalene	128	12.206	12.206	0.000	98	1317307	50.0	42.7	
115 1,2,3-Trichlorobenzene	180	12.428	12.428	0.000	96	447912	50.0	46.5	
S 122 1,2-Dichloroethene, Total (URS)	96				0		100.0	99.6	
S 129 1,2-Dichloroethene, Total	1				0		100.0	99.6	
S 124 1,3-Dichloropropene, Total	1				0		100.0	98.0	
S 123 Xylenes, Total (URS)	1				0		100.0	97.4	
S 127 Trihalomethanes, Total	1				0		200.0	202.8	
S 125 Xylenes, Total	106				0		100.0	97.4	

Reagents:

MV-MegaMainA_00100	Amount Added:	25.00	Units: uL	
MV-Gas A_00174	Amount Added:	10.00	Units: uL	
mv-IS_SS_00074	Amount Added:	5.00	Units: uL	Run Reagent

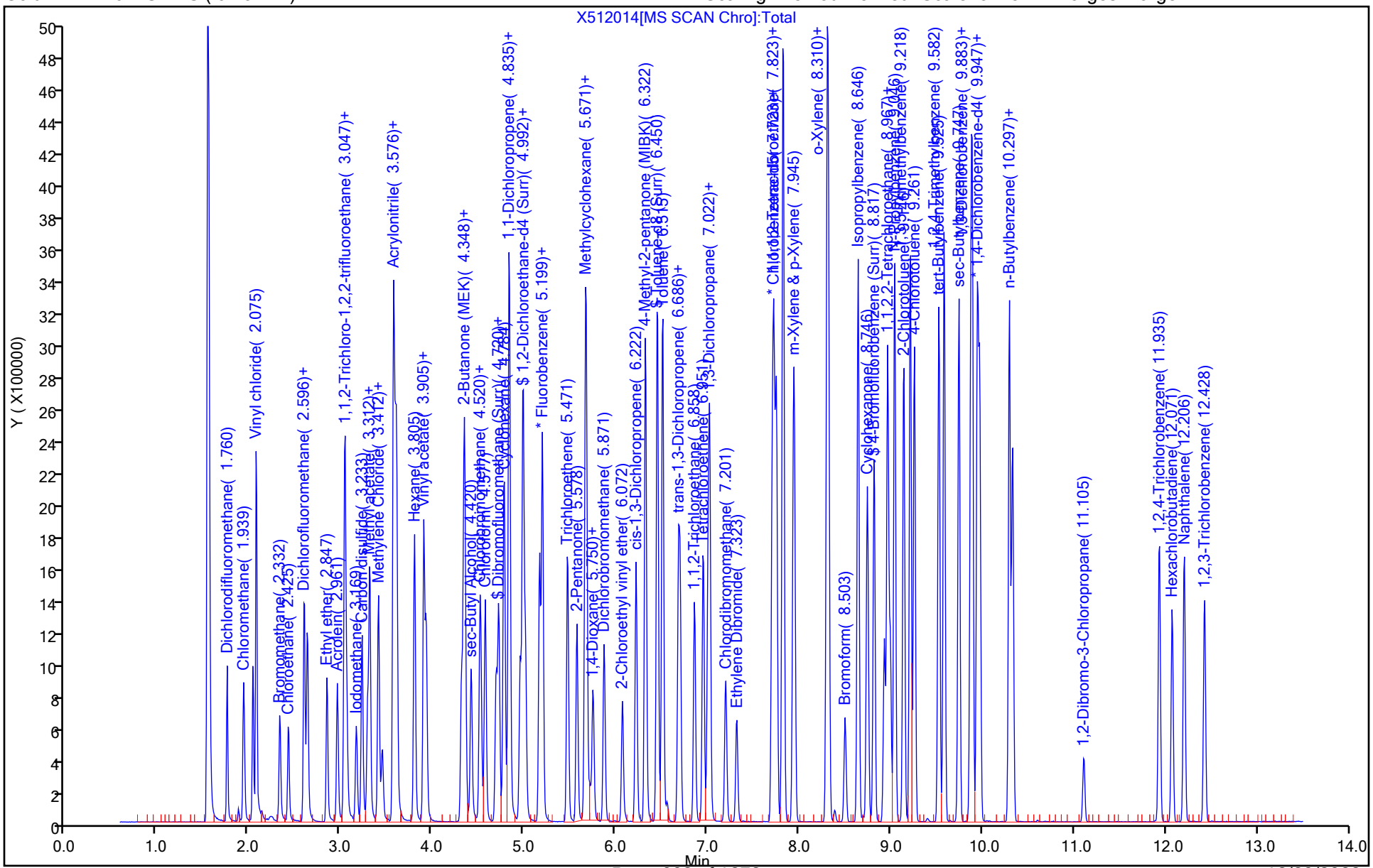
Report Date: 19-Dec-2023 18:25:00 Chrom Revision: 2.3 15-Nov-2023 20:54:34

Eurofins Denver

Data File: \\chromfs\Denver\ChromData\VMS_X4\20231219-128742.b\X512014.D

Injection Date:	19-Dec-2023 17:03:30	Instrument ID:	VMS_X4	Operator ID:	CF
Lims ID:	CCV			Worklist Smp#:	2
Client ID:					
Purge Vol:	5.000 mL	Dil. Factor:	1.0000	ALS Bottle#:	1
Method:	VMS_X4_8260	Limit Group:	MSV - 8260B Water and Solid		

Column: Rxi-624Sil MS (0.25 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 1



FORM VII
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: Eurofins Denver Job No.: 280-185814-1

SDG No.:

Lab Sample ID: CCV 280-637903/3 Calibration Date: 12/19/2023 17:25

Instrument ID: VMS_X4 Calib Start Date: 12/08/2023 21:49

GC Column: RXI-624SilMS ID: 0.25(mm) Calib End Date: 12/09/2023 00:33

Lab File ID: X512015.D Conc. Units: ug/L Heated Purge: (Y/N) N

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Dibromofluoromethane (Surr)	Ave	0.2558	0.2719	0.0100	53.2	50.0	6.3	20.0
1,2-Dichloroethane-d4 (Surr)	Ave	0.3308	0.3424	0.0100	51.7	50.0	3.5	20.0
Toluene-d8 (Surr)	Ave	4.305	4.169	0.0100	48.4	50.0	-3.1	20.0
4-Bromofluorobenzene (Surr)	Ave	0.9543	0.8725	0.0100	45.7	50.0	-8.6	20.0

Eurofins Denver
Target Compound Quantitation Report

Data File: \\chromfs\Denver\ChromData\VMS_X4\20231219-128742.b\X512015.D
Lims ID: CCV
Client ID:
Sample Type: CCV
Inject. Date: 19-Dec-2023 17:25:30 ALS Bottle#: 2 Worklist Smp#: 3
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Sample Info: CCV S
Operator ID: CF Instrument ID: VMS_X4
Sublist: chrom-VMS_X4_8260*sub18

Method: \\chromfs\Denver\ChromData\VMS_X4\20231219-128742.b\VMS_X4_8260.m
Limit Group: MSV - 8260B Water and Solid
Last Update: 19-Dec-2023 18:25:01 Calib Date: 11-Dec-2023 20:50:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Denver\ChromData\VMS_X4\20231211-128477.b\X511702.D

Column 1 : Rxi-624Sil MS (0.25 mm) Det: MS SCAN
Process Host: CTX1675

First Level Reviewer: AK2J Date: 19-Dec-2023 18:07:01

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
* 1 Fluorobenzene	96	5.199	5.199	0.000	98	1665979	50.0	50.0	
* 2 Chlorobenzene-d5	119	7.730	7.730	0.000	89	455162	50.0	50.0	
* 3 1,4-Dichlorobenzene-d4	152	9.947	9.947	0.000	97	799882	50.0	50.0	
$ 4 Dibromofluoromethane (Surr)	111	4.691	4.691	0.000	93	453015	50.0	53.2	
$ 5 1,2-Dichloroethane-d4 (Surr)	65	4.956	4.956	0.000	0	570395	50.0	51.7	
$ 6 Toluene-d8 (Surr)	98	6.458	6.458	0.000	94	1897769	50.0	48.4	
$ 7 4-Bromofluorobenzene (Surr)	95	8.817	8.817	0.000	88	697869	50.0	45.7	
17 Ethanol	45	2.754	2.754	0.000	99	165150	1500.0	1162.3	
23 Isopropyl alcohol	45	3.147	3.147	0.000	98	128161	250.0	202.9	
26 Acetonitrile	41	3.276	3.276	0.000	100	369344	250.0	204.7	
37 Isopropyl ether	87	3.926	3.926	0.000	95	177443	25.0	24.4	
38 2-Chloro-1,3-butadiene	53	3.984	3.984	0.000	93	378027	25.0	22.9	
39 Tert-butyl ethyl ether	59	4.191	4.191	0.000	99	671725	25.0	22.8	
41 Ethyl acetate	43	4.327	4.327	0.000	99	433860	50.0	41.6	
44 Propionitrile	54	4.370	4.370	0.000	100	344597	250.0	215.1	
46 Methacrylonitrile	41	4.484	4.484	0.000	95	1487090	250.0	220.9	
57 Tert-amyl methyl ether	73	5.056	5.056	0.000	86	589691	25.0	23.3	
59 n-Butanol	56	5.335	5.335	0.000	93	127962	625.0	506.1	
64 Methyl methacrylate	100	5.678	5.678	0.000	94	104761	50.0	47.1	
68 2-Nitropropane	41	6.043	6.043	0.000	98	95483	50.0	42.7	
90 cis-1,4-Dichloro-2-butene	53	8.696	8.696	0.000	0	142834	50.0	39.5	
107 1,2,3-Trimethylbenzene	105	9.990	9.990	0.000	99	903710	25.0	22.4	
111 1,3,5-Trichlorobenzene	180	11.298	11.298	0.000	96	298959	25.0	23.4	
117 t-Amyl alcohol	1		0.000				ND	ND	
118 Ethyl acrylate	55		0.000				ND	ND	

QC Flag Legend

Processing Flags
ND - Not Detected or Marked ND

Reagents:

MV-Supp A_00087	Amount Added:	25.00	Units: uL	
mv-IS_SS_00074	Amount Added:	5.00	Units: uL	Run Reagent

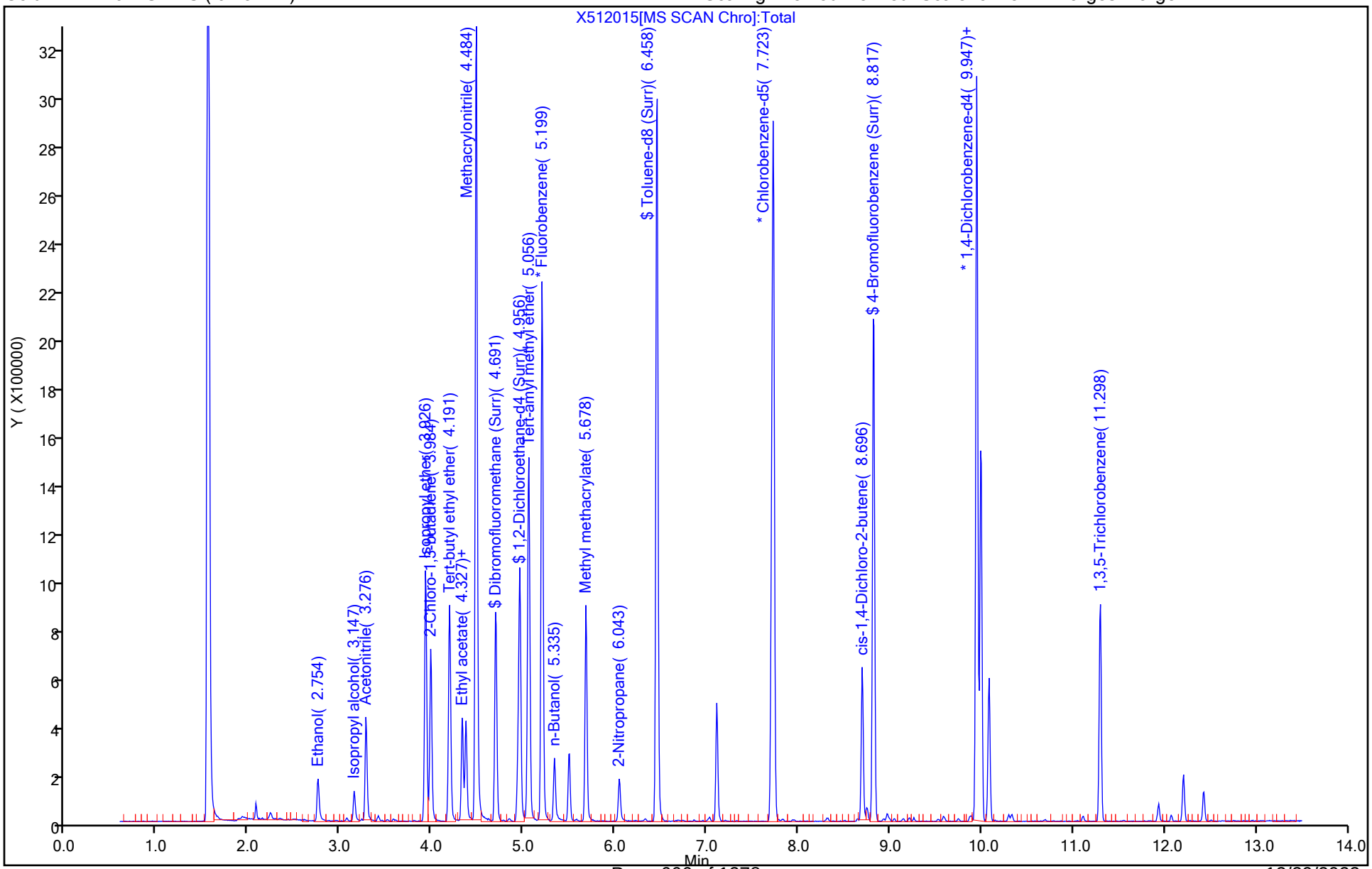
Report Date: 19-Dec-2023 18:25:01 Chrom Revision: 2.3 15-Nov-2023 20:54:34

Eurofins Denver

Data File: \\chromfs\Denver\ChromData\VMS_X4\20231219-128742.b\X512015.D

Injection Date:	19-Dec-2023 17:25:30	Instrument ID:	VMS_X4	Operator ID:	CF
Lims ID:	CCV			Worklist Smp#:	3
Client ID:					
Purge Vol:	5.000 mL	Dil. Factor:	1.0000	ALS Bottle#:	2
Method:	VMS_X4_8260	Limit Group:	MSV - 8260B Water and Solid		

Column: Rxi-624Sil MS (0.25 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 1



FORM VII
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: Eurofins Denver Job No.: 280-185814-1

SDG No.:

Lab Sample ID: CCV 280-637903/3 Calibration Date: 12/19/2023 17:25

Instrument ID: VMS_X4 Calib Start Date: 12/11/2023 18:26

GC Column: RXI-624SilMS ID: 0.25(mm) Calib End Date: 12/11/2023 20:50

Lab File ID: X512015.D Conc. Units: ug/L Heated Purge: (Y/N) N

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Ethanol	Ave	0.0043	0.0033*	0.0100	1160	1500	-22.5*	20.0
Isopropyl alcohol	Ave	0.0190	0.0154	0.0100	203	250	-18.9	20.0
Acetonitrile	Ave	0.0542	0.0443	0.0100	205	250	-18.1	20.0
Isopropyl ether	Ave	0.2187	0.2130	0.0100	24.4	25.0	-2.6	20.0
2-Chloro-1,3-butadiene	Ave	0.4963	0.4538	0.0100	22.9	25.0	-8.6	20.0
Tert-butyl ethyl ether	Ave	0.8841	0.8064	0.0100	22.8	25.0	-8.8	20.0
Ethyl acetate	Ave	0.3130	0.2604	0.0100	41.6	50.0	-16.8	20.0
Propionitrile	Ave	0.0481	0.0414	0.0100	215	250	-13.9	20.0
Methacrylonitrile	Ave	0.2021	0.1785	0.0100	221	250	-11.7	20.0
Tert-amyl methyl ether	Ave	0.7610	0.7079	0.0100	23.3	25.0	-7.0	20.0
n-Butanol	Lin2		0.0061*	0.0100	506	625	-19.0	20.0
Methyl methacrylate	Ave	0.0668	0.0629	0.0100	47.1	50.0	-5.8	20.0
2-Nitropropane	Ave	0.0671	0.0573	0.0100	42.7	50.0	-14.6	20.0
cis-1,4-Dichloro-2-butene	Ave	0.2262	0.1786	0.0100	39.5	50.0	-21.1*	20.0
1,2,3-Trimethylbenzene	Ave	2.522	2.260	0.0100	22.4	25.0	-10.4	20.0
1,3,5-Trichlorobenzene	Ave	0.8002	0.7475	0.0100	23.4	25.0	-6.6	20.0

Eurofins Denver
Target Compound Quantitation Report

Data File: \\chromfs\Denver\ChromData\VMS_X4\20231219-128742.b\X512015.D
Lims ID: CCV
Client ID:
Sample Type: CCV
Inject. Date: 19-Dec-2023 17:25:30 ALS Bottle#: 2 Worklist Smp#: 3
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Sample Info: CCV S
Operator ID: CF Instrument ID: VMS_X4
Sublist: chrom-VMS_X4_8260*sub18

Method: \\chromfs\Denver\ChromData\VMS_X4\20231219-128742.b\VMS_X4_8260.m
Limit Group: MSV - 8260B Water and Solid
Last Update: 19-Dec-2023 18:25:01 Calib Date: 11-Dec-2023 20:50:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Denver\ChromData\VMS_X4\20231211-128477.b\X511702.D

Column 1 : Rxi-624Sil MS (0.25 mm) Det: MS SCAN
Process Host: CTX1675

First Level Reviewer: AK2J Date: 19-Dec-2023 18:07:01

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
* 1 Fluorobenzene	96	5.199	5.199	0.000	98	1665979	50.0	50.0	
* 2 Chlorobenzene-d5	119	7.730	7.730	0.000	89	455162	50.0	50.0	
* 3 1,4-Dichlorobenzene-d4	152	9.947	9.947	0.000	97	799882	50.0	50.0	
$ 4 Dibromofluoromethane (Surr)	111	4.691	4.691	0.000	93	453015	50.0	53.2	
$ 5 1,2-Dichloroethane-d4 (Surr)	65	4.956	4.956	0.000	0	570395	50.0	51.7	
$ 6 Toluene-d8 (Surr)	98	6.458	6.458	0.000	94	1897769	50.0	48.4	
$ 7 4-Bromofluorobenzene (Surr)	95	8.817	8.817	0.000	88	697869	50.0	45.7	
17 Ethanol	45	2.754	2.754	0.000	99	165150	1500.0	1162.3	
23 Isopropyl alcohol	45	3.147	3.147	0.000	98	128161	250.0	202.9	
26 Acetonitrile	41	3.276	3.276	0.000	100	369344	250.0	204.7	
37 Isopropyl ether	87	3.926	3.926	0.000	95	177443	25.0	24.4	
38 2-Chloro-1,3-butadiene	53	3.984	3.984	0.000	93	378027	25.0	22.9	
39 Tert-butyl ethyl ether	59	4.191	4.191	0.000	99	671725	25.0	22.8	
41 Ethyl acetate	43	4.327	4.327	0.000	99	433860	50.0	41.6	
44 Propionitrile	54	4.370	4.370	0.000	100	344597	250.0	215.1	
46 Methacrylonitrile	41	4.484	4.484	0.000	95	1487090	250.0	220.9	
57 Tert-amyl methyl ether	73	5.056	5.056	0.000	86	589691	25.0	23.3	
59 n-Butanol	56	5.335	5.335	0.000	93	127962	625.0	506.1	
64 Methyl methacrylate	100	5.678	5.678	0.000	94	104761	50.0	47.1	
68 2-Nitropropane	41	6.043	6.043	0.000	98	95483	50.0	42.7	
90 cis-1,4-Dichloro-2-butene	53	8.696	8.696	0.000	0	142834	50.0	39.5	
107 1,2,3-Trimethylbenzene	105	9.990	9.990	0.000	99	903710	25.0	22.4	
111 1,3,5-Trichlorobenzene	180	11.298	11.298	0.000	96	298959	25.0	23.4	
117 t-Amyl alcohol	1		0.000				ND	ND	
118 Ethyl acrylate	55		0.000				ND	ND	

QC Flag Legend

Processing Flags
ND - Not Detected or Marked ND

Reagents:

MV-Supp A_00087	Amount Added: 25.00	Units: uL	
mv-IS_SS_00074	Amount Added: 5.00	Units: uL	Run Reagent

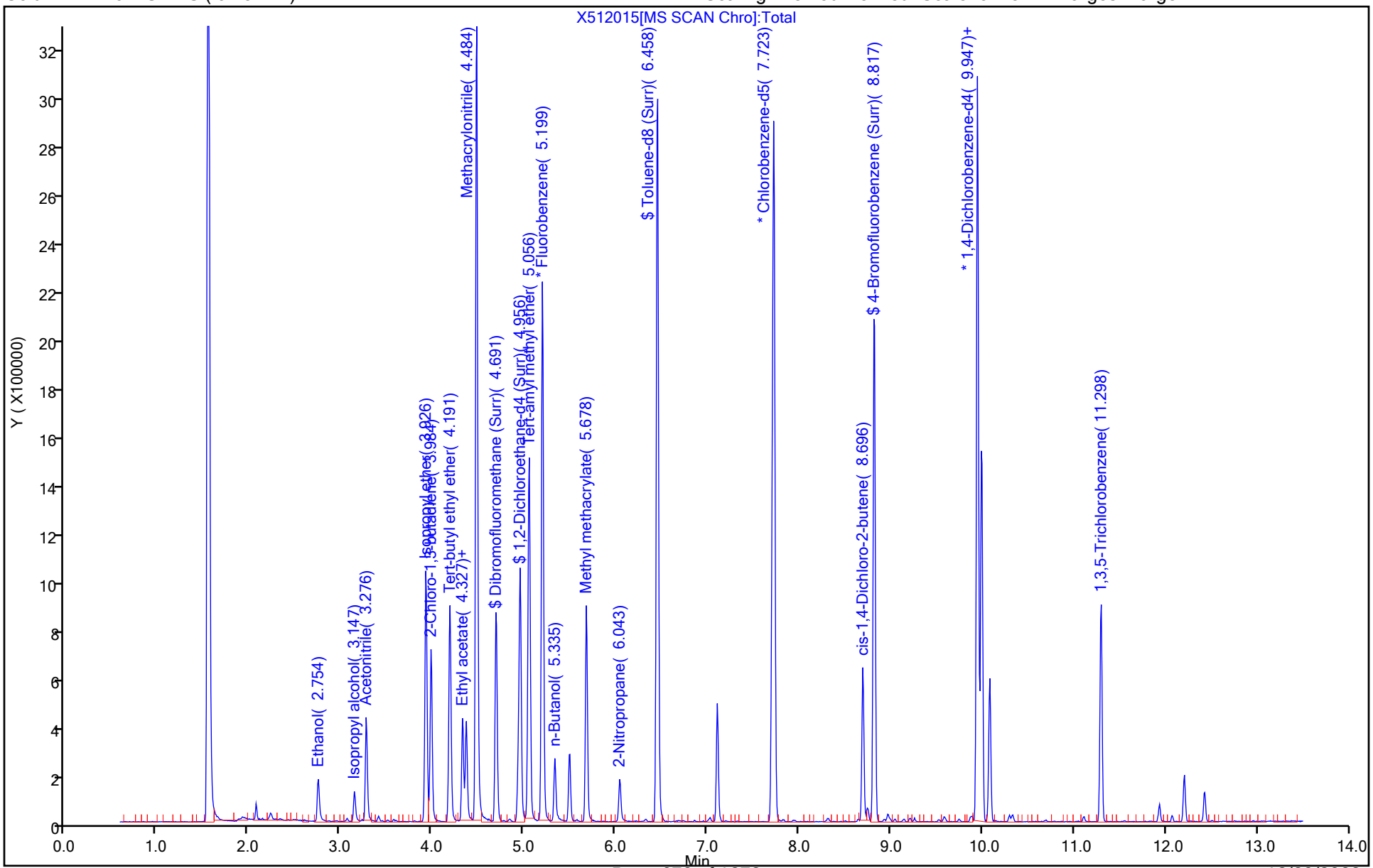
Report Date: 19-Dec-2023 18:25:01 Chrom Revision: 2.3 15-Nov-2023 20:54:34

Eurofins Denver

Data File: \\chromfs\Denver\ChromData\VMS_X4\20231219-128742.b\X512015.D

Injection Date:	19-Dec-2023 17:25:30	Instrument ID:	VMS_X4	Operator ID:	CF
Lims ID:	CCV			Worklist Smp#:	3
Client ID:					
Purge Vol:	5.000 mL	Dil. Factor:	1.0000	ALS Bottle#:	2
Method:	VMS_X4_8260	Limit Group:	MSV - 8260B Water and Solid		

Column: Rxi-624Sil MS (0.25 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 1



FORM VII
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: Eurofins Denver | Job No.: 280-185814-1

SDG No.:

Lab Sample ID: CCVC 280-637903/36 | Calibration Date: 12/20/2023 03:55

Instrument ID: VMS_X4 | Calib Start Date: 12/08/2023 21:49

GC Column: RXI-624SilMS ID: 0.25(mm) | Calib End Date: 12/09/2023 00:33

Lab File ID: X512044.D | Conc. Units: ug/L Heated Purge: (Y/N) N

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Dichlorodifluoromethane	Ave	0.3541	0.3545	0.1000	50.1	50.0	0.1	50.0
Chloromethane	Ave	0.4897	0.4930	0.1000	50.3	50.0	0.7	50.0
Vinyl chloride	Ave	0.4221	0.4282	0.0100	50.7	50.0	1.5	50.0
Bromomethane	Ave	0.2113	0.2405	0.0100	56.9	50.0	13.8	50.0
Chloroethane	Ave	0.2654	0.2658	0.0100	50.1	50.0	0.2	50.0
Dichlorofluoromethane	Ave	0.6414	0.6947	0.0100	54.2	50.0	8.3	50.0
Trichlorofluoromethane	Ave	0.4390	0.4530	0.0100	51.6	50.0	3.2	50.0
Ethyl ether	Ave	0.2502	0.2667	0.0100	53.3	50.0	6.6	50.0
Acrolein	Ave	0.0402	0.0368	0.0010	452	494	-8.4	50.0
1,1,2-Trichloro-1,2,2-trifluoroethane	Ave	0.1660	0.1939	0.0500	58.4	50.0	16.8	50.0
1,1-Dichloroethylene	Ave	0.2283	0.2415	0.0600	52.9	50.0	5.8	50.0
Acetone	Ave	0.0976	0.1030	0.0100	211	200	5.6	50.0
Iodomethane	Lin1		0.3531	0.0100	58.6	50.0	17.3	50.0
Carbon disulfide	Ave	0.8495	0.8312	0.1000	48.9	50.0	-2.2	50.0
Methyl acetate	Ave	0.2359	0.2497	0.0100	106	100	5.8	50.0
3-Chloro-1-propene	Ave	0.5365	0.5399	0.0100	50.3	50.0	0.6	50.0
Methylene Chloride	Ave	0.3010	0.3057	0.0100	50.8	50.0	1.5	50.0
2-Methyl-2-propanol	Ave	0.0263	0.0324	0.0010	615	500	23.0	50.0
Acrylonitrile	Ave	0.1238	0.1293	0.0100	522	500	4.5	50.0
Methyl tert-butyl ether	Ave	0.7636	0.8746	0.1000	57.3	50.0	14.5	50.0
trans-1,2-Dichloroethylene	Ave	0.2606	0.2818	0.1000	54.0	50.0	8.1	50.0
n-Hexane	Ave	1.535	1.416	0.0100	46.1	50.0	-7.8	50.0
Vinyl acetate	Ave	0.5909	0.5093	0.0100	86.2	100	-13.8	50.0
1,1-Dichloroethane	Ave	0.5654	0.5712	0.1000	50.5	50.0	1.0	50.0
2-Butanone (MEK)	Ave	0.1561	0.1650	0.0100	211	200	5.7	50.0
cis-1,2-Dichloroethylene	Ave	0.2918	0.3170	0.1000	54.3	50.0	8.6	50.0
2,2-Dichloropropane	Ave	0.4316	0.3946	0.0100	45.7	50.0	-8.6	50.0
sec-Butyl Alcohol	Ave	0.0227	0.0279	0.0100	1470	1200	22.8	50.0
Bromochloromethane	Ave	0.1171	0.1380	0.0500	58.9	50.0	17.9	50.0
Tetrahydrofuran	Ave	0.1057	0.1125	0.0010	106	100	6.4	50.0
Chloroform	Ave	0.5098	0.5258	0.2000	51.6	50.0	3.2	50.0
1,1,1-Trichloroethane	Ave	0.4146	0.4473	0.0500	53.9	50.0	7.9	50.0
Cyclohexane	Ave	0.5369	0.5460	0.0100	50.8	50.0	1.7	50.0
1,1-Dichloropropene	Ave	0.4064	0.4096	0.0100	50.4	50.0	0.8	50.0
Carbon tetrachloride	Ave	0.3286	0.3720	0.1000	56.6	50.0	13.2	50.0
Isobutyl alcohol	Ave	0.0099	0.0119	0.0010	1490	1250	19.4	50.0
Benzene	Ave	1.189	1.224	0.2000	51.5	50.0	3.0	50.0
1,2-Dichloroethane	Ave	0.4391	0.4317	0.0700	49.2	50.0	-1.7	50.0
n-Heptane	Ave	0.3586	0.3187		44.4	50.0	-11.1	
Trichloroethene	Ave	1.087	1.119	0.2000	51.5	50.0	3.0	50.0

FORM VII
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: Eurofins Denver Job No.: 280-185814-1

SDG No.:

Lab Sample ID: CCVC 280-637903/36 Calibration Date: 12/20/2023 03:55

Instrument ID: VMS_X4 Calib Start Date: 12/08/2023 21:49

GC Column: RXI-624SilMS ID: 0.25(mm) Calib End Date: 12/09/2023 00:33

Lab File ID: X512044.D Conc. Units: ug/L Heated Purge: (Y/N) N

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
2-Pentanone	Ave	0.2252	0.2534	0.0010	180	160	12.5	50.0
Methylcyclohexane	Ave	0.3701	0.3863	0.0500	52.2	50.0	4.4	50.0
1,2-Dichloropropane	Ave	0.3312	0.3307	0.1000	49.9	50.0	-0.1	50.0
1,4-Dioxane	Ave	0.0036	0.0040	0.0010	1110	1000	10.6	50.0
Dibromomethane	Ave	0.1692	0.1740	0.0100	51.4	50.0	2.8	50.0
Bromodichloromethane	Ave	0.3638	0.4042	0.2000	55.6	50.0	11.1	50.0
2-Chloroethyl vinyl ether	Ave	0.1770	0.1841	0.0100	52.0	50.0	4.0	50.0
cis-1,3-Dichloropropene	Ave	1.835	1.802	0.2000	49.1	50.0	-1.8	50.0
4-Methyl-2-pentanone (MIBK)	Ave	0.2936	0.3301	0.0300	225	200	12.4	50.0
Toluene	Ave	1.235	1.282	0.3000	51.9	50.0	3.8	50.0
trans-1,3-Dichloropropene	Ave	0.4152	0.4493	0.2000	54.1	50.0	8.2	50.0
Ethyl methacrylate	Ave	1.368	1.426	0.0100	52.1	50.0	4.2	50.0
1,1,2-Trichloroethane	Ave	0.2322	0.2503	0.1000	53.9	50.0	7.8	50.0
Tetrachloroethene	Ave	0.7694	0.8297	0.1000	53.9	50.0	7.8	50.0
1,3-Dichloropropane	Ave	1.726	1.717	0.0100	49.7	50.0	-0.5	50.0
2-Hexanone	Ave	0.8219	0.8666	0.0100	211	200	5.4	50.0
Dibromochloromethane	Ave	0.9293	1.033	0.1000	55.6	50.0	11.2	50.0
1,2-Dibromoethane	Ave	0.9263	0.9472	0.1000	51.1	50.0	2.3	50.0
1-Chlorohexane	Ave	1.416	1.367	0.0100	38.6	40.0	-3.5	50.0
Chlorobenzene	Ave	2.814	2.869	0.3000	51.0	50.0	2.0	50.0
1,1,1,2-Tetrachloroethane	Ave	0.8899	1.016	0.0100	57.1	50.0	14.2	50.0
Ethylbenzene	Ave	1.547	1.586	0.3000	51.2	50.0	2.5	50.0
m-Xylene & p-Xylene	Ave	1.946	1.988	0.1000	51.1	50.0	2.1	50.0
o-Xylene	Ave	1.897	1.917	0.2000	50.5	50.0	1.1	50.0
Styrene	Ave	3.102	3.283	0.2000	52.9	50.0	5.9	50.0
Bromoform	Ave	0.5975	0.6936	0.1000	58.0	50.0	16.1	50.0
Isopropylbenzene	Ave	2.861	2.789	0.3000	48.7	50.0	-2.5	50.0
Cyclohexanone	Ave	0.0511	0.0796	0.0010	2340	1500	55.8*	50.0
1,1,2,2-Tetrachloroethane	Ave	0.7682	0.7086	0.3000	46.1	50.0	-7.8	50.0
Bromobenzene	Ave	0.6813	0.6909	0.0100	50.7	50.0	1.4	50.0
trans-1,4-Dichloro-2-butene	Ave	0.2452	0.2394	0.0100	48.8	50.0	-2.3	50.0
1,2,3-Trichloropropane	Ave	0.2094	0.2205	0.0100	52.7	50.0	5.3	50.0
N-Propylbenzene	Ave	0.7338	0.7612	0.0100	51.9	50.0	3.7	50.0
o-Chlorotoluene	Ave	0.6608	0.6516	0.0100	49.3	50.0	-1.4	50.0
1,3,5-Trimethylbenzene	Ave	2.375	2.414	0.0100	50.8	50.0	1.6	50.0
p-Chlorotoluene	Ave	0.6924	0.6992	0.0100	50.5	50.0	1.0	50.0
tert-Butylbenzene	Ave	1.930	1.947	0.0100	50.4	50.0	0.9	50.0
1,2,4-Trimethylbenzene	Ave	2.470	2.513	0.3000	50.9	50.0	1.8	50.0
sec-Butylbenzene	Ave	0.5411	0.5540	0.0100	51.2	50.0	2.4	50.0
1,3-Dichlorobenzene	Ave	1.229	1.284	0.5000	52.2	50.0	4.5	50.0
4-Isopropyltoluene	Ave	2.378	2.417	0.0100	50.8	50.0	1.6	50.0

FORM VII
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: Eurofins Denver Job No.: 280-185814-1

SDG No.:

Lab Sample ID: CCVC 280-637903/36 Calibration Date: 12/20/2023 03:55

Instrument ID: VMS_X4 Calib Start Date: 12/08/2023 21:49

GC Column: RXI-624SilMS ID: 0.25(mm) Calib End Date: 12/09/2023 00:33

Lab File ID: X512044.D Conc. Units: ug/L Heated Purge: (Y/N) N

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
1,4-Dichlorobenzene	Ave	1.330	1.320	0.5000	49.6	50.0	-0.7	50.0
n-Butylbenzene	Ave	2.203	2.159	0.0100	49.0	50.0	-2.0	50.0
1,2-Dichlorobenzene	Ave	1.213	1.225	0.5000	50.5	50.0	1.0	50.0
1,2-Dibromo-3-Chloropropane	Ave	0.1381	0.1663	0.0100	60.2	50.0	20.5	50.0
1,2,4-Trichlorobenzene	Ave	0.6900	0.7535	0.2000	54.6	50.0	9.2	50.0
Hexachlorobutadiene	Ave	0.2701	0.3192	0.0100	59.1	50.0	18.2	50.0
Naphthalene	Ave	1.793	2.028	0.0100	56.6	50.0	13.1	50.0
1,2,3-Trichlorobenzene	Ave	0.5599	0.6558	0.3000	58.6	50.0	17.1	50.0
Dibromofluoromethane (Surr)	Ave	0.2558	0.2723	0.0100	53.2	50.0	6.4	50.0
1,2-Dichloroethane-d4 (Surr)	Ave	0.3308	0.3472	0.0100	52.5	50.0	4.9	50.0
Toluene-d8 (Surr)	Ave	4.305	4.244	0.0100	49.3	50.0	-1.4	50.0
4-Bromofluorobenzene (Surr)	Ave	0.9543	0.8852	0.0100	46.4	50.0	-7.2	50.0

Eurofins Denver
Target Compound Quantitation Report

Data File: \\chromfs\Denver\ChromData\VMS_X4\20231219-128742.b\X512044.D
Lims ID: ccvc
Client ID:
Sample Type: CCVC
Inject. Date: 20-Dec-2023 03:55:30 ALS Bottle#: 31 Worklist Smp#: 36
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Sample Info: CCVC
Operator ID: CF Instrument ID: VMS_X4
Sublist: chrom-VMS_X4_8260*sub1

Method: \\chromfs\Denver\ChromData\VMS_X4\20231219-128742.b\VMS_X4_8260.m
Limit Group: MSV - 8260B Water and Solid
Last Update: 20-Dec-2023 04:16:51 Calib Date: 11-Dec-2023 20:50:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Denver\ChromData\VMS_X4\20231211-128477.b\X511702.D

Column 1 : Rxi-624Sil MS (0.25 mm) Det: MS SCAN
Process Host: CTX1617

First Level Reviewer: BX8N Date: 20-Dec-2023 04:16:51

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
* 1 Fluorobenzene	96	5.199	5.199	0.000	98	1569454	50.0	50.0	
* 2 Chlorobenzene-d5	119	7.730	7.730	0.000	89	425146	50.0	50.0	
* 3 1,4-Dichlorobenzene-d4	152	9.947	9.947	0.000	97	736856	50.0	50.0	
$ 4 Dibromofluoromethane (Surr)	111	4.692	4.691	0.001	92	427311	50.0	53.2	
$ 5 1,2-Dichloroethane-d4 (Surr)	65	4.956	4.956	0.000	0	544873	50.0	52.5	
$ 6 Toluene-d8 (Surr)	98	6.451	6.458	-0.007	94	1804461	50.0	49.3	
$ 7 4-Bromofluorobenzene (Surr)	95	8.817	8.817	0.000	88	652252	50.0	46.4	
9 Dichlorodifluoromethane	85	1.760	1.760	0.000	100	556413	50.0	50.1	
10 Chloromethane	50	1.939	1.939	0.000	100	773751	50.0	50.3	
11 Vinyl chloride	62	2.039	2.039	0.000	99	672064	50.0	50.7	
12 Bromomethane	94	2.332	2.332	0.000	92	377527	50.0	56.9	
13 Chloroethane	64	2.425	2.425	0.000	100	417231	50.0	50.1	
14 Dichlorofluoromethane	67	2.597	2.596	0.001	99	1090364	50.0	54.2	
16 Trichlorofluoromethane	101	2.632	2.632	0.000	100	710907	50.0	51.6	
18 Ethyl ether	59	2.847	2.847	0.000	95	418563	50.0	53.3	
19 Acrolein	56	2.961	2.961	0.000	99	570865	493.8	452.5	
20 1,1,2-Trichloro-1,2,2-trifluoroe	151	3.040	3.040	0.000	96	304258	50.0	58.4	
21 1,1-Dichloroethene	96	3.047	3.047	0.000	95	379055	50.0	52.9	
22 Acetone	43	3.068	3.061	0.007	99	646776	200.0	211.2	
24 Iodomethane	142	3.169	3.169	0.000	100	554125	50.0	58.6	
25 Carbon disulfide	76	3.233	3.233	0.000	100	1304452	50.0	48.9	
27 Methyl acetate	43	3.290	3.290	0.000	99	783786	100.0	105.8	
28 3-Chloro-1-propene	41	3.319	3.319	0.000	90	847411	50.0	50.3	
29 Methylene Chloride	84	3.412	3.412	0.000	98	479734	50.0	50.8	
30 2-Methyl-2-propanol	59	3.455	3.455	0.000	99	507801	500.0	615.0	
31 Acrylonitrile	53	3.576	3.576	0.000	96	2029458	500.0	522.4	
32 Methyl tert-butyl ether	73	3.598	3.598	0.000	97	1372660	50.0	57.3	
33 trans-1,2-Dichloroethene	96	3.612	3.612	0.000	96	442212	50.0	54.0	
34 Hexane	57	3.805	3.805	0.000	95	601818	50.0	46.1	
35 Vinyl acetate	43	3.905	3.905	0.000	97	1598629	100.0	86.2	
36 1,1-Dichloroethane	63	3.934	3.934	0.000	97	896443	50.0	50.5	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
40 2-Butanone (MEK)	43	4.320	4.320	0.000	99	1035876	200.0	211.4	
42 cis-1,2-Dichloroethene	96	4.341	4.341	0.000	87	497461	50.0	54.3	
43 2,2-Dichloropropane	77	4.356	4.355	0.001	90	619301	50.0	45.7	
45 sec-Butyl Alcohol	45	4.420	4.420	0.000	100	1049037	1200.0	1473.7	
47 Chlorobromomethane	128	4.520	4.520	0.000	95	216627	50.0	58.9	
48 Tetrahydrofuran	42	4.527	4.527	0.000	93	353059	100.0	106.4	
49 Chloroform	83	4.577	4.577	0.000	96	825285	50.0	51.6	
50 1,1,1-Trichloroethane	97	4.727	4.720	0.007	99	702062	50.0	53.9	
51 Cyclohexane	56	4.785	4.784	0.001	95	856902	50.0	50.8	
52 1,1-Dichloropropene	75	4.835	4.835	0.000	95	642796	50.0	50.4	
54 Isobutyl alcohol	41	4.842	4.842	0.000	93	466128	1250.0	1492.8	
53 Carbon tetrachloride	117	4.842	4.842	0.000	93	583851	50.0	56.6	
55 Benzene	78	4.992	4.985	0.007	98	1921223	50.0	51.5	
56 1,2-Dichloroethane	62	5.013	5.013	0.000	97	677562	50.0	49.2	
58 n-Heptane	43	5.171	5.171	0.000	97	500246	50.0	44.4	
60 Trichloroethene	95	5.478	5.471	0.007	97	475686	50.0	51.5	
61 2-Pentanone	43	5.578	5.578	0.000	98	1272648	160.0	180.1	
62 Methylcyclohexane	55	5.671	5.671	0.000	95	606350	50.0	52.2	
63 1,2-Dichloropropane	63	5.678	5.678	0.000	93	519036	50.0	49.9	
65 1,4-Dioxane	88	5.721	5.721	0.000	97	125343	1000.0	1105.8	
66 Dibromomethane	93	5.750	5.750	0.000	97	273126	50.0	51.4	
67 Dichlorobromomethane	83	5.871	5.871	0.000	98	634295	50.0	55.6	
69 2-Chloroethyl vinyl ether	63	6.072	6.072	0.000	92	288862	50.0	52.0	
70 cis-1,3-Dichloropropene	75	6.222	6.222	0.000	93	766248	50.0	49.1	
71 4-Methyl-2-pentanone (MIBK)	43	6.329	6.322	0.007	98	2072002	200.0	224.9	
72 Toluene	91	6.515	6.515	0.000	97	2012631	50.0	51.9	
73 trans-1,3-Dichloropropene	75	6.687	6.686	0.000	98	705111	50.0	54.1	
74 Ethyl methacrylate	69	6.708	6.701	0.007	92	606115	50.0	52.1	
75 1,1,2-Trichloroethane	97	6.858	6.858	0.000	93	392865	50.0	53.9	
76 Tetrachloroethene	164	6.958	6.951	0.007	98	352725	50.0	53.9	
77 1,3-Dichloropropane	76	7.008	7.008	0.000	98	729939	50.0	49.7	
78 2-Hexanone	43	7.030	7.022	0.008	99	1473687	200.0	210.9	
79 Chlorodibromomethane	129	7.201	7.201	0.000	90	439171	50.0	55.6	
80 Ethylene Dibromide	107	7.323	7.323	0.000	97	402687	50.0	51.1	
81 1-Chlorohexane	91	7.709	7.709	0.000	93	464825	40.0	38.6	
82 Chlorobenzene	112	7.752	7.752	0.000	92	1219783	50.0	51.0	
83 1,1,1,2-Tetrachloroethane	131	7.823	7.823	0.000	93	431898	50.0	57.1	
84 Ethylbenzene	106	7.831	7.830	0.001	99	674219	50.0	51.2	
85 m-Xylene & p-Xylene	106	7.945	7.945	0.000	0	845206	50.0	51.1	
86 o-Xylene	106	8.310	8.302	0.008	98	815137	50.0	50.5	
87 Styrene	104	8.324	8.324	0.000	95	1395837	50.0	52.9	
88 Bromoform	173	8.503	8.503	0.000	96	294889	50.0	58.0	
89 Isopropylbenzene	105	8.646	8.646	0.000	97	2054894	50.0	48.7	
91 Cyclohexanone	55	8.746	8.746	0.000	96	1015543	1500.0	2337.2	
92 1,1,2,2-Tetrachloroethane	83	8.932	8.932	0.000	95	522170	50.0	46.1	
93 Bromobenzene	156	8.967	8.967	0.000	98	509067	50.0	50.7	
94 trans-1,4-Dichloro-2-butene	53	8.967	8.967	0.000	59	176431	50.0	48.8	
95 1,2,3-Trichloropropane	110	8.996	8.996	0.000	88	162490	50.0	52.7	
96 N-Propylbenzene	120	9.046	9.046	0.000	99	560931	50.0	51.9	
97 2-Chlorotoluene	126	9.146	9.146	0.000	95	480112	50.0	49.3	
98 1,3,5-Trimethylbenzene	105	9.218	9.218	0.000	95	1778563	50.0	50.8	
99 4-Chlorotoluene	126	9.261	9.261	0.000	99	515217	50.0	50.5	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
100 tert-Butylbenzene	119	9.525	9.525	0.000	94	1434463	50.0	50.4	
102 1,2,4-Trimethylbenzene	105	9.582	9.582	0.000	99	1851989	50.0	50.9	
103 sec-Butylbenzene	134	9.747	9.747	0.000	95	408243	50.0	51.2	
104 1,3-Dichlorobenzene	146	9.876	9.875	0.001	97	946310	50.0	52.2	
105 4-Isopropyltoluene	119	9.890	9.890	0.000	97	1781144	50.0	50.8	
106 1,4-Dichlorobenzene	146	9.976	9.976	0.000	93	972936	50.0	49.6	
108 n-Butylbenzene	91	10.297	10.297	0.000	98	1590692	50.0	49.0	
109 1,2-Dichlorobenzene	146	10.333	10.333	0.000	96	902932	50.0	50.5	
110 1,2-Dibromo-3-Chloropropane	157	11.113	11.112	0.000	79	122558	50.0	60.2	
112 1,2,4-Trichlorobenzene	180	11.935	11.935	0.000	94	555239	50.0	54.6	
113 Hexachlorobutadiene	225	12.071	12.071	0.000	96	235224	50.0	59.1	
114 Naphthalene	128	12.206	12.206	0.000	98	1494003	50.0	56.6	
115 1,2,3-Trichlorobenzene	180	12.428	12.428	0.000	95	483226	50.0	58.6	
S 122 1,2-Dichloroethene, Total (URS)	96				0		100.0	108.4	
S 129 1,2-Dichloroethene, Total	1				0		100.0	108.4	
S 124 1,3-Dichloropropene, Total	1				0		100.0	103.2	
S 123 Xylenes, Total (URS)	1				0		100.0	101.6	
S 127 Trihalomethanes, Total	1				0		200.0	220.7	
S 126 Total BTEX	1				0			256.2	
S 125 Xylenes, Total	106				0		100.0	101.6	

QC Flag Legend

Processing Flags

Reagents:

MV-MegaMainA_00100	Amount Added: 25.00	Units: uL	
MV-Gas A_00174	Amount Added: 10.00	Units: uL	
mv-IS_SS_00074	Amount Added: 5.00	Units: uL	Run Reagent

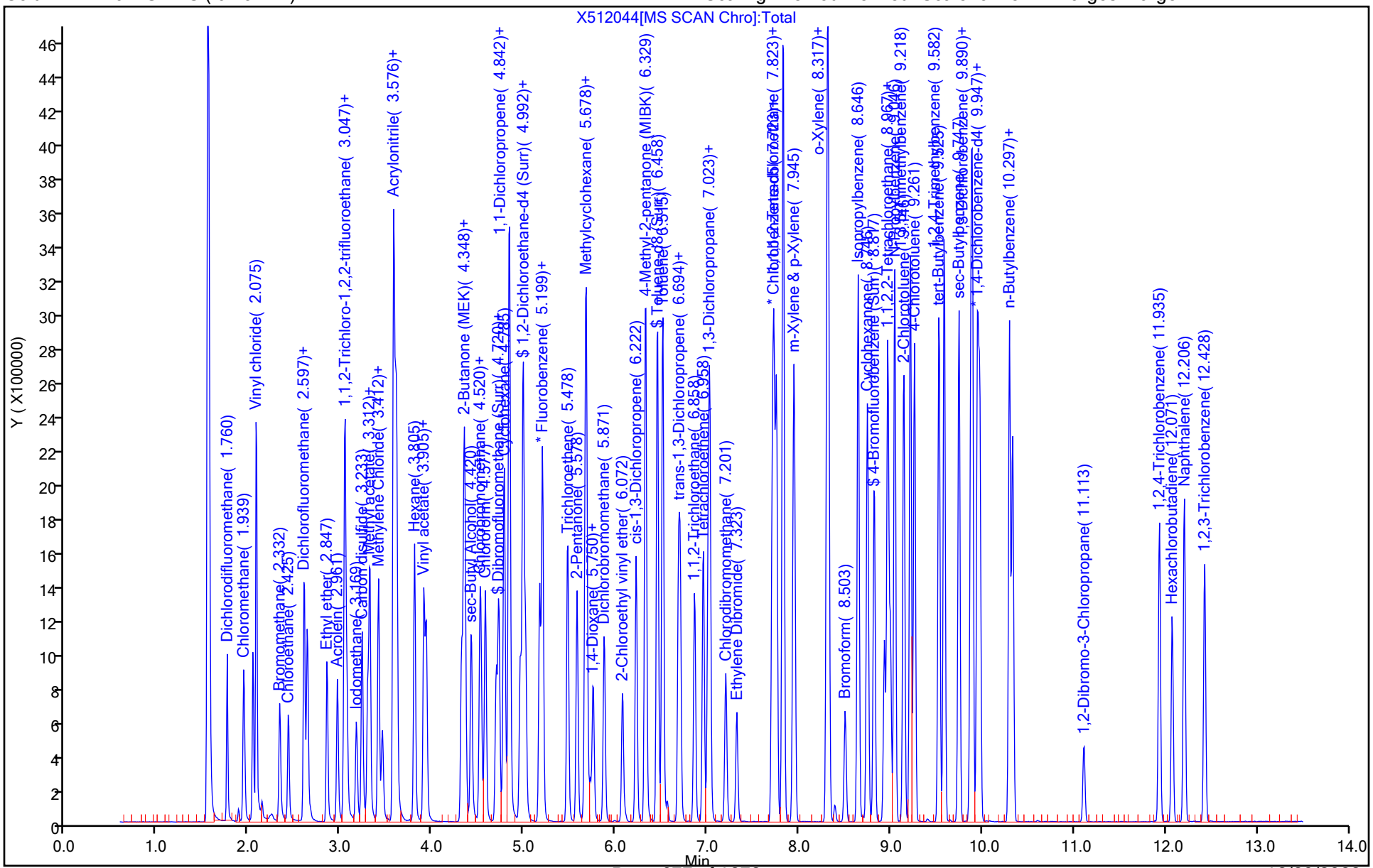
Report Date: 20-Dec-2023 04:16:52 Chrom Revision: 2.3 15-Nov-2023 20:54:34

Eurofins Denver

Data File: \\chromfs\Denver\ChromData\VMS_X4\20231219-128742.b\X512044.D

Injection Date:	20-Dec-2023 03:55:30	Instrument ID:	VMS_X4	Operator ID:	CF
Lims ID:	ccvc			Worklist Smp#:	36
Client ID:					
Purge Vol:	5.000 mL	Dil. Factor:	1.0000	ALS Bottle#:	31
Method:	VMS_X4_8260	Limit Group:	MSV - 8260B Water and Solid		

Column: Rxi-624Sil MS (0.25 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 1



FORM VII
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: Eurofins Denver Job No.: 280-185814-1

SDG No.:

Lab Sample ID: CCVC 280-637903/37 Calibration Date: 12/20/2023 04:16

Instrument ID: VMS_X4 Calib Start Date: 12/08/2023 21:49

GC Column: RXI-624SilMS ID: 0.25(mm) Calib End Date: 12/09/2023 00:33

Lab File ID: X512045.D Conc. Units: ug/L Heated Purge: (Y/N) N

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Dibromofluoromethane (Surr)	Ave	0.2558	0.2695	0.0100	52.7	50.0	5.3	50.0
1,2-Dichloroethane-d4 (Surr)	Ave	0.3308	0.3481	0.0100	52.6	50.0	5.2	50.0
Toluene-d8 (Surr)	Ave	4.305	4.235	0.0100	49.2	50.0	-1.6	50.0
4-Bromofluorobenzene (Surr)	Ave	0.9543	0.8480	0.0100	44.4	50.0	-11.1	50.0

Eurofins Denver
Target Compound Quantitation Report

Data File: \\chromfs\Denver\ChromData\VMS_X4\20231219-128742.b\X512045.D
Lims ID: ccvc
Client ID:
Sample Type: CCVC
Inject. Date: 20-Dec-2023 04:16:30 ALS Bottle#: 32 Worklist Smp#: 37
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Sample Info: CCVC
Operator ID: CF Instrument ID: VMS_X4
Sublist: chrom-VMS_X4_8260*sub18

Method: \\chromfs\Denver\ChromData\VMS_X4\20231219-128742.b\VMS_X4_8260.m
Limit Group: MSV - 8260B Water and Solid
Last Update: 20-Dec-2023 05:14:30 Calib Date: 11-Dec-2023 20:50:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Denver\ChromData\VMS_X4\20231211-128477.b\X511702.D

Column 1 : Rxi-624Sil MS (0.25 mm) Det: MS SCAN
Process Host: CTX1692

First Level Reviewer: BX8N Date: 20-Dec-2023 05:14:29

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
* 1 Fluorobenzene	96	5.199	5.199	0.000	98	1561328	50.0	50.0	
* 2 Chlorobenzene-d5	119	7.730	7.730	0.000	90	424697	50.0	50.0	
* 3 1,4-Dichlorobenzene-d4	152	9.947	9.947	0.000	97	749064	50.0	50.0	
$ 4 Dibromofluoromethane (Surr)	111	4.692	4.691	0.001	93	420734	50.0	52.7	
$ 5 1,2-Dichloroethane-d4 (Surr)	65	4.956	4.956	0.000	0	543469	50.0	52.6	
$ 6 Toluene-d8 (Surr)	98	6.458	6.458	0.000	95	1798791	50.0	49.2	
$ 7 4-Bromofluorobenzene (Surr)	95	8.817	8.817	0.000	88	635234	50.0	44.4	
17 Ethanol	45	2.754	2.754	0.000	100	196550	1500.0	1476.0	
23 Isopropyl alcohol	45	3.147	3.147	0.000	99	143876	250.0	243.0	
26 Acetonitrile	41	3.276	3.276	0.000	100	388374	250.0	229.7	
37 Isopropyl ether	87	3.927	3.926	0.001	95	171272	25.0	25.1	
38 2-Chloro-1,3-butadiene	53	3.984	3.984	0.000	94	369519	25.0	23.8	
39 Tert-butyl ethyl ether	59	4.191	4.191	0.000	98	660814	25.0	23.9	
41 Ethyl acetate	43	4.327	4.327	0.000	99	444967	50.0	45.5	
44 Propionitrile	54	4.370	4.370	0.000	99	362016	250.0	241.2	
46 Methacrylonitrile	41	4.484	4.484	0.000	95	1519437	250.0	240.8	
57 Tert-amyl methyl ether	73	5.056	5.056	0.000	86	574030	25.0	24.2	
59 n-Butanol	56	5.335	5.335	0.000	90	148114	625.0	621.0	
64 Methyl methacrylate	100	5.678	5.678	0.000	94	108444	50.0	52.0	
68 2-Nitropropane	41	6.043	6.043	0.000	99	99624	50.0	47.5	
90 cis-1,4-Dichloro-2-butene	53	8.696	8.696	0.000	0	139439	50.0	41.1	
107 1,2,3-Trimethylbenzene	105	9.990	9.990	0.000	99	853502	25.0	22.6	
111 1,3,5-Trichlorobenzene	180	11.298	11.298	0.000	97	282867	25.0	23.6	
117 t-Amyl alcohol	1		0.000				ND	ND	
118 Ethyl acrylate	55		0.000				ND	ND	

QC Flag Legend

Processing Flags
ND - Not Detected or Marked ND

Reagents:

MV-Supp A_00087	Amount Added: 25.00	Units: uL	
mv-IS_SS_00074	Amount Added: 5.00	Units: uL	Run Reagent

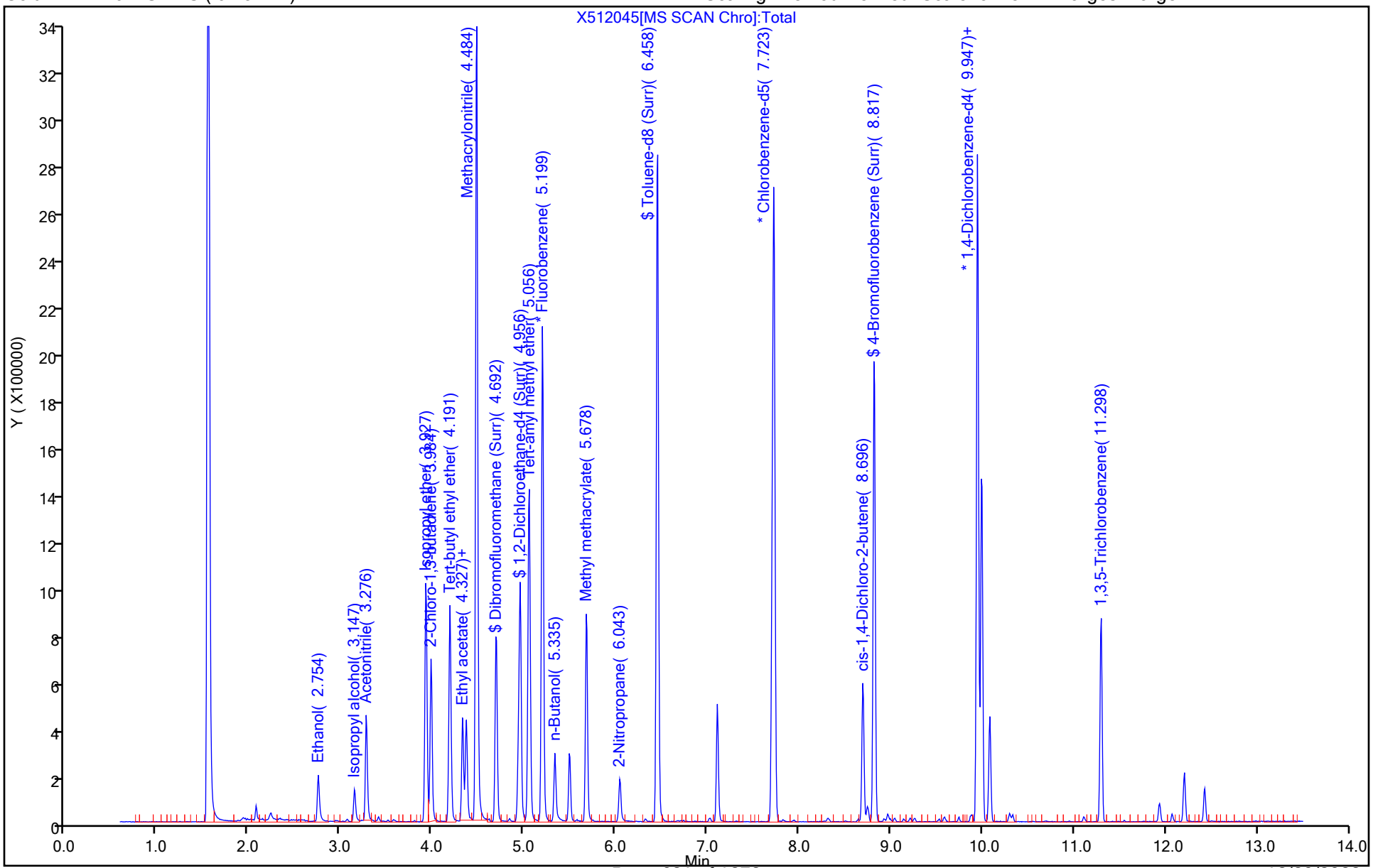
Report Date: 20-Dec-2023 05:14:30 Chrom Revision: 2.3 15-Nov-2023 20:54:34

Eurofins Denver

Data File: \\chromfs\Denver\ChromData\VMS_X4\20231219-128742.b\X512045.D

Injection Date:	20-Dec-2023 04:16:30	Instrument ID:	VMS_X4	Operator ID:	CF
Lims ID:	ccvc			Worklist Smp#:	37
Client ID:					
Purge Vol:	5.000 mL	Dil. Factor:	1.0000	ALS Bottle#:	32
Method:	VMS_X4_8260	Limit Group:	MSV - 8260B Water and Solid		

Column: Rxi-624Sil MS (0.25 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 1



FORM VII
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: Eurofins Denver Job No.: 280-185814-1

SDG No.:

Lab Sample ID: CCVC 280-637903/37 Calibration Date: 12/20/2023 04:16

Instrument ID: VMS_X4 Calib Start Date: 12/11/2023 18:26

GC Column: RXI-624SilMS ID: 0.25(mm) Calib End Date: 12/11/2023 20:50

Lab File ID: X512045.D Conc. Units: ug/L Heated Purge: (Y/N) N

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Ethanol	Ave	0.0043	0.0042*	0.0100	1480	1500	-1.6	50.0
Isopropyl alcohol	Ave	0.0190	0.0184	0.0100	243	250	-2.8	50.0
Acetonitrile	Ave	0.0542	0.0497	0.0100	230	250	-8.1	50.0
Isopropyl ether	Ave	0.2187	0.2194	0.0100	25.1	25.0	0.3	50.0
2-Chloro-1,3-butadiene	Ave	0.4963	0.4733	0.0100	23.8	25.0	-4.6	50.0
Tert-butyl ethyl ether	Ave	0.8841	0.8465	0.0100	23.9	25.0	-4.3	50.0
Ethyl acetate	Ave	0.3130	0.2850	0.0100	45.5	50.0	-8.9	50.0
Propionitrile	Ave	0.0481	0.0464	0.0100	241	250	-3.5	50.0
Methacrylonitrile	Ave	0.2021	0.1946	0.0100	241	250	-3.7	50.0
Tert-amyl methyl ether	Ave	0.7610	0.7353	0.0100	24.2	25.0	-3.4	50.0
n-Butanol	Lin2		0.0076*	0.0100	621	625	-0.6	50.0
Methyl methacrylate	Ave	0.0668	0.0695	0.0100	52.0	50.0	4.0	50.0
2-Nitropropane	Ave	0.0671	0.0638	0.0100	47.5	50.0	-5.0	50.0
cis-1,4-Dichloro-2-butene	Ave	0.2262	0.1862	0.0100	41.1	50.0	-17.7	50.0
1,2,3-Trimethylbenzene	Ave	2.522	2.279	0.0100	22.6	25.0	-9.6	50.0
1,3,5-Trichlorobenzene	Ave	0.8002	0.7553	0.0100	23.6	25.0	-5.6	50.0

Eurofins Denver
Target Compound Quantitation Report

Data File: \\chromfs\Denver\ChromData\VMS_X4\20231219-128742.b\X512045.D
Lims ID: ccvc
Client ID:
Sample Type: CCVC
Inject. Date: 20-Dec-2023 04:16:30 ALS Bottle#: 32 Worklist Smp#: 37
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Sample Info: CCVC
Operator ID: CF Instrument ID: VMS_X4
Sublist: chrom-VMS_X4_8260*sub18

Method: \\chromfs\Denver\ChromData\VMS_X4\20231219-128742.b\VMS_X4_8260.m
Limit Group: MSV - 8260B Water and Solid
Last Update: 20-Dec-2023 05:14:30 Calib Date: 11-Dec-2023 20:50:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Denver\ChromData\VMS_X4\20231211-128477.b\X511702.D

Column 1 : Rxi-624Sil MS (0.25 mm) Det: MS SCAN
Process Host: CTX1692

First Level Reviewer: BX8N Date: 20-Dec-2023 05:14:29

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
* 1 Fluorobenzene	96	5.199	5.199	0.000	98	1561328	50.0	50.0	
* 2 Chlorobenzene-d5	119	7.730	7.730	0.000	90	424697	50.0	50.0	
* 3 1,4-Dichlorobenzene-d4	152	9.947	9.947	0.000	97	749064	50.0	50.0	
$ 4 Dibromofluoromethane (Surr)	111	4.692	4.691	0.001	93	420734	50.0	52.7	
$ 5 1,2-Dichloroethane-d4 (Surr)	65	4.956	4.956	0.000	0	543469	50.0	52.6	
$ 6 Toluene-d8 (Surr)	98	6.458	6.458	0.000	95	1798791	50.0	49.2	
$ 7 4-Bromofluorobenzene (Surr)	95	8.817	8.817	0.000	88	635234	50.0	44.4	
17 Ethanol	45	2.754	2.754	0.000	100	196550	1500.0	1476.0	
23 Isopropyl alcohol	45	3.147	3.147	0.000	99	143876	250.0	243.0	
26 Acetonitrile	41	3.276	3.276	0.000	100	388374	250.0	229.7	
37 Isopropyl ether	87	3.927	3.926	0.001	95	171272	25.0	25.1	
38 2-Chloro-1,3-butadiene	53	3.984	3.984	0.000	94	369519	25.0	23.8	
39 Tert-butyl ethyl ether	59	4.191	4.191	0.000	98	660814	25.0	23.9	
41 Ethyl acetate	43	4.327	4.327	0.000	99	444967	50.0	45.5	
44 Propionitrile	54	4.370	4.370	0.000	99	362016	250.0	241.2	
46 Methacrylonitrile	41	4.484	4.484	0.000	95	1519437	250.0	240.8	
57 Tert-amyl methyl ether	73	5.056	5.056	0.000	86	574030	25.0	24.2	
59 n-Butanol	56	5.335	5.335	0.000	90	148114	625.0	621.0	
64 Methyl methacrylate	100	5.678	5.678	0.000	94	108444	50.0	52.0	
68 2-Nitropropane	41	6.043	6.043	0.000	99	99624	50.0	47.5	
90 cis-1,4-Dichloro-2-butene	53	8.696	8.696	0.000	0	139439	50.0	41.1	
107 1,2,3-Trimethylbenzene	105	9.990	9.990	0.000	99	853502	25.0	22.6	
111 1,3,5-Trichlorobenzene	180	11.298	11.298	0.000	97	282867	25.0	23.6	
117 t-Amyl alcohol	1		0.000				ND	ND	
118 Ethyl acrylate	55		0.000				ND	ND	

QC Flag Legend

Processing Flags
ND - Not Detected or Marked ND

Reagents:

MV-Supp A_00087	Amount Added: 25.00	Units: uL	
mv-IS_SS_00074	Amount Added: 5.00	Units: uL	Run Reagent

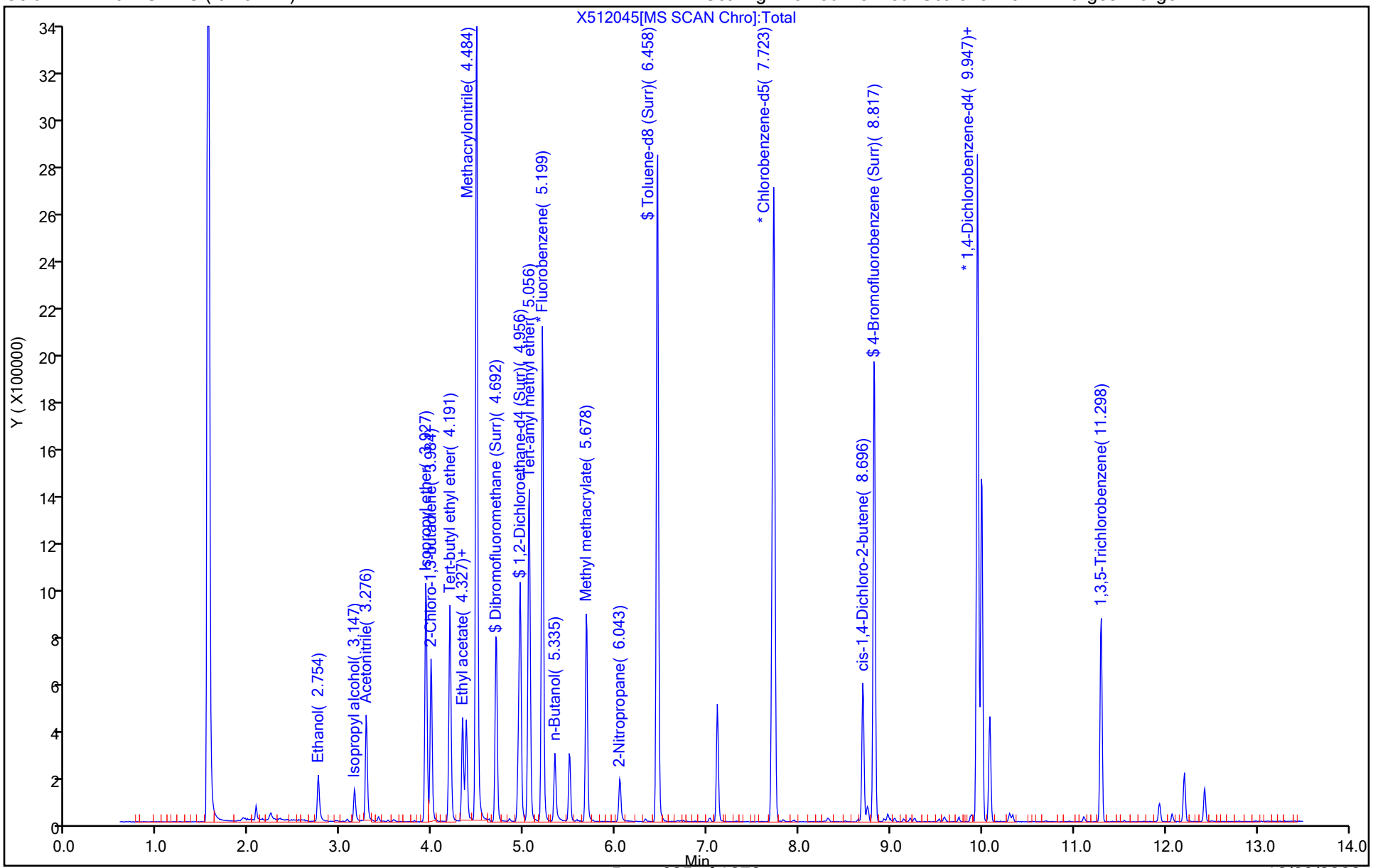
Report Date: 20-Dec-2023 05:14:30 Chrom Revision: 2.3 15-Nov-2023 20:54:34

Eurofins Denver

Data File: \\chromfs\Denver\ChromData\VMS_X4\20231219-128742.b\X512045.D

Injection Date:	20-Dec-2023 04:16:30	Instrument ID:	VMS_X4	Operator ID:	CF
Lims ID:	ccvc			Worklist Smp#:	37
Client ID:					
Purge Vol:	5.000 mL	Dil. Factor:	1.0000	ALS Bottle#:	32
Method:	VMS_X4_8260	Limit Group:	MSV - 8260B Water and Solid		

Column: Rxi-624Sil MS (0.25 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 1



Eurofins Denver
Target Compound Quantitation Report

Data File: \\chromfs\Denver\ChromData\VMS_X4\20231208-128432.b\X511646.D
Lims ID: BFB
Client ID:
Sample Type: BFB
Inject. Date: 08-Dec-2023 21:16:30 ALS Bottle#: 1 Worklist Smp#: 1
Injection Vol: 2.0 uL Dil. Factor: 1.0000
Sample Info: BLANK
Operator ID: CF Instrument ID: VMS_X4

Method: \\chromfs\Denver\ChromData\VMS_X4\20231208-128432.b\VMS_X4_8260.m
Limit Group: MSV - 8260B Water and Solid
Last Update: 11-Dec-2023 03:16:38 Calib Date: 09-Dec-2023 00:33:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Denver\ChromData\VMS_X4\20231208-128432.b\X511655.D

Column 1 : Rxi-624Sil MS (0.25 mm) Det: MS SCAN
Process Host: CTX1656

First Level Reviewer: AK2J Date: 08-Dec-2023 21:32:58

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
$ 8 BFB	95	8.824	8.824	0.000	84	751540	NR	NR	

QC Flag Legend

Processing Flags
NR - Missing Quant Standard

Reagents:

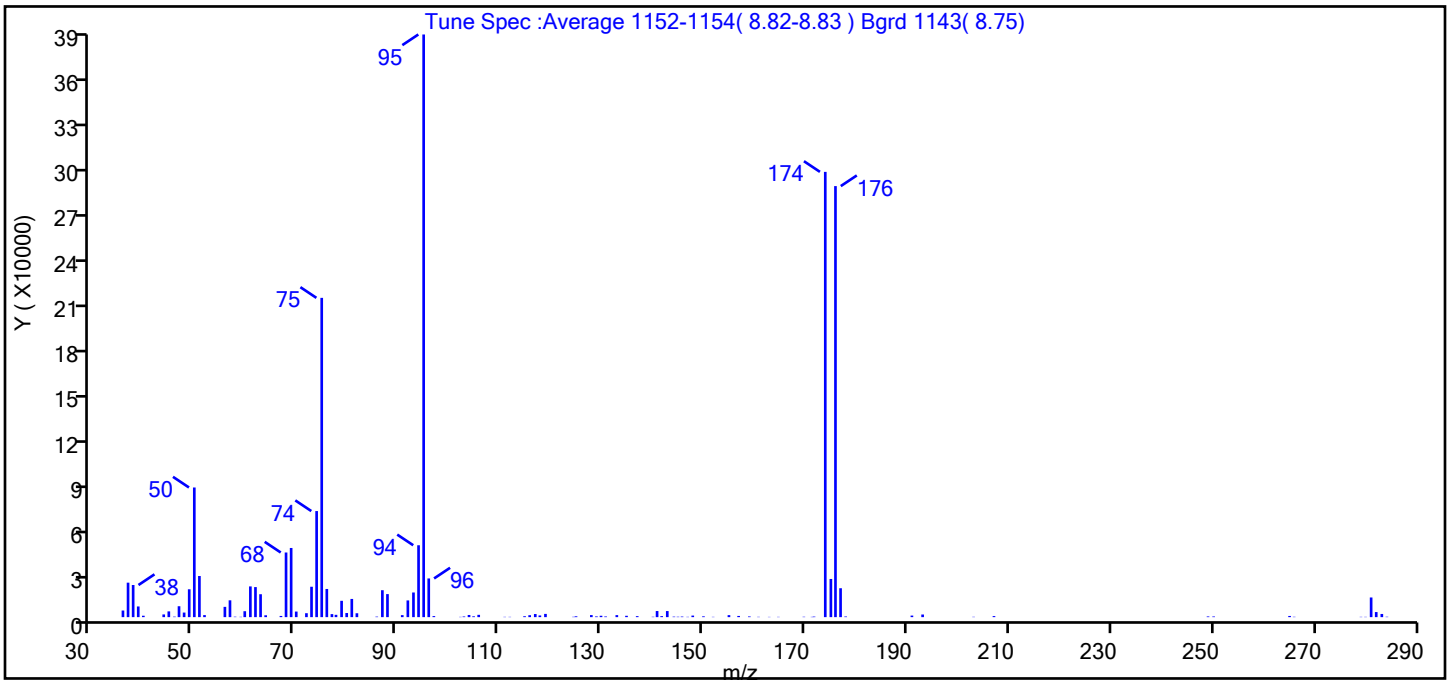
mv-Cent BFB_00007 Amount Added: 5.00 Units: uL

MS Tune Report

Eurofins Denver

Data File: \\chromfs\Denver\ChromData\VMS_X4\20231208-128432.b\X511646.D
Injection Date: 08-Dec-2023 21:16:30 Instrument ID: VMS_X4
Lims ID: BFB
Client ID:
Operator ID: CF ALS Bottle#: 1 Worklist Smp#: 1
Injection Vol: 2.0 uL Dil. Factor: 1.0000
Method: VMS_X4_8260 Limit Group: MSV - 8260B Water and Solid
Tune Method: BFB Method 8260

$ 8 BFB



m/z	Ion Abundance Criteria	% Relative Abundance
95	Base peak, 100% relative abundance	100.0
50	15 to 40% of m/z 95	22.3
75	30 to 60% of m/z 95	54.8
96	5 to 9% of m/z 95	6.6
173	Less than 2% of m/z 174	0.0 (0.0)
174	50 to 120% of m/z 95	76.4
175	5 to 9% of m/z 174	6.6 (8.6)
176	Greater than 95% but less than 101% of m/z 174	74.0 (96.8)
177	5 to 9% of m/z 176	5.0 (6.7)

Data File: \\chromfs\Denver\ChromData\VMS_X4\20231208-128432.b\X511646.D\VMS_X4_8260.rslt\spectra.d
Injection Date: 08-Dec-2023 21:16:30
Spectrum: Tune Spec :Average 1152-1154(8.82-8.83) Bgrd 1143(8.75)
Base Peak: 95.10
Minimum % Base Peak: 0
Number of Points: 108

m/z	Y	m/z	Y	m/z	Y	m/z	Y
36.00	4386	72.00	2610	112.00	191	157.00	798
37.00	22800	73.00	20104	115.00	601	159.00	459
38.00	21256	74.00	70168	116.00	1278	161.00	211
39.00	7064	75.00	211200	117.00	2058	163.00	170
40.00	929	76.00	18632	118.00	1113	165.00	187
44.00	1790	77.00	2004	119.00	2147	170.00	254
45.00	3809	78.00	1535	124.00	228	171.00	182
46.00	335	79.00	10805	125.00	554	172.00	353
47.00	7216	80.00	2722	128.00	1357	174.00	294528
48.00	3029	81.00	12040	129.00	471	175.00	25248
49.00	18432	82.00	2570	130.00	918	176.00	285120
50.00	85760	86.00	347	131.00	446	177.00	19128
51.00	27208	87.00	17816	133.00	1335	178.00	426
52.00	1351	88.00	15243	135.00	899	191.00	1036
56.00	6802	91.00	1326	137.00	664	193.00	1745
57.00	11133	92.00	11064	140.00	249	203.00	216
58.00	298	93.00	16308	141.00	4040	207.00	693
59.00	207	94.00	47552	142.00	670	249.00	460
60.00	3919	95.00	385408	143.00	4022	250.00	434
61.00	20328	96.00	25592	144.00	338	265.00	782
62.00	19880	97.00	686	145.00	271	266.00	234
63.00	15161	102.00	181	146.00	381	279.00	203
64.00	1234	103.00	434	147.00	204	280.00	197
67.00	793	104.00	1435	148.00	1028	281.00	13009
68.00	42760	105.00	540	150.00	530	282.00	3365
69.00	45752	106.00	1530	152.00	195	283.00	2102
70.00	3696	111.00	197	155.00	1320	284.00	264

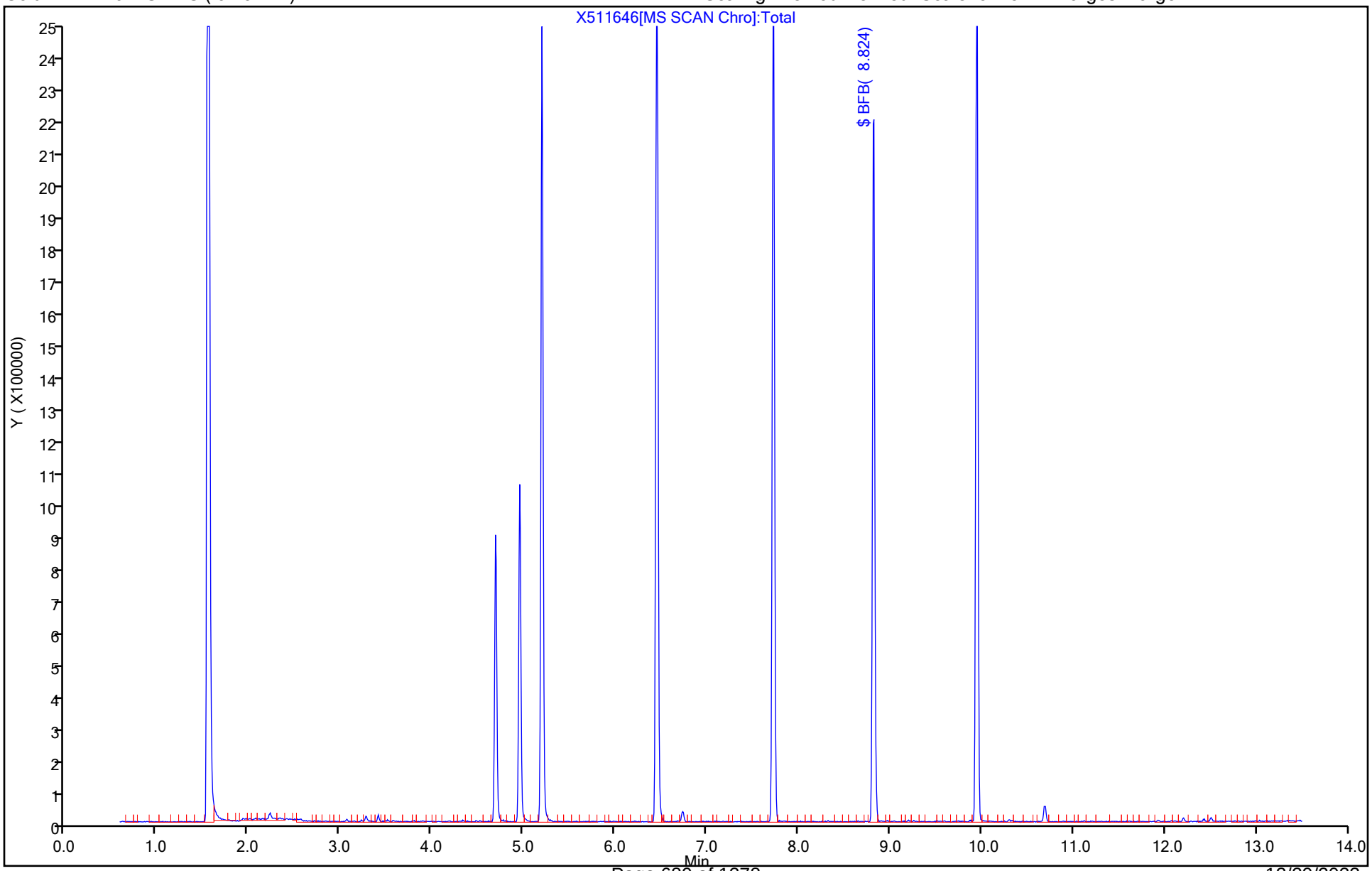
Report Date: 11-Dec-2023 03:16:38 Chrom Revision: 2.3 15-Nov-2023 20:54:34

Eurofins Denver

Data File: \\chromfs\Denver\ChromData\VMS_X4\20231208-128432.b\X511646.D

Injection Date:	08-Dec-2023 21:16:30	Instrument ID:	VMS_X4	Operator ID:	CF
Lims ID:	BFB			Worklist Smp#:	1
Client ID:					
Injection Vol:	2.0 uL	Dil. Factor:	1.0000	ALS Bottle#:	1
Method:	VMS_X4_8260	Limit Group:	MSV - 8260B Water and Solid		

Column: Rxi-624Sil MS (0.25 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 1



Eurofins Denver
Target Compound Quantitation Report

Data File: \\chromfs\Denver\ChromData\VMS_X4\20231211-128477.b\X511694.D
Lims ID: BFB
Client ID:
Sample Type: BFB
Inject. Date: 11-Dec-2023 18:06:30 ALS Bottle#: 100 Worklist Smp#: 1
Injection Vol: 2.0 uL Dil. Factor: 1.0000
Sample Info: bfb
Operator ID: CF Instrument ID: VMS_X4

Method: \\chromfs\Denver\ChromData\VMS_X4\20231211-128477.b\VMS_X4_8260.m
Limit Group: MSV - 8260B Water and Solid
Last Update: 12-Dec-2023 05:03:42 Calib Date: 11-Dec-2023 20:50:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Denver\ChromData\VMS_X4\20231211-128477.b\X511702.D

Column 1 : Rxi-624Sil MS (0.25 mm) Det: MS SCAN
Process Host: CTX1609

First Level Reviewer: BX8N Date: 12-Dec-2023 05:02:41

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
$ 8 BFB	95	8.817	8.817	0.000	82	676369	NR	NR	

QC Flag Legend

Processing Flags
NR - Missing Quant Standard

Reagents:

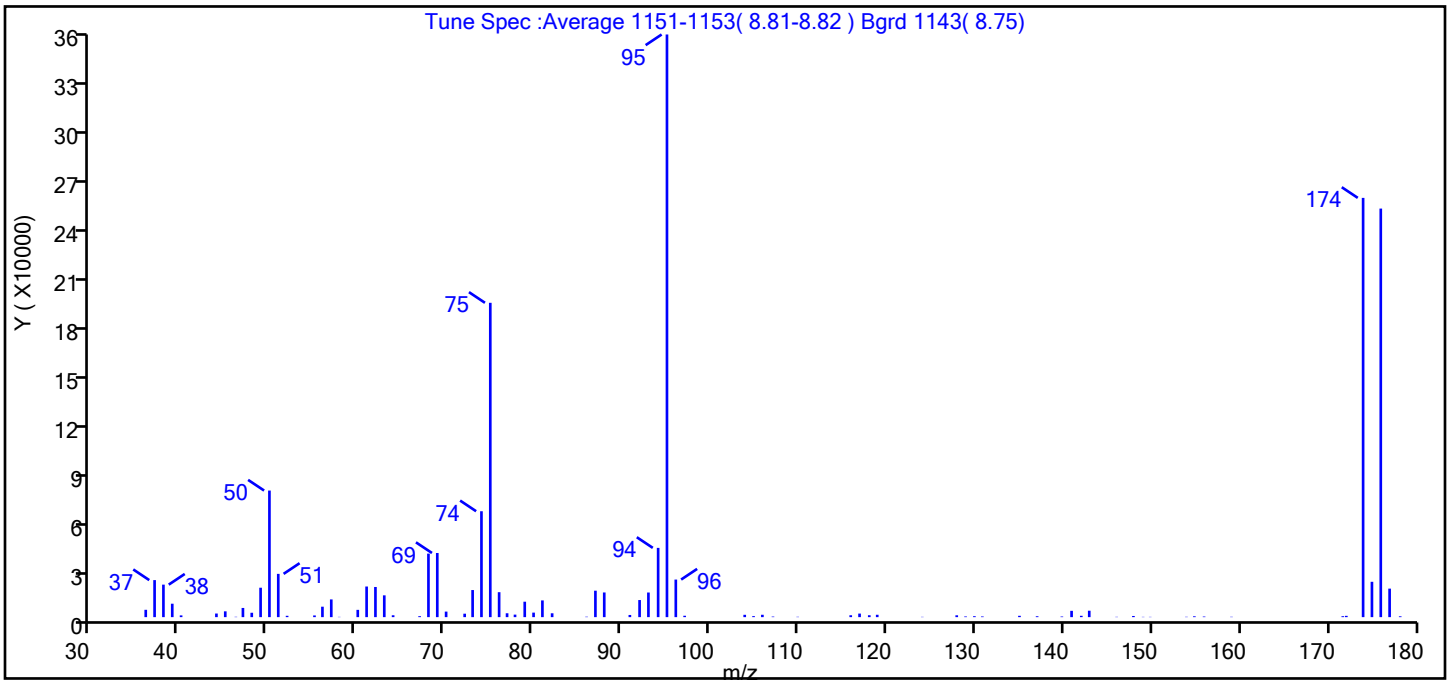
mv-Cent BFB_00007 Amount Added: 5.00 Units: uL

MS Tune Report

Eurofins Denver

Data File: \\chromfs\Denver\ChromData\VMS_X4\20231211-128477.b\X511694.D
Injection Date: 11-Dec-2023 18:06:30 Instrument ID: VMS_X4
Lims ID: BFB
Client ID:
Operator ID: CF ALS Bottle#: 100 Worklist Smp#: 1
Injection Vol: 2.0 uL Dil. Factor: 1.0000
Method: VMS_X4_8260 Limit Group: MSV - 8260B Water and Solid
Tune Method: BFB Method 8260

$ 8 BFB



m/z	Ion Abundance Criteria	% Relative Abundance
95	Base peak, 100% relative abundance	100.0
50	15 to 40% of m/z 95	21.7
75	30 to 60% of m/z 95	53.9
96	5 to 9% of m/z 95	6.4
173	Less than 2% of m/z 174	0.0 (0.0)
174	50 to 120% of m/z 95	72.0
175	5 to 9% of m/z 174	6.1 (8.4)
176	Greater than 95% but less than 101% of m/z 174	70.1 (97.4)
177	5 to 9% of m/z 176	4.9 (7.0)

Data File: \\chromfs\Denver\ChromData\VMS_X4\20231211-128477.b\X511694.D\VMS_X4_8260.rslt\spectra.d
Injection Date: 11-Dec-2023 18:06:30
Spectrum: Tune Spec :Average 1151-1153(8.81-8.82) Bgrd 1143(8.75)
Base Peak: 95.10
Minimum % Base Peak: 0
Number of Points: 83

m/z	Y	m/z	Y	m/z	Y	m/z	Y
36.00	4520	63.00	13430	92.00	10537	137.00	551
37.00	22816	64.00	1159	93.00	15176	140.00	384
38.00	20032	67.00	601	94.00	42672	141.00	3889
39.00	8278	68.00	39144	95.00	358976	142.00	830
40.00	1080	69.00	39520	96.00	23152	143.00	3959
44.00	2230	70.00	3419	97.00	860	146.00	192
45.00	3577	72.00	2126	104.00	1439	148.00	710
46.00	214	73.00	16696	105.00	626	149.00	174
47.00	5663	74.00	65248	106.00	1467	150.00	172
48.00	2703	75.00	193664	107.00	350	154.00	216
49.00	18128	76.00	15373	110.00	212	155.00	515
50.00	77992	77.00	2391	116.00	1165	156.00	366
51.00	26664	78.00	1556	117.00	2197	159.00	218
52.00	829	79.00	9513	118.00	1175	172.00	574
55.00	1048	80.00	2788	119.00	1461	172.00	804
56.00	6435	81.00	10308	124.00	180	174.00	258304
57.00	10920	82.00	2381	128.00	1137	175.00	21776
58.00	166	86.00	266	129.00	423	176.00	251712
60.00	4490	87.00	16294	130.00	576	177.00	17568
61.00	18872	88.00	15202	131.00	417	178.00	505
62.00	18584	91.00	1341	135.00	829		

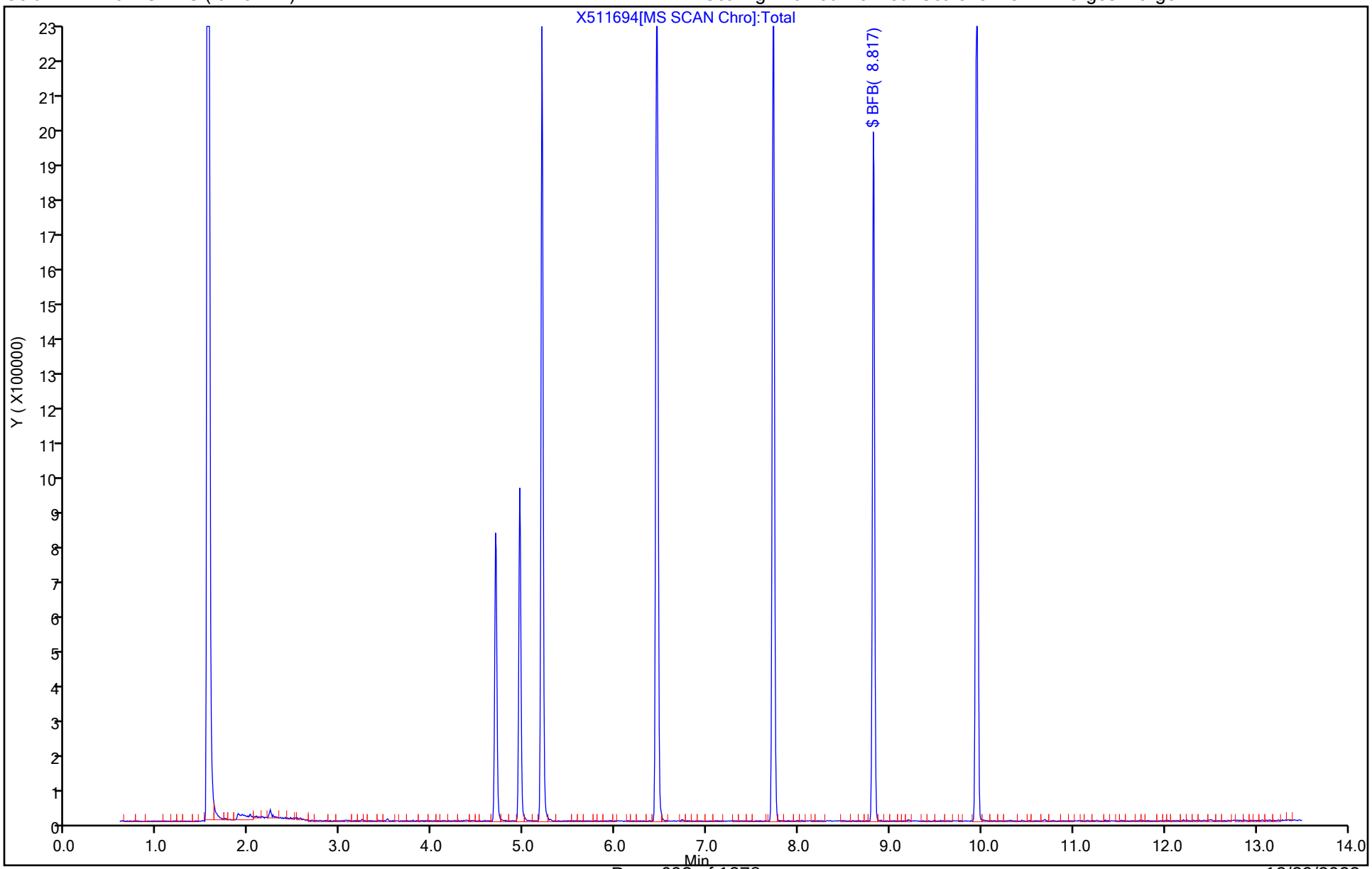
Report Date: 12-Dec-2023 05:03:42 Chrom Revision: 2.3 15-Nov-2023 20:54:34

Eurofins Denver

Data File: \\chromfs\Denver\ChromData\VMS_X4\20231211-128477.b\X511694.D

Injection Date:	11-Dec-2023 18:06:30	Instrument ID:	VMS_X4	Operator ID:	CF
Lims ID:	BFB			Worklist Smp#:	1
Client ID:					
Injection Vol:	2.0 uL	Dil. Factor:	1.0000	ALS Bottle#:	100
Method:	VMS_X4_8260	Limit Group:	MSV - 8260B Water and Solid		

Column: Rxi-624Sil MS (0.25 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 1



Eurofins Denver
Target Compound Quantitation Report

Data File: \\chromfs\Denver\ChromData\VMS_X4\20231219-128742.b\X512013.D
Lims ID: BFB
Client ID:
Sample Type: BFB
Inject. Date: 19-Dec-2023 16:43:30 ALS Bottle#: 100 Worklist Smp#: 1
Injection Vol: 2.0 uL Dil. Factor: 1.0000
Sample Info: BFB
Operator ID: CF Instrument ID: VMS_X4

Method: \\chromfs\Denver\ChromData\VMS_X4\20231219-128742.b\VMS_X4_8260.m
Limit Group: MSV - 8260B Water and Solid
Last Update: 19-Dec-2023 18:24:58 Calib Date: 11-Dec-2023 20:50:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Denver\ChromData\VMS_X4\20231211-128477.b\X511702.D

Column 1 : Rxi-624Sil MS (0.25 mm) Det: MS SCAN
Process Host: CTX1675

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
$ 8 BFB	95	8.817	8.817	0.000	85	836613	NR	NR	

QC Flag Legend

Processing Flags
NR - Missing Quant Standard

Reagents:

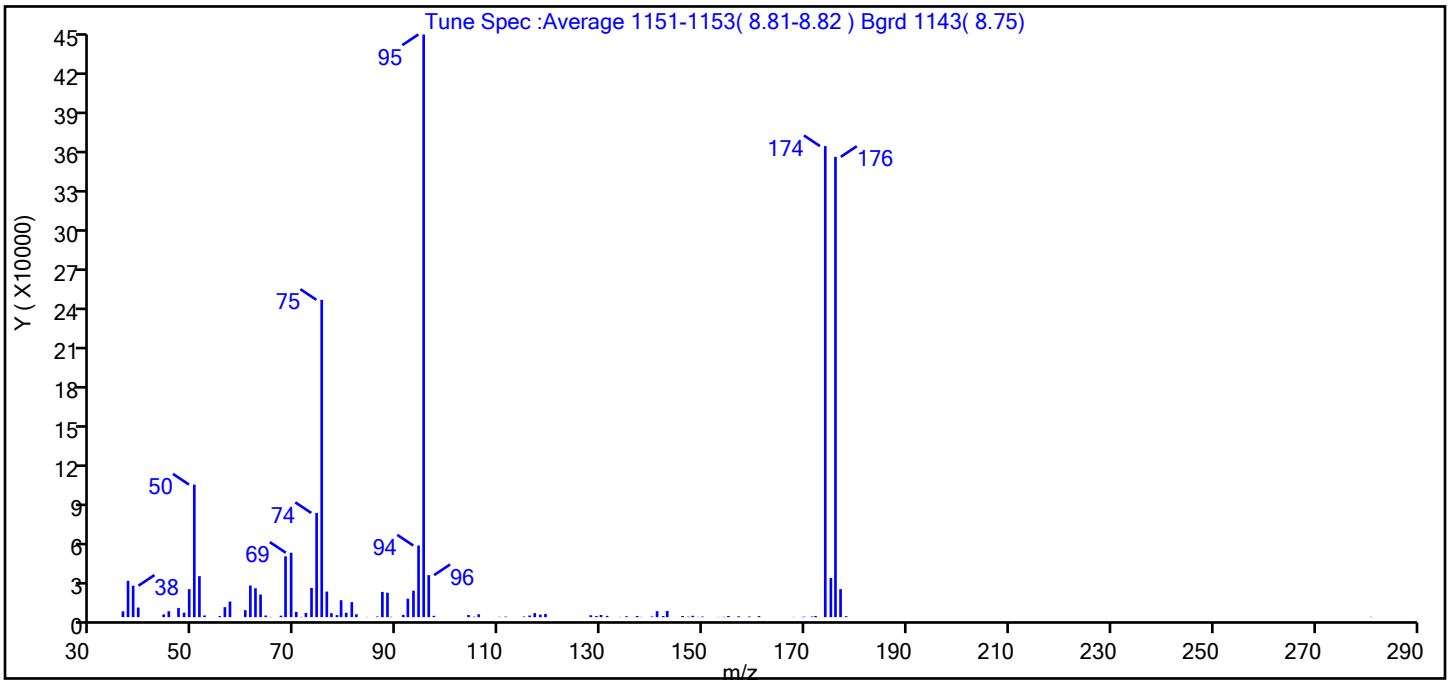
mv-Cent BFB_00007 Amount Added: 5.00 Units: uL

MS Tune Report

Eurofins Denver

Data File: \\chromfs\Denver\ChromData\VMS_X4\20231219-128742.b\X512013.D
Injection Date: 19-Dec-2023 16:43:30 Instrument ID: VMS_X4
Lims ID: BFB
Client ID:
Operator ID: CF ALS Bottle#: 100 Worklist Smp#: 1
Injection Vol: 2.0 uL Dil. Factor: 1.0000
Method: VMS_X4_8260 Limit Group: MSV - 8260B Water and Solid
Tune Method: BFB Method 8260

$ 8 BFB



m/z	Ion Abundance Criteria	% Relative Abundance
95	Base peak, 100% relative abundance	100.0
50	15 to 40% of m/z 95	22.8
75	30 to 60% of m/z 95	54.5
96	5 to 9% of m/z 95	7.2
173	Less than 2% of m/z 174	0.0 (0.0)
174	50 to 120% of m/z 95	80.8
175	5 to 9% of m/z 174	6.7 (8.3)
176	Greater than 95% but less than 101% of m/z 174	79.0 (97.7)
177	5 to 9% of m/z 176	4.8 (6.1)

Data File: \\chromfs\Denver\ChromData\VMS_X4\20231219-128742.b\X512013.D\VMS_X4_8260.rslt\spectra.d
Injection Date: 19-Dec-2023 16:43:30
Spectrum: Tune Spec :Average 1151-1153(8.81-8.82) Bgrd 1143(8.75)
Base Peak: 95.10
Minimum % Base Peak: 0
Number of Points: 94

m/z	Y	m/z	Y	m/z	Y	m/z	Y
36.00	4434	69.00	49064	96.00	32016	146.00	876
37.00	27672	70.00	4012	97.00	1013	147.00	377
38.00	23936	71.00	216	104.00	1614	148.00	1024
39.00	7311	72.00	3195	105.00	341	149.00	171
40.00	90	73.00	22248	106.00	2183	150.00	446
44.00	2094	74.00	79352	110.00	240	153.00	169
45.00	4499	75.00	241728	111.00	429	154.00	228
47.00	7048	76.00	19504	115.00	447	155.00	882
48.00	3426	77.00	3024	116.00	1226	157.00	665
49.00	21328	78.00	1562	117.00	3055	159.00	513
50.00	101000	79.00	12932	118.00	1893	161.00	825
51.00	31256	80.00	3338	119.00	2431	168.00	171
52.00	1255	81.00	11424	128.00	1451	170.00	191
55.00	805	82.00	2166	129.00	835	170.00	275
56.00	7609	84.00	176	130.00	1642	171.00	478
57.00	11891	86.00	494	131.00	967	172.00	923
60.00	5299	87.00	19216	134.00	188	174.00	358848
61.00	24064	88.00	18560	135.00	707	175.00	29848
62.00	22008	89.00	298	137.00	892	176.00	350656
63.00	17240	91.00	1700	138.00	181	177.00	21352
64.00	1253	92.00	14094	140.00	512	178.00	751
65.00	179	93.00	20176	141.00	4555	281.00	242
67.00	1089	94.00	54576	142.00	868		
68.00	46344	95.00	443904	143.00	4724		

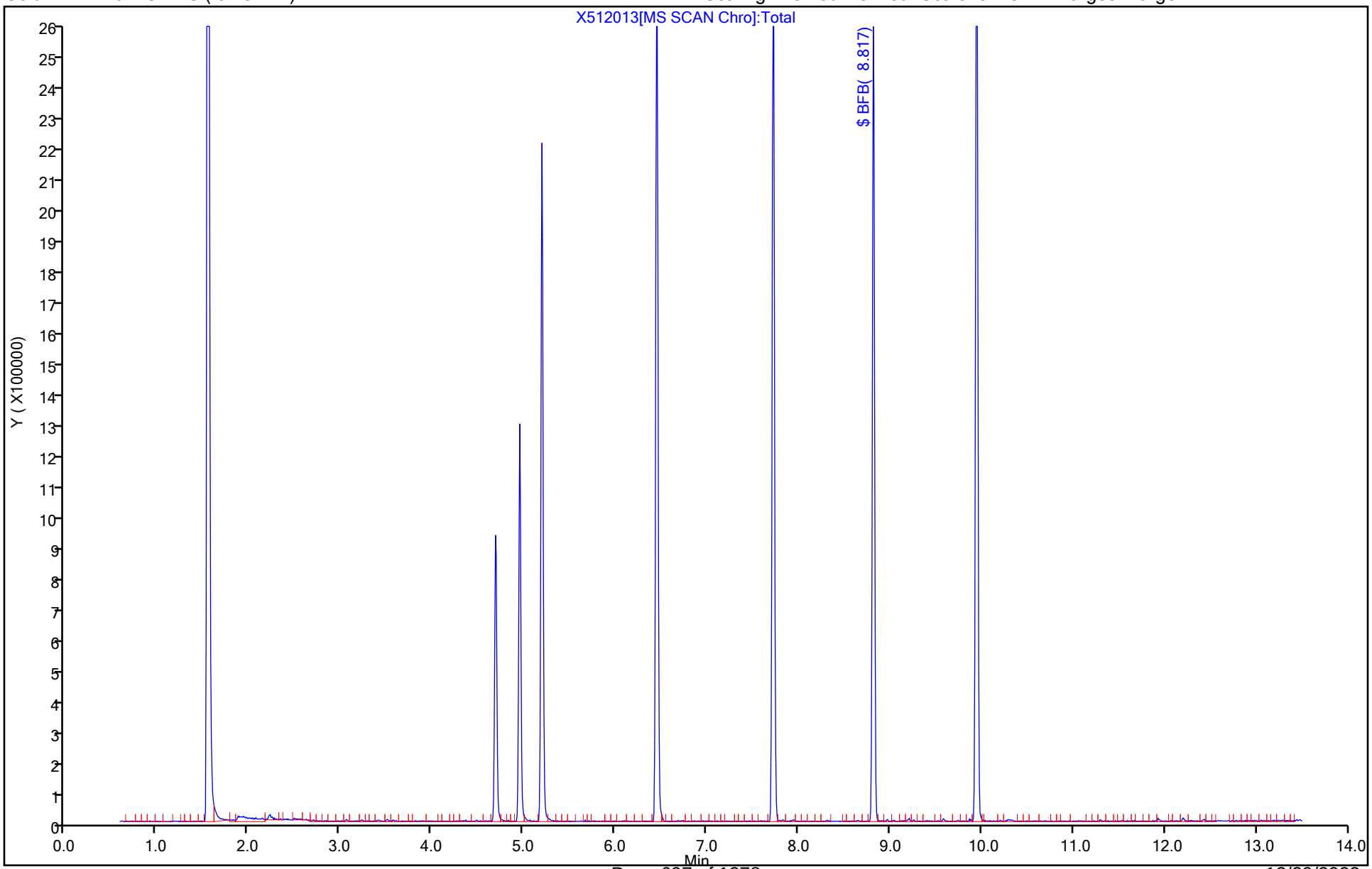
Report Date: 19-Dec-2023 18:24:58 Chrom Revision: 2.3 15-Nov-2023 20:54:34

Eurofins Denver

Data File: \\chromfs\Denver\ChromData\VMS_X4\20231219-128742.b\X512013.D

Injection Date:	19-Dec-2023 16:43:30	Instrument ID:	VMS_X4	Operator ID:	CF
Lims ID:	BFB			Worklist Smp#:	1
Client ID:					
Injection Vol:	2.0 uL	Dil. Factor:	1.0000	ALS Bottle#:	100
Method:	VMS_X4_8260	Limit Group:	MSV - 8260B Water and Solid		

Column: Rxi-624Sil MS (0.25 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 1



FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Denver | Job No.: 280-185814-1

SDG No.:

Client Sample ID: | Lab Sample ID: MB 280-637903/9

Matrix: Water | Lab File ID: X512020.D

Analysis Method: 8260D | Date Collected:

Sample wt/vol: 5(mL) | Date Analyzed: 12/19/2023 19:13

Soil Aliquot Vol: | Dilution Factor: 1

Soil Extract Vol.: | GC Column: RXI-624SilMS ID: 0.25(mm)

Purge Volume: 5.0(mL) | Heated Purge: (Y/N) N pH:

% Moisture: % Solids: | Level: (low/med) Low

Analysis Batch No.: 637903 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
96-12-8	1,2-Dibromo-3-Chloropropane	4.0	U	5.0	4.0	1.8
78-93-3	2-Butanone (MEK)	12	U	15	12	6.0
110-75-8	2-Chloroethyl vinyl ether	0.80	U	3.0	0.80	0.44
106-93-4	1,2-Dibromoethane	0.80	U	1.0	0.80	0.40
95-50-1	1,2-Dichlorobenzene	0.50	U	1.0	0.50	0.37
541-73-1	1,3-Dichlorobenzene	0.40	U	1.0	0.40	0.33
106-46-7	1,4-Dichlorobenzene	0.50	U	1.0	0.50	0.39
75-34-3	1,1-Dichloroethane	0.80	U	1.0	0.80	0.22
107-06-2	1,2-Dichloroethane	0.80	U	1.0	0.80	0.54
67-64-1	Acetone	8.0	U	15	8.0	6.6
75-35-4	1,1-Dichloroethylene	0.80	U	1.0	0.80	0.23
107-13-1	Acrylonitrile	8.0	U	20	8.0	4.5
71-43-2	Benzene	0.80	U	1.0	0.80	0.31
108-86-1	Bromobenzene	0.50	U	1.0	0.50	0.40
78-87-5	1,2-Dichloropropane	0.80	U	1.0	0.80	0.52
74-97-5	Bromochloromethane	0.80	U	1.0	0.80	0.40
142-28-9	1,3-Dichloropropane	0.80	U	1.0	0.80	0.38
75-27-4	Bromodichloromethane	0.50	U	1.0	0.50	0.39
594-20-7	2,2-Dichloropropane	0.80	U	1.0	0.80	0.38
75-25-2	Bromoform	1.8	U	2.0	1.8	1.2
563-58-6	1,1-Dichloropropene	0.80	U	1.0	0.80	0.42
75-15-0	Carbon disulfide	0.80	U	2.0	0.80	0.63
56-23-5	Carbon tetrachloride	0.80	U	1.0	0.80	0.57
108-90-7	Chlorobenzene	0.80	U	1.0	0.80	0.42
75-00-3	Chloroethane	1.6	U	4.0	1.6	1.4
67-66-3	Chloroform	0.80	U	1.0	0.80	0.36
74-87-3	Chloromethane	1.0	U	2.0	1.0	0.75
591-78-6	2-Hexanone	4.0	U	5.0	4.0	1.7
156-59-2	cis-1,2-Dichloroethylene	0.40	U	1.0	0.40	0.32
10061-01-5	cis-1,3-Dichloropropene	1.8	U	2.0	1.8	0.63
110-82-7	Cyclohexane	0.80	U	1.0	0.80	0.44
99-87-6	4-Isopropyltoluene	0.80	U	1.0	0.80	0.43
108-94-1	Cyclohexanone	64	U M	100	64	32
124-48-1	Dibromochloromethane	1.8	U	2.0	1.8	0.62

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Denver | Job No.: 280-185814-1

SDG No.:

Client Sample ID: | Lab Sample ID: MB 280-637903/9

Matrix: Water | Lab File ID: X512020.D

Analysis Method: 8260D | Date Collected:

Sample wt/vol: 5(mL) | Date Analyzed: 12/19/2023 19:13

Soil Aliquot Vol: | Dilution Factor: 1

Soil Extract Vol.: | GC Column: RXI-624SilMS ID: 0.25(mm)

Purge Volume: 5.0(mL) | Heated Purge: (Y/N) N pH:

% Moisture: % Solids: | Level: (low/med) Low

Analysis Batch No.: 637903 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
108-10-1	4-Methyl-2-pentanone (MIBK)	3.2	U	5.0	3.2	0.98
74-95-3	Dibromomethane	0.40	U	1.0	0.40	0.34
75-71-8	Dichlorodifluoromethane	2.5	U	3.0	2.5	0.96
100-41-4	Ethylbenzene	0.40	U	1.0	0.40	0.30
87-68-3	Hexachlorobutadiene	1.8	U	2.0	1.8	1.2
79-34-5	1,1,2,2-Tetrachloroethane	0.80	U	1.0	0.80	0.21
108-20-3	Isopropyl ether	2.0	U	10	2.0	1.1
98-82-8	Isopropylbenzene	0.50	U	1.0	0.50	0.36
1634-04-4	Methyl tert-butyl ether	0.80	U	5.0	0.80	0.25
87-61-6	1,2,3-Trichlorobenzene	0.80	U	2.0	0.80	0.70
108-87-2	Methylcyclohexane	0.40	U	1.0	0.40	0.31
71-55-6	1,1,1-Trichloroethane	0.50	U	1.0	0.50	0.39
75-09-2	Methylene Chloride	1.8	U	2.0	1.8	0.94
79-00-5	1,1,2-Trichloroethane	0.80	U	1.0	0.80	0.27
91-20-3	Naphthalene	0.80	U	2.0	0.80	0.63
104-51-8	n-Butylbenzene	0.80	U	1.0	0.80	0.48
110-54-3	n-Hexane	0.80	U	2.0	0.80	0.16
120-82-1	1,2,4-Trichlorobenzene	0.80	U M	1.0	0.80	0.58
103-65-1	N-Propylbenzene	0.80	U	1.0	0.80	0.53
96-18-4	1,2,3-Trichloropropane	1.8	U	2.5	1.8	0.86
526-73-8	1,2,3-Trimethylbenzene	0.80	U	2.0	0.80	0.27
106-43-4	p-Chlorotoluene	0.80	U	1.0	0.80	0.21
95-63-6	1,2,4-Trimethylbenzene	0.40	U	1.0	0.40	0.15
108-67-8	1,3,5-Trimethylbenzene	0.50	U	1.0	0.50	0.37
135-98-8	sec-Butylbenzene	0.80	U	1.0	0.80	0.45
100-42-5	Styrene	0.80	U	1.0	0.80	0.36
98-06-6	tert-Butylbenzene	0.80	U	1.0	0.80	0.42
127-18-4	Tetrachloroethene	0.80	U	1.0	0.80	0.40
108-88-3	Toluene	0.40	U	1.0	0.40	0.32
156-60-5	trans-1,2-Dichloroethylene	0.50	U	1.0	0.50	0.37
10061-02-6	trans-1,3-Dichloropropene	1.8	U	2.0	1.8	0.65
95-49-8	o-Chlorotoluene	0.40	U	1.0	0.40	0.34
79-01-6	Trichloroethene	0.40	U	1.0	0.40	0.30
75-69-4	Trichlorofluoromethane	0.80	U	2.0	0.80	0.57

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Denver | Job No.: 280-185814-1

SDG No.:

Client Sample ID: | Lab Sample ID: MB 280-637903/9

Matrix: Water | Lab File ID: X512020.D

Analysis Method: 8260D | Date Collected:

Sample wt/vol: 5(mL) | Date Analyzed: 12/19/2023 19:13

Soil Aliquot Vol: | Dilution Factor: 1

Soil Extract Vol.: | GC Column: RXI-624SilMS ID: 0.25(mm)

Purge Volume: 5.0(mL) | Heated Purge: (Y/N) N pH:

% Moisture: % Solids: | Level: (low/med) Low

Analysis Batch No.: 637903 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
108-05-4	Vinyl acetate	2.0	U	3.0	2.0	0.94
75-01-4	Vinyl chloride	1.0	U	2.0	1.0	0.51
1330-20-7	Xylenes, Total	0.80	U	1.0	0.80	0.33

CAS NO.	SURROGATE	%REC	Q	LIMITS
17060-07-0	1,2-Dichloroethane-d4 (Surr)	103		81-118
2037-26-5	Toluene-d8 (Surr)	100		89-112
460-00-4	4-Bromofluorobenzene (Surr)	90		85-114
1868-53-7	Dibromofluoromethane (Surr)	108		80-119

Eurofins Denver
Target Compound Quantitation Report

Data File: \\chromfs\Denver\ChromData\VMS_X4\20231219-128742.b\X512020.D
Lims ID: MB
Client ID:
Sample Type: MB
Inject. Date: 19-Dec-2023 19:13:30 ALS Bottle#: 7 Worklist Smp#: 9
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Sample Info: MB
Operator ID: CF Instrument ID: VMS_X4

Method: \\chromfs\Denver\ChromData\VMS_X4\20231219-128742.b\VMS_X4_8260.m
Limit Group: MSV - 8260B Water and Solid
Last Update: 19-Dec-2023 20:23:02 Calib Date: 11-Dec-2023 20:50:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Denver\ChromData\VMS_X4\20231211-128477.b\X511702.D

Column 1 : Rxi-624Sil MS (0.25 mm) Det: MS SCAN
Process Host: CTX1675

First Level Reviewer: AK2J Date: 19-Dec-2023 20:23:07

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
* 1 Fluorobenzene	96	5.199	5.199	0.000	98	1644033	50.0	50.0	
* 2 Chlorobenzene-d5	119	7.730	7.730	0.000	89	445413	50.0	50.0	
* 3 1,4-Dichlorobenzene-d4	152	9.947	9.947	0.000	97	791980	50.0	50.0	
$ 4 Dibromofluoromethane (Surr)	111	4.692	4.691	0.001	93	453230	50.0	53.9	
$ 5 1,2-Dichloroethane-d4 (Surr)	65	4.956	4.956	0.000	0	559114	50.0	51.4	
$ 6 Toluene-d8 (Surr)	98	6.458	6.458	0.000	95	1911007	50.0	49.8	
$ 7 4-Bromofluorobenzene (Surr)	95	8.817	8.817	0.000	88	681095	50.0	45.1	
$ 8 BFB	95	8.817	8.817	0.000	86	681095		NR	
9 Dichlorodifluoromethane	85		1.760					ND	
10 Chloromethane	50		1.939					ND	
11 Vinyl chloride	62		2.039					ND	
12 Bromomethane	94		2.332					ND	7
13 Chloroethane	64		2.425					ND	
15 Propene oxide	58		2.504					ND	
14 Dichlorofluoromethane	67		2.596					ND	
16 Trichlorofluoromethane	101		2.632					ND	
17 Ethanol	45		2.754					ND	
18 Ethyl ether	59		2.847					ND	
19 Acrolein	56		2.961					ND	
20 1,1,2-Trichloro-1,2,2-trifluoroe	151		3.040					ND	
21 1,1-Dichloroethene	96		3.047					ND	
22 Acetone	43	3.061	3.061	0.000	43	2015		0.6280	
23 Isopropyl alcohol	45		3.147					ND	
24 Iodomethane	142		3.169					ND	
25 Carbon disulfide	76		3.233					ND	
26 Acetonitrile	41	3.276	3.276	0.000	84	6207		3.49	
27 Methyl acetate	43		3.290					ND	
28 3-Chloro-1-propene	41		3.319					ND	
29 Methylene Chloride	84	3.419	3.412	0.007	94	5047		0.5099	
30 2-Methyl-2-propanol	59		3.455					ND	
31 Acrylonitrile	53		3.576					ND	
32 Methyl tert-butyl ether	73		3.598					ND	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
33 trans-1,2-Dichloroethene	96		3.612					ND	
34 Hexane	57		3.805					ND	
35 Vinyl acetate	43		3.905					ND	
37 Isopropyl ether	87		3.926					ND	
36 1,1-Dichloroethane	63		3.934					ND	
38 2-Chloro-1,3-butadiene	53		3.984					ND	
39 Tert-butyl ethyl ether	59		4.191					ND	
40 2-Butanone (MEK)	43		4.320					ND	
41 Ethyl acetate	43		4.327					ND	
42 cis-1,2-Dichloroethene	96		4.341					ND	
43 2,2-Dichloropropane	77		4.355					ND	
44 Propionitrile	54		4.370					ND	
45 sec-Butyl Alcohol	45		4.420					ND	
46 Methacrylonitrile	41		4.484					ND	
47 Chlorobromomethane	128		4.520					ND	
48 Tetrahydrofuran	42		4.527					ND	
49 Chloroform	83		4.577					ND	
50 1,1,1-Trichloroethane	97		4.720					ND	
51 Cyclohexane	56		4.784					ND	
52 1,1-Dichloropropene	75		4.835					ND	
54 Isobutyl alcohol	41		4.842					ND	
53 Carbon tetrachloride	117		4.842					ND	
55 Benzene	78		4.985					ND	
56 1,2-Dichloroethane	62		5.013					ND	
57 Tert-amyl methyl ether	73		5.056					ND	
58 n-Heptane	43		5.171					ND	
59 n-Butanol	56		5.335					ND	
60 Trichloroethene	95		5.471					ND	
61 2-Pentanone	43		5.578					ND	
62 Methylcyclohexane	55		5.671					ND	
64 Methyl methacrylate	100		5.678					ND	
63 1,2-Dichloropropane	63		5.678					ND	
65 1,4-Dioxane	88		5.721					ND	
66 Dibromomethane	93		5.750					ND	
67 Dichlorobromomethane	83		5.871					ND	
68 2-Nitropropane	41		6.043					ND	
69 2-Chloroethyl vinyl ether	63		6.072					ND	
70 cis-1,3-Dichloropropene	75		6.222					ND	
71 4-Methyl-2-pentanone (MIBK)	43		6.322					ND	
72 Toluene	91		6.515					ND	
73 trans-1,3-Dichloropropene	75		6.686					ND	
74 Ethyl methacrylate	69		6.701					ND	
75 1,1,2-Trichloroethane	97		6.858					ND	
76 Tetrachloroethene	164		6.951					ND	
77 1,3-Dichloropropane	76		7.008					ND	
78 2-Hexanone	43		7.022					ND	
79 Chlorodibromomethane	129		7.201					ND	
80 Ethylene Dibromide	107		7.323					ND	
81 1-Chlorohexane	91		7.709					ND	U
82 Chlorobenzene	112		7.752					ND	
83 1,1,1,2-Tetrachloroethane	131		7.823					ND	
84 Ethylbenzene	106		7.830					ND	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
85 m-Xylene & p-Xylene	106		7.945					ND	
86 o-Xylene	106		8.302					ND	
87 Styrene	104		8.324					ND	
88 Bromoform	173		8.503					ND	
89 Isopropylbenzene	105		8.646					ND	7
90 cis-1,4-Dichloro-2-butene	53		8.696					ND	
91 Cyclohexanone	55		8.746					ND	U
92 1,1,2,2-Tetrachloroethane	83		8.932					ND	
93 Bromobenzene	156		8.967					ND	
94 trans-1,4-Dichloro-2-butene	53		8.967					ND	
95 1,2,3-Trichloropropane	110		8.996					ND	
96 N-Propylbenzene	120		9.046					ND	
97 2-Chlorotoluene	126		9.146					ND	
98 1,3,5-Trimethylbenzene	105		9.218					ND	
99 4-Chlorotoluene	126		9.261					ND	
101 Pentachloroethane	167		9.411					ND	
100 tert-Butylbenzene	119		9.525					ND	
102 1,2,4-Trimethylbenzene	105		9.582					ND	
103 sec-Butylbenzene	134		9.747					ND	
104 1,3-Dichlorobenzene	146		9.875					ND	
105 4-Isopropyltoluene	119		9.890					ND	
106 1,4-Dichlorobenzene	146		9.976					ND	7
107 1,2,3-Trimethylbenzene	105		9.990					ND	
108 n-Butylbenzene	91		10.297					ND	
109 1,2-Dichlorobenzene	146		10.333					ND	
110 1,2-Dibromo-3-Chloropropane	157		11.112					ND	
111 1,3,5-Trichlorobenzene	180		11.298					ND	
112 1,2,4-Trichlorobenzene	180		11.935					ND	U
113 Hexachlorobutadiene	225		12.071					ND	
114 Naphthalene	128	12.206	12.206	0.000	95	14023		0.4939	
115 1,2,3-Trichlorobenzene	180	12.428	12.428	0.000	16	4808		0.5421	
116 Ethylene oxide TIC	1		0.000					ND	
117 t-Amyl alcohol	1		0.000					ND	
118 Ethyl acrylate	55		0.000					ND	
119 1-Chloro-1-fluoroethane TIC	1		0.000					ND	
120 Tetrahydrothiophene TIC	1		0.000					ND	
121 Propene oxide TIC	58		5.334					ND	
S 122 1,2-Dichloroethene, Total (URS)	96		2.000					ND	7
S 129 1,2-Dichloroethene, Total	1		0.000					ND	7
S 124 1,3-Dichloropropene, Total	1		0.000					ND	7
S 123 Xylenes, Total (URS)	1		0.000					ND	7
S 127 Trihalomethanes, Total	1		0.000					ND	7
S 126 Total BTEX	1		0.000					ND	7
S 128 TAH	1				0			0	
S 125 Xylenes, Total	106		0.000					ND	7

QC Flag Legend

Processing Flags

NR - Missing Quant Standard

7 - Failed Limit of Detection

Review Flags
U - Marked Undetected

Reagents:

mv-IS_SS_00074 Amount Added: 5.00 Units: uL Run Reagent

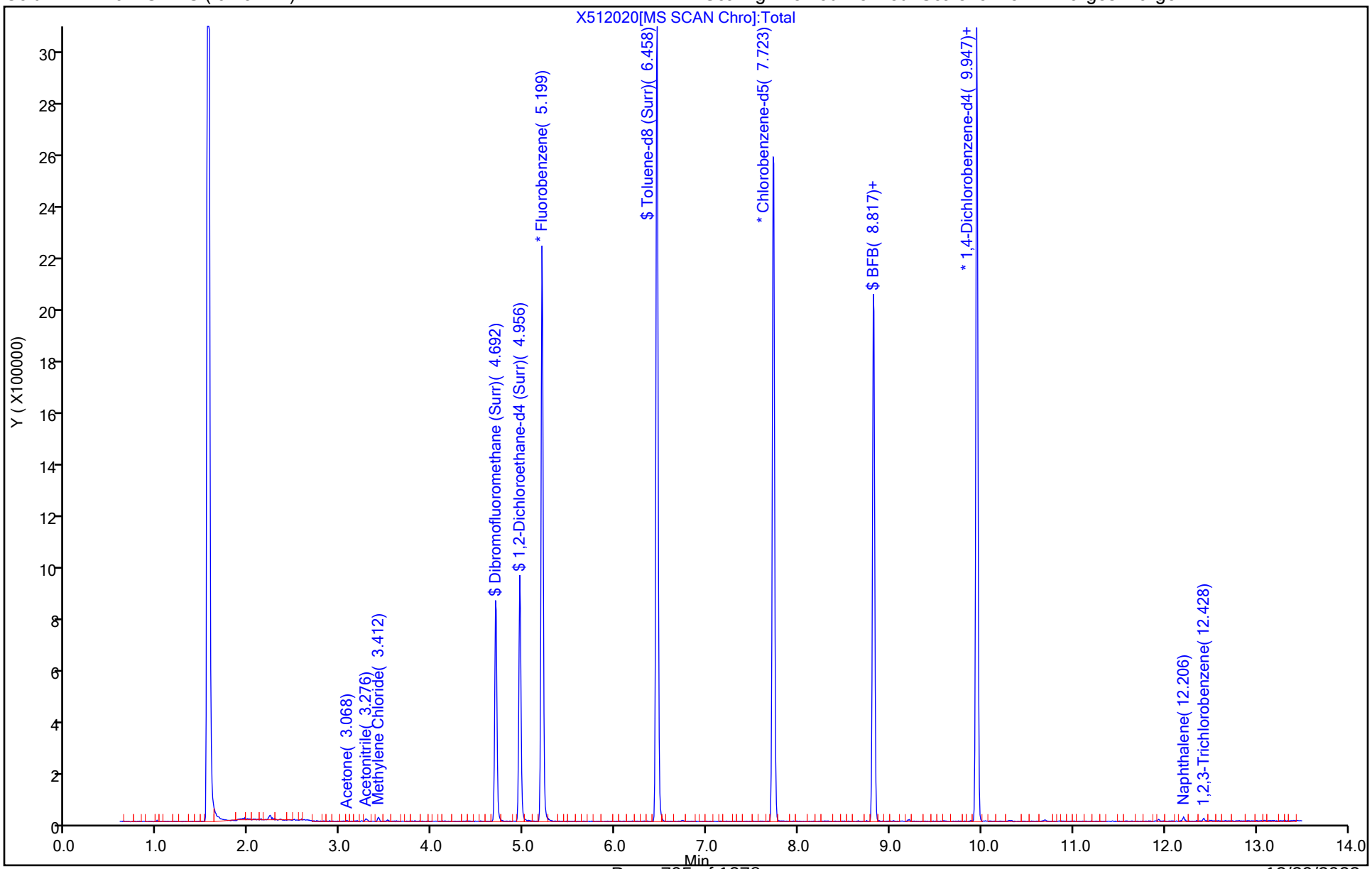
Report Date: 19-Dec-2023 20:23:12 Chrom Revision: 2.3 15-Nov-2023 20:54:34

Eurofins Denver

Data File: \\chromfs\Denver\ChromData\VMS_X4\20231219-128742.b\X512020.D

Injection Date:	19-Dec-2023 19:13:30	Instrument ID:	VMS_X4	Operator ID:	CF
Lims ID:	MB			Worklist Smp#:	9
Client ID:					
Purge Vol:	5.000 mL	Dil. Factor:	1.0000	ALS Bottle#:	7
Method:	VMS_X4_8260	Limit Group:	MSV - 8260B Water and Solid		

Column: Rxi-624Sil MS (0.25 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 1



12/29/2023
12:08 PM

Eurofins Denver
Recovery Report

Data File: \\chromfs\Denver\ChromData\VMS_X4\20231219-128742.b\X512020.D
Lims ID: MB
Client ID:
Sample Type: MB
Inject. Date: 19-Dec-2023 19:13:30 ALS Bottle#: 7 Worklist Smp#: 9
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Sample Info: MB
Operator ID: CF Instrument ID: VMS_X4

Method: \\chromfs\Denver\ChromData\VMS_X4\20231219-128742.b\VMS_X4_8260.m
Limit Group: MSV - 8260B Water and Solid
Last Update: 19-Dec-2023 20:23:02 Calib Date: 11-Dec-2023 20:50:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Denver\ChromData\VMS_X4\20231211-128477.b\X511702.D

Column 1 : Rxi-624Sil MS (0.25 mm) Det: MS SCAN
Process Host: CTX1675

First Level Reviewer: AK2J Date: 19-Dec-2023 20:23:07

Compound	Amount Added	Amount Recovered	% Rec.
$ 4 Dibromofluoromethane (Surr)	50.0	53.9	107.77
$ 5 1,2-Dichloroethane-d4 (Surr)	50.0	51.4	102.80
$ 6 Toluene-d8 (Surr)	50.0	49.8	99.66
$ 7 4-Bromofluorobenzene (Surr)	50.0	45.1	90.12

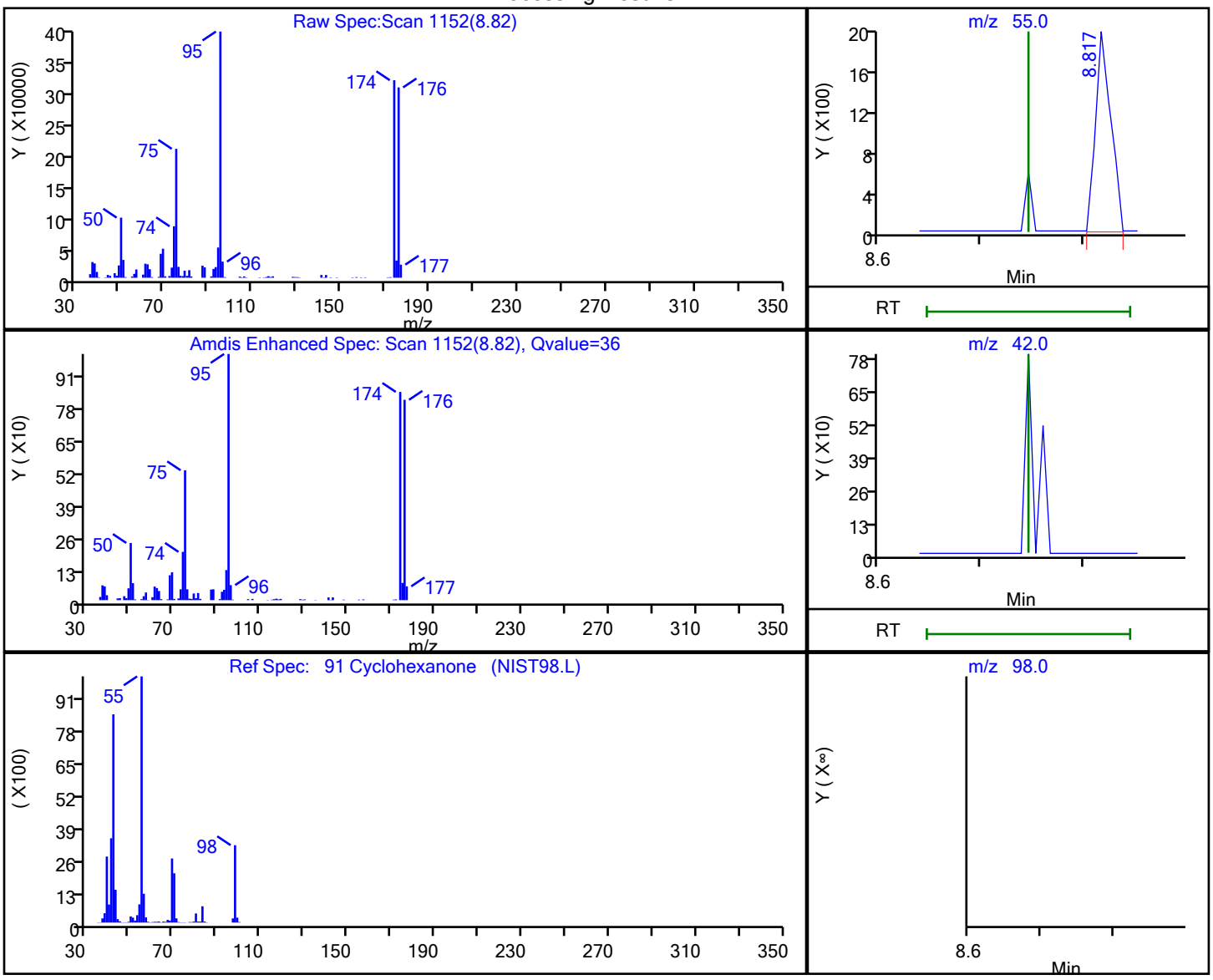
User Disabled Compound Report

Eurofins Denver

Data File:	\\chromfs\Denver\ChromData\VMS_X4\20231219-128742.b\X512020.D				
Injection Date:	19-Dec-2023 19:13:30	Instrument ID:	VMS_X4		
Lims ID:	MB				
Client ID:					
Operator ID:	CF	ALS Bottle#:	7	Worklist Smp#:	9
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	VMS_X4_8260	Limit Group:	MSV - 8260B Water and Solid		
Column:	Rxi-624Sil MS (0.25 mm)	Detector	MS SCAN		

91 Cyclohexanone, CAS: 108-94-1

Processing Results



RT	Mass	Response	Amount
8.82	55.00	2020	4.437277
8.75	42.00	0	
8.75	98.00	0	

Reviewer: AK2J, 19-Dec-2023 20:22:19 -07:00:00 (UTC)

Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

Eurofins Denver

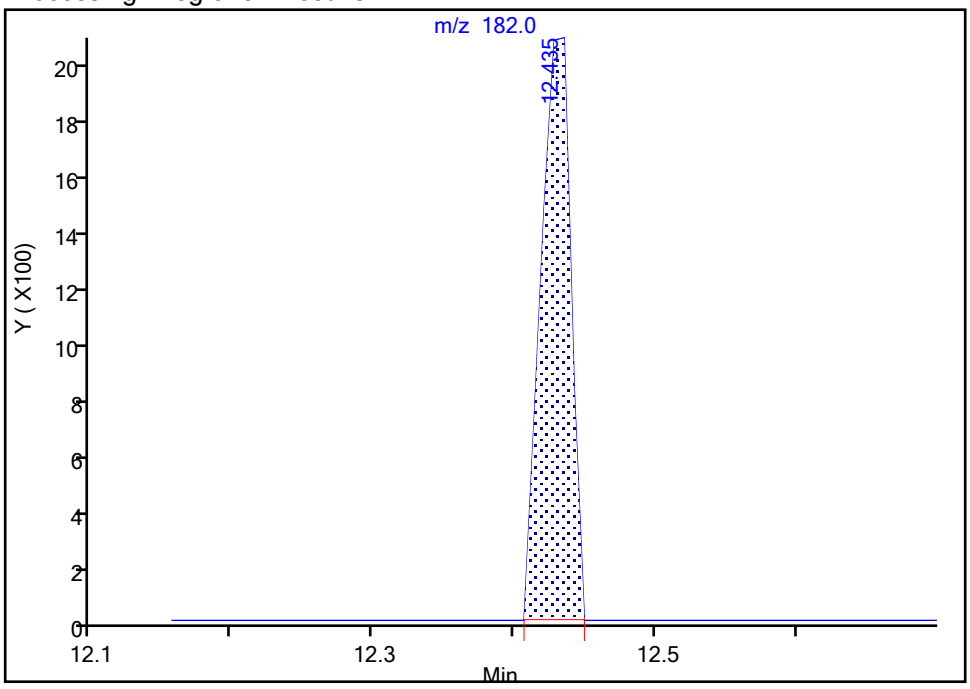
Data File: \\chromfs\Denver\ChromData\VMS_X4\20231219-128742.b\X512020.D
Injection Date: 19-Dec-2023 19:13:30 Instrument ID: VMS_X4
Lims ID: MB
Client ID:
Operator ID: CF ALS Bottle#: 7 Worklist Smp#: 9
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Method: VMS_X4_8260 Limit Group: MSV - 8260B Water and Solid
Column: Rxi-624Sil MS (0.25 mm) Detector MS SCAN

115 1,2,3-Trichlorobenzene, CAS: 87-61-6

Signal: 2

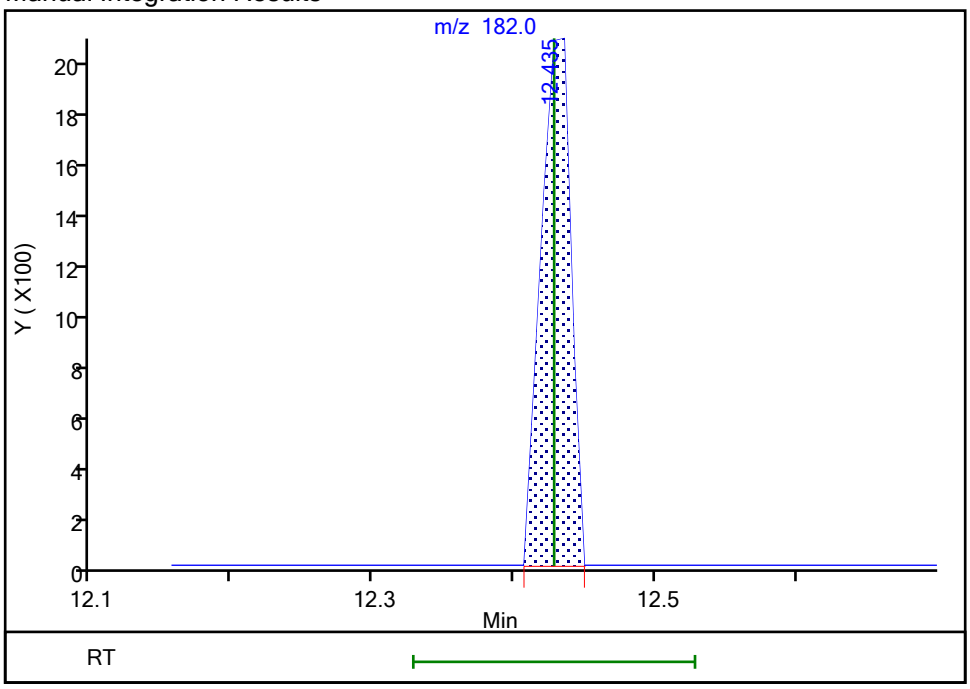
Processing Integration Results

RT: 12.44
Area: 3086
Amount: 0.542141
Amount Units: ug/l



Manual Integration Results

RT: 12.44
Area: 3086
Amount: 0.542141
Amount Units: ug/l



Reviewer: AK2J, 19-Dec-2023 20:22:27 -07:00:00 (UTC)
Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

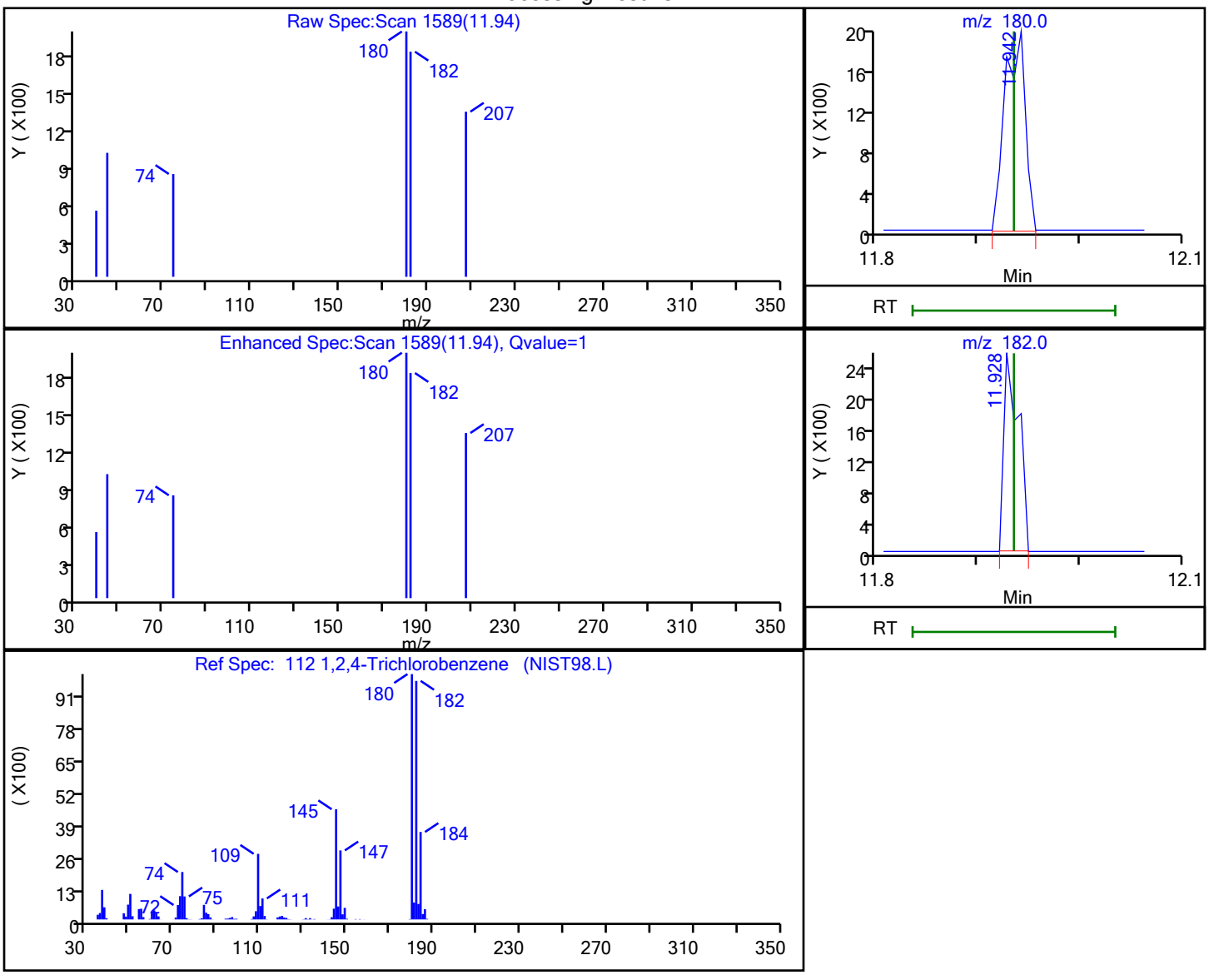
User Disabled Compound Report

Eurofins Denver

Data File:	\\chromfs\Denver\ChromData\VMS_X4\20231219-128742.b\X512020.D				
Injection Date:	19-Dec-2023 19:13:30	Instrument ID:	VMS_X4		
Lims ID:	MB				
Client ID:					
Operator ID:	CF	ALS Bottle#:	7	Worklist Smp#:	9
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	VMS_X4_8260	Limit Group:	MSV - 8260B Water and Solid		
Column:	Rxi-624Sil MS (0.25 mm)	Detector	MS SCAN		

112 1,2,4-Trichlorobenzene, CAS: 120-82-1

Processing Results



RT	Mass	Response	Amount
11.94	180.00	2699	0.246962
11.93	182.00	2586	

Reviewer: AK2J, 19-Dec-2023 20:22:23 -07:00:00 (UTC)

Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Denver | Job No.: 280-185814-1

SDG No.:

Client Sample ID: | Lab Sample ID: LCS 280-637903/4

Matrix: Water | Lab File ID: X512014A.D

Analysis Method: 8260D | Date Collected:

Sample wt/vol: 5(mL) | Date Analyzed: 12/19/2023 17:03

Soil Aliquot Vol: | Dilution Factor: 1

Soil Extract Vol.: | GC Column: RXI-624SilMS ID: 0.25(mm)

Purge Volume: 5.0(mL) | Heated Purge: (Y/N) N pH:

% Moisture: % Solids: | Level: (low/med) Low

Analysis Batch No.: 637903 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
96-12-8	1,2-Dibromo-3-Chloropropane	44.9		5.0	4.0	1.8
78-93-3	2-Butanone (MEK)	176		15	12	6.0
110-75-8	2-Chloroethyl vinyl ether	47.5		3.0	0.80	0.44
106-93-4	1,2-Dibromoethane	47.5		1.0	0.80	0.40
95-50-1	1,2-Dichlorobenzene	45.6		1.0	0.50	0.37
541-73-1	1,3-Dichlorobenzene	48.4		1.0	0.40	0.33
106-46-7	1,4-Dichlorobenzene	46.1		1.0	0.50	0.39
75-34-3	1,1-Dichloroethane	47.2		1.0	0.80	0.22
107-06-2	1,2-Dichloroethane	44.9		1.0	0.80	0.54
67-64-1	Acetone	174		15	8.0	6.6
75-35-4	1,1-Dichloroethylene	50.1		1.0	0.80	0.23
107-13-1	Acrylonitrile	454		20	8.0	4.5
71-43-2	Benzene	49.1		1.0	0.80	0.31
108-86-1	Bromobenzene	46.3		1.0	0.50	0.40
78-87-5	1,2-Dichloropropane	46.9		1.0	0.80	0.52
74-97-5	Bromochloromethane	56.5		1.0	0.80	0.40
142-28-9	1,3-Dichloropropane	46.6		1.0	0.80	0.38
75-27-4	Bromodichloromethane	51.7		1.0	0.50	0.39
594-20-7	2,2-Dichloropropane	51.1		1.0	0.80	0.38
75-25-2	Bromoform	51.8		2.0	1.8	1.2
563-58-6	1,1-Dichloropropene	49.1		1.0	0.80	0.42
75-15-0	Carbon disulfide	46.2		2.0	0.80	0.63
56-23-5	Carbon tetrachloride	53.1		1.0	0.80	0.57
108-90-7	Chlorobenzene	48.4		1.0	0.80	0.42
75-00-3	Chloroethane	43.1		4.0	1.6	1.4
67-66-3	Chloroform	48.6		1.0	0.80	0.36
74-87-3	Chloromethane	43.2		2.0	1.0	0.75
591-78-6	2-Hexanone	177		5.0	4.0	1.7
156-59-2	cis-1,2-Dichloroethylene	50.2		1.0	0.40	0.32
10061-01-5	cis-1,3-Dichloropropene	46.1		2.0	1.8	0.63
110-82-7	Cyclohexane	49.1		1.0	0.80	0.44
99-87-6	4-Isopropyltoluene	48.0		1.0	0.80	0.43
108-94-1	Cyclohexanone	1810		100	64	32
124-48-1	Dibromochloromethane	50.7		2.0	1.8	0.62

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Denver | Job No.: 280-185814-1

SDG No.:

Client Sample ID: | Lab Sample ID: LCS 280-637903/4

Matrix: Water | Lab File ID: X512014A.D

Analysis Method: 8260D | Date Collected:

Sample wt/vol: 5(mL) | Date Analyzed: 12/19/2023 17:03

Soil Aliquot Vol: | Dilution Factor: 1

Soil Extract Vol.: | GC Column: RXI-624SilMS ID: 0.25(mm)

Purge Volume: 5.0(mL) | Heated Purge: (Y/N) N pH:

% Moisture: % Solids: | Level: (low/med) Low

Analysis Batch No.: 637903 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
108-10-1	4-Methyl-2-pentanone (MIBK)	197		5.0	3.2	0.98
74-95-3	Dibromomethane	47.8		1.0	0.40	0.34
75-71-8	Dichlorodifluoromethane	45.4		3.0	2.5	0.96
100-41-4	Ethylbenzene	49.2		1.0	0.40	0.30
87-68-3	Hexachlorobutadiene	58.6		2.0	1.8	1.2
79-34-5	1,1,2,2-Tetrachloroethane	41.8		1.0	0.80	0.21
98-82-8	Isopropylbenzene	45.6		1.0	0.50	0.36
1634-04-4	Methyl tert-butyl ether	50.6		5.0	0.80	0.25
87-61-6	1,2,3-Trichlorobenzene	46.5		2.0	0.80	0.70
108-87-2	Methylcyclohexane	51.5		1.0	0.40	0.31
71-55-6	1,1,1-Trichloroethane	50.0		1.0	0.50	0.39
75-09-2	Methylene Chloride	45.8		2.0	1.8	0.94
79-00-5	1,1,2-Trichloroethane	50.1		1.0	0.80	0.27
91-20-3	Naphthalene	42.7		2.0	0.80	0.63
104-51-8	n-Butylbenzene	47.0		1.0	0.80	0.48
110-54-3	n-Hexane	47.1		2.0	0.80	0.16
120-82-1	1,2,4-Trichlorobenzene	48.1		1.0	0.80	0.58
103-65-1	N-Propylbenzene	48.9		1.0	0.80	0.53
96-18-4	1,2,3-Trichloropropane	45.3		2.5	1.8	0.86
106-43-4	p-Chlorotoluene	46.5		1.0	0.80	0.21
95-63-6	1,2,4-Trimethylbenzene	47.0		1.0	0.40	0.15
108-67-8	1,3,5-Trimethylbenzene	46.8		1.0	0.50	0.37
135-98-8	sec-Butylbenzene	48.8		1.0	0.80	0.45
100-42-5	Styrene	50.1		1.0	0.80	0.36
98-06-6	tert-Butylbenzene	46.6		1.0	0.80	0.42
127-18-4	Tetrachloroethene	51.1		1.0	0.80	0.40
108-88-3	Toluene	50.5		1.0	0.40	0.32
156-60-5	trans-1,2-Dichloroethylene	49.4		1.0	0.50	0.37
10061-02-6	trans-1,3-Dichloropropene	51.9		2.0	1.8	0.65
95-49-8	o-Chlorotoluene	45.5		1.0	0.40	0.34
79-01-6	Trichloroethene	46.3		1.0	0.40	0.30
75-69-4	Trichlorofluoromethane	49.2		2.0	0.80	0.57
108-05-4	Vinyl acetate	107		3.0	2.0	0.94
75-01-4	Vinyl chloride	45.8		2.0	1.0	0.51

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Denver | Job No.: 280-185814-1

SDG No.:

Client Sample ID: | Lab Sample ID: LCS 280-637903/4

Matrix: Water | Lab File ID: X512014A.D

Analysis Method: 8260D | Date Collected:

Sample wt/vol: 5(mL) | Date Analyzed: 12/19/2023 17:03

Soil Aliquot Vol: | Dilution Factor: 1

Soil Extract Vol.: | GC Column: RXI-624SilMS ID: 0.25(mm)

Purge Volume: 5.0(mL) | Heated Purge: (Y/N) N pH:

% Moisture: % Solids: | Level: (low/med) Low

Analysis Batch No.: 637903 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
1330-20-7	Xylenes, Total	97.4		1.0	0.80	0.33

CAS NO.	SURROGATE	%REC	Q	LIMITS
17060-07-0	1,2-Dichloroethane-d4 (Surr)	100		81-118
2037-26-5	Toluene-d8 (Surr)	98		89-112
460-00-4	4-Bromofluorobenzene (Surr)	87		85-114
1868-53-7	Dibromofluoromethane (Surr)	107		80-119

Eurofins Denver
Target Compound Quantitation Report

Data File: \\chromfs\Denver\ChromData\VMS_X4\20231219-128742.b\X512014A.D
Lims ID: LCS
Client ID:
Sample Type: LCS
Inject. Date: 19-Dec-2023 17:03:30 ALS Bottle#: 1 Worklist Smp#: 4
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Sample Info: CCV M
Operator ID: CF Instrument ID: VMS_X4

Method: \\chromfs\Denver\ChromData\VMS_X4\20231219-128742.b\VMS_X4_8260.m
Limit Group: MSV - 8260B Water and Solid
Last Update: 19-Dec-2023 18:25:01 Calib Date: 11-Dec-2023 20:50:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Denver\ChromData\VMS_X4\20231211-128477.b\X511702.D

Column 1 : Rxi-624Sil MS (0.25 mm) Det: MS SCAN
Process Host: CTX1675

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
* 1 Fluorobenzene	96	5.199	5.199	0.000	98	1723483	50.0	50.0	
* 2 Chlorobenzene-d5	119	7.723	7.730	-0.007	90	479315	50.0	50.0	
* 3 1,4-Dichlorobenzene-d4	152	9.947	9.947	0.000	97	860763	50.0	50.0	
$ 4 Dibromofluoromethane (Surr)	111	4.692	4.691	0.001	92	469570	50.0	53.3	
$ 5 1,2-Dichloroethane-d4 (Surr)	65	4.956	4.956	0.000	0	571752	50.0	50.1	
$ 6 Toluene-d8 (Surr)	98	6.450	6.458	-0.008	94	2028460	50.0	49.2	
$ 7 4-Bromofluorobenzene (Surr)	95	8.817	8.817	0.000	87	712170	50.0	43.4	
9 Dichlorodifluoromethane	85	1.760	1.760	0.000	100	553782	50.0	45.4	
10 Chloromethane	50	1.939	1.939	0.000	99	729217	50.0	43.2	
11 Vinyl chloride	62	2.039	2.039	0.000	99	666760	50.0	45.8	
12 Bromomethane	94	2.332	2.332	0.000	91	353638	50.0	48.5	
13 Chloroethane	64	2.425	2.425	0.000	100	393869	50.0	43.1	
14 Dichlorofluoromethane	67	2.596	2.596	0.000	98	1080174	50.0	48.9	
16 Trichlorofluoromethane	101	2.632	2.632	0.000	100	745162	50.0	49.2	
18 Ethyl ether	59	2.847	2.847	0.000	95	406348	50.0	47.1	
19 Acrolein	56	2.961	2.961	0.000	99	606624	493.8	437.8	
20 1,1,2-Trichloro-1,2,2-trifluoroe	151	3.040	3.040	0.000	96	309247	50.0	54.1	
21 1,1-Dichloroethene	96	3.047	3.047	0.000	96	393817	50.0	50.1	
22 Acetone	43	3.061	3.061	0.000	99	585671	200.0	174.1	
24 Iodomethane	142	3.169	3.169	0.000	99	563486	50.0	54.3	
25 Carbon disulfide	76	3.233	3.233	0.000	100	1353475	50.0	46.2	
27 Methyl acetate	43	3.290	3.290	0.000	99	740212	100.0	91.0	
28 3-Chloro-1-propene	41	3.319	3.319	0.000	91	888072	50.0	48.0	
29 Methylene Chloride	84	3.412	3.412	0.000	98	474756	50.0	45.8	
30 2-Methyl-2-propanol	59	3.455	3.455	0.000	99	428479	500.0	472.5	
31 Acrylonitrile	53	3.576	3.576	0.000	98	1939008	500.0	454.5	
32 Methyl tert-butyl ether	73	3.598	3.598	0.000	97	1330971	50.0	50.6	
33 trans-1,2-Dichloroethene	96	3.612	3.612	0.000	95	443874	50.0	49.4	
34 Hexane	57	3.805	3.805	0.000	97	692392	50.0	47.1	
35 Vinyl acetate	43	3.905	3.905	0.000	97	2184338	100.0	107.2	
36 1,1-Dichloroethane	63	3.934	3.934	0.000	97	920308	50.0	47.2	
40 2-Butanone (MEK)	43	4.320	4.320	0.000	99	948990	200.0	176.4	
42 cis-1,2-Dichloroethene	96	4.341	4.341	0.000	87	505382	50.0	50.2	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
43 2,2-Dichloropropane	77	4.355	4.355	0.000	90	759993	50.0	51.1	
45 sec-Butyl Alcohol	45	4.420	4.420	0.000	99	894327	1200.0	1144.0	
47 Chlorobromomethane	128	4.520	4.520	0.000	95	227843	50.0	56.5	
48 Tetrahydrofuran	42	4.527	4.527	0.000	90	327422	100.0	89.8	
49 Chloroform	83	4.577	4.577	0.000	96	854818	50.0	48.6	
50 1,1,1-Trichloroethane	97	4.720	4.720	0.000	98	714492	50.0	50.0	
51 Cyclohexane	56	4.784	4.784	0.000	94	908045	50.0	49.1	
52 1,1-Dichloropropene	75	4.835	4.835	0.000	96	687672	50.0	49.1	
54 Isobutyl alcohol	41	4.842	4.842	0.000	93	422698	1250.0	1232.8	
53 Carbon tetrachloride	117	4.842	4.842	0.000	96	601384	50.0	53.1	
55 Benzene	78	4.985	4.985	0.000	98	2011827	50.0	49.1	
56 1,2-Dichloroethane	62	5.013	5.013	0.000	97	679672	50.0	44.9	
58 n-Heptane	43	5.171	5.171	0.000	96	613404	50.0	49.6	
60 Trichloroethene	95	5.471	5.471	0.000	98	482492	50.0	46.3	
61 2-Pentanone	43	5.578	5.578	0.000	98	1190997	160.0	153.4	
62 Methylcyclohexane	55	5.671	5.671	0.000	94	657396	50.0	51.5	
63 1,2-Dichloropropane	63	5.678	5.678	0.000	94	535760	50.0	46.9	
65 1,4-Dioxane	88	5.721	5.721	0.000	96	117982	1000.0	947.8	
66 Dibromomethane	93	5.750	5.750	0.000	96	279095	50.0	47.8	
67 Dichlorobromomethane	83	5.871	5.871	0.000	99	648181	50.0	51.7	
69 2-Chloroethyl vinyl ether	63	6.072	6.072	0.000	92	290088	50.0	47.5	
70 cis-1,3-Dichloropropene	75	6.222	6.222	0.000	93	810728	50.0	46.1	
71 4-Methyl-2-pentanone (MIBK)	43	6.322	6.322	0.000	98	1990381	200.0	196.7	
72 Toluene	91	6.515	6.515	0.000	97	2151928	50.0	50.5	
73 trans-1,3-Dichloropropene	75	6.686	6.686	0.000	99	743398	50.0	51.9	
74 Ethyl methacrylate	69	6.701	6.701	0.000	92	611585	50.0	46.6	
75 1,1,2-Trichloroethane	97	6.858	6.858	0.000	93	400636	50.0	50.1	
76 Tetrachloroethene	164	6.951	6.951	0.000	97	376735	50.0	51.1	
77 1,3-Dichloropropane	76	7.008	7.008	0.000	97	771913	50.0	46.6	
78 2-Hexanone	43	7.022	7.022	0.000	99	1394256	200.0	177.0	
79 Chlorodibromomethane	129	7.201	7.201	0.000	91	451823	50.0	50.7	
80 Ethylene Dibromide	107	7.323	7.323	0.000	99	422164	50.0	47.5	
81 1-Chlorohexane	91	7.709	7.709	0.000	92	500670	40.0	36.9	
82 Chlorobenzene	112	7.752	7.752	0.000	92	1305977	50.0	48.4	
83 1,1,1,2-Tetrachloroethane	131	7.823	7.823	0.000	94	442182	50.0	51.8	
84 Ethylbenzene	106	7.830	7.830	0.000	99	729829	50.0	49.2	
85 m-Xylene & p-Xylene	106	7.945	7.945	0.000	0	921517	50.0	49.4	
86 o-Xylene	106	8.302	8.302	0.000	97	872406	50.0	48.0	
87 Styrene	104	8.324	8.324	0.000	95	1490528	50.0	50.1	
88 Bromoform	173	8.503	8.503	0.000	96	296531	50.0	51.8	
89 Isopropylbenzene	105	8.646	8.646	0.000	97	2245711	50.0	45.6	
91 Cyclohexanone	55	8.746	8.746	0.000	95	887042	1500.0	1810.7	
92 1,1,2,2-Tetrachloroethane	83	8.932	8.932	0.000	95	552264	50.0	41.8	
93 Bromobenzene	156	8.967	8.967	0.000	98	543374	50.0	46.3	
94 trans-1,4-Dichloro-2-butene	53	8.967	8.967	0.000	51	178855	50.0	42.4	
95 1,2,3-Trichloropropane	110	8.996	8.996	0.000	88	163434	50.0	45.3	
96 N-Propylbenzene	120	9.046	9.046	0.000	99	617675	50.0	48.9	
97 2-Chlorotoluene	126	9.146	9.146	0.000	96	517912	50.0	45.5	
98 1,3,5-Trimethylbenzene	105	9.218	9.218	0.000	95	1913201	50.0	46.8	
99 4-Chlorotoluene	126	9.261	9.261	0.000	98	554733	50.0	46.5	
100 tert-Butylbenzene	119	9.525	9.525	0.000	94	1549263	50.0	46.6	
102 1,2,4-Trimethylbenzene	105	9.582	9.582	0.000	98	1999797	50.0	47.0	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
103 sec-Butylbenzene	134	9.747	9.747	0.000	95	454210	50.0	48.8	
104 1,3-Dichlorobenzene	146	9.875	9.875	0.000	98	1024730	50.0	48.4	
105 4-Isopropyltoluene	119	9.890	9.890	0.000	97	1964512	50.0	48.0	
106 1,4-Dichlorobenzene	146	9.976	9.976	0.000	93	1055177	50.0	46.1	
108 n-Butylbenzene	91	10.297	10.297	0.000	98	1781163	50.0	47.0	
109 1,2-Dichlorobenzene	146	10.333	10.333	0.000	97	952756	50.0	45.6	
110 1,2-Dibromo-3-Chloropropane	157	11.112	11.112	0.000	81	106661	50.0	44.9	
112 1,2,4-Trichlorobenzene	180	11.935	11.935	0.000	94	571885	50.0	48.1	
113 Hexachlorobutadiene	225	12.071	12.071	0.000	95	272442	50.0	58.6	
114 Naphthalene	128	12.206	12.206	0.000	98	1317307	50.0	42.7	
115 1,2,3-Trichlorobenzene	180	12.428	12.428	0.000	96	447912	50.0	46.5	
S 122 1,2-Dichloroethene, Total (URS)	96				0		100.0	99.6	
S 129 1,2-Dichloroethene, Total	1				0		100.0	99.6	
S 124 1,3-Dichloropropene, Total	1				0		100.0	98.0	
S 123 Xylenes, Total (URS)	1				0		100.0	97.4	
S 127 Trihalomethanes, Total	1				0		200.0	202.8	
S 125 Xylenes, Total	106				0		100.0	97.4	

Reagents:

MV-MegaMainA_00100	Amount Added:	25.00	Units: uL	
MV-Gas A_00174	Amount Added:	10.00	Units: uL	
mv-IS_SS_00074	Amount Added:	5.00	Units: uL	Run Reagent

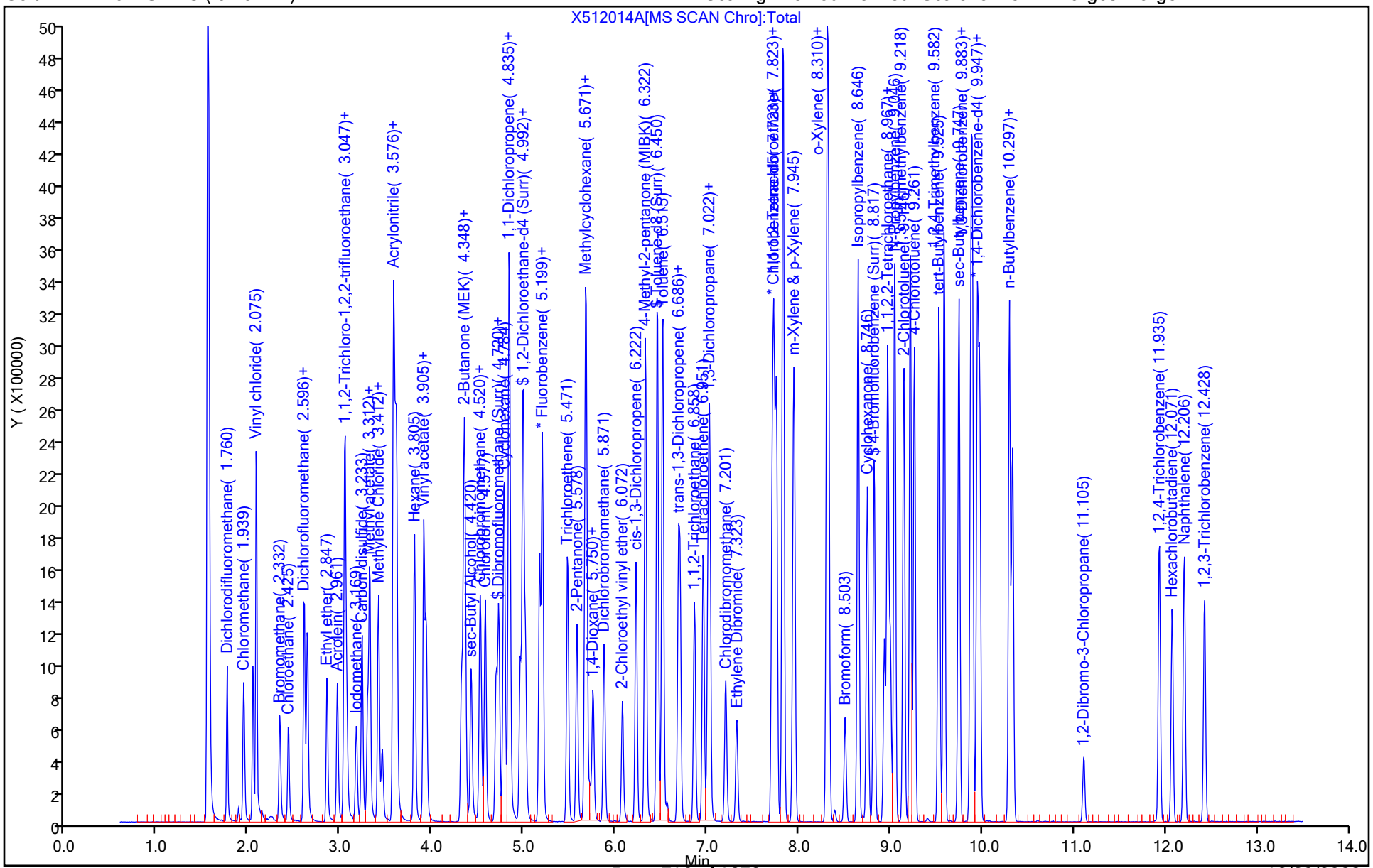
Report Date: 19-Dec-2023 18:25:02 Chrom Revision: 2.3 15-Nov-2023 20:54:34

Eurofins Denver

Data File: \\chromfs\Denver\ChromData\VMS_X4\20231219-128742.b\X512014A.D

Injection Date:	19-Dec-2023 17:03:30	Instrument ID:	VMS_X4	Operator ID:	CF
Lims ID:	LCS			Worklist Smp#:	4
Client ID:					
Purge Vol:	5.000 mL	Dil. Factor:	1.0000	ALS Bottle#:	1
Method:	VMS_X4_8260	Limit Group:	MSV - 8260B Water and Solid		

Column: Rxi-624Sil MS (0.25 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 1



Eurofins Denver
Recovery Report

Data File: \\chromfs\Denver\ChromData\VMS_X4\20231219-128742.b\X512014A.D
Lims ID: LCS
Client ID:
Sample Type: LCS
Inject. Date: 19-Dec-2023 17:03:30 ALS Bottle#: 1 Worklist Smp#: 4
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Sample Info: CCV M
Operator ID: CF Instrument ID: VMS_X4

Method: \\chromfs\Denver\ChromData\VMS_X4\20231219-128742.b\VMS_X4_8260.m
Limit Group: MSV - 8260B Water and Solid
Last Update: 19-Dec-2023 18:25:01 Calib Date: 11-Dec-2023 20:50:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Denver\ChromData\VMS_X4\20231211-128477.b\X511702.D

Column 1 : Rxi-624Sil MS (0.25 mm) Det: MS SCAN
Process Host: CTX1675

Compound	Amount Added	Amount Recovered	% Rec.
$ 4 Dibromofluoromethane (Surr)	50.0	53.3	106.51
$ 5 1,2-Dichloroethane-d4 (Surr)	50.0	50.1	100.28
$ 6 Toluene-d8 (Surr)	50.0	49.2	98.31
$ 7 4-Bromofluorobenzene (Surr)	50.0	43.4	86.70

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Denver | Job No.: 280-185814-1

SDG No.:

Client Sample ID: | Lab Sample ID: LCS 280-637903/6

Matrix: Water | Lab File ID: X512015A.D

Analysis Method: 8260D | Date Collected:

Sample wt/vol: 5(mL) | Date Analyzed: 12/19/2023 17:25

Soil Aliquot Vol: | Dilution Factor: 1

Soil Extract Vol.: | GC Column: RXI-624SilMS ID: 0.25(mm)

Purge Volume: 5.0(mL) | Heated Purge: (Y/N) N pH:

% Moisture: % Solids: | Level: (low/med) Low

Analysis Batch No.: 637903 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
108-20-3	Isopropyl ether	24.4		10	2.0	1.1
526-73-8	1,2,3-Trimethylbenzene	22.4		2.0	0.80	0.27

CAS NO.	SURROGATE	%REC	Q	LIMITS
17060-07-0	1,2-Dichloroethane-d4 (Surr)	103		81-118
2037-26-5	Toluene-d8 (Surr)	97		89-112
460-00-4	4-Bromofluorobenzene (Surr)	91		85-114
1868-53-7	Dibromofluoromethane (Surr)	106		80-119

Eurofins Denver
Target Compound Quantitation Report

Data File: \\chromfs\Denver\ChromData\VMS_X4\20231219-128742.b\X512015A.D
Lims ID: LCS
Client ID:
Sample Type: LCS
Inject. Date: 19-Dec-2023 17:25:30 ALS Bottle#: 2 Worklist Smp#: 6
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Sample Info: CCV S
Operator ID: CF Instrument ID: VMS_X4

Method: \\chromfs\Denver\ChromData\VMS_X4\20231219-128742.b\VMS_X4_8260.m
Limit Group: MSV - 8260B Water and Solid
Last Update: 19-Dec-2023 18:25:01 Calib Date: 11-Dec-2023 20:50:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Denver\ChromData\VMS_X4\20231211-128477.b\X511702.D

Column 1 : Rxi-624Sil MS (0.25 mm) Det: MS SCAN
Process Host: CTX1675

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
* 1 Fluorobenzene	96	5.199	5.199	0.000	98	1665979	50.0	50.0	
* 2 Chlorobenzene-d5	119	7.730	7.730	0.000	89	455162	50.0	50.0	
* 3 1,4-Dichlorobenzene-d4	152	9.947	9.947	0.000	97	799882	50.0	50.0	
$ 4 Dibromofluoromethane (Surr)	111	4.691	4.691	0.000	93	453015	50.0	53.2	
$ 5 1,2-Dichloroethane-d4 (Surr)	65	4.956	4.956	0.000	0	570395	50.0	51.7	
$ 6 Toluene-d8 (Surr)	98	6.458	6.458	0.000	94	1897769	50.0	48.4	
$ 7 4-Bromofluorobenzene (Surr)	95	8.817	8.817	0.000	88	697869	50.0	45.7	
17 Ethanol	45	2.754	2.754	0.000	99	165150	1500.0	1162.3	
23 Isopropyl alcohol	45	3.147	3.147	0.000	98	128161	250.0	202.9	
26 Acetonitrile	41	3.276	3.276	0.000	100	369344	250.0	204.7	
37 Isopropyl ether	87	3.926	3.926	0.000	95	177443	25.0	24.4	
38 2-Chloro-1,3-butadiene	53	3.984	3.984	0.000	93	378027	25.0	22.9	
39 Tert-butyl ethyl ether	59	4.191	4.191	0.000	99	671725	25.0	22.8	
41 Ethyl acetate	43	4.327	4.327	0.000	99	433860	50.0	41.6	
44 Propionitrile	54	4.370	4.370	0.000	100	344597	250.0	215.1	
46 Methacrylonitrile	41	4.484	4.484	0.000	95	1487090	250.0	220.9	
57 Tert-amyl methyl ether	73	5.056	5.056	0.000	86	589691	25.0	23.3	
59 n-Butanol	56	5.335	5.335	0.000	93	127962	625.0	506.1	
64 Methyl methacrylate	100	5.678	5.678	0.000	94	104761	50.0	47.1	
68 2-Nitropropane	41	6.043	6.043	0.000	98	95483	50.0	42.7	
90 cis-1,4-Dichloro-2-butene	53	8.696	8.696	0.000	0	142834	50.0	39.5	
107 1,2,3-Trimethylbenzene	105	9.990	9.990	0.000	99	903710	25.0	22.4	
111 1,3,5-Trichlorobenzene	180	11.298	11.298	0.000	96	298959	25.0	23.4	
117 t-Amyl alcohol	1		0.000				ND	ND	
118 Ethyl acrylate	55		0.000				ND	ND	

QC Flag Legend

Processing Flags
ND - Not Detected or Marked ND

Reagents:

MV-Supp A_00087	Amount Added:	25.00	Units: uL	
mv-IS_SS_00074	Amount Added:	5.00	Units: uL	Run Reagent

Report Date: 19-Dec-2023 18:25:11 Chrom Revision: 2.3 15-Nov-2023 20:54:34

Eurofins Denver

Data File: \\chromfs\Denver\ChromData\VMS_X4\20231219-128742.b\X512015A.D

Injection Date: 19-Dec-2023 17:25:30 Instrument ID: VMS_X4 Operator ID: CF

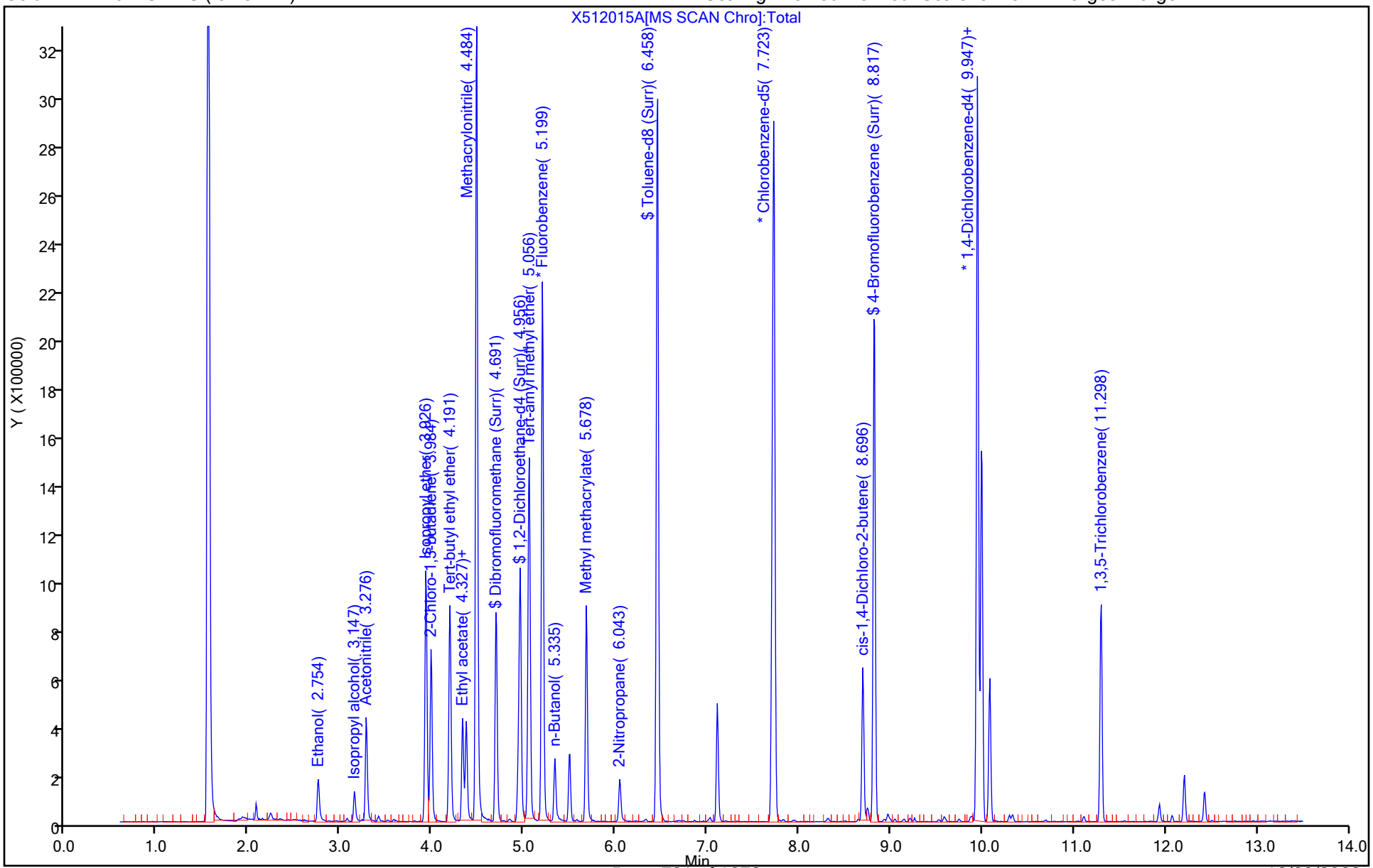
Lims ID: LCS Worklist Smp#: 6

Client ID:

Purge Vol: 5.000 mL Dil. Factor: 1.0000 ALS Bottle#: 2

Method: VMS_X4_8260 Limit Group: MSV - 8260B Water and Solid

Column: Rxi-624Sil MS (0.25 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 1



Eurofins Denver
Recovery Report

Data File: \\chromfs\Denver\ChromData\VMS_X4\20231219-128742.b\X512015A.D
Lims ID: LCS
Client ID:
Sample Type: LCS
Inject. Date: 19-Dec-2023 17:25:30 ALS Bottle#: 2 Worklist Smp#: 6
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Sample Info: CCV S
Operator ID: CF Instrument ID: VMS_X4

Method: \\chromfs\Denver\ChromData\VMS_X4\20231219-128742.b\VMS_X4_8260.m
Limit Group: MSV - 8260B Water and Solid
Last Update: 19-Dec-2023 18:25:01 Calib Date: 11-Dec-2023 20:50:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Denver\ChromData\VMS_X4\20231211-128477.b\X511702.D

Column 1 : Rxi-624Sil MS (0.25 mm) Det: MS SCAN
Process Host: CTX1675

Compound	Amount Added	Amount Recovered	% Rec.
$ 4 Dibromofluoromethane (Surr)	50.0	53.2	106.30
$ 5 1,2-Dichloroethane-d4 (Surr)	50.0	51.7	103.49
$ 6 Toluene-d8 (Surr)	50.0	48.4	96.85
$ 7 4-Bromofluorobenzene (Surr)	50.0	45.7	91.43

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Denver | Job No.: 280-185814-1

SDG No.:

Client Sample ID: | Lab Sample ID: LCSD 280-637903/5

Matrix: Water | Lab File ID: X512017.D

Analysis Method: 8260D | Date Collected:

Sample wt/vol: 5(mL) | Date Analyzed: 12/19/2023 18:08

Soil Aliquot Vol: | Dilution Factor: 1

Soil Extract Vol.: | GC Column: RXI-624SilMS ID: 0.25(mm)

Purge Volume: 5.0(mL) | Heated Purge: (Y/N) N pH:

% Moisture: % Solids: | Level: (low/med) Low

Analysis Batch No.: 637903 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
96-12-8	1,2-Dibromo-3-Chloropropane	49.6		5.0	4.0	1.8
78-93-3	2-Butanone (MEK)	186		15	12	6.0
110-75-8	2-Chloroethyl vinyl ether	43.5		3.0	0.80	0.44
106-93-4	1,2-Dibromoethane	46.4		1.0	0.80	0.40
95-50-1	1,2-Dichlorobenzene	46.6		1.0	0.50	0.37
541-73-1	1,3-Dichlorobenzene	49.3		1.0	0.40	0.33
106-46-7	1,4-Dichlorobenzene	46.0		1.0	0.50	0.39
75-34-3	1,1-Dichloroethane	46.6		1.0	0.80	0.22
107-06-2	1,2-Dichloroethane	44.4		1.0	0.80	0.54
67-64-1	Acetone	185		15	8.0	6.6
75-35-4	1,1-Dichloroethylene	49.9		1.0	0.80	0.23
107-13-1	Acrylonitrile	469		20	8.0	4.5
71-43-2	Benzene	47.1		1.0	0.80	0.31
108-86-1	Bromobenzene	47.4		1.0	0.50	0.40
78-87-5	1,2-Dichloropropane	45.9		1.0	0.80	0.52
74-97-5	Bromochloromethane	54.7		1.0	0.80	0.40
142-28-9	1,3-Dichloropropane	45.2		1.0	0.80	0.38
75-27-4	Bromodichloromethane	50.3		1.0	0.50	0.39
594-20-7	2,2-Dichloropropane	49.4		1.0	0.80	0.38
75-25-2	Bromoform	53.2		2.0	1.8	1.2
563-58-6	1,1-Dichloropropene	48.3		1.0	0.80	0.42
75-15-0	Carbon disulfide	46.1		2.0	0.80	0.63
56-23-5	Carbon tetrachloride	52.3		1.0	0.80	0.57
108-90-7	Chlorobenzene	48.0		1.0	0.80	0.42
75-00-3	Chloroethane	44.5		4.0	1.6	1.4
67-66-3	Chloroform	47.1		1.0	0.80	0.36
74-87-3	Chloromethane	43.7		2.0	1.0	0.75
591-78-6	2-Hexanone	184		5.0	4.0	1.7
156-59-2	cis-1,2-Dichloroethylene	49.6		1.0	0.40	0.32
10061-01-5	cis-1,3-Dichloropropene	46.3		2.0	1.8	0.63
110-82-7	Cyclohexane	48.1		1.0	0.80	0.44
99-87-6	4-Isopropyltoluene	48.6		1.0	0.80	0.43
108-94-1	Cyclohexanone	2000		100	64	32
124-48-1	Dibromochloromethane	50.3		2.0	1.8	0.62

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Denver | Job No.: 280-185814-1

SDG No.:

Client Sample ID: | Lab Sample ID: LCSD 280-637903/5

Matrix: Water | Lab File ID: X512017.D

Analysis Method: 8260D | Date Collected:

Sample wt/vol: 5(mL) | Date Analyzed: 12/19/2023 18:08

Soil Aliquot Vol: | Dilution Factor: 1

Soil Extract Vol.: | GC Column: RXI-624SilMS ID: 0.25(mm)

Purge Volume: 5.0(mL) | Heated Purge: (Y/N) N pH:

% Moisture: % Solids: | Level: (low/med) Low

Analysis Batch No.: 637903 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
108-10-1	4-Methyl-2-pentanone (MIBK)	199		5.0	3.2	0.98
74-95-3	Dibromomethane	46.4		1.0	0.40	0.34
75-71-8	Dichlorodifluoromethane	45.0		3.0	2.5	0.96
100-41-4	Ethylbenzene	48.4		1.0	0.40	0.30
87-68-3	Hexachlorobutadiene	57.4		2.0	1.8	1.2
79-34-5	1,1,2,2-Tetrachloroethane	43.9		1.0	0.80	0.21
98-82-8	Isopropylbenzene	46.6		1.0	0.50	0.36
1634-04-4	Methyl tert-butyl ether	51.4		5.0	0.80	0.25
87-61-6	1,2,3-Trichlorobenzene	48.4		2.0	0.80	0.70
108-87-2	Methylcyclohexane	49.7		1.0	0.40	0.31
71-55-6	1,1,1-Trichloroethane	49.9		1.0	0.50	0.39
75-09-2	Methylene Chloride	45.4		2.0	1.8	0.94
79-00-5	1,1,2-Trichloroethane	49.8		1.0	0.80	0.27
91-20-3	Naphthalene	45.4		2.0	0.80	0.63
104-51-8	n-Butylbenzene	46.8		1.0	0.80	0.48
110-54-3	n-Hexane	46.7		2.0	0.80	0.16
120-82-1	1,2,4-Trichlorobenzene	48.9		1.0	0.80	0.58
103-65-1	N-Propylbenzene	48.9		1.0	0.80	0.53
96-18-4	1,2,3-Trichloropropane	47.3		2.5	1.8	0.86
106-43-4	p-Chlorotoluene	46.7		1.0	0.80	0.21
95-63-6	1,2,4-Trimethylbenzene	47.4		1.0	0.40	0.15
108-67-8	1,3,5-Trimethylbenzene	47.8		1.0	0.50	0.37
135-98-8	sec-Butylbenzene	48.5		1.0	0.80	0.45
100-42-5	Styrene	48.9		1.0	0.80	0.36
98-06-6	tert-Butylbenzene	47.9		1.0	0.80	0.42
127-18-4	Tetrachloroethene	50.0		1.0	0.80	0.40
108-88-3	Toluene	48.3		1.0	0.40	0.32
156-60-5	trans-1,2-Dichloroethylene	49.3		1.0	0.50	0.37
10061-02-6	trans-1,3-Dichloropropene	49.6		2.0	1.8	0.65
95-49-8	o-Chlorotoluene	47.2		1.0	0.40	0.34
79-01-6	Trichloroethene	46.0		1.0	0.40	0.30
75-69-4	Trichlorofluoromethane	47.6		2.0	0.80	0.57
108-05-4	Vinyl acetate	105		3.0	2.0	0.94
75-01-4	Vinyl chloride	45.6		2.0	1.0	0.51

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Denver | Job No.: 280-185814-1

SDG No.:

Client Sample ID: | Lab Sample ID: LCSD 280-637903/5

Matrix: Water | Lab File ID: X512017.D

Analysis Method: 8260D | Date Collected:

Sample wt/vol: 5(mL) | Date Analyzed: 12/19/2023 18:08

Soil Aliquot Vol: | Dilution Factor: 1

Soil Extract Vol.: | GC Column: RXI-624SilMS ID: 0.25(mm)

Purge Volume: 5.0(mL) | Heated Purge: (Y/N) N pH:

% Moisture: % Solids: | Level: (low/med) Low

Analysis Batch No.: 637903 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
1330-20-7	Xylenes, Total	96.1		1.0	0.80	0.33

CAS NO.	SURROGATE	%REC	Q	LIMITS
17060-07-0	1,2-Dichloroethane-d4 (Surr)	102		81-118
2037-26-5	Toluene-d8 (Surr)	98		89-112
460-00-4	4-Bromofluorobenzene (Surr)	90		85-114
1868-53-7	Dibromofluoromethane (Surr)	106		80-119

Eurofins Denver
Target Compound Quantitation Report

Data File: \\chromfs\Denver\ChromData\VMS_X4\20231219-128742.b\X512017.D
Lims ID: LCSD
Client ID:
Sample Type: LCSD
Inject. Date: 19-Dec-2023 18:08:30 ALS Bottle#: 4 Worklist Smp#: 5
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Sample Info: LCSD M
Operator ID: CF Instrument ID: VMS_X4

Method: \\chromfs\Denver\ChromData\VMS_X4\20231219-128742.b\VMS_X4_8260.m
Limit Group: MSV - 8260B Water and Solid
Last Update: 19-Dec-2023 18:25:01 Calib Date: 11-Dec-2023 20:50:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Denver\ChromData\VMS_X4\20231211-128477.b\X511702.D

Column 1 : Rxi-624Sil MS (0.25 mm) Det: MS SCAN
Process Host: CTX1675

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
* 1 Fluorobenzene	96	5.199	5.199	0.000	98	1698523	50.0	50.0	
* 2 Chlorobenzene-d5	119	7.723	7.730	-0.007	88	462547	50.0	50.0	
* 3 1,4-Dichlorobenzene-d4	152	9.947	9.947	0.000	97	802953	50.0	50.0	
$ 4 Dibromofluoromethane (Surr)	111	4.691	4.691	0.000	93	459184	50.0	52.8	
$ 5 1,2-Dichloroethane-d4 (Surr)	65	4.956	4.956	0.000	0	571624	50.0	50.9	
$ 6 Toluene-d8 (Surr)	98	6.458	6.458	0.000	95	1960283	50.0	49.2	
$ 7 4-Bromofluorobenzene (Surr)	95	8.817	8.817	0.000	89	691625	50.0	45.1	
9 Dichlorodifluoromethane	85	1.760	1.760	0.000	100	541192	50.0	45.0	
10 Chloromethane	50	1.939	1.939	0.000	100	726186	50.0	43.7	
11 Vinyl chloride	62	2.039	2.039	0.000	99	654095	50.0	45.6	
12 Bromomethane	94	2.332	2.332	0.000	92	344590	50.0	48.0	
13 Chloroethane	64	2.425	2.425	0.000	100	401266	50.0	44.5	
14 Dichlorofluoromethane	67	2.604	2.596	0.008	98	1057760	50.0	48.5	
16 Trichlorofluoromethane	101	2.632	2.632	0.000	99	709522	50.0	47.6	
18 Ethyl ether	59	2.847	2.847	0.000	95	401795	50.0	47.3	
19 Acrolein	56	2.961	2.961	0.000	99	612703	493.8	448.7	
20 1,1,2-Trichloro-1,2,2-trifluoroe	151	3.040	3.040	0.000	95	311005	50.0	55.2	
21 1,1-Dichloroethene	96	3.047	3.047	0.000	97	387055	50.0	49.9	
22 Acetone	43	3.068	3.061	0.007	99	612669	200.0	184.8	
24 Iodomethane	142	3.168	3.169	-0.001	100	538435	50.0	52.7	
25 Carbon disulfide	76	3.233	3.233	0.000	100	1331671	50.0	46.1	
27 Methyl acetate	43	3.290	3.290	0.000	99	752417	100.0	93.9	
28 3-Chloro-1-propene	41	3.319	3.319	0.000	90	869308	50.0	47.7	
29 Methylene Chloride	84	3.412	3.412	0.000	98	464715	50.0	45.4	
30 2-Methyl-2-propanol	59	3.454	3.455	-0.001	99	456239	500.0	510.5	
31 Acrylonitrile	53	3.576	3.576	0.000	97	1973776	500.0	469.4	
32 Methyl tert-butyl ether	73	3.597	3.598	-0.001	97	1333915	50.0	51.4	
33 trans-1,2-Dichloroethene	96	3.612	3.612	0.000	96	436114	50.0	49.3	
34 Hexane	57	3.805	3.805	0.000	95	662901	50.0	46.7	
35 Vinyl acetate	43	3.905	3.905	0.000	97	2116726	100.0	105.4	
36 1,1-Dichloroethane	63	3.934	3.934	0.000	97	895176	50.0	46.6	
40 2-Butanone (MEK)	43	4.320	4.320	0.000	99	983522	200.0	185.5	
42 cis-1,2-Dichloroethene	96	4.341	4.341	0.000	87	491903	50.0	49.6	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
43 2,2-Dichloropropane	77	4.355	4.355	0.000	90	723755	50.0	49.4	
45 sec-Butyl Alcohol	45	4.420	4.420	0.000	100	959669	1200.0	1245.7	
47 Chlorobromomethane	128	4.520	4.520	0.000	95	217508	50.0	54.7	
48 Tetrahydrofuran	42	4.527	4.527	0.000	90	336139	100.0	93.6	
49 Chloroform	83	4.577	4.577	0.000	96	814863	50.0	47.1	
50 1,1,1-Trichloroethane	97	4.720	4.720	0.000	98	702923	50.0	49.9	
51 Cyclohexane	56	4.784	4.784	0.000	94	876560	50.0	48.1	
52 1,1-Dichloropropene	75	4.834	4.835	-0.001	96	666732	50.0	48.3	
54 Isobutyl alcohol	41	4.842	4.842	0.000	95	425130	1250.0	1258.1	
53 Carbon tetrachloride	117	4.842	4.842	0.000	95	583537	50.0	52.3	
55 Benzene	78	4.992	4.985	0.007	98	1902086	50.0	47.1	
56 1,2-Dichloroethane	62	5.013	5.013	0.000	97	661929	50.0	44.4	
58 n-Heptane	43	5.171	5.171	0.000	97	591673	50.0	48.6	
60 Trichloroethene	95	5.478	5.471	0.007	98	461994	50.0	46.0	
61 2-Pentanone	43	5.578	5.578	0.000	98	1232870	160.0	161.2	
62 Methylcyclohexane	55	5.671	5.671	0.000	94	624262	50.0	49.7	
63 1,2-Dichloropropane	63	5.678	5.678	0.000	94	516181	50.0	45.9	
65 1,4-Dioxane	88	5.721	5.721	0.000	97	121556	1000.0	990.9	
66 Dibromomethane	93	5.750	5.750	0.000	97	266591	50.0	46.4	
67 Dichlorobromomethane	83	5.878	5.871	0.007	99	621154	50.0	50.3	
69 2-Chloroethyl vinyl ether	63	6.071	6.072	-0.001	93	261798	50.0	43.5	
70 cis-1,3-Dichloropropene	75	6.222	6.222	0.000	93	785449	50.0	46.3	
71 4-Methyl-2-pentanone (MIBK)	43	6.322	6.322	0.000	99	1988651	200.0	199.4	
72 Toluene	91	6.515	6.515	0.000	97	2026591	50.0	48.3	
73 trans-1,3-Dichloropropene	75	6.686	6.686	0.000	98	699207	50.0	49.6	
74 Ethyl methacrylate	69	6.701	6.701	0.000	92	599059	50.0	47.3	
75 1,1,2-Trichloroethane	97	6.858	6.858	0.000	94	392704	50.0	49.8	
76 Tetrachloroethene	164	6.958	6.951	0.007	98	355865	50.0	50.0	
77 1,3-Dichloropropane	76	7.008	7.008	0.000	97	721865	50.0	45.2	
78 2-Hexanone	43	7.030	7.022	0.008	99	1401884	200.0	184.4	
79 Chlorodibromomethane	129	7.201	7.201	0.000	90	432435	50.0	50.3	
80 Ethylene Dibromide	107	7.323	7.323	0.000	99	397856	50.0	46.4	
81 1-Chlorohexane	91	7.709	7.709	0.000	94	491699	40.0	37.5	
82 Chlorobenzene	112	7.752	7.752	0.000	92	1248895	50.0	48.0	
83 1,1,1,2-Tetrachloroethane	131	7.823	7.823	0.000	93	429934	50.0	52.2	
84 Ethylbenzene	106	7.830	7.830	0.000	99	692853	50.0	48.4	
85 m-Xylene & p-Xylene	106	7.945	7.945	0.000	0	870075	50.0	48.3	
86 o-Xylene	106	8.309	8.302	0.007	97	839769	50.0	47.8	
87 Styrene	104	8.324	8.324	0.000	93	1404484	50.0	48.9	
88 Bromoform	173	8.503	8.503	0.000	96	294299	50.0	53.2	
89 Isopropylbenzene	105	8.646	8.646	0.000	96	2139268	50.0	46.6	
91 Cyclohexanone	55	8.746	8.746	0.000	96	943991	1500.0	1996.8	
92 1,1,2,2-Tetrachloroethane	83	8.932	8.932	0.000	96	542111	50.0	43.9	
93 Bromobenzene	156	8.967	8.967	0.000	98	518345	50.0	47.4	
94 trans-1,4-Dichloro-2-butene	53	8.967	8.967	0.000	74	172323	50.0	43.8	
95 1,2,3-Trichloropropane	110	8.996	8.996	0.000	85	158985	50.0	47.3	
96 N-Propylbenzene	120	9.046	9.046	0.000	99	576440	50.0	48.9	
97 2-Chlorotoluene	126	9.146	9.146	0.000	95	500971	50.0	47.2	
98 1,3,5-Trimethylbenzene	105	9.218	9.218	0.000	95	1821591	50.0	47.8	
99 4-Chlorotoluene	126	9.260	9.261	-0.001	99	519217	50.0	46.7	
100 tert-Butylbenzene	119	9.525	9.525	0.000	94	1482766	50.0	47.9	
102 1,2,4-Trimethylbenzene	105	9.582	9.582	0.000	99	1879881	50.0	47.4	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
103 sec-Butylbenzene	134	9.747	9.747	0.000	95	421783	50.0	48.5	
104 1,3-Dichlorobenzene	146	9.875	9.875	0.000	98	973570	50.0	49.3	
105 4-Isopropyltoluene	119	9.890	9.890	0.000	97	1855841	50.0	48.6	
106 1,4-Dichlorobenzene	146	9.975	9.976	-0.001	92	982875	50.0	46.0	
108 n-Butylbenzene	91	10.297	10.297	0.000	98	1656971	50.0	46.8	
109 1,2-Dichlorobenzene	146	10.333	10.333	0.000	97	908458	50.0	46.6	
110 1,2-Dibromo-3-Chloropropane	157	11.112	11.112	0.000	82	109983	50.0	49.6	
112 1,2,4-Trichlorobenzene	180	11.935	11.935	0.000	94	541757	50.0	48.9	
113 Hexachlorobutadiene	225	12.078	12.071	0.007	96	249080	50.0	57.4	
114 Naphthalene	128	12.206	12.206	0.000	98	1306720	50.0	45.4	
115 1,2,3-Trichlorobenzene	180	12.428	12.428	0.000	95	435022	50.0	48.4	
S 122 1,2-Dichloroethene, Total (URS)	96				0		100.0	98.9	
S 129 1,2-Dichloroethene, Total	1				0		100.0	98.9	
S 124 1,3-Dichloropropene, Total	1				0		100.0	95.8	
S 123 Xylenes, Total (URS)	1				0		100.0	96.2	
S 127 Trihalomethanes, Total	1				0		200.0	200.9	
S 125 Xylenes, Total	106				0		100.0	96.2	

Reagents:

MV-MegaMainA_00100	Amount Added:	25.00	Units: uL	
MV-Gas A_00174	Amount Added:	10.00	Units: uL	
mv-IS_SS_00074	Amount Added:	5.00	Units: uL	Run Reagent

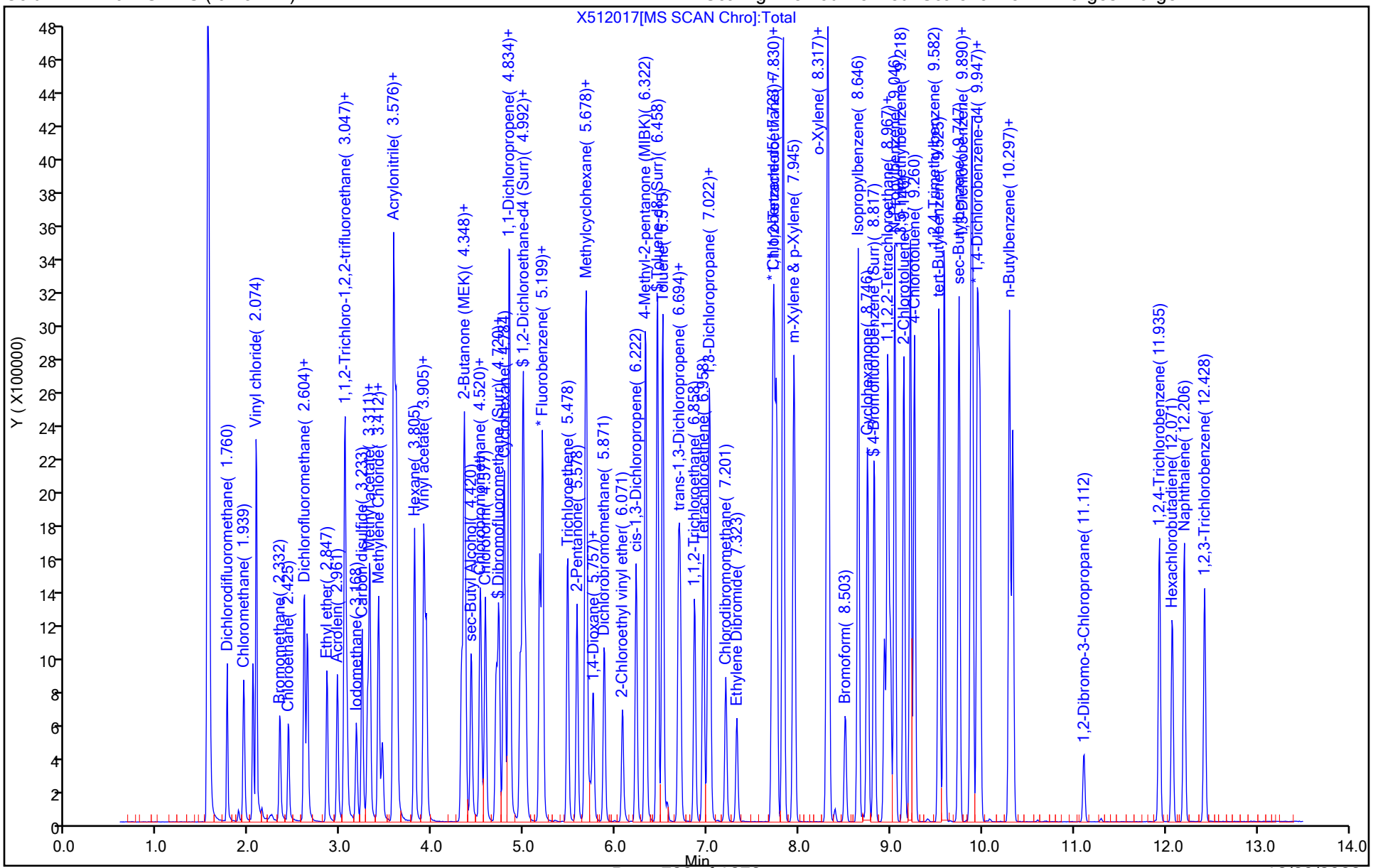
Report Date: 19-Dec-2023 18:25:07 Chrom Revision: 2.3 15-Nov-2023 20:54:34

Eurofins Denver

Data File: \\chromfs\Denver\ChromData\VMS_X4\20231219-128742.b\X512017.D

Injection Date:	19-Dec-2023 18:08:30	Instrument ID:	VMS_X4	Operator ID:	CF
Lims ID:	LCSD			Worklist Smp#:	5
Client ID:					
Purge Vol:	5.000 mL	Dil. Factor:	1.0000	ALS Bottle#:	4
Method:	VMS_X4_8260	Limit Group:	MSV - 8260B Water and Solid		

Column: Rxi-624Sil MS (0.25 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 1



Eurofins Denver
Recovery Report

Data File: \\chromfs\Denver\ChromData\VMS_X4\20231219-128742.b\X512017.D
Lims ID: LCSD
Client ID:
Sample Type: LCSD
Inject. Date: 19-Dec-2023 18:08:30 ALS Bottle#: 4 Worklist Smp#: 5
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Sample Info: LCSD M
Operator ID: CF Instrument ID: VMS_X4

Method: \\chromfs\Denver\ChromData\VMS_X4\20231219-128742.b\VMS_X4_8260.m
Limit Group: MSV - 8260B Water and Solid
Last Update: 19-Dec-2023 18:25:01 Calib Date: 11-Dec-2023 20:50:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Denver\ChromData\VMS_X4\20231211-128477.b\X511702.D

Column 1 : Rxi-624Sil MS (0.25 mm) Det: MS SCAN
Process Host: CTX1675

Compound	Amount Added	Amount Recovered	% Rec.
$ 4 Dibromofluoromethane (Surr)	50.0	52.8	105.69
$ 5 1,2-Dichloroethane-d4 (Surr)	50.0	50.9	101.73
$ 6 Toluene-d8 (Surr)	50.0	49.2	98.45
$ 7 4-Bromofluorobenzene (Surr)	50.0	45.1	90.26

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Denver | Job No.: 280-185814-1

SDG No.:

Client Sample ID: | Lab Sample ID: LCSD 280-637903/7

Matrix: Water | Lab File ID: X512016.D

Analysis Method: 8260D | Date Collected:

Sample wt/vol: 5(mL) | Date Analyzed: 12/19/2023 17:46

Soil Aliquot Vol: | Dilution Factor: 1

Soil Extract Vol.: | GC Column: RXI-624SilMS ID: 0.25(mm)

Purge Volume: 5.0(mL) | Heated Purge: (Y/N) N pH:

% Moisture: % Solids: | Level: (low/med) Low

Analysis Batch No.: 637903 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
108-20-3	Isopropyl ether	23.2		10	2.0	1.1
526-73-8	1,2,3-Trimethylbenzene	21.9		2.0	0.80	0.27

CAS NO.	SURROGATE	%REC	Q	LIMITS
17060-07-0	1,2-Dichloroethane-d4 (Surr)	103		81-118
2037-26-5	Toluene-d8 (Surr)	98		89-112
460-00-4	4-Bromofluorobenzene (Surr)	90		85-114
1868-53-7	Dibromofluoromethane (Surr)	106		80-119

Eurofins Denver
Target Compound Quantitation Report

Data File: \\chromfs\Denver\ChromData\VMS_X4\20231219-128742.b\X512016.D
Lims ID: LCSD
Client ID:
Sample Type: LCSD
Inject. Date: 19-Dec-2023 17:46:30 ALS Bottle#: 3 Worklist Smp#: 7
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Sample Info: LCSD S
Operator ID: CF Instrument ID: VMS_X4

Method: \\chromfs\Denver\ChromData\VMS_X4\20231219-128742.b\VMS_X4_8260.m
Limit Group: MSV - 8260B Water and Solid
Last Update: 19-Dec-2023 18:25:01 Calib Date: 11-Dec-2023 20:50:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Denver\ChromData\VMS_X4\20231211-128477.b\X511702.D

Column 1 : Rxi-624Sil MS (0.25 mm) Det: MS SCAN
Process Host: CTX1675

	Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
*	1 Fluorobenzene	96	5.199	5.199	0.000	98	1631307	50.0	50.0	
*	2 Chlorobenzene-d5	119	7.723	7.730	-0.007	90	446628	50.0	50.0	
*	3 1,4-Dichlorobenzene-d4	152	9.947	9.947	0.000	96	784864	50.0	50.0	
$	4 Dibromofluoromethane (Surr)	111	4.692	4.691	0.001	93	440988	50.0	52.8	
$	5 1,2-Dichloroethane-d4 (Surr)	65	4.956	4.956	0.000	0	553323	50.0	51.3	
$	6 Toluene-d8 (Surr)	98	6.458	6.458	0.000	94	1881709	50.0	48.9	
$	7 4-Bromofluorobenzene (Surr)	95	8.817	8.817	0.000	88	671578	50.0	44.8	
	17 Ethanol	45	2.754	2.754	0.000	100	179896	1500.0	1293.0	
	23 Isopropyl alcohol	45	3.147	3.147	0.000	99	126833	250.0	205.0	
	26 Acetonitrile	41	3.276	3.276	0.000	99	365460	250.0	206.8	
	37 Isopropyl ether	87	3.927	3.926	0.001	95	165580	25.0	23.2	
	38 2-Chloro-1,3-butadiene	53	3.984	3.984	0.000	93	355125	25.0	21.9	
	39 Tert-butyl ethyl ether	59	4.191	4.191	0.000	98	660503	25.0	22.9	
	41 Ethyl acetate	43	4.327	4.327	0.000	99	409982	50.0	40.1	
	44 Propionitrile	54	4.370	4.370	0.000	99	342665	250.0	218.5	
	46 Methacrylonitrile	41	4.477	4.484	-0.007	96	1458383	250.0	221.2	
	57 Tert-amyl methyl ether	73	5.056	5.056	0.000	85	575467	25.0	23.2	
	59 n-Butanol	56	5.335	5.335	0.000	90	132679	625.0	534.9	
	64 Methyl methacrylate	100	5.678	5.678	0.000	93	102376	50.0	47.0	
	68 2-Nitropropane	41	6.043	6.043	0.000	99	96050	50.0	43.8	
	90 cis-1,4-Dichloro-2-butene	53	8.696	8.696	0.000	0	139544	50.0	39.3	
	107 1,2,3-Trimethylbenzene	105	9.997	9.990	0.007	99	866412	25.0	21.9	
	111 1,3,5-Trichlorobenzene	180	11.298	11.298	0.000	97	288753	25.0	23.0	
	117 t-Amyl alcohol	1		0.000				ND	ND	
	118 Ethyl acrylate	55		0.000				ND	ND	

QC Flag Legend

Processing Flags
ND - Not Detected or Marked ND

Reagents:

MV-Supp A_00087	Amount Added: 25.00	Units: uL	
mv-IS_SS_00074	Amount Added: 5.00	Units: uL	Run Reagent

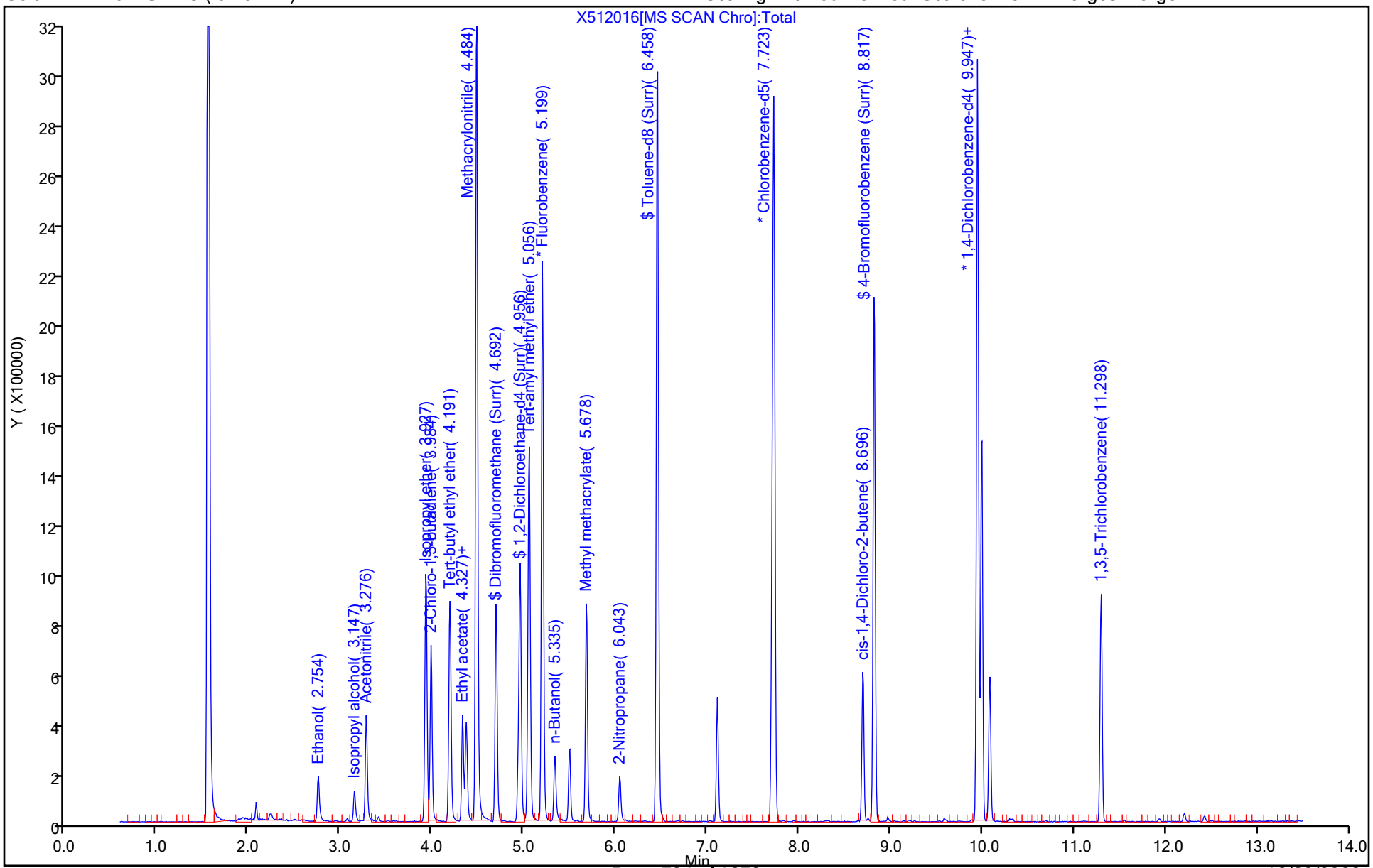
Report Date: 19-Dec-2023 18:25:13 Chrom Revision: 2.3 15-Nov-2023 20:54:34

Eurofins Denver

Data File: \\chromfs\Denver\ChromData\VMS_X4\20231219-128742.b\X512016.D

Injection Date:	19-Dec-2023 17:46:30	Instrument ID:	VMS_X4	Operator ID:	CF
Lims ID:	LCSD			Worklist Smp#:	7
Client ID:					
Purge Vol:	5.000 mL	Dil. Factor:	1.0000	ALS Bottle#:	3
Method:	VMS_X4_8260	Limit Group:	MSV - 8260B Water and Solid		

Column: Rxi-624Sil MS (0.25 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 1



Eurofins Denver
Recovery Report

Data File: \\chromfs\Denver\ChromData\VMS_X4\20231219-128742.b\X512016.D
Lims ID: LCSD
Client ID:
Sample Type: LCSD
Inject. Date: 19-Dec-2023 17:46:30 ALS Bottle#: 3 Worklist Smp#: 7
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Sample Info: LCSD S
Operator ID: CF Instrument ID: VMS_X4

Method: \\chromfs\Denver\ChromData\VMS_X4\20231219-128742.b\VMS_X4_8260.m
Limit Group: MSV - 8260B Water and Solid
Last Update: 19-Dec-2023 18:25:01 Calib Date: 11-Dec-2023 20:50:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Denver\ChromData\VMS_X4\20231211-128477.b\X511702.D

Column 1 : Rxi-624Sil MS (0.25 mm) Det: MS SCAN
Process Host: CTX1675

Compound	Amount Added	Amount Recovered	% Rec.
$ 4 Dibromofluoromethane (Surr)	50.0	52.8	105.68
$ 5 1,2-Dichloroethane-d4 (Surr)	50.0	51.3	102.53
$ 6 Toluene-d8 (Surr)	50.0	48.9	97.87
$ 7 4-Bromofluorobenzene (Surr)	50.0	44.8	89.67

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Denver | Job No.: 280-185814-1

SDG No.:

Client Sample ID: TV044-MW141223A MS | Lab Sample ID: 280-185814-4 MS

Matrix: Water | Lab File ID: X512042.D

Analysis Method: 8260D | Date Collected: 12/14/2023 11:10

Sample wt/vol: 5(mL) | Date Analyzed: 12/20/2023 03:12

Soil Aliquot Vol: | Dilution Factor: 1

Soil Extract Vol.: | GC Column: RXI-624SilMS ID: 0.25(mm)

Purge Volume: 5.0(mL) | Heated Purge: (Y/N) N pH: 6.0

% Moisture: % Solids: | Level: (low/med) Low

Analysis Batch No.: 637903 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
67-64-1	Acetone	207		15	8.0	6.6
107-13-1	Acrylonitrile	534		20	8.0	4.5
71-43-2	Benzene	53.3		1.0	0.80	0.31
108-86-1	Bromobenzene	53.2		1.0	0.50	0.40
74-97-5	Bromochloromethane	60.8		1.0	0.80	0.40
75-27-4	Bromodichloromethane	55.7		1.0	0.50	0.39
75-25-2	Bromoform	58.9		2.0	1.8	1.2
78-93-3	2-Butanone (MEK)	214		15	12	6.0
104-51-8	n-Butylbenzene	50.2		1.0	0.80	0.48
135-98-8	sec-Butylbenzene	52.5		1.0	0.80	0.45
98-06-6	tert-Butylbenzene	52.5		1.0	0.80	0.42
75-15-0	Carbon disulfide	49.1		2.0	0.80	0.63
56-23-5	Carbon tetrachloride	58.2		1.0	0.80	0.57
108-90-7	Chlorobenzene	53.5		1.0	0.80	0.42
75-00-3	Chloroethane	48.2		4.0	1.6	1.4
110-75-8	2-Chloroethyl vinyl ether	55.3		3.0	0.80	0.44
67-66-3	Chloroform	52.5		1.0	0.80	0.36
74-87-3	Chloromethane	47.9		2.0	1.0	0.75
106-43-4	p-Chlorotoluene	51.3		1.0	0.80	0.21
110-82-7	Cyclohexane	52.6		1.0	0.80	0.44
108-94-1	Cyclohexanone	2140		100	64	32
124-48-1	Dibromochloromethane	56.4		2.0	1.8	0.62
96-12-8	1,2-Dibromo-3-Chloropropane	59.0		5.0	4.0	1.8
75-71-8	Dichlorodifluoromethane	46.9		3.0	2.5	0.96
74-95-3	Dibromomethane	52.9		1.0	0.40	0.34
106-93-4	1,2-Dibromoethane	54.4		1.0	0.80	0.40
95-50-1	1,2-Dichlorobenzene	52.5		1.0	0.50	0.37
541-73-1	1,3-Dichlorobenzene	54.2		1.0	0.40	0.33
106-46-7	1,4-Dichlorobenzene	51.8		1.0	0.50	0.39
75-34-3	1,1-Dichloroethane	51.5		1.0	0.80	0.22
107-06-2	1,2-Dichloroethane	50.8		1.0	0.80	0.54
75-35-4	1,1-Dichloroethylene	53.8		1.0	0.80	0.23
156-59-2	cis-1,2-Dichloroethylene	54.9		1.0	0.40	0.32
156-60-5	trans-1,2-Dichloroethylene	53.7		1.0	0.50	0.37

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Denver | Job No.: 280-185814-1

SDG No.:

Client Sample ID: TV044-MW141223A MS | Lab Sample ID: 280-185814-4 MS

Matrix: Water | Lab File ID: X512042.D

Analysis Method: 8260D | Date Collected: 12/14/2023 11:10

Sample wt/vol: 5(mL) | Date Analyzed: 12/20/2023 03:12

Soil Aliquot Vol: | Dilution Factor: 1

Soil Extract Vol.: | GC Column: RXI-624SilMS ID: 0.25(mm)

Purge Volume: 5.0(mL) | Heated Purge: (Y/N) N pH: 6.0

% Moisture: % Solids: | Level: (low/med) Low

Analysis Batch No.: 637903 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
78-87-5	1,2-Dichloropropane	51.5		1.0	0.80	0.52
142-28-9	1,3-Dichloropropane	51.9		1.0	0.80	0.38
594-20-7	2,2-Dichloropropane	47.8		1.0	0.80	0.38
563-58-6	1,1-Dichloropropene	52.9		1.0	0.80	0.42
10061-01-5	cis-1,3-Dichloropropene	51.2		2.0	1.8	0.63
10061-02-6	trans-1,3-Dichloropropene	55.5		2.0	1.8	0.65
100-41-4	Ethylbenzene	54.2		1.0	0.40	0.30
110-54-3	n-Hexane	48.7		2.0	0.80	0.16
591-78-6	2-Hexanone	218		5.0	4.0	1.7
87-68-3	Hexachlorobutadiene	59.1		2.0	1.8	1.2
98-82-8	Isopropylbenzene	51.4		1.0	0.50	0.36
99-87-6	4-Isopropyltoluene	52.0		1.0	0.80	0.43
108-87-2	Methylcyclohexane	53.7		1.0	0.40	0.31
75-09-2	Methylene Chloride	50.0		2.0	1.8	0.94
108-10-1	4-Methyl-2-pentanone (MIBK)	230		5.0	3.2	0.98
1634-04-4	Methyl tert-butyl ether	61.2		5.0	0.80	0.25
91-20-3	Naphthalene	57.0		2.0	0.80	0.63
103-65-1	N-Propylbenzene	55.4		1.0	0.80	0.53
100-42-5	Styrene	54.7		1.0	0.80	0.36
79-34-5	1,1,2,2-Tetrachloroethane	50.7		1.0	0.80	0.21
127-18-4	Tetrachloroethene	53.6		1.0	0.80	0.40
108-88-3	Toluene	53.3		1.0	0.40	0.32
87-61-6	1,2,3-Trichlorobenzene	57.8		2.0	0.80	0.70
71-55-6	1,1,1-Trichloroethane	55.5		1.0	0.50	0.39
79-00-5	1,1,2-Trichloroethane	56.0		1.0	0.80	0.27
79-01-6	Trichloroethene	51.7		1.0	0.40	0.30
75-69-4	Trichlorofluoromethane	47.5		2.0	0.80	0.57
120-82-1	1,2,4-Trichlorobenzene	54.4		1.0	0.80	0.58
96-18-4	1,2,3-Trichloropropane	55.0		2.5	1.8	0.86
95-63-6	1,2,4-Trimethylbenzene	52.5		1.0	0.40	0.15
108-67-8	1,3,5-Trimethylbenzene	52.6		1.0	0.50	0.37
108-05-4	Vinyl acetate	122		3.0	2.0	0.94
75-01-4	Vinyl chloride	48.1		2.0	1.0	0.51
1330-20-7	Xylenes, Total	107		1.0	0.80	0.33

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Denver | Job No.: 280-185814-1

SDG No.:

Client Sample ID: TV044-MW141223A MS | Lab Sample ID: 280-185814-4 MS

Matrix: Water | Lab File ID: X512042.D

Analysis Method: 8260D | Date Collected: 12/14/2023 11:10

Sample wt/vol: 5(mL) | Date Analyzed: 12/20/2023 03:12

Soil Aliquot Vol: | Dilution Factor: 1

Soil Extract Vol.: | GC Column: RXI-624SilMS ID: 0.25(mm)

Purge Volume: 5.0(mL) | Heated Purge: (Y/N) N pH: 6.0

% Moisture: % Solids: | Level: (low/med) Low

Analysis Batch No.: 637903 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
95-49-8	o-Chlorotoluene	52.9		1.0	0.40	0.34

CAS NO.	SURROGATE	%REC	Q	LIMITS
2037-26-5	Toluene-d8 (Surr)	99		89-112
17060-07-0	1,2-Dichloroethane-d4 (Surr)	103		81-118
460-00-4	4-Bromofluorobenzene (Surr)	93		85-114
1868-53-7	Dibromofluoromethane (Surr)	106		80-119

Eurofins Denver
Target Compound Quantitation Report

Data File: \\chromfs\Denver\ChromData\VMS_X4\20231219-128742.b\X512042.D
Lims ID: 280-185814-F-4 MS
Client ID: TV044-MW141223A
Sample Type: MS
Inject. Date: 20-Dec-2023 03:12:30 ALS Bottle#: 29 Worklist Smp#: 34
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Sample Info: 280-185814-f-4 ms
Operator ID: CF Instrument ID: VMS_X4

Method: \\chromfs\Denver\ChromData\VMS_X4\20231219-128742.b\VMS_X4_8260.m
Limit Group: MSV - 8260B Water and Solid
Last Update: 20-Dec-2023 03:56:10 Calib Date: 11-Dec-2023 20:50:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Denver\ChromData\VMS_X4\20231211-128477.b\X511702.D

Column 1 : Rxi-624Sil MS (0.25 mm) Det: MS SCAN
Process Host: CTX1617

First Level Reviewer: BX8N Date: 20-Dec-2023 03:54:58

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
* 1 Fluorobenzene	96	5.199	5.199	0.000	98	1733838	50.0	50.0	
* 2 Chlorobenzene-d5	119	7.730	7.730	0.000	89	466732	50.0	50.0	
* 3 1,4-Dichlorobenzene-d4	152	9.947	9.947	0.000	97	801536	50.0	50.0	
$ 4 Dibromofluoromethane (Surr)	111	4.692	4.691	0.001	93	470413	50.0	53.0	
$ 5 1,2-Dichloroethane-d4 (Surr)	65	4.956	4.956	0.000	0	590319	50.0	51.5	
$ 6 Toluene-d8 (Surr)	98	6.458	6.458	0.000	95	1993522	50.0	49.6	
$ 7 4-Bromofluorobenzene (Surr)	95	8.817	8.817	0.000	88	707651	50.0	46.3	
$ 8 BFB	95	8.817	8.817	0.000	85	707651		NR	
9 Dichlorodifluoromethane	85	1.760	1.760	0.000	100	575499	50.0	46.9	
10 Chloromethane	50	1.939	1.939	0.000	100	813481	50.0	47.9	
11 Vinyl chloride	62	2.039	2.039	0.000	99	703531	50.0	48.1	
12 Bromomethane	94	2.332	2.332	0.000	92	397052	50.0	54.2	
13 Chloroethane	64	2.425	2.425	0.000	99	443961	50.0	48.2	
15 Propene oxide	58		2.504					ND	
14 Dichlorofluoromethane	67	2.597	2.596	0.001	98	1152115	50.0	51.8	
16 Trichlorofluoromethane	101	2.632	2.632	0.000	99	723091	50.0	47.5	
17 Ethanol	45		2.754					ND	U
18 Ethyl ether	59	2.847	2.847	0.000	95	451278	50.0	52.0	
19 Acrolein	56	2.961	2.961	0.000	99	662691	493.8	475.5	
20 1,1,2-Trichloro-1,2,2-trifluoroe	151	3.040	3.040	0.000	96	339841	50.0	59.1	
21 1,1-Dichloroethene	96	3.047	3.047	0.000	95	425662	50.0	53.8	
22 Acetone	43	3.068	3.061	0.007	99	699827	200.0	206.8	
23 Isopropyl alcohol	45		3.147					ND	U
24 Iodomethane	142	3.169	3.169	0.000	99	614482	50.0	58.9	
25 Carbon disulfide	76	3.233	3.233	0.000	100	1446978	50.0	49.1	
26 Acetonitrile	41		3.276					ND	
27 Methyl acetate	43	3.290	3.290	0.000	99	889815	100.0	108.8	
28 3-Chloro-1-propene	41	3.312	3.319	-0.007	90	952107	50.0	51.2	
29 Methylene Chloride	84	3.412	3.412	0.000	98	521661	50.0	50.0	
30 2-Methyl-2-propanol	59	3.455	3.455	0.000	99	570461	500.0	625.3	
31 Acrylonitrile	53	3.576	3.576	0.000	98	2293831	500.0	534.4	
32 Methyl tert-butyl ether	73	3.598	3.598	0.000	97	1621753	50.0	61.2	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
33 trans-1,2-Dichloroethene	96	3.612	3.612	0.000	95	485149	50.0	53.7	
34 Hexane	57	3.805	3.805	0.000	96	696952	50.0	48.7	
35 Vinyl acetate	43	3.905	3.905	0.000	97	2493799	100.0	121.7	
37 Isopropyl ether	87		3.926					ND	U
36 1,1-Dichloroethane	63	3.934	3.934	0.000	97	1009187	50.0	51.5	
38 2-Chloro-1,3-butadiene	53		3.984					ND	
39 Tert-butyl ethyl ether	59		4.191					ND	
40 2-Butanone (MEK)	43	4.320	4.320	0.000	99	1158919	200.0	214.1	
41 Ethyl acetate	43		4.327					ND	
42 cis-1,2-Dichloroethene	96	4.341	4.341	0.000	86	555603	50.0	54.9	
43 2,2-Dichloropropane	77	4.355	4.355	0.000	89	715820	50.0	47.8	
44 Propionitrile	54		4.370					ND	U
45 sec-Butyl Alcohol	45	4.420	4.420	0.000	99	1159167	1200.0	1474.0	
46 Methacrylonitrile	41		4.484					ND	
47 Chlorobromomethane	128	4.520	4.520	0.000	95	247041	50.0	60.8	
48 Tetrahydrofuran	42	4.527	4.527	0.000	91	399683	100.0	109.0	
49 Chloroform	83	4.577	4.577	0.000	96	928815	50.0	52.5	
50 1,1,1-Trichloroethane	97	4.727	4.720	0.007	98	797736	50.0	55.5	
51 Cyclohexane	56	4.785	4.784	0.000	94	979277	50.0	52.6	
52 1,1-Dichloropropene	75	4.835	4.835	0.000	96	745781	50.0	52.9	
54 Isobutyl alcohol	41	4.842	4.842	0.000	93	532385	1250.0	1543.4	
53 Carbon tetrachloride	117	4.842	4.842	0.000	93	663125	50.0	58.2	
55 Benzene	78	4.992	4.985	0.007	98	2195669	50.0	53.3	
56 1,2-Dichloroethane	62	5.013	5.013	0.000	98	773940	50.0	50.8	
57 Tert-amyl methyl ether	73		5.056					ND	
58 n-Heptane	43	5.171	5.171	0.000	97	582868	50.0	46.9	
59 n-Butanol	56		5.335					ND	
60 Trichloroethene	95	5.478	5.471	0.007	98	524344	50.0	51.7	
61 2-Pentanone	43	5.578	5.578	0.000	98	1460049	160.0	187.0	
62 Methylcyclohexane	55	5.671	5.671	0.000	95	688691	50.0	53.7	
64 Methyl methacrylate	100		5.678					ND	U
63 1,2-Dichloropropane	63	5.678	5.678	0.000	94	591627	50.0	51.5	
65 1,4-Dioxane	88	5.721	5.721	0.000	95	147697	1000.0	1179.5	
66 Dibromomethane	93	5.750	5.750	0.000	96	310556	50.0	52.9	
67 Dichlorobromomethane	83	5.871	5.871	0.000	99	702870	50.0	55.7	
68 2-Nitropropane	41		6.043					ND	
69 2-Chloroethyl vinyl ether	63	6.072	6.072	0.000	91	339312	50.0	55.3	
70 cis-1,3-Dichloropropene	75	6.222	6.222	0.000	93	877779	50.0	51.2	
71 4-Methyl-2-pentanone (MIBK)	43	6.322	6.322	0.000	99	2343750	200.0	230.2	
72 Toluene	91	6.515	6.515	0.000	97	2283759	50.0	53.3	
73 trans-1,3-Dichloropropene	75	6.686	6.686	0.000	98	798729	50.0	55.5	
74 Ethyl methacrylate	69	6.701	6.701	0.000	92	700472	50.0	54.8	
75 1,1,2-Trichloroethane	97	6.858	6.858	0.000	92	450731	50.0	56.0	
76 Tetrachloroethene	164	6.958	6.951	0.007	98	385243	50.0	53.6	
77 1,3-Dichloropropane	76	7.008	7.008	0.000	98	835509	50.0	51.9	
78 2-Hexanone	43	7.023	7.022	0.001	98	1671197	200.0	217.8	
79 Chlorodibromomethane	129	7.201	7.201	0.000	91	488867	50.0	56.4	
80 Ethylene Dibromide	107	7.323	7.323	0.000	98	470012	50.0	54.4	
81 1-Chlorohexane	91	7.709	7.709	0.000	92	528277	40.0	40.0	
82 Chlorobenzene	112	7.752	7.752	0.000	92	1405689	50.0	53.5	
83 1,1,1,2-Tetrachloroethane	131	7.823	7.823	0.000	94	470665	50.0	56.7	
84 Ethylbenzene	106	7.831	7.830	0.000	99	782335	50.0	54.2	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
85 m-Xylene & p-Xylene	106	7.945	7.945	0.000	0	954866	50.0	52.6	
86 o-Xylene	106	8.310	8.302	0.008	98	955351	50.0	53.9	
87 Styrene	104	8.324	8.324	0.000	93	1583210	50.0	54.7	
88 Bromoform	173	8.503	8.503	0.000	96	328294	50.0	58.9	
89 Isopropylbenzene	105	8.646	8.646	0.000	97	2356865	50.0	51.4	
90 cis-1,4-Dichloro-2-butene	53		8.696					ND	U
91 Cyclohexanone	55	8.746	8.746	0.000	96	1020241	1500.0	2138.8	
92 1,1,2,2-Tetrachloroethane	83	8.932	8.932	0.000	95	624090	50.0	50.7	
93 Bromobenzene	156	8.967	8.967	0.000	98	581379	50.0	53.2	
94 trans-1,4-Dichloro-2-butene	53	8.967	8.967	0.000	59	197594	50.0	50.3	
95 1,2,3-Trichloropropane	110	8.996	8.996	0.000	88	184495	50.0	55.0	
96 N-Propylbenzene	120	9.046	9.046	0.000	99	651349	50.0	55.4	
97 2-Chlorotoluene	126	9.146	9.146	0.000	95	560470	50.0	52.9	
98 1,3,5-Trimethylbenzene	105	9.218	9.218	0.000	95	2004091	50.0	52.6	
99 4-Chlorotoluene	126	9.261	9.261	0.000	98	569462	50.0	51.3	
101 Pentachloroethane	167		9.411					ND	
100 tert-Butylbenzene	119	9.525	9.525	0.000	94	1624460	50.0	52.5	
102 1,2,4-Trimethylbenzene	105	9.582	9.582	0.000	98	2078942	50.0	52.5	
103 sec-Butylbenzene	134	9.747	9.747	0.000	95	455592	50.0	52.5	
104 1,3-Dichlorobenzene	146	9.875	9.875	0.000	98	1067543	50.0	54.2	
105 4-Isopropyltoluene	119	9.890	9.890	0.000	97	1983694	50.0	52.0	
106 1,4-Dichlorobenzene	146	9.976	9.976	0.000	93	1104535	50.0	51.8	
107 1,2,3-Trimethylbenzene	105		9.990					ND	U
108 n-Butylbenzene	91	10.297	10.297	0.000	98	1772185	50.0	50.2	
109 1,2-Dichlorobenzene	146	10.333	10.333	0.000	96	1020236	50.0	52.5	
110 1,2-Dibromo-3-Chloropropane	157	11.112	11.112	0.000	81	130518	50.0	59.0	
111 1,3,5-Trichlorobenzene	180		11.298					ND	
112 1,2,4-Trichlorobenzene	180	11.935	11.935	0.000	94	601613	50.0	54.4	
113 Hexachlorobutadiene	225	12.078	12.071	0.007	96	256052	50.0	59.1	
114 Naphthalene	128	12.206	12.206	0.000	98	1637584	50.0	57.0	
115 1,2,3-Trichlorobenzene	180	12.428	12.428	0.000	95	518488	50.0	57.8	
116 Ethylene oxide TIC	1		0.000					ND	
117 t-Amyl alcohol	1		0.000					ND	
118 Ethyl acrylate	55		0.000					ND	
119 1-Chloro-1-fluoroethane TIC	1		0.000					ND	
120 Tetrahydrothiophene TIC	1		0.000					ND	
121 Propene oxide TIC	58		5.334					ND	
S 122 1,2-Dichloroethene, Total (URS)	96				0		100.0	108.6	
S 129 1,2-Dichloroethene, Total	1				0		100.0	108.6	
S 124 1,3-Dichloropropene, Total	1				0		100.0	106.7	
S 123 Xylenes, Total (URS)	1				0		100.0	106.5	
S 127 Trihalomethanes, Total	1				0		200.0	223.5	
S 126 Total BTEX	1				0			267.2	
S 128 TAH	1				0			0	
S 125 Xylenes, Total	106				0		100.0	106.5	

QC Flag Legend

Processing Flags

NR - Missing Quant Standard

Review Flags

U - Marked Undetected

Reagents:

MV-MegaMainA_00100	Amount Added:	25.00	Units: uL	
MV-Gas A_00174	Amount Added:	10.00	Units: uL	
mv-IS_SS_00074	Amount Added:	5.00	Units: uL	Run Reagent

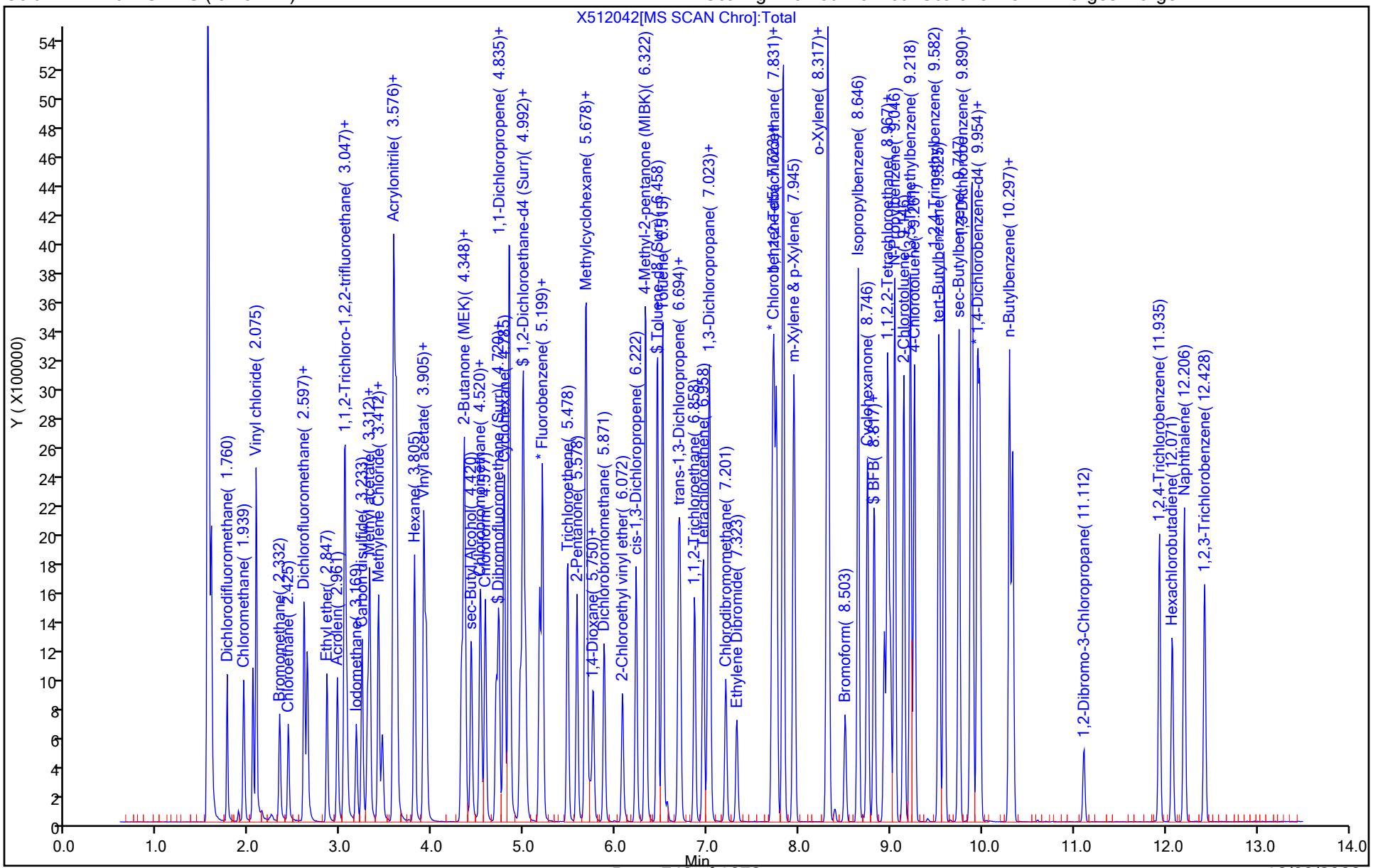
Report Date: 20-Dec-2023 03:56:27 Chrom Revision: 2.3 15-Nov-2023 20:54:34

Eurofins Denver

Data File: \\chromfs\Denver\ChromData\VMS_X4\20231219-128742.b\X512042.D

Injection Date:	20-Dec-2023 03:12:30	Instrument ID:	VMS_X4	Operator ID:	CF
Lims ID:	280-185814-F-4 MS			Worklist Smp#:	34
Client ID:	TV044-MW141223A				
Purge Vol:	5.000 mL	Dil. Factor:	1.0000	ALS Bottle#:	29
Method:	VMS_X4_8260	Limit Group:	MSV - 8260B Water and Solid		

Column: Rxi-624Sil MS (0.25 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 1



Eurofins Denver
Recovery Report

Data File: \\chromfs\Denver\ChromData\VMS_X4\20231219-128742.b\X512042.D
Lims ID: 280-185814-F-4 MS
Client ID: TV044-MW141223A
Sample Type: MS
Inject. Date: 20-Dec-2023 03:12:30 ALS Bottle#: 29 Worklist Smp#: 34
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Sample Info: 280-185814-f-4 ms
Operator ID: CF Instrument ID: VMS_X4

Method: \\chromfs\Denver\ChromData\VMS_X4\20231219-128742.b\VMS_X4_8260.m
Limit Group: MSV - 8260B Water and Solid
Last Update: 20-Dec-2023 03:56:10 Calib Date: 11-Dec-2023 20:50:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Denver\ChromData\VMS_X4\20231211-128477.b\X511702.D

Column 1 : Rxi-624Sil MS (0.25 mm) Det: MS SCAN
Process Host: CTX1617

First Level Reviewer: BX8N Date: 20-Dec-2023 03:54:58

Compound	Amount Added	Amount Recovered	% Rec.
$ 4 Dibromofluoromethane (Surr)	50.0	53.0	106.07
$ 5 1,2-Dichloroethane-d4 (Surr)	50.0	51.5	102.91
$ 6 Toluene-d8 (Surr)	50.0	49.6	99.22
$ 7 4-Bromofluorobenzene (Surr)	50.0	46.3	92.52

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Denver | Job No.: 280-185814-1

SDG No.:

Client Sample ID: TV044-MW141223A MSD | Lab Sample ID: 280-185814-4 MSD

Matrix: Water | Lab File ID: X512043.D

Analysis Method: 8260D | Date Collected: 12/14/2023 11:10

Sample wt/vol: 5(mL) | Date Analyzed: 12/20/2023 03:33

Soil Aliquot Vol: | Dilution Factor: 1

Soil Extract Vol.: | GC Column: RXI-624SilMS ID: 0.25(mm)

Purge Volume: 5.0(mL) | Heated Purge: (Y/N) N pH: 6.0

% Moisture: % Solids: | Level: (low/med) Low

Analysis Batch No.: 637903 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
67-64-1	Acetone	173		15	8.0	6.6
107-13-1	Acrylonitrile	440		20	8.0	4.5
71-43-2	Benzene	46.9		1.0	0.80	0.31
108-86-1	Bromobenzene	46.3		1.0	0.50	0.40
74-97-5	Bromochloromethane	52.9		1.0	0.80	0.40
75-27-4	Bromodichloromethane	50.6		1.0	0.50	0.39
75-25-2	Bromoform	51.5		2.0	1.8	1.2
78-93-3	2-Butanone (MEK)	180		15	12	6.0
104-51-8	n-Butylbenzene	43.7		1.0	0.80	0.48
135-98-8	sec-Butylbenzene	46.3		1.0	0.80	0.45
98-06-6	tert-Butylbenzene	46.8		1.0	0.80	0.42
75-15-0	Carbon disulfide	42.6		2.0	0.80	0.63
56-23-5	Carbon tetrachloride	51.4		1.0	0.80	0.57
108-90-7	Chlorobenzene	47.1		1.0	0.80	0.42
75-00-3	Chloroethane	39.0	J1	4.0	1.6	1.4
110-75-8	2-Chloroethyl vinyl ether	43.5	J1	3.0	0.80	0.44
67-66-3	Chloroform	46.1		1.0	0.80	0.36
74-87-3	Chloromethane	38.8	J1	2.0	1.0	0.75
106-43-4	p-Chlorotoluene	45.3		1.0	0.80	0.21
110-82-7	Cyclohexane	46.2		1.0	0.80	0.44
108-94-1	Cyclohexanone	1860		100	64	32
124-48-1	Dibromochloromethane	50.0		2.0	1.8	0.62
96-12-8	1,2-Dibromo-3-Chloropropane	55.2		5.0	4.0	1.8
75-71-8	Dichlorodifluoromethane	37.5	J1	3.0	2.5	0.96
74-95-3	Dibromomethane	47.7		1.0	0.40	0.34
106-93-4	1,2-Dibromoethane	45.9		1.0	0.80	0.40
95-50-1	1,2-Dichlorobenzene	45.6		1.0	0.50	0.37
541-73-1	1,3-Dichlorobenzene	47.4		1.0	0.40	0.33
106-46-7	1,4-Dichlorobenzene	45.1		1.0	0.50	0.39
75-34-3	1,1-Dichloroethane	45.1		1.0	0.80	0.22
107-06-2	1,2-Dichloroethane	43.6		1.0	0.80	0.54
75-35-4	1,1-Dichloroethylene	46.6		1.0	0.80	0.23
156-59-2	cis-1,2-Dichloroethylene	48.2		1.0	0.40	0.32
156-60-5	trans-1,2-Dichloroethylene	47.1		1.0	0.50	0.37

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Denver | Job No.: 280-185814-1

SDG No.:

Client Sample ID: TV044-MW141223A MSD | Lab Sample ID: 280-185814-4 MSD

Matrix: Water | Lab File ID: X512043.D

Analysis Method: 8260D | Date Collected: 12/14/2023 11:10

Sample wt/vol: 5(mL) | Date Analyzed: 12/20/2023 03:33

Soil Aliquot Vol: | Dilution Factor: 1

Soil Extract Vol.: | GC Column: RXI-624SilMS ID: 0.25(mm)

Purge Volume: 5.0(mL) | Heated Purge: (Y/N) N pH: 6.0

% Moisture: % Solids: | Level: (low/med) Low

Analysis Batch No.: 637903 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
78-87-5	1,2-Dichloropropane	45.5		1.0	0.80	0.52
142-28-9	1,3-Dichloropropane	44.9		1.0	0.80	0.38
594-20-7	2,2-Dichloropropane	42.3		1.0	0.80	0.38
563-58-6	1,1-Dichloropropene	46.1		1.0	0.80	0.42
10061-01-5	cis-1,3-Dichloropropene	45.0		2.0	1.8	0.63
10061-02-6	trans-1,3-Dichloropropene	49.2		2.0	1.8	0.65
100-41-4	Ethylbenzene	47.2		1.0	0.40	0.30
110-54-3	n-Hexane	39.9		2.0	0.80	0.16
591-78-6	2-Hexanone	184		5.0	4.0	1.7
87-68-3	Hexachlorobutadiene	51.3		2.0	1.8	1.2
98-82-8	Isopropylbenzene	45.2		1.0	0.50	0.36
99-87-6	4-Isopropyltoluene	46.2		1.0	0.80	0.43
108-87-2	Methylcyclohexane	47.3		1.0	0.40	0.31
75-09-2	Methylene Chloride	44.1		2.0	1.8	0.94
108-10-1	4-Methyl-2-pentanone (MIBK)	200		5.0	3.2	0.98
1634-04-4	Methyl tert-butyl ether	51.8		5.0	0.80	0.25
91-20-3	Naphthalene	50.4		2.0	0.80	0.63
103-65-1	N-Propylbenzene	47.8		1.0	0.80	0.53
100-42-5	Styrene	48.3		1.0	0.80	0.36
79-34-5	1,1,2,2-Tetrachloroethane	44.1		1.0	0.80	0.21
127-18-4	Tetrachloroethene	48.4		1.0	0.80	0.40
108-88-3	Toluene	47.9		1.0	0.40	0.32
87-61-6	1,2,3-Trichlorobenzene	50.6		2.0	0.80	0.70
71-55-6	1,1,1-Trichloroethane	48.8		1.0	0.50	0.39
79-00-5	1,1,2-Trichloroethane	49.1		1.0	0.80	0.27
79-01-6	Trichloroethene	45.7		1.0	0.40	0.30
75-69-4	Trichlorofluoromethane	39.1		2.0	0.80	0.57
120-82-1	1,2,4-Trichlorobenzene	48.2		1.0	0.80	0.58
96-18-4	1,2,3-Trichloropropane	48.0		2.5	1.8	0.86
95-63-6	1,2,4-Trimethylbenzene	46.1		1.0	0.40	0.15
108-67-8	1,3,5-Trimethylbenzene	45.8		1.0	0.50	0.37
108-05-4	Vinyl acetate	101		3.0	2.0	0.94
75-01-4	Vinyl chloride	39.1	J1	2.0	1.0	0.51
1330-20-7	Xylenes, Total	94.1		1.0	0.80	0.33

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Denver | Job No.: 280-185814-1

SDG No.:

Client Sample ID: TV044-MW141223A MSD | Lab Sample ID: 280-185814-4 MSD

Matrix: Water | Lab File ID: X512043.D

Analysis Method: 8260D | Date Collected: 12/14/2023 11:10

Sample wt/vol: 5(mL) | Date Analyzed: 12/20/2023 03:33

Soil Aliquot Vol: | Dilution Factor: 1

Soil Extract Vol.: | GC Column: RXI-624SilMS ID: 0.25(mm)

Purge Volume: 5.0(mL) | Heated Purge: (Y/N) N pH: 6.0

% Moisture: % Solids: | Level: (low/med) Low

Analysis Batch No.: 637903 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
95-49-8	o-Chlorotoluene	45.4		1.0	0.40	0.34

CAS NO.	SURROGATE	%REC	Q	LIMITS
2037-26-5	Toluene-d8 (Surr)	99		89-112
17060-07-0	1,2-Dichloroethane-d4 (Surr)	105		81-118
460-00-4	4-Bromofluorobenzene (Surr)	91		85-114
1868-53-7	Dibromofluoromethane (Surr)	105		80-119

Eurofins Denver
Target Compound Quantitation Report

Data File: \\chromfs\Denver\ChromData\VMS_X4\20231219-128742.b\X512043.D
Lims ID: 280-185814-F-4 MSD
Client ID: TV044-MW141223A
Sample Type: MSD
Inject. Date: 20-Dec-2023 03:33:30 ALS Bottle#: 30 Worklist Smp#: 35
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Sample Info: 280-185814-f-4 msd
Operator ID: CF Instrument ID: VMS_X4

Method: \\chromfs\Denver\ChromData\VMS_X4\20231219-128742.b\VMS_X4_8260.m
Limit Group: MSV - 8260B Water and Solid
Last Update: 20-Dec-2023 03:56:10 Calib Date: 11-Dec-2023 20:50:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Denver\ChromData\VMS_X4\20231211-128477.b\X511702.D

Column 1 : Rxi-624Sil MS (0.25 mm) Det: MS SCAN
Process Host: CTX1617

First Level Reviewer: BX8N Date: 20-Dec-2023 03:55:09

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
* 1 Fluorobenzene	96	5.199	5.199	0.000	98	1691294	50.0	50.0	
* 2 Chlorobenzene-d5	119	7.723	7.730	-0.007	90	462178	50.0	50.0	
* 3 1,4-Dichlorobenzene-d4	152	9.947	9.947	0.000	97	800665	50.0	50.0	
$ 4 Dibromofluoromethane (Surr)	111	4.691	4.691	0.000	93	455877	50.0	52.7	
$ 5 1,2-Dichloroethane-d4 (Surr)	65	4.956	4.956	0.000	0	584826	50.0	52.3	
$ 6 Toluene-d8 (Surr)	98	6.458	6.458	0.000	95	1966351	50.0	49.4	
$ 7 4-Bromofluorobenzene (Surr)	95	8.817	8.817	0.000	88	698959	50.0	45.7	
$ 8 BFB	95	8.817	8.817	0.000	85	698959		NR	
9 Dichlorodifluoromethane	85	1.760	1.760	0.000	100	448573	50.0	37.5	
10 Chloromethane	50	1.939	1.939	0.000	99	642521	50.0	38.8	
11 Vinyl chloride	62	2.039	2.039	0.000	99	558183	50.0	39.1	
12 Bromomethane	94	2.332	2.332	0.000	91	326334	50.0	45.7	
13 Chloroethane	64	2.425	2.425	0.000	100	350447	50.0	39.0	
15 Propene oxide	58		2.504					ND	
14 Dichlorofluoromethane	67	2.596	2.596	0.000	97	919750	50.0	42.4	
16 Trichlorofluoromethane	101	2.632	2.632	0.000	99	580251	50.0	39.1	
17 Ethanol	45		2.754					ND	
18 Ethyl ether	59	2.847	2.847	0.000	95	379979	50.0	44.9	
19 Acrolein	56	2.961	2.961	0.000	99	540028	493.8	397.2	
20 1,1,2-Trichloro-1,2,2-trifluoroe	151	3.040	3.040	0.000	94	292063	50.0	52.0	
21 1,1-Dichloroethene	96	3.047	3.047	0.000	98	360034	50.0	46.6	
22 Acetone	43	3.061	3.061	0.000	99	572403	200.0	173.4	
23 Isopropyl alcohol	45		3.147					ND	U
24 Iodomethane	142	3.168	3.169	-0.001	99	507618	50.0	49.9	
25 Carbon disulfide	76	3.233	3.233	0.000	100	1225457	50.0	42.6	
26 Acetonitrile	41		3.276					ND	
27 Methyl acetate	43	3.290	3.290	0.000	99	713387	100.0	89.4	
28 3-Chloro-1-propene	41	3.319	3.319	0.000	90	814222	50.0	44.9	
29 Methylene Chloride	84	3.412	3.412	0.000	97	448836	50.0	44.1	
30 2-Methyl-2-propanol	59	3.454	3.455	-0.001	99	446627	500.0	501.9	
31 Acrylonitrile	53	3.576	3.576	0.000	98	1843604	500.0	440.3	
32 Methyl tert-butyl ether	73	3.597	3.598	-0.001	97	1339054	50.0	51.8	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
33 trans-1,2-Dichloroethene	96	3.612	3.612	0.000	96	415270	50.0	47.1	
34 Hexane	57	3.805	3.805	0.000	96	565746	50.0	39.9	
35 Vinyl acetate	43	3.905	3.905	0.000	97	2024143	100.0	101.3	
37 Isopropyl ether	87		3.926					ND	U
36 1,1-Dichloroethane	63	3.934	3.934	0.000	97	862101	50.0	45.1	
38 2-Chloro-1,3-butadiene	53		3.984					ND	
39 Tert-butyl ethyl ether	59		4.191					ND	
40 2-Butanone (MEK)	43	4.320	4.320	0.000	99	951098	200.0	180.2	
41 Ethyl acetate	43		4.327					ND	
42 cis-1,2-Dichloroethene	96	4.341	4.341	0.000	86	475351	50.0	48.2	
43 2,2-Dichloropropane	77	4.355	4.355	0.000	90	616817	50.0	42.3	
44 Propionitrile	54		4.370					ND	U
45 sec-Butyl Alcohol	45	4.420	4.420	0.000	99	930870	1200.0	1213.5	
46 Methacrylonitrile	41		4.484					ND	
47 Chlorobromomethane	128	4.520	4.520	0.000	96	209615	50.0	52.9	
48 Tetrahydrofuran	42	4.527	4.527	0.000	92	330085	100.0	92.3	
49 Chloroform	83	4.577	4.577	0.000	96	794910	50.0	46.1	
50 1,1,1-Trichloroethane	97	4.720	4.720	0.000	98	683859	50.0	48.8	
51 Cyclohexane	56	4.784	4.784	0.000	94	838430	50.0	46.2	
52 1,1-Dichloropropene	75	4.834	4.835	-0.001	95	633761	50.0	46.1	
54 Isobutyl alcohol	41	4.842	4.842	0.000	94	424889	1250.0	1262.7	
53 Carbon tetrachloride	117	4.842	4.842	0.000	95	571007	50.0	51.4	
55 Benzene	78	4.992	4.985	0.007	98	1884298	50.0	46.9	
56 1,2-Dichloroethane	62	5.013	5.013	0.000	97	646829	50.0	43.6	
57 Tert-amyl methyl ether	73		5.056					ND	
58 n-Heptane	43	5.171	5.171	0.000	95	491154	50.0	40.5	
59 n-Butanol	56		5.335					ND	
60 Trichloroethene	95	5.471	5.471	0.000	98	458901	50.0	45.7	
61 2-Pentanone	43	5.578	5.578	0.000	98	1220321	160.0	160.2	
62 Methylcyclohexane	55	5.671	5.671	0.000	94	591832	50.0	47.3	
64 Methyl methacrylate	100		5.678					ND	U
63 1,2-Dichloropropane	63	5.678	5.678	0.000	93	509624	50.0	45.5	
65 1,4-Dioxane	88	5.721	5.721	0.000	97	121246	1000.0	992.6	
66 Dibromomethane	93	5.750	5.750	0.000	95	272981	50.0	47.7	
67 Dichlorobromomethane	83	5.871	5.871	0.000	99	622054	50.0	50.6	
68 2-Nitropropane	41		6.043					ND	
69 2-Chloroethyl vinyl ether	63	6.071	6.072	-0.001	91	260363	50.0	43.5	
70 cis-1,3-Dichloropropene	75	6.222	6.222	0.000	93	764209	50.0	45.0	
71 4-Methyl-2-pentanone (MIBK)	43	6.322	6.322	0.000	98	1987715	200.0	200.2	
72 Toluene	91	6.515	6.515	0.000	97	1999827	50.0	47.9	
73 trans-1,3-Dichloropropene	75	6.686	6.686	0.000	98	690714	50.0	49.2	
74 Ethyl methacrylate	69	6.701	6.701	0.000	93	596188	50.0	47.1	
75 1,1,2-Trichloroethane	97	6.858	6.858	0.000	94	385592	50.0	49.1	
76 Tetrachloroethene	164	6.958	6.951	0.007	97	344506	50.0	48.4	
77 1,3-Dichloropropane	76	7.008	7.008	0.000	99	716218	50.0	44.9	
78 2-Hexanone	43	7.030	7.022	0.008	99	1395654	200.0	183.7	
79 Chlorodibromomethane	129	7.201	7.201	0.000	90	429758	50.0	50.0	
80 Ethylene Dibromide	107	7.323	7.323	0.000	99	392673	50.0	45.9	
81 1-Chlorohexane	91	7.709	7.709	0.000	92	457869	40.0	35.0	
82 Chlorobenzene	112	7.752	7.752	0.000	92	1225769	50.0	47.1	
83 1,1,1,2-Tetrachloroethane	131	7.823	7.823	0.000	95	413506	50.0	50.3	
84 Ethylbenzene	106	7.830	7.830	0.000	99	675405	50.0	47.2	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
85 m-Xylene & p-Xylene	106	7.945	7.945	0.000	0	842202	50.0	46.8	
86 o-Xylene	106	8.309	8.302	0.007	98	828968	50.0	47.3	
87 Styrene	104	8.324	8.324	0.000	93	1384248	50.0	48.3	
88 Bromoform	173	8.503	8.503	0.000	95	284328	50.0	51.5	
89 Isopropylbenzene	105	8.646	8.646	0.000	97	2070514	50.0	45.2	
90 cis-1,4-Dichloro-2-butene	53	8.696	8.696	0.000	0	9260		2.56	
91 Cyclohexanone	55	8.746	8.746	0.000	95	878858	1500.0	1860.5	
92 1,1,2,2-Tetrachloroethane	83	8.932	8.932	0.000	95	543046	50.0	44.1	
93 Bromobenzene	156	8.967	8.967	0.000	98	504644	50.0	46.3	
94 trans-1,4-Dichloro-2-butene	53	8.967	8.967	0.000	51	165781	50.0	42.2	
95 1,2,3-Trichloropropane	110	8.996	8.996	0.000	88	161069	50.0	48.0	
96 N-Propylbenzene	120	9.046	9.046	0.000	99	561133	50.0	47.8	
97 2-Chlorotoluene	126	9.146	9.146	0.000	96	480875	50.0	45.4	
98 1,3,5-Trimethylbenzene	105	9.218	9.218	0.000	95	1743479	50.0	45.8	
99 4-Chlorotoluene	126	9.260	9.261	-0.001	99	501969	50.0	45.3	
101 Pentachloroethane	167		9.411					ND	
100 tert-Butylbenzene	119	9.525	9.525	0.000	94	1444938	50.0	46.8	
102 1,2,4-Trimethylbenzene	105	9.582	9.582	0.000	99	1821713	50.0	46.1	
103 sec-Butylbenzene	134	9.747	9.747	0.000	95	401066	50.0	46.3	
104 1,3-Dichlorobenzene	146	9.875	9.875	0.000	97	933332	50.0	47.4	
105 4-Isopropyltoluene	119	9.890	9.890	0.000	97	1758277	50.0	46.2	
106 1,4-Dichlorobenzene	146	9.975	9.976	-0.001	93	961141	50.0	45.1	
107 1,2,3-Trimethylbenzene	105		9.990					ND	7
108 n-Butylbenzene	91	10.297	10.297	0.000	98	1540749	50.0	43.7	
109 1,2-Dichlorobenzene	146	10.333	10.333	0.000	96	886087	50.0	45.6	
110 1,2-Dibromo-3-Chloropropane	157	11.112	11.112	0.000	81	122109	50.0	55.2	
111 1,3,5-Trichlorobenzene	180		11.298					ND	
112 1,2,4-Trichlorobenzene	180	11.935	11.935	0.000	94	532223	50.0	48.2	
113 Hexachlorobutadiene	225	12.071	12.071	-0.001	97	222007	50.0	51.3	
114 Naphthalene	128	12.206	12.206	0.000	98	1447640	50.0	50.4	
115 1,2,3-Trichlorobenzene	180	12.428	12.428	0.000	95	453554	50.0	50.6	
116 Ethylene oxide TIC	1		0.000					ND	
117 t-Amyl alcohol	1		0.000					ND	
118 Ethyl acrylate	55		0.000					ND	
119 1-Chloro-1-fluoroethane TIC	1		0.000					ND	
120 Tetrahydrothiophene TIC	1		0.000					ND	
121 Propene oxide TIC	58		5.334					ND	
S 122 1,2-Dichloroethene, Total (URS)	96				0		100.0	95.3	
S 129 1,2-Dichloroethene, Total	1				0		100.0	95.3	
S 124 1,3-Dichloropropene, Total	1				0		100.0	94.2	
S 123 Xylenes, Total (URS)	1				0		100.0	94.1	
S 127 Trihalomethanes, Total	1				0		200.0	198.2	
S 126 Total BTEX	1				0			236.0	
S 128 TAH	1				0			0	
S 125 Xylenes, Total	106				0		100.0	94.1	

QC Flag Legend

Processing Flags

NR - Missing Quant Standard

7 - Failed Limit of Detection

Review Flags

U - Marked Undetected

Reagents:

MV-MegaMainA_00100	Amount Added:	25.00	Units: uL	
MV-Gas A_00174	Amount Added:	10.00	Units: uL	
mv-IS_SS_00074	Amount Added:	5.00	Units: uL	Run Reagent

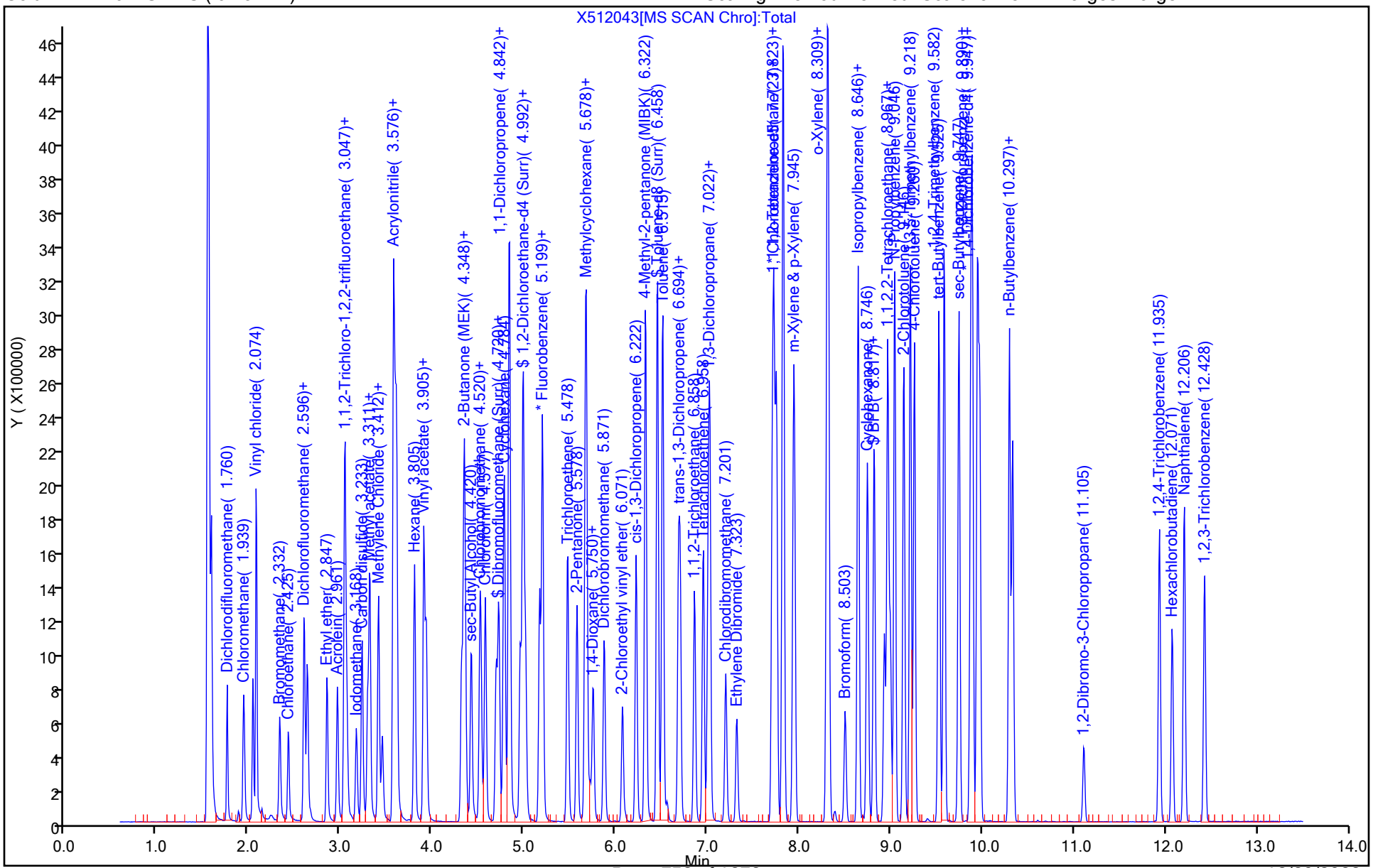
Report Date: 20-Dec-2023 03:56:31 Chrom Revision: 2.3 15-Nov-2023 20:54:34

Eurofins Denver

Data File: \\chromfs\Denver\ChromData\VMS_X4\20231219-128742.b\X512043.D

Injection Date:	20-Dec-2023 03:33:30	Instrument ID:	VMS_X4	Operator ID:	CF
Lims ID:	280-185814-F-4 MSD			Worklist Smp#:	35
Client ID:	TV044-MW141223A				
Purge Vol:	5.000 mL	Dil. Factor:	1.0000	ALS Bottle#:	30
Method:	VMS_X4_8260	Limit Group:	MSV - 8260B Water and Solid		

Column: Rxi-624Sil MS (0.25 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 1



Eurofins Denver
Recovery Report

Data File: \\chromfs\Denver\ChromData\VMS_X4\20231219-128742.b\X512043.D
Lims ID: 280-185814-F-4 MSD
Client ID: TV044-MW141223A
Sample Type: MSD
Inject. Date: 20-Dec-2023 03:33:30 ALS Bottle#: 30 Worklist Smp#: 35
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Sample Info: 280-185814-f-4 msd
Operator ID: CF Instrument ID: VMS_X4

Method: \\chromfs\Denver\ChromData\VMS_X4\20231219-128742.b\VMS_X4_8260.m
Limit Group: MSV - 8260B Water and Solid
Last Update: 20-Dec-2023 03:56:10 Calib Date: 11-Dec-2023 20:50:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Denver\ChromData\VMS_X4\20231211-128477.b\X511702.D

Column 1 : Rxi-624Sil MS (0.25 mm) Det: MS SCAN
Process Host: CTX1617

First Level Reviewer: BX8N Date: 20-Dec-2023 03:55:09

Compound	Amount Added	Amount Recovered	% Rec.
$ 4 Dibromofluoromethane (Surr)	50.0	52.7	105.38
$ 5 1,2-Dichloroethane-d4 (Surr)	50.0	52.3	104.52
$ 6 Toluene-d8 (Surr)	50.0	49.4	98.83
$ 7 4-Bromofluorobenzene (Surr)	50.0	45.7	91.48

GC/MS VOA ANALYSIS RUN LOG

Lab Name: Eurofins Denver Job No.: 280-185814-1

SDG No.:

Instrument ID: VMS_X4 Start Date: 12/08/2023 21:16

Analysis Batch Number: 636738 End Date: 12/09/2023 01:14

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
BFB 280-636738/1		12/08/2023 21:16	1	X511646.D	RXI-624SilMS 0.25(mm)
IC 280-636738/2		12/08/2023 21:49	1	X511647.D	RXI-624SilMS 0.25(mm)
IC 280-636738/3		12/08/2023 22:09	1	X511648.D	RXI-624SilMS 0.25(mm)
IC 280-636738/4		12/08/2023 22:30	1	X511649.D	RXI-624SilMS 0.25(mm)
IC 280-636738/5		12/08/2023 22:50	1	X511650.D	RXI-624SilMS 0.25(mm)
IC 280-636738/6		12/08/2023 23:11	1	X511651.D	RXI-624SilMS 0.25(mm)
ICIS 280-636738/7		12/08/2023 23:31	1	X511652.D	RXI-624SilMS 0.25(mm)
IC 280-636738/8		12/08/2023 23:52	1	X511653.D	RXI-624SilMS 0.25(mm)
IC 280-636738/9		12/09/2023 00:13	1	X511654.D	RXI-624SilMS 0.25(mm)
IC 280-636738/10		12/09/2023 00:33	1	X511655.D	RXI-624SilMS 0.25(mm)
ICV 280-636738/11		12/09/2023 01:14	1	X511657.D	RXI-624SilMS 0.25(mm)

GC/MS VOA ANALYSIS RUN LOG

Lab Name: Eurofins Denver Job No.: 280-185814-1

SDG No.:

Instrument ID: VMS_X4 Start Date: 12/11/2023 18:06

Analysis Batch Number: 636906 End Date: 12/11/2023 21:52

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
BFB 280-636906/1		12/11/2023 18:06	1	X511694.D	RXI-624SilMS 0.25(mm)
IC 280-636906/2		12/11/2023 18:26	1	X511695.D	RXI-624SilMS 0.25(mm)
IC 280-636906/3		12/11/2023 18:47	1	X511696.D	RXI-624SilMS 0.25(mm)
IC 280-636906/4		12/11/2023 19:07	1	X511697.D	RXI-624SilMS 0.25(mm)
IC 280-636906/5		12/11/2023 19:28	1	X511698.D	RXI-624SilMS 0.25(mm)
IC 280-636906/6		12/11/2023 19:48	1	X511699.D	RXI-624SilMS 0.25(mm)
IC 280-636906/7		12/11/2023 20:09	1	X511700.D	RXI-624SilMS 0.25(mm)
IC 280-636906/8		12/11/2023 20:30	1	X511701.D	RXI-624SilMS 0.25(mm)
IC 280-636906/9		12/11/2023 20:50	1	X511702.D	RXI-624SilMS 0.25(mm)
ICV 280-636906/10		12/11/2023 21:52	1	X511705.D	RXI-624SilMS 0.25(mm)

GC/MS VOA ANALYSIS RUN LOG

Lab Name: Eurofins Denver Job No.: 280-185814-1

SDG No.:

Instrument ID: VMS_X4 Start Date: 12/19/2023 16:43

Analysis Batch Number: 637903 End Date: 12/20/2023 04:16

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
BFB 280-637903/1		12/19/2023 16:43	1	X512013.D	RXI-624SilMS 0.25(mm)
CCV 280-637903/2		12/19/2023 17:03	1	X512014.D	RXI-624SilMS 0.25(mm)
LCS 280-637903/4		12/19/2023 17:03	1	X512014A.D	RXI-624SilMS 0.25(mm)
CCV 280-637903/3		12/19/2023 17:25	1	X512015.D	RXI-624SilMS 0.25(mm)
LCS 280-637903/6		12/19/2023 17:25	1	X512015A.D	RXI-624SilMS 0.25(mm)
LCSD 280-637903/7		12/19/2023 17:46	1	X512016.D	RXI-624SilMS 0.25(mm)
LCSD 280-637903/5		12/19/2023 18:08	1	X512017.D	RXI-624SilMS 0.25(mm)
MB 280-637903/9		12/19/2023 19:13	1	X512020.D	RXI-624SilMS 0.25(mm)
ZZZZZ		12/19/2023 19:34	1		RXI-624SilMS 0.25(mm)
ZZZZZ		12/19/2023 19:56	1		RXI-624SilMS 0.25(mm)
280-185814-1	TV044-TB021223	12/19/2023 20:18	1	X512023.D	RXI-624SilMS 0.25(mm)
280-185814-2	TV044-EB011223	12/19/2023 20:39	1	X512024.D	RXI-624SilMS 0.25(mm)
280-185814-13	TV044-EB021223	12/19/2023 21:01	1	X512025.D	RXI-624SilMS 0.25(mm)
ZZZZZ		12/19/2023 21:22	1		RXI-624SilMS 0.25(mm)
ZZZZZ		12/19/2023 21:44	1		RXI-624SilMS 0.25(mm)
ZZZZZ		12/19/2023 22:05	1		RXI-624SilMS 0.25(mm)
ZZZZZ		12/19/2023 22:27	1		RXI-624SilMS 0.25(mm)
280-185814-3	TV044-MW81223A	12/19/2023 22:49	1	X512030.D	RXI-624SilMS 0.25(mm)
280-185814-4	TV044-MW141223A	12/19/2023 23:10	1	X512031.D	RXI-624SilMS 0.25(mm)
280-185814-5	TV044-MW151223A	12/19/2023 23:32	1	X512032.D	RXI-624SilMS 0.25(mm)
280-185814-9	TV044-MW111223C	12/19/2023 23:54	1	X512033.D	RXI-624SilMS 0.25(mm)
280-185814-11	TV044-MW91223A	12/20/2023 00:15	1	X512034.D	RXI-624SilMS 0.25(mm)
280-185814-8	TV044-MW111223A	12/20/2023 00:37	4	X512035.D	RXI-624SilMS 0.25(mm)
280-185814-6	TV044-MW22S1223A	12/20/2023 01:00	20	X512036.D	RXI-624SilMS 0.25(mm)
280-185814-10	TV044-MW131223A	12/20/2023 01:22	100	X512037.D	RXI-624SilMS 0.25(mm)
280-185814-7	TV044-MW22D1223A	12/20/2023 01:44	200	X512038.D	RXI-624SilMS 0.25(mm)
280-185814-12	TV044-MW23D1223A	12/20/2023 02:07	200	X512039.D	RXI-624SilMS 0.25(mm)
ZZZZZ		12/20/2023 02:28	1		RXI-624SilMS 0.25(mm)
ZZZZZ		12/20/2023 02:50	1		RXI-624SilMS 0.25(mm)
280-185814-4 MS	TV044-MW141223A MS	12/20/2023 03:12	1	X512042.D	RXI-624SilMS 0.25(mm)
280-185814-4 MSD	TV044-MW141223A MSD	12/20/2023 03:33	1	X512043.D	RXI-624SilMS 0.25(mm)
CCVC 280-637903/36		12/20/2023 03:55	1	X512044.D	RXI-624SilMS 0.25(mm)
CCVC 280-637903/37		12/20/2023 04:16	1	X512045.D	RXI-624SilMS 0.25(mm)

GC/MS VOA BATCH WORKSHEET

Lab Name: Eurofins Denver Job No.: 280-185814-1

SDG No.:

Batch Number: 636738 Batch Start Date: 12/08/23 21:16 Batch Analyst: Dobransky, Michael E

Batch Method: 8260D Batch End Date:

Lab Sample ID	Client Sample ID	Method Chain	Basis	InitialAmount	FinalAmount	Cal Dil Std 00280	mv-Cent BFB 00007	MV-Gas A 00174	MV-Gas B 00152
BFB 280-636738/1		8260D		2 uL	2 uL		5 uL		
IC 280-636738/2		8260D		5 mL	5 mL	5 uL			
IC 280-636738/3		8260D		5 mL	5 mL	10 uL			
IC 280-636738/4		8260D		5 mL	5 mL	20 uL			
IC 280-636738/5		8260D		5 mL	5 mL	50 uL			
IC 280-636738/6		8260D		5 mL	5 mL			2 uL	
ICIS 280-636738/7		8260D		5 mL	5 mL			10 uL	
IC 280-636738/8		8260D		5 mL	5 mL			15 uL	
IC 280-636738/9		8260D		5 mL	5 mL			20 uL	
IC 280-636738/10		8260D		5 mL	5 mL			40 uL	
ICV 280-636738/11		8260D		5 mL	5 mL				10 uL

Lab Sample ID	Client Sample ID	Method Chain	Basis	mv-IS_SS 00074	MV-MegaMain B 00094	MV-MegaMainA 00100			
BFB 280-636738/1		8260D							
IC 280-636738/2		8260D		5 uL					
IC 280-636738/3		8260D		5 uL					
IC 280-636738/4		8260D		5 uL					
IC 280-636738/5		8260D		5 uL					
IC 280-636738/6		8260D		5 uL		5 uL			
ICIS 280-636738/7		8260D		5 uL		25 uL			
IC 280-636738/8		8260D		5 uL		37.5 uL			
IC 280-636738/9		8260D		5 uL		50 uL			
IC 280-636738/10		8260D		5 uL		100 uL			
ICV 280-636738/11		8260D		5 uL	25 uL				

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

GC/MS VOA BATCH WORKSHEET

Lab Name: Eurofins Denver Job No.: 280-185814-1

SDG No.:

Batch Number: 636738 Batch Start Date: 12/08/23 21:16 Batch Analyst: Dobransky, Michael E

Batch Method: 8260D Batch End Date:

Batch Notes	

Basis	Basis Description

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

GC/MS VOA BATCH WORKSHEET

Lab Name: Eurofins Denver Job No.: 280-185814-1

SDG No.:

Batch Number: 636906 Batch Start Date: 12/11/23 18:06 Batch Analyst: Dobransky, Michael E

Batch Method: 8260D Batch End Date:

Lab Sample ID	Client Sample ID	Method Chain	Basis	InitialAmount	FinalAmount	mv-Cent BFB 00007	mv-Cent IS 00008	MV-Supp A 00087	MV-Supp B 00068
BFB 280-636906/1		8260D		2 uL	2 uL	5 uL			
IC 280-636906/2		8260D		2 uL	2 uL		5 uL	1 uL	
IC 280-636906/3		8260D		2 uL	2 uL		5 uL	2 uL	
IC 280-636906/4		8260D		2 uL	2 uL		5 uL	5 uL	
IC 280-636906/5		8260D		2 uL	2 uL		5 uL	10 uL	
IC 280-636906/6		8260D		2 uL	2 uL		5 uL	50 uL	
IC 280-636906/7		8260D		2 uL	2 uL		5 uL	75 uL	
IC 280-636906/8		8260D		2 uL	2 uL		5 uL	100 uL	
IC 280-636906/9		8260D		2 uL	2 uL		5 uL	200 uL	
ICV 280-636906/10		8260D		2 uL	2 uL		5 uL		50 uL

Batch Notes	

Basis	Basis Description

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

GC/MS VOA BATCH WORKSHEET

Lab Name: Eurofins Denver Job No.: 280-185814-1

SDG No.:

Batch Number: 637903 Batch Start Date: 12/19/23 16:43 Batch Analyst: Fogg, Cameron C

Batch Method: 8260D Batch End Date:

Lab Sample ID	Client Sample ID	Method Chain	Basis	InitialAmount	FinalAmount	Initial pH	Headspace	mv-Cent BFB 00007	MV-Gas A 00174
BFB 280-637903/1		8260D		2 uL	2 uL			5 uL	
CCV 280-637903/2		8260D		5 mL	5 mL				10 uL
CCV 280-637903/3		8260D		5 mL	5 mL				
LCS 280-637903/4		8260D		5 mL	5 mL				10 uL
LCSD 280-637903/5		8260D		5 mL	5 mL				10 uL
LCS 280-637903/6		8260D		5 mL	5 mL				
LCSD 280-637903/7		8260D		5 mL	5 mL				
MB 280-637903/9		8260D		5 mL	5 mL				
280-185814-B-1	TV044-TB021223	8260D	T	5 mL	5 mL	5 SU	No		
280-185814-E-2	TV044-EB011223	8260D	T	5 mL	5 mL	5 SU	No		
280-185814-E-13	TV044-EB021223	8260D	T	5 mL	5 mL	5 SU	No		
280-185814-E-3	TV044-MW81223A	8260D	T	5 mL	5 mL	6 SU	No		
280-185814-E-4	TV044-MW141223A	8260D	T	5 mL	5 mL	6 SU	No		
280-185814-F-5	TV044-MW151223A	8260D	T	5 mL	5 mL	6 SU	No		
280-185814-D-9	TV044-MW111223C	8260D	T	5 mL	5 mL	6 SU	No		
280-185814-D-11	TV044-MW91223A	8260D	T	5 mL	5 mL	6 SU	No		
280-185814-E-8	TV044-MW111223A	8260D	T	5 mL	5 mL	6 SU	No		
280-185814-F-6	TV044-MW22S1223A	8260D	T	5 mL	5 mL	6 SU	No		
280-185814-E-10	TV044-MW131223A	8260D	T	5 mL	5 mL	6 SU	No		
280-185814-D-7	TV044-MW22D1223A	8260D	T	5 mL	5 mL	6 SU	No		
280-185814-F-12	TV044-MW23D1223A	8260D	T	5 mL	5 mL	6 SU	No		
280-185814-F-4 MS	TV044-MW141223A	8260D	T	5 mL	5 mL	6 SU	No		10 uL
280-185814-F-4 MSD	TV044-MW141223A	8260D	T	5 mL	5 mL	6 SU	No		10 uL
CCVC 280-637903/36		8260D		5 mL	5 mL				10 uL
CCVC 280-637903/37		8260D		5 mL	5 mL				

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

GC/MS VOA BATCH WORKSHEET

Lab Name: Eurofins Denver Job No.: 280-185814-1

SDG No.:

Batch Number: 637903 Batch Start Date: 12/19/23 16:43 Batch Analyst: Fogg, Cameron C

Batch Method: 8260D Batch End Date:

Lab Sample ID	Client Sample ID	Method Chain	Basis	mv-IS_SS 00074	MV-MegaMainA 00100	MV-Supp A 00087			
BFB 280-637903/1		8260D							
CCV 280-637903/2		8260D		5 uL	25 uL				
CCV 280-637903/3		8260D		5 uL		25 uL			
LCS 280-637903/4		8260D		5 uL	25 uL				
LCSD 280-637903/5		8260D		5 uL	25 uL				
LCS 280-637903/6		8260D		5 uL		25 uL			
LCSD 280-637903/7		8260D		5 uL		25 uL			
MB 280-637903/9		8260D		5 uL					
280-185814-B-1	TV044-TB021223	8260D	T	5 uL					
280-185814-E-2	TV044-EB011223	8260D	T	5 uL					
280-185814-E-13	TV044-EB021223	8260D	T	5 uL					
280-185814-E-3	TV044-MW81223A	8260D	T	5 uL					
280-185814-E-4	TV044-MW141223A	8260D	T	5 uL					
280-185814-F-5	TV044-MW151223A	8260D	T	5 uL					
280-185814-D-9	TV044-MW111223C	8260D	T	5 uL					
280-185814-D-11	TV044-MW91223A	8260D	T	5 uL					
280-185814-E-8	TV044-MW111223A	8260D	T	5 uL					
280-185814-F-6	TV044-MW22S1223A	8260D	T	5 uL					
280-185814-E-10	TV044-MW131223A	8260D	T	5 uL					
280-185814-D-7	TV044-MW22D1223A	8260D	T	5 uL					
280-185814-F-12	TV044-MW23D1223A	8260D	T	5 uL					
280-185814-F-4 MS	TV044-MW141223A	8260D	T	5 uL	25 uL				
280-185814-F-4 MSD	TV044-MW141223A	8260D	T	5 uL	25 uL				
CCVC 280-637903/36		8260D		5 uL	25 uL				
CCVC 280-637903/37		8260D		5 uL		25 uL			

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

GC/MS VOA BATCH WORKSHEET

Lab Name: Eurofins Denver Job No.: 280-185814-1

SDG No.:

Batch Number: 637903 Batch Start Date: 12/19/23 16:43 Batch Analyst: Fogg, Cameron C

Batch Method: 8260D Batch End Date:

Batch Notes	

Basis	Basis Description
T	Total/NA

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

METALS

COVER PAGE
METALS

Lab Name: Eurofins Denver Job Number: 280-185814-1

SDG No.:

Project: Luke AFB Waterdog TU044, AZ

Client Sample ID	Lab Sample ID
TV044-EB011223	280-185814-2
TV044-MW81223A	280-185814-3
TV044-MW141223A	280-185814-4
TV044-MW151223A	280-185814-5
TV044-MW22S1223A	280-185814-6
TV044-MW22D1223A	280-185814-7
TV044-MW111223A	280-185814-8
TV044-MW111223C	280-185814-9
TV044-MW131223A	280-185814-10
TV044-MW91223A	280-185814-11
TV044-MW23D1223A	280-185814-12
TV044-EB021223	280-185814-13

Comments:

1A-IN
INORGANIC ANALYSIS DATA SHEET
METALS

Client Sample ID: TV044-EB011223 Lab Sample ID: 280-185814-2

Lab Name: Eurofins Denver Job No.: 280-185814-1

SDG ID.:

Matrix: Water Date Sampled: 12/14/2023 10:20

Reporting Basis: WET Date Received: 12/16/2023 09:30

Analyte	Result	LOQ	LOD	DL	Units	C	Q	DIL	Method
Lead	0.70	1.0	0.70	0.23	ug/L	U		1	6020B

1A-IN
INORGANIC ANALYSIS DATA SHEET
METALS

Client Sample ID: TV044-MW81223A
Lab Sample ID: 280-185814-3
Lab Name: Eurofins Denver
Job No.: 280-185814-1
SDG ID.:
Matrix: Water
Date Sampled: 12/14/2023 10:30
Reporting Basis: WET
Date Received: 12/16/2023 09:30

Analyte	Result	LOQ	LOD	DL	Units	C	Q	DIL	Method
Lead	0.70	1.0	0.70	0.23	ug/L	U		1	6020B

1A-IN
INORGANIC ANALYSIS DATA SHEET
METALS

Client Sample ID: TV044-MW141223A
Lab Sample ID: 280-185814-4
Lab Name: Eurofins Denver
Job No.: 280-185814-1
SDG ID.:
Matrix: Water
Date Sampled: 12/14/2023 11:10
Reporting Basis: WET
Date Received: 12/16/2023 09:30

Analyte	Result	LOQ	LOD	DL	Units	C	Q	DIL	Method
Lead	0.70	1.0	0.70	0.23	ug/L	U		1	6020B

1A-IN
INORGANIC ANALYSIS DATA SHEET
METALS

Client Sample ID: TV044-MW151223A
Lab Sample ID: 280-185814-5
Lab Name: Eurofins Denver
Job No.: 280-185814-1
SDG ID.:
Matrix: Water
Date Sampled: 12/14/2023 11:30
Reporting Basis: WET
Date Received: 12/16/2023 09:30

Analyte	Result	LOQ	LOD	DL	Units	C	Q	DIL	Method
Lead	0.70	1.0	0.70	0.23	ug/L	U		1	6020B

1A-IN
INORGANIC ANALYSIS DATA SHEET
METALS

Client Sample ID: TV044-MW22S1223A
Lab Sample ID: 280-185814-6
Lab Name: Eurofins Denver
Job No.: 280-185814-1
SDG ID.:
Matrix: Water
Date Sampled: 12/14/2023 12:05
Reporting Basis: WET
Date Received: 12/16/2023 09:30

Analyte	Result	LOQ	LOD	DL	Units	C	Q	DIL	Method
Lead	0.29	1.0	0.70	0.23	ug/L	J		1	6020B

1A-IN
INORGANIC ANALYSIS DATA SHEET
METALS

Client Sample ID: TV044-MW22D1223A
Lab Sample ID: 280-185814-7
Lab Name: Eurofins Denver
Job No.: 280-185814-1
SDG ID.:
Matrix: Water
Date Sampled: 12/14/2023 12:35
Reporting Basis: WET
Date Received: 12/16/2023 09:30

Analyte	Result	LOQ	LOD	DL	Units	C	Q	DIL	Method
Lead	0.70	1.0	0.70	0.23	ug/L	U		1	6020B

1A-IN
INORGANIC ANALYSIS DATA SHEET
METALS

Client Sample ID: TV044-MW111223A
Lab Sample ID: 280-185814-8
Lab Name: Eurofins Denver
Job No.: 280-185814-1
SDG ID.:
Matrix: Water
Date Sampled: 12/14/2023 12:45
Reporting Basis: WET
Date Received: 12/16/2023 09:30

Analyte	Result	LOQ	LOD	DL	Units	C	Q	DIL	Method
Lead	0.25	1.0	0.70	0.23	ug/L	J		1	6020B

1A-IN
INORGANIC ANALYSIS DATA SHEET
METALS

Client Sample ID: TV044-MW111223C
Lab Sample ID: 280-185814-9
Lab Name: Eurofins Denver
Job No.: 280-185814-1
SDG ID.:
Matrix: Water
Date Sampled: 12/14/2023 12:45
Reporting Basis: WET
Date Received: 12/16/2023 09:30

Analyte	Result	LOQ	LOD	DL	Units	C	Q	DIL	Method
Lead	0.33	1.0	0.70	0.23	ug/L	J		1	6020B

1A-IN
INORGANIC ANALYSIS DATA SHEET
METALS

Client Sample ID: TV044-MW131223A
Lab Sample ID: 280-185814-10
Lab Name: Eurofins Denver
Job No.: 280-185814-1
SDG ID.:
Matrix: Water
Date Sampled: 12/14/2023 13:00
Reporting Basis: WET
Date Received: 12/16/2023 09:30

Analyte	Result	LOQ	LOD	DL	Units	C	Q	DIL	Method
Lead	0.70	1.0	0.70	0.23	ug/L	U		1	6020B

1A-IN
INORGANIC ANALYSIS DATA SHEET
METALS

Client Sample ID: TV044-MW91223A
Lab Sample ID: 280-185814-11
Lab Name: Eurofins Denver
Job No.: 280-185814-1
SDG ID.:
Matrix: Water
Date Sampled: 12/14/2023 13:30
Reporting Basis: WET
Date Received: 12/16/2023 09:30

Analyte	Result	LOQ	LOD	DL	Units	C	Q	DIL	Method
Lead	0.70	1.0	0.70	0.23	ug/L	U		1	6020B

1A-IN
INORGANIC ANALYSIS DATA SHEET
METALS

Client Sample ID: TV044-MW23D1223A
Lab Sample ID: 280-185814-12
Lab Name: Eurofins Denver
Job No.: 280-185814-1
SDG ID.:
Matrix: Water
Date Sampled: 12/14/2023 13:55
Reporting Basis: WET
Date Received: 12/16/2023 09:30

Analyte	Result	LOQ	LOD	DL	Units	C	Q	DIL	Method
Lead	0.30	1.0	0.70	0.23	ug/L	J		1	6020B

1A-IN
INORGANIC ANALYSIS DATA SHEET
METALS

Client Sample ID: TV044-EB021223 Lab Sample ID: 280-185814-13

Lab Name: Eurofins Denver Job No.: 280-185814-1

SDG ID.:

Matrix: Water Date Sampled: 12/14/2023 14:00

Reporting Basis: WET Date Received: 12/16/2023 09:30

Analyte	Result	LOQ	LOD	DL	Units	C	Q	DIL	Method
Lead	0.70	1.0	0.70	0.23	ug/L	U		1	6020B

2A-IN
CALIBRATION VERIFICATIONS
METALS

Lab Name: Eurofins Denver Job No.: 280-185814-1

SDG No.:

ICV Source: ms 77 icv_03140 Concentration Units: ug/L

CCV Source: ms 77 ccv_03136

Analyte	ICV 280-638215/40 12/21/2023 14:01				CCV 280-638215/83 12/21/2023 15:48				CCV 280-638215/95 12/21/2023 16:15			
	Found	C	True	%R	Found	C	True	%R	Found	C	True	%R
Lead	41.7		40.0	104	51.0		50.0	102	52.7		50.0	105

Note! Calculations are performed before rounding to avoid round-off errors in calculated results.
Italicized analytes were not requested for this sequence.

2A-IN
CALIBRATION VERIFICATIONS
METALS

Lab Name: Eurofins Denver Job No.: 280-185814-1

SDG No.:

ICV Source: ms 77 icv_03140 Concentration Units: ug/L

CCV Source: ms 77 ccv_03136

Analyte	CCV 280-638215/107 12/21/2023 16:42											
	Found	C	True	%R	Found	C	True	%R	Found	C	True	%R
Lead	53.1		50.0	106								

Note! Calculations are performed before rounding to avoid round-off errors in calculated results.
Italicized analytes were not requested for this sequence.

2B-IN
CRQL CHECK STANDARD
METALS

Lab Name: Eurofins Denver Job No.: 280-185814-1

SDG No.:

Method: 6020B Instrument ID: MT_079

Lab Sample ID: CRI 280-638215/42 Concentration Units: ug/L

CRQL Check Standard Source: MS 77 LLCCV_02967

Analyte	CRQL Check Standard				
	True	Found	Qualifiers	%R(1)	Limits
Lead	1.00	1.01		101	80-120

Note! Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM IIB-IN

3-IN
INSTRUMENT BLANKS
METALS

Lab Name: Eurofins Denver Job No.: 280-185814-1

SDG No.:

Concentration Units: ug/L

Analyte	RL	ICB 280-638215/41 12/21/2023 14:07		CCB 280-638215/84 12/21/2023 15:50		CCB 280-638215/96 12/21/2023 16:17		CCB 280-638215/108 12/21/2023 16:44	
		Found	C	Found	C	Found	C	Found	C
Lead	1.0	0.70	U	0.70	U	0.70	U	0.70	U

Italicized analytes were not requested for this sequence.

3-IN
METHOD BLANK
METALS

Lab Name: Eurofins Denver Job No.: 280-185814-1

SDG No.:

Concentration Units: ug/L Lab Sample ID: MB 280-637852/1-A

Instrument Code: MT_079 Batch No.: 638215

CAS No.	Analyte	Concentration	C	Q	Method
7439-92-1	Lead	0.70	U		6020B_DOD5

4A-IN
INTERFERENCE CHECK STANDARD
METALS

Lab Name: Eurofins Denver Job No.: 280-185814-1

SDG No.:

Lab Sample ID: ICSA 280-638215/44 Instrument ID: MT_079

Lab File ID: 046ICSA.d ICS Source: ms 77 icsa_00712

Concentration Units: ug/L

Analyte	True Solution A	Found Solution A	Percent Recovery
Lead		**0.158**	
Aluminum	*100000*	*106306*	*106*
Antimony		*0.135*	
Arsenic		*0.0750*	
Beryllium		*0.0210*	
Cadmium		*0.121*	
Calcium	*100000*	*95965*	*96*
Cobalt		*0.204*	
Copper		*0.184*	
Iron	*100000*	*94713*	*95*
Magnesium	*100000*	*107040*	*107*
Manganese		*0.429*	
Molybdenum	*2000*	*2085*	*104*
Nickel		*0.511*	
Potassium	*100000*	*101566*	*102*
Selenium		*-0.0210*	
Silver		*0.0420*	
Sodium	*100000*	*104007*	*104*
Strontium		*0.820*	
Thallium		*-0.0360*	
Thorium		*0.113*	
Tin		*0.416*	
Uranium		*0.0200*	
Vanadium		*0.307*	
Zinc		*1.02*	

Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM IVA-IN

4A-IN
INTERFERENCE CHECK STANDARD
METALS

Lab Name: Eurofins Denver | Job No.: 280-185814-1

SDG No.:

Lab Sample ID: ICSAB 280-638215/45 | Instrument ID: MT_079

Lab File ID: 047ICSB.d | ICS Source: ms 77 icsab_00709

Concentration Units: ug/L

Analyte	True Solution AB	Found Solution AB	Percent Recovery
Lead	**100**	**103**	**103**
Aluminum	*102000*	*105510*	*103*
Antimony	*100*	*108*	*108*
Arsenic	*100*	*99.5*	*99*
Barium	*100*	*102*	*102*
Beryllium	*100*	*100*	*100*
Cadmium	*100*	*99.5*	*100*
Calcium	*107000*	*107039*	*100*
Chromium	*100*	*103*	*103*
Cobalt	*100*	*97.7*	*98*
Copper	*100*	*98.3*	*98*
Iron	*102000*	*99005*	*97*
Magnesium	*107000*	*111960*	*105*
Manganese	*100*	*100*	*100*
Molybdenum	*2100*	*2145*	*102*
Nickel	*100*	*98.8*	*99*
Potassium	*107000*	*107217*	*100*
Selenium	*100*	*104*	*104*
Silver	*100*	*101*	*101*
Sodium	*107000*	*109038*	*102*
Strontium	*200*	*204*	*102*
Thallium	*100*	*103*	*103*
Thorium	*100*	*103*	*103*
Tin	*100*	*103*	*103*
Uranium	*100*	*104*	*104*
Vanadium	*100*	*99.9*	*100*
Zinc	*100*	*98.6*	*99*

Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM IVA-IN

5A-IN
MATRIX SPIKE SAMPLE RECOVERY
METALS

Client ID: TV044-MW141223A MS Lab ID: 280-185814-4 MS

Lab Name: Eurofins Denver Job No.: 280-185814-1

SDG No.:

Matrix: Water Concentration Units: ug/L

% Solids:

Analyte	SSR	C	Sample Result (SR)	C	Spike Added (SA)	%R	Control Limit %R	Q	Method
Lead	39.9		0.70	U	40.0	100	88-115		6020B

SSR = Spiked Sample Result

Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM VA - IN

5A-IN
MATRIX SPIKE DUPLICATE SAMPLE RECOVERY
METALS

Client ID: TV044-MW141223A MSD Lab ID: 280-185814-4 MSD

Lab Name: Eurofins Denver Job No.: 280-185814-1

SDG No.:

Matrix: Water Concentration Units: ug/L

% Solids:

Analyte	(SDR)	C	Spike Added (SA)	%R	Control Limit %R	RPD	RPD Limit	Q	Method
Lead	40.6		40.0	102	88-115	2	20		6020B

SDR = Sample Duplicate Result

Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM VD - IN

5B-IN
POST DIGESTION SPIKE SAMPLE RECOVERY
METALS

Client ID: TV044-MW141223A PDS Lab ID: 280-185814-4 PDS

Lab Name: Eurofins Denver Job No.: 280-185814-1

SDG No.:

Matrix: Water Concentration Units: ug/L

Analyte	SSR	C	Sample Result (SR)	C	Spike Added (SA)	%R	Control Limit %R	Q	Method
Lead	207		0.70	U	200	104	80-120		6020B

SSR = Spiked Sample Result

Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM VB - IN

7A-IN
LAB CONTROL SAMPLE
METALS

Lab ID: LCS 280-637852/2-A

Lab Name: Eurofins Denver Job No.: 280-185814-1

Sample Matrix: Water LCS Source: ms spike 1_00021

Analyte	Water(ug/L)							
	True	Found	C	%R	Limits		Q	Method
Lead	40.0	35.7		89	88	115		6020B

Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM VIIA - IN

7D-IN
LAB CONTROL SAMPLE DUPLICATE
METALS

Lab ID: LCSD 280-637852/3-A

Lab Name: Eurofins Denver Job No.: 280-185814-1

Sample Matrix: Water LCS Source: ms spike 1_00021

Analyte	(SDR)	C	Spike Added	%R	Control Limit %R	RPD	RPD Limit	Q	Method
Lead	38.1		40.0	95	88-115	6	20		6020B

SDR = Spike Duplicate Results
Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM VIID - IN

8-IN
ICP-AES AND ICP-MS SERIAL DILUTIONS
METALS

Lab ID: 280-185814-4

SDG No:

Lab Name: Eurofins Denver Job No: 280-185814-1

Matrix: Water Concentration Units: ug/L

Analyte	Initial Sample Result (I)	C	Serial Dilution Result (S)	C	% Difference	Q	Method
Lead	0.70	U	3.5	U	NC		6020B

Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM VIII-IN

9-IN
DETECTION LIMITS
METALS

Lab Name: Eurofins Denver Job Number: 280-185814-1

SDG Number:

Matrix: Water Instrument ID: MT_079

Method: 6020B DL Date: 09/01/2022 00:00

Prep Method: 3020A

Analyte	Wavelength/ Mass	LOQ (ug/L)	DL (ug/L)
Lead		1	0.23

9-IN
CALIBRATION BLANK DETECTION LIMITS
METALS

Lab Name: Eurofins Denver Job Number: 280-185814-1

SDG Number:

Matrix: Water Instrument ID: MT_079

Method: 6020B XMDL Date: 01/03/2023 12:35

Analyte	Wavelength/ Mass	XRL (ug/L)	XMDL (ug/L)
Lead		1	0.23

11-IN
LINEAR RANGES
METALS

Lab Name: Eurofins Denver Job No: 280-185814-1

SDG No.:

Instrument ID: MT_079 Date: 07/03/2023 11:21

Analyte	Integ. Time (Sec.)	Concentration (ug/L)	Method
Lead		5000	6020B

12-IN
PREPARATION LOG
METALS

Lab Name: Eurofins Denver Job No.: 280-185814-1

SDG No.:

Prep Method: 3020A

Lab Sample ID	Preparation Date	Prep Batch	Initial Weight	Initial Volume (mL)	Final Volume (mL)
MB 280-637852/1-A	12/20/2023 16:50	637852		50	50
LCS 280-637852/2-A	12/20/2023 16:50	637852		50	50
LCSD 280-637852/3-A	12/20/2023 16:50	637852		50	50
280-185814-2	12/20/2023 16:50	637852		50	50
280-185814-3	12/20/2023 16:50	637852		50	50
280-185814-4	12/20/2023 16:50	637852		50	50
280-185814-4 MS	12/20/2023 16:50	637852		50	50
280-185814-4 MSD	12/20/2023 16:50	637852		50	50
280-185814-5	12/20/2023 16:50	637852		50	50
280-185814-6	12/20/2023 16:50	637852		50	50
280-185814-7	12/20/2023 16:50	637852		50	50
280-185814-8	12/20/2023 16:50	637852		50	50
280-185814-9	12/20/2023 16:50	637852		50	50
280-185814-10	12/20/2023 16:50	637852		50	50
280-185814-11	12/20/2023 16:50	637852		50	50
280-185814-12	12/20/2023 16:50	637852		50	50
280-185814-13	12/20/2023 16:50	637852		50	50

13-IN
ANALYSIS RUN LOG
METALS

Lab Name: Eurofins Denver Job No.: 280-185814-1

SDG No.:

Instrument ID: MT_079 Analysis Method: 6020B

Start Date: 12/21/2023 12:28 End Date: 12/21/2023 20:06

Lab Sample Id	D/F	Type	Time	Analytes
				Pb
RINSE 280-638215/1			12:28	
RINSE 280-638215/2			12:30	
RINSE 280-638215/3			12:32	
RINSE 280-638215/4			12:34	
RINSE 280-638215/5			12:37	
RINSE 280-638215/6			12:39	
RINSE 280-638215/7			12:41	
RINSE 280-638215/8			12:43	
RINSE 280-638215/9			12:46	
RINSE 280-638215/10			12:48	
RINSE 280-638215/11			12:50	
RINSE 280-638215/12			12:52	
RINSE 280-638215/13			12:55	
RINSE 280-638215/14			12:57	
RINSE 280-638215/15			12:59	
RINSE 280-638215/16			13:01	
RINSE 280-638215/17			13:04	
RINSE 280-638215/18			13:06	
RINSE 280-638215/19			13:08	
RINSE 280-638215/20			13:10	
RINSE 280-638215/21			13:13	
RINSE 280-638215/22			13:15	
RINSE 280-638215/23			13:17	
RINSE 280-638215/24			13:19	
RINSE 280-638215/25			13:22	
ICIS 280-638215/26			13:24	X
IC 280-638215/27			13:26	X
IC 280-638215/28			13:28	X
ICV 280-638215/29			13:30	
ICB 280-638215/30			13:33	
CRI 280-638215/31			13:37	
ZZZZZZ			13:41	
ZZZZZZ			13:44	
RINSE 280-638215/34			13:47	
RINSE 280-638215/35			13:49	
RINSE 280-638215/36			13:52	
ICIS 280-638215/37			13:54	X
IC 280-638215/38	1		13:56	X
IC 280-638215/39	1		13:58	X
ICV 280-638215/40	1		14:01	X
ICB 280-638215/41	1		14:07	X

13-IN
ANALYSIS RUN LOG
METALS

Lab Name: Eurofins Denver Job No.: 280-185814-1

SDG No.:

Instrument ID: MT_079 Analysis Method: 6020B

Start Date: 12/21/2023 12:28 End Date: 12/21/2023 20:06

Lab Sample Id	D/F	Type	Time	Analytes
				Pb
CRI 280-638215/42	1		14:10	X
CRI 280-638215/43			14:13	
ICSA 280-638215/44	1		14:15	X
ICSAB 280-638215/45	1		14:17	X
RINSE 280-638215/46			14:19	
LRA 280-638215/47			14:22	
ZZZZZZ			14:24	
CCV 280-638215/49			14:26	
CCB 280-638215/50			14:28	
CCVL 280-638215/51			14:30	
ZZZZZZ			14:33	
ZZZZZZ			14:35	
ZZZZZZ			14:37	
ZZZZZZ			14:40	
ZZZZZZ			14:42	
ZZZZZZ			14:44	
ZZZZZZ			14:46	
CCV 280-638215/59			14:49	
CCB 280-638215/60			14:51	
CCVL 280-638215/61			14:53	
ZZZZZZ			14:55	
ZZZZZZ			14:57	
ZZZZZZ			15:00	
ZZZZZZ			15:02	
ZZZZZZ			15:04	
ZZZZZZ			15:06	
ZZZZZZ			15:09	
ZZZZZZ			15:11	
CCV 280-638215/70			15:13	
CCB 280-638215/71			15:18	
CCVL 280-638215/72			15:20	
ZZZZZZ			15:22	
ZZZZZZ			15:25	
ZZZZZZ			15:29	
ZZZZZZ			15:31	
ZZZZZZ			15:33	
ZZZZZZ			15:37	
ZZZZZZ			15:39	
ZZZZZZ			15:41	
ZZZZZZ			15:44	
ZZZZZZ			15:46	

13-IN
ANALYSIS RUN LOG
METALS

Lab Name: Eurofins Denver Job No.: 280-185814-1

SDG No.:

Instrument ID: MT_079 Analysis Method: 6020B

Start Date: 12/21/2023 12:28 End Date: 12/21/2023 20:06

Lab Sample Id	D/F	Type	Time	Analytes
				Pb
CCV 280-638215/83	1		15:48	X
CCB 280-638215/84	1		15:50	X
MB 280-637852/1-A	1	T	15:53	X
LCS 280-637852/2-A	1	T	15:55	X
LCSD 280-637852/3-A	1	T	15:57	X
280-185814-2	1	T	15:59	X
280-185814-3	1	T	16:02	X
280-185814-4	1	T	16:04	X
280-185814-4 SD	5	T	16:06	X
280-185814-4 MS	1	T	16:08	X
280-185814-4 MSD	1	T	16:11	X
280-185814-4 PDS	1	T	16:13	X
CCV 280-638215/95	1		16:15	X
CCB 280-638215/96	1		16:17	X
280-185814-5	1	T	16:20	X
280-185814-6	1	T	16:22	X
280-185814-7	1	T	16:24	X
280-185814-8	1	T	16:26	X
280-185814-9	1	T	16:29	X
280-185814-10	1	T	16:31	X
280-185814-11	1	T	16:33	X
280-185814-12	1	T	16:35	X
280-185814-13	1	T	16:37	X
ZZZZZZ			16:40	
CCV 280-638215/107	1		16:42	X
CCB 280-638215/108	1		16:44	X
ZZZZZZ			16:46	
ZZZZZZ			16:49	
ZZZZZZ			16:51	
ZZZZZZ			16:53	
ZZZZZZ			16:55	
ZZZZZZ			16:58	
ZZZZZZ			17:00	
ZZZZZZ			17:02	
ZZZZZZ			17:04	
ZZZZZZ			17:06	
CCV 280-638215/119			17:09	
CCB 280-638215/120			17:11	
ZZZZZZ			17:13	
ZZZZZZ			17:15	
ZZZZZZ			17:18	

13-IN
ANALYSIS RUN LOG
METALS

Lab Name: Eurofins Denver Job No.: 280-185814-1

SDG No.:

Instrument ID: MT_079 Analysis Method: 6020B

Start Date: 12/21/2023 12:28 End Date: 12/21/2023 20:06

Lab Sample Id	D/F	Type	Time	Analytes																								
				Pb																								
ZZZZZZ			17:20																									
ZZZZZZ			17:22																									
ZZZZZZ			17:24																									
ZZZZZZ			17:27																									
ZZZZZZ			17:29																									
ZZZZZZ			17:31																									
ZZZZZZ			17:33																									
CCV 280-638215/131			17:36																									
CCB 280-638215/132			17:38																									
ZZZZZZ			17:40																									
ZZZZZZ			17:42																									
ZZZZZZ			17:45																									
ZZZZZZ			17:47																									
ZZZZZZ			17:49																									
CCV 280-638215/138			17:51																									
CCB 280-638215/139			17:53																									
ZZZZZZ			17:56																									
ZZZZZZ			17:58																									
ZZZZZZ			18:00																									
ZZZZZZ			18:02																									
ZZZZZZ			18:05																									
ZZZZZZ			18:07																									
ZZZZZZ			18:09																									
CCV 280-638215/147			18:11																									
CCB 280-638215/148			18:14																									
ZZZZZZ			18:16																									
ZZZZZZ			18:18																									
ZZZZZZ			18:20																									
ZZZZZZ			18:23																									
ZZZZZZ			18:25																									
ZZZZZZ			18:27																									
ZZZZZZ			18:29																									
ZZZZZZ			18:32																									
ZZZZZZ			18:34																									
ZZZZZZ			18:36																									
CCV 280-638215/159			18:38																									
CCB 280-638215/160			18:41																									
ZZZZZZ			18:43																									
ZZZZZZ			18:45																									
ZZZZZZ			18:47																									
ZZZZZZ			18:49																									

FORM XIII-IN

13-IN
ANALYSIS RUN LOG
METALS

Lab Name: Eurofins Denver | Job No.: 280-185814-1

SDG No.:

Instrument ID: MT_079 | Analysis Method: 6020B

Start Date: 12/21/2023 12:28 | End Date: 12/21/2023 20:06

Lab Sample Id	D/F	Type	Time	Analytes
				Pb
ZZZZZZ			18:52	
ZZZZZZ			18:54	
ZZZZZZ			18:56	
ZZZZZZ			18:58	
ZZZZZZ			19:01	
CCV 280-638215/170			19:03	
CCB 280-638215/171			19:05	
ZZZZZZ			19:07	
ZZZZZZ			19:10	
ZZZZZZ			19:12	
ZZZZZZ			19:14	
ZZZZZZ			19:16	
ZZZZZZ			19:19	
ZZZZZZ			19:21	
ZZZZZZ			19:23	
ZZZZZZ			19:25	
CCB 280-638215/181			19:28	
ZZZZZZ			19:30	
ZZZZZZ			19:32	
ZZZZZZ			19:34	
ZZZZZZ			19:37	
ZZZZZZ			19:39	
ZZZZZZ			19:41	
ZZZZZZ			19:43	
ZZZZZZ			19:46	
ZZZZZZ			19:48	
ZZZZZZ			19:50	
ZZZZZZ			19:52	
ZZZZZZ			19:55	
ZZZZZZ			19:57	
ZZZZZZ			19:59	
ZZZZZZ			20:01	
CCV 280-638215/197			20:04	
CCB 280-638215/198			20:06	

Prep Types:
T = Total/NA

15-IN
ICP-MS INTERNAL STANDARDS RELATIVE INTENSITY SUMMARY
METALS

Lab Name: Eurofins Denver Job No.: 280-185814-1

SDG No.: Analysis Batch No.: 638215

ICP-MS Instrument ID: MT_079 Start Date: 12/21/2023 End Date: 12/21/2023

Lab Sample ID	Time	Internal Standards %RI For:									
		Element Li-6/1	Q	Element Li-6/2	Q	Element Sc/2	Q	Element Sc/3	Q	Element Ge/2	Q
IC 280-638215/38	13:56	103		104		104		104		100	
IC 280-638215/39	13:58	107		101		100		100		103	
ICV 280-638215/40	14:01	106		102		100		102		101	
ICB 280-638215/41	14:07	99		101		101		101		100	
CRI 280-638215/42	14:10	101		104		103		97		103	
ICSA 280-638215/44	14:15	104		107		107		103		106	
ICSAB 280-638215/45	14:17	98		104		104		103		105	
CCV 280-638215/83	15:48	112		107		107		103		106	
CCB 280-638215/84	15:50	108		104		104		102		104	
MB 280-637852/1-A	15:53	109		109		109		106		110	
LCS 280-637852/2-A	15:55	110		111		110		106		111	
LCSD 280-637852/3-A	15:57	107		107		106		103		107	
280-185814-2	15:59	108		107		107		104		108	
280-185814-3	16:02	109		106		105		104		109	
280-185814-4	16:04	108		107		108		106		111	
280-185814-4 SD	16:06	111		108		107		107		111	
280-185814-4 MS	16:08	109		107		110		107		109	
280-185814-4 MSD	16:11	109		108		109		107		111	
280-185814-4 PDS	16:13	111		107		108		108		110	
CCV 280-638215/95	16:15	109		106		108		106		107	
CCB 280-638215/96	16:17	111		104		109		104		108	
280-185814-5	16:20	107		105		110		109		111	
280-185814-6	16:22	119		106		109		111		112	
280-185814-7	16:24	109		111		115		114		115	
280-185814-8	16:26	107		108		114		114		115	
280-185814-9	16:29	102		107		111		112		116	
280-185814-10	16:31	112		109		113		113		117	
280-185814-11	16:33	108		109		112		112		116	
280-185814-12	16:35	110		106		111		112		113	
280-185814-13	16:37	106		106		109		109		112	
CCV 280-638215/107	16:42	107		107		108		110		109	
CCB 280-638215/108	16:44	112		104		107		104		110	
IS Name on Instrument											

15A-IN
ICP-MS INTERNAL STANDARDS RELATIONS
METALS

Lab Name: Eurofins Denver Job No.: 280-185814-1

SDG No.: Analysis Batch No.: 638215

ICP-MS Instrument ID: MT_079 Start Date: 12/21/2023 End Date: 12/21/2023

Analyte	Mass	Internal Standard Used:				
		Element In 115	Element Ir 193	Element Sc/2 45	Element Sc/3 45	Element Li-6/1 6
Lead	208		X			
Aluminum	27				X	
Antimony	121	X				
Arsenic	75					
Barium	137	X				
Beryllium	9					
Cadmium	111	X				
Calcium	40			X		
Chromium	52					
Cobalt	59					
Copper	63					
Iron	56					
Magnesium	24				X	
Manganese	55					
Molybdenum	95	X				
Nickel	60					
Potassium	39				X	
Selenium	78					
Silver	107	X				
Sodium	23				X	
Strontium	88					
Thallium	205		X			
Thorium	232		X			
Tin	120	X				
Uranium	238		X			
Vanadium	51					
Zinc	66					
Internal Standard Name on Instrument		In Internal Standard	Ir (IS)	Sc (IS)	Sc (IS)	Li-6 Internal standard

15-IN
ICP-MS INTERNAL STANDARDS RELATIVE INTENSITY SUMMARY
METALS

Lab Name: Eurofins Denver Job No.: 280-185814-1

SDG No.: Analysis Batch No.: 638215

ICP-MS Instrument ID: MT_079 Start Date: 12/21/2023 End Date: 12/21/2023

Lab Sample ID	Time	Internal Standards %RI For:									
		Element Ge/3	Q	Element In	Q	Element Ir	Q	Element	Q	Element	Q
IC 280-638215/38	13:56	100		103		103					
IC 280-638215/39	13:58	101		101		101					
ICV 280-638215/40	14:01	100		102		100					
ICB 280-638215/41	14:07	99		101		97					
CRI 280-638215/42	14:10	97		97		97					
ICSA 280-638215/44	14:15	103		102		99					
ICSAB 280-638215/45	14:17	104		103		102					
CCV 280-638215/83	15:48	106		108		107					
CCB 280-638215/84	15:50	103		105		104					
MB 280-637852/1-A	15:53	107		108		109					
LCS 280-637852/2-A	15:55	107		109		110					
LCSD 280-637852/3-A	15:57	104		105		108					
280-185814-2	15:59	105		107		109					
280-185814-3	16:02	106		106		107					
280-185814-4	16:04	108		107		107					
280-185814-4 SD	16:06	108		108		107					
280-185814-4 MS	16:08	108		109		107					
280-185814-4 MSD	16:11	108		106		107					
280-185814-4 PDS	16:13	110		109		108					
CCV 280-638215/95	16:15	106		108		105					
CCB 280-638215/96	16:17	105		105		104					
280-185814-5	16:20	110		109		107					
280-185814-6	16:22	112		110		108					
280-185814-7	16:24	116		116		111					
280-185814-8	16:26	114		112		110					
280-185814-9	16:29	112		111		108					
280-185814-10	16:31	114		112		109					
280-185814-11	16:33	114		113		109					
280-185814-12	16:35	113		112		107					
280-185814-13	16:37	110		109		106					
CCV 280-638215/107	16:42	106		110		105					
CCB 280-638215/108	16:44	104		106		104					
IS Name on Instrument											

15A-IN
ICP-MS INTERNAL STANDARDS RELATIONS
METALS

Lab Name: Eurofins Denver Job No.: 280-185814-1

SDG No.: Analysis Batch No.: 638215

ICP-MS Instrument ID: MT_079 Start Date: 12/21/2023 End Date: 12/21/2023

Analyte	Mass	Internal Standard Used:				
		Element Li-6/2 6	Element Ge/2 72	Element Ge/3 72	Element	Element
Lead	208					
Aluminum	27					
Antimony	121					
Arsenic	75			X		
Barium	137					
Beryllium	9	X				
Cadmium	111					
Calcium	40					
Chromium	52			X		
Cobalt	59			X		
Copper	63			X		
Iron	56		X			
Magnesium	24					
Manganese	55			X		
Molybdenum	95					
Nickel	60			X		
Potassium	39					
Selenium	78		X			
Silver	107					
Sodium	23					
Strontium	88			X		
Thallium	205					
Thorium	232					
Tin	120					
Uranium	238					
Vanadium	51			X		
Zinc	66			X		
Internal Standard Name on Instrument		Li-6 Internal standard	Ge Internal standard	Ge Internal standard		

METALS BATCH WORKSHEET

Lab Name: Eurofins Denver Job No.: 280-185814-1

SDG No.:

Batch Number: 637852 Batch Start Date: 12/20/23 16:50 Batch Analyst: McConnell, Mitchel S

Batch Method: 3020A Batch End Date: 12/20/23 21:36

Lab Sample ID	Client Sample ID	Method Chain	Basis	Initial pH	InitialAmount	FinalAmount	ms spike 1 00021	MS spike 2 00110	
MB 280-637852/1		3020A, 6020B		<2 SU	50 mL	50 mL			
LCS 280-637852/2		3020A, 6020B		<2 SU	50 mL	50 mL	0.1 mL	0.1 mL	
LCSD 280-637852/3		3020A, 6020B		<2 SU	50 mL	50 mL	0.1 mL	0.1 mL	
280-185814-B-2	TV044-EB011223	3020A, 6020B	T	<2 SU	50 mL	50 mL			
280-185814-B-3	TV044-MW81223A	3020A, 6020B	T	<2 SU	50 mL	50 mL			
280-185814-B-4	TV044-MW141223A	3020A, 6020B	T	<2 SU	50 mL	50 mL			
280-185814-B-4 MS	TV044-MW141223A	3020A, 6020B	T	<2 SU	50 mL	50 mL	0.1 mL	0.1 mL	
280-185814-B-4 MSD	TV044-MW141223A	3020A, 6020B	T	<2 SU	50 mL	50 mL	0.1 mL	0.1 mL	
280-185814-B-5	TV044-MW151223A	3020A, 6020B	T	<2 SU	50 mL	50 mL			
280-185814-B-6	TV044-MW22S1223A	3020A, 6020B	T	<2 SU	50 mL	50 mL			
280-185814-B-7	TV044-MW22D1223A	3020A, 6020B	T	<2 SU	50 mL	50 mL			
280-185814-B-8	TV044-MW111223A	3020A, 6020B	T	<2 SU	50 mL	50 mL			
280-185814-B-9	TV044-MW111223C	3020A, 6020B	T	<2 SU	50 mL	50 mL			
280-185814-B-10	TV044-MW131223A	3020A, 6020B	T	<2 SU	50 mL	50 mL			
280-185814-B-11	TV044-MW91223A	3020A, 6020B	T	<2 SU	50 mL	50 mL			
280-185814-B-12	TV044-MW23D1223A	3020A, 6020B	T	<2 SU	50 mL	50 mL			
280-185814-B-13	TV044-EB021223	3020A, 6020B	T	<2 SU	50 mL	50 mL			

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

METALS BATCH WORKSHEET

Lab Name: Eurofins Denver Job No.: 280-185814-1

SDG No.:

Batch Number: 637852 Batch Start Date: 12/20/23 16:50 Batch Analyst: McConnell, Mitchel S

Batch Method: 3020A Batch End Date: 12/20/23 21:36

Batch Notes	
Digestion Tube/Cup ID	2211204
Pipette/Syringe/Dispenser ID	MET88
Analyst ID - Spike Analyst	AH
Sufficient Volume for Batch QC	YES
Hydrochloric Acid ID	231497
Nitric Acid ID	232616
Digestion Unit ID	06
Thermometer ID	917784
Thermometer Location ID	b3
Temperature - Uncorrected - Start	90 Degrees C
Temperature - Corrected - Start	90 Degrees C
Digestion Start Time	12/20/2023 16:50
Digestion End Time	12/20/2023 21:36
Temperature - Uncorrected - End	94 Degrees C
Temperature - Corrected - End	94 Degrees C

Basis	Basis Description
T	Total/NA

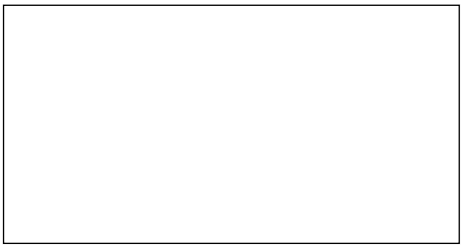
The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

Current Signal

Operator Name	Denver Meta s
Acq. Date-Time	12/21/2023 11:50:23 AM
Instrument Name	G8422A SG22251392
Batch Folder	D:\Agilent\ICPMH\1\DATA\79_122123.b

[No Gas]

Sensitivity



Ch	Mass	Range	Count	Avg Count	RSD%
1	7	5000	2444	2444	0.000
2	59	200000	2677	2677	0 000
3	63	100000	176	176	0 000
4	70	100000	193	193	0.000
5	80	2000000	1055041	1055041	0.000
6	89	200000	4061	4061	0.000
7	115	500000	4981	4981	0.000
8	118	200000	131	131	0 000
9	137	50000	655	655	0.000
10	140	2000	5022	5022	0.000
11	205	5000000	4085	4085	0.000
12	6	100000	15099	15099	0.000
13	70/140	1000	3.844 %	3.844 %	0.000
14	156/140	1	0 339 %	0 339 %	0 000

Integration Time [sec] 0.1

Tune Parameters

Plasma Parameters

P asma Mode	---	Nebulizer Gas	0 64 L/min	Dilution Gas	0 26 L/min
RF Power	1600 W	Option Gas		Auxi iary Gas	0.90 L/min
RF Matching	1.40 V	Nebulizer Pump	0.10 rps	P asma Gas	15 0 L/min
Samp e Depth	8.0 mm	S/C Temp	2 °C		

Lens Parameters

Extract 1	0.0 V	Q1 Entrance	---	Cel Exit	-50 V
Extract 2	200 0 V	Q1 Exit		Def ect	13 2 V
Omega Bias	80 V	Cel Focus		P ate Bias	35 V
Omega Lens	9.9 V	Cel Entrance	30 V		

Cell Parameters

Use Gas	No	3rd Gas F ow		Axia Acce eration	
He F ow	0.0 mL/min	4th Gas F ow		OctP RF	190 V
H2 F ow	0 0 mL/min	OctP Bias	8 0 V	Energy Discrimination	5 0 V

QP Parameters

Mass Gain	125	Axis Gain	0.9997	QP Bias	-3 0 V
Mass Offset	123	Axis Offset	0.03		

Torch

Current Signal

Torch H	0 1 mm	Torch V	0 2 mm		

EM

Discriminator	3.0 mV	Ana og HV	2127 V	Pu se HV	1572 V

Meter

Name	Value	Unit
F/BK Press	2.21E+2	Pa
Ana yzer Press	7 33E 5	Pa
Reflected Power	0	W
Forward Power	1600	W
Tune/ISTD Va ve		

Current Signal

Operator Name	Denver Meta s
Acq. Date-Time	12/21/2023 11:51:50 AM
Instrument Name	G8422A SG22251392
Batch Folder	D:\Agilent\ICPMH\1\DATA\79_122123.b

[HMI H2]

Sensitivity

Ch	Mass	Range	Count	Avg Count	RSD%
1	7	200	130	130	0.000
2	9	500	204	204	0 000
3	59	2000	771	771	0 000
4	63	50	40	40	0.000
5	70	200	146	146	0.000
6	78	20	0	0	0.000
7	89	10000	4255	4255	0.000
8	115	20000	5492	5492	0 000
9	118	200	122	122	0.000
10	137	2000	605	605	0.000
11	140	20000	4893	4893	0.000
12	205	20000	3504	3504	0.000
13	238	20000	4172	4172	0.000
14	70/140	2	2 984 %	2 984 %	0 000
15	156/140	1	0.245 %	0.245 %	0.000

Integration Time [sec] 0 1

Tune Parameters

Plasma Parameters

P asma Mode		Nebulizer Gas	0.64 L/min	Dilution Gas	0.26 L/min
RF Power	1600 W	Option Gas		Auxi iary Gas	0.90 L/min
RF Matching	1 40 V	Nebulizer Pump	0 10 rps	P asma Gas	15.0 L/min
Samp e Depth	8 0 mm	S/C Temp	2 °C		

Lens Parameters

Extract 1	0.0 V	Q1 Entrance		Cel Exit	60 V
Extract 2	195 0 V	Q1 Exit		Def ect	0 2 V
Omega Bias	95 V	Cel Focus		P ate Bias	60 V
Omega Lens	8 3 V	Cel Entrance	40 V		

Cell Parameters

Use Gas	Yes	3rd Gas F ow		Axia Acce eration	
He F ow	0 0 mL/min	4th Gas F ow		OctP RF	200 V
H2 F ow	4 3 mL/min	OctP Bias	18.0 V	Energy Discrimination	3 0 V

QP Parameters

Mass Gain	125	Axis Gain	0.9997	QP Bias	15.0 V
Mass Offset	123	Axis Offset	0.03		

Current Signal

Torch

Torch H	0 1 mm	Torch V	-0 2 mm		

EM

Discriminator	3 0 mV	Ana og HV	2127 V	Pu se HV	1572 V

Meter

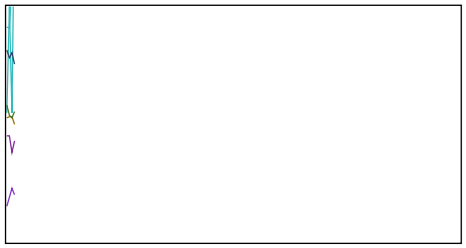
Name	Value	Unit
F/BK Press	2.28E+2	Pa
Ana yzer Press	3.99E 4	Pa
Reflected Power	0	W
Forward Power	1600	W
Tune/ISTD Va ve		

Current Signal

Operator Name	Denver Meta s
Acq. Date-Time	12/21/2023 11:52:02 AM
Instrument Name	G8422A SG22251392
Batch Folder	D:\Agilent\ICPMH\1\DATA\79_122123.b

[HMI He]

Sensitivity



Ch	Mass	Range	Count	Avg Count	RSD%
1	53	20	21	16	36 085
2	59	2000	890	869	3 853
3	66	50	53	47	9 193
4	70	50	64	56	15 674
5	78	20	5	4	40 000
6	115	2000	1514	1578	3.246
7	118	20	39	43	23 569
8	137	500	215	214	7 972
9	140	5000	2504	2610	2.769
10	205	5000	2758	2741	4.163
11	51/59	1	1.797 %	1.830 %	31 388
12	70/140	2	2.556 %	2.132 %	17 354
13	156/140	1	0.200 %	0.192 %	15 741

Integration Time [sec] 0.1

Tune Parameters

Plasma Parameters

P asma Mode	---	Nebulizer Gas	0 64 L/min	Dilution Gas	0 26 L/min
RF Power	1600 W	Option Gas	---	Auxi iary Gas	0.90 L/min
RF Matching	1.40 V	Nebulizer Pump	0.10 rps	P asma Gas	15 0 L/min
Samp e Depth	8.0 mm	S/C Temp	2 °C		

Lens Parameters

Extract 1	0.0 V	Q1 Entrance	---	Cel Exit	-60 V
Extract 2	200 0 V	Q1 Exit		Def ect	0.0 V
Omega Bias	80 V	Cel Focus		P ate Bias	55 V
Omega Lens	9.7 V	Cel Entrance	40 V		

Cell Parameters

Use Gas	Yes	3rd Gas F ow		Axia Acce eration	
He F ow	4.3 mL/min	4th Gas F ow		OctP RF	200 V
H2 F ow	0.0 mL/min	OctP Bias	18 0 V	Energy Discrimination	3.0 V

QP Parameters

Mass Gain	125	Axis Gain	0 9997	QP Bias	-15 0 V
Mass Offset	123	Axis Offset	0.03		

Torch

Torch H	0.1 mm	Torch V	0.2 mm

Current Signal

EM

Discriminator	3 0 mV	Ana og HV	2127 V	Pu se HV	1572 V

Meter

Name	Value	Unit
F/BK Press	2 22E+2	Pa
Ana yzer Press	2 77E-4	Pa
Reflected Power	0	W
Forward Power	1600	W
Tune/ISTD Va ve		

US EPA Tune Check Report

Operator Name	Denver Metals
Acq/Data Batch	D:\Agi ent\ICPMH\1\DATA\79 122123.b
Acq. Date-Time	12/21/2023 12:00:05 PM
Report Comment	---
Instrument Name	G8422A SG22251392

[No Gas]

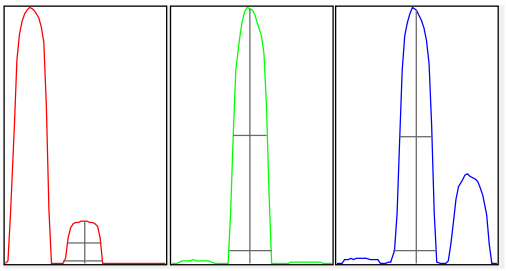
Sensitivity

Mass	Conc. [ug/]	Count	CPS	RSD%	RSD% (Required)	RSD% (F ag)
7		1497	14970 61	4.185	5 000	
89		2526	25259 23	7.872	5 000	Fai
205		2490	24899 63	7.126	5 000	Fai

Mass	Rep#1 Count	Rep#2 Count	Rep#3 Count	Rep#4 Count	Rep#5 Count
7	1482	1471	1458	1466	1608
89	2438	2426	2457	2428	2881
205	2435	2404	2407	2397	2806

Integration Time [sec] 0.1

Resolution/Axis



Mass	Peak Height	Axis	Axis (Required)	Axis (Flag)
7	2458.76	7.00	6 90 7 10	
89	4254.58	89.00	88 90 89.10	
205	4276 43	205 00	204 90 - 205 10	

Mass	W-50%	W-5%	W-5% (Required)	W-5% (F ag)
7	0.62	0.728	0.900	
89	0.62	0.779	0.900	
205	0.60	0.790	0.900	

Integration Time [sec] 0 1

Acquisition Time [sec] 92.3700000000001

Y Axis Linear

Tune Parameters

Plasma Parameters

P asma Mode --- Nebu izer Gas Di ution Gas 0.26 L/min

US EPA Tune Check Report

RF Power	1600 W	Option Gas		Auxiliary Gas	0 90 L/min
RF Matching		Nebu izer Pump		Plasma Gas	15.0 L/min
Samp e Depth	8 0 mm	S/C Temp			

Lens Parameters

Extract 1	0 0 V	Omega Lens	9 9 V	Def ect	13 2 V
Extract 2	-200.0 V	Ce l Entrance	-30 V	Plate Bias	-35 V
Omega Bias	80 V	Ce l Exit	50 V		

Cell Parameters

Use Gas	No	3rd Gas Flow		Energy Discriminatio	5.0 V
He Flow	0 0 mL/min	OctP Bias	-8.0 V		
H2 Flow	0.0 mL/min	OctP RF	190 V		

QP Parameters

Mass Gain	125	Axis Gain	0.9997	QP Bias	3.0 V
Mass Offset	123	Axis Offset	0.03		

Hardware Settings

EM

Discriminator	3.0 mV	Ana og HV	2127 V	Pulse HV	1572 V

Torch

Torch H	0.1 mm	Torch V	0 2 mm

[HMI H2]

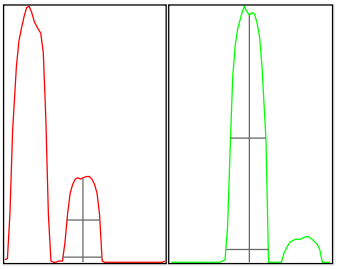
Sensitivity

Mass	Conc. [ug/]	Count	CPS	RSD%	RSD% (Required)	RSD% (F ag)
7		102	1018.26	4 317	5.000	
9		159	1590 73	1.857	5 000	

Mass	Rep#1 Count	Rep#2 Count	Rep#3 Count	Rep#4 Count	Rep#5 Count
7	107	97	100	106	98
9	159	164	155	158	159

Integration Time [sec] 0 1

Resolution/Axis



Mass	Peak Height	Axis	Axis (Required)	Axis (Flag)
7	168 41	7 00	6.90 - 7.10	
9	252 92	9 00	8.90 - 9.10	

US EPA Tune Check Report

Mass	W 50%	W 5%	W 5% (Required)	W 5% (F ag)
7	0.62	0.738	0.900	
9	0.64	0.779	0.900	

Integration Time [sec]	0 1
Acquisition Time [sec]	51.09
Y Axis	Linear

Tune Parameters

Plasma Parameters

P asma Mode	---	Nebu izer Gas		Di ution Gas	0.26 L/min
RF Power	1600 W	Option Gas	---	Auxiliary Gas	0 90 L/min
RF Matching		Nebu izer Pump		Plasma Gas	15.0 L/min
Samp e Depth	8 0 mm	S/C Temp			

Lens Parameters

Extract 1	0 0 V	Omega Lens	8 3 V	Def ect	-0 2 V
Extract 2	-195 0 V	Ce l Entrance	-40 V	Plate Bias	-60 V
Omega Bias	95 V	Ce l Exit	60 V		

Cell Parameters

Use Gas	Yes	3rd Gas Flow		Energy Discriminatio	3 0 V
He Flow	0 0 mL/min	OctP Bias	-18.0 V		
H2 Flow	4 3 mL/min	OctP RF	200 V		

QP Parameters

Mass Gain	125	Axis Gain	0.9997	QP Bias	15.0 V
Mass Offset	123	Axis Offset	0.03		

Hardware Settings

EM

Discriminator	3.0 mV	Ana og HV	2127 V	Pulse HV	1572 V

Torch

Torch H	0.1 mm	Torch V	0 2 mm

[HMI He]

Sensitivity

Mass	Conc. [ug/]	Count	CPS	RSD%	RSD% (Required)	RSD% (F ag)
24		297	2968.47	3 380	5.000	
25		44	439 71	4 074	5.000	
26		55	546.62	4.745	5 000	
59		679	6790 34	2.543	5 000	
103		1849	18491.91	2 112	5.000	
115		1143	11433.55	3 047	5.000	
205		2017	20174.95	1 706	5.000	
206		653	6528 39	1.719	5 000	
207		576	5756 78	2.049	5 000	

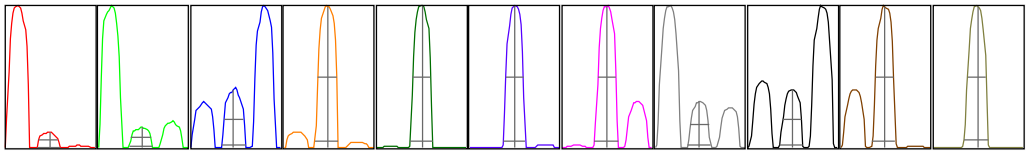
US EPA Tune Check Report

Mass	Conc. [ug/]	Count	CPS	RSD%	RSD% (Required)	RSD% (F ag)
208		1414	14138.36	1 949	5.000	
238		2867	28669.29	1 866	5.000	

Mass	Rep#1 Count	Rep#2 Count	Rep#3 Count	Rep#4 Count	Rep#5 Count
24	312	295	302	288	288
25	45	44	46	41	43
26	59	54	56	53	52
59	698	689	675	680	652
103	1905	1868	1821	1844	1807
115	1182	1165	1146	1134	1091
205	2046	2056	2014	2001	1971
206	668	649	658	652	637
207	589	584	577	567	561
208	1449	1435	1407	1392	1386
238	2923	2917	2856	2842	2797

Integration Time [sec] 0.1

Resolution/Axis



Mass	Peak Height	Axis	Axis (Required)	Axis (Flag)
24	500.24	24.00	23 90 24.10	
25	71.25	25.00	24 90 25.10	
26	91 05	25 95	25.90 - 26 10	
59	1110 80	59 00	58.90 - 59 10	
103	3229.51	103.05	102.90 103.10	
115	2039.71	115.05	114.90 115.10	
205	3504.49	205.00	204.90 205.10	
206	1136 16	206 00	205 90 - 206 10	
207	980 63	207 00	206 90 - 207 10	
208	2415.26	208.00	207.90 208.10	
238	4843.26	238.00	237.90 238.10	

Mass	W 50%	W 5%	W 5% (Required)	W 5% (F ag)
24	0 62	0 746	0 900	
25	0.65	0.786	0.900	

US EPA Tune Check Report

Mass	W 50%	W 5%	W 5% (Required)	W 5% (F ag)
26	0.63	0.784	0.900	
59	0.64	0.780	0.900	
103	0 60	0 736	0 900	
115	0 58	0 736	0 900	
205	0.60	0.778	0.900	
206	0.59	0.779	0.900	
207	0.61	0.748	0.900	
208	0 61	0 769	0 900	
238	0 61	0 796	0 900	

Integration Time [sec]	0.1
Acquisition Time [sec]	235.339999999997
Y Axis	Linear

Tune Parameters

Plasma Parameters

P asma Mode		Nebu izer Gas		Di ution Gas	0 26 L/min
RF Power	1600 W	Option Gas		Auxiliary Gas	0 90 L/min
RF Matching		Nebu izer Pump		Plasma Gas	15 0 L/min
Samp e Depth	8.0 mm	S/C Temp			

Lens Parameters

Extract 1	0.0 V	Omega Lens	9.7 V	Def ect	0 0 V
Extract 2	200.0 V	Ce l Entrance	40 V	Plate Bias	55 V
Omega Bias	80 V	Ce l Exit	60 V		

Cell Parameters

Use Gas	Yes	3rd Gas Flow	---	Energy Discriminatio	3 0 V
He Flow	4.3 mL/min	OctP Bias	18 0 V		
H2 Flow	0.0 mL/min	OctP RF	200 V		

QP Parameters

Mass Gain	125	Axis Gain	0 9997	QP Bias	-15 0 V
Mass Offset	123	Axis Offset	0 03		

Hardware Settings

EM

Discriminator	3.0 mV	Ana og HV	2127 V	Pulse HV	1572 V

Torch

Torch H	0 1 mm	Torch V	-0.2 mm

US EPA Tune Check Report

Operator Name	Denver Metals
Acq/Data Batch	D:\Agi ent\ICPMH\1\DATA\79 122123.b
Acq. Date-Time	12/21/2023 12:11:50 PM
Report Comment	---
Instrument Name	G8422A SG22251392

[No Gas]

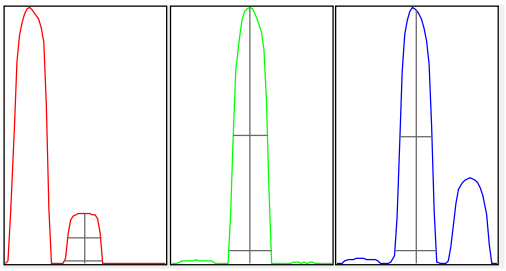
Sensitivity

Mass	Conc. [ug/]	Count	CPS	RSD%	RSD% (Required)	RSD% (F ag)
7		1622	16222 88	0.917	5 000	
89		2867	28671 15	1.488	5 000	
205		2744	27444 32	1.148	5 000	

Mass	Rep#1 Count	Rep#2 Count	Rep#3 Count	Rep#4 Count	Rep#5 Count
7	1647	1608	1621	1622	1613
89	2907	2800	2886	2892	2851
205	2776	2694	2763	2752	2737

Integration Time [sec] 0.1

Resolution/Axis



Mass	Peak Height	Axis	Axis (Required)	Axis (Flag)
7	2650.00	7.00	6 90 7 10	
89	4806.27	89.00	88 90 89.10	
205	4723 58	205 00	204 90 - 205 10	

Mass	W-50%	W-5%	W-5% (Required)	W-5% (F ag)
7	0.62	0.725	0.900	
89	0.62	0.779	0.900	
205	0.60	0.781	0.900	

Integration Time [sec] 0 1

Acquisition Time [sec] 92.3700000000001

Y Axis Linear

Tune Parameters

Plasma Parameters

P asma Mode	---	Nebu izer Gas		Di ution Gas	0.26 L/min

US EPA Tune Check Report

RF Power	1600 W	Option Gas		Auxiliary Gas	0 90 L/min
RF Matching		Nebu izer Pump		Plasma Gas	15.0 L/min
Samp e Depth	8 0 mm	S/C Temp			

Lens Parameters

Extract 1	0 0 V	Omega Lens	9 9 V	Def ect	13 2 V
Extract 2	-200.0 V	Ce l Entrance	-30 V	Plate Bias	-35 V
Omega Bias	80 V	Ce l Exit	50 V		

Cell Parameters

Use Gas	No	3rd Gas Flow		Energy Discriminatio	5.0 V
He Flow	0 0 mL/min	OctP Bias	-8.0 V		
H2 Flow	0.0 mL/min	OctP RF	190 V		

QP Parameters

Mass Gain	125	Axis Gain	0.9997	QP Bias	3.0 V
Mass Offset	123	Axis Offset	0.03		

Hardware Settings

EM

Discriminator	3.0 mV	Ana og HV	2127 V	Pulse HV	1572 V

Torch

Torch H	0.1 mm	Torch V	0 2 mm

[HMI H2]

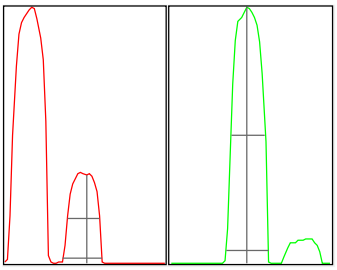
Sensitivity

Mass	Conc. [ug/]	Count	CPS	RSD%	RSD% (Required)	RSD% (F ag)
7		93	928 75	1 509	5.000	
9		139	1394 30	2.437	5 000	

Mass	Rep#1 Count	Rep#2 Count	Rep#3 Count	Rep#4 Count	Rep#5 Count
7	92	92	92	95	93
9	142	138	138	136	144

Integration Time [sec] 0 1

Resolution/Axis



Mass	Peak Height	Axis	Axis (Required)	Axis (Flag)
7	156 76	7 05	6.90 - 7.10	
9	230 42	8 95	8.90 - 9.10	

US EPA Tune Check Report

Mass	W 50%	W 5%	W 5% (Required)	W 5% (F ag)
7	0.61	0.736	0.900	
9	0.63	0.778	0.900	

Integration Time [sec]	0 1
Acquisition Time [sec]	51.09
Y Axis	Linear

Tune Parameters

Plasma Parameters

P asma Mode	---	Nebu izer Gas		Di ution Gas	0.26 L/min
RF Power	1600 W	Option Gas	---	Auxiliary Gas	0 90 L/min
RF Matching		Nebu izer Pump		Plasma Gas	15.0 L/min
Samp e Depth	8 0 mm	S/C Temp			

Lens Parameters

Extract 1	0 0 V	Omega Lens	8 3 V	Def ect	-0 2 V
Extract 2	-195 0 V	Ce l Entrance	-40 V	Plate Bias	-60 V
Omega Bias	95 V	Ce l Exit	60 V		

Cell Parameters

Use Gas	Yes	3rd Gas Flow		Energy Discriminatio	3 0 V
He Flow	0 0 mL/min	OctP Bias	-18.0 V		
H2 Flow	4 3 mL/min	OctP RF	200 V		

QP Parameters

Mass Gain	125	Axis Gain	0.9997	QP Bias	15.0 V
Mass Offset	123	Axis Offset	0.03		

Hardware Settings

EM

Discriminator	3.0 mV	Ana og HV	2127 V	Pulse HV	1572 V

Torch

Torch H	0.1 mm	Torch V	0 2 mm

[HMI He]

Sensitivity

Mass	Conc. [ug/]	Count	CPS	RSD%	RSD% (Required)	RSD% (F ag)
24		276	2763.61	2 596	5.000	
25		41	407 91	3 393	5.000	
26		52	516.82	3.763	5 000	
59		645	6453 11	1.871	5 000	
103		1737	17372.33	0 991	5.000	
115		1018	10184.09	1 178	5.000	
205		1860	18600.48	0 564	5.000	
206		607	6069 65	0.680	5 000	
207		535	5348 22	0.828	5 000	

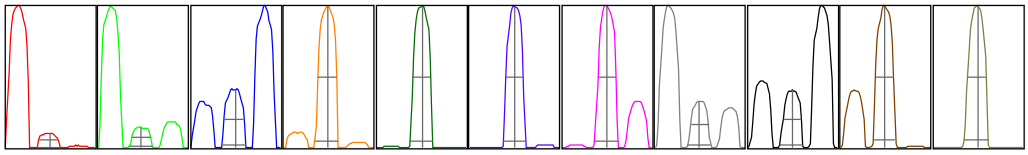
US EPA Tune Check Report

Mass	Conc. [ug/]	Count	CPS	RSD%	RSD% (Required)	RSD% (F ag)
208		1310	13101.79	0 546	5.000	
238		2639	26388.79	0 562	5.000	

Mass	Rep#1 Count	Rep#2 Count	Rep#3 Count	Rep#4 Count	Rep#5 Count
24	280	286	272	276	267
25	40	41	39	43	41
26	54	49	52	51	52
59	661	631	641	654	640
103	1764	1731	1726	1720	1744
115	1034	1027	1015	1004	1012
205	1870	1862	1855	1844	1869
206	610	605	601	611	607
207	532	541	537	530	534
208	1310	1303	1314	1320	1303
238	2647	2652	2618	2648	2629

Integration Time [sec] 0.1

Resolution/Axis



Mass	Peak Height	Axis	Axis (Required)	Axis (Flag)
24	460.98	24.00	23 90 24.10	
25	67.15	24.95	24 90 25.10	
26	83 05	26 00	25.90 - 26 10	
59	1067 11	59 00	58.90 - 59 10	
103	3040.82	103.05	102.90 103.10	
115	1811.43	115.05	114.90 115.10	
205	3244.19	205.00	204.90 205.10	
206	1062 60	206 00	205 90 - 206 10	
207	912 93	207 00	206 90 - 207 10	
208	2265.23	208.00	207.90 208.10	
238	4497.41	238.00	237.90 238.10	

Mass	W 50%	W 5%	W 5% (Required)	W 5% (F ag)
24	0 63	0 743	0 900	
25	0.64	0.779	0.900	

US EPA Tune Check Report

Mass	W 50%	W 5%	W 5% (Required)	W 5% (F ag)
26	0.64	0.785	0.900	
59	0.64	0.780	0.900	
103	0 59	0 736	0 900	
115	0 58	0 735	0 900	
205	0.59	0.778	0.900	
206	0.59	0.778	0.900	
207	0.60	0.749	0.900	
208	0 61	0 743	0 900	
238	0 60	0 793	0 900	

Integration Time [sec]	0.1
Acquisition Time [sec]	235.339999999997
Y Axis	Linear

Tune Parameters

Plasma Parameters

P asma Mode		Nebu izer Gas		Di ution Gas	0 26 L/min
RF Power	1600 W	Option Gas		Auxiliary Gas	0 90 L/min
RF Matching		Nebu izer Pump		Plasma Gas	15 0 L/min
Samp e Depth	8.0 mm	S/C Temp			

Lens Parameters

Extract 1	0.0 V	Omega Lens	9.7 V	Def ect	0 0 V
Extract 2	200.0 V	Ce l Entrance	40 V	Plate Bias	55 V
Omega Bias	80 V	Ce l Exit	60 V		

Cell Parameters

Use Gas	Yes	3rd Gas Flow	---	Energy Discriminatio	3 0 V
He Flow	4.3 mL/min	OctP Bias	18 0 V		
H2 Flow	0.0 mL/min	OctP RF	200 V		

QP Parameters

Mass Gain	125	Axis Gain	0 9997	QP Bias	-15 0 V
Mass Offset	123	Axis Offset	0 03		

Hardware Settings

EM

Discriminator	3.0 mV	Ana og HV	2127 V	Pulse HV	1572 V

Torch

Torch H	0 1 mm	Torch V	-0.2 mm

Mass (Custom Setting)	Element Name	Current Value	Retain Mass for Startup
6		0.094854	☑
9		0.105155	☑
23		0.107738	☑
24		0.114189	☑
27		0.118974	☑
39		0.123362	☑
45		0.125901	☑
48		0.127077	☑
51		0.130450	☑
52		0.133192	☑
55		0.135921	☑
59		0.141835	☑
60		0.143182	☑
63		0.146840	☑
66		0.145943	☑
72		0.143249	☑
75		0.143216	☑
88		0.146527	☑
98		0.142627	☑
102		0.148103	☑
106		0.153019	☑
114		0.157166	☑
115		0.157302	☑

Mass (Custom Setting)	Element Name	Current Value	Retain Mass for Startup
118		0.153921	☑
121		0.154920	☑
138		0.157328	☑
175		0.164329	☑
193		0.164389	☑
205		0.169227	☑
208		0.171478	☑
209		0.171043	☑
232		0.167371	☑
238		0.166459	☑

Sample Report

Sample Table

Sample Name	rinse-8086715
Data File Name	001SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\79_122123.b
Acq Date Time	2023-12-21T12:23:39-07:00
Analyst	Denver Metals
Sample Type	Sample
Dilution	1
Comment	
ISTD Ref FileName	
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

Sample Report

Sample Table

Sample Name	rinse-8086715
Data File Name	002SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\79_122123.b
Acq Date Time	2023-12-21T12:25:56-07:00
Analyst	Denver Metals
Sample Type	Sample
Dilution	1
Comment	
ISTD Ref FileName	
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

Sample Report

Sample Table

Sample Name	rinse-8086715
Data File Name	003SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\79_122123.b
Acq Date Time	2023-12-21T12:28:11-07:00
Analyst	Denver Metals
Sample Type	Sample
Dilution	1
Comment	
ISTD Ref FileName	
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

Sample Report

Sample Table

Sample Name	rinse-8086715
Data File Name	004SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\79_122123.b
Acq Date Time	2023-12-21T12:30:25-07:00
Analyst	Denver Metals
Sample Type	Sample
Dilution	1
Comment	
ISTD Ref FileName	
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

Sample Report

Sample Table

Sample Name	rinse-8086715
Data File Name	005SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\79_122123.b
Acq Date Time	2023-12-21T12:32:38-07:00
Analyst	Denver Metals
Sample Type	Sample
Dilution	1
Comment	
ISTD Ref FileName	
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

Sample Report

Sample Table

Sample Name	rinse-8086715
Data File Name	006SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\79_122123.b
Acq Date Time	2023-12-21T12:34:52-07:00
Analyst	Denver Metals
Sample Type	Sample
Dilution	1
Comment	
ISTD Ref FileName	
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

Sample Report

Sample Table

Sample Name	rinse-8086715
Data File Name	007SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\79_122123.b
Acq Date Time	2023-12-21T12:37:08-07:00
Analyst	Denver Metals
Sample Type	Sample
Dilution	1
Comment	
ISTD Ref FileName	
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

Sample Report

Sample Table

Sample Name	rinse-8086715
Data File Name	008SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\79_122123.b
Acq Date Time	2023-12-21T12:39:23-07:00
Analyst	Denver Metals
Sample Type	Sample
Dilution	1
Comment	
ISTD Ref FileName	
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

Sample Report

Sample Table

Sample Name	rinse-8086715
Data File Name	009SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\79_122123.b
Acq Date Time	2023-12-21T12:41:37-07:00
Analyst	Denver Metals
Sample Type	Sample
Dilution	1
Comment	
ISTD Ref FileName	
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

Sample Report

Sample Table

Sample Name	rinse-8086715
Data File Name	010SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\79_122123.b
Acq Date Time	2023-12-21T12:43:51-07:00
Analyst	Denver Metals
Sample Type	Sample
Dilution	1
Comment	
ISTD Ref FileName	
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

Sample Report

Sample Table

Sample Name	rinse-8086715
Data File Name	011SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\79_122123.b
Acq Date Time	2023-12-21T12:46:07-07:00
Analyst	Denver Metals
Sample Type	Sample
Dilution	1
Comment	
ISTD Ref FileName	
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

Sample Report

Sample Table

Sample Name	rinse-8086715
Data File Name	012SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\79_122123.b
Acq Date Time	2023-12-21T12:48:23-07:00
Analyst	Denver Metals
Sample Type	Sample
Dilution	1
Comment	
ISTD Ref FileName	
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

Sample Report

Sample Table

Sample Name	rinse-8086715
Data File Name	013SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\79_122123.b
Acq Date Time	2023-12-21T12:50:36-07:00
Analyst	Denver Metals
Sample Type	Sample
Dilution	1
Comment	
ISTD Ref FileName	
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

Sample Report

Sample Table

Sample Name	rinse-8086715
Data File Name	014SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\79_122123.b
Acq Date Time	2023-12-21T12:52:52-07:00
Analyst	Denver Metals
Sample Type	Sample
Dilution	1
Comment	
ISTD Ref FileName	
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

Sample Report

Sample Table

Sample Name	rinse-8086715
Data File Name	015SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\79_122123.b
Acq Date Time	2023-12-21T12:55:07-07:00
Analyst	Denver Metals
Sample Type	Sample
Dilution	1
Comment	
ISTD Ref FileName	
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

Sample Report

Sample Table

Sample Name	rinse-8086715
Data File Name	016SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\79_122123.b
Acq Date Time	2023-12-21T12:57:22-07:00
Analyst	Denver Metals
Sample Type	Sample
Dilution	1
Comment	
ISTD Ref FileName	
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

Sample Report

Sample Table

Sample Name	rinse-8086715
Data File Name	017SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\79_122123.b
Acq Date Time	2023-12-21T12:59:38-07:00
Analyst	Denver Metals
Sample Type	Sample
Dilution	1
Comment	
ISTD Ref FileName	
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

Sample Report

Sample Table

Sample Name	rinse-8086715
Data File Name	018SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\79_122123.b
Acq Date Time	2023-12-21T13:01:54-07:00
Analyst	Denver Metals
Sample Type	Sample
Dilution	1
Comment	
ISTD Ref FileName	
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

Sample Report

Sample Table

Sample Name	rinse-8086715
Data File Name	019SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\79_122123.b
Acq Date Time	2023-12-21T13:04:09-07:00
Analyst	Denver Metals
Sample Type	Sample
Dilution	1
Comment	
ISTD Ref FileName	
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

Sample Report

Sample Table

Sample Name	rinse-8086715
Data File Name	020SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\79_122123.b
Acq Date Time	2023-12-21T13:06:25-07:00
Analyst	Denver Metals
Sample Type	Sample
Dilution	1
Comment	
ISTD Ref FileName	
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

Sample Report

Sample Table

Sample Name	rinse-8086715
Data File Name	021SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\79_122123.b
Acq Date Time	2023-12-21T13:08:40-07:00
Analyst	Denver Metals
Sample Type	Sample
Dilution	1
Comment	
ISTD Ref FileName	
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

Sample Report

Sample Table

Sample Name	rinse-8086715
Data File Name	022SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\79_122123.b
Acq Date Time	2023-12-21T13:10:54-07:00
Analyst	Denver Metals
Sample Type	Sample
Dilution	1
Comment	
ISTD Ref FileName	
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

Sample Report

Sample Table

Sample Name	rinse-8086715
Data File Name	023SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\79_122123.b
Acq Date Time	2023-12-21T13:13:07-07:00
Analyst	Denver Metals
Sample Type	Sample
Dilution	1
Comment	
ISTD Ref FileName	
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

Sample Report

Sample Table

Sample Name	rinse-8086715
Data File Name	024SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\79_122123.b
Acq Date Time	2023-12-21T13:15:21-07:00
Analyst	Denver Metals
Sample Type	Sample
Dilution	1
Comment	
ISTD Ref FileName	
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

Sample Report

Sample Table

Sample Name	rinse-8086715
Data File Name	025SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\79_122123.b
Acq Date Time	2023-12-21T13:17:34-07:00
Analyst	Denver Metals
Sample Type	Sample
Dilution	1
Comment	
ISTD Ref FileName	
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

Sample Report

Sample Table

Sample Name	rinse-8086715
Data File Name	026SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\79_122123.b
Acq Date Time	2023-12-21T13:19:48-07:00
Analyst	Denver Metals
Sample Type	Sample
Dilution	1
Comment	
ISTD Ref FileName	
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

Sample Report

Sample Table

Sample Name	rinse-8086715
Data File Name	027SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\79_122123.b
Acq Date Time	2023-12-21T13:22:02-07:00
Analyst	Denver Metals
Sample Type	Sample
Dilution	1
Comment	
ISTD Ref FileName	
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

Calibration Blank Report

Sample Table

Sample Name2	ICIS-8123133
Data File Name	028CALB.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\79_122123.b
Method	
Acq Date Time	2023-12-21T13:24:15-07:00
Sample Type	CalBlk
Level	1
Dilution	1
Comment	

QC Analyte Table

Name	Mass	I.S	Tune Step	Tune Mode	CPS	%RSD
Be	9	6	2	HMI H2	5	1463.67
Na	23	45	3	HMI He	39933	0.00
Mg	24	45	3	HMI He	177	26.65
Al	27	45	3	HMI He	194	8.17
K	39	45	3	HMI He	36638	0.02
Ca	40	45	2	HMI H2	20365	0.01
V	51	72	3	HMI He	243	5.63
Cr	52	72	3	HMI He	795	0.96
Mn	55	72	3	HMI He	153	18.34
Fe	56	72	2	HMI H2	22330	0.02
Co	59	72	3	HMI He	58	42.42
Ni	60	72	3	HMI He	117	10.61
Cu	63	72	3	HMI He	460	2.33
Zn	66	72	3	HMI He	235	5.51
As	75	72	3	HMI He	27	214.83
Se	78	72	2	HMI H2	3	1623.80
(Se)	78	72	3	HMI He	47	70.16
Sr	88	72	3	HMI He	32	57.58
Mo	95	115	3	HMI He	28	71.91
Ag	107	115	3	HMI He	20	330.80
Cd	111	115	3	HMI He	7	1718.96
Sn	120	115	3	HMI He	506	0.49
Sb	121	115	3	HMI He	83	36.26
Ba	137	115	3	HMI He	28	294.43
Tl	205	193	3	HMI He	928	0.96
(Pb)	206	193	3	HMI He	115	16.49
(Pb)	207	193	3	HMI He	232	8.81
Pb	208	193	3	HMI He	633	2.08
Th	232	193	3	HMI He	3007	0.14
U	238	193	3	HMI He	1189	0.92

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD
Sc (IS)	45	2	HMI H2	4310734	0.95
Sc (IS)	45	3	HMI He	459279	0.70
Ge Internal standard	72	2	HMI H2	2297501	0.85
Ge Internal standard	72	3	HMI He	526720	0.75
In Internal Standard	115	3	HMI He	2167160	2.69
Ir (IS)	193	3	HMI He	3743555	1.12

Calibration Standard Report

Sample Table

Sample Name	IC-8123135
Data File Name	029CALS.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\79_122123.b
Acq Date Time	2023-12-21T13:26:29-07:00
Sample Type	CalStd
Level	4
Dilution	1
Comment	CAL 4 (Ca. Mg. Na. K .only)
ISTD Ref File Name	028CALB.d
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Concentration	ConcentrationUnits
Be	9	2	HMI H2	7	774.17		ppb
Na	23	3	HMI He	7481171	0.00	100000	ppb
Mg	24	3	HMI He	781337	0.00	20000	ppb
Al	27	3	HMI He	257	3.16		ppb
K	39	3	HMI He	774324	0.00	20000	ppb
Ca	40	2	HMI H2	14568996	0.00	20000	ppb
V	51	3	HMI He	312	8.26		ppb
Cr	52	3	HMI He	858	0.32		ppb
Mn	55	3	HMI He	158	4.15		ppb
Co	59	3	HMI He	72	73.75		ppb
Ni	60	3	HMI He	88	9.79		ppb
Cu	63	3	HMI He	403	2.16		ppb
Zn	66	3	HMI He	253	7.24		ppb
As	75	3	HMI He	30	55.55		ppb
Se	78	2	HMI H2	5	1402.83		ppb
(Se)	78	3	HMI He	45	107.68		ppb
Sr	88	3	HMI He	208	4.36		ppb
Mo	95	3	HMI He	42	66.55		ppb
Ag	107	3	HMI He	27	40.63		ppb
Cd	111	3	HMI He	15	587.95		ppb
Sn	120	3	HMI He	513	2.19		ppb
Sb	121	3	HMI He	80	23.45		ppb
Ba	137	3	HMI He	138	16.81		ppb
Tl	205	3	HMI He	948	0.45		ppb
(Pb)	206	3	HMI He	185	17.96		ppb
(Pb)	207	3	HMI He	232	7.00		ppb
Pb	208	3	HMI He	836	0.75		ppb
Th	232	3	HMI He	3392	0.05		ppb
U	238	3	HMI He	1214	0.07		ppb

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc (IS)	45	2	HMI H2	4321170	1.15	4310734	100.24	60	120	
Sc (IS)	45	3	HMI He	475780	1.06	459279	103.59	60	120	
Ge Internal standard	72	2	HMI H2	2272464	2.30	2297501	98.91	60	120	
Ge Internal standard	72	3	HMI He	538097	1.72	526720	102.16	60	120	
In Internal Standard	115	3	HMI He	2229451	1.29	2167160	102.87	60	120	
Ir (IS)	193	3	HMI He	3982175	2.40	3743555	106.37	60	120	

Calibration Standard Report

Sample Table

Sample Name	IC-8123134
Data File Name	030CALS.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\79_122123.b
Acq Date Time	2023-12-21T13:28:43-07:00
Sample Type	CalStd
Level	3
Dilution	1
Comment	CAL (no Ca. Mg. Na. K.)
ISTD Ref File Name	028CALB.d
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Concentration	ConcentrationUnits
Be	9	2	HMI H2	4679	0.07	100	ppb
Na	23	3	HMI He	189300	0.00	2063.89953965455	ppb
Mg	24	3	HMI He	78640	0.01	2072.13062031714	ppb
Al	27	3	HMI He	32627	0.03	2000	ppb
K	39	3	HMI He	107584	0.00	1979.60327994867	ppb
Ca	40	2	HMI H2	1508635	0.00	1950.2737556583	ppb
V	51	3	HMI He	42216	0.02	100	ppb
Cr	52	3	HMI He	53078	0.01	100	ppb
Mn	55	3	HMI He	30138	0.03	100	ppb
Co	59	3	HMI He	84892	0.01	100	ppb
Ni	60	3	HMI He	23593	0.04	100	ppb
Cu	63	3	HMI He	67354	0.01	100	ppb
Zn	66	3	HMI He	11299	0.07	100	ppb
As	75	3	HMI He	7822	0.07	100	ppb
Se	78	2	HMI H2	4730	0.08	100	ppb
(Se)	78	3	HMI He	623	0.07	100	ppb
Sr	88	3	HMI He	86939	0.01	200	ppb
Mo	95	3	HMI He	33625	0.02	100	ppb
Ag	107	3	HMI He	109445	0.00	100	ppb
Cd	111	3	HMI He	16762	0.05	100	ppb
Sn	120	3	HMI He	55301	0.02	100	ppb
Sb	121	3	HMI He	51392	0.01	100	ppb
Ba	137	3	HMI He	18901	0.02	100	ppb
Tl	205	3	HMI He	257391	0.00	100	ppb
(Pb)	206	3	HMI He	85322	0.01	100	ppb
(Pb)	207	3	HMI He	74852	0.01	100	ppb
Pb	208	3	HMI He	341903	0.00	100	ppb
Th	232	3	HMI He	354848	0.00	100	ppb
U	238	3	HMI He	368581	0.00	100	ppb

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc (IS)	45	2	HMI H2	4530838	1.81	4310734	105.11	60	120	
Sc (IS)	45	3	HMI He	464596	7.44	459279	101.16	60	120	
Ge Internal standard	72	2	HMI H2	2402677	0.57	2297501	104.58	60	120	
Ge Internal standard	72	3	HMI He	537338	5.38	526720	102.02	60	120	
In Internal Standard	115	3	HMI He	2175883	6.72	2167160	100.40	60	120	
Ir (IS)	193	3	HMI He	3841439	7.41	3743555	102.61	60	120	

Initial Calibration Verification (ICV) Report

Sample Table

Sample Name	ICV-8123149
Data File Name	031_ICV.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\79_122123.b
Acq Date Time	2023-12-21T13:30:58-07:00
Sample Type	ICV
Dilution	1
Comment	
ISTD Ref File Name	028CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	Conc %RSD	CPS	Exp Value	%Rec	%Low	%High	QC Flag
Be	9	2	6	43.497	ppb	4.040	2006	40	108.7	90	110	
Na	23	3	45	13558.220	ppb	5.355	1054432	12800	105.9	90	110	
Mg	24	3	45	4805.285	ppb	4.134	188665	4800	100.1	90	110	
Al	27	3	45	763.762	ppb	4.625	13039	800	95.5	90	110	
K	39	3	45	4737.035	ppb	2.419	213294	4800	98.7	90	110	
Ca	40	2	45	4823.798	ppb	0.857	3628857	4800	100.5	90	110	
V	51	3	72	39.552	ppb	5.262	17045	40	98.9	90	110	
Cr	52	3	72	39.425	ppb	6.320	21659	40	98.6	90	110	
Mn	55	3	72	40.231	ppb	3.527	12366	40	100.6	90	110	
Fe	56	2	72	895.376	ppb	2.583	1209701	800	111.9	90	110	>+\-10%
Co	59	3	72	39.793	ppb	3.734	34205	40	99.5	90	110	
Ni	60	3	72	38.501	ppb	5.092	9272	40	96.3	90	110	
Cu	63	3	72	39.351	ppb	4.182	27108	40	98.4	90	110	
Zn	66	3	72	76.007	ppb	2.913	8748	80	95.0	90	110	
As	75	3	72	40.192	ppb	3.295	3192	40	100.5	90	110	
Se	78	2	72	42.397	ppb	2.293	1926	40	106.0	90	110	
Sr	88	3	72	120.162	ppb	2.648	52871	120	100.1	90	110	
Mo	95	3	115	39.160	ppb	5.031	13480	40	97.9	90	110	
Ag	107	3	115	79.538	ppb	3.200	88890	80	99.4	90	110	
Cd	111	3	115	40.217	ppb	5.400	6903	40	100.5	90	110	
Sn	120	3	115	38.485	ppb	3.672	22109	40	96.2	90	110	
Sb	121	3	115	41.823	ppb	3.279	22027	40	104.6	90	110	
Ba	137	3	115	39.394	ppb	1.953	7625	40	98.5	90	110	
Tl	205	3	193	40.360	ppb	3.731	106199	40	100.9	90	110	
(Pb)	206	3	193	42.016	ppb	7.394	36498	40	105.0	90	110	
(Pb)	207	3	193	38.379	ppb	1.305	29383	40	95.9	90	110	
Pb	208	3	193	40.070	ppb	5.523	139635	40	100.2	90	110	
Th	232	3	193	78.057	ppb	4.977	282778	80	97.6	90	110	
U	238	3	193	39.649	ppb	5.478	149451	40	99.1	90	110	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc (IS)	45	2	HMI H2	4442721	0.37	4310734	103.06	60	120	
Sc (IS)	45	3	HMI He	477837	1.45	459279	104.04	60	120	
Ge Internal standard	72	2	HMI H2	2306223	2.89	2297501	100.38	60	120	
Ge Internal standard	72	3	HMI He	541384	1.97	526720	102.78	60	120	
In Internal Standard	115	3	HMI He	2213094	1.86	2167160	102.12	60	120	
Ir (IS)	193	3	HMI He	3884546	3.17	3743555	103.77	60	120	

Initial Calibration Blank (ICB) Report

Sample Table

Sample Name	ICB-8123133
Data File Name	032_ICB.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\79_122123.b
Acq Date Time	2023-12-21T13:33:14-07:00
Sample Type	ICB
Dilution	1
Comment	
ISTD Ref File Name	028CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Conc	Units	Conc %RSD	CPS	Upper Limit	QC Flag
Be	9	2	0.028	ppb	181.0	7	0.5	
Na	23	3	-14.247	ppb	-73.6	40291	25	
Mg	24	3	-0.067	ppb	-813.5	180	25	
Al	27	3	0.772	ppb	61.7	214	15	
K	39	3	-66.036	ppb	-70.1	35537	50	
V	51	3	0.024	ppb	285.5	258	1	
Cr	52	3	-0.107	ppb	-43.5	753	1	
Mn	55	3	-0.080	ppb	-100.4	132	0.5	
Co	59	3	0.018	ppb	168.2	75	0.5	
Ni	60	3	-0.093	ppb	-102.2	97	1	
Cu	63	3	-0.062	ppb	-143.7	426	1	
Zn	66	3	-0.279	ppb	-33.2	208	5	
As	75	3	-0.026	ppb	-446.0	25	1	
Se	78	2	0.087	ppb	125.9	7	1	
Sr	88	3	0.026	ppb	106.6	43	0.5	
Mo	95	3	0.054	ppb	137.7	47	0.5	
Ag	107	3	0.051	ppb	58.0	77	1	
Cd	111	3	0.048	ppb	106.0	15	0.5	
Sn	120	3	0.083	ppb	38.4	556	1	
Sb	121	3	0.091	ppb	25.4	132	0.6	
Ba	137	3	0.025	ppb	316.5	33	0.5	
Tl	205	3	-0.004	ppb	-1154.2	961	0.1	
(Pb)	206	3	0.042	ppb	82.2	157	1	
(Pb)	207	3	-0.040	ppb	-146.3	212	1	
Pb	208	3	0.009	ppb	216.2	693	0.5	
Th	232	3	0.408	ppb	29.9	4625	1	
U	238	3	-0.009	ppb	-381.9	1214	0.5	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc (IS)	45	2	HMI H2	4297850	1.37	4310734	99.70	60	120	
Sc (IS)	45	3	HMI He	475721	2.55	459279	103.58	60	120	
Ge Internal standard	72	2	HMI H2	2309056	0.88	2297501	100.50	60	120	
Ge Internal standard	72	3	HMI He	536250	1.46	526720	101.81	60	120	
In Internal Standard	115	3	HMI He	2183850	1.15	2167160	100.77	60	120	
Ir (IS)	193	3	HMI He	3926648	3.29	3743555	104.89	60	120	

CRI Report

Sample Table

Sample Name	CRI-8123150
Data File Name	033LICV.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\79_122123.b
Acq Date Time	2023-12-21T13:37:27-07:00
Sample Type	LLICV
Dilution	1
Comment	
ISTD Ref File Name	028CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	Units	Conc %RSD	CPS	Exp Value	%Rec	%Low	%High2	QC Flag
Be	9	2	6	1.135	ppb	19.939	53	1	113.5	80	120	
Na	23	3	45	273.006	ppb	3.202	60412	300	91.0	80	120	
Mg	24	3	45	45.834	ppb	9.880	1932	50	91.7	80	120	
Al	27	3	45	48.682	ppb	6.255	994	50	97.4	80	120	
K	39	3	45	74.774	ppb	69.513	39867	120	62.3	80	120	>+/-30%
Ca	40	2	45	234.189	ppb	16.295	171401	200	117.1	80	120	
V	51	3	72	4.533	ppb	4.374	2122	5	90.7	80	120	
Cr	52	3	72	1.864	ppb	3.040	1759	2	93.2	80	120	
Mn	55	3	72	0.876	ppb	5.022	413	1	87.6	80	120	
Fe	56	2	72	58.991	ppb	19.118	93192	50	118.0	80	120	
Co	59	3	72	0.989	ppb	6.272	888	1	98.9	80	120	
Ni	60	3	72	2.043	ppb	10.963	591	2	102.1	80	120	
Cu	63	3	72	1.695	ppb	8.985	1583	2	84.8	80	120	
Zn	66	3	72	8.017	ppb	4.189	1111	10	80.2	80	120	
As	75	3	72	4.936	ppb	10.129	406	5	98.7	80	120	
Se	78	2	72	5.470	ppb	3.442	234	5	109.4	80	120	
Sr	88	3	72	4.740	ppb	4.261	2066	5	94.8	80	120	
Mo	95	3	115	2.005	ppb	12.194	713	2	100.3	80	120	
Ag	107	3	115	0.918	ppb	13.992	1040	1	91.8	80	120	
Cd	111	3	115	0.986	ppb	15.728	175	1	98.6	80	120	
Sn	120	3	115	8.961	ppb	3.304	5508	10	89.6	80	120	
Sb	121	3	115	2.027	ppb	7.593	1141	2	101.3	80	120	
Ba	137	3	115	0.763	ppb	29.698	175	1	76.3	80	120	>+/-30%
Tl	205	3	193	0.931	ppb	4.430	3345	1	93.1	80	120	
(Pb)	206	3	193	0.861	ppb	10.444	855	1	86.1	80	120	
(Pb)	207	3	193	0.991	ppb	17.696	980	1	99.1	80	120	
Pb	208	3	193	0.934	ppb	7.982	3848	1	93.4	80	120	
Th	232	3	193	1.089	ppb	4.906	6929	1	108.9	80	120	
U	238	3	193	0.956	ppb	4.178	4747	1	95.6	80	120	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc (IS)	45	2	HMI H2	3910928	7.60	4310734	90.73	60	120	
Sc (IS)	45	3	HMI He	465960	0.95	459279	101.45	60	120	
Ge Internal standard	72	2	HMI H2	2153822	8.94	2297501	93.75	60	120	
Ge Internal standard	72	3	HMI He	528208	1.78	526720	100.28	60	120	
In Internal Standard	115	3	HMI He	2197656	0.41	2167160	101.41	60	120	
Ir (IS)	193	3	HMI He	3831868	0.97	3743555	102.36	60	120	

CRI Report

Sample Table

Sample Name	CRI-
Data File Name	034LICV.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\79_122123.b
Acq Date Time	2023-12-21T13:41:19-07:00
Sample Type	LLICV
Dilution	1
Comment	
ISTD Ref File Name	028CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	Units	Conc %RSD	CPS	Exp Value	%Rec	%Low	%High2	QC Flag
Be	9	2	6	0.012	ppb	944.051	6	1	1.2	80	120	>+/-30%
Na	23	3	45	5.587	ppb	1182.405	39070	300	1.9	80	120	>+/-30%
Mg	24	3	45	1.878	ppb	140.438	237	50	3.8	80	120	>+/-30%
Al	27	3	45	0.127	ppb	1751.430	190	50	0.3	80	120	>+/-30%
K	39	3	45	490.310	ppb	34.835	52397	120	408.6	80	120	>+/-30%
Ca	40	2	45	5.645	ppb	100.588	23306	200	2.8	80	120	>+/-30%
V	51	3	72	0.153	ppb	52.472	298	5	3.1	80	120	>+/-30%
Cr	52	3	72	-0.104	ppb	-215.129	720	2	-5.2	80	120	>+/-30%
Mn	55	3	72	-0.014	ppb	-1545.797	143	1	-1.4	80	120	>+/-30%
Fe	56	2	72	-2.560	ppb	-35.708	18438	50	-5.1	80	120	>+/-30%
Co	59	3	72	0.020	ppb	20.757	73	1	2.0	80	120	>+/-30%
Ni	60	3	72	-0.085	ppb	-228.131	93	2	-4.3	80	120	>+/-30%
Cu	63	3	72	-0.022	ppb	-309.164	436	2	-1.1	80	120	>+/-30%
Zn	66	3	72	-0.307	ppb	-264.409	193	10	-3.1	80	120	>+/-30%
As	75	3	72	-0.081	ppb	-215.942	20	5	-1.6	80	120	>+/-30%
Se	78	2	72	-0.011	ppb	-472.364	2	5	-0.2	80	120	>+/-30%
Sr	88	3	72	-0.009	ppb	-243.667	27	5	-0.2	80	120	>+/-30%
Mo	95	3	115	-0.041	ppb	-61.595	13	2	-2.1	80	120	>+/-30%
Ag	107	3	115	0.005	ppb	232.712	25	1	0.5	80	120	>+/-30%
Cd	111	3	115	0.069	ppb	118.151	18	1	6.9	80	120	>+/-30%
Sn	120	3	115	0.019	ppb	922.408	491	10	0.2	80	120	>+/-30%
Sb	121	3	115	-0.052	ppb	-65.996	55	2	-2.6	80	120	>+/-30%
Ba	137	3	115	2.764	ppb	8.828	526	1	276.4	80	120	>+/-30%
Tl	205	3	193	-0.039	ppb	-93.928	806	1	-3.9	80	120	>+/-30%
(Pb)	206	3	193	0.009	ppb	357.030	118	1	0.9	80	120	>+/-30%
(Pb)	207	3	193	-0.017	ppb	-308.713	217	1	-1.7	80	120	>+/-30%
Pb	208	3	193	-0.003	ppb	-362.745	608	1	-0.3	80	120	>+/-30%
Th	232	3	193	0.029	ppb	232.034	3026	1	2.9	80	120	>+/-30%
U	238	3	193	-0.028	ppb	-23.722	1068	1	-2.8	80	120	>+/-30%

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc (IS)	45	2	HMI H2	4162269	11.82	4310734	96.56	60	120	
Sc (IS)	45	3	HMI He	447972	8.89	459279	97.54	60	120	
Ge Internal standard	72	2	HMI H2	2244960	9.99	2297501	97.71	60	120	
Ge Internal standard	72	3	HMI He	514241	6.21	526720	97.63	60	120	
In Internal Standard	115	3	HMI He	2083755	10.73	2167160	96.15	60	120	
Ir (IS)	193	3	HMI He	3659936	9.20	3743555	97.77	60	120	

CRI Report

Sample Table

Sample Name	CRI-
Data File Name	035LICV.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\79_122123.b
Acq Date Time	2023-12-21T13:44:55-07:00
Sample Type	LLICV
Dilution	1
Comment	
ISTD Ref File Name	028CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	Units	Conc %RSD	CPS	Exp Value	%Rec	%Low	%High2	QC Flag
Be	9	2	6	-0.059	ppb	-115.401	3	1	-5.9	80	120	>+/-30%
Na	23	3	45	-12.521	ppb	-9.113	38795	300	-4.2	80	120	>+/-30%
Mg	24	3	45	1.625	ppb	130.175	237	50	3.3	80	120	>+/-30%
Al	27	3	45	-3.867	ppb	-30.799	130	50	-7.7	80	120	>+/-30%
K	39	3	45	-22.867	ppb	-136.060	35608	120	-19.1	80	120	>+/-30%
Ca	40	2	45	-1.634	ppb	-19.856	18718	200	-0.8	80	120	>+/-30%
V	51	3	72	0.030	ppb	365.339	252	5	0.6	80	120	>+/-30%
Cr	52	3	72	-0.088	ppb	-158.165	738	2	-4.4	80	120	>+/-30%
Mn	55	3	72	-0.060	ppb	-52.720	133	1	-6.0	80	120	>+/-30%
Fe	56	2	72	-3.503	ppb	-6.514	17124	50	-7.0	80	120	>+/-30%
Co	59	3	72	0.001	ppb	1790.674	58	1	0.1	80	120	>+/-30%
Ni	60	3	72	-0.191	ppb	-61.324	72	2	-9.5	80	120	>+/-30%
Cu	63	3	72	-0.136	ppb	-59.059	365	2	-6.8	80	120	>+/-30%
Zn	66	3	72	-1.258	ppb	-19.416	97	10	-12.6	80	120	>+/-30%
As	75	3	72	0.029	ppb	540.290	28	5	0.6	80	120	>+/-30%
Se	78	2	72	0.078	ppb	57.488	6	5	1.6	80	120	>+/-30%
Sr	88	3	72	-0.026	ppb	-47.878	20	5	-0.5	80	120	>+/-30%
Mo	95	3	115	-0.034	ppb	-48.901	17	2	-1.7	80	120	>+/-30%
Ag	107	3	115	0.003	ppb	66.754	23	1	0.3	80	120	>+/-30%
Cd	111	3	115	-0.019	ppb	-186.741	3	1	-1.9	80	120	>+/-30%
Sn	120	3	115	-0.210	ppb	-54.596	381	10	-2.1	80	120	>+/-30%
Sb	121	3	115	0.010	ppb	270.328	87	2	0.5	80	120	>+/-30%
Ba	137	3	115	4.042	ppb	11.576	773	1	404.2	80	120	>+/-30%
Tl	205	3	193	-0.116	ppb	-13.476	638	1	-11.6	80	120	>+/-30%
(Pb)	206	3	193	0.006	ppb	290.204	120	1	0.6	80	120	>+/-30%
(Pb)	207	3	193	-0.013	ppb	-271.853	222	1	-1.3	80	120	>+/-30%
Pb	208	3	193	-0.003	ppb	-108.570	625	1	-0.3	80	120	>+/-30%
Th	232	3	193	-0.011	ppb	-460.960	2969	1	-1.1	80	120	>+/-30%
U	238	3	193	-0.046	ppb	-37.411	1026	1	-4.6	80	120	>+/-30%

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc (IS)	45	2	HMI H2	4206376	1.62	4310734	97.58	60	120	
Sc (IS)	45	3	HMI He	456467	2.03	459279	99.39	60	120	
Ge Internal standard	72	2	HMI H2	2222311	1.36	2297501	96.73	60	120	
Ge Internal standard	72	3	HMI He	518649	1.62	526720	98.47	60	120	
In Internal Standard	115	3	HMI He	2120633	3.85	2167160	97.85	60	120	
Ir (IS)	193	3	HMI He	3746112	1.51	3743555	100.07	60	120	

Sample Report

Sample Table

Sample Name	rinse-8086715
Data File Name	036SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\79_122123.b
Acq Date Time	2023-12-21T13:47:26-07:00
Analyst	Denver Metals
Sample Type	Sample
Dilution	1
Comment	
ISTD Ref FileName	028CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Be	9	2	6	-0.030	ppb	-0.030	-145.96	4	2000	
Na	23	3	45	-5.446	ppb	-5.446	-231.84	38123	400000	
Mg	24	3	45	-1.113	ppb	-1.113	-39.25	130	400000	
Al	27	3	45	2.144	ppb	2.144	192.26	220	400000	
K	39	3	45	13.018	ppb	13.018	339.47	35765	400000	
Ca	40	2	45	1.194	ppb	1.194	64.66	20633	400000	
V	51	3	72	0.242	ppb	0.242	15.07	333	2000	
Cr	52	3	72	0.105	ppb	0.105	118.80	823	5000	
Mn	55	3	72	-0.082	ppb	-0.082	-191.88	125	10000	
Fe	56	2	72	-0.867	ppb	-0.867	-76.42	20837	10000	
Co	59	3	72	0.033	ppb	0.033	85.74	83	2000	
Ni	60	3	72	-0.096	ppb	-0.096	-73.36	92	5000	
Cu	63	3	72	-0.107	ppb	-0.107	-33.36	378	5000	
Zn	66	3	72	-0.580	ppb	-0.580	-77.08	167	5000	
As	75	3	72	0.057	ppb	0.057	362.39	30	2000	
Se	78	2	72	0.090	ppb	0.090	74.20	7	2000	
Sr	88	3	72	0.015	ppb	0.015	258.53	37	4000	
Mo	95	3	115	0.009	ppb	0.009	188.94	30	2000	
Ag	107	3	115	-0.006	ppb	-0.006	-208.26	13	100	
Cd	111	3	115	-0.030	ppb	-0.030	-58.75	2	2000	
Sn	120	3	115	0.265	ppb	0.265	146.66	633	2000	
Sb	121	3	115	-0.031	ppb	-0.031	-97.86	65	1000	
Ba	137	3	115	-0.023	ppb	-0.023	-74.44	23	5000	
Tl	205	3	193	-0.067	ppb	-0.067	-65.33	728	2000	
(Pb)	206	3	193	0.014	ppb	0.014	171.26	122	100	
(Pb)	207	3	193	-0.063	ppb	-0.063	-91.67	177	100	
Pb	208	3	193	-0.013	ppb	-0.013	-127.32	565	5000	
Th	232	3	193	0.001	ppb	0.001	4513.16	2892	2000	
U	238	3	193	-0.033	ppb	-0.033	-63.11	1031	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc (IS)	45	2	HMI H2	4189617	0.99	4310734	97.19	60	120	
Sc (IS)	45	3	HMI He	442912	2.19	459279	96.44	60	120	
Ge Internal standard	72	2	HMI H2	2259874	1.04	2297501	98.36	60	120	
Ge Internal standard	72	3	HMI He	511126	1.10	526720	97.04	60	120	
In Internal Standard	115	3	HMI He	2089820	3.06	2167160	96.43	60	120	
Ir (IS)	193	3	HMI He	3603021	6.01	3743555	96.25	60	120	

Sample Report

Sample Table

Sample Name	rinse-8086715
Data File Name	037SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\79_122123.b
Acq Date Time	2023-12-21T13:49:49-07:00
Analyst	Denver Metals
Sample Type	Sample
Dilution	1
Comment	
ISTD Ref FileName	028CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Fail

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Be	9	2	6	-0.067	ppb	-0.067	-19.81	5	2000	
Na	23	3	45	-344.208	ppb	-344.208	-2.04	35477	400000	
Mg	24	3	45	-3.320	ppb	-3.320	-4.96	120	400000	
Al	27	3	45	-3.127	ppb	-3.127	-44.40	334	400000	
K	39	3	45	-625.660	ppb	-625.660	-4.74	33554	400000	
Ca	40	2	45	-17.771	ppb	-17.771	-1.21	14462	400000	
V	51	3	72	-0.422	ppb	-0.422	-6.89	155	2000	
Cr	52	3	72	-0.976	ppb	-0.976	-1.81	660	5000	
Mn	55	3	72	-0.338	ppb	-0.338	-10.28	120	10000	
Fe	56	2	72	-6.364	ppb	-6.364	-5.48	26572	10000	
Co	59	3	72	-0.014	ppb	-0.014	-130.87	107	2000	
Ni	60	3	72	-0.341	ppb	-0.341	-6.54	85	5000	
Cu	63	3	72	-0.350	ppb	-0.350	-4.75	518	5000	
Zn	66	3	72	-1.566	ppb	-1.566	-3.29	145	5000	
As	75	3	72	-0.135	ppb	-0.135	-37.79	37	2000	
Se	78	2	72	-0.020	ppb	-0.020	-65.26	3	2000	
Sr	88	3	72	-0.050	ppb	-0.050	-7.36	23	4000	
Mo	95	3	115	-0.073	ppb	-0.073	-5.60	8	2000	
Ag	107	3	115	-0.014	ppb	-0.014	-27.77	10	100	
Cd	111	3	115	-0.031	ppb	-0.031	-25.29	3	2000	
Sn	120	3	115	-0.704	ppb	-0.704	-5.14	265	2000	
Sb	121	3	115	-0.069	ppb	-0.069	-15.28	107	1000	
Ba	137	3	115	-0.063	ppb	-0.063	-25.39	37	5000	
Tl	205	3	193	-0.259	ppb	-0.259	-2.21	623	2000	
(Pb)	206	3	193	-0.039	ppb	-0.039	-42.83	185	100	
(Pb)	207	3	193	-0.101	ppb	-0.101	-23.61	355	100	
Pb	208	3	193	-0.069	ppb	-0.069	-21.93	905	5000	
Th	232	3	193	0.017	ppb	0.017	209.29	6917	2000	
U	238	3	193	-0.014	ppb	-0.014	-168.69	2566	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc (IS)	45	2	HMI H2	8348095	2.44	4310734	193.66	60	120	IS Failed
Sc (IS)	45	3	HMI He	1072215	3.69	459279	233.46	60	120	IS Failed
Ge Internal standard	72	2	HMI H2	4383773	1.41	2297501	190.81	60	120	IS Failed
Ge Internal standard	72	3	HMI He	1188658	3.49	526720	225.67	60	120	IS Failed
In Internal Standard	115	3	HMI He	4790310	4.25	2167160	221.04	60	120	IS Failed
Ir (IS)	193	3	HMI He	8438794	0.87	3743555	225.42	60	120	IS Failed

Sample Report

Sample Table

Sample Name	rinse-8086715
Data File Name	038SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\79_122123.b
Acq Date Time	2023-12-21T13:52:06-07:00
Analyst	Denver Metals
Sample Type	Sample
Dilution	1
Comment	
ISTD Ref FileName	028CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Fail

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Be	9	2	6	0.015	ppb	0.015	151.13	7	2000	
Na	23	3	45	17.755	ppb	17.755	41.10	49070	400000	
Mg	24	3	45	118.457	ppb	118.457	2.74	5530	400000	
Al	27	3	45	-0.188	ppb	-0.188	-1768.10	227	400000	
K	39	3	45	-196.290	ppb	-196.290	-30.07	35297	400000	
Ca	40	2	45	49.815	ppb	49.815	0.86	66544	400000	
V	51	3	72	-0.278	ppb	-0.278	-26.79	152	2000	
Cr	52	3	72	-0.325	ppb	-0.325	-40.44	741	5000	
Mn	55	3	72	0.503	ppb	0.503	36.98	356	10000	
Fe	56	2	72	2.648	ppb	2.648	18.74	30705	10000	
Co	59	3	72	0.009	ppb	0.009	82.91	78	2000	
Ni	60	3	72	-0.157	ppb	-0.157	-107.57	95	5000	
Cu	63	3	72	-0.210	ppb	-0.210	-30.80	380	5000	
Zn	66	3	72	-0.979	ppb	-0.979	-25.23	152	5000	
As	75	3	72	-0.053	ppb	-0.053	-297.22	27	2000	
Se	78	2	72	0.065	ppb	0.065	65.02	7	2000	
Sr	88	3	72	0.769	ppb	0.769	16.33	426	4000	
Mo	95	3	115	0.012	ppb	0.012	433.85	38	2000	
Ag	107	3	115	-0.004	ppb	-0.004	-101.56	18	100	
Cd	111	3	115	0.001	ppb	0.001	2063.65	8	2000	
Sn	120	3	115	-0.570	ppb	-0.570	-19.13	230	2000	
Sb	121	3	115	-0.073	ppb	-0.073	-11.58	55	1000	
Ba	137	3	115	-0.025	ppb	-0.025	-490.88	28	5000	
Tl	205	3	193	-0.146	ppb	-0.146	-4.20	676	2000	
(Pb)	206	3	193	0.043	ppb	0.043	131.59	182	100	
(Pb)	207	3	193	-0.053	ppb	-0.053	-45.52	232	100	
Pb	208	3	193	-0.005	ppb	-0.005	-344.93	743	5000	
Th	232	3	193	0.058	ppb	0.058	35.84	3860	2000	
U	238	3	193	0.018	ppb	0.018	45.84	1509	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc (IS)	45	2	HMI H2	5075696	1.17	4310734	117.75	60	120	
Sc (IS)	45	3	HMI He	546927	0.86	459279	119.08	60	120	
Ge Internal standard	72	2	HMI H2	2731608	2.16	2297501	118.89	60	120	
Ge Internal standard	72	3	HMI He	622472	0.25	526720	118.18	60	120	
In Internal Standard	115	3	HMI He	2572914	0.41	2167160	118.72	60	120	
Ir (IS)	193	3	HMI He	4505297	3.01	3743555	120.35	60	120	IS Failed

Calibration Blank Report

Sample Table

Sample Name2	ICIS-8123133
Data File Name	039CALB.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\79_122123.b
Method	
Acq Date Time	2023-12-21T13:54:19-07:00
Sample Type	CalBlk
Level	1
Dilution	1
Comment	

QC Analyte Table

Name	Mass	I.S	Tune Step	Tune Mode	CPS	%RSD
Be	9	6	2	HMI H2	4	2165.06
Na	23	45	3	HMI He	36570	0.00
Mg	24	45	3	HMI He	133	19.73
Al	27	45	3	HMI He	194	13.45
K	39	45	3	HMI He	34982	0.01
Ca	40	45	2	HMI H2	19894	0.01
V	51	72	3	HMI He	267	2.15
Cr	52	72	3	HMI He	728	0.93
Mn	55	72	3	HMI He	147	10.49
Fe	56	72	2	HMI H2	21147	0.01
Co	59	72	3	HMI He	60	48.12
Ni	60	72	3	HMI He	128	14.35
Cu	63	72	3	HMI He	396	0.18
Zn	66	72	3	HMI He	208	7.50
As	75	72	3	HMI He	35	177.96
Se	78	72	2	HMI H2	5	811.90
(Se)	78	72	3	HMI He	27	226.17
Sr	88	72	3	HMI He	38	85.67
Mo	95	115	3	HMI He	10	499.83
Ag	107	115	3	HMI He	8	1100.07
Cd	111	115	3	HMI He	8	1100.07
Sn	120	115	3	HMI He	458	0.96
Sb	121	115	3	HMI He	63	25.96
Ba	137	115	3	HMI He	17	374.80
Tl	205	193	3	HMI He	665	1.57
(Pb)	206	193	3	HMI He	123	18.11
(Pb)	207	193	3	HMI He	215	5.73
Pb	208	193	3	HMI He	601	0.92
Th	232	193	3	HMI He	2996	0.19
U	238	193	3	HMI He	1090	0.56

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD
Sc (IS)	45	2	HMI H2	4176342	3.07
Sc (IS)	45	3	HMI He	454432	2.12
Ge Internal standard	72	2	HMI H2	2219876	1.94
Ge Internal standard	72	3	HMI He	521662	1.85
In Internal Standard	115	3	HMI He	2121087	2.23
Ir (IS)	193	3	HMI He	3821950	3.80

Calibration Standard Report

Sample Table

Sample Name	IC-8123135
Data File Name	040CALS.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\79_122123.b
Acq Date Time	2023-12-21T13:56:34-07:00
Sample Type	CalStd
Level	4
Dilution	1
Comment	CAL 4 (Ca. Mg. Na. K .only)
ISTD Ref File Name	039CALB.d
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Concentration	ConcentrationUnits
Be	9	2	HMI H2	5	405.95	0.0263932331659703	ppb
Na	23	3	HMI He	7299178	0.00	100000	ppb
Mg	24	3	HMI He	760112	0.00	20000	ppb
Al	27	3	HMI He	237	7.43	2.10088352394166	ppb
K	39	3	HMI He	757023	0.00	20000	ppb
Ca	40	2	HMI H2	14522298	0.00	20000	ppb
V	51	3	HMI He	325	3.32	0.141562142817159	ppb
Cr	52	3	HMI He	828	0.66	0.192001132504564	ppb
Mn	55	3	HMI He	128	13.70	-0.0638998090083997	ppb
Co	59	3	HMI He	67	23.43	0.00783210558735745	ppb
Ni	60	3	HMI He	105	9.07	-0.1015555143533	ppb
Cu	63	3	HMI He	418	3.73	0.0319591670106605	ppb
Zn	66	3	HMI He	212	9.36	0.0327801000582644	ppb
As	75	3	HMI He	37	150.35	0.0240325861638517	ppb
Se	78	2	HMI H2	4	2500.00	-0.0307869513464167	ppb
(Se)	78	3	HMI He	28	143.94	0.321267159181445	ppb
Sr	88	3	HMI He	215	1.87	0.415878144991731	ppb
Mo	95	3	HMI He	22	61.55	0.0333683484868177	ppb
Ag	107	3	HMI He	27	162.46	0.0162868058833657	ppb
Cd	111	3	HMI He	10	866.60	0.00944900000656941	ppb
Sn	120	3	HMI He	526	3.00	0.096564067907872	ppb
Sb	121	3	HMI He	80	43.53	0.0287316727967788	ppb
Ba	137	3	HMI He	133	8.12	0.609925847613574	ppb
Tl	205	3	HMI He	635	1.22	-0.0191478829785819	ppb
(Pb)	206	3	HMI He	160	3.38	0.0362251420597678	ppb
(Pb)	207	3	HMI He	270	8.23	0.0628635762052328	ppb
Pb	208	3	HMI He	775	0.55	0.0432755058118458	ppb
Th	232	3	HMI He	3467	0.08	0.101401280753523	ppb
U	238	3	HMI He	1156	0.52	0.00745301943329659	ppb

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc (IS)	45	2	HMI H2	4325814	1.05	4176342	103.58	60	120	
Sc (IS)	45	3	HMI He	473470	3.26	454432	104.19	60	120	
Ge Internal standard	72	2	HMI H2	2219939	1.60	2219876	100.00	60	120	
Ge Internal standard	72	3	HMI He	522513	0.96	521662	100.16	60	120	
In Internal Standard	115	3	HMI He	2184446	2.23	2121087	102.99	60	120	
Ir (IS)	193	3	HMI He	3948274	0.86	3821950	103.31	60	120	

Calibration Standard Report

Sample Table

Sample Name	IC-8123134
Data File Name	041CALS.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\79_122123.b
Acq Date Time	2023-12-21T13:58:47-07:00
Sample Type	CalStd
Level	3
Dilution	1
Comment	CAL (no Ca. Mg. Na. K.)
ISTD Ref File Name	039CALB.d
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Concentration	ConcentrationUnits
Be	9	2	HMI H2	4829	0.03	100	ppb
Na	23	3	HMI He	182565	0.00	2082.06741292534	ppb
Mg	24	3	HMI He	76874	0.00	2092.35471016715	ppb
Al	27	3	HMI He	30982	0.01	2000	ppb
K	39	3	HMI He	105392	0.00	2020.02079583636	ppb
Ca	40	2	HMI H2	1510366	0.00	2138.84078678819	ppb
V	51	3	HMI He	40774	0.00	100	ppb
Cr	52	3	HMI He	50882	0.00	100	ppb
Mn	55	3	HMI He	29860	0.00	100	ppb
Co	59	3	HMI He	83857	0.00	100	ppb
Ni	60	3	HMI He	22847	0.01	100	ppb
Cu	63	3	HMI He	64975	0.00	100	ppb
Zn	66	3	HMI He	10714	0.01	100	ppb
As	75	3	HMI He	7532	0.03	100	ppb
Se	78	2	HMI H2	4597	0.07	100	ppb
(Se)	78	3	HMI He	595	2.38	100	ppb
Sr	88	3	HMI He	84009	0.00	200	ppb
Mo	95	3	HMI He	32222	0.00	100	ppb
Ag	107	3	HMI He	107115	0.00	100	ppb
Cd	111	3	HMI He	16380	0.01	100	ppb
Sn	120	3	HMI He	53838	0.00	100	ppb
Sb	121	3	HMI He	50201	0.00	100	ppb
Ba	137	3	HMI He	18571	0.00	100	ppb
Tl	205	3	HMI He	254100	0.00	100	ppb
(Pb)	206	3	HMI He	85372	0.00	100	ppb
(Pb)	207	3	HMI He	73739	0.00	100	ppb
Pb	208	3	HMI He	339162	0.00	100	ppb
Th	232	3	HMI He	353510	0.00	100	ppb
U	238	3	HMI He	364103	0.00	100	ppb

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc (IS)	45	2	HMI H2	4157121	0.34	4176342	99.54	60	120	
Sc (IS)	45	3	HMI He	456470	1.36	454432	100.45	60	120	
Ge Internal standard	72	2	HMI H2	2288540	0.81	2219876	103.09	60	120	
Ge Internal standard	72	3	HMI He	524676	0.39	521662	100.58	60	120	
In Internal Standard	115	3	HMI He	2133881	2.43	2121087	100.60	60	120	
Ir (IS)	193	3	HMI He	3864509	0.67	3821950	101.11	60	120	

Initial Calibration Verification (ICV) Report

Sample Table

Sample Name	ICV-8123149
Data File Name	042_ICV.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\79_122123.b
Acq Date Time	2023-12-21T14:01:02-07:00
Sample Type	ICV
Dilution	1
Comment	
ISTD Ref File Name	039CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	Conc %RSD	CPS	Exp Value	%Rec	%Low	%High	QC Flag
Be	9	2	6	42.223	ppb	5.063	2060	40	105.6	90	110	
Na	23	3	45	13899.767	ppb	1.918	1025391	12800	108.6	90	110	
Mg	24	3	45	5064.275	ppb	1.479	188675	4800	105.5	90	110	
Al	27	3	45	802.247	ppb	2.724	12729	800	100.3	90	110	
K	39	3	45	4879.739	ppb	1.566	207852	4800	101.7	90	110	
Ca	40	2	45	5229.998	ppb	1.644	3666926	4800	109.0	90	110	
V	51	3	72	40.942	ppb	1.247	16775	40	102.4	90	110	
Cr	52	3	72	41.765	ppb	1.840	21576	40	104.4	90	110	
Mn	55	3	72	41.119	ppb	4.333	12306	40	102.8	90	110	
Fe	56	2	72	849.608	ppb	2.947	1196609	800	106.2	90	110	
Co	59	3	72	40.692	ppb	2.017	34000	40	101.7	90	110	
Ni	60	3	72	39.839	ppb	1.519	9137	40	99.6	90	110	
Cu	63	3	72	40.065	ppb	1.071	26150	40	100.2	90	110	
Zn	66	3	72	82.123	ppb	2.045	8795	80	102.7	90	110	
As	75	3	72	40.236	ppb	4.465	3037	40	100.6	90	110	
Se	78	2	72	42.820	ppb	3.923	1927	40	107.0	90	110	
Sr	88	3	72	123.568	ppb	1.013	51677	120	103.0	90	110	
Mo	95	3	115	41.506	ppb	1.423	13525	40	103.8	90	110	
Ag	107	3	115	81.211	ppb	1.925	87939	80	101.5	90	110	
Cd	111	3	115	40.081	ppb	2.477	6643	40	100.2	90	110	
Sn	120	3	115	39.535	ppb	2.403	21794	40	98.8	90	110	
Sb	121	3	115	42.341	ppb	1.604	21528	40	105.9	90	110	
Ba	137	3	115	40.351	ppb	1.260	7585	40	100.9	90	110	
Tl	205	3	193	40.965	ppb	2.004	103485	40	102.4	90	110	
(Pb)	206	3	193	43.197	ppb	2.451	36598	40	108.0	90	110	
(Pb)	207	3	193	39.978	ppb	1.403	29326	40	99.9	90	110	
Pb	208	3	193	41.651	ppb	0.720	140266	40	104.1	90	110	
Th	232	3	193	82.658	ppb	0.864	289940	80	103.3	90	110	
U	238	3	193	41.684	ppb	1.052	150953	40	104.2	90	110	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc (IS)	45	2	HMI H2	4160310	1.62	4176342	99.62	60	120	
Sc (IS)	45	3	HMI He	463297	1.94	454432	101.95	60	120	
Ge Internal standard	72	2	HMI H2	2236843	2.16	2219876	100.76	60	120	
Ge Internal standard	72	3	HMI He	522243	0.86	521662	100.11	60	120	
In Internal Standard	115	3	HMI He	2156218	0.49	2121087	101.66	60	120	
Ir (IS)	193	3	HMI He	3827284	0.48	3821950	100.14	60	120	

Initial Calibration Blank (ICB) Report

Sample Table

Sample Name	ICB-8123133
Data File Name	043_ICB.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\79_122123.b
Acq Date Time	2023-12-21T14:07:37-07:00
Sample Type	ICB
Dilution	1
Comment	
ISTD Ref File Name	039CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Conc	Units	Conc %RSD	CPS	Upper Limit	QC Flag
Be	9	2	0.083	ppb	1.3	8	0.5	
Na	23	3	19.760	ppb	15.5	38196	25	
Mg	24	3	0.148	ppb	489.8	140	25	
Al	27	3	0.967	ppb	509.7	210	15	
K	39	3	14.716	ppb	293.3	35711	50	
V	51	3	0.105	ppb	81.9	305	1	
Cr	52	3	0.199	ppb	83.5	818	1	
Mn	55	3	-0.075	ppb	-31.8	123	0.5	
Co	59	3	0.011	ppb	172.5	68	0.5	
Ni	60	3	-0.186	ppb	-32.3	85	1	
Cu	63	3	0.015	ppb	689.3	401	1	
Zn	66	3	-0.165	ppb	-94.8	188	5	
As	75	3	-0.129	ppb	-49.8	25	1	
Se	78	2	-0.030	ppb	-6.2	4	1	
Sr	88	3	-0.019	ppb	-59.3	30	0.5	
Mo	95	3	0.011	ppb	454.0	13	0.5	
Ag	107	3	0.048	ppb	67.3	60	1	
Cd	111	3	-0.020	ppb	-151.8	5	0.5	
Sn	120	3	-0.140	ppb	-59.9	388	1	
Sb	121	3	0.072	ppb	43.9	100	0.6	
Ba	137	3	-0.010	ppb	-252.8	15	0.5	
Tl	205	3	-0.035	ppb	-104.9	558	0.1	
(Pb)	206	3	-0.004	ppb	-851.5	117	1	
(Pb)	207	3	0.023	ppb	57.1	225	1	
Pb	208	3	0.012	ppb	87.2	625	0.5	
Th	232	3	0.394	ppb	5.0	4239	1	
U	238	3	0.025	ppb	73.4	1148	0.5	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc (IS)	45	2	HMI H2	4235361	1.75	4176342	101.41	60	120	
Sc (IS)	45	3	HMI He	457207	1.34	454432	100.61	60	120	
Ge Internal standard	72	2	HMI H2	2229203	2.12	2219876	100.42	60	120	
Ge Internal standard	72	3	HMI He	515297	1.05	521662	98.78	60	120	
In Internal Standard	115	3	HMI He	2141502	3.05	2121087	100.96	60	120	
Ir (IS)	193	3	HMI He	3709435	1.79	3821950	97.06	60	120	

CRI Report

Sample Table

Sample Name	CRI-8123150
Data File Name	044LICV.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\79_122123.b
Acq Date Time	2023-12-21T14:10:02-07:00
Sample Type	LLICV
Dilution	1
Comment	
ISTD Ref File Name	039CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	Units	Conc %RSD	CPS	Exp Value	%Rec	%Low	%High2	QC Flag
Be	9	2	6	1.144	ppb	11.109	61	1	114.4	80	120	
Na	23	3	45	326.696	ppb	12.863	57346	300	108.9	80	120	
Mg	24	3	45	53.474	ppb	15.636	2012	50	106.9	80	120	
Al	27	3	45	54.418	ppb	19.168	994	50	108.8	80	120	
K	39	3	45	165.776	ppb	15.277	39368	120	138.1	80	120	>+/-30%
Ca	40	2	45	189.460	ppb	5.519	157629	200	94.7	80	120	
V	51	3	72	5.292	ppb	7.003	2316	5	105.8	80	120	
Cr	52	3	72	2.259	ppb	6.480	1791	2	112.9	80	120	
Mn	55	3	72	1.004	ppb	10.002	428	1	100.4	80	120	
Fe	56	2	72	45.102	ppb	4.061	85615	50	90.2	80	120	
Co	59	3	72	1.057	ppb	8.265	910	1	105.7	80	120	
Ni	60	3	72	1.885	ppb	4.562	535	2	94.2	80	120	
Cu	63	3	72	2.201	ppb	8.983	1746	2	110.1	80	120	
Zn	66	3	72	9.296	ppb	6.802	1138	10	93.0	80	120	
As	75	3	72	5.064	ppb	3.747	398	5	101.3	80	120	
Se	78	2	72	4.281	ppb	1.482	202	5	85.6	80	120	
Sr	88	3	72	4.823	ppb	7.966	1979	5	96.5	80	120	
Mo	95	3	115	1.964	ppb	9.485	618	2	98.2	80	120	
Ag	107	3	115	1.122	ppb	5.572	1163	1	112.2	80	120	
Cd	111	3	115	0.858	ppb	31.264	143	1	85.8	80	120	
Sn	120	3	115	9.772	ppb	7.280	5448	10	97.7	80	120	
Sb	121	3	115	2.154	ppb	1.381	1100	2	107.7	80	120	
Ba	137	3	115	0.824	ppb	19.265	163	1	82.4	80	120	
Tl	205	3	193	1.002	ppb	2.814	3077	1	100.2	80	120	
(Pb)	206	3	193	0.996	ppb	20.991	930	1	99.6	80	120	
(Pb)	207	3	193	0.973	ppb	6.942	893	1	97.3	80	120	
Pb	208	3	193	1.008	ppb	11.655	3843	1	100.8	80	120	
Th	232	3	193	1.213	ppb	16.949	6962	1	121.3	80	120	>+/-30%
U	238	3	193	1.088	ppb	11.005	4832	1	108.8	80	120	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc (IS)	45	2	HMI H2	4319170	2.62	4176342	103.42	60	120	
Sc (IS)	45	3	HMI He	439543	4.15	454432	96.72	60	120	
Ge Internal standard	72	2	HMI H2	2288030	2.13	2219876	103.07	60	120	
Ge Internal standard	72	3	HMI He	503823	2.45	521662	96.58	60	120	
In Internal Standard	115	3	HMI He	2049825	2.60	2121087	96.64	60	120	
Ir (IS)	193	3	HMI He	3706147	4.99	3821950	96.97	60	120	

CRI Report

Sample Table

Sample Name	CRI-
Data File Name	045LICV.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\79_122123.b
Acq Date Time	2023-12-21T14:13:16-07:00
Sample Type	LLICV
Dilution	1
Comment	
ISTD Ref File Name	039CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	Units	Conc %RSD	CPS	Exp Value	%Rec	%Low	%High2	QC Flag
Be	9	2	6	-0.043	ppb	-1.389	2	1	-4.3	80	120	>+/-30%
Na	23	3	45	13.249	ppb	173.308	36423	300	4.4	80	120	>+/-30%
Mg	24	3	45	0.543	ppb	119.680	150	50	1.1	80	120	>+/-30%
Al	27	3	45	-0.443	ppb	-768.503	180	50	-0.9	80	120	>+/-30%
K	39	3	45	526.764	ppb	29.143	51573	120	439.0	80	120	>+/-30%
Ca	40	2	45	3.147	ppb	32.750	23309	200	1.6	80	120	>+/-30%
V	51	3	72	0.148	ppb	116.886	320	5	3.0	80	120	>+/-30%
Cr	52	3	72	-0.043	ppb	-271.468	696	2	-2.2	80	120	>+/-30%
Mn	55	3	72	-0.048	ppb	-185.176	130	1	-4.8	80	120	>+/-30%
Fe	56	2	72	-2.687	ppb	-6.840	18284	50	-5.4	80	120	>+/-30%
Co	59	3	72	-0.013	ppb	-115.648	48	1	-1.3	80	120	>+/-30%
Ni	60	3	72	-0.147	ppb	-8.603	93	2	-7.3	80	120	>+/-30%
Cu	63	3	72	-0.022	ppb	-193.033	376	2	-1.1	80	120	>+/-30%
Zn	66	3	72	-0.218	ppb	-200.073	182	10	-2.2	80	120	>+/-30%
As	75	3	72	-0.154	ppb	-137.554	23	5	-3.1	80	120	>+/-30%
Se	78	2	72	-0.049	ppb	-134.796	3	5	-1.0	80	120	>+/-30%
Sr	88	3	72	-0.003	ppb	-1276.323	37	5	-0.1	80	120	>+/-30%
Mo	95	3	115	0.010	ppb	79.154	13	2	0.5	80	120	>+/-30%
Ag	107	3	115	0.017	ppb	46.752	27	1	1.7	80	120	>+/-30%
Cd	111	3	115	-0.041	ppb	-41.441	2	1	-4.1	80	120	>+/-30%
Sn	120	3	115	-0.004	ppb	-1109.437	455	10	0.0	80	120	>+/-30%
Sb	121	3	115	0.055	ppb	107.577	90	2	2.7	80	120	>+/-30%
Ba	137	3	115	0.054	ppb	67.388	27	1	5.4	80	120	>+/-30%
Tl	205	3	193	-0.047	ppb	-44.584	531	1	-4.7	80	120	>+/-30%
(Pb)	206	3	193	0.017	ppb	99.979	135	1	1.7	80	120	>+/-30%
(Pb)	207	3	193	-0.058	ppb	-30.150	168	1	-5.8	80	120	>+/-30%
Pb	208	3	193	0.000	ppb	4636.987	588	1	0.0	80	120	>+/-30%
Th	232	3	193	0.018	ppb	412.351	2999	1	1.8	80	120	>+/-30%
U	238	3	193	0.020	ppb	102.434	1139	1	2.0	80	120	>+/-30%

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc (IS)	45	2	HMI H2	4405468	1.32	4176342	105.49	60	120	
Sc (IS)	45	3	HMI He	441952	5.71	454432	97.25	60	120	
Ge Internal standard	72	2	HMI H2	2324989	0.26	2219876	104.74	60	120	
Ge Internal standard	72	3	HMI He	512784	3.67	521662	98.30	60	120	
In Internal Standard	115	3	HMI He	2118519	4.15	2121087	99.88	60	120	
Ir (IS)	193	3	HMI He	3732669	4.47	3821950	97.66	60	120	

Interference Check Solution A (ICS-A) Report

Sample Table

Sample Name	ICSA-8120928
Data File Name	046ICSA.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\79_122123.b
Acq Date Time	2023-12-21T14:15:30-07:00
Sample Type	ICSA
Dilution	1
Comment	
ISTD Ref File Name	039CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	Units	Conc %RSD	CPS	Upper Limit	QC Flag
Be	9	2	6	0.021	ppb	107.4	5	0.5	
Na	23	3	45	104007.363	ppb	14.1	7418048	100000	>RL or LOD
Mg	24	3	45	107039.832	ppb	18.6	3965426	100000	>RL or LOD
Al	27	3	45	106306.311	ppb	19.1	1652599	100000	>RL or LOD
K	39	3	45	101566.383	ppb	12.3	3619651	100000	>RL or LOD
Ca	40	2	45	95964.804	ppb	1.9	71580714	100000	
V	51	3	72	0.307	ppb	43.8	400	1	
Cr	52	3	72	1.679	ppb	29.2	1599	1	>RL or LOD
Mn	55	3	72	0.429	ppb	29.8	280	0.95	
Fe	56	2	72	94712.867	ppb	2.3	137255964	100000	
Co	59	3	72	0.204	ppb	20.3	235	0.5	
Ni	60	3	72	0.511	ppb	74.8	247	1	
Cu	63	3	72	0.184	ppb	30.8	531	1	
Zn	66	3	72	1.024	ppb	20.1	323	1	>RL or LOD
As	75	3	72	0.075	ppb	267.2	42	1	
Se	78	2	72	-0.021	ppb	-230.1	5	1	
(Se)	78	3	72	3.143	ppb	71.1	45	1	>RL or LOD
Sr	88	3	72	0.820	ppb	5.3	391	1	
Mo	95	3	115	2084.665	ppb	18.9	673015	2000	>RL or LOD
Ag	107	3	115	0.042	ppb	44.3	53	1	
Cd	111	3	115	0.121	ppb	61.2	28	1	
Sn	120	3	115	0.416	ppb	47.5	686	1	
Sb	121	3	115	0.135	ppb	32.4	135	1	
Ba	137	3	115	1.847	ppb	24.5	360	0.95	>RL or LOD
Tl	205	3	193	-0.036	ppb	-48.5	568	1	
(Pb)	206	3	193	0.166	ppb	35.6	260	1	
(Pb)	207	3	193	0.121	ppb	62.2	298	1	
Pb	208	3	193	0.158	ppb	24.7	1118	1	
Th	232	3	193	0.113	ppb	18.8	3367	1	
U	238	3	193	0.020	ppb	80.6	1154	1	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc (IS)	45	2	HMI H2	4448960	1.49	4176342	106.53	60	120	
Sc (IS)	45	3	HMI He	466721	9.85	454432	102.70	60	120	
Ge Internal standard	72	2	HMI H2	2342576	1.67	2219876	105.53	60	120	
Ge Internal standard	72	3	HMI He	536749	6.91	521662	102.89	60	120	
In Internal Standard	115	3	HMI He	2166598	10.51	2121087	102.15	60	120	
Ir (IS)	193	3	HMI He	3800032	8.30	3821950	99.43	60	120	

Interference Check Solution AB (ICS-AB) Report

Sample Table

Sample Name	ICSAB-8120929
Data File Name	047ICSB.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\79_122123.b
Acq Date Time	2023-12-21T14:17:41-07:00
Sample Type	ICSB
Dilution	1
Comment	
ISTD Ref File Name	039CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	Units	Conc %RSD	CPS	Exp Value	%Rec	%Low	%High	QC Flag
Be	9	2	6	100.108	ppb	1.905	4962	100	100.1	80	120	
Na	23	3	45	109037.555	ppb	1.272	7850796	100	109037.6	80	120	>+\-20%
Mg	24	3	45	111960.137	ppb	1.880	4201037	100	111960.1	80	120	>+\-20%
Al	27	3	45	105510.174	ppb	1.596	1661985	100	105510.2	80	120	>+\-20%
K	39	3	45	107217.197	ppb	0.767	3850282	100	107217.2	80	120	>+\-20%
Ca	40	2	45	107038.962	ppb	1.963	77949154	100	107039.0	80	120	>+\-20%
V	51	3	72	99.939	ppb	1.250	42149	100	99.9	80	120	
Cr	52	3	72	102.832	ppb	0.386	54099	100	102.8	80	120	
Mn	55	3	72	100.081	ppb	0.936	30912	100	100.1	80	120	
Fe	56	2	72	99004.643	ppb	2.190	142522137	100	99004.6	80	120	>+\-20%
Co	59	3	72	97.734	ppb	1.720	84779	100	97.7	80	120	
Ni	60	3	72	98.767	ppb	1.489	23345	100	98.8	80	120	
Cu	63	3	72	98.336	ppb	0.228	66096	100	98.3	80	120	
Zn	66	3	72	98.605	ppb	1.637	10931	100	98.6	80	120	
As	75	3	72	99.458	ppb	2.338	7748	100	99.5	80	120	
Se	78	2	72	104.014	ppb	2.162	4860	100	104.0	80	120	
(Se)	78	3	72	94.560	ppb	6.145	583	100	94.6	80	120	
Sr	88	3	72	204.110	ppb	0.887	88685	100	204.1	80	120	>+\-20%
Mo	95	3	115	2144.740	ppb	2.199	707754	100	2144.7	80	120	>+\-20%
Ag	107	3	115	100.796	ppb	1.689	110627	100	100.8	80	120	
Cd	111	3	115	99.510	ppb	4.284	16700	100	99.5	80	120	
Sn	120	3	115	103.408	ppb	2.627	57010	100	103.4	80	120	
Sb	121	3	115	108.046	ppb	1.779	55574	100	108.0	80	120	
Ba	137	3	115	102.133	ppb	3.282	19430	100	102.1	80	120	
Tl	205	3	193	103.333	ppb	3.789	265511	100	103.3	80	120	
(Pb)	206	3	193	105.792	ppb	2.833	91344	100	105.8	80	120	
(Pb)	207	3	193	100.179	ppb	2.879	74715	100	100.2	80	120	
Pb	208	3	193	102.849	ppb	2.720	352796	100	102.8	80	120	
Th	232	3	193	102.856	ppb	3.382	367664	100	102.9	80	120	
U	238	3	193	103.975	ppb	3.566	382811	100	104.0	80	120	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc (IS)	45	2	HMI H2	4343678	1.52	4176342	104.01	60	120	
Sc (IS)	45	3	HMI He	466989	0.79	454432	102.76	60	120	
Ge Internal standard	72	2	HMI H2	2326835	1.12	2219876	104.82	60	120	
Ge Internal standard	72	3	HMI He	542705	0.44	521662	104.03	60	120	
In Internal Standard	115	3	HMI He	2185726	1.43	2121087	103.05	60	120	
Ir (IS)	193	3	HMI He	3910099	2.35	3821950	102.31	60	120	

Sample Report

Sample Table

Sample Name	rinse
Data File Name	048SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\79_122123.b
Acq Date Time	2023-12-21T14:19:53-07:00
Analyst	Denver Metals
Sample Type	Sample
Dilution	1
Comment	
ISTD Ref FileName	039CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Be	9	2	6	0.014	ppb	0.014	170.39	5	2000	
Na	23	3	45	21.733	ppb	21.733	18.76	38012	400000	
Mg	24	3	45	11.935	ppb	11.935	21.53	567	400000	
Al	27	3	45	12.917	ppb	12.917	9.57	390	400000	
K	39	3	45	47.709	ppb	47.709	81.77	36544	400000	
Ca	40	2	45	13.135	ppb	13.135	3.03	29073	400000	
V	51	3	72	0.449	ppb	0.449	10.51	445	2000	
Cr	52	3	72	0.049	ppb	0.049	217.88	750	5000	
Mn	55	3	72	-0.135	ppb	-0.135	-97.87	107	10000	
Fe	56	2	72	13.274	ppb	13.274	8.09	40118	10000	
Co	59	3	72	0.016	ppb	0.016	199.60	73	2000	
Ni	60	3	72	-0.152	ppb	-0.152	-66.62	93	5000	
Cu	63	3	72	-0.069	ppb	-0.069	-133.23	350	5000	
Zn	66	3	72	-0.627	ppb	-0.627	-22.50	142	5000	
As	75	3	72	-0.018	ppb	-0.018	-588.56	33	2000	
Se	78	2	72	-0.017	ppb	-0.017	-541.64	5	2000	
Sr	88	3	72	-0.015	ppb	-0.015	-52.10	32	4000	
Mo	95	3	115	1.842	ppb	1.842	4.31	606	2000	
Ag	107	3	115	0.049	ppb	0.049	33.12	62	100	
Cd	111	3	115	-0.012	ppb	-0.012	-586.93	7	2000	
Sn	120	3	115	0.144	ppb	0.144	62.77	541	2000	
Sb	121	3	115	0.212	ppb	0.212	48.28	170	1000	
Ba	137	3	115	-0.028	ppb	-0.028	-48.17	12	5000	
Tl	205	3	193	0.004	ppb	0.004	703.38	673	2000	
(Pb)	206	3	193	0.021	ppb	0.021	155.17	142	100	
(Pb)	207	3	193	-0.020	ppb	-0.020	-195.68	200	100	
Pb	208	3	193	0.002	ppb	0.002	236.61	608	5000	
Th	232	3	193	0.242	ppb	0.242	10.75	3835	2000	
U	238	3	193	0.013	ppb	0.013	41.02	1138	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc (IS)	45	2	HMI H2	4173614	2.01	4176342	99.93	60	120	
Sc (IS)	45	3	HMI He	453383	2.12	454432	99.77	60	120	
Ge Internal standard	72	2	HMI H2	2261720	0.12	2219876	101.88	60	120	
Ge Internal standard	72	3	HMI He	518944	1.44	521662	99.48	60	120	
In Internal Standard	115	3	HMI He	2144823	3.03	2121087	101.12	60	120	
Ir (IS)	193	3	HMI He	3820014	2.60	3821950	99.95	60	120	

Linear Range Sample (LRS) Report

Sample Table

Sample Name	LRA-8092354
Data File Name	049_LR.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\79_122123.b
Acq Date Time	2023-12-21T14:22:07-07:00
Sample Type	LR
Dilution	1
Comment	
ISTD Ref File Name	039CALB.d
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	Units	Conc %RSD	CPS	Exp Value	%Rec	%Low	%High	QC Flag
Be	9	2	6	2010.574	ppb	2.307	97854	2000	100.5	90	110	
Na	23	3	45	209250.964	ppb	0.431	14983566	200000	104.6	90	110	
Mg	24	3	45	210196.133	ppb	0.989	7862060	200000	105.1	90	110	
Al	27	3	45	315904.569	ppb	1.870	4958604	300000	105.3	90	110	
V	51	3	72	2071.700	ppb	1.123	840980	2000	103.6	90	110	
Cr	52	3	72	5356.178	ppb	1.470	2691656	5000	107.1	90	110	
Mn	55	3	72	10396.568	ppb	0.931	3095244	10000	104.0	90	110	
Fe	56	2	72	302849.972	ppb	1.291	425239071	300000	100.9	90	110	
Co	59	3	72	2079.324	ppb	0.367	1745849	2000	104.0	90	110	
Ni	60	3	72	5058.319	ppb	2.018	1151364	5000	101.2	90	110	
Cu	63	3	72	5232.620	ppb	2.091	3385372	5000	104.7	90	110	
Zn	66	3	72	5071.696	ppb	0.773	533984	5000	101.4	90	110	
As	75	3	72	2063.688	ppb	0.692	155027	2000	103.2	90	110	
Se	78	2	72	2051.824	ppb	0.973	93415	2000	102.6	90	110	
(Se)	78	3	72	1814.458	ppb	3.531	10350	2000	90.7	90	110	
Sr	88	3	72	5402.633	ppb	0.935	2272668	5000	108.1	90	110	
Mo	95	3	115	2105.457	ppb	1.452	684044	2000	105.3	90	110	
Cd	111	3	115	2035.765	ppb	2.172	336225	2000	101.8	90	110	
Sn	120	3	115	2117.253	ppb	1.620	1140171	2000	105.9	90	110	
Sb	121	3	115	1086.156	ppb	1.918	549386	1000	108.6	90	110	
Ba	137	3	115	5281.342	ppb	1.213	988420	5000	105.6	90	110	
Tl	205	3	193	1084.437	ppb	1.846	2742637	1000	108.4	90	110	
(Pb)	206	3	193	5306.142	ppb	1.989	4513201	5000	106.1	90	110	
(Pb)	207	3	193	5291.317	ppb	1.119	3881976	5000	105.8	90	110	
Pb	208	3	193	5303.320	ppb	1.017	17914321	5000	106.1	90	110	
Th	232	3	193	1098.622	ppb	1.314	3844838	1000	109.9	90	110	
U	238	3	193	2165.714	ppb	2.755	7844223	2000	108.3	90	110	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc (IS)	45	2	HMI H2	4300998	2.28	4176342	102.98	60	120	
Sc (IS)	45	3	HMI He	465477	0.92	454432	102.43	60	120	
Ge Internal standard	72	2	HMI H2	2269567	0.79	2219876	102.24	60	120	
Ge Internal standard	72	3	HMI He	525679	1.30	521662	100.77	60	120	
In Internal Standard	115	3	HMI He	2151758	1.62	2121087	101.45	60	120	
Ir (IS)	193	3	HMI He	3855741	1.07	3821950	100.88	60	120	

Sample Report

Sample Table

Sample Name	rinse-
Data File Name	050SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\79_122123.b
Acq Date Time	2023-12-21T14:24:13-07:00
Analyst	Denver Metals
Sample Type	Sample
Dilution	1
Comment	
ISTD Ref FileName	039CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Be	9	2	6	0.197	ppb	0.197	32.62	13	2000	
Na	23	3	45	70.016	ppb	70.016	30.63	41047	400000	
Mg	24	3	45	37.025	ppb	37.025	10.51	1468	400000	
Al	27	3	45	46.715	ppb	46.715	16.43	898	400000	
K	39	3	45	106.400	ppb	106.400	111.03	38180	400000	
Ca	40	2	45	38.050	ppb	38.050	5.58	47170	400000	
V	51	3	72	0.525	ppb	0.525	13.51	475	2000	
Cr	52	3	72	1.323	ppb	1.323	33.13	1376	5000	
Mn	55	3	72	1.885	ppb	1.885	15.66	698	10000	
Fe	56	2	72	52.525	ppb	52.525	4.86	95621	10000	
Co	59	3	72	0.311	ppb	0.311	15.34	317	2000	
Ni	60	3	72	0.534	ppb	0.534	22.84	247	5000	
Cu	63	3	72	0.912	ppb	0.912	10.55	976	5000	
Zn	66	3	72	2.885	ppb	2.885	12.17	506	5000	
As	75	3	72	0.387	ppb	0.387	16.76	63	2000	
Se	78	2	72	0.375	ppb	0.375	57.82	23	2000	
Sr	88	3	72	0.865	ppb	0.865	9.49	396	4000	
Mo	95	3	115	1.838	ppb	1.838	6.57	600	2000	
Ag	107	3	115	0.018	ppb	0.018	56.12	28	100	
Cd	111	3	115	0.615	ppb	0.615	9.74	108	2000	
Sn	120	3	115	1.954	ppb	1.954	10.29	1496	2000	
Sb	121	3	115	2.824	ppb	2.824	3.84	1476	1000	
Ba	137	3	115	0.994	ppb	0.994	10.42	200	5000	
Tl	205	3	193	0.533	ppb	0.533	5.57	1988	2000	
(Pb)	206	3	193	1.074	ppb	1.074	15.65	1018	100	
(Pb)	207	3	193	1.037	ppb	1.037	20.90	956	100	
Pb	208	3	193	1.043	ppb	1.043	13.17	4050	5000	
Th	232	3	193	1.082	ppb	1.082	4.69	6705	2000	
U	238	3	193	0.481	ppb	0.481	4.48	2801	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc (IS)	45	2	HMI H2	4234116	1.28	4176342	101.38	60	120	
Sc (IS)	45	3	HMI He	450289	4.62	454432	99.09	60	120	
Ge Internal standard	72	2	HMI H2	2276921	2.48	2219876	102.57	60	120	
Ge Internal standard	72	3	HMI He	518900	3.95	521662	99.47	60	120	
In Internal Standard	115	3	HMI He	2128382	6.83	2121087	100.34	60	120	
Ir (IS)	193	3	HMI He	3800013	6.71	3821950	99.43	60	120	

Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV-8123148
Data File Name	051_CCV.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\79_122123.b
Acq Date Time	2023-12-21T14:26:29-07:00
Sample Type	CCV
Dilution	1
Comment	
ISTD Ref File Name	039CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	Units	Conc %RSD	CPS	Exp Value	%Rec	%Low	%High2	QC Flag
Be	9	2	6	49.845	ppb	1.463	2457	50	99.7	90	110	
Na	23	3	45	49609.192	ppb	1.370	3676404	51000	97.3	90	110	
Mg	24	3	45	10599.214	ppb	2.414	407081	11000	96.4	90	110	
Al	27	3	45	1022.478	ppb	5.477	16673	1000	102.2	90	110	
K	39	3	45	10681.214	ppb	3.202	425550	11000	97.1	90	110	
Ca	40	2	45	10270.118	ppb	2.336	7682456	11000	93.4	90	110	
V	51	3	72	49.942	ppb	2.223	21274	50	99.9	90	110	
Cr	52	3	72	50.367	ppb	2.170	26974	50	100.7	90	110	
Mn	55	3	72	49.179	ppb	3.115	15316	50	98.4	90	110	
Fe	56	2	72	1035.505	ppb	2.085	1537518	1000	103.6	90	110	
Co	59	3	72	49.199	ppb	4.264	42843	50	98.4	90	110	
Ni	60	3	72	49.717	ppb	1.646	11858	50	99.4	90	110	
Cu	63	3	72	49.836	ppb	4.141	33806	50	99.7	90	110	
Zn	66	3	72	50.520	ppb	1.278	5725	50	101.0	90	110	
As	75	3	72	51.641	ppb	2.497	4054	50	103.3	90	110	
Se	78	2	72	52.372	ppb	2.215	2490	50	104.7	90	110	
Sr	88	3	72	100.973	ppb	3.498	44036	100	101.0	90	110	
Mo	95	3	115	49.635	ppb	2.624	17191	50	99.3	90	110	
Ag	107	3	115	48.996	ppb	1.677	56408	50	98.0	90	110	
Cd	111	3	115	47.262	ppb	3.320	8328	50	94.5	90	110	
Sn	120	3	115	48.571	ppb	3.001	28344	50	97.1	90	110	
Sb	121	3	115	49.367	ppb	1.611	26677	50	98.7	90	110	
Ba	137	3	115	50.514	ppb	1.771	10091	50	101.0	90	110	
Tl	205	3	193	49.496	ppb	3.087	132313	50	99.0	90	110	
(Pb)	206	3	193	49.831	ppb	2.807	44701	50	99.7	90	110	
(Pb)	207	3	193	50.278	ppb	2.009	39016	50	100.6	90	110	
Pb	208	3	193	50.252	ppb	2.585	179130	50	100.5	90	110	
Th	232	3	193	49.610	ppb	3.432	185642	50	99.2	90	110	
U	238	3	193	49.472	ppb	4.435	189557	50	98.9	90	110	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc (IS)	45	2	HMI H2	4449505	0.84	4176342	106.54	60	120	
Sc (IS)	45	3	HMI He	477956	2.08	454432	105.18	60	120	
Ge Internal standard	72	2	HMI H2	2364541	1.74	2219876	106.52	60	120	
Ge Internal standard	72	3	HMI He	544591	1.56	521662	104.40	60	120	
In Internal Standard	115	3	HMI He	2292804	2.47	2121087	108.10	60	120	
Ir (IS)	193	3	HMI He	4054926	1.03	3821950	106.10	60	120	

Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB-8123133
Data File Name	052_CCB.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\79_122123.b
Acq Date Time	2023-12-21T14:28:43-07:00
Sample Type	CCB
Dilution	1
Comment	
ISTD Ref File Name	039CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	Units	Conc %RSD	CPS	Upper Limit	QC Flag
Be	9	2	6	0.066	ppb	97.4	7	0.5	
Na	23	3	45	0.074	ppb	18519.9	37788	25	
Mg	24	3	45	9.083	ppb	14.6	480	25	
Al	27	3	45	12.062	ppb	31.2	390	15	
K	39	3	45	-27.190	ppb	-131.5	35163	50	
V	51	3	72	0.187	ppb	64.8	355	1	
Cr	52	3	72	0.308	ppb	40.6	916	1	
Mn	55	3	72	0.187	ppb	28.8	210	0.5	
Co	59	3	72	0.072	ppb	60.4	125	0.5	
Ni	60	3	72	-0.049	ppb	-195.8	122	1	
Cu	63	3	72	0.040	ppb	229.6	438	1	
Zn	66	3	72	-0.363	ppb	-32.3	177	5	
As	75	3	72	-0.167	ppb	-81.3	23	1	
Se	78	2	72	0.103	ppb	86.7	11	1	
Sr	88	3	72	0.139	ppb	50.8	100	0.5	
Mo	95	3	115	0.226	ppb	24.1	87	0.5	
Ag	107	3	115	0.044	ppb	14.2	58	1	
Cd	111	3	115	0.027	ppb	121.6	13	0.5	
Sn	120	3	115	0.288	ppb	25.3	641	1	
Sb	121	3	115	0.516	ppb	8.7	337	0.6	
Ba	137	3	115	0.237	ppb	25.4	63	0.5	
Tl	205	3	193	0.028	ppb	101.5	748	0.1	
(Pb)	206	3	193	0.199	ppb	43.0	297	1	
(Pb)	207	3	193	0.262	ppb	9.7	413	1	
Pb	208	3	193	0.222	ppb	16.1	1369	0.5	
Th	232	3	193	0.270	ppb	2.5	4010	1	
U	238	3	193	0.112	ppb	18.8	1523	0.5	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc (IS)	45	2	HMI H2	4458528	1.67	4176342	106.76	60	120	
Sc (IS)	45	3	HMI He	469384	1.44	454432	103.29	60	120	
Ge Internal standard	72	2	HMI H2	2396661	1.38	2219876	107.96	60	120	
Ge Internal standard	72	3	HMI He	541853	0.85	521662	103.87	60	120	
In Internal Standard	115	3	HMI He	2224084	1.04	2121087	104.86	60	120	
Ir (IS)	193	3	HMI He	3894555	2.15	3821950	101.90	60	120	

Low Level Continuing Calibration Verification (LLCCV) Report

Sample Table

Sample Name	CCVL-8123150
Data File Name	053LCCV.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\79_122123.b
Acq Date Time	2023-12-21T14:30:58-07:00
Sample Type	LLCCV
Dilution	1
Comment	
ISTD Ref File Name	039CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	Units	Conc %RSD	CPS	Exp Value	%Rec	%Low	%High	QC Flag
Be	9	2	6	1.003	ppb	33.944	52	1	100.3	70	130	
Na	23	3	45	315.528	ppb	6.754	58375	300	105.2	70	130	
Mg	24	3	45	57.188	ppb	10.118	2212	50	114.4	70	130	
Al	27	3	45	60.606	ppb	12.045	1118	50	121.2	70	130	
K	39	3	45	138.990	ppb	14.772	39652	120	115.8	70	130	
Ca	40	2	45	205.245	ppb	2.653	169865	200	102.6	70	130	
V	51	3	72	5.786	ppb	2.335	2621	5	115.7	70	130	
Cr	52	3	72	2.382	ppb	13.604	1934	2	119.1	70	130	
Mn	55	3	72	0.933	ppb	35.159	426	1	93.3	70	130	
Fe	56	2	72	51.890	ppb	2.093	95496	50	103.8	70	130	
Co	59	3	72	1.010	ppb	8.028	910	1	101.0	70	130	
Ni	60	3	72	2.159	ppb	11.114	621	2	107.9	70	130	
Cu	63	3	72	2.051	ppb	2.535	1729	2	102.6	70	130	
Zn	66	3	72	9.091	ppb	9.172	1168	10	90.9	70	130	
As	75	3	72	5.400	ppb	7.027	441	5	108.0	70	130	
Se	78	2	72	4.949	ppb	5.508	233	5	99.0	70	130	
Sr	88	3	72	5.207	ppb	9.622	2232	5	104.1	70	130	
Mo	95	3	115	2.187	ppb	10.503	715	2	109.3	70	130	
Ag	107	3	115	1.061	ppb	7.783	1143	1	106.1	70	130	
Cd	111	3	115	1.121	ppb	3.456	192	1	112.1	70	130	
Sn	120	3	115	9.989	ppb	3.069	5785	10	99.9	70	130	
Sb	121	3	115	2.506	ppb	10.774	1319	2	125.3	70	130	
Ba	137	3	115	1.175	ppb	18.087	235	1	117.5	70	130	
Tl	205	3	193	1.048	ppb	3.549	3272	1	104.8	70	130	
(Pb)	206	3	193	1.168	ppb	5.195	1103	1	116.8	70	130	
(Pb)	207	3	193	1.092	ppb	2.096	1003	1	109.2	70	130	
Pb	208	3	193	1.173	ppb	2.249	4505	1	117.3	70	130	
Th	232	3	193	1.271	ppb	4.088	7364	1	127.1	70	130	
U	238	3	193	1.137	ppb	6.291	5144	1	113.7	70	130	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc (IS)	45	2	HMI H2	4336698	0.58	4176342	103.84	60	120	
Sc (IS)	45	3	HMI He	452837	1.46	454432	99.65	60	120	
Ge Internal standard	72	2	HMI H2	2294413	2.08	2219876	103.36	60	120	
Ge Internal standard	72	3	HMI He	526454	0.52	521662	100.92	60	120	
In Internal Standard	115	3	HMI He	2131289	1.77	2121087	100.48	60	120	
Ir (IS)	193	3	HMI He	3800543	0.46	3821950	99.44	60	120	

Blank Report

Sample Table

Sample Name	mb 280-637730/1-a
Data File Name	054_BLK.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\79_122123.b
Acq Date Time	2023-12-21T14:33:13-07:00
Sample Type	Blank
Dilution	1
Comment	637730 6020A
ISTD Ref File Name	039CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	Units	Conc %RSD	CPS	Upper Limit
Be	9	2	6	-0.070	ppb	-33.27474707	1	0.5
Na	23	3	45	-13.792	ppb	-40.78920743	36447	25
Mg	24	3	45	5.085	ppb	47.52839613	327	25
Al	27	3	45	15.895	ppb	2.063901306	447	15
K	39	3	45	-14.320	ppb	-235.8785569	35273	50
Ca	40	2	45	9.059	ppb	15.60695178	27133	200
V	51	3	72	0.301	ppb	23.90112227	395	1
Cr	52	3	72	0.337	ppb	48.19892741	913	1
Mn	55	3	72	0.127	ppb	128.7037843	188	0.5
Fe	56	2	72	4.441	ppb	20.55907321	28471	50
Co	59	3	72	0.022	ppb	105.3459024	80	0.5
Ni	60	3	72	-0.038	ppb	-246.6916256	122	1
Cu	63	3	72	0.029	ppb	229.6329921	423	1
Zn	66	3	72	0.201	ppb	77.94015443	233	5
As	75	3	72	0.101	ppb	205.1203614	43	1
(Se)	78	3	72	1.665	ppb	163.285639	37	1
Sr	88	3	72	0.096	ppb	21.17992163	80	0.5
Mo	95	3	115	0.089	ppb	46.26866292	40	0.5
Ag	107	3	115	0.030	ppb	31.37192699	42	1
Cd	111	3	115	0.028	ppb	116.6176778	13	0.5
Sn	120	3	115	0.308	ppb	59.3225041	643	1
Sb	121	3	115	0.127	ppb	7.339119879	132	0.6
Ba	137	3	115	0.274	ppb	22.18407594	70	0.5
Tl	205	3	193	-0.058	ppb	-63.31265835	520	0.1
(Pb)	206	3	193	0.122	ppb	40.93082166	227	1
(Pb)	207	3	193	0.048	ppb	53.44042129	250	1
Pb	208	3	193	0.087	ppb	17.266741	893	0.5
Th	232	3	193	-0.011	ppb	-178.3085496	2966	1
U	238	3	193	0.041	ppb	43.54986947	1241	0.5

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc (IS)	45	2	HMI H2	4319449	1.07	4176342	103.43	60	120	
Sc (IS)	45	3	HMI He	464893	0.24	454432	102.30	60	120	
Ge Internal standard	72	2	HMI H2	2320261	0.83	2219876	104.52	60	120	
Ge Internal standard	72	3	HMI He	531549	1.05	521662	101.90	60	120	
In Internal Standard	115	3	HMI He	2198968	2.46	2121087	103.67	60	120	
Ir (IS)	193	3	HMI He	3826133	1.94	3821950	100.11	60	120	

Laboratory Control Sample (LCS) Report

Sample Table

Sample Name	lcs 280-637730/22-a
Data File Name	055_LCS.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\79_122123.b
Acq Date Time	2023-12-21T14:35:30-07:00
Sample Type	LCS
Dilution	1
Analyst	Denver Metals
Comment	637730 6020A
ISTD Ref File Name	039CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	FinalConc	Units	Conc %RSD	CPS	Exp Value	%Rec	%Low	%High	QC Flag
Be	9	2	6	38.545	38.545	ppb	2.204	1952	40	96.4	80	120	
Na	23	3	45	962.657	962.657	ppb	3.560	110736	40	2406.6	80	120	>+/-20%
Mg	24	3	45	1017.573	1017.573	ppb	4.327	39802	40	2543.9	80	120	>+/-20%
Al	27	3	45	782.967	782.967	ppb	5.183	13012	40	1957.4	80	120	>+/-20%
K	39	3	45	931.655	931.655	ppb	5.061	71801	40	2329.1	80	120	>+/-20%
Ca	40	2	45	997.854	997.854	ppb	1.841	787735	40	2494.6	80	120	>+/-20%
V	51	3	72	39.673	39.673	ppb	4.676	17170	40	99.2	80	120	
Cr	52	3	72	39.537	39.537	ppb	3.569	21608	40	98.8	80	120	
Mn	55	3	72	39.399	39.399	ppb	3.709	12458	40	98.5	80	120	
Fe	56	2	72	750.577	750.577	ppb	0.562	1141564	40	1876.4	80	120	>+/-20%
(Fe)	56	3	72	784.048	784.048	ppb	3.731	378260	40	1960.1	80	120	>+/-20%
Co	59	3	72	39.583	39.583	ppb	4.478	34922	40	99.0	80	120	
Ni	60	3	72	39.175	39.175	ppb	4.474	9489	40	97.9	80	120	
Cu	63	3	72	39.703	39.703	ppb	3.251	27363	40	99.3	80	120	
Zn	66	3	72	37.987	37.987	ppb	8.720	4414	40	95.0	80	120	
As	75	3	72	39.963	39.963	ppb	4.719	3185	40	99.9	80	120	
Se	78	2	72	39.874	39.874	ppb	5.214	1932	40	99.7	80	120	
(Se)	78	3	72	37.494	37.494	ppb	21.026	252	40	93.7	80	120	
Sr	88	3	72	79.159	79.159	ppb	3.331	34969	40	197.9	80	120	>+/-20%
Mo	95	3	115	39.736	39.736	ppb	1.811	13762	40	99.3	80	120	
Ag	107	3	115	39.366	39.366	ppb	1.075	45313	40	98.4	80	120	
Cd	111	3	115	38.732	38.732	ppb	2.658	6823	40	96.8	80	120	
Sn	120	3	115	38.241	38.241	ppb	1.732	22421	40	95.6	80	120	
Sb	121	3	115	39.397	39.397	ppb	2.810	21293	40	98.5	80	120	
Ba	137	3	115	38.172	38.172	ppb	7.176	7627	40	95.4	80	120	
Tl	205	3	193	39.876	39.876	ppb	2.976	105976	40	99.7	80	120	
(Pb)	206	3	193	40.149	40.149	ppb	2.532	35789	40	100.4	80	120	
(Pb)	207	3	193	39.218	39.218	ppb	3.336	30264	40	98.0	80	120	
Pb	208	3	193	39.738	39.738	ppb	2.172	140799	40	99.3	80	120	
Th	232	3	193	39.050	39.050	ppb	3.185	145756	40	97.6	80	120	
U	238	3	193	39.427	39.427	ppb	2.912	150273	40	98.6	80	120	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc (IS)	45	2	HMI H2	4578344	0.82	4176342	109.63	60	120	
Sc (IS)	45	3	HMI He	485354	2.33	454432	106.80	60	120	
Ge Internal standard	72	2	HMI H2	2409012	1.23	2219876	108.52	60	120	
Ge Internal standard	72	3	HMI He	551475	0.76	521662	105.71	60	120	
In Internal Standard	115	3	HMI He	2291715	0.22	2121087	108.04	60	120	
Ir (IS)	193	3	HMI He	4026341	1.31	3821950	105.35	60	120	

Sample Report

Sample Table

Sample Name	280-185776-c-1-d
Data File Name	056SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\79_122123.b
Acq Date Time	2023-12-21T14:37:45-07:00
Analyst	Denver Metals
Sample Type	Sample
Dilution	1
Comment	637730 6020A
ISTD Ref FileName	039CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Be	9	2	6	0.009	ppb	0.009	507.21	5	2000	
Na	23	3	45	12433.381	ppb	12433.381	5.46	934185	400000	
Mg	24	3	45	3476.414	ppb	3476.414	7.02	131301	400000	
Al	27	3	45	30.767	ppb	30.767	7.97	687	400000	
K	39	3	45	6212.001	ppb	6212.001	9.31	258259	400000	
Ca	40	2	45	38935.399	ppb	38935.399	2.01	29661723	400000	
V	51	3	72	0.604	ppb	0.604	25.99	538	2000	
Cr	52	3	72	1.250	ppb	1.250	27.16	1426	5000	
Mn	55	3	72	278.747	ppb	278.747	6.88	87135	10000	
Fe	56	2	72	133.271	ppb	133.271	2.81	225653	10000	
Co	59	3	72	1.371	ppb	1.371	10.83	1271	2000	
Ni	60	3	72	4.009	ppb	4.009	10.86	1091	5000	
Cu	63	3	72	0.693	ppb	0.693	8.62	890	5000	
Zn	66	3	72	18.463	ppb	18.463	6.57	2257	5000	
As	75	3	72	0.564	ppb	0.564	21.85	82	2000	
Se	78	2	72	0.137	ppb	0.137	15.34	13	2000	
Sr	88	3	72	256.353	ppb	256.353	7.37	113061	4000	
Mo	95	3	115	1.094	ppb	1.094	7.66	376	2000	
Ag	107	3	115	0.045	ppb	0.045	42.57	58	100	
Cd	111	3	115	0.076	ppb	0.076	97.34	22	2000	
Sn	120	3	115	0.097	ppb	0.097	106.06	533	2000	
Sb	121	3	115	0.645	ppb	0.645	17.35	401	1000	
Ba	137	3	115	42.153	ppb	42.153	3.69	8145	5000	
Tl	205	3	193	-0.020	ppb	-0.020	-143.29	660	2000	
(Pb)	206	3	193	0.390	ppb	0.390	29.17	485	100	
(Pb)	207	3	193	0.313	ppb	0.313	7.83	476	100	
Pb	208	3	193	0.337	ppb	0.337	8.87	1862	5000	
Th	232	3	193	0.318	ppb	0.318	25.46	4415	2000	
U	238	3	193	0.236	ppb	0.236	20.81	2084	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc (IS)	45	2	HMI H2	4541553	1.37	4176342	108.74	60	120	
Sc (IS)	45	3	HMI He	470619	4.94	454432	103.56	60	120	
Ge Internal standard	72	2	HMI H2	2453689	0.94	2219876	110.53	60	120	
Ge Internal standard	72	3	HMI He	551978	3.87	521662	105.81	60	120	
In Internal Standard	115	3	HMI He	2218002	2.61	2121087	104.57	60	120	
Ir (IS)	193	3	HMI He	4120188	4.71	3821950	107.80	60	120	

Sample Report

Sample Table

Sample Name	280-185776-c-1-dSD@5
Data File Name	057SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\79_122123.b
Acq Date Time	2023-12-21T14:40:00-07:00
Analyst	Denver Metals
Sample Type	Sample
Dilution	1
Comment	637730 6020A
ISTD Ref FileName	039CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Be	9	2	6	0.056	ppb	0.056	115.43	7	2000	
Na	23	3	45	2423.250	ppb	2423.250	0.87	208141	400000	
Mg	24	3	45	723.485	ppb	723.485	1.71	26883	400000	
Al	27	3	45	14.737	ppb	14.737	39.76	424	400000	
K	39	3	45	1292.338	ppb	1292.338	6.56	80705	400000	
Ca	40	2	45	8062.020	ppb	8062.020	0.71	5973727	400000	
V	51	3	72	0.534	ppb	0.534	27.31	493	2000	
Cr	52	3	72	0.564	ppb	0.564	16.71	1035	5000	
Mn	55	3	72	58.098	ppb	58.098	2.47	17738	10000	
Fe	56	2	72	37.706	ppb	37.706	1.90	77067	10000	
Co	59	3	72	0.304	ppb	0.304	13.95	322	2000	
Ni	60	3	72	1.074	ppb	1.074	21.85	380	5000	
Cu	63	3	72	0.266	ppb	0.266	20.99	581	5000	
Zn	66	3	72	9.755	ppb	9.755	16.51	1258	5000	
As	75	3	72	0.034	ppb	0.034	449.82	38	2000	
Se	78	2	72	0.007	ppb	0.007	1142.38	6	2000	
Sr	88	3	72	54.011	ppb	54.011	0.59	23143	4000	
Mo	95	3	115	0.251	ppb	0.251	44.74	95	2000	
Ag	107	3	115	0.033	ppb	0.033	64.13	45	100	
Cd	111	3	115	-0.002	ppb	-0.002	-1975.89	8	2000	
Sn	120	3	115	0.277	ppb	0.277	31.32	635	2000	
Sb	121	3	115	0.153	ppb	0.153	19.99	147	1000	
Ba	137	3	115	8.882	ppb	8.882	2.68	1738	5000	
Tl	205	3	193	-0.059	ppb	-0.059	-31.15	521	2000	
(Pb)	206	3	193	0.091	ppb	0.091	34.37	203	100	
(Pb)	207	3	193	0.076	ppb	0.076	64.95	273	100	
Pb	208	3	193	0.105	ppb	0.105	4.89	965	5000	
Th	232	3	193	0.075	ppb	0.075	58.88	3290	2000	
U	238	3	193	0.105	ppb	0.105	27.20	1484	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc (IS)	45	2	HMI H2	4404657	0.86	4176342	105.47	60	120	
Sc (IS)	45	3	HMI He	460143	1.33	454432	101.26	60	120	
Ge Internal standard	72	2	HMI H2	2346126	1.92	2219876	105.69	60	120	
Ge Internal standard	72	3	HMI He	534538	1.05	521662	102.47	60	120	
In Internal Standard	115	3	HMI He	2225938	1.21	2121087	104.94	60	120	
Ir (IS)	193	3	HMI He	3859394	1.80	3821950	100.98	60	120	

Sample Report

Sample Table

Sample Name	280-185776-c-1-e ms
Data File Name	058SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\79_122123.b
Acq Date Time	2023-12-21T14:42:15-07:00
Analyst	Denver Metals
Sample Type	Sample
Dilution	1
Comment	637730 6020A
ISTD Ref FileName	039CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Be	9	2	6	41.191	ppb	41.191	3.36	2056	2000	
Na	23	3	45	13981.709	ppb	13981.709	7.16	1044151	400000	
Mg	24	3	45	4612.149	ppb	4612.149	8.27	173930	400000	
Al	27	3	45	874.760	ppb	874.760	7.92	14035	400000	
K	39	3	45	7412.359	ppb	7412.359	4.43	301139	400000	
Ca	40	2	45	42098.961	ppb	42098.961	2.28	31204258	400000	
V	51	3	72	41.646	ppb	41.646	9.96	17864	2000	
Cr	52	3	72	43.255	ppb	43.255	7.00	23395	5000	
Mn	55	3	72	330.024	ppb	330.024	9.63	102378	10000	
Fe	56	2	72	975.188	ppb	975.188	3.24	1458296	10000	
Co	59	3	72	42.641	ppb	42.641	6.43	37347	2000	
Ni	60	3	72	45.855	ppb	45.855	6.54	11004	5000	
Cu	63	3	72	42.376	ppb	42.376	7.52	28959	5000	
Zn	66	3	72	59.510	ppb	59.510	5.33	6743	5000	
As	75	3	72	42.213	ppb	42.213	7.46	3340	2000	
Se	78	2	72	42.758	ppb	42.758	3.97	2046	2000	
Sr	88	3	72	351.829	ppb	351.829	5.40	154208	4000	
Mo	95	3	115	43.118	ppb	43.118	6.91	14652	2000	
Ag	107	3	115	41.160	ppb	41.160	7.02	46487	100	
Cd	111	3	115	40.171	ppb	40.171	7.38	6943	2000	
Sn	120	3	115	42.185	ppb	42.185	10.54	24192	2000	
Sb	121	3	115	42.275	ppb	42.275	7.19	22414	1000	
Ba	137	3	115	85.554	ppb	85.554	8.93	16741	5000	
Tl	205	3	193	41.868	ppb	41.868	4.88	110854	2000	
(Pb)	206	3	193	42.124	ppb	42.124	8.52	37375	100	
(Pb)	207	3	193	43.156	ppb	43.156	5.95	33159	100	
Pb	208	3	193	42.571	ppb	42.571	7.10	150166	5000	
Th	232	3	193	41.951	ppb	41.951	8.40	155658	2000	
U	238	3	193	42.318	ppb	42.318	6.05	160569	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc (IS)	45	2	HMI H2	4419891	2.64	4176342	105.83	60	120	
Sc (IS)	45	3	HMI He	469649	2.76	454432	103.35	60	120	
Ge Internal standard	72	2	HMI H2	2380680	2.37	2219876	107.24	60	120	
Ge Internal standard	72	3	HMI He	548380	4.11	521662	105.12	60	120	
In Internal Standard	115	3	HMI He	2254183	5.27	2121087	106.27	60	120	
Ir (IS)	193	3	HMI He	4016495	3.80	3821950	105.09	60	120	

Sample Report

Sample Table

Sample Name	280-185776-c-1-f msd
Data File Name	059SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\79_122123.b
Acq Date Time	2023-12-21T14:44:30-07:00
Analyst	Denver Metals
Sample Type	Sample
Dilution	1
Comment	637730 6020A
ISTD Ref FileName	039CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Be	9	2	6	44.836	ppb	44.836	8.20	2136	2000	
Na	23	3	45	13559.007	ppb	13559.007	1.14	1022618	400000	
Mg	24	3	45	4523.279	ppb	4523.279	1.97	172124	400000	
Al	27	3	45	879.800	ppb	879.800	5.03	14242	400000	
K	39	3	45	7391.287	ppb	7391.287	1.60	302856	400000	
Ca	40	2	45	46985.437	ppb	46985.437	8.74	32975957	400000	
V	51	3	72	41.951	ppb	41.951	1.73	17994	2000	
Cr	52	3	72	44.458	ppb	44.458	2.25	24007	5000	
Mn	55	3	72	330.194	ppb	330.194	2.49	102427	10000	
Fe	56	2	72	1071.351	ppb	1071.351	9.37	1544217	10000	
Co	59	3	72	43.852	ppb	43.852	1.88	38372	2000	
Ni	60	3	72	45.885	ppb	45.885	1.43	11002	5000	
Cu	63	3	72	43.873	ppb	43.873	0.95	29952	5000	
Zn	66	3	72	60.029	ppb	60.029	2.50	6792	5000	
As	75	3	72	41.543	ppb	41.543	6.62	3282	2000	
Se	78	2	72	44.977	ppb	44.977	11.80	2076	2000	
Sr	88	3	72	361.443	ppb	361.443	2.45	158240	4000	
Mo	95	3	115	42.299	ppb	42.299	3.92	14616	2000	
Ag	107	3	115	41.273	ppb	41.273	4.67	47393	100	
Cd	111	3	115	40.248	ppb	40.248	5.47	7072	2000	
Sn	120	3	115	41.647	ppb	41.647	3.48	24322	2000	
Sb	121	3	115	42.025	ppb	42.025	2.12	22666	1000	
Ba	137	3	115	84.541	ppb	84.541	3.48	16834	5000	
Tl	205	3	193	43.259	ppb	43.259	1.04	110937	2000	
(Pb)	206	3	193	44.134	ppb	44.134	1.18	37968	100	
(Pb)	207	3	193	44.209	ppb	44.209	2.51	32905	100	
Pb	208	3	193	44.494	ppb	44.494	0.75	152115	5000	
Th	232	3	193	43.426	ppb	43.426	1.04	156129	2000	
U	238	3	193	45.313	ppb	45.313	1.92	166527	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc (IS)	45	2	HMI H2	4193254	3.78	4176342	100.40	60	120	
Sc (IS)	45	3	HMI He	473185	0.30	454432	104.13	60	120	
Ge Internal standard	72	2	HMI H2	2302849	4.29	2219876	103.74	60	120	
Ge Internal standard	72	3	HMI He	547018	0.93	521662	104.86	60	120	
In Internal Standard	115	3	HMI He	2288132	2.76	2121087	107.88	60	120	
Ir (IS)	193	3	HMI He	3886720	1.24	3821950	101.69	60	120	

Sample Report

Sample Table

Sample Name	280-185776-c-1-d PDS
Data File Name	060SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\79_122123.b
Acq Date Time	2023-12-21T14:46:45-07:00
Analyst	Denver Metals
Sample Type	Sample
Dilution	1
Comment	637730 6020A
ISTD Ref FileName	039CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Be	9	2	6	208.614	ppb	208.614	1.79	10245	2000	
Na	23	3	45	17736.625	ppb	17736.625	6.04	1310728	400000	
Mg	24	3	45	5680.356	ppb	5680.356	7.44	213551	400000	
Al	27	3	45	2201.682	ppb	2201.682	7.18	34918	400000	
K	39	3	45	8362.421	ppb	8362.421	6.56	333974	400000	
Ca	40	2	45	42540.190	ppb	42540.190	2.24	31261448	400000	
V	51	3	72	205.378	ppb	205.378	8.63	87693	2000	
Cr	52	3	72	207.349	ppb	207.349	8.61	110030	5000	
Mn	55	3	72	479.902	ppb	479.902	7.59	150024	10000	
Fe	56	2	72	2260.979	ppb	2260.979	3.62	3351865	10000	
Co	59	3	72	205.260	ppb	205.260	8.30	180811	2000	
Ni	60	3	72	212.389	ppb	212.389	8.96	50831	5000	
Cu	63	3	72	206.826	ppb	206.826	8.14	140773	5000	
Zn	66	3	72	228.047	ppb	228.047	10.12	25381	5000	
As	75	3	72	211.293	ppb	211.293	8.48	16682	2000	
Se	78	2	72	216.549	ppb	216.549	1.37	10347	2000	
Sr	88	3	72	466.063	ppb	466.063	8.68	205640	4000	
Mo	95	3	115	212.238	ppb	212.238	6.47	71804	2000	
Ag	107	3	115	56.150	ppb	56.150	5.93	63176	100	
Cd	111	3	115	202.401	ppb	202.401	5.82	34821	2000	
Sn	120	3	115	209.424	ppb	209.424	7.83	117813	2000	
Sb	121	3	115	210.333	ppb	210.333	6.96	110807	1000	
Ba	137	3	115	251.312	ppb	251.312	7.41	48971	5000	
Tl	205	3	193	208.153	ppb	208.153	5.80	552522	2000	
(Pb)	206	3	193	208.110	ppb	208.110	7.80	185603	100	
(Pb)	207	3	193	210.999	ppb	210.999	5.95	162500	100	
Pb	208	3	193	209.364	ppb	209.364	6.95	741832	5000	
Th	232	3	193	90.912	ppb	90.912	8.67	336223	2000	
U	238	3	193	267.240	ppb	267.240	7.80	1015303	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc (IS)	45	2	HMI H2	4381337	1.15	4176342	104.91	60	120	
Sc (IS)	45	3	HMI He	468380	3.55	454432	103.07	60	120	
Ge Internal standard	72	2	HMI H2	2380744	1.31	2219876	107.25	60	120	
Ge Internal standard	72	3	HMI He	552698	4.50	521662	105.95	60	120	
In Internal Standard	115	3	HMI He	2243637	3.90	2121087	105.78	60	120	
Ir (IS)	193	3	HMI He	4048405	4.11	3821950	105.93	60	120	

Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV-8123148
Data File Name	061_CCV.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\79_122123.b
Acq Date Time	2023-12-21T14:49:00-07:00
Sample Type	CCV
Dilution	1
Comment	
ISTD Ref File Name	039CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	Units	Conc %RSD	CPS	Exp Value	%Rec	%Low	%High2	QC Flag
Be	9	2	6	49.889	ppb	4.124	2440	50	99.8	90	110	
Na	23	3	45	51973.040	ppb	7.738	3752706	51000	101.9	90	110	
Mg	24	3	45	11370.976	ppb	9.051	425586	11000	103.4	90	110	
Al	27	3	45	1050.586	ppb	9.493	16693	1000	105.1	90	110	
K	39	3	45	11368.736	ppb	7.965	439356	11000	103.4	90	110	
Ca	40	2	45	10760.645	ppb	1.506	7992696	11000	97.8	90	110	
V	51	3	72	54.773	ppb	8.851	22367	50	109.5	90	110	
Cr	52	3	72	56.429	ppb	7.988	28924	50	112.9	90	110	>+\-10%
Mn	55	3	72	55.029	ppb	6.339	16443	50	110.1	90	110	>+\-10%
Fe	56	2	72	1044.308	ppb	1.917	1531117	1000	104.4	90	110	
Co	59	3	72	54.787	ppb	7.306	45808	50	109.6	90	110	
Ni	60	3	72	55.178	ppb	7.360	12620	50	110.4	90	110	>+\-10%
Cu	63	3	72	54.452	ppb	9.094	35420	50	108.9	90	110	
Zn	66	3	72	54.967	ppb	10.704	5958	50	109.9	90	110	
As	75	3	72	55.486	ppb	4.344	4184	50	111.0	90	110	>+\-10%
Se	78	2	72	54.424	ppb	2.904	2555	50	108.8	90	110	
Sr	88	3	72	113.688	ppb	9.199	47581	100	113.7	90	110	>+\-10%
Mo	95	3	115	52.699	ppb	9.170	17793	50	105.4	90	110	
Ag	107	3	115	52.433	ppb	3.380	58914	50	104.9	90	110	
Cd	111	3	115	52.164	ppb	11.542	8954	50	104.3	90	110	
Sn	120	3	115	52.608	ppb	6.184	29914	50	105.2	90	110	
Sb	121	3	115	53.057	ppb	6.638	27952	50	106.1	90	110	
Ba	137	3	115	53.943	ppb	5.425	10511	50	107.9	90	110	
Tl	205	3	193	56.557	ppb	8.544	137866	50	113.1	90	110	>+\-10%
(Pb)	206	3	193	58.042	ppb	8.029	47502	50	116.1	90	110	>+\-10%
(Pb)	207	3	193	55.836	ppb	8.452	39512	50	111.7	90	110	>+\-10%
Pb	208	3	193	57.778	ppb	8.841	187823	50	115.6	90	110	>+\-10%
Th	232	3	193	57.456	ppb	9.477	195641	50	114.9	90	110	>+\-10%
U	238	3	193	59.311	ppb	9.342	207116	50	118.6	90	110	>+\-10%

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc (IS)	45	2	HMI H2	4418995	0.27	4176342	105.81	60	120	
Sc (IS)	45	3	HMI He	467001	4.90	454432	102.77	60	120	
Ge Internal standard	72	2	HMI H2	2335780	1.52	2219876	105.22	60	120	
Ge Internal standard	72	3	HMI He	523702	3.59	521662	100.39	60	120	
In Internal Standard	115	3	HMI He	2238695	3.08	2121087	105.54	60	120	
Ir (IS)	193	3	HMI He	3710732	5.56	3821950	97.09	60	120	

Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB-8123133
Data File Name	062_CCB.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\79_122123.b
Acq Date Time	2023-12-21T14:51:13-07:00
Sample Type	CCB
Dilution	1
Comment	
ISTD Ref File Name	039CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	Units	Conc %RSD	CPS	Upper Limit	QC Flag
Be	9	2	6	0.013	ppb	177.6	5	0.5	
Na	23	3	45	-22.575	ppb	-56.1	36537	25	
Mg	24	3	45	1.528	ppb	94.1	197	25	
Al	27	3	45	-1.137	ppb	-139.1	184	15	
K	39	3	45	-36.724	ppb	-94.9	35216	50	
V	51	3	72	0.422	ppb	9.7	456	1	
Cr	52	3	72	0.067	ppb	47.6	796	1	
Mn	55	3	72	-0.146	ppb	-52.6	108	0.5	
Co	59	3	72	0.012	ppb	151.3	73	0.5	
Ni	60	3	72	-0.101	ppb	-20.2	110	1	
Cu	63	3	72	-0.150	ppb	-32.5	313	1	
Zn	66	3	72	-0.967	ppb	-13.4	112	5	
As	75	3	72	-0.041	ppb	-489.6	33	1	
Se	78	2	72	-0.005	ppb	-1057.9	5	1	
Sr	88	3	72	0.008	ppb	461.6	43	0.5	
Mo	95	3	115	0.086	ppb	51.7	40	0.5	
Ag	107	3	115	0.062	ppb	24.3	78	1	
Cd	111	3	115	-0.002	ppb	-1828.7	8	0.5	
Sn	120	3	115	0.130	ppb	59.3	558	1	
Sb	121	3	115	0.253	ppb	21.4	200	0.6	
Ba	137	3	115	-0.013	ppb	-18.5	15	0.5	
Tl	205	3	193	-0.023	ppb	-15.4	636	0.1	
(Pb)	206	3	193	0.020	ppb	80.3	148	1	
(Pb)	207	3	193	-0.014	ppb	-563.1	215	1	
Pb	208	3	193	0.012	ppb	240.4	676	0.5	
Th	232	3	193	0.249	ppb	15.5	4057	1	
U	238	3	193	0.044	ppb	24.0	1313	0.5	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc (IS)	45	2	HMI H2	4348966	2.38	4176342	104.13	60	120	
Sc (IS)	45	3	HMI He	474459	3.51	454432	104.41	60	120	
Ge Internal standard	72	2	HMI H2	2301671	1.09	2219876	103.68	60	120	
Ge Internal standard	72	3	HMI He	545345	2.44	521662	104.54	60	120	
In Internal Standard	115	3	HMI He	2245374	3.30	2121087	105.86	60	120	
Ir (IS)	193	3	HMI He	4012514	2.19	3821950	104.99	60	120	

Low Level Continuing Calibration Verification (LLCCV) Report

Sample Table

Sample Name	CCVL-8123150
Data File Name	063LCCV.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\79_122123.b
Acq Date Time	2023-12-21T14:53:28-07:00
Sample Type	LLCCV
Dilution	1
Comment	
ISTD Ref File Name	039CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	Units	Conc %RSD	CPS	Exp Value	%Rec	%Low	%High	QC Flag
Be	9	2	6	0.832	ppb	28.467	45	1	83.2	70	130	
Na	23	3	45	273.721	ppb	17.138	56720	300	91.2	70	130	
Mg	24	3	45	57.049	ppb	12.627	2256	50	114.1	70	130	
Al	27	3	45	58.617	ppb	5.101	1115	50	117.2	70	130	
K	39	3	45	103.192	ppb	90.422	39258	120	86.0	70	130	
Ca	40	2	45	190.771	ppb	3.035	164535	200	95.4	70	130	
V	51	3	72	5.560	ppb	7.940	2566	5	111.2	70	130	
Cr	52	3	72	2.077	ppb	11.412	1806	2	103.9	70	130	
Mn	55	3	72	0.983	ppb	9.468	448	1	98.3	70	130	
Fe	56	2	72	45.349	ppb	3.738	88721	50	90.7	70	130	
Co	59	3	72	1.032	ppb	10.697	943	1	103.2	70	130	
Ni	60	3	72	1.918	ppb	21.825	573	2	95.9	70	130	
Cu	63	3	72	1.745	ppb	15.945	1551	2	87.3	70	130	
Zn	66	3	72	8.868	ppb	16.294	1159	10	88.7	70	130	
As	75	3	72	5.104	ppb	13.969	425	5	102.1	70	130	
Se	78	2	72	4.667	ppb	5.882	227	5	93.3	70	130	
Sr	88	3	72	5.000	ppb	7.484	2176	5	100.0	70	130	
Mo	95	3	115	2.083	ppb	9.626	701	2	104.2	70	130	
Ag	107	3	115	1.029	ppb	13.415	1143	1	102.9	70	130	
Cd	111	3	115	0.903	ppb	25.142	162	1	90.3	70	130	
Sn	120	3	115	9.729	ppb	10.846	5817	10	97.3	70	130	
Sb	121	3	115	2.196	ppb	8.282	1204	2	109.8	70	130	
Ba	137	3	115	0.889	ppb	8.601	188	1	88.9	70	130	
Tl	205	3	193	0.947	ppb	10.495	3116	1	94.7	70	130	
(Pb)	206	3	193	1.087	ppb	11.459	1066	1	108.7	70	130	
(Pb)	207	3	193	1.005	ppb	9.177	971	1	100.5	70	130	
Pb	208	3	193	1.024	ppb	12.615	4130	1	102.4	70	130	
Th	232	3	193	1.171	ppb	10.665	7250	1	117.1	70	130	
U	238	3	193	1.091	ppb	14.356	5137	1	109.1	70	130	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc (IS)	45	2	HMI H2	4477749	0.52	4176342	107.22	60	120	
Sc (IS)	45	3	HMI He	463670	4.00	454432	102.03	60	120	
Ge Internal standard	72	2	HMI H2	2361533	1.98	2219876	106.38	60	120	
Ge Internal standard	72	3	HMI He	534975	4.04	521662	102.55	60	120	
In Internal Standard	115	3	HMI He	2204661	6.99	2121087	103.94	60	120	
Ir (IS)	193	3	HMI He	3934301	6.21	3821950	102.94	60	120	

Blank Report

Sample Table

Sample Name	mb 280-637716/1-a
Data File Name	064_BLK.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\79_122123.b
Acq Date Time	2023-12-21T14:55:42-07:00
Sample Type	Blank
Dilution	1
Comment	637716 6020A
ISTD Ref File Name	039CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	Units	Conc %RSD	CPS	Upper Limit
Be	9	2	6	-0.004	ppb	-1081.525414	4	0.5
Na	23	3	45	-41.102	ppb	-59.81174023	35316	25
Mg	24	3	45	1.048	ppb	238.7934152	180	25
Al	27	3	45	1.763	ppb	156.927262	230	15
K	39	3	45	-27.870	ppb	-353.2821364	35567	50
Ca	40	2	45	9.657	ppb	29.89559496	28705	200
V	51	3	72	0.615	ppb	20.64081468	548	1
Cr	52	3	72	0.579	ppb	22.62990067	1081	1
Mn	55	3	72	0.115	ppb	81.28830191	193	0.5
Fe	56	2	72	7.251	ppb	9.481396889	34481	50
Co	59	3	72	-0.020	ppb	-85.21249413	47	0.5
Ni	60	3	72	-0.124	ppb	-80.4401762	107	1
Cu	63	3	72	0.055	ppb	175.9743224	458	1
Zn	66	3	72	-0.180	ppb	-272.8584371	200	5
As	75	3	72	0.074	ppb	186.1433812	43	1
(Se)	78	3	72	0.655	ppb	448.577744	32	1
Sr	88	3	72	0.025	ppb	86.32754082	52	0.5
Mo	95	3	115	0.022	ppb	107.0303535	18	0.5
Ag	107	3	115	0.017	ppb	53.84932351	28	1
Cd	111	3	115	-0.004	ppb	-1051.242861	8	0.5
Sn	120	3	115	0.018	ppb	89.0807825	503	1
Sb	121	3	115	0.041	ppb	97.06395126	90	0.6
Ba	137	3	115	0.131	ppb	81.44145929	43	0.5
Tl	205	3	193	-0.093	ppb	-32.15840783	451	0.1
(Pb)	206	3	193	0.051	ppb	86.62611646	175	1
(Pb)	207	3	193	-0.008	ppb	-754.3612917	218	1
Pb	208	3	193	0.025	ppb	160.6333241	720	0.5
Th	232	3	193	0.032	ppb	109.0049662	3287	1
U	238	3	193	0.031	ppb	87.36588617	1278	0.5

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc (IS)	45	2	HMI H2	4510847	6.28	4176342	108.01	60	120	
Sc (IS)	45	3	HMI He	476880	5.95	454432	104.94	60	120	
Ge Internal standard	72	2	HMI H2	2462109	2.91	2219876	110.91	60	120	
Ge Internal standard	72	3	HMI He	555549	4.12	521662	106.50	60	120	
In Internal Standard	115	3	HMI He	2281447	4.49	2121087	107.56	60	120	
Ir (IS)	193	3	HMI He	4044149	7.40	3821950	105.81	60	120	

Laboratory Control Sample (LCS) Report

Sample Table

Sample Name	lcs 280-637716/22-a
Data File Name	065_LCS.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\79_122123.b
Acq Date Time	2023-12-21T14:57:59-07:00
Sample Type	LCS
Dilution	1
Analyst	Denver Metals
Comment	637716 6020A
ISTD Ref File Name	039CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	FinalConc	Units	Conc %RSD	CPS	Exp Value	%Rec	%Low	%High	QC Flag
Be	9	2	6	35.577	35.577	ppb	1.094	1780	40	88.9	80	120	
Na	23	3	45	910.028	910.028	ppb	8.973	103835	40	2275.1	80	120	>+/-20%
Mg	24	3	45	973.394	973.394	ppb	7.707	37005	40	2433.5	80	120	>+/-20%
Al	27	3	45	785.257	785.257	ppb	7.287	12685	40	1963.1	80	120	>+/-20%
K	39	3	45	950.174	950.174	ppb	13.041	70440	40	2375.4	80	120	>+/-20%
Ca	40	2	45	911.641	911.641	ppb	1.330	727826	40	2279.1	80	120	>+/-20%
V	51	3	72	38.014	38.014	ppb	8.914	16402	40	95.0	80	120	
Cr	52	3	72	38.533	38.533	ppb	5.555	21014	40	96.3	80	120	
Mn	55	3	72	37.510	37.510	ppb	5.345	11831	40	93.8	80	120	
Fe	56	2	72	723.512	723.512	ppb	3.635	1104114	40	1808.8	80	120	>+/-20%
(Fe)	56	3	72	757.926	757.926	ppb	6.574	364715	40	1894.8	80	120	>+/-20%
Co	59	3	72	37.650	37.650	ppb	5.945	33115	40	94.1	80	120	
Ni	60	3	72	38.444	38.444	ppb	6.239	9284	40	96.1	80	120	
Cu	63	3	72	38.098	38.098	ppb	5.345	26192	40	95.2	80	120	
Zn	66	3	72	37.319	37.319	ppb	9.324	4324	40	93.3	80	120	
As	75	3	72	37.924	37.924	ppb	7.622	3014	40	94.8	80	120	
Se	78	2	72	38.658	38.658	ppb	0.275	1879	40	96.6	80	120	
(Se)	78	3	72	42.266	42.266	ppb	18.936	280	40	105.7	80	120	
Sr	88	3	72	75.801	75.801	ppb	6.742	33373	40	189.5	80	120	>+/-20%
Mo	95	3	115	37.722	37.722	ppb	3.410	12911	40	94.3	80	120	
Ag	107	3	115	38.391	38.391	ppb	6.095	43636	40	96.0	80	120	
Cd	111	3	115	35.550	35.550	ppb	7.874	6182	40	88.9	80	120	
Sn	120	3	115	37.344	37.344	ppb	7.312	21625	40	93.4	80	120	
Sb	121	3	115	37.557	37.557	ppb	7.054	20042	40	93.9	80	120	
Ba	137	3	115	36.870	36.870	ppb	9.400	7270	40	92.2	80	120	
Tl	205	3	193	39.162	39.162	ppb	4.468	102958	40	97.9	80	120	
(Pb)	206	3	193	38.211	38.211	ppb	3.658	33700	40	95.5	80	120	
(Pb)	207	3	193	38.732	38.732	ppb	4.848	29563	40	96.8	80	120	
Pb	208	3	193	38.738	38.738	ppb	4.619	135757	40	96.8	80	120	
Th	232	3	193	39.082	39.082	ppb	6.497	144221	40	97.7	80	120	
U	238	3	193	39.430	39.430	ppb	5.582	148601	40	98.6	80	120	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc (IS)	45	2	HMI H2	4618465	0.14	4176342	110.59	60	120	
Sc (IS)	45	3	HMI He	472505	4.86	454432	103.98	60	120	
Ge Internal standard	72	2	HMI H2	2415649	0.70	2219876	108.82	60	120	
Ge Internal standard	72	3	HMI He	550221	2.92	521662	105.47	60	120	
In Internal Standard	115	3	HMI He	2266794	4.28	2121087	106.87	60	120	
Ir (IS)	193	3	HMI He	3985992	3.79	3821950	104.29	60	120	

Sample Report

Sample Table

Sample Name	280-185229-a-2-a
Data File Name	066SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\79_122123.b
Acq Date Time	2023-12-21T15:00:13-07:00
Analyst	Denver Metals
Sample Type	Sample
Dilution	1
Comment	637716 6020A
ISTD Ref FileName	039CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Be	9	2	6	-0.010	ppb	-0.010	-869.21	3	2000	
Na	23	3	45	1684954.634	ppb	1684954.634	2.00	122243573	400000	
Mg	24	3	45	524733.183	ppb	524733.183	0.61	19929814	400000	
Al	27	3	45	665.707	ppb	665.707	2.33	10812	400000	
K	39	3	45	12931.721	ppb	12931.721	0.79	502033	400000	
Ca	40	2	45	415471.924	ppb	415471.924	2.48	297212589	400000	
V	51	3	72	2.278	ppb	2.278	3.26	1218	2000	
Cr	52	3	72	0.982	ppb	0.982	20.45	1253	5000	
Mn	55	3	72	35.822	ppb	35.822	0.30	11037	10000	
Fe	56	2	72	780.095	ppb	780.095	3.57	1125457	10000	
Co	59	3	72	0.511	ppb	0.511	7.34	500	2000	
Ni	60	3	72	5.598	ppb	5.598	3.14	1433	5000	
Cu	63	3	72	2.515	ppb	2.515	1.76	2069	5000	
Zn	66	3	72	6.026	ppb	6.026	3.41	861	5000	
As	75	3	72	0.617	ppb	0.617	32.83	83	2000	
Se	78	2	72	68.246	ppb	68.246	3.29	3136	2000	
Sr	88	3	72	4870.429	ppb	4870.429	2.75	2091300	4000	
Mo	95	3	115	1.759	ppb	1.759	12.09	588	2000	
Ag	107	3	115	0.075	ppb	0.075	19.06	90	100	
Cd	111	3	115	0.040	ppb	0.040	228.53	15	2000	
Sn	120	3	115	0.307	ppb	0.307	53.22	636	2000	
Sb	121	3	115	0.333	ppb	0.333	5.70	235	1000	
Ba	137	3	115	15.031	ppb	15.031	3.97	2859	5000	
Tl	205	3	193	-0.010	ppb	-0.010	-206.49	621	2000	
(Pb)	206	3	193	0.883	ppb	0.883	6.26	846	100	
(Pb)	207	3	193	0.800	ppb	0.800	11.29	775	100	
Pb	208	3	193	0.850	ppb	0.850	5.03	3360	5000	
Th	232	3	193	0.593	ppb	0.593	15.60	4922	2000	
U	238	3	193	33.939	ppb	33.939	4.76	119718	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc (IS)	45	2	HMI H2	4268250	2.00	4176342	102.20	60	120	
Sc (IS)	45	3	HMI He	472669	0.65	454432	104.01	60	120	
Ge Internal standard	72	2	HMI H2	2287362	1.45	2219876	103.04	60	120	
Ge Internal standard	72	3	HMI He	536630	0.71	521662	102.87	60	120	
In Internal Standard	115	3	HMI He	2173678	0.95	2121087	102.48	60	120	
Ir (IS)	193	3	HMI He	3725582	3.71	3821950	97.48	60	120	

Sample Report

Sample Table

Sample Name	280-185829-a-9-d
Data File Name	067SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\79_122123.b
Acq Date Time	2023-12-21T15:02:26-07:00
Analyst	Denver Metals
Sample Type	Sample
Dilution	1
Comment	637716 6020A
ISTD Ref FileName	039CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Be	9	2	6	0.090	ppb	0.090	26.21	9	2000	
Na	23	3	45	112212.600	ppb	112212.600	0.88	8484332	400000	
Mg	24	3	45	233959.762	ppb	233959.762	1.67	9219682	400000	
Al	27	3	45	2047.211	ppb	2047.211	2.82	34065	400000	
K	39	3	45	26997.982	ppb	26997.982	2.96	1046420	400000	
Ca	40	2	45	798988.550	ppb	798988.550	3.13	602008868	400000	
V	51	3	72	4.817	ppb	4.817	5.72	2377	2000	
Cr	52	3	72	34.631	ppb	34.631	2.57	19394	5000	
Mn	55	3	72	494.070	ppb	494.070	1.27	157471	10000	
Fe	56	2	72	2466.367	ppb	2466.367	1.40	3738098	10000	
Co	59	3	72	3.569	ppb	3.569	4.70	3269	2000	
Ni	60	3	72	29.261	ppb	29.261	0.56	7262	5000	
Cu	63	3	72	7.751	ppb	7.751	2.99	5790	5000	
Zn	66	3	72	14.909	ppb	14.909	2.12	1903	5000	
As	75	3	72	2.534	ppb	2.534	33.94	242	2000	
Se	78	2	72	3406.103	ppb	3406.103	1.11	166356	2000	
Sr	88	3	72	12419.184	ppb	12419.184	0.67	5587615	4000	
Mo	95	3	115	4.230	ppb	4.230	2.11	1471	2000	
Ag	107	3	115	0.101	ppb	0.101	24.15	125	100	
Cd	111	3	115	0.368	ppb	0.368	26.89	73	2000	
Sn	120	3	115	0.318	ppb	0.318	27.96	676	2000	
Sb	121	3	115	0.632	ppb	0.632	19.41	408	1000	
Ba	137	3	115	50.537	ppb	50.537	1.17	10069	5000	
Tl	205	3	193	0.002	ppb	0.002	1905.49	683	2000	
(Pb)	206	3	193	3.042	ppb	3.042	4.66	2756	100	
(Pb)	207	3	193	2.776	ppb	2.776	1.91	2292	100	
Pb	208	3	193	2.951	ppb	2.951	3.78	10748	5000	
Th	232	3	193	1.243	ppb	1.243	6.55	7492	2000	
U	238	3	193	204.644	ppb	204.644	6.57	753638	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc (IS)	45	2	HMI H2	4495753	1.65	4176342	107.65	60	120	
Sc (IS)	45	3	HMI He	490468	1.43	454432	107.93	60	120	
Ge Internal standard	72	2	HMI H2	2434765	0.89	2219876	109.68	60	120	
Ge Internal standard	72	3	HMI He	562201	0.88	521662	107.77	60	120	
In Internal Standard	115	3	HMI He	2286706	2.02	2121087	107.81	60	120	
Ir (IS)	193	3	HMI He	3923305	5.13	3821950	102.65	60	120	

Sample Report

Sample Table

Sample Name	280-185829-a-9-dSD@5
Data File Name	068SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\79_122123.b
Acq Date Time	2023-12-21T15:04:41-07:00
Analyst	Denver Metals
Sample Type	Sample
Dilution	1
Comment	637716 6020A
ISTD Ref FileName	039CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Be	9	2	6	-0.031	ppb	-0.031	-149.07	3	2000	
Na	23	3	45	24015.306	ppb	24015.306	6.95	1816511	400000	
Mg	24	3	45	50971.956	ppb	50971.956	8.13	1975247	400000	
Al	27	3	45	465.061	ppb	465.061	4.57	7783	400000	
K	39	3	45	5690.377	ppb	5690.377	6.24	246336	400000	
Ca	40	2	45	164473.593	ppb	164473.593	2.48	124468071	400000	
V	51	3	72	0.941	ppb	0.941	9.15	690	2000	
Cr	52	3	72	9.075	ppb	9.075	18.25	5620	5000	
Mn	55	3	72	105.094	ppb	105.094	9.82	33283	10000	
Fe	56	2	72	529.938	ppb	529.938	2.35	815819	10000	
Co	59	3	72	0.734	ppb	0.734	14.48	716	2000	
Ni	60	3	72	6.196	ppb	6.196	7.59	1631	5000	
Cu	63	3	72	1.847	ppb	1.847	3.04	1693	5000	
Zn	66	3	72	9.260	ppb	9.260	9.90	1254	5000	
As	75	3	72	0.226	ppb	0.226	85.36	55	2000	
Se	78	2	72	726.592	ppb	726.592	1.50	35252	2000	
Sr	88	3	72	2609.308	ppb	2609.308	8.00	1162730	4000	
Mo	95	3	115	1.103	ppb	1.103	13.58	385	2000	
Ag	107	3	115	0.036	ppb	0.036	58.26	50	100	
Cd	111	3	115	0.094	ppb	0.094	28.97	25	2000	
Sn	120	3	115	0.385	ppb	0.385	56.55	698	2000	
Sb	121	3	115	0.203	ppb	0.203	26.76	173	1000	
Ba	137	3	115	11.201	ppb	11.201	11.49	2197	5000	
Tl	205	3	193	-0.062	ppb	-0.062	-45.25	521	2000	
(Pb)	206	3	193	0.632	ppb	0.632	6.73	676	100	
(Pb)	207	3	193	0.626	ppb	0.626	21.67	686	100	
Pb	208	3	193	0.682	ppb	0.682	8.81	2965	5000	
Th	232	3	193	0.300	ppb	0.300	7.20	4159	2000	
U	238	3	193	42.650	ppb	42.650	11.95	158084	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc (IS)	45	2	HMI H2	4513939	0.80	4176342	108.08	60	120	
Sc (IS)	45	3	HMI He	483144	3.53	454432	106.32	60	120	
Ge Internal standard	72	2	HMI H2	2418514	1.30	2219876	108.95	60	120	
Ge Internal standard	72	3	HMI He	557837	3.43	521662	106.93	60	120	
In Internal Standard	115	3	HMI He	2245650	5.41	2121087	105.87	60	120	
Ir (IS)	193	3	HMI He	3936676	6.09	3821950	103.00	60	120	

Sample Report

Sample Table

Sample Name	280-185829-a-9-e ms
Data File Name	069SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\79_122123.b
Acq Date Time	2023-12-21T15:06:55-07:00
Analyst	Denver Metals
Sample Type	Sample
Dilution	1
Comment	637716 6020A
ISTD Ref FileName	039CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Be	9	2	6	37.813	ppb	37.813	6.57	1962	2000	
Na	23	3	45	110923.232	ppb	110923.232	3.45	8388552	400000	
Mg	24	3	45	229052.857	ppb	229052.857	1.25	9029392	400000	
Al	27	3	45	3328.402	ppb	3328.402	0.55	55277	400000	
K	39	3	45	27252.721	ppb	27252.721	1.54	1056326	400000	
Ca	40	2	45	735714.782	ppb	735714.782	1.18	579962742	400000	
V	51	3	72	44.413	ppb	44.413	2.62	19923	2000	
Cr	52	3	72	71.117	ppb	71.117	7.63	39704	5000	
Mn	55	3	72	510.007	ppb	510.007	0.87	165528	10000	
Fe	56	2	72	3013.276	ppb	3013.276	1.62	4758047	10000	
Co	59	3	72	41.708	ppb	41.708	0.86	38207	2000	
Ni	60	3	72	64.739	ppb	64.739	0.59	16191	5000	
Cu	63	3	72	45.549	ppb	45.549	1.83	32532	5000	
Zn	66	3	72	52.554	ppb	52.554	2.81	6253	5000	
As	75	3	72	43.319	ppb	43.319	4.72	3582	2000	
Se	78	2	72	3234.836	ppb	3234.836	1.98	164775	2000	
Sr	88	3	72	11934.874	ppb	11934.874	0.94	5468196	4000	
Mo	95	3	115	43.667	ppb	43.667	6.76	15194	2000	
Ag	107	3	115	39.260	ppb	39.260	3.91	45432	100	
Cd	111	3	115	37.627	ppb	37.627	1.95	6668	2000	
Sn	120	3	115	37.252	ppb	37.252	3.30	21977	2000	
Sb	121	3	115	37.774	ppb	37.774	3.58	20531	1000	
Ba	137	3	115	86.115	ppb	86.115	0.87	17289	5000	
Tl	205	3	193	40.363	ppb	40.363	1.63	106239	2000	
(Pb)	206	3	193	42.694	ppb	42.694	1.88	37682	100	
(Pb)	207	3	193	42.389	ppb	42.389	0.76	32380	100	
Pb	208	3	193	42.854	ppb	42.854	1.08	150324	5000	
Th	232	3	193	41.461	ppb	41.461	0.15	153069	2000	
U	238	3	193	236.541	ppb	236.541	1.25	887076	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc (IS)	45	2	HMI H2	4702343	0.76	4176342	112.59	60	120	
Sc (IS)	45	3	HMI He	490601	0.88	454432	107.96	60	120	
Ge Internal standard	72	2	HMI H2	2539830	1.95	2219876	114.41	60	120	
Ge Internal standard	72	3	HMI He	572547	0.77	521662	109.75	60	120	
In Internal Standard	115	3	HMI He	2306058	3.58	2121087	108.72	60	120	
Ir (IS)	193	3	HMI He	3987124	0.32	3821950	104.32	60	120	

Sample Report

Sample Table

Sample Name	280-185829-a-9-f msd
Data File Name	070SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\79_122123.b
Acq Date Time	2023-12-21T15:09:08-07:00
Analyst	Denver Metals
Sample Type	Sample
Dilution	1
Comment	637716 6020A
ISTD Ref FileName	039CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Be	9	2	6	37.165	ppb	37.165	6.21	1932	2000	
Na	23	3	45	114919.588	ppb	114919.588	11.15	8615520	400000	
Mg	24	3	45	241490.532	ppb	241490.532	14.54	9421784	400000	
Al	27	3	45	4005.249	ppb	4005.249	13.56	65822	400000	
K	39	3	45	28152.826	ppb	28152.826	10.56	1080991	400000	
Ca	40	2	45	736404.537	ppb	736404.537	1.11	595582662	400000	
V	51	3	72	47.544	ppb	47.544	10.92	21072	2000	
Cr	52	3	72	75.877	ppb	75.877	8.10	41881	5000	
Mn	55	3	72	538.413	ppb	538.413	9.95	172807	10000	
Fe	56	2	72	3364.864	ppb	3364.864	1.10	5341247	10000	
Co	59	3	72	43.473	ppb	43.473	10.93	39373	2000	
Ni	60	3	72	68.839	ppb	68.839	9.51	17020	5000	
Cu	63	3	72	48.776	ppb	48.776	10.00	34424	5000	
Zn	66	3	72	56.983	ppb	56.983	13.59	6680	5000	
As	75	3	72	45.339	ppb	45.339	12.13	3704	2000	
Se	78	2	72	3295.158	ppb	3295.158	2.82	168792	2000	
Sr	88	3	72	12479.015	ppb	12479.015	9.32	5655881	4000	
Mo	95	3	115	46.086	ppb	46.086	11.97	15488	2000	
Ag	107	3	115	42.864	ppb	42.864	9.28	47930	100	
Cd	111	3	115	41.867	ppb	41.867	12.41	7155	2000	
Sn	120	3	115	39.937	ppb	39.937	12.55	22698	2000	
Sb	121	3	115	39.727	ppb	39.727	8.77	20863	1000	
Ba	137	3	115	94.493	ppb	94.493	12.08	18295	5000	
Tl	205	3	193	42.043	ppb	42.043	9.42	108753	2000	
(Pb)	206	3	193	44.572	ppb	44.572	11.13	38635	100	
(Pb)	207	3	193	45.328	ppb	45.328	10.37	34009	100	
Pb	208	3	193	45.303	ppb	45.303	10.59	156092	5000	
Th	232	3	193	44.340	ppb	44.340	13.07	160471	2000	
U	238	3	193	250.391	ppb	250.391	11.43	922289	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc (IS)	45	2	HMI H2	4824328	0.40	4176342	115.52	60	120	
Sc (IS)	45	3	HMI He	488980	7.31	454432	107.60	60	120	
Ge Internal standard	72	2	HMI H2	2554457	2.18	2219876	115.07	60	120	
Ge Internal standard	72	3	HMI He	567844	4.31	521662	108.85	60	120	
In Internal Standard	115	3	HMI He	2234723	6.15	2121087	105.36	60	120	
Ir (IS)	193	3	HMI He	3934849	6.42	3821950	102.95	60	120	

Sample Report

Sample Table

Sample Name	280-185829-a-9-d PDS
Data File Name	071SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\79_122123.b
Acq Date Time	2023-12-21T15:11:23-07:00
Analyst	Denver Metals
Sample Type	Sample
Dilution	1
Comment	637716 6020A
ISTD Ref FileName	039CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Be	9	2	6	216.462	ppb	216.462	1.83	10634	2000	
Na	23	3	45	110390.987	ppb	110390.987	2.17	8693248	400000	
Mg	24	3	45	221453.333	ppb	221453.333	4.24	9087236	400000	
Al	27	3	45	3925.149	ppb	3925.149	5.37	67810	400000	
K	39	3	45	27686.046	ppb	27686.046	3.45	1116474	400000	
Ca	40	2	45	823340.947	ppb	823340.947	0.71	623608914	400000	
V	51	3	72	203.204	ppb	203.204	3.76	92041	2000	
Cr	52	3	72	231.187	ppb	231.187	4.79	130025	5000	
Mn	55	3	72	661.870	ppb	661.870	3.74	219360	10000	
Fe	56	2	72	4604.763	ppb	4604.763	3.35	6999656	10000	
Co	59	3	72	196.065	ppb	196.065	3.92	183194	2000	
Ni	60	3	72	223.580	ppb	223.580	2.25	56770	5000	
Cu	63	3	72	202.178	ppb	202.178	4.04	145958	5000	
Zn	66	3	72	210.353	ppb	210.353	5.12	24858	5000	
As	75	3	72	203.793	ppb	203.793	3.05	17069	2000	
Se	78	2	72	3684.010	ppb	3684.010	1.86	181010	2000	
Sr	88	3	72	11740.596	ppb	11740.596	3.67	5494424	4000	
Mo	95	3	115	206.655	ppb	206.655	2.35	74036	2000	
Ag	107	3	115	53.558	ppb	53.558	2.41	63807	100	
Cd	111	3	115	191.409	ppb	191.409	2.73	34865	2000	
Sn	120	3	115	199.457	ppb	199.457	3.49	118886	2000	
Sb	121	3	115	201.720	ppb	201.720	1.64	112559	1000	
Ba	137	3	115	246.961	ppb	246.961	2.16	50978	5000	
Tl	205	3	193	204.733	ppb	204.733	2.84	558573	2000	
(Pb)	206	3	193	202.175	ppb	202.175	2.49	185440	100	
(Pb)	207	3	193	205.348	ppb	205.348	3.45	162552	100	
Pb	208	3	193	204.065	ppb	204.065	2.62	743445	5000	
Th	232	3	193	78.399	ppb	78.399	3.78	298676	2000	
U	238	3	193	462.929	ppb	462.929	3.06	1807956	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc (IS)	45	2	HMI H2	4518052	0.51	4176342	108.18	60	120	
Sc (IS)	45	3	HMI He	510865	1.45	454432	112.42	60	120	
Ge Internal standard	72	2	HMI H2	2449726	1.66	2219876	110.35	60	120	
Ge Internal standard	72	3	HMI He	585051	1.79	521662	112.15	60	120	
In Internal Standard	115	3	HMI He	2372214	0.69	2121087	111.84	60	120	
Ir (IS)	193	3	HMI He	4155459	1.09	3821950	108.73	60	120	

Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV-8123148
Data File Name	072_CCV.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\79_122123.b
Acq Date Time	2023-12-21T15:13:40-07:00
Sample Type	CCV
Dilution	1
Comment	
ISTD Ref File Name	039CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	Units	Conc %RSD	CPS	Exp Value	%Rec	%Low	%High2	QC Flag
Be	9	2	6	44.161	ppb	1.681	2340	50	88.3	90	110	>+\-10%
Na	23	3	45	52524.663	ppb	9.126	3958881	51000	103.0	90	110	
Mg	24	3	45	11410.979	ppb	11.824	445585	11000	103.7	90	110	
Al	27	3	45	1066.203	ppb	12.201	17672	1000	106.6	90	110	
K	39	3	45	11240.318	ppb	6.083	454391	11000	102.2	90	110	
Ca	40	2	45	9660.632	ppb	2.482	7951112	11000	87.8	90	110	>+\-10%
V	51	3	72	52.984	ppb	11.740	23001	50	106.0	90	110	
Cr	52	3	72	53.192	ppb	11.466	29014	50	106.4	90	110	
Mn	55	3	72	51.916	ppb	15.781	16450	50	103.8	90	110	
Fe	56	2	72	969.259	ppb	4.512	1525911	1000	96.9	90	110	
Co	59	3	72	51.822	ppb	11.460	46030	50	103.6	90	110	
Ni	60	3	72	53.401	ppb	13.163	12968	50	106.8	90	110	
Cu	63	3	72	53.029	ppb	11.983	36667	50	106.1	90	110	
Zn	66	3	72	55.182	ppb	14.820	6348	50	110.4	90	110	>+\-10%
As	75	3	72	51.887	ppb	10.935	4157	50	103.8	90	110	
Se	78	2	72	50.482	ppb	3.345	2544	50	101.0	90	110	
Sr	88	3	72	108.859	ppb	12.090	48404	100	108.9	90	110	
Mo	95	3	115	52.583	ppb	10.727	18071	50	105.2	90	110	
Ag	107	3	115	52.678	ppb	11.538	60152	50	105.4	90	110	
Cd	111	3	115	52.383	ppb	10.344	9159	50	104.8	90	110	
Sn	120	3	115	53.314	ppb	17.218	30729	50	106.6	90	110	
Sb	121	3	115	53.028	ppb	12.137	28401	50	106.1	90	110	
Ba	137	3	115	53.564	ppb	15.403	10589	50	107.1	90	110	
Tl	205	3	193	53.463	ppb	11.036	140685	50	106.9	90	110	
(Pb)	206	3	193	53.764	ppb	16.696	47285	50	107.5	90	110	
(Pb)	207	3	193	53.729	ppb	13.459	40994	50	107.5	90	110	
Pb	208	3	193	53.864	ppb	14.695	188518	50	107.7	90	110	
Th	232	3	193	54.517	ppb	16.354	199896	50	109.0	90	110	
U	238	3	193	54.432	ppb	15.187	204663	50	108.9	90	110	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc (IS)	45	2	HMI H2	4896637	1.85	4176342	117.25	60	120	
Sc (IS)	45	3	HMI He	487864	5.42	454432	107.36	60	120	
Ge Internal standard	72	2	HMI H2	2506437	2.12	2219876	112.91	60	120	
Ge Internal standard	72	3	HMI He	558427	7.26	521662	107.05	60	120	
In Internal Standard	115	3	HMI He	2287489	7.96	2121087	107.85	60	120	
Ir (IS)	193	3	HMI He	4021939	10.46	3821950	105.23	60	120	

Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB-8123133
Data File Name	073_CCB.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\79_122123.b
Acq Date Time	2023-12-21T15:18:25-07:00
Sample Type	CCB
Dilution	1
Comment	
ISTD Ref File Name	039CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	Units	Conc %RSD	CPS	Upper Limit	QC Flag
Be	9	2	6	-0.003	ppb	-29.4	4	0.5	
Na	23	3	45	56.712	ppb	37.5	42413	25	>RL
Mg	24	3	45	21.886	ppb	12.2	978	25	
Al	27	3	45	-2.606	ppb	-174.6	160	15	
K	39	3	45	46.553	ppb	185.1	38241	50	
V	51	3	72	0.524	ppb	19.3	501	1	
Cr	52	3	72	-0.056	ppb	-13.5	736	1	
Mn	55	3	72	0.033	ppb	175.0	165	0.5	
Co	59	3	72	0.012	ppb	358.2	73	0.5	
Ni	60	3	72	-0.195	ppb	-25.6	88	1	
Cu	63	3	72	-0.007	ppb	-489.4	411	1	
Zn	66	3	72	-1.052	ppb	-9.7	103	5	
As	75	3	72	-0.213	ppb	-52.0	20	1	
Se	78	2	72	0.396	ppb	25.8	25	1	
Sr	88	3	72	0.837	ppb	5.2	408	0.5	>RL
Mo	95	3	115	0.038	ppb	111.5	23	0.5	
Ag	107	3	115	0.030	ppb	68.1	42	1	
Cd	111	3	115	-0.012	ppb	-141.7	7	0.5	
Sn	120	3	115	-0.015	ppb	-815.0	470	1	
Sb	121	3	115	0.102	ppb	91.9	118	0.6	
Ba	137	3	115	0.049	ppb	118.5	27	0.5	
Tl	205	3	193	-0.054	ppb	-58.6	558	0.1	
(Pb)	206	3	193	0.014	ppb	33.6	143	1	
(Pb)	207	3	193	-0.056	ppb	-49.3	183	1	
Pb	208	3	193	-0.006	ppb	-177.5	615	0.5	
Th	232	3	193	0.244	ppb	16.0	4065	1	
U	238	3	193	0.043	ppb	50.6	1316	0.5	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc (IS)	45	2	HMI H2	4441056	1.54	4176342	106.34	60	120	
Sc (IS)	45	3	HMI He	475823	3.71	454432	104.71	60	120	
Ge Internal standard	72	2	HMI H2	2382081	0.58	2219876	107.31	60	120	
Ge Internal standard	72	3	HMI He	548374	3.35	521662	105.12	60	120	
In Internal Standard	115	3	HMI He	2220606	4.77	2121087	104.69	60	120	
Ir (IS)	193	3	HMI He	4041976	3.55	3821950	105.76	60	120	

Low Level Continuing Calibration Verification (LLCCV) Report

Sample Table

Sample Name	CCVL-8123150
Data File Name	074LCCV.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\79_122123.b
Acq Date Time	2023-12-21T15:20:40-07:00
Sample Type	LLCCV
Dilution	1
Comment	
ISTD Ref File Name	039CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	Units	Conc %RSD	CPS	Exp Value	%Rec	%Low	%High	QC Flag
Be	9	2	6	0.725	ppb	20.297	39	1	72.5	70	130	
Na	23	3	45	330.934	ppb	11.764	62111	300	110.3	70	130	
Mg	24	3	45	67.568	ppb	12.449	2703	50	135.1	70	130	>+/-30%
Al	27	3	45	55.580	ppb	10.859	1088	50	111.2	70	130	
K	39	3	45	143.112	ppb	70.041	41516	120	119.3	70	130	
Ca	40	2	45	263.191	ppb	7.338	205059	200	131.6	70	130	>+/-30%
V	51	3	72	5.796	ppb	4.443	2719	5	115.9	70	130	
Cr	52	3	72	2.040	ppb	9.077	1824	2	102.0	70	130	
Mn	55	3	72	1.076	ppb	23.063	485	1	107.6	70	130	
Fe	56	2	72	51.467	ppb	11.175	95365	50	102.9	70	130	
Co	59	3	72	0.980	ppb	7.202	916	1	98.0	70	130	
Ni	60	3	72	1.911	ppb	8.395	585	2	95.6	70	130	
Cu	63	3	72	2.015	ppb	14.886	1764	2	100.8	70	130	
Zn	66	3	72	9.042	ppb	14.691	1204	10	90.4	70	130	
As	75	3	72	4.975	ppb	19.247	423	5	99.5	70	130	
Se	78	2	72	5.475	ppb	3.826	259	5	109.5	70	130	
Sr	88	3	72	5.512	ppb	3.836	2446	5	110.2	70	130	
Mo	95	3	115	1.918	ppb	14.766	668	2	95.9	70	130	
Ag	107	3	115	1.014	ppb	8.706	1164	1	101.4	70	130	
Cd	111	3	115	0.877	ppb	11.653	162	1	87.7	70	130	
Sn	120	3	115	9.296	ppb	3.321	5773	10	93.0	70	130	
Sb	121	3	115	2.229	ppb	9.428	1256	2	111.4	70	130	
Ba	137	3	115	0.947	ppb	8.157	205	1	94.7	70	130	
Tl	205	3	193	0.907	ppb	7.248	3061	1	90.7	70	130	
(Pb)	206	3	193	1.021	ppb	22.145	1021	1	102.1	70	130	
(Pb)	207	3	193	1.022	ppb	10.747	998	1	102.2	70	130	
Pb	208	3	193	1.018	ppb	15.436	4168	1	101.8	70	130	
Th	232	3	193	1.134	ppb	9.898	7220	1	113.4	70	130	
U	238	3	193	1.089	ppb	12.766	5205	1	108.9	70	130	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc (IS)	45	2	HMI H2	4201997	4.14	4176342	100.61	60	120	
Sc (IS)	45	3	HMI He	473632	4.11	454432	104.23	60	120	
Ge Internal standard	72	2	HMI H2	2309836	3.46	2219876	104.05	60	120	
Ge Internal standard	72	3	HMI He	545752	3.31	521662	104.62	60	120	
In Internal Standard	115	3	HMI He	2272304	3.05	2121087	107.13	60	120	
Ir (IS)	193	3	HMI He	3990193	4.97	3821950	104.40	60	120	

Blank Report

Sample Table

Sample Name	mb 280-637887/1-a
Data File Name	075_BLK.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\79_122123.b
Acq Date Time	2023-12-21T15:22:57-07:00
Sample Type	Blank
Dilution	1
Comment	537887 6020B
ISTD Ref File Name	039CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	Units	Conc %RSD	CPS	Upper Limit
Be	9	2	6	-0.044	ppb	-91.5444502	2	0.5
Na	23	3	45	-1.439	ppb	-547.0149823	38591	25
Mg	24	3	45	9.290	ppb	32.50421245	501	25
Al	27	3	45	-0.294	ppb	-1290.74581	200	15
K	39	3	45	14.305	ppb	259.8073802	37538	50
Ca	40	2	45	33.658	ppb	9.868162043	46258	200
V	51	3	72	0.712	ppb	7.27703367	586	1
Cr	52	3	72	-0.054	ppb	-221.7860663	743	1
Mn	55	3	72	0.019	ppb	358.7721226	162	0.5
Fe	56	2	72	6.594	ppb	1.387463554	32655	50
Co	59	3	72	-0.008	ppb	-318.7697656	57	0.5
Ni	60	3	72	-0.210	ppb	-81.0632157	85	1
Cu	63	3	72	0.113	ppb	77.36360194	496	1
Zn	66	3	72	-0.007	ppb	-3353.203941	220	5
As	75	3	72	-0.151	ppb	-43.84235418	25	1
(Se)	78	3	72	1.143	ppb	113.8478481	35	1
Sr	88	3	72	0.386	ppb	11.51341669	212	0.5
Mo	95	3	115	0.017	ppb	177.7141382	17	0.5
Ag	107	3	115	0.021	ppb	84.07720101	33	1
Cd	111	3	115	-0.013	ppb	-133.6218234	7	0.5
Sn	120	3	115	1.703	ppb	3.92541397	1466	1
Sb	121	3	115	0.022	ppb	105.0363857	80	0.6
Ba	137	3	115	0.043	ppb	173.1666373	27	0.5
Tl	205	3	193	-0.115	ppb	-1.767377629	400	0.1
(Pb)	206	3	193	0.000	ppb	-6364.261423	132	1
(Pb)	207	3	193	0.009	ppb	615.5438174	235	1
Pb	208	3	193	-0.002	ppb	-182.3894943	633	0.5
Th	232	3	193	0.078	ppb	30.00368552	3480	1
U	238	3	193	0.004	ppb	99.22483472	1176	0.5

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc (IS)	45	2	HMI H2	4443294	1.67	4176342	106.39	60	120	
Sc (IS)	45	3	HMI He	480736	2.26	454432	105.79	60	120	
Ge Internal standard	72	2	HMI H2	2399987	0.10	2219876	108.11	60	120	
Ge Internal standard	72	3	HMI He	552583	2.28	521662	105.93	60	120	
In Internal Standard	115	3	HMI He	2282749	1.95	2121087	107.62	60	120	
Ir (IS)	193	3	HMI He	4066579	1.00	3821950	106.40	60	120	

Laboratory Control Sample (LCS) Report

Sample Table

Sample Name	lcs 280-637887/17-a
Data File Name	076_LCS.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\79_122123.b
Acq Date Time	2023-12-21T15:25:49-07:00
Sample Type	LCS
Dilution	1
Analyst	Denver Metals
Comment	537887 6020B
ISTD Ref File Name	039CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	FinalConc	Units	Conc %RSD	CPS	Exp Value	%Rec	%Low	%High	QC Flag
Be	9	2	6	39.378	39.378	ppb	1.194	1995	40	98.4	80	120	
Na	23	3	45	1142.734	1142.734	ppb	9.743	119486	40	2856.8	80	120	>+/-20%
Mg	24	3	45	1126.051	1126.051	ppb	6.908	42389	40	2815.1	80	120	>+/-20%
Al	27	3	45	857.045	857.045	ppb	11.681	13677	40	2142.6	80	120	>+/-20%
K	39	3	45	1113.822	1113.822	ppb	14.495	75555	40	2784.6	80	120	>+/-20%
Ca	40	2	45	1114.436	1114.436	ppb	2.259	843425	40	2786.1	80	120	>+/-20%
V	51	3	72	43.465	43.465	ppb	8.057	18356	40	108.7	80	120	
Cr	52	3	72	42.899	42.899	ppb	10.487	22832	40	107.2	80	120	
Mn	55	3	72	42.863	42.863	ppb	9.423	13226	40	107.2	80	120	
Fe	56	2	72	813.067	813.067	ppb	3.045	1232784	40	2032.7	80	120	>+/-20%
(Fe)	56	3	72	861.300	861.300	ppb	9.207	405110	40	2153.2	80	120	>+/-20%
Co	59	3	72	42.146	42.146	ppb	8.136	36334	40	105.4	80	120	
Ni	60	3	72	43.055	43.055	ppb	10.487	10172	40	107.6	80	120	
Cu	63	3	72	42.663	42.663	ppb	7.945	28704	40	106.7	80	120	
Zn	66	3	72	41.588	41.588	ppb	3.683	4707	40	104.0	80	120	
As	75	3	72	44.636	44.636	ppb	6.821	3474	40	111.6	80	120	
Se	78	2	72	41.373	41.373	ppb	3.716	2002	40	103.4	80	120	
(Se)	78	3	72	44.057	44.057	ppb	35.218	285	40	110.1	80	120	
Sr	88	3	72	86.472	86.472	ppb	5.844	37346	40	216.2	80	120	>+/-20%
Mo	95	3	115	42.514	42.514	ppb	11.160	14249	40	106.3	80	120	
Ag	107	3	115	41.578	41.578	ppb	9.297	46348	40	103.9	80	120	
Cd	111	3	115	42.378	42.378	ppb	14.929	7215	40	105.9	80	120	
Sn	120	3	115	42.453	42.453	ppb	10.789	24040	40	106.1	80	120	
Sb	121	3	115	42.958	42.958	ppb	8.985	22483	40	107.4	80	120	
Ba	137	3	115	42.063	42.063	ppb	7.172	8145	40	105.2	80	120	
Tl	205	3	193	43.278	43.278	ppb	5.291	113635	40	108.2	80	120	
(Pb)	206	3	193	42.961	42.961	ppb	5.952	37836	40	107.4	80	120	
(Pb)	207	3	193	43.634	43.634	ppb	6.324	33252	40	109.1	80	120	
Pb	208	3	193	43.271	43.271	ppb	5.814	151462	40	108.2	80	120	
Th	232	3	193	42.344	42.344	ppb	9.149	155814	40	105.9	80	120	
U	238	3	193	43.121	43.121	ppb	6.926	162263	40	107.8	80	120	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc (IS)	45	2	HMI H2	4403999	2.68	4176342	105.45	60	120	
Sc (IS)	45	3	HMI He	467862	4.25	454432	102.96	60	120	
Ge Internal standard	72	2	HMI H2	2406099	2.53	2219876	108.39	60	120	
Ge Internal standard	72	3	HMI He	539956	4.00	521662	103.51	60	120	
In Internal Standard	115	3	HMI He	2227762	6.11	2121087	105.03	60	120	
Ir (IS)	193	3	HMI He	3984184	3.55	3821950	104.24	60	120	

Sample Report

Sample Table

Sample Name	160-52498-a-2-d
Data File Name	077SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\79_122123.b
Acq Date Time	2023-12-21T15:29:02-07:00
Analyst	Denver Metals
Sample Type	Sample
Dilution	1
Comment	537887 6020B
ISTD Ref FileName	039CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Be	9	2	6	-0.057	ppb	-0.057	-80.96	1	2000	
Na	23	3	45	9736.506	ppb	9736.506	5.47	761620	400000	
Mg	24	3	45	14885.060	ppb	14885.060	3.94	578697	400000	
Al	27	3	45	99.097	ppb	99.097	11.06	1822	400000	
K	39	3	45	2342.238	ppb	2342.238	1.17	123560	400000	
Ca	40	2	45	63514.138	ppb	63514.138	4.33	48066449	400000	
V	51	3	72	0.904	ppb	0.904	29.71	681	2000	
Cr	52	3	72	0.260	ppb	0.260	61.18	928	5000	
Mn	55	3	72	8.926	ppb	8.926	9.77	3006	10000	
Fe	56	2	72	115.726	ppb	115.726	0.82	192808	10000	
Co	59	3	72	0.109	ppb	0.109	11.23	163	2000	
Ni	60	3	72	0.918	ppb	0.918	30.48	361	5000	
Cu	63	3	72	0.625	ppb	0.625	27.53	863	5000	
Zn	66	3	72	3.122	ppb	3.122	15.55	576	5000	
As	75	3	72	0.130	ppb	0.130	90.36	48	2000	
Se	78	2	72	0.131	ppb	0.131	114.25	12	2000	
Sr	88	3	72	136.003	ppb	136.003	5.76	61376	4000	
Mo	95	3	115	0.424	ppb	0.424	16.79	158	2000	
Ag	107	3	115	0.028	ppb	0.028	48.34	42	100	
Cd	111	3	115	0.015	ppb	0.015	214.95	12	2000	
Sn	120	3	115	-0.094	ppb	-0.094	-134.35	443	2000	
Sb	121	3	115	0.156	ppb	0.156	28.14	153	1000	
Ba	137	3	115	81.713	ppb	81.713	3.83	16385	5000	
Tl	205	3	193	-0.100	ppb	-0.100	-20.55	448	2000	
(Pb)	206	3	193	0.159	ppb	0.159	21.22	280	100	
(Pb)	207	3	193	0.107	ppb	0.107	40.33	318	100	
Pb	208	3	193	0.176	ppb	0.176	16.48	1293	5000	
Th	232	3	193	0.263	ppb	0.263	13.13	4245	2000	
U	238	3	193	34.774	ppb	34.774	4.60	136686	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc (IS)	45	2	HMI H2	4515254	3.23	4176342	108.12	60	120	
Sc (IS)	45	3	HMI He	483803	1.12	454432	106.46	60	120	
Ge Internal standard	72	2	HMI H2	2376781	0.80	2219876	107.07	60	120	
Ge Internal standard	72	3	HMI He	564229	3.26	521662	108.16	60	120	
In Internal Standard	115	3	HMI He	2303208	0.98	2121087	108.59	60	120	
Ir (IS)	193	3	HMI He	4150783	2.13	3821950	108.60	60	120	

Sample Report

Sample Table

Sample Name	160-52498-a-2-dSD@5
Data File Name	078SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\79_122123.b
Acq Date Time	2023-12-21T15:31:18-07:00
Analyst	Denver Metals
Sample Type	Sample
Dilution	1
Comment	537887 6020B
ISTD Ref FileName	039CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Be	9	2	6	-0.044	ppb	-0.044	-2.66	2	2000	
Na	23	3	45	1991.103	ppb	1991.103	2.03	182105	400000	
Mg	24	3	45	3138.562	ppb	3138.562	0.14	119106	400000	
Al	27	3	45	31.850	ppb	31.850	14.83	707	400000	
K	39	3	45	516.154	ppb	516.154	8.27	54852	400000	
Ca	40	2	45	13312.713	ppb	13312.713	2.43	9853997	400000	
V	51	3	72	1.082	ppb	1.082	3.57	736	2000	
Cr	52	3	72	0.174	ppb	0.174	37.49	855	5000	
Mn	55	3	72	2.386	ppb	2.386	7.27	893	10000	
Fe	56	2	72	34.589	ppb	34.589	2.87	74257	10000	
Co	59	3	72	0.025	ppb	0.025	137.73	85	2000	
Ni	60	3	72	0.390	ppb	0.390	40.50	227	5000	
Cu	63	3	72	0.286	ppb	0.286	9.61	608	5000	
Zn	66	3	72	6.696	ppb	6.696	13.70	951	5000	
As	75	3	72	0.044	ppb	0.044	530.18	40	2000	
Se	78	2	72	0.254	ppb	0.254	59.35	18	2000	
Sr	88	3	72	28.996	ppb	28.996	0.78	12730	4000	
Mo	95	3	115	0.175	ppb	0.175	14.84	70	2000	
Ag	107	3	115	0.041	ppb	0.041	37.68	55	100	
Cd	111	3	115	-0.022	ppb	-0.022	-132.12	5	2000	
Sn	120	3	115	0.356	ppb	0.356	11.95	686	2000	
Sb	121	3	115	0.065	ppb	0.065	58.46	102	1000	
Ba	137	3	115	17.412	ppb	17.412	3.33	3424	5000	
Tl	205	3	193	-0.122	ppb	-0.122	-15.91	376	2000	
(Pb)	206	3	193	0.043	ppb	0.043	50.71	168	100	
(Pb)	207	3	193	0.066	ppb	0.066	62.58	277	100	
Pb	208	3	193	0.071	ppb	0.071	31.57	886	5000	
Th	232	3	193	0.103	ppb	0.103	42.90	3537	2000	
U	238	3	193	7.535	ppb	7.535	0.70	29656	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc (IS)	45	2	HMI H2	4407384	1.96	4176342	105.53	60	120	
Sc (IS)	45	3	HMI He	471719	0.33	454432	103.80	60	120	
Ge Internal standard	72	2	HMI H2	2401260	0.67	2219876	108.17	60	120	
Ge Internal standard	72	3	HMI He	546864	0.20	521662	104.83	60	120	
In Internal Standard	115	3	HMI He	2248884	0.27	2121087	106.03	60	120	
Ir (IS)	193	3	HMI He	4026834	1.39	3821950	105.36	60	120	

Sample Report

Sample Table

Sample Name	160-52498-a-2-e ms
Data File Name	079SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\79_122123.b
Acq Date Time	2023-12-21T15:33:40-07:00
Analyst	Denver Metals
Sample Type	Sample
Dilution	1
Comment	537887 6020B
ISTD Ref FileName	039CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Be	9	2	6	39.395	ppb	39.395	4.52	2014	2000	
Na	23	3	45	11159.918	ppb	11159.918	1.37	858191	400000	
Mg	24	3	45	16867.357	ppb	16867.357	3.00	648744	400000	
Al	27	3	45	960.104	ppb	960.104	5.58	15695	400000	
K	39	3	45	3529.082	ppb	3529.082	3.15	165495	400000	
Ca	40	2	45	67223.357	ppb	67223.357	2.60	50974436	400000	
V	51	3	72	42.564	ppb	42.564	1.39	18575	2000	
Cr	52	3	72	41.984	ppb	41.984	5.71	23108	5000	
Mn	55	3	72	49.354	ppb	49.354	3.52	15711	10000	
Fe	56	2	72	962.598	ppb	962.598	1.47	1458564	10000	
Co	59	3	72	41.425	ppb	41.425	2.80	36887	2000	
Ni	60	3	72	41.090	ppb	41.090	5.85	10037	5000	
Cu	63	3	72	41.917	ppb	41.917	4.17	29133	5000	
Zn	66	3	72	42.925	ppb	42.925	3.87	5005	5000	
As	75	3	72	42.347	ppb	42.347	5.67	3404	2000	
Se	78	2	72	42.425	ppb	42.425	4.83	2057	2000	
Sr	88	3	72	229.035	ppb	229.035	3.18	102043	4000	
Mo	95	3	115	43.307	ppb	43.307	2.84	14756	2000	
Ag	107	3	115	41.484	ppb	41.484	1.04	46972	100	
Cd	111	3	115	40.787	ppb	40.787	1.32	7068	2000	
Sn	120	3	115	41.329	ppb	41.329	2.82	23794	2000	
Sb	121	3	115	42.744	ppb	42.744	2.16	22725	1000	
Ba	137	3	115	131.643	ppb	131.643	2.36	25832	5000	
Tl	205	3	193	42.848	ppb	42.848	6.89	114213	2000	
(Pb)	206	3	193	41.930	ppb	41.930	5.67	37505	100	
(Pb)	207	3	193	43.710	ppb	43.710	6.72	33820	100	
Pb	208	3	193	42.822	ppb	42.822	6.83	152170	5000	
Th	232	3	193	42.735	ppb	42.735	5.23	159812	2000	
U	238	3	193	81.607	ppb	81.607	8.29	310667	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc (IS)	45	2	HMI H2	4522626	1.67	4176342	108.29	60	120	
Sc (IS)	45	3	HMI He	478699	1.73	454432	105.34	60	120	
Ge Internal standard	72	2	HMI H2	2411145	2.72	2219876	108.62	60	120	
Ge Internal standard	72	3	HMI He	556639	1.06	521662	106.70	60	120	
In Internal Standard	115	3	HMI He	2254443	1.09	2121087	106.29	60	120	
Ir (IS)	193	3	HMI He	4046688	4.12	3821950	105.88	60	120	

Sample Report

Sample Table

Sample Name	160-52498-a-2-f msd
Data File Name	080SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\79_122123.b
Acq Date Time	2023-12-21T15:37:20-07:00
Analyst	Denver Metals
Sample Type	Sample
Dilution	1
Comment	537887 6020B
ISTD Ref FileName	039CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Be	9	2	6	41.384	ppb	41.384	3.22	2114	2000	
Na	23	3	45	11387.799	ppb	11387.799	5.56	883826	400000	
Mg	24	3	45	16628.976	ppb	16628.976	4.75	646146	400000	
Al	27	3	45	974.372	ppb	974.372	9.41	16083	400000	
K	39	3	45	3436.700	ppb	3436.700	0.88	163861	400000	
Ca	40	2	45	65789.063	ppb	65789.063	0.51	50408800	400000	
V	51	3	72	41.198	ppb	41.198	1.85	17904	2000	
Cr	52	3	72	41.771	ppb	41.771	5.83	22881	5000	
Mn	55	3	72	49.343	ppb	49.343	2.76	15634	10000	
Fe	56	2	72	934.008	ppb	934.008	0.77	1434276	10000	
Co	59	3	72	39.805	ppb	39.805	4.98	35264	2000	
Ni	60	3	72	40.950	ppb	40.950	4.82	9954	5000	
Cu	63	3	72	40.495	ppb	40.495	5.00	28016	5000	
Zn	66	3	72	41.125	ppb	41.125	4.05	4780	5000	
As	75	3	72	41.232	ppb	41.232	5.46	3299	2000	
Se	78	2	72	41.960	ppb	41.960	1.14	2061	2000	
Sr	88	3	72	221.103	ppb	221.103	4.58	98007	4000	
Mo	95	3	115	41.381	ppb	41.381	5.61	14139	2000	
Ag	107	3	115	41.241	ppb	41.241	2.64	46856	100	
Cd	111	3	115	40.575	ppb	40.575	2.25	7055	2000	
Sn	120	3	115	40.402	ppb	40.402	4.36	23347	2000	
Sb	121	3	115	41.092	ppb	41.092	4.32	21914	1000	
Ba	137	3	115	128.411	ppb	128.411	3.22	25282	5000	
Tl	205	3	193	40.540	ppb	40.540	4.14	111344	2000	
(Pb)	206	3	193	40.401	ppb	40.401	6.05	37203	100	
(Pb)	207	3	193	40.726	ppb	40.726	5.57	32462	100	
Pb	208	3	193	40.797	ppb	40.797	6.36	149290	5000	
Th	232	3	193	40.883	ppb	40.883	5.14	157547	2000	
U	238	3	193	75.911	ppb	75.911	6.45	297711	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc (IS)	45	2	HMI H2	4568916	2.11	4176342	109.40	60	120	
Sc (IS)	45	3	HMI He	483722	1.78	454432	106.45	60	120	
Ge Internal standard	72	2	HMI H2	2441752	0.86	2219876	109.99	60	120	
Ge Internal standard	72	3	HMI He	554000	1.94	521662	106.20	60	120	
In Internal Standard	115	3	HMI He	2262939	2.60	2121087	106.69	60	120	
Ir (IS)	193	3	HMI He	4164665	3.58	3821950	108.97	60	120	

Sample Report

Sample Table

Sample Name	160-52498-a-2-d PDS
Data File Name	081SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\79_122123.b
Acq Date Time	2023-12-21T15:39:36-07:00
Analyst	Denver Metals
Sample Type	Sample
Dilution	1
Comment	537887 6020B
ISTD Ref FileName	039CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Be	9	2	6	203.646	ppb	203.646	2.20	10319	2000	
Na	23	3	45	16000.000	ppb	16000.000	9.32	1197891	400000	
Mg	24	3	45	17547.633	ppb	17547.633	12.97	665181	400000	
Al	27	3	45	2358.872	ppb	2358.872	14.29	37702	400000	
K	39	3	45	4553.490	ppb	4553.490	12.76	200120	400000	
Ca	40	2	45	66721.344	ppb	66721.344	2.68	49866401	400000	
V	51	3	72	206.531	ppb	206.531	12.99	87900	2000	
Cr	52	3	72	212.458	ppb	212.458	14.12	112304	5000	
Mn	55	3	72	213.156	ppb	213.156	11.37	66524	10000	
Fe	56	2	72	2195.872	ppb	2195.872	2.43	3282490	10000	
Co	59	3	72	205.532	ppb	205.532	12.55	180471	2000	
Ni	60	3	72	209.546	ppb	209.546	12.80	49997	5000	
Cu	63	3	72	207.831	ppb	207.831	12.01	141020	5000	
Zn	66	3	72	214.742	ppb	214.742	13.21	23842	5000	
As	75	3	72	210.878	ppb	210.878	10.48	16607	2000	
Se	78	2	72	215.700	ppb	215.700	1.18	10389	2000	
Sr	88	3	72	350.110	ppb	350.110	12.39	154018	4000	
Mo	95	3	115	212.676	ppb	212.676	12.82	71677	2000	
Ag	107	3	115	56.259	ppb	56.259	10.61	63123	100	
Cd	111	3	115	206.995	ppb	206.995	11.72	35491	2000	
Sn	120	3	115	210.025	ppb	210.025	14.42	117653	2000	
Sb	121	3	115	214.881	ppb	214.881	14.91	112681	1000	
Ba	137	3	115	299.033	ppb	299.033	13.76	58035	5000	
Tl	205	3	193	219.209	ppb	219.209	15.86	571407	2000	
(Pb)	206	3	193	217.621	ppb	217.621	18.16	190382	100	
(Pb)	207	3	193	218.438	ppb	218.438	15.57	165250	100	
Pb	208	3	193	218.515	ppb	218.515	17.21	759846	5000	
Th	232	3	193	115.816	ppb	115.816	10.95	421908	2000	
U	238	3	193	321.798	ppb	321.798	21.53	1196047	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc (IS)	45	2	HMI H2	4456976	0.96	4176342	106.72	60	120	
Sc (IS)	45	3	HMI He	474122	6.04	454432	104.33	60	120	
Ge Internal standard	72	2	HMI H2	2399717	0.93	2219876	108.10	60	120	
Ge Internal standard	72	3	HMI He	552050	5.43	521662	105.83	60	120	
In Internal Standard	115	3	HMI He	2245769	7.48	2121087	105.88	60	120	
Ir (IS)	193	3	HMI He	4016422	11.04	3821950	105.09	60	120	

Sample Report

Sample Table

Sample Name	160-52501-a-6-a
Data File Name	082SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\79_122123.b
Acq Date Time	2023-12-21T15:41:53-07:00
Analyst	Denver Metals
Sample Type	Sample
Dilution	1
Comment	537887 6020B
ISTD Ref FileName	039CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Be	9	2	6	-0.032	ppb	-0.032	-184.79	3	2000	
Na	23	3	45	8883.001	ppb	8883.001	7.01	678474	400000	
Mg	24	3	45	11767.210	ppb	11767.210	8.53	444279	400000	
Al	27	3	45	370.369	ppb	370.369	13.20	6061	400000	
K	39	3	45	2474.644	ppb	2474.644	8.95	124779	400000	
Ca	40	2	45	42196.771	ppb	42196.771	1.91	32819219	400000	
V	51	3	72	1.953	ppb	1.953	2.02	1111	2000	
Cr	52	3	72	1.544	ppb	1.544	12.12	1578	5000	
Mn	55	3	72	62.111	ppb	62.111	10.64	19452	10000	
Fe	56	2	72	396.706	ppb	396.706	5.16	650733	10000	
Co	59	3	72	0.624	ppb	0.624	12.52	613	2000	
Ni	60	3	72	0.975	ppb	0.975	13.99	368	5000	
Cu	63	3	72	9.372	ppb	9.372	3.60	6758	5000	
Zn	66	3	72	33.775	ppb	33.775	9.59	3930	5000	
As	75	3	72	0.526	ppb	0.526	29.82	78	2000	
Se	78	2	72	0.492	ppb	0.492	48.01	31	2000	
Sr	88	3	72	130.734	ppb	130.734	8.92	57461	4000	
Mo	95	3	115	23.833	ppb	23.833	9.02	8027	2000	
Ag	107	3	115	0.076	ppb	0.076	21.57	95	100	
Cd	111	3	115	0.195	ppb	0.195	44.59	42	2000	
Sn	120	3	115	0.345	ppb	0.345	12.67	676	2000	
Sb	121	3	115	0.685	ppb	0.685	17.17	425	1000	
Ba	137	3	115	52.923	ppb	52.923	5.78	10282	5000	
Tl	205	3	193	-0.018	ppb	-0.018	-358.72	643	2000	
(Pb)	206	3	193	1.095	ppb	1.095	10.62	1100	100	
(Pb)	207	3	193	1.028	ppb	1.028	17.36	1010	100	
Pb	208	3	193	1.096	ppb	1.096	12.46	4481	5000	
Th	232	3	193	0.346	ppb	0.346	7.87	4422	2000	
U	238	3	193	35.689	ppb	35.689	12.79	135383	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc (IS)	45	2	HMI H2	4637168	1.36	4176342	111.03	60	120	
Sc (IS)	45	3	HMI He	470859	4.32	454432	103.61	60	120	
Ge Internal standard	72	2	HMI H2	2554711	2.85	2219876	115.08	60	120	
Ge Internal standard	72	3	HMI He	550166	4.01	521662	105.46	60	120	
In Internal Standard	115	3	HMI He	2233906	5.05	2121087	105.32	60	120	
Ir (IS)	193	3	HMI He	4029135	7.35	3821950	105.42	60	120	

Sample Report

Sample Table

Sample Name	160-52501-a-7-a
Data File Name	083SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\79_122123.b
Acq Date Time	2023-12-21T15:44:11-07:00
Analyst	Denver Metals
Sample Type	Sample
Dilution	1
Comment	537887 6020B
ISTD Ref FileName	039CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Be	9	2	6	-0.045	ppb	-0.045	-2.20	2	2000	
Na	23	3	45	8882.489	ppb	8882.489	1.14	685191	400000	
Mg	24	3	45	11416.675	ppb	11416.675	1.51	435567	400000	
Al	27	3	45	12.784	ppb	12.784	17.65	407	400000	
K	39	3	45	2403.723	ppb	2403.723	4.86	123422	400000	
Ca	40	2	45	45569.609	ppb	45569.609	0.70	34280637	400000	
V	51	3	72	1.448	ppb	1.448	4.40	903	2000	
Cr	52	3	72	0.754	ppb	0.754	36.85	1173	5000	
Mn	55	3	72	5.807	ppb	5.807	4.49	1979	10000	
Fe	56	2	72	18.833	ppb	18.833	2.03	51802	10000	
Co	59	3	72	0.173	ppb	0.173	6.29	217	2000	
Ni	60	3	72	0.434	ppb	0.434	56.83	240	5000	
Cu	63	3	72	5.357	ppb	5.357	4.99	4075	5000	
Zn	66	3	72	18.635	ppb	18.635	7.36	2289	5000	
As	75	3	72	0.309	ppb	0.309	91.05	62	2000	
Se	78	2	72	0.340	ppb	0.340	45.49	23	2000	
Sr	88	3	72	131.178	ppb	131.178	2.62	58223	4000	
Mo	95	3	115	24.191	ppb	24.191	1.93	8210	2000	
Ag	107	3	115	0.029	ppb	0.029	24.16	42	100	
Cd	111	3	115	0.114	ppb	0.114	59.06	28	2000	
Sn	120	3	115	-0.001	ppb	-0.001	-12959.91	485	2000	
Sb	121	3	115	0.517	ppb	0.517	20.45	340	1000	
Ba	137	3	115	47.908	ppb	47.908	1.40	9370	5000	
Tl	205	3	193	-0.106	ppb	-0.106	-20.63	425	2000	
(Pb)	206	3	193	0.091	ppb	0.091	22.26	213	100	
(Pb)	207	3	193	0.032	ppb	0.032	89.54	253	100	
Pb	208	3	193	0.066	ppb	0.066	43.91	875	5000	
Th	232	3	193	0.105	ppb	0.105	7.47	3579	2000	
U	238	3	193	35.343	ppb	35.343	1.20	136226	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc (IS)	45	2	HMI H2	4484618	1.24	4176342	107.38	60	120	
Sc (IS)	45	3	HMI He	474705	1.42	454432	104.46	60	120	
Ge Internal standard	72	2	HMI H2	2446240	1.91	2219876	110.20	60	120	
Ge Internal standard	72	3	HMI He	554339	0.90	521662	106.26	60	120	
In Internal Standard	115	3	HMI He	2244360	0.72	2121087	105.81	60	120	
Ir (IS)	193	3	HMI He	4068479	1.32	3821950	106.45	60	120	

Sample Report

Sample Table

Sample Name	160-52564-a-5-a
Data File Name	084SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\79_122123.b
Acq Date Time	2023-12-21T15:46:28-07:00
Analyst	Denver Metals
Sample Type	Sample
Dilution	1
Comment	537887 6020B
ISTD Ref FileName	039CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Be	9	2	6	-0.043	ppb	-0.043	-93.32	2	2000	
Na	23	3	45	453.585	ppb	453.585	4.93	70475	400000	
Mg	24	3	45	13695.400	ppb	13695.400	1.44	516782	400000	
Al	27	3	45	2.131	ppb	2.131	63.10	234	400000	
K	39	3	45	831.587	ppb	831.587	8.42	65867	400000	
Ca	40	2	45	24188.519	ppb	24188.519	2.37	18163712	400000	
V	51	3	72	1.237	ppb	1.237	7.79	798	2000	
Cr	52	3	72	0.412	ppb	0.412	66.36	975	5000	
Mn	55	3	72	0.319	ppb	0.319	25.23	252	10000	
Fe	56	2	72	6.879	ppb	6.879	3.54	33019	10000	
Co	59	3	72	0.020	ppb	0.020	49.56	80	2000	
Ni	60	3	72	0.140	ppb	0.140	91.84	167	5000	
Cu	63	3	72	0.168	ppb	0.168	20.03	526	5000	
Zn	66	3	72	1.754	ppb	1.754	6.34	408	5000	
As	75	3	72	0.004	ppb	0.004	2893.59	37	2000	
Se	78	2	72	0.061	ppb	0.061	175.72	9	2000	
Sr	88	3	72	21.418	ppb	21.418	1.15	9370	4000	
Mo	95	3	115	0.309	ppb	0.309	2.36	115	2000	
Ag	107	3	115	0.027	ppb	0.027	51.46	38	100	
Cd	111	3	115	0.007	ppb	0.007	678.20	10	2000	
Sn	120	3	115	0.102	ppb	0.102	132.80	541	2000	
Sb	121	3	115	0.067	ppb	0.067	59.50	102	1000	
Ba	137	3	115	77.322	ppb	77.322	5.04	15053	5000	
Tl	205	3	193	-0.119	ppb	-0.119	-11.34	383	2000	
(Pb)	206	3	193	0.035	ppb	0.035	80.46	160	100	
(Pb)	207	3	193	-0.012	ppb	-0.012	-286.83	215	100	
Pb	208	3	193	0.016	ppb	0.016	36.91	686	5000	
Th	232	3	193	0.078	ppb	0.078	86.66	3417	2000	
U	238	3	193	0.752	ppb	0.752	6.42	3964	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc (IS)	45	2	HMI H2	4474657	0.85	4176342	107.14	60	120	
Sc (IS)	45	3	HMI He	469495	0.78	454432	103.31	60	120	
Ge Internal standard	72	2	HMI H2	2395499	1.59	2219876	107.91	60	120	
Ge Internal standard	72	3	HMI He	544402	0.77	521662	104.36	60	120	
In Internal Standard	115	3	HMI He	2236966	2.20	2121087	105.46	60	120	
Ir (IS)	193	3	HMI He	3995417	0.98	3821950	104.54	60	120	

Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV-8123148
Data File Name	085_CCV.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\79_122123.b
Acq Date Time	2023-12-21T15:48:44-07:00
Sample Type	CCV
Dilution	1
Comment	
ISTD Ref File Name	039CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	Units	Conc %RSD	CPS	Exp Value	%Rec	%Low	%High2	QC Flag
Be	9	2	6	49.075	ppb	3.451	2496	50	98.2	90	110	
Na	23	3	45	51125.445	ppb	2.283	3724407	51000	100.2	90	110	
Mg	24	3	45	11118.884	ppb	3.364	419945	11000	101.1	90	110	
Al	27	3	45	1048.024	ppb	1.647	16814	1000	104.8	90	110	
K	39	3	45	11110.316	ppb	1.107	433944	11000	101.0	90	110	
Ca	40	2	45	10540.430	ppb	1.682	7935347	11000	95.8	90	110	
V	51	3	72	51.138	ppb	1.414	22123	50	102.3	90	110	
Cr	52	3	72	50.773	ppb	2.319	27624	50	101.5	90	110	
Mn	55	3	72	49.431	ppb	0.638	15643	50	98.9	90	110	
Fe	56	2	72	1065.349	ppb	0.973	1578531	1000	106.5	90	110	
Co	59	3	72	49.450	ppb	1.076	43760	50	98.9	90	110	
Ni	60	3	72	49.622	ppb	1.577	12023	50	99.2	90	110	
Cu	63	3	72	50.584	ppb	0.633	34865	50	101.2	90	110	
Zn	66	3	72	50.737	ppb	2.131	5840	50	101.5	90	110	
As	75	3	72	51.511	ppb	3.993	4109	50	103.0	90	110	
Se	78	2	72	54.273	ppb	2.580	2576	50	108.5	90	110	
Sr	88	3	72	103.311	ppb	0.924	45777	100	103.3	90	110	
Mo	95	3	115	51.461	ppb	1.924	17816	50	102.9	90	110	
Ag	107	3	115	49.660	ppb	2.568	57149	50	99.3	90	110	
Cd	111	3	115	49.792	ppb	0.492	8769	50	99.6	90	110	
Sn	120	3	115	50.603	ppb	3.547	29500	50	101.2	90	110	
Sb	121	3	115	51.707	ppb	1.998	27920	50	103.4	90	110	
Ba	137	3	115	51.467	ppb	5.505	10272	50	102.9	90	110	
Tl	205	3	193	52.192	ppb	1.464	140903	50	104.4	90	110	
(Pb)	206	3	193	50.237	ppb	0.984	45524	50	100.5	90	110	
(Pb)	207	3	193	52.180	ppb	1.555	40892	50	104.4	90	110	
Pb	208	3	193	51.032	ppb	1.236	183762	50	102.1	90	110	
Th	232	3	193	52.179	ppb	1.739	197069	50	104.4	90	110	
U	238	3	193	51.959	ppb	2.110	201067	50	103.9	90	110	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc (IS)	45	2	HMI H2	4479022	0.46	4176342	107.25	60	120	
Sc (IS)	45	3	HMI He	469996	1.25	454432	103.42	60	120	
Ge Internal standard	72	2	HMI H2	2360944	1.21	2219876	106.35	60	120	
Ge Internal standard	72	3	HMI He	553238	0.71	521662	106.05	60	120	
In Internal Standard	115	3	HMI He	2291655	1.47	2121087	108.04	60	120	
Ir (IS)	193	3	HMI He	4095913	0.73	3821950	107.17	60	120	

Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB-8123133
Data File Name	086_CCB.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\79_122123.b
Acq Date Time	2023-12-21T15:50:58-07:00
Sample Type	CCB
Dilution	1
Comment	
ISTD Ref File Name	039CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	Units	Conc %RSD	CPS	Upper Limit	QC Flag
Be	9	2	6	-0.030	ppb	-207.4	3	0.5	
Na	23	3	45	-16.957	ppb	-39.8	36012	25	
Mg	24	3	45	3.793	ppb	29.9	277	25	
Al	27	3	45	-3.644	ppb	-75.6	140	15	
K	39	3	45	13.046	ppb	501.8	36029	50	
V	51	3	72	0.875	ppb	20.4	640	1	
Cr	52	3	72	-0.026	ppb	-49.8	740	1	
Mn	55	3	72	-0.110	ppb	-79.2	118	0.5	
Co	59	3	72	0.005	ppb	619.0	67	0.5	
Ni	60	3	72	-0.224	ppb	-11.0	80	1	
Cu	63	3	72	0.002	ppb	4383.0	411	1	
Zn	66	3	72	-0.972	ppb	-29.1	110	5	
As	75	3	72	-0.144	ppb	-161.8	25	1	
Se	78	2	72	0.038	ppb	280.3	7	1	
Sr	88	3	72	0.082	ppb	30.2	75	0.5	
Mo	95	3	115	0.058	ppb	46.0	30	0.5	
Ag	107	3	115	0.047	ppb	22.3	62	1	
Cd	111	3	115	-0.012	ppb	-143.2	7	0.5	
Sn	120	3	115	0.111	ppb	19.2	545	1	
Sb	121	3	115	0.186	ppb	54.5	165	0.6	
Ba	137	3	115	-0.014	ppb	-373.9	15	0.5	
Tl	205	3	193	-0.113	ppb	-7.3	396	0.1	
(Pb)	206	3	193	0.005	ppb	298.9	133	1	
(Pb)	207	3	193	-0.014	ppb	-124.1	213	1	
Pb	208	3	193	0.001	ppb	1532.6	631	0.5	
Th	232	3	193	0.275	ppb	29.0	4120	1	
U	238	3	193	0.043	ppb	92.4	1303	0.5	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc (IS)	45	2	HMI H2	4355317	0.83	4176342	104.29	60	120	
Sc (IS)	45	3	HMI He	462239	0.59	454432	101.72	60	120	
Ge Internal standard	72	2	HMI H2	2297198	2.21	2219876	103.48	60	120	
Ge Internal standard	72	3	HMI He	539125	1.21	521662	103.35	60	120	
In Internal Standard	115	3	HMI He	2233191	1.21	2121087	105.29	60	120	
Ir (IS)	193	3	HMI He	3990193	2.70	3821950	104.40	60	120	

Blank Report

Sample Table

Sample Name	mb 280-637852/1-a
Data File Name	087_BLK.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\79_122123.b
Acq Date Time	2023-12-21T15:53:15-07:00
Sample Type	Blank
Dilution	1
Comment	637852 6020B
ISTD Ref File Name	039CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	Units	Conc %RSD	CPS	Upper Limit
Be	9	2	6	-0.058	ppb	-78.09627668	1	0.5
Na	23	3	45	-44.719	ppb	-15.3758945	35507	25
Mg	24	3	45	2.267	ppb	54.09457435	230	25
Al	27	3	45	-0.334	ppb	-1119.259147	200	15
K	39	3	45	-23.501	ppb	-263.8667695	36227	50
Ca	40	2	45	5.732	ppb	13.88131133	26004	200
V	51	3	72	0.677	ppb	14.05388072	578	1
Cr	52	3	72	-0.152	ppb	-48.71994734	700	1
Mn	55	3	72	-0.083	ppb	-154.3830703	132	0.5
Fe	56	2	72	-0.638	ppb	-59.11783751	22311	50
Co	59	3	72	-0.005	ppb	-370.7679466	60	0.5
Ni	60	3	72	-0.133	ppb	-15.68931571	105	1
Cu	63	3	72	-0.111	ppb	-89.42326599	348	1
Zn	66	3	72	-0.460	ppb	-47.60820571	172	5
As	75	3	72	-0.010	ppb	-928.7849805	37	1
(Se)	78	3	72	3.560	ppb	38.53644937	50	1
Sr	88	3	72	0.071	ppb	59.78000488	73	0.5
Mo	95	3	115	0.022	ppb	104.9638056	18	0.5
Ag	107	3	115	0.013	ppb	81.5961416	23	1
Cd	111	3	115	-0.051	ppb	-1.29704E-06	0	0.5
Sn	120	3	115	-0.227	ppb	-23.13275499	365	1
Sb	121	3	115	0.050	ppb	149.0718891	95	0.6
Ba	137	3	115	-0.015	ppb	-279.2881619	15	0.5
Tl	205	3	193	-0.152	ppb	-8.305359636	308	0.1
(Pb)	206	3	193	-0.016	ppb	-43.28899717	120	1
(Pb)	207	3	193	-0.034	ppb	-61.17598668	207	1
Pb	208	3	193	-0.028	ppb	-43.98857115	553	0.5
Th	232	3	193	0.072	ppb	98.99660274	3530	1
U	238	3	193	0.020	ppb	92.62337741	1264	0.5

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc (IS)	45	2	HMI H2	4543526	2.90	4176342	108.79	60	120	
Sc (IS)	45	3	HMI He	482148	1.27	454432	106.10	60	120	
Ge Internal standard	72	2	HMI H2	2443551	0.73	2219876	110.08	60	120	
Ge Internal standard	72	3	HMI He	559520	1.74	521662	107.26	60	120	
In Internal Standard	115	3	HMI He	2287444	2.03	2121087	107.84	60	120	
Ir (IS)	193	3	HMI He	4154345	2.06	3821950	108.70	60	120	

Laboratory Control Sample (LCS) Report

Sample Table

Sample Name	lcs 280-637852/2-a
Data File Name	088_LCS.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\79_122123.b
Acq Date Time	2023-12-21T15:55:30-07:00
Sample Type	LCS
Dilution	1
Analyst	Denver Metals
Comment	637852 6020B
ISTD Ref File Name	039CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	FinalConc	Units	Conc %RSD	CPS	Exp Value	%Rec	%Low	%High	QC Flag
Be	9	2	6	34.769	34.769	ppb	5.044	1835	40	86.9	80	120	
Na	23	3	45	867.235	867.235	ppb	1.552	103213	40	2168.1	80	120	>+/-20%
Mg	24	3	45	933.999	933.999	ppb	1.532	36410	40	2335.0	80	120	>+/-20%
Al	27	3	45	708.475	708.475	ppb	5.800	11747	40	1771.2	80	120	>+/-20%
K	39	3	45	885.615	885.615	ppb	7.768	69796	40	2214.0	80	120	>+/-20%
Ca	40	2	45	929.787	929.787	ppb	1.199	739288	40	2324.5	80	120	>+/-20%
V	51	3	72	35.833	35.833	ppb	3.180	15724	40	89.6	80	120	
Cr	52	3	72	36.072	36.072	ppb	2.467	20013	40	90.2	80	120	
Mn	55	3	72	34.540	34.540	ppb	1.547	11071	40	86.4	80	120	
Fe	56	2	72	716.892	716.892	ppb	1.028	1118823	40	1792.2	80	120	>+/-20%
(Fe)	56	3	72	714.937	714.937	ppb	1.280	349817	40	1787.3	80	120	>+/-20%
Co	59	3	72	35.870	35.870	ppb	1.990	32034	40	89.7	80	120	
Ni	60	3	72	35.933	35.933	ppb	5.061	8820	40	89.8	80	120	
Cu	63	3	72	35.765	35.765	ppb	1.465	24988	40	89.4	80	120	
Zn	66	3	72	34.586	34.586	ppb	2.873	4085	40	86.5	80	120	
As	75	3	72	35.724	35.724	ppb	4.695	2886	40	89.3	80	120	
Se	78	2	72	37.946	37.946	ppb	7.495	1884	40	94.9	80	120	
(Se)	78	3	72	39.634	39.634	ppb	20.579	268	40	99.1	80	120	
Sr	88	3	72	71.960	71.960	ppb	2.793	32164	40	179.9	80	120	>+/-20%
Mo	95	3	115	36.378	36.378	ppb	0.706	12710	40	90.9	80	120	
Ag	107	3	115	35.994	35.994	ppb	1.776	41787	40	90.0	80	120	
Cd	111	3	115	35.657	35.657	ppb	0.957	6337	40	89.1	80	120	
Sn	120	3	115	34.879	34.879	ppb	1.842	20674	40	87.2	80	120	
Sb	121	3	115	36.042	36.042	ppb	2.647	19656	40	90.1	80	120	
Ba	137	3	115	35.769	35.769	ppb	1.544	7210	40	89.4	80	120	
Tl	205	3	193	36.366	36.366	ppb	0.886	100664	40	90.9	80	120	
(Pb)	206	3	193	35.427	35.427	ppb	2.255	32876	40	88.6	80	120	
(Pb)	207	3	193	36.210	36.210	ppb	1.064	29102	40	90.5	80	120	
Pb	208	3	193	35.694	35.694	ppb	0.621	131699	40	89.2	80	120	
Th	232	3	193	35.460	35.460	ppb	2.586	138038	40	88.6	80	120	
U	238	3	193	35.480	35.480	ppb	0.811	140857	40	88.7	80	120	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc (IS)	45	2	HMI H2	4602741	1.20	4176342	110.21	60	120	
Sc (IS)	45	3	HMI He	483221	0.99	454432	106.34	60	120	
Ge Internal standard	72	2	HMI H2	2469749	1.58	2219876	111.26	60	120	
Ge Internal standard	72	3	HMI He	557992	1.65	521662	106.96	60	120	
In Internal Standard	115	3	HMI He	2311639	1.07	2121087	108.98	60	120	
Ir (IS)	193	3	HMI He	4190748	2.63	3821950	109.65	60	120	

Sample Report

Sample Table

Sample Name	lcsd 280-637852/3-a
Data File Name	089SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\79_122123.b
Acq Date Time	2023-12-21T15:57:45-07:00
Analyst	Denver Metals
Sample Type	Sample
Dilution	1
Comment	637852 6020B
ISTD Ref FileName	039CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Be	9	2	6	36.612	ppb	36.612	9.25	1857	2000	
Na	23	3	45	946.529	ppb	946.529	2.15	105902	400000	
Mg	24	3	45	1011.224	ppb	1011.224	1.06	38257	400000	
Al	27	3	45	773.941	ppb	773.941	3.42	12445	400000	
K	39	3	45	969.003	ppb	969.003	0.83	70735	400000	
Ca	40	2	45	1006.128	ppb	1006.128	0.70	766826	400000	
V	51	3	72	37.892	ppb	37.892	1.08	16178	2000	
Cr	52	3	72	37.942	ppb	37.942	3.39	20473	5000	
Mn	55	3	72	37.266	ppb	37.266	2.09	11624	10000	
Fe	56	2	72	769.131	ppb	769.131	3.63	1149021	10000	
Co	59	3	72	37.414	ppb	37.414	1.28	32544	2000	
Ni	60	3	72	38.206	ppb	38.206	3.45	9125	5000	
Cu	63	3	72	38.627	ppb	38.627	1.77	26254	5000	
Zn	66	3	72	38.289	ppb	38.289	2.53	4384	5000	
As	75	3	72	38.252	ppb	38.252	2.68	3007	2000	
Se	78	2	72	39.898	ppb	39.898	3.66	1901	2000	
Sr	88	3	72	75.965	ppb	75.965	1.70	33084	4000	
Mo	95	3	115	38.072	ppb	38.072	5.20	12855	2000	
Ag	107	3	115	37.998	ppb	37.998	0.79	42650	100	
Cd	111	3	115	38.466	ppb	38.466	0.55	6608	2000	
Sn	120	3	115	37.886	ppb	37.886	1.83	21665	2000	
Sb	121	3	115	37.837	ppb	37.837	1.39	19943	1000	
Ba	137	3	115	38.233	ppb	38.233	1.16	7450	5000	
Tl	205	3	193	38.718	ppb	38.718	3.25	105018	2000	
(Pb)	206	3	193	37.910	ppb	37.910	3.63	34486	100	
(Pb)	207	3	193	38.461	ppb	38.461	3.20	30289	100	
Pb	208	3	193	38.086	ppb	38.086	3.52	137705	5000	
Th	232	3	193	38.143	ppb	38.143	2.01	145366	2000	
U	238	3	193	37.706	ppb	37.706	2.52	146685	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc (IS)	45	2	HMI H2	4421597	0.56	4176342	105.87	60	120	
Sc (IS)	45	3	HMI He	469118	0.65	454432	103.23	60	120	
Ge Internal standard	72	2	HMI H2	2367661	1.60	2219876	106.66	60	120	
Ge Internal standard	72	3	HMI He	543545	0.42	521662	104.19	60	120	
In Internal Standard	115	3	HMI He	2234792	1.21	2121087	105.36	60	120	
Ir (IS)	193	3	HMI He	4109832	2.48	3821950	107.53	60	120	

Sample Report

Sample Table

Sample Name	280-185814-b-2-a
Data File Name	090SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\79_122123.b
Acq Date Time	2023-12-21T15:59:59-07:00
Analyst	Denver Metals
Sample Type	Sample
Dilution	1
Comment	637852 6020B
ISTD Ref FileName	039CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Be	9	2	6	-0.084	ppb	-0.084	0.00	0	2000	
Na	23	3	45	3823.075	ppb	3823.075	0.99	314074	400000	
Mg	24	3	45	10.434	ppb	10.434	12.34	534	400000	
Al	27	3	45	-1.079	ppb	-1.079	-333.76	184	400000	
K	39	3	45	238.793	ppb	238.793	23.73	44790	400000	
Ca	40	2	45	5577.590	ppb	5577.590	1.22	4194545	400000	
V	51	3	72	0.634	ppb	0.634	15.42	548	2000	
Cr	52	3	72	0.014	ppb	0.014	161.81	773	5000	
Mn	55	3	72	0.087	ppb	0.087	53.15	182	10000	
Fe	56	2	72	0.046	ppb	0.046	769.18	22939	10000	
Co	59	3	72	0.008	ppb	0.008	141.74	70	2000	
Ni	60	3	72	-0.201	ppb	-0.201	-24.71	87	5000	
Cu	63	3	72	-0.013	ppb	-0.013	-443.51	408	5000	
Zn	66	3	72	0.029	ppb	0.029	469.76	222	5000	
As	75	3	72	-0.256	ppb	-0.256	-36.44	17	2000	
Se	78	2	72	-0.036	ppb	-0.036	-237.62	4	2000	
Sr	88	3	72	3.905	ppb	3.905	6.92	1753	4000	
Mo	95	3	115	0.071	ppb	0.071	41.08	35	2000	
Ag	107	3	115	0.054	ppb	0.054	21.71	70	100	
Cd	111	3	115	-0.041	ppb	-0.041	-39.81	2	2000	
Sn	120	3	115	-0.040	ppb	-0.040	-262.13	466	2000	
Sb	121	3	115	0.111	ppb	0.111	55.82	127	1000	
Ba	137	3	115	0.139	ppb	0.139	55.84	45	5000	
Tl	205	3	193	-0.114	ppb	-0.114	-11.47	411	2000	
(Pb)	206	3	193	0.014	ppb	0.014	216.66	148	100	
(Pb)	207	3	193	-0.041	ppb	-0.041	-101.83	202	100	
Pb	208	3	193	-0.009	ppb	-0.009	-302.95	625	5000	
Th	232	3	193	0.293	ppb	0.293	6.37	4379	2000	
U	238	3	193	0.025	ppb	0.025	51.95	1289	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc (IS)	45	2	HMI H2	4463648	1.04	4176342	106.88	60	120	
Sc (IS)	45	3	HMI He	470775	1.27	454432	103.60	60	120	
Ge Internal standard	72	2	HMI H2	2401515	2.03	2219876	108.18	60	120	
Ge Internal standard	72	3	HMI He	548080	1.71	521662	105.06	60	120	
In Internal Standard	115	3	HMI He	2263499	0.99	2121087	106.71	60	120	
Ir (IS)	193	3	HMI He	4169852	1.92	3821950	109.10	60	120	

Sample Report

Sample Table

Sample Name	280-185814-b-3-a
Data File Name	091SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\79_122123.b
Acq Date Time	2023-12-21T16:02:15-07:00
Analyst	Denver Metals
Sample Type	Sample
Dilution	1
Comment	637852 6020B
ISTD Ref FileName	039CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Be	9	2	6	-0.004	ppb	-0.004	-974.09	4	2000	
Na	23	3	45	24312.001	ppb	24312.001	3.88	1794927	400000	
Mg	24	3	45	24089.407	ppb	24089.407	1.31	911890	400000	
Al	27	3	45	19.921	ppb	19.921	26.98	517	400000	
K	39	3	45	5731.905	ppb	5731.905	1.05	241915	400000	
Ca	40	2	45	47633.657	ppb	47633.657	1.83	35037379	400000	
V	51	3	72	5.824	ppb	5.824	2.11	2772	2000	
Cr	52	3	72	0.421	ppb	0.421	52.27	996	5000	
Mn	55	3	72	69.012	ppb	69.012	1.98	21791	10000	
Fe	56	2	72	49.790	ppb	49.790	3.96	97172	10000	
Co	59	3	72	0.384	ppb	0.384	14.24	403	2000	
Ni	60	3	72	1.414	ppb	1.414	6.84	475	5000	
Cu	63	3	72	12.064	ppb	12.064	0.77	8642	5000	
Zn	66	3	72	37.184	ppb	37.184	3.62	4342	5000	
As	75	3	72	2.163	ppb	2.163	15.97	208	2000	
Se	78	2	72	0.445	ppb	0.445	26.56	27	2000	
Sr	88	3	72	204.034	ppb	204.034	1.04	90432	4000	
Mo	95	3	115	3.152	ppb	3.152	8.30	1080	2000	
Ag	107	3	115	0.023	ppb	0.023	56.23	35	100	
Cd	111	3	115	1.101	ppb	1.101	18.77	198	2000	
Sn	120	3	115	0.307	ppb	0.307	25.71	658	2000	
Sb	121	3	115	0.372	ppb	0.372	11.91	263	1000	
Ba	137	3	115	25.190	ppb	25.190	3.87	4937	5000	
Tl	205	3	193	-0.131	ppb	-0.131	-8.31	356	2000	
(Pb)	206	3	193	0.088	ppb	0.088	55.02	212	100	
(Pb)	207	3	193	0.043	ppb	0.043	70.96	262	100	
Pb	208	3	193	0.073	ppb	0.073	5.26	903	5000	
Th	232	3	193	0.135	ppb	0.135	35.44	3695	2000	
U	238	3	193	0.664	ppb	0.664	6.55	3705	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc (IS)	45	2	HMI H2	4386065	2.13	4176342	105.02	60	120	
Sc (IS)	45	3	HMI He	471009	0.64	454432	103.65	60	120	
Ge Internal standard	72	2	HMI H2	2409951	1.22	2219876	108.56	60	120	
Ge Internal standard	72	3	HMI He	553654	1.19	521662	106.13	60	120	
In Internal Standard	115	3	HMI He	2245564	1.71	2121087	105.87	60	120	
Ir (IS)	193	3	HMI He	4073593	0.95	3821950	106.58	60	120	

Sample Report

Sample Table

Sample Name	280-185814-b-4-a
Data File Name	092SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\79_122123.b
Acq Date Time	2023-12-21T16:04:29-07:00
Analyst	Denver Metals
Sample Type	Sample
Dilution	1
Comment	637852 6020B
ISTD Ref FileName	039CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Be	9	2	6	-0.018	ppb	-0.018	-323.41	3	2000	
Na	23	3	45	255307.398	ppb	255307.398	0.94	18961924	400000	
Mg	24	3	45	160815.951	ppb	160815.951	0.87	6241778	400000	
Al	27	3	45	105.538	ppb	105.538	8.41	1925	400000	
K	39	3	45	4061.822	ppb	4061.822	1.87	186610	400000	
Ca	40	2	45	111424.325	ppb	111424.325	2.65	83859010	400000	
V	51	3	72	4.075	ppb	4.075	2.65	2054	2000	
Cr	52	3	72	0.228	ppb	0.228	84.16	906	5000	
Mn	55	3	72	325.843	ppb	325.843	0.75	103810	10000	
Fe	56	2	72	559.785	ppb	559.785	1.85	873211	10000	
Co	59	3	72	1.189	ppb	1.189	3.35	1131	2000	
Ni	60	3	72	1.324	ppb	1.324	12.90	460	5000	
Cu	63	3	72	0.750	ppb	0.750	17.27	946	5000	
Zn	66	3	72	2.438	ppb	2.438	10.35	498	5000	
As	75	3	72	1.460	ppb	1.460	26.99	155	2000	
Se	78	2	72	0.178	ppb	0.178	33.77	15	2000	
Sr	88	3	72	631.178	ppb	631.178	1.47	283748	4000	
Mo	95	3	115	4.623	ppb	4.623	3.90	1589	2000	
Ag	107	3	115	0.053	ppb	0.053	48.09	68	100	
Cd	111	3	115	-0.022	ppb	-0.022	-2.38	5	2000	
Sn	120	3	115	0.173	ppb	0.173	27.22	586	2000	
Sb	121	3	115	0.064	ppb	0.064	58.06	102	1000	
Ba	137	3	115	119.806	ppb	119.806	2.85	23569	5000	
Tl	205	3	193	-0.141	ppb	-0.141	-3.17	332	2000	
(Pb)	206	3	193	0.122	ppb	0.122	18.36	243	100	
(Pb)	207	3	193	0.057	ppb	0.057	64.10	273	100	
Pb	208	3	193	0.082	ppb	0.082	11.88	940	5000	
Th	232	3	193	0.176	ppb	0.176	13.71	3862	2000	
U	238	3	193	16.846	ppb	16.846	3.32	65801	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc (IS)	45	2	HMI H2	4490423	2.69	4176342	107.52	60	120	
Sc (IS)	45	3	HMI He	482986	0.87	454432	106.28	60	120	
Ge Internal standard	72	2	HMI H2	2454549	2.33	2219876	110.57	60	120	
Ge Internal standard	72	3	HMI He	561727	0.70	521662	107.68	60	120	
In Internal Standard	115	3	HMI He	2260683	1.80	2121087	106.58	60	120	
Ir (IS)	193	3	HMI He	4087475	3.55	3821950	106.95	60	120	

Sample Report

Sample Table

Sample Name	280-185814-b-4-aSD@5
Data File Name	093SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\79_122123.b
Acq Date Time	2023-12-21T16:06:44-07:00
Analyst	Denver Metals
Sample Type	Sample
Dilution	1
Comment	637852 6020B
ISTD Ref FileName	039CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Be	9	2	6	-0.058	ppb	-0.058	-38.92	1	2000	
Na	23	3	45	50948.939	ppb	50948.939	2.96	3833964	400000	
Mg	24	3	45	33588.757	ppb	33588.757	2.54	1310284	400000	
Al	27	3	45	24.907	ppb	24.907	17.18	614	400000	
K	39	3	45	833.646	ppb	833.646	8.88	68180	400000	
Ca	40	2	45	22557.632	ppb	22557.632	2.03	16916981	400000	
V	51	3	72	1.448	ppb	1.448	2.95	915	2000	
Cr	52	3	72	0.183	ppb	0.183	85.57	881	5000	
Mn	55	3	72	64.567	ppb	64.567	2.68	20680	10000	
Fe	56	2	72	114.740	ppb	114.740	0.69	198293	10000	
Co	59	3	72	0.244	ppb	0.244	20.04	283	2000	
Ni	60	3	72	0.249	ppb	0.249	38.34	198	5000	
Cu	63	3	72	0.171	ppb	0.171	8.96	545	5000	
Zn	66	3	72	3.093	ppb	3.093	3.80	571	5000	
As	75	3	72	0.135	ppb	0.135	117.65	48	2000	
Se	78	2	72	0.082	ppb	0.082	129.34	10	2000	
Sr	88	3	72	127.991	ppb	127.991	1.88	57529	4000	
Mo	95	3	115	0.983	ppb	0.983	12.32	351	2000	
Ag	107	3	115	0.029	ppb	0.029	57.45	43	100	
Cd	111	3	115	-0.022	ppb	-0.022	-3.53	5	2000	
Sn	120	3	115	0.099	ppb	0.099	69.64	553	2000	
Sb	121	3	115	0.047	ppb	0.047	157.65	95	1000	
Ba	137	3	115	22.616	ppb	22.616	6.20	4539	5000	
Tl	205	3	193	-0.135	ppb	-0.135	-10.05	347	2000	
(Pb)	206	3	193	0.017	ppb	0.017	59.20	148	100	
(Pb)	207	3	193	-0.016	ppb	-0.016	-129.41	217	100	
Pb	208	3	193	0.015	ppb	0.015	86.56	700	5000	
Th	232	3	193	0.093	ppb	0.093	26.32	3550	2000	
U	238	3	193	3.271	ppb	3.271	4.56	13722	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc (IS)	45	2	HMI H2	4467943	0.85	4176342	106.98	60	120	
Sc (IS)	45	3	HMI He	485529	1.49	454432	106.84	60	120	
Ge Internal standard	72	2	HMI H2	2462873	0.59	2219876	110.95	60	120	
Ge Internal standard	72	3	HMI He	561338	1.17	521662	107.61	60	120	
In Internal Standard	115	3	HMI He	2299694	2.82	2121087	108.42	60	120	
Ir (IS)	193	3	HMI He	4088790	2.79	3821950	106.98	60	120	

Sample Report

Sample Table

Sample Name	280-185814-b-4-b ms
Data File Name	094SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\79_122123.b
Acq Date Time	2023-12-21T16:08:57-07:00
Analyst	Denver Metals
Sample Type	Sample
Dilution	1
Comment	637852 6020B
ISTD Ref FileName	039CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Be	9	2	6	38.296	ppb	38.296	1.48	1949	2000	
Na	23	3	45	252160.659	ppb	252160.659	1.12	18762669	400000	
Mg	24	3	45	160219.764	ppb	160219.764	0.67	6229750	400000	
Al	27	3	45	1015.408	ppb	1015.408	3.63	16777	400000	
K	39	3	45	4979.981	ppb	4979.981	0.53	220813	400000	
Ca	40	2	45	108031.261	ppb	108031.261	2.15	82956568	400000	
V	51	3	72	43.124	ppb	43.124	1.70	18982	2000	
Cr	52	3	72	39.481	ppb	39.481	1.45	21975	5000	
Mn	55	3	72	380.846	ppb	380.846	1.28	121265	10000	
Fe	56	2	72	1525.707	ppb	1525.707	1.85	2310253	10000	
Co	59	3	72	39.320	ppb	39.320	1.40	35329	2000	
Ni	60	3	72	39.834	ppb	39.834	0.28	9824	5000	
Cu	63	3	72	38.235	ppb	38.235	1.29	26851	5000	
Zn	66	3	72	41.949	ppb	41.949	3.15	4940	5000	
As	75	3	72	41.770	ppb	41.770	2.42	3389	2000	
Se	78	2	72	38.761	ppb	38.761	0.71	1890	2000	
Sr	88	3	72	706.146	ppb	706.146	0.74	317347	4000	
Mo	95	3	115	45.326	ppb	45.326	0.27	15786	2000	
Ag	107	3	115	38.726	ppb	38.726	0.39	44834	100	
Cd	111	3	115	36.128	ppb	36.128	1.64	6402	2000	
Sn	120	3	115	38.737	ppb	38.737	0.33	22836	2000	
Sb	121	3	115	38.614	ppb	38.614	2.14	20988	1000	
Ba	137	3	115	154.225	ppb	154.225	1.47	30936	5000	
Tl	205	3	193	39.639	ppb	39.639	0.58	106737	2000	
(Pb)	206	3	193	39.719	ppb	39.719	1.28	35868	100	
(Pb)	207	3	193	40.398	ppb	40.398	2.08	31574	100	
Pb	208	3	193	39.938	ppb	39.938	1.80	143335	5000	
Th	232	3	193	39.895	ppb	39.895	0.65	150780	2000	
U	238	3	193	56.554	ppb	56.554	1.15	217837	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc (IS)	45	2	HMI H2	4580597	1.84	4176342	109.68	60	120	
Sc (IS)	45	3	HMI He	483870	0.37	454432	106.48	60	120	
Ge Internal standard	72	2	HMI H2	2422955	0.42	2219876	109.15	60	120	
Ge Internal standard	72	3	HMI He	561519	0.21	521662	107.64	60	120	
In Internal Standard	115	3	HMI He	2304852	1.17	2121087	108.66	60	120	
Ir (IS)	193	3	HMI He	4078543	1.09	3821950	106.71	60	120	

Sample Report

Sample Table

Sample Name	280-185814-b-4-c msd
Data File Name	095SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\79_122123.b
Acq Date Time	2023-12-21T16:11:11-07:00
Analyst	Denver Metals
Sample Type	Sample
Dilution	1
Comment	637852 6020B
ISTD Ref FileName	039CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Be	9	2	6	40.066	ppb	40.066	3.58	2058	2000	
Na	23	3	45	253008.117	ppb	253008.117	0.44	18941646	400000	
Mg	24	3	45	160038.502	ppb	160038.502	0.28	6261114	400000	
Al	27	3	45	1062.480	ppb	1062.480	0.96	17652	400000	
K	39	3	45	4960.256	ppb	4960.256	1.44	221443	400000	
Ca	40	2	45	108840.192	ppb	108840.192	2.36	82954904	400000	
V	51	3	72	44.289	ppb	44.289	1.81	19587	2000	
Cr	52	3	72	39.710	ppb	39.710	2.34	22210	5000	
Mn	55	3	72	376.505	ppb	376.505	0.20	120502	10000	
Fe	56	2	72	1582.396	ppb	1582.396	1.10	2427892	10000	
Co	59	3	72	40.000	ppb	40.000	0.75	36124	2000	
Ni	60	3	72	40.670	ppb	40.670	2.06	10079	5000	
Cu	63	3	72	40.061	ppb	40.061	0.16	28258	5000	
Zn	66	3	72	41.180	ppb	41.180	0.66	4878	5000	
As	75	3	72	41.290	ppb	41.290	5.00	3367	2000	
Se	78	2	72	39.957	ppb	39.957	0.67	1974	2000	
Sr	88	3	72	699.558	ppb	699.558	0.26	316008	4000	
Mo	95	3	115	46.341	ppb	46.341	2.56	15778	2000	
Ag	107	3	115	40.391	ppb	40.391	4.16	45698	100	
Cd	111	3	115	40.665	ppb	40.665	2.29	7043	2000	
Sn	120	3	115	41.145	ppb	41.145	3.25	23679	2000	
Sb	121	3	115	40.613	ppb	40.613	4.60	21572	1000	
Ba	137	3	115	154.618	ppb	154.618	3.22	30318	5000	
Tl	205	3	193	40.347	ppb	40.347	1.71	108958	2000	
(Pb)	206	3	193	40.208	ppb	40.208	2.91	36414	100	
(Pb)	207	3	193	40.594	ppb	40.594	0.12	31833	100	
Pb	208	3	193	40.616	ppb	40.616	1.48	146217	5000	
Th	232	3	193	40.672	ppb	40.672	0.81	154138	2000	
U	238	3	193	57.029	ppb	57.029	1.68	220320	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc (IS)	45	2	HMI H2	4545890	1.07	4176342	108.85	60	120	
Sc (IS)	45	3	HMI He	486863	0.38	454432	107.14	60	120	
Ge Internal standard	72	2	HMI H2	2456061	2.08	2219876	110.64	60	120	
Ge Internal standard	72	3	HMI He	564409	0.29	521662	108.19	60	120	
In Internal Standard	115	3	HMI He	2254126	2.61	2121087	106.27	60	120	
Ir (IS)	193	3	HMI He	4091713	2.13	3821950	107.06	60	120	

Sample Report

Sample Table

Sample Name	280-185814-b-4-a PDS
Data File Name	096SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\79_122123.b
Acq Date Time	2023-12-21T16:13:25-07:00
Analyst	Denver Metals
Sample Type	Sample
Dilution	1
Comment	637852 6020B
ISTD Ref FileName	039CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Be	9	2	6	202.707	ppb	202.707	1.74	10306	2000	
Na	23	3	45	254213.162	ppb	254213.162	0.33	19247047	400000	
Mg	24	3	45	160849.903	ppb	160849.903	0.38	6364214	400000	
Al	27	3	45	2243.743	ppb	2243.743	0.27	37467	400000	
K	39	3	45	6209.148	ppb	6209.148	1.44	270796	400000	
Ca	40	2	45	112415.680	ppb	112415.680	1.71	85089185	400000	
V	51	3	72	206.096	ppb	206.096	0.94	91144	2000	
Cr	52	3	72	203.826	ppb	203.826	1.18	112038	5000	
Mn	55	3	72	515.501	ppb	515.501	1.65	166847	10000	
Fe	56	2	72	2626.720	ppb	2626.720	2.74	3983373	10000	
Co	59	3	72	201.297	ppb	201.297	0.89	183646	2000	
Ni	60	3	72	199.950	ppb	199.950	1.28	49579	5000	
Cu	63	3	72	200.512	ppb	200.512	1.48	141344	5000	
Zn	66	3	72	206.542	ppb	206.542	0.68	23840	5000	
As	75	3	72	207.721	ppb	207.721	3.00	16985	2000	
Se	78	2	72	210.590	ppb	210.590	2.89	10300	2000	
Sr	88	3	72	835.428	ppb	835.428	1.05	381773	4000	
Mo	95	3	115	216.629	ppb	216.629	1.35	75284	2000	
Ag	107	3	115	54.715	ppb	54.715	0.38	63231	100	
Cd	111	3	115	203.258	ppb	203.258	2.85	35913	2000	
Sn	120	3	115	208.871	ppb	208.871	0.68	120737	2000	
Sb	121	3	115	205.700	ppb	205.700	1.97	111324	1000	
Ba	137	3	115	322.498	ppb	322.498	2.12	64557	5000	
Tl	205	3	193	207.384	ppb	207.384	2.64	561868	2000	
(Pb)	206	3	193	207.095	ppb	207.095	3.06	188619	100	
(Pb)	207	3	193	207.482	ppb	207.482	2.08	163112	100	
Pb	208	3	193	207.452	ppb	207.452	2.52	750516	5000	
Th	232	3	193	80.552	ppb	80.552	2.01	304766	2000	
U	238	3	193	283.466	ppb	283.466	1.92	1099913	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc (IS)	45	2	HMI H2	4515198	2.54	4176342	108.11	60	120	
Sc (IS)	45	3	HMI He	492380	0.46	454432	108.35	60	120	
Ge Internal standard	72	2	HMI H2	2437375	1.19	2219876	109.80	60	120	
Ge Internal standard	72	3	HMI He	571011	0.64	521662	109.46	60	120	
In Internal Standard	115	3	HMI He	2301009	1.32	2121087	108.48	60	120	
Ir (IS)	193	3	HMI He	4126928	1.66	3821950	107.98	60	120	

Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV-8123148
Data File Name	097_CCV.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\79_122123.b
Acq Date Time	2023-12-21T16:15:38-07:00
Sample Type	CCV
Dilution	1
Comment	
ISTD Ref File Name	039CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	Units	Conc %RSD	CPS	Exp Value	%Rec	%Low	%High2	QC Flag
Be	9	2	6	48.823	ppb	4.758	2465	50	97.6	90	110	
Na	23	3	45	51753.429	ppb	1.856	3869099	51000	101.5	90	110	
Mg	24	3	45	11068.924	ppb	3.567	429069	11000	100.6	90	110	
Al	27	3	45	1026.916	ppb	3.660	16904	1000	102.7	90	110	
K	39	3	45	11040.802	ppb	3.288	442727	11000	100.4	90	110	
Ca	40	2	45	10624.354	ppb	1.533	8068250	11000	96.6	90	110	
V	51	3	72	52.750	ppb	4.038	22829	50	105.5	90	110	
Cr	52	3	72	51.109	ppb	1.243	27822	50	102.2	90	110	
Mn	55	3	72	50.040	ppb	1.627	15848	50	100.1	90	110	
Fe	56	2	72	1048.754	ppb	2.449	1561404	1000	104.9	90	110	
Co	59	3	72	51.010	ppb	2.335	45166	50	102.0	90	110	
Ni	60	3	72	51.560	ppb	2.952	12496	50	103.1	90	110	
Cu	63	3	72	52.082	ppb	1.674	35910	50	104.2	90	110	
Zn	66	3	72	50.781	ppb	1.123	5850	50	101.6	90	110	
As	75	3	72	51.948	ppb	4.146	4145	50	103.9	90	110	
Se	78	2	72	53.152	ppb	1.061	2534	50	106.3	90	110	
Sr	88	3	72	105.946	ppb	1.811	46976	100	105.9	90	110	
Mo	95	3	115	51.810	ppb	3.623	17876	50	103.6	90	110	
Ag	107	3	115	51.414	ppb	3.133	58973	50	102.8	90	110	
Cd	111	3	115	51.414	ppb	7.095	9017	50	102.8	90	110	
Sn	120	3	115	50.885	ppb	2.686	29571	50	101.8	90	110	
Sb	121	3	115	51.553	ppb	2.475	27748	50	103.1	90	110	
Ba	137	3	115	51.165	ppb	2.555	10184	50	102.3	90	110	
Tl	205	3	193	52.311	ppb	3.319	138088	50	104.6	90	110	
(Pb)	206	3	193	52.289	ppb	2.948	46328	50	104.6	90	110	
(Pb)	207	3	193	53.037	ppb	3.069	40643	50	106.1	90	110	
Pb	208	3	193	52.710	ppb	2.342	185567	50	105.4	90	110	
Th	232	3	193	53.046	ppb	0.454	195888	50	106.1	90	110	
U	238	3	193	52.477	ppb	2.682	198545	50	105.0	90	110	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc (IS)	45	2	HMI H2	4518933	2.17	4176342	108.20	60	120	
Sc (IS)	45	3	HMI He	482411	2.08	454432	106.16	60	120	
Ge Internal standard	72	2	HMI H2	2371624	0.09	2219876	106.84	60	120	
Ge Internal standard	72	3	HMI He	553669	1.13	521662	106.14	60	120	
In Internal Standard	115	3	HMI He	2284880	2.53	2121087	107.72	60	120	
Ir (IS)	193	3	HMI He	4006139	2.39	3821950	104.82	60	120	

Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB-8123133
Data File Name	098_CCB.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\79_122123.b
Acq Date Time	2023-12-21T16:17:51-07:00
Sample Type	CCB
Dilution	1
Comment	
ISTD Ref File Name	039CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	Units	Conc %RSD	CPS	Upper Limit	QC Flag
Be	9	2	6	-0.057	ppb	-41.3	1	0.5	
Na	23	3	45	71.110	ppb	11.5	43353	25	>RL
Mg	24	3	45	14.467	ppb	19.7	691	25	
Al	27	3	45	-3.651	ppb	-99.0	143	15	
K	39	3	45	14.363	ppb	342.2	37009	50	
V	51	3	72	1.026	ppb	16.6	713	1	>RL
Cr	52	3	72	-0.089	ppb	-142.8	718	1	
Mn	55	3	72	-0.040	ppb	-30.2	142	0.5	
Co	59	3	72	-0.005	ppb	-517.9	58	0.5	
Ni	60	3	72	-0.201	ppb	-16.4	87	1	
Cu	63	3	72	-0.039	ppb	-117.7	390	1	
Zn	66	3	72	-1.034	ppb	-18.7	105	5	
As	75	3	72	-0.042	ppb	-167.3	33	1	
Se	78	2	72	0.033	ppb	318.3	7	1	
Sr	88	3	72	0.166	ppb	72.9	113	0.5	
Mo	95	3	115	0.128	ppb	17.1	53	0.5	
Ag	107	3	115	0.072	ppb	11.0	88	1	
Cd	111	3	115	0.018	ppb	254.7	12	0.5	
Sn	120	3	115	0.076	ppb	117.2	521	1	
Sb	121	3	115	0.205	ppb	10.4	173	0.6	
Ba	137	3	115	0.004	ppb	640.6	18	0.5	
Tl	205	3	193	-0.086	ppb	-24.1	466	0.1	
(Pb)	206	3	193	0.009	ppb	229.8	137	1	
(Pb)	207	3	193	-0.044	ppb	-61.6	190	1	
Pb	208	3	193	-0.003	ppb	-259.2	616	0.5	
Th	232	3	193	0.265	ppb	18.6	4080	1	
U	238	3	193	0.036	ppb	30.7	1271	0.5	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc (IS)	45	2	HMI H2	4544225	0.91	4176342	108.81	60	120	
Sc (IS)	45	3	HMI He	474181	0.65	454432	104.35	60	120	
Ge Internal standard	72	2	HMI H2	2398666	1.30	2219876	108.05	60	120	
Ge Internal standard	72	3	HMI He	547426	0.69	521662	104.94	60	120	
In Internal Standard	115	3	HMI He	2217705	1.63	2121087	104.56	60	120	
Ir (IS)	193	3	HMI He	3980038	0.45	3821950	104.14	60	120	

Sample Report

Sample Table

Sample Name	280-185814-b-5-a
Data File Name	099SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\79_122123.b
Acq Date Time	2023-12-21T16:20:06-07:00
Analyst	Denver Metals
Sample Type	Sample
Dilution	1
Comment	637852 6020B
ISTD Ref FileName	039CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Be	9	2	6	-0.030	ppb	-0.030	-79.00	3	2000	
Na	23	3	45	780727.856	ppb	780727.856	1.14	59357867	400000	
Mg	24	3	45	504248.607	ppb	504248.607	0.99	20062096	400000	
Al	27	3	45	33.340	ppb	33.340	17.53	767	400000	
K	39	3	45	10603.558	ppb	10603.558	0.90	438074	400000	
Ca	40	2	45	152229.322	ppb	152229.322	2.27	117276312	400000	
V	51	3	72	8.708	ppb	8.708	2.30	4154	2000	
Cr	52	3	72	0.229	ppb	0.229	59.68	928	5000	
Mn	55	3	72	3707.711	ppb	3707.711	1.74	1205761	10000	
Fe	56	2	72	124.835	ppb	124.835	2.23	214235	10000	
Co	59	3	72	0.586	ppb	0.586	5.06	603	2000	
Ni	60	3	72	5.529	ppb	5.529	7.36	1516	5000	
Cu	63	3	72	0.259	ppb	0.259	23.88	620	5000	
Zn	66	3	72	4.471	ppb	4.471	5.50	743	5000	
As	75	3	72	2.274	ppb	2.274	10.24	225	2000	
Se	78	2	72	0.204	ppb	0.204	100.71	16	2000	
Sr	88	3	72	1231.157	ppb	1231.157	0.87	565739	4000	
Mo	95	3	115	137.623	ppb	137.623	3.26	47835	2000	
Ag	107	3	115	0.029	ppb	0.029	66.88	43	100	
Cd	111	3	115	0.393	ppb	0.393	17.82	78	2000	
Sn	120	3	115	0.108	ppb	0.108	74.21	560	2000	
Sb	121	3	115	4.426	ppb	4.426	3.84	2464	1000	
Ba	137	3	115	32.266	ppb	32.266	2.02	6478	5000	
Tl	205	3	193	-0.124	ppb	-0.124	-20.15	376	2000	
(Pb)	206	3	193	0.059	ppb	0.059	35.56	185	100	
(Pb)	207	3	193	0.006	ppb	0.006	1278.78	233	100	
Pb	208	3	193	0.033	ppb	0.033	96.46	761	5000	
Th	232	3	193	0.110	ppb	0.110	24.40	3609	2000	
U	238	3	193	83.200	ppb	83.200	1.00	319923	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc (IS)	45	2	HMI H2	4595439	1.58	4176342	110.04	60	120	
Sc (IS)	45	3	HMI He	495129	0.25	454432	108.96	60	120	
Ge Internal standard	72	2	HMI H2	2469574	1.35	2219876	111.25	60	120	
Ge Internal standard	72	3	HMI He	574206	0.78	521662	110.07	60	120	
In Internal Standard	115	3	HMI He	2302439	2.38	2121087	108.55	60	120	
Ir (IS)	193	3	HMI He	4078415	0.74	3821950	106.71	60	120	

Sample Report

Sample Table

Sample Name	280-185814-b-6-a
Data File Name	100SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\79_122123.b
Acq Date Time	2023-12-21T16:22:19-07:00
Analyst	Denver Metals
Sample Type	Sample
Dilution	1
Comment	637852 6020B
ISTD Ref FileName	039CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Be	9	2	6	0.127	ppb	0.127	71.36	11	2000	
Na	23	3	45	348618.131	ppb	348618.131	1.82	26983389	400000	
Mg	24	3	45	362063.713	ppb	362063.713	0.24	14654801	400000	
Al	27	3	45	500.075	ppb	500.075	1.70	8708	400000	
K	39	3	45	3429.490	ppb	3429.490	3.83	170330	400000	
Ca	40	2	45	150446.057	ppb	150446.057	1.71	114958939	400000	
V	51	3	72	6.090	ppb	6.090	4.39	3035	2000	
Cr	52	3	72	0.743	ppb	0.743	29.63	1226	5000	
Mn	55	3	72	8924.159	ppb	8924.159	0.96	2943798	10000	
Fe	56	2	72	3245.226	ppb	3245.226	0.99	5014169	10000	
Co	59	3	72	0.913	ppb	0.913	9.21	916	2000	
Ni	60	3	72	2.887	ppb	2.887	5.70	871	5000	
Cu	63	3	72	1.274	ppb	1.274	4.42	1356	5000	
Zn	66	3	72	10.791	ppb	10.791	7.11	1491	5000	
As	75	3	72	13.740	ppb	13.740	6.34	1183	2000	
Se	78	2	72	0.053	ppb	0.053	110.68	9	2000	
Sr	88	3	72	966.768	ppb	966.768	0.88	450658	4000	
Mo	95	3	115	33.765	ppb	33.765	2.94	11934	2000	
Ag	107	3	115	0.029	ppb	0.029	92.59	43	100	
Cd	111	3	115	-0.023	ppb	-0.023	-2.51	5	2000	
Sn	120	3	115	0.087	ppb	0.087	22.32	556	2000	
Sb	121	3	115	1.106	ppb	1.106	8.19	678	1000	
Ba	137	3	115	51.856	ppb	51.856	4.29	10564	5000	
Tl	205	3	193	-0.131	ppb	-0.131	-12.39	361	2000	
(Pb)	206	3	193	0.317	ppb	0.317	17.82	421	100	
(Pb)	207	3	193	0.261	ppb	0.261	9.80	436	100	
Pb	208	3	193	0.290	ppb	0.290	6.90	1698	5000	
Th	232	3	193	0.299	ppb	0.299	13.57	4354	2000	
U	238	3	193	49.190	ppb	49.190	2.03	191655	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc (IS)	45	2	HMI H2	4557809	1.87	4176342	109.13	60	120	
Sc (IS)	45	3	HMI He	503704	1.08	454432	110.84	60	120	
Ge Internal standard	72	2	HMI H2	2485761	1.17	2219876	111.98	60	120	
Ge Internal standard	72	3	HMI He	582480	0.83	521662	111.66	60	120	
In Internal Standard	115	3	HMI He	2339229	2.06	2121087	110.28	60	120	
Ir (IS)	193	3	HMI He	4122709	1.02	3821950	107.87	60	120	

Sample Report

Sample Table

Sample Name	280-185814-b-7-a
Data File Name	101SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\79_122123.b
Acq Date Time	2023-12-21T16:24:32-07:00
Analyst	Denver Metals
Sample Type	Sample
Dilution	1
Comment	637852 6020B
ISTD Ref FileName	039CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Be	9	2	6	0.005	ppb	0.005	1952.52	5	2000	
Na	23	3	45	106783.967	ppb	106783.967	2.76	8504921	400000	
Mg	24	3	45	92017.757	ppb	92017.757	2.67	3819581	400000	
Al	27	3	45	495.316	ppb	495.316	4.56	8848	400000	
K	39	3	45	2220.904	ppb	2220.904	3.68	127132	400000	
Ca	40	2	45	18905.942	ppb	18905.942	1.59	15219505	400000	
V	51	3	72	2.530	ppb	2.530	4.67	1488	2000	
Cr	52	3	72	0.875	ppb	0.875	12.61	1348	5000	
Mn	55	3	72	1131.236	ppb	1131.236	0.29	386888	10000	
Fe	56	2	72	2445.683	ppb	2445.683	2.01	3901003	10000	
Co	59	3	72	0.484	ppb	0.484	14.01	536	2000	
Ni	60	3	72	1.753	ppb	1.753	3.96	606	5000	
Cu	63	3	72	0.562	ppb	0.562	4.40	876	5000	
Zn	66	3	72	23.537	ppb	23.537	6.34	3085	5000	
As	75	3	72	1.560	ppb	1.560	19.57	175	2000	
Se	78	2	72	0.075	ppb	0.075	53.92	10	2000	
Sr	88	3	72	279.319	ppb	279.319	0.47	134972	4000	
Mo	95	3	115	1.297	ppb	1.297	2.93	491	2000	
Ag	107	3	115	0.031	ppb	0.031	51.96	48	100	
Cd	111	3	115	0.047	ppb	0.047	88.02	18	2000	
Sn	120	3	115	0.123	ppb	0.123	33.78	605	2000	
Sb	121	3	115	0.151	ppb	0.151	17.62	160	1000	
Ba	137	3	115	176.117	ppb	176.117	2.99	37551	5000	
Tl	205	3	193	-0.153	ppb	-0.153	-10.26	310	2000	
(Pb)	206	3	193	0.173	ppb	0.173	33.89	298	100	
(Pb)	207	3	193	0.128	ppb	0.128	46.15	340	100	
Pb	208	3	193	0.168	ppb	0.168	6.10	1289	5000	
Th	232	3	193	0.200	ppb	0.200	8.39	4082	2000	
U	238	3	193	0.495	ppb	0.495	5.73	3172	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc (IS)	45	2	HMI H2	4794839	0.02	4176342	114.81	60	120	
Sc (IS)	45	3	HMI He	516544	0.91	454432	113.67	60	120	
Ge Internal standard	72	2	HMI H2	2562113	1.26	2219876	115.42	60	120	
Ge Internal standard	72	3	HMI He	603645	0.23	521662	115.72	60	120	
In Internal Standard	115	3	HMI He	2450337	0.91	2121087	115.52	60	120	
Ir (IS)	193	3	HMI He	4225342	0.10	3821950	110.55	60	120	

Sample Report

Sample Table

Sample Name	280-185814-b-8-a
Data File Name	102SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\79_122123.b
Acq Date Time	2023-12-21T16:26:47-07:00
Analyst	Denver Metals
Sample Type	Sample
Dilution	1
Comment	637852 6020B
ISTD Ref FileName	039CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Be	9	2	6	0.007	ppb	0.007	626.64	5	2000	
Na	23	3	45	120294.919	ppb	120294.919	1.31	9582792	400000	
Mg	24	3	45	303329.709	ppb	303329.709	1.06	12598480	400000	
Al	27	3	45	73.616	ppb	73.616	16.13	1505	400000	
K	39	3	45	2057.130	ppb	2057.130	3.20	120776	400000	
Ca	40	2	45	122181.688	ppb	122181.688	2.09	97453131	400000	
V	51	3	72	3.751	ppb	3.751	4.79	2027	2000	
Cr	52	3	72	0.349	ppb	0.349	15.52	1030	5000	
Mn	55	3	72	848.201	ppb	848.201	0.51	286034	10000	
Fe	56	2	72	1715.446	ppb	1715.446	2.63	2721416	10000	
Co	59	3	72	1.465	ppb	1.465	6.90	1461	2000	
Ni	60	3	72	0.513	ppb	0.513	9.90	278	5000	
Cu	63	3	72	0.724	ppb	0.724	17.53	983	5000	
Zn	66	3	72	3.084	ppb	3.084	5.07	605	5000	
As	75	3	72	0.492	ppb	0.492	19.19	82	2000	
Se	78	2	72	0.050	ppb	0.050	90.33	9	2000	
Sr	88	3	72	789.279	ppb	789.279	1.80	375922	4000	
Mo	95	3	115	14.720	ppb	14.720	5.36	5298	2000	
Ag	107	3	115	0.017	ppb	0.017	62.50	30	100	
Cd	111	3	115	0.050	ppb	0.050	127.76	18	2000	
Sn	120	3	115	-0.066	ppb	-0.066	-84.86	475	2000	
Sb	121	3	115	0.064	ppb	0.064	37.71	107	1000	
Ba	137	3	115	99.966	ppb	99.966	2.46	20708	5000	
Tl	205	3	193	-0.128	ppb	-0.128	-5.68	376	2000	
(Pb)	206	3	193	0.260	ppb	0.260	4.13	376	100	
(Pb)	207	3	193	0.202	ppb	0.202	15.89	396	100	
Pb	208	3	193	0.250	ppb	0.250	15.37	1579	5000	
Th	232	3	193	0.149	ppb	0.149	17.20	3859	2000	
U	238	3	193	8.658	ppb	8.658	2.76	35301	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc (IS)	45	2	HMI H2	4757656	1.39	4176342	113.92	60	120	
Sc (IS)	45	3	HMI He	516920	1.26	454432	113.75	60	120	
Ge Internal standard	72	2	HMI H2	2542281	2.00	2219876	114.52	60	120	
Ge Internal standard	72	3	HMI He	595132	0.51	521662	114.08	60	120	
In Internal Standard	115	3	HMI He	2379849	1.67	2121087	112.20	60	120	
Ir (IS)	193	3	HMI He	4193908	1.05	3821950	109.73	60	120	

Sample Report

Sample Table

Sample Name	280-185814-b-9-a
Data File Name	103SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\79_122123.b
Acq Date Time	2023-12-21T16:29:00-07:00
Analyst	Denver Metals
Sample Type	Sample
Dilution	1
Comment	637852 6020B
ISTD Ref FileName	039CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Be	9	2	6	0.034	ppb	0.034	197.78	6	2000	
Na	23	3	45	129831.405	ppb	129831.405	0.62	10146334	400000	
Mg	24	3	45	332146.355	ppb	332146.355	1.41	13538982	400000	
Al	27	3	45	79.377	ppb	79.377	15.78	1575	400000	
K	39	3	45	2279.214	ppb	2279.214	2.28	127108	400000	
Ca	40	2	45	131435.273	ppb	131435.273	1.53	102511509	400000	
V	51	3	72	3.793	ppb	3.793	3.59	2014	2000	
Cr	52	3	72	0.557	ppb	0.557	42.52	1129	5000	
Mn	55	3	72	930.149	ppb	930.149	1.11	308599	10000	
Fe	56	2	72	1809.235	ppb	1809.235	2.77	2895257	10000	
Co	59	3	72	1.631	ppb	1.631	3.68	1593	2000	
Ni	60	3	72	0.609	ppb	0.609	18.60	298	5000	
Cu	63	3	72	0.672	ppb	0.672	16.21	930	5000	
Zn	66	3	72	3.751	ppb	3.751	17.94	673	5000	
As	75	3	72	1.066	ppb	1.066	36.69	128	2000	
Se	78	2	72	0.088	ppb	0.088	53.41	11	2000	
Sr	88	3	72	859.810	ppb	859.810	0.73	402927	4000	
Mo	95	3	115	15.347	ppb	15.347	3.84	5442	2000	
Ag	107	3	115	0.035	ppb	0.035	23.74	50	100	
Cd	111	3	115	0.005	ppb	0.005	580.81	10	2000	
Sn	120	3	115	0.054	ppb	0.054	68.91	538	2000	
Sb	121	3	115	0.057	ppb	0.057	74.48	102	1000	
Ba	137	3	115	108.522	ppb	108.522	0.92	22138	5000	
Tl	205	3	193	-0.122	ppb	-0.122	-13.30	385	2000	
(Pb)	206	3	193	0.369	ppb	0.369	15.00	468	100	
(Pb)	207	3	193	0.309	ppb	0.309	24.45	473	100	
Pb	208	3	193	0.331	ppb	0.331	2.06	1842	5000	
Th	232	3	193	0.152	ppb	0.152	20.64	3795	2000	
U	238	3	193	9.285	ppb	9.285	0.56	37070	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc (IS)	45	2	HMI H2	4651465	0.52	4176342	111.38	60	120	
Sc (IS)	45	3	HMI He	507245	0.87	454432	111.62	60	120	
Ge Internal standard	72	2	HMI H2	2565980	2.83	2219876	115.59	60	120	
Ge Internal standard	72	3	HMI He	585535	0.26	521662	112.24	60	120	
In Internal Standard	115	3	HMI He	2343198	0.68	2121087	110.47	60	120	
Ir (IS)	193	3	HMI He	4115275	1.58	3821950	107.67	60	120	

Sample Report

Sample Table

Sample Name	280-185814-b-10-a
Data File Name	104SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\79_122123.b
Acq Date Time	2023-12-21T16:31:15-07:00
Analyst	Denver Metals
Sample Type	Sample
Dilution	1
Comment	637852 6020B
ISTD Ref FileName	039CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Be	9	2	6	0.008	ppb	0.008	1203.65	5	2000	
Na	23	3	45	115696.751	ppb	115696.751	1.77	9142970	400000	
Mg	24	3	45	139116.703	ppb	139116.703	2.61	5730539	400000	
Al	27	3	45	96.563	ppb	96.563	7.07	1889	400000	
K	39	3	45	3168.421	ppb	3168.421	0.28	163216	400000	
Ca	40	2	45	76622.397	ppb	76622.397	0.98	60684502	400000	
V	51	3	72	2.448	ppb	2.448	11.14	1428	2000	
Cr	52	3	72	0.340	ppb	0.340	39.63	1023	5000	
Mn	55	3	72	3997.049	ppb	3997.049	2.17	1345243	10000	
Fe	56	2	72	2970.217	ppb	2970.217	0.64	4786409	10000	
Co	59	3	72	0.091	ppb	0.091	22.59	155	2000	
Ni	60	3	72	0.114	ppb	0.114	136.78	175	5000	
Cu	63	3	72	0.236	ppb	0.236	36.23	625	5000	
Zn	66	3	72	2.185	ppb	2.185	31.81	496	5000	
As	75	3	72	1.006	ppb	1.006	37.92	125	2000	
Se	78	2	72	0.226	ppb	0.226	16.51	18	2000	
Sr	88	3	72	821.357	ppb	821.357	1.63	390621	4000	
Mo	95	3	115	2.069	ppb	2.069	3.97	753	2000	
Ag	107	3	115	0.009	ppb	0.009	123.27	20	100	
Cd	111	3	115	-0.005	ppb	-0.005	-1143.65	8	2000	
Sn	120	3	115	-0.092	ppb	-0.092	-88.96	458	2000	
Sb	121	3	115	0.070	ppb	0.070	111.51	110	1000	
Ba	137	3	115	465.407	ppb	465.407	0.38	96135	5000	
Tl	205	3	193	-0.129	ppb	-0.129	-2.38	370	2000	
(Pb)	206	3	193	0.109	ppb	0.109	5.86	235	100	
(Pb)	207	3	193	0.084	ppb	0.084	85.89	300	100	
Pb	208	3	193	0.097	ppb	0.097	40.70	1008	5000	
Th	232	3	193	0.091	ppb	0.091	40.99	3599	2000	
U	238	3	193	0.606	ppb	0.606	11.54	3545	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc (IS)	45	2	HMI H2	4722753	0.68	4176342	113.08	60	120	
Sc (IS)	45	3	HMI He	512709	1.05	454432	112.82	60	120	
Ge Internal standard	72	2	HMI H2	2591447	1.45	2219876	116.74	60	120	
Ge Internal standard	72	3	HMI He	594306	1.21	521662	113.93	60	120	
In Internal Standard	115	3	HMI He	2374187	0.19	2121087	111.93	60	120	
Ir (IS)	193	3	HMI He	4151550	1.99	3821950	108.62	60	120	

Sample Report

Sample Table

Sample Name	280-185814-b-11-a
Data File Name	105SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\79_122123.b
Acq Date Time	2023-12-21T16:33:28-07:00
Analyst	Denver Metals
Sample Type	Sample
Dilution	1
Comment	637852 6020B
ISTD Ref FileName	039CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Be	9	2	6	-0.058	ppb	-0.058	-38.65	1	2000	
Na	23	3	45	77130.539	ppb	77130.539	1.84	6068726	400000	
Mg	24	3	45	122305.491	ppb	122305.491	1.90	5005234	400000	
Al	27	3	45	13.418	ppb	13.418	29.56	447	400000	
K	39	3	45	6192.549	ppb	6192.549	0.78	279464	400000	
Ca	40	2	45	168575.941	ppb	168575.941	1.07	132193511	400000	
V	51	3	72	8.194	ppb	8.194	3.99	4075	2000	
Cr	52	3	72	0.025	ppb	0.025	642.70	846	5000	
Mn	55	3	72	885.164	ppb	885.164	0.70	298985	10000	
Fe	56	2	72	11.940	ppb	11.940	2.31	43421	10000	
Co	59	3	72	0.313	ppb	0.313	28.81	366	2000	
Ni	60	3	72	0.305	ppb	0.305	50.45	225	5000	
Cu	63	3	72	0.014	ppb	0.014	330.69	463	5000	
Zn	66	3	72	5.251	ppb	5.251	8.79	865	5000	
As	75	3	72	3.697	ppb	3.697	12.54	355	2000	
Se	78	2	72	0.087	ppb	0.087	135.21	11	2000	
Sr	88	3	72	1071.767	ppb	1071.767	0.85	511303	4000	
Mo	95	3	115	2.722	ppb	2.722	4.90	993	2000	
Ag	107	3	115	0.028	ppb	0.028	22.52	43	100	
Cd	111	3	115	0.022	ppb	0.022	71.45	13	2000	
Sn	120	3	115	-0.114	ppb	-0.114	-80.71	448	2000	
Sb	121	3	115	0.523	ppb	0.523	8.13	365	1000	
Ba	137	3	115	45.408	ppb	45.408	0.93	9450	5000	
Tl	205	3	193	-0.141	ppb	-0.141	-6.83	337	2000	
(Pb)	206	3	193	0.261	ppb	0.261	22.70	373	100	
(Pb)	207	3	193	0.184	ppb	0.184	14.71	378	100	
Pb	208	3	193	0.209	ppb	0.209	11.98	1416	5000	
Th	232	3	193	0.075	ppb	0.075	83.41	3539	2000	
U	238	3	193	13.427	ppb	13.427	0.91	53573	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc (IS)	45	2	HMI H2	4676449	1.61	4176342	111.97	60	120	
Sc (IS)	45	3	HMI He	509296	0.33	454432	112.07	60	120	
Ge Internal standard	72	2	HMI H2	2567365	0.82	2219876	115.65	60	120	
Ge Internal standard	72	3	HMI He	596134	1.04	521662	114.28	60	120	
In Internal Standard	115	3	HMI He	2387768	0.30	2121087	112.57	60	120	
Ir (IS)	193	3	HMI He	4153157	0.95	3821950	108.67	60	120	

Sample Report

Sample Table

Sample Name	280-185814-b-12-a
Data File Name	106SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\79_122123.b
Acq Date Time	2023-12-21T16:35:42-07:00
Analyst	Denver Metals
Sample Type	Sample
Dilution	1
Comment	637852 6020B
ISTD Ref FileName	039CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Be	9	2	6	-0.030	ppb	-0.030	-200.36	3	2000	
Na	23	3	45	91294.806	ppb	91294.806	1.59	7155455	400000	
Mg	24	3	45	217283.481	ppb	217283.481	1.16	8866799	400000	
Al	27	3	45	25.183	ppb	25.183	10.29	647	400000	
K	39	3	45	6665.016	ppb	6665.016	1.53	296933	400000	
Ca	40	2	45	95334.117	ppb	95334.117	2.20	74158344	400000	
V	51	3	72	8.572	ppb	8.572	3.98	4190	2000	
Cr	52	3	72	0.140	ppb	0.140	208.72	900	5000	
Mn	55	3	72	796.946	ppb	796.946	1.72	265454	10000	
Fe	56	2	72	461.416	ppb	461.416	0.72	742426	10000	
Co	59	3	72	0.370	ppb	0.370	8.76	415	2000	
Ni	60	3	72	1.279	ppb	1.279	6.43	470	5000	
Cu	63	3	72	0.515	ppb	0.515	19.28	820	5000	
Zn	66	3	72	1.576	ppb	1.576	11.33	420	5000	
As	75	3	72	1.178	ppb	1.178	40.27	138	2000	
Se	78	2	72	0.106	ppb	0.106	97.20	11	2000	
Sr	88	3	72	1016.316	ppb	1016.316	0.34	478108	4000	
Mo	95	3	115	24.424	ppb	24.424	3.48	8762	2000	
Ag	107	3	115	0.012	ppb	0.012	54.82	23	100	
Cd	111	3	115	-0.014	ppb	-0.014	-114.90	7	2000	
Sn	120	3	115	-0.076	ppb	-0.076	-212.60	468	2000	
Sb	121	3	115	0.474	ppb	0.474	21.19	335	1000	
Ba	137	3	115	340.918	ppb	340.918	1.04	70385	5000	
Tl	205	3	193	-0.154	ppb	-0.154	-9.67	297	2000	
(Pb)	206	3	193	0.306	ppb	0.306	10.56	410	100	
(Pb)	207	3	193	0.269	ppb	0.269	38.49	440	100	
Pb	208	3	193	0.295	ppb	0.295	8.47	1706	5000	
Th	232	3	193	0.265	ppb	0.265	21.73	4200	2000	
U	238	3	193	21.649	ppb	21.649	1.23	84540	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc (IS)	45	2	HMI H2	4640204	2.12	4176342	111.11	60	120	
Sc (IS)	45	3	HMI He	507820	0.45	454432	111.75	60	120	
Ge Internal standard	72	2	HMI H2	2516814	1.51	2219876	113.38	60	120	
Ge Internal standard	72	3	HMI He	587812	0.24	521662	112.68	60	120	
In Internal Standard	115	3	HMI He	2372962	1.01	2121087	111.87	60	120	
Ir (IS)	193	3	HMI He	4099621	0.77	3821950	107.27	60	120	

Sample Report

Sample Table

Sample Name	280-185814-b-13-a
Data File Name	107SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\79_122123.b
Acq Date Time	2023-12-21T16:37:57-07:00
Analyst	Denver Metals
Sample Type	Sample
Dilution	1
Comment	637852 6020B
ISTD Ref FileName	039CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Be	9	2	6	-0.044	ppb	-0.044	-1.63	2	2000	
Na	23	3	45	2583.481	ppb	2583.481	1.94	236089	400000	
Mg	24	3	45	47.674	ppb	47.674	15.07	2042	400000	
Al	27	3	45	2.367	ppb	2.367	24.09	250	400000	
K	39	3	45	158.452	ppb	158.452	33.10	44073	400000	
Ca	40	2	45	3478.452	ppb	3478.452	1.63	2681383	400000	
V	51	3	72	1.288	ppb	1.288	7.81	863	2000	
Cr	52	3	72	-0.011	ppb	-0.011	-340.66	795	5000	
Mn	55	3	72	0.693	ppb	0.693	4.49	386	10000	
Fe	56	2	72	2.859	ppb	2.859	14.34	28046	10000	
Co	59	3	72	0.008	ppb	0.008	199.63	73	2000	
Ni	60	3	72	-0.231	ppb	-0.231	-72.86	83	5000	
Cu	63	3	72	0.154	ppb	0.154	36.20	545	5000	
Zn	66	3	72	-0.408	ppb	-0.408	-59.54	182	5000	
As	75	3	72	-0.041	ppb	-0.041	-256.37	35	2000	
Se	78	2	72	0.001	ppb	0.001	8707.84	6	2000	
Sr	88	3	72	2.581	ppb	2.581	4.45	1226	4000	
Mo	95	3	115	0.064	ppb	0.064	51.68	33	2000	
Ag	107	3	115	0.012	ppb	0.012	54.61	23	100	
Cd	111	3	115	-0.023	ppb	-0.023	-1.12	5	2000	
Sn	120	3	115	-0.060	ppb	-0.060	-136.31	465	2000	
Sb	121	3	115	0.048	ppb	0.048	33.64	95	1000	
Ba	137	3	115	0.249	ppb	0.249	6.82	68	5000	
Tl	205	3	193	-0.133	ppb	-0.133	-25.21	350	2000	
(Pb)	206	3	193	0.005	ppb	0.005	376.67	137	100	
(Pb)	207	3	193	-0.021	ppb	-0.021	-327.10	212	100	
Pb	208	3	193	-0.002	ppb	-0.002	-1201.24	631	5000	
Th	232	3	193	0.022	ppb	0.022	86.88	3265	2000	
U	238	3	193	0.025	ppb	0.025	126.36	1254	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc (IS)	45	2	HMI H2	4562383	2.77	4176342	109.24	60	120	
Sc (IS)	45	3	HMI He	495013	0.45	454432	108.93	60	120	
Ge Internal standard	72	2	HMI H2	2483437	1.14	2219876	111.87	60	120	
Ge Internal standard	72	3	HMI He	573233	0.24	521662	109.89	60	120	
In Internal Standard	115	3	HMI He	2311911	0.90	2121087	109.00	60	120	
Ir (IS)	193	3	HMI He	4057867	1.37	3821950	106.17	60	120	

Sample Report

Sample Table

Sample Name	280-185788-a-1-b
Data File Name	108SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\79_122123.b
Acq Date Time	2023-12-21T16:40:11-07:00
Analyst	Denver Metals
Sample Type	Sample
Dilution	1
Comment	637852 6020B
ISTD Ref FileName	039CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Be	9	2	6	-0.044	ppb	-0.044	-154.65	2	2000	
Na	23	3	45	54124.296	ppb	54124.296	0.83	4180043	400000	
Mg	24	3	45	40562.662	ppb	40562.662	0.49	1624863	400000	
Al	27	3	45	205.903	ppb	205.903	5.50	3674	400000	
K	39	3	45	6851.564	ppb	6851.564	0.86	298546	400000	
Ca	40	2	45	88790.037	ppb	88790.037	1.11	70009174	400000	
V	51	3	72	2.584	ppb	2.584	0.84	1459	2000	
Cr	52	3	72	6.668	ppb	6.668	4.84	4524	5000	
Mn	55	3	72	576.727	ppb	576.727	0.95	190356	10000	
Fe	56	2	72	285.621	ppb	285.621	2.90	471788	10000	
Co	59	3	72	9.619	ppb	9.619	4.25	9012	2000	
Ni	60	3	72	39.446	ppb	39.446	2.37	10089	5000	
Cu	63	3	72	3.426	ppb	3.426	4.69	2897	5000	
Zn	66	3	72	15.348	ppb	15.348	10.17	2021	5000	
As	75	3	72	2.076	ppb	2.076	8.55	212	2000	
Se	78	2	72	4.379	ppb	4.379	3.66	229	2000	
Sr	88	3	72	315.818	ppb	315.818	1.93	147201	4000	
Mo	95	3	115	72.536	ppb	72.536	0.91	25663	2000	
Ag	107	3	115	0.006	ppb	0.006	77.79	17	100	
Cd	111	3	115	0.459	ppb	0.459	16.32	92	2000	
Sn	120	3	115	0.032	ppb	0.032	169.79	525	2000	
Sb	121	3	115	0.312	ppb	0.312	12.14	242	1000	
Ba	137	3	115	39.526	ppb	39.526	1.34	8070	5000	
Tl	205	3	193	-0.068	ppb	-0.068	-17.05	528	2000	
(Pb)	206	3	193	0.284	ppb	0.284	8.64	388	100	
(Pb)	207	3	193	0.196	ppb	0.196	18.10	381	100	
Pb	208	3	193	0.255	ppb	0.255	15.36	1554	5000	
Th	232	3	193	0.079	ppb	0.079	10.45	3497	2000	
U	238	3	193	7.321	ppb	7.321	2.69	29245	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc (IS)	45	2	HMI H2	4702329	1.61	4176342	112.59	60	120	
Sc (IS)	45	3	HMI He	498469	0.57	454432	109.69	60	120	
Ge Internal standard	72	2	HMI H2	2534132	1.79	2219876	114.16	60	120	
Ge Internal standard	72	3	HMI He	582354	1.29	521662	111.63	60	120	
In Internal Standard	115	3	HMI He	2341923	0.95	2121087	110.41	60	120	
Ir (IS)	193	3	HMI He	4084900	2.89	3821950	106.88	60	120	

Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV-8123148
Data File Name	109_CCV.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\79_122123.b
Acq Date Time	2023-12-21T16:42:26-07:00
Sample Type	CCV
Dilution	1
Comment	
ISTD Ref File Name	039CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	Units	Conc %RSD	CPS	Exp Value	%Rec	%Low	%High2	QC Flag
Be	9	2	6	49.473	ppb	2.565	2512	50	98.9	90	110	
Na	23	3	45	51397.996	ppb	1.788	3991980	51000	100.8	90	110	
Mg	24	3	45	10977.911	ppb	0.835	442132	11000	99.8	90	110	
Al	27	3	45	986.834	ppb	3.722	16887	1000	98.7	90	110	
K	39	3	45	10909.210	ppb	1.235	454956	11000	99.2	90	110	
Ca	40	2	45	10830.111	ppb	1.482	8202604	11000	98.5	90	110	
V	51	3	72	53.160	ppb	1.222	23054	50	106.3	90	110	
Cr	52	3	72	52.975	ppb	0.680	28867	50	106.0	90	110	
Mn	55	3	72	52.391	ppb	2.019	16617	50	104.8	90	110	
Fe	56	2	72	1028.781	ppb	3.164	1565701	1000	102.9	90	110	
Co	59	3	72	51.847	ppb	1.310	46006	50	103.7	90	110	
Ni	60	3	72	50.296	ppb	3.542	12218	50	100.6	90	110	
Cu	63	3	72	51.717	ppb	0.581	35737	50	103.4	90	110	
Zn	66	3	72	51.879	ppb	2.844	5983	50	103.8	90	110	
As	75	3	72	53.025	ppb	6.369	4240	50	106.1	90	110	
Se	78	2	72	52.761	ppb	3.378	2572	50	105.5	90	110	
Sr	88	3	72	104.884	ppb	0.473	46606	100	104.9	90	110	
Mo	95	3	115	50.375	ppb	1.991	17681	50	100.8	90	110	
Ag	107	3	115	51.251	ppb	0.979	59793	50	102.5	90	110	
Cd	111	3	115	49.391	ppb	1.743	8817	50	98.8	90	110	
Sn	120	3	115	51.340	ppb	2.198	30341	50	102.7	90	110	
Sb	121	3	115	50.799	ppb	1.358	27810	50	101.6	90	110	
Ba	137	3	115	51.299	ppb	1.744	10384	50	102.6	90	110	
Tl	205	3	193	52.341	ppb	2.206	138286	50	104.7	90	110	
(Pb)	206	3	193	53.026	ppb	2.452	47017	50	106.1	90	110	
(Pb)	207	3	193	52.013	ppb	2.756	39893	50	104.0	90	110	
Pb	208	3	193	53.058	ppb	1.860	186958	50	106.1	90	110	
Th	232	3	193	52.161	ppb	1.038	192808	50	104.3	90	110	
U	238	3	193	53.601	ppb	3.228	202928	50	107.2	90	110	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc (IS)	45	2	HMI H2	4506525	0.89	4176342	107.91	60	120	
Sc (IS)	45	3	HMI He	501036	0.33	454432	110.26	60	120	
Ge Internal standard	72	2	HMI H2	2424594	1.85	2219876	109.22	60	120	
Ge Internal standard	72	3	HMI He	554803	0.68	521662	106.35	60	120	
In Internal Standard	115	3	HMI He	2322907	0.28	2121087	109.51	60	120	
Ir (IS)	193	3	HMI He	4009408	2.22	3821950	104.90	60	120	

Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB-8123133
Data File Name	110_CCB.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\79_122123.b
Acq Date Time	2023-12-21T16:44:39-07:00
Sample Type	CCB
Dilution	1
Comment	
ISTD Ref File Name	039CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	Units	Conc %RSD	CPS	Upper Limit	QC Flag
Be	9	2	6	-0.030	ppb	-80.2	3	0.5	
Na	23	3	45	76.122	ppb	6.0	43544	25	>RL
Mg	24	3	45	18.752	ppb	6.0	851	25	
Al	27	3	45	1.199	ppb	274.8	220	15	
K	39	3	45	27.593	ppb	214.0	37337	50	
V	51	3	72	1.754	ppb	5.5	1015	1	>RL
Cr	52	3	72	0.014	ppb	1540.9	766	1	
Mn	55	3	72	0.152	ppb	41.9	200	0.5	
Co	59	3	72	0.001	ppb	1727.3	63	0.5	
Ni	60	3	72	-0.099	ppb	-145.4	110	1	
Cu	63	3	72	-0.063	ppb	-93.2	371	1	
Zn	66	3	72	-0.889	ppb	-9.5	120	5	
As	75	3	72	-0.062	ppb	-310.8	32	1	
Se	78	2	72	0.139	ppb	94.8	13	1	
Sr	88	3	72	0.222	ppb	37.7	137	0.5	
Mo	95	3	115	0.063	ppb	40.8	32	0.5	
Ag	107	3	115	0.033	ppb	62.1	45	1	
Cd	111	3	115	-0.002	ppb	-880.5	8	0.5	
Sn	120	3	115	0.055	ppb	170.3	515	1	
Sb	121	3	115	0.141	ppb	35.6	142	0.6	
Ba	137	3	115	0.012	ppb	409.5	20	0.5	
Tl	205	3	193	-0.128	ppb	-9.4	353	0.1	
(Pb)	206	3	193	0.011	ppb	50.6	138	1	
(Pb)	207	3	193	-0.039	ppb	-71.0	193	1	
Pb	208	3	193	0.000	ppb	-65529.1	623	0.5	
Th	232	3	193	0.216	ppb	13.3	3879	1	
U	238	3	193	0.030	ppb	47.5	1241	0.5	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc (IS)	45	2	HMI H2	4472196	1.00	4176342	107.08	60	120	
Sc (IS)	45	3	HMI He	472303	0.33	454432	103.93	60	120	
Ge Internal standard	72	2	HMI H2	2440988	0.60	2219876	109.96	60	120	
Ge Internal standard	72	3	HMI He	543992	1.02	521662	104.28	60	120	
In Internal Standard	115	3	HMI He	2239536	3.21	2121087	105.58	60	120	
Ir (IS)	193	3	HMI He	3957206	4.16	3821950	103.54	60	120	

Sample Report

Sample Table

Sample Name	280-185780-a-1-a
Data File Name	111SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\79_122123.b
Acq Date Time	2023-12-21T16:46:53-07:00
Analyst	Denver Metals
Sample Type	Sample
Dilution	1
Comment	637852 6020B
ISTD Ref FileName	039CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Be	9	2	6	3.243	ppb	3.243	13.08	172	2000	
Na	23	3	45	14742.233	ppb	14742.233	1.28	1132302	400000	
Mg	24	3	45	19803.646	ppb	19803.646	0.91	769267	400000	
Al	27	3	45	25.062	ppb	25.062	15.93	614	400000	
K	39	3	45	6113.986	ppb	6113.986	0.45	262326	400000	
Ca	40	2	45	101379.094	ppb	101379.094	1.18	77449104	400000	
V	51	3	72	1.913	ppb	1.913	11.30	1129	2000	
Cr	52	3	72	0.459	ppb	0.459	24.00	1043	5000	
Mn	55	3	72	14074.751	ppb	14074.751	2.01	4530029	10000	
Fe	56	2	72	6316.659	ppb	6316.659	1.69	9816243	10000	
Co	59	3	72	87.969	ppb	87.969	0.52	79913	2000	
Ni	60	3	72	29.076	ppb	29.076	2.49	7295	5000	
Cu	63	3	72	0.985	ppb	0.985	2.32	1121	5000	
Zn	66	3	72	31.205	ppb	31.205	3.89	3777	5000	
As	75	3	72	0.598	ppb	0.598	30.28	87	2000	
Se	78	2	72	0.066	ppb	0.066	92.33	9	2000	
Sr	88	3	72	1197.372	ppb	1197.372	1.12	544552	4000	
Mo	95	3	115	0.190	ppb	0.190	22.56	77	2000	
Ag	107	3	115	0.021	ppb	0.021	42.59	33	100	
Cd	111	3	115	-0.022	ppb	-0.022	-130.36	5	2000	
Sn	120	3	115	-0.157	ppb	-0.157	-35.66	405	2000	
Sb	121	3	115	0.025	ppb	0.025	109.26	82	1000	
Ba	137	3	115	32.963	ppb	32.963	5.32	6582	5000	
Tl	205	3	193	-0.099	ppb	-0.099	-28.26	436	2000	
(Pb)	206	3	193	0.696	ppb	0.696	6.59	746	100	
(Pb)	207	3	193	0.636	ppb	0.636	4.70	711	100	
Pb	208	3	193	0.673	ppb	0.673	5.45	3000	5000	
Th	232	3	193	0.071	ppb	0.071	54.05	3409	2000	
U	238	3	193	0.055	ppb	0.055	33.66	1356	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc (IS)	45	2	HMI H2	4556381	1.67	4176342	109.10	60	120	
Sc (IS)	45	3	HMI He	483346	1.21	454432	106.36	60	120	
Ge Internal standard	72	2	HMI H2	2506198	1.67	2219876	112.90	60	120	
Ge Internal standard	72	3	HMI He	568297	0.82	521662	108.94	60	120	
In Internal Standard	115	3	HMI He	2289804	1.27	2121087	107.95	60	120	
Ir (IS)	193	3	HMI He	4016970	2.11	3821950	105.10	60	120	

Sample Report

Sample Table

Sample Name	280-185780-a-1-b ms
Data File Name	112SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\79_122123.b
Acq Date Time	2023-12-21T16:49:07-07:00
Analyst	Denver Metals
Sample Type	Sample
Dilution	1
Comment	637852 6020B
ISTD Ref FileName	039CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Be	9	2	6	41.779	ppb	41.779	3.50	2198	2000	
Na	23	3	45	16419.947	ppb	16419.947	7.07	1272793	400000	
Mg	24	3	45	22193.689	ppb	22193.689	8.59	872866	400000	
Al	27	3	45	870.200	ppb	870.200	7.53	14572	400000	
K	39	3	45	7240.073	ppb	7240.073	3.79	307911	400000	
Ca	40	2	45	104965.965	ppb	104965.965	0.70	81160088	400000	
V	51	3	72	41.840	ppb	41.840	5.98	18995	2000	
Cr	52	3	72	41.415	ppb	41.415	8.11	23717	5000	
Mn	55	3	72	14651.835	ppb	14651.835	6.28	4803896	10000	
Fe	56	2	72	7318.487	ppb	7318.487	2.66	11345361	10000	
Co	59	3	72	130.800	ppb	130.800	5.25	121021	2000	
Ni	60	3	72	69.805	ppb	69.805	7.23	17636	5000	
Cu	63	3	72	41.935	ppb	41.935	5.65	30320	5000	
Zn	66	3	72	68.928	ppb	68.928	3.66	8223	5000	
As	75	3	72	42.155	ppb	42.155	1.40	3529	2000	
Se	78	2	72	42.076	ppb	42.076	3.79	2116	2000	
Sr	88	3	72	1321.296	ppb	1321.296	6.26	612088	4000	
Mo	95	3	115	43.002	ppb	43.002	8.91	14846	2000	
Ag	107	3	115	41.943	ppb	41.943	4.49	48170	100	
Cd	111	3	115	41.494	ppb	41.494	10.37	7285	2000	
Sn	120	3	115	42.936	ppb	42.936	7.68	25039	2000	
Sb	121	3	115	43.080	ppb	43.080	6.98	23212	1000	
Ba	137	3	115	75.725	ppb	75.725	8.69	15064	5000	
Tl	205	3	193	42.824	ppb	42.824	5.57	114989	2000	
(Pb)	206	3	193	43.031	ppb	43.031	8.15	38735	100	
(Pb)	207	3	193	43.353	ppb	43.353	6.07	33788	100	
Pb	208	3	193	43.563	ppb	43.563	6.96	155885	5000	
Th	232	3	193	42.475	ppb	42.475	6.94	159907	2000	
U	238	3	193	42.752	ppb	42.752	6.75	164523	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc (IS)	45	2	HMI H2	4610911	0.69	4176342	110.41	60	120	
Sc (IS)	45	3	HMI He	490269	3.44	454432	107.89	60	120	
Ge Internal standard	72	2	HMI H2	2501343	2.06	2219876	112.68	60	120	
Ge Internal standard	72	3	HMI He	579540	2.91	521662	111.09	60	120	
In Internal Standard	115	3	HMI He	2288736	3.39	2121087	107.90	60	120	
Ir (IS)	193	3	HMI He	4075073	4.04	3821950	106.62	60	120	

Sample Report

Sample Table

Sample Name	280-185780-a-1-c msd
Data File Name	113SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\79_122123.b
Acq Date Time	2023-12-21T16:51:20-07:00
Analyst	Denver Metals
Sample Type	Sample
Dilution	1
Comment	637852 6020B
ISTD Ref FileName	039CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Be	9	2	6	39.268	ppb	39.268	5.53	2062	2000	
Na	23	3	45	14279.361	ppb	14279.361	6.17	1163523	400000	
Mg	24	3	45	18870.872	ppb	18870.872	7.40	776608	400000	
Al	27	3	45	734.956	ppb	734.956	8.16	12909	400000	
K	39	3	45	6449.068	ppb	6449.068	6.02	291096	400000	
Ca	40	2	45	96907.505	ppb	96907.505	2.20	76201028	400000	
V	51	3	72	36.431	ppb	36.431	8.86	17167	2000	
Cr	52	3	72	36.427	ppb	36.427	6.47	21718	5000	
Mn	55	3	72	12639.072	ppb	12639.072	8.23	4290944	10000	
Fe	56	2	72	6705.736	ppb	6705.736	3.37	10625456	10000	
Co	59	3	72	114.619	ppb	114.619	6.59	109848	2000	
Ni	60	3	72	61.473	ppb	61.473	4.21	16120	5000	
Cu	63	3	72	36.080	ppb	36.080	6.76	27085	5000	
Zn	66	3	72	63.276	ppb	63.276	6.55	7837	5000	
As	75	3	72	35.984	ppb	35.984	8.30	3122	2000	
Se	78	2	72	37.962	ppb	37.962	3.44	1952	2000	
Sr	88	3	72	1171.367	ppb	1171.367	6.97	562103	4000	
Mo	95	3	115	35.637	ppb	35.637	5.94	13137	2000	
Ag	107	3	115	36.488	ppb	36.488	5.20	44709	100	
Cd	111	3	115	36.299	ppb	36.299	6.45	6807	2000	
Sn	120	3	115	36.074	ppb	36.074	9.34	22519	2000	
Sb	121	3	115	36.550	ppb	36.550	7.96	21019	1000	
Ba	137	3	115	65.870	ppb	65.870	7.07	13990	5000	
Tl	205	3	193	37.508	ppb	37.508	4.32	106327	2000	
(Pb)	206	3	193	37.894	ppb	37.894	6.57	36006	100	
(Pb)	207	3	193	37.694	ppb	37.694	5.66	31014	100	
Pb	208	3	193	37.769	ppb	37.769	6.03	142650	5000	
Th	232	3	193	36.375	ppb	36.375	6.74	144912	2000	
U	238	3	193	36.258	ppb	36.258	6.23	147355	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc (IS)	45	2	HMI H2	4690131	1.38	4176342	112.30	60	120	
Sc (IS)	45	3	HMI He	512753	2.84	454432	112.83	60	120	
Ge Internal standard	72	2	HMI H2	2556653	2.46	2219876	115.17	60	120	
Ge Internal standard	72	3	HMI He	600478	3.12	521662	115.11	60	120	
In Internal Standard	115	3	HMI He	2442908	4.18	2121087	115.17	60	120	
Ir (IS)	193	3	HMI He	4295938	3.19	3821950	112.40	60	120	

Sample Report

Sample Table

Sample Name	280-185780-a-2-a
Data File Name	114SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\79_122123.b
Acq Date Time	2023-12-21T16:53:33-07:00
Analyst	Denver Metals
Sample Type	Sample
Dilution	1
Comment	637852 6020B
ISTD Ref FileName	039CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Be	9	2	6	3.604	ppb	3.604	15.89	195	2000	
Na	23	3	45	20980.921	ppb	20980.921	1.41	1678283	400000	
Mg	24	3	45	15069.107	ppb	15069.107	0.72	615982	400000	
Al	27	3	45	3179.930	ppb	3179.930	1.93	54751	400000	
K	39	3	45	8578.707	ppb	8578.707	1.50	371501	400000	
Ca	40	2	45	40668.918	ppb	40668.918	0.45	32261468	400000	
V	51	3	72	12.272	ppb	12.272	1.51	5917	2000	
Cr	52	3	72	1.726	ppb	1.726	11.15	1804	5000	
Mn	55	3	72	2107.475	ppb	2107.475	0.78	707243	10000	
Fe	56	2	72	4901.599	ppb	4901.599	1.84	7706298	10000	
Co	59	3	72	24.587	ppb	24.587	4.14	23326	2000	
Ni	60	3	72	14.248	ppb	14.248	4.94	3800	5000	
Cu	63	3	72	4.633	ppb	4.633	0.11	3829	5000	
Zn	66	3	72	47.669	ppb	47.669	1.65	5890	5000	
As	75	3	72	3.115	ppb	3.115	7.08	303	2000	
Se	78	2	72	0.615	ppb	0.615	26.61	37	2000	
Sr	88	3	72	600.657	ppb	600.657	0.49	284835	4000	
Mo	95	3	115	0.238	ppb	0.238	10.37	98	2000	
Ag	107	3	115	0.069	ppb	0.069	7.49	93	100	
Cd	111	3	115	0.093	ppb	0.093	66.67	27	2000	
Sn	120	3	115	-0.061	ppb	-0.061	-99.04	485	2000	
Sb	121	3	115	0.219	ppb	0.219	4.63	197	1000	
Ba	137	3	115	42.761	ppb	42.761	4.10	8999	5000	
Tl	205	3	193	0.352	ppb	0.352	8.46	1704	2000	
(Pb)	206	3	193	1.309	ppb	1.309	3.04	1354	100	
(Pb)	207	3	193	1.232	ppb	1.232	5.44	1224	100	
Pb	208	3	193	1.265	ppb	1.265	1.93	5336	5000	
Th	232	3	193	0.494	ppb	0.494	17.64	5195	2000	
U	238	3	193	0.214	ppb	0.214	9.37	2051	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc (IS)	45	2	HMI H2	4728768	0.80	4176342	113.23	60	120	
Sc (IS)	45	3	HMI He	508617	1.41	454432	111.92	60	120	
Ge Internal standard	72	2	HMI H2	2533797	1.90	2219876	114.14	60	120	
Ge Internal standard	72	3	HMI He	592474	1.33	521662	113.57	60	120	
In Internal Standard	115	3	HMI He	2415644	2.51	2121087	113.89	60	120	
Ir (IS)	193	3	HMI He	4214876	1.25	3821950	110.28	60	120	

Sample Report

Sample Table

Sample Name	280-185780-a-3-a
Data File Name	115SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\79_122123.b
Acq Date Time	2023-12-21T16:55:47-07:00
Analyst	Denver Metals
Sample Type	Sample
Dilution	1
Comment	637852 6020B
ISTD Ref FileName	039CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Be	9	2	6	10.485	ppb	10.485	4.13	548	2000	
Na	23	3	45	59507.890	ppb	59507.890	0.35	4709838	400000	
Mg	24	3	45	19459.326	ppb	19459.326	0.74	799613	400000	
Al	27	3	45	11358.681	ppb	11358.681	0.37	196063	400000	
K	39	3	45	1928.430	ppb	1928.430	2.48	114455	400000	
Ca	40	2	45	52847.567	ppb	52847.567	1.36	41734810	400000	
V	51	3	72	16.475	ppb	16.475	1.68	7840	2000	
Cr	52	3	72	4.096	ppb	4.096	8.20	3147	5000	
Mn	55	3	72	3424.523	ppb	3424.523	0.89	1149323	10000	
Fe	56	2	72	101016.350	ppb	101016.350	2.14	154261328	10000	>LDR
Co	59	3	72	21.779	ppb	21.779	1.49	20680	2000	
Ni	60	3	72	11.841	ppb	11.841	0.70	3184	5000	
Cu	63	3	72	11.292	ppb	11.292	3.07	8685	5000	
Zn	66	3	72	37.892	ppb	37.892	1.60	4732	5000	
As	75	3	72	57.649	ppb	57.649	3.01	4920	2000	
Se	78	2	72	2.213	ppb	2.213	19.50	115	2000	
Sr	88	3	72	431.348	ppb	431.348	0.39	204584	4000	
Mo	95	3	115	0.349	ppb	0.349	20.59	138	2000	
Ag	107	3	115	0.054	ppb	0.054	50.21	75	100	
Cd	111	3	115	0.039	ppb	0.039	40.02	17	2000	
Sn	120	3	115	0.021	ppb	0.021	183.16	533	2000	
Sb	121	3	115	0.126	ppb	0.126	54.28	143	1000	
Ba	137	3	115	48.887	ppb	48.887	2.05	10257	5000	
Tl	205	3	193	-0.087	ppb	-0.087	-19.10	490	2000	
(Pb)	206	3	193	6.715	ppb	6.715	6.29	6373	100	
(Pb)	207	3	193	6.172	ppb	6.172	1.55	5183	100	
Pb	208	3	193	6.455	ppb	6.455	2.36	24480	5000	
Th	232	3	193	0.787	ppb	0.787	9.22	6308	2000	
U	238	3	193	4.373	ppb	4.373	2.40	18503	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc (IS)	45	2	HMI H2	4708470	0.65	4176342	112.74	60	120	
Sc (IS)	45	3	HMI He	511271	0.64	454432	112.51	60	120	
Ge Internal standard	72	2	HMI H2	2468460	1.45	2219876	111.20	60	120	
Ge Internal standard	72	3	HMI He	592557	0.41	521662	113.59	60	120	
In Internal Standard	115	3	HMI He	2407725	0.46	2121087	113.51	60	120	
Ir (IS)	193	3	HMI He	4212319	1.99	3821950	110.21	60	120	

Sample Report

Sample Table

Sample Name	280-185842-a-4-a
Data File Name	116SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\79_122123.b
Acq Date Time	2023-12-21T16:58:03-07:00
Analyst	Denver Metals
Sample Type	Sample
Dilution	1
Comment	637852 6020B
ISTD Ref FileName	039CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Be	9	2	6	0.048	ppb	0.048	45.47	7	2000	
Na	23	3	45	95685.104	ppb	95685.104	2.08	7441954	400000	
Mg	24	3	45	49615.904	ppb	49615.904	2.00	2009732	400000	
Al	27	3	45	726.253	ppb	726.253	7.14	12558	400000	
K	39	3	45	3523.251	ppb	3523.251	0.29	174090	400000	
Ca	40	2	45	65161.529	ppb	65161.529	1.44	51102385	400000	
V	51	3	72	13.199	ppb	13.199	2.97	6393	2000	
Cr	52	3	72	7.733	ppb	7.733	5.48	5248	5000	
Mn	55	3	72	56.032	ppb	56.032	1.48	19120	10000	
Fe	56	2	72	2654.534	ppb	2654.534	24.91	4240091	10000	
Co	59	3	72	1.651	ppb	1.651	3.11	1644	2000	
Ni	60	3	72	12.824	ppb	12.824	5.36	3462	5000	
Cu	63	3	72	3.401	ppb	3.401	9.03	2952	5000	
Zn	66	3	72	28.844	ppb	28.844	4.37	3687	5000	
As	75	3	72	2.010	ppb	2.010	5.04	212	2000	
Se	78	2	72	5.187	ppb	5.187	10.12	274	2000	
Sr	88	3	72	506.349	ppb	506.349	0.67	242076	4000	
Mo	95	3	115	7.803	ppb	7.803	6.79	2824	2000	
Ag	107	3	115	0.978	ppb	0.978	5.55	1183	100	
Cd	111	3	115	1.167	ppb	1.167	2.22	223	2000	
Sn	120	3	115	-0.074	ppb	-0.074	-87.99	471	2000	
Sb	121	3	115	0.626	ppb	0.626	6.90	423	1000	
Ba	137	3	115	29.048	ppb	29.048	2.03	6053	5000	
Tl	205	3	193	0.335	ppb	0.335	7.73	1631	2000	
(Pb)	206	3	193	1.545	ppb	1.545	0.35	1548	100	
(Pb)	207	3	193	1.538	ppb	1.538	9.97	1446	100	
Pb	208	3	193	1.532	ppb	1.532	2.28	6216	5000	
Th	232	3	193	0.455	ppb	0.455	4.21	4965	2000	
U	238	3	193	0.491	ppb	0.491	4.66	3097	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc (IS)	45	2	HMI H2	4676226	0.80	4176342	111.97	60	120	
Sc (IS)	45	3	HMI He	504071	0.40	454432	110.92	60	120	
Ge Internal standard	72	2	HMI H2	2571535	1.19	2219876	115.84	60	120	
Ge Internal standard	72	3	HMI He	597352	1.52	521662	114.51	60	120	
In Internal Standard	115	3	HMI He	2388187	1.37	2121087	112.59	60	120	
Ir (IS)	193	3	HMI He	4145632	0.19	3821950	108.47	60	120	

Sample Report

Sample Table

Sample Name	280-185842-a-4-b ms
Data File Name	117SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\79_122123.b
Acq Date Time	2023-12-21T17:00:18-07:00
Analyst	Denver Metals
Sample Type	Sample
Dilution	1
Comment	637852 6020B
ISTD Ref FileName	039CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Be	9	2	6	33.791	ppb	33.791	3.06	1791	2000	
Na	23	3	45	92985.800	ppb	92985.800	1.19	7396238	400000	
Mg	24	3	45	47390.281	ppb	47390.281	1.24	1963054	400000	
Al	27	3	45	1665.300	ppb	1665.300	1.32	29166	400000	
K	39	3	45	4279.650	ppb	4279.650	0.83	207719	400000	
Ca	40	2	45	63450.348	ppb	63450.348	1.26	51348951	400000	
V	51	3	72	52.033	ppb	52.033	1.43	24599	2000	
Cr	52	3	72	43.109	ppb	43.109	1.48	25761	5000	
Mn	55	3	72	85.986	ppb	85.986	0.88	29615	10000	
Fe	56	2	72	3083.481	ppb	3083.481	1.80	5003113	10000	
Co	59	3	72	36.466	ppb	36.466	0.46	35289	2000	
Ni	60	3	72	47.257	ppb	47.257	2.62	12523	5000	
Cu	63	3	72	37.672	ppb	37.672	2.84	28497	5000	
Zn	66	3	72	61.263	ppb	61.263	2.70	7658	5000	
As	75	3	72	38.775	ppb	38.775	1.46	3390	2000	
Se	78	2	72	41.141	ppb	41.141	3.97	2160	2000	
Sr	88	3	72	563.395	ppb	563.395	0.48	272669	4000	
Mo	95	3	115	43.953	ppb	43.953	3.12	16167	2000	
Ag	107	3	115	37.452	ppb	37.452	1.51	45800	100	
Cd	111	3	115	37.539	ppb	37.539	1.92	7025	2000	
Sn	120	3	115	34.474	ppb	34.474	1.19	21525	2000	
Sb	121	3	115	35.302	ppb	35.302	2.61	20275	1000	
Ba	137	3	115	64.118	ppb	64.118	2.22	13597	5000	
Tl	205	3	193	37.176	ppb	37.176	2.18	103779	2000	
(Pb)	206	3	193	38.597	ppb	38.597	2.60	36123	100	
(Pb)	207	3	193	39.257	ppb	39.257	1.65	31807	100	
Pb	208	3	193	38.573	ppb	38.573	2.40	143489	5000	
Th	232	3	193	36.737	ppb	36.737	1.04	144163	2000	
U	238	3	193	37.152	ppb	37.152	1.82	148711	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc (IS)	45	2	HMI H2	4825503	0.45	4176342	115.54	60	120	
Sc (IS)	45	3	HMI He	515458	0.76	454432	113.43	60	120	
Ge Internal standard	72	2	HMI H2	2609894	1.00	2219876	117.57	60	120	
Ge Internal standard	72	3	HMI He	604686	0.34	521662	115.92	60	120	
In Internal Standard	115	3	HMI He	2434863	1.75	2121087	114.79	60	120	
Ir (IS)	193	3	HMI He	4227315	1.66	3821950	110.61	60	120	

Sample Report

Sample Table

Sample Name	280-185842-a-4-c msd
Data File Name	118SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\79_122123.b
Acq Date Time	2023-12-21T17:02:31-07:00
Analyst	Denver Metals
Sample Type	Sample
Dilution	1
Comment	637852 6020B
ISTD Ref FileName	039CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Be	9	2	6	38.216	ppb	38.216	5.16	1991	2000	
Na	23	3	45	99574.367	ppb	99574.367	2.19	7917306	400000	
Mg	24	3	45	50919.015	ppb	50919.015	2.51	2109051	400000	
Al	27	3	45	1712.995	ppb	1712.995	2.31	29999	400000	
K	39	3	45	4569.577	ppb	4569.577	1.69	219109	400000	
Ca	40	2	45	66947.141	ppb	66947.141	1.86	54435982	400000	
V	51	3	72	55.901	ppb	55.901	1.32	26305	2000	
Cr	52	3	72	47.710	ppb	47.710	0.49	28310	5000	
Mn	55	3	72	94.269	ppb	94.269	1.84	32323	10000	
Fe	56	2	72	3349.092	ppb	3349.092	2.64	5364282	10000	
Co	59	3	72	39.125	ppb	39.125	1.23	37707	2000	
Ni	60	3	72	51.204	ppb	51.204	1.98	13502	5000	
Cu	63	3	72	41.457	ppb	41.457	2.41	31188	5000	
Zn	66	3	72	64.843	ppb	64.843	0.77	8060	5000	
As	75	3	72	40.417	ppb	40.417	2.08	3519	2000	
Se	78	2	72	45.067	ppb	45.067	3.23	2337	2000	
Sr	88	3	72	604.912	ppb	604.912	1.03	291610	4000	
Mo	95	3	115	47.323	ppb	47.323	0.83	17554	2000	
Ag	107	3	115	39.747	ppb	39.747	1.55	49005	100	
Cd	111	3	115	37.617	ppb	37.617	1.52	7098	2000	
Sn	120	3	115	37.055	ppb	37.055	0.61	23289	2000	
Sb	121	3	115	37.869	ppb	37.869	0.72	21927	1000	
Ba	137	3	115	67.533	ppb	67.533	2.16	14441	5000	
Tl	205	3	193	40.002	ppb	40.002	1.90	110927	2000	
(Pb)	206	3	193	41.223	ppb	41.223	3.25	38327	100	
(Pb)	207	3	193	42.048	ppb	42.048	3.59	33838	100	
Pb	208	3	193	41.737	ppb	41.737	1.82	154253	5000	
Th	232	3	193	40.251	ppb	40.251	1.87	156647	2000	
U	238	3	193	40.117	ppb	40.117	1.60	159496	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc (IS)	45	2	HMI H2	4849172	1.42	4176342	116.11	60	120	
Sc (IS)	45	3	HMI He	515480	0.67	454432	113.43	60	120	
Ge Internal standard	72	2	HMI H2	2577997	1.98	2219876	116.13	60	120	
Ge Internal standard	72	3	HMI He	602349	1.14	521662	115.47	60	120	
In Internal Standard	115	3	HMI He	2454804	0.66	2121087	115.73	60	120	
Ir (IS)	193	3	HMI He	4201341	2.01	3821950	109.93	60	120	

Sample Report

Sample Table

Sample Name	280-185842-a-7-a
Data File Name	119SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\79_122123.b
Acq Date Time	2023-12-21T17:04:45-07:00
Analyst	Denver Metals
Sample Type	Sample
Dilution	1
Comment	637852 6020B
ISTD Ref FileName	039CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Fail

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Be	9	2	6	-0.034	ppb	-0.034	-124.59	3	2000	
Na	23	3	45	72641.910	ppb	72641.910	2.17	6094032	400000	
Mg	24	3	45	36725.202	ppb	36725.202	1.10	1601936	400000	
Al	27	3	45	911.652	ppb	911.652	4.96	16917	400000	
K	39	3	45	2674.362	ppb	2674.362	1.37	152359	400000	
Ca	40	2	45	48722.580	ppb	48722.580	1.25	41444222	400000	
V	51	3	72	16.158	ppb	16.158	2.36	8195	2000	
Cr	52	3	72	6.370	ppb	6.370	4.32	4723	5000	
Mn	55	3	72	41.311	ppb	41.311	2.37	14942	10000	
Fe	56	2	72	2831.585	ppb	2831.585	1.12	4869048	10000	
Co	59	3	72	1.372	ppb	1.372	9.05	1456	2000	
Ni	60	3	72	9.809	ppb	9.809	2.74	2836	5000	
Cu	63	3	72	3.337	ppb	3.337	2.80	3072	5000	
Zn	66	3	72	21.953	ppb	21.953	1.93	3026	5000	
As	75	3	72	2.285	ppb	2.285	6.23	248	2000	
Se	78	2	72	3.593	ppb	3.593	11.10	206	2000	
Sr	88	3	72	387.907	ppb	387.907	0.40	195954	4000	
Mo	95	3	115	7.538	ppb	7.538	2.91	2869	2000	
Ag	107	3	115	0.456	ppb	0.456	6.50	585	100	
Cd	111	3	115	0.857	ppb	0.857	23.60	175	2000	
Sn	120	3	115	-0.184	ppb	-0.184	-37.05	426	2000	
Sb	121	3	115	0.851	ppb	0.851	11.97	576	1000	
Ba	137	3	115	22.429	ppb	22.429	4.88	4915	5000	
Tl	205	3	193	0.294	ppb	0.294	14.69	1616	2000	
(Pb)	206	3	193	1.983	ppb	1.983	2.86	2072	100	
(Pb)	207	3	193	1.853	ppb	1.853	14.79	1803	100	
Pb	208	3	193	1.829	ppb	1.829	4.42	7765	5000	
Th	232	3	193	0.971	ppb	0.971	6.45	7345	2000	
U	238	3	193	0.603	ppb	0.603	1.44	3759	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc (IS)	45	2	HMI H2	5071556	1.28	4176342	121.44	60	120	IS Failed
Sc (IS)	45	3	HMI He	542797	0.43	454432	119.45	60	120	
Ge Internal standard	72	2	HMI H2	2764587	1.00	2219876	124.54	60	120	IS Failed
Ge Internal standard	72	3	HMI He	631106	0.11	521662	120.98	60	120	IS Failed
In Internal Standard	115	3	HMI He	2510777	1.98	2121087	118.37	60	120	
Ir (IS)	193	3	HMI He	4411248	0.14	3821950	115.42	60	120	

Sample Report

Sample Table

Sample Name	280-185842-a-8-a
Data File Name	120SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\79_122123.b
Acq Date Time	2023-12-21T17:06:59-07:00
Analyst	Denver Metals
Sample Type	Sample
Dilution	1
Comment	637852 6020B
ISTD Ref FileName	039CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Be	9	2	6	0.291	ppb	0.291	22.64	19	2000	
Na	23	3	45	95202.322	ppb	95202.322	1.74	7453758	400000	
Mg	24	3	45	41000.255	ppb	41000.255	0.67	1671808	400000	
Al	27	3	45	3380.554	ppb	3380.554	1.48	58057	400000	
K	39	3	45	2115.004	ppb	2115.004	4.38	120777	400000	
Ca	40	2	45	76515.678	ppb	76515.678	2.02	61335877	400000	
V	51	3	72	7.409	ppb	7.409	5.13	3742	2000	
Cr	52	3	72	152.028	ppb	152.028	0.81	88097	5000	
Mn	55	3	72	84.164	ppb	84.164	1.95	28790	10000	
Fe	56	2	72	6533.715	ppb	6533.715	2.74	10436069	10000	
Co	59	3	72	3.131	ppb	3.131	5.00	3072	2000	
Ni	60	3	72	29.091	ppb	29.091	0.39	7712	5000	
Cu	63	3	72	6.222	ppb	6.222	2.35	5055	5000	
Zn	66	3	72	25.280	ppb	25.280	1.11	3279	5000	
As	75	3	72	3.920	ppb	3.920	10.19	376	2000	
Se	78	2	72	0.061	ppb	0.061	40.34	9	2000	
Sr	88	3	72	336.328	ppb	336.328	1.04	161661	4000	
Mo	95	3	115	8.848	ppb	8.848	4.24	3269	2000	
Ag	107	3	115	5.801	ppb	5.801	3.22	7113	100	
Cd	111	3	115	0.012	ppb	0.012	583.20	12	2000	
Sn	120	3	115	0.165	ppb	0.165	91.62	628	2000	
Sb	121	3	115	0.189	ppb	0.189	32.53	182	1000	
Ba	137	3	115	33.730	ppb	33.730	1.80	7173	5000	
Tl	205	3	193	-0.071	ppb	-0.071	-28.73	533	2000	
(Pb)	206	3	193	3.551	ppb	3.551	4.32	3415	100	
(Pb)	207	3	193	3.318	ppb	3.318	4.83	2877	100	
Pb	208	3	193	3.567	ppb	3.567	2.70	13743	5000	
Th	232	3	193	5.111	ppb	5.111	1.44	22694	2000	
U	238	3	193	1.311	ppb	1.311	5.32	6352	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc (IS)	45	2	HMI H2	4780696	1.24	4176342	114.47	60	120	
Sc (IS)	45	3	HMI He	507380	1.02	454432	111.65	60	120	
Ge Internal standard	72	2	HMI H2	2576294	1.48	2219876	116.06	60	120	
Ge Internal standard	72	3	HMI He	600478	0.20	521662	115.11	60	120	
In Internal Standard	115	3	HMI He	2438645	1.23	2121087	114.97	60	120	
Ir (IS)	193	3	HMI He	4187496	1.33	3821950	109.56	60	120	

Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV-8123148
Data File Name	121_CCV.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\79_122123.b
Acq Date Time	2023-12-21T17:09:12-07:00
Sample Type	CCV
Dilution	1
Comment	
ISTD Ref File Name	039CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	Units	Conc %RSD	CPS	Exp Value	%Rec	%Low	%High2	QC Flag
Be	9	2	6	51.150	ppb	3.740	2600	50	102.3	90	110	
Na	23	3	45	51289.299	ppb	2.249	4034992	51000	100.6	90	110	
Mg	24	3	45	10872.024	ppb	2.333	443496	11000	98.8	90	110	
Al	27	3	45	1014.132	ppb	3.334	17572	1000	101.4	90	110	
K	39	3	45	11121.400	ppb	1.994	469082	11000	101.1	90	110	
Ca	40	2	45	10843.388	ppb	1.053	8532166	11000	98.6	90	110	
V	51	3	72	51.035	ppb	4.572	23285	50	102.1	90	110	
Cr	52	3	72	51.374	ppb	1.478	29461	50	102.7	90	110	
Mn	55	3	72	51.877	ppb	4.516	17299	50	103.8	90	110	
Fe	56	2	72	1041.469	ppb	0.691	1636971	1000	104.1	90	110	
Co	59	3	72	50.381	ppb	2.285	47004	50	100.8	90	110	
Ni	60	3	72	50.571	ppb	2.381	12916	50	101.1	90	110	
Cu	63	3	72	50.883	ppb	2.149	36979	50	101.8	90	110	
Zn	66	3	72	51.960	ppb	2.455	6303	50	103.9	90	110	
As	75	3	72	52.284	ppb	4.432	4395	50	104.6	90	110	
Se	78	2	72	52.776	ppb	2.491	2656	50	105.6	90	110	
Sr	88	3	72	105.517	ppb	2.640	49293	100	105.5	90	110	
Mo	95	3	115	50.155	ppb	1.571	18367	50	100.3	90	110	
Ag	107	3	115	50.242	ppb	2.624	61134	50	100.5	90	110	
Cd	111	3	115	49.316	ppb	3.118	9184	50	98.6	90	110	
Sn	120	3	115	49.499	ppb	4.290	30516	50	99.0	90	110	
Sb	121	3	115	50.820	ppb	3.293	29012	50	101.6	90	110	
Ba	137	3	115	50.227	ppb	2.483	10606	50	100.5	90	110	
Tl	205	3	193	52.776	ppb	1.331	141334	50	105.6	90	110	
(Pb)	206	3	193	52.755	ppb	3.332	47400	50	105.5	90	110	
(Pb)	207	3	193	52.451	ppb	0.803	40780	50	104.9	90	110	
Pb	208	3	193	52.943	ppb	3.114	189036	50	105.9	90	110	
Th	232	3	193	52.654	ppb	1.640	197245	50	105.3	90	110	
U	238	3	193	53.569	ppb	3.428	205558	50	107.1	90	110	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc (IS)	45	2	HMI H2	4681583	0.40	4176342	112.10	60	120	
Sc (IS)	45	3	HMI He	507590	1.53	454432	111.70	60	120	
Ge Internal standard	72	2	HMI H2	2503635	0.90	2219876	112.78	60	120	
Ge Internal standard	72	3	HMI He	583472	2.12	521662	111.85	60	120	
In Internal Standard	115	3	HMI He	2424214	3.61	2121087	114.29	60	120	
Ir (IS)	193	3	HMI He	4063748	2.48	3821950	106.33	60	120	

Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB-8123133
Data File Name	122_CCB.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\79_122123.b
Acq Date Time	2023-12-21T17:11:26-07:00
Sample Type	CCB
Dilution	1
Comment	
ISTD Ref File Name	039CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	Units	Conc %RSD	CPS	Upper Limit	QC Flag
Be	9	2	6	-0.019	ppb	-317.5	3	0.5	
Na	23	3	45	77.677	ppb	12.1	46469	25	>RL
Mg	24	3	45	21.846	ppb	10.2	1031	25	
Al	27	3	45	-2.582	ppb	-42.1	170	15	
K	39	3	45	-16.519	ppb	-216.0	38060	50	
V	51	3	72	0.728	ppb	9.9	623	1	
Cr	52	3	72	0.034	ppb	325.7	830	1	
Mn	55	3	72	0.419	ppb	51.8	302	0.5	
Co	59	3	72	0.027	ppb	96.0	92	0.5	
Ni	60	3	72	-0.130	ppb	-25.1	110	1	
Cu	63	3	72	-0.110	ppb	-63.1	363	1	
Zn	66	3	72	-0.858	ppb	-36.7	132	5	
As	75	3	72	-0.106	ppb	-100.0	30	1	
Se	78	2	72	0.080	ppb	3.2	10	1	
Sr	88	3	72	0.231	ppb	21.3	150	0.5	
Mo	95	3	115	0.136	ppb	57.9	60	0.5	
Ag	107	3	115	0.082	ppb	21.7	107	1	
Cd	111	3	115	0.013	ppb	316.4	12	0.5	
Sn	120	3	115	0.079	ppb	84.4	560	1	
Sb	121	3	115	0.189	ppb	21.1	177	0.6	
Ba	137	3	115	0.063	ppb	46.4	32	0.5	
Tl	205	3	193	-0.101	ppb	-19.5	443	0.1	
(Pb)	206	3	193	0.005	ppb	520.0	138	1	
(Pb)	207	3	193	-0.060	ppb	-21.0	185	1	
Pb	208	3	193	-0.014	ppb	-67.0	601	0.5	
Th	232	3	193	0.474	ppb	3.2	5014	1	
U	238	3	193	0.028	ppb	24.9	1286	0.5	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc (IS)	45	2	HMI H2	4651829	0.64	4176342	111.39	60	120	
Sc (IS)	45	3	HMI He	502747	0.73	454432	110.63	60	120	
Ge Internal standard	72	2	HMI H2	2491412	1.30	2219876	112.23	60	120	
Ge Internal standard	72	3	HMI He	580591	0.49	521662	111.30	60	120	
In Internal Standard	115	3	HMI He	2372944	1.01	2121087	111.87	60	120	
Ir (IS)	193	3	HMI He	4127458	0.68	3821950	107.99	60	120	

Blank Report

Sample Table

Sample Name	mb 280-638048/1-a
Data File Name	123_BLK.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\79_122123.b
Acq Date Time	2023-12-21T17:13:41-07:00
Sample Type	Blank
Dilution	1
Comment	638048 6020B
ISTD Ref File Name	039CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	Units	Conc %RSD	CPS	Upper Limit
Be	9	2	6	-0.046	ppb	-80.69454287	2	0.5
Na	23	3	45	109.496	ppb	18.37917938	49864	25
Mg	24	3	45	11.464	ppb	20.22833713	624	25
Al	27	3	45	7.434	ppb	35.56148729	347	15
K	39	3	45	-25.794	ppb	-224.8350228	38448	50
Ca	40	2	45	49.977	ppb	1.81783552	61667	200
V	51	3	72	0.624	ppb	14.58915547	591	1
Cr	52	3	72	0.058	ppb	179.8596991	865	1
Mn	55	3	72	0.743	ppb	28.18773013	418	0.5
Fe	56	2	72	8.123	ppb	1.73853687	36960	50
Co	59	3	72	0.015	ppb	137.7591052	83	0.5
Ni	60	3	72	-0.115	ppb	-33.30969311	117	1
Cu	63	3	72	-0.081	ppb	-34.91097563	393	1
Zn	66	3	72	3.416	ppb	2.748813014	645	5
As	75	3	72	0.001	ppb	11137.43285	40	1
(Se)	78	3	72	2.297	ppb	122.3087678	45	1
Sr	88	3	72	0.198	ppb	13.06916549	138	0.5
Mo	95	3	115	0.023	ppb	112.690286	20	0.5
Ag	107	3	115	0.038	ppb	30.52819864	55	1
Cd	111	3	115	0.013	ppb	428.0281778	12	0.5
Sn	120	3	115	-0.068	ppb	-161.9451134	476	1
Sb	121	3	115	0.044	ppb	23.41118769	97	0.6
Ba	137	3	115	0.340	ppb	41.89424467	90	0.5
Tl	205	3	193	-0.160	ppb	-11.79926685	287	0.1
(Pb)	206	3	193	0.045	ppb	57.26412644	177	1
(Pb)	207	3	193	0.048	ppb	44.83731305	272	1
Pb	208	3	193	0.067	ppb	17.04944079	901	0.5
Th	232	3	193	0.090	ppb	65.11906518	3600	1
U	238	3	193	0.003	ppb	536.9545512	1199	0.5

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc (IS)	45	2	HMI H2	4692537	1.86	4176342	112.36	60	120	
Sc (IS)	45	3	HMI He	512515	1.24	454432	112.78	60	120	
Ge Internal standard	72	2	HMI H2	2539893	0.45	2219876	114.42	60	120	
Ge Internal standard	72	3	HMI He	595515	0.50	521662	114.16	60	120	
In Internal Standard	115	3	HMI He	2397694	2.16	2121087	113.04	60	120	
Ir (IS)	193	3	HMI He	4157377	1.24	3821950	108.78	60	120	

Laboratory Control Sample (LCS) Report

Sample Table

Sample Name	lcs 280-638048/22-a
Data File Name	124_LCS.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\79_122123.b
Acq Date Time	2023-12-21T17:15:55-07:00
Sample Type	LCS
Dilution	1
Analyst	Denver Metals
Comment	638048 6020B
ISTD Ref File Name	039CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	FinalConc	Units	Conc %RSD	CPS	Exp Value	%Rec	%Low	%High	QC Flag
Be	9	2	6	37.987	37.987	ppb	3.226	1944	40	95.0	80	120	
Na	23	3	45	1011.417	1011.417	ppb	2.218	119025	40	2528.5	80	120	>+/-20%
Mg	24	3	45	1032.308	1032.308	ppb	2.574	42031	40	2580.8	80	120	>+/-20%
Al	27	3	45	750.615	750.615	ppb	0.794	12999	40	1876.5	80	120	>+/-20%
K	39	3	45	984.008	984.008	ppb	3.663	76715	40	2460.0	80	120	>+/-20%
Ca	40	2	45	1034.230	1034.230	ppb	1.527	832204	40	2585.6	80	120	>+/-20%
V	51	3	72	39.961	39.961	ppb	1.304	18421	40	99.9	80	120	
Cr	52	3	72	39.575	39.575	ppb	3.417	23033	40	98.9	80	120	
Mn	55	3	72	39.868	39.868	ppb	2.316	13425	40	99.7	80	120	
Fe	56	2	72	805.534	805.534	ppb	1.090	1276963	40	2013.8	80	120	>+/-20%
(Fe)	56	3	72	782.591	782.591	ppb	1.274	402188	40	1956.5	80	120	>+/-20%
Co	59	3	72	38.971	38.971	ppb	0.539	36628	40	97.4	80	120	
Ni	60	3	72	38.242	38.242	ppb	0.953	9872	40	95.6	80	120	
Cu	63	3	72	38.749	38.749	ppb	1.277	28458	40	96.9	80	120	
Zn	66	3	72	38.616	38.616	ppb	2.701	4777	40	96.5	80	120	
As	75	3	72	39.681	39.681	ppb	2.894	3369	40	99.2	80	120	
Se	78	2	72	41.299	41.299	ppb	3.618	2089	40	103.2	80	120	
(Se)	78	3	72	39.629	39.629	ppb	10.683	282	40	99.1	80	120	
Sr	88	3	72	79.944	79.944	ppb	2.718	37615	40	199.9	80	120	>+/-20%
Mo	95	3	115	39.401	39.401	ppb	1.456	14070	40	98.5	80	120	
Ag	107	3	115	39.957	39.957	ppb	0.579	47420	40	99.9	80	120	
Cd	111	3	115	39.633	39.633	ppb	0.355	7198	40	99.1	80	120	
Sn	120	3	115	40.160	40.160	ppb	1.230	24253	40	100.4	80	120	
Sb	121	3	115	39.777	39.777	ppb	1.777	22164	40	99.4	80	120	
Ba	137	3	115	40.464	40.464	ppb	0.567	8335	40	101.2	80	120	
Tl	205	3	193	40.244	40.244	ppb	1.307	110828	40	100.6	80	120	
(Pb)	206	3	193	39.928	39.928	ppb	2.408	36877	40	99.8	80	120	
(Pb)	207	3	193	40.619	40.619	ppb	1.467	32474	40	101.5	80	120	
Pb	208	3	193	40.274	40.274	ppb	1.525	147849	40	100.7	80	120	
Th	232	3	193	39.773	39.773	ppb	1.066	153770	40	99.4	80	120	
U	238	3	193	39.709	39.709	ppb	1.794	156797	40	99.3	80	120	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc (IS)	45	2	HMI H2	4671288	0.69	4176342	111.85	60	120	
Sc (IS)	45	3	HMI He	504999	1.19	454432	111.13	60	120	
Ge Internal standard	72	2	HMI H2	2514236	0.38	2219876	113.26	60	120	
Ge Internal standard	72	3	HMI He	587399	1.41	521662	112.60	60	120	
In Internal Standard	115	3	HMI He	2362845	0.71	2121087	111.40	60	120	
Ir (IS)	193	3	HMI He	4172172	1.55	3821950	109.16	60	120	

Sample Report

Sample Table

Sample Name	lcsd 280-638048/23-a
Data File Name	125SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\79_122123.b
Acq Date Time	2023-12-21T17:18:10-07:00
Analyst	Denver Metals
Sample Type	Sample
Dilution	1
Comment	638048 6020B
ISTD Ref FileName	039CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Be	9	2	6	0.034	ppb	0.034	2.36	6	2000	
Na	23	3	45	588669.820	ppb	588669.820	1.43	45289968	400000	
Mg	24	3	45	4504.431	ppb	4504.431	0.70	181465	400000	
Al	27	3	45	1583.904	ppb	1583.904	3.46	26973	400000	
K	39	3	45	2310.322	ppb	2310.322	4.72	126701	400000	
Ca	40	2	45	22967.497	ppb	22967.497	1.46	17721153	400000	
V	51	3	72	10.026	ppb	10.026	1.81	4838	2000	
Cr	52	3	72	12.602	ppb	12.602	1.21	7882	5000	
Mn	55	3	72	98.419	ppb	98.419	0.74	32844	10000	
Fe	56	2	72	5959.731	ppb	5959.731	1.08	9314295	10000	
Co	59	3	72	1.010	ppb	1.010	5.98	1013	2000	
Ni	60	3	72	11.661	ppb	11.661	4.98	3104	5000	
Cu	63	3	72	228.052	ppb	228.052	1.16	165007	5000	
Zn	66	3	72	309.635	ppb	309.635	1.32	36582	5000	
As	75	3	72	2.216	ppb	2.216	16.40	225	2000	
Se	78	2	72	5.947	ppb	5.947	8.23	307	2000	
Sr	88	3	72	191.366	ppb	191.366	1.57	89825	4000	
Mo	95	3	115	83.375	ppb	83.375	1.87	30277	2000	
Ag	107	3	115	0.101	ppb	0.101	13.30	132	100	
Cd	111	3	115	0.311	ppb	0.311	33.80	67	2000	
Sn	120	3	115	1.929	ppb	1.929	10.39	1681	2000	
Sb	121	3	115	0.811	ppb	0.811	11.76	530	1000	
Ba	137	3	115	80.822	ppb	80.822	3.26	16917	5000	
Tl	205	3	193	0.055	ppb	0.055	24.72	846	2000	
(Pb)	206	3	193	4.867	ppb	4.867	3.01	4469	100	
(Pb)	207	3	193	4.731	ppb	4.731	5.06	3862	100	
Pb	208	3	193	4.759	ppb	4.759	3.71	17479	5000	
Th	232	3	193	0.838	ppb	0.838	8.11	6240	2000	
U	238	3	193	0.279	ppb	0.279	22.92	2209	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc (IS)	45	2	HMI H2	4596964	0.27	4176342	110.07	60	120	
Sc (IS)	45	3	HMI He	500961	1.20	454432	110.24	60	120	
Ge Internal standard	72	2	HMI H2	2519727	1.07	2219876	113.51	60	120	
Ge Internal standard	72	3	HMI He	586326	0.85	521662	112.40	60	120	
In Internal Standard	115	3	HMI He	2404253	1.16	2121087	113.35	60	120	
Ir (IS)	193	3	HMI He	4042615	3.48	3821950	105.77	60	120	

Sample Report

Sample Table

Sample Name	280-185872-d-5-a
Data File Name	126SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\79_122123.b
Acq Date Time	2023-12-21T17:20:23-07:00
Analyst	Denver Metals
Sample Type	Sample
Dilution	1
Comment	638048 6020B
ISTD Ref FileName	039CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Be	9	2	6	-0.057	ppb	-0.057	-82.41	1	2000	
Na	23	3	45	32676.388	ppb	32676.388	1.40	2533435	400000	
Mg	24	3	45	3749.596	ppb	3749.596	1.11	149970	400000	
Al	27	3	45	124.584	ppb	124.584	14.25	2303	400000	
K	39	3	45	2901.336	ppb	2901.336	2.51	148176	400000	
Ca	40	2	45	22232.572	ppb	22232.572	4.04	16888114	400000	
V	51	3	72	1.892	ppb	1.892	5.48	1141	2000	
Cr	52	3	72	1.214	ppb	1.214	3.55	1479	5000	
Mn	55	3	72	28.894	ppb	28.894	3.05	9629	10000	
Fe	56	2	72	617.450	ppb	617.450	0.90	971204	10000	
Co	59	3	72	0.195	ppb	0.195	9.71	247	2000	
Ni	60	3	72	1.740	ppb	1.740	12.31	578	5000	
Cu	63	3	72	7.140	ppb	7.140	5.13	5523	5000	
Zn	66	3	72	42.551	ppb	42.551	4.25	5160	5000	
As	75	3	72	1.347	ppb	1.347	24.51	150	2000	
Se	78	2	72	0.267	ppb	0.267	65.82	19	2000	
Sr	88	3	72	109.147	ppb	109.147	3.78	50565	4000	
Mo	95	3	115	84.482	ppb	84.482	1.01	29342	2000	
Ag	107	3	115	0.036	ppb	0.036	21.95	50	100	
Cd	111	3	115	0.120	ppb	0.120	49.98	30	2000	
Sn	120	3	115	-0.009	ppb	-0.009	-817.08	491	2000	
Sb	121	3	115	0.519	ppb	0.519	27.43	348	1000	
Ba	137	3	115	24.369	ppb	24.369	3.44	4890	5000	
Tl	205	3	193	-0.165	ppb	-0.165	-9.07	262	2000	
(Pb)	206	3	193	0.658	ppb	0.658	2.28	711	100	
(Pb)	207	3	193	0.478	ppb	0.478	14.58	590	100	
Pb	208	3	193	0.584	ppb	0.584	3.82	2680	5000	
Th	232	3	193	0.050	ppb	0.050	94.76	3322	2000	
U	238	3	193	0.093	ppb	0.093	27.10	1494	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc (IS)	45	2	HMI H2	4528865	2.88	4176342	108.44	60	120	
Sc (IS)	45	3	HMI He	497291	0.92	454432	109.43	60	120	
Ge Internal standard	72	2	HMI H2	2480779	1.53	2219876	111.75	60	120	
Ge Internal standard	72	3	HMI He	578569	0.94	521662	110.91	60	120	
In Internal Standard	115	3	HMI He	2299486	2.14	2121087	108.41	60	120	
Ir (IS)	193	3	HMI He	4007071	1.85	3821950	104.84	60	120	

Sample Report

Sample Table

Sample Name	280-185872-e-6-a
Data File Name	127SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\79_122123.b
Acq Date Time	2023-12-21T17:22:38-07:00
Analyst	Denver Metals
Sample Type	Sample
Dilution	1
Comment	638048 6020B
ISTD Ref FileName	039CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Be	9	2	6	-0.070	ppb	-0.070	-33.50	1	2000	
Na	23	3	45	26806.749	ppb	26806.749	0.57	2098916	400000	
Mg	24	3	45	625.885	ppb	625.885	2.00	25315	400000	
Al	27	3	45	33.038	ppb	33.038	3.08	771	400000	
K	39	3	45	328.432	ppb	328.432	15.72	51027	400000	
Ca	40	2	45	3494.622	ppb	3494.622	1.95	2741929	400000	
V	51	3	72	1.035	ppb	1.035	10.95	753	2000	
Cr	52	3	72	1.829	ppb	1.829	19.70	1804	5000	
Mn	55	3	72	9.043	ppb	9.043	4.16	3102	10000	
Fe	56	2	72	686.997	ppb	686.997	0.86	1093908	10000	
Co	59	3	72	0.308	ppb	0.308	20.40	350	2000	
Ni	60	3	72	116.376	ppb	116.376	3.10	29093	5000	
Cu	63	3	72	0.091	ppb	0.091	37.83	501	5000	
Zn	66	3	72	4.472	ppb	4.472	11.18	743	5000	
As	75	3	72	0.282	ppb	0.282	40.53	62	2000	
Se	78	2	72	93.232	ppb	93.232	0.21	4715	2000	
Sr	88	3	72	15.614	ppb	15.614	0.17	7220	4000	
Mo	95	3	115	0.388	ppb	0.388	12.47	147	2000	
Ag	107	3	115	0.009	ppb	0.009	79.94	20	100	
Cd	111	3	115	-0.023	ppb	-0.023	-122.23	5	2000	
Sn	120	3	115	0.002	ppb	0.002	875.01	501	2000	
Sb	121	3	115	0.100	ppb	0.100	48.05	123	1000	
Ba	137	3	115	0.532	ppb	0.532	24.05	125	5000	
Tl	205	3	193	-0.165	ppb	-0.165	-8.07	265	2000	
(Pb)	206	3	193	0.006	ppb	0.006	548.72	137	100	
(Pb)	207	3	193	-0.038	ppb	-0.038	-83.89	198	100	
Pb	208	3	193	-0.013	ppb	-0.013	-121.35	593	5000	
Th	232	3	193	0.028	ppb	0.028	33.51	3285	2000	
U	238	3	193	-0.007	ppb	-0.007	-216.48	1131	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc (IS)	45	2	HMI H2	4642876	0.78	4176342	111.17	60	120	
Sc (IS)	45	3	HMI He	500472	1.31	454432	110.13	60	120	
Ge Internal standard	72	2	HMI H2	2517610	2.08	2219876	113.41	60	120	
Ge Internal standard	72	3	HMI He	574440	1.87	521662	110.12	60	120	
In Internal Standard	115	3	HMI He	2313627	2.26	2121087	109.08	60	120	
Ir (IS)	193	3	HMI He	4055839	2.39	3821950	106.12	60	120	

Sample Report

Sample Table

Sample Name	280-185872-d-8-a
Data File Name	128SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\79_122123.b
Acq Date Time	2023-12-21T17:24:52-07:00
Analyst	Denver Metals
Sample Type	Sample
Dilution	1
Comment	638048 6020B
ISTD Ref FileName	039CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Be	9	2	6	-0.057	ppb	-0.057	-40.41	1	2000	
Na	23	3	45	211082.669	ppb	211082.669	2.27	15815053	400000	
Mg	24	3	45	18250.132	ppb	18250.132	0.25	714305	400000	
Al	27	3	45	426.457	ppb	426.457	3.44	7209	400000	
K	39	3	45	8431.423	ppb	8431.423	0.83	350279	400000	
Ca	40	2	45	83676.040	ppb	83676.040	2.13	63929710	400000	
V	51	3	72	1.687	ppb	1.687	5.72	1051	2000	
Cr	52	3	72	0.043	ppb	0.043	326.31	833	5000	
Mn	55	3	72	123.338	ppb	123.338	1.71	40664	10000	
Fe	56	2	72	221.389	ppb	221.389	0.56	361892	10000	
Co	59	3	72	0.096	ppb	0.096	33.52	155	2000	
Ni	60	3	72	2.538	ppb	2.538	13.18	780	5000	
Cu	63	3	72	0.456	ppb	0.456	34.14	765	5000	
Zn	66	3	72	2.643	ppb	2.643	2.63	538	5000	
As	75	3	72	1.062	ppb	1.062	27.62	127	2000	
Se	78	2	72	4.479	ppb	4.479	7.48	228	2000	
Sr	88	3	72	1007.483	ppb	1007.483	1.65	467537	4000	
Mo	95	3	115	14.153	ppb	14.153	3.12	5038	2000	
Ag	107	3	115	0.002	ppb	0.002	233.93	12	100	
Cd	111	3	115	-0.014	ppb	-0.014	-119.24	7	2000	
Sn	120	3	115	0.104	ppb	0.104	87.65	570	2000	
Sb	121	3	115	0.331	ppb	0.331	20.61	253	1000	
Ba	137	3	115	194.965	ppb	194.965	2.40	39920	5000	
Tl	205	3	193	-0.188	ppb	-0.188	-4.22	200	2000	
(Pb)	206	3	193	0.058	ppb	0.058	38.93	180	100	
(Pb)	207	3	193	0.003	ppb	0.003	1690.32	225	100	
Pb	208	3	193	0.044	ppb	0.044	15.75	781	5000	
Th	232	3	193	0.046	ppb	0.046	15.76	3287	2000	
U	238	3	193	0.136	ppb	0.136	11.99	1646	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc (IS)	45	2	HMI H2	4557165	1.96	4176342	109.12	60	120	
Sc (IS)	45	3	HMI He	486986	1.25	454432	107.16	60	120	
Ge Internal standard	72	2	HMI H2	2470370	0.60	2219876	111.28	60	120	
Ge Internal standard	72	3	HMI He	579968	1.90	521662	111.18	60	120	
In Internal Standard	115	3	HMI He	2353071	1.68	2121087	110.94	60	120	
Ir (IS)	193	3	HMI He	3978394	2.44	3821950	104.09	60	120	

Sample Report

Sample Table

Sample Name	280-185872-g-9-a
Data File Name	129SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\79_122123.b
Acq Date Time	2023-12-21T17:27:07-07:00
Analyst	Denver Metals
Sample Type	Sample
Dilution	1
Comment	638048 6020B
ISTD Ref FileName	039CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Be	9	2	6	-0.070	ppb	-0.070	-33.51	1	2000	
Na	23	3	45	173879.419	ppb	173879.419	2.07	13152978	400000	
Mg	24	3	45	33950.721	ppb	33950.721	1.44	1341026	400000	
Al	27	3	45	2.263	ppb	2.263	130.37	247	400000	
K	39	3	45	7130.959	ppb	7130.959	1.10	304840	400000	
Ca	40	2	45	138976.260	ppb	138976.260	1.27	106269688	400000	
V	51	3	72	1.426	ppb	1.426	12.79	933	2000	
Cr	52	3	72	-0.004	ppb	-0.004	-1584.09	806	5000	
Mn	55	3	72	1669.750	ppb	1669.750	0.61	547453	10000	
Fe	56	2	72	7242.004	ppb	7242.004	1.31	11109083	10000	
Co	59	3	72	0.097	ppb	0.097	13.70	157	2000	
Ni	60	3	72	0.424	ppb	0.424	5.39	248	5000	
Cu	63	3	72	-0.096	ppb	-0.096	-88.16	371	5000	
Zn	66	3	72	0.654	ppb	0.654	49.05	307	5000	
As	75	3	72	1.466	ppb	1.466	14.92	160	2000	
Se	78	2	72	0.068	ppb	0.068	92.68	9	2000	
Sr	88	3	72	1450.855	ppb	1450.855	0.30	672023	4000	
Mo	95	3	115	1.761	ppb	1.761	3.87	641	2000	
Ag	107	3	115	0.010	ppb	0.010	84.41	22	100	
Cd	111	3	115	-0.051	ppb	-0.051	0.00	0	2000	
Sn	120	3	115	-0.302	ppb	-0.302	-7.75	333	2000	
Sb	121	3	115	0.026	ppb	0.026	269.46	85	1000	
Ba	137	3	115	455.324	ppb	455.324	1.37	93846	5000	
Tl	205	3	193	-0.174	ppb	-0.174	-8.22	237	2000	
(Pb)	206	3	193	0.136	ppb	0.136	14.46	248	100	
(Pb)	207	3	193	0.088	ppb	0.088	40.10	290	100	
Pb	208	3	193	0.129	ppb	0.129	8.74	1074	5000	
Th	232	3	193	0.044	ppb	0.044	73.28	3277	2000	
U	238	3	193	0.411	ppb	0.411	5.07	2669	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc (IS)	45	2	HMI H2	4560942	1.40	4176342	109.21	60	120	
Sc (IS)	45	3	HMI He	491539	1.10	454432	108.17	60	120	
Ge Internal standard	72	2	HMI H2	2474636	2.14	2219876	111.48	60	120	
Ge Internal standard	72	3	HMI He	578780	0.32	521662	110.95	60	120	
In Internal Standard	115	3	HMI He	2369241	1.26	2121087	111.70	60	120	
Ir (IS)	193	3	HMI He	3975142	2.26	3821950	104.01	60	120	

Sample Report

Sample Table

Sample Name	280-185872-d-10-a
Data File Name	130SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\79_122123.b
Acq Date Time	2023-12-21T17:29:21-07:00
Analyst	Denver Metals
Sample Type	Sample
Dilution	1
Comment	638048 6020B
ISTD Ref FileName	039CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Be	9	2	6	0.106	ppb	0.106	59.14	9	2000	
Na	23	3	45	229540.331	ppb	229540.331	1.91	17595974	400000	
Mg	24	3	45	78281.134	ppb	78281.134	1.70	3135346	400000	
Al	27	3	45	4223.901	ppb	4223.901	3.92	71226	400000	
K	39	3	45	4215.511	ppb	4215.511	3.25	198405	400000	
Ca	40	2	45	155082.116	ppb	155082.116	1.70	118652148	400000	
V	51	3	72	6.393	ppb	6.393	3.93	3179	2000	
Cr	52	3	72	4.235	ppb	4.235	1.60	3177	5000	
Mn	55	3	72	271.025	ppb	271.025	0.78	89718	10000	
Fe	56	2	72	2132.519	ppb	2132.519	2.83	3329396	10000	
Co	59	3	72	0.908	ppb	0.908	5.02	913	2000	
Ni	60	3	72	11.952	ppb	11.952	4.23	3162	5000	
Cu	63	3	72	1.911	ppb	1.911	5.42	1816	5000	
Zn	66	3	72	15.962	ppb	15.962	4.39	2097	5000	
As	75	3	72	0.751	ppb	0.751	63.69	102	2000	
Se	78	2	72	0.079	ppb	0.079	5.83	10	2000	
Sr	88	3	72	1121.264	ppb	1121.264	0.67	523614	4000	
Mo	95	3	115	0.100	ppb	0.100	22.05	47	2000	
Ag	107	3	115	0.026	ppb	0.026	17.13	40	100	
Cd	111	3	115	1.854	ppb	1.854	9.78	343	2000	
Sn	120	3	115	0.049	ppb	0.049	71.38	536	2000	
Sb	121	3	115	0.042	ppb	0.042	57.59	93	1000	
Ba	137	3	115	1508.957	ppb	1508.957	1.57	308213	5000	
Tl	205	3	193	-0.137	ppb	-0.137	-9.64	340	2000	
(Pb)	206	3	193	1.686	ppb	1.686	8.36	1638	100	
(Pb)	207	3	193	1.517	ppb	1.517	6.04	1396	100	
Pb	208	3	193	1.560	ppb	1.560	5.45	6171	5000	
Th	232	3	193	1.059	ppb	1.059	4.91	7067	2000	
U	238	3	193	0.154	ppb	0.154	16.31	1741	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc (IS)	45	2	HMI H2	4563516	0.88	4176342	109.27	60	120	
Sc (IS)	45	3	HMI He	498459	1.10	454432	109.69	60	120	
Ge Internal standard	72	2	HMI H2	2506500	2.33	2219876	112.91	60	120	
Ge Internal standard	72	3	HMI He	583503	1.15	521662	111.85	60	120	
In Internal Standard	115	3	HMI He	2348371	1.56	2121087	110.72	60	120	
Ir (IS)	193	3	HMI He	4049045	0.29	3821950	105.94	60	120	

Sample Report

Sample Table

Sample Name	280-185912-e-1-a
Data File Name	131SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\79_122123.b
Acq Date Time	2023-12-21T17:31:35-07:00
Analyst	Denver Metals
Sample Type	Sample
Dilution	1
Comment	638048 6020B
ISTD Ref FileName	039CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Be	9	2	6	-0.030	ppb	-0.030	-74.68	3	2000	
Na	23	3	45	150887.955	ppb	150887.955	1.59	11701484	400000	
Mg	24	3	45	54805.842	ppb	54805.842	1.65	2218026	400000	
Al	27	3	45	647.168	ppb	647.168	3.98	11206	400000	
K	39	3	45	550.897	ppb	550.897	11.35	59894	400000	
Ca	40	2	45	108258.224	ppb	108258.224	1.66	83608699	400000	
V	51	3	72	1.851	ppb	1.851	21.72	1149	2000	
Cr	52	3	72	0.538	ppb	0.538	38.03	1133	5000	
Mn	55	3	72	2209.349	ppb	2209.349	1.34	741835	10000	
Fe	56	2	72	669.345	ppb	669.345	2.42	1066448	10000	
Co	59	3	72	6.836	ppb	6.836	2.74	6540	2000	
Ni	60	3	72	16.848	ppb	16.848	4.59	4470	5000	
Cu	63	3	72	0.478	ppb	0.478	7.24	800	5000	
Zn	66	3	72	5.153	ppb	5.153	2.01	848	5000	
As	75	3	72	0.458	ppb	0.458	51.17	78	2000	
Se	78	2	72	0.026	ppb	0.026	238.67	7	2000	
Sr	88	3	72	628.907	ppb	628.907	1.15	298378	4000	
Mo	95	3	115	0.107	ppb	0.107	89.80	50	2000	
Ag	107	3	115	0.018	ppb	0.018	26.92	30	100	
Cd	111	3	115	0.540	ppb	0.540	33.75	107	2000	
Sn	120	3	115	-0.091	ppb	-0.091	-31.34	456	2000	
Sb	121	3	115	0.065	ppb	0.065	47.69	107	1000	
Ba	137	3	115	155.352	ppb	155.352	4.62	31909	5000	
Tl	205	3	193	-0.176	ppb	-0.176	-5.67	242	2000	
(Pb)	206	3	193	0.163	ppb	0.163	42.05	283	100	
(Pb)	207	3	193	0.160	ppb	0.160	13.85	358	100	
Pb	208	3	193	0.158	ppb	0.158	12.40	1226	5000	
Th	232	3	193	0.153	ppb	0.153	27.33	3814	2000	
U	238	3	193	0.492	ppb	0.492	15.46	3086	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc (IS)	45	2	HMI H2	4607120	2.72	4176342	110.31	60	120	
Sc (IS)	45	3	HMI He	503683	1.29	454432	110.84	60	120	
Ge Internal standard	72	2	HMI H2	2517801	1.12	2219876	113.42	60	120	
Ge Internal standard	72	3	HMI He	592828	1.06	521662	113.64	60	120	
In Internal Standard	115	3	HMI He	2361831	2.80	2121087	111.35	60	120	
Ir (IS)	193	3	HMI He	4133284	2.35	3821950	108.15	60	120	

Sample Report

Sample Table

Sample Name	280-185912-e-2-a
Data File Name	132SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\79_122123.b
Acq Date Time	2023-12-21T17:33:50-07:00
Analyst	Denver Metals
Sample Type	Sample
Dilution	1
Comment	638048 6020B
ISTD Ref FileName	039CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Be	9	2	6	-0.084	ppb	-0.084	0.00	0	2000	
Na	23	3	45	16995.756	ppb	16995.756	0.45	1366046	400000	
Mg	24	3	45	16131.327	ppb	16131.327	2.82	658679	400000	
Al	27	3	45	133.158	ppb	133.158	12.07	2499	400000	
K	39	3	45	2793.602	ppb	2793.602	3.81	147219	400000	
Ca	40	2	45	58878.871	ppb	58878.871	1.19	46427040	400000	
V	51	3	72	1.213	ppb	1.213	8.12	841	2000	
Cr	52	3	72	3.174	ppb	3.174	5.15	2576	5000	
Mn	55	3	72	32.033	ppb	32.033	1.13	10707	10000	
Fe	56	2	72	152.980	ppb	152.980	2.58	261307	10000	
Co	59	3	72	0.244	ppb	0.244	8.73	293	2000	
Ni	60	3	72	0.538	ppb	0.538	12.28	278	5000	
Cu	63	3	72	55.243	ppb	55.243	1.54	39958	5000	
Zn	66	3	72	82.731	ppb	82.731	1.41	9859	5000	
As	75	3	72	0.355	ppb	0.355	69.22	68	2000	
Se	78	2	72	0.198	ppb	0.198	51.58	16	2000	
Sr	88	3	72	183.192	ppb	183.192	0.83	85248	4000	
Mo	95	3	115	185.651	ppb	185.651	3.59	64757	2000	
Ag	107	3	115	0.025	ppb	0.025	35.51	38	100	
Cd	111	3	115	0.155	ppb	0.155	50.96	37	2000	
Sn	120	3	115	0.012	ppb	0.012	119.36	506	2000	
Sb	121	3	115	0.290	ppb	0.290	7.48	227	1000	
Ba	137	3	115	53.013	ppb	53.013	2.65	10674	5000	
Tl	205	3	193	-0.189	ppb	-0.189	-8.83	200	2000	
(Pb)	206	3	193	4.092	ppb	4.092	0.54	3744	100	
(Pb)	207	3	193	3.484	ppb	3.484	5.17	2879	100	
Pb	208	3	193	3.789	ppb	3.789	2.60	13921	5000	
Th	232	3	193	0.061	ppb	0.061	60.61	3362	2000	
U	238	3	193	21.908	ppb	21.908	3.09	83526	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc (IS)	45	2	HMI H2	4701462	0.23	4176342	112.57	60	120	
Sc (IS)	45	3	HMI He	508105	0.90	454432	111.81	60	120	
Ge Internal standard	72	2	HMI H2	2509381	2.40	2219876	113.04	60	120	
Ge Internal standard	72	3	HMI He	581226	0.83	521662	111.42	60	120	
In Internal Standard	115	3	HMI He	2310461	1.85	2121087	108.93	60	120	
Ir (IS)	193	3	HMI He	4003545	0.73	3821950	104.75	60	120	

Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV-8123148
Data File Name	133_CCV.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\79_122123.b
Acq Date Time	2023-12-21T17:36:04-07:00
Sample Type	CCV
Dilution	1
Comment	
ISTD Ref File Name	039CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	Units	Conc %RSD	CPS	Exp Value	%Rec	%Low	%High2	QC Flag
Be	9	2	6	50.602	ppb	1.540	2492	50	101.2	90	110	
Na	23	3	45	51957.308	ppb	1.194	3994913	51000	101.9	90	110	
Mg	24	3	45	10934.102	ppb	2.687	436013	11000	99.4	90	110	
Al	27	3	45	1015.454	ppb	1.029	17198	1000	101.5	90	110	
K	39	3	45	11275.223	ppb	1.735	464243	11000	102.5	90	110	
Ca	40	2	45	10606.471	ppb	3.146	8232351	11000	96.4	90	110	
V	51	3	72	52.838	ppb	1.798	23638	50	105.7	90	110	
Cr	52	3	72	51.089	ppb	2.704	28744	50	102.2	90	110	
Mn	55	3	72	50.664	ppb	1.543	16582	50	101.3	90	110	
Fe	56	2	72	1013.103	ppb	4.467	1577591	1000	101.3	90	110	
Co	59	3	72	50.483	ppb	1.974	46209	50	101.0	90	110	
Ni	60	3	72	52.354	ppb	0.176	13115	50	104.7	90	110	
Cu	63	3	72	50.440	ppb	1.807	35962	50	100.9	90	110	
Zn	66	3	72	52.376	ppb	2.600	6230	50	104.8	90	110	
As	75	3	72	53.712	ppb	1.701	4430	50	107.4	90	110	
Se	78	2	72	52.337	ppb	3.349	2611	50	104.7	90	110	
Sr	88	3	72	104.801	ppb	1.211	48037	100	104.8	90	110	
Mo	95	3	115	51.811	ppb	0.282	18096	50	103.6	90	110	
Ag	107	3	115	51.745	ppb	3.698	60045	50	103.5	90	110	
Cd	111	3	115	51.994	ppb	2.409	9234	50	104.0	90	110	
Sn	120	3	115	51.498	ppb	4.475	30266	50	103.0	90	110	
Sb	121	3	115	52.483	ppb	0.493	28591	50	105.0	90	110	
Ba	137	3	115	51.841	ppb	6.954	10432	50	103.7	90	110	
Tl	205	3	193	52.513	ppb	2.755	137217	50	105.0	90	110	
(Pb)	206	3	193	52.552	ppb	1.478	46087	50	105.1	90	110	
(Pb)	207	3	193	53.230	ppb	2.063	40386	50	106.5	90	110	
Pb	208	3	193	52.485	ppb	0.900	182922	50	105.0	90	110	
Th	232	3	193	53.338	ppb	1.184	194938	50	106.7	90	110	
U	238	3	193	52.198	ppb	2.713	195500	50	104.4	90	110	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc (IS)	45	2	HMI H2	4619136	1.78	4176342	110.60	60	120	
Sc (IS)	45	3	HMI He	496046	0.46	454432	109.16	60	120	
Ge Internal standard	72	2	HMI H2	2480907	2.23	2219876	111.76	60	120	
Ge Internal standard	72	3	HMI He	572295	0.44	521662	109.71	60	120	
In Internal Standard	115	3	HMI He	2311612	2.12	2121087	108.98	60	120	
Ir (IS)	193	3	HMI He	3964841	1.50	3821950	103.74	60	120	

Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB-8123133
Data File Name	134_CCB.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\79_122123.b
Acq Date Time	2023-12-21T17:38:18-07:00
Sample Type	CCB
Dilution	1
Comment	
ISTD Ref File Name	039CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	Units	Conc %RSD	CPS	Upper Limit	QC Flag
Be	9	2	6	-0.084	ppb	0.0	0	0.5	
Na	23	3	45	80.803	ppb	30.1	43959	25	>RL
Mg	24	3	45	7.305	ppb	5.8	417	25	
Al	27	3	45	2.692	ppb	120.4	244	15	
K	39	3	45	78.765	ppb	82.6	39231	50	>RL
V	51	3	72	0.861	ppb	10.4	650	1	
Cr	52	3	72	0.072	ppb	140.1	811	1	
Mn	55	3	72	0.174	ppb	81.5	210	0.5	
Co	59	3	72	0.001	ppb	1518.8	65	0.5	
Ni	60	3	72	-0.123	ppb	-95.9	107	1	
Cu	63	3	72	-0.091	ppb	-76.0	358	1	
Zn	66	3	72	-1.016	ppb	-12.1	108	5	
As	75	3	72	-0.045	ppb	-186.2	33	1	
Se	78	2	72	-0.039	ppb	-102.5	4	1	
Sr	88	3	72	0.078	ppb	44.1	75	0.5	
Mo	95	3	115	0.074	ppb	75.4	35	0.5	
Ag	107	3	115	0.061	ppb	48.4	77	1	
Cd	111	3	115	-0.041	ppb	-42.9	2	0.5	
Sn	120	3	115	0.008	ppb	554.6	486	1	
Sb	121	3	115	0.110	ppb	61.0	125	0.6	
Ba	137	3	115	0.047	ppb	77.4	27	0.5	
Tl	205	3	193	-0.138	ppb	-4.5	318	0.1	
(Pb)	206	3	193	-0.038	ppb	-20.6	92	1	
(Pb)	207	3	193	-0.029	ppb	-91.1	193	1	
Pb	208	3	193	-0.031	ppb	-10.5	500	0.5	
Th	232	3	193	0.207	ppb	33.5	3715	1	
U	238	3	193	0.003	ppb	814.7	1103	0.5	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc (IS)	45	2	HMI H2	4488913	2.71	4176342	107.48	60	120	
Sc (IS)	45	3	HMI He	473368	2.64	454432	104.17	60	120	
Ge Internal standard	72	2	HMI H2	2450490	2.15	2219876	110.39	60	120	
Ge Internal standard	72	3	HMI He	553304	2.46	521662	106.07	60	120	
In Internal Standard	115	3	HMI He	2229084	2.95	2121087	105.09	60	120	
Ir (IS)	193	3	HMI He	3823412	1.75	3821950	100.04	60	120	

Sample Report

Sample Table

Sample Name	160-52619-a-3-d
Data File Name	135SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\79_122123.b
Acq Date Time	2023-12-21T17:40:33-07:00
Analyst	Denver Metals
Sample Type	Sample
Dilution	1
Comment	638048 6020B
ISTD Ref FileName	039CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Be	9	2	6	-0.084	ppb	-0.084	0.00	0	2000	
Na	23	3	45	3238.378	ppb	3238.378	0.13	287345	400000	
Mg	24	3	45	3212.295	ppb	3212.295	0.54	128597	400000	
Al	27	3	45	26.100	ppb	26.100	36.99	651	400000	
K	39	3	45	584.493	ppb	584.493	10.81	60450	400000	
Ca	40	2	45	12097.412	ppb	12097.412	1.09	9278574	400000	
V	51	3	72	0.851	ppb	0.851	21.73	670	2000	
Cr	52	3	72	0.811	ppb	0.811	17.74	1244	5000	
Mn	55	3	72	6.570	ppb	6.570	5.61	2292	10000	
Fe	56	2	72	33.605	ppb	33.605	0.26	75845	10000	
Co	59	3	72	0.028	ppb	0.028	78.59	92	2000	
Ni	60	3	72	0.111	ppb	0.111	49.37	168	5000	
Cu	63	3	72	10.901	ppb	10.901	4.50	8122	5000	
Zn	66	3	72	19.055	ppb	19.055	0.33	2414	5000	
As	75	3	72	-0.062	ppb	-0.062	-292.79	33	2000	
Se	78	2	72	0.067	ppb	0.067	95.61	9	2000	
Sr	88	3	72	36.691	ppb	36.691	2.48	16865	4000	
Mo	95	3	115	36.243	ppb	36.243	3.42	12813	2000	
Ag	107	3	115	0.039	ppb	0.039	45.66	55	100	
Cd	111	3	115	0.024	ppb	0.024	71.87	13	2000	
Sn	120	3	115	0.159	ppb	0.159	67.34	598	2000	
Sb	121	3	115	0.104	ppb	0.104	60.45	127	1000	
Ba	137	3	115	10.164	ppb	10.164	4.59	2086	5000	
Tl	205	3	193	-0.178	ppb	-0.178	-5.58	223	2000	
(Pb)	206	3	193	0.750	ppb	0.750	6.18	776	100	
(Pb)	207	3	193	0.693	ppb	0.693	2.81	738	100	
Pb	208	3	193	0.740	ppb	0.740	5.98	3160	5000	
Th	232	3	193	0.040	ppb	0.040	109.16	3219	2000	
U	238	3	193	4.473	ppb	4.473	1.38	17602	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc (IS)	45	2	HMI H2	4564691	1.45	4176342	109.30	60	120	
Sc (IS)	45	3	HMI He	497614	0.96	454432	109.50	60	120	
Ge Internal standard	72	2	HMI H2	2501725	2.24	2219876	112.70	60	120	
Ge Internal standard	72	3	HMI He	572884	1.00	521662	109.82	60	120	
In Internal Standard	115	3	HMI He	2339421	1.55	2121087	110.29	60	120	
Ir (IS)	193	3	HMI He	3922922	1.23	3821950	102.64	60	120	

Sample Report

Sample Table

Sample Name	160-52619-a-3-dSD@5
Data File Name	136SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\79_122123.b
Acq Date Time	2023-12-21T17:42:47-07:00
Analyst	Denver Metals
Sample Type	Sample
Dilution	1
Comment	638048 6020B
ISTD Ref FileName	039CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Be	9	2	6	39.974	ppb	39.974	3.35	1976	2000	
Na	23	3	45	18298.668	ppb	18298.668	0.42	1424787	400000	
Mg	24	3	45	17664.373	ppb	17664.373	1.11	700226	400000	
Al	27	3	45	959.761	ppb	959.761	5.00	16169	400000	
K	39	3	45	3875.291	ppb	3875.291	3.55	183547	400000	
Ca	40	2	45	61234.123	ppb	61234.123	0.84	47718218	400000	
V	51	3	72	41.551	ppb	41.551	2.04	19035	2000	
Cr	52	3	72	41.945	ppb	41.945	2.78	24232	5000	
Mn	55	3	72	70.282	ppb	70.282	0.95	23410	10000	
Fe	56	2	72	999.228	ppb	999.228	0.74	1542844	10000	
Co	59	3	72	38.399	ppb	38.399	1.30	35885	2000	
Ni	60	3	72	40.999	ppb	40.999	4.51	10510	5000	
Cu	63	3	72	92.463	ppb	92.463	1.01	66906	5000	
Zn	66	3	72	118.975	ppb	118.975	0.60	14145	5000	
As	75	3	72	39.541	ppb	39.541	2.64	3339	2000	
Se	78	2	72	42.373	ppb	42.373	3.77	2095	2000	
Sr	88	3	72	261.201	ppb	261.201	0.85	122116	4000	
Mo	95	3	115	223.987	ppb	223.987	1.04	79156	2000	
Ag	107	3	115	40.491	ppb	40.491	1.39	47588	100	
Cd	111	3	115	39.587	ppb	39.587	3.20	7120	2000	
Sn	120	3	115	40.097	ppb	40.097	1.30	23980	2000	
Sb	121	3	115	40.903	ppb	40.903	4.28	22565	1000	
Ba	137	3	115	94.347	ppb	94.347	3.72	19218	5000	
Tl	205	3	193	40.601	ppb	40.601	0.44	108825	2000	
(Pb)	206	3	193	44.083	ppb	44.083	0.79	39617	100	
(Pb)	207	3	193	45.235	ppb	45.235	0.43	35176	100	
Pb	208	3	193	43.988	ppb	43.988	0.96	157116	5000	
Th	232	3	193	40.031	ppb	40.031	1.29	150604	2000	
U	238	3	193	61.034	ppb	61.034	0.87	233948	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc (IS)	45	2	HMI H2	4646849	1.92	4176342	111.27	60	120	
Sc (IS)	45	3	HMI He	493261	1.36	454432	108.54	60	120	
Ge Internal standard	72	2	HMI H2	2457844	0.23	2219876	110.72	60	120	
Ge Internal standard	72	3	HMI He	584034	0.59	521662	111.96	60	120	
In Internal Standard	115	3	HMI He	2340105	1.19	2121087	110.33	60	120	
Ir (IS)	193	3	HMI He	4060460	1.19	3821950	106.24	60	120	

Sample Report

Sample Table

Sample Name	160-52619-a-3-e ms
Data File Name	137SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\79_122123.b
Acq Date Time	2023-12-21T17:45:02-07:00
Analyst	Denver Metals
Sample Type	Sample
Dilution	1
Comment	638048 6020B
ISTD Ref FileName	039CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Be	9	2	6	39.460	ppb	39.460	4.05	1933	2000	
Na	23	3	45	17452.660	ppb	17452.660	3.06	1375826	400000	
Mg	24	3	45	16798.684	ppb	16798.684	3.17	673298	400000	
Al	27	3	45	891.341	ppb	891.341	2.32	15203	400000	
K	39	3	45	3769.632	ppb	3769.632	0.68	181615	400000	
Ca	40	2	45	61685.009	ppb	61685.009	1.36	46194349	400000	
V	51	3	72	40.702	ppb	40.702	0.92	18236	2000	
Cr	52	3	72	43.268	ppb	43.268	0.80	24413	5000	
Mn	55	3	72	71.336	ppb	71.336	2.37	23223	10000	
Fe	56	2	72	931.504	ppb	931.504	1.39	1446002	10000	
Co	59	3	72	39.996	ppb	39.996	3.34	36530	2000	
Ni	60	3	72	39.190	ppb	39.190	2.76	9827	5000	
Cu	63	3	72	94.425	ppb	94.425	4.78	66747	5000	
Zn	66	3	72	123.716	ppb	123.716	2.45	14369	5000	
As	75	3	72	43.007	ppb	43.007	3.13	3545	2000	
Se	78	2	72	42.906	ppb	42.906	1.95	2130	2000	
Sr	88	3	72	264.364	ppb	264.364	2.35	120807	4000	
Mo	95	3	115	222.314	ppb	222.314	1.46	77695	2000	
Ag	107	3	115	40.329	ppb	40.329	2.27	46868	100	
Cd	111	3	115	40.176	ppb	40.176	2.85	7145	2000	
Sn	120	3	115	39.923	ppb	39.923	3.77	23607	2000	
Sb	121	3	115	40.864	ppb	40.864	1.83	22306	1000	
Ba	137	3	115	91.181	ppb	91.181	4.19	18365	5000	
Tl	205	3	193	41.568	ppb	41.568	3.98	106886	2000	
(Pb)	206	3	193	45.650	ppb	45.650	5.10	39350	100	
(Pb)	207	3	193	45.213	ppb	45.213	1.09	33755	100	
Pb	208	3	193	45.820	ppb	45.820	4.45	156983	5000	
Th	232	3	193	40.790	ppb	40.790	1.04	147301	2000	
U	238	3	193	63.839	ppb	63.839	5.73	234635	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc (IS)	45	2	HMI H2	4465663	1.44	4176342	106.93	60	120	
Sc (IS)	45	3	HMI He	498738	0.72	454432	109.75	60	120	
Ge Internal standard	72	2	HMI H2	2468317	0.35	2219876	111.19	60	120	
Ge Internal standard	72	3	HMI He	571084	2.70	521662	109.47	60	120	
In Internal Standard	115	3	HMI He	2314372	1.80	2121087	109.11	60	120	
Ir (IS)	193	3	HMI He	3899450	3.68	3821950	102.03	60	120	

Sample Report

Sample Table

Sample Name	160-52619-a-3-f msd
Data File Name	138SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\79_122123.b
Acq Date Time	2023-12-21T17:47:16-07:00
Analyst	Denver Metals
Sample Type	Sample
Dilution	1
Comment	638048 6020B
ISTD Ref FileName	039CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Be	9	2	6	204.048	ppb	204.048	1.19	10139	2000	
Na	23	3	45	21890.913	ppb	21890.913	1.65	1684591	400000	
Mg	24	3	45	17906.058	ppb	17906.058	0.95	704829	400000	
Al	27	3	45	2225.730	ppb	2225.730	2.38	36969	400000	
K	39	3	45	5067.923	ppb	5067.923	1.86	226779	400000	
Ca	40	2	45	62014.656	ppb	62014.656	2.37	47352492	400000	
V	51	3	72	202.059	ppb	202.059	0.65	90174	2000	
Cr	52	3	72	209.115	ppb	209.115	0.31	115965	5000	
Mn	55	3	72	228.412	ppb	228.412	0.56	74689	10000	
Fe	56	2	72	2257.224	ppb	2257.224	0.80	3506296	10000	
Co	59	3	72	201.468	ppb	201.468	0.63	185464	2000	
Ni	60	3	72	200.770	ppb	200.770	1.23	50231	5000	
Cu	63	3	72	256.676	ppb	256.676	0.29	182453	5000	
Zn	66	3	72	282.110	ppb	282.110	1.16	32772	5000	
As	75	3	72	207.393	ppb	207.393	3.47	17111	2000	
Se	78	2	72	211.696	ppb	211.696	1.62	10595	2000	
Sr	88	3	72	391.133	ppb	391.133	0.79	180379	4000	
Mo	95	3	115	389.089	ppb	389.089	3.15	137650	2000	
Ag	107	3	115	54.235	ppb	54.235	2.55	63817	100	
Cd	111	3	115	200.190	ppb	200.190	1.79	36019	2000	
Sn	120	3	115	205.108	ppb	205.108	2.73	120729	2000	
Sb	121	3	115	208.675	ppb	208.675	2.62	115004	1000	
Ba	137	3	115	256.313	ppb	256.313	3.73	52245	5000	
Tl	205	3	193	214.433	ppb	214.433	0.88	555784	2000	
(Pb)	206	3	193	215.653	ppb	215.653	2.75	187876	100	
(Pb)	207	3	193	219.510	ppb	219.510	1.27	165073	100	
Pb	208	3	193	217.426	ppb	217.426	2.21	752420	5000	
Th	232	3	193	79.042	ppb	79.042	1.70	286056	2000	
U	238	3	193	292.565	ppb	292.565	2.02	1085838	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc (IS)	45	2	HMI H2	4554032	1.81	4176342	109.04	60	120	
Sc (IS)	45	3	HMI He	489776	0.58	454432	107.78	60	120	
Ge Internal standard	72	2	HMI H2	2493783	1.38	2219876	112.34	60	120	
Ge Internal standard	72	3	HMI He	576153	0.10	521662	110.45	60	120	
In Internal Standard	115	3	HMI He	2343631	2.11	2121087	110.49	60	120	
Ir (IS)	193	3	HMI He	3947452	1.55	3821950	103.28	60	120	

Sample Report

Sample Table

Sample Name	160-52619-a-3-d PDS
Data File Name	139SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\79_122123.b
Acq Date Time	2023-12-21T17:49:31-07:00
Analyst	Denver Metals
Sample Type	Sample
Dilution	1
Comment	638048 6020B
ISTD Ref FileName	039CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Be	9	2	6	-0.057	ppb	-0.057	-40.85	1	2000	
Na	23	3	45	8866.878	ppb	8866.878	0.84	712610	400000	
Mg	24	3	45	9914.259	ppb	9914.259	0.55	394069	400000	
Al	27	3	45	51.597	ppb	51.597	6.98	1071	400000	
K	39	3	45	2113.983	ppb	2113.983	2.51	117677	400000	
Ca	40	2	45	36896.903	ppb	36896.903	1.03	28413183	400000	
V	51	3	72	0.773	ppb	0.773	14.24	643	2000	
Cr	52	3	72	0.462	ppb	0.462	52.04	1066	5000	
Mn	55	3	72	79.483	ppb	79.483	1.85	26287	10000	
Fe	56	2	72	103.969	ppb	103.969	3.03	186452	10000	
Co	59	3	72	0.481	ppb	0.481	10.43	513	2000	
Ni	60	3	72	0.468	ppb	0.468	20.30	260	5000	
Cu	63	3	72	4.334	ppb	4.334	2.20	3537	5000	
Zn	66	3	72	34.683	ppb	34.683	5.05	4262	5000	
As	75	3	72	0.174	ppb	0.174	263.01	53	2000	
Se	78	2	72	0.158	ppb	0.158	69.52	14	2000	
Sr	88	3	72	103.460	ppb	103.460	1.23	48094	4000	
Mo	95	3	115	3.983	ppb	3.983	7.20	1403	2000	
Ag	107	3	115	0.107	ppb	0.107	10.88	133	100	
Cd	111	3	115	0.080	ppb	0.080	104.87	23	2000	
Sn	120	3	115	0.072	ppb	0.072	88.41	541	2000	
Sb	121	3	115	0.333	ppb	0.333	11.32	250	1000	
Ba	137	3	115	37.865	ppb	37.865	3.17	7633	5000	
Tl	205	3	193	-0.071	ppb	-0.071	-79.10	508	2000	
(Pb)	206	3	193	0.192	ppb	0.192	25.68	300	100	
(Pb)	207	3	193	0.146	ppb	0.146	15.52	337	100	
Pb	208	3	193	0.185	ppb	0.185	15.16	1283	5000	
Th	232	3	193	0.176	ppb	0.176	29.41	3785	2000	
U	238	3	193	6.033	ppb	6.033	4.69	23866	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc (IS)	45	2	HMI H2	4590319	1.79	4176342	109.91	60	120	
Sc (IS)	45	3	HMI He	494487	1.14	454432	108.81	60	120	
Ge Internal standard	72	2	HMI H2	2525648	2.00	2219876	113.77	60	120	
Ge Internal standard	72	3	HMI He	580364	0.40	521662	111.25	60	120	
In Internal Standard	115	3	HMI He	2312540	1.38	2121087	109.03	60	120	
Ir (IS)	193	3	HMI He	4011801	2.16	3821950	104.97	60	120	

Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV-8123148
Data File Name	140_CCV.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\79_122123.b
Acq Date Time	2023-12-21T17:51:45-07:00
Sample Type	CCV
Dilution	1
Comment	
ISTD Ref File Name	039CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	Units	Conc %RSD	CPS	Exp Value	%Rec	%Low	%High2	QC Flag
Be	9	2	6	50.405	ppb	3.088	2481	50	100.8	90	110	
Na	23	3	45	50381.391	ppb	2.415	3840919	51000	98.8	90	110	
Mg	24	3	45	10935.279	ppb	3.698	432192	11000	99.4	90	110	
Al	27	3	45	1009.585	ppb	1.427	16951	1000	101.0	90	110	
K	39	3	45	11106.325	ppb	1.461	453900	11000	101.0	90	110	
Ca	40	2	45	10861.110	ppb	0.723	8274456	11000	98.7	90	110	
V	51	3	72	52.144	ppb	4.223	23246	50	104.3	90	110	
Cr	52	3	72	50.502	ppb	3.340	28310	50	101.0	90	110	
Mn	55	3	72	50.000	ppb	0.608	16301	50	100.0	90	110	
Fe	56	2	72	1067.575	ppb	2.001	1605312	1000	106.8	90	110	
Co	59	3	72	49.912	ppb	3.348	45502	50	99.8	90	110	
Ni	60	3	72	50.144	ppb	2.516	12516	50	100.3	90	110	
Cu	63	3	72	50.106	ppb	3.141	35583	50	100.2	90	110	
Zn	66	3	72	52.389	ppb	3.505	6207	50	104.8	90	110	
As	75	3	72	52.955	ppb	3.186	4350	50	105.9	90	110	
Se	78	2	72	54.357	ppb	2.387	2618	50	108.7	90	110	
Sr	88	3	72	104.069	ppb	1.812	47509	100	104.1	90	110	
Mo	95	3	115	51.519	ppb	4.762	17736	50	103.0	90	110	
Ag	107	3	115	51.617	ppb	5.478	59050	50	103.2	90	110	
Cd	111	3	115	50.516	ppb	7.232	8840	50	101.0	90	110	
Sn	120	3	115	51.765	ppb	5.627	29992	50	103.5	90	110	
Sb	121	3	115	51.694	ppb	3.221	27768	50	103.4	90	110	
Ba	137	3	115	53.482	ppb	4.576	10617	50	107.0	90	110	
Tl	205	3	193	51.679	ppb	5.965	134362	50	103.4	90	110	
(Pb)	206	3	193	51.739	ppb	3.963	45179	50	103.5	90	110	
(Pb)	207	3	193	52.348	ppb	3.081	39534	50	104.7	90	110	
Pb	208	3	193	52.158	ppb	4.730	180909	50	104.3	90	110	
Th	232	3	193	52.010	ppb	1.594	189358	50	104.0	90	110	
U	238	3	193	51.712	ppb	6.742	192679	50	103.4	90	110	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc (IS)	45	2	HMI H2	4532866	0.99	4176342	108.54	60	120	
Sc (IS)	45	3	HMI He	491717	0.44	454432	108.20	60	120	
Ge Internal standard	72	2	HMI H2	2396390	2.60	2219876	107.95	60	120	
Ge Internal standard	72	3	HMI He	570031	1.11	521662	109.27	60	120	
In Internal Standard	115	3	HMI He	2281661	4.75	2121087	107.57	60	120	
Ir (IS)	193	3	HMI He	3949681	3.66	3821950	103.34	60	120	

Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB-8123133
Data File Name	141_CCB.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\79_122123.b
Acq Date Time	2023-12-21T17:53:59-07:00
Sample Type	CCB
Dilution	1
Comment	
ISTD Ref File Name	039CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	Units	Conc %RSD	CPS	Upper Limit	QC Flag
Be	9	2	6	-0.002	ppb	-2353.6	4	0.5	
Na	23	3	45	28.496	ppb	28.9	41442	25	>RL
Mg	24	3	45	3.548	ppb	40.8	284	25	
Al	27	3	45	-3.100	ppb	-29.6	157	15	
K	39	3	45	58.459	ppb	75.6	39739	50	>RL
V	51	3	72	0.782	ppb	9.9	626	1	
Cr	52	3	72	-0.022	ppb	-535.3	773	1	
Mn	55	3	72	0.152	ppb	31.8	207	0.5	
Co	59	3	72	-0.005	ppb	-203.0	60	0.5	
Ni	60	3	72	-0.115	ppb	-79.8	110	1	
Cu	63	3	72	-0.114	ppb	-53.5	348	1	
Zn	66	3	72	-0.792	ppb	-9.2	135	5	
As	75	3	72	-0.115	ppb	-191.4	28	1	
Se	78	2	72	-0.079	ppb	-52.4	2	1	
Sr	88	3	72	0.019	ppb	174.1	50	0.5	
Mo	95	3	115	0.071	ppb	35.6	35	0.5	
Ag	107	3	115	0.064	ppb	4.1	82	1	
Cd	111	3	115	-0.003	ppb	-1500.1	8	0.5	
Sn	120	3	115	0.043	ppb	197.6	515	1	
Sb	121	3	115	0.160	ppb	47.2	153	0.6	
Ba	137	3	115	0.053	ppb	28.0	28	0.5	
Tl	205	3	193	-0.130	ppb	-17.2	342	0.1	
(Pb)	206	3	193	0.004	ppb	1621.5	128	1	
(Pb)	207	3	193	-0.049	ppb	-27.1	182	1	
Pb	208	3	193	-0.027	ppb	-83.5	518	0.5	
Th	232	3	193	0.235	ppb	13.3	3864	1	
U	238	3	193	-0.007	ppb	-134.1	1080	0.5	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc (IS)	45	2	HMI H2	4513239	1.94	4176342	108.07	60	120	
Sc (IS)	45	3	HMI He	488257	1.48	454432	107.44	60	120	
Ge Internal standard	72	2	HMI H2	2400831	0.76	2219876	108.15	60	120	
Ge Internal standard	72	3	HMI He	562007	0.57	521662	107.73	60	120	
In Internal Standard	115	3	HMI He	2267868	0.21	2121087	106.92	60	120	
Ir (IS)	193	3	HMI He	3872253	1.58	3821950	101.32	60	120	

Sample Report

Sample Table

Sample Name	160-52619-a-5-a
Data File Name	142SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\79_122123.b
Acq Date Time	2023-12-21T17:56:14-07:00
Analyst	Denver Metals
Sample Type	Sample
Dilution	1
Comment	638048 6020B
ISTD Ref FileName	039CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Be	9	2	6	-0.070	ppb	-0.070	-33.57	1	2000	
Na	23	3	45	10400.292	ppb	10400.292	0.57	829327	400000	
Mg	24	3	45	7734.436	ppb	7734.436	0.94	307590	400000	
Al	27	3	45	12.182	ppb	12.182	17.85	414	400000	
K	39	3	45	2751.144	ppb	2751.144	2.55	141754	400000	
Ca	40	2	45	68316.230	ppb	68316.230	0.72	53405766	400000	
V	51	3	72	1.131	ppb	1.131	8.31	805	2000	
Cr	52	3	72	0.719	ppb	0.719	25.48	1211	5000	
Mn	55	3	72	23.159	ppb	23.159	0.19	7787	10000	
Fe	56	2	72	10.422	ppb	10.422	4.08	40008	10000	
Co	59	3	72	0.054	ppb	0.054	72.41	117	2000	
Ni	60	3	72	0.273	ppb	0.273	32.43	212	5000	
Cu	63	3	72	1.199	ppb	1.199	5.99	1299	5000	
Zn	66	3	72	4.697	ppb	4.697	9.47	778	5000	
As	75	3	72	0.153	ppb	0.153	43.06	52	2000	
Se	78	2	72	0.663	ppb	0.663	8.38	39	2000	
Sr	88	3	72	157.683	ppb	157.683	2.64	73375	4000	
Mo	95	3	115	6.361	ppb	6.361	7.61	2257	2000	
Ag	107	3	115	0.024	ppb	0.024	66.79	37	100	
Cd	111	3	115	-0.032	ppb	-0.032	-51.37	3	2000	
Sn	120	3	115	0.003	ppb	0.003	1883.13	506	2000	
Sb	121	3	115	0.423	ppb	0.423	13.64	303	1000	
Ba	137	3	115	60.697	ppb	60.697	4.41	12351	5000	
Tl	205	3	193	-0.165	ppb	-0.165	-7.83	260	2000	
(Pb)	206	3	193	0.249	ppb	0.249	30.63	345	100	
(Pb)	207	3	193	0.200	ppb	0.200	24.97	375	100	
Pb	208	3	193	0.215	ppb	0.215	7.25	1374	5000	
Th	232	3	193	0.054	ppb	0.054	87.69	3309	2000	
U	238	3	193	8.665	ppb	8.665	5.56	33378	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc (IS)	45	2	HMI H2	4661439	1.62	4176342	111.62	60	120	
Sc (IS)	45	3	HMI He	494690	0.36	454432	108.86	60	120	
Ge Internal standard	72	2	HMI H2	2505020	2.84	2219876	112.85	60	120	
Ge Internal standard	72	3	HMI He	581248	1.09	521662	111.42	60	120	
In Internal Standard	115	3	HMI He	2337902	3.13	2121087	110.22	60	120	
Ir (IS)	193	3	HMI He	3967416	4.13	3821950	103.81	60	120	

Sample Report

Sample Table

Sample Name	160-52619-a-7-a
Data File Name	143SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\79_122123.b
Acq Date Time	2023-12-21T17:58:27-07:00
Analyst	Denver Metals
Sample Type	Sample
Dilution	1
Comment	638048 6020B
ISTD Ref FileName	039CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Be	9	2	6	-0.070	ppb	-0.070	-33.83	1	2000	
Na	23	3	45	18555.047	ppb	18555.047	1.88	1414851	400000	
Mg	24	3	45	18546.627	ppb	18546.627	1.52	720323	400000	
Al	27	3	45	114.737	ppb	114.737	4.62	2076	400000	
K	39	3	45	3144.760	ppb	3144.760	1.72	152969	400000	
Ca	40	2	45	67659.731	ppb	67659.731	2.45	51819232	400000	
V	51	3	72	1.171	ppb	1.171	10.47	828	2000	
Cr	52	3	72	2.869	ppb	2.869	7.56	2422	5000	
Mn	55	3	72	13.606	ppb	13.606	3.81	4673	10000	
Fe	56	2	72	117.909	ppb	117.909	0.76	207023	10000	
Co	59	3	72	0.099	ppb	0.099	24.76	160	2000	
Ni	60	3	72	0.327	ppb	0.327	61.20	227	5000	
Cu	63	3	72	67.670	ppb	67.670	0.69	49184	5000	
Zn	66	3	72	86.450	ppb	86.450	2.02	10362	5000	
As	75	3	72	0.448	ppb	0.448	15.57	77	2000	
Se	78	2	72	0.462	ppb	0.462	4.87	29	2000	
Sr	88	3	72	204.168	ppb	204.168	1.52	95653	4000	
Mo	95	3	115	236.387	ppb	236.387	2.17	82571	2000	
Ag	107	3	115	0.032	ppb	0.032	31.46	47	100	
Cd	111	3	115	0.276	ppb	0.276	30.42	58	2000	
Sn	120	3	115	-0.160	ppb	-0.160	-49.56	408	2000	
Sb	121	3	115	0.413	ppb	0.413	16.43	293	1000	
Ba	137	3	115	56.564	ppb	56.564	6.15	11391	5000	
Tl	205	3	193	-0.172	ppb	-0.172	-11.21	245	2000	
(Pb)	206	3	193	3.492	ppb	3.492	3.57	3240	100	
(Pb)	207	3	193	3.414	ppb	3.414	6.37	2846	100	
Pb	208	3	193	3.417	ppb	3.417	4.02	12711	5000	
Th	232	3	193	0.025	ppb	0.025	33.78	3259	2000	
U	238	3	193	25.860	ppb	25.860	2.77	99138	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc (IS)	45	2	HMI H2	4569140	3.29	4176342	109.41	60	120	
Sc (IS)	45	3	HMI He	483248	0.33	454432	106.34	60	120	
Ge Internal standard	72	2	HMI H2	2510177	0.09	2219876	113.08	60	120	
Ge Internal standard	72	3	HMI He	585196	0.23	521662	112.18	60	120	
In Internal Standard	115	3	HMI He	2313608	2.35	2121087	109.08	60	120	
Ir (IS)	193	3	HMI He	4035053	1.88	3821950	105.58	60	120	

Sample Report

Sample Table

Sample Name	160-52619-a-10-a
Data File Name	144SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\79_122123.b
Acq Date Time	2023-12-21T18:00:42-07:00
Analyst	Denver Metals
Sample Type	Sample
Dilution	1
Comment	638048 6020B
ISTD Ref FileName	039CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Be	9	2	6	-0.016	ppb	-0.016	-149.57	3	2000	
Na	23	3	45	17836.887	ppb	17836.887	4.14	1399062	400000	
Mg	24	3	45	17797.342	ppb	17797.342	1.66	710173	400000	
Al	27	3	45	178.835	ppb	178.835	4.93	3207	400000	
K	39	3	45	3032.697	ppb	3032.697	2.86	152911	400000	
Ca	40	2	45	68729.850	ppb	68729.850	0.41	52529370	400000	
V	51	3	72	1.287	ppb	1.287	4.01	866	2000	
Cr	52	3	72	3.632	ppb	3.632	8.30	2802	5000	
Mn	55	3	72	16.534	ppb	16.534	3.97	5553	10000	
Fe	56	2	72	254.140	ppb	254.140	2.66	414977	10000	
Co	59	3	72	0.214	ppb	0.214	11.15	263	2000	
Ni	60	3	72	0.683	ppb	0.683	33.24	312	5000	
Cu	63	3	72	68.214	ppb	68.214	1.84	48781	5000	
Zn	66	3	72	93.753	ppb	93.753	1.39	11037	5000	
As	75	3	72	0.422	ppb	0.422	40.56	73	2000	
Se	78	2	72	0.280	ppb	0.280	70.94	20	2000	
Sr	88	3	72	206.163	ppb	206.163	0.27	95037	4000	
Mo	95	3	115	224.321	ppb	224.321	2.89	80050	2000	
Ag	107	3	115	0.016	ppb	0.016	61.01	28	100	
Cd	111	3	115	0.170	ppb	0.170	35.14	40	2000	
Sn	120	3	115	-0.122	ppb	-0.122	-31.77	438	2000	
Sb	121	3	115	0.441	ppb	0.441	19.95	315	1000	
Ba	137	3	115	54.842	ppb	54.842	4.49	11288	5000	
Tl	205	3	193	-0.189	ppb	-0.189	-10.40	197	2000	
(Pb)	206	3	193	11.089	ppb	11.089	0.87	9757	100	
(Pb)	207	3	193	9.936	ppb	9.936	1.20	7664	100	
Pb	208	3	193	10.562	ppb	10.562	0.46	37048	5000	
Th	232	3	193	0.076	ppb	0.076	67.66	3359	2000	
U	238	3	193	27.234	ppb	27.234	2.07	101810	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc (IS)	45	2	HMI H2	4557193	1.20	4176342	109.12	60	120	
Sc (IS)	45	3	HMI He	496545	1.09	454432	109.27	60	120	
Ge Internal standard	72	2	HMI H2	2488690	0.48	2219876	112.11	60	120	
Ge Internal standard	72	3	HMI He	575791	0.47	521662	110.38	60	120	
In Internal Standard	115	3	HMI He	2364119	2.79	2121087	111.46	60	120	
Ir (IS)	193	3	HMI He	3936986	2.46	3821950	103.01	60	120	

Sample Report

Sample Table

Sample Name	160-52619-a-11-a
Data File Name	145SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\79_122123.b
Acq Date Time	2023-12-21T18:02:57-07:00
Analyst	Denver Metals
Sample Type	Sample
Dilution	1
Comment	638048 6020B
ISTD Ref FileName	039CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Be	9	2	6	-0.070	ppb	-0.070	-33.78	1	2000	
Na	23	3	45	18065.743	ppb	18065.743	1.06	1420154	400000	
Mg	24	3	45	17631.791	ppb	17631.791	1.18	705390	400000	
Al	27	3	45	128.660	ppb	128.660	6.55	2373	400000	
K	39	3	45	3087.115	ppb	3087.115	0.53	155390	400000	
Ca	40	2	45	66109.224	ppb	66109.224	0.64	50880613	400000	
V	51	3	72	1.108	ppb	1.108	16.46	795	2000	
Cr	52	3	72	2.603	ppb	2.603	3.31	2259	5000	
Mn	55	3	72	13.839	ppb	13.839	3.66	4722	10000	
Fe	56	2	72	121.221	ppb	121.221	0.77	209783	10000	
Co	59	3	72	0.134	ppb	0.134	29.41	192	2000	
Ni	60	3	72	0.571	ppb	0.571	16.19	287	5000	
Cu	63	3	72	67.001	ppb	67.001	2.36	48400	5000	
Zn	66	3	72	87.688	ppb	87.688	2.28	10442	5000	
As	75	3	72	0.213	ppb	0.213	41.10	57	2000	
Se	78	2	72	0.335	ppb	0.335	23.80	23	2000	
Sr	88	3	72	207.376	ppb	207.376	0.57	96562	4000	
Mo	95	3	115	227.976	ppb	227.976	1.16	81341	2000	
Ag	107	3	115	0.012	ppb	0.012	113.78	23	100	
Cd	111	3	115	0.207	ppb	0.207	43.74	47	2000	
Sn	120	3	115	-0.159	ppb	-0.159	-66.45	416	2000	
Sb	121	3	115	0.263	ppb	0.263	23.29	217	1000	
Ba	137	3	115	54.006	ppb	54.006	1.30	11117	5000	
Tl	205	3	193	-0.171	ppb	-0.171	-9.66	242	2000	
(Pb)	206	3	193	3.746	ppb	3.746	7.17	3355	100	
(Pb)	207	3	193	3.438	ppb	3.438	4.02	2777	100	
Pb	208	3	193	3.512	ppb	3.512	3.31	12643	5000	
Th	232	3	193	0.098	ppb	0.098	11.30	3417	2000	
U	238	3	193	27.844	ppb	27.844	2.07	103376	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc (IS)	45	2	HMI H2	4589102	0.60	4176342	109.88	60	120	
Sc (IS)	45	3	HMI He	497806	0.89	454432	109.54	60	120	
Ge Internal standard	72	2	HMI H2	2482085	1.88	2219876	111.81	60	120	
Ge Internal standard	72	3	HMI He	581617	0.60	521662	111.49	60	120	
In Internal Standard	115	3	HMI He	2362564	0.69	2121087	111.38	60	120	
Ir (IS)	193	3	HMI He	3910739	2.31	3821950	102.32	60	120	

Sample Report

Sample Table

Sample Name	160-52619-a-13-a
Data File Name	146SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\79_122123.b
Acq Date Time	2023-12-21T18:05:13-07:00
Analyst	Denver Metals
Sample Type	Sample
Dilution	1
Comment	638048 6020B
ISTD Ref FileName	039CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Be	9	2	6	-0.043	ppb	-0.043	-92.85	2	2000	
Na	23	3	45	93861.718	ppb	93861.718	3.02	7131393	400000	
Mg	24	3	45	15010.125	ppb	15010.125	2.87	593933	400000	
Al	27	3	45	314.622	ppb	314.622	4.81	5433	400000	
K	39	3	45	13127.086	ppb	13127.086	4.13	530118	400000	
Ca	40	2	45	94606.086	ppb	94606.086	0.72	74204360	400000	
V	51	3	72	0.816	ppb	0.816	7.72	660	2000	
Cr	52	3	72	4.831	ppb	4.831	5.12	3479	5000	
Mn	55	3	72	28.551	ppb	28.551	4.21	9515	10000	
Fe	56	2	72	331.159	ppb	331.159	3.40	530958	10000	
Co	59	3	72	0.294	ppb	0.294	12.28	338	2000	
Ni	60	3	72	12.544	ppb	12.544	7.32	3284	5000	
Cu	63	3	72	6.101	ppb	6.101	4.22	4782	5000	
Zn	66	3	72	52.289	ppb	52.289	1.50	6287	5000	
As	75	3	72	0.054	ppb	0.054	348.24	43	2000	
Se	78	2	72	1.532	ppb	1.532	23.55	82	2000	
Sr	88	3	72	558.010	ppb	558.010	1.64	258311	4000	
Mo	95	3	115	5.057	ppb	5.057	0.80	1773	2000	
Ag	107	3	115	0.014	ppb	0.014	32.33	25	100	
Cd	111	3	115	-0.013	ppb	-0.013	-123.56	7	2000	
Sn	120	3	115	5.830	ppb	5.830	7.15	3862	2000	
Sb	121	3	115	0.189	ppb	0.189	27.20	172	1000	
Ba	137	3	115	39.094	ppb	39.094	5.63	7860	5000	
Tl	205	3	193	-0.198	ppb	-0.198	-6.92	177	2000	
(Pb)	206	3	193	0.106	ppb	0.106	53.98	225	100	
(Pb)	207	3	193	0.104	ppb	0.104	25.32	307	100	
Pb	208	3	193	0.114	ppb	0.114	18.85	1038	5000	
Th	232	3	193	0.055	ppb	0.055	38.73	3365	2000	
U	238	3	193	8.132	ppb	8.132	2.89	31967	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc (IS)	45	2	HMI H2	4677779	1.94	4176342	112.01	60	120	
Sc (IS)	45	3	HMI He	492543	2.70	454432	108.39	60	120	
Ge Internal standard	72	2	HMI H2	2477723	2.43	2219876	111.62	60	120	
Ge Internal standard	72	3	HMI He	578464	1.46	521662	110.89	60	120	
In Internal Standard	115	3	HMI He	2306804	0.94	2121087	108.76	60	120	
Ir (IS)	193	3	HMI He	4035912	2.86	3821950	105.60	60	120	

Sample Report

Sample Table

Sample Name	280-185889-a-2-b
Data File Name	147SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\79_122123.b
Acq Date Time	2023-12-21T18:07:27-07:00
Analyst	Denver Metals
Sample Type	Sample
Dilution	1
Comment	638048 6020B
ISTD Ref FileName	039CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Be	9	2	6	-0.044	ppb	-0.044	-2.39	2	2000	
Na	23	3	45	13603.217	ppb	13603.217	3.72	1068397	400000	
Mg	24	3	45	14736.594	ppb	14736.594	3.18	583719	400000	
Al	27	3	45	129.205	ppb	129.205	15.58	2356	400000	
K	39	3	45	2672.919	ppb	2672.919	2.39	138314	400000	
Ca	40	2	45	57106.153	ppb	57106.153	1.98	44738484	400000	
V	51	3	72	1.095	ppb	1.095	23.60	795	2000	
Cr	52	3	72	0.558	ppb	0.558	10.20	1133	5000	
Mn	55	3	72	23.115	ppb	23.115	6.23	7842	10000	
Fe	56	2	72	154.583	ppb	154.583	3.53	264283	10000	
Co	59	3	72	0.159	ppb	0.159	2.48	217	2000	
Ni	60	3	72	0.426	ppb	0.426	46.96	252	5000	
Cu	63	3	72	7.273	ppb	7.273	4.67	5697	5000	
Zn	66	3	72	16.806	ppb	16.806	7.63	2211	5000	
As	75	3	72	0.130	ppb	0.130	146.90	50	2000	
Se	78	2	72	0.408	ppb	0.408	17.74	27	2000	
Sr	88	3	72	164.552	ppb	164.552	3.30	77293	4000	
Mo	95	3	115	27.378	ppb	27.378	2.62	9579	2000	
Ag	107	3	115	0.012	ppb	0.012	52.22	23	100	
Cd	111	3	115	0.071	ppb	0.071	120.43	22	2000	
Sn	120	3	115	0.003	ppb	0.003	4715.91	501	2000	
Sb	121	3	115	0.210	ppb	0.210	8.61	183	1000	
Ba	137	3	115	61.235	ppb	61.235	1.18	12345	5000	
Tl	205	3	193	-0.186	ppb	-0.186	-3.40	207	2000	
(Pb)	206	3	193	0.240	ppb	0.240	15.25	340	100	
(Pb)	207	3	193	0.206	ppb	0.206	21.31	381	100	
Pb	208	3	193	0.219	ppb	0.219	8.65	1394	5000	
Th	232	3	193	0.038	ppb	0.038	80.68	3270	2000	
U	238	3	193	27.733	ppb	27.733	4.84	104987	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc (IS)	45	2	HMI H2	4672575	2.66	4176342	111.88	60	120	
Sc (IS)	45	3	HMI He	492977	1.54	454432	108.48	60	120	
Ge Internal standard	72	2	HMI H2	2514188	2.04	2219876	113.26	60	120	
Ge Internal standard	72	3	HMI He	586940	2.46	521662	112.51	60	120	
In Internal Standard	115	3	HMI He	2313992	0.97	2121087	109.09	60	120	
Ir (IS)	193	3	HMI He	3991837	4.46	3821950	104.45	60	120	

Sample Report

Sample Table

Sample Name	160-52619-a-1-a
Data File Name	148SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\79_122123.b
Acq Date Time	2023-12-21T18:09:43-07:00
Analyst	Denver Metals
Sample Type	Sample
Dilution	1
Comment	638048 6020B
ISTD Ref FileName	039CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Be	9	2	6	-0.070	ppb	-0.070	-33.51	1	2000	
Na	23	3	45	54.156	ppb	54.156	28.24	43858	400000	
Mg	24	3	45	7.186	ppb	7.186	11.15	430	400000	
Al	27	3	45	3.812	ppb	3.812	23.63	274	400000	
K	39	3	45	31.396	ppb	31.396	115.67	39201	400000	
Ca	40	2	45	40.120	ppb	40.120	1.02	51928	400000	
V	51	3	72	0.617	ppb	0.617	44.33	560	2000	
Cr	52	3	72	-0.027	ppb	-0.027	-148.13	776	5000	
Mn	55	3	72	0.354	ppb	0.354	33.45	273	10000	
Fe	56	2	72	9.568	ppb	9.568	1.54	37338	10000	
Co	59	3	72	-0.010	ppb	-0.010	-142.17	57	2000	
Ni	60	3	72	0.275	ppb	0.275	77.51	207	5000	
Cu	63	3	72	-0.094	ppb	-0.094	-42.65	365	5000	
Zn	66	3	72	3.093	ppb	3.093	38.58	576	5000	
As	75	3	72	-0.159	ppb	-0.159	-67.92	25	2000	
Se	78	2	72	0.046	ppb	0.046	160.94	8	2000	
Sr	88	3	72	0.121	ppb	0.121	40.37	97	4000	
Mo	95	3	115	0.075	ppb	0.075	24.70	37	2000	
Ag	107	3	115	0.011	ppb	0.011	62.60	22	100	
Cd	111	3	115	-0.041	ppb	-0.041	-40.51	2	2000	
Sn	120	3	115	0.137	ppb	0.137	74.47	573	2000	
Sb	121	3	115	0.046	ppb	0.046	54.38	93	1000	
Ba	137	3	115	0.310	ppb	0.310	19.54	80	5000	
Tl	205	3	193	-0.197	ppb	-0.197	-9.83	177	2000	
(Pb)	206	3	193	0.024	ppb	0.024	184.85	150	100	
(Pb)	207	3	193	-0.008	ppb	-0.008	-367.50	218	100	
Pb	208	3	193	0.009	ppb	0.009	190.57	660	5000	
Th	232	3	193	0.005	ppb	0.005	1835.88	3139	2000	
U	238	3	193	0.013	ppb	0.013	120.52	1188	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc (IS)	45	2	HMI H2	4519422	1.64	4176342	108.21	60	120	
Sc (IS)	45	3	HMI He	493869	1.30	454432	108.68	60	120	
Ge Internal standard	72	2	HMI H2	2417257	0.88	2219876	108.89	60	120	
Ge Internal standard	72	3	HMI He	566522	0.46	521662	108.60	60	120	
In Internal Standard	115	3	HMI He	2290310	1.91	2121087	107.98	60	120	
Ir (IS)	193	3	HMI He	3984458	2.74	3821950	104.25	60	120	

Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV-8123148
Data File Name	149_CCV.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\79_122123.b
Acq Date Time	2023-12-21T18:11:57-07:00
Sample Type	CCV
Dilution	1
Comment	
ISTD Ref File Name	039CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	Units	Conc %RSD	CPS	Exp Value	%Rec	%Low	%High2	QC Flag
Be	9	2	6	53.255	ppb	4.399	2527	50	106.5	90	110	
Na	23	3	45	48585.289	ppb	6.771	3849191	51000	95.3	90	110	
Mg	24	3	45	10271.081	ppb	6.810	421661	11000	93.4	90	110	
Al	27	3	45	928.898	ppb	6.250	16219	1000	92.9	90	110	
K	39	3	45	10775.640	ppb	7.463	458551	11000	98.0	90	110	
Ca	40	2	45	11622.101	ppb	2.418	8530662	11000	105.7	90	110	
V	51	3	72	49.558	ppb	9.288	22430	50	99.1	90	110	
Cr	52	3	72	49.027	ppb	10.639	27906	50	98.1	90	110	
Mn	55	3	72	47.625	ppb	12.374	15746	50	95.2	90	110	
Fe	56	2	72	1146.407	ppb	4.853	1676775	1000	114.6	90	110	>+\-10%
Co	59	3	72	48.351	ppb	11.123	44710	50	96.7	90	110	
Ni	60	3	72	47.983	ppb	6.538	12178	50	96.0	90	110	
Cu	63	3	72	48.021	ppb	11.398	34606	50	96.0	90	110	
Zn	66	3	72	49.157	ppb	13.095	5918	50	98.3	90	110	
As	75	3	72	49.413	ppb	8.312	4127	50	98.8	90	110	
Se	78	2	72	55.970	ppb	1.995	2626	50	111.9	90	110	>+\-10%
Sr	88	3	72	101.112	ppb	10.796	46827	100	101.1	90	110	
Mo	95	3	115	48.444	ppb	3.807	17681	50	96.9	90	110	
Ag	107	3	115	47.865	ppb	2.730	58073	50	95.7	90	110	
Cd	111	3	115	47.792	ppb	3.557	8872	50	95.6	90	110	
Sn	120	3	115	47.989	ppb	3.778	29523	50	96.0	90	110	
Sb	121	3	115	48.601	ppb	5.436	27667	50	97.2	90	110	
Ba	137	3	115	48.590	ppb	7.243	10226	50	97.2	90	110	
Tl	205	3	193	50.465	ppb	11.527	133426	50	100.9	90	110	
(Pb)	206	3	193	50.263	ppb	12.685	44564	50	100.5	90	110	
(Pb)	207	3	193	50.902	ppb	9.907	39106	50	101.8	90	110	
Pb	208	3	193	50.729	ppb	12.892	178708	50	101.5	90	110	
Th	232	3	193	49.899	ppb	10.766	184744	50	99.8	90	110	
U	238	3	193	50.760	ppb	14.358	192028	50	101.5	90	110	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc (IS)	45	2	HMI H2	4369502	2.61	4176342	104.63	60	120	
Sc (IS)	45	3	HMI He	511560	3.70	454432	112.57	60	120	
Ge Internal standard	72	2	HMI H2	2333997	1.80	2219876	105.14	60	120	
Ge Internal standard	72	3	HMI He	580628	5.98	521662	111.30	60	120	
In Internal Standard	115	3	HMI He	2416075	1.10	2121087	113.91	60	120	
Ir (IS)	193	3	HMI He	4038359	9.14	3821950	105.66	60	120	

Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB-8123133
Data File Name	150_CCB.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\79_122123.b
Acq Date Time	2023-12-21T18:14:11-07:00
Sample Type	CCB
Dilution	1
Comment	
ISTD Ref File Name	039CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	Units	Conc %RSD	CPS	Upper Limit	QC Flag
Be	9	2	6	-0.029	ppb	-81.9	3	0.5	
Na	23	3	45	29.559	ppb	52.3	40896	25	>RL
Mg	24	3	45	4.445	ppb	38.0	314	25	
Al	27	3	45	1.999	ppb	180.4	237	15	
K	39	3	45	44.405	ppb	140.0	38642	50	
V	51	3	72	0.641	ppb	13.8	563	1	
Cr	52	3	72	0.153	ppb	63.2	863	1	
Mn	55	3	72	-0.039	ppb	-189.2	145	0.5	
Co	59	3	72	-0.001	ppb	-245.6	63	0.5	
Ni	60	3	72	-0.168	ppb	-5.5	97	1	
Cu	63	3	72	-0.093	ppb	-22.2	361	1	
Zn	66	3	72	-0.890	ppb	-15.1	123	5	
As	75	3	72	0.137	ppb	192.0	48	1	
Se	78	2	72	-0.025	ppb	-189.8	5	1	
Sr	88	3	72	0.083	ppb	87.9	78	0.5	
Mo	95	3	115	0.071	ppb	94.2	35	0.5	
Ag	107	3	115	0.057	ppb	52.6	73	1	
Cd	111	3	115	-0.032	ppb	-52.7	3	0.5	
Sn	120	3	115	0.013	ppb	103.9	496	1	
Sb	121	3	115	0.186	ppb	12.8	167	0.6	
Ba	137	3	115	0.062	ppb	178.7	30	0.5	
Tl	205	3	193	-0.154	ppb	-4.9	282	0.1	
(Pb)	206	3	193	-0.061	ppb	-22.9	73	1	
(Pb)	207	3	193	-0.054	ppb	-49.0	178	1	
Pb	208	3	193	-0.033	ppb	-63.0	498	0.5	
Th	232	3	193	0.225	ppb	21.2	3842	1	
U	238	3	193	0.009	ppb	226.7	1141	0.5	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc (IS)	45	2	HMI H2	4411218	1.58	4176342	105.62	60	120	
Sc (IS)	45	3	HMI He	480900	0.60	454432	105.82	60	120	
Ge Internal standard	72	2	HMI H2	2437884	0.83	2219876	109.82	60	120	
Ge Internal standard	72	3	HMI He	559529	0.69	521662	107.26	60	120	
In Internal Standard	115	3	HMI He	2262222	0.30	2121087	106.65	60	120	
Ir (IS)	193	3	HMI He	3885514	1.17	3821950	101.66	60	120	

Blank Report

Sample Table

Sample Name	mb 280-637905/1-a
Data File Name	151_BLK.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\79_122123.b
Acq Date Time	2023-12-21T18:16:26-07:00
Sample Type	Blank
Dilution	1
Comment	637905 6020B
ISTD Ref File Name	039CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	Units	Conc %RSD	CPS	Upper Limit
Be	9	2	6	40.146	ppb	1.485572152	1995	0.5
Na	23	3	45	1037.477	ppb	1.629820255	117184	25
Mg	24	3	45	1052.991	ppb	1.941649139	41506	25
Al	27	3	45	830.794	ppb	1.169707639	13904	15
K	39	3	45	1052.043	ppb	6.432883155	76803	50
Ca	40	2	45	1091.845	ppb	1.609601246	844061	200
V	51	3	72	40.614	ppb	3.207499691	18288	1
Cr	52	3	72	40.217	ppb	1.570435803	22866	1
Mn	55	3	72	40.335	ppb	3.225354897	13270	0.5
Fe	56	2	72	840.998	ppb	1.066328312	1295095	50
Co	59	3	72	39.538	ppb	0.520124299	36313	0.5
Ni	60	3	72	40.060	ppb	0.994281462	10097	1
Cu	63	3	72	40.245	ppb	2.367980106	28864	1
Zn	66	3	72	39.472	ppb	4.596687394	4765	5
As	75	3	72	40.891	ppb	1.090570713	3392	1
(Se)	78	3	72	40.611	ppb	12.51002246	282	1
Sr	88	3	72	81.449	ppb	0.495663765	37453	0.5
Mo	95	3	115	41.565	ppb	2.26271784	14491	0.5
Ag	107	3	115	39.442	ppb	1.369041337	45701	1
Cd	111	3	115	40.905	ppb	2.778983447	7253	0.5
Sn	120	3	115	41.550	ppb	1.527687208	24480	1
Sb	121	3	115	41.018	ppb	1.571445004	22314	0.6
Ba	137	3	115	41.439	ppb	2.407100885	8334	0.5
Tl	205	3	193	41.468	ppb	0.325456733	108971	0.1
(Pb)	206	3	193	40.752	ppb	0.931090288	35923	1
(Pb)	207	3	193	42.094	ppb	0.543331475	32111	1
Pb	208	3	193	41.685	ppb	0.789969933	146031	0.5
Th	232	3	193	40.399	ppb	0.321359897	149015	1
U	238	3	193	40.856	ppb	0.943349607	153941	0.5

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc (IS)	45	2	HMI H2	4495096	1.41	4176342	107.63	60	120	
Sc (IS)	45	3	HMI He	488841	0.14	454432	107.57	60	120	
Ge Internal standard	72	2	HMI H2	2444521	1.56	2219876	110.12	60	120	
Ge Internal standard	72	3	HMI He	573973	1.27	521662	110.03	60	120	
In Internal Standard	115	3	HMI He	2306927	0.20	2121087	108.76	60	120	
Ir (IS)	193	3	HMI He	3981426	0.19	3821950	104.17	60	120	

Laboratory Control Sample (LCS) Report

Sample Table

Sample Name	lcs 280-637905/2-a
Data File Name	152_LCS.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\79_122123.b
Acq Date Time	2023-12-21T18:18:42-07:00
Sample Type	LCS
Dilution	1
Analyst	Denver Metals
Comment	637905 6020B
ISTD Ref File Name	039CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	FinalConc	Units	Conc %RSD	CPS	Exp Value	%Rec	%Low	%High	QC Flag
Be	9	2	6	40.195	40.195	ppb	1.669	1997	40	100.5	80	120	
Na	23	3	45	1055.208	1055.208	ppb	2.755	117827	40	2638.0	80	120	>+/-20%
Mg	24	3	45	1060.537	1060.537	ppb	0.497	41562	40	2651.3	80	120	>+/-20%
Al	27	3	45	830.332	830.332	ppb	0.832	13817	40	2075.8	80	120	>+/-20%
K	39	3	45	1095.724	1095.724	ppb	4.160	77980	40	2739.3	80	120	>+/-20%
Ca	40	2	45	1067.517	1067.517	ppb	1.349	839247	40	2668.8	80	120	>+/-20%
V	51	3	72	40.936	40.936	ppb	2.872	18081	40	102.3	80	120	
Cr	52	3	72	41.160	41.160	ppb	1.457	22936	40	102.9	80	120	
Mn	55	3	72	40.303	40.303	ppb	2.259	13008	40	100.8	80	120	
Fe	56	2	72	814.681	814.681	ppb	2.167	1262057	40	2036.7	80	120	>+/-20%
(Fe)	56	3	72	814.346	814.346	ppb	0.638	400810	40	2035.9	80	120	>+/-20%
Co	59	3	72	40.237	40.237	ppb	1.217	36248	40	100.6	80	120	
Ni	60	3	72	40.604	40.604	ppb	2.015	10037	40	101.5	80	120	
Cu	63	3	72	40.167	40.167	ppb	1.795	28261	40	100.4	80	120	
Zn	66	3	72	40.652	40.652	ppb	1.940	4807	40	101.6	80	120	
As	75	3	72	41.496	41.496	ppb	7.109	3375	40	103.7	80	120	
Se	78	2	72	42.415	42.415	ppb	5.047	2097	40	106.0	80	120	
(Se)	78	3	72	42.348	42.348	ppb	19.378	287	40	105.9	80	120	
Sr	88	3	72	83.128	83.128	ppb	0.864	37493	40	207.8	80	120	>+/-20%
Mo	95	3	115	41.572	41.572	ppb	1.502	14367	40	103.9	80	120	
Ag	107	3	115	40.805	40.805	ppb	1.107	46871	40	102.0	80	120	
Cd	111	3	115	40.364	40.364	ppb	2.565	7095	40	100.9	80	120	
Sn	120	3	115	40.948	40.948	ppb	0.965	23925	40	102.4	80	120	
Sb	121	3	115	41.494	41.494	ppb	0.840	22378	40	103.7	80	120	
Ba	137	3	115	41.148	41.148	ppb	4.782	8203	40	102.9	80	120	
Tl	205	3	193	41.323	41.323	ppb	1.216	108684	40	103.3	80	120	
(Pb)	206	3	193	40.912	40.912	ppb	1.253	36093	40	102.3	80	120	
(Pb)	207	3	193	41.108	41.108	ppb	2.203	31387	40	102.8	80	120	
Pb	208	3	193	41.164	41.164	ppb	1.602	144325	40	102.9	80	120	
Th	232	3	193	41.088	41.088	ppb	2.218	151611	40	102.7	80	120	
U	238	3	193	41.038	41.038	ppb	1.805	154741	40	102.6	80	120	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc (IS)	45	2	HMI H2	4568720	1.83	4176342	109.40	60	120	
Sc (IS)	45	3	HMI He	486037	0.50	454432	106.95	60	120	
Ge Internal standard	72	2	HMI H2	2457414	0.65	2219876	110.70	60	120	
Ge Internal standard	72	3	HMI He	562995	0.27	521662	107.92	60	120	
In Internal Standard	115	3	HMI He	2286970	0.54	2121087	107.82	60	120	
Ir (IS)	193	3	HMI He	3985207	1.73	3821950	104.27	60	120	

Sample Report

Sample Table

Sample Name	lcsd 280-637905/3-a
Data File Name	153SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\79_122123.b
Acq Date Time	2023-12-21T18:20:57-07:00
Analyst	Denver Metals
Sample Type	Sample
Dilution	1
Comment	637905 6020B
ISTD Ref FileName	039CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Be	9	2	6	56.409	ppb	56.409	2.30	2678	2000	
Na	23	3	45	321114.085	ppb	321114.085	2.98	25784242	400000	
Mg	24	3	45	426175.420	ppb	426175.420	0.88	17892626	400000	
Al	27	3	45	730731.480	ppb	730731.480	1.97	12874726	400000	
K	39	3	45	154247.841	ppb	154247.841	0.64	6180338	400000	
Ca	40	2	45	942426.013	ppb	942426.013	0.20	747280754	400000	
V	51	3	72	1641.175	ppb	1641.175	0.39	721245	2000	
Cr	52	3	72	971.774	ppb	971.774	0.70	529304	5000	
Mn	55	3	72	18137.470	ppb	18137.470	1.73	5844373	10000	
Fe	56	2	72	1124253.704	ppb	1124253.704	1.38	1643847630	10000	>LDR
Co	59	3	72	371.453	ppb	371.453	1.37	337645	2000	
Ni	60	3	72	612.976	ppb	612.976	1.09	151167	5000	
Cu	63	3	72	696.888	ppb	696.888	0.58	488473	5000	
Zn	66	3	72	2598.654	ppb	2598.654	0.24	296278	5000	
As	75	3	72	210.663	ppb	210.663	1.02	17164	2000	
Se	78	2	72	36.953	ppb	36.953	6.77	1757	2000	
Sr	88	3	72	17254.837	ppb	17254.837	0.96	7856718	4000	
Mo	95	3	115	245.367	ppb	245.367	1.95	82299	2000	
Ag	107	3	115	1.852	ppb	1.852	3.92	2074	100	
Cd	111	3	115	7.981	ppb	7.981	2.50	1369	2000	
Sn	120	3	115	49.978	ppb	49.978	0.68	28254	2000	
Sb	121	3	115	2.579	ppb	2.579	3.64	1413	1000	
Ba	137	3	115	7063.671	ppb	7063.671	2.88	1364596	5000	
Tl	205	3	193	15.701	ppb	15.701	0.75	40671	2000	
(Pb)	206	3	193	791.704	ppb	791.704	1.03	678474	100	>LDR
(Pb)	207	3	193	711.552	ppb	711.552	1.24	526042	100	>LDR
Pb	208	3	193	767.469	ppb	767.469	1.37	2612140	5000	
Th	232	3	193	488.880	ppb	488.880	1.84	1725339	2000	
U	238	3	193	403.215	ppb	403.215	4.21	1472171	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc (IS)	45	2	HMI H2	4729804	0.71	4176342	113.25	60	120	
Sc (IS)	45	3	HMI He	522503	1.03	454432	114.98	60	120	
Ge Internal standard	72	2	HMI H2	2363586	1.13	2219876	106.47	60	120	
Ge Internal standard	72	3	HMI He	569009	0.61	521662	109.08	60	120	
In Internal Standard	115	3	HMI He	2221227	1.24	2121087	104.72	60	120	
Ir (IS)	193	3	HMI He	3884034	0.34	3821950	101.62	60	120	

Sample Report

Sample Table

Sample Name	160-52501-a-1-a
Data File Name	154SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\79_122123.b
Acq Date Time	2023-12-21T18:23:08-07:00
Analyst	Denver Metals
Sample Type	Sample
Dilution	1
Comment	637905 6020B
ISTD Ref FileName	039CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Be	9	2	6	-0.070	ppb	-0.070	-33.83	1	2000	
Na	23	3	45	2863.330	ppb	2863.330	0.70	253628	400000	
Mg	24	3	45	2831.426	ppb	2831.426	1.35	111131	400000	
Al	27	3	45	120.595	ppb	120.595	15.49	2192	400000	
K	39	3	45	594.039	ppb	594.039	13.90	59609	400000	
Ca	40	2	45	11414.463	ppb	11414.463	2.85	8684804	400000	
V	51	3	72	0.014	ppb	0.014	581.34	300	2000	
Cr	52	3	72	0.366	ppb	0.366	66.28	1003	5000	
Mn	55	3	72	6.722	ppb	6.722	3.14	2349	10000	
Fe	56	2	72	221.472	ppb	221.472	7.52	362944	10000	
Co	59	3	72	0.071	ppb	0.071	70.04	132	2000	
Ni	60	3	72	0.157	ppb	0.157	80.72	180	5000	
Cu	63	3	72	3.183	ppb	3.183	8.31	2689	5000	
Zn	66	3	72	11.230	ppb	11.230	6.45	1521	5000	
As	75	3	72	-0.062	ppb	-0.062	-53.15	33	2000	
Se	78	2	72	0.027	ppb	0.027	300.54	7	2000	
Sr	88	3	72	33.280	ppb	33.280	0.33	15346	4000	
Mo	95	3	115	3.954	ppb	3.954	6.42	1401	2000	
Ag	107	3	115	0.053	ppb	0.053	7.63	72	100	
Cd	111	3	115	-0.032	ppb	-0.032	-102.02	3	2000	
Sn	120	3	115	0.237	ppb	0.237	33.30	641	2000	
Sb	121	3	115	0.116	ppb	0.116	19.89	133	1000	
Ba	137	3	115	11.915	ppb	11.915	2.99	2434	5000	
Tl	205	3	193	-0.152	ppb	-0.152	-19.37	293	2000	
(Pb)	206	3	193	0.214	ppb	0.214	17.32	317	100	
(Pb)	207	3	193	0.162	ppb	0.162	21.64	345	100	
Pb	208	3	193	0.189	ppb	0.189	8.75	1281	5000	
Th	232	3	193	0.331	ppb	0.331	13.52	4304	2000	
U	238	3	193	2.998	ppb	2.998	3.43	12302	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc (IS)	45	2	HMI H2	4529313	2.25	4176342	108.45	60	120	
Sc (IS)	45	3	HMI He	487849	0.80	454432	107.35	60	120	
Ge Internal standard	72	2	HMI H2	2479188	2.18	2219876	111.68	60	120	
Ge Internal standard	72	3	HMI He	574631	0.70	521662	110.15	60	120	
In Internal Standard	115	3	HMI He	2330682	2.77	2121087	109.88	60	120	
Ir (IS)	193	3	HMI He	3966649	1.98	3821950	103.79	60	120	

Sample Report

Sample Table

Sample Name	160-52501-a-1-aSD@5
Data File Name	155SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\79_122123.b
Acq Date Time	2023-12-21T18:25:23-07:00
Analyst	Denver Metals
Sample Type	Sample
Dilution	1
Comment	637905 6020B
ISTD Ref FileName	039CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Be	9	2	6	39.299	ppb	39.299	4.89	1967	2000	
Na	23	3	45	15403.114	ppb	15403.114	4.22	1236377	400000	
Mg	24	3	45	14761.514	ppb	14761.514	3.85	600115	400000	
Al	27	3	45	914.843	ppb	914.843	2.21	15825	400000	
K	39	3	45	3380.169	ppb	3380.169	2.35	169240	400000	
Ca	40	2	45	55383.161	ppb	55383.161	0.68	42745040	400000	
V	51	3	72	40.213	ppb	40.213	0.57	18603	2000	
Cr	52	3	72	40.338	ppb	40.338	1.75	23550	5000	
Mn	55	3	72	57.831	ppb	57.831	0.12	19474	10000	
Fe	56	2	72	1005.041	ppb	1005.041	1.37	1574130	10000	
Co	59	3	72	39.077	ppb	39.077	1.30	36862	2000	
Ni	60	3	72	39.835	ppb	39.835	3.12	10312	5000	
Cu	63	3	72	42.779	ppb	42.779	3.02	31482	5000	
Zn	66	3	72	58.921	ppb	58.921	3.73	7190	5000	
As	75	3	72	40.446	ppb	40.446	2.15	3447	2000	
Se	78	2	72	42.685	ppb	42.685	0.98	2141	2000	
Sr	88	3	72	235.028	ppb	235.028	1.97	110902	4000	
Mo	95	3	115	59.354	ppb	59.354	3.05	21001	2000	
Ag	107	3	115	40.430	ppb	40.430	3.03	47553	100	
Cd	111	3	115	39.598	ppb	39.598	2.03	7132	2000	
Sn	120	3	115	40.659	ppb	40.659	4.06	24325	2000	
Sb	121	3	115	40.577	ppb	40.577	2.84	22409	1000	
Ba	137	3	115	101.002	ppb	101.002	3.02	20601	5000	
Tl	205	3	193	39.642	ppb	39.642	2.66	107343	2000	
(Pb)	206	3	193	40.271	ppb	40.271	4.72	36553	100	
(Pb)	207	3	193	40.977	ppb	40.977	3.79	32202	100	
Pb	208	3	193	40.477	ppb	40.477	4.85	146014	5000	
Th	232	3	193	40.630	ppb	40.630	2.20	154392	2000	
U	238	3	193	53.580	ppb	53.580	4.27	207518	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc (IS)	45	2	HMI H2	4601720	0.71	4176342	110.19	60	120	
Sc (IS)	45	3	HMI He	506048	1.93	454432	111.36	60	120	
Ge Internal standard	72	2	HMI H2	2493783	1.73	2219876	112.34	60	120	
Ge Internal standard	72	3	HMI He	589546	1.59	521662	113.01	60	120	
In Internal Standard	115	3	HMI He	2342943	2.59	2121087	110.46	60	120	
Ir (IS)	193	3	HMI He	4103768	3.50	3821950	107.37	60	120	

Sample Report

Sample Table

Sample Name	160-52501-a-1-b ms
Data File Name	156SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\79_122123.b
Acq Date Time	2023-12-21T18:27:37-07:00
Analyst	Denver Metals
Sample Type	Sample
Dilution	1
Comment	637905 6020B
ISTD Ref FileName	039CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Be	9	2	6	38.750	ppb	38.750	9.28	1924	2000	
Na	23	3	45	14678.552	ppb	14678.552	0.56	1164193	400000	
Mg	24	3	45	14144.472	ppb	14144.472	4.02	567091	400000	
Al	27	3	45	906.408	ppb	906.408	4.85	15457	400000	
K	39	3	45	3286.957	ppb	3286.957	4.93	163291	400000	
Ca	40	2	45	52641.863	ppb	52641.863	1.93	41604356	400000	
V	51	3	72	38.255	ppb	38.255	3.43	17854	2000	
Cr	52	3	72	38.605	ppb	38.605	0.52	22761	5000	
Mn	55	3	72	55.448	ppb	55.448	1.81	18830	10000	
Fe	56	2	72	962.410	ppb	962.410	2.89	1519629	10000	
Co	59	3	72	37.293	ppb	37.293	3.26	35471	2000	
Ni	60	3	72	37.777	ppb	37.777	2.40	9867	5000	
Cu	63	3	72	41.310	ppb	41.310	2.76	30670	5000	
Zn	66	3	72	57.637	ppb	57.637	0.91	7095	5000	
As	75	3	72	40.624	ppb	40.624	4.57	3489	2000	
Se	78	2	72	39.211	ppb	39.211	3.60	1982	2000	
Sr	88	3	72	225.626	ppb	225.626	1.61	107355	4000	
Mo	95	3	115	57.057	ppb	57.057	1.55	20644	2000	
Ag	107	3	115	38.645	ppb	38.645	3.76	46460	100	
Cd	111	3	115	37.174	ppb	37.174	4.41	6840	2000	
Sn	120	3	115	38.731	ppb	38.731	2.66	23713	2000	
Sb	121	3	115	38.804	ppb	38.804	2.70	21907	1000	
Ba	137	3	115	91.829	ppb	91.829	2.53	19139	5000	
Tl	205	3	193	39.779	ppb	39.779	3.45	106245	2000	
(Pb)	206	3	193	39.266	ppb	39.266	1.31	35191	100	
(Pb)	207	3	193	40.609	ppb	40.609	1.11	31495	100	
Pb	208	3	193	39.685	ppb	39.685	1.91	141323	5000	
Th	232	3	193	39.957	ppb	39.957	0.99	149844	2000	
U	238	3	193	53.257	ppb	53.257	4.44	203518	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc (IS)	45	2	HMI H2	4712191	0.54	4176342	112.83	60	120	
Sc (IS)	45	3	HMI He	499052	2.04	454432	109.82	60	120	
Ge Internal standard	72	2	HMI H2	2512819	1.67	2219876	113.20	60	120	
Ge Internal standard	72	3	HMI He	594315	0.59	521662	113.93	60	120	
In Internal Standard	115	3	HMI He	2394319	1.62	2121087	112.88	60	120	
Ir (IS)	193	3	HMI He	4047163	1.83	3821950	105.89	60	120	

Sample Report

Sample Table

Sample Name	160-52501-a-1-c msd
Data File Name	157SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\79_122123.b
Acq Date Time	2023-12-21T18:29:51-07:00
Analyst	Denver Metals
Sample Type	Sample
Dilution	1
Comment	637905 6020B
ISTD Ref FileName	039CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Be	9	2	6	201.801	ppb	201.801	2.85	9877	2000	
Na	23	3	45	19308.279	ppb	19308.279	1.08	1514653	400000	
Mg	24	3	45	15683.626	ppb	15683.626	0.62	627360	400000	
Al	27	3	45	2187.715	ppb	2187.715	1.63	36929	400000	
K	39	3	45	4583.372	ppb	4583.372	1.81	212079	400000	
Ca	40	2	45	56475.962	ppb	56475.962	1.67	43458732	400000	
V	51	3	72	200.203	ppb	200.203	1.38	91218	2000	
Cr	52	3	72	202.552	ppb	202.552	0.75	114705	5000	
Mn	55	3	72	212.248	ppb	212.248	2.03	70866	10000	
Fe	56	2	72	2221.477	ppb	2221.477	1.85	3437383	10000	
Co	59	3	72	196.412	ppb	196.412	1.38	184597	2000	
Ni	60	3	72	197.461	ppb	197.461	1.79	50440	5000	
Cu	63	3	72	211.265	ppb	211.265	0.85	153399	5000	
Zn	66	3	72	223.582	ppb	223.582	1.53	26566	5000	
As	75	3	72	206.607	ppb	206.607	3.14	17404	2000	
Se	78	2	72	209.895	ppb	209.895	2.00	10464	2000	
Sr	88	3	72	358.753	ppb	358.753	1.42	168920	4000	
Mo	95	3	115	223.342	ppb	223.342	0.95	80325	2000	
Ag	107	3	115	53.437	ppb	53.437	1.14	63919	100	
Cd	111	3	115	197.077	ppb	197.077	0.72	36039	2000	
Sn	120	3	115	203.360	ppb	203.360	0.71	121681	2000	
Sb	121	3	115	204.414	ppb	204.414	0.65	114510	1000	
Ba	137	3	115	260.023	ppb	260.023	2.54	53876	5000	
Tl	205	3	193	209.396	ppb	209.396	1.05	553856	2000	
(Pb)	206	3	193	206.289	ppb	206.289	0.83	183437	100	
(Pb)	207	3	193	209.695	ppb	209.695	1.37	160939	100	
Pb	208	3	193	208.360	ppb	208.360	0.98	735945	5000	
Th	232	3	193	78.708	ppb	78.708	1.44	290706	2000	
U	238	3	193	276.906	ppb	276.906	0.94	1048894	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc (IS)	45	2	HMI H2	4588990	2.05	4176342	109.88	60	120	
Sc (IS)	45	3	HMI He	497681	0.37	454432	109.52	60	120	
Ge Internal standard	72	2	HMI H2	2483867	0.56	2219876	111.89	60	120	
Ge Internal standard	72	3	HMI He	588246	0.65	521662	112.76	60	120	
In Internal Standard	115	3	HMI He	2381489	0.98	2121087	112.28	60	120	
Ir (IS)	193	3	HMI He	4028222	1.19	3821950	105.40	60	120	

Sample Report

Sample Table

Sample Name	160-52501-a-1-a PDS
Data File Name	158SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\79_122123.b
Acq Date Time	2023-12-21T18:32:05-07:00
Analyst	Denver Metals
Sample Type	Sample
Dilution	1
Comment	637905 6020B
ISTD Ref FileName	039CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Be	9	2	6	-0.070	ppb	-0.070	-33.47	1	2000	
Na	23	3	45	11993.958	ppb	11993.958	3.65	954016	400000	
Mg	24	3	45	13401.319	ppb	13401.319	0.97	535027	400000	
Al	27	3	45	114.095	ppb	114.095	4.36	2122	400000	
K	39	3	45	2865.776	ppb	2865.776	1.43	146669	400000	
Ca	40	2	45	57407.912	ppb	57407.912	1.74	43397414	400000	
V	51	3	72	0.293	ppb	0.293	80.42	423	2000	
Cr	52	3	72	1.027	ppb	1.027	20.24	1363	5000	
Mn	55	3	72	55.558	ppb	55.558	1.00	18190	10000	
Fe	56	2	72	174.277	ppb	174.277	2.98	296512	10000	
Co	59	3	72	0.445	ppb	0.445	7.84	473	2000	
Ni	60	3	72	0.763	ppb	0.763	8.37	330	5000	
Cu	63	3	72	13.024	ppb	13.024	4.19	9619	5000	
Zn	66	3	72	31.860	ppb	31.860	2.08	3884	5000	
As	75	3	72	0.284	ppb	0.284	142.15	62	2000	
Se	78	2	72	0.393	ppb	0.393	53.27	26	2000	
Sr	88	3	72	170.924	ppb	170.924	1.18	78414	4000	
Mo	95	3	115	43.870	ppb	43.870	1.27	15231	2000	
Ag	107	3	115	0.118	ppb	0.118	25.91	145	100	
Cd	111	3	115	0.298	ppb	0.298	23.14	62	2000	
Sn	120	3	115	0.281	ppb	0.281	12.43	658	2000	
Sb	121	3	115	0.499	ppb	0.499	10.60	338	1000	
Ba	137	3	115	58.195	ppb	58.195	2.41	11648	5000	
Tl	205	3	193	-0.024	ppb	-0.024	-127.48	631	2000	
(Pb)	206	3	193	0.511	ppb	0.511	6.97	581	100	
(Pb)	207	3	193	0.481	ppb	0.481	14.24	591	100	
Pb	208	3	193	0.472	ppb	0.472	4.20	2289	5000	
Th	232	3	193	0.252	ppb	0.252	14.15	4057	2000	
U	238	3	193	40.499	ppb	40.499	1.94	153439	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc (IS)	45	2	HMI H2	4507756	1.38	4176342	107.94	60	120	
Sc (IS)	45	3	HMI He	496724	0.95	454432	109.31	60	120	
Ge Internal standard	72	2	HMI H2	2527256	1.08	2219876	113.85	60	120	
Ge Internal standard	72	3	HMI He	572998	0.78	521662	109.84	60	120	
In Internal Standard	115	3	HMI He	2297649	0.91	2121087	108.32	60	120	
Ir (IS)	193	3	HMI He	4003965	1.68	3821950	104.76	60	120	

Sample Report

Sample Table

Sample Name	160-52501-a-9-a
Data File Name	159SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\79_122123.b
Acq Date Time	2023-12-21T18:34:20-07:00
Analyst	Denver Metals
Sample Type	Sample
Dilution	1
Comment	637905 6020B
ISTD Ref FileName	039CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Be	9	2	6	-0.017	ppb	-0.017	-478.95	3	2000	
Na	23	3	45	108963.495	ppb	108963.495	1.55	8509207	400000	
Mg	24	3	45	232505.520	ppb	232505.520	0.47	9462626	400000	
Al	27	3	45	27.682	ppb	27.682	31.25	687	400000	
K	39	3	45	1347.061	ppb	1347.061	6.37	90934	400000	
Ca	40	2	45	249336.267	ppb	249336.267	2.01	198768144	400000	
V	51	3	72	1.149	ppb	1.149	11.33	818	2000	
Cr	52	3	72	1.122	ppb	1.122	22.84	1444	5000	
Mn	55	3	72	32083.438	ppb	32083.438	1.38	10633951	10000	
Fe	56	2	72	109631.045	ppb	109631.045	2.02	170100538	10000	>LDR
Co	59	3	72	62.132	ppb	62.132	2.31	58148	2000	
Ni	60	3	72	95.668	ppb	95.668	1.28	24391	5000	
Cu	63	3	72	0.157	ppb	0.157	32.61	558	5000	
Zn	66	3	72	8.787	ppb	8.787	7.66	1263	5000	
As	75	3	72	44.740	ppb	44.740	1.20	3780	2000	
Se	78	2	72	0.067	ppb	0.067	228.59	9	2000	
Sr	88	3	72	3795.674	ppb	3795.674	1.18	1777846	4000	
Mo	95	3	115	0.455	ppb	0.455	2.77	172	2000	
Ag	107	3	115	0.022	ppb	0.022	50.27	35	100	
Cd	111	3	115	-0.014	ppb	-0.014	-238.78	7	2000	
Sn	120	3	115	1.239	ppb	1.239	2.53	1228	2000	
Sb	121	3	115	0.431	ppb	0.431	14.58	307	1000	
Ba	137	3	115	3425.908	ppb	3425.908	0.67	695603	5000	
Tl	205	3	193	-0.151	ppb	-0.151	-2.06	302	2000	
(Pb)	206	3	193	0.119	ppb	0.119	35.86	237	100	
(Pb)	207	3	193	0.155	ppb	0.155	56.46	345	100	
Pb	208	3	193	0.142	ppb	0.142	38.83	1133	5000	
Th	232	3	193	0.057	ppb	0.057	56.45	3365	2000	
U	238	3	193	0.114	ppb	0.114	6.66	1583	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc (IS)	45	2	HMI H2	4756355	2.67	4176342	113.89	60	120	
Sc (IS)	45	3	HMI He	506492	1.08	454432	111.46	60	120	
Ge Internal standard	72	2	HMI H2	2508474	2.96	2219876	113.00	60	120	
Ge Internal standard	72	3	HMI He	585301	0.83	521662	112.20	60	120	
In Internal Standard	115	3	HMI He	2334205	0.81	2121087	110.05	60	120	
Ir (IS)	193	3	HMI He	4025975	0.57	3821950	105.34	60	120	

Sample Report

Sample Table

Sample Name	280-184606-b-2-b
Data File Name	160SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\79_122123.b
Acq Date Time	2023-12-21T18:36:35-07:00
Analyst	Denver Metals
Sample Type	Sample
Dilution	1
Comment	637905 6020B
ISTD Ref FileName	039CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Be	9	2	6	0.010	ppb	0.010	985.18	5	2000	
Na	23	3	45	107129.762	ppb	107129.762	2.09	8364934	400000	
Mg	24	3	45	234080.325	ppb	234080.325	1.17	9524123	400000	
Al	27	3	45	16.880	ppb	16.880	22.09	504	400000	
K	39	3	45	1425.216	ppb	1425.216	4.87	93940	400000	
Ca	40	2	45	285481.397	ppb	285481.397	1.94	224775881	400000	
V	51	3	72	0.949	ppb	0.949	11.00	740	2000	
Cr	52	3	72	1.628	ppb	1.628	9.72	1756	5000	
Mn	55	3	72	35304.080	ppb	35304.080	0.37	11891042	10000	
Fe	56	2	72	103552.168	ppb	103552.168	1.21	161540588	10000	>LDR
Co	59	3	72	58.570	ppb	58.570	0.79	55705	2000	
Ni	60	3	72	77.504	ppb	77.504	2.58	20105	5000	
Cu	63	3	72	-0.001	ppb	-0.001	-2966.19	451	5000	
Zn	66	3	72	10.064	ppb	10.064	11.10	1436	5000	
As	75	3	72	44.436	ppb	44.436	4.45	3815	2000	
Se	78	2	72	0.012	ppb	0.012	815.30	7	2000	
Sr	88	3	72	3892.979	ppb	3892.979	2.20	1852949	4000	
Mo	95	3	115	0.089	ppb	0.089	31.61	43	2000	
Ag	107	3	115	0.016	ppb	0.016	16.10	28	100	
Cd	111	3	115	-0.033	ppb	-0.033	-97.32	3	2000	
Sn	120	3	115	0.849	ppb	0.849	19.26	1021	2000	
Sb	121	3	115	0.322	ppb	0.322	15.03	252	1000	
Ba	137	3	115	3584.013	ppb	3584.013	0.56	743003	5000	
Tl	205	3	193	-0.189	ppb	-0.189	-1.26	205	2000	
(Pb)	206	3	193	0.170	ppb	0.170	13.68	287	100	
(Pb)	207	3	193	0.160	ppb	0.160	53.85	355	100	
Pb	208	3	193	0.170	ppb	0.170	23.75	1258	5000	
Th	232	3	193	0.045	ppb	0.045	57.11	3385	2000	
U	238	3	193	0.027	ppb	0.027	25.08	1276	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc (IS)	45	2	HMI H2	4696622	0.74	4176342	112.46	60	120	
Sc (IS)	45	3	HMI He	506327	0.45	454432	111.42	60	120	
Ge Internal standard	72	2	HMI H2	2520984	0.83	2219876	113.56	60	120	
Ge Internal standard	72	3	HMI He	594751	0.62	521662	114.01	60	120	
In Internal Standard	115	3	HMI He	2383253	0.68	2121087	112.36	60	120	
Ir (IS)	193	3	HMI He	4103749	0.89	3821950	107.37	60	120	

Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV-8123148
Data File Name	161_CCV.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\79_122123.b
Acq Date Time	2023-12-21T18:38:47-07:00
Sample Type	CCV
Dilution	1
Comment	
ISTD Ref File Name	039CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	Units	Conc %RSD	CPS	Exp Value	%Rec	%Low	%High2	QC Flag
Be	9	2	6	49.018	ppb	1.199	2405	50	98.0	90	110	
Na	23	3	45	51596.548	ppb	3.151	3943223	51000	101.2	90	110	
Mg	24	3	45	11145.133	ppb	3.319	441663	11000	101.3	90	110	
Al	27	3	45	988.146	ppb	4.582	16637	1000	98.8	90	110	
K	39	3	45	11232.360	ppb	0.652	459960	11000	102.1	90	110	
Ca	40	2	45	10760.114	ppb	0.445	8347439	11000	97.8	90	110	
V	51	3	72	49.833	ppb	2.202	22549	50	99.7	90	110	
Cr	52	3	72	50.193	ppb	1.690	28562	50	100.4	90	110	
Mn	55	3	72	57.433	ppb	3.880	18974	50	114.9	90	110	>+\-10%
Fe	56	2	72	1057.801	ppb	2.261	1639462	1000	105.8	90	110	
Co	59	3	72	49.847	ppb	2.767	46112	50	99.7	90	110	
Ni	60	3	72	51.818	ppb	4.769	13116	50	103.6	90	110	
Cu	63	3	72	50.171	ppb	2.967	36151	50	100.3	90	110	
Zn	66	3	72	50.045	ppb	8.595	6022	50	100.1	90	110	
As	75	3	72	51.836	ppb	3.842	4322	50	103.7	90	110	
Se	78	2	72	53.065	ppb	3.341	2634	50	106.1	90	110	
Sr	88	3	72	105.191	ppb	2.372	48729	100	105.2	90	110	
Mo	95	3	115	51.876	ppb	2.665	18267	50	103.8	90	110	
Ag	107	3	115	52.270	ppb	0.589	61186	50	104.5	90	110	
Cd	111	3	115	51.462	ppb	5.400	9214	50	102.9	90	110	
Sn	120	3	115	52.324	ppb	1.115	31012	50	104.6	90	110	
Sb	121	3	115	51.764	ppb	0.329	28431	50	103.5	90	110	
Ba	137	3	115	53.793	ppb	2.777	10924	50	107.6	90	110	
Tl	205	3	193	51.562	ppb	1.562	134851	50	103.1	90	110	
(Pb)	206	3	193	52.670	ppb	2.926	46223	50	105.3	90	110	
(Pb)	207	3	193	52.568	ppb	0.950	39903	50	105.1	90	110	
Pb	208	3	193	52.792	ppb	2.516	184104	50	105.6	90	110	
Th	232	3	193	53.304	ppb	0.749	194921	50	106.6	90	110	
U	238	3	193	51.852	ppb	1.294	194362	50	103.7	90	110	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc (IS)	45	2	HMI H2	4615457	0.77	4176342	110.51	60	120	
Sc (IS)	45	3	HMI He	493189	1.70	454432	108.53	60	120	
Ge Internal standard	72	2	HMI H2	2469797	1.67	2219876	111.26	60	120	
Ge Internal standard	72	3	HMI He	578534	1.88	521662	110.90	60	120	
In Internal Standard	115	3	HMI He	2330625	1.17	2121087	109.88	60	120	
Ir (IS)	193	3	HMI He	3967161	0.39	3821950	103.80	60	120	

Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB-8123133
Data File Name	162_CCB.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\79_122123.b
Acq Date Time	2023-12-21T18:41:01-07:00
Sample Type	CCB
Dilution	1
Comment	
ISTD Ref File Name	039CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	Units	Conc %RSD	CPS	Upper Limit	QC Flag
Be	9	2	6	-0.044	ppb	-90.9	2	0.5	
Na	23	3	45	36.509	ppb	32.5	41897	25	>RL
Mg	24	3	45	14.861	ppb	18.2	724	25	
Al	27	3	45	3.430	ppb	87.2	264	15	
K	39	3	45	-6.769	ppb	-1008.3	37183	50	
V	51	3	72	-0.357	ppb	-12.8	133	1	
Cr	52	3	72	-0.018	ppb	-625.2	781	1	
Mn	55	3	72	1.606	ppb	4.1	675	0.5	>RL
Co	59	3	72	0.033	ppb	19.4	95	0.5	
Ni	60	3	72	-0.145	ppb	-103.2	103	1	
Cu	63	3	72	-0.113	ppb	-56.5	352	1	
Zn	66	3	72	-0.817	ppb	-23.2	133	5	
As	75	3	72	-0.159	ppb	-39.1	25	1	
Se	78	2	72	-0.012	ppb	-399.4	5	1	
Sr	88	3	72	0.231	ppb	14.0	147	0.5	
Mo	95	3	115	0.040	ppb	64.0	25	0.5	
Ag	107	3	115	0.037	ppb	15.9	52	1	
Cd	111	3	115	-0.032	ppb	-102.6	3	0.5	
Sn	120	3	115	0.199	ppb	66.3	615	1	
Sb	121	3	115	0.155	ppb	18.3	153	0.6	
Ba	137	3	115	0.202	ppb	76.9	58	0.5	
Tl	205	3	193	-0.165	ppb	-5.3	258	0.1	
(Pb)	206	3	193	-0.029	ppb	-28.9	103	1	
(Pb)	207	3	193	-0.096	ppb	-33.0	150	1	
Pb	208	3	193	-0.040	ppb	-17.9	486	0.5	
Th	232	3	193	0.221	ppb	11.9	3899	1	
U	238	3	193	0.005	ppb	431.9	1148	0.5	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc (IS)	45	2	HMI H2	4604252	2.53	4176342	110.25	60	120	
Sc (IS)	45	3	HMI He	486568	0.82	454432	107.07	60	120	
Ge Internal standard	72	2	HMI H2	2450840	0.85	2219876	110.40	60	120	
Ge Internal standard	72	3	HMI He	566464	0.93	521662	108.59	60	120	
In Internal Standard	115	3	HMI He	2311456	1.96	2121087	108.98	60	120	
Ir (IS)	193	3	HMI He	3959069	1.74	3821950	103.59	60	120	

Sample Report

Sample Table

Sample Name	280-184606-b-3-b
Data File Name	163SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\79_122123.b
Acq Date Time	2023-12-21T18:43:16-07:00
Analyst	Denver Metals
Sample Type	Sample
Dilution	1
Comment	637905 6020B
ISTD Ref FileName	039CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Be	9	2	6	-0.044	ppb	-0.044	-1.71	2	2000	
Na	23	3	45	101216.412	ppb	101216.412	1.42	8005412	400000	
Mg	24	3	45	113853.504	ppb	113853.504	0.58	4691417	400000	
Al	27	3	45	10.339	ppb	10.339	9.08	397	400000	
K	39	3	45	4029.432	ppb	4029.432	2.87	196860	400000	
Ca	40	2	45	79417.926	ppb	79417.926	0.87	63363861	400000	
V	51	3	72	0.628	ppb	0.628	19.33	598	2000	
Cr	52	3	72	0.639	ppb	0.639	7.98	1206	5000	
Mn	55	3	72	1568.504	ppb	1568.504	0.51	533852	10000	
Fe	56	2	72	1186.758	ppb	1186.758	2.45	1913621	10000	
Co	59	3	72	0.286	ppb	0.286	16.73	343	2000	
Ni	60	3	72	3.510	ppb	3.510	11.81	1061	5000	
Cu	63	3	72	0.106	ppb	0.106	41.81	535	5000	
Zn	66	3	72	3.022	ppb	3.022	8.70	603	5000	
As	75	3	72	2.539	ppb	2.539	13.66	258	2000	
Se	78	2	72	-0.042	ppb	-0.042	-3.75	4	2000	
Sr	88	3	72	1482.913	ppb	1482.913	0.55	713023	4000	
Mo	95	3	115	1.981	ppb	1.981	8.81	725	2000	
Ag	107	3	115	0.010	ppb	0.010	56.98	22	100	
Cd	111	3	115	-0.041	ppb	-0.041	-38.94	2	2000	
Sn	120	3	115	0.226	ppb	0.226	50.32	650	2000	
Sb	121	3	115	0.171	ppb	0.171	49.74	167	1000	
Ba	137	3	115	433.365	ppb	433.365	2.12	90028	5000	
Tl	205	3	193	-0.188	ppb	-0.188	-7.71	210	2000	
(Pb)	206	3	193	0.056	ppb	0.056	50.21	187	100	
(Pb)	207	3	193	0.059	ppb	0.059	158.41	280	100	
Pb	208	3	193	0.060	ppb	0.060	42.27	873	5000	
Th	232	3	193	0.055	ppb	0.055	85.63	3470	2000	
U	238	3	193	0.060	ppb	0.060	48.93	1421	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc (IS)	45	2	HMI H2	4757782	0.75	4176342	113.92	60	120	
Sc (IS)	45	3	HMI He	512790	0.64	454432	112.84	60	120	
Ge Internal standard	72	2	HMI H2	2573636	2.06	2219876	115.94	60	120	
Ge Internal standard	72	3	HMI He	600832	0.98	521662	115.18	60	120	
In Internal Standard	115	3	HMI He	2388796	3.19	2121087	112.62	60	120	
Ir (IS)	193	3	HMI He	4162107	1.46	3821950	108.90	60	120	

Sample Report

Sample Table

Sample Name	280-184606-b-4-b
Data File Name	164SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\79_122123.b
Acq Date Time	2023-12-21T18:45:31-07:00
Analyst	Denver Metals
Sample Type	Sample
Dilution	1
Comment	637905 6020B
ISTD Ref FileName	039CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Be	9	2	6	-0.070	ppb	-0.070	-32.66	1	2000	
Na	23	3	45	109673.860	ppb	109673.860	0.21	8474073	400000	
Mg	24	3	45	137149.315	ppb	137149.315	2.02	5522334	400000	
Al	27	3	45	10.306	ppb	10.306	42.22	387	400000	
K	39	3	45	5013.637	ppb	5013.637	1.18	229953	400000	
Ca	40	2	45	100372.293	ppb	100372.293	1.39	78689132	400000	
V	51	3	72	1.057	ppb	1.057	12.06	778	2000	
Cr	52	3	72	0.793	ppb	0.793	4.87	1263	5000	
Mn	55	3	72	4416.852	ppb	4416.852	2.71	1466530	10000	
Fe	56	2	72	19295.420	ppb	19295.420	0.13	30256361	10000	
Co	59	3	72	0.157	ppb	0.157	17.16	215	2000	
Ni	60	3	72	2.308	ppb	2.308	5.54	730	5000	
Cu	63	3	72	0.320	ppb	0.320	20.81	676	5000	
Zn	66	3	72	2.083	ppb	2.083	5.34	478	5000	
As	75	3	72	2.834	ppb	2.834	4.82	277	2000	
Se	78	2	72	0.116	ppb	0.116	120.40	12	2000	
Sr	88	3	72	1921.132	ppb	1921.132	0.93	901233	4000	
Mo	95	3	115	0.198	ppb	0.198	41.04	80	2000	
Ag	107	3	115	0.022	ppb	0.022	40.87	35	100	
Cd	111	3	115	-0.051	ppb	-0.051	0.00	0	2000	
Sn	120	3	115	0.166	ppb	0.166	31.45	598	2000	
Sb	121	3	115	0.151	ppb	0.151	19.38	152	1000	
Ba	137	3	115	809.338	ppb	809.338	2.72	163475	5000	
Tl	205	3	193	-0.177	ppb	-0.177	-12.53	233	2000	
(Pb)	206	3	193	0.040	ppb	0.040	89.02	167	100	
(Pb)	207	3	193	0.026	ppb	0.026	381.72	247	100	
Pb	208	3	193	0.043	ppb	0.043	66.47	790	5000	
Th	232	3	193	0.057	ppb	0.057	43.08	3379	2000	
U	238	3	193	0.012	ppb	0.012	167.44	1199	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc (IS)	45	2	HMI H2	4675862	2.34	4176342	111.96	60	120	
Sc (IS)	45	3	HMI He	501123	1.19	454432	110.27	60	120	
Ge Internal standard	72	2	HMI H2	2532556	1.36	2219876	114.09	60	120	
Ge Internal standard	72	3	HMI He	586197	0.43	521662	112.37	60	120	
In Internal Standard	115	3	HMI He	2322696	2.18	2121087	109.50	60	120	
Ir (IS)	193	3	HMI He	4040186	0.27	3821950	105.71	60	120	

Sample Report

Sample Table

Sample Name	280-184606-b-5-b
Data File Name	165SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\79_122123.b
Acq Date Time	2023-12-21T18:47:45-07:00
Analyst	Denver Metals
Sample Type	Sample
Dilution	1
Comment	637905 6020B
ISTD Ref FileName	039CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Be	9	2	6	-0.070	ppb	-0.070	-33.03	1	2000	
Na	23	3	45	94877.642	ppb	94877.642	1.09	7488605	400000	
Mg	24	3	45	12831.597	ppb	12831.597	2.26	527553	400000	
Al	27	3	45	22.193	ppb	22.193	5.23	601	400000	
K	39	3	45	9899.600	ppb	9899.600	0.36	425155	400000	
Ca	40	2	45	71186.825	ppb	71186.825	1.85	55804857	400000	
V	51	3	72	28.422	ppb	28.422	3.71	13135	2000	
Cr	52	3	72	0.235	ppb	0.235	42.38	948	5000	
Mn	55	3	72	125.835	ppb	125.835	2.34	41837	10000	
Fe	56	2	72	70.957	ppb	70.957	1.71	135322	10000	
Co	59	3	72	0.238	ppb	0.238	7.71	290	2000	
Ni	60	3	72	1.256	ppb	1.256	7.94	461	5000	
Cu	63	3	72	3.944	ppb	3.944	12.71	3282	5000	
Zn	66	3	72	20.363	ppb	20.363	2.58	2617	5000	
As	75	3	72	21.214	ppb	21.214	8.32	1811	2000	
Se	78	2	72	1.335	ppb	1.335	26.24	74	2000	
Sr	88	3	72	856.496	ppb	856.496	1.07	400902	4000	
Mo	95	3	115	3.387	ppb	3.387	7.86	1213	2000	
Ag	107	3	115	0.011	ppb	0.011	94.64	22	100	
Cd	111	3	115	-0.013	ppb	-0.013	-241.13	7	2000	
Sn	120	3	115	0.051	ppb	0.051	191.67	538	2000	
Sb	121	3	115	0.449	ppb	0.449	12.86	318	1000	
Ba	137	3	115	415.294	ppb	415.294	1.68	84882	5000	
Tl	205	3	193	-0.186	ppb	-0.186	-1.90	210	2000	
(Pb)	206	3	193	0.238	ppb	0.238	25.50	345	100	
(Pb)	207	3	193	0.255	ppb	0.255	14.94	425	100	
Pb	208	3	193	0.240	ppb	0.240	7.20	1493	5000	
Th	232	3	193	0.015	ppb	0.015	72.65	3239	2000	
U	238	3	193	40.030	ppb	40.030	2.40	153766	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc (IS)	45	2	HMI H2	4675834	2.58	4176342	111.96	60	120	
Sc (IS)	45	3	HMI He	511537	0.45	454432	112.57	60	120	
Ge Internal standard	72	2	HMI H2	2533049	0.99	2219876	114.11	60	120	
Ge Internal standard	72	3	HMI He	584854	0.99	521662	112.11	60	120	
In Internal Standard	115	3	HMI He	2349682	1.88	2121087	110.78	60	120	
Ir (IS)	193	3	HMI He	4058944	1.27	3821950	106.20	60	120	

Sample Report

Sample Table

Sample Name	280-185849-a-1-a
Data File Name	166SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\79_122123.b
Acq Date Time	2023-12-21T18:49:59-07:00
Analyst	Denver Metals
Sample Type	Sample
Dilution	1
Comment	637905 6020B
ISTD Ref FileName	039CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Be	9	2	6	0.012	ppb	0.012	392.68	5	2000	
Na	23	3	45	391868.250	ppb	391868.250	0.41	30388088	400000	
Mg	24	3	45	68972.944	ppb	68972.944	2.02	2797257	400000	
Al	27	3	45	2358.585	ppb	2358.585	1.81	40355	400000	
K	39	3	45	79722.097	ppb	79722.097	2.42	3103643	400000	
Ca	40	2	45	82321.458	ppb	82321.458	0.64	64970235	400000	
V	51	3	72	10.571	ppb	10.571	1.80	5167	2000	
Cr	52	3	72	37.895	ppb	37.895	2.09	22412	5000	
Mn	55	3	72	927.418	ppb	927.418	0.22	313085	10000	
Fe	56	2	72	32733.232	ppb	32733.232	3.46	52359869	10000	
Co	59	3	72	3.634	ppb	3.634	6.54	3527	2000	
Ni	60	3	72	17.748	ppb	17.748	1.31	4725	5000	
Cu	63	3	72	75.718	ppb	75.718	0.68	55977	5000	
Zn	66	3	72	88.691	ppb	88.691	1.02	10817	5000	
As	75	3	72	13.564	ppb	13.564	5.05	1194	2000	
Se	78	2	72	0.396	ppb	0.396	47.87	27	2000	
Sr	88	3	72	783.108	ppb	783.108	0.17	373414	4000	
Mo	95	3	115	3.248	ppb	3.248	7.03	1186	2000	
Ag	107	3	115	0.128	ppb	0.128	48.64	163	100	
Cd	111	3	115	0.212	ppb	0.212	5.76	48	2000	
Sn	120	3	115	1.192	ppb	1.192	6.89	1231	2000	
Sb	121	3	115	2.589	ppb	2.589	7.81	1528	1000	
Ba	137	3	115	123.122	ppb	123.122	1.14	25654	5000	
Tl	205	3	193	-0.186	ppb	-0.186	-6.52	205	2000	
(Pb)	206	3	193	46.137	ppb	46.137	2.19	40621	100	
(Pb)	207	3	193	44.565	ppb	44.565	1.32	33959	100	
Pb	208	3	193	45.205	ppb	45.205	1.94	158186	5000	
Th	232	3	193	0.436	ppb	0.436	11.94	4695	2000	
U	238	3	193	1.309	ppb	1.309	6.40	6023	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc (IS)	45	2	HMI H2	4705980	1.36	4176342	112.68	60	120	
Sc (IS)	45	3	HMI He	504680	0.65	454432	111.06	60	120	
Ge Internal standard	72	2	HMI H2	2585621	2.38	2219876	116.48	60	120	
Ge Internal standard	72	3	HMI He	595794	0.07	521662	114.21	60	120	
In Internal Standard	115	3	HMI He	2393683	1.36	2121087	112.85	60	120	
Ir (IS)	193	3	HMI He	3979343	2.26	3821950	104.12	60	120	

Sample Report

Sample Table

Sample Name	280-185531-c-1-b
Data File Name	167SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\79_122123.b
Acq Date Time	2023-12-21T18:52:14-07:00
Analyst	Denver Metals
Sample Type	Sample
Dilution	1
Comment	637905 6020B
ISTD Ref FileName	039CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Be	9	2	6	-0.084	ppb	-0.084	0.00	0	2000	
Na	23	3	45	95365.688	ppb	95365.688	1.42	7481410	400000	
Mg	24	3	45	21453.716	ppb	21453.716	4.89	876285	400000	
Al	27	3	45	15.165	ppb	15.165	35.61	477	400000	
K	39	3	45	20425.021	ppb	20425.021	0.92	830281	400000	
Ca	40	2	45	79736.237	ppb	79736.237	0.54	62580585	400000	
V	51	3	72	0.989	ppb	0.989	9.11	761	2000	
Cr	52	3	72	0.931	ppb	0.931	28.45	1366	5000	
Mn	55	3	72	612.628	ppb	612.628	1.61	207342	10000	
Fe	56	2	72	189.416	ppb	189.416	1.01	328569	10000	
Co	59	3	72	0.263	ppb	0.263	4.24	320	2000	
Ni	60	3	72	1.166	ppb	1.166	11.08	448	5000	
Cu	63	3	72	4.111	ppb	4.111	2.24	3475	5000	
Zn	66	3	72	8.167	ppb	8.167	3.97	1214	5000	
As	75	3	72	0.704	ppb	0.704	37.12	100	2000	
Se	78	2	72	0.060	ppb	0.060	37.16	9	2000	
Sr	88	3	72	617.569	ppb	617.569	0.46	295165	4000	
Mo	95	3	115	0.947	ppb	0.947	7.86	355	2000	
Ag	107	3	115	0.057	ppb	0.057	44.15	78	100	
Cd	111	3	115	-0.024	ppb	-0.024	-0.41	5	2000	
Sn	120	3	115	0.062	ppb	0.062	201.60	556	2000	
Sb	121	3	115	0.159	ppb	0.159	12.01	162	1000	
Ba	137	3	115	28.274	ppb	28.274	2.65	5927	5000	
Tl	205	3	193	-0.197	ppb	-0.197	-7.67	185	2000	
(Pb)	206	3	193	0.529	ppb	0.529	13.04	618	100	
(Pb)	207	3	193	0.527	ppb	0.527	8.02	650	100	
Pb	208	3	193	0.506	ppb	0.506	3.55	2496	5000	
Th	232	3	193	0.026	ppb	0.026	132.76	3355	2000	
U	238	3	193	2.296	ppb	2.296	0.86	10142	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc (IS)	45	2	HMI H2	4680045	0.17	4176342	112.06	60	120	
Sc (IS)	45	3	HMI He	508486	1.61	454432	111.89	60	120	
Ge Internal standard	72	2	HMI H2	2593070	0.40	2219876	116.81	60	120	
Ge Internal standard	72	3	HMI He	597175	0.65	521662	114.48	60	120	
In Internal Standard	115	3	HMI He	2402237	0.36	2121087	113.25	60	120	
Ir (IS)	193	3	HMI He	4151550	1.98	3821950	108.62	60	120	

Sample Report

Sample Table

Sample Name	280-185583-I-1-a
Data File Name	168SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\79_122123.b
Acq Date Time	2023-12-21T18:54:29-07:00
Analyst	Denver Metals
Sample Type	Sample
Dilution	1
Comment	637905 6020B
ISTD Ref FileName	039CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Be	9	2	6	-0.070	ppb	-0.070	-34.48	1	2000	
Na	23	3	45	53904.991	ppb	53904.991	1.08	4233170	400000	
Mg	24	3	45	40763.235	ppb	40763.235	1.33	1660249	400000	
Al	27	3	45	15.472	ppb	15.472	46.94	480	400000	
K	39	3	45	6725.444	ppb	6725.444	1.45	298679	400000	
Ca	40	2	45	89851.983	ppb	89851.983	1.26	70831764	400000	
V	51	3	72	0.096	ppb	0.096	75.60	350	2000	
Cr	52	3	72	0.859	ppb	0.859	33.44	1328	5000	
Mn	55	3	72	5.002	ppb	5.002	6.49	1863	10000	
Fe	56	2	72	157.823	ppb	157.823	1.22	271476	10000	
Co	59	3	72	0.550	ppb	0.550	8.35	595	2000	
Ni	60	3	72	8.337	ppb	8.337	6.11	2307	5000	
Cu	63	3	72	0.749	ppb	0.749	10.84	1006	5000	
Zn	66	3	72	3.142	ppb	3.142	5.67	615	5000	
As	75	3	72	0.741	ppb	0.741	13.69	103	2000	
Se	78	2	72	5.859	ppb	5.859	5.29	304	2000	
Sr	88	3	72	321.199	ppb	321.199	0.22	153807	4000	
Mo	95	3	115	84.899	ppb	84.899	1.80	30751	2000	
Ag	107	3	115	0.014	ppb	0.014	15.53	27	100	
Cd	111	3	115	0.049	ppb	0.049	128.66	18	2000	
Sn	120	3	115	0.094	ppb	0.094	36.99	575	2000	
Sb	121	3	115	0.186	ppb	0.186	20.57	177	1000	
Ba	137	3	115	27.235	ppb	27.235	0.80	5700	5000	
Tl	205	3	193	-0.170	ppb	-0.170	-2.06	250	2000	
(Pb)	206	3	193	0.036	ppb	0.036	95.58	162	100	
(Pb)	207	3	193	-0.001	ppb	-0.001	-4343.27	225	100	
Pb	208	3	193	0.030	ppb	0.030	26.97	736	5000	
Th	232	3	193	0.001	ppb	0.001	1966.80	3152	2000	
U	238	3	193	0.012	ppb	0.012	34.66	1191	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc (IS)	45	2	HMI H2	4700595	1.05	4176342	112.55	60	120	
Sc (IS)	45	3	HMI He	506842	0.54	454432	111.53	60	120	
Ge Internal standard	72	2	HMI H2	2533336	1.18	2219876	114.12	60	120	
Ge Internal standard	72	3	HMI He	598221	1.25	521662	114.68	60	120	
In Internal Standard	115	3	HMI He	2397956	0.75	2121087	113.05	60	120	
Ir (IS)	193	3	HMI He	4012349	1.75	3821950	104.98	60	120	

Sample Report

Sample Table

Sample Name	280-185848-a-1-a
Data File Name	169SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\79_122123.b
Acq Date Time	2023-12-21T18:56:44-07:00
Analyst	Denver Metals
Sample Type	Sample
Dilution	1
Comment	637905 6020B
ISTD Ref FileName	039CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Be	9	2	6	38.868	ppb	38.868	3.33	1947	2000	
Na	23	3	45	55596.463	ppb	55596.463	0.89	4407777	400000	
Mg	24	3	45	41965.782	ppb	41965.782	1.85	1725971	400000	
Al	27	3	45	787.695	ppb	787.695	3.63	13814	400000	
K	39	3	45	7698.123	ppb	7698.123	1.53	339537	400000	
Ca	40	2	45	91107.221	ppb	91107.221	0.92	71306494	400000	
V	51	3	72	40.339	ppb	40.339	3.08	19090	2000	
Cr	52	3	72	39.840	ppb	39.840	0.62	23810	5000	
Mn	55	3	72	43.843	ppb	43.843	2.66	15144	10000	
Fe	56	2	72	960.306	ppb	960.306	1.54	1550602	10000	
Co	59	3	72	39.280	ppb	39.280	0.96	37910	2000	
Ni	60	3	72	47.833	ppb	47.833	1.07	12641	5000	
Cu	63	3	72	38.886	ppb	38.886	1.20	29325	5000	
Zn	66	3	72	44.018	ppb	44.018	2.92	5557	5000	
As	75	3	72	39.982	ppb	39.982	3.74	3485	2000	
Se	78	2	72	46.212	ppb	46.212	3.21	2387	2000	
Sr	88	3	72	399.969	ppb	399.969	1.55	193086	4000	
Mo	95	3	115	125.466	ppb	125.466	1.86	45094	2000	
Ag	107	3	115	39.750	ppb	39.750	1.55	47508	100	
Cd	111	3	115	40.855	ppb	40.855	2.04	7473	2000	
Sn	120	3	115	41.559	ppb	41.559	1.68	25256	2000	
Sb	121	3	115	40.838	ppb	40.838	1.94	22917	1000	
Ba	137	3	115	67.645	ppb	67.645	3.37	14019	5000	
Tl	205	3	193	41.687	ppb	41.687	2.44	109934	2000	
(Pb)	206	3	193	41.638	ppb	41.638	2.26	36832	100	
(Pb)	207	3	193	41.770	ppb	41.770	1.08	31984	100	
Pb	208	3	193	41.866	ppb	41.866	1.89	147192	5000	
Th	232	3	193	41.325	ppb	41.325	2.23	152903	2000	
U	238	3	193	41.298	ppb	41.298	2.25	156152	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc (IS)	45	2	HMI H2	4667622	1.64	4176342	111.76	60	120	
Sc (IS)	45	3	HMI He	511820	0.57	454432	112.63	60	120	
Ge Internal standard	72	2	HMI H2	2569100	1.37	2219876	115.73	60	120	
Ge Internal standard	72	3	HMI He	603165	0.74	521662	115.62	60	120	
In Internal Standard	115	3	HMI He	2379752	0.92	2121087	112.19	60	120	
Ir (IS)	193	3	HMI He	3996513	1.52	3821950	104.57	60	120	

Sample Report

Sample Table

Sample Name	280-185848-a-1-b ms
Data File Name	170SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\79_122123.b
Acq Date Time	2023-12-21T18:58:58-07:00
Analyst	Denver Metals
Sample Type	Sample
Dilution	1
Comment	637905 6020B
ISTD Ref FileName	039CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Be	9	2	6	38.452	ppb	38.452	3.96	1948	2000	
Na	23	3	45	56960.414	ppb	56960.414	1.47	4532801	400000	
Mg	24	3	45	43109.687	ppb	43109.687	1.63	1780262	400000	
Al	27	3	45	801.763	ppb	801.763	0.55	14115	400000	
K	39	3	45	7849.708	ppb	7849.708	1.70	346836	400000	
Ca	40	2	45	93442.385	ppb	93442.385	1.81	73945037	400000	
V	51	3	72	39.267	ppb	39.267	2.40	18668	2000	
Cr	52	3	72	40.126	ppb	40.126	0.80	24074	5000	
Mn	55	3	72	42.625	ppb	42.625	2.39	14789	10000	
Fe	56	2	72	966.440	ppb	966.440	1.93	1573548	10000	
Co	59	3	72	39.001	ppb	39.001	1.25	37796	2000	
Ni	60	3	72	47.202	ppb	47.202	1.78	12528	5000	
Cu	63	3	72	38.689	ppb	38.689	1.06	29300	5000	
Zn	66	3	72	41.390	ppb	41.390	4.10	5260	5000	
As	75	3	72	42.007	ppb	42.007	3.35	3675	2000	
Se	78	2	72	46.043	ppb	46.043	2.47	2399	2000	
Sr	88	3	72	414.107	ppb	414.107	0.72	200742	4000	
Mo	95	3	115	127.656	ppb	127.656	1.60	46709	2000	
Ag	107	3	115	39.202	ppb	39.202	1.62	47711	100	
Cd	111	3	115	39.334	ppb	39.334	1.93	7327	2000	
Sn	120	3	115	40.685	ppb	40.685	1.48	25183	2000	
Sb	121	3	115	40.887	ppb	40.887	1.21	23364	1000	
Ba	137	3	115	68.488	ppb	68.488	3.72	14447	5000	
Tl	205	3	193	40.936	ppb	40.936	1.25	109211	2000	
(Pb)	206	3	193	41.185	ppb	41.185	0.50	36850	100	
(Pb)	207	3	193	41.059	ppb	41.059	0.77	31801	100	
Pb	208	3	193	41.161	ppb	41.161	0.47	146378	5000	
Th	232	3	193	40.833	ppb	40.833	0.90	152847	2000	
U	238	3	193	40.517	ppb	40.517	1.20	154986	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc (IS)	45	2	HMI H2	4719312	0.47	4176342	113.00	60	120	
Sc (IS)	45	3	HMI He	513914	1.25	454432	113.09	60	120	
Ge Internal standard	72	2	HMI H2	2590715	0.77	2219876	116.71	60	120	
Ge Internal standard	72	3	HMI He	605637	0.49	521662	116.10	60	120	
In Internal Standard	115	3	HMI He	2422851	1.63	2121087	114.23	60	120	
Ir (IS)	193	3	HMI He	4041501	0.72	3821950	105.74	60	120	

Sample Report

Sample Table

Sample Name	280-185848-a-1-c msd
Data File Name	171SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\79_122123.b
Acq Date Time	2023-12-21T19:01:11-07:00
Analyst	Denver Metals
Sample Type	Sample
Dilution	1
Comment	637905 6020B
ISTD Ref FileName	039CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Be	9	2	6	-0.070	ppb	-0.070	-33.27	1	2000	
Na	23	3	45	66.296	ppb	66.296	11.21	46559	400000	
Mg	24	3	45	10.082	ppb	10.082	7.13	567	400000	
Al	27	3	45	1.637	ppb	1.637	123.55	247	400000	
K	39	3	45	6.773	ppb	6.773	463.09	39773	400000	
Ca	40	2	45	32.627	ppb	32.627	1.27	49008	400000	
V	51	3	72	-0.049	ppb	-0.049	-121.87	285	2000	
Cr	52	3	72	0.045	ppb	0.045	233.65	866	5000	
Mn	55	3	72	0.344	ppb	0.344	17.87	287	10000	
Fe	56	2	72	5.245	ppb	5.245	9.37	32966	10000	
Co	59	3	72	0.002	ppb	0.002	535.13	72	2000	
Ni	60	3	72	-0.247	ppb	-0.247	-16.64	83	5000	
Cu	63	3	72	-0.080	ppb	-0.080	-80.89	398	5000	
Zn	66	3	72	1.452	ppb	1.452	23.19	415	5000	
As	75	3	72	-0.216	ppb	-0.216	-94.45	22	2000	
Se	78	2	72	0.047	ppb	0.047	286.28	9	2000	
Sr	88	3	72	0.164	ppb	0.164	9.03	123	4000	
Mo	95	3	115	0.099	ppb	0.099	45.83	47	2000	
Ag	107	3	115	0.064	ppb	0.064	25.67	85	100	
Cd	111	3	115	-0.024	ppb	-0.024	-113.87	5	2000	
Sn	120	3	115	-0.004	ppb	-0.004	-2715.70	511	2000	
Sb	121	3	115	0.141	ppb	0.141	55.78	150	1000	
Ba	137	3	115	0.208	ppb	0.208	31.08	62	5000	
Tl	205	3	193	-0.178	ppb	-0.178	-4.11	233	2000	
(Pb)	206	3	193	0.049	ppb	0.049	11.23	177	100	
(Pb)	207	3	193	0.018	ppb	0.018	278.03	243	100	
Pb	208	3	193	0.050	ppb	0.050	30.62	821	5000	
Th	232	3	193	0.251	ppb	0.251	2.08	4134	2000	
U	238	3	193	0.007	ppb	0.007	213.96	1194	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc (IS)	45	2	HMI H2	4788865	1.55	4176342	114.67	60	120	
Sc (IS)	45	3	HMI He	513410	0.60	454432	112.98	60	120	
Ge Internal standard	72	2	HMI H2	2581419	0.63	2219876	116.29	60	120	
Ge Internal standard	72	3	HMI He	601661	0.41	521662	115.34	60	120	
In Internal Standard	115	3	HMI He	2379726	1.87	2121087	112.19	60	120	
Ir (IS)	193	3	HMI He	4082269	0.48	3821950	106.81	60	120	

Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV-8123148
Data File Name	172_CCV.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\79_122123.b
Acq Date Time	2023-12-21T19:03:26-07:00
Sample Type	CCV
Dilution	1
Comment	
ISTD Ref File Name	039CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	Units	Conc %RSD	CPS	Exp Value	%Rec	%Low	%High2	QC Flag
Be	9	2	6	50.466	ppb	2.690	2535	50	100.9	90	110	
Na	23	3	45	50328.004	ppb	1.135	4036153	51000	98.7	90	110	
Mg	24	3	45	10780.570	ppb	1.822	448205	11000	98.0	90	110	
Al	27	3	45	993.261	ppb	1.017	17545	1000	99.3	90	110	
K	39	3	45	11132.641	ppb	2.088	478501	11000	101.2	90	110	
Ca	40	2	45	10744.215	ppb	1.560	8586668	11000	97.7	90	110	
V	51	3	72	51.209	ppb	2.536	23647	50	102.4	90	110	
Cr	52	3	72	51.119	ppb	1.544	29682	50	102.2	90	110	
Mn	55	3	72	50.671	ppb	2.631	17110	50	101.3	90	110	
Fe	56	2	72	1032.827	ppb	1.840	1657216	1000	103.3	90	110	
Co	59	3	72	50.711	ppb	0.944	47909	50	101.4	90	110	
Ni	60	3	72	50.028	ppb	3.050	12938	50	100.1	90	110	
Cu	63	3	72	50.686	ppb	1.117	37297	50	101.4	90	110	
Zn	66	3	72	51.691	ppb	5.425	6343	50	103.4	90	110	
As	75	3	72	53.213	ppb	4.998	4529	50	106.4	90	110	
Se	78	2	72	51.803	ppb	6.025	2661	50	103.6	90	110	
Sr	88	3	72	106.227	ppb	1.951	50241	100	106.2	90	110	
Mo	95	3	115	50.961	ppb	1.652	18625	50	101.9	90	110	
Ag	107	3	115	50.680	ppb	3.967	61531	50	101.4	90	110	
Cd	111	3	115	49.658	ppb	3.484	9229	50	99.3	90	110	
Sn	120	3	115	51.136	ppb	3.571	31455	50	102.3	90	110	
Sb	121	3	115	51.257	ppb	1.915	29216	50	102.5	90	110	
Ba	137	3	115	53.013	ppb	2.127	11173	50	106.0	90	110	
Tl	205	3	193	51.995	ppb	4.715	138157	50	104.0	90	110	
(Pb)	206	3	193	52.490	ppb	1.736	46835	50	105.0	90	110	
(Pb)	207	3	193	51.949	ppb	2.513	40090	50	103.9	90	110	
Pb	208	3	193	52.431	ppb	3.349	185847	50	104.9	90	110	
Th	232	3	193	52.076	ppb	1.214	193700	50	104.2	90	110	
U	238	3	193	52.184	ppb	4.593	198751	50	104.4	90	110	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc (IS)	45	2	HMI H2	4755334	1.33	4176342	113.86	60	120	
Sc (IS)	45	3	HMI He	517234	0.77	454432	113.82	60	120	
Ge Internal standard	72	2	HMI H2	2555873	1.43	2219876	115.14	60	120	
Ge Internal standard	72	3	HMI He	590650	2.34	521662	113.22	60	120	
In Internal Standard	115	3	HMI He	2419068	2.72	2121087	114.05	60	120	
Ir (IS)	193	3	HMI He	4034761	3.13	3821950	105.57	60	120	

Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB-8123133
Data File Name	173_CCB.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\79_122123.b
Acq Date Time	2023-12-21T19:05:38-07:00
Sample Type	CCB
Dilution	1
Comment	
ISTD Ref File Name	039CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	Units	Conc %RSD	CPS	Upper Limit	QC Flag
Be	9	2	6	-0.056	ppb	-85.3	1	0.5	
Na	23	3	45	40.143	ppb	21.8	43303	25	>RL
Mg	24	3	45	6.383	ppb	18.6	404	25	
Al	27	3	45	-2.532	ppb	-68.0	170	15	
K	39	3	45	19.828	ppb	249.3	39211	50	
V	51	3	72	0.006	ppb	1262.8	302	1	
Cr	52	3	72	-0.063	ppb	-133.4	781	1	
Mn	55	3	72	0.243	ppb	44.7	245	0.5	
Co	59	3	72	-0.011	ppb	-144.4	57	0.5	
Ni	60	3	72	-0.126	ppb	-78.0	112	1	
Cu	63	3	72	-0.122	ppb	-79.0	356	1	
Zn	66	3	72	-0.910	ppb	-14.3	127	5	
As	75	3	72	-0.149	ppb	-24.6	27	1	
Se	78	2	72	-0.066	ppb	-94.1	3	1	
Sr	88	3	72	0.069	ppb	118.7	75	0.5	
Mo	95	3	115	0.051	ppb	105.7	30	0.5	
Ag	107	3	115	0.056	ppb	16.9	77	1	
Cd	111	3	115	-0.005	ppb	-288.9	8	0.5	
Sn	120	3	115	-0.056	ppb	-144.1	483	1	
Sb	121	3	115	0.152	ppb	40.3	157	0.6	
Ba	137	3	115	0.086	ppb	17.7	37	0.5	
Tl	205	3	193	-0.150	ppb	-4.9	302	0.1	
(Pb)	206	3	193	-0.005	ppb	-241.6	125	1	
(Pb)	207	3	193	-0.026	ppb	-14.4	205	1	
Pb	208	3	193	-0.012	ppb	-16.6	586	0.5	
Th	232	3	193	0.225	ppb	25.2	3955	1	
U	238	3	193	0.015	ppb	179.0	1199	0.5	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc (IS)	45	2	HMI H2	4640973	1.51	4176342	111.13	60	120	
Sc (IS)	45	3	HMI He	499643	1.02	454432	109.95	60	120	
Ge Internal standard	72	2	HMI H2	2473330	1.98	2219876	111.42	60	120	
Ge Internal standard	72	3	HMI He	584620	0.74	521662	112.07	60	120	
In Internal Standard	115	3	HMI He	2387837	1.47	2121087	112.58	60	120	
Ir (IS)	193	3	HMI He	3998668	1.28	3821950	104.62	60	120	

Blank Report

Sample Table

Sample Name	mb 280-638057/1-a
Data File Name	174_BLK.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\79_122123.b
Acq Date Time	2023-12-21T19:07:55-07:00
Sample Type	Blank
Dilution	1
Comment	638057 6020B
ISTD Ref File Name	039CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	Units	Conc %RSD	CPS	Upper Limit
Be	9	2	6	33.934	ppb	1.518867866	1771	0.5
Na	23	3	45	889.640	ppb	0.518592254	115596	25
Mg	24	3	45	851.478	ppb	1.822414714	36601	25
Al	27	3	45	645.534	ppb	4.822865588	11824	15
K	39	3	45	849.127	ppb	5.396513481	75451	50
Ca	40	2	45	914.199	ppb	0.290028981	777472	200
V	51	3	72	33.173	ppb	0.301797277	16080	1
Cr	52	3	72	32.936	ppb	0.405933018	20238	1
Mn	55	3	72	32.629	ppb	1.532814945	11547	0.5
Fe	56	2	72	681.191	ppb	0.983374903	1136884	50
Co	59	3	72	32.515	ppb	0.94245786	32039	0.5
Ni	60	3	72	32.882	ppb	2.812281057	8915	1
Cu	63	3	72	32.889	ppb	1.781859107	25384	1
Zn	66	3	72	45.519	ppb	2.373896123	5855	5
As	75	3	72	31.904	ppb	4.698700024	2847	1
(Se)	78	3	72	29.065	ppb	2.022844033	225	1
Sr	88	3	72	66.858	ppb	1.090619429	32980	0.5
Mo	95	3	115	33.739	ppb	3.101028979	12876	0.5
Ag	107	3	115	32.414	ppb	1.940425155	41119	1
Cd	111	3	115	32.237	ppb	4.037489583	6260	0.5
Sn	120	3	115	32.764	ppb	2.0531476	21248	1
Sb	121	3	115	33.165	ppb	3.599566748	19761	0.6
Ba	137	3	115	33.187	ppb	2.088277201	7313	0.5
Tl	205	3	193	33.161	ppb	1.179473187	92709	0.1
(Pb)	206	3	193	33.466	ppb	0.692867718	31356	1
(Pb)	207	3	193	33.854	ppb	1.753956731	27473	1
Pb	208	3	193	33.949	ppb	1.36324043	126436	0.5
Th	232	3	193	32.863	ppb	1.751914863	129356	1
U	238	3	193	33.061	ppb	1.56886739	132542	0.5

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc (IS)	45	2	HMI H2	4920096	0.68	4176342	117.81	60	120	
Sc (IS)	45	3	HMI He	532625	0.43	454432	117.21	60	120	
Ge Internal standard	72	2	HMI H2	2638034	1.71	2219876	118.84	60	120	
Ge Internal standard	72	3	HMI He	615564	0.48	521662	118.00	60	120	
In Internal Standard	115	3	HMI He	2526136	2.11	2121087	119.10	60	120	
Ir (IS)	193	3	HMI He	4228721	0.79	3821950	110.64	60	120	

Laboratory Control Sample (LCS) Report

Sample Table

Sample Name	lcs 280-638057/2-a
Data File Name	175_LCS.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\79_122123.b
Acq Date Time	2023-12-21T19:10:11-07:00
Sample Type	LCS
Dilution	1
Analyst	Denver Metals
Comment	638057 6020B
ISTD Ref File Name	039CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	FinalConc	Units	Conc %RSD	CPS	Exp Value	%Rec	%Low	%High	QC Flag
Be	9	2	6	34.581	34.581	ppb	2.659	1792	40	86.5	80	120	
Na	23	3	45	896.525	896.525	ppb	0.757	113201	40	2241.3	80	120	>+/-20%
Mg	24	3	45	902.785	902.785	ppb	1.087	37808	40	2257.0	80	120	>+/-20%
Al	27	3	45	707.468	707.468	ppb	0.914	12605	40	1768.7	80	120	>+/-20%
K	39	3	45	915.390	915.390	ppb	5.938	76145	40	2288.5	80	120	>+/-20%
Ca	40	2	45	951.241	951.241	ppb	0.849	790168	40	2378.1	80	120	>+/-20%
V	51	3	72	35.784	35.784	ppb	2.313	17069	40	89.5	80	120	
Cr	52	3	72	35.695	35.695	ppb	2.002	21544	40	89.2	80	120	
Mn	55	3	72	34.347	34.347	ppb	1.040	11971	40	85.9	80	120	
Fe	56	2	72	733.496	733.496	ppb	2.109	1198573	40	1833.7	80	120	>+/-20%
(Fe)	56	3	72	703.407	703.407	ppb	1.045	374347	40	1758.5	80	120	>+/-20%
Co	59	3	72	34.873	34.873	ppb	2.175	33858	40	87.2	80	120	
Ni	60	3	72	35.316	35.316	ppb	1.726	9427	40	88.3	80	120	
Cu	63	3	72	35.226	35.226	ppb	1.036	26763	40	88.1	80	120	
Zn	66	3	72	35.318	35.318	ppb	2.203	4532	40	88.3	80	120	
As	75	3	72	35.263	35.263	ppb	1.032	3097	40	88.2	80	120	
Se	78	2	72	37.093	37.093	ppb	1.935	1931	40	92.7	80	120	
(Se)	78	3	72	39.180	39.180	ppb	10.855	288	40	98.0	80	120	
Sr	88	3	72	72.960	72.960	ppb	1.341	35463	40	182.4	80	120	>+/-20%
Mo	95	3	115	36.159	36.159	ppb	0.552	13428	40	90.4	80	120	
Ag	107	3	115	35.766	35.766	ppb	1.128	44142	40	89.4	80	120	
Cd	111	3	115	34.433	34.433	ppb	1.480	6505	40	86.1	80	120	
Sn	120	3	115	35.700	35.700	ppb	1.831	22478	40	89.2	80	120	
Sb	121	3	115	36.131	36.131	ppb	2.307	20944	40	90.3	80	120	
Ba	137	3	115	34.329	34.329	ppb	0.543	7357	40	85.8	80	120	
Tl	205	3	193	36.467	36.467	ppb	1.026	99732	40	91.2	80	120	
(Pb)	206	3	193	35.925	35.925	ppb	1.945	32943	40	89.8	80	120	
(Pb)	207	3	193	35.900	35.900	ppb	1.821	28510	40	89.7	80	120	
Pb	208	3	193	36.407	36.407	ppb	0.187	132707	40	91.0	80	120	
Th	232	3	193	35.909	35.909	ppb	0.397	138091	40	89.8	80	120	
U	238	3	193	36.195	36.195	ppb	1.092	141943	40	90.5	80	120	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc (IS)	45	2	HMI H2	4811556	1.59	4176342	115.21	60	120	
Sc (IS)	45	3	HMI He	519067	0.19	454432	114.22	60	120	
Ge Internal standard	72	2	HMI H2	2586942	0.21	2219876	116.54	60	120	
Ge Internal standard	72	3	HMI He	606677	0.76	521662	116.30	60	120	
In Internal Standard	115	3	HMI He	2457140	0.25	2121087	115.84	60	120	
Ir (IS)	193	3	HMI He	4140098	0.78	3821950	108.32	60	120	

Sample Report

Sample Table

Sample Name	lcsd 280-638057/3-a
Data File Name	176SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\79_122123.b
Acq Date Time	2023-12-21T19:12:27-07:00
Analyst	Denver Metals
Sample Type	Sample
Dilution	1
Comment	638057 6020B
ISTD Ref FileName	039CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Fail

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Be	9	2	6	-0.058	ppb	-0.058	-37.45	1	2000	
Na	23	3	45	12868.828	ppb	12868.828	1.18	1105140	400000	
Mg	24	3	45	55031.793	ppb	55031.793	2.20	2378119	400000	
Al	27	3	45	187.772	ppb	187.772	41.65	3636	400000	
K	39	3	45	2825.519	ppb	2825.519	0.51	157125	400000	
Ca	40	2	45	135993.407	ppb	135993.407	2.43	111140125	400000	
V	51	3	72	0.514	ppb	0.514	8.29	566	2000	
Cr	52	3	72	0.394	ppb	0.394	22.27	1106	5000	
Mn	55	3	72	9.599	ppb	9.599	7.63	3567	10000	
Fe	56	2	72	345.793	ppb	345.793	3.26	610349	10000	
Co	59	3	72	0.244	ppb	0.244	22.08	315	2000	
Ni	60	3	72	3.028	ppb	3.028	10.26	971	5000	
Cu	63	3	72	14.067	ppb	14.067	1.37	11277	5000	
Zn	66	3	72	41.555	ppb	41.555	2.38	5440	5000	
As	75	3	72	1.625	ppb	1.625	21.24	187	2000	
Se	78	2	72	3.553	ppb	3.553	6.60	201	2000	
Sr	88	3	72	240.411	ppb	240.411	0.87	120085	4000	
Mo	95	3	115	48.913	ppb	48.913	4.06	18472	2000	
Ag	107	3	115	0.063	ppb	0.063	27.66	88	100	
Cd	111	3	115	0.027	ppb	0.027	189.44	15	2000	
Sn	120	3	115	-0.055	ppb	-0.055	-142.42	506	2000	
Sb	121	3	115	0.600	ppb	0.600	19.26	428	1000	
Ba	137	3	115	19.881	ppb	19.881	4.21	4342	5000	
Tl	205	3	193	-0.042	ppb	-0.042	-23.94	601	2000	
(Pb)	206	3	193	1.755	ppb	1.755	2.09	1726	100	
(Pb)	207	3	193	1.745	ppb	1.745	4.69	1598	100	
Pb	208	3	193	1.754	ppb	1.754	2.57	6972	5000	
Th	232	3	193	0.384	ppb	0.384	8.81	4662	2000	
U	238	3	193	63.004	ppb	63.004	1.15	244681	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc (IS)	45	2	HMI H2	4875919	2.45	4176342	116.75	60	120	
Sc (IS)	45	3	HMI He	537698	0.74	454432	118.32	60	120	
Ge Internal standard	72	2	HMI H2	2731655	0.90	2219876	123.05	60	120	IS Failed
Ge Internal standard	72	3	HMI He	623940	0.29	521662	119.61	60	120	
In Internal Standard	115	3	HMI He	2500867	2.40	2121087	117.90	60	120	
Ir (IS)	193	3	HMI He	4114709	1.12	3821950	107.66	60	120	

Sample Report

Sample Table

Sample Name	280-185897-a-1-d
Data File Name	177SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\79_122123.b
Acq Date Time	2023-12-21T19:14:44-07:00
Analyst	Denver Metals
Sample Type	Sample
Dilution	1
Comment	638057 6020B
ISTD Ref FileName	039CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Be	9	2	6	-0.057	ppb	-0.057	-40.38	1	2000	
Na	23	3	45	2844.545	ppb	2844.545	1.21	265814	400000	
Mg	24	3	45	12288.471	ppb	12288.471	0.75	507802	400000	
Al	27	3	45	63.132	ppb	63.132	42.57	1312	400000	
K	39	3	45	686.047	ppb	686.047	9.52	66427	400000	
Ca	40	2	45	30925.720	ppb	30925.720	0.75	24644485	400000	
V	51	3	72	0.162	ppb	0.162	39.84	378	2000	
Cr	52	3	72	0.146	ppb	0.146	59.94	913	5000	
Mn	55	3	72	2.414	ppb	2.414	2.16	980	10000	
Fe	56	2	72	84.793	ppb	84.793	0.06	156899	10000	
Co	59	3	72	0.077	ppb	0.077	22.88	142	2000	
Ni	60	3	72	0.749	ppb	0.749	28.94	338	5000	
Cu	63	3	72	3.352	ppb	3.352	4.81	2902	5000	
Zn	66	3	72	12.995	ppb	12.995	0.97	1783	5000	
As	75	3	72	0.082	ppb	0.082	169.84	47	2000	
Se	78	2	72	0.813	ppb	0.813	24.95	47	2000	
Sr	88	3	72	55.987	ppb	55.987	1.84	26661	4000	
Mo	95	3	115	11.674	ppb	11.674	2.22	4199	2000	
Ag	107	3	115	0.042	ppb	0.042	8.59	60	100	
Cd	111	3	115	-0.033	ppb	-0.033	-48.25	3	2000	
Sn	120	3	115	0.120	ppb	0.120	46.67	585	2000	
Sb	121	3	115	0.156	ppb	0.156	30.59	158	1000	
Ba	137	3	115	4.514	ppb	4.514	1.91	951	5000	
Tl	205	3	193	-0.154	ppb	-0.154	-12.08	292	2000	
(Pb)	206	3	193	0.341	ppb	0.341	19.41	431	100	
(Pb)	207	3	193	0.312	ppb	0.312	7.79	463	100	
Pb	208	3	193	0.375	ppb	0.375	2.69	1949	5000	
Th	232	3	193	0.078	ppb	0.078	28.31	3429	2000	
U	238	3	193	14.391	ppb	14.391	0.86	55332	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc (IS)	45	2	HMI H2	4749248	0.17	4176342	113.72	60	120	
Sc (IS)	45	3	HMI He	514116	0.60	454432	113.13	60	120	
Ge Internal standard	72	2	HMI H2	2531219	1.56	2219876	114.03	60	120	
Ge Internal standard	72	3	HMI He	594115	0.57	521662	113.89	60	120	
In Internal Standard	115	3	HMI He	2375182	1.14	2121087	111.98	60	120	
Ir (IS)	193	3	HMI He	4008477	1.41	3821950	104.88	60	120	

Sample Report

Sample Table

Sample Name	280-185897-a-1-dSD@5
Data File Name	178SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\79_122123.b
Acq Date Time	2023-12-21T19:16:59-07:00
Analyst	Denver Metals
Sample Type	Sample
Dilution	1
Comment	638057 6020B
ISTD Ref FileName	039CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Be	9	2	6	39.775	ppb	39.775	1.11	2015	2000	
Na	23	3	45	15873.719	ppb	15873.719	2.10	1307065	400000	
Mg	24	3	45	65104.587	ppb	65104.587	2.20	2717566	400000	
Al	27	3	45	1002.172	ppb	1002.172	4.66	17776	400000	
K	39	3	45	4372.839	ppb	4372.839	3.82	213008	400000	
Ca	40	2	45	158951.567	ppb	158951.567	2.31	126740252	400000	
V	51	3	72	40.786	ppb	40.786	0.69	19362	2000	
Cr	52	3	72	40.749	ppb	40.749	2.74	24409	5000	
Mn	55	3	72	50.543	ppb	50.543	1.52	17489	10000	
Fe	56	2	72	1202.997	ppb	1202.997	2.27	1965272	10000	
Co	59	3	72	39.078	ppb	39.078	0.40	37836	2000	
Ni	60	3	72	42.630	ppb	42.630	1.71	11317	5000	
Cu	63	3	72	50.552	ppb	50.552	0.92	38108	5000	
Zn	66	3	72	79.865	ppb	79.865	5.28	9919	5000	
As	75	3	72	41.984	ppb	41.984	1.26	3670	2000	
Se	78	2	72	46.096	ppb	46.096	1.72	2417	2000	
Sr	88	3	72	363.439	ppb	363.439	2.03	176014	4000	
Mo	95	3	115	96.447	ppb	96.447	2.63	35699	2000	
Ag	107	3	115	39.457	ppb	39.457	2.80	48550	100	
Cd	111	3	115	39.015	ppb	39.015	3.55	7347	2000	
Sn	120	3	115	40.402	ppb	40.402	0.39	25303	2000	
Sb	121	3	115	40.675	ppb	40.675	2.66	23499	1000	
Ba	137	3	115	62.333	ppb	62.333	2.84	13303	5000	
Tl	205	3	193	40.893	ppb	40.893	2.42	110952	2000	
(Pb)	206	3	193	42.109	ppb	42.109	2.39	38320	100	
(Pb)	207	3	193	42.895	ppb	42.895	4.13	33767	100	
Pb	208	3	193	42.337	ppb	42.337	3.03	153103	5000	
Th	232	3	193	40.746	ppb	40.746	2.62	155130	2000	
U	238	3	193	113.167	ppb	113.167	3.48	438047	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc (IS)	45	2	HMI H2	4755851	0.50	4176342	113.88	60	120	
Sc (IS)	45	3	HMI He	519439	0.24	454432	114.31	60	120	
Ge Internal standard	72	2	HMI H2	2607554	1.82	2219876	117.46	60	120	
Ge Internal standard	72	3	HMI He	605094	0.81	521662	115.99	60	120	
In Internal Standard	115	3	HMI He	2450902	2.55	2121087	115.55	60	120	
Ir (IS)	193	3	HMI He	4112206	2.79	3821950	107.59	60	120	

Sample Report

Sample Table

Sample Name	280-185897-a-1-e ms
Data File Name	179SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\79_122123.b
Acq Date Time	2023-12-21T19:19:13-07:00
Analyst	Denver Metals
Sample Type	Sample
Dilution	1
Comment	638057 6020B
ISTD Ref FileName	039CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Be	9	2	6	41.568	ppb	41.568	4.31	2118	2000	
Na	23	3	45	16221.043	ppb	16221.043	2.06	1326805	400000	
Mg	24	3	45	66214.812	ppb	66214.812	1.38	2747534	400000	
Al	27	3	45	1065.528	ppb	1065.528	4.92	18779	400000	
K	39	3	45	4380.192	ppb	4380.192	0.82	212062	400000	
Ca	40	2	45	162217.199	ppb	162217.199	0.51	127838285	400000	
V	51	3	72	40.909	ppb	40.909	0.62	19245	2000	
Cr	52	3	72	41.725	ppb	41.725	2.56	24753	5000	
Mn	55	3	72	50.200	ppb	50.200	2.16	17215	10000	
Fe	56	2	72	1198.198	ppb	1198.198	2.58	1971791	10000	
Co	59	3	72	39.797	ppb	39.797	1.81	38185	2000	
Ni	60	3	72	42.950	ppb	42.950	2.62	11299	5000	
Cu	63	3	72	51.674	ppb	51.674	1.18	38593	5000	
Zn	66	3	72	86.686	ppb	86.686	1.43	10647	5000	
As	75	3	72	42.992	ppb	42.992	2.97	3724	2000	
Se	78	2	72	44.211	ppb	44.211	1.82	2335	2000	
Sr	88	3	72	365.779	ppb	365.779	0.26	175571	4000	
Mo	95	3	115	97.563	ppb	97.563	4.32	35878	2000	
Ag	107	3	115	39.035	ppb	39.035	5.29	47717	100	
Cd	111	3	115	38.911	ppb	38.911	3.65	7287	2000	
Sn	120	3	115	40.028	ppb	40.028	5.66	24898	2000	
Sb	121	3	115	40.850	ppb	40.850	4.21	23454	1000	
Ba	137	3	115	63.257	ppb	63.257	8.02	13402	5000	
Tl	205	3	193	41.222	ppb	41.222	0.32	111411	2000	
(Pb)	206	3	193	42.403	ppb	42.403	1.33	38434	100	
(Pb)	207	3	193	42.731	ppb	42.731	0.41	33523	100	
Pb	208	3	193	42.766	ppb	42.766	1.02	154052	5000	
Th	232	3	193	41.144	ppb	41.144	1.05	156008	2000	
U	238	3	193	114.019	ppb	114.019	1.24	439698	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc (IS)	45	2	HMI H2	4700343	1.24	4176342	112.55	60	120	
Sc (IS)	45	3	HMI He	516405	1.18	454432	113.64	60	120	
Ge Internal standard	72	2	HMI H2	2625938	0.66	2219876	118.29	60	120	
Ge Internal standard	72	3	HMI He	599659	0.46	521662	114.95	60	120	
In Internal Standard	115	3	HMI He	2437619	4.52	2121087	114.92	60	120	
Ir (IS)	193	3	HMI He	4094763	1.51	3821950	107.14	60	120	

Sample Report

Sample Table

Sample Name	280-185897-a-1-f msd
Data File Name	180SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\79_122123.b
Acq Date Time	2023-12-21T19:21:28-07:00
Analyst	Denver Metals
Sample Type	Sample
Dilution	1
Comment	638057 6020B
ISTD Ref FileName	039CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Be	9	2	6	205.250	ppb	205.250	1.17	10269	2000	
Na	23	3	45	20795.833	ppb	20795.833	3.05	1688410	400000	
Mg	24	3	45	68619.490	ppb	68619.490	1.87	2845724	400000	
Al	27	3	45	2291.811	ppb	2291.811	1.41	40107	400000	
K	39	3	45	5696.345	ppb	5696.345	2.56	263680	400000	
Ca	40	2	45	169924.914	ppb	169924.914	1.91	133739884	400000	
V	51	3	72	201.451	ppb	201.451	1.20	94096	2000	
Cr	52	3	72	205.126	ppb	205.126	0.72	119076	5000	
Mn	55	3	72	209.438	ppb	209.438	0.72	71695	10000	
Fe	56	2	72	2505.716	ppb	2505.716	2.60	4015390	10000	
Co	59	3	72	199.234	ppb	199.234	0.73	191977	2000	
Ni	60	3	72	202.524	ppb	202.524	1.05	53036	5000	
Cu	63	3	72	215.661	ppb	215.661	0.80	160522	5000	
Zn	66	3	72	252.252	ppb	252.252	1.02	30697	5000	
As	75	3	72	208.886	ppb	208.886	4.99	18038	2000	
Se	78	2	72	211.943	ppb	211.943	1.86	10953	2000	
Sr	88	3	72	502.226	ppb	502.226	1.30	242403	4000	
Mo	95	3	115	269.744	ppb	269.744	1.37	97601	2000	
Ag	107	3	115	54.192	ppb	54.192	1.62	65207	100	
Cd	111	3	115	203.168	ppb	203.168	0.80	37380	2000	
Sn	120	3	115	209.220	ppb	209.220	0.48	125956	2000	
Sb	121	3	115	211.914	ppb	211.914	2.43	119410	1000	
Ba	137	3	115	234.755	ppb	234.755	2.48	48946	5000	
Tl	205	3	193	210.664	ppb	210.664	1.32	566127	2000	
(Pb)	206	3	193	209.700	ppb	209.700	1.58	189443	100	
(Pb)	207	3	193	214.798	ppb	214.798	0.50	167511	100	
Pb	208	3	193	212.368	ppb	212.368	1.29	762073	5000	
Th	232	3	193	83.288	ppb	83.288	2.19	312350	2000	
U	238	3	193	350.177	ppb	350.177	3.50	1347404	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc (IS)	45	2	HMI H2	4694370	0.43	4176342	112.40	60	120	
Sc (IS)	45	3	HMI He	516072	0.28	454432	113.56	60	120	
Ge Internal standard	72	2	HMI H2	2574782	1.07	2219876	115.99	60	120	
Ge Internal standard	72	3	HMI He	603049	0.72	521662	115.60	60	120	
In Internal Standard	115	3	HMI He	2396218	2.06	2121087	112.97	60	120	
Ir (IS)	193	3	HMI He	4093247	2.40	3821950	107.10	60	120	

Sample Report

Sample Table

Sample Name	280-185897-a-1-d PDS
Data File Name	181SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\79_122123.b
Acq Date Time	2023-12-21T19:23:41-07:00
Analyst	Denver Metals
Sample Type	Sample
Dilution	1
Comment	638057 6020B
ISTD Ref FileName	039CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Fail

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Be	9	2	6	-0.035	ppb	-0.035	-62.82	3	2000	
Na	23	3	45	20610.131	ppb	20610.131	0.97	1771165	400000	
Mg	24	3	45	10932.594	ppb	10932.594	0.71	479920	400000	
Al	27	3	45	51.521	ppb	51.521	18.86	1181	400000	
K	39	3	45	20299.552	ppb	20299.552	2.10	886588	400000	
Ca	40	2	45	35754.650	ppb	35754.650	0.83	30420847	400000	
V	51	3	72	0.713	ppb	0.713	23.00	683	2000	
Cr	52	3	72	2.729	ppb	2.729	6.67	2577	5000	
Mn	55	3	72	13.107	ppb	13.107	3.91	4958	10000	
Fe	56	2	72	296.763	ppb	296.763	2.51	534034	10000	
Co	59	3	72	0.265	ppb	0.265	4.92	347	2000	
Ni	60	3	72	2.279	ppb	2.279	16.82	793	5000	
Cu	63	3	72	4.840	ppb	4.840	6.54	4325	5000	
Zn	66	3	72	18.051	ppb	18.051	6.99	2582	5000	
As	75	3	72	4.403	ppb	4.403	10.25	448	2000	
Se	78	2	72	0.301	ppb	0.301	38.59	23	2000	
Sr	88	3	72	106.777	ppb	106.777	1.42	55047	4000	
Mo	95	3	115	10.855	ppb	10.855	4.58	4204	2000	
Ag	107	3	115	0.077	ppb	0.077	2.50	108	100	
Cd	111	3	115	0.069	ppb	0.069	88.10	23	2000	
Sn	120	3	115	0.013	ppb	0.013	539.43	561	2000	
Sb	121	3	115	1.024	ppb	1.024	6.03	693	1000	
Ba	137	3	115	29.668	ppb	29.668	2.77	6620	5000	
Tl	205	3	193	-0.075	ppb	-0.075	-43.87	540	2000	
(Pb)	206	3	193	1.625	ppb	1.625	2.69	1699	100	
(Pb)	207	3	193	1.603	ppb	1.603	3.19	1569	100	
Pb	208	3	193	1.560	ppb	1.560	2.23	6624	5000	
Th	232	3	193	0.263	ppb	0.263	26.47	4444	2000	
U	238	3	193	300.601	ppb	300.601	2.98	1228132	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc (IS)	45	2	HMI H2	5071696	1.60	4176342	121.44	60	120	IS Failed
Sc (IS)	45	3	HMI He	546115	0.11	454432	120.18	60	120	IS Failed
Ge Internal standard	72	2	HMI H2	2766194	2.34	2219876	124.61	60	120	IS Failed
Ge Internal standard	72	3	HMI He	643712	0.72	521662	123.40	60	120	IS Failed
In Internal Standard	115	3	HMI He	2558526	2.33	2121087	120.62	60	120	IS Failed
Ir (IS)	193	3	HMI He	4347173	2.77	3821950	113.74	60	120	

Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV-8123148
Data File Name	182_CCV.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\79_122123.b
Acq Date Time	2023-12-21T19:25:55-07:00
Sample Type	CCV
Dilution	1
Comment	
ISTD Ref File Name	039CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	Units	Conc %RSD	CPS	Exp Value	%Rec	%Low	%High2	QC Flag
Be	9	2	6	50.085	ppb	0.968	2555	50	100.2	90	110	
Na	23	3	45	51549.360	ppb	0.230	4103740	51000	101.1	90	110	
Mg	24	3	45	10993.492	ppb	2.845	453606	11000	99.9	90	110	
Al	27	3	45	1015.030	ppb	4.005	17786	1000	101.5	90	110	
K	39	3	45	11223.771	ppb	3.108	478430	11000	102.0	90	110	
Ca	40	2	45	10743.713	ppb	0.737	8644550	11000	97.7	90	110	
V	51	3	72	51.633	ppb	1.529	23952	50	103.3	90	110	
Cr	52	3	72	50.598	ppb	2.195	29513	50	101.2	90	110	
Mn	55	3	72	50.616	ppb	2.116	17167	50	101.2	90	110	
Fe	56	2	72	1016.897	ppb	3.197	1639820	1000	101.7	90	110	
Co	59	3	72	49.615	ppb	4.567	47050	50	99.2	90	110	
Ni	60	3	72	50.367	ppb	5.308	13078	50	100.7	90	110	
Cu	63	3	72	49.613	ppb	3.264	36659	50	99.2	90	110	
Zn	66	3	72	49.581	ppb	2.988	6123	50	99.2	90	110	
As	75	3	72	51.644	ppb	0.609	4417	50	103.3	90	110	
Se	78	2	72	53.338	ppb	3.777	2752	50	106.7	90	110	
Sr	88	3	72	104.593	ppb	3.479	49674	100	104.6	90	110	
Mo	95	3	115	51.075	ppb	2.798	18757	50	102.2	90	110	
Ag	107	3	115	50.784	ppb	2.410	62001	50	101.6	90	110	
Cd	111	3	115	50.147	ppb	5.683	9362	50	100.3	90	110	
Sn	120	3	115	51.450	ppb	3.120	31810	50	102.9	90	110	
Sb	121	3	115	51.434	ppb	3.440	29458	50	102.9	90	110	
Ba	137	3	115	50.307	ppb	2.948	10656	50	100.6	90	110	
Tl	205	3	193	50.910	ppb	3.677	138428	50	101.8	90	110	
(Pb)	206	3	193	51.909	ppb	4.750	47351	50	103.8	90	110	
(Pb)	207	3	193	51.648	ppb	2.488	40777	50	103.3	90	110	
Pb	208	3	193	51.518	ppb	3.958	186798	50	103.0	90	110	
Th	232	3	193	51.626	ppb	2.333	196434	50	103.3	90	110	
U	238	3	193	50.563	ppb	5.877	196979	50	101.1	90	110	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc (IS)	45	2	HMI H2	4787313	1.32	4176342	114.63	60	120	
Sc (IS)	45	3	HMI He	513573	2.75	454432	113.01	60	120	
Ge Internal standard	72	2	HMI H2	2567731	2.60	2219876	115.67	60	120	
Ge Internal standard	72	3	HMI He	593256	2.39	521662	113.72	60	120	
In Internal Standard	115	3	HMI He	2431552	2.42	2121087	114.64	60	120	
Ir (IS)	193	3	HMI He	4128134	3.70	3821950	108.01	60	120	

Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB-8123133
Data File Name	183_CCB.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\79_122123.b
Acq Date Time	2023-12-21T19:28:08-07:00
Sample Type	CCB
Dilution	1
Comment	
ISTD Ref File Name	039CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	Units	Conc %RSD	CPS	Upper Limit	QC Flag
Be	9	2	6	-0.031	ppb	-194.4	3	0.5	
Na	23	3	45	1.352	ppb	1011.2	41047	25	
Mg	24	3	45	6.524	ppb	17.9	417	25	
Al	27	3	45	0.958	ppb	347.2	234	15	
K	39	3	45	38.765	ppb	161.9	40623	50	
V	51	3	72	0.084	ppb	62.2	338	1	
Cr	52	3	72	0.121	ppb	38.1	888	1	
Mn	55	3	72	0.174	ppb	56.5	223	0.5	
Co	59	3	72	-0.021	ppb	-15.0	48	0.5	
Ni	60	3	72	-0.206	ppb	-27.9	92	1	
Cu	63	3	72	-0.106	ppb	-70.5	370	1	
Zn	66	3	72	-1.013	ppb	-30.2	115	5	
As	75	3	72	-0.091	ppb	-208.7	32	1	
Se	78	2	72	-0.028	ppb	-209.3	5	1	
Sr	88	3	72	0.089	ppb	31.2	85	0.5	
Mo	95	3	115	0.056	ppb	93.6	32	0.5	
Ag	107	3	115	0.065	ppb	40.9	88	1	
Cd	111	3	115	-0.015	ppb	-108.0	7	0.5	
Sn	120	3	115	0.011	ppb	650.0	525	1	
Sb	121	3	115	0.194	ppb	62.2	182	0.6	
Ba	137	3	115	0.021	ppb	280.0	23	0.5	
Tl	205	3	193	-0.131	ppb	-12.4	352	0.1	
(Pb)	206	3	193	-0.019	ppb	-198.4	113	1	
(Pb)	207	3	193	0.007	ppb	514.4	230	1	
Pb	208	3	193	-0.013	ppb	-186.9	585	0.5	
Th	232	3	193	0.284	ppb	9.0	4174	1	
U	238	3	193	0.045	ppb	10.0	1313	0.5	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc (IS)	45	2	HMI H2	4730979	1.48	4176342	113.28	60	120	
Sc (IS)	45	3	HMI He	508645	1.69	454432	111.93	60	120	
Ge Internal standard	72	2	HMI H2	2537522	0.89	2219876	114.31	60	120	
Ge Internal standard	72	3	HMI He	587160	0.31	521662	112.56	60	120	
In Internal Standard	115	3	HMI He	2397115	1.14	2121087	113.01	60	120	
Ir (IS)	193	3	HMI He	4004787	1.68	3821950	104.78	60	120	

Sample Report

Sample Table

Sample Name	280-185897-a-4-d
Data File Name	184SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\79_122123.b
Acq Date Time	2023-12-21T19:30:24-07:00
Analyst	Denver Metals
Sample Type	Sample
Dilution	1
Comment	638057 6020B
ISTD Ref FileName	039CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Be	9	2	6	39.310	ppb	39.310	2.93	2064	2000	
Na	23	3	45	25723.037	ppb	25723.037	1.22	2121876	400000	
Mg	24	3	45	14069.892	ppb	14069.892	0.78	595745	400000	
Al	27	3	45	891.174	ppb	891.174	3.61	16055	400000	
K	39	3	45	25092.509	ppb	25092.509	1.27	1047599	400000	
Ca	40	2	45	44495.221	ppb	44495.221	1.48	35568924	400000	
V	51	3	72	40.656	ppb	40.656	1.98	19514	2000	
Cr	52	3	72	43.986	ppb	43.986	1.94	26574	5000	
Mn	55	3	72	53.978	ppb	53.978	0.78	18872	10000	
Fe	56	2	72	1129.202	ppb	1129.202	2.09	1839591	10000	
Co	59	3	72	39.756	ppb	39.756	1.16	38913	2000	
Ni	60	3	72	42.326	ppb	42.326	1.62	11362	5000	
Cu	63	3	72	45.895	ppb	45.895	6.09	35025	5000	
Zn	66	3	72	60.443	ppb	60.443	2.15	7647	5000	
As	75	3	72	45.456	ppb	45.456	3.07	4014	2000	
Se	78	2	72	43.250	ppb	43.250	3.96	2259	2000	
Sr	88	3	72	210.139	ppb	210.139	0.36	102916	4000	
Mo	95	3	115	51.224	ppb	51.224	3.48	19421	2000	
Ag	107	3	115	39.128	ppb	39.128	0.46	49326	100	
Cd	111	3	115	38.464	ppb	38.464	3.62	7422	2000	
Sn	120	3	115	39.829	ppb	39.829	2.81	25548	2000	
Sb	121	3	115	39.972	ppb	39.972	2.40	23654	1000	
Ba	137	3	115	75.409	ppb	75.409	2.91	16480	5000	
Tl	205	3	193	41.904	ppb	41.904	1.77	113382	2000	
(Pb)	206	3	193	43.083	ppb	43.083	1.47	39099	100	
(Pb)	207	3	193	44.287	ppb	44.287	1.77	34779	100	
Pb	208	3	193	43.532	ppb	43.532	1.83	157003	5000	
Th	232	3	193	40.848	ppb	40.848	1.30	155119	2000	
U	238	3	193	402.927	ppb	402.927	1.91	1552956	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc (IS)	45	2	HMI H2	4765378	0.73	4176342	114.10	60	120	
Sc (IS)	45	3	HMI He	526801	0.41	454432	115.93	60	120	
Ge Internal standard	72	2	HMI H2	2598546	3.15	2219876	117.06	60	120	
Ge Internal standard	72	3	HMI He	611735	0.34	521662	117.27	60	120	
In Internal Standard	115	3	HMI He	2509745	1.26	2121087	118.32	60	120	
Ir (IS)	193	3	HMI He	4100224	1.15	3821950	107.28	60	120	

Sample Report

Sample Table

Sample Name	280-185897-a-4-e ms
Data File Name	185SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\79_122123.b
Acq Date Time	2023-12-21T19:32:38-07:00
Analyst	Denver Metals
Sample Type	Sample
Dilution	1
Comment	638057 6020B
ISTD Ref FileName	039CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Be	9	2	6	38.664	ppb	38.664	3.30	2060	2000	
Na	23	3	45	25210.096	ppb	25210.096	1.38	2084922	400000	
Mg	24	3	45	13789.688	ppb	13789.688	2.31	585126	400000	
Al	27	3	45	857.103	ppb	857.103	3.72	15487	400000	
K	39	3	45	24856.703	ppb	24856.703	1.18	1040319	400000	
Ca	40	2	45	42017.992	ppb	42017.992	1.80	34584447	400000	
V	51	3	72	39.739	ppb	39.739	1.40	19230	2000	
Cr	52	3	72	42.003	ppb	42.003	1.62	25614	5000	
Mn	55	3	72	53.225	ppb	53.225	1.55	18757	10000	
Fe	56	2	72	1135.842	ppb	1135.842	3.50	1871205	10000	
Co	59	3	72	38.271	ppb	38.271	1.60	37758	2000	
Ni	60	3	72	41.279	ppb	41.279	2.62	11172	5000	
Cu	63	3	72	44.145	ppb	44.145	1.28	33965	5000	
Zn	66	3	72	62.132	ppb	62.132	1.57	7915	5000	
As	75	3	72	44.479	ppb	44.479	4.19	3959	2000	
Se	78	2	72	40.861	ppb	40.861	3.08	2160	2000	
Sr	88	3	72	203.546	ppb	203.546	0.70	100467	4000	
Mo	95	3	115	50.585	ppb	50.585	3.84	19034	2000	
Ag	107	3	115	38.392	ppb	38.392	1.72	48028	100	
Cd	111	3	115	38.796	ppb	38.796	2.93	7427	2000	
Sn	120	3	115	39.757	ppb	39.757	1.75	25313	2000	
Sb	121	3	115	39.580	ppb	39.580	0.64	23252	1000	
Ba	137	3	115	72.483	ppb	72.483	2.11	15723	5000	
Tl	205	3	193	39.709	ppb	39.709	3.58	109774	2000	
(Pb)	206	3	193	42.161	ppb	42.161	1.73	39092	100	
(Pb)	207	3	193	41.699	ppb	41.699	2.74	33461	100	
Pb	208	3	193	41.825	ppb	41.825	1.87	154136	5000	
Th	232	3	193	39.344	ppb	39.344	2.45	152743	2000	
U	238	3	193	386.905	ppb	386.905	2.57	1523320	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc (IS)	45	2	HMI H2	4907129	1.01	4176342	117.50	60	120	
Sc (IS)	45	3	HMI He	527968	1.22	454432	116.18	60	120	
Ge Internal standard	72	2	HMI H2	2627657	0.75	2219876	118.37	60	120	
Ge Internal standard	72	3	HMI He	616525	0.63	521662	118.18	60	120	
In Internal Standard	115	3	HMI He	2491114	1.75	2121087	117.45	60	120	
Ir (IS)	193	3	HMI He	4189652	2.48	3821950	109.62	60	120	

Sample Report

Sample Table

Sample Name	280-185897-a-4-f msd
Data File Name	186SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\79_122123.b
Acq Date Time	2023-12-21T19:34:52-07:00
Analyst	Denver Metals
Sample Type	Sample
Dilution	1
Comment	638057 6020B
ISTD Ref FileName	039CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Be	9	2	6	-0.032	ppb	-0.032	-71.01	3	2000	
Na	23	3	45	13408.602	ppb	13408.602	1.96	1123671	400000	
Mg	24	3	45	53852.477	ppb	53852.477	1.78	2274283	400000	
Al	27	3	45	3.015	ppb	3.015	76.19	277	400000	
K	39	3	45	3393.890	ppb	3393.890	2.08	176325	400000	
Ca	40	2	45	130834.411	ppb	130834.411	2.05	106887032	400000	
V	51	3	72	0.143	ppb	0.143	92.60	385	2000	
Cr	52	3	72	0.191	ppb	0.191	51.17	980	5000	
Mn	55	3	72	8.990	ppb	8.990	4.28	3332	10000	
Fe	56	2	72	132.594	ppb	132.594	1.17	242244	10000	
Co	59	3	72	0.138	ppb	0.138	15.30	208	2000	
Ni	60	3	72	2.280	ppb	2.280	10.72	765	5000	
Cu	63	3	72	-0.050	ppb	-0.050	-128.87	433	5000	
Zn	66	3	72	1.334	ppb	1.334	40.47	413	5000	
As	75	3	72	0.113	ppb	0.113	227.06	52	2000	
Se	78	2	72	5.283	ppb	5.283	7.30	287	2000	
Sr	88	3	72	239.870	ppb	239.870	1.97	119102	4000	
Mo	95	3	115	45.596	ppb	45.596	3.54	17002	2000	
Ag	107	3	115	0.082	ppb	0.082	11.55	112	100	
Cd	111	3	115	0.002	ppb	0.002	96.94	10	2000	
Sn	120	3	115	-0.228	ppb	-0.228	-13.78	393	2000	
Sb	121	3	115	1.365	ppb	1.365	0.51	866	1000	
Ba	137	3	115	23.207	ppb	23.207	4.36	5002	5000	
Tl	205	3	193	-0.096	ppb	-0.096	-19.67	466	2000	
(Pb)	206	3	193	-0.027	ppb	-0.027	-88.42	112	100	
(Pb)	207	3	193	-0.061	ppb	-0.061	-83.67	188	100	
Pb	208	3	193	-0.030	ppb	-0.030	-34.20	555	5000	
Th	232	3	193	0.297	ppb	0.297	13.77	4444	2000	
U	238	3	193	0.115	ppb	0.115	30.68	1659	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc (IS)	45	2	HMI H2	4872758	1.80	4176342	116.68	60	120	
Sc (IS)	45	3	HMI He	525606	1.29	454432	115.66	60	120	
Ge Internal standard	72	2	HMI H2	2645961	1.11	2219876	119.19	60	120	
Ge Internal standard	72	3	HMI He	620318	1.23	521662	118.91	60	120	
In Internal Standard	115	3	HMI He	2469774	3.63	2121087	116.44	60	120	
Ir (IS)	193	3	HMI He	4214822	1.23	3821950	110.28	60	120	

Sample Report

Sample Table

Sample Name	280-185899-a-1-b
Data File Name	187SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\79_122123.b
Acq Date Time	2023-12-21T19:37:06-07:00
Analyst	Denver Metals
Sample Type	Sample
Dilution	1
Comment	638057 6020B
ISTD Ref FileName	039CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Be	9	2	6	-0.071	ppb	-0.071	-31.16	1	2000	
Na	23	3	45	23580.868	ppb	23580.868	0.81	1938027	400000	
Mg	24	3	45	14167.113	ppb	14167.113	0.73	596589	400000	
Al	27	3	45	8.151	ppb	8.151	14.71	367	400000	
K	39	3	45	23933.959	ppb	23933.959	1.40	995636	400000	
Ca	40	2	45	43827.395	ppb	43827.395	1.97	35747699	400000	
V	51	3	72	0.411	ppb	0.411	19.67	510	2000	
Cr	52	3	72	1.139	ppb	1.139	15.67	1531	5000	
Mn	55	3	72	29.989	ppb	29.989	0.35	10634	10000	
Fe	56	2	72	344.099	ppb	344.099	1.05	584102	10000	
Co	59	3	72	0.290	ppb	0.290	17.05	356	2000	
Ni	60	3	72	2.981	ppb	2.981	8.48	946	5000	
Cu	63	3	72	0.696	ppb	0.696	81.61	996	5000	
Zn	66	3	72	2.698	ppb	2.698	8.89	578	5000	
As	75	3	72	5.175	ppb	5.175	14.89	496	2000	
Se	78	2	72	0.184	ppb	0.184	42.46	16	2000	
Sr	88	3	72	138.769	ppb	138.769	1.10	68439	4000	
Mo	95	3	115	14.172	ppb	14.172	8.13	5317	2000	
Ag	107	3	115	0.023	ppb	0.023	18.79	38	100	
Cd	111	3	115	0.001	ppb	0.001	3104.63	10	2000	
Sn	120	3	115	-0.078	ppb	-0.078	-76.35	488	2000	
Sb	121	3	115	2.503	ppb	2.503	0.97	1534	1000	
Ba	137	3	115	41.056	ppb	41.056	2.27	8880	5000	
Tl	205	3	193	-0.197	ppb	-0.197	-3.10	183	2000	
(Pb)	206	3	193	0.252	ppb	0.252	29.63	361	100	
(Pb)	207	3	193	0.232	ppb	0.232	16.62	413	100	
Pb	208	3	193	0.263	ppb	0.263	16.66	1598	5000	
Th	232	3	193	0.054	ppb	0.054	18.65	3434	2000	
U	238	3	193	0.661	ppb	0.661	1.97	3735	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc (IS)	45	2	HMI H2	4861916	1.09	4176342	116.42	60	120	
Sc (IS)	45	3	HMI He	523928	0.18	454432	115.29	60	120	
Ge Internal standard	72	2	HMI H2	2626368	0.81	2219876	118.31	60	120	
Ge Internal standard	72	3	HMI He	615920	0.76	521662	118.07	60	120	
In Internal Standard	115	3	HMI He	2481448	1.93	2121087	116.99	60	120	
Ir (IS)	193	3	HMI He	4120188	2.01	3821950	107.80	60	120	

Sample Report

Sample Table

Sample Name	280-185899-a-4-b
Data File Name	188SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\79_122123.b
Acq Date Time	2023-12-21T19:39:21-07:00
Analyst	Denver Metals
Sample Type	Sample
Dilution	1
Comment	638057 6020B
ISTD Ref FileName	039CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Be	9	2	6	-0.031	ppb	-0.031	-190.95	3	2000	
Na	23	3	45	8.665	ppb	8.665	85.21	41860	400000	
Mg	24	3	45	4.047	ppb	4.047	10.76	317	400000	
Al	27	3	45	3.820	ppb	3.820	97.66	284	400000	
K	39	3	45	15.113	ppb	15.113	194.30	39957	400000	
Ca	40	2	45	20.521	ppb	20.521	7.06	38143	400000	
V	51	3	72	0.010	ppb	0.010	402.41	310	2000	
Cr	52	3	72	-0.080	ppb	-0.080	-46.49	788	5000	
Mn	55	3	72	0.060	ppb	0.060	203.42	188	10000	
Fe	56	2	72	1.332	ppb	1.332	26.38	26445	10000	
Co	59	3	72	0.005	ppb	0.005	252.12	73	2000	
Ni	60	3	72	-0.129	ppb	-0.129	-84.67	113	5000	
Cu	63	3	72	0.108	ppb	0.108	79.89	533	5000	
Zn	66	3	72	-0.123	ppb	-0.123	-298.92	223	5000	
As	75	3	72	-0.078	ppb	-0.078	-43.83	33	2000	
Se	78	2	72	0.064	ppb	0.064	258.35	9	2000	
Sr	88	3	72	0.065	ppb	0.065	47.95	75	4000	
Mo	95	3	115	0.042	ppb	0.042	116.14	27	2000	
Ag	107	3	115	0.010	ppb	0.010	58.95	22	100	
Cd	111	3	115	-0.015	ppb	-0.015	-269.05	7	2000	
Sn	120	3	115	-0.155	ppb	-0.155	-73.95	425	2000	
Sb	121	3	115	0.033	ppb	0.033	149.20	90	1000	
Ba	137	3	115	0.126	ppb	0.126	38.96	45	5000	
Tl	205	3	193	-0.201	ppb	-0.201	-5.89	170	2000	
(Pb)	206	3	193	0.001	ppb	0.001	1781.31	133	100	
(Pb)	207	3	193	-0.063	ppb	-0.063	-26.46	180	100	
Pb	208	3	193	-0.019	ppb	-0.019	-24.67	573	5000	
Th	232	3	193	0.044	ppb	0.044	127.67	3359	2000	
U	238	3	193	0.033	ppb	0.033	83.80	1289	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc (IS)	45	2	HMI H2	4648654	0.27	4176342	111.31	60	120	
Sc (IS)	45	3	HMI He	511507	0.88	454432	112.56	60	120	
Ge Internal standard	72	2	HMI H2	2555237	1.73	2219876	115.11	60	120	
Ge Internal standard	72	3	HMI He	596959	0.24	521662	114.43	60	120	
In Internal Standard	115	3	HMI He	2396751	1.90	2121087	113.00	60	120	
Ir (IS)	193	3	HMI He	4078744	2.48	3821950	106.72	60	120	

Sample Report

Sample Table

Sample Name	280-185911-d-12-a
Data File Name	189SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\79_122123.b
Acq Date Time	2023-12-21T19:41:39-07:00
Analyst	Denver Metals
Sample Type	Sample
Dilution	1
Comment	638057 6020B
ISTD Ref FileName	039CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Fail

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Be	9	2	6	-0.071	ppb	-0.071	-31.34	1	2000	
Na	23	3	45	43302.490	ppb	43302.490	2.04	3541252	400000	
Mg	24	3	45	29224.205	ppb	29224.205	2.17	1236635	400000	
Al	27	3	45	5.416	ppb	5.416	21.24	320	400000	
K	39	3	45	3632.041	ppb	3632.041	2.04	186217	400000	
Ca	40	2	45	63891.283	ppb	63891.283	2.66	51518062	400000	
V	51	3	72	0.162	ppb	0.162	24.91	391	2000	
Cr	52	3	72	14.338	ppb	14.338	1.73	9297	5000	
Mn	55	3	72	950.086	ppb	950.086	1.99	331350	10000	
Fe	56	2	72	15.711	ppb	15.711	1.92	51319	10000	
Co	59	3	72	0.340	ppb	0.340	13.43	405	2000	
Ni	60	3	72	2.352	ppb	2.352	15.62	778	5000	
Cu	63	3	72	0.060	ppb	0.060	203.51	513	5000	
Zn	66	3	72	1.227	ppb	1.227	20.95	396	5000	
As	75	3	72	0.044	ppb	0.044	569.46	45	2000	
Se	78	2	72	0.116	ppb	0.116	79.14	13	2000	
Sr	88	3	72	204.048	ppb	204.048	0.42	100561	4000	
Mo	95	3	115	0.668	ppb	0.668	6.07	262	2000	
Ag	107	3	115	0.036	ppb	0.036	51.29	55	100	
Cd	111	3	115	0.405	ppb	0.405	19.18	87	2000	
Sn	120	3	115	-0.233	ppb	-0.233	-64.82	390	2000	
Sb	121	3	115	0.059	ppb	0.059	50.58	108	1000	
Ba	137	3	115	22.489	ppb	22.489	2.41	4862	5000	
Tl	205	3	193	-0.155	ppb	-0.155	-11.04	293	2000	
(Pb)	206	3	193	-0.005	ppb	-0.005	-361.80	128	100	
(Pb)	207	3	193	-0.045	ppb	-0.045	-183.86	195	100	
Pb	208	3	193	-0.003	ppb	-0.003	-346.17	633	5000	
Th	232	3	193	0.067	ppb	0.067	160.71	3455	2000	
U	238	3	193	0.355	ppb	0.355	3.40	2532	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc (IS)	45	2	HMI H2	4808646	1.12	4176342	115.14	60	120	
Sc (IS)	45	3	HMI He	526589	0.81	454432	115.88	60	120	
Ge Internal standard	72	2	HMI H2	2666589	1.75	2219876	120.12	60	120	IS Failed
Ge Internal standard	72	3	HMI He	615588	1.02	521662	118.01	60	120	
In Internal Standard	115	3	HMI He	2476137	2.22	2121087	116.74	60	120	
Ir (IS)	193	3	HMI He	4089338	0.76	3821950	107.00	60	120	

Sample Report

Sample Table

Sample Name	280-185896-a-2-a
Data File Name	190SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\79_122123.b
Acq Date Time	2023-12-21T19:43:54-07:00
Analyst	Denver Metals
Sample Type	Sample
Dilution	1
Comment	638057 6020B
ISTD Ref FileName	039CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Be	9	2	6	40.118	ppb	40.118	3.30	2100	2000	
Na	23	3	45	44490.126	ppb	44490.126	3.42	3633297	400000	
Mg	24	3	45	30733.147	ppb	30733.147	1.65	1299220	400000	
Al	27	3	45	804.242	ppb	804.242	5.37	14495	400000	
K	39	3	45	4744.123	ppb	4744.123	3.53	230563	400000	
Ca	40	2	45	66215.187	ppb	66215.187	1.42	53554753	400000	
V	51	3	72	40.110	ppb	40.110	2.36	19400	2000	
Cr	52	3	72	55.179	ppb	55.179	1.59	33373	5000	
Mn	55	3	72	1002.592	ppb	1002.592	1.30	350148	10000	
Fe	56	2	72	845.596	ppb	845.596	1.40	1393751	10000	
Co	59	3	72	39.498	ppb	39.498	1.55	38954	2000	
Ni	60	3	72	41.300	ppb	41.300	1.26	11174	5000	
Cu	63	3	72	39.160	ppb	39.160	2.14	30180	5000	
Zn	66	3	72	40.775	ppb	40.775	3.54	5277	5000	
As	75	3	72	39.443	ppb	39.443	2.13	3515	2000	
Se	78	2	72	41.386	ppb	41.386	2.34	2178	2000	
Sr	88	3	72	287.522	ppb	287.522	0.94	141869	4000	
Mo	95	3	115	42.531	ppb	42.531	3.26	15641	2000	
Ag	107	3	115	40.649	ppb	40.649	1.50	49690	100	
Cd	111	3	115	40.832	ppb	40.832	7.70	7633	2000	
Sn	120	3	115	40.983	ppb	40.983	2.01	25482	2000	
Sb	121	3	115	41.074	ppb	41.074	3.82	23567	1000	
Ba	137	3	115	65.035	ppb	65.035	4.21	13784	5000	
Tl	205	3	193	41.455	ppb	41.455	0.07	113296	2000	
(Pb)	206	3	193	40.737	ppb	40.737	1.09	37346	100	
(Pb)	207	3	193	41.781	ppb	41.781	1.25	33149	100	
Pb	208	3	193	41.367	ppb	41.367	0.90	150721	5000	
Th	232	3	193	40.964	ppb	40.964	0.64	157096	2000	
U	238	3	193	41.717	ppb	41.717	0.70	163448	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc (IS)	45	2	HMI H2	4823139	1.55	4176342	115.49	60	120	
Sc (IS)	45	3	HMI He	526141	1.94	454432	115.78	60	120	
Ge Internal standard	72	2	HMI H2	2616738	0.98	2219876	117.88	60	120	
Ge Internal standard	72	3	HMI He	616388	1.05	521662	118.16	60	120	
In Internal Standard	115	3	HMI He	2434183	1.67	2121087	114.76	60	120	
Ir (IS)	193	3	HMI He	4140682	0.35	3821950	108.34	60	120	

Sample Report

Sample Table

Sample Name	280-185896-a-2-b ms
Data File Name	191SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\79_122123.b
Acq Date Time	2023-12-21T19:46:09-07:00
Analyst	Denver Metals
Sample Type	Sample
Dilution	1
Comment	638057 6020B
ISTD Ref FileName	039CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Be	9	2	6	40.048	ppb	40.048	1.63	2107	2000	
Na	23	3	45	44778.464	ppb	44778.464	2.02	3674117	400000	
Mg	24	3	45	30746.748	ppb	30746.748	1.75	1305945	400000	
Al	27	3	45	797.299	ppb	797.299	2.99	14435	400000	
K	39	3	45	4628.319	ppb	4628.319	2.87	227016	400000	
Ca	40	2	45	64965.898	ppb	64965.898	0.52	53232861	400000	
V	51	3	72	40.129	ppb	40.129	2.58	19452	2000	
Cr	52	3	72	54.159	ppb	54.159	2.48	32841	5000	
Mn	55	3	72	998.144	ppb	998.144	2.64	349305	10000	
Fe	56	2	72	821.274	ppb	821.274	0.97	1370958	10000	
Co	59	3	72	39.150	ppb	39.150	3.08	38693	2000	
Ni	60	3	72	41.334	ppb	41.334	3.57	11206	5000	
Cu	63	3	72	38.932	ppb	38.932	2.43	30066	5000	
Zn	66	3	72	40.025	ppb	40.025	2.27	5197	5000	
As	75	3	72	41.492	ppb	41.492	5.01	3702	2000	
Se	78	2	72	39.776	ppb	39.776	0.90	2120	2000	
Sr	88	3	72	284.281	ppb	284.281	1.90	140570	4000	
Mo	95	3	115	41.906	ppb	41.906	4.55	15485	2000	
Ag	107	3	115	40.177	ppb	40.177	2.80	49362	100	
Cd	111	3	115	38.952	ppb	38.952	2.03	7328	2000	
Sn	120	3	115	40.660	ppb	40.660	6.07	25397	2000	
Sb	121	3	115	40.792	ppb	40.792	1.34	23536	1000	
Ba	137	3	115	62.809	ppb	62.809	3.53	13385	5000	
Tl	205	3	193	40.674	ppb	40.674	1.54	113891	2000	
(Pb)	206	3	193	40.171	ppb	40.171	1.99	37729	100	
(Pb)	207	3	193	40.533	ppb	40.533	1.53	32951	100	
Pb	208	3	193	40.471	ppb	40.471	0.88	151076	5000	
Th	232	3	193	40.383	ppb	40.383	1.04	158705	2000	
U	238	3	193	40.177	ppb	40.177	0.78	161308	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc (IS)	45	2	HMI H2	4885865	1.11	4176342	116.99	60	120	
Sc (IS)	45	3	HMI He	528570	0.96	454432	116.31	60	120	
Ge Internal standard	72	2	HMI H2	2648683	0.78	2219876	119.32	60	120	
Ge Internal standard	72	3	HMI He	617828	1.70	521662	118.43	60	120	
In Internal Standard	115	3	HMI He	2447295	2.99	2121087	115.38	60	120	
Ir (IS)	193	3	HMI He	4242110	0.60	3821950	110.99	60	120	

Sample Report

Sample Table

Sample Name	280-185896-a-2-c msd
Data File Name	192SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\79_122123.b
Acq Date Time	2023-12-21T19:48:24-07:00
Analyst	Denver Metals
Sample Type	Sample
Dilution	1
Comment	638057 6020B
ISTD Ref FileName	039CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Be	9	2	6	-0.084	ppb	-0.084	0.00	0	2000	
Na	23	3	45	10.727	ppb	10.727	68.58	42479	400000	
Mg	24	3	45	15.211	ppb	15.211	4.96	784	400000	
Al	27	3	45	2.149	ppb	2.149	188.64	257	400000	
K	39	3	45	18.661	ppb	18.661	251.85	40536	400000	
Ca	40	2	45	37.545	ppb	37.545	2.01	53184	400000	
V	51	3	72	0.040	ppb	0.040	354.77	327	2000	
Cr	52	3	72	0.083	ppb	0.083	22.77	890	5000	
Mn	55	3	72	0.298	ppb	0.298	58.31	272	10000	
Fe	56	2	72	3.414	ppb	3.414	12.45	29427	10000	
Co	59	3	72	0.014	ppb	0.014	43.69	83	2000	
Ni	60	3	72	-0.120	ppb	-0.120	-59.43	117	5000	
Cu	63	3	72	-0.112	ppb	-0.112	-24.56	375	5000	
Zn	66	3	72	-0.182	ppb	-0.182	-22.71	218	5000	
As	75	3	72	-0.198	ppb	-0.198	-89.03	23	2000	
Se	78	2	72	-0.002	ppb	-0.002	-3821.14	6	2000	
Sr	88	3	72	0.091	ppb	0.091	53.14	88	4000	
Mo	95	3	115	0.061	ppb	0.061	46.05	33	2000	
Ag	107	3	115	0.066	ppb	0.066	17.44	88	100	
Cd	111	3	115	-0.015	ppb	-0.015	-280.79	7	2000	
Sn	120	3	115	-0.151	ppb	-0.151	-42.93	426	2000	
Sb	121	3	115	0.293	ppb	0.293	32.48	237	1000	
Ba	137	3	115	0.102	ppb	0.102	69.70	40	5000	
Tl	205	3	193	-0.167	ppb	-0.167	-5.74	260	2000	
(Pb)	206	3	193	0.002	ppb	0.002	1906.03	133	100	
(Pb)	207	3	193	-0.036	ppb	-0.036	-123.45	200	100	
Pb	208	3	193	-0.010	ppb	-0.010	-148.42	603	5000	
Th	232	3	193	0.260	ppb	0.260	5.74	4145	2000	
U	238	3	193	0.037	ppb	0.037	18.44	1301	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc (IS)	45	2	HMI H2	4809499	1.02	4176342	115.16	60	120	
Sc (IS)	45	3	HMI He	517095	1.44	454432	113.79	60	120	
Ge Internal standard	72	2	HMI H2	2528656	0.57	2219876	113.91	60	120	
Ge Internal standard	72	3	HMI He	602629	0.40	521662	115.52	60	120	
In Internal Standard	115	3	HMI He	2392451	1.47	2121087	112.79	60	120	
Ir (IS)	193	3	HMI He	4061209	0.20	3821950	106.26	60	120	

Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV-8123148
Data File Name	193_CCV.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\79_122123.b
Acq Date Time	2023-12-21T19:50:38-07:00
Sample Type	CCV
Dilution	1
Comment	
ISTD Ref File Name	039CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	Units	Conc %RSD	CPS	Exp Value	%Rec	%Low	%High2	QC Flag
Be	9	2	6	50.137	ppb	4.158	2578	50	100.3	90	110	
Na	23	3	45	51271.857	ppb	0.797	4177804	51000	100.5	90	110	
Mg	24	3	45	10935.079	ppb	0.682	461998	11000	99.4	90	110	
Al	27	3	45	1019.238	ppb	2.320	18287	1000	101.9	90	110	
K	39	3	45	11109.743	ppb	0.885	485271	11000	101.0	90	110	
Ca	40	2	45	10575.666	ppb	1.292	8553871	11000	96.1	90	110	
V	51	3	72	52.647	ppb	2.096	24596	50	105.3	90	110	
Cr	52	3	72	50.862	ppb	1.513	29889	50	101.7	90	110	
Mn	55	3	72	49.831	ppb	0.493	17035	50	99.7	90	110	
Fe	56	2	72	1042.334	ppb	3.050	1690397	1000	104.2	90	110	
Co	59	3	72	50.702	ppb	3.535	48460	50	101.4	90	110	
Ni	60	3	72	52.697	ppb	2.925	13783	50	105.4	90	110	
Cu	63	3	72	49.578	ppb	2.210	36921	50	99.2	90	110	
Zn	66	3	72	51.402	ppb	3.679	6388	50	102.8	90	110	
As	75	3	72	50.656	ppb	2.644	4365	50	101.3	90	110	
Se	78	2	72	53.323	ppb	4.168	2770	50	106.6	90	110	
Sr	88	3	72	103.774	ppb	2.204	49672	100	103.8	90	110	
Mo	95	3	115	51.262	ppb	1.580	18655	50	102.5	90	110	
Ag	107	3	115	51.397	ppb	3.518	62162	50	102.8	90	110	
Cd	111	3	115	49.818	ppb	3.259	9220	50	99.6	90	110	
Sn	120	3	115	52.818	ppb	2.474	32346	50	105.6	90	110	
Sb	121	3	115	51.867	ppb	0.939	29438	50	103.7	90	110	
Ba	137	3	115	52.747	ppb	0.676	11069	50	105.5	90	110	
Tl	205	3	193	50.956	ppb	1.020	138532	50	101.9	90	110	
(Pb)	206	3	193	51.856	ppb	2.816	47305	50	103.7	90	110	
(Pb)	207	3	193	51.411	ppb	0.925	40573	50	102.8	90	110	
Pb	208	3	193	51.433	ppb	2.422	186460	50	102.9	90	110	
Th	232	3	193	52.322	ppb	0.822	198943	50	104.6	90	110	
U	238	3	193	51.050	ppb	2.902	198912	50	102.1	90	110	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc (IS)	45	2	HMI H2	4811863	0.67	4176342	115.22	60	120	
Sc (IS)	45	3	HMI He	525596	1.13	454432	115.66	60	120	
Ge Internal standard	72	2	HMI H2	2583966	1.61	2219876	116.40	60	120	
Ge Internal standard	72	3	HMI He	597689	0.91	521662	114.57	60	120	
In Internal Standard	115	3	HMI He	2408443	0.69	2121087	113.55	60	120	
Ir (IS)	193	3	HMI He	4124061	0.92	3821950	107.90	60	120	

Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB-8123133
Data File Name	194_CCB.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\79_122123.b
Acq Date Time	2023-12-21T19:52:52-07:00
Sample Type	CCB
Dilution	1
Comment	
ISTD Ref File Name	039CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	Units	Conc %RSD	CPS	Upper Limit	QC Flag
Be	9	2	6	-0.018	ppb	-253.9	3	0.5	
Na	23	3	45	8.712	ppb	124.7	41650	25	
Mg	24	3	45	5.159	ppb	35.2	360	25	
Al	27	3	45	-0.013	ppb	-32262.8	217	15	
K	39	3	45	19.647	ppb	346.5	39903	50	
V	51	3	72	0.059	ppb	134.7	330	1	
Cr	52	3	72	0.057	ppb	209.4	860	1	
Mn	55	3	72	0.019	ppb	323.3	173	0.5	
Co	59	3	72	-0.011	ppb	-331.5	58	0.5	
Ni	60	3	72	-0.105	ppb	-55.9	118	1	
Cu	63	3	72	-0.151	ppb	-66.1	340	1	
Zn	66	3	72	-1.147	ppb	-8.1	100	5	
As	75	3	72	-0.232	ppb	-44.5	20	1	
Se	78	2	72	0.010	ppb	576.8	7	1	
Sr	88	3	72	0.066	ppb	82.7	75	0.5	
Mo	95	3	115	0.034	ppb	64.0	23	0.5	
Ag	107	3	115	0.073	ppb	27.8	95	1	
Cd	111	3	115	-0.014	ppb	-235.8	7	0.5	
Sn	120	3	115	-0.062	ppb	-156.9	471	1	
Sb	121	3	115	0.157	ppb	24.0	157	0.6	
Ba	137	3	115	0.057	ppb	117.0	30	0.5	
Tl	205	3	193	-0.163	ppb	-9.8	270	0.1	
(Pb)	206	3	193	-0.046	ppb	-22.6	90	1	
(Pb)	207	3	193	-0.053	ppb	-74.8	187	1	
Pb	208	3	193	-0.038	ppb	-25.9	503	0.5	
Th	232	3	193	0.301	ppb	17.5	4289	1	
U	238	3	193	0.019	ppb	122.8	1233	0.5	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc (IS)	45	2	HMI H2	4799595	0.47	4176342	114.92	60	120	
Sc (IS)	45	3	HMI He	508848	1.15	454432	111.97	60	120	
Ge Internal standard	72	2	HMI H2	2556669	1.77	2219876	115.17	60	120	
Ge Internal standard	72	3	HMI He	591961	1.69	521662	113.48	60	120	
In Internal Standard	115	3	HMI He	2348739	1.07	2121087	110.73	60	120	
Ir (IS)	193	3	HMI He	4050688	2.40	3821950	105.98	60	120	

Sample Report

Sample Table

Sample Name	280-185896-a-3-a
Data File Name	195SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\79_122123.b
Acq Date Time	2023-12-21T19:55:09-07:00
Analyst	Denver Metals
Sample Type	Sample
Dilution	1
Comment	638057 6020B
ISTD Ref FileName	039CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Fail

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Be	9	2	6	-0.058	ppb	-0.058	-37.65	1	2000	
Na	23	3	45	112841.313	ppb	112841.313	0.59	9209300	400000	
Mg	24	3	45	51312.062	ppb	51312.062	0.94	2182652	400000	
Al	27	3	45	14.646	ppb	14.646	13.34	487	400000	
K	39	3	45	4776.619	ppb	4776.619	2.56	233332	400000	
Ca	40	2	45	112443.921	ppb	112443.921	2.14	90298784	400000	
V	51	3	72	2.547	ppb	2.547	3.87	1534	2000	
Cr	52	3	72	0.025	ppb	0.025	278.73	880	5000	
Mn	55	3	72	316.438	ppb	316.438	0.67	111145	10000	
Fe	56	2	72	56.958	ppb	56.958	2.67	121852	10000	
Co	59	3	72	0.566	ppb	0.566	5.55	631	2000	
Ni	60	3	72	1.111	ppb	1.111	9.73	450	5000	
Cu	63	3	72	3.142	ppb	3.142	4.25	2866	5000	
Zn	66	3	72	1.677	ppb	1.677	25.63	455	5000	
As	75	3	72	0.531	ppb	0.531	49.41	88	2000	
Se	78	2	72	2.627	ppb	2.627	16.94	150	2000	
Sr	88	3	72	1406.395	ppb	1406.395	0.77	696953	4000	
Mo	95	3	115	2.903	ppb	2.903	6.46	1108	2000	
Ag	107	3	115	0.023	ppb	0.023	66.09	38	100	
Cd	111	3	115	0.010	ppb	0.010	301.66	12	2000	
Sn	120	3	115	-0.157	ppb	-0.157	-81.89	441	2000	
Sb	121	3	115	0.227	ppb	0.227	10.00	208	1000	
Ba	137	3	115	108.572	ppb	108.572	2.97	23623	5000	
Tl	205	3	193	-0.183	ppb	-0.183	-8.26	222	2000	
(Pb)	206	3	193	0.166	ppb	0.166	7.98	285	100	
(Pb)	207	3	193	0.135	ppb	0.135	56.84	338	100	
Pb	208	3	193	0.168	ppb	0.168	22.56	1259	5000	
Th	232	3	193	0.046	ppb	0.046	95.32	3409	2000	
U	238	3	193	22.795	ppb	22.795	0.24	89553	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc (IS)	45	2	HMI H2	4789229	0.84	4176342	114.68	60	120	
Sc (IS)	45	3	HMI He	529370	1.46	454432	116.49	60	120	
Ge Internal standard	72	2	HMI H2	2722647	1.52	2219876	122.65	60	120	IS Failed
Ge Internal standard	72	3	HMI He	619253	1.01	521662	118.71	60	120	
In Internal Standard	115	3	HMI He	2499277	0.63	2121087	117.83	60	120	
Ir (IS)	193	3	HMI He	4127129	0.83	3821950	107.98	60	120	

Sample Report

Sample Table

Sample Name	280-185888-a-2-b
Data File Name	196SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\79_122123.b
Acq Date Time	2023-12-21T19:57:23-07:00
Analyst	Denver Metals
Sample Type	Sample
Dilution	1
Comment	638057 6020B
ISTD Ref FileName	039CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Fail

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Be	9	2	6	-0.071	ppb	-0.071	-30.45	1	2000	
Na	23	3	45	517840.722	ppb	517840.722	1.72	43579375	400000	
Mg	24	3	45	37189.335	ppb	37189.335	3.95	1637449	400000	
Al	27	3	45	68.108	ppb	68.108	3.93	1492	400000	
K	39	3	45	104603.852	ppb	104603.852	1.93	4407946	400000	
Ca	40	2	45	240735.694	ppb	240735.694	2.11	200912370	400000	
V	51	3	72	33.148	ppb	33.148	3.57	16503	2000	
Cr	52	3	72	50.666	ppb	50.666	1.73	31505	5000	
Mn	55	3	72	801.815	ppb	801.815	0.28	287326	10000	
Fe	56	2	72	732.816	ppb	732.816	2.31	1264045	10000	
Co	59	3	72	18.561	ppb	18.561	2.46	18817	2000	
Ni	60	3	72	50.381	ppb	50.381	1.59	13950	5000	
Cu	63	3	72	0.806	ppb	0.806	13.00	1108	5000	
Zn	66	3	72	5.168	ppb	5.168	8.52	906	5000	
As	75	3	72	28.557	ppb	28.557	2.91	2622	2000	
Se	78	2	72	0.416	ppb	0.416	34.10	29	2000	
Sr	88	3	72	6541.442	ppb	6541.442	0.55	3310470	4000	
Mo	95	3	115	2.594	ppb	2.594	5.59	1003	2000	
Ag	107	3	115	0.021	ppb	0.021	58.67	37	100	
Cd	111	3	115	-0.042	ppb	-0.042	-35.76	2	2000	
Sn	120	3	115	4.526	ppb	4.526	4.13	3412	2000	
Sb	121	3	115	5.871	ppb	5.871	3.50	3569	1000	
Ba	137	3	115	513.728	ppb	513.728	1.75	113098	5000	
Tl	205	3	193	-0.198	ppb	-0.198	-2.22	190	2000	
(Pb)	206	3	193	0.144	ppb	0.144	42.17	277	100	
(Pb)	207	3	193	0.063	ppb	0.063	46.31	293	100	
Pb	208	3	193	0.116	ppb	0.116	5.88	1116	5000	
Th	232	3	193	0.037	ppb	0.037	213.81	3525	2000	
U	238	3	193	0.152	ppb	0.152	3.96	1848	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc (IS)	45	2	HMI H2	4979284	2.11	4176342	119.23	60	120	
Sc (IS)	45	3	HMI He	547842	0.35	454432	120.56	60	120	IS Failed
Ge Internal standard	72	2	HMI H2	2731019	0.75	2219876	123.03	60	120	IS Failed
Ge Internal standard	72	3	HMI He	632376	1.01	521662	121.22	60	120	IS Failed
In Internal Standard	115	3	HMI He	2530743	1.17	2121087	119.31	60	120	
Ir (IS)	193	3	HMI He	4310514	1.64	3821950	112.78	60	120	

Sample Report

Sample Table

Sample Name	280-185813-g-1-b
Data File Name	197SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\79_122123.b
Acq Date Time	2023-12-21T19:59:36-07:00
Analyst	Denver Metals
Sample Type	Sample
Dilution	1
Comment	638057 6020B
ISTD Ref FileName	039CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Be	9	2	6	-0.029	ppb	-0.029	-83.23	3	2000	
Na	23	3	45	260780.436	ppb	260780.436	1.13	19339833	400000	
Mg	24	3	45	5196.230	ppb	5196.230	0.20	201532	400000	
Al	27	3	45	291.011	ppb	291.011	2.55	4939	400000	
K	39	3	45	70777.463	ppb	70777.463	1.08	2637719	400000	
Ca	40	2	45	6087.608	ppb	6087.608	0.31	4613748	400000	
V	51	3	72	6.810	ppb	6.810	5.65	3227	2000	
Cr	52	3	72	79.096	ppb	79.096	1.08	43075	5000	
Mn	55	3	72	24.329	ppb	24.329	3.71	7865	10000	
Fe	56	2	72	153.383	ppb	153.383	1.27	253856	10000	
Co	59	3	72	11.034	ppb	11.034	0.99	9924	2000	
Ni	60	3	72	28.998	ppb	28.998	1.80	7162	5000	
Cu	63	3	72	2.208	ppb	2.208	5.98	1946	5000	
Zn	66	3	72	16.441	ppb	16.441	6.14	2064	5000	
As	75	3	72	541.569	ppb	541.569	1.05	43325	2000	
Se	78	2	72	0.961	ppb	0.961	29.63	53	2000	
Sr	88	3	72	225.346	ppb	225.346	0.48	100923	4000	
Mo	95	3	115	1.430	ppb	1.430	8.87	491	2000	
Ag	107	3	115	0.010	ppb	0.010	43.04	20	100	
Cd	111	3	115	-0.022	ppb	-0.022	-134.20	5	2000	
Sn	120	3	115	20.470	ppb	20.470	1.12	11883	2000	
Sb	121	3	115	701.307	ppb	701.307	1.12	367095	1000	
Ba	137	3	115	54.823	ppb	54.823	0.88	10634	5000	
Tl	205	3	193	-0.183	ppb	-0.183	-3.50	208	2000	
(Pb)	206	3	193	0.394	ppb	0.394	21.60	460	100	
(Pb)	207	3	193	0.374	ppb	0.374	13.58	491	100	
Pb	208	3	193	0.375	ppb	0.375	5.24	1876	5000	
Th	232	3	193	0.025	ppb	0.025	117.59	3117	2000	
U	238	3	193	0.048	ppb	0.048	33.91	1278	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc (IS)	45	2	HMI H2	4499908	1.77	4176342	107.75	60	120	
Sc (IS)	45	3	HMI He	482323	0.50	454432	106.14	60	120	
Ge Internal standard	72	2	HMI H2	2431104	0.45	2219876	109.52	60	120	
Ge Internal standard	72	3	HMI He	559437	0.61	521662	107.24	60	120	
In Internal Standard	115	3	HMI He	2226298	0.75	2121087	104.96	60	120	
Ir (IS)	193	3	HMI He	3861440	1.54	3821950	101.03	60	120	

Sample Report

Sample Table

Sample Name	280-185813-g-2-b
Data File Name	198SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\79_122123.b
Acq Date Time	2023-12-21T20:01:51-07:00
Analyst	Denver Metals
Sample Type	Sample
Dilution	1
Comment	638057 6020B
ISTD Ref FileName	039CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Be	9	2	6	-0.056	ppb	-0.056	-42.81	1	2000	
Na	23	3	45	359.756	ppb	359.756	3.87	65646	400000	
Mg	24	3	45	24.929	ppb	24.929	23.59	1111	400000	
Al	27	3	45	14.180	ppb	14.180	32.31	437	400000	
K	39	3	45	131.381	ppb	131.381	51.92	42065	400000	
Ca	40	2	45	103.818	ppb	103.818	22.78	98918	400000	
V	51	3	72	0.106	ppb	0.106	41.77	330	2000	
Cr	52	3	72	0.799	ppb	0.799	17.49	1203	5000	
Mn	55	3	72	0.702	ppb	0.702	17.38	378	10000	
Fe	56	2	72	23.321	ppb	23.321	4.42	58843	10000	
Co	59	3	72	0.070	ppb	0.070	51.37	127	2000	
Ni	60	3	72	-0.007	ppb	-0.007	-2443.37	135	5000	
Cu	63	3	72	0.134	ppb	0.134	91.67	515	5000	
Zn	66	3	72	1.878	ppb	1.878	32.27	431	5000	
As	75	3	72	-0.175	ppb	-0.175	-168.78	23	2000	
Se	78	2	72	-0.025	ppb	-0.025	-185.59	5	2000	
Sr	88	3	72	1.598	ppb	1.598	15.17	753	4000	
Mo	95	3	115	0.052	ppb	0.052	65.66	28	2000	
Ag	107	3	115	0.016	ppb	0.016	118.10	27	100	
Cd	111	3	115	-0.031	ppb	-0.031	-53.63	3	2000	
Sn	120	3	115	13.991	ppb	13.991	5.08	8365	2000	
Sb	121	3	115	33.158	ppb	33.158	12.29	17600	1000	
Ba	137	3	115	0.614	ppb	0.614	32.22	138	5000	
Tl	205	3	193	-0.154	ppb	-0.154	-9.93	278	2000	
(Pb)	206	3	193	0.123	ppb	0.123	18.49	228	100	
(Pb)	207	3	193	0.055	ppb	0.055	98.18	255	100	
Pb	208	3	193	0.087	ppb	0.087	12.98	895	5000	
Th	232	3	193	0.054	ppb	0.054	120.88	3192	2000	
U	238	3	193	-0.010	ppb	-0.010	-141.43	1058	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc (IS)	45	2	HMI H2	4469048	1.57	4176342	107.01	60	120	
Sc (IS)	45	3	HMI He	483689	0.24	454432	106.44	60	120	
Ge Internal standard	72	2	HMI H2	2456554	0.17	2219876	110.66	60	120	
Ge Internal standard	72	3	HMI He	556807	0.48	521662	106.74	60	120	
In Internal Standard	115	3	HMI He	2251718	1.43	2121087	106.16	60	120	
Ir (IS)	193	3	HMI He	3827905	0.18	3821950	100.16	60	120	

Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV-8123148
Data File Name	199_CCV.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\79_122123.b
Acq Date Time	2023-12-21T20:04:08-07:00
Sample Type	CCV
Dilution	1
Comment	
ISTD Ref File Name	039CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	Units	Conc %RSD	CPS	Exp Value	%Rec	%Low	%High2	QC Flag
Be	9	2	6	50.223	ppb	2.783	2523	50	100.4	90	110	
Na	23	3	45	50988.258	ppb	1.882	4025247	51000	100.0	90	110	
Mg	24	3	45	11004.841	ppb	1.167	450394	11000	100.0	90	110	
Al	27	3	45	1049.551	ppb	1.957	18237	1000	105.0	90	110	
K	39	3	45	11640.960	ppb	2.281	490697	11000	105.8	90	110	
Ca	40	2	45	11203.322	ppb	2.605	8824059	11000	101.8	90	110	
V	51	3	72	51.704	ppb	2.302	23979	50	103.4	90	110	
Cr	52	3	72	51.643	ppb	1.922	30104	50	103.3	90	110	
Mn	55	3	72	50.875	ppb	1.735	17255	50	101.8	90	110	
Fe	56	2	72	1029.290	ppb	1.567	1640775	1000	102.9	90	110	
Co	59	3	72	50.241	ppb	2.020	47658	50	100.5	90	110	
Ni	60	3	72	50.709	ppb	2.913	13168	50	101.4	90	110	
Cu	63	3	72	50.398	ppb	1.218	37238	50	100.8	90	110	
Zn	66	3	72	52.946	ppb	4.232	6523	50	105.9	90	110	
As	75	3	72	53.012	ppb	0.452	4532	50	106.0	90	110	
Se	78	2	72	53.452	ppb	0.678	2728	50	106.9	90	110	
Sr	88	3	72	105.521	ppb	0.565	50125	100	105.5	90	110	
Mo	95	3	115	52.608	ppb	0.988	19182	50	105.2	90	110	
Ag	107	3	115	50.555	ppb	1.773	61272	50	101.1	90	110	
Cd	111	3	115	49.508	ppb	1.133	9182	50	99.0	90	110	
Sn	120	3	115	50.921	ppb	2.976	31261	50	101.8	90	110	
Sb	121	3	115	62.227	ppb	0.888	35374	50	124.5	90	110	>+\-10%
Ba	137	3	115	51.530	ppb	2.538	10836	50	103.1	90	110	
Tl	205	3	193	53.198	ppb	2.670	139773	50	106.4	90	110	
(Pb)	206	3	193	52.559	ppb	1.610	46350	50	105.1	90	110	
(Pb)	207	3	193	53.221	ppb	1.552	40601	50	106.4	90	110	
Pb	208	3	193	52.971	ppb	1.819	185623	50	105.9	90	110	
Th	232	3	193	51.979	ppb	1.603	191109	50	104.0	90	110	
U	238	3	193	52.659	ppb	2.362	198332	50	105.3	90	110	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc (IS)	45	2	HMI H2	4688802	2.91	4176342	112.27	60	120	
Sc (IS)	45	3	HMI He	509164	0.84	454432	112.04	60	120	
Ge Internal standard	72	2	HMI H2	2538843	0.99	2219876	114.37	60	120	
Ge Internal standard	72	3	HMI He	593092	0.56	521662	113.69	60	120	
In Internal Standard	115	3	HMI He	2413394	1.30	2121087	113.78	60	120	
Ir (IS)	193	3	HMI He	3986887	1.36	3821950	104.32	60	120	

Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB-8123133
Data File Name	200_CCB.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\79_122123.b
Acq Date Time	2023-12-21T20:06:23-07:00
Sample Type	CCB
Dilution	1
Comment	
ISTD Ref File Name	039CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	Units	Conc %RSD	CPS	Upper Limit	QC Flag
Be	9	2	6	-0.070	ppb	-33.4	1	0.5	
Na	23	3	45	49.665	ppb	10.6	44394	25	>RL
Mg	24	3	45	4.161	ppb	21.6	317	25	
Al	27	3	45	-1.836	ppb	-192.4	184	15	
K	39	3	45	31.260	ppb	198.0	39967	50	
V	51	3	72	0.109	ppb	32.9	347	1	
Cr	52	3	72	-0.009	ppb	-1733.5	808	1	
Mn	55	3	72	0.099	ppb	35.5	197	0.5	
Co	59	3	72	0.014	ppb	202.1	80	0.5	
Ni	60	3	72	-0.164	ppb	-56.3	102	1	
Cu	63	3	72	-0.035	ppb	-365.5	418	1	
Zn	66	3	72	0.037	ppb	1220.9	237	5	
As	75	3	72	-0.008	ppb	-2768.7	38	1	
Se	78	2	72	-0.039	ppb	-180.8	4	1	
Sr	88	3	72	0.230	ppb	32.6	150	0.5	
Mo	95	3	115	0.053	ppb	51.5	30	0.5	
Ag	107	3	115	0.049	ppb	55.4	67	1	
Cd	111	3	115	-0.032	ppb	-98.7	3	0.5	
Sn	120	3	115	0.131	ppb	47.0	581	1	
Sb	121	3	115	7.288	ppb	5.4	4070	0.6	>RL
Ba	137	3	115	0.139	ppb	42.9	47	0.5	
Tl	205	3	193	-0.155	ppb	-6.1	283	0.1	
(Pb)	206	3	193	-0.003	ppb	-258.8	125	1	
(Pb)	207	3	193	-0.038	ppb	-172.6	193	1	
Pb	208	3	193	-0.026	ppb	-54.1	533	0.5	
Th	232	3	193	0.304	ppb	22.9	4182	1	
U	238	3	193	0.016	ppb	183.6	1188	0.5	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc (IS)	45	2	HMI H2	4613583	1.70	4176342	110.47	60	120	
Sc (IS)	45	3	HMI He	503723	1.12	454432	110.85	60	120	
Ge Internal standard	72	2	HMI H2	2457302	2.68	2219876	110.70	60	120	
Ge Internal standard	72	3	HMI He	582131	0.51	521662	111.59	60	120	
In Internal Standard	115	3	HMI He	2335366	1.15	2121087	110.10	60	120	
Ir (IS)	193	3	HMI He	3946411	2.15	3821950	103.26	60	120	

Blank Report

Sample Table

Sample Name	mb 280-637894/1-a
Data File Name	201_BLK.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\79_122123.b
Acq Date Time	2023-12-21T20:08:41-07:00
Sample Type	Blank
Dilution	1
Comment	637894 SOIL 6020B
ISTD Ref File Name	039CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	Units	Conc %RSD	CPS	Upper Limit
Be	9	2	6	206.072	ppb	0.671937784	9794	0.5
Na	23	3	45	5342.171	ppb	1.286629244	436202	25
Mg	24	3	45	5190.452	ppb	1.361214341	202206	25
Al	27	3	45	4127.579	ppb	3.381830848	67625	15
K	39	3	45	5449.290	ppb	1.479200678	238399	50
Ca	40	2	45	5251.857	ppb	0.60485384	4018006	200
V	51	3	72	205.057	ppb	0.752039721	88775	1
Cr	52	3	72	212.933	ppb	1.27156411	114541	1
Mn	55	3	72	204.063	ppb	1.912374258	64756	0.5
Fe	56	2	72	4165.054	ppb	1.381212616	6208555	50
Co	59	3	72	207.741	ppb	2.001023315	185517	0.5
Ni	60	3	72	206.485	ppb	1.675202282	50117	1
Cu	63	3	72	207.512	ppb	1.9093789	143175	1
Zn	66	3	72	205.677	ppb	2.065468014	23241	5
As	75	3	72	212.241	ppb	0.661373979	16987	1
(Se)	78	3	72	192.729	ppb	3.558219658	1194	1
Sr	88	3	72	425.614	ppb	2.090835756	190407	0.5
Mo	95	3	115	208.925	ppb	1.025126545	71552	0.5
Ag	107	3	115	208.641	ppb	2.811311147	237561	1
Cd	111	3	115	205.004	ppb	0.892064138	35698	0.5
Sn	120	3	115	221.669	ppb	3.874609238	126211	1
Sb	121	3	115	216.346	ppb	1.015225931	115400	0.6
Ba	137	3	115	211.813	ppb	3.650475016	41788	0.5
Tl	205	3	193	211.792	ppb	4.528067238	535877	0.1
(Pb)	206	3	193	212.948	ppb	2.140857941	181222	1
(Pb)	207	3	193	211.945	ppb	2.859452915	155649	1
Pb	208	3	193	214.959	ppb	2.978754371	726474	0.5
Th	232	3	193	207.960	ppb	1.278312189	730275	1
U	238	3	193	211.315	ppb	3.516485017	766125	0.5

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc (IS)	45	2	HMI H2	4539021	1.25	4176342	108.68	60	120	
Sc (IS)	45	3	HMI He	484521	1.68	454432	106.62	60	120	
Ge Internal standard	72	2	HMI H2	2400640	0.69	2219876	108.14	60	120	
Ge Internal standard	72	3	HMI He	558964	0.58	521662	107.15	60	120	
In Internal Standard	115	3	HMI He	2267916	1.81	2121087	106.92	60	120	
Ir (IS)	193	3	HMI He	3856472	2.90	3821950	100.90	60	120	

Laboratory Control Sample (LCS) Report

Sample Table

Sample Name	lcs 280-637894/2-a
Data File Name	202_LCS.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\79_122123.b
Acq Date Time	2023-12-21T20:10:57-07:00
Sample Type	LCS
Dilution	1
Analyst	Denver Metals
Comment	637894 SOIL 6020B
ISTD Ref File Name	039CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	FinalConc	Units	Conc %RSD	CPS	Exp Value	%Rec	%Low	%High	QC Flag
Be	9	2	6	0.175	0.175	ppb	57.686	13	40	0.4	80	120	>+/-20%
Na	23	3	45	2146.119	2146.119	ppb	0.566	202017	40	5365.3	80	120	>+/-20%
Mg	24	3	45	2171.029	2171.029	ppb	1.185	86133	40	5427.6	80	120	>+/-20%
Al	27	3	45	2349.514	2349.514	ppb	2.991	39264	40	5873.8	80	120	>+/-20%
K	39	3	45	1234.029	1234.029	ppb	4.269	84266	40	3085.1	80	120	>+/-20%
Ca	40	2	45	7021.934	7021.934	ppb	2.977	5332899	40	17554.8	80	120	>+/-20%
V	51	3	72	6.953	6.953	ppb	1.820	3362	40	17.4	80	120	>+/-20%
Cr	52	3	72	22.824	22.824	ppb	2.845	13271	40	57.1	80	120	>+/-20%
Mn	55	3	72	297.253	297.253	ppb	1.107	96436	40	743.1	80	120	>+/-20%
Fe	56	2	72	21354.632	21354.632	ppb	0.362	32118390	40	53386.6	80	120	>+/-20%
(Fe)	56	3	72	20456.576	20456.576	ppb	2.310	10010987	40	51141.4	80	120	>+/-20%
Co	59	3	72	1.924	1.924	ppb	3.990	1824	40	4.8	80	120	>+/-20%
Ni	60	3	72	6.927	6.927	ppb	7.762	1854	40	17.3	80	120	>+/-20%
Cu	63	3	72	8.403	8.403	ppb	1.212	6350	40	21.0	80	120	>+/-20%
Zn	66	3	72	15.372	15.372	ppb	8.547	1986	40	38.4	80	120	>+/-20%
As	75	3	72	1.921	1.921	ppb	15.389	195	40	4.8	80	120	>+/-20%
Se	78	2	72	0.099	0.099	ppb	27.689	11	40	0.2	80	120	>+/-20%
(Se)	78	3	72	3.649	3.649	ppb	23.294	52	40	9.1	80	120	>+/-20%
Sr	88	3	72	30.546	30.546	ppb	1.665	14020	40	76.4	80	120	>+/-20%
Mo	95	3	115	1.801	1.801	ppb	10.025	640	40	4.5	80	120	>+/-20%
Ag	107	3	115	0.192	0.192	ppb	8.068	232	40	0.5	80	120	>+/-20%
Cd	111	3	115	0.081	0.081	ppb	19.527	23	40	0.2	80	120	>+/-20%
Sn	120	3	115	14.864	14.864	ppb	2.051	9100	40	37.2	80	120	>+/-20%
Sb	121	3	115	4.989	4.989	ppb	3.940	2782	40	12.5	80	120	>+/-20%
Ba	137	3	115	59.712	59.712	ppb	0.807	12035	40	149.3	80	120	>+/-20%
Tl	205	3	193	-0.013	-0.013	ppb	-188.777	661	40	0.0	80	120	>+/-20%
(Pb)	206	3	193	7.376	7.376	ppb	1.737	6647	40	18.4	80	120	>+/-20%
(Pb)	207	3	193	4.658	4.658	ppb	6.452	3774	40	11.6	80	120	>+/-20%
Pb	208	3	193	5.656	5.656	ppb	1.278	20478	40	14.1	80	120	>+/-20%
Th	232	3	193	7.605	7.605	ppb	0.897	30769	40	19.0	80	120	>+/-20%
U	238	3	193	2.787	2.787	ppb	3.819	11628	40	7.0	80	120	>+/-20%

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc (IS)	45	2	HMI H2	4513603	1.79	4176342	108.08	60	120	
Sc (IS)	45	3	HMI He	492916	0.69	454432	108.47	60	120	
Ge Internal standard	72	2	HMI H2	2429289	1.70	2219876	109.43	60	120	
Ge Internal standard	72	3	HMI He	571988	2.57	521662	109.65	60	120	
In Internal Standard	115	3	HMI He	2313359	2.58	2121087	109.06	60	120	
Ir (IS)	193	3	HMI He	4005189	0.32	3821950	104.79	60	120	

Sample Report

Sample Table

Sample Name	gb 280-637456/1-b
Data File Name	203SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\79_122123.b
Acq Date Time	2023-12-21T20:13:13-07:00
Analyst	Denver Metals
Sample Type	Sample
Dilution	1
Comment	637894 SOIL 6020B
ISTD Ref FileName	039CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Be	9	2	6	807.127	ppb	807.127	0.08	40236	2000	
Na	23	3	45	6071.398	ppb	6071.398	0.97	509167	400000	
Mg	24	3	45	30183.879	ppb	30183.879	1.05	1220266	400000	
Al	27	3	45	128040.686	ppb	128040.686	3.27	2172621	400000	
K	39	3	45	32299.204	ppb	32299.204	0.45	1276505	400000	
Ca	40	2	45	53847.512	ppb	53847.512	1.04	41784384	400000	
V	51	3	72	2461.348	ppb	2461.348	1.39	1103665	2000	
Cr	52	3	72	2259.759	ppb	2259.759	1.39	1254963	5000	
Mn	55	3	72	4581.020	ppb	4581.020	2.48	1506431	10000	
Fe	56	2	72	225808.162	ppb	225808.162	2.45	342110712	10000	>LDR
Co	59	3	72	1028.047	ppb	1028.047	0.94	953503	2000	
Ni	60	3	72	1783.364	ppb	1783.364	0.52	448560	5000	
Cu	63	3	72	1395.622	ppb	1395.622	0.59	997853	5000	
Zn	66	3	72	2370.179	ppb	2370.179	0.58	275785	5000	
As	75	3	72	1952.590	ppb	1952.590	0.88	162029	2000	
Se	78	2	72	2426.028	ppb	2426.028	2.47	119167	2000	
Sr	88	3	72	1331.300	ppb	1331.300	1.53	618629	4000	
Mo	95	3	115	2009.881	ppb	2009.881	1.39	709570	2000	
Ag	107	3	115	712.641	ppb	712.641	2.02	836629	100	>LDR
Cd	111	3	115	2319.669	ppb	2319.669	2.53	416313	2000	
Sn	120	3	115	1582.678	ppb	1582.678	0.83	926295	2000	
Sb	121	3	115	2372.048	ppb	2372.048	0.51	1303829	1000	
Ba	137	3	115	3379.677	ppb	3379.677	2.11	687288	5000	
Tl	205	3	193	939.663	ppb	939.663	1.37	2482930	2000	
(Pb)	206	3	193	3040.107	ppb	3040.107	1.27	2701151	100	>LDR
(Pb)	207	3	193	2949.413	ppb	2949.413	2.56	2260219	100	>LDR
Pb	208	3	193	2983.638	ppb	2983.638	1.79	10527748	5000	
Th	232	3	193	276.254	ppb	276.254	1.02	1012362	2000	
U	238	3	193	1418.537	ppb	1418.537	1.24	5367760	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc (IS)	45	2	HMI H2	4626607	1.01	4176342	110.78	60	120	
Sc (IS)	45	3	HMI He	503044	0.69	454432	110.70	60	120	
Ge Internal standard	72	2	HMI H2	2449615	2.64	2219876	110.35	60	120	
Ge Internal standard	72	3	HMI He	580678	0.74	521662	111.31	60	120	
In Internal Standard	115	3	HMI He	2338091	1.03	2121087	110.23	60	120	
Ir (IS)	193	3	HMI He	4027692	1.17	3821950	105.38	60	120	

Sample Report

Sample Table

Sample Name	lcssrm 280-637456/2-b
Data File Name	204SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\79_122123.b
Acq Date Time	2023-12-21T20:15:24-07:00
Analyst	Denver Metals
Sample Type	Sample
Dilution	1
Comment	637894 SOIL 6020B
ISTD Ref FileName	039CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Be	9	2	6	6.149	ppb	6.149	5.73	309	2000	
Na	23	3	45	1281.155	ppb	1281.155	1.34	139318	400000	
Mg	24	3	45	155349.028	ppb	155349.028	1.26	6275907	400000	
Al	27	3	45	148142.622	ppb	148142.622	2.04	2511749	400000	
K	39	3	45	43721.675	ppb	43721.675	1.43	1713233	400000	
Ca	40	2	45	596590.311	ppb	596590.311	1.49	458690715	400000	
V	51	3	72	265.935	ppb	265.935	1.65	118639	2000	
Cr	52	3	72	157.208	ppb	157.208	1.17	87414	5000	
Mn	55	3	72	5191.597	ppb	5191.597	0.24	1694802	10000	
Fe	56	2	72	152036.907	ppb	152036.907	1.84	227620699	10000	>LDR
Co	59	3	72	53.819	ppb	53.819	0.47	49614	2000	
Ni	60	3	72	113.074	ppb	113.074	1.28	28363	5000	
Cu	63	3	72	156.822	ppb	156.822	2.15	111694	5000	
Zn	66	3	72	485.865	ppb	485.865	2.63	56298	5000	
As	75	3	72	55.112	ppb	55.112	3.48	4577	2000	
Se	78	2	72	2.050	ppb	2.050	14.24	105	2000	
Sr	88	3	72	1233.107	ppb	1233.107	1.37	568836	4000	
Mo	95	3	115	9.590	ppb	9.590	4.09	3420	2000	
Ag	107	3	115	0.747	ppb	0.747	10.78	891	100	
Cd	111	3	115	2.302	ppb	2.302	10.71	425	2000	
Sn	120	3	115	19.900	ppb	19.900	2.03	12228	2000	
Sb	121	3	115	13.426	ppb	13.426	2.87	7498	1000	
Ba	137	3	115	2000.696	ppb	2000.696	3.41	409565	5000	
Tl	205	3	193	1.609	ppb	1.609	7.06	4997	2000	
(Pb)	206	3	193	103.991	ppb	103.991	4.83	93448	100	
(Pb)	207	3	193	99.381	ppb	99.381	4.92	77140	100	
Pb	208	3	193	102.337	ppb	102.337	5.15	365312	5000	
Th	232	3	193	46.324	ppb	46.324	4.25	174135	2000	
U	238	3	193	7.827	ppb	7.827	7.77	31043	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc (IS)	45	2	HMI H2	4586290	0.46	4176342	109.82	60	120	
Sc (IS)	45	3	HMI He	502783	1.01	454432	110.64	60	120	
Ge Internal standard	72	2	HMI H2	2419612	0.33	2219876	109.00	60	120	
Ge Internal standard	72	3	HMI He	576395	0.32	521662	110.49	60	120	
In Internal Standard	115	3	HMI He	2354412	2.22	2121087	111.00	60	120	
Ir (IS)	193	3	HMI He	4073319	4.36	3821950	106.58	60	120	

Sample Report

Sample Table

Sample Name	280-185669-a-1-g
Data File Name	205SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\79_122123.b
Acq Date Time	2023-12-21T20:17:41-07:00
Analyst	Denver Metals
Sample Type	Sample
Dilution	1
Comment	637894 SOIL 6020B
ISTD Ref FileName	039CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Be	9	2	6	1.097	ppb	1.097	17.53	60	2000	
Na	23	3	45	232.471	ppb	232.471	4.62	58971	400000	
Mg	24	3	45	31985.804	ppb	31985.804	2.44	1304473	400000	
Al	27	3	45	28707.782	ppb	28707.782	2.07	491531	400000	
K	39	3	45	8848.089	ppb	8848.089	1.34	381153	400000	
Ca	40	2	45	119232.476	ppb	119232.476	2.30	93248901	400000	
V	51	3	72	53.543	ppb	53.543	2.99	24571	2000	
Cr	52	3	72	32.331	ppb	32.331	2.57	18965	5000	
Mn	55	3	72	995.344	ppb	995.344	0.80	331131	10000	
Fe	56	2	72	29962.386	ppb	29962.386	1.19	47025099	10000	
Co	59	3	72	11.136	ppb	11.136	3.87	10510	2000	
Ni	60	3	72	22.860	ppb	22.860	1.09	5957	5000	
Cu	63	3	72	32.237	ppb	32.237	2.36	23745	5000	
Zn	66	3	72	104.331	ppb	104.331	0.56	12499	5000	
As	75	3	72	11.384	ppb	11.384	7.15	995	2000	
Se	78	2	72	0.716	ppb	0.716	53.18	43	2000	
Sr	88	3	72	249.653	ppb	249.653	0.78	117352	4000	
Mo	95	3	115	2.024	ppb	2.024	10.25	753	2000	
Ag	107	3	115	0.170	ppb	0.170	3.63	217	100	
Cd	111	3	115	0.586	ppb	0.586	30.58	118	2000	
Sn	120	3	115	3.956	ppb	3.956	2.17	2922	2000	
Sb	121	3	115	4.680	ppb	4.680	8.86	2739	1000	
Ba	137	3	115	400.398	ppb	400.398	2.34	84401	5000	
Tl	205	3	193	0.187	ppb	0.187	9.47	1249	2000	
(Pb)	206	3	193	21.012	ppb	21.012	0.70	19669	100	
(Pb)	207	3	193	19.672	ppb	19.672	2.45	16007	100	
Pb	208	3	193	20.471	ppb	20.471	1.56	76236	5000	
Th	232	3	193	9.177	ppb	9.177	1.18	38381	2000	
U	238	3	193	1.664	ppb	1.664	5.78	7787	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc (IS)	45	2	HMI H2	4665594	2.07	4176342	111.71	60	120	
Sc (IS)	45	3	HMI He	507543	0.83	454432	111.69	60	120	
Ge Internal standard	72	2	HMI H2	2535707	1.13	2219876	114.23	60	120	
Ge Internal standard	72	3	HMI He	587172	0.57	521662	112.56	60	120	
In Internal Standard	115	3	HMI He	2423324	1.80	2121087	114.25	60	120	
Ir (IS)	193	3	HMI He	4214000	1.31	3821950	110.26	60	120	

Sample Report

Sample Table

Sample Name	280-185669-a-1-gSD@5
Data File Name	206SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\79_122123.b
Acq Date Time	2023-12-21T20:19:58-07:00
Analyst	Denver Metals
Sample Type	Sample
Dilution	1
Comment	637894 SOIL 6020B
ISTD Ref FileName	039CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Be	9	2	6	220.264	ppb	220.264	2.84	10507	2000	
Na	23	3	45	7054.580	ppb	7054.580	2.24	563388	400000	
Mg	24	3	45	195848.996	ppb	195848.996	3.52	7622365	400000	
Al	27	3	45	197655.531	ppb	197655.531	2.03	3229016	400000	
K	39	3	45	66270.027	ppb	66270.027	1.03	2483188	400000	
Ca	40	2	45	737534.225	ppb	737534.225	0.78	545814575	400000	
V	51	3	72	562.617	ppb	562.617	1.52	241611	2000	
Cr	52	3	72	424.312	ppb	424.312	1.44	226100	5000	
Mn	55	3	72	6530.860	ppb	6530.860	0.70	2054994	10000	
Fe	56	2	72	192111.369	ppb	192111.369	2.99	277973904	10000	>LDR
Co	59	3	72	273.940	ppb	273.940	1.57	243154	2000	
Ni	60	3	72	344.579	ppb	344.579	2.14	83034	5000	
Cu	63	3	72	397.294	ppb	397.294	1.32	272096	5000	
Zn	66	3	72	794.219	ppb	794.219	1.23	88567	5000	
As	75	3	72	283.969	ppb	283.969	3.46	22579	2000	
Se	78	2	72	218.306	ppb	218.306	1.66	10248	2000	
Sr	88	3	72	1964.006	ppb	1964.006	1.32	873243	4000	
Mo	95	3	115	227.564	ppb	227.564	2.05	76974	2000	
Ag	107	3	115	213.226	ppb	213.226	4.24	239704	100	
Cd	111	3	115	211.394	ppb	211.394	3.65	36344	2000	
Sn	120	3	115	241.441	ppb	241.441	4.78	135689	2000	
Sb	121	3	115	216.589	ppb	216.589	2.79	114084	1000	
Ba	137	3	115	2769.398	ppb	2769.398	4.28	539266	5000	
Tl	205	3	193	218.793	ppb	218.793	3.51	567585	2000	
(Pb)	206	3	193	341.129	ppb	341.129	2.11	297496	100	
(Pb)	207	3	193	340.102	ppb	340.102	1.37	255939	100	
Pb	208	3	193	340.705	ppb	340.705	2.69	1179991	5000	
Th	232	3	193	268.642	ppb	268.642	0.91	966146	2000	
U	238	3	193	226.214	ppb	226.214	3.25	840676	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc (IS)	45	2	HMI H2	4414729	1.55	4176342	105.71	60	120	
Sc (IS)	45	3	HMI He	484497	1.69	454432	106.62	60	120	
Ge Internal standard	72	2	HMI H2	2339297	1.50	2219876	105.38	60	120	
Ge Internal standard	72	3	HMI He	555579	0.17	521662	106.50	60	120	
In Internal Standard	115	3	HMI He	2240763	3.59	2121087	105.64	60	120	
Ir (IS)	193	3	HMI He	3952292	1.76	3821950	103.41	60	120	

Sample Report

Sample Table

Sample Name	280-185669-a-1-h ms
Data File Name	207SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\79_122123.b
Acq Date Time	2023-12-21T20:22:14-07:00
Analyst	Denver Metals
Sample Type	Sample
Dilution	1
Comment	637894 SOIL 6020B
ISTD Ref FileName	039CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Be	9	2	6	208.398	ppb	208.398	1.51	9945	2000	
Na	23	3	45	6409.897	ppb	6409.897	1.49	528838	400000	
Mg	24	3	45	178266.764	ppb	178266.764	1.97	7119589	400000	
Al	27	3	45	180850.290	ppb	180850.290	2.14	3031083	400000	
K	39	3	45	59751.966	ppb	59751.966	0.63	2300517	400000	
Ca	40	2	45	655081.438	ppb	655081.438	1.40	503473222	400000	
V	51	3	72	515.254	ppb	515.254	0.09	227788	2000	
Cr	52	3	72	389.432	ppb	389.432	1.85	213655	5000	
Mn	55	3	72	5903.279	ppb	5903.279	2.31	1911914	10000	
Fe	56	2	72	176528.677	ppb	176528.677	2.22	262469771	10000	>LDR
Co	59	3	72	251.994	ppb	251.994	0.72	230237	2000	
Ni	60	3	72	319.521	ppb	319.521	2.72	79258	5000	
Cu	63	3	72	364.688	ppb	364.688	0.87	257132	5000	
Zn	66	3	72	729.303	ppb	729.303	1.45	83729	5000	
As	75	3	72	259.209	ppb	259.209	2.20	21218	2000	
Se	78	2	72	204.058	ppb	204.058	2.58	9842	2000	
Sr	88	3	72	1800.469	ppb	1800.469	0.62	824021	4000	
Mo	95	3	115	212.097	ppb	212.097	4.59	73269	2000	
Ag	107	3	115	196.151	ppb	196.151	5.64	225242	100	
Cd	111	3	115	192.605	ppb	192.605	5.16	33824	2000	
Sn	120	3	115	221.840	ppb	221.840	5.97	127395	2000	
Sb	121	3	115	201.329	ppb	201.329	2.91	108380	1000	
Ba	137	3	115	2509.729	ppb	2509.729	5.34	499248	5000	
Tl	205	3	193	202.294	ppb	202.294	1.74	540067	2000	
(Pb)	206	3	193	310.273	ppb	310.273	2.06	278442	100	
(Pb)	207	3	193	313.933	ppb	313.933	0.99	243060	100	
Pb	208	3	193	311.332	ppb	311.332	0.27	1109600	5000	
Th	232	3	193	246.543	ppb	246.543	1.50	912329	2000	
U	238	3	193	209.332	ppb	209.332	1.76	800613	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc (IS)	45	2	HMI H2	4584961	1.24	4176342	109.78	60	120	
Sc (IS)	45	3	HMI He	496984	0.61	454432	109.36	60	120	
Ge Internal standard	72	2	HMI H2	2403664	1.69	2219876	108.28	60	120	
Ge Internal standard	72	3	HMI He	571886	0.64	521662	109.63	60	120	
In Internal Standard	115	3	HMI He	2290345	4.38	2121087	107.98	60	120	
Ir (IS)	193	3	HMI He	4065684	0.91	3821950	106.38	60	120	

Sample Report

Sample Table

Sample Name	280-185669-a-1-i msd
Data File Name	208SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\79_122123.b
Acq Date Time	2023-12-21T20:24:30-07:00
Analyst	Denver Metals
Sample Type	Sample
Dilution	1
Comment	637894 SOIL 6020B
ISTD Ref FileName	039CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Be	9	2	6	207.882	ppb	207.882	3.10	10122	2000	
Na	23	3	45	6478.399	ppb	6478.399	2.44	534845	400000	
Mg	24	3	45	152466.883	ppb	152466.883	3.01	6097480	400000	
Al	27	3	45	143971.544	ppb	143971.544	2.33	2416808	400000	
K	39	3	45	46088.702	ppb	46088.702	1.86	1785907	400000	
Ca	40	2	45	586320.516	ppb	586320.516	1.26	452703875	400000	
V	51	3	72	470.396	ppb	470.396	1.41	208805	2000	
Cr	52	3	72	362.398	ppb	362.398	2.44	199685	5000	
Mn	55	3	72	5270.746	ppb	5270.746	1.79	1713907	10000	
Fe	56	2	72	150658.493	ppb	150658.493	2.63	229548646	10000	>LDR
Co	59	3	72	255.761	ppb	255.761	2.49	234602	2000	
Ni	60	3	72	312.169	ppb	312.169	0.67	77757	5000	
Cu	63	3	72	349.574	ppb	349.574	1.64	247466	5000	
Zn	66	3	72	688.767	ppb	688.767	0.65	79411	5000	
As	75	3	72	266.677	ppb	266.677	2.69	21915	2000	
Se	78	2	72	212.371	ppb	212.371	2.05	10499	2000	
Sr	88	3	72	1428.776	ppb	1428.776	0.98	656528	4000	
Mo	95	3	115	213.540	ppb	213.540	1.19	76646	2000	
Ag	107	3	115	54.170	ppb	54.170	1.42	64656	100	
Cd	111	3	115	196.844	ppb	196.844	0.88	35922	2000	
Sn	120	3	115	224.077	ppb	224.077	1.57	133745	2000	
Sb	121	3	115	212.855	ppb	212.855	0.70	118988	1000	
Ba	137	3	115	2162.153	ppb	2162.153	1.41	446974	5000	
Tl	205	3	193	209.619	ppb	209.619	1.68	560966	2000	
(Pb)	206	3	193	311.784	ppb	311.784	1.99	280423	100	
(Pb)	207	3	193	306.724	ppb	306.724	1.10	238107	100	
Pb	208	3	193	310.802	ppb	310.802	1.44	1110324	5000	
Th	232	3	193	129.392	ppb	129.392	5.38	481714	2000	
U	238	3	193	273.933	ppb	273.933	2.62	1049731	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc (IS)	45	2	HMI H2	4606266	2.00	4176342	110.29	60	120	
Sc (IS)	45	3	HMI He	497823	1.80	454432	109.55	60	120	
Ge Internal standard	72	2	HMI H2	2463430	2.22	2219876	110.97	60	120	
Ge Internal standard	72	3	HMI He	574205	0.99	521662	110.07	60	120	
In Internal Standard	115	3	HMI He	2376501	0.40	2121087	112.04	60	120	
Ir (IS)	193	3	HMI He	4075748	1.26	3821950	106.64	60	120	

Sample Report

Sample Table

Sample Name	280-185669-a-1-g PDS
Data File Name	209SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\79_122123.b
Acq Date Time	2023-12-21T20:26:46-07:00
Analyst	Denver Metals
Sample Type	Sample
Dilution	1
Comment	637894 SOIL 6020B
ISTD Ref FileName	039CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Be	9	2	6	6.148	ppb	6.148	6.94	297	2000	
Na	23	3	45	1547.193	ppb	1547.193	1.01	158131	400000	
Mg	24	3	45	220475.158	ppb	220475.158	1.14	8811620	400000	
Al	27	3	45	142165.009	ppb	142165.009	1.87	2384909	400000	
K	39	3	45	45618.811	ppb	45618.811	0.73	1766854	400000	
Ca	40	2	45	748581.568	ppb	748581.568	0.14	569077544	400000	
V	51	3	72	302.275	ppb	302.275	1.03	132824	2000	
Cr	52	3	72	162.174	ppb	162.174	0.62	88822	5000	
Mn	55	3	72	5639.535	ppb	5639.535	1.70	1813839	10000	
Fe	56	2	72	160028.032	ppb	160028.032	2.68	237889031	10000	>LDR
Co	59	3	72	57.957	ppb	57.957	0.49	52635	2000	
Ni	60	3	72	120.245	ppb	120.245	1.75	29709	5000	
Cu	63	3	72	161.488	ppb	161.488	0.91	113311	5000	
Zn	66	3	72	500.831	ppb	500.831	0.68	57173	5000	
As	75	3	72	69.827	ppb	69.827	1.66	5703	2000	
Se	78	2	72	1.694	ppb	1.694	9.98	87	2000	
Sr	88	3	72	2489.260	ppb	2489.260	1.40	1131270	4000	
Mo	95	3	115	9.085	ppb	9.085	4.53	3150	2000	
Ag	107	3	115	0.550	ppb	0.550	4.80	641	100	
Cd	111	3	115	1.703	ppb	1.703	21.97	308	2000	
Sn	120	3	115	19.644	ppb	19.644	3.51	11741	2000	
Sb	121	3	115	6.042	ppb	6.042	2.02	3319	1000	
Ba	137	3	115	3848.625	ppb	3848.625	0.91	766090	5000	
Tl	205	3	193	1.373	ppb	1.373	4.43	4367	2000	
(Pb)	206	3	193	110.528	ppb	110.528	1.94	99274	100	
(Pb)	207	3	193	104.795	ppb	104.795	1.16	81296	100	
Pb	208	3	193	108.013	ppb	108.013	1.47	385391	5000	
Th	232	3	193	44.866	ppb	44.866	2.16	168632	2000	
U	238	3	193	9.021	ppb	9.021	1.85	35623	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc (IS)	45	2	HMI H2	4534573	0.71	4176342	108.58	60	120	
Sc (IS)	45	3	HMI He	497376	0.43	454432	109.45	60	120	
Ge Internal standard	72	2	HMI H2	2403441	2.34	2219876	108.27	60	120	
Ge Internal standard	72	3	HMI He	567907	0.72	521662	108.86	60	120	
In Internal Standard	115	3	HMI He	2288316	0.17	2121087	107.88	60	120	
Ir (IS)	193	3	HMI He	4066287	1.61	3821950	106.39	60	120	

Sample Report

Sample Table

Sample Name	280-185669-a-2-c
Data File Name	210SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\79_122123.b
Acq Date Time	2023-12-21T20:29:02-07:00
Analyst	Denver Metals
Sample Type	Sample
Dilution	1
Comment	637894 SOIL 6020B
ISTD Ref FileName	039CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Be	9	2	6	5.830	ppb	5.830	5.82	295	2000	
Na	23	3	45	1624.544	ppb	1624.544	0.99	164810	400000	
Mg	24	3	45	222367.435	ppb	222367.435	0.55	8929476	400000	
Al	27	3	45	135254.213	ppb	135254.213	1.98	2279459	400000	
K	39	3	45	43471.605	ppb	43471.605	1.10	1693468	400000	
Ca	40	2	45	762477.842	ppb	762477.842	2.75	596733165	400000	
V	51	3	72	286.833	ppb	286.833	1.17	127778	2000	
Cr	52	3	72	2942.989	ppb	2942.989	1.07	1620232	5000	
Mn	55	3	72	5844.906	ppb	5844.906	0.64	1905722	10000	
Fe	56	2	72	164960.886	ppb	164960.886	2.28	249287761	10000	>LDR
Co	59	3	72	59.937	ppb	59.937	0.64	55179	2000	
Ni	60	3	72	131.270	ppb	131.270	1.26	32866	5000	
Cu	63	3	72	165.933	ppb	165.933	1.37	118008	5000	
Zn	66	3	72	483.629	ppb	483.629	2.64	55972	5000	
As	75	3	72	67.054	ppb	67.054	4.18	5553	2000	
Se	78	2	72	2.123	ppb	2.123	12.42	110	2000	
Sr	88	3	72	1631.283	ppb	1631.283	0.64	751553	4000	
Mo	95	3	115	13.600	ppb	13.600	1.42	4893	2000	
Ag	107	3	115	0.490	ppb	0.490	5.59	595	100	
Cd	111	3	115	1.645	ppb	1.645	15.12	310	2000	
Sn	120	3	115	19.881	ppb	19.881	1.13	12338	2000	
Sb	121	3	115	5.099	ppb	5.099	1.46	2921	1000	
Ba	137	3	115	3252.229	ppb	3252.229	1.66	672489	5000	
Tl	205	3	193	1.206	ppb	1.206	0.35	3925	2000	
(Pb)	206	3	193	111.836	ppb	111.836	1.82	100513	100	
(Pb)	207	3	193	107.638	ppb	107.638	2.77	83541	100	
Pb	208	3	193	109.955	ppb	109.955	2.08	392569	5000	
Th	232	3	193	43.466	ppb	43.466	2.43	163587	2000	
U	238	3	193	8.389	ppb	8.389	1.76	33229	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc (IS)	45	2	HMI H2	4669035	1.10	4176342	111.80	60	120	
Sc (IS)	45	3	HMI He	499719	0.62	454432	109.97	60	120	
Ge Internal standard	72	2	HMI H2	2443057	2.30	2219876	110.05	60	120	
Ge Internal standard	72	3	HMI He	575692	0.42	521662	110.36	60	120	
In Internal Standard	115	3	HMI He	2377398	1.40	2121087	112.08	60	120	
Ir (IS)	193	3	HMI He	4070013	2.73	3821950	106.49	60	120	

Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV-8123148
Data File Name	211_CCV.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\79_122123.b
Acq Date Time	2023-12-21T20:31:15-07:00
Sample Type	CCV
Dilution	1
Comment	
ISTD Ref File Name	039CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	Units	Conc %RSD	CPS	Exp Value	%Rec	%Low	%High2	QC Flag
Be	9	2	6	50.271	ppb	3.131	2526	50	100.5	90	110	
Na	23	3	45	51389.141	ppb	0.633	4084635	51000	100.8	90	110	
Mg	24	3	45	11026.151	ppb	2.775	454423	11000	100.2	90	110	
Al	27	3	45	1053.170	ppb	0.793	18431	1000	105.3	90	110	
K	39	3	45	11324.892	ppb	2.220	481771	11000	103.0	90	110	
Ca	40	2	45	11095.573	ppb	0.164	8803592	11000	100.9	90	110	
V	51	3	72	50.508	ppb	2.367	23924	50	101.0	90	110	
Cr	52	3	72	51.091	ppb	2.111	30426	50	102.2	90	110	
Mn	55	3	72	51.226	ppb	1.924	17739	50	102.5	90	110	
Fe	56	2	72	1088.188	ppb	1.494	1727964	1000	108.8	90	110	
Co	59	3	72	49.367	ppb	1.366	47827	50	98.7	90	110	
Ni	60	3	72	49.278	ppb	2.235	13071	50	98.6	90	110	
Cu	63	3	72	49.978	ppb	1.781	37723	50	100.0	90	110	
Zn	66	3	72	54.749	ppb	2.372	6880	50	109.5	90	110	
As	75	3	72	50.825	ppb	1.270	4439	50	101.7	90	110	
Se	78	2	72	53.531	ppb	3.852	2724	50	107.1	90	110	
Sr	88	3	72	104.180	ppb	1.338	50540	100	104.2	90	110	
Mo	95	3	115	53.999	ppb	4.385	19681	50	108.0	90	110	
Ag	107	3	115	51.800	ppb	5.332	62736	50	103.6	90	110	
Cd	111	3	115	50.832	ppb	4.313	9422	50	101.7	90	110	
Sn	120	3	115	52.255	ppb	6.442	32041	50	104.5	90	110	
Sb	121	3	115	54.104	ppb	3.161	30767	50	108.2	90	110	
Ba	137	3	115	53.743	ppb	4.238	11296	50	107.5	90	110	
Tl	205	3	193	52.027	ppb	1.971	146840	50	104.1	90	110	
(Pb)	206	3	193	50.616	ppb	2.368	47945	50	101.2	90	110	
(Pb)	207	3	193	51.681	ppb	2.577	42343	50	103.4	90	110	
Pb	208	3	193	51.201	ppb	0.574	192739	50	102.4	90	110	
Th	232	3	193	51.602	ppb	0.343	203762	50	103.2	90	110	
U	238	3	193	51.360	ppb	1.688	207800	50	102.7	90	110	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc (IS)	45	2	HMI H2	4720906	0.65	4176342	113.04	60	120	
Sc (IS)	45	3	HMI He	512749	1.06	454432	112.83	60	120	
Ge Internal standard	72	2	HMI H2	2531091	0.96	2219876	114.02	60	120	
Ge Internal standard	72	3	HMI He	605704	1.28	521662	116.11	60	120	
In Internal Standard	115	3	HMI He	2415083	4.42	2121087	113.86	60	120	
Ir (IS)	193	3	HMI He	4281764	1.08	3821950	112.03	60	120	

Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB-8123133
Data File Name	212_CCB.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\79_122123.b
Acq Date Time	2023-12-21T20:33:31-07:00
Sample Type	CCB
Dilution	1
Comment	
ISTD Ref File Name	039CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	Units	Conc %RSD	CPS	Upper Limit	QC Flag
Be	9	2	6	-0.057	ppb	-40.5	1	0.5	
Na	23	3	45	-39.457	ppb	-24.8	38364	25	
Mg	24	3	45	26.643	ppb	9.6	1255	25	>RL
Al	27	3	45	18.262	ppb	34.5	537	15	>RL
K	39	3	45	-39.106	ppb	-119.7	38127	50	
V	51	3	72	-0.304	ppb	-36.7	167	1	
Cr	52	3	72	-0.008	ppb	-1684.0	841	1	
Mn	55	3	72	0.732	ppb	22.5	423	0.5	>RL
Co	59	3	72	0.016	ppb	169.4	85	0.5	
Ni	60	3	72	-0.159	ppb	-64.1	107	1	
Cu	63	3	72	0.031	ppb	55.9	485	1	
Zn	66	3	72	-0.030	ppb	-725.9	238	5	
As	75	3	72	-0.258	ppb	-32.3	18	1	
Se	78	2	72	-0.001	ppb	-10794.9	6	1	
Sr	88	3	72	0.300	ppb	7.0	190	0.5	
Mo	95	3	115	0.041	ppb	39.3	27	0.5	
Ag	107	3	115	0.059	ppb	25.9	82	1	
Cd	111	3	115	0.003	ppb	949.9	10	0.5	
Sn	120	3	115	0.229	ppb	22.2	666	1	
Sb	121	3	115	1.012	ppb	12.4	655	0.6	>RL
Ba	137	3	115	0.486	ppb	42.4	123	0.5	
Tl	205	3	193	-0.134	ppb	-17.1	361	0.1	
(Pb)	206	3	193	0.006	ppb	865.0	142	1	
(Pb)	207	3	193	-0.022	ppb	-224.7	218	1	
Pb	208	3	193	0.024	ppb	81.9	750	0.5	
Th	232	3	193	0.230	ppb	14.3	4187	1	
U	238	3	193	-0.009	ppb	-241.7	1168	0.5	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc (IS)	45	2	HMI H2	4681164	1.08	4176342	112.09	60	120	
Sc (IS)	45	3	HMI He	515327	2.10	454432	113.40	60	120	
Ge Internal standard	72	2	HMI H2	2493624	1.57	2219876	112.33	60	120	
Ge Internal standard	72	3	HMI He	606603	2.92	521662	116.28	60	120	
In Internal Standard	115	3	HMI He	2440584	3.47	2121087	115.06	60	120	
Ir (IS)	193	3	HMI He	4214182	4.27	3821950	110.26	60	120	

Sample Report

Sample Table

Sample Name	280-185669-a-3-c
Data File Name	213SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\79_122123.b
Acq Date Time	2023-12-21T20:35:49-07:00
Analyst	Denver Metals
Sample Type	Sample
Dilution	1
Comment	637894 SOIL 6020B
ISTD Ref FileName	039CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Be	9	2	6	5.569	ppb	5.569	1.84	275	2000	
Na	23	3	45	1614.299	ppb	1614.299	2.66	162461	400000	
Mg	24	3	45	220807.762	ppb	220807.762	0.80	8782959	400000	
Al	27	3	45	141111.004	ppb	141111.004	3.26	2355496	400000	
K	39	3	45	44894.202	ppb	44894.202	0.85	1731066	400000	
Ca	40	2	45	847945.764	ppb	847945.764	3.80	652004682	400000	
V	51	3	72	296.324	ppb	296.324	0.69	131498	2000	
Cr	52	3	72	160.831	ppb	160.831	0.50	88966	5000	
Mn	55	3	72	5924.730	ppb	5924.730	2.20	1924419	10000	
Fe	56	2	72	164225.016	ppb	164225.016	1.55	243477736	10000	>LDR
Co	59	3	72	56.402	ppb	56.402	0.56	51732	2000	
Ni	60	3	72	116.598	ppb	116.598	1.65	29096	5000	
Cu	63	3	72	166.426	ppb	166.426	1.03	117915	5000	
Zn	66	3	72	520.168	ppb	520.168	0.83	59958	5000	
As	75	3	72	70.987	ppb	70.987	1.90	5855	2000	
Se	78	2	72	2.087	ppb	2.087	17.22	106	2000	
Sr	88	3	72	3903.702	ppb	3903.702	1.03	1791652	4000	
Mo	95	3	115	10.163	ppb	10.163	4.52	3587	2000	
Ag	107	3	115	0.467	ppb	0.467	5.29	556	100	
Cd	111	3	115	1.667	ppb	1.667	24.95	307	2000	
Sn	120	3	115	17.700	ppb	17.700	3.33	10824	2000	
Sb	121	3	115	4.489	ppb	4.489	3.73	2529	1000	
Ba	137	3	115	3679.399	ppb	3679.399	2.36	745980	5000	
Tl	205	3	193	1.246	ppb	1.246	6.25	4042	2000	
(Pb)	206	3	193	135.747	ppb	135.747	1.07	122324	100	
(Pb)	207	3	193	130.005	ppb	130.005	0.95	101158	100	
Pb	208	3	193	133.107	ppb	133.107	0.70	476485	5000	
Th	232	3	193	41.373	ppb	41.373	1.08	156323	2000	
U	238	3	193	8.289	ppb	8.289	2.18	32935	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc (IS)	45	2	HMI H2	4588780	1.89	4176342	109.88	60	120	
Sc (IS)	45	3	HMI He	495028	1.06	454432	108.93	60	120	
Ge Internal standard	72	2	HMI H2	2396294	1.05	2219876	107.95	60	120	
Ge Internal standard	72	3	HMI He	573533	0.73	521662	109.94	60	120	
In Internal Standard	115	3	HMI He	2331322	1.88	2121087	109.91	60	120	
Ir (IS)	193	3	HMI He	4080498	0.65	3821950	106.76	60	120	

Sample Report

Sample Table

Sample Name	280-185669-a-4-c
Data File Name	214SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\79_122123.b
Acq Date Time	2023-12-21T20:38:04-07:00
Analyst	Denver Metals
Sample Type	Sample
Dilution	1
Comment	637894 SOIL 6020B
ISTD Ref FileName	039CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Be	9	2	6	10.901	ppb	10.901	18.73	533	2000	
Na	23	3	45	1913.658	ppb	1913.658	0.88	186871	400000	
Mg	24	3	45	208524.402	ppb	208524.402	0.70	8368540	400000	
Al	27	3	45	241945.004	ppb	241945.004	0.46	4075210	400000	
K	39	3	45	78720.775	ppb	78720.775	0.87	3033477	400000	
Ca	40	2	45	1239199.741	ppb	1239199.741	0.51	953196356	400000	
V	51	3	72	426.731	ppb	426.731	0.55	186270	2000	
Cr	52	3	72	228.441	ppb	228.441	1.97	124043	5000	
Mn	55	3	72	6433.218	ppb	6433.218	1.73	2056791	10000	
Fe	56	2	72	221980.414	ppb	221980.414	3.68	330623135	10000	>LDR
Co	59	3	72	88.548	ppb	88.548	0.83	79902	2000	
Ni	60	3	72	172.285	ppb	172.285	0.61	42253	5000	
Cu	63	3	72	188.752	ppb	188.752	0.97	131571	5000	
Zn	66	3	72	604.111	ppb	604.111	0.24	68505	5000	
As	75	3	72	66.573	ppb	66.573	3.89	5407	2000	
Se	78	2	72	1.979	ppb	1.979	23.28	101	2000	
Sr	88	3	72	3976.662	ppb	3976.662	1.41	1796487	4000	
Mo	95	3	115	6.768	ppb	6.768	5.17	2397	2000	
Ag	107	3	115	0.323	ppb	0.323	4.38	388	100	
Cd	111	3	115	1.974	ppb	1.974	14.22	363	2000	
Sn	120	3	115	20.924	ppb	20.924	2.70	12730	2000	
Sb	121	3	115	7.036	ppb	7.036	3.21	3932	1000	
Ba	137	3	115	2397.256	ppb	2397.256	1.65	486977	5000	
Tl	205	3	193	1.951	ppb	1.951	5.29	5798	2000	
(Pb)	206	3	193	189.672	ppb	189.672	0.19	167065	100	
(Pb)	207	3	193	182.829	ppb	182.829	0.52	139005	100	
Pb	208	3	193	186.515	ppb	186.515	0.86	652537	5000	
Th	232	3	193	49.084	ppb	49.084	1.48	180756	2000	
U	238	3	193	10.668	ppb	10.668	1.14	41122	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc (IS)	45	2	HMI H2	4588235	1.12	4176342	109.86	60	120	
Sc (IS)	45	3	HMI He	499422	0.39	454432	109.90	60	120	
Ge Internal standard	72	2	HMI H2	2408630	2.27	2219876	108.50	60	120	
Ge Internal standard	72	3	HMI He	564518	0.46	521662	108.22	60	120	
In Internal Standard	115	3	HMI He	2335388	0.72	2121087	110.10	60	120	
Ir (IS)	193	3	HMI He	3989572	0.49	3821950	104.39	60	120	

Sample Report

Sample Table

Sample Name	280-185669-a-5-c
Data File Name	215SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\79_122123.b
Acq Date Time	2023-12-21T20:40:19-07:00
Analyst	Denver Metals
Sample Type	Sample
Dilution	1
Comment	637894 SOIL 6020B
ISTD Ref FileName	039CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Be	9	2	6	11.932	ppb	11.932	5.30	586	2000	
Na	23	3	45	2348.996	ppb	2348.996	0.72	221418	400000	
Mg	24	3	45	301502.841	ppb	301502.841	0.59	12165081	400000	
Al	27	3	45	288857.774	ppb	288857.774	1.01	4891476	400000	
K	39	3	45	96134.863	ppb	96134.863	0.85	3716147	400000	
Ca	40	2	45	1024876.086	ppb	1024876.086	1.66	807752704	400000	
V	51	3	72	500.776	ppb	500.776	1.23	220582	2000	
Cr	52	3	72	284.973	ppb	284.973	0.68	155997	5000	
Mn	55	3	72	8577.202	ppb	8577.202	1.17	2767840	10000	
Fe	56	2	72	281940.058	ppb	281940.058	2.71	422839631	10000	>LDR
Co	59	3	72	112.290	ppb	112.290	0.70	102257	2000	
Ni	60	3	72	219.859	ppb	219.859	0.71	54386	5000	
Cu	63	3	72	287.926	ppb	287.926	0.63	202352	5000	
Zn	66	3	72	759.501	ppb	759.501	0.93	86872	5000	
As	75	3	72	84.207	ppb	84.207	4.06	6893	2000	
Se	78	2	72	2.249	ppb	2.249	10.99	115	2000	
Sr	88	3	72	1890.720	ppb	1890.720	0.60	862149	4000	
Mo	95	3	115	11.657	ppb	11.657	2.58	4092	2000	
Ag	107	3	115	0.330	ppb	0.330	14.08	393	100	
Cd	111	3	115	2.924	ppb	2.924	8.14	530	2000	
Sn	120	3	115	23.099	ppb	23.099	1.60	13899	2000	
Sb	121	3	115	7.820	ppb	7.820	4.91	4330	1000	
Ba	137	3	115	1985.755	ppb	1985.755	2.08	400421	5000	
Tl	205	3	193	2.266	ppb	2.266	0.87	6735	2000	
(Pb)	206	3	193	203.111	ppb	203.111	0.73	181963	100	
(Pb)	207	3	193	195.476	ppb	195.476	0.60	151158	100	
Pb	208	3	193	199.862	ppb	199.862	0.19	711209	5000	
Th	232	3	193	62.786	ppb	62.786	0.86	234286	2000	
U	238	3	193	12.094	ppb	12.094	0.50	47261	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc (IS)	45	2	HMI H2	4701909	1.29	4176342	112.58	60	120	
Sc (IS)	45	3	HMI He	502122	0.40	454432	110.49	60	120	
Ge Internal standard	72	2	HMI H2	2424912	2.35	2219876	109.24	60	120	
Ge Internal standard	72	3	HMI He	569786	0.02	521662	109.23	60	120	
In Internal Standard	115	3	HMI He	2318367	1.02	2121087	109.30	60	120	
Ir (IS)	193	3	HMI He	4058031	0.38	3821950	106.18	60	120	

Sample Report

Sample Table

Sample Name	280-185669-a-6-c
Data File Name	216SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\79_122123.b
Acq Date Time	2023-12-21T20:42:35-07:00
Analyst	Denver Metals
Sample Type	Sample
Dilution	1
Comment	637894 SOIL 6020B
ISTD Ref FileName	039CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Be	9	2	6	13.192	ppb	13.192	4.41	632	2000	
Na	23	3	45	2851.081	ppb	2851.081	1.09	252492	400000	
Mg	24	3	45	358725.549	ppb	358725.549	1.96	14050803	400000	
Al	27	3	45	286391.997	ppb	286391.997	0.82	4707807	400000	
K	39	3	45	95909.240	ppb	95909.240	1.04	3599118	400000	
Ca	40	2	45	1159541.438	ppb	1159541.438	2.04	891093068	400000	
V	51	3	72	501.760	ppb	501.760	0.80	215204	2000	
Cr	52	3	72	1047.731	ppb	1047.731	1.01	556385	5000	
Mn	55	3	72	9106.800	ppb	9106.800	1.05	2861611	10000	
Fe	56	2	72	302187.748	ppb	302187.748	1.24	441649848	10000	>LDR
Co	59	3	72	116.202	ppb	116.202	1.44	103036	2000	
Ni	60	3	72	237.024	ppb	237.024	1.65	57079	5000	
Cu	63	3	72	285.145	ppb	285.145	1.28	195136	5000	
Zn	66	3	72	827.082	ppb	827.082	0.92	92096	5000	
As	75	3	72	78.026	ppb	78.026	3.11	6222	2000	
Se	78	2	72	2.355	ppb	2.355	9.28	117	2000	
Sr	88	3	72	2892.956	ppb	2892.956	2.10	1284559	4000	
Mo	95	3	115	10.836	ppb	10.836	6.20	3692	2000	
Ag	107	3	115	0.292	ppb	0.292	13.94	338	100	
Cd	111	3	115	3.348	ppb	3.348	17.14	586	2000	
Sn	120	3	115	24.030	ppb	24.030	2.97	14007	2000	
Sb	121	3	115	8.341	ppb	8.341	1.42	4477	1000	
Ba	137	3	115	1935.335	ppb	1935.335	2.57	378573	5000	
Tl	205	3	193	2.443	ppb	2.443	2.41	6990	2000	
(Pb)	206	3	193	206.161	ppb	206.161	3.60	179091	100	
(Pb)	207	3	193	196.874	ppb	196.874	3.09	147635	100	
Pb	208	3	193	202.285	ppb	202.285	3.64	698003	5000	
Th	232	3	193	60.937	ppb	60.937	2.63	220626	2000	
U	238	3	193	13.251	ppb	13.251	2.04	50122	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc (IS)	45	2	HMI H2	4584877	1.38	4176342	109.78	60	120	
Sc (IS)	45	3	HMI He	487444	1.01	454432	107.26	60	120	
Ge Internal standard	72	2	HMI H2	2362329	0.74	2219876	106.42	60	120	
Ge Internal standard	72	3	HMI He	554821	0.47	521662	106.36	60	120	
In Internal Standard	115	3	HMI He	2249010	1.01	2121087	106.03	60	120	
Ir (IS)	193	3	HMI He	3937771	3.02	3821950	103.03	60	120	

Sample Report

Sample Table

Sample Name	280-185669-a-7-c
Data File Name	217SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\79_122123.b
Acq Date Time	2023-12-21T20:44:51-07:00
Analyst	Denver Metals
Sample Type	Sample
Dilution	1
Comment	637894 SOIL 6020B
ISTD Ref FileName	039CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Be	9	2	6	9.460	ppb	9.460	2.62	461	2000	
Na	23	3	45	2026.343	ppb	2026.343	1.32	194574	400000	
Mg	24	3	45	296149.908	ppb	296149.908	1.84	11827880	400000	
Al	27	3	45	214781.256	ppb	214781.256	2.22	3600637	400000	
K	39	3	45	72130.996	ppb	72130.996	2.46	2769360	400000	
Ca	40	2	45	1258233.950	ppb	1258233.950	0.81	984859338	400000	
V	51	3	72	402.889	ppb	402.889	1.35	177511	2000	
Cr	52	3	72	224.287	ppb	224.287	0.64	122939	5000	
Mn	55	3	72	6338.795	ppb	6338.795	1.62	2045494	10000	
Fe	56	2	72	216710.484	ppb	216710.484	3.80	324293412	10000	>LDR
Co	59	3	72	80.541	ppb	80.541	2.03	73362	2000	
Ni	60	3	72	163.073	ppb	163.073	1.69	40372	5000	
Cu	63	3	72	230.742	ppb	230.742	0.46	162239	5000	
Zn	66	3	72	530.536	ppb	530.536	1.29	60746	5000	
As	75	3	72	71.955	ppb	71.955	3.20	5895	2000	
Se	78	2	72	2.140	ppb	2.140	13.63	110	2000	
Sr	88	3	72	3296.965	ppb	3296.965	0.88	1503238	4000	
Mo	95	3	115	9.841	ppb	9.841	5.04	3397	2000	
Ag	107	3	115	0.454	ppb	0.454	6.76	528	100	
Cd	111	3	115	2.272	ppb	2.272	2.46	406	2000	
Sn	120	3	115	21.787	ppb	21.787	4.58	12913	2000	
Sb	121	3	115	6.005	ppb	6.005	2.33	3285	1000	
Ba	137	3	115	2385.018	ppb	2385.018	1.08	472814	5000	
Tl	205	3	193	1.732	ppb	1.732	5.91	5258	2000	
(Pb)	206	3	193	164.732	ppb	164.732	0.87	146123	100	
(Pb)	207	3	193	159.770	ppb	159.770	0.72	122349	100	
Pb	208	3	193	161.532	ppb	161.532	0.85	569163	5000	
Th	232	3	193	46.192	ppb	46.192	2.09	171451	2000	
U	238	3	193	9.221	ppb	9.221	0.90	35952	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc (IS)	45	2	HMI H2	4668923	0.42	4176342	111.79	60	120	
Sc (IS)	45	3	HMI He	497082	1.05	454432	109.39	60	120	
Ge Internal standard	72	2	HMI H2	2421188	4.20	2219876	109.07	60	120	
Ge Internal standard	72	3	HMI He	569748	0.39	521662	109.22	60	120	
In Internal Standard	115	3	HMI He	2279009	0.61	2121087	107.45	60	120	
Ir (IS)	193	3	HMI He	4017646	1.42	3821950	105.12	60	120	

Sample Report

Sample Table

Sample Name	280-185669-a-8-c
Data File Name	218SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\79_122123.b
Acq Date Time	2023-12-21T20:47:06-07:00
Analyst	Denver Metals
Sample Type	Sample
Dilution	1
Comment	637894 SOIL 6020B
ISTD Ref FileName	039CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Be	9	2	6	12.655	ppb	12.655	1.68	599	2000	
Na	23	3	45	2532.619	ppb	2532.619	1.02	230500	400000	
Mg	24	3	45	297930.132	ppb	297930.132	1.29	11762335	400000	
Al	27	3	45	290505.164	ppb	290505.164	1.59	4813548	400000	
K	39	3	45	95884.136	ppb	95884.136	0.54	3626655	400000	
Ca	40	2	45	1189417.320	ppb	1189417.320	0.70	909361810	400000	
V	51	3	72	524.133	ppb	524.133	1.22	228258	2000	
Cr	52	3	72	289.176	ppb	289.176	0.27	156510	5000	
Mn	55	3	72	8520.240	ppb	8520.240	1.19	2718561	10000	
Fe	56	2	72	283184.150	ppb	283184.150	0.10	414138828	10000	>LDR
Co	59	3	72	108.527	ppb	108.527	0.81	97720	2000	
Ni	60	3	72	213.978	ppb	213.978	1.80	52337	5000	
Cu	63	3	72	257.774	ppb	257.774	0.59	179172	5000	
Zn	66	3	72	719.538	ppb	719.538	1.81	81383	5000	
As	75	3	72	85.105	ppb	85.105	0.51	6888	2000	
Se	78	2	72	2.255	ppb	2.255	8.94	113	2000	
Sr	88	3	72	2579.810	ppb	2579.810	2.70	1163282	4000	
Mo	95	3	115	10.824	ppb	10.824	3.40	3689	2000	
Ag	107	3	115	0.417	ppb	0.417	8.01	480	100	
Cd	111	3	115	2.959	ppb	2.959	4.73	520	2000	
Sn	120	3	115	24.379	ppb	24.379	1.10	14211	2000	
Sb	121	3	115	7.848	ppb	7.848	2.51	4219	1000	
Ba	137	3	115	2547.015	ppb	2547.015	0.54	498521	5000	
Tl	205	3	193	2.360	ppb	2.360	4.87	6827	2000	
(Pb)	206	3	193	187.379	ppb	187.379	0.33	164076	100	
(Pb)	207	3	193	179.085	ppb	179.085	0.71	135366	100	
Pb	208	3	193	183.362	ppb	183.362	0.62	637788	5000	
Th	232	3	193	65.966	ppb	65.966	2.43	240442	2000	
U	238	3	193	11.731	ppb	11.731	0.49	44838	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc (IS)	45	2	HMI H2	4560564	1.55	4176342	109.20	60	120	
Sc (IS)	45	3	HMI He	491308	0.23	454432	108.11	60	120	
Ge Internal standard	72	2	HMI H2	2363698	0.52	2219876	106.48	60	120	
Ge Internal standard	72	3	HMI He	563393	0.63	521662	108.00	60	120	
In Internal Standard	115	3	HMI He	2250009	0.66	2121087	106.08	60	120	
Ir (IS)	193	3	HMI He	3966174	0.57	3821950	103.77	60	120	

Sample Report

Sample Table

Sample Name	280-185669-a-9-c
Data File Name	219SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\79_122123.b
Acq Date Time	2023-12-21T20:55:17-07:00
Analyst	Denver Metals
Sample Type	Sample
Dilution	1
Comment	637894 SOIL 6020B
ISTD Ref FileName	039CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Be	9	2	6	9.871	ppb	9.871	7.50	472	2000	
Na	23	3	45	2435.450	ppb	2435.450	1.44	236882	400000	
Mg	24	3	45	398873.317	ppb	398873.317	3.05	16714472	400000	
Al	27	3	45	227969.343	ppb	227969.343	2.57	4009589	400000	
K	39	3	45	77003.251	ppb	77003.251	1.28	3099353	400000	
Ca	40	2	45	1264667.822	ppb	1264667.822	2.05	1014685910	400000	
V	51	3	72	439.479	ppb	439.479	1.24	198051	2000	
Cr	52	3	72	243.554	ppb	243.554	0.72	136504	5000	
Mn	55	3	72	7748.075	ppb	7748.075	2.26	2557857	10000	
Fe	56	2	72	238493.275	ppb	238493.275	2.21	359359774	10000	>LDR
Co	59	3	72	86.766	ppb	86.766	0.92	80841	2000	
Ni	60	3	72	174.557	ppb	174.557	1.73	44197	5000	
Cu	63	3	72	256.319	ppb	256.319	0.69	184322	5000	
Zn	66	3	72	604.085	ppb	604.085	1.55	70727	5000	
As	75	3	72	72.187	ppb	72.187	4.55	6050	2000	
Se	78	2	72	2.306	ppb	2.306	19.89	119	2000	
Sr	88	3	72	3058.330	ppb	3058.330	0.55	1426618	4000	
Mo	95	3	115	11.557	ppb	11.557	2.53	4042	2000	
Ag	107	3	115	0.426	ppb	0.426	5.93	503	100	
Cd	111	3	115	2.337	ppb	2.337	6.47	423	2000	
Sn	120	3	115	23.020	ppb	23.020	5.07	13795	2000	
Sb	121	3	115	5.714	ppb	5.714	4.82	3170	1000	
Ba	137	3	115	2952.730	ppb	2952.730	1.93	593206	5000	
Tl	205	3	193	1.824	ppb	1.824	4.08	5243	2000	
(Pb)	206	3	193	186.313	ppb	186.313	3.25	157435	100	
(Pb)	207	3	193	179.660	ppb	179.660	3.47	131033	100	
Pb	208	3	193	182.892	ppb	182.892	3.49	613810	5000	
Th	232	3	193	53.688	ppb	53.688	2.28	189419	2000	
U	238	3	193	10.640	ppb	10.640	5.62	39328	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc (IS)	45	2	HMI H2	4786459	1.18	4176342	114.61	60	120	
Sc (IS)	45	3	HMI He	521498	0.17	454432	114.76	60	120	
Ge Internal standard	72	2	HMI H2	2435656	0.80	2219876	109.72	60	120	
Ge Internal standard	72	3	HMI He	582896	1.23	521662	111.74	60	120	
In Internal Standard	115	3	HMI He	2310125	2.10	2121087	108.91	60	120	
Ir (IS)	193	3	HMI He	3830206	3.66	3821950	100.22	60	120	

Sample Report

Sample Table

Sample Name	280-185669-a-10-g
Data File Name	220SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\79_122123.b
Acq Date Time	2023-12-21T20:57:33-07:00
Analyst	Denver Metals
Sample Type	Sample
Dilution	1
Comment	637894 SOIL 6020B
ISTD Ref FileName	039CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Be	9	2	6	10.958	ppb	10.958	8.22	536	2000	
Na	23	3	45	2716.615	ppb	2716.615	0.74	259144	400000	
Mg	24	3	45	445621.529	ppb	445621.529	1.11	18655893	400000	
Al	27	3	45	252615.656	ppb	252615.656	1.17	4438887	400000	
K	39	3	45	84604.104	ppb	84604.104	2.81	3397956	400000	
Ca	40	2	45	1370163.963	ppb	1370163.963	0.72	1105479427	400000	
V	51	3	72	468.536	ppb	468.536	1.46	214454	2000	
Cr	52	3	72	263.582	ppb	263.582	1.02	149981	5000	
Mn	55	3	72	8333.594	ppb	8333.594	0.98	2794436	10000	
Fe	56	2	72	256061.882	ppb	256061.882	1.50	390168668	10000	>LDR
Co	59	3	72	93.873	ppb	93.873	0.93	88834	2000	
Ni	60	3	72	188.547	ppb	188.547	0.51	48484	5000	
Cu	63	3	72	274.632	ppb	274.632	1.46	200561	5000	
Zn	66	3	72	650.323	ppb	650.323	0.97	77322	5000	
As	75	3	72	77.150	ppb	77.150	3.10	6565	2000	
Se	78	2	72	2.487	ppb	2.487	15.01	129	2000	
Sr	88	3	72	3329.033	ppb	3329.033	0.85	1577348	4000	
Mo	95	3	115	12.549	ppb	12.549	1.41	4399	2000	
Ag	107	3	115	0.406	ppb	0.406	16.62	481	100	
Cd	111	3	115	2.649	ppb	2.649	6.89	480	2000	
Sn	120	3	115	22.998	ppb	22.998	2.40	13822	2000	
Sb	121	3	115	6.087	ppb	6.087	5.10	3382	1000	
Ba	137	3	115	3252.633	ppb	3252.633	1.45	655094	5000	
Tl	205	3	193	2.012	ppb	2.012	5.06	5757	2000	
(Pb)	206	3	193	199.909	ppb	199.909	1.86	170188	100	
(Pb)	207	3	193	193.761	ppb	193.761	1.59	142385	100	
Pb	208	3	193	197.688	ppb	197.688	2.14	668464	5000	
Th	232	3	193	58.686	ppb	58.686	2.95	208262	2000	
U	238	3	193	11.784	ppb	11.784	2.51	43787	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc (IS)	45	2	HMI H2	4812716	0.85	4176342	115.24	60	120	
Sc (IS)	45	3	HMI He	521007	0.38	454432	114.65	60	120	
Ge Internal standard	72	2	HMI H2	2463032	1.18	2219876	110.95	60	120	
Ge Internal standard	72	3	HMI He	592052	0.65	521662	113.49	60	120	
In Internal Standard	115	3	HMI He	2315467	0.79	2121087	109.16	60	120	
Ir (IS)	193	3	HMI He	3857203	2.27	3821950	100.92	60	120	

Sample Report

Sample Table

Sample Name	280-185669-a-10-h du
Data File Name	221SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\79_122123.b
Acq Date Time	2023-12-21T20:59:48-07:00
Analyst	Denver Metals
Sample Type	Sample
Dilution	1
Comment	637894 SOIL 6020B
ISTD Ref FileName	039CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Be	9	2	6	10.021	ppb	10.021	12.62	488	2000	
Na	23	3	45	2475.469	ppb	2475.469	2.62	242146	400000	
Mg	24	3	45	406273.047	ppb	406273.047	0.24	17174692	400000	
Al	27	3	45	233670.159	ppb	233670.159	1.56	4145299	400000	
K	39	3	45	78592.485	ppb	78592.485	0.70	3190270	400000	
Ca	40	2	45	1332026.718	ppb	1332026.718	1.89	1076277466	400000	
V	51	3	72	442.080	ppb	442.080	0.08	203169	2000	
Cr	52	3	72	246.108	ppb	246.108	0.47	140650	5000	
Mn	55	3	72	7833.939	ppb	7833.939	1.10	2637069	10000	
Fe	56	2	72	237421.621	ppb	237421.621	1.74	366100117	10000	>LDR
Co	59	3	72	86.843	ppb	86.843	0.83	82511	2000	
Ni	60	3	72	173.763	ppb	173.763	0.51	44870	5000	
Cu	63	3	72	258.566	ppb	258.566	0.26	189608	5000	
Zn	66	3	72	605.014	ppb	605.014	0.75	72239	5000	
As	75	3	72	70.369	ppb	70.369	4.72	6015	2000	
Se	78	2	72	2.664	ppb	2.664	11.85	139	2000	
Sr	88	3	72	3065.891	ppb	3065.891	1.01	1458305	4000	
Mo	95	3	115	11.744	ppb	11.744	3.10	4129	2000	
Ag	107	3	115	0.458	ppb	0.458	6.06	543	100	
Cd	111	3	115	2.388	ppb	2.388	5.59	435	2000	
Sn	120	3	115	22.992	ppb	22.992	3.25	13852	2000	
Sb	121	3	115	5.980	ppb	5.980	2.88	3332	1000	
Ba	137	3	115	3025.973	ppb	3025.973	1.94	610964	5000	
Tl	205	3	193	1.921	ppb	1.921	3.74	5550	2000	
(Pb)	206	3	193	187.658	ppb	187.658	1.40	160378	100	
(Pb)	207	3	193	179.932	ppb	179.932	0.59	132748	100	
Pb	208	3	193	184.592	ppb	184.592	0.54	626645	5000	
Th	232	3	193	53.613	ppb	53.613	0.42	191282	2000	
U	238	3	193	10.589	ppb	10.589	1.08	39610	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc (IS)	45	2	HMI H2	4820760	1.73	4176342	115.43	60	120	
Sc (IS)	45	3	HMI He	526097	1.69	454432	115.77	60	120	
Ge Internal standard	72	2	HMI H2	2492510	0.92	2219876	112.28	60	120	
Ge Internal standard	72	3	HMI He	594384	0.41	521662	113.94	60	120	
In Internal Standard	115	3	HMI He	2321483	1.50	2121087	109.45	60	120	
Ir (IS)	193	3	HMI He	3871121	0.67	3821950	101.29	60	120	

Sample Report

Sample Table

Sample Name	280-185669-a-10-i trl
Data File Name	222SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\79_122123.b
Acq Date Time	2023-12-21T21:02:04-07:00
Analyst	Denver Metals
Sample Type	Sample
Dilution	1
Comment	637894 SOIL 6020B
ISTD Ref FileName	039CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Fail

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Be	9	2	6	-0.051	ppb	-0.051	-22.46	3	2000	
Na	23	3	45	-311.194	ppb	-311.194	-2.07	41680	400000	
Mg	24	3	45	39.100	ppb	39.100	14.36	4372	400000	
Al	27	3	45	21.443	ppb	21.443	17.02	1462	400000	
K	39	3	45	-603.660	ppb	-603.660	-3.66	39405	400000	
Ca	40	2	45	436.797	ppb	436.797	8.95	781717	400000	
V	51	3	72	-0.547	ppb	-0.547	-4.44	135	2000	
Cr	52	3	72	-0.921	ppb	-0.921	-5.01	786	5000	
Mn	55	3	72	0.525	ppb	0.525	12.04	883	10000	
Fe	56	2	72	85.252	ppb	85.252	9.57	332920	10000	
Co	59	3	72	-0.011	ppb	-0.011	-72.29	148	2000	
Ni	60	3	72	-0.416	ppb	-0.416	-7.59	100	5000	
Cu	63	3	72	-0.310	ppb	-0.310	-12.18	576	5000	
Zn	66	3	72	-1.282	ppb	-1.282	-1.35	217	5000	
As	75	3	72	-0.361	ppb	-0.361	-18.49	23	2000	
Se	78	2	72	-0.053	ppb	-0.053	-102.53	7	2000	
Sr	88	3	72	0.292	ppb	0.292	27.28	468	4000	
Mo	95	3	115	-0.006	ppb	-0.006	-393.09	22	2000	
Ag	107	3	115	0.009	ppb	0.009	44.21	47	100	
Cd	111	3	115	-0.043	ppb	-0.043	-30.28	3	2000	
Sn	120	3	115	-0.656	ppb	-0.656	-3.24	293	2000	
Sb	121	3	115	0.003	ppb	0.003	1644.99	173	1000	
Ba	137	3	115	0.354	ppb	0.354	8.57	218	5000	
Tl	205	3	193	-0.215	ppb	-0.215	-3.53	307	2000	
(Pb)	206	3	193	-0.004	ppb	-0.004	-335.81	295	100	
(Pb)	207	3	193	-0.056	ppb	-0.056	-51.08	426	100	
Pb	208	3	193	-0.021	ppb	-0.021	-29.10	1308	5000	
Th	232	3	193	0.038	ppb	0.038	59.75	7675	2000	
U	238	3	193	0.000	ppb	0.000	-1590.53	2674	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc (IS)	45	2	HMI H2	10036724	2.44	4176342	240.32	60	120	IS Failed
Sc (IS)	45	3	HMI He	1272330	0.20	454432	279.98	60	120	IS Failed
Ge Internal standard	72	2	HMI H2	5355476	3.24	2219876	241.25	60	120	IS Failed
Ge Internal standard	72	3	HMI He	1525041	0.87	521662	292.34	60	120	IS Failed
In Internal Standard	115	3	HMI He	5646486	1.76	2121087	266.21	60	120	IS Failed
Ir (IS)	193	3	HMI He	9374916	1.20	3821950	245.29	60	120	IS Failed

Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV-8123148
Data File Name	223_CCV.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\79_122123.b
Acq Date Time	2023-12-21T21:04:20-07:00
Sample Type	CCV
Dilution	1
Comment	
ISTD Ref File Name	039CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Fail

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	Units	Conc %RSD	CPS	Exp Value	%Rec	%Low	%High2	QC Flag
Be	9	2	6	59.052	ppb	1.873	2934	50	118.1	90	110	>+\-10%
Na	23	3	45	51666.381	ppb	1.923	4408220	51000	101.3	90	110	
Mg	24	3	45	11192.648	ppb	2.140	495182	11000	101.8	90	110	
Al	27	3	45	1062.010	ppb	4.306	19944	1000	106.2	90	110	
K	39	3	45	11213.670	ppb	2.032	512575	11000	101.9	90	110	
Ca	40	2	45	12798.067	ppb	6.540	10062732	11000	116.3	90	110	>+\-10%
V	51	3	72	50.422	ppb	0.903	24810	50	100.8	90	110	
Cr	52	3	72	50.709	ppb	0.763	31366	50	101.4	90	110	
Mn	55	3	72	53.131	ppb	4.235	19107	50	106.3	90	110	
Fe	56	2	72	1258.566	ppb	4.933	2024427	1000	125.9	90	110	>+\-10%
Co	59	3	72	49.559	ppb	2.095	49866	50	99.1	90	110	
Ni	60	3	72	51.163	ppb	1.061	14090	50	102.3	90	110	
Cu	63	3	72	48.639	ppb	1.263	38133	50	97.3	90	110	
Zn	66	3	72	57.520	ppb	3.406	7495	50	115.0	90	110	>+\-10%
As	75	3	72	52.737	ppb	0.935	4782	50	105.5	90	110	
Se	78	2	72	57.071	ppb	5.276	2946	50	114.1	90	110	>+\-10%
Sr	88	3	72	103.719	ppb	1.292	52254	100	103.7	90	110	
Mo	95	3	115	52.062	ppb	3.039	19388	50	104.1	90	110	
Ag	107	3	115	52.134	ppb	1.835	64545	50	104.3	90	110	
Cd	111	3	115	51.134	ppb	2.049	9685	50	102.3	90	110	
Sn	120	3	115	53.245	ppb	1.145	33370	50	106.5	90	110	
Sb	121	3	115	52.901	ppb	0.654	30730	50	105.8	90	110	
Ba	137	3	115	53.540	ppb	3.758	11498	50	107.1	90	110	
Tl	205	3	193	49.338	ppb	3.926	138793	50	98.7	90	110	
(Pb)	206	3	193	50.672	ppb	4.563	47821	50	101.3	90	110	
(Pb)	207	3	193	50.421	ppb	2.517	41183	50	100.8	90	110	
Pb	208	3	193	50.445	ppb	4.422	189186	50	100.9	90	110	
Th	232	3	193	50.366	ppb	3.001	198278	50	100.7	90	110	
U	238	3	193	48.982	ppb	4.733	197471	50	98.0	90	110	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc (IS)	45	2	HMI H2	4687249	3.71	4176342	112.23	60	120	
Sc (IS)	45	3	HMI He	550573	2.23	454432	121.16	60	120	IS Failed
Ge Internal standard	72	2	HMI H2	2572172	4.52	2219876	115.87	60	120	
Ge Internal standard	72	3	HMI He	629043	0.68	521662	120.58	60	120	IS Failed
In Internal Standard	115	3	HMI He	2465192	1.25	2121087	116.22	60	120	
Ir (IS)	193	3	HMI He	4269819	3.46	3821950	111.72	60	120	

Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB-8123133
Data File Name	224_CCB.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\79_122123.b
Acq Date Time	2023-12-21T21:06:34-07:00
Sample Type	CCB
Dilution	1
Comment	
ISTD Ref File Name	039CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	Units	Conc %RSD	CPS	Upper Limit	QC Flag
Be	9	2	6	-0.031	ppb	-295.3	3	0.5	
Na	23	3	45	25.384	ppb	27.2	44113	25	>RL
Mg	24	3	45	28.888	ppb	15.4	1368	25	>RL
Al	27	3	45	11.820	ppb	39.5	430	15	
K	39	3	45	48.391	ppb	96.5	42145	50	
V	51	3	72	-0.319	ppb	-20.4	162	1	
Cr	52	3	72	0.136	ppb	25.3	933	1	
Mn	55	3	72	0.662	ppb	22.4	401	0.5	>RL
Co	59	3	72	-0.011	ppb	-123.0	60	0.5	
Ni	60	3	72	-0.252	ppb	-49.6	83	1	
Cu	63	3	72	0.140	ppb	59.9	570	1	
Zn	66	3	72	0.293	ppb	150.2	280	5	
As	75	3	72	-0.240	ppb	-39.8	20	1	
Se	78	2	72	0.019	ppb	220.6	7	1	
Sr	88	3	72	0.249	ppb	7.8	167	0.5	
Mo	95	3	115	0.036	ppb	35.7	25	0.5	
Ag	107	3	115	0.088	ppb	8.3	118	1	
Cd	111	3	115	-0.042	ppb	-36.7	2	0.5	
Sn	120	3	115	0.057	ppb	121.3	568	1	
Sb	121	3	115	0.303	ppb	12.7	250	0.6	
Ba	137	3	115	0.345	ppb	5.3	93	0.5	
Tl	205	3	193	-0.158	ppb	-4.7	283	0.1	
(Pb)	206	3	193	0.036	ppb	64.9	163	1	
(Pb)	207	3	193	0.046	ppb	115.0	263	1	
Pb	208	3	193	0.027	ppb	52.5	735	0.5	
Th	232	3	193	0.125	ppb	45.9	3635	1	
U	238	3	193	0.024	ppb	17.8	1248	0.5	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc (IS)	45	2	HMI H2	4939667	1.74	4176342	118.28	60	120	
Sc (IS)	45	3	HMI He	522588	0.81	454432	115.00	60	120	
Ge Internal standard	72	2	HMI H2	2625094	1.33	2219876	118.25	60	120	
Ge Internal standard	72	3	HMI He	611244	1.35	521662	117.17	60	120	
In Internal Standard	115	3	HMI He	2467219	1.14	2121087	116.32	60	120	
Ir (IS)	193	3	HMI He	4048570	0.33	3821950	105.93	60	120	

Sample Report

Sample Table

Sample Name	280-185835-b-1-a
Data File Name	225SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\79_122123.b
Acq Date Time	2023-12-21T21:08:52-07:00
Analyst	Denver Metals
Sample Type	Sample
Dilution	1
Comment	
ISTD Ref FileName	039CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Fail

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Be	9	2	6	-0.058	ppb	-0.058	-38.59	1	2000	
Na	23	3	45	14528.651	ppb	14528.651	3.00	1235611	400000	
Mg	24	3	45	13880.900	ppb	13880.900	1.40	596642	400000	
Al	27	3	45	105.195	ppb	105.195	13.15	2122	400000	
K	39	3	45	2403.805	ppb	2403.805	1.70	139069	400000	
Ca	40	2	45	54997.897	ppb	54997.897	0.88	46390022	400000	
V	51	3	72	0.170	ppb	0.170	37.04	408	2000	
Cr	52	3	72	0.612	ppb	0.612	33.11	1259	5000	
Mn	55	3	72	19.059	ppb	19.059	4.52	7033	10000	
Fe	56	2	72	147.858	ppb	147.858	2.51	272477	10000	
Co	59	3	72	0.173	ppb	0.173	18.07	248	2000	
Ni	60	3	72	0.245	ppb	0.245	37.43	223	5000	
Cu	63	3	72	13.506	ppb	13.506	1.68	11042	5000	
Zn	66	3	72	20.676	ppb	20.676	9.66	2881	5000	
As	75	3	72	0.250	ppb	0.250	84.14	65	2000	
Se	78	2	72	0.262	ppb	0.262	62.92	21	2000	
Sr	88	3	72	150.626	ppb	150.626	2.18	76608	4000	
Mo	95	3	115	18.860	ppb	18.860	5.49	7007	2000	
Ag	107	3	115	0.065	ppb	0.065	2.50	90	100	
Cd	111	3	115	0.046	ppb	0.046	115.00	18	2000	
Sn	120	3	115	-0.110	ppb	-0.110	-67.55	463	2000	
Sb	121	3	115	0.329	ppb	0.329	4.98	263	1000	
Ba	137	3	115	57.026	ppb	57.026	2.20	12205	5000	
Tl	205	3	193	-0.179	ppb	-0.179	-15.60	233	2000	
(Pb)	206	3	193	0.247	ppb	0.247	14.35	358	100	
(Pb)	207	3	193	0.236	ppb	0.236	25.22	416	100	
Pb	208	3	193	0.251	ppb	0.251	5.34	1554	5000	
Th	232	3	193	0.059	ppb	0.059	12.93	3450	2000	
U	238	3	193	13.933	ppb	13.933	3.94	55067	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc (IS)	45	2	HMI H2	5029015	0.81	4176342	120.42	60	120	IS Failed
Sc (IS)	45	3	HMI He	534754	1.46	454432	117.68	60	120	
Ge Internal standard	72	2	HMI H2	2698246	1.59	2219876	121.55	60	120	IS Failed
Ge Internal standard	72	3	HMI He	635209	1.49	521662	121.77	60	120	IS Failed
In Internal Standard	115	3	HMI He	2457207	2.26	2121087	115.85	60	120	
Ir (IS)	193	3	HMI He	4118690	1.29	3821950	107.76	60	120	

Sample Report

Sample Table

Sample Name	rinse-8086715
Data File Name	226SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\79_122123.b
Acq Date Time	2023-12-21T21:11:06-07:00
Analyst	Denver Metals
Sample Type	Sample
Dilution	1
Comment	
ISTD Ref FileName	039CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Fail

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Be	9	2	6	-0.063	ppb	-0.063	-0.10	2	2000	
Na	23	3	45	-314.948	ppb	-314.948	-3.99	41034	400000	
Mg	24	3	45	15.037	ppb	15.037	20.96	1912	400000	
Al	27	3	45	6.784	ppb	6.784	21.20	834	400000	
K	39	3	45	-618.313	ppb	-618.313	-6.73	38030	400000	
Ca	40	2	45	124.185	ppb	124.185	6.94	243673	400000	
V	51	3	72	-0.552	ppb	-0.552	-6.81	123	2000	
Cr	52	3	72	-0.915	ppb	-0.915	-3.09	761	5000	
Mn	55	3	72	0.108	ppb	0.108	67.70	500	10000	
Fe	56	2	72	21.796	ppb	21.796	8.30	116830	10000	
Co	59	3	72	-0.013	ppb	-0.013	-69.32	137	2000	
Ni	60	3	72	-0.397	ppb	-0.397	-12.30	107	5000	
Cu	63	3	72	-0.321	ppb	-0.321	-4.92	533	5000	
Zn	66	3	72	-1.352	ppb	-1.352	-6.15	187	5000	
As	75	3	72	-0.364	ppb	-0.364	-20.92	22	2000	
Se	78	2	72	-0.035	ppb	-0.035	-157.71	9	2000	
Sr	88	3	72	0.125	ppb	0.125	0.30	253	4000	
Mo	95	3	115	0.005	ppb	0.005	270.91	30	2000	
Ag	107	3	115	-0.003	ppb	-0.003	-120.66	13	100	
Cd	111	3	115	-0.043	ppb	-0.043	-15.79	3	2000	
Sn	120	3	115	-0.690	ppb	-0.690	-2.64	240	2000	
Sb	121	3	115	0.013	ppb	0.013	52.24	182	1000	
Ba	137	3	115	0.141	ppb	0.141	14.13	112	5000	
Tl	205	3	193	-0.222	ppb	-0.222	-1.60	260	2000	
(Pb)	206	3	193	-0.032	ppb	-0.032	-18.44	233	100	
(Pb)	207	3	193	-0.029	ppb	-0.029	-236.38	465	100	
Pb	208	3	193	-0.037	ppb	-0.037	-55.94	1151	5000	
Th	232	3	193	0.013	ppb	0.013	267.02	7347	2000	
U	238	3	193	0.006	ppb	0.006	103.56	2689	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc (IS)	45	2	HMI H2	9523761	0.63	4176342	228.04	60	120	IS Failed
Sc (IS)	45	3	HMI He	1276611	3.19	454432	280.92	60	120	IS Failed
Ge Internal standard	72	2	HMI H2	5075871	1.71	2219876	228.66	60	120	IS Failed
Ge Internal standard	72	3	HMI He	1458430	1.31	521662	279.57	60	120	IS Failed
In Internal Standard	115	3	HMI He	5533647	1.56	2121087	260.89	60	120	IS Failed
Ir (IS)	193	3	HMI He	9221395	2.20	3821950	241.27	60	120	IS Failed

Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV-8123148
Data File Name	227_CCV.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\79_122123.b
Acq Date Time	2023-12-21T21:13:23-07:00
Sample Type	CCV
Dilution	1
Comment	
ISTD Ref File Name	039CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Fail

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	Units	Conc %RSD	CPS	Exp Value	%Rec	%Low	%High2	QC Flag
Be	9	2	6	50.390	ppb	3.040	2686	50	100.8	90	110	
Na	23	3	45	52120.325	ppb	0.791	4414229	51000	102.2	90	110	
Mg	24	3	45	10936.578	ppb	0.257	480369	11000	99.4	90	110	
Al	27	3	45	1007.566	ppb	2.423	18798	1000	100.8	90	110	
K	39	3	45	11245.522	ppb	2.050	510165	11000	102.2	90	110	
Ca	40	2	45	11381.475	ppb	2.271	9476937	11000	103.5	90	110	
V	51	3	72	53.204	ppb	1.019	25307	50	106.4	90	110	
Cr	52	3	72	52.857	ppb	0.999	31595	50	105.7	90	110	
Mn	55	3	72	52.988	ppb	0.167	18433	50	106.0	90	110	
Fe	56	2	72	1108.766	ppb	0.593	1831579	1000	110.9	90	110	>+\-10%
Co	59	3	72	51.662	ppb	0.975	50284	50	103.3	90	110	
Ni	60	3	72	51.573	ppb	2.945	13738	50	103.1	90	110	
Cu	63	3	72	50.728	ppb	1.700	38459	50	101.5	90	110	
Zn	66	3	72	56.996	ppb	3.610	7187	50	114.0	90	110	>+\-10%
As	75	3	72	52.729	ppb	1.295	4625	50	105.5	90	110	
Se	78	2	72	53.387	ppb	3.341	2826	50	106.8	90	110	
Sr	88	3	72	106.374	ppb	1.660	51844	100	106.4	90	110	
Mo	95	3	115	51.368	ppb	1.552	19326	50	102.7	90	110	
Ag	107	3	115	52.354	ppb	2.652	65458	50	104.7	90	110	
Cd	111	3	115	49.763	ppb	3.808	9520	50	99.5	90	110	
Sn	120	3	115	52.381	ppb	1.576	33170	50	104.8	90	110	
Sb	121	3	115	52.165	ppb	2.481	30607	50	104.3	90	110	
Ba	137	3	115	53.222	ppb	2.064	11546	50	106.4	90	110	
Tl	205	3	193	52.153	ppb	0.941	140331	50	104.3	90	110	
(Pb)	206	3	193	53.386	ppb	0.358	48207	50	106.8	90	110	
(Pb)	207	3	193	52.291	ppb	1.752	40844	50	104.6	90	110	
Pb	208	3	193	53.814	ppb	0.878	193096	50	107.6	90	110	
Th	232	3	193	51.649	ppb	0.805	194433	50	103.3	90	110	
U	238	3	193	52.511	ppb	0.870	202523	50	105.0	90	110	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc (IS)	45	2	HMI H2	4955978	1.83	4176342	118.67	60	120	
Sc (IS)	45	3	HMI He	546424	0.73	454432	120.24	60	120	IS Failed
Ge Internal standard	72	2	HMI H2	2633673	2.23	2219876	118.64	60	120	
Ge Internal standard	72	3	HMI He	608568	0.87	521662	116.66	60	120	
In Internal Standard	115	3	HMI He	2490675	3.01	2121087	117.42	60	120	
Ir (IS)	193	3	HMI He	4082068	0.33	3821950	106.81	60	120	

Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB-8123133
Data File Name	228_CCB.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\79_122123.b
Acq Date Time	2023-12-21T21:15:37-07:00
Sample Type	CCB
Dilution	1
Comment	
ISTD Ref File Name	039CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Fail

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	Units	Conc %RSD	CPS	Upper Limit	QC Flag
Be	9	2	6	-0.045	ppb	-0.1	2	0.5	
Na	23	3	45	21.722	ppb	59.4	43413	25	
Mg	24	3	45	17.387	ppb	16.5	874	25	
Al	27	3	45	6.105	ppb	12.9	327	15	
K	39	3	45	7.102	ppb	424.1	40164	50	
V	51	3	72	-0.159	ppb	-55.3	237	1	
Cr	52	3	72	0.051	ppb	244.7	880	1	
Mn	55	3	72	0.595	ppb	37.8	375	0.5	>RL
Co	59	3	72	0.025	ppb	171.0	93	0.5	
Ni	60	3	72	0.320	ppb	242.7	235	1	
Cu	63	3	72	0.088	ppb	54.3	528	1	
Zn	66	3	72	-0.088	ppb	-50.9	232	5	
As	75	3	72	-0.257	ppb	-56.1	18	1	
Se	78	2	72	0.028	ppb	261.1	8	1	
Sr	88	3	72	0.268	ppb	3.5	175	0.5	
Mo	95	3	115	0.071	ppb	68.7	37	0.5	
Ag	107	3	115	0.050	ppb	25.8	70	1	
Cd	111	3	115	-0.033	ppb	-90.9	3	0.5	
Sn	120	3	115	0.114	ppb	63.0	586	1	
Sb	121	3	115	0.273	ppb	10.8	225	0.6	
Ba	137	3	115	0.184	ppb	72.7	57	0.5	
Tl	205	3	193	-0.150	ppb	-3.4	302	0.1	
(Pb)	206	3	193	0.018	ppb	188.2	145	1	
(Pb)	207	3	193	-0.033	ppb	-265.0	198	1	
Pb	208	3	193	0.007	ppb	518.7	651	0.5	
Th	232	3	193	0.239	ppb	37.9	3995	1	
U	238	3	193	0.018	ppb	84.8	1208	0.5	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc (IS)	45	2	HMI H2	4952915	0.85	4176342	118.59	60	120	
Sc (IS)	45	3	HMI He	518070	3.68	454432	114.00	60	120	
Ge Internal standard	72	2	HMI H2	2692182	0.67	2219876	121.28	60	120	IS Failed
Ge Internal standard	72	3	HMI He	607863	2.56	521662	116.52	60	120	
In Internal Standard	115	3	HMI He	2392712	3.92	2121087	112.81	60	120	
Ir (IS)	193	3	HMI He	3994632	2.37	3821950	104.52	60	120	

Blank Report

Sample Table

Sample Name	mb 280-638042/1-a
Data File Name	229_BLK.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\79_122123.b
Acq Date Time	2023-12-21T22:15:54-07:00
Sample Type	Blank
Dilution	1
Comment	638042 200.8/6020B
ISTD Ref File Name	039CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	Units	Conc %RSD	CPS	Upper Limit
Be	9	2	6	-0.084	ppb	-1.57723E-06	0	0.5
Na	23	3	45	-15.637	ppb	-93.86792155	40930	25
Mg	24	3	45	11.071	ppb	3.431151093	621	25
Al	27	3	45	4.192	ppb	84.21960792	297	15
K	39	3	45	32.711	ppb	136.1900929	41640	50
Ca	40	2	45	35.832	ppb	4.72957648	51513	200
V	51	3	72	-0.197	ppb	-30.86090689	218	1
Cr	52	3	72	0.108	ppb	152.2576419	911	1
Mn	55	3	72	0.069	ppb	91.86304144	195	0.5
Fe	56	2	72	3.858	ppb	25.99196029	31033	50
Co	59	3	72	-0.016	ppb	-65.88796149	55	0.5
Ni	60	3	72	-0.358	ppb	-8.958355028	55	1
Cu	63	3	72	-0.150	ppb	-20.42180038	350	1
Zn	66	3	72	2.224	ppb	17.12346153	513	5
As	75	3	72	-0.238	ppb	-64.49245063	20	1
(Se)	78	3	72	2.648	ppb	115.208577	48	1
Sr	88	3	72	0.134	ppb	33.91769718	110	0.5
Mo	95	3	115	0.024	ppb	172.4921557	20	0.5
Ag	107	3	115	0.014	ppb	31.40828993	27	1
Cd	111	3	115	-0.033	ppb	-93.07606301	3	0.5
Sn	120	3	115	-0.216	ppb	-30.64719299	388	1
Sb	121	3	115	0.038	ppb	125.3817808	93	0.6
Ba	137	3	115	0.150	ppb	49.75695684	50	0.5
Tl	205	3	193	-0.185	ppb	-6.465696405	202	0.1
(Pb)	206	3	193	0.038	ppb	88.03118778	157	1
(Pb)	207	3	193	0.317	ppb	5.282026598	445	1
Pb	208	3	193	0.100	ppb	34.96003001	938	0.5
Th	232	3	193	0.048	ppb	46.36777516	3162	1
U	238	3	193	0.008	ppb	100.3055613	1121	0.5

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc (IS)	45	2	HMI H2	4782584	0.36	4176342	114.52	60	120	
Sc (IS)	45	3	HMI He	524023	0.47	454432	115.31	60	120	
Ge Internal standard	72	2	HMI H2	2605437	1.01	2219876	117.37	60	120	
Ge Internal standard	72	3	HMI He	607881	0.40	521662	116.53	60	120	
In Internal Standard	115	3	HMI He	2392854	2.07	2121087	112.81	60	120	
Ir (IS)	193	3	HMI He	3819923	2.65	3821950	99.95	60	120	

Sample Report

Sample Table

Sample Name	rinse-8086715
Data File Name	230SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\79_122123.b
Acq Date Time	2023-12-21T22:20:35-07:00
Analyst	Denver Metals
Sample Type	Sample
Dilution	1
Comment	
ISTD Ref FileName	039CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Fail

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Be	9	2	6	-0.077	ppb	-0.077	-15.51	1	2000	
Na	23	3	45	-325.892	ppb	-325.892	-1.08	38712	400000	
Mg	24	3	45	1.667	ppb	1.667	54.09	544	400000	
Al	27	3	45	-0.173	ppb	-0.173	-1003.80	534	400000	
K	39	3	45	-609.698	ppb	-609.698	-5.05	38689	400000	
Ca	40	2	45	2.371	ppb	2.371	30.05	48867	400000	
V	51	3	72	-0.560	ppb	-0.560	-2.51	110	2000	
Cr	52	3	72	-0.921	ppb	-0.921	-4.84	721	5000	
Mn	55	3	72	-0.268	ppb	-0.268	-22.86	180	10000	
Fe	56	2	72	-1.089	ppb	-1.089	-25.18	43867	10000	
Co	59	3	72	-0.018	ppb	-0.018	-84.09	120	2000	
Ni	60	3	72	-0.435	ppb	-0.435	-9.79	80	5000	
Cu	63	3	72	-0.366	ppb	-0.366	-3.03	431	5000	
Zn	66	3	72	-1.316	ppb	-1.316	-4.40	188	5000	
As	75	3	72	-0.426	ppb	-0.426	-8.98	8	2000	
Se	78	2	72	-0.073	ppb	-0.073	-56.32	5	2000	
Sr	88	3	72	0.014	ppb	0.014	275.01	118	4000	
Mo	95	3	115	-0.011	ppb	-0.011	-62.54	17	2000	
Ag	107	3	115	0.000	ppb	0.000	-14.00	20	100	
Cd	111	3	115	-0.035	ppb	-0.035	-39.73	7	2000	
Sn	120	3	115	-0.634	ppb	-0.634	-4.51	312	2000	
Sb	121	3	115	-0.032	ppb	-0.032	-26.05	122	1000	
Ba	137	3	115	0.055	ppb	0.055	50.82	68	5000	
Tl	205	3	193	-0.224	ppb	-0.224	-2.67	240	2000	
(Pb)	206	3	193	-0.053	ppb	-0.053	-46.06	185	100	
(Pb)	207	3	193	0.015	ppb	0.015	216.58	526	100	
Pb	208	3	193	-0.040	ppb	-0.040	-6.72	1089	5000	
Th	232	3	193	0.019	ppb	0.019	103.52	7152	2000	
U	238	3	193	-0.001	ppb	-0.001	-419.26	2542	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc (IS)	45	2	HMI H2	9469176	1.99	4176342	226.73	60	120	IS Failed
Sc (IS)	45	3	HMI He	1269138	2.04	454432	279.28	60	120	IS Failed
Ge Internal standard	72	2	HMI H2	4956083	1.73	2219876	223.26	60	120	IS Failed
Ge Internal standard	72	3	HMI He	1395160	2.61	521662	267.45	60	120	IS Failed
In Internal Standard	115	3	HMI He	5419640	0.83	2121087	255.51	60	120	IS Failed
Ir (IS)	193	3	HMI He	8919741	2.26	3821950	233.38	60	120	IS Failed

Sample Report

Sample Table

Sample Name	rinse-8086715
Data File Name	231SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\79_122123.b
Acq Date Time	2023-12-21T22:22:50-07:00
Analyst	Denver Metals
Sample Type	Sample
Dilution	1
Comment	
ISTD Ref FileName	039CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Fail

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Be	9	2	6	-0.084	ppb	-0.084	0.00	0	2000	
Na	23	3	45	-331.546	ppb	-331.546	-1.22	38310	400000	
Mg	24	3	45	2.436	ppb	2.436	12.35	634	400000	
Al	27	3	45	0.305	ppb	0.305	424.80	564	400000	
K	39	3	45	-620.984	ppb	-620.984	-4.98	38344	400000	
Ca	40	2	45	6.259	ppb	6.259	65.81	54243	400000	
V	51	3	72	-0.573	ppb	-0.573	-2.11	98	2000	
Cr	52	3	72	-0.971	ppb	-0.971	-0.75	670	5000	
Mn	55	3	72	-0.167	ppb	-0.167	-33.05	267	10000	
Fe	56	2	72	-0.379	ppb	-0.379	-284.24	46411	10000	
Co	59	3	72	-0.014	ppb	-0.014	-69.28	133	2000	
Ni	60	3	72	-0.456	ppb	-0.456	-4.47	68	5000	
Cu	63	3	72	-0.360	ppb	-0.360	-9.66	451	5000	
Zn	66	3	72	-1.224	ppb	-1.224	-11.77	220	5000	
As	75	3	72	-0.411	ppb	-0.411	-3.29	12	2000	
Se	78	2	72	-0.080	ppb	-0.080	-65.79	4	2000	
Sr	88	3	72	-0.007	ppb	-0.007	-307.16	97	4000	
Mo	95	3	115	-0.019	ppb	-0.019	-31.34	10	2000	
Ag	107	3	115	0.003	ppb	0.003	157.48	30	100	
Cd	111	3	115	-0.035	ppb	-0.035	-19.46	7	2000	
Sn	120	3	115	-0.672	ppb	-0.672	-2.47	265	2000	
Sb	121	3	115	-0.027	ppb	-0.027	-106.22	130	1000	
Ba	137	3	115	0.017	ppb	0.017	194.09	52	5000	
Tl	205	3	193	-0.231	ppb	-0.231	-4.18	200	2000	
(Pb)	206	3	193	-0.061	ppb	-0.061	-27.71	173	100	
(Pb)	207	3	193	-0.066	ppb	-0.066	-62.19	398	100	
Pb	208	3	193	-0.061	ppb	-0.061	-29.44	950	5000	
Th	232	3	193	0.013	ppb	0.013	84.65	7279	2000	
U	238	3	193	0.001	ppb	0.001	1356.03	2617	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc (IS)	45	2	HMI H2	9361978	4.37	4176342	224.17	60	120	IS Failed
Sc (IS)	45	3	HMI He	1292894	1.78	454432	284.51	60	120	IS Failed
Ge Internal standard	72	2	HMI H2	5002528	3.45	2219876	225.35	60	120	IS Failed
Ge Internal standard	72	3	HMI He	1428463	2.07	521662	273.83	60	120	IS Failed
In Internal Standard	115	3	HMI He	5519649	0.78	2121087	260.23	60	120	IS Failed
Ir (IS)	193	3	HMI He	9140113	1.05	3821950	239.15	60	120	IS Failed

Sample Report

Sample Table

Sample Name	rinse-8086715
Data File Name	232SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\79_122123.b
Acq Date Time	2023-12-21T22:25:06-07:00
Analyst	Denver Metals
Sample Type	Sample
Dilution	1
Comment	
ISTD Ref FileName	039CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Fail

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Be	9	2	6	-0.070	ppb	-0.070	-16.32	1	2000	
Na	23	3	45	-333.935	ppb	-333.935	-1.23	38173	400000	
Mg	24	3	45	2.947	ppb	2.947	10.57	694	400000	
Al	27	3	45	-0.748	ppb	-0.748	-424.92	521	400000	
K	39	3	45	-614.316	ppb	-614.316	-3.24	39341	400000	
Ca	40	2	45	15.043	ppb	15.043	18.66	67936	400000	
V	51	3	72	-0.577	ppb	-0.577	-2.38	97	2000	
Cr	52	3	72	-0.918	ppb	-0.918	-3.80	763	5000	
Mn	55	3	72	-0.178	ppb	-0.178	-26.19	267	10000	
Fe	56	2	72	1.172	ppb	1.172	79.53	52110	10000	
Co	59	3	72	-0.020	ppb	-0.020	-22.82	122	2000	
Ni	60	3	72	-0.452	ppb	-0.452	-9.74	73	5000	
Cu	63	3	72	-0.365	ppb	-0.365	-3.64	458	5000	
Zn	66	3	72	-1.256	ppb	-1.256	-1.57	217	5000	
As	75	3	72	-0.341	ppb	-0.341	-8.33	27	2000	
Se	78	2	72	-0.029	ppb	-0.029	-34.25	9	2000	
Sr	88	3	72	0.017	ppb	0.017	166.97	128	4000	
Mo	95	3	115	-0.020	ppb	-0.020	-28.97	10	2000	
Ag	107	3	115	0.005	ppb	0.005	163.86	35	100	
Cd	111	3	115	-0.051	ppb	-0.051	0.00	0	2000	
Sn	120	3	115	-0.690	ppb	-0.690	-4.32	243	2000	
Sb	121	3	115	-0.049	ppb	-0.049	-24.76	103	1000	
Ba	137	3	115	0.057	ppb	0.057	78.29	72	5000	
Tl	205	3	193	-0.230	ppb	-0.230	-2.00	208	2000	
(Pb)	206	3	193	-0.065	ppb	-0.065	-10.68	168	100	
(Pb)	207	3	193	-0.048	ppb	-0.048	-73.24	435	100	
Pb	208	3	193	-0.053	ppb	-0.053	-29.13	1026	5000	
Th	232	3	193	0.039	ppb	0.039	58.68	7585	2000	
U	238	3	193	0.008	ppb	0.008	238.48	2716	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc (IS)	45	2	HMI H2	9335455	3.12	4176342	223.53	60	120	IS Failed
Sc (IS)	45	3	HMI He	1304645	2.59	454432	287.09	60	120	IS Failed
Ge Internal standard	72	2	HMI H2	5088477	2.75	2219876	229.22	60	120	IS Failed
Ge Internal standard	72	3	HMI He	1471927	2.03	521662	282.16	60	120	IS Failed
In Internal Standard	115	3	HMI He	5620549	2.31	2121087	264.98	60	120	IS Failed
Ir (IS)	193	3	HMI He	9252775	1.06	3821950	242.10	60	120	IS Failed

Sample Report

Sample Table

Sample Name	rinse-8086715
Data File Name	233SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\79_122123.b
Acq Date Time	2023-12-21T22:27:20-07:00
Analyst	Denver Metals
Sample Type	Sample
Dilution	1
Comment	
ISTD Ref FileName	039CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Fail

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Be	9	2	6	-0.064	ppb	-0.064	-31.05	2	2000	
Na	23	3	45	-331.083	ppb	-331.083	-1.55	38595	400000	
Mg	24	3	45	4.480	ppb	4.480	27.01	851	400000	
Al	27	3	45	-0.976	ppb	-0.976	-240.24	511	400000	
K	39	3	45	-626.136	ppb	-626.136	-3.72	38010	400000	
Ca	40	2	45	12.688	ppb	12.688	19.64	68066	400000	
V	51	3	72	-0.563	ppb	-0.563	-1.59	112	2000	
Cr	52	3	72	-0.944	ppb	-0.944	-7.68	718	5000	
Mn	55	3	72	-0.150	ppb	-0.150	-25.67	287	10000	
Fe	56	2	72	0.699	ppb	0.699	138.74	52240	10000	
Co	59	3	72	-0.019	ppb	-0.019	-13.48	123	2000	
Ni	60	3	72	-0.452	ppb	-0.452	-7.25	72	5000	
Cu	63	3	72	-0.336	ppb	-0.336	-5.32	505	5000	
Zn	66	3	72	-1.314	ppb	-1.314	-7.64	198	5000	
As	75	3	72	-0.315	ppb	-0.315	-24.71	32	2000	
Se	78	2	72	-0.095	ppb	-0.095	-22.34	3	2000	
Sr	88	3	72	-0.004	ppb	-0.004	-119.48	102	4000	
Mo	95	3	115	-0.002	ppb	-0.002	-564.66	25	2000	
Ag	107	3	115	0.003	ppb	0.003	120.42	30	100	
Cd	111	3	115	-0.043	ppb	-0.043	-15.73	3	2000	
Sn	120	3	115	-0.692	ppb	-0.692	-0.96	240	2000	
Sb	121	3	115	-0.067	ppb	-0.067	-9.20	78	1000	
Ba	137	3	115	0.096	ppb	0.096	51.26	90	5000	
Tl	205	3	193	-0.229	ppb	-0.229	-1.24	218	2000	
(Pb)	206	3	193	-0.051	ppb	-0.051	-25.36	197	100	
(Pb)	207	3	193	-0.047	ppb	-0.047	-70.70	438	100	
Pb	208	3	193	-0.047	ppb	-0.047	-10.65	1076	5000	
Th	232	3	193	0.013	ppb	0.013	91.09	7380	2000	
U	238	3	193	0.009	ppb	0.009	205.93	2726	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc (IS)	45	2	HMI H2	9887042	2.67	4176342	236.74	60	120	IS Failed
Sc (IS)	45	3	HMI He	1299063	0.52	454432	285.87	60	120	IS Failed
Ge Internal standard	72	2	HMI H2	5256794	5.47	2219876	236.81	60	120	IS Failed
Ge Internal standard	72	3	HMI He	1455814	5.42	521662	279.07	60	120	IS Failed
In Internal Standard	115	3	HMI He	5568361	1.05	2121087	262.52	60	120	IS Failed
Ir (IS)	193	3	HMI He	9265304	2.24	3821950	242.42	60	120	IS Failed

Sample Report

Sample Table

Sample Name	rinse-8086715
Data File Name	234SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\79_122123.b
Acq Date Time	2023-12-21T22:29:36-07:00
Analyst	Denver Metals
Sample Type	Sample
Dilution	1
Comment	
ISTD Ref FileName	039CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Fail

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Be	9	2	6	-0.064	ppb	-0.064	-0.20	2	2000	
Na	23	3	45	-334.704	ppb	-334.704	-2.11	38327	400000	
Mg	24	3	45	4.531	ppb	4.531	34.29	864	400000	
Al	27	3	45	2.769	ppb	2.769	34.73	684	400000	
K	39	3	45	-621.222	ppb	-621.222	-3.19	38960	400000	
Ca	40	2	45	11.813	ppb	11.813	20.65	64694	400000	
V	51	3	72	-0.575	ppb	-0.575	-0.72	100	2000	
Cr	52	3	72	-0.991	ppb	-0.991	-0.79	671	5000	
Mn	55	3	72	-0.148	ppb	-0.148	-53.43	295	10000	
Fe	56	2	72	1.039	ppb	1.039	65.60	51421	10000	
Co	59	3	72	-0.029	ppb	-0.029	-33.32	103	2000	
Ni	60	3	72	-0.436	ppb	-0.436	-5.93	85	5000	
Cu	63	3	72	-0.399	ppb	-0.399	-9.29	401	5000	
Zn	66	3	72	-1.255	ppb	-1.255	-15.72	220	5000	
As	75	3	72	-0.406	ppb	-0.406	-3.32	13	2000	
Se	78	2	72	-0.035	ppb	-0.035	-116.69	9	2000	
Sr	88	3	72	0.043	ppb	0.043	69.45	162	4000	
Mo	95	3	115	0.000	ppb	0.000	3450.18	27	2000	
Ag	107	3	115	0.004	ppb	0.004	112.47	33	100	
Cd	111	3	115	-0.043	ppb	-0.043	-15.70	3	2000	
Sn	120	3	115	-0.668	ppb	-0.668	-3.02	273	2000	
Sb	121	3	115	-0.062	ppb	-0.062	-26.57	85	1000	
Ba	137	3	115	0.050	ppb	0.050	72.88	68	5000	
Tl	205	3	193	-0.233	ppb	-0.233	-1.46	195	2000	
(Pb)	206	3	193	-0.056	ppb	-0.056	-40.63	190	100	
(Pb)	207	3	193	-0.025	ppb	-0.025	-84.01	486	100	
Pb	208	3	193	-0.048	ppb	-0.048	-20.84	1089	5000	
Th	232	3	193	-0.022	ppb	-0.022	-247.99	7235	2000	
U	238	3	193	0.009	ppb	0.009	149.65	2781	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc (IS)	45	2	HMI H2	9595483	1.53	4176342	229.76	60	120	IS Failed
Sc (IS)	45	3	HMI He	1315836	3.78	454432	289.56	60	120	IS Failed
Ge Internal standard	72	2	HMI H2	5057758	0.88	2219876	227.84	60	120	IS Failed
Ge Internal standard	72	3	HMI He	1494274	0.71	521662	286.44	60	120	IS Failed
In Internal Standard	115	3	HMI He	5578514	1.74	2121087	263.00	60	120	IS Failed
Ir (IS)	193	3	HMI He	9461859	0.60	3821950	247.57	60	120	IS Failed

Sample Report

Sample Table

Sample Name	rinse-8086715
Data File Name	235SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\79_122123.b
Acq Date Time	2023-12-21T22:31:52-07:00
Analyst	Denver Metals
Sample Type	Sample
Dilution	1
Comment	
ISTD Ref FileName	039CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Fail

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Be	9	2	6	-0.042	ppb	-0.042	-86.91	3	2000	
Na	23	3	45	-43.073	ppb	-43.073	-17.65	49797	400000	
Mg	24	3	45	87.925	ppb	87.925	2.48	4959	400000	
Al	27	3	45	2.352	ppb	2.352	47.77	340	400000	
K	39	3	45	-207.984	ppb	-207.984	-9.91	41182	400000	
Ca	40	2	45	50.954	ppb	50.954	3.55	80521	400000	
V	51	3	72	-0.480	ppb	-0.480	-15.07	110	2000	
Cr	52	3	72	-0.364	ppb	-0.364	-21.41	820	5000	
Mn	55	3	72	0.440	ppb	0.440	11.12	415	10000	
Fe	56	2	72	5.173	ppb	5.173	4.72	42139	10000	
Co	59	3	72	-0.001	ppb	-0.001	-392.89	88	2000	
Ni	60	3	72	-0.355	ppb	-0.355	-11.49	72	5000	
Cu	63	3	72	-0.226	ppb	-0.226	-12.38	376	5000	
Zn	66	3	72	-1.171	ppb	-1.171	-7.25	128	5000	
As	75	3	72	-0.349	ppb	-0.349	-7.41	13	2000	
Se	78	2	72	0.051	ppb	0.051	180.06	11	2000	
Sr	88	3	72	0.552	ppb	0.552	15.53	403	4000	
Mo	95	3	115	0.051	ppb	0.051	32.07	38	2000	
Ag	107	3	115	0.012	ppb	0.012	50.38	30	100	
Cd	111	3	115	-0.023	ppb	-0.023	-55.40	7	2000	
Sn	120	3	115	-0.560	ppb	-0.560	-3.92	235	2000	
Sb	121	3	115	-0.008	ppb	-0.008	-311.00	87	1000	
Ba	137	3	115	0.102	ppb	0.102	65.12	52	5000	
Tl	205	3	193	-0.184	ppb	-0.184	-5.68	265	2000	
(Pb)	206	3	193	-0.007	ppb	-0.007	-401.38	155	100	
(Pb)	207	3	193	0.025	ppb	0.025	143.05	305	100	
Pb	208	3	193	-0.012	ppb	-0.012	-156.76	736	5000	
Th	232	3	193	0.012	ppb	0.012	214.94	3982	2000	
U	238	3	193	0.010	ppb	0.010	174.65	1478	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc (IS)	45	2	HMI H2	6052187	2.01	4176342	144.92	60	120	IS Failed
Sc (IS)	45	3	HMI He	673832	0.30	454432	148.28	60	120	IS Failed
Ge Internal standard	72	2	HMI H2	3311446	1.57	2219876	149.17	60	120	IS Failed
Ge Internal standard	72	3	HMI He	781838	1.10	521662	149.87	60	120	IS Failed
In Internal Standard	115	3	HMI He	3090733	2.12	2121087	145.71	60	120	IS Failed
Ir (IS)	193	3	HMI He	5003303	1.80	3821950	130.91	60	120	IS Failed

Calibration Blank Report

Sample Table

Sample Name2	ICIS-8123133
Data File Name	236CALB.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\79_122123.b
Method	
Acq Date Time	2023-12-21T22:35:50-07:00
Sample Type	CalBlk
Level	1
Dilution	1
Comment	

QC Analyte Table

Name	Mass	I.S	Tune Step	Tune Mode	CPS	%RSD
Be	9	6	2	HMI H2	3	3247.60
Na	23	45	3	HMI He	41094	0.00
Mg	24	45	3	HMI He	474	3.71
Al	27	45	3	HMI He	280	5.84
K	39	45	3	HMI He	42326	0.01
Ca	40	45	2	HMI H2	35842	0.01
V	51	72	3	HMI He	168	10.19
Cr	52	72	3	HMI He	841	0.53
Mn	55	72	3	HMI He	175	7.12
Fe	56	72	2	HMI H2	31347	0.00
Co	59	72	3	HMI He	87	10.17
Ni	60	72	3	HMI He	75	8.89
Cu	63	72	3	HMI He	418	2.07
Zn	66	72	3	HMI He	253	2.74
As	75	72	3	HMI He	22	325.48
Se	78	72	2	HMI H2	7	936.75
(Se)	78	72	3	HMI He	72	31.31
Sr	88	72	3	HMI He	77	42.83
Mo	95	115	3	HMI He	13	324.60
Ag	107	115	3	HMI He	28	71.91
Cd	111	115	3	HMI He	5	2000.00
Sn	120	115	3	HMI He	453	2.04
Sb	121	115	3	HMI He	108	14.97
Ba	137	115	3	HMI He	32	160.36
Tl	205	193	3	HMI He	165	6.62
(Pb)	206	193	3	HMI He	120	6.02
(Pb)	207	193	3	HMI He	230	10.23
Pb	208	193	3	HMI He	571	2.14
Th	232	193	3	HMI He	3172	0.04
U	238	193	3	HMI He	1046	0.75

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD
Sc (IS)	45	2	HMI H2	4904275	0.62
Sc (IS)	45	3	HMI He	524825	1.01
Ge Internal standard	72	2	HMI H2	2587308	2.11
Ge Internal standard	72	3	HMI He	614615	0.44
In Internal Standard	115	3	HMI He	2409771	0.97
Ir (IS)	193	3	HMI He	3878719	1.45

Calibration Standard Report

Sample Table

Sample Name	IC-8123135
Data File Name	237CALS.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\79_122123.b
Acq Date Time	2023-12-21T22:38:09-07:00
Sample Type	CalStd
Level	4
Dilution	1
Comment	CAL 4 (Ca. Mg. Na. K .only)
ISTD Ref File Name	236CALB.d
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Concentration	ConcentrationUnits
Be	9	2	HMI H2	1	25980.76	-0.0394859822822937	ppb
Na	23	3	HMI He	8717213	0.00	100000	ppb
Mg	24	3	HMI He	959282	0.00	20000	ppb
Al	27	3	HMI He	297	6.45	0.497390079353758	ppb
K	39	3	HMI He	937616	0.00	20000	ppb
Ca	40	2	HMI H2	16443958	0.00	20000	ppb
V	51	3	HMI He	212	6.45	0.0947366623575793	ppb
Cr	52	3	HMI He	1025	0.27	0.327094394540236	ppb
Mn	55	3	HMI He	218	11.51	0.129763352637023	ppb
Co	59	3	HMI He	88	9.79	0.00250933924414982	ppb
Ni	60	3	HMI He	97	22.29	0.0848762327035862	ppb
Cu	63	3	HMI He	368	3.69	-0.0622481321554892	ppb
Zn	66	3	HMI He	278	6.00	0.224615009587762	ppb
As	75	3	HMI He	25	0.00	0.0408127634031225	ppb
Se	78	2	HMI H2	4	0.00	-0.0548740482968737	ppb
(Se)	78	3	HMI He	57	17.98	-2.32443387809557	ppb
Sr	88	3	HMI He	287	5.46	0.432090693358032	ppb
Mo	95	3	HMI He	38	70.87	0.0698465578533233	ppb
Ag	107	3	HMI He	45	74.09	0.0138797555983379	ppb
Cd	111	3	HMI He	10	499.83	0.0284955678994599	ppb
Sn	120	3	HMI He	555	1.23	0.181026219426532	ppb
Sb	121	3	HMI He	110	8.27	0.00525259415060479	ppb
Ba	137	3	HMI He	157	17.34	0.610980061270717	ppb
Tl	205	3	HMI He	170	4.58	0.000719751511621233	ppb
(Pb)	206	3	HMI He	187	12.54	0.0738680495782554	ppb
(Pb)	207	3	HMI He	318	2.48	0.110928579996859	ppb
Pb	208	3	HMI He	886	0.49	0.0880109986261529	ppb
Th	232	3	HMI He	3434	0.08	0.0566063250083425	ppb
U	238	3	HMI He	1189	0.50	0.0328798313946095	ppb

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc (IS)	45	2	HMI H2	5089532	1.13	4904275	103.78	60	120	
Sc (IS)	45	3	HMI He	538461	1.31	524825	102.60	60	120	
Ge Internal standard	72	2	HMI H2	2688283	0.44	2587308	103.90	60	120	
Ge Internal standard	72	3	HMI He	609406	1.22	614615	99.15	60	120	
In Internal Standard	115	3	HMI He	2383571	4.85	2409771	98.91	60	120	
Ir (IS)	193	3	HMI He	3951891	4.42	3878719	101.89	60	120	

Calibration Standard Report

Sample Table

Sample Name	IC-8123134
Data File Name	238CALS.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\79_122123.b
Acq Date Time	2023-12-21T22:40:25-07:00
Sample Type	CalStd
Level	3
Dilution	1
Comment	CAL (no Ca. Mg. Na. K.)
ISTD Ref File Name	236CALB.d
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Concentration	ConcentrationUnits
Be	9	2	HMI H2	5104	0.02	100	ppb
Na	23	3	HMI He	213850	0.00	1990.46917584816	ppb
Mg	24	3	HMI He	91562	0.00	1908.84239853824	ppb
Al	27	3	HMI He	36718	0.01	2000	ppb
K	39	3	HMI He	128903	0.00	1925.92146342184	ppb
Ca	40	2	HMI H2	1748290	0.00	2131.37057712128	ppb
V	51	3	HMI He	48485	0.00	100	ppb
Cr	52	3	HMI He	61205	0.00	100	ppb
Mn	55	3	HMI He	35329	0.00	100	ppb
Co	59	3	HMI He	97735	0.00	100	ppb
Ni	60	3	HMI He	26549	0.00	100	ppb
Cu	63	3	HMI He	76263	0.00	100	ppb
Zn	66	3	HMI He	12646	0.02	100	ppb
As	75	3	HMI He	9030	0.01	100	ppb
Se	78	2	HMI H2	5408	0.03	100	ppb
(Se)	78	3	HMI He	708	1.69	100	ppb
Sr	88	3	HMI He	102197	0.00	200	ppb
Mo	95	3	HMI He	37989	0.01	100	ppb
Ag	107	3	HMI He	122827	0.00	100	ppb
Cd	111	3	HMI He	18982	0.00	100	ppb
Sn	120	3	HMI He	63407	0.00	100	ppb
Sb	121	3	HMI He	59623	0.00	100	ppb
Ba	137	3	HMI He	21515	0.01	100	ppb
Tl	205	3	HMI He	274336	0.00	100	ppb
(Pb)	206	3	HMI He	90980	0.00	100	ppb
(Pb)	207	3	HMI He	79772	0.00	100	ppb
Pb	208	3	HMI He	364689	0.00	100	ppb
Th	232	3	HMI He	376296	0.00	100	ppb
U	238	3	HMI He	388021	0.00	100	ppb

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc (IS)	45	2	HMI H2	4985719	2.06	4904275	101.66	60	120	
Sc (IS)	45	3	HMI He	536005	2.10	524825	102.13	60	120	
Ge Internal standard	72	2	HMI H2	2706412	2.52	2587308	104.60	60	120	
Ge Internal standard	72	3	HMI He	626246	1.37	614615	101.89	60	120	
In Internal Standard	115	3	HMI He	2451895	3.18	2409771	101.75	60	120	
Ir (IS)	193	3	HMI He	3986650	1.52	3878719	102.78	60	120	

Initial Calibration Verification (ICV) Report

Sample Table

Sample Name	ICV-8123149
Data File Name	239_ICV.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\79_122123.b
Acq Date Time	2023-12-21T22:42:41-07:00
Sample Type	ICV
Dilution	1
Comment	
ISTD Ref File Name	236CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	Conc %RSD	CPS	Exp Value	%Rec	%Low	%High	QC Flag
Be	9	2	6	40.173	ppb	1.303	2064	40	100.4	90	110	
Na	23	3	45	12933.671	ppb	0.578	1179300	12800	101.0	90	110	
Mg	24	3	45	4485.818	ppb	2.749	218324	4800	93.5	90	110	
Al	27	3	45	810.213	ppb	5.948	15300	800	101.3	90	110	
K	39	3	45	4559.227	ppb	3.219	250469	4800	95.0	90	110	
Ca	40	2	45	5124.389	ppb	2.181	4194212	4800	106.8	90	110	
V	51	3	72	40.738	ppb	1.013	20028	40	101.8	90	110	
Cr	52	3	72	40.282	ppb	4.391	25366	40	100.7	90	110	
Mn	55	3	72	40.732	ppb	4.614	14615	40	101.8	90	110	
Fe	56	2	72	859.080	ppb	1.851	1416014	800	107.4	90	110	
Co	59	3	72	40.277	ppb	2.765	39739	40	100.7	90	110	
Ni	60	3	72	39.835	ppb	1.489	10711	40	99.6	90	110	
Cu	63	3	72	39.661	ppb	0.972	30757	40	99.2	90	110	
Zn	66	3	72	78.006	ppb	4.958	10000	80	97.5	90	110	
As	75	3	72	41.895	ppb	5.946	3825	40	104.7	90	110	
Se	78	2	72	41.655	ppb	2.231	2241	40	104.1	90	110	
Sr	88	3	72	119.352	ppb	1.959	61519	120	99.5	90	110	
Mo	95	3	115	41.373	ppb	0.787	15701	40	103.4	90	110	
Ag	107	3	115	81.988	ppb	2.923	100584	80	102.5	90	110	
Cd	111	3	115	38.961	ppb	4.809	7388	40	97.4	90	110	
Sn	120	3	115	39.780	ppb	5.223	25475	40	99.4	90	110	
Sb	121	3	115	42.794	ppb	1.579	25548	40	107.0	90	110	
Ba	137	3	115	39.869	ppb	4.425	8585	40	99.7	90	110	
Tl	205	3	193	38.904	ppb	5.094	110913	40	97.3	90	110	
(Pb)	206	3	193	40.293	ppb	3.642	38153	40	100.7	90	110	
(Pb)	207	3	193	38.553	ppb	3.389	32101	40	96.4	90	110	
Pb	208	3	193	39.130	ppb	3.843	148572	40	97.8	90	110	
Th	232	3	193	77.216	ppb	1.689	302696	80	96.5	90	110	
U	238	3	193	38.859	ppb	5.232	157197	40	97.1	90	110	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc (IS)	45	2	HMI H2	5034205	1.20	4904275	102.65	60	120	
Sc (IS)	45	3	HMI He	545399	1.48	524825	103.92	60	120	
Ge Internal standard	72	2	HMI H2	2685927	0.86	2587308	103.81	60	120	
Ge Internal standard	72	3	HMI He	631550	2.06	614615	102.76	60	120	
In Internal Standard	115	3	HMI He	2447122	1.55	2409771	101.55	60	120	
Ir (IS)	193	3	HMI He	4143294	3.52	3878719	106.82	60	120	

Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV-8123148
Data File Name	240_CCV.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\79_122123.b
Acq Date Time	2023-12-21T22:44:56-07:00
Sample Type	CCV
Dilution	1
Comment	
ISTD Ref File Name	236CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	Units	Conc %RSD	CPS	Exp Value	%Rec	%Low	%High2	QC Flag
Be	9	2	6	52.305	ppb	1.521	2724	50	104.6	90	110	
Na	23	3	45	49960.473	ppb	3.115	4396596	51000	98.0	90	110	
Mg	24	3	45	9941.105	ppb	3.127	479311	11000	90.4	90	110	
Al	27	3	45	1050.836	ppb	4.217	19603	1000	105.1	90	110	
K	39	3	45	10671.952	ppb	1.929	523082	11000	97.0	90	110	
Ca	40	2	45	11189.415	ppb	1.366	9259027	11000	101.7	90	110	
V	51	3	72	51.865	ppb	0.669	25279	50	103.7	90	110	
Cr	52	3	72	51.341	ppb	1.119	31897	50	102.7	90	110	
Mn	55	3	72	50.292	ppb	1.423	17891	50	100.6	90	110	
Fe	56	2	72	1090.819	ppb	1.558	1791714	1000	109.1	90	110	
Co	59	3	72	50.790	ppb	2.278	49769	50	101.6	90	110	
Ni	60	3	72	52.362	ppb	3.540	13963	50	104.7	90	110	
Cu	63	3	72	51.495	ppb	3.466	39537	50	103.0	90	110	
Zn	66	3	72	56.447	ppb	4.591	7263	50	112.9	90	110	>+\-10%
As	75	3	72	50.954	ppb	3.767	4620	50	101.9	90	110	
Se	78	2	72	54.958	ppb	1.889	2958	50	109.9	90	110	
Sr	88	3	72	102.001	ppb	2.566	52249	100	102.0	90	110	
Mo	95	3	115	49.923	ppb	3.915	19496	50	99.8	90	110	
Ag	107	3	115	50.572	ppb	3.747	63879	50	101.1	90	110	
Cd	111	3	115	50.560	ppb	1.672	9872	50	101.1	90	110	
Sn	120	3	115	49.940	ppb	5.326	32799	50	99.9	90	110	
Sb	121	3	115	49.286	ppb	0.437	30281	50	98.6	90	110	
Ba	137	3	115	49.239	ppb	1.511	10912	50	98.5	90	110	
Tl	205	3	193	50.722	ppb	3.191	141620	50	101.4	90	110	
(Pb)	206	3	193	49.051	ppb	2.129	45470	50	98.1	90	110	
(Pb)	207	3	193	51.580	ppb	3.038	41979	50	103.2	90	110	
Pb	208	3	193	50.025	ppb	3.480	185864	50	100.0	90	110	
Th	232	3	193	50.445	ppb	1.203	194813	50	100.9	90	110	
U	238	3	193	50.554	ppb	5.144	199970	50	101.1	90	110	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc (IS)	45	2	HMI H2	5113509	1.31	4904275	104.27	60	120	
Sc (IS)	45	3	HMI He	541001	1.17	524825	103.08	60	120	
Ge Internal standard	72	2	HMI H2	2689429	1.02	2587308	103.95	60	120	
Ge Internal standard	72	3	HMI He	627349	0.80	614615	102.07	60	120	
In Internal Standard	115	3	HMI He	2519827	2.48	2409771	104.57	60	120	
Ir (IS)	193	3	HMI He	4056789	2.62	3878719	104.59	60	120	

Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB-8123133
Data File Name	241_CCB.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\79_122123.b
Acq Date Time	2023-12-21T22:47:12-07:00
Sample Type	CCB
Dilution	1
Comment	
ISTD Ref File Name	236CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	Units	Conc %RSD	CPS	Upper Limit	QC Flag
Be	9	2	6	-0.001	ppb	-5653.6	3	0.5	
Na	23	3	45	45.308	ppb	28.4	45334	25	>RL
Mg	24	3	45	-1.217	ppb	-71.0	420	25	
Al	27	3	45	-0.148	ppb	-860.2	280	15	
K	39	3	45	-24.116	ppb	-197.6	41640	50	
V	51	3	72	0.020	ppb	538.7	177	1	
Cr	52	3	72	0.194	ppb	46.2	951	1	
Mn	55	3	72	0.032	ppb	412.7	185	0.5	
Co	59	3	72	0.001	ppb	6471.2	87	0.5	
Ni	60	3	72	0.086	ppb	173.5	97	1	
Cu	63	3	72	-0.035	ppb	-159.1	390	1	
Zn	66	3	72	-0.360	ppb	-7.8	208	5	
As	75	3	72	-0.055	ppb	-160.9	17	1	
Se	78	2	72	-0.054	ppb	-2.9	4	1	
Sr	88	3	72	0.031	ppb	161.5	92	0.5	
Mo	95	3	115	0.054	ppb	57.3	33	0.5	
Ag	107	3	115	0.061	ppb	20.4	102	1	
Cd	111	3	115	0.009	ppb	448.5	7	0.5	
Sn	120	3	115	0.285	ppb	17.4	628	1	
Sb	121	3	115	0.129	ppb	9.4	183	0.6	
Ba	137	3	115	-0.024	ppb	-250.7	27	0.5	
Tl	205	3	193	0.048	ppb	39.0	297	0.1	
(Pb)	206	3	193	0.015	ppb	305.3	135	1	
(Pb)	207	3	193	0.020	ppb	357.9	250	1	
Pb	208	3	193	0.015	ppb	162.8	635	0.5	
Th	232	3	193	0.273	ppb	24.6	4235	1	
U	238	3	193	0.033	ppb	71.0	1191	0.5	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc (IS)	45	2	HMI H2	4882242	0.58	4904275	99.55	60	120	
Sc (IS)	45	3	HMI He	529636	1.13	524825	100.92	60	120	
Ge Internal standard	72	2	HMI H2	2647903	2.05	2587308	102.34	60	120	
Ge Internal standard	72	3	HMI He	611334	0.63	614615	99.47	60	120	
In Internal Standard	115	3	HMI He	2403198	0.33	2409771	99.73	60	120	
Ir (IS)	193	3	HMI He	3944347	0.11	3878719	101.69	60	120	

Low Level Continuing Calibration Verification (LLCCV) Report

Sample Table

Sample Name	CCVL-8123150
Data File Name	242LCCV.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\79_122123.b
Acq Date Time	2023-12-21T22:49:29-07:00
Sample Type	LLCCV
Dilution	1
Comment	
ISTD Ref File Name	236CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	Units	Conc %RSD	CPS	Exp Value	%Rec	%Low	%High	QC Flag
Be	9	2	6	0.804	ppb	24.776	43	1	80.4	70	130	
Na	23	3	45	304.062	ppb	2.297	67769	300	101.4	70	130	
Mg	24	3	45	42.525	ppb	2.450	2496	50	85.0	70	130	
Al	27	3	45	45.501	ppb	17.846	1108	50	91.0	70	130	
K	39	3	45	63.655	ppb	109.605	45747	120	53.0	70	130	>+/-30%
Ca	40	2	45	203.957	ppb	1.075	200004	200	102.0	70	130	
V	51	3	72	5.159	ppb	2.013	2619	5	103.2	70	130	
Cr	52	3	72	2.017	ppb	6.108	2039	2	100.8	70	130	
Mn	55	3	72	1.238	ppb	2.240	603	1	123.8	70	130	
Fe	56	2	72	47.537	ppb	3.035	106459	50	95.1	70	130	
Co	59	3	72	1.001	ppb	2.705	1048	1	100.1	70	130	
Ni	60	3	72	1.863	ppb	4.443	560	2	93.1	70	130	
Cu	63	3	72	1.849	ppb	8.307	1798	2	92.5	70	130	
Zn	66	3	72	9.028	ppb	6.177	1353	10	90.3	70	130	
As	75	3	72	4.290	ppb	11.407	401	5	85.8	70	130	
Se	78	2	72	5.145	ppb	16.143	276	5	102.9	70	130	
Sr	88	3	72	4.448	ppb	4.871	2309	5	89.0	70	130	
Mo	95	3	115	1.871	ppb	2.018	721	2	93.5	70	130	
Ag	107	3	115	1.040	ppb	4.026	1301	1	104.0	70	130	
Cd	111	3	115	0.944	ppb	30.120	183	1	94.4	70	130	
Sn	120	3	115	9.074	ppb	0.993	6153	10	90.7	70	130	
Sb	121	3	115	1.977	ppb	7.309	1281	2	98.8	70	130	
Ba	137	3	115	1.041	ppb	8.434	255	1	104.1	70	130	
Tl	205	3	193	0.941	ppb	3.261	2796	1	94.1	70	130	
(Pb)	206	3	193	0.896	ppb	7.659	953	1	89.6	70	130	
(Pb)	207	3	193	0.890	ppb	9.935	961	1	89.0	70	130	
Pb	208	3	193	0.955	ppb	1.530	4133	1	95.5	70	130	
Th	232	3	193	0.978	ppb	7.752	7025	1	97.8	70	130	
U	238	3	193	0.939	ppb	10.942	4789	1	93.9	70	130	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc (IS)	45	2	HMI H2	4977620	0.79	4904275	101.50	60	120	
Sc (IS)	45	3	HMI He	532354	0.10	524825	101.43	60	120	
Ge Internal standard	72	2	HMI H2	2620542	0.25	2587308	101.28	60	120	
Ge Internal standard	72	3	HMI He	615690	1.17	614615	100.17	60	120	
In Internal Standard	115	3	HMI He	2441170	1.96	2409771	101.30	60	120	
Ir (IS)	193	3	HMI He	4052770	1.43	3878719	104.49	60	120	

Blank Report

Sample Table

Sample Name	mb 280-638042/1-a
Data File Name	243_BLK.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\79_122123.b
Acq Date Time	2023-12-21T22:51:44-07:00
Sample Type	Blank
Dilution	1
Comment	638042 200.8/6020B
ISTD Ref File Name	236CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	Units	Conc %RSD	CPS	Upper Limit
Be	9	2	6	-0.041	ppb	-55.13510675	1	0.5
Na	23	3	45	16.263	ppb	68.2859103	43527	25
Mg	24	3	45	-2.884	ppb	-4.884338002	347	25
Al	27	3	45	-2.381	ppb	-120.5708807	244	15
K	39	3	45	-28.732	ppb	-191.8947656	42116	50
Ca	40	2	45	12.197	ppb	14.08022539	46239	200
V	51	3	72	0.063	ppb	171.8435766	200	1
Cr	52	3	72	-0.016	ppb	-195.6993009	841	1
Mn	55	3	72	0.196	ppb	49.87302361	245	0.5
Fe	56	2	72	-1.580	ppb	-27.71068234	29565	50
Co	59	3	72	-0.022	ppb	-51.12387802	67	0.5
Ni	60	3	72	0.003	ppb	3356.888614	77	1
Cu	63	3	72	-0.076	ppb	-116.9861607	366	1
Zn	66	3	72	1.805	ppb	29.05928877	478	5
As	75	3	72	-0.096	ppb	-88.20030479	13	1
(Se)	78	3	72	-4.891	ppb	-52.11774556	42	1
Sr	88	3	72	-0.002	ppb	-1281.893721	77	0.5
Mo	95	3	115	0.018	ppb	151.2421589	20	0.5
Ag	107	3	115	0.030	ppb	10.84323928	65	1
Cd	111	3	115	-0.009	ppb	-182.1928209	3	0.5
Sn	120	3	115	-0.022	ppb	-327.1850629	440	1
Sb	121	3	115	0.051	ppb	20.13071406	138	0.6
Ba	137	3	115	0.242	ppb	40.7865633	83	0.5
Tl	205	3	193	0.007	ppb	105.3257861	193	0.1
(Pb)	206	3	193	0.053	ppb	64.99511212	175	1
(Pb)	207	3	193	0.002	ppb	1103.686562	243	1
Pb	208	3	193	0.050	ppb	45.90650156	786	0.5
Th	232	3	193	-0.017	ppb	-176.2899197	3264	1
U	238	3	193	0.007	ppb	195.8875381	1126	0.5

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc (IS)	45	2	HMI H2	4985775	0.42	4904275	101.66	60	120	
Sc (IS)	45	3	HMI He	537884	1.54	524825	102.49	60	120	
Ge Internal standard	72	2	HMI H2	2646375	2.81	2587308	102.28	60	120	
Ge Internal standard	72	3	HMI He	621814	1.58	614615	101.17	60	120	
In Internal Standard	115	3	HMI He	2410086	2.34	2409771	100.01	60	120	
Ir (IS)	193	3	HMI He	4067493	1.34	3878719	104.87	60	120	

Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV-8123148
Data File Name	244_CCV.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\79_122123.b
Acq Date Time	2023-12-21T22:56:48-07:00
Sample Type	CCV
Dilution	1
Comment	
ISTD Ref File Name	236CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	Units	Conc %RSD	CPS	Exp Value	%Rec	%Low	%High2	QC Flag
Be	9	2	6	51.487	ppb	4.922	2583	50	103.0	90	110	
Na	23	3	45	49822.797	ppb	0.504	4208941	51000	97.7	90	110	
Mg	24	3	45	10183.769	ppb	0.808	471292	11000	92.6	90	110	
Al	27	3	45	1024.094	ppb	4.356	18344	1000	102.4	90	110	
K	39	3	45	10434.387	ppb	3.422	491674	11000	94.9	90	110	
Ca	40	2	45	11286.810	ppb	3.735	8978693	11000	102.6	90	110	
V	51	3	72	50.604	ppb	1.735	24236	50	101.2	90	110	
Cr	52	3	72	49.878	ppb	1.303	30475	50	99.8	90	110	
Mn	55	3	72	49.879	ppb	3.696	17432	50	99.8	90	110	
Fe	56	2	72	1078.764	ppb	3.052	1731097	1000	107.9	90	110	
Co	59	3	72	50.053	ppb	0.469	48199	50	100.1	90	110	
Ni	60	3	72	51.655	ppb	1.712	13535	50	103.3	90	110	
Cu	63	3	72	50.166	ppb	0.681	37863	50	100.3	90	110	
Zn	66	3	72	50.556	ppb	5.630	6418	50	101.1	90	110	
As	75	3	72	50.372	ppb	4.342	4487	50	100.7	90	110	
Se	78	2	72	52.547	ppb	3.392	2764	50	105.1	90	110	
Sr	88	3	72	98.828	ppb	1.172	49744	100	98.8	90	110	
Mo	95	3	115	51.160	ppb	4.187	19036	50	102.3	90	110	
Ag	107	3	115	51.032	ppb	5.313	61396	50	102.1	90	110	
Cd	111	3	115	51.105	ppb	4.116	9504	50	102.2	90	110	
Sn	120	3	115	51.414	ppb	3.813	32166	50	102.8	90	110	
Sb	121	3	115	50.644	ppb	3.879	29633	50	101.3	90	110	
Ba	137	3	115	50.914	ppb	7.666	10736	50	101.8	90	110	
Tl	205	3	193	49.162	ppb	3.191	137857	50	98.3	90	110	
(Pb)	206	3	193	48.680	ppb	1.172	45322	50	97.4	90	110	
(Pb)	207	3	193	50.210	ppb	2.712	41036	50	100.4	90	110	
Pb	208	3	193	48.652	ppb	1.405	181571	50	97.3	90	110	
Th	232	3	193	50.255	ppb	1.691	194855	50	100.5	90	110	
U	238	3	193	48.329	ppb	2.043	192099	50	96.7	90	110	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc (IS)	45	2	HMI H2	4917970	1.96	4904275	100.28	60	120	
Sc (IS)	45	3	HMI He	519202	1.30	524825	98.93	60	120	
Ge Internal standard	72	2	HMI H2	2628039	2.18	2587308	101.57	60	120	
Ge Internal standard	72	3	HMI He	616426	1.17	614615	100.29	60	120	
In Internal Standard	115	3	HMI He	2402181	4.11	2409771	99.69	60	120	
Ir (IS)	193	3	HMI He	4072607	1.35	3878719	105.00	60	120	

Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV-8123148
Data File Name	245_CCV.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\79_122123.b
Acq Date Time	2023-12-21T22:59:24-07:00
Sample Type	CCV
Dilution	1
Comment	
ISTD Ref File Name	236CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	Units	Conc %RSD	CPS	Exp Value	%Rec	%Low	%High2	QC Flag
Be	9	2	6	52.071	ppb	1.637	2611	50	104.1	90	110	
Na	23	3	45	50696.479	ppb	5.987	4484463	51000	99.4	90	110	
Mg	24	3	45	9875.016	ppb	4.780	478641	11000	89.8	90	110	>+\-10%
Al	27	3	45	1031.852	ppb	4.450	19356	1000	103.2	90	110	
K	39	3	45	10451.459	ppb	0.842	515985	11000	95.0	90	110	
Ca	40	2	45	11385.017	ppb	1.733	9089093	11000	103.5	90	110	
V	51	3	72	52.254	ppb	7.638	25252	50	104.5	90	110	
Cr	52	3	72	51.610	ppb	7.596	31797	50	103.2	90	110	
Mn	55	3	72	51.068	ppb	6.603	18016	50	102.1	90	110	
Fe	56	2	72	1085.074	ppb	3.101	1750179	1000	108.5	90	110	
Co	59	3	72	52.129	ppb	6.918	50664	50	104.3	90	110	
Ni	60	3	72	52.631	ppb	5.571	13923	50	105.3	90	110	
Cu	63	3	72	51.804	ppb	7.158	39450	50	103.6	90	110	
Zn	66	3	72	53.464	ppb	6.387	6838	50	106.9	90	110	
As	75	3	72	51.341	ppb	5.723	4620	50	102.7	90	110	
Se	78	2	72	53.225	ppb	3.898	2814	50	106.4	90	110	
Sr	88	3	72	104.822	ppb	5.139	53274	100	104.8	90	110	
Mo	95	3	115	51.356	ppb	4.227	19755	50	102.7	90	110	
Ag	107	3	115	51.775	ppb	7.997	64356	50	103.5	90	110	
Cd	111	3	115	50.892	ppb	4.926	9784	50	101.8	90	110	
Sn	120	3	115	51.363	ppb	6.409	33196	50	102.7	90	110	
Sb	121	3	115	50.774	ppb	7.122	30688	50	101.5	90	110	
Ba	137	3	115	51.764	ppb	7.450	11284	50	103.5	90	110	
Tl	205	3	193	50.482	ppb	3.840	143263	50	101.0	90	110	
(Pb)	206	3	193	51.231	ppb	7.338	48229	50	102.5	90	110	
(Pb)	207	3	193	49.830	ppb	3.488	41223	50	99.7	90	110	
Pb	208	3	193	50.637	ppb	5.794	191163	50	101.3	90	110	
Th	232	3	193	50.911	ppb	5.530	199683	50	101.8	90	110	
U	238	3	193	50.943	ppb	6.823	204790	50	101.9	90	110	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc (IS)	45	2	HMI H2	4934323	1.74	4904275	100.61	60	120	
Sc (IS)	45	3	HMI He	543977	1.88	524825	103.65	60	120	
Ge Internal standard	72	2	HMI H2	2641122	1.62	2587308	102.08	60	120	
Ge Internal standard	72	3	HMI He	623112	3.31	614615	101.38	60	120	
In Internal Standard	115	3	HMI He	2483061	3.88	2409771	103.04	60	120	
Ir (IS)	193	3	HMI He	4123385	2.28	3878719	106.31	60	120	

Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB-8123133
Data File Name	246_CCB.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\79_122123.b
Acq Date Time	2023-12-21T23:01:38-07:00
Sample Type	CCB
Dilution	1
Comment	
ISTD Ref File Name	236CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	Units	Conc %RSD	CPS	Upper Limit	QC Flag
Be	9	2	6	-0.028	ppb	-165.9	1	0.5	
Na	23	3	45	36.269	ppb	19.6	45157	25	>RL
Mg	24	3	45	0.276	ppb	334.1	497	25	
Al	27	3	45	-2.370	ppb	-54.3	244	15	
K	39	3	45	-72.215	ppb	-54.1	40064	50	
V	51	3	72	0.133	ppb	5.0	235	1	
Cr	52	3	72	-0.082	ppb	-203.0	806	1	
Mn	55	3	72	-0.117	ppb	-43.3	137	0.5	
Co	59	3	72	-0.010	ppb	-99.5	78	0.5	
Ni	60	3	72	0.040	ppb	198.4	87	1	
Cu	63	3	72	-0.062	ppb	-67.9	378	1	
Zn	66	3	72	-0.937	ppb	-21.3	142	5	
As	75	3	72	0.035	ppb	434.4	25	1	
Se	78	2	72	0.033	ppb	244.8	9	1	
Sr	88	3	72	0.027	ppb	99.1	92	0.5	
Mo	95	3	115	0.042	ppb	64.0	30	0.5	
Ag	107	3	115	0.059	ppb	14.3	103	1	
Cd	111	3	115	0.043	ppb	128.3	13	0.5	
Sn	120	3	115	0.080	ppb	74.5	520	1	
Sb	121	3	115	0.126	ppb	14.4	188	0.6	
Ba	137	3	115	0.056	ppb	112.3	45	0.5	
Tl	205	3	193	0.033	ppb	15.8	270	0.1	
(Pb)	206	3	193	0.038	ppb	65.7	165	1	
(Pb)	207	3	193	-0.039	ppb	-101.2	215	1	
Pb	208	3	193	0.006	ppb	167.0	636	0.5	
Th	232	3	193	0.227	ppb	26.8	4285	1	
U	238	3	193	0.031	ppb	55.1	1249	0.5	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc (IS)	45	2	HMI H2	4981998	1.53	4904275	101.58	60	120	
Sc (IS)	45	3	HMI He	536604	0.70	524825	102.24	60	120	
Ge Internal standard	72	2	HMI H2	2687041	1.91	2587308	103.85	60	120	
Ge Internal standard	72	3	HMI He	624515	1.16	614615	101.61	60	120	
In Internal Standard	115	3	HMI He	2490205	1.62	2409771	103.34	60	120	
Ir (IS)	193	3	HMI He	4160884	0.77	3878719	107.27	60	120	

Low Level Continuing Calibration Verification (LLCCV) Report

Sample Table

Sample Name	CCVL-8123150
Data File Name	247LCCV.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\79_122123.b
Acq Date Time	2023-12-21T23:03:56-07:00
Sample Type	LLCCV
Dilution	1
Comment	
ISTD Ref File Name	236CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	Units	Conc %RSD	CPS	Exp Value	%Rec	%Low	%High	QC Flag
Be	9	2	6	0.892	ppb	3.740	47	1	89.2	70	130	
Na	23	3	45	304.355	ppb	3.837	67078	300	101.5	70	130	
Mg	24	3	45	44.077	ppb	5.314	2543	50	88.2	70	130	
Al	27	3	45	46.114	ppb	22.275	1108	50	92.2	70	130	
K	39	3	45	57.303	ppb	91.132	44994	120	47.8	70	130	>+/-30%
Ca	40	2	45	208.713	ppb	0.453	200931	200	104.4	70	130	
V	51	3	72	5.002	ppb	3.352	2517	5	100.0	70	130	
Cr	52	3	72	1.741	ppb	0.381	1856	2	87.1	70	130	
Mn	55	3	72	1.252	ppb	8.798	601	1	125.2	70	130	
Fe	56	2	72	46.570	ppb	2.303	106707	50	93.1	70	130	
Co	59	3	72	0.906	ppb	10.782	946	1	90.6	70	130	
Ni	60	3	72	2.002	ppb	6.116	590	2	100.1	70	130	
Cu	63	3	72	1.763	ppb	1.510	1714	2	88.1	70	130	
Zn	66	3	72	9.131	ppb	10.524	1351	10	91.3	70	130	
As	75	3	72	5.650	ppb	14.688	516	5	113.0	70	130	
Se	78	2	72	4.640	ppb	13.392	253	5	92.8	70	130	
Sr	88	3	72	4.852	ppb	3.207	2486	5	97.0	70	130	
Mo	95	3	115	2.098	ppb	6.301	795	2	104.9	70	130	
Ag	107	3	115	0.985	ppb	3.192	1214	1	98.5	70	130	
Cd	111	3	115	0.825	ppb	18.513	158	1	82.5	70	130	
Sn	120	3	115	9.502	ppb	1.481	6323	10	95.0	70	130	
Sb	121	3	115	2.172	ppb	4.306	1376	2	108.6	70	130	
Ba	137	3	115	0.925	ppb	12.936	227	1	92.5	70	130	
Tl	205	3	193	0.947	ppb	4.921	2789	1	94.7	70	130	
(Pb)	206	3	193	0.924	ppb	9.929	970	1	92.4	70	130	
(Pb)	207	3	193	0.983	ppb	13.382	1026	1	98.3	70	130	
Pb	208	3	193	0.940	ppb	6.503	4042	1	94.0	70	130	
Th	232	3	193	1.066	ppb	7.939	7297	1	106.6	70	130	
U	238	3	193	0.961	ppb	4.033	4832	1	96.1	70	130	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc (IS)	45	2	HMI H2	4906975	0.85	4904275	100.06	60	120	
Sc (IS)	45	3	HMI He	526779	0.86	524825	100.37	60	120	
Ge Internal standard	72	2	HMI H2	2665347	2.63	2587308	103.02	60	120	
Ge Internal standard	72	3	HMI He	609087	0.11	614615	99.10	60	120	
In Internal Standard	115	3	HMI He	2404023	2.08	2409771	99.76	60	120	
Ir (IS)	193	3	HMI He	4017555	1.29	3878719	103.58	60	120	

Blank Report

Sample Table

Sample Name	mb 280-638042/1-a
Data File Name	248_BLK.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\79_122123.b
Acq Date Time	2023-12-21T23:06:11-07:00
Sample Type	Blank
Dilution	1
Comment	638042 200.8/6020B
ISTD Ref File Name	236CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	Units	Conc %RSD	CPS	Upper Limit
Be	9	2	6	-0.040	ppb	-58.48063892	1	0.5
Na	23	3	45	15.697	ppb	23.16873572	42443	25
Mg	24	3	45	-4.558	ppb	-26.43489901	260	25
Al	27	3	45	-4.497	ppb	-47.39088183	200	15
K	39	3	45	-48.632	ppb	-95.229879	40235	50
Ca	40	2	45	-0.037	ppb	-3912.712878	35588	200
V	51	3	72	0.108	ppb	71.98843	217	1
Cr	52	3	72	0.015	ppb	117.190742	838	1
Mn	55	3	72	0.032	ppb	261.5372535	183	0.5
Fe	56	2	72	-3.584	ppb	-2.526608586	25947	50
Co	59	3	72	-0.007	ppb	-107.1457833	78	0.5
Ni	60	3	72	-0.093	ppb	-41.20276843	50	1
Cu	63	3	72	-0.147	ppb	-50.62344115	305	1
Zn	66	3	72	0.226	ppb	150.1731341	277	5
As	75	3	72	0.118	ppb	169.507314	32	1
(Se)	78	3	72	-1.732	ppb	-91.55894881	60	1
Sr	88	3	72	-0.038	ppb	-52.76917554	57	0.5
Mo	95	3	115	0.022	ppb	135.0414165	22	0.5
Ag	107	3	115	0.017	ppb	91.55733063	48	1
Cd	111	3	115	0.018	ppb	89.84477627	8	0.5
Sn	120	3	115	-0.004	ppb	-2829.227934	451	1
Sb	121	3	115	-0.001	ppb	-5810.881443	108	0.6
Ba	137	3	115	0.117	ppb	46.41972716	57	0.5
Tl	205	3	193	0.028	ppb	153.9537069	245	0.1
(Pb)	206	3	193	0.042	ppb	92.91500046	160	1
(Pb)	207	3	193	0.022	ppb	224.0536941	252	1
Pb	208	3	193	0.029	ppb	82.24225918	686	0.5
Th	232	3	193	0.024	ppb	278.7174624	3317	1
U	238	3	193	0.052	ppb	69.04951826	1268	0.5

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc (IS)	45	2	HMI H2	4874870	1.15	4904275	99.40	60	120	
Sc (IS)	45	3	HMI He	525075	0.90	524825	100.05	60	120	
Ge Internal standard	72	2	HMI H2	2602111	1.19	2587308	100.57	60	120	
Ge Internal standard	72	3	HMI He	605754	0.72	614615	98.56	60	120	
In Internal Standard	115	3	HMI He	2419856	2.50	2409771	100.42	60	120	
Ir (IS)	193	3	HMI He	3952420	3.38	3878719	101.90	60	120	

Laboratory Control Sample (LCS) Report

Sample Table

Sample Name	lcs 280-638042/24-a
Data File Name	249_LCS.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\79_122123.b
Acq Date Time	2023-12-21T23:08:27-07:00
Sample Type	LCS
Dilution	1
Analyst	Denver Metals
Comment	638042 200.8/6020B
ISTD Ref File Name	236CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	FinalConc	Units	Conc %RSD	CPS	Exp Value	%Rec	%Low	%High	QC Flag
Be	9	2	6	39.698	39.698	ppb	0.798	2010	40	99.2	80	120	
Na	23	3	45	922.929	922.929	ppb	2.182	121494	40	2307.3	80	120	>+/-20%
Mg	24	3	45	873.247	873.247	ppb	1.793	42098	40	2183.1	80	120	>+/-20%
Al	27	3	45	759.489	759.489	ppb	0.455	14101	40	1898.7	80	120	>+/-20%
K	39	3	45	864.810	864.810	ppb	6.563	81618	40	2162.0	80	120	>+/-20%
Ca	40	2	45	1040.057	1040.057	ppb	6.055	877555	40	2600.1	80	120	>+/-20%
V	51	3	72	38.292	38.292	ppb	2.089	18643	40	95.7	80	120	
Cr	52	3	72	38.388	38.388	ppb	0.535	23985	40	96.0	80	120	
Mn	55	3	72	39.482	39.482	ppb	2.648	14038	40	98.7	80	120	
Fe	56	2	72	810.842	810.842	ppb	2.596	1345597	40	2027.1	80	120	>+/-20%
(Fe)	56	3	72	764.185	764.185	ppb	1.015	417697	40	1910.5	80	120	>+/-20%
Co	59	3	72	39.094	39.094	ppb	2.242	38198	40	97.7	80	120	
Ni	60	3	72	39.661	39.661	ppb	2.007	10559	40	99.2	80	120	
Cu	63	3	72	38.199	38.199	ppb	1.316	29343	40	95.5	80	120	
Zn	66	3	72	39.074	39.074	ppb	3.080	5090	40	97.7	80	120	
As	75	3	72	37.903	37.903	ppb	4.527	3430	40	94.8	80	120	
Se	78	2	72	40.512	40.512	ppb	3.252	2192	40	101.3	80	120	
(Se)	78	3	72	37.695	37.695	ppb	35.246	312	40	94.2	80	120	
Sr	88	3	72	75.621	75.621	ppb	1.364	38625	40	189.1	80	120	>+/-20%
Mo	95	3	115	38.613	38.613	ppb	0.815	14789	40	96.5	80	120	
Ag	107	3	115	39.009	39.009	ppb	2.025	48317	40	97.5	80	120	
Cd	111	3	115	37.846	37.846	ppb	1.050	7245	40	94.6	80	120	
Sn	120	3	115	37.976	37.976	ppb	1.182	24569	40	94.9	80	120	
Sb	121	3	115	37.502	37.502	ppb	2.674	22605	40	93.8	80	120	
Ba	137	3	115	39.335	39.335	ppb	1.215	8552	40	98.3	80	120	
Tl	205	3	193	38.491	38.491	ppb	2.969	108551	40	96.2	80	120	
(Pb)	206	3	193	38.322	38.322	ppb	2.509	35891	40	95.8	80	120	
(Pb)	207	3	193	38.110	38.110	ppb	2.898	31375	40	95.3	80	120	
Pb	208	3	193	38.201	38.201	ppb	2.594	143463	40	95.5	80	120	
Th	232	3	193	37.581	37.581	ppb	1.677	147363	40	94.0	80	120	
U	238	3	193	38.094	38.094	ppb	2.123	152485	40	95.2	80	120	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc (IS)	45	2	HMI H2	5019265	1.64	4904275	102.34	60	120	
Sc (IS)	45	3	HMI He	535225	1.28	524825	101.98	60	120	
Ge Internal standard	72	2	HMI H2	2700523	0.63	2587308	104.38	60	120	
Ge Internal standard	72	3	HMI He	625238	0.70	614615	101.73	60	120	
In Internal Standard	115	3	HMI He	2469439	1.09	2409771	102.48	60	120	
Ir (IS)	193	3	HMI He	4095475	2.09	3878719	105.59	60	120	

Laboratory Control Sample (LCS) Report

Sample Table

Sample Name	lcsd 280-638042/25-a
Data File Name	250_LCS.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\79_122123.b
Acq Date Time	2023-12-21T23:10:41-07:00
Sample Type	LCS
Dilution	1
Analyst	Denver Metals
Comment	638042 200.8/6020B
ISTD Ref File Name	236CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	FinalConc	Units	Conc %RSD	CPS	Exp Value	%Rec	%Low	%High	QC Flag
Be	9	2	6	40.226	40.226	ppb	5.259	2018	40	100.6	80	120	
Na	23	3	45	972.410	972.410	ppb	1.355	125900	40	2431.0	80	120	>+/-20%
Mg	24	3	45	915.440	915.440	ppb	4.095	44160	40	2288.6	80	120	>+/-20%
Al	27	3	45	785.359	785.359	ppb	2.001	14586	40	1963.4	80	120	>+/-20%
K	39	3	45	872.355	872.355	ppb	6.821	82017	40	2180.9	80	120	>+/-20%
Ca	40	2	45	1072.458	1072.458	ppb	2.068	890225	40	2681.1	80	120	>+/-20%
V	51	3	72	40.240	40.240	ppb	2.652	19264	40	100.6	80	120	
Cr	52	3	72	40.077	40.077	ppb	0.325	24593	40	100.2	80	120	
Mn	55	3	72	39.429	39.429	ppb	0.876	13788	40	98.6	80	120	
Fe	56	2	72	866.008	866.008	ppb	2.405	1384445	40	2165.0	80	120	>+/-20%
(Fe)	56	3	72	790.593	790.593	ppb	0.294	424636	40	1976.5	80	120	>+/-20%
Co	59	3	72	40.036	40.036	ppb	0.364	38479	40	100.1	80	120	
Ni	60	3	72	40.844	40.844	ppb	0.203	10694	40	102.1	80	120	
Cu	63	3	72	40.267	40.267	ppb	1.402	30403	40	100.7	80	120	
Zn	66	3	72	40.314	40.314	ppb	6.149	5158	40	100.8	80	120	
As	75	3	72	37.781	37.781	ppb	3.010	3364	40	94.5	80	120	
Se	78	2	72	41.666	41.666	ppb	2.918	2174	40	104.2	80	120	
(Se)	78	3	72	42.502	42.502	ppb	8.485	337	40	106.3	80	120	
Sr	88	3	72	79.314	79.314	ppb	0.698	39845	40	198.3	80	120	>+/-20%
Mo	95	3	115	39.843	39.843	ppb	2.129	15268	40	99.6	80	120	
Ag	107	3	115	39.623	39.623	ppb	1.057	49100	40	99.1	80	120	
Cd	111	3	115	39.154	39.154	ppb	1.917	7498	40	97.9	80	120	
Sn	120	3	115	38.734	38.734	ppb	0.734	25061	40	96.8	80	120	
Sb	121	3	115	38.916	38.916	ppb	0.805	23467	40	97.3	80	120	
Ba	137	3	115	40.404	40.404	ppb	1.820	8787	40	101.0	80	120	
Tl	205	3	193	39.386	39.386	ppb	1.532	111293	40	98.5	80	120	
(Pb)	206	3	193	39.480	39.480	ppb	0.979	37047	40	98.7	80	120	
(Pb)	207	3	193	39.226	39.226	ppb	2.055	32350	40	98.1	80	120	
Pb	208	3	193	39.149	39.149	ppb	0.969	147301	40	97.9	80	120	
Th	232	3	193	39.623	39.623	ppb	0.452	155478	40	99.1	80	120	
U	238	3	193	38.873	38.873	ppb	1.574	155876	40	97.2	80	120	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc (IS)	45	2	HMI H2	4942059	1.63	4904275	100.77	60	120	
Sc (IS)	45	3	HMI He	535772	0.64	524825	102.09	60	120	
Ge Internal standard	72	2	HMI H2	2605947	1.92	2587308	100.72	60	120	
Ge Internal standard	72	3	HMI He	614982	0.36	614615	100.06	60	120	
In Internal Standard	115	3	HMI He	2470444	0.72	2409771	102.52	60	120	
Ir (IS)	193	3	HMI He	4102343	0.82	3878719	105.77	60	120	

Sample Report

Sample Table

Sample Name	280-185898-b-1-d
Data File Name	251SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\79_122123.b
Acq Date Time	2023-12-21T23:12:57-07:00
Analyst	Denver Metals
Sample Type	Sample
Dilution	1
Comment	638042 200.8/6020B
ISTD Ref FileName	236CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Be	9	2	6	-0.041	ppb	-0.041	-56.58	1	2000	
Na	23	3	45	15.138	ppb	15.138	120.73	42131	400000	
Mg	24	3	45	-4.102	ppb	-4.102	-22.75	280	400000	
Al	27	3	45	0.270	ppb	0.270	483.71	284	400000	
K	39	3	45	-43.222	ppb	-43.222	-130.15	40211	400000	
Ca	40	2	45	5.029	ppb	5.029	25.45	39334	400000	
V	51	3	72	0.081	ppb	0.081	20.07	205	2000	
Cr	52	3	72	0.033	ppb	0.033	280.56	853	5000	
Mn	55	3	72	0.170	ppb	0.170	24.92	232	10000	
Fe	56	2	72	-2.591	ppb	-2.591	-17.39	27592	10000	
Co	59	3	72	-0.011	ppb	-0.011	-162.56	75	2000	
Ni	60	3	72	-0.023	ppb	-0.023	-45.33	68	5000	
Cu	63	3	72	0.010	ppb	0.010	475.47	421	5000	
Zn	66	3	72	0.751	ppb	0.751	36.35	342	5000	
As	75	3	72	-0.054	ppb	-0.054	-244.33	17	2000	
Se	78	2	72	0.011	ppb	0.011	406.32	7	2000	
Sr	88	3	72	-0.016	ppb	-0.016	-95.39	68	4000	
Mo	95	3	115	0.000	ppb	0.000	-4214.84	13	2000	
Ag	107	3	115	0.046	ppb	0.046	78.73	85	100	
Cd	111	3	115	0.009	ppb	0.009	174.71	7	2000	
Sn	120	3	115	-0.002	ppb	-0.002	-6594.27	455	2000	
Sb	121	3	115	0.155	ppb	0.155	41.35	200	1000	
Ba	137	3	115	0.069	ppb	0.069	35.34	47	5000	
Tl	205	3	193	0.024	ppb	0.024	18.84	242	2000	
(Pb)	206	3	193	0.006	ppb	0.006	287.82	132	100	
(Pb)	207	3	193	-0.001	ppb	-0.001	-3065.63	242	100	
Pb	208	3	193	0.007	ppb	0.007	222.64	628	5000	
Th	232	3	193	0.225	ppb	0.225	12.54	4194	2000	
U	238	3	193	0.003	ppb	0.003	231.29	1111	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc (IS)	45	2	HMI H2	4844850	0.59	4904275	98.79	60	120	
Sc (IS)	45	3	HMI He	521889	0.87	524825	99.44	60	120	
Ge Internal standard	72	2	HMI H2	2611454	1.52	2587308	100.93	60	120	
Ge Internal standard	72	3	HMI He	609158	0.48	614615	99.11	60	120	
In Internal Standard	115	3	HMI He	2422864	1.71	2409771	100.54	60	120	
Ir (IS)	193	3	HMI He	4078269	1.53	3878719	105.14	60	120	

Sample Report

Sample Table

Sample Name	280-185898-b-1-dSD@5
Data File Name	252SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\79_122123.b
Acq Date Time	2023-12-21T23:15:12-07:00
Analyst	Denver Metals
Sample Type	Sample
Dilution	1
Comment	638042 200.8/6020B
ISTD Ref FileName	236CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Be	9	2	6	-0.027	ppb	-0.027	-86.92	1	2000	
Na	23	3	45	31.909	ppb	31.909	22.02	42727	400000	
Mg	24	3	45	0.929	ppb	0.929	232.06	504	400000	
Al	27	3	45	2.491	ppb	2.491	38.63	317	400000	
K	39	3	45	-29.007	ppb	-29.007	-122.58	40067	400000	
Ca	40	2	45	13.810	ppb	13.810	8.25	45600	400000	
V	51	3	72	0.068	ppb	0.068	150.01	195	2000	
Cr	52	3	72	-0.097	ppb	-0.097	-21.34	761	5000	
Mn	55	3	72	0.319	ppb	0.319	26.14	277	10000	
Fe	56	2	72	1.274	ppb	1.274	63.01	33300	10000	
Co	59	3	72	-0.015	ppb	-0.015	-131.57	70	2000	
Ni	60	3	72	0.133	ppb	0.133	109.27	107	5000	
Cu	63	3	72	-0.001	ppb	-0.001	-7241.64	405	5000	
Zn	66	3	72	4.083	ppb	4.083	17.08	728	5000	
As	75	3	72	0.027	ppb	0.027	120.09	23	2000	
Se	78	2	72	-0.013	ppb	-0.013	-576.47	6	2000	
Sr	88	3	72	0.015	ppb	0.015	276.95	82	4000	
Mo	95	3	115	0.050	ppb	0.050	65.30	32	2000	
Ag	107	3	115	0.009	ppb	0.009	32.69	38	100	
Cd	111	3	115	-0.009	ppb	-0.009	-183.24	3	2000	
Sn	120	3	115	0.139	ppb	0.139	32.32	530	2000	
Sb	121	3	115	0.012	ppb	0.012	164.66	113	1000	
Ba	137	3	115	0.146	ppb	0.146	31.78	62	5000	
Tl	205	3	193	0.009	ppb	0.009	55.81	193	2000	
(Pb)	206	3	193	-0.033	ppb	-0.033	-33.34	93	100	
(Pb)	207	3	193	-0.011	ppb	-0.011	-289.37	227	100	
Pb	208	3	193	-0.002	ppb	-0.002	-309.08	578	5000	
Th	232	3	193	0.043	ppb	0.043	53.73	3409	2000	
U	238	3	193	0.056	ppb	0.056	7.39	1289	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc (IS)	45	2	HMI H2	4783060	0.40	4904275	97.53	60	120	
Sc (IS)	45	3	HMI He	512043	0.49	524825	97.56	60	120	
Ge Internal standard	72	2	HMI H2	2584635	0.88	2587308	99.90	60	120	
Ge Internal standard	72	3	HMI He	596673	0.87	614615	97.08	60	120	
In Internal Standard	115	3	HMI He	2367334	1.58	2409771	98.24	60	120	
Ir (IS)	193	3	HMI He	3972147	1.52	3878719	102.41	60	120	

Sample Report

Sample Table

Sample Name	280-185898-b-1-e ms
Data File Name	253SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\79_122123.b
Acq Date Time	2023-12-21T23:17:27-07:00
Analyst	Denver Metals
Sample Type	Sample
Dilution	1
Comment	638042 200.8/6020B
ISTD Ref FileName	236CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Be	9	2	6	38.251	ppb	38.251	2.38	1890	2000	
Na	23	3	45	917.826	ppb	917.826	2.15	119654	400000	
Mg	24	3	45	884.003	ppb	884.003	4.48	42111	400000	
Al	27	3	45	750.561	ppb	750.561	3.83	13774	400000	
K	39	3	45	789.162	ppb	789.162	5.64	77350	400000	
Ca	40	2	45	1021.496	ppb	1021.496	2.79	842240	400000	
V	51	3	72	39.142	ppb	39.142	2.03	18510	2000	
Cr	52	3	72	38.475	ppb	38.475	2.74	23350	5000	
Mn	55	3	72	38.228	ppb	38.228	1.56	13208	10000	
Fe	56	2	72	808.813	ppb	808.813	0.38	1302082	10000	
Co	59	3	72	38.887	ppb	38.887	2.65	36917	2000	
Ni	60	3	72	39.088	ppb	39.088	4.19	10110	5000	
Cu	63	3	72	38.121	ppb	38.121	1.06	28447	5000	
Zn	66	3	72	38.439	ppb	38.439	2.12	4868	5000	
As	75	3	72	38.435	ppb	38.435	6.54	3379	2000	
Se	78	2	72	39.712	ppb	39.712	3.41	2084	2000	
Sr	88	3	72	76.465	ppb	76.465	2.39	37939	4000	
Mo	95	3	115	39.111	ppb	39.111	1.48	14557	2000	
Ag	107	3	115	38.525	ppb	38.525	1.22	46377	100	
Cd	111	3	115	37.466	ppb	37.466	2.22	6972	2000	
Sn	120	3	115	37.514	ppb	37.514	1.29	23594	2000	
Sb	121	3	115	37.917	ppb	37.917	1.37	22217	1000	
Ba	137	3	115	38.106	ppb	38.106	3.35	8050	5000	
Tl	205	3	193	36.544	ppb	36.544	1.81	104946	2000	
(Pb)	206	3	193	37.086	ppb	37.086	2.68	35367	100	
(Pb)	207	3	193	36.763	ppb	36.763	3.50	30822	100	
Pb	208	3	193	36.869	ppb	36.869	1.69	141000	5000	
Th	232	3	193	36.605	ppb	36.605	1.98	146213	2000	
U	238	3	193	36.362	ppb	36.362	2.02	148236	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc (IS)	45	2	HMI H2	4898833	1.25	4904275	99.89	60	120	
Sc (IS)	45	3	HMI He	529049	1.42	524825	100.80	60	120	
Ge Internal standard	72	2	HMI H2	2619380	1.55	2587308	101.24	60	120	
Ge Internal standard	72	3	HMI He	607349	0.56	614615	98.82	60	120	
In Internal Standard	115	3	HMI He	2400052	1.61	2409771	99.60	60	120	
Ir (IS)	193	3	HMI He	4168884	1.31	3878719	107.48	60	120	

Sample Report

Sample Table

Sample Name	280-185898-b-1-f msd
Data File Name	254SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\79_122123.b
Acq Date Time	2023-12-21T23:19:42-07:00
Analyst	Denver Metals
Sample Type	Sample
Dilution	1
Comment	638042 200.8/6020B
ISTD Ref FileName	236CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Be	9	2	6	39.183	ppb	39.183	1.63	1972	2000	
Na	23	3	45	905.184	ppb	905.184	1.07	117853	400000	
Mg	24	3	45	862.266	ppb	862.266	1.33	40846	400000	
Al	27	3	45	744.000	ppb	744.000	4.38	13574	400000	
K	39	3	45	826.848	ppb	826.848	4.32	78507	400000	
Ca	40	2	45	1005.271	ppb	1005.271	1.33	835278	400000	
V	51	3	72	37.261	ppb	37.261	3.47	17719	2000	
Cr	52	3	72	38.224	ppb	38.224	1.28	23323	5000	
Mn	55	3	72	37.062	ppb	37.062	0.50	12876	10000	
Fe	56	2	72	787.610	ppb	787.610	2.51	1292190	10000	
Co	59	3	72	37.259	ppb	37.259	1.04	35555	2000	
Ni	60	3	72	37.728	ppb	37.728	2.02	9812	5000	
Cu	63	3	72	37.434	ppb	37.434	2.20	28086	5000	
Zn	66	3	72	37.872	ppb	37.872	2.91	4825	5000	
As	75	3	72	37.377	ppb	37.377	3.15	3304	2000	
Se	78	2	72	39.091	ppb	39.091	3.13	2089	2000	
Sr	88	3	72	74.507	ppb	74.507	1.28	37162	4000	
Mo	95	3	115	36.782	ppb	36.782	1.12	14135	2000	
Ag	107	3	115	37.464	ppb	37.464	1.80	46564	100	
Cd	111	3	115	35.476	ppb	35.476	1.08	6813	2000	
Sn	120	3	115	36.145	ppb	36.145	2.54	23484	2000	
Sb	121	3	115	35.623	ppb	35.623	0.84	21552	1000	
Ba	137	3	115	36.286	ppb	36.286	2.10	7917	5000	
Tl	205	3	193	35.878	ppb	35.878	1.00	103488	2000	
(Pb)	206	3	193	36.190	ppb	36.190	0.76	34670	100	
(Pb)	207	3	193	36.548	ppb	36.548	0.99	30782	100	
Pb	208	3	193	36.347	ppb	36.347	0.35	139623	5000	
Th	232	3	193	36.295	ppb	36.295	0.39	145641	2000	
U	238	3	193	36.129	ppb	36.129	0.85	147948	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc (IS)	45	2	HMI H2	4932435	1.05	4904275	100.57	60	120	
Sc (IS)	45	3	HMI He	525749	0.54	524825	100.18	60	120	
Ge Internal standard	72	2	HMI H2	2667480	0.45	2587308	103.10	60	120	
Ge Internal standard	72	3	HMI He	610481	0.30	614615	99.33	60	120	
In Internal Standard	115	3	HMI He	2477611	0.62	2409771	102.82	60	120	
Ir (IS)	193	3	HMI He	4186821	0.32	3878719	107.94	60	120	

Sample Report

Sample Table

Sample Name	280-185898-b-1-dPDS
Data File Name	255SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\79_122123.b
Acq Date Time	2023-12-21T23:21:57-07:00
Analyst	Denver Metals
Sample Type	Sample
Dilution	1
Comment	638042 200.8/6020B
ISTD Ref FileName	236CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Be	9	2	6	203.983	ppb	203.983	2.00	10312	2000	
Na	23	3	45	4917.539	ppb	4917.539	1.38	457530	400000	
Mg	24	3	45	1872.001	ppb	1872.001	4.17	88044	400000	
Al	27	3	45	2022.240	ppb	2022.240	3.15	36387	400000	
K	39	3	45	1860.204	ppb	1860.204	5.30	123530	400000	
Ca	40	2	45	2163.881	ppb	2163.881	2.53	1745041	400000	
V	51	3	72	195.983	ppb	195.983	1.11	93224	2000	
Cr	52	3	72	197.691	ppb	197.691	2.25	118058	5000	
Mn	55	3	72	195.332	ppb	195.332	0.46	67655	10000	
Fe	56	2	72	2099.920	ppb	2099.920	3.81	3397921	10000	
Co	59	3	72	199.383	ppb	199.383	1.55	191386	2000	
Ni	60	3	72	201.604	ppb	201.604	1.04	52518	5000	
Cu	63	3	72	198.030	ppb	198.030	1.07	147966	5000	
Zn	66	3	72	204.609	ppb	204.609	2.79	25162	5000	
As	75	3	72	197.270	ppb	197.270	3.59	17481	2000	
Se	78	2	72	206.715	ppb	206.715	2.58	11043	2000	
Sr	88	3	72	194.615	ppb	194.615	1.06	97711	4000	
Mo	95	3	115	196.432	ppb	196.432	1.57	74897	2000	
Ag	107	3	115	50.544	ppb	50.544	1.80	62351	100	
Cd	111	3	115	191.106	ppb	191.106	0.08	36418	2000	
Sn	120	3	115	195.765	ppb	195.765	2.56	124224	2000	
Sb	121	3	115	185.565	ppb	185.565	0.59	110992	1000	
Ba	137	3	115	198.908	ppb	198.908	3.52	42933	5000	
Tl	205	3	193	194.038	ppb	194.038	4.77	550877	2000	
(Pb)	206	3	193	195.885	ppb	195.885	3.13	184475	100	
(Pb)	207	3	193	193.637	ppb	193.637	2.92	159776	100	
Pb	208	3	193	195.734	ppb	195.734	3.56	738610	5000	
Th	232	3	193	75.418	ppb	75.418	2.42	294809	2000	
U	238	3	193	247.977	ppb	247.977	4.12	994430	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc (IS)	45	2	HMI H2	4901309	0.96	4904275	99.94	60	120	
Sc (IS)	45	3	HMI He	525563	1.87	524825	100.14	60	120	
Ge Internal standard	72	2	HMI H2	2674722	2.85	2587308	103.38	60	120	
Ge Internal standard	72	3	HMI He	615350	0.80	614615	100.12	60	120	
In Internal Standard	115	3	HMI He	2459817	1.10	2409771	102.08	60	120	
Ir (IS)	193	3	HMI He	4131312	3.74	3878719	106.51	60	120	

Sample Report

Sample Table

Sample Name	280-185884-h-1-a
Data File Name	256SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\79_122123.b
Acq Date Time	2023-12-21T23:24:11-07:00
Analyst	Denver Metals
Sample Type	Sample
Dilution	1
Comment	638042 200.8/6020B
ISTD Ref FileName	236CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Be	9	2	6	0.079	ppb	0.079	56.60	7	2000	
Na	23	3	45	404392.174	ppb	404392.174	2.35	34975477	400000	
Mg	24	3	45	320.119	ppb	320.119	8.37	15755	400000	
Al	27	3	45	27.316	ppb	27.316	10.78	784	400000	
K	39	3	45	1295.854	ppb	1295.854	5.51	100918	400000	
Ca	40	2	45	1892.060	ppb	1892.060	2.22	1537703	400000	
V	51	3	72	0.173	ppb	0.173	45.70	255	2000	
Cr	52	3	72	1.172	ppb	1.172	6.79	1564	5000	
Mn	55	3	72	13.356	ppb	13.356	1.49	4872	10000	
Fe	56	2	72	1212.449	ppb	1212.449	1.40	1993380	10000	
Co	59	3	72	0.080	ppb	0.080	22.27	167	2000	
Ni	60	3	72	1.506	ppb	1.506	2.29	475	5000	
Cu	63	3	72	79.683	ppb	79.683	2.17	60813	5000	
Zn	66	3	72	93.645	ppb	93.645	0.61	11854	5000	
As	75	3	72	0.200	ppb	0.200	74.80	40	2000	
Se	78	2	72	0.094	ppb	0.094	42.50	12	2000	
Sr	88	3	72	248.263	ppb	248.263	1.69	126771	4000	
Mo	95	3	115	0.825	ppb	0.825	3.68	330	2000	
Ag	107	3	115	0.116	ppb	0.116	16.02	173	100	
Cd	111	3	115	0.034	ppb	0.034	87.58	12	2000	
Sn	120	3	115	0.715	ppb	0.715	20.23	920	2000	
Sb	121	3	115	0.328	ppb	0.328	26.65	308	1000	
Ba	137	3	115	252.025	ppb	252.025	1.47	54676	5000	
Tl	205	3	193	0.125	ppb	0.125	8.81	535	2000	
(Pb)	206	3	193	5.890	ppb	5.890	2.62	5708	100	
(Pb)	207	3	193	5.673	ppb	5.673	0.46	4954	100	
Pb	208	3	193	5.781	ppb	5.781	1.86	22560	5000	
Th	232	3	193	0.211	ppb	0.211	13.46	4220	2000	
U	238	3	193	0.110	ppb	0.110	29.21	1566	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc (IS)	45	2	HMI H2	4924643	0.67	4904275	100.42	60	120	
Sc (IS)	45	3	HMI He	536231	2.73	524825	102.17	60	120	
Ge Internal standard	72	2	HMI H2	2696735	1.17	2587308	104.23	60	120	
Ge Internal standard	72	3	HMI He	625940	0.84	614615	101.84	60	120	
In Internal Standard	115	3	HMI He	2472303	0.76	2409771	102.59	60	120	
Ir (IS)	193	3	HMI He	4157286	2.29	3878719	107.18	60	120	

Sample Report

Sample Table

Sample Name	280-185884-h-2-a
Data File Name	257SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\79_122123.b
Acq Date Time	2023-12-21T23:26:27-07:00
Analyst	Denver Metals
Sample Type	Sample
Dilution	1
Comment	638042 200.8/6020B
ISTD Ref FileName	236CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Be	9	2	6	-0.041	ppb	-0.041	-55.87	1	2000	
Na	23	3	45	474724.935	ppb	474724.935	0.46	40322562	400000	
Mg	24	3	45	412.524	ppb	412.524	1.85	19820	400000	
Al	27	3	45	280.532	ppb	280.532	2.83	5303	400000	
K	39	3	45	1478.814	ppb	1478.814	5.10	107126	400000	
Ca	40	2	45	2026.512	ppb	2026.512	0.97	1675200	400000	
V	51	3	72	0.620	ppb	0.620	5.69	481	2000	
Cr	52	3	72	2.315	ppb	2.315	12.77	2301	5000	
Mn	55	3	72	11.363	ppb	11.363	3.57	4262	10000	
Fe	56	2	72	1082.626	ppb	1082.626	1.83	1764576	10000	
Co	59	3	72	0.128	ppb	0.128	14.01	218	2000	
Ni	60	3	72	1.782	ppb	1.782	8.43	560	5000	
Cu	63	3	72	17.631	ppb	17.631	1.67	14099	5000	
Zn	66	3	72	20.624	ppb	20.624	2.56	2874	5000	
As	75	3	72	0.154	ppb	0.154	20.93	37	2000	
Se	78	2	72	0.032	ppb	0.032	236.33	9	2000	
Sr	88	3	72	298.938	ppb	298.938	1.02	156019	4000	
Mo	95	3	115	1.350	ppb	1.350	7.74	535	2000	
Ag	107	3	115	0.093	ppb	0.093	26.20	145	100	
Cd	111	3	115	-0.009	ppb	-0.009	-316.21	3	2000	
Sn	120	3	115	1.165	ppb	1.165	8.39	1214	2000	
Sb	121	3	115	0.184	ppb	0.184	27.45	223	1000	
Ba	137	3	115	251.070	ppb	251.070	0.79	54873	5000	
Tl	205	3	193	0.023	ppb	0.023	5.08	240	2000	
(Pb)	206	3	193	2.217	ppb	2.217	6.39	2194	100	
(Pb)	207	3	193	2.290	ppb	2.290	4.51	2116	100	
Pb	208	3	193	2.195	ppb	2.195	0.68	8813	5000	
Th	232	3	193	0.029	ppb	0.029	198.10	3464	2000	
U	238	3	193	0.072	ppb	0.072	30.22	1391	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc (IS)	45	2	HMI H2	5016803	1.39	4904275	102.29	60	120	
Sc (IS)	45	3	HMI He	526606	1.03	524825	100.34	60	120	
Ge Internal standard	72	2	HMI H2	2668944	1.81	2587308	103.16	60	120	
Ge Internal standard	72	3	HMI He	639874	2.15	614615	104.11	60	120	
In Internal Standard	115	3	HMI He	2490458	0.24	2409771	103.35	60	120	
Ir (IS)	193	3	HMI He	4095128	2.84	3878719	105.58	60	120	

Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV-8123148
Data File Name	258_CCV.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\79_122123.b
Acq Date Time	2023-12-21T23:28:43-07:00
Sample Type	CCV
Dilution	1
Comment	
ISTD Ref File Name	236CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	Units	Conc %RSD	CPS	Exp Value	%Rec	%Low	%High2	QC Flag
Be	9	2	6	52.812	ppb	5.114	2692	50	105.6	90	110	
Na	23	3	45	49998.760	ppb	0.873	4396297	51000	98.0	90	110	
Mg	24	3	45	10147.300	ppb	1.677	488742	11000	92.2	90	110	
Al	27	3	45	1012.375	ppb	2.477	18878	1000	101.2	90	110	
K	39	3	45	10162.918	ppb	1.120	499669	11000	92.4	90	110	
Ca	40	2	45	11313.602	ppb	3.367	9112422	11000	102.9	90	110	
V	51	3	72	51.816	ppb	1.131	25225	50	103.6	90	110	
Cr	52	3	72	49.835	ppb	1.986	30947	50	99.7	90	110	
Mn	55	3	72	51.342	ppb	1.816	18238	50	102.7	90	110	
Fe	56	2	72	1062.989	ppb	0.744	1748075	1000	106.3	90	110	
Co	59	3	72	50.894	ppb	3.096	49804	50	101.8	90	110	
Ni	60	3	72	52.565	ppb	2.812	14003	50	105.1	90	110	
Cu	63	3	72	50.403	ppb	1.530	38668	50	100.8	90	110	
Zn	66	3	72	52.023	ppb	6.658	6703	50	104.0	90	110	
As	75	3	72	51.911	ppb	2.797	4700	50	103.8	90	110	
Se	78	2	72	53.174	ppb	1.080	2864	50	106.3	90	110	
Sr	88	3	72	102.250	ppb	2.183	52309	100	102.2	90	110	
Mo	95	3	115	51.738	ppb	1.082	19866	50	103.5	90	110	
Ag	107	3	115	52.039	ppb	0.713	64624	50	104.1	90	110	
Cd	111	3	115	50.267	ppb	1.631	9645	50	100.5	90	110	
Sn	120	3	115	51.792	ppb	1.024	33428	50	103.6	90	110	
Sb	121	3	115	50.093	ppb	0.897	30243	50	100.2	90	110	
Ba	137	3	115	53.036	ppb	3.687	11548	50	106.1	90	110	
Tl	205	3	193	49.018	ppb	0.677	143604	50	98.0	90	110	
(Pb)	206	3	193	50.162	ppb	2.574	48761	50	100.3	90	110	
(Pb)	207	3	193	50.029	ppb	1.378	42726	50	100.1	90	110	
Pb	208	3	193	49.524	ppb	1.564	193034	50	99.0	90	110	
Th	232	3	193	50.546	ppb	0.931	204695	50	101.1	90	110	
U	238	3	193	48.955	ppb	2.383	203220	50	97.9	90	110	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc (IS)	45	2	HMI H2	4979760	2.38	4904275	101.54	60	120	
Sc (IS)	45	3	HMI He	540396	1.27	524825	102.97	60	120	
Ge Internal standard	72	2	HMI H2	2691180	1.23	2587308	104.01	60	120	
Ge Internal standard	72	3	HMI He	626662	1.60	614615	101.96	60	120	
In Internal Standard	115	3	HMI He	2476056	0.81	2409771	102.75	60	120	
Ir (IS)	193	3	HMI He	4253964	1.71	3878719	109.67	60	120	

Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB-8123133
Data File Name	259_CCB.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\79_122123.b
Acq Date Time	2023-12-21T23:30:58-07:00
Sample Type	CCB
Dilution	1
Comment	
ISTD Ref File Name	236CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	Units	Conc %RSD	CPS	Upper Limit	QC Flag
Be	9	2	6	-0.041	ppb	-56.3	1	0.5	
Na	23	3	45	91.827	ppb	13.1	49298	25	>RL
Mg	24	3	45	-3.486	ppb	-44.0	314	25	
Al	27	3	45	-2.945	ppb	-112.9	230	15	
K	39	3	45	-77.318	ppb	-72.2	39311	50	
V	51	3	72	0.038	ppb	229.4	187	1	
Cr	52	3	72	-0.092	ppb	-64.1	788	1	
Mn	55	3	72	-0.039	ppb	-172.0	162	0.5	
Co	59	3	72	-0.021	ppb	-93.1	67	0.5	
Ni	60	3	72	-0.007	ppb	-1156.8	73	1	
Cu	63	3	72	-0.139	ppb	-45.5	315	1	
Zn	66	3	72	-0.919	ppb	-17.0	142	5	
As	75	3	72	0.019	ppb	452.7	23	1	
Se	78	2	72	0.033	ppb	328.5	9	1	
Sr	88	3	72	-0.007	ppb	-639.7	73	0.5	
Mo	95	3	115	0.020	ppb	224.0	22	0.5	
Ag	107	3	115	0.061	ppb	2.4	105	1	
Cd	111	3	115	0.000	ppb	-13414.6	5	0.5	
Sn	120	3	115	0.134	ppb	30.5	553	1	
Sb	121	3	115	0.158	ppb	35.7	207	0.6	
Ba	137	3	115	-0.020	ppb	-293.3	28	0.5	
Tl	205	3	193	0.021	ppb	51.9	233	0.1	
(Pb)	206	3	193	0.010	ppb	131.2	137	1	
(Pb)	207	3	193	-0.020	ppb	-188.2	228	1	
Pb	208	3	193	-0.003	ppb	-452.4	595	0.5	
Th	232	3	193	0.191	ppb	34.7	4104	1	
U	238	3	193	0.035	ppb	45.9	1253	0.5	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc (IS)	45	2	HMI H2	4883781	0.41	4904275	99.58	60	120	
Sc (IS)	45	3	HMI He	529576	1.03	524825	100.91	60	120	
Ge Internal standard	72	2	HMI H2	2679433	2.31	2587308	103.56	60	120	
Ge Internal standard	72	3	HMI He	615327	0.33	614615	100.12	60	120	
In Internal Standard	115	3	HMI He	2484507	1.75	2409771	103.10	60	120	
Ir (IS)	193	3	HMI He	4118015	1.64	3878719	106.17	60	120	

Sample Report

Sample Table

Sample Name	280-185768-c-1-b
Data File Name	260SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\79_122123.b
Acq Date Time	2023-12-21T23:33:14-07:00
Analyst	Denver Metals
Sample Type	Sample
Dilution	1
Comment	638042 200.8/6020B
ISTD Ref FileName	236CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Be	9	2	6	-0.029	ppb	-0.029	-74.24	1	2000	
Na	23	3	45	65805.023	ppb	65805.023	1.97	6071156	400000	
Mg	24	3	45	3668.276	ppb	3668.276	2.29	186180	400000	
Al	27	3	45	40.744	ppb	40.744	15.46	1091	400000	
K	39	3	45	15621.034	ppb	15621.034	0.90	783280	400000	
Ca	40	2	45	11321.975	ppb	11321.975	0.74	9447976	400000	
V	51	3	72	9.009	ppb	9.009	3.04	4690	2000	
Cr	52	3	72	18.358	ppb	18.358	1.88	12371	5000	
Mn	55	3	72	171.666	ppb	171.666	0.94	62743	10000	
Fe	56	2	72	92.000	ppb	92.000	0.40	190284	10000	
Co	59	3	72	1.203	ppb	1.203	6.69	1309	2000	
Ni	60	3	72	10.027	ppb	10.027	2.41	2831	5000	
Cu	63	3	72	2.423	ppb	2.423	3.55	2346	5000	
Zn	66	3	72	5.804	ppb	5.804	7.84	1013	5000	
As	75	3	72	11.479	ppb	11.479	7.06	1095	2000	
Se	78	2	72	0.130	ppb	0.130	55.39	15	2000	
Sr	88	3	72	128.240	ppb	128.240	2.34	67943	4000	
Mo	95	3	115	0.930	ppb	0.930	4.47	380	2000	
Ag	107	3	115	0.032	ppb	0.032	44.12	70	100	
Cd	111	3	115	0.007	ppb	0.007	198.38	7	2000	
Sn	120	3	115	2.297	ppb	2.297	3.77	1976	2000	
Sb	121	3	115	1.322	ppb	1.322	2.40	930	1000	
Ba	137	3	115	30.204	ppb	30.204	4.87	6760	5000	
Tl	205	3	193	0.011	ppb	0.011	176.05	218	2000	
(Pb)	206	3	193	0.746	ppb	0.746	10.49	875	100	
(Pb)	207	3	193	0.731	ppb	0.731	7.18	893	100	
Pb	208	3	193	0.760	ppb	0.760	4.45	3662	5000	
Th	232	3	193	0.044	ppb	0.044	53.98	3740	2000	
U	238	3	193	0.083	ppb	0.083	3.84	1526	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc (IS)	45	2	HMI H2	5156581	1.10	4904275	105.14	60	120	
Sc (IS)	45	3	HMI He	568485	1.63	524825	108.32	60	120	
Ge Internal standard	72	2	HMI H2	2827982	1.04	2587308	109.30	60	120	
Ge Internal standard	72	3	HMI He	649096	0.72	614615	105.61	60	120	
In Internal Standard	115	3	HMI He	2538742	2.30	2409771	105.35	60	120	
Ir (IS)	193	3	HMI He	4353584	3.24	3878719	112.24	60	120	

Sample Report

Sample Table

Sample Name	280-185768-c-2-b
Data File Name	261SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\79_122123.b
Acq Date Time	2023-12-21T23:35:29-07:00
Analyst	Denver Metals
Sample Type	Sample
Dilution	1
Comment	638042 200.8/6020B
ISTD Ref FileName	236CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Be	9	2	6	-0.029	ppb	-0.029	-74.88	1	2000	
Na	23	3	45	101056.607	ppb	101056.607	0.17	9174489	400000	
Mg	24	3	45	20845.249	ppb	20845.249	0.90	1041301	400000	
Al	27	3	45	296.893	ppb	296.893	2.18	5957	400000	
K	39	3	45	33322.003	ppb	33322.003	0.91	1596972	400000	
Ca	40	2	45	100514.405	ppb	100514.405	1.83	84373579	400000	
V	51	3	72	8.781	ppb	8.781	4.82	4628	2000	
Cr	52	3	72	27.543	ppb	27.543	1.94	18330	5000	
Mn	55	3	72	1842.341	ppb	1842.341	1.70	679386	10000	
Fe	56	2	72	10459.124	ppb	10459.124	2.48	17365738	10000	
Co	59	3	72	3.936	ppb	3.936	4.65	4122	2000	
Ni	60	3	72	31.231	ppb	31.231	2.25	8750	5000	
Cu	63	3	72	69.251	ppb	69.251	0.77	55512	5000	
Zn	66	3	72	363.560	ppb	363.560	1.53	47504	5000	
As	75	3	72	8.077	ppb	8.077	9.05	786	2000	
Se	78	2	72	0.124	ppb	0.124	58.61	14	2000	
Sr	88	3	72	516.962	ppb	516.962	1.15	276867	4000	
Mo	95	3	115	0.977	ppb	0.977	8.34	413	2000	
Ag	107	3	115	0.041	ppb	0.041	55.76	85	100	
Cd	111	3	115	0.275	ppb	0.275	21.79	62	2000	
Sn	120	3	115	2.162	ppb	2.162	3.00	1959	2000	
Sb	121	3	115	3.246	ppb	3.246	4.65	2194	1000	
Ba	137	3	115	97.639	ppb	97.639	1.25	22583	5000	
Tl	205	3	193	-0.012	ppb	-0.012	-34.22	152	2000	
(Pb)	206	3	193	3.696	ppb	3.696	4.41	3839	100	
(Pb)	207	3	193	3.666	ppb	3.666	1.30	3475	100	
Pb	208	3	193	3.716	ppb	3.716	1.50	15564	5000	
Th	232	3	193	0.009	ppb	0.009	92.45	3630	2000	
U	238	3	193	0.077	ppb	0.077	16.23	1516	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc (IS)	45	2	HMI H2	5206088	0.92	4904275	106.15	60	120	
Sc (IS)	45	3	HMI He	560723	1.33	524825	106.84	60	120	
Ge Internal standard	72	2	HMI H2	2764698	2.62	2587308	106.86	60	120	
Ge Internal standard	72	3	HMI He	656710	0.63	614615	106.85	60	120	
In Internal Standard	115	3	HMI He	2633019	0.55	2409771	109.26	60	120	
Ir (IS)	193	3	HMI He	4394426	1.20	3878719	113.30	60	120	

Sample Report

Sample Table

Sample Name	280-185768-c-3-b
Data File Name	262SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\79_122123.b
Acq Date Time	2023-12-21T23:37:42-07:00
Analyst	Denver Metals
Sample Type	Sample
Dilution	1
Comment	638042 200.8/6020B
ISTD Ref FileName	236CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Be	9	2	6	-0.013	ppb	-0.013	-313.21	2	2000	
Na	23	3	45	286010.114	ppb	286010.114	0.61	23907721	400000	
Mg	24	3	45	5830.528	ppb	5830.528	0.59	269367	400000	
Al	27	3	45	38.470	ppb	38.470	32.41	954	400000	
K	39	3	45	64192.844	ppb	64192.844	1.47	2802764	400000	
Ca	40	2	45	5744.660	ppb	5744.660	1.03	4489446	400000	
V	51	3	72	19.640	ppb	19.640	3.56	9430	2000	
Cr	52	3	72	48.171	ppb	48.171	1.36	29213	5000	
Mn	55	3	72	50.275	ppb	50.275	0.50	17427	10000	
Fe	56	2	72	1274.224	ppb	1274.224	1.61	1988561	10000	
Co	59	3	72	3.936	ppb	3.936	8.17	3839	2000	
Ni	60	3	72	39.995	ppb	39.995	1.46	10410	5000	
Cu	63	3	72	2.335	ppb	2.335	1.03	2144	5000	
Zn	66	3	72	6.831	ppb	6.831	3.50	1078	5000	
As	75	3	72	5.630	ppb	5.630	12.06	516	2000	
Se	78	2	72	0.144	ppb	0.144	53.27	14	2000	
Sr	88	3	72	191.008	ppb	191.008	0.53	95272	4000	
Mo	95	3	115	3.553	ppb	3.553	5.85	1348	2000	
Ag	107	3	115	0.012	ppb	0.012	97.72	43	100	
Cd	111	3	115	0.009	ppb	0.009	350.97	7	2000	
Sn	120	3	115	31.303	ppb	31.303	2.07	19957	2000	
Sb	121	3	115	1.000	ppb	1.000	14.75	698	1000	
Ba	137	3	115	101.803	ppb	101.803	2.01	21670	5000	
Tl	205	3	193	-0.008	ppb	-0.008	-171.75	152	2000	
(Pb)	206	3	193	1.909	ppb	1.909	7.31	1904	100	
(Pb)	207	3	193	1.914	ppb	1.914	1.34	1806	100	
Pb	208	3	193	1.880	ppb	1.880	2.60	7624	5000	
Th	232	3	193	0.008	ppb	0.008	520.64	3380	2000	
U	238	3	193	0.045	ppb	0.045	40.09	1284	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc (IS)	45	2	HMI H2	4811276	2.19	4904275	98.10	60	120	
Sc (IS)	45	3	HMI He	517886	0.40	524825	98.68	60	120	
Ge Internal standard	72	2	HMI H2	2562033	1.16	2587308	99.02	60	120	
Ge Internal standard	72	3	HMI He	611280	0.48	614615	99.46	60	120	
In Internal Standard	115	3	HMI He	2423610	0.55	2409771	100.57	60	120	
Ir (IS)	193	3	HMI He	4090945	2.86	3878719	105.47	60	120	

Sample Report

Sample Table

Sample Name	280-185768-c-4-b
Data File Name	263SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\79_122123.b
Acq Date Time	2023-12-21T23:39:58-07:00
Analyst	Denver Metals
Sample Type	Sample
Dilution	1
Comment	638042 200.8/6020B
ISTD Ref FileName	236CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Be	9	2	6	-0.027	ppb	-0.027	-83.89	1	2000	
Na	23	3	45	221281.681	ppb	221281.681	2.42	18898204	400000	
Mg	24	3	45	3997.159	ppb	3997.159	1.05	188718	400000	
Al	27	3	45	31.970	ppb	31.970	11.71	858	400000	
K	39	3	45	42554.143	ppb	42554.143	2.45	1911722	400000	
Ca	40	2	45	3732.905	ppb	3732.905	2.42	2966164	400000	
V	51	3	72	23.901	ppb	23.901	2.78	11551	2000	
Cr	52	3	72	35.463	ppb	35.463	2.31	21936	5000	
Mn	55	3	72	34.969	ppb	34.969	0.54	12294	10000	
Fe	56	2	72	1054.396	ppb	1054.396	1.98	1688293	10000	
Co	59	3	72	3.059	ppb	3.059	3.09	3032	2000	
Ni	60	3	72	40.207	ppb	40.207	2.89	10565	5000	
Cu	63	3	72	1.534	ppb	1.534	4.81	1566	5000	
Zn	66	3	72	3.693	ppb	3.693	17.59	705	5000	
As	75	3	72	9.926	ppb	9.926	2.56	903	2000	
Se	78	2	72	0.139	ppb	0.139	83.70	14	2000	
Sr	88	3	72	142.778	ppb	142.778	0.76	71932	4000	
Mo	95	3	115	5.290	ppb	5.290	2.11	2037	2000	
Ag	107	3	115	0.020	ppb	0.020	61.75	53	100	
Cd	111	3	115	0.026	ppb	0.026	103.32	10	2000	
Sn	120	3	115	21.938	ppb	21.938	3.47	14382	2000	
Sb	121	3	115	3.800	ppb	3.800	1.44	2391	1000	
Ba	137	3	115	72.875	ppb	72.875	2.55	15808	5000	
Tl	205	3	193	-0.005	ppb	-0.005	-218.77	163	2000	
(Pb)	206	3	193	1.359	ppb	1.359	6.74	1426	100	
(Pb)	207	3	193	1.323	ppb	1.323	5.81	1353	100	
Pb	208	3	193	1.323	ppb	1.323	4.45	5676	5000	
Th	232	3	193	-0.019	ppb	-0.019	-121.41	3350	2000	
U	238	3	193	0.033	ppb	0.033	21.13	1263	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc (IS)	45	2	HMI H2	4872352	2.52	4904275	99.35	60	120	
Sc (IS)	45	3	HMI He	528815	0.73	524825	100.76	60	120	
Ge Internal standard	72	2	HMI H2	2620829	2.78	2587308	101.30	60	120	
Ge Internal standard	72	3	HMI He	617295	1.35	614615	100.44	60	120	
In Internal Standard	115	3	HMI He	2469327	2.53	2409771	102.47	60	120	
Ir (IS)	193	3	HMI He	4185688	1.11	3878719	107.91	60	120	

Sample Report

Sample Table

Sample Name	280-185768-c-5-b
Data File Name	264SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\79_122123.b
Acq Date Time	2023-12-21T23:42:11-07:00
Analyst	Denver Metals
Sample Type	Sample
Dilution	1
Comment	638042 200.8/6020B
ISTD Ref FileName	236CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Be	9	2	6	-0.014	ppb	-0.014	-290.07	2	2000	
Na	23	3	45	366873.216	ppb	366873.216	1.64	31535104	400000	
Mg	24	3	45	5171.433	ppb	5171.433	1.06	245837	400000	
Al	27	3	45	18.001	ppb	18.001	8.37	611	400000	
K	39	3	45	64611.340	ppb	64611.340	1.40	2901878	400000	
Ca	40	2	45	3656.887	ppb	3656.887	1.98	2862222	400000	
V	51	3	72	31.734	ppb	31.734	2.25	15321	2000	
Cr	52	3	72	47.406	ppb	47.406	2.30	29116	5000	
Mn	55	3	72	17.447	ppb	17.447	2.89	6238	10000	
Fe	56	2	72	1591.759	ppb	1591.759	1.62	2558884	10000	
Co	59	3	72	4.982	ppb	4.982	2.30	4895	2000	
Ni	60	3	72	81.255	ppb	81.255	1.21	21332	5000	
Cu	63	3	72	2.913	ppb	2.913	7.09	2604	5000	
Zn	66	3	72	7.346	ppb	7.346	4.52	1154	5000	
As	75	3	72	13.008	ppb	13.008	10.01	1179	2000	
Se	78	2	72	0.197	ppb	0.197	42.11	17	2000	
Sr	88	3	72	215.207	ppb	215.207	1.30	108657	4000	
Mo	95	3	115	24.376	ppb	24.376	2.07	9220	2000	
Ag	107	3	115	0.028	ppb	0.028	66.22	63	100	
Cd	111	3	115	0.123	ppb	0.123	81.10	28	2000	
Sn	120	3	115	33.669	ppb	33.669	3.40	21550	2000	
Sb	121	3	115	2.400	ppb	2.400	1.50	1531	1000	
Ba	137	3	115	149.505	ppb	149.505	1.25	31993	5000	
Tl	205	3	193	0.081	ppb	0.081	48.32	408	2000	
(Pb)	206	3	193	2.202	ppb	2.202	3.42	2219	100	
(Pb)	207	3	193	2.114	ppb	2.114	4.90	2004	100	
Pb	208	3	193	2.165	ppb	2.165	2.80	8850	5000	
Th	232	3	193	-0.033	ppb	-0.033	-70.45	3277	2000	
U	238	3	193	0.361	ppb	0.361	7.75	2584	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc (IS)	45	2	HMI H2	4798378	3.17	4904275	97.84	60	120	
Sc (IS)	45	3	HMI He	532745	0.98	524825	101.51	60	120	
Ge Internal standard	72	2	HMI H2	2647775	1.54	2587308	102.34	60	120	
Ge Internal standard	72	3	HMI He	618830	0.76	614615	100.69	60	120	
In Internal Standard	115	3	HMI He	2437781	1.47	2409771	101.16	60	120	
Ir (IS)	193	3	HMI He	4165176	0.67	3878719	107.39	60	120	

Sample Report

Sample Table

Sample Name	280-185768-c-6-b
Data File Name	265SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\79_122123.b
Acq Date Time	2023-12-21T23:44:27-07:00
Analyst	Denver Metals
Sample Type	Sample
Dilution	1
Comment	638042 200.8/6020B
ISTD Ref FileName	236CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Be	9	2	6	-0.041	ppb	-0.041	-56.47	1	2000	
Na	23	3	45	574028.312	ppb	574028.312	1.49	49943375	400000	
Mg	24	3	45	8492.206	ppb	8492.206	1.76	408445	400000	
Al	27	3	45	19.217	ppb	19.217	21.48	641	400000	
K	39	3	45	95811.700	ppb	95811.700	1.38	4336053	400000	
Ca	40	2	45	3638.406	ppb	3638.406	0.77	2899333	400000	
V	51	3	72	28.430	ppb	28.430	1.07	13940	2000	
Cr	52	3	72	50.069	ppb	50.069	1.43	31136	5000	
Mn	55	3	72	26.025	ppb	26.025	1.94	9349	10000	
Fe	56	2	72	1309.032	ppb	1309.032	2.19	2103380	10000	
Co	59	3	72	4.654	ppb	4.654	2.65	4643	2000	
Ni	60	3	72	91.038	ppb	91.038	2.46	24224	5000	
Cu	63	3	72	1.032	ppb	1.032	6.79	1211	5000	
Zn	66	3	72	2.263	ppb	2.263	10.78	540	5000	
As	75	3	72	15.392	ppb	15.392	4.76	1411	2000	
Se	78	2	72	0.035	ppb	0.035	273.60	9	2000	
Sr	88	3	72	223.132	ppb	223.132	0.89	114251	4000	
Mo	95	3	115	3.122	ppb	3.122	10.80	1204	2000	
Ag	107	3	115	0.006	ppb	0.006	244.31	37	100	
Cd	111	3	115	0.043	ppb	0.043	70.73	13	2000	
Sn	120	3	115	24.498	ppb	24.498	4.99	15980	2000	
Sb	121	3	115	5.724	ppb	5.724	5.04	3540	1000	
Ba	137	3	115	162.410	ppb	162.410	1.62	35136	5000	
Tl	205	3	193	-0.003	ppb	-0.003	-482.42	168	2000	
(Pb)	206	3	193	0.831	ppb	0.831	6.67	923	100	
(Pb)	207	3	193	0.765	ppb	0.765	7.64	888	100	
Pb	208	3	193	0.761	ppb	0.761	3.00	3528	5000	
Th	232	3	193	-0.018	ppb	-0.018	-121.37	3357	2000	
U	238	3	193	0.094	ppb	0.094	10.82	1513	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc (IS)	45	2	HMI H2	4883040	0.11	4904275	99.57	60	120	
Sc (IS)	45	3	HMI He	539491	0.68	524825	102.79	60	120	
Ge Internal standard	72	2	HMI H2	2639165	0.66	2587308	102.00	60	120	
Ge Internal standard	72	3	HMI He	627610	1.81	614615	102.11	60	120	
In Internal Standard	115	3	HMI He	2464779	1.79	2409771	102.28	60	120	
Ir (IS)	193	3	HMI He	4189506	0.22	3878719	108.01	60	120	

Sample Report

Sample Table

Sample Name	280-185768-c-7-b
Data File Name	266SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\79_122123.b
Acq Date Time	2023-12-21T23:46:40-07:00
Analyst	Denver Metals
Sample Type	Sample
Dilution	1
Comment	638042 200.8/6020B
ISTD Ref FileName	236CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Be	9	2	6	-0.015	ppb	-0.015	-262.76	2	2000	
Na	23	3	45	500985.179	ppb	500985.179	0.91	43858500	400000	
Mg	24	3	45	7101.704	ppb	7101.704	0.16	343755	400000	
Al	27	3	45	55.532	ppb	55.532	14.69	1315	400000	
K	39	3	45	116146.404	ppb	116146.404	0.99	5279455	400000	
Ca	40	2	45	2459.343	ppb	2459.343	3.21	2008424	400000	
V	51	3	72	25.453	ppb	25.453	2.50	12666	2000	
Cr	52	3	72	56.137	ppb	56.137	2.67	35275	5000	
Mn	55	3	72	15.552	ppb	15.552	1.96	5735	10000	
Fe	56	2	72	951.245	ppb	951.245	1.12	1562553	10000	
Co	59	3	72	3.605	ppb	3.605	5.73	3664	2000	
Ni	60	3	72	50.092	ppb	50.092	0.78	13547	5000	
Cu	63	3	72	3.505	ppb	3.505	3.16	3132	5000	
Zn	66	3	72	5.779	ppb	5.779	13.79	990	5000	
As	75	3	72	22.753	ppb	22.753	1.98	2104	2000	
Se	78	2	72	0.144	ppb	0.144	38.88	15	2000	
Sr	88	3	72	126.304	ppb	126.304	1.53	65573	4000	
Mo	95	3	115	7.898	ppb	7.898	2.80	3112	2000	
Ag	107	3	115	0.011	ppb	0.011	148.41	43	100	
Cd	111	3	115	-0.010	ppb	-0.010	-295.27	3	2000	
Sn	120	3	115	30.149	ppb	30.149	2.19	20092	2000	
Sb	121	3	115	3.004	ppb	3.004	4.87	1961	1000	
Ba	137	3	115	116.497	ppb	116.497	1.76	25889	5000	
Tl	205	3	193	-0.014	ppb	-0.014	-69.23	138	2000	
(Pb)	206	3	193	1.719	ppb	1.719	3.70	1788	100	
(Pb)	207	3	193	1.655	ppb	1.655	5.03	1648	100	
Pb	208	3	193	1.681	ppb	1.681	1.77	7116	5000	
Th	232	3	193	0.008	ppb	0.008	205.32	3489	2000	
U	238	3	193	0.295	ppb	0.295	10.40	2352	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc (IS)	45	2	HMI H2	4975857	0.96	4904275	101.46	60	120	
Sc (IS)	45	3	HMI He	542782	0.67	524825	103.42	60	120	
Ge Internal standard	72	2	HMI H2	2682505	0.45	2587308	103.68	60	120	
Ge Internal standard	72	3	HMI He	636053	0.90	614615	103.49	60	120	
In Internal Standard	115	3	HMI He	2530913	1.07	2409771	105.03	60	120	
Ir (IS)	193	3	HMI He	4228338	0.67	3878719	109.01	60	120	

Sample Report

Sample Table

Sample Name	280-185768-c-8-b
Data File Name	267SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\79_122123.b
Acq Date Time	2023-12-21T23:48:54-07:00
Analyst	Denver Metals
Sample Type	Sample
Dilution	1
Comment	638042 200.8/6020B
ISTD Ref FileName	236CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Be	9	2	6	-0.028	ppb	-0.028	-162.85	1	2000	
Na	23	3	45	488689.252	ppb	488689.252	0.70	43073520	400000	
Mg	24	3	45	11117.031	ppb	11117.031	0.29	541522	400000	
Al	27	3	45	34.378	ppb	34.378	12.44	931	400000	
K	39	3	45	115052.529	ppb	115052.529	1.35	5265104	400000	
Ca	40	2	45	3209.328	ppb	3209.328	2.10	2657375	400000	
V	51	3	72	12.382	ppb	12.382	3.97	6338	2000	
Cr	52	3	72	57.482	ppb	57.482	0.37	36601	5000	
Mn	55	3	72	15.362	ppb	15.362	2.45	5743	10000	
Fe	56	2	72	775.825	ppb	775.825	1.06	1290316	10000	
Co	59	3	72	3.625	ppb	3.625	1.88	3735	2000	
Ni	60	3	72	54.544	ppb	54.544	2.62	14942	5000	
Cu	63	3	72	9.315	ppb	9.315	3.83	7708	5000	
Zn	66	3	72	6.940	ppb	6.940	11.13	1151	5000	
As	75	3	72	9.559	ppb	9.559	6.41	910	2000	
Se	78	2	72	0.105	ppb	0.105	107.83	13	2000	
Sr	88	3	72	133.624	ppb	133.624	2.19	70311	4000	
Mo	95	3	115	4.658	ppb	4.658	8.92	1831	2000	
Ag	107	3	115	-0.001	ppb	-0.001	-230.63	28	100	
Cd	111	3	115	0.016	ppb	0.016	184.84	8	2000	
Sn	120	3	115	50.718	ppb	50.718	0.66	33285	2000	
Sb	121	3	115	2.556	ppb	2.556	4.10	1676	1000	
Ba	137	3	115	132.936	ppb	132.936	1.09	29376	5000	
Tl	205	3	193	-0.002	ppb	-0.002	-787.75	172	2000	
(Pb)	206	3	193	1.786	ppb	1.786	3.86	1814	100	
(Pb)	207	3	193	1.596	ppb	1.596	7.96	1564	100	
Pb	208	3	193	1.723	ppb	1.723	2.24	7127	5000	
Th	232	3	193	-0.013	ppb	-0.013	-137.67	3337	2000	
U	238	3	193	0.088	ppb	0.088	39.54	1469	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc (IS)	45	2	HMI H2	5066282	1.08	4904275	103.30	60	120	
Sc (IS)	45	3	HMI He	546495	1.61	524825	104.13	60	120	
Ge Internal standard	72	2	HMI H2	2703340	0.95	2587308	104.48	60	120	
Ge Internal standard	72	3	HMI He	644798	1.84	614615	104.91	60	120	
In Internal Standard	115	3	HMI He	2516723	0.44	2409771	104.44	60	120	
Ir (IS)	193	3	HMI He	4140390	0.75	3878719	106.75	60	120	

Sample Report

Sample Table

Sample Name	280-185768-c-9-b
Data File Name	268SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\79_122123.b
Acq Date Time	2023-12-21T23:51:08-07:00
Analyst	Denver Metals
Sample Type	Sample
Dilution	1
Comment	638042 200.8/6020B
ISTD Ref FileName	236CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Be	9	2	6	0.000	ppb	0.000	-5337.76	3	2000	
Na	23	3	45	364250.063	ppb	364250.063	1.05	31563667	400000	
Mg	24	3	45	4676.489	ppb	4676.489	0.77	224149	400000	
Al	27	3	45	47.497	ppb	47.497	10.43	1155	400000	
K	39	3	45	86861.686	ppb	86861.686	1.26	3917514	400000	
Ca	40	2	45	3065.026	ppb	3065.026	3.39	2488559	400000	
V	51	3	72	12.465	ppb	12.465	1.40	6235	2000	
Cr	52	3	72	59.794	ppb	59.794	0.16	37181	5000	
Mn	55	3	72	22.356	ppb	22.356	0.51	8090	10000	
Fe	56	2	72	596.457	ppb	596.457	3.35	975092	10000	
Co	59	3	72	5.244	ppb	5.244	3.08	5243	2000	
Ni	60	3	72	54.294	ppb	54.294	0.38	14544	5000	
Cu	63	3	72	15.635	ppb	15.635	1.00	12361	5000	
Zn	66	3	72	10.370	ppb	10.370	6.47	1553	5000	
As	75	3	72	18.317	ppb	18.317	6.76	1683	2000	
Se	78	2	72	0.163	ppb	0.163	98.29	15	2000	
Sr	88	3	72	113.667	ppb	113.667	0.99	58490	4000	
Mo	95	3	115	6.565	ppb	6.565	3.34	2582	2000	
Ag	107	3	115	0.025	ppb	0.025	84.54	62	100	
Cd	111	3	115	0.058	ppb	0.058	139.56	17	2000	
Sn	120	3	115	55.404	ppb	55.404	1.45	36435	2000	
Sb	121	3	115	4.040	ppb	4.040	2.55	2592	1000	
Ba	137	3	115	79.883	ppb	79.883	1.35	17725	5000	
Tl	205	3	193	-0.006	ppb	-0.006	-125.80	157	2000	
(Pb)	206	3	193	2.476	ppb	2.476	11.29	2417	100	
(Pb)	207	3	193	2.197	ppb	2.197	3.40	2021	100	
Pb	208	3	193	2.313	ppb	2.313	2.64	9175	5000	
Th	232	3	193	0.010	ppb	0.010	277.75	3357	2000	
U	238	3	193	0.126	ppb	0.126	16.69	1593	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc (IS)	45	2	HMI H2	4966051	2.08	4904275	101.26	60	120	
Sc (IS)	45	3	HMI He	537104	1.12	524825	102.34	60	120	
Ge Internal standard	72	2	HMI H2	2637796	1.51	2587308	101.95	60	120	
Ge Internal standard	72	3	HMI He	630282	0.40	614615	102.55	60	120	
In Internal Standard	115	3	HMI He	2524976	1.06	2409771	104.78	60	120	
Ir (IS)	193	3	HMI He	4060132	0.94	3878719	104.68	60	120	

Sample Report

Sample Table

Sample Name	280-185768-c-11-b
Data File Name	269SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\79_122123.b
Acq Date Time	2023-12-21T23:53:22-07:00
Analyst	Denver Metals
Sample Type	Sample
Dilution	1
Comment	638042 200.8/6020B
ISTD Ref FileName	236CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Be	9	2	6	-0.014	ppb	-0.014	-294.55	2	2000	
Na	23	3	45	337292.196	ppb	337292.196	1.25	30101039	400000	
Mg	24	3	45	8535.958	ppb	8535.958	1.09	420952	400000	
Al	27	3	45	102.270	ppb	102.270	15.20	2219	400000	
K	39	3	45	88932.374	ppb	88932.374	1.90	4129477	400000	
Ca	40	2	45	5068.790	ppb	5068.790	0.25	4100031	400000	
V	51	3	72	11.098	ppb	11.098	1.80	5715	2000	
Cr	52	3	72	57.284	ppb	57.284	3.26	36581	5000	
Mn	55	3	72	49.440	ppb	49.440	2.61	18133	10000	
Fe	56	2	72	749.596	ppb	749.596	1.16	1250259	10000	
Co	59	3	72	3.399	ppb	3.399	2.27	3519	2000	
Ni	60	3	72	39.337	ppb	39.337	1.71	10834	5000	
Cu	63	3	72	11.295	ppb	11.295	0.95	9285	5000	
Zn	66	3	72	15.906	ppb	15.906	9.08	2301	5000	
As	75	3	72	14.255	ppb	14.255	4.93	1349	2000	
Se	78	2	72	0.204	ppb	0.204	79.47	18	2000	
Sr	88	3	72	122.433	ppb	122.433	1.14	64637	4000	
Mo	95	3	115	4.606	ppb	4.606	1.72	1833	2000	
Ag	107	3	115	0.013	ppb	0.013	92.42	47	100	
Cd	111	3	115	0.015	ppb	0.015	249.09	8	2000	
Sn	120	3	115	33.832	ppb	33.832	1.23	22631	2000	
Sb	121	3	115	3.389	ppb	3.389	3.84	2212	1000	
Ba	137	3	115	84.915	ppb	84.915	1.43	19004	5000	
Tl	205	3	193	0.008	ppb	0.008	151.12	202	2000	
(Pb)	206	3	193	2.655	ppb	2.655	2.10	2682	100	
(Pb)	207	3	193	2.394	ppb	2.394	7.18	2264	100	
Pb	208	3	193	2.488	ppb	2.488	3.91	10202	5000	
Th	232	3	193	0.030	ppb	0.030	113.52	3565	2000	
U	238	3	193	0.122	ppb	0.122	19.36	1638	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc (IS)	45	2	HMI H2	4973744	1.91	4904275	101.42	60	120	
Sc (IS)	45	3	HMI He	553119	1.76	524825	105.39	60	120	
Ge Internal standard	72	2	HMI H2	2708640	1.17	2587308	104.69	60	120	
Ge Internal standard	72	3	HMI He	646763	0.95	614615	105.23	60	120	
In Internal Standard	115	3	HMI He	2547410	1.35	2409771	105.71	60	120	
Ir (IS)	193	3	HMI He	4217013	1.20	3878719	108.72	60	120	

Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV-8123148
Data File Name	270_CCV.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\79_122123.b
Acq Date Time	2023-12-21T23:55:39-07:00
Sample Type	CCV
Dilution	1
Comment	
ISTD Ref File Name	236CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	Units	Conc %RSD	CPS	Exp Value	%Rec	%Low	%High2	QC Flag
Be	9	2	6	52.754	ppb	1.340	2655	50	105.5	90	110	
Na	23	3	45	49855.862	ppb	0.817	4417629	51000	97.8	90	110	
Mg	24	3	45	10318.000	ppb	0.542	500900	11000	93.8	90	110	
Al	27	3	45	1039.333	ppb	1.397	19526	1000	103.9	90	110	
K	39	3	45	10548.796	ppb	1.014	521066	11000	95.9	90	110	
Ca	40	2	45	11146.462	ppb	1.684	9168641	11000	101.3	90	110	
V	51	3	72	51.447	ppb	1.882	25938	50	102.9	90	110	
Cr	52	3	72	49.922	ppb	1.726	32111	50	99.8	90	110	
Mn	55	3	72	49.520	ppb	2.613	18223	50	99.0	90	110	
Fe	56	2	72	1085.141	ppb	1.333	1805157	1000	108.5	90	110	
Co	59	3	72	49.862	ppb	0.789	50547	50	99.7	90	110	
Ni	60	3	72	50.308	ppb	0.767	13880	50	100.6	90	110	
Cu	63	3	72	49.319	ppb	1.882	39191	50	98.6	90	110	
Zn	66	3	72	51.768	ppb	1.136	6913	50	103.5	90	110	
As	75	3	72	49.650	ppb	3.048	4657	50	99.3	90	110	
Se	78	2	72	52.447	ppb	0.536	2860	50	104.9	90	110	
Sr	88	3	72	99.728	ppb	0.965	52849	100	99.7	90	110	
Mo	95	3	115	50.864	ppb	1.174	19920	50	101.7	90	110	
Ag	107	3	115	50.553	ppb	3.006	64007	50	101.1	90	110	
Cd	111	3	115	51.395	ppb	3.456	10055	50	102.8	90	110	
Sn	120	3	115	51.186	ppb	1.713	33696	50	102.4	90	110	
Sb	121	3	115	50.367	ppb	0.893	31011	50	100.7	90	110	
Ba	137	3	115	51.237	ppb	4.496	11374	50	102.5	90	110	
Tl	205	3	193	49.700	ppb	2.355	144933	50	99.4	90	110	
(Pb)	206	3	193	49.282	ppb	2.960	47702	50	98.6	90	110	
(Pb)	207	3	193	51.056	ppb	2.796	43391	50	102.1	90	110	
Pb	208	3	193	49.252	ppb	2.615	191133	50	98.5	90	110	
Th	232	3	193	50.816	ppb	2.452	204855	50	101.6	90	110	
U	238	3	193	48.847	ppb	2.329	201912	50	97.7	90	110	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc (IS)	45	2	HMI H2	5083670	1.92	4904275	103.66	60	120	
Sc (IS)	45	3	HMI He	544631	1.21	524825	103.77	60	120	
Ge Internal standard	72	2	HMI H2	2723649	1.63	2587308	105.27	60	120	
Ge Internal standard	72	3	HMI He	648931	1.01	614615	105.58	60	120	
In Internal Standard	115	3	HMI He	2525476	2.26	2409771	104.80	60	120	
Ir (IS)	193	3	HMI He	4235936	1.89	3878719	109.21	60	120	

Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB-8123133
Data File Name	271_CCB.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\79_122123.b
Acq Date Time	2023-12-21T23:57:53-07:00
Sample Type	CCB
Dilution	1
Comment	
ISTD Ref File Name	236CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	Units	Conc %RSD	CPS	Upper Limit	QC Flag
Be	9	2	6	0.012	ppb	386.4	3	0.5	
Na	23	3	45	148.989	ppb	6.3	55356	25	>RL
Mg	24	3	45	-2.163	ppb	-88.9	384	25	
Al	27	3	45	-3.388	ppb	-88.6	227	15	
K	39	3	45	-32.877	ppb	-169.8	42159	50	
V	51	3	72	0.747	ppb	23.8	531	1	
Cr	52	3	72	0.044	ppb	162.9	883	1	
Mn	55	3	72	0.091	ppb	166.8	210	0.5	
Co	59	3	72	-0.039	ppb	-12.8	50	0.5	
Ni	60	3	72	-0.030	ppb	-200.4	68	1	
Cu	63	3	72	-0.036	ppb	-42.6	398	1	
Zn	66	3	72	-1.006	ppb	-29.2	133	5	
As	75	3	72	0.274	ppb	42.8	47	1	
Se	78	2	72	0.093	ppb	100.9	12	1	
Sr	88	3	72	-0.055	ppb	-31.4	50	0.5	
Mo	95	3	115	0.037	ppb	38.2	28	0.5	
Ag	107	3	115	0.040	ppb	33.7	80	1	
Cd	111	3	115	0.007	ppb	197.1	7	0.5	
Sn	120	3	115	0.112	ppb	68.7	548	1	
Sb	121	3	115	0.119	ppb	15.1	187	0.6	
Ba	137	3	115	-0.030	ppb	-116.6	27	0.5	
Tl	205	3	193	0.019	ppb	50.4	227	0.1	
(Pb)	206	3	193	0.000	ppb	14636.5	127	1	
(Pb)	207	3	193	-0.016	ppb	-164.5	230	1	
Pb	208	3	193	0.008	ppb	139.7	635	0.5	
Th	232	3	193	0.234	ppb	22.5	4249	1	
U	238	3	193	0.037	ppb	88.1	1256	0.5	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc (IS)	45	2	HMI H2	5071808	1.98	4904275	103.42	60	120	
Sc (IS)	45	3	HMI He	541051	0.06	524825	103.09	60	120	
Ge Internal standard	72	2	HMI H2	2684988	1.76	2587308	103.78	60	120	
Ge Internal standard	72	3	HMI He	625497	0.39	614615	101.77	60	120	
In Internal Standard	115	3	HMI He	2526156	0.96	2409771	104.83	60	120	
Ir (IS)	193	3	HMI He	4097996	1.80	3878719	105.65	60	120	

Sample Report

Sample Table

Sample Name	280-185857-b-1-b
Data File Name	272SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\79_122123.b
Acq Date Time	2023-12-22T00:00:10-07:00
Analyst	Denver Metals
Sample Type	Sample
Dilution	1
Comment	638042 200.8/6020B
ISTD Ref FileName	236CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Be	9	2	6	0.178	ppb	0.178	46.53	12	2000	
Na	23	3	45	10398.689	ppb	10398.689	0.71	994028	400000	
Mg	24	3	45	5475.188	ppb	5475.188	1.57	276835	400000	
Al	27	3	45	1298.757	ppb	1298.757	4.15	25308	400000	
K	39	3	45	2422.497	ppb	2422.497	0.77	159747	400000	
Ca	40	2	45	39961.641	ppb	39961.641	3.15	32905745	400000	
V	51	3	72	3.063	ppb	3.063	6.44	1736	2000	
Cr	52	3	72	1.581	ppb	1.581	11.40	1903	5000	
Mn	55	3	72	112.960	ppb	112.960	3.27	41914	10000	
Fe	56	2	72	1213.976	ppb	1213.976	0.25	2092997	10000	
Co	59	3	72	0.693	ppb	0.693	5.73	805	2000	
Ni	60	3	72	2.118	ppb	2.118	8.44	670	5000	
Cu	63	3	72	1.846	ppb	1.846	8.62	1919	5000	
Zn	66	3	72	6.825	ppb	6.825	3.48	1159	5000	
As	75	3	72	0.935	ppb	0.935	33.11	112	2000	
Se	78	2	72	0.012	ppb	0.012	292.44	8	2000	
Sr	88	3	72	156.909	ppb	156.909	1.11	84278	4000	
Mo	95	3	115	0.559	ppb	0.559	14.50	242	2000	
Ag	107	3	115	0.003	ppb	0.003	201.63	35	100	
Cd	111	3	115	-0.002	ppb	-0.002	-1167.46	5	2000	
Sn	120	3	115	-0.053	ppb	-0.053	-115.82	456	2000	
Sb	121	3	115	0.106	ppb	0.106	23.38	185	1000	
Ba	137	3	115	181.444	ppb	181.444	1.16	41670	5000	
Tl	205	3	193	0.026	ppb	0.026	46.47	252	2000	
(Pb)	206	3	193	0.775	ppb	0.775	13.04	868	100	
(Pb)	207	3	193	0.676	ppb	0.676	11.61	813	100	
Pb	208	3	193	0.757	ppb	0.757	4.86	3507	5000	
Th	232	3	193	0.263	ppb	0.263	8.20	4450	2000	
U	238	3	193	0.614	ppb	0.614	3.95	3624	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc (IS)	45	2	HMI H2	5105843	2.74	4904275	104.11	60	120	
Sc (IS)	45	3	HMI He	566804	1.93	524825	108.00	60	120	
Ge Internal standard	72	2	HMI H2	2828141	0.50	2587308	109.31	60	120	
Ge Internal standard	72	3	HMI He	658194	1.58	614615	107.09	60	120	
In Internal Standard	115	3	HMI He	2616589	1.09	2409771	108.58	60	120	
Ir (IS)	193	3	HMI He	4182802	1.22	3878719	107.84	60	120	

Sample Report

Sample Table

Sample Name	280-185872-d-1-a
Data File Name	273SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\79_122123.b
Acq Date Time	2023-12-22T00:02:24-07:00
Analyst	Denver Metals
Sample Type	Sample
Dilution	1
Comment	638042 200.8/6020B
ISTD Ref FileName	236CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Be	9	2	6	-0.054	ppb	-0.054	0.00	0	2000	
Na	23	3	45	176833.742	ppb	176833.742	0.50	16563220	400000	
Mg	24	3	45	29206.251	ppb	29206.251	0.48	1508238	400000	
Al	27	3	45	10.013	ppb	10.013	27.48	507	400000	
K	39	3	45	6408.764	ppb	6408.764	1.17	355297	400000	
Ca	40	2	45	152627.509	ppb	152627.509	0.83	129571080	400000	
V	51	3	72	1.178	ppb	1.178	6.56	793	2000	
Cr	52	3	72	0.308	ppb	0.308	13.95	1116	5000	
Mn	55	3	72	550.750	ppb	550.750	0.84	207393	10000	
Fe	56	2	72	1518.918	ppb	1518.918	0.64	2700201	10000	
Co	59	3	72	0.063	ppb	0.063	66.66	160	2000	
Ni	60	3	72	1.170	ppb	1.170	10.49	413	5000	
Cu	63	3	72	7.789	ppb	7.789	4.31	6777	5000	
Zn	66	3	72	29.260	ppb	29.260	2.64	4155	5000	
As	75	3	72	0.394	ppb	0.394	26.21	62	2000	
Se	78	2	72	0.029	ppb	0.029	405.90	9	2000	
Sr	88	3	72	1680.526	ppb	1680.526	0.42	918286	4000	
Mo	95	3	115	0.616	ppb	0.616	10.67	265	2000	
Ag	107	3	115	0.009	ppb	0.009	189.68	43	100	
Cd	111	3	115	0.030	ppb	0.030	166.66	12	2000	
Sn	120	3	115	0.133	ppb	0.133	109.66	583	2000	
Sb	121	3	115	0.005	ppb	0.005	1773.98	122	1000	
Ba	137	3	115	252.776	ppb	252.776	1.84	58224	5000	
Tl	205	3	193	-0.002	ppb	-0.002	-432.09	180	2000	
(Pb)	206	3	193	0.358	ppb	0.358	20.97	490	100	
(Pb)	207	3	193	0.315	ppb	0.315	14.34	531	100	
Pb	208	3	193	0.367	ppb	0.367	8.80	2101	5000	
Th	232	3	193	-0.001	ppb	-0.001	-4813.26	3554	2000	
U	238	3	193	1.872	ppb	1.872	4.60	9079	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc (IS)	45	2	HMI H2	5265724	1.32	4904275	107.37	60	120	
Sc (IS)	45	3	HMI He	579700	0.21	524825	110.46	60	120	
Ge Internal standard	72	2	HMI H2	2925853	1.14	2587308	113.08	60	120	
Ge Internal standard	72	3	HMI He	670153	0.80	614615	109.04	60	120	
In Internal Standard	115	3	HMI He	2625082	1.09	2409771	108.93	60	120	
Ir (IS)	193	3	HMI He	4350168	0.51	3878719	112.15	60	120	

Sample Report

Sample Table

Sample Name	280-185872-d-2-a
Data File Name	274SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\79_122123.b
Acq Date Time	2023-12-22T00:04:40-07:00
Analyst	Denver Metals
Sample Type	Sample
Dilution	1
Comment	638042 200.8/6020B
ISTD Ref FileName	236CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Be	9	2	6	-0.004	ppb	-0.004	-497.11	3	2000	
Na	23	3	45	156404.616	ppb	156404.616	1.12	14608554	400000	
Mg	24	3	45	28477.906	ppb	28477.906	0.27	1465937	400000	
Al	27	3	45	-3.153	ppb	-3.153	-19.79	247	400000	
K	39	3	45	6078.890	ppb	6078.890	0.66	338312	400000	
Ca	40	2	45	141512.812	ppb	141512.812	2.91	118687119	400000	
V	51	3	72	0.990	ppb	0.990	3.39	700	2000	
Cr	52	3	72	-0.118	ppb	-0.118	-51.12	846	5000	
Mn	55	3	72	1597.189	ppb	1597.189	0.97	604886	10000	
Fe	56	2	72	9058.046	ppb	9058.046	1.17	15702942	10000	
Co	59	3	72	0.073	ppb	0.073	72.28	172	2000	
Ni	60	3	72	0.571	ppb	0.571	8.61	245	5000	
Cu	63	3	72	-0.003	ppb	-0.003	-1553.10	456	5000	
Zn	66	3	72	1.127	ppb	1.127	33.90	428	5000	
As	75	3	72	1.249	ppb	1.249	28.63	145	2000	
Se	78	2	72	0.102	ppb	0.102	86.04	13	2000	
Sr	88	3	72	1359.903	ppb	1359.903	0.69	747783	4000	
Mo	95	3	115	1.686	ppb	1.686	4.40	703	2000	
Ag	107	3	115	0.001	ppb	0.001	2054.64	32	100	
Cd	111	3	115	-0.010	ppb	-0.010	-137.40	3	2000	
Sn	120	3	115	-0.024	ppb	-0.024	-176.80	480	2000	
Sb	121	3	115	0.023	ppb	0.023	147.10	133	1000	
Ba	137	3	115	442.695	ppb	442.695	2.03	102320	5000	
Tl	205	3	193	-0.024	ppb	-0.024	-11.38	113	2000	
(Pb)	206	3	193	0.087	ppb	0.087	28.93	223	100	
(Pb)	207	3	193	0.106	ppb	0.106	53.30	355	100	
Pb	208	3	193	0.125	ppb	0.125	14.87	1151	5000	
Th	232	3	193	-0.040	ppb	-0.040	-102.59	3440	2000	
U	238	3	193	0.376	ppb	0.376	11.78	2796	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc (IS)	45	2	HMI H2	5203906	2.18	4904275	106.11	60	120	
Sc (IS)	45	3	HMI He	577836	0.80	524825	110.10	60	120	
Ge Internal standard	72	2	HMI H2	2884820	1.33	2587308	111.50	60	120	
Ge Internal standard	72	3	HMI He	674357	0.33	614615	109.72	60	120	
In Internal Standard	115	3	HMI He	2634765	0.93	2409771	109.34	60	120	
Ir (IS)	193	3	HMI He	4407631	1.22	3878719	113.64	60	120	

Sample Report

Sample Table

Sample Name	280-185872-e-3-a
Data File Name	275SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\79_122123.b
Acq Date Time	2023-12-22T00:06:54-07:00
Analyst	Denver Metals
Sample Type	Sample
Dilution	1
Comment	638042 200.8/6020B
ISTD Ref FileName	236CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Be	9	2	6	-0.041	ppb	-0.041	-53.56	1	2000	
Na	23	3	45	125693.105	ppb	125693.105	0.87	11644072	400000	
Mg	24	3	45	23629.571	ppb	23629.571	3.15	1205509	400000	
Al	27	3	45	329.660	ppb	329.660	3.17	6722	400000	
K	39	3	45	8905.694	ppb	8905.694	2.69	469738	400000	
Ca	40	2	45	115222.588	ppb	115222.588	0.32	97181343	400000	
V	51	3	72	2.199	ppb	2.199	1.44	1316	2000	
Cr	52	3	72	1.323	ppb	1.323	10.08	1766	5000	
Mn	55	3	72	1291.996	ppb	1291.996	1.03	484715	10000	
Fe	56	2	72	1237.271	ppb	1237.271	4.32	2195329	10000	
Co	59	3	72	0.700	ppb	0.700	2.19	823	2000	
Ni	60	3	72	2.236	ppb	2.236	1.82	713	5000	
Cu	63	3	72	3.621	ppb	3.621	1.57	3384	5000	
Zn	66	3	72	31.690	ppb	31.690	4.05	4464	5000	
As	75	3	72	3.967	ppb	3.967	7.62	405	2000	
Se	78	2	72	0.512	ppb	0.512	3.57	37	2000	
Sr	88	3	72	787.391	ppb	787.391	0.54	428936	4000	
Mo	95	3	115	31.994	ppb	31.994	1.67	13063	2000	
Ag	107	3	115	0.011	ppb	0.011	32.57	45	100	
Cd	111	3	115	0.014	ppb	0.014	201.42	8	2000	
Sn	120	3	115	0.021	ppb	0.021	466.83	510	2000	
Sb	121	3	115	0.229	ppb	0.229	28.59	265	1000	
Ba	137	3	115	157.264	ppb	157.264	1.22	36335	5000	
Tl	205	3	193	-0.006	ppb	-0.006	-213.38	168	2000	
(Pb)	206	3	193	1.689	ppb	1.689	7.61	1816	100	
(Pb)	207	3	193	1.466	ppb	1.466	10.47	1536	100	
Pb	208	3	193	1.561	ppb	1.561	4.62	6867	5000	
Th	232	3	193	0.138	ppb	0.138	38.77	4134	2000	
U	238	3	193	3.114	ppb	3.114	1.13	14380	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc (IS)	45	2	HMI H2	5230667	0.28	4904275	106.66	60	120	
Sc (IS)	45	3	HMI He	572745	1.12	524825	109.13	60	120	
Ge Internal standard	72	2	HMI H2	2913008	2.00	2587308	112.59	60	120	
Ge Internal standard	72	3	HMI He	668023	0.66	614615	108.69	60	120	
In Internal Standard	115	3	HMI He	2632109	1.21	2409771	109.23	60	120	
Ir (IS)	193	3	HMI He	4366826	2.02	3878719	112.58	60	120	

Sample Report

Sample Table

Sample Name	280-185872-b-4-a
Data File Name	276SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\79_122123.b
Acq Date Time	2023-12-22T00:09:09-07:00
Analyst	Denver Metals
Sample Type	Sample
Dilution	1
Comment	638042 200.8/6020B
ISTD Ref FileName	236CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Be	9	2	6	-0.029	ppb	-0.029	-75.31	1	2000	
Na	23	3	45	84181.247	ppb	84181.247	0.32	7854962	400000	
Mg	24	3	45	5232.620	ppb	5232.620	2.19	268828	400000	
Al	27	3	45	54.891	ppb	54.891	3.95	1381	400000	
K	39	3	45	3635.772	ppb	3635.772	2.32	220250	400000	
Ca	40	2	45	34461.944	ppb	34461.944	2.39	29444770	400000	
V	51	3	72	2.086	ppb	2.086	6.21	1261	2000	
Cr	52	3	72	0.848	ppb	0.848	21.24	1464	5000	
Mn	55	3	72	21.666	ppb	21.666	2.31	8333	10000	
Fe	56	2	72	85.977	ppb	85.977	1.31	182868	10000	
Co	59	3	72	0.067	ppb	0.067	21.09	165	2000	
Ni	60	3	72	1.118	ppb	1.118	19.13	398	5000	
Cu	63	3	72	3.618	ppb	3.618	0.91	3389	5000	
Zn	66	3	72	30.279	ppb	30.279	3.84	4285	5000	
As	75	3	72	1.103	ppb	1.103	19.01	130	2000	
Se	78	2	72	0.311	ppb	0.311	35.14	25	2000	
Sr	88	3	72	198.480	ppb	198.480	1.12	108434	4000	
Mo	95	3	115	8.728	ppb	8.728	3.99	3622	2000	
Ag	107	3	115	0.000	ppb	0.000	2702.58	32	100	
Cd	111	3	115	-0.003	ppb	-0.003	-878.31	5	2000	
Sn	120	3	115	-0.105	ppb	-0.105	-39.80	430	2000	
Sb	121	3	115	0.440	ppb	0.440	1.10	405	1000	
Ba	137	3	115	38.836	ppb	38.836	2.52	9114	5000	
Tl	205	3	193	-0.004	ppb	-0.004	-145.78	175	2000	
(Pb)	206	3	193	0.299	ppb	0.299	16.02	435	100	
(Pb)	207	3	193	0.269	ppb	0.269	4.70	496	100	
Pb	208	3	193	0.302	ppb	0.302	1.42	1857	5000	
Th	232	3	193	-0.032	ppb	-0.032	-123.21	3460	2000	
U	238	3	193	0.517	ppb	0.517	6.82	3390	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc (IS)	45	2	HMI H2	5294499	1.68	4904275	107.96	60	120	
Sc (IS)	45	3	HMI He	575754	1.26	524825	109.70	60	120	
Ge Internal standard	72	2	HMI H2	2871959	0.73	2587308	111.00	60	120	
Ge Internal standard	72	3	HMI He	669616	1.68	614615	108.95	60	120	
In Internal Standard	115	3	HMI He	2666121	1.70	2409771	110.64	60	120	
Ir (IS)	193	3	HMI He	4393330	1.18	3878719	113.27	60	120	

Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV-8123148
Data File Name	277_CCV.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\79_122123.b
Acq Date Time	2023-12-22T00:11:24-07:00
Sample Type	CCV
Dilution	1
Comment	
ISTD Ref File Name	236CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	Units	Conc %RSD	CPS	Exp Value	%Rec	%Low	%High2	QC Flag
Be	9	2	6	52.189	ppb	4.256	2723	50	104.4	90	110	
Na	23	3	45	48830.616	ppb	1.778	4386457	51000	95.7	90	110	
Mg	24	3	45	9945.121	ppb	1.832	489395	11000	90.4	90	110	
Al	27	3	45	1012.320	ppb	2.559	19283	1000	101.2	90	110	
K	39	3	45	10225.008	ppb	3.454	513128	11000	93.0	90	110	
Ca	40	2	45	11301.164	ppb	1.038	9470333	11000	102.7	90	110	
V	51	3	72	52.955	ppb	1.043	26065	50	105.9	90	110	
Cr	52	3	72	51.652	ppb	0.975	32400	50	103.3	90	110	
Mn	55	3	72	50.957	ppb	2.898	18301	50	101.9	90	110	
Fe	56	2	72	1093.443	ppb	2.176	1846125	1000	109.3	90	110	
Co	59	3	72	51.995	ppb	4.602	51429	50	104.0	90	110	
Ni	60	3	72	51.356	ppb	2.236	13830	50	102.7	90	110	
Cu	63	3	72	50.370	ppb	1.289	39067	50	100.7	90	110	
Zn	66	3	72	51.436	ppb	5.825	6703	50	102.9	90	110	
As	75	3	72	53.435	ppb	3.870	4890	50	106.9	90	110	
Se	78	2	72	52.681	ppb	1.718	2916	50	105.4	90	110	
Sr	88	3	72	103.498	ppb	2.319	53527	100	103.5	90	110	
Mo	95	3	115	50.805	ppb	3.254	19835	50	101.6	90	110	
Ag	107	3	115	52.649	ppb	1.137	66502	50	105.3	90	110	
Cd	111	3	115	50.266	ppb	2.172	9809	50	100.5	90	110	
Sn	120	3	115	51.789	ppb	1.796	33996	50	103.6	90	110	
Sb	121	3	115	51.426	ppb	3.106	31568	50	102.9	90	110	
Ba	137	3	115	52.779	ppb	1.511	11689	50	105.6	90	110	
Tl	205	3	193	50.185	ppb	2.443	147037	50	100.4	90	110	
(Pb)	206	3	193	51.457	ppb	2.832	50042	50	102.9	90	110	
(Pb)	207	3	193	49.488	ppb	1.677	42289	50	99.0	90	110	
Pb	208	3	193	50.495	ppb	2.263	196879	50	101.0	90	110	
Th	232	3	193	50.984	ppb	0.481	206549	50	102.0	90	110	
U	238	3	193	50.381	ppb	2.702	209191	50	100.8	90	110	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc (IS)	45	2	HMI H2	5178977	2.00	4904275	105.60	60	120	
Sc (IS)	45	3	HMI He	552159	2.76	524825	105.21	60	120	
Ge Internal standard	72	2	HMI H2	2764985	1.19	2587308	106.87	60	120	
Ge Internal standard	72	3	HMI He	633578	2.07	614615	103.09	60	120	
In Internal Standard	115	3	HMI He	2518535	1.91	2409771	104.51	60	120	
Ir (IS)	193	3	HMI He	4255992	2.00	3878719	109.73	60	120	

Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB-8123133
Data File Name	278_CCB.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\79_122123.b
Acq Date Time	2023-12-22T00:13:40-07:00
Sample Type	CCB
Dilution	1
Comment	
ISTD Ref File Name	236CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	Units	Conc %RSD	CPS	Upper Limit	QC Flag
Be	9	2	6	-0.028	ppb	-81.1	1	0.5	
Na	23	3	45	90.818	ppb	23.4	50896	25	>RL
Mg	24	3	45	-1.917	ppb	-36.7	400	25	
Al	27	3	45	-6.584	ppb	-14.3	170	15	
K	39	3	45	-95.804	ppb	-63.8	39810	50	
V	51	3	72	0.430	ppb	33.0	385	1	
Cr	52	3	72	-0.146	ppb	-42.9	781	1	
Mn	55	3	72	-0.017	ppb	-240.9	175	0.5	
Co	59	3	72	-0.015	ppb	-288.2	75	0.5	
Ni	60	3	72	-0.047	ppb	-157.1	65	1	
Cu	63	3	72	-0.088	ppb	-64.2	365	1	
Zn	66	3	72	-0.944	ppb	-35.4	143	5	
As	75	3	72	0.084	ppb	326.3	30	1	
Se	78	2	72	-0.008	ppb	-540.1	7	1	
Sr	88	3	72	0.049	ppb	72.3	105	0.5	
Mo	95	3	115	0.091	ppb	42.6	50	0.5	
Ag	107	3	115	0.046	ppb	3.8	88	1	
Cd	111	3	115	-0.018	ppb	-81.4	2	0.5	
Sn	120	3	115	0.173	ppb	48.9	591	1	
Sb	121	3	115	0.114	ppb	8.7	185	0.6	
Ba	137	3	115	-0.016	ppb	-489.7	30	0.5	
Tl	205	3	193	0.023	ppb	62.3	248	0.1	
(Pb)	206	3	193	0.004	ppb	672.6	135	1	
(Pb)	207	3	193	-0.016	ppb	-147.7	238	1	
Pb	208	3	193	-0.004	ppb	-195.2	608	0.5	
Th	232	3	193	0.195	ppb	18.4	4239	1	
U	238	3	193	0.041	ppb	40.7	1313	0.5	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc (IS)	45	2	HMI H2	5054489	1.71	4904275	103.06	60	120	
Sc (IS)	45	3	HMI He	547646	0.24	524825	104.35	60	120	
Ge Internal standard	72	2	HMI H2	2729889	1.29	2587308	105.51	60	120	
Ge Internal standard	72	3	HMI He	635913	0.49	614615	103.47	60	120	
In Internal Standard	115	3	HMI He	2543618	0.83	2409771	105.55	60	120	
Ir (IS)	193	3	HMI He	4238420	0.89	3878719	109.27	60	120	

Blank Report

Sample Table

Sample Name	mb 280-638149/1-a
Data File Name	279_BLK.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\79_122123.b
Acq Date Time	2023-12-22T00:15:57-07:00
Sample Type	Blank
Dilution	1
Comment	638149 200.8/6020B
ISTD Ref File Name	236CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	Units	Conc %RSD	CPS	Upper Limit
Be	9	2	6	-0.028	ppb	-156.4030898	1	0.5
Na	23	3	45	51.019	ppb	18.40262874	47269	25
Mg	24	3	45	-5.596	ppb	-10.58942151	220	25
Al	27	3	45	-2.967	ppb	-38.37917453	237	15
K	39	3	45	-111.694	ppb	-40.09221902	39003	50
Ca	40	2	45	-4.746	ppb	-5.452121136	34176	200
V	51	3	72	0.417	ppb	19.02219805	380	1
Cr	52	3	72	-0.193	ppb	-26.08471155	755	1
Mn	55	3	72	0.135	ppb	38.67285405	230	0.5
Fe	56	2	72	-3.120	ppb	-11.24795054	28485	50
Co	59	3	72	-0.047	ppb	-12.65883938	43	0.5
Ni	60	3	72	-0.029	ppb	-232.4835323	70	1
Cu	63	3	72	0.359	ppb	8.961708339	711	1
Zn	66	3	72	0.649	ppb	31.33501562	345	5
As	75	3	72	0.010	ppb	863.7211188	23	1
(Se)	78	3	72	-4.802	ppb	-18.22672838	43	1
Sr	88	3	72	0.049	ppb	90.93705098	105	0.5
Mo	95	3	115	0.010	ppb	190.76572	18	0.5
Ag	107	3	115	0.000	ppb	-3752.777744	30	1
Cd	111	3	115	0.015	ppb	97.53440069	8	0.5
Sn	120	3	115	0.011	ppb	494.9113863	495	1
Sb	121	3	115	0.024	ppb	139.1427959	132	0.6
Ba	137	3	115	0.099	ppb	26.43953906	57	0.5
Tl	205	3	193	-0.005	ppb	-160.8118766	167	0.1
(Pb)	206	3	193	-0.028	ppb	-87.78847017	105	1
(Pb)	207	3	193	-0.073	ppb	-22.9073218	192	1
Pb	208	3	193	-0.020	ppb	-84.27495892	553	0.5
Th	232	3	193	-0.033	ppb	-57.72567896	3359	1
U	238	3	193	0.019	ppb	42.11148009	1231	0.5

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc (IS)	45	2	HMI H2	5223477	0.76	4904275	106.51	60	120	
Sc (IS)	45	3	HMI He	546290	1.22	524825	104.09	60	120	
Ge Internal standard	72	2	HMI H2	2779548	2.13	2587308	107.43	60	120	
Ge Internal standard	72	3	HMI He	638126	0.30	614615	103.83	60	120	
In Internal Standard	115	3	HMI He	2590459	0.96	2409771	107.50	60	120	
Ir (IS)	193	3	HMI He	4268705	1.34	3878719	110.05	60	120	

Laboratory Control Sample (LCS) Report

Sample Table

Sample Name	lcs 280-638149/2-a
Data File Name	280_LCS.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\79_122123.b
Acq Date Time	2023-12-22T00:18:12-07:00
Sample Type	LCS
Dilution	1
Analyst	Denver Metals
Comment	638149 200.8/6020B
ISTD Ref File Name	236CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	FinalConc	Units	Conc %RSD	CPS	Exp Value	%Rec	%Low	%High	QC Flag
Be	9	2	6	40.492	40.492	ppb	7.414	2099	40	101.2	80	120	
Na	23	3	45	954.454	954.454	ppb	1.402	129203	40	2386.1	80	120	>+/-20%
Mg	24	3	45	879.569	879.569	ppb	1.470	44103	40	2198.9	80	120	>+/-20%
Al	27	3	45	770.949	770.949	ppb	2.841	14883	40	1927.4	80	120	>+/-20%
K	39	3	45	785.677	785.677	ppb	7.953	81208	40	1964.2	80	120	>+/-20%
Ca	40	2	45	1030.324	1030.324	ppb	5.054	898916	40	2575.8	80	120	>+/-20%
V	51	3	72	39.279	39.279	ppb	0.303	19724	40	98.2	80	120	
Cr	52	3	72	39.074	39.074	ppb	1.479	25167	40	97.7	80	120	
Mn	55	3	72	38.087	38.087	ppb	1.837	13973	40	95.2	80	120	
Fe	56	2	72	815.215	815.215	ppb	2.843	1400588	40	2038.0	80	120	>+/-20%
(Fe)	56	3	72	770.741	770.741	ppb	0.280	434472	40	1926.9	80	120	>+/-20%
Co	59	3	72	38.986	38.986	ppb	2.481	39298	40	97.5	80	120	
Ni	60	3	72	39.983	39.983	ppb	0.269	10981	40	100.0	80	120	
Cu	63	3	72	38.418	38.418	ppb	0.617	30442	40	96.0	80	120	
Zn	66	3	72	39.513	39.513	ppb	3.914	5308	40	98.8	80	120	
As	75	3	72	38.059	38.059	ppb	5.235	3554	40	95.1	80	120	
Se	78	2	72	38.786	38.786	ppb	0.820	2173	40	97.0	80	120	
(Se)	78	3	72	35.441	35.441	ppb	16.883	307	40	88.6	80	120	
Sr	88	3	72	78.375	78.375	ppb	1.052	41292	40	195.9	80	120	>+/-20%
Mo	95	3	115	37.850	37.850	ppb	3.782	15293	40	94.6	80	120	
Ag	107	3	115	39.508	39.508	ppb	0.765	51636	40	98.8	80	120	
Cd	111	3	115	37.696	37.696	ppb	1.677	7613	40	94.2	80	120	
Sn	120	3	115	37.788	37.788	ppb	0.854	25799	40	94.5	80	120	
Sb	121	3	115	37.012	37.012	ppb	2.359	23541	40	92.5	80	120	
Ba	137	3	115	38.126	38.126	ppb	3.633	8745	40	95.3	80	120	
Tl	205	3	193	37.698	37.698	ppb	2.176	113895	40	94.2	80	120	
(Pb)	206	3	193	37.724	37.724	ppb	1.670	37849	40	94.3	80	120	
(Pb)	207	3	193	37.975	37.975	ppb	0.887	33496	40	94.9	80	120	
Pb	208	3	193	37.848	37.848	ppb	1.010	152276	40	94.6	80	120	
Th	232	3	193	37.969	37.969	ppb	1.782	159432	40	94.9	80	120	
U	238	3	193	38.487	38.487	ppb	1.248	165015	40	96.2	80	120	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc (IS)	45	2	HMI H2	5188532	2.51	4904275	105.80	60	120	
Sc (IS)	45	3	HMI He	556684	0.64	524825	106.07	60	120	
Ge Internal standard	72	2	HMI H2	2796340	0.92	2587308	108.08	60	120	
Ge Internal standard	72	3	HMI He	644966	0.79	614615	104.94	60	120	
In Internal Standard	115	3	HMI He	2605643	1.19	2409771	108.13	60	120	
Ir (IS)	193	3	HMI He	4386151	1.12	3878719	113.08	60	120	

Sample Report

Sample Table

Sample Name	280-185929-a-1-a
Data File Name	281SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\79_122123.b
Acq Date Time	2023-12-22T00:20:26-07:00
Analyst	Denver Metals
Sample Type	Sample
Dilution	1
Comment	638149 200.8/6020B
ISTD Ref FileName	236CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Be	9	2	6	-0.004	ppb	-0.004	-1208.56	3	2000	
Na	23	3	45	269350.935	ppb	269350.935	1.63	24913598	400000	
Mg	24	3	45	101810.778	ppb	101810.778	1.71	5195677	400000	
Al	27	3	45	73.906	ppb	73.906	3.92	1745	400000	
K	39	3	45	12384.191	ppb	12384.191	0.97	635559	400000	
Ca	40	2	45	338851.696	ppb	338851.696	0.63	284125439	400000	
V	51	3	72	25.619	ppb	25.619	2.10	13396	2000	
Cr	52	3	72	2.371	ppb	2.371	5.51	2442	5000	
Mn	55	3	72	2.747	ppb	2.747	2.37	1221	10000	
Fe	56	2	72	137.217	ppb	137.217	0.97	271698	10000	
Co	59	3	72	0.223	ppb	0.223	14.05	327	2000	
Ni	60	3	72	1.763	ppb	1.763	12.44	580	5000	
Cu	63	3	72	0.410	ppb	0.410	31.93	786	5000	
Zn	66	3	72	2.201	ppb	2.201	9.20	566	5000	
As	75	3	72	7.291	ppb	7.291	10.76	725	2000	
Se	78	2	72	62.318	ppb	62.318	5.27	3588	2000	
Sr	88	3	72	6523.239	ppb	6523.239	0.55	3555106	4000	
Mo	95	3	115	0.792	ppb	0.792	2.98	342	2000	
Ag	107	3	115	0.062	ppb	0.062	31.59	113	100	
Cd	111	3	115	-0.019	ppb	-0.019	-75.95	2	2000	
Sn	120	3	115	0.076	ppb	0.076	87.57	553	2000	
Sb	121	3	115	0.129	ppb	0.129	34.50	203	1000	
Ba	137	3	115	37.243	ppb	37.243	0.98	8732	5000	
Tl	205	3	193	0.005	ppb	0.005	191.52	202	2000	
(Pb)	206	3	193	0.121	ppb	0.121	3.51	255	100	
(Pb)	207	3	193	0.057	ppb	0.057	94.76	308	100	
Pb	208	3	193	0.096	ppb	0.096	14.14	1025	5000	
Th	232	3	193	0.284	ppb	0.284	14.07	4724	2000	
U	238	3	193	21.364	ppb	21.364	1.39	91529	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc (IS)	45	2	HMI H2	5201332	0.71	4904275	106.06	60	120	
Sc (IS)	45	3	HMI He	573048	1.20	524825	109.19	60	120	
Ge Internal standard	72	2	HMI H2	2878262	1.32	2587308	111.25	60	120	
Ge Internal standard	72	3	HMI He	668416	0.32	614615	108.75	60	120	
In Internal Standard	115	3	HMI He	2662642	0.67	2409771	110.49	60	120	
Ir (IS)	193	3	HMI He	4357712	1.14	3878719	112.35	60	120	

Sample Report

Sample Table

Sample Name	280-185929-a-1-aSD@5
Data File Name	282SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\79_122123.b
Acq Date Time	2023-12-22T00:22:40-07:00
Analyst	Denver Metals
Sample Type	Sample
Dilution	1
Comment	638149 200.8/6020B
ISTD Ref FileName	236CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Be	9	2	6	-0.002	ppb	-0.002	-2725.47	3	2000	
Na	23	3	45	64346.271	ppb	64346.271	1.97	5777235	400000	
Mg	24	3	45	24848.640	ppb	24848.640	1.97	1224236	400000	
Al	27	3	45	16.758	ppb	16.758	23.81	611	400000	
K	39	3	45	2849.680	ppb	2849.680	1.51	175495	400000	
Ca	40	2	45	77717.297	ppb	77717.297	1.46	64309909	400000	
V	51	3	72	6.295	ppb	6.295	3.59	3334	2000	
Cr	52	3	72	0.445	ppb	0.445	21.90	1168	5000	
Mn	55	3	72	1.233	ppb	1.233	10.86	635	10000	
Fe	56	2	72	33.822	ppb	33.822	0.49	89638	10000	
Co	59	3	72	0.015	ppb	0.015	370.03	107	2000	
Ni	60	3	72	0.622	ppb	0.622	18.78	250	5000	
Cu	63	3	72	0.056	ppb	0.056	117.28	486	5000	
Zn	66	3	72	4.239	ppb	4.239	12.07	813	5000	
As	75	3	72	1.555	ppb	1.555	22.71	168	2000	
Se	78	2	72	14.747	ppb	14.747	8.78	821	2000	
Sr	88	3	72	1448.464	ppb	1448.464	1.57	767466	4000	
Mo	95	3	115	0.232	ppb	0.232	10.89	108	2000	
Ag	107	3	115	0.033	ppb	0.033	60.79	73	100	
Cd	111	3	115	0.023	ppb	0.023	107.22	10	2000	
Sn	120	3	115	0.755	ppb	0.755	4.01	998	2000	
Sb	121	3	115	0.049	ppb	0.049	131.76	148	1000	
Ba	137	3	115	9.071	ppb	9.071	2.70	2111	5000	
Tl	205	3	193	0.000	ppb	0.000	1039.08	183	2000	
(Pb)	206	3	193	0.020	ppb	0.020	29.56	152	100	
(Pb)	207	3	193	0.030	ppb	0.030	88.87	280	100	
Pb	208	3	193	0.028	ppb	0.028	50.03	741	5000	
Th	232	3	193	0.074	ppb	0.074	34.47	3799	2000	
U	238	3	193	4.851	ppb	4.851	1.73	21314	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc (IS)	45	2	HMI H2	5131513	1.44	4904275	104.63	60	120	
Sc (IS)	45	3	HMI He	553051	0.46	524825	105.38	60	120	
Ge Internal standard	72	2	HMI H2	2766544	1.51	2587308	106.93	60	120	
Ge Internal standard	72	3	HMI He	649842	0.76	614615	105.73	60	120	
In Internal Standard	115	3	HMI He	2610361	1.00	2409771	108.32	60	120	
Ir (IS)	193	3	HMI He	4281527	1.92	3878719	110.39	60	120	

Sample Report

Sample Table

Sample Name	280-185929-a-1-B MS
Data File Name	283SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\79_122123.b
Acq Date Time	2023-12-22T00:24:54-07:00
Analyst	Denver Metals
Sample Type	Sample
Dilution	1
Comment	638149 200.8/6020B
ISTD Ref FileName	236CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Be	9	2	6	39.797	ppb	39.797	5.60	2072	2000	
Na	23	3	45	319701.098	ppb	319701.098	1.37	28989040	400000	
Mg	24	3	45	122726.346	ppb	122726.346	1.02	6141874	400000	
Al	27	3	45	931.391	ppb	931.391	0.50	18087	400000	
K	39	3	45	15716.507	ppb	15716.507	2.31	778647	400000	
Ca	40	2	45	399104.704	ppb	399104.704	2.04	328084823	400000	
V	51	3	72	70.605	ppb	70.605	3.10	36045	2000	
Cr	52	3	72	41.913	ppb	41.913	1.65	27493	5000	
Mn	55	3	72	41.774	ppb	41.774	2.11	15628	10000	
Fe	56	2	72	977.566	ppb	977.566	0.90	1656052	10000	
Co	59	3	72	39.782	ppb	39.782	1.31	40938	2000	
Ni	60	3	72	40.860	ppb	40.860	2.16	11456	5000	
Cu	63	3	72	38.992	ppb	38.992	1.45	31537	5000	
Zn	66	3	72	38.745	ppb	38.745	1.57	5318	5000	
As	75	3	72	48.776	ppb	48.776	2.62	4643	2000	
Se	78	2	72	118.159	ppb	118.159	3.37	6535	2000	
Sr	88	3	72	7787.806	ppb	7787.806	1.43	4180760	4000	
Mo	95	3	115	42.025	ppb	42.025	3.70	16892	2000	
Ag	107	3	115	39.978	ppb	39.978	2.62	51982	100	
Cd	111	3	115	38.299	ppb	38.299	0.80	7700	2000	
Sn	120	3	115	39.914	ppb	39.914	3.02	27081	2000	
Sb	121	3	115	39.245	ppb	39.245	2.18	24832	1000	
Ba	137	3	115	85.741	ppb	85.741	5.12	19518	5000	
Tl	205	3	193	39.191	ppb	39.191	2.62	117608	2000	
(Pb)	206	3	193	39.194	ppb	39.194	1.82	39061	100	
(Pb)	207	3	193	39.306	ppb	39.306	1.58	34431	100	
Pb	208	3	193	39.179	ppb	39.179	2.45	156550	5000	
Th	232	3	193	39.849	ppb	39.849	1.08	166065	2000	
U	238	3	193	65.549	ppb	65.549	1.41	278372	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc (IS)	45	2	HMI H2	5100247	1.04	4904275	104.00	60	120	
Sc (IS)	45	3	HMI He	561927	1.14	524825	107.07	60	120	
Ge Internal standard	72	2	HMI H2	2767627	1.93	2587308	106.97	60	120	
Ge Internal standard	72	3	HMI He	658450	0.95	614615	107.13	60	120	
In Internal Standard	115	3	HMI He	2593371	2.81	2409771	107.62	60	120	
Ir (IS)	193	3	HMI He	4357822	1.97	3878719	112.35	60	120	

Sample Report

Sample Table

Sample Name	280-185929-a-1-C MSD
Data File Name	284SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\79_122123.b
Acq Date Time	2023-12-22T00:27:09-07:00
Analyst	Denver Metals
Sample Type	Sample
Dilution	1
Comment	638149 200.8/6020B
ISTD Ref FileName	236CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Be	9	2	6	39.979	ppb	39.979	3.73	2084	2000	
Na	23	3	45	310106.299	ppb	310106.299	4.05	28453414	400000	
Mg	24	3	45	117045.685	ppb	117045.685	5.46	5925778	400000	
Al	27	3	45	878.331	ppb	878.331	7.89	17268	400000	
K	39	3	45	15035.612	ppb	15035.612	2.27	755917	400000	
Ca	40	2	45	387623.946	ppb	387623.946	1.96	320788043	400000	
V	51	3	72	67.532	ppb	67.532	2.24	34908	2000	
Cr	52	3	72	39.981	ppb	39.981	1.85	26589	5000	
Mn	55	3	72	39.905	ppb	39.905	2.66	15119	10000	
Fe	56	2	72	985.273	ppb	985.273	0.72	1677178	10000	
Co	59	3	72	37.726	ppb	37.726	2.47	39298	2000	
Ni	60	3	72	38.598	ppb	38.598	2.39	10956	5000	
Cu	63	3	72	36.409	ppb	36.409	2.21	29836	5000	
Zn	66	3	72	36.405	ppb	36.405	5.33	5073	5000	
As	75	3	72	46.341	ppb	46.341	5.74	4465	2000	
Se	78	2	72	112.822	ppb	112.822	2.11	6274	2000	
Sr	88	3	72	7539.551	ppb	7539.551	2.33	4096637	4000	
Mo	95	3	115	38.481	ppb	38.481	3.31	15860	2000	
Ag	107	3	115	37.800	ppb	37.800	1.74	50384	100	
Cd	111	3	115	36.632	ppb	36.632	4.72	7545	2000	
Sn	120	3	115	38.218	ppb	38.218	2.13	26612	2000	
Sb	121	3	115	37.058	ppb	37.058	2.60	24045	1000	
Ba	137	3	115	80.999	ppb	80.999	2.33	18909	5000	
Tl	205	3	193	37.200	ppb	37.200	2.17	114280	2000	
(Pb)	206	3	193	37.742	ppb	37.742	4.60	38496	100	
(Pb)	207	3	193	37.326	ppb	37.326	2.71	33476	100	
Pb	208	3	193	37.611	ppb	37.611	3.62	153841	5000	
Th	232	3	193	38.009	ppb	38.009	2.95	162270	2000	
U	238	3	193	60.675	ppb	60.675	2.76	263801	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc (IS)	45	2	HMI H2	5134702	1.49	4904275	104.70	60	120	
Sc (IS)	45	3	HMI He	568762	1.61	524825	108.37	60	120	
Ge Internal standard	72	2	HMI H2	2781904	1.18	2587308	107.52	60	120	
Ge Internal standard	72	3	HMI He	666472	0.65	614615	108.44	60	120	
In Internal Standard	115	3	HMI He	2657751	2.22	2409771	110.29	60	120	
Ir (IS)	193	3	HMI He	4460108	1.30	3878719	114.99	60	120	

Sample Report

Sample Table

Sample Name	280-185929-a-1-aPDS
Data File Name	285SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\79_122123.b
Acq Date Time	2023-12-22T00:29:23-07:00
Analyst	Denver Metals
Sample Type	Sample
Dilution	1
Comment	638149 200.8/6020B
ISTD Ref FileName	236CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Be	9	2	6	211.080	ppb	211.080	1.87	10729	2000	
Na	23	3	45	350924.016	ppb	350924.016	0.98	31384762	400000	
Mg	24	3	45	130678.031	ppb	130678.031	0.75	6450452	400000	
Al	27	3	45	2108.848	ppb	2108.848	1.19	40020	400000	
K	39	3	45	17781.815	ppb	17781.815	0.40	863210	400000	
Ca	40	2	45	424710.138	ppb	424710.138	0.53	352853958	400000	
V	51	3	72	229.432	ppb	229.432	0.58	115968	2000	
Cr	52	3	72	197.228	ppb	197.228	0.60	125194	5000	
Mn	55	3	72	193.467	ppb	193.467	1.62	71214	10000	
Fe	56	2	72	2246.839	ppb	2246.839	2.03	3758329	10000	
Co	59	3	72	192.711	ppb	192.711	1.49	196602	2000	
Ni	60	3	72	196.719	ppb	196.719	1.62	54466	5000	
Cu	63	3	72	190.672	ppb	190.672	1.69	151421	5000	
Zn	66	3	72	192.967	ppb	192.967	1.99	25232	5000	
As	75	3	72	203.132	ppb	203.132	1.41	19132	2000	
Se	78	2	72	283.066	ppb	283.066	0.68	15636	2000	
Sr	88	3	72	8442.445	ppb	8442.445	1.58	4502599	4000	
Mo	95	3	115	200.873	ppb	200.873	2.05	79715	2000	
Ag	107	3	115	52.870	ppb	52.870	4.54	67868	100	
Cd	111	3	115	194.957	ppb	194.957	3.17	38665	2000	
Sn	120	3	115	199.164	ppb	199.164	2.61	131556	2000	
Sb	121	3	115	198.214	ppb	198.214	3.19	123385	1000	
Ba	137	3	115	250.003	ppb	250.003	3.38	56164	5000	
Tl	205	3	193	196.184	ppb	196.184	1.99	576728	2000	
(Pb)	206	3	193	199.263	ppb	199.263	2.34	194223	100	
(Pb)	207	3	193	195.446	ppb	195.446	1.57	166914	100	
Pb	208	3	193	198.373	ppb	198.373	2.17	774976	5000	
Th	232	3	193	79.554	ppb	79.554	2.41	321620	2000	
U	238	3	193	286.422	ppb	286.422	4.06	1188614	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc (IS)	45	2	HMI H2	5153839	0.94	4904275	105.09	60	120	
Sc (IS)	45	3	HMI He	554261	0.42	524825	105.61	60	120	
Ge Internal standard	72	2	HMI H2	2765096	1.49	2587308	106.87	60	120	
Ge Internal standard	72	3	HMI He	654022	1.44	614615	106.41	60	120	
In Internal Standard	115	3	HMI He	2561313	2.46	2409771	106.29	60	120	
Ir (IS)	193	3	HMI He	4274330	2.44	3878719	110.20	60	120	

Sample Report

Sample Table

Sample Name	280-185929-a-2-a
Data File Name	286SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\79_122123.b
Acq Date Time	2023-12-22T00:31:36-07:00
Analyst	Denver Metals
Sample Type	Sample
Dilution	1
Comment	638149 200.8/6020B
ISTD Ref FileName	236CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Be	9	2	6	0.008	ppb	0.008	533.80	3	2000	
Na	23	3	45	221491.991	ppb	221491.991	0.91	20489362	400000	
Mg	24	3	45	124541.763	ppb	124541.763	2.78	6352846	400000	
Al	27	3	45	8.269	ppb	8.269	18.48	467	400000	
K	39	3	45	14474.423	ppb	14474.423	0.70	734835	400000	
Ca	40	2	45	247157.090	ppb	247157.090	0.75	209352907	400000	
V	51	3	72	27.063	ppb	27.063	0.93	14265	2000	
Cr	52	3	72	0.202	ppb	0.202	38.20	1055	5000	
Mn	55	3	72	3.106	ppb	3.106	5.05	1368	10000	
Fe	56	2	72	-0.392	ppb	-0.392	-178.18	34481	10000	
Co	59	3	72	0.165	ppb	0.165	11.90	268	2000	
Ni	60	3	72	0.570	ppb	0.570	18.15	245	5000	
Cu	63	3	72	0.352	ppb	0.352	8.03	746	5000	
Zn	66	3	72	0.115	ppb	0.115	63.80	293	5000	
As	75	3	72	6.131	ppb	6.131	13.54	618	2000	
Se	78	2	72	43.953	ppb	43.953	3.11	2554	2000	
Sr	88	3	72	7396.336	ppb	7396.336	1.01	4066273	4000	
Mo	95	3	115	1.948	ppb	1.948	14.23	825	2000	
Ag	107	3	115	0.040	ppb	0.040	82.28	85	100	
Cd	111	3	115	0.045	ppb	0.045	140.05	15	2000	
Sn	120	3	115	0.080	ppb	0.080	145.44	560	2000	
Sb	121	3	115	0.260	ppb	0.260	20.45	290	1000	
Ba	137	3	115	37.560	ppb	37.560	2.43	8869	5000	
Tl	205	3	193	0.081	ppb	0.081	15.45	436	2000	
(Pb)	206	3	193	0.007	ppb	0.007	125.95	145	100	
(Pb)	207	3	193	-0.002	ppb	-0.002	-3725.37	262	100	
Pb	208	3	193	0.035	ppb	0.035	57.48	796	5000	
Th	232	3	193	0.160	ppb	0.160	47.11	4309	2000	
U	238	3	193	30.687	ppb	30.687	2.92	133808	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc (IS)	45	2	HMI H2	5254238	1.02	4904275	107.14	60	120	
Sc (IS)	45	3	HMI He	572882	1.19	524825	109.16	60	120	
Ge Internal standard	72	2	HMI H2	2901994	1.61	2587308	112.16	60	120	
Ge Internal standard	72	3	HMI He	674283	0.61	614615	109.71	60	120	
In Internal Standard	115	3	HMI He	2681465	0.55	2409771	111.27	60	120	
Ir (IS)	193	3	HMI He	4453405	2.19	3878719	114.82	60	120	

Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV-8123148
Data File Name	287_CCV.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\79_122123.b
Acq Date Time	2023-12-22T00:33:52-07:00
Sample Type	CCV
Dilution	1
Comment	
ISTD Ref File Name	236CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	Units	Conc %RSD	CPS	Exp Value	%Rec	%Low	%High2	QC Flag
Be	9	2	6	54.681	ppb	4.738	2876	50	109.4	90	110	
Na	23	3	45	49029.401	ppb	2.413	4466877	51000	96.1	90	110	
Mg	24	3	45	9829.680	ppb	2.324	490565	11000	89.4	90	110	>+\-10%
Al	27	3	45	998.489	ppb	3.692	19296	1000	99.8	90	110	
K	39	3	45	10231.625	ppb	1.620	520842	11000	93.0	90	110	
Ca	40	2	45	11030.761	ppb	2.372	9546431	11000	100.3	90	110	
V	51	3	72	51.983	ppb	2.538	26175	50	104.0	90	110	
Cr	52	3	72	50.178	ppb	2.750	32228	50	100.4	90	110	
Mn	55	3	72	50.416	ppb	3.320	18528	50	100.8	90	110	
Fe	56	2	72	1071.338	ppb	1.967	1856047	1000	107.1	90	110	
Co	59	3	72	52.347	ppb	2.976	52996	50	104.7	90	110	
Ni	60	3	72	52.014	ppb	5.196	14327	50	104.0	90	110	
Cu	63	3	72	51.714	ppb	0.417	41037	50	103.4	90	110	
Zn	66	3	72	51.325	ppb	2.593	6848	50	102.7	90	110	
As	75	3	72	50.025	ppb	2.972	4688	50	100.0	90	110	
Se	78	2	72	53.681	ppb	3.858	3047	50	107.4	90	110	
Sr	88	3	72	106.408	ppb	0.772	56330	100	106.4	90	110	
Mo	95	3	115	49.985	ppb	2.362	20490	50	100.0	90	110	
Ag	107	3	115	51.616	ppb	2.368	68413	50	103.2	90	110	
Cd	111	3	115	49.803	ppb	0.850	10202	50	99.6	90	110	
Sn	120	3	115	50.534	ppb	2.673	34823	50	101.1	90	110	
Sb	121	3	115	50.635	ppb	1.339	32629	50	101.3	90	110	
Ba	137	3	115	52.067	ppb	2.358	12105	50	104.1	90	110	
Tl	205	3	193	50.500	ppb	2.918	153164	50	101.0	90	110	
(Pb)	206	3	193	52.157	ppb	2.693	52499	50	104.3	90	110	
(Pb)	207	3	193	50.899	ppb	1.915	44996	50	101.8	90	110	
Pb	208	3	193	51.330	ppb	2.346	207149	50	102.7	90	110	
Th	232	3	193	50.875	ppb	1.866	213320	50	101.8	90	110	
U	238	3	193	51.028	ppb	3.025	219305	50	102.1	90	110	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc (IS)	45	2	HMI H2	5348035	1.02	4904275	109.05	60	120	
Sc (IS)	45	3	HMI He	559839	0.38	524825	106.67	60	120	
Ge Internal standard	72	2	HMI H2	2835845	0.39	2587308	109.61	60	120	
Ge Internal standard	72	3	HMI He	648329	1.76	614615	105.49	60	120	
In Internal Standard	115	3	HMI He	2643013	1.07	2409771	109.68	60	120	
Ir (IS)	193	3	HMI He	4405202	1.51	3878719	113.57	60	120	

Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB-8123133
Data File Name	288_CCB.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\79_122123.b
Acq Date Time	2023-12-22T00:36:06-07:00
Sample Type	CCB
Dilution	1
Comment	
ISTD Ref File Name	236CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	Units	Conc %RSD	CPS	Upper Limit	QC Flag
Be	9	2	6	-0.002	ppb	-2696.9	3	0.5	
Na	23	3	45	95.875	ppb	0.5	51190	25	>RL
Mg	24	3	45	8.805	ppb	38.4	921	25	
Al	27	3	45	-3.501	ppb	-23.0	227	15	
K	39	3	45	-101.734	ppb	-38.7	39425	50	
V	51	3	72	0.405	ppb	17.2	375	1	
Cr	52	3	72	-0.182	ppb	-45.2	763	1	
Mn	55	3	72	0.036	ppb	111.1	195	0.5	
Co	59	3	72	-0.019	ppb	-29.0	72	0.5	
Ni	60	3	72	0.008	ppb	900.2	80	1	
Cu	63	3	72	-0.159	ppb	-7.9	312	1	
Zn	66	3	72	-1.107	ppb	-14.1	123	5	
As	75	3	72	0.081	ppb	200.0	30	1	
Se	78	2	72	0.052	ppb	116.7	10	1	
Sr	88	3	72	0.665	ppb	20.6	426	0.5	>RL
Mo	95	3	115	0.053	ppb	66.1	35	0.5	
Ag	107	3	115	0.040	ppb	32.4	82	1	
Cd	111	3	115	0.023	ppb	105.3	10	0.5	
Sn	120	3	115	0.153	ppb	41.4	583	1	
Sb	121	3	115	0.165	ppb	45.0	218	0.6	
Ba	137	3	115	-0.061	ppb	-3.6	20	0.5	
Tl	205	3	193	0.031	ppb	50.9	278	0.1	
(Pb)	206	3	193	-0.017	ppb	-42.3	118	1	
(Pb)	207	3	193	-0.056	ppb	-47.2	210	1	
Pb	208	3	193	-0.009	ppb	-152.8	605	0.5	
Th	232	3	193	0.166	ppb	21.2	4245	1	
U	238	3	193	0.061	ppb	41.7	1434	0.5	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc (IS)	45	2	HMI H2	5073654	1.31	4904275	103.45	60	120	
Sc (IS)	45	3	HMI He	546002	0.55	524825	104.04	60	120	
Ge Internal standard	72	2	HMI H2	2752267	1.17	2587308	106.38	60	120	
Ge Internal standard	72	3	HMI He	639375	0.67	614615	104.03	60	120	
In Internal Standard	115	3	HMI He	2560029	2.44	2409771	106.24	60	120	
Ir (IS)	193	3	HMI He	4361091	0.95	3878719	112.44	60	120	

Sample Report

Sample Table

Sample Name	280-185929-a-3-a
Data File Name	289SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\79_122123.b
Acq Date Time	2023-12-22T00:38:23-07:00
Analyst	Denver Metals
Sample Type	Sample
Dilution	1
Comment	638149 200.8/6020B
ISTD Ref FileName	236CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Be	9	2	6	-0.054	ppb	-0.054	0.00	0	2000	
Na	23	3	45	126332.502	ppb	126332.502	1.71	11687227	400000	
Mg	24	3	45	82095.553	ppb	82095.553	1.05	4181815	400000	
Al	27	3	45	3.156	ppb	3.156	131.17	367	400000	
K	39	3	45	11849.517	ppb	11849.517	1.34	608966	400000	
Ca	40	2	45	174934.200	ppb	174934.200	2.45	147959663	400000	
V	51	3	72	23.290	ppb	23.290	3.18	12236	2000	
Cr	52	3	72	1.046	ppb	1.046	14.49	1594	5000	
Mn	55	3	72	4.783	ppb	4.783	6.23	1992	10000	
Fe	56	2	72	79.041	ppb	79.041	2.10	170254	10000	
Co	59	3	72	0.220	ppb	0.220	30.05	325	2000	
Ni	60	3	72	0.892	ppb	0.892	1.41	335	5000	
Cu	63	3	72	0.111	ppb	0.111	49.77	546	5000	
Zn	66	3	72	-0.461	ppb	-0.461	-41.04	215	5000	
As	75	3	72	5.441	ppb	5.441	12.24	548	2000	
Se	78	2	72	24.704	ppb	24.704	2.88	1418	2000	
Sr	88	3	72	4938.565	ppb	4938.565	0.62	2701064	4000	
Mo	95	3	115	1.036	ppb	1.036	11.72	438	2000	
Ag	107	3	115	0.019	ppb	0.019	21.68	57	100	
Cd	111	3	115	-0.010	ppb	-0.010	-278.76	3	2000	
Sn	120	3	115	-0.044	ppb	-0.044	-77.83	466	2000	
Sb	121	3	115	0.049	ppb	0.049	151.55	150	1000	
Ba	137	3	115	31.782	ppb	31.782	2.15	7378	5000	
Tl	205	3	193	-0.002	ppb	-0.002	-441.46	185	2000	
(Pb)	206	3	193	0.026	ppb	0.026	62.63	167	100	
(Pb)	207	3	193	-0.047	ppb	-0.047	-125.62	227	100	
Pb	208	3	193	0.003	ppb	0.003	789.56	678	5000	
Th	232	3	193	0.047	ppb	0.047	55.86	3897	2000	
U	238	3	193	24.968	ppb	24.968	3.94	110720	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc (IS)	45	2	HMI H2	5247817	2.00	4904275	107.00	60	120	
Sc (IS)	45	3	HMI He	571940	0.14	524825	108.98	60	120	
Ge Internal standard	72	2	HMI H2	2861470	2.77	2587308	110.60	60	120	
Ge Internal standard	72	3	HMI He	670830	1.31	614615	109.15	60	120	
In Internal Standard	115	3	HMI He	2634311	2.31	2409771	109.32	60	120	
Ir (IS)	193	3	HMI He	4520585	2.14	3878719	116.55	60	120	

Sample Report

Sample Table

Sample Name	280-185929-a-4-a
Data File Name	290SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\79_122123.b
Acq Date Time	2023-12-22T00:40:37-07:00
Analyst	Denver Metals
Sample Type	Sample
Dilution	1
Comment	638149 200.8/6020B
ISTD Ref FileName	236CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Be	9	2	6	-0.028	ppb	-0.028	-77.60	1	2000	
Na	23	3	45	177999.754	ppb	177999.754	1.32	16325407	400000	
Mg	24	3	45	116222.705	ppb	116222.705	0.84	5875509	400000	
Al	27	3	45	-3.281	ppb	-3.281	-39.56	240	400000	
K	39	3	45	15966.999	ppb	15966.999	0.45	798527	400000	
Ca	40	2	45	292164.623	ppb	292164.623	2.65	238917583	400000	
V	51	3	72	22.389	ppb	22.389	0.37	11622	2000	
Cr	52	3	72	0.506	ppb	0.506	6.06	1229	5000	
Mn	55	3	72	0.793	ppb	0.793	10.81	483	10000	
Fe	56	2	72	15.422	ppb	15.422	6.67	60998	10000	
Co	59	3	72	0.113	ppb	0.113	18.12	210	2000	
Ni	60	3	72	0.569	ppb	0.569	38.44	240	5000	
Cu	63	3	72	0.229	ppb	0.229	57.84	635	5000	
Zn	66	3	72	0.143	ppb	0.143	132.37	292	5000	
As	75	3	72	4.600	ppb	4.600	6.92	461	2000	
Se	78	2	72	39.585	ppb	39.585	3.61	2264	2000	
Sr	88	3	72	7592.332	ppb	7592.332	1.22	4099649	4000	
Mo	95	3	115	1.138	ppb	1.138	12.81	485	2000	
Ag	107	3	115	0.011	ppb	0.011	165.41	47	100	
Cd	111	3	115	0.021	ppb	0.021	223.88	10	2000	
Sn	120	3	115	0.852	ppb	0.852	12.99	1086	2000	
Sb	121	3	115	0.041	ppb	0.041	108.78	147	1000	
Ba	137	3	115	54.590	ppb	54.590	3.18	12798	5000	
Tl	205	3	193	-0.005	ppb	-0.005	-42.65	175	2000	
(Pb)	206	3	193	-0.013	ppb	-0.013	-106.65	125	100	
(Pb)	207	3	193	-0.050	ppb	-0.050	-80.15	222	100	
Pb	208	3	193	-0.018	ppb	-0.018	-21.57	588	5000	
Th	232	3	193	0.025	ppb	0.025	103.84	3775	2000	
U	238	3	193	15.702	ppb	15.702	2.16	69593	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc (IS)	45	2	HMI H2	5073962	1.48	4904275	103.46	60	120	
Sc (IS)	45	3	HMI He	567660	0.64	524825	108.16	60	120	
Ge Internal standard	72	2	HMI H2	2855406	1.58	2587308	110.36	60	120	
Ge Internal standard	72	3	HMI He	662288	0.66	614615	107.76	60	120	
In Internal Standard	115	3	HMI He	2666255	0.93	2409771	110.64	60	120	
Ir (IS)	193	3	HMI He	4487543	1.03	3878719	115.70	60	120	

Sample Report

Sample Table

Sample Name	280-185929-a-5-a
Data File Name	291SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\79_122123.b
Acq Date Time	2023-12-22T00:42:52-07:00
Analyst	Denver Metals
Sample Type	Sample
Dilution	1
Comment	638149 200.8/6020B
ISTD Ref FileName	236CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Fail

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Be	9	2	6	-0.054	ppb	-0.054	0.00	0	2000	
Na	23	3	45	125476.220	ppb	125476.220	0.82	11903828	400000	
Mg	24	3	45	101966.534	ppb	101966.534	1.33	5326284	400000	
Al	27	3	45	-2.331	ppb	-2.331	-47.82	267	400000	
K	39	3	45	12697.071	ppb	12697.071	0.56	665719	400000	
Ca	40	2	45	246193.314	ppb	246193.314	1.54	214286739	400000	
V	51	3	72	21.098	ppb	21.098	2.66	11452	2000	
Cr	52	3	72	0.915	ppb	0.915	19.46	1558	5000	
Mn	55	3	72	0.510	ppb	0.510	21.56	395	10000	
Fe	56	2	72	7.764	ppb	7.764	2.37	49568	10000	
Co	59	3	72	0.211	ppb	0.211	16.28	325	2000	
Ni	60	3	72	0.680	ppb	0.680	11.30	283	5000	
Cu	63	3	72	0.168	ppb	0.168	73.89	611	5000	
Zn	66	3	72	-0.281	ppb	-0.281	-53.23	247	5000	
As	75	3	72	3.756	ppb	3.756	2.34	398	2000	
Se	78	2	72	26.735	ppb	26.735	2.95	1585	2000	
Sr	88	3	72	6374.087	ppb	6374.087	0.64	3595742	4000	
Mo	95	3	115	1.686	ppb	1.686	0.60	730	2000	
Ag	107	3	115	-0.003	ppb	-0.003	-513.03	28	100	
Cd	111	3	115	-0.019	ppb	-0.019	-70.50	2	2000	
Sn	120	3	115	-0.140	ppb	-0.140	-44.84	416	2000	
Sb	121	3	115	0.083	ppb	0.083	49.87	178	1000	
Ba	137	3	115	56.363	ppb	56.363	1.10	13555	5000	
Tl	205	3	193	-0.014	ppb	-0.014	-43.65	155	2000	
(Pb)	206	3	193	-0.019	ppb	-0.019	-117.43	125	100	
(Pb)	207	3	193	-0.028	ppb	-0.028	-126.81	253	100	
Pb	208	3	193	-0.013	ppb	-0.013	-152.93	636	5000	
Th	232	3	193	-0.013	ppb	-0.013	-249.15	3789	2000	
U	238	3	193	16.101	ppb	16.101	1.42	74720	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc (IS)	45	2	HMI H2	5399515	0.84	4904275	110.10	60	120	
Sc (IS)	45	3	HMI He	586479	0.73	524825	111.75	60	120	
Ge Internal standard	72	2	HMI H2	2954486	1.18	2587308	114.19	60	120	
Ge Internal standard	72	3	HMI He	691871	0.33	614615	112.57	60	120	
In Internal Standard	115	3	HMI He	2735108	1.62	2409771	113.50	60	120	
Ir (IS)	193	3	HMI He	4700554	1.06	3878719	121.19	60	120	IS Failed

Sample Report

Sample Table

Sample Name	280-185929-a-6-a
Data File Name	292SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\79_122123.b
Acq Date Time	2023-12-22T00:45:05-07:00
Analyst	Denver Metals
Sample Type	Sample
Dilution	1
Comment	638149 200.8/6020B
ISTD Ref FileName	236CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Be	9	2	6	-0.042	ppb	-0.042	-51.07	1	2000	
Na	23	3	45	212803.907	ppb	212803.907	1.02	19563365	400000	
Mg	24	3	45	29611.590	ppb	29611.590	1.07	1501653	400000	
Al	27	3	45	26.680	ppb	26.680	13.79	821	400000	
K	39	3	45	9806.399	ppb	9806.399	0.84	509455	400000	
Ca	40	2	45	196440.510	ppb	196440.510	0.30	166016349	400000	
V	51	3	72	2.690	ppb	2.690	2.84	1576	2000	
Cr	52	3	72	3.246	ppb	3.246	3.23	3017	5000	
Mn	55	3	72	0.528	ppb	0.528	9.19	390	10000	
Fe	56	2	72	22.788	ppb	22.788	3.15	73856	10000	
Co	59	3	72	0.348	ppb	0.348	3.10	458	2000	
Ni	60	3	72	1.849	ppb	1.849	17.00	606	5000	
Cu	63	3	72	0.490	ppb	0.490	15.16	855	5000	
Zn	66	3	72	-0.313	ppb	-0.313	-89.34	235	5000	
As	75	3	72	2.759	ppb	2.759	9.97	290	2000	
Se	78	2	72	16.401	ppb	16.401	4.71	945	2000	
Sr	88	3	72	3803.744	ppb	3803.744	1.81	2080799	4000	
Mo	95	3	115	37.487	ppb	37.487	1.49	15708	2000	
Ag	107	3	115	0.001	ppb	0.001	789.83	33	100	
Cd	111	3	115	-0.011	ppb	-0.011	-128.01	3	2000	
Sn	120	3	115	-0.075	ppb	-0.075	-61.34	456	2000	
Sb	121	3	115	1.460	ppb	1.460	4.93	1080	1000	
Ba	137	3	115	70.064	ppb	70.064	1.54	16636	5000	
Tl	205	3	193	-0.013	ppb	-0.013	-98.97	153	2000	
(Pb)	206	3	193	0.046	ppb	0.046	85.75	192	100	
(Pb)	207	3	193	0.024	ppb	0.024	54.19	297	100	
Pb	208	3	193	0.055	ppb	0.055	27.13	913	5000	
Th	232	3	193	-0.003	ppb	-0.003	-513.61	3769	2000	
U	238	3	193	0.163	ppb	0.163	11.01	1979	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc (IS)	45	2	HMI H2	5242054	0.14	4904275	106.89	60	120	
Sc (IS)	45	3	HMI He	569216	1.35	524825	108.46	60	120	
Ge Internal standard	72	2	HMI H2	2864956	2.07	2587308	110.73	60	120	
Ge Internal standard	72	3	HMI He	670944	0.27	614615	109.16	60	120	
In Internal Standard	115	3	HMI He	2701321	1.07	2409771	112.10	60	120	
Ir (IS)	193	3	HMI He	4622743	2.94	3878719	119.18	60	120	

Sample Report

Sample Table

Sample Name	280-185929-a-7-a
Data File Name	293SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\79_122123.b
Acq Date Time	2023-12-22T00:47:20-07:00
Analyst	Denver Metals
Sample Type	Sample
Dilution	1
Comment	638149 200.8/6020B
ISTD Ref FileName	236CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Be	9	2	6	-0.029	ppb	-0.029	-150.66	1	2000	
Na	23	3	45	176.005	ppb	176.005	7.13	58589	400000	
Mg	24	3	45	10.001	ppb	10.001	9.26	984	400000	
Al	27	3	45	-5.895	ppb	-5.895	-11.10	184	400000	
K	39	3	45	-136.319	ppb	-136.319	-26.16	38083	400000	
Ca	40	2	45	100.308	ppb	100.308	1.28	119360	400000	
V	51	3	72	0.316	ppb	0.316	15.25	333	2000	
Cr	52	3	72	-0.091	ppb	-0.091	-90.56	825	5000	
Mn	55	3	72	0.010	ppb	0.010	801.83	187	10000	
Fe	56	2	72	-5.232	ppb	-5.232	-2.76	24931	10000	
Co	59	3	72	-0.021	ppb	-0.021	-66.05	70	2000	
Ni	60	3	72	0.012	ppb	0.012	344.26	82	5000	
Cu	63	3	72	-0.139	ppb	-0.139	-16.70	330	5000	
Zn	66	3	72	0.377	ppb	0.377	17.28	313	5000	
As	75	3	72	0.061	ppb	0.061	98.06	28	2000	
Se	78	2	72	-0.082	ppb	-0.082	-25.13	3	2000	
Sr	88	3	72	1.584	ppb	1.584	11.21	911	4000	
Mo	95	3	115	0.044	ppb	0.044	128.81	32	2000	
Ag	107	3	115	0.001	ppb	0.001	188.18	32	100	
Cd	111	3	115	-0.018	ppb	-0.018	-79.08	2	2000	
Sn	120	3	115	-0.074	ppb	-0.074	-49.28	435	2000	
Sb	121	3	115	0.004	ppb	0.004	1055.52	118	1000	
Ba	137	3	115	-0.017	ppb	-0.017	-255.40	30	5000	
Tl	205	3	193	-0.014	ppb	-0.014	-70.80	148	2000	
(Pb)	206	3	193	-0.028	ppb	-0.028	-61.33	110	100	
(Pb)	207	3	193	-0.058	ppb	-0.058	-87.90	215	100	
Pb	208	3	193	-0.017	ppb	-0.017	-12.12	593	5000	
Th	232	3	193	-0.050	ppb	-0.050	-77.26	3470	2000	
U	238	3	193	0.010	ppb	0.010	212.76	1259	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc (IS)	45	2	HMI H2	5084706	1.10	4904275	103.68	60	120	
Sc (IS)	45	3	HMI He	549254	0.50	524825	104.65	60	120	
Ge Internal standard	72	2	HMI H2	2775458	1.84	2587308	107.27	60	120	
Ge Internal standard	72	3	HMI He	643683	0.70	614615	104.73	60	120	
In Internal Standard	115	3	HMI He	2570798	0.43	2409771	106.68	60	120	
Ir (IS)	193	3	HMI He	4501351	1.29	3878719	116.05	60	120	

Sample Report

Sample Table

Sample Name	280-185929-a-8-a
Data File Name	294SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\79_122123.b
Acq Date Time	2023-12-22T00:49:35-07:00
Analyst	Denver Metals
Sample Type	Sample
Dilution	1
Comment	638149 200.8/6020B
ISTD Ref FileName	236CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Be	9	2	6	-0.054	ppb	-0.054	0.00	0	2000	
Na	23	3	45	140729.027	ppb	140729.027	1.43	13044522	400000	
Mg	24	3	45	114593.195	ppb	114593.195	1.66	5850616	400000	
Al	27	3	45	-0.651	ppb	-0.651	-483.85	294	400000	
K	39	3	45	14274.767	ppb	14274.767	0.50	725852	400000	
Ca	40	2	45	280206.313	ppb	280206.313	1.79	236203525	400000	
V	51	3	72	23.979	ppb	23.979	4.79	12706	2000	
Cr	52	3	72	1.271	ppb	1.271	13.75	1756	5000	
Mn	55	3	72	0.520	ppb	0.520	17.74	390	10000	
Fe	56	2	72	4.552	ppb	4.552	10.34	42253	10000	
Co	59	3	72	0.263	ppb	0.263	8.14	373	2000	
Ni	60	3	72	1.144	ppb	1.144	8.20	410	5000	
Cu	63	3	72	0.236	ppb	0.236	43.17	653	5000	
Zn	66	3	72	-0.116	ppb	-0.116	-107.51	263	5000	
As	75	3	72	4.239	ppb	4.239	7.32	436	2000	
Se	78	2	72	30.487	ppb	30.487	0.90	1740	2000	
Sr	88	3	72	7223.328	ppb	7223.328	2.09	3987263	4000	
Mo	95	3	115	2.159	ppb	2.159	5.43	898	2000	
Ag	107	3	115	-0.003	ppb	-0.003	-479.42	27	100	
Cd	111	3	115	-0.027	ppb	-0.027	0.00	0	2000	
Sn	120	3	115	-0.029	ppb	-0.029	-421.14	476	2000	
Sb	121	3	115	0.061	ppb	0.061	48.55	158	1000	
Ba	137	3	115	64.218	ppb	64.218	1.68	14909	5000	
Tl	205	3	193	-0.013	ppb	-0.013	-39.58	157	2000	
(Pb)	206	3	193	-0.019	ppb	-0.019	-120.10	123	100	
(Pb)	207	3	193	-0.067	ppb	-0.067	-55.89	213	100	
Pb	208	3	193	-0.016	ppb	-0.016	-87.12	613	5000	
Th	232	3	193	-0.010	ppb	-0.010	-219.48	3747	2000	
U	238	3	193	18.140	ppb	18.140	1.09	82836	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc (IS)	45	2	HMI H2	5230275	2.36	4904275	106.65	60	120	
Sc (IS)	45	3	HMI He	573279	0.63	524825	109.23	60	120	
Ge Internal standard	72	2	HMI H2	2845443	1.06	2587308	109.98	60	120	
Ge Internal standard	72	3	HMI He	676931	1.08	614615	110.14	60	120	
In Internal Standard	115	3	HMI He	2640866	1.44	2409771	109.59	60	120	
Ir (IS)	193	3	HMI He	4633849	1.08	3878719	119.47	60	120	

Sample Report

Sample Table

Sample Name	280-185929-a-9-a
Data File Name	295SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\79_122123.b
Acq Date Time	2023-12-22T00:51:49-07:00
Analyst	Denver Metals
Sample Type	Sample
Dilution	1
Comment	638149 200.8/6020B
ISTD Ref FileName	236CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Be	9	2	6	-0.041	ppb	-0.041	-53.15	1	2000	
Na	23	3	45	3419.192	ppb	3419.192	1.48	356287	400000	
Mg	24	3	45	354.129	ppb	354.129	4.02	18367	400000	
Al	27	3	45	14.425	ppb	14.425	19.77	581	400000	
K	39	3	45	-30.098	ppb	-30.098	-107.49	44247	400000	
Ca	40	2	45	1296.325	ppb	1296.325	1.28	1130590	400000	
V	51	3	72	0.648	ppb	0.648	15.19	513	2000	
Cr	52	3	72	0.219	ppb	0.219	74.52	1048	5000	
Mn	55	3	72	0.236	ppb	0.236	50.42	277	10000	
Fe	56	2	72	-0.062	ppb	-0.062	-1313.34	34427	10000	
Co	59	3	72	0.006	ppb	0.006	405.76	100	2000	
Ni	60	3	72	0.139	ppb	0.139	45.67	120	5000	
Cu	63	3	72	0.529	ppb	0.529	6.67	876	5000	
Zn	66	3	72	1.080	ppb	1.080	22.58	415	5000	
As	75	3	72	0.017	ppb	0.017	600.38	25	2000	
Se	78	2	72	-0.047	ppb	-0.047	-113.16	5	2000	
Sr	88	3	72	21.124	ppb	21.124	1.80	11504	4000	
Mo	95	3	115	0.071	ppb	0.071	84.97	43	2000	
Ag	107	3	115	-0.005	ppb	-0.005	-217.56	23	100	
Cd	111	3	115	-0.019	ppb	-0.019	-74.56	2	2000	
Sn	120	3	115	0.150	ppb	0.150	22.71	591	2000	
Sb	121	3	115	0.001	ppb	0.001	7461.64	118	1000	
Ba	137	3	115	3.028	ppb	3.028	11.80	726	5000	
Tl	205	3	193	-0.013	ppb	-0.013	-64.67	153	2000	
(Pb)	206	3	193	0.004	ppb	0.004	224.23	145	100	
(Pb)	207	3	193	-0.017	ppb	-0.017	-146.86	255	100	
Pb	208	3	193	0.012	ppb	0.012	136.39	723	5000	
Th	232	3	193	-0.035	ppb	-0.035	-46.26	3574	2000	
U	238	3	193	0.110	ppb	0.110	26.86	1713	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc (IS)	45	2	HMI H2	5228303	0.58	4904275	106.61	60	120	
Sc (IS)	45	3	HMI He	566251	0.90	524825	107.89	60	120	
Ge Internal standard	72	2	HMI H2	2851745	3.55	2587308	110.22	60	120	
Ge Internal standard	72	3	HMI He	663185	0.21	614615	107.90	60	120	
In Internal Standard	115	3	HMI He	2608391	2.35	2409771	108.24	60	120	
Ir (IS)	193	3	HMI He	4553682	0.96	3878719	117.40	60	120	

Sample Report

Sample Table

Sample Name	280-185929-a-10-a
Data File Name	296SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\79_122123.b
Acq Date Time	2023-12-22T00:54:04-07:00
Analyst	Denver Metals
Sample Type	Sample
Dilution	1
Comment	638149 200.8/6020B
ISTD Ref FileName	236CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Fail

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Be	9	2	6	-0.042	ppb	-0.042	-49.99	1	2000	
Na	23	3	45	247885.101	ppb	247885.101	1.05	23446374	400000	
Mg	24	3	45	124152.997	ppb	124152.997	1.43	6477604	400000	
Al	27	3	45	16.106	ppb	16.106	27.85	634	400000	
K	39	3	45	17527.364	ppb	17527.364	0.93	900049	400000	
Ca	40	2	45	339571.126	ppb	339571.126	1.89	291353683	400000	
V	51	3	72	24.401	ppb	24.401	3.35	13018	2000	
Cr	52	3	72	2.582	ppb	2.582	2.88	2629	5000	
Mn	55	3	72	0.952	ppb	0.952	7.32	558	10000	
Fe	56	2	72	43.007	ppb	43.007	1.18	110309	10000	
Co	59	3	72	0.060	ppb	0.060	56.45	160	2000	
Ni	60	3	72	1.614	ppb	1.614	10.39	548	5000	
Cu	63	3	72	11.471	ppb	11.471	1.34	9930	5000	
Zn	66	3	72	142.911	ppb	142.911	1.52	19551	5000	
As	75	3	72	5.682	ppb	5.682	14.81	581	2000	
Se	78	2	72	37.297	ppb	37.297	1.14	2175	2000	
Sr	88	3	72	8224.996	ppb	8224.996	1.40	4570473	4000	
Mo	95	3	115	0.744	ppb	0.744	12.93	333	2000	
Ag	107	3	115	0.007	ppb	0.007	188.98	42	100	
Cd	111	3	115	-0.027	ppb	-0.027	0.00	0	2000	
Sn	120	3	115	-0.163	ppb	-0.163	-45.00	403	2000	
Sb	121	3	115	0.022	ppb	0.022	83.58	138	1000	
Ba	137	3	115	43.835	ppb	43.835	1.06	10621	5000	
Tl	205	3	193	-0.016	ppb	-0.016	-56.73	148	2000	
(Pb)	206	3	193	1.552	ppb	1.552	4.86	1811	100	
(Pb)	207	3	193	1.553	ppb	1.553	3.90	1739	100	
Pb	208	3	193	1.532	ppb	1.532	4.11	7286	5000	
Th	232	3	193	-0.001	ppb	-0.001	-4204.64	3849	2000	
U	238	3	193	24.891	ppb	24.891	1.85	114999	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc (IS)	45	2	HMI H2	5323191	1.13	4904275	108.54	60	120	
Sc (IS)	45	3	HMI He	585869	0.55	524825	111.63	60	120	
Ge Internal standard	72	2	HMI H2	2910000	1.00	2587308	112.47	60	120	
Ge Internal standard	72	3	HMI He	681573	0.65	614615	110.89	60	120	
In Internal Standard	115	3	HMI He	2752848	1.41	2409771	114.24	60	120	
Ir (IS)	193	3	HMI He	4708244	1.27	3878719	121.39	60	120	IS Failed

Sample Report

Sample Table

Sample Name	280-185929-a-11-a
Data File Name	297SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\79_122123.b
Acq Date Time	2023-12-22T00:56:18-07:00
Analyst	Denver Metals
Sample Type	Sample
Dilution	1
Comment	638149 200.8/6020B
ISTD Ref FileName	236CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Be	9	2	6	-0.054	ppb	-0.054	0.00	0	2000	
Na	23	3	45	245798.293	ppb	245798.293	1.36	22323588	400000	
Mg	24	3	45	139240.607	ppb	139240.607	1.39	6975723	400000	
Al	27	3	45	-2.819	ppb	-2.819	-54.13	247	400000	
K	39	3	45	18231.460	ppb	18231.460	2.07	897161	400000	
Ca	40	2	45	360051.483	ppb	360051.483	1.77	304910173	400000	
V	51	3	72	22.640	ppb	22.640	2.53	11756	2000	
Cr	52	3	72	0.970	ppb	0.970	20.02	1528	5000	
Mn	55	3	72	0.858	ppb	0.858	19.19	508	10000	
Fe	56	2	72	9.913	ppb	9.913	9.66	49940	10000	
Co	59	3	72	0.084	ppb	0.084	24.73	180	2000	
Ni	60	3	72	1.406	ppb	1.406	3.50	475	5000	
Cu	63	3	72	5.655	ppb	5.655	5.45	4988	5000	
Zn	66	3	72	59.684	ppb	59.684	3.25	8097	5000	
As	75	3	72	4.807	ppb	4.807	7.55	481	2000	
Se	78	2	72	45.161	ppb	45.161	2.92	2500	2000	
Sr	88	3	72	9233.893	ppb	9233.893	1.43	4988906	4000	
Mo	95	3	115	0.681	ppb	0.681	23.95	293	2000	
Ag	107	3	115	-0.001	ppb	-0.001	-1859.62	30	100	
Cd	111	3	115	-0.010	ppb	-0.010	-133.98	3	2000	
Sn	120	3	115	-0.105	ppb	-0.105	-96.08	425	2000	
Sb	121	3	115	0.039	ppb	0.039	56.86	143	1000	
Ba	137	3	115	48.380	ppb	48.380	0.69	11206	5000	
Tl	205	3	193	-0.021	ppb	-0.021	-34.23	128	2000	
(Pb)	206	3	193	0.443	ppb	0.443	1.81	598	100	
(Pb)	207	3	193	0.396	ppb	0.396	12.59	628	100	
Pb	208	3	193	0.444	ppb	0.444	3.59	2507	5000	
Th	232	3	193	0.006	ppb	0.006	229.34	3737	2000	
U	238	3	193	24.014	ppb	24.014	2.10	106994	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc (IS)	45	2	HMI H2	5253889	1.20	4904275	107.13	60	120	
Sc (IS)	45	3	HMI He	562555	0.62	524825	107.19	60	120	
Ge Internal standard	72	2	HMI H2	2765303	1.61	2587308	106.88	60	120	
Ge Internal standard	72	3	HMI He	662679	0.94	614615	107.82	60	120	
In Internal Standard	115	3	HMI He	2632912	1.63	2409771	109.26	60	120	
Ir (IS)	193	3	HMI He	4537773	1.25	3878719	116.99	60	120	

Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV-8123148
Data File Name	298_CCV.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\79_122123.b
Acq Date Time	2023-12-22T00:58:33-07:00
Sample Type	CCV
Dilution	1
Comment	
ISTD Ref File Name	236CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	Units	Conc %RSD	CPS	Exp Value	%Rec	%Low	%High2	QC Flag
Be	9	2	6	52.361	ppb	2.387	2752	50	104.7	90	110	
Na	23	3	45	48161.846	ppb	2.191	4348737	51000	94.4	90	110	
Mg	24	3	45	9809.599	ppb	1.190	485180	11000	89.2	90	110	>+\-10%
Al	27	3	45	1019.895	ppb	0.453	19530	1000	102.0	90	110	
K	39	3	45	10314.080	ppb	1.176	520080	11000	93.8	90	110	
Ca	40	2	45	11436.393	ppb	0.806	9531292	11000	104.0	90	110	
V	51	3	72	51.255	ppb	3.656	25981	50	102.5	90	110	
Cr	52	3	72	51.139	ppb	0.213	33053	50	102.3	90	110	
Mn	55	3	72	49.062	ppb	2.578	18158	50	98.1	90	110	
Fe	56	2	72	1067.573	ppb	1.235	1812318	1000	106.8	90	110	
Co	59	3	72	51.530	ppb	1.108	52528	50	103.1	90	110	
Ni	60	3	72	50.708	ppb	0.777	14068	50	101.4	90	110	
Cu	63	3	72	51.169	ppb	1.739	40872	50	102.3	90	110	
Zn	66	3	72	50.631	ppb	2.610	6805	50	101.3	90	110	
As	75	3	72	51.819	ppb	2.248	4887	50	103.6	90	110	
Se	78	2	72	54.045	ppb	0.835	3006	50	108.1	90	110	
Sr	88	3	72	104.498	ppb	0.978	55676	100	104.5	90	110	
Mo	95	3	115	50.229	ppb	1.267	20689	50	100.5	90	110	
Ag	107	3	115	50.219	ppb	1.295	66901	50	100.4	90	110	
Cd	111	3	115	48.924	ppb	2.442	10070	50	97.8	90	110	
Sn	120	3	115	49.963	ppb	1.265	34613	50	99.9	90	110	
Sb	121	3	115	50.840	ppb	1.427	32922	50	101.7	90	110	
Ba	137	3	115	51.238	ppb	1.522	11971	50	102.5	90	110	
Tl	205	3	193	52.790	ppb	3.251	160907	50	105.6	90	110	
(Pb)	206	3	193	51.518	ppb	2.844	52126	50	103.0	90	110	
(Pb)	207	3	193	51.978	ppb	3.546	46173	50	104.0	90	110	
Pb	208	3	193	51.869	ppb	2.811	210396	50	103.7	90	110	
Th	232	3	193	51.781	ppb	2.325	218190	50	103.6	90	110	
U	238	3	193	53.294	ppb	3.474	230147	50	106.6	90	110	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc (IS)	45	2	HMI H2	5150440	1.14	4904275	105.02	60	120	
Sc (IS)	45	3	HMI He	554878	1.35	524825	105.73	60	120	
Ge Internal standard	72	2	HMI H2	2778434	1.03	2587308	107.39	60	120	
Ge Internal standard	72	3	HMI He	652565	1.06	614615	106.17	60	120	
In Internal Standard	115	3	HMI He	2656051	0.48	2409771	110.22	60	120	
Ir (IS)	193	3	HMI He	4429331	3.04	3878719	114.20	60	120	

Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB-8123133
Data File Name	299_CCB.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\79_122123.b
Acq Date Time	2023-12-22T01:00:47-07:00
Sample Type	CCB
Dilution	1
Comment	
ISTD Ref File Name	236CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	Units	Conc %RSD	CPS	Upper Limit	QC Flag
Be	9	2	6	-0.016	ppb	-232.5	2	0.5	
Na	23	3	45	39.469	ppb	46.1	46911	25	>RL
Mg	24	3	45	9.201	ppb	17.0	954	25	
Al	27	3	45	-4.752	ppb	-40.6	207	15	
K	39	3	45	-158.837	ppb	-30.0	37394	50	
V	51	3	72	0.460	ppb	27.6	406	1	
Cr	52	3	72	-0.160	ppb	-75.3	786	1	
Mn	55	3	72	-0.016	ppb	-916.7	178	0.5	
Co	59	3	72	-0.019	ppb	-53.9	72	0.5	
Ni	60	3	72	0.003	ppb	2467.4	80	1	
Cu	63	3	72	-0.190	ppb	-30.1	292	1	
Zn	66	3	72	-1.132	ppb	-9.2	122	5	
As	75	3	72	0.185	ppb	28.0	40	1	
Se	78	2	72	0.039	ppb	349.5	9	1	
Sr	88	3	72	0.810	ppb	15.5	508	0.5	>RL
Mo	95	3	115	0.055	ppb	67.7	37	0.5	
Ag	107	3	115	0.041	ppb	31.1	83	1	
Cd	111	3	115	-0.010	ppb	-140.7	3	0.5	
Sn	120	3	115	0.225	ppb	22.8	638	1	
Sb	121	3	115	0.082	ppb	57.5	168	0.6	
Ba	137	3	115	-0.026	ppb	-211.1	28	0.5	
Tl	205	3	193	0.001	ppb	178.7	195	0.1	
(Pb)	206	3	193	0.008	ppb	164.2	147	1	
(Pb)	207	3	193	-0.052	ppb	-87.1	220	1	
Pb	208	3	193	-0.011	ppb	-152.7	615	0.5	
Th	232	3	193	0.219	ppb	18.0	4590	1	
U	238	3	193	0.033	ppb	61.7	1354	0.5	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc (IS)	45	2	HMI H2	5100793	1.19	4904275	104.01	60	120	
Sc (IS)	45	3	HMI He	554158	1.12	524825	105.59	60	120	
Ge Internal standard	72	2	HMI H2	2770858	0.47	2587308	107.09	60	120	
Ge Internal standard	72	3	HMI He	647348	0.64	614615	105.33	60	120	
In Internal Standard	115	3	HMI He	2592415	0.76	2409771	107.58	60	120	
Ir (IS)	193	3	HMI He	4485168	1.93	3878719	115.64	60	120	

Sample Report

Sample Table

Sample Name	280-185940-b-1-a
Data File Name	300SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\79_122123.b
Acq Date Time	2023-12-22T01:03:02-07:00
Analyst	Denver Metals
Sample Type	Sample
Dilution	1
Comment	638149 200.8/6020B
ISTD Ref FileName	236CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Fail

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Be	9	2	6	-0.029	ppb	-0.029	-72.95	1	2000	
Na	23	3	45	69451.420	ppb	69451.420	0.51	6458534	400000	
Mg	24	3	45	37077.350	ppb	37077.350	1.26	1892891	400000	
Al	27	3	45	149.479	ppb	149.479	7.67	3217	400000	
K	39	3	45	7886.315	ppb	7886.315	1.02	421571	400000	
Ca	40	2	45	63212.294	ppb	63212.294	2.27	54348817	400000	
V	51	3	72	0.842	ppb	0.842	1.75	621	2000	
Cr	52	3	72	0.200	ppb	0.200	9.63	1051	5000	
Mn	55	3	72	59.100	ppb	59.100	1.70	22524	10000	
Fe	56	2	72	196.422	ppb	196.422	3.02	371372	10000	
Co	59	3	72	0.327	ppb	0.327	2.24	438	2000	
Ni	60	3	72	4.149	ppb	4.149	7.72	1263	5000	
Cu	63	3	72	11.645	ppb	11.645	3.81	9949	5000	
Zn	66	3	72	558.695	ppb	558.695	0.72	74671	5000	
As	75	3	72	0.702	ppb	0.702	18.70	92	2000	
Se	78	2	72	0.488	ppb	0.488	40.99	35	2000	
Sr	88	3	72	2556.582	ppb	2556.582	2.76	1403071	4000	
Mo	95	3	115	16.942	ppb	16.942	2.24	7090	2000	
Ag	107	3	115	0.001	ppb	0.001	672.59	33	100	
Cd	111	3	115	1.648	ppb	1.648	4.31	350	2000	
Sn	120	3	115	-0.088	ppb	-0.088	-112.19	446	2000	
Sb	121	3	115	3.204	ppb	3.204	6.08	2219	1000	
Ba	137	3	115	120.761	ppb	120.761	1.26	28582	5000	
Tl	205	3	193	0.023	ppb	0.023	26.81	275	2000	
(Pb)	206	3	193	0.713	ppb	0.713	8.25	911	100	
(Pb)	207	3	193	0.659	ppb	0.659	11.32	900	100	
Pb	208	3	193	0.713	ppb	0.713	1.88	3762	5000	
Th	232	3	193	0.065	ppb	0.065	31.98	4134	2000	
U	238	3	193	2.865	ppb	2.865	6.35	14343	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc (IS)	45	2	HMI H2	5332703	3.10	4904275	108.74	60	120	
Sc (IS)	45	3	HMI He	573117	0.57	524825	109.20	60	120	
Ge Internal standard	72	2	HMI H2	2859958	2.13	2587308	110.54	60	120	
Ge Internal standard	72	3	HMI He	673077	0.15	614615	109.51	60	120	
In Internal Standard	115	3	HMI He	2695327	1.28	2409771	111.85	60	120	
Ir (IS)	193	3	HMI He	4706910	3.11	3878719	121.35	60	120	IS Failed

Sample Report

Sample Table

Sample Name	280-185940-b-2-a
Data File Name	301SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\79_122123.b
Acq Date Time	2023-12-22T01:05:16-07:00
Analyst	Denver Metals
Sample Type	Sample
Dilution	1
Comment	638149 200.8/6020B
ISTD Ref FileName	236CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Be	9	2	6	-0.015	ppb	-0.015	-266.06	2	2000	
Na	23	3	45	891692.032	ppb	891692.032	0.93	81284920	400000	
Mg	24	3	45	70465.025	ppb	70465.025	1.40	3548547	400000	
Al	27	3	45	4.780	ppb	4.780	82.97	394	400000	
K	39	3	45	30467.064	ppb	30467.064	1.68	1476283	400000	
Ca	40	2	45	182059.029	ppb	182059.029	2.12	156634676	400000	
V	51	3	72	0.371	ppb	0.371	16.98	368	2000	
Cr	52	3	72	-0.004	ppb	-0.004	-2786.15	898	5000	
Mn	55	3	72	12.262	ppb	12.262	2.62	4715	10000	
Fe	56	2	72	169.550	ppb	169.550	2.07	325828	10000	
Co	59	3	72	0.416	ppb	0.416	4.73	520	2000	
Ni	60	3	72	1.845	ppb	1.845	17.89	593	5000	
Cu	63	3	72	0.603	ppb	0.603	21.07	928	5000	
Zn	66	3	72	335.364	ppb	335.364	0.92	43913	5000	
As	75	3	72	7.501	ppb	7.501	7.75	733	2000	
Se	78	2	72	0.011	ppb	0.011	583.22	8	2000	
Sr	88	3	72	10287.808	ppb	10287.808	1.19	5517559	4000	
Mo	95	3	115	1.273	ppb	1.273	8.18	538	2000	
Ag	107	3	115	0.002	ppb	0.002	476.34	33	100	
Cd	111	3	115	0.216	ppb	0.216	9.94	50	2000	
Sn	120	3	115	-0.150	ppb	-0.150	-50.51	396	2000	
Sb	121	3	115	0.148	ppb	0.148	61.90	215	1000	
Ba	137	3	115	18.591	ppb	18.591	6.53	4362	5000	
Tl	205	3	193	-0.029	ppb	-0.029	-21.77	102	2000	
(Pb)	206	3	193	0.161	ppb	0.161	7.97	305	100	
(Pb)	207	3	193	0.150	ppb	0.150	50.08	403	100	
Pb	208	3	193	0.176	ppb	0.176	11.45	1389	5000	
Th	232	3	193	0.013	ppb	0.013	33.81	3744	2000	
U	238	3	193	1.774	ppb	1.774	0.81	8982	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc (IS)	45	2	HMI H2	5337040	1.32	4904275	108.82	60	120	
Sc (IS)	45	3	HMI He	565450	0.77	524825	107.74	60	120	
Ge Internal standard	72	2	HMI H2	2863953	1.39	2587308	110.69	60	120	
Ge Internal standard	72	3	HMI He	657784	0.44	614615	107.02	60	120	
In Internal Standard	115	3	HMI He	2653224	1.18	2409771	110.10	60	120	
Ir (IS)	193	3	HMI He	4510210	1.18	3878719	116.28	60	120	

Sample Report

Sample Table

Sample Name	280-185940-a-3-a
Data File Name	302SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\79_122123.b
Acq Date Time	2023-12-22T01:07:30-07:00
Analyst	Denver Metals
Sample Type	Sample
Dilution	1
Comment	638149 200.8/6020B
ISTD Ref FileName	236CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Be	9	2	6	-0.042	ppb	-0.042	-51.19	1	2000	
Na	23	3	45	163979.434	ppb	163979.434	1.05	15220470	400000	
Mg	24	3	45	42271.654	ppb	42271.654	2.13	2162390	400000	
Al	27	3	45	2.234	ppb	2.234	111.47	350	400000	
K	39	3	45	9605.881	ppb	9605.881	1.91	504474	400000	
Ca	40	2	45	100965.157	ppb	100965.157	2.22	86406397	400000	
V	51	3	72	0.442	ppb	0.442	12.44	416	2000	
Cr	52	3	72	-0.064	ppb	-0.064	-104.59	886	5000	
Mn	55	3	72	25.444	ppb	25.444	3.27	9877	10000	
Fe	56	2	72	-0.617	ppb	-0.617	-75.34	34036	10000	
Co	59	3	72	0.006	ppb	0.006	101.09	102	2000	
Ni	60	3	72	1.514	ppb	1.514	4.74	516	5000	
Cu	63	3	72	1.489	ppb	1.489	10.50	1683	5000	
Zn	66	3	72	1262.554	ppb	1262.554	1.11	169578	5000	
As	75	3	72	0.492	ppb	0.492	53.34	72	2000	
Se	78	2	72	0.112	ppb	0.112	91.36	14	2000	
Sr	88	3	72	5806.983	ppb	5806.983	1.71	3209122	4000	
Mo	95	3	115	9.792	ppb	9.792	4.81	4087	2000	
Ag	107	3	115	-0.007	ppb	-0.007	-29.34	22	100	
Cd	111	3	115	1.264	ppb	1.264	20.27	268	2000	
Sn	120	3	115	-0.121	ppb	-0.121	-12.42	421	2000	
Sb	121	3	115	0.124	ppb	0.124	14.93	202	1000	
Ba	137	3	115	48.076	ppb	48.076	3.09	11351	5000	
Tl	205	3	193	0.004	ppb	0.004	130.98	208	2000	
(Pb)	206	3	193	0.059	ppb	0.059	13.96	203	100	
(Pb)	207	3	193	0.088	ppb	0.088	47.56	352	100	
Pb	208	3	193	0.081	ppb	0.081	9.78	1015	5000	
Th	232	3	193	0.020	ppb	0.020	106.08	3830	2000	
U	238	3	193	1.439	ppb	1.439	2.11	7629	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc (IS)	45	2	HMI H2	5307984	1.16	4904275	108.23	60	120	
Sc (IS)	45	3	HMI He	574359	0.85	524825	109.44	60	120	
Ge Internal standard	72	2	HMI H2	2895978	1.49	2587308	111.93	60	120	
Ge Internal standard	72	3	HMI He	677846	1.11	614615	110.29	60	120	
In Internal Standard	115	3	HMI He	2683547	1.43	2409771	111.36	60	120	
Ir (IS)	193	3	HMI He	4576879	2.34	3878719	118.00	60	120	

Sample Report

Sample Table

Sample Name	280-185942-b-1-a
Data File Name	303SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\79_122123.b
Acq Date Time	2023-12-22T01:09:43-07:00
Analyst	Denver Metals
Sample Type	Sample
Dilution	1
Comment	638149 200.8/6020B
ISTD Ref FileName	236CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Be	9	2	6	-0.005	ppb	-0.005	-444.02	3	2000	
Na	23	3	45	6167.019	ppb	6167.019	2.14	608020	400000	
Mg	24	3	45	24674.008	ppb	24674.008	2.28	1246798	400000	
Al	27	3	45	104.244	ppb	104.244	15.03	2309	400000	
K	39	3	45	2825.846	ppb	2825.846	4.31	178809	400000	
Ca	40	2	45	75959.239	ppb	75959.239	1.83	63561186	400000	
V	51	3	72	0.674	ppb	0.674	12.64	528	2000	
Cr	52	3	72	0.161	ppb	0.161	70.12	1015	5000	
Mn	55	3	72	5.031	ppb	5.031	4.42	2071	10000	
Fe	56	2	72	82.770	ppb	82.770	1.64	176756	10000	
Co	59	3	72	0.195	ppb	0.195	33.25	297	2000	
Ni	60	3	72	1.037	ppb	1.037	8.70	373	5000	
Cu	63	3	72	0.632	ppb	0.632	8.04	963	5000	
Zn	66	3	72	240.896	ppb	240.896	2.66	32013	5000	
As	75	3	72	0.121	ppb	0.121	116.03	35	2000	
Se	78	2	72	0.173	ppb	0.173	64.21	17	2000	
Sr	88	3	72	373.756	ppb	373.756	1.12	203061	4000	
Mo	95	3	115	2.571	ppb	2.571	10.56	1091	2000	
Ag	107	3	115	-0.010	ppb	-0.010	-58.09	18	100	
Cd	111	3	115	0.244	ppb	0.244	15.11	57	2000	
Sn	120	3	115	-0.046	ppb	-0.046	-247.74	476	2000	
Sb	121	3	115	0.129	ppb	0.129	17.17	207	1000	
Ba	137	3	115	43.254	ppb	43.254	4.06	10294	5000	
Tl	205	3	193	-0.014	ppb	-0.014	-32.01	152	2000	
(Pb)	206	3	193	0.169	ppb	0.169	28.82	320	100	
(Pb)	207	3	193	0.099	ppb	0.099	16.36	365	100	
Pb	208	3	193	0.131	ppb	0.131	7.03	1233	5000	
Th	232	3	193	0.005	ppb	0.005	438.23	3790	2000	
U	238	3	193	0.972	ppb	0.972	6.56	5592	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc (IS)	45	2	HMI H2	5189553	2.13	4904275	105.82	60	120	
Sc (IS)	45	3	HMI He	567310	2.19	524825	108.10	60	120	
Ge Internal standard	72	2	HMI H2	2862298	0.51	2587308	110.63	60	120	
Ge Internal standard	72	3	HMI He	666129	1.30	614615	108.38	60	120	
In Internal Standard	115	3	HMI He	2703769	1.20	2409771	112.20	60	120	
Ir (IS)	193	3	HMI He	4610268	1.66	3878719	118.86	60	120	

Sample Report

Sample Table

Sample Name	280-185942-b-2-a
Data File Name	304SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\79_122123.b
Acq Date Time	2023-12-22T01:11:58-07:00
Analyst	Denver Metals
Sample Type	Sample
Dilution	1
Comment	638149 200.8/6020B
ISTD Ref FileName	236CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Be	9	2	6	-0.029	ppb	-0.029	-73.55	1	2000	
Na	23	3	45	28160.231	ppb	28160.231	0.87	2597647	400000	
Mg	24	3	45	37339.779	ppb	37339.779	2.06	1871791	400000	
Al	27	3	45	124.740	ppb	124.740	8.26	2686	400000	
K	39	3	45	5463.914	ppb	5463.914	1.35	300756	400000	
Ca	40	2	45	105609.433	ppb	105609.433	2.50	88081649	400000	
V	51	3	72	0.385	ppb	0.385	16.70	383	2000	
Cr	52	3	72	-0.135	ppb	-0.135	-121.61	831	5000	
Mn	55	3	72	6.485	ppb	6.485	5.04	2634	10000	
Fe	56	2	72	62.915	ppb	62.915	2.24	142063	10000	
Co	59	3	72	0.254	ppb	0.254	13.56	360	2000	
Ni	60	3	72	1.614	ppb	1.614	4.88	540	5000	
Cu	63	3	72	0.402	ppb	0.402	8.23	783	5000	
Zn	66	3	72	99.424	ppb	99.424	1.16	13475	5000	
As	75	3	72	0.394	ppb	0.394	20.10	62	2000	
Se	78	2	72	0.058	ppb	0.058	94.38	11	2000	
Sr	88	3	72	2619.016	ppb	2619.016	2.80	1432916	4000	
Mo	95	3	115	3.789	ppb	3.789	2.54	1604	2000	
Ag	107	3	115	-0.015	ppb	-0.015	-51.56	12	100	
Cd	111	3	115	0.315	ppb	0.315	18.75	72	2000	
Sn	120	3	115	-0.095	ppb	-0.095	-73.60	443	2000	
Sb	121	3	115	0.451	ppb	0.451	16.73	418	1000	
Ba	137	3	115	36.698	ppb	36.698	2.92	8747	5000	
Tl	205	3	193	-0.019	ppb	-0.019	-47.41	137	2000	
(Pb)	206	3	193	0.455	ppb	0.455	16.13	623	100	
(Pb)	207	3	193	0.316	ppb	0.316	17.90	566	100	
Pb	208	3	193	0.430	ppb	0.430	2.40	2497	5000	
Th	232	3	193	-0.009	ppb	-0.009	-424.50	3744	2000	
U	238	3	193	1.878	ppb	1.878	3.04	9676	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc (IS)	45	2	HMI H2	5172766	0.73	4904275	105.47	60	120	
Sc (IS)	45	3	HMI He	562774	0.21	524825	107.23	60	120	
Ge Internal standard	72	2	HMI H2	2850536	1.79	2587308	110.17	60	120	
Ge Internal standard	72	3	HMI He	671018	0.11	614615	109.18	60	120	
In Internal Standard	115	3	HMI He	2706651	0.65	2409771	112.32	60	120	
Ir (IS)	193	3	HMI He	4624022	1.09	3878719	119.22	60	120	

Sample Report

Sample Table

Sample Name	280-185942-b-3-a
Data File Name	305SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\79_122123.b
Acq Date Time	2023-12-22T01:14:14-07:00
Analyst	Denver Metals
Sample Type	Sample
Dilution	1
Comment	638149 200.8/6020B
ISTD Ref FileName	236CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Be	9	2	6	-0.017	ppb	-0.017	-224.88	2	2000	
Na	23	3	45	18122.166	ppb	18122.166	1.93	1684950	400000	
Mg	24	3	45	60478.015	ppb	60478.015	0.49	3026968	400000	
Al	27	3	45	31.623	ppb	31.623	13.34	904	400000	
K	39	3	45	9963.735	ppb	9963.735	0.50	510315	400000	
Ca	40	2	45	93284.862	ppb	93284.862	2.62	78595521	400000	
V	51	3	72	0.591	ppb	0.591	8.50	490	2000	
Cr	52	3	72	-0.130	ppb	-0.130	-80.35	835	5000	
Mn	55	3	72	18.693	ppb	18.693	1.02	7232	10000	
Fe	56	2	72	29.034	ppb	29.034	1.95	83366	10000	
Co	59	3	72	0.362	ppb	0.362	13.20	473	2000	
Ni	60	3	72	4.057	ppb	4.057	8.52	1233	5000	
Cu	63	3	72	7.066	ppb	7.066	3.26	6197	5000	
Zn	66	3	72	392.924	ppb	392.924	0.62	52426	5000	
As	75	3	72	0.498	ppb	0.498	22.12	72	2000	
Se	78	2	72	0.379	ppb	0.379	38.43	29	2000	
Sr	88	3	72	944.205	ppb	944.205	0.61	516555	4000	
Mo	95	3	115	25.898	ppb	25.898	1.28	10491	2000	
Ag	107	3	115	-0.007	ppb	-0.007	-80.16	22	100	
Cd	111	3	115	1.947	ppb	1.947	15.02	400	2000	
Sn	120	3	115	-0.014	ppb	-0.014	-787.17	481	2000	
Sb	121	3	115	4.780	ppb	4.780	4.47	3149	1000	
Ba	137	3	115	23.218	ppb	23.218	3.12	5352	5000	
Tl	205	3	193	0.073	ppb	0.073	5.08	428	2000	
(Pb)	206	3	193	0.130	ppb	0.130	15.87	280	100	
(Pb)	207	3	193	0.106	ppb	0.106	28.31	373	100	
Pb	208	3	193	0.137	ppb	0.137	3.12	1263	5000	
Th	232	3	193	-0.040	ppb	-0.040	-52.28	3614	2000	
U	238	3	193	2.232	ppb	2.232	3.37	11275	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc (IS)	45	2	HMI H2	5226764	2.37	4904275	106.58	60	120	
Sc (IS)	45	3	HMI He	561943	0.14	524825	107.07	60	120	
Ge Internal standard	72	2	HMI H2	2823239	0.90	2587308	109.12	60	120	
Ge Internal standard	72	3	HMI He	670897	0.56	614615	109.16	60	120	
In Internal Standard	115	3	HMI He	2610751	1.74	2409771	108.34	60	120	
Ir (IS)	193	3	HMI He	4629264	2.58	3878719	119.35	60	120	

Sample Report

Sample Table

Sample Name	280-185942-b-4-a
Data File Name	306SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\79_122123.b
Acq Date Time	2023-12-22T01:16:27-07:00
Analyst	Denver Metals
Sample Type	Sample
Dilution	1
Comment	638149 200.8/6020B
ISTD Ref FileName	236CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Fail

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Be	9	2	6	-0.030	ppb	-0.030	-71.52	1	2000	
Na	23	3	45	4374.797	ppb	4374.797	1.09	444171	400000	
Mg	24	3	45	25907.170	ppb	25907.170	1.85	1308825	400000	
Al	27	3	45	14.050	ppb	14.050	27.71	574	400000	
K	39	3	45	2600.602	ppb	2600.602	1.88	168216	400000	
Ca	40	2	45	77533.002	ppb	77533.002	1.62	64848009	400000	
V	51	3	72	0.500	ppb	0.500	10.14	440	2000	
Cr	52	3	72	-0.239	ppb	-0.239	-32.04	760	5000	
Mn	55	3	72	6.482	ppb	6.482	4.34	2616	10000	
Fe	56	2	72	29.129	ppb	29.129	4.82	85552	10000	
Co	59	3	72	0.237	ppb	0.237	34.00	340	2000	
Ni	60	3	72	2.826	ppb	2.826	3.93	878	5000	
Cu	63	3	72	0.637	ppb	0.637	2.35	968	5000	
Zn	66	3	72	269.483	ppb	269.483	3.45	35814	5000	
As	75	3	72	0.260	ppb	0.260	63.08	48	2000	
Se	78	2	72	0.043	ppb	0.043	76.50	10	2000	
Sr	88	3	72	508.227	ppb	508.227	1.86	276366	4000	
Mo	95	3	115	2.586	ppb	2.586	9.17	1073	2000	
Ag	107	3	115	-0.003	ppb	-0.003	-375.54	27	100	
Cd	111	3	115	0.381	ppb	0.381	9.38	83	2000	
Sn	120	3	115	-0.196	ppb	-0.196	-44.70	363	2000	
Sb	121	3	115	0.113	ppb	0.113	47.21	192	1000	
Ba	137	3	115	81.085	ppb	81.085	1.79	18792	5000	
Tl	205	3	193	-0.009	ppb	-0.009	-126.75	168	2000	
(Pb)	206	3	193	0.135	ppb	0.135	21.50	288	100	
(Pb)	207	3	193	0.094	ppb	0.094	20.71	365	100	
Pb	208	3	193	0.129	ppb	0.129	15.12	1238	5000	
Th	232	3	193	0.030	ppb	0.030	161.46	3950	2000	
U	238	3	193	2.274	ppb	2.274	1.60	11561	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc (IS)	45	2	HMI H2	5186517	1.00	4904275	105.76	60	120	
Sc (IS)	45	3	HMI He	567101	0.29	524825	108.06	60	120	
Ge Internal standard	72	2	HMI H2	2891966	0.85	2587308	111.78	60	120	
Ge Internal standard	72	3	HMI He	666923	2.02	614615	108.51	60	120	
In Internal Standard	115	3	HMI He	2637685	2.22	2409771	109.46	60	120	
Ir (IS)	193	3	HMI He	4666562	0.58	3878719	120.31	60	120	IS Failed

Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV-8123148
Data File Name	307_CCV.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\79_122123.b
Acq Date Time	2023-12-22T01:18:44-07:00
Sample Type	CCV
Dilution	1
Comment	
ISTD Ref File Name	236CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	Units	Conc %RSD	CPS	Exp Value	%Rec	%Low	%High2	QC Flag
Be	9	2	6	52.342	ppb	2.148	2760	50	104.7	90	110	
Na	23	3	45	49704.088	ppb	1.302	4469379	51000	97.5	90	110	
Mg	24	3	45	10056.399	ppb	1.784	495370	11000	91.4	90	110	
Al	27	3	45	1026.547	ppb	4.791	19567	1000	102.7	90	110	
K	39	3	45	10227.719	ppb	3.662	513835	11000	93.0	90	110	
Ca	40	2	45	11221.899	ppb	2.421	9326417	11000	102.0	90	110	
V	51	3	72	52.462	ppb	1.381	26303	50	104.9	90	110	
Cr	52	3	72	51.066	ppb	2.710	32649	50	102.1	90	110	
Mn	55	3	72	49.594	ppb	2.626	18153	50	99.2	90	110	
Fe	56	2	72	1089.467	ppb	2.046	1823970	1000	108.9	90	110	
Co	59	3	72	51.473	ppb	1.793	51894	50	102.9	90	110	
Ni	60	3	72	52.499	ppb	1.956	14404	50	105.0	90	110	
Cu	63	3	72	51.376	ppb	2.288	40594	50	102.8	90	110	
Zn	66	3	72	53.746	ppb	5.183	7128	50	107.5	90	110	
As	75	3	72	51.003	ppb	0.691	4758	50	102.0	90	110	
Se	78	2	72	53.266	ppb	3.709	2922	50	106.5	90	110	
Sr	88	3	72	103.463	ppb	0.859	54530	100	103.5	90	110	
Mo	95	3	115	50.784	ppb	0.266	20747	50	101.6	90	110	
Ag	107	3	115	51.370	ppb	4.957	67833	50	102.7	90	110	
Cd	111	3	115	48.179	ppb	1.228	9835	50	96.4	90	110	
Sn	120	3	115	51.415	ppb	4.329	35294	50	102.8	90	110	
Sb	121	3	115	50.293	ppb	0.709	32305	50	100.6	90	110	
Ba	137	3	115	52.200	ppb	3.535	12091	50	104.4	90	110	
Tl	205	3	193	50.531	ppb	3.416	159915	50	101.1	90	110	
(Pb)	206	3	193	51.154	ppb	1.724	53749	50	102.3	90	110	
(Pb)	207	3	193	51.057	ppb	1.930	47101	50	102.1	90	110	
Pb	208	3	193	51.088	ppb	1.662	215180	50	102.2	90	110	
Th	232	3	193	51.536	ppb	0.905	225484	50	103.1	90	110	
U	238	3	193	51.343	ppb	2.878	230268	50	102.7	90	110	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc (IS)	45	2	HMI H2	5135905	1.31	4904275	104.72	60	120	
Sc (IS)	45	3	HMI He	552646	1.59	524825	105.30	60	120	
Ge Internal standard	72	2	HMI H2	2741635	1.39	2587308	105.96	60	120	
Ge Internal standard	72	3	HMI He	645466	0.97	614615	105.02	60	120	
In Internal Standard	115	3	HMI He	2634440	1.95	2409771	109.32	60	120	
Ir (IS)	193	3	HMI He	4596843	1.12	3878719	118.51	60	120	

Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB-8123133
Data File Name	308_CCB.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\79_122123.b
Acq Date Time	2023-12-22T01:20:59-07:00
Sample Type	CCB
Dilution	1
Comment	
ISTD Ref File Name	236CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	Units	Conc %RSD	CPS	Upper Limit	QC Flag
Be	9	2	6	-0.016	ppb	-236.3	2	0.5	
Na	23	3	45	-5.711	ppb	-122.6	42192	25	
Mg	24	3	45	1.346	ppb	125.9	557	25	
Al	27	3	45	-4.545	ppb	-52.1	207	15	
K	39	3	45	-176.267	ppb	-23.0	36006	50	
V	51	3	72	0.358	ppb	29.6	355	1	
Cr	52	3	72	-0.203	ppb	-66.9	756	1	
Mn	55	3	72	0.009	ppb	219.7	187	0.5	
Co	59	3	72	-0.031	ppb	-76.0	60	0.5	
Ni	60	3	72	-0.007	ppb	-1175.3	77	1	
Cu	63	3	72	-0.128	ppb	-44.1	338	1	
Zn	66	3	72	-1.116	ppb	-10.7	123	5	
As	75	3	72	0.006	ppb	3234.1	23	1	
Se	78	2	72	0.018	ppb	209.7	8	1	
Sr	88	3	72	0.332	ppb	10.0	255	0.5	
Mo	95	3	115	0.049	ppb	63.6	35	0.5	
Ag	107	3	115	0.049	ppb	11.5	97	1	
Cd	111	3	115	0.006	ppb	481.3	7	0.5	
Sn	120	3	115	0.099	ppb	170.5	566	1	
Sb	121	3	115	0.133	ppb	46.9	205	0.6	
Ba	137	3	115	-0.014	ppb	-448.1	32	0.5	
Tl	205	3	193	0.017	ppb	61.8	250	0.1	
(Pb)	206	3	193	-0.020	ppb	-95.6	122	1	
(Pb)	207	3	193	-0.045	ppb	-58.7	233	1	
Pb	208	3	193	-0.024	ppb	-20.0	581	0.5	
Th	232	3	193	0.203	ppb	12.2	4664	1	
U	238	3	193	0.010	ppb	290.4	1293	0.5	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Sc (IS)	45	2	HMI H2	5073570	1.29	4904275	103.45	60	120	
Sc (IS)	45	3	HMI He	545248	1.20	524825	103.89	60	120	
Ge Internal standard	72	2	HMI H2	2714450	1.36	2587308	104.91	60	120	
Ge Internal standard	72	3	HMI He	644544	0.86	614615	104.87	60	120	
In Internal Standard	115	3	HMI He	2655511	1.40	2409771	110.20	60	120	
Ir (IS)	193	3	HMI He	4624387	1.17	3878719	119.22	60	120	

GENERAL CHEMISTRY

COVER PAGE
GENERAL CHEMISTRY

Lab Name: Eurofins Denver Job Number: 280-185814-1

SDG No.:

Project: Luke AFB Waterdog TU044, AZ

Client Sample ID	Lab Sample ID
TV044-EB011223	280-185814-2
TV044-MW81223A	280-185814-3
TV044-MW141223A	280-185814-4
TV044-MW151223A	280-185814-5
TV044-MW22S1223A	280-185814-6
TV044-MW22D1223A	280-185814-7
TV044-MW111223A	280-185814-8
TV044-MW111223C	280-185814-9
TV044-MW131223A	280-185814-10
TV044-MW91223A	280-185814-11
TV044-MW23D1223A	280-185814-12
TV044-EB021223	280-185814-13

Comments:

1B-IN
INORGANIC ANALYSIS DATA SHEET
GENERAL CHEMISTRY

Client Sample ID: TV044-EB011223 Lab Sample ID: 280-185814-2

Lab Name: Eurofins Denver Job No.: 280-185814-1

SDG ID.:

Matrix: Water Date Sampled: 12/14/2023 10:20

Reporting Basis: WET Date Received: 12/16/2023 09:30

Analyte	Result	LOQ	LOD	DL	Units	C	Q	DIL	Method
Nitrate Nitrite as N	0.061	0.10	0.080	0.044	mg/L	J		1	353.2
Sulfate	1.1	5.0	2.5	1.0	mg/L	J		1	9056A

1B-IN
INORGANIC ANALYSIS DATA SHEET
GENERAL CHEMISTRY

Client Sample ID: TV044-MW81223A
Lab Sample ID: 280-185814-3
Lab Name: Eurofins Denver
Job No.: 280-185814-1
SDG ID.:
Matrix: Water
Date Sampled: 12/14/2023 10:30
Reporting Basis: WET
Date Received: 12/16/2023 09:30

Analyte	Result	LOQ	LOD	DL	Units	C	Q	DIL	Method
Nitrate Nitrite as N	15	0.50	0.40	0.22	mg/L			5	353.2
Sulfate	54	5.0	2.5	1.0	mg/L		M	1	9056A

1B-IN
INORGANIC ANALYSIS DATA SHEET
GENERAL CHEMISTRY

Client Sample ID: TV044-MW141223A
Lab Sample ID: 280-185814-4
Lab Name: Eurofins Denver
Job No.: 280-185814-1
SDG ID.:
Matrix: Water
Date Sampled: 12/14/2023 11:10
Reporting Basis: WET
Date Received: 12/16/2023 09:30

Analyte	Result	LOQ	LOD	DL	Units	C	Q	DIL	Method
Nitrate Nitrite as N	0.067	0.10	0.080	0.044	mg/L	J		1	353.2
Sulfate	170	5.0	2.5	1.0	mg/L		M	1	9056A

1B-IN
INORGANIC ANALYSIS DATA SHEET
GENERAL CHEMISTRY

Client Sample ID: TV044-MW151223A
Lab Sample ID: 280-185814-5
Lab Name: Eurofins Denver
Job No.: 280-185814-1
SDG ID.:
Matrix: Water
Date Sampled: 12/14/2023 11:30
Reporting Basis: WET
Date Received: 12/16/2023 09:30

Analyte	Result	LOQ	LOD	DL	Units	C	Q	DIL	Method
Nitrate Nitrite as N	52	1.0	0.80	0.44	mg/L			10	353.2
Sulfate	2200	250	130	52	mg/L		D	50	9056A

1B-IN
INORGANIC ANALYSIS DATA SHEET
GENERAL CHEMISTRY

Client Sample ID: TV044-MW22S1223A
Lab Sample ID: 280-185814-6
Lab Name: Eurofins Denver
Job No.: 280-185814-1
SDG ID.:
Matrix: Water
Date Sampled: 12/14/2023 12:05
Reporting Basis: WET
Date Received: 12/16/2023 09:30

Analyte	Result	LOQ	LOD	DL	Units	C	Q	DIL	Method
Nitrate Nitrite as N	0.080	0.10	0.080	0.044	mg/L	U		1	353.2
Sulfate	1500	250	130	52	mg/L		D	50	9056A

1B-IN
INORGANIC ANALYSIS DATA SHEET
GENERAL CHEMISTRY

Client Sample ID: TV044-MW22D1223A
Lab Sample ID: 280-185814-7
Lab Name: Eurofins Denver
Job No.: 280-185814-1
SDG ID.:
Matrix: Water
Date Sampled: 12/14/2023 12:35
Reporting Basis: WET
Date Received: 12/16/2023 09:30

Analyte	Result	LOQ	LOD	DL	Units	C	Q	DIL	Method
Nitrate Nitrite as N	0.080	0.10	0.080	0.044	mg/L	U		1	353.2
Sulfate	1.0	5.0	2.5	1.0	mg/L	J	M	1	9056A

1B-IN
INORGANIC ANALYSIS DATA SHEET
GENERAL CHEMISTRY

Client Sample ID: TV044-MW111223A
Lab Sample ID: 280-185814-8
Lab Name: Eurofins Denver
Job No.: 280-185814-1
SDG ID.:
Matrix: Water
Date Sampled: 12/14/2023 12:45
Reporting Basis: WET
Date Received: 12/16/2023 09:30

Analyte	Result	LOQ	LOD	DL	Units	C	Q	DIL	Method
Nitrate Nitrite as N	0.080	0.10	0.080	0.044	mg/L	U		1	353.2
Sulfate	160	25	13	5.2	mg/L		D M	5	9056A

1B-IN
INORGANIC ANALYSIS DATA SHEET
GENERAL CHEMISTRY

Client Sample ID: TV044-MW111223C
Lab Sample ID: 280-185814-9
Lab Name: Eurofins Denver
Job No.: 280-185814-1
SDG ID.:
Matrix: Water
Date Sampled: 12/14/2023 12:45
Reporting Basis: WET
Date Received: 12/16/2023 09:30

Analyte	Result	LOQ	LOD	DL	Units	C	Q	DIL	Method
Nitrate Nitrite as N	0.080	0.10	0.080	0.044	mg/L	U		1	353.2
Sulfate	200	25	13	5.2	mg/L		D	5	9056A

1B-IN
INORGANIC ANALYSIS DATA SHEET
GENERAL CHEMISTRY

Client Sample ID: TV044-MW131223A
Lab Sample ID: 280-185814-10
Lab Name: Eurofins Denver
Job No.: 280-185814-1
SDG ID.:
Matrix: Water
Date Sampled: 12/14/2023 13:00
Reporting Basis: WET
Date Received: 12/16/2023 09:30

Analyte	Result	LOQ	LOD	DL	Units	C	Q	DIL	Method
Nitrate Nitrite as N	0.080	0.10	0.080	0.044	mg/L	U		1	353.2
Sulfate	2.5	5.0	2.5	1.0	mg/L	U	M	1	9056A

1B-IN
INORGANIC ANALYSIS DATA SHEET
GENERAL CHEMISTRY

Client Sample ID: TV044-MW91223A
Lab Sample ID: 280-185814-11
Lab Name: Eurofins Denver
Job No.: 280-185814-1
SDG ID.:
Matrix: Water
Date Sampled: 12/14/2023 13:30
Reporting Basis: WET
Date Received: 12/16/2023 09:30

Analyte	Result	LOQ	LOD	DL	Units	C	Q	DIL	Method
Nitrate Nitrite as N	14	0.50	0.40	0.22	mg/L			5	353.2
Sulfate	310	25	13	5.2	mg/L		D	5	9056A

1B-IN
INORGANIC ANALYSIS DATA SHEET
GENERAL CHEMISTRY

Client Sample ID: TV044-MW23D1223A
Lab Sample ID: 280-185814-12
Lab Name: Eurofins Denver
Job No.: 280-185814-1
SDG ID.:
Matrix: Water
Date Sampled: 12/14/2023 13:55
Reporting Basis: WET
Date Received: 12/16/2023 09:30

Analyte	Result	LOQ	LOD	DL	Units	C	Q	DIL	Method
Nitrate Nitrite as N	0.080	0.10	0.080	0.044	mg/L	U		1	353.2
Sulfate	160	5.0	2.5	1.0	mg/L		M	1	9056A

1B-IN
INORGANIC ANALYSIS DATA SHEET
GENERAL CHEMISTRY

Client Sample ID: TV044-EB021223 Lab Sample ID: 280-185814-13

Lab Name: Eurofins Denver Job No.: 280-185814-1

SDG ID.:

Matrix: Water Date Sampled: 12/14/2023 14:00

Reporting Basis: WET Date Received: 12/16/2023 09:30

Analyte	Result	LOQ	LOD	DL	Units	C	Q	DIL	Method
Nitrate Nitrite as N	0.056	0.10	0.080	0.044	mg/L	J		1	353.2
Sulfate	2.5	5.0	2.5	1.0	mg/L	U	M	1	9056A

2-IN
CALIBRATION QUALITY CONTROL
GENERAL CHEMISTRY

Lab Name: Eurofins Denver Job No.: 280-185814-1

SDG No.:

Analyst: BCR Batch Start Date: 12/28/2023

Reporting Units: mg/L Analytical Batch No.: 638644

Sample Number	QC Type	Time	Analyte	Result	Spike Amount	(%) Recovery	Limits	Qual	Reagent
14	ICV	12:59	Nitrate Nitrite as N	4.89	5.00	98	90-110		NXN ICV INT_00676
15	ICVL	13:00	Nitrate Nitrite as N	1.96	2.00	98	90-110		NXN ICV INT_00676
16	ICB	13:01	Nitrate Nitrite as N	0.080				U	
34	CCV	13:24	Nitrate Nitrite as N	4.96	5.00	99	90-110		NXN CAL INT_00699
35	CCVL	13:25	Nitrate Nitrite as N	0.982	1.00	98	90-110		NXN CAL INT_00699
36	CCB	13:26	Nitrate Nitrite as N	0.080				U	
51	CCV	13:45	Nitrate Nitrite as N	5.07	5.00	101	90-110		NXN CAL INT_00699
52	CCVL	13:46	Nitrate Nitrite as N	0.997	1.00	100	90-110		NXN CAL INT_00699
53	CCB	13:47	Nitrate Nitrite as N	0.080				U	
68	CCV	14:06	Nitrate Nitrite as N	5.00	5.00	100	90-110		NXN CAL INT_00699
69	CCVL	14:07	Nitrate Nitrite as N	0.978	1.00	98	90-110		NXN CAL INT_00699
70	CCB	14:09	Nitrate Nitrite as N	0.080				U	

Note! Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM II-IN

2-IN
CALIBRATION QUALITY CONTROL
GENERAL CHEMISTRY

Lab Name: Eurofins Denver Job No.: 280-185814-1

SDG No.:

Analyst: MEC Batch Start Date: 09/26/2023

Reporting Units: mg/L Analytical Batch No.: 627377

Sample Number	QC Type	Time	Analyte	Result	Spike Amount	(%) Recovery	Limits	Qual	Reagent
8	ICV	12:29	Sulfate	82.9	80.0	104	90-110		IC SO4 ICV_00024
9	ICB	12:40	Sulfate	2.5				U	

Note! Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM II-IN

2-IN
CALIBRATION QUALITY CONTROL
GENERAL CHEMISTRY

Lab Name: Eurofins Denver Job No.: 280-185814-1

SDG No.:

Analyst: EJS Batch Start Date: 12/21/2023

Reporting Units: mg/L Analytical Batch No.: 638123

Sample Number	QC Type	Time	Analyte	Result	Spike Amount	(%) Recovery	Limits	Qual	Reagent
1	CCV	10:16	Sulfate	100	100	100	90-110		IC LCS_01998
2	CCB	10:27	Sulfate	1.19				J	
21	CCV	15:38	Sulfate	94.5	100	94	90-110		IC LCS_01998
22	CCB	15:49	Sulfate	2.5				U	
36	CCV	18:23	Sulfate	98.4	100	98	90-110		IC LCS_01998
37	CCB	18:34	Sulfate	1.42				J	
41	CCV	19:18	Sulfate	99.1	100	99	90-110		IC LCS_01998
42	CCB	19:29	Sulfate	1.43				J	

Note! Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM II-IN

3-IN
METHOD BLANK
GENERAL CHEMISTRY

Lab Name: Eurofins Denver Job No.: 280-185814-1

SDG No.:

Method	Lab Sample ID	Analyte	Result	Qual	Units	LOQ	Dil
Batch ID: 638644 Date: 12/28/2023 13:07							
353.2	MB 280-638644/21	Nitrate Nitrite as N	0.080	U	mg/L	0.10	1
Batch ID: 638644 Date: 12/28/2023 13:57							
353.2	MB 280-638644/61	Nitrate Nitrite as N	0.080	U	mg/L	0.10	1
Batch ID: 638123 Date: 12/21/2023 11:11							
9056A	MB 280-638123/6	Sulfate	2.5	U	mg/L	5.0	1

5-IN
MATRIX SPIKE SAMPLE RECOVERY
GENERAL CHEMISTRY

Lab Name: Eurofins Denver Job No.: 280-185814-1

SDG No.:

Matrix: Water

Method	Lab Sample ID	Analyte	Result	C	Unit	Spike Amount	Pct. Rec.	Limits	RPD	RPD Limit	Q
Batch ID: 638644 Date: 12/28/2023 13:34											
353.2	280-185814-4	Nitrate Nitrite as N	0.067	J	mg/L						
353.2	280-185814-4 MS	Nitrate Nitrite as N	3.97		mg/L	4.00	98	90-110			
Batch ID: 638644 Date: 12/28/2023 14:00											
353.2	280-185814-12	Nitrate Nitrite as N	0.080	U	mg/L						
353.2	280-185814-12 MS	Nitrate Nitrite as N	3.70		mg/L	4.00	93	90-110			
Batch ID: 638123 Date: 12/21/2023 16:22											
9056A	280-185814-4	Sulfate	170		mg/L						M
9056A	280-185814-4 MS	Sulfate	212		mg/L	50.0	87	87-112			E M

Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM V-IN

5-IN
MATRIX SPIKE DUPLICATE SAMPLE RECOVERY
GENERAL CHEMISTRY

Lab Name: Eurofins Denver Job No.: 280-185814-1

SDG No.:

Matrix: Water

Method	Lab Sample ID	Analyte	Result	C	Unit	Spike Amount	Pct. Rec.	Limits	RPD	RPD Limit	Q
Batch ID: 638644 Date: 12/28/2023 13:35											
353.2	280-185814-4 MSD	Nitrate Nitrite as N	3.84		mg/L	4.00	94	90-110	3	10	
Batch ID: 638644 Date: 12/28/2023 14:01											
353.2	280-185814-12 MSD	Nitrate Nitrite as N	3.77		mg/L	4.00	94	90-110	2	10	
Batch ID: 638123 Date: 12/21/2023 16:33											
9056A	280-185814-4 MSD	Sulfate	212		mg/L	50.0	88	87-112	0	10	E M

Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM V-IN

6-IN
DUPLICATE
GENERAL CHEMISTRY

Lab Name: Eurofins Denver Job No.: 280-185814-1

SDG No.:

Matrix: Water

Method	Client Sample ID	Lab Sample ID	Analyte	Result	Unit	RPD	RPD Limit	Qual
Batch ID: 638123 Date: 12/21/2023 16:11								
9056A	TV044-MW141223A	280-185814-4	Sulfate	170	mg/L			
9056A	TV044-MW141223A	280-185814-4 DU	Sulfate	170	mg/L	0.9	10	M

Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM VI-IN

7A-IN
LAB CONTROL SAMPLE
GENERAL CHEMISTRY

Lab Name: Eurofins Denver Job No.: 280-185814-1

SDG No.:

Matrix: Water

Method	Lab Sample ID	Analyte	Result	C	Unit	Spike Amount	Pct. Rec.	Limits	RPD	RPD Limit	Q
Batch ID: 638644	Date: 12/28/2023 13:06										
						LCS Source: NXN CAL INT_00699					
353.2	LCS 280-638644/20	Nitrate Nitrite as N	5.19		mg/L	5.00	104	90-110			
Batch ID: 638644	Date: 12/28/2023 13:56										
						LCS Source: NXN CAL INT_00699					
353.2	LCS 280-638644/60	Nitrate Nitrite as N	4.98		mg/L	5.00	100	90-110			
Batch ID: 638123	Date: 12/21/2023 10:49										
						LCS Source: IC LCS_01998					
9056A	LCS 280-638123/4	Sulfate	98.8		mg/L	100	99	87-112	0	10	

Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM VIIA-IN

7A-IN
LAB CONTROL SAMPLE DUPLICATE
GENERAL CHEMISTRY

Lab Name: Eurofins Denver Job No.: 280-185814-1

SDG No.:

Matrix: Water

Method	Lab Sample ID	Analyte	Result	C	Unit	Spike Amount	Pct. Rec.	Limits	RPD	RPD Limit	Q
Batch ID: 638123	Date: 12/21/2023 11:00										
						LCSD Source: IC LCS_01998					
9056A	LCSD 280-638123/5	Sulfate	98.4		mg/L	100	98	87-112	0	10	

Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM VIIA-IN

7A-IN
METHOD REPORTING LIMIT CHECK
GENERAL CHEMISTRY

Lab Name: Eurofins Denver Job No.: 280-185814-1

SDG No.:

Matrix: Water

Method	Lab Sample ID	Analyte	Result	C	Unit	Spike Amount	Pct. Rec.	Limits	RPD	RPD Limit	Q
Batch ID: 638123	Date: 12/21/2023 10:38										
						LCS Source: IC CAL cl/so4_00515					
9056A	MRL 280-638123/3	Sulfate	5.39		mg/L	5.00	108	50-150			

Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM VIIA-IN

16A-IN
INITIAL CALIBRATION SUMMARY

Lab Name: Eurofins Denver Job No: 280-185814-1

SDG No.: Analysis Batch No.: 627377

Instrument ID: WC_IonChrom16 Calibration ID: 84939

Start Date: 09/26/2023 11:12 End Date: 09/26/2023 12:07

Analytical Method: 9056A

Analyte	Corr. Coeff.	Slope	Intercept	Calib. Type	Weighting
Sulfate	0.9995	5460000	-2420000	WLR	Inverse Conc

16B-IN
INITIAL CALIBRATION

Lab Name: Eurofins Denver | Job No: 280-185814-1

SDG No.: | Analysis Batch No.: 627377

Instrument ID: WC_IonChrom16 | Calibration ID: 84939

Start Date: 09/26/2023 11:12 | End Date: 09/26/2023 12:07

Analytical Method: 9056A | Concentration Units: ug/mL

Analyte	True	Found	%D	True	Found	%D	True	Found	%D
Sulfate	1.0	1.1	14	2.5	2.3	-6	5.0	4.6	-9

16B-IN
INITIAL CALIBRATION

Lab Name: Eurofins Denver Job No: 280-185814-1

SDG No.: Analysis Batch No.: 627377

Instrument ID: WC_IonChrom16 Calibration ID: 84939

Start Date: 09/26/2023 11:12 End Date: 09/26/2023 12:07

Analytical Method: 9056A Concentration Units: ug/mL

Analyte	True	Found	%D	True	Found	%D	True	Found	%D
Sulfate	60.0	59.5	-1	120	123	3	200	198	-1

9-IN
DETECTION LIMITS
GENERAL CHEMISTRY

Lab Name: Eurofins Denver Job Number: 280-185814-1

SDG Number:

Matrix: Water Instrument ID: WC_OI 3700

Method: 353.2 DL Date: 04/15/2022 12:31

Analyte	Wavelength/ Mass	LOQ (mg/L)	DL (mg/L)
Nitrate Nitrite as N		0.1	0.044

9-IN
CALIBRATION BLANK DETECTION LIMITS
GENERAL CHEMISTRY

Lab Name: Eurofins Denver Job Number: 280-185814-1

SDG Number:

Matrix: Water Instrument ID: WC_OI 3700

Method: 353.2 XMDL Date: 04/15/2022 12:31

Analyte	Wavelength/ Mass	XRL (mg/L)	XMDL (mg/L)
Nitrate Nitrite as N		0.1	0.044

9-IN
DETECTION LIMITS
GENERAL CHEMISTRY

Lab Name: Eurofins Denver Job Number: 280-185814-1

SDG Number:

Matrix: Water Instrument ID: WC_IonChrom16

Method: 9056A DL Date: 06/21/2019 00:00

Analyte	Wavelength/ Mass	LOQ (mg/L)	DL (mg/L)
Sulfate		5	1.03

9-IN
CALIBRATION BLANK DETECTION LIMITS
GENERAL CHEMISTRY

Lab Name: Eurofins Denver Job Number: 280-185814-1

SDG Number:

Matrix: Water Instrument ID: WC_IonChrom16

Method: 9056A XMDL Date: 06/21/2019 00:00

Analyte	Wavelength/ Mass	XRL (mg/L)	XMDL (mg/L)
Sulfate		5	1.03

13-IN
ANALYSIS RUN LOG
GENERAL CHEMISTRY

Lab Name: Eurofins Denver | Job No.: 280-185814-1

SDG No.:

Instrument ID: WC_OI 3700 | Analysis Method: 353.2

Start Date: 12/28/2023 12:42 | End Date: 12/28/2023 14:52

Lab Sample Id	D/F	Type	Time	Analytes
				NNO32
ZZZZZZ			12:42	
ZZZZZZ			12:44	
ZZZZZZ			12:45	
IC 280-638644/4			12:46	X
IC 280-638644/5			12:47	X
IC 280-638644/6			12:49	X
IC 280-638644/7			12:50	X
IC 280-638644/8			12:51	X
IC 280-638644/9			12:52	X
IC 280-638644/10			12:54	X
IC 280-638644/11			12:55	X
ZZZZZZ			12:56	
ZZZZZZ			12:57	
ICV 280-638644/14	1		12:59	X
ICVL 280-638644/15	1		13:00	X
ICB 280-638644/16	1		13:01	X
ZZZZZZ			13:02	
ZZZZZZ			13:04	
ZZZZZZ			13:05	
LCS 280-638644/20	1	T	13:06	X
MB 280-638644/21	1	T	13:07	X
ZZZZZZ			13:09	
ZZZZZZ			13:10	
ZZZZZZ			13:11	
ZZZZZZ			13:12	
ZZZZZZ			13:14	
ZZZZZZ			13:15	
ZZZZZZ			13:16	
ZZZZZZ			13:17	
ZZZZZZ			13:19	
ZZZZZZ			13:20	
ZZZZZZ			13:21	
ZZZZZZ			13:22	
CCV 280-638644/34	1		13:24	X
CCVL 280-638644/35	1		13:25	X
CCB 280-638644/36	1		13:26	X
ZZZZZZ			13:27	
ZZZZZZ			13:29	
ZZZZZZ			13:30	

FORM XIII-IN

13-IN
ANALYSIS RUN LOG
GENERAL CHEMISTRY

Lab Name: Eurofins Denver | Job No.: 280-185814-1

SDG No.:

Instrument ID: WC_OI 3700 | Analysis Method: 353.2

Start Date: 12/28/2023 12:42 | End Date: 12/28/2023 14:52

Lab Sample Id	D/F	Type	Time	Analytes
				NNO32
ZZZZZZ			13:31	
280-185814-4	1	T	13:32	X
280-185814-4 MS	1	T	13:34	X
280-185814-4 MSD	1	T	13:35	X
280-185814-2	1	T	13:36	X
280-185814-3	5	T	13:37	X
280-185814-5	10	T	13:39	X
280-185814-6	1	T	13:40	X
280-185814-7	1	T	13:41	X
ZZZZZZ			13:42	
ZZZZZZ			13:44	
CCV 280-638644/51	1		13:45	X
CCVL 280-638644/52	1		13:46	X
CCB 280-638644/53	1		13:47	X
ZZZZZZ			13:49	
ZZZZZZ			13:50	
280-185814-8	1	T	13:51	X
280-185814-9	1	T	13:52	X
280-185814-10	1	T	13:54	X
280-185814-11	5	T	13:55	X
LCS 280-638644/60	1	T	13:56	X
MB 280-638644/61	1	T	13:57	X
280-185814-12	1	T	13:59	X
280-185814-12 MS	1	T	14:00	X
280-185814-12 MSD	1	T	14:01	X
280-185814-13	1	T	14:02	X
ZZZZZZ			14:04	
ZZZZZZ			14:05	
CCV 280-638644/68	1		14:06	X
CCVL 280-638644/69	1		14:07	X
CCB 280-638644/70	1		14:09	X
ZZZZZZ			14:10	
ZZZZZZ			14:11	
ZZZZZZ			14:12	
ZZZZZZ			14:14	
ZZZZZZ			14:15	
ZZZZZZ			14:16	
ZZZZZZ			14:17	
ZZZZZZ			14:19	

FORM XIII-IN

13-IN
ANALYSIS RUN LOG
GENERAL CHEMISTRY

Lab Name: Eurofins Denver | Job No.: 280-185814-1

SDG No.:

Instrument ID: WC_OI 3700 | Analysis Method: 353.2

Start Date: 12/28/2023 12:42 | End Date: 12/28/2023 14:52

Lab Sample Id	D/F	Type	Time	Analytes
				NNO32
ZZZZZZ			14:20	
ZZZZZZ			14:21	
ZZZZZZ			14:22	
ZZZZZZ			14:24	
ZZZZZZ			14:25	
ZZZZZZ			14:26	
CCV 280-638644/85			14:27	
CCVL 280-638644/86			14:29	
CCB 280-638644/87			14:30	
ZZZZZZ			14:31	
ZZZZZZ			14:32	
ZZZZZZ			14:34	
ZZZZZZ			14:35	
ZZZZZZ			14:36	
ZZZZZZ			14:37	
ZZZZZZ			14:39	
ZZZZZZ			14:40	
ZZZZZZ			14:41	
ZZZZZZ			14:42	
ZZZZZZ			14:44	
ZZZZZZ			14:45	
ZZZZZZ			14:46	
CCV 280-638644/101			14:47	
CCVL 280-638644/102			14:49	
CCB 280-638644/103			14:50	
ZZZZZZ			14:51	
ZZZZZZ			14:52	

Prep Types:
T = Total/NA

FORM XIII-IN

13-IN
ANALYSIS RUN LOG
GENERAL CHEMISTRY

Lab Name: Eurofins Denver Job No.: 280-185814-1

SDG No.:

Instrument ID: WC_IonChrom16 Analysis Method: 9056A

Start Date: 09/26/2023 11:12 End Date: 09/26/2023 15:26

Lab Sample Id	D/F	Type	Time	Analytes																								
				SO4																								
STD1 280-627377/1 IC	1		11:12	X																								
STD2 280-627377/2 IC	1		11:23	X																								
STD3 280-627377/3 IC	1		11:34	X																								
STD4 280-627377/4 IC	1		11:45	X																								
STD5 280-627377/5 IC	1		11:56	X																								
STD6 280-627377/6 IC	1		12:07	X																								
RTC 280-627377/7			12:18																									
ICV 280-627377/8	1		12:29	X																								
ICB 280-627377/9	1		12:40	X																								
ZZZZZZ			12:51																									
ZZZZZZ			13:14																									
ZZZZZZ			13:25																									
ZZZZZZ			13:36																									
ZZZZZZ			13:47																									
ZZZZZZ			13:58																									
ZZZZZZ			14:09																									
ZZZZZZ			14:20																									
ZZZZZZ			14:31																									
ZZZZZZ			14:42																									
ZZZZZZ			14:53																									
ZZZZZZ			15:04																									
CCV 280-627377/22			15:15																									
CCB 280-627377/23			15:26																									

Prep Types:
=

13-IN
ANALYSIS RUN LOG
GENERAL CHEMISTRY

Lab Name: Eurofins Denver Job No.: 280-185814-1

SDG No.:

Instrument ID: WC_IonChrom16 Analysis Method: 9056A

Start Date: 12/21/2023 10:16 End Date: 12/21/2023 19:29

Lab Sample Id	D/F	Type	Time	Analytes
				SO4
CCV 280-638123/1	1		10:16	X
CCB 280-638123/2	1		10:27	X
MRL 280-638123/3	1	T	10:38	X
LCS 280-638123/4	1	T	10:49	X
LCSD 280-638123/5	1	T	11:00	X
MB 280-638123/6	1	T	11:11	X
ZZZZZZ			13:04	
ZZZZZZ			13:15	
ZZZZZZ			13:26	
ZZZZZZ			13:37	
ZZZZZZ			13:48	
ZZZZZZ			13:59	
ZZZZZZ			14:10	
ZZZZZZ			14:21	
280-185814-2	1	T	14:32	X
280-185814-3	1	T	14:43	X
280-185814-7	1	T	14:54	X
280-185814-10	1	T	15:05	X
280-185814-13	1	T	15:16	X
ZZZZZZ			15:27	
CCV 280-638123/21	1		15:38	X
CCB 280-638123/22	1		15:49	X
280-185814-4	1	T	16:00	X
280-185814-4 DU	1	T	16:11	X
280-185814-4 MS	1	T	16:22	X
280-185814-4 MSD	1	T	16:33	X
280-185814-12	1	T	16:44	X
ZZZZZZ			16:55	
ZZZZZZ			17:06	
280-185814-11	5	T	17:17	X
ZZZZZZ			17:28	
280-185814-9	5	T	17:39	X
ZZZZZZ			17:50	
280-185814-8	5	T	18:01	X
280-185814-6	50	T	18:12	X
CCV 280-638123/36	1		18:23	X
CCB 280-638123/37	1		18:34	X
280-185814-5	50	T	18:45	X
ZZZZZZ			18:56	
ZZZZZZ			19:07	
CCV 280-638123/41	1		19:18	X

FORM XIII-IN

13-IN
ANALYSIS RUN LOG
GENERAL CHEMISTRY

Lab Name: Eurofins Denver Job No.: 280-185814-1

SDG No.:

Instrument ID: WC_IonChrom16 Analysis Method: 9056A

Start Date: 12/21/2023 10:16 End Date: 12/21/2023 19:29

Lab Sample Id	D/F	Type	Time	Analytes																									
				SO4																									
CCB 280-638123/42	1		19:29	X																									

Prep Types:
T = Total/NA

GENERAL CHEMISTRY BATCH WORKSHEET

Lab Name: Eurofins Denver Job No.: 280-185814-1

SDG No.:

Batch Number: 638644 Batch Start Date: 12/28/23 12:42 Batch Analyst: Rittenhouse, Ben C

Batch Method: 353.2 Batch End Date:

Lab Sample ID	Client Sample ID	Method Chain	Basis	ClResPres	InitialAmount	FinalAmount	pHChecked	NXN CAL INT 00699	NXN ICV INT 00676
ICV 280-638644/14		353.2		n	100 mL	100 mL	<2		5 mL
ICVL 280-638644/15		353.2		n	100 mL	100 mL	<2		2 mL
ICB 280-638644/16		353.2		n	100 mL	100 mL	<2		
LCS 280-638644/20		353.2		n	100 mL	100 mL	<2	5 mL	
MB 280-638644/21		353.2		n	100 mL	100 mL	<2		
CCV 280-638644/34		353.2		n	100 mL	100 mL	<2	5 mL	
CCVL 280-638644/35		353.2		n	100 mL	100 mL	<2	1 mL	
CCB 280-638644/36		353.2		n	100 mL	100 mL	<2		
280-185814-A-4	TV044-MW141223A	353.2	T	n	100 mL	100 mL	<2		
280-185814-A-4 MS	TV044-MW141223A	353.2	T	n	5 mL	5 mL	<2	0.2 mL	
280-185814-A-4 MSD	TV044-MW141223A	353.2	T	n	5 mL	5 mL	<2	0.2 mL	
280-185814-A-2	TV044-EB011223	353.2	T	n	100 mL	100 mL	<2		
280-185814-A-3	TV044-MW81223A	353.2	T	n	100 mL	100 mL	<2		
280-185814-A-5	TV044-MW151223A	353.2	T	n	100 mL	100 mL	<2		
280-185814-A-6	TV044-MW22S1223A	353.2	T	n	100 mL	100 mL	<2		
280-185814-A-7	TV044-MW22D1223A	353.2	T	n	100 mL	100 mL	<2		
CCV 280-638644/51		353.2		n	100 mL	100 mL	<2	5 mL	
CCVL 280-638644/52		353.2		n	100 mL	100 mL	<2	1 mL	
CCB 280-638644/53		353.2		n	100 mL	100 mL	<2		
280-185814-A-8	TV044-MW111223A	353.2	T	n	100 mL	100 mL	<2		
280-185814-A-9	TV044-MW111223C	353.2	T	n	100 mL	100 mL	<2		
280-185814-A-10	TV044-MW131223A	353.2	T	n	100 mL	100 mL	<2		
280-185814-A-11	TV044-MW91223A	353.2	T	n	100 mL	100 mL	<2		
LCS 280-638644/60		353.2		n	100 mL	100 mL	<2	5 mL	

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

GENERAL CHEMISTRY BATCH WORKSHEET

Lab Name: Eurofins Denver Job No.: 280-185814-1

SDG No.:

Batch Number: 638644 Batch Start Date: 12/28/23 12:42 Batch Analyst: Rittenhouse, Ben C

Batch Method: 353.2 Batch End Date:

Lab Sample ID	Client Sample ID	Method Chain	Basis	ClResPres	InitialAmount	FinalAmount	pHChecked	NXN CAL INT 00699	NXN ICV INT 00676
MB 280-638644/61		353.2		n	100 mL	100 mL	<2		
280-185814-A-12	TV044-MW23D1223A	353.2	T	n	100 mL	100 mL	<2		
280-185814-A-12 MS	TV044-MW23D1223A	353.2	T	n	5 mL	5 mL	<2	0.2 mL	
280-185814-A-12 MSD	TV044-MW23D1223A	353.2	T	n	5 mL	5 mL	<2	0.2 mL	
280-185814-A-13	TV044-EB021223	353.2	T	n	100 mL	100 mL	<2		
CCV 280-638644/68		353.2		n	100 mL	100 mL	<2	5 mL	
CCVL 280-638644/69		353.2		n	100 mL	100 mL	<2	1 mL	
CCB 280-638644/70		353.2		n	100 mL	100 mL	<2		

Batch Notes	
pH Indicator ID	HC316719
Buffer Reagent ID	NOXT Buffer_00248
Color Reagent ID	NOXT CR_00142
Pipette/Syringe/Dispenser ID	5000 ix
Cadmium Column Lot ID	Q11513937102-463-1023
Copper Sulfate ID	CUSO4 NOXT_00020
Hydrochloric Acid ID	0.5N HCL_00101
Batch Comment	BCR

Basis	Basis Description
T	Total/NA

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

GENERAL CHEMISTRY BATCH WORKSHEET

Lab Name: Eurofins Denver Job No.: 280-185814-1

SDG No.:

Batch Number: 627377 Batch Start Date: 09/26/23 11:12 Batch Analyst: Collins, Michael E

Batch Method: 9056A Batch End Date:

Lab Sample ID	Client Sample ID	Method Chain	Basis	InitialAmount	FinalAmount	Cl ICV Std 00006	IC CAL cl/so4 00500	IC Cal low 00730	IC ICV 5 00416
STD1 280-627377/1 IC		9056A		10 mL	10 mL		0.04 mL	0.04 mL	
STD2 280-627377/2 IC		9056A		10 mL	10 mL		0.1 mL	0.1 mL	
STD3 280-627377/3 IC		9056A		10 mL	10 mL		0.2 mL	0.2 mL	
STD4 280-627377/4 IC		9056A		10 mL	10 mL		2.4 mL	0.8 mL	
STD5 280-627377/5 IC		9056A		10 mL	10 mL		4.8 mL	1.6 mL	
STD6 280-627377/6 IC		9056A		10 mL	10 mL		8 mL	2 mL	
ICV 280-627377/8		9056A		10 mL	10 mL	0.8 mL			0.8 mL
ICB 280-627377/9		9056A		10 mL	10 mL				

Lab Sample ID	Client Sample ID	Method Chain	Basis	IC SO4 ICV 00024					
STD1 280-627377/1 IC		9056A							
STD2 280-627377/2 IC		9056A							
STD3 280-627377/3 IC		9056A							
STD4 280-627377/4 IC		9056A							
STD5 280-627377/5 IC		9056A							
STD6 280-627377/6 IC		9056A							
ICV 280-627377/8		9056A		0.8 mL					
ICB 280-627377/9		9056A							

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

GENERAL CHEMISTRY BATCH WORKSHEET

Lab Name: Eurofins Denver Job No.: 280-185814-1

SDG No.:

Batch Number: 627377 Batch Start Date: 09/26/23 11:12 Batch Analyst: Collins, Michael E

Batch Method: 9056A Batch End Date:

Batch Notes	
Filter ID	SF020E
Pipette/Syringe/Dispenser ID	ARM5000, 1000HEX, 200CJ, 100IC, ICM5000
Sufficient Volume for Batch QC	yes
Eluent 1 ID	075778
Regeneration Solution ID	221250118316
Batch Comment	MEC

Basis	Basis Description

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

GENERAL CHEMISTRY BATCH WORKSHEET

Lab Name: Eurofins Denver Job No.: 280-185814-1

SDG No.:

Batch Number: 638123 Batch Start Date: 12/21/23 10:16 Batch Analyst: Sherman, Erik J

Batch Method: 9056A Batch End Date:

Lab Sample ID	Client Sample ID	Method Chain	Basis	InitialAmount	FinalAmount	IC CAL cl/so4 00515	IC Cal low 00749	IC LCS 01998	ICMS/MSD WEEK 00850
CCV 280-638123/1		9056A		10 mL	10 mL			10 mL	
CCB 280-638123/2		9056A		10 mL	10 mL				
MRL 280-638123/3		9056A		10 mL	10 mL	0.2 mL	0.1 mL		
LCS 280-638123/4		9056A		10 mL	10 mL			10 mL	
LCSD 280-638123/5		9056A		10 mL	10 mL			10 mL	
MB 280-638123/6		9056A		10 mL	10 mL				
280-185814-C-2	TV044-EB011223	9056A	T	10 mL	10 mL				
280-185814-C-3	TV044-MW81223A	9056A	T	10 mL	10 mL				
280-185814-C-7	TV044-MW22D1223A	9056A	T	10 mL	10 mL				
280-185814-C-10	TV044-MW131223A	9056A	T	10 mL	10 mL				
280-185814-C-13	TV044-EB021223	9056A	T	10 mL	10 mL				
CCV 280-638123/21		9056A		10 mL	10 mL			10 mL	
CCB 280-638123/22		9056A		10 mL	10 mL				
280-185814-C-4	TV044-MW141223A	9056A	T	10 mL	10 mL				
280-185814-C-4 DU	TV044-MW141223A	9056A	T	10 mL	10 mL				
280-185814-C-4 MS	TV044-MW141223A	9056A	T	10 mL	10 mL				0.1 mL
280-185814-C-4 MSD	TV044-MW141223A	9056A	T	10 mL	10 mL				0.1 mL
280-185814-C-12	TV044-MW23D1223A	9056A	T	10 mL	10 mL				
280-185814-C-11	TV044-MW91223A	9056A	T	10 mL	10 mL				
280-185814-C-9	TV044-MW111223C	9056A	T	10 mL	10 mL				
280-185814-C-8	TV044-MW111223A	9056A	T	10 mL	10 mL				
280-185814-C-6	TV044-MW22S1223A	9056A	T	10 mL	10 mL				
CCV 280-638123/36		9056A		10 mL	10 mL			10 mL	
CCB 280-638123/37		9056A		10 mL	10 mL				
280-185814-C-5	TV044-MW151223A	9056A	T	10 mL	10 mL				

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

GENERAL CHEMISTRY BATCH WORKSHEET

Lab Name: Eurofins Denver Job No.: 280-185814-1

SDG No.:

Batch Number: 638123 Batch Start Date: 12/21/23 10:16 Batch Analyst: Sherman, Erik J

Batch Method: 9056A Batch End Date:

Lab Sample ID	Client Sample ID	Method Chain	Basis	InitialAmount	FinalAmount	IC CAL cl/so4 00515	IC Cal low 00749	IC LCS 01998	ICMS/MSD WEEK 00850
CCV 280-638123/41		9056A		10 mL	10 mL			10 mL	
CCB 280-638123/42		9056A		10 mL	10 mL				

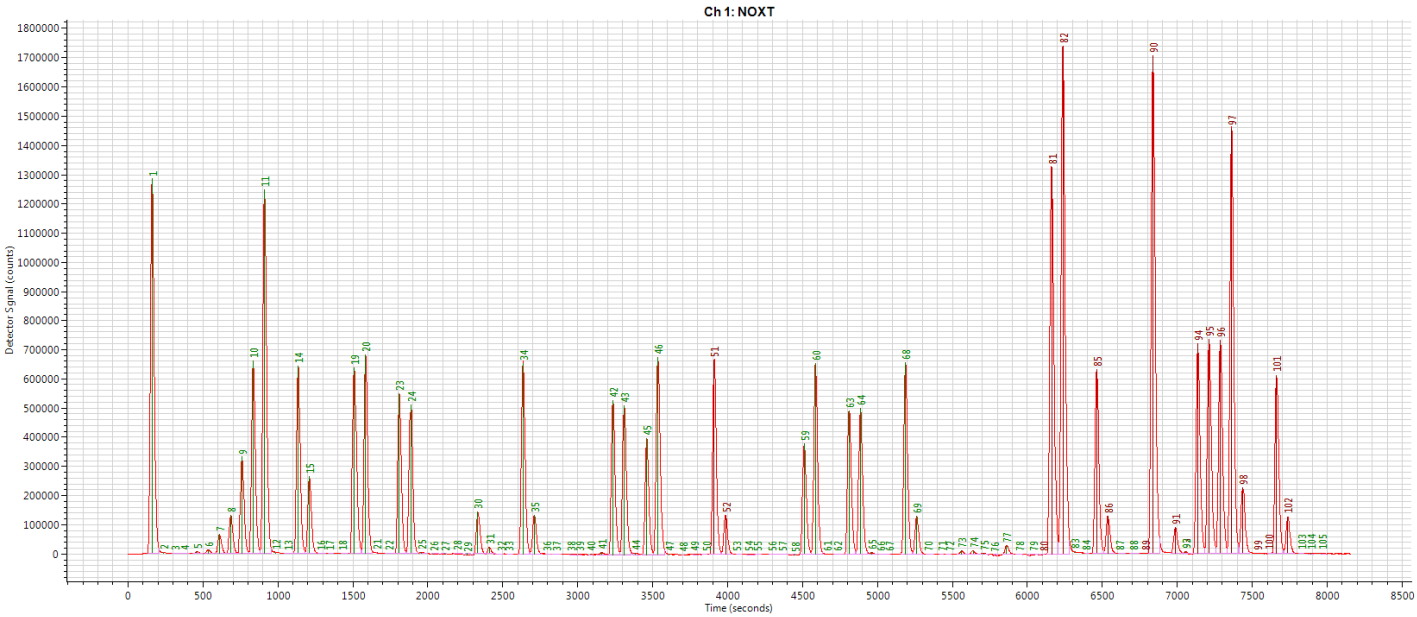
Batch Notes	
Filter ID	SF020E
Pipette/Syringe/Dispenser ID	1000HEX, 200CJ, IC100, AB8A100, ICM5000, PAIN
Sufficient Volume for Batch QC	Y
Eluent 1 ID	075778
Regeneration Solution ID	221250118316
Batch Comment	gm

Basis	Basis Description
T	Total/NA

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

FlowView - Result

InstrumentID: B918837629
Operator ID: BCR
Methodology: EPA 353.2
File Version: 111
Created On: 12/28/2023 12:42:42 PM
Last Modified On: 12/28/2023 3:25:52 PM
Exported on 12/28/2023 3:28:34 PM



Date/Time	Cup #	Peak #	Sample Name	M-Dil	Calc (mg/L)	Type	Peak Response	Avg Response	Avg Ca
12/28/2023 12:42:56 PM	910	1	SYNC	1	10.5822	SYNC	1286371.1	1286371.1	
12/28/2023 12:44:12 PM	900	2	Baseline	1	0.0380	RB	3186.0	3186.0	
12/28/2023 12:45:27 PM	900	3	Baseline	1	0.0212	RB	970.6	970.6	
12/28/2023 12:46:42 PM	903	4	Cal 0.00	1	0.0000	STD1	410.2	410.2	
12/28/2023 12:47:57 PM	904	5	Cal 0.05	1	0.0500	STD2	6619.4	6619.4	
12/28/2023 12:49:12 PM	905	6	Cal 0.1	1	0.1000	STD3	12532.1	12532.1	
12/28/2023 12:50:27 PM	906	7	Cal 0.5	1	0.5000	STD4	65142.9	65142.9	
12/28/2023 12:51:42 PM	907	8	Cal 1.0	1	1.0000	STD5	131979.5	131979.5	
12/28/2023 12:52:57 PM	908	9	Cal 2.5	1	2.5000	STD6	331937.3	331937.3	
12/28/2023 12:54:12 PM	909	10	Cal 5.0	1	5.0000	STD7	660451.8	660451.8	
12/28/2023 12:55:27 PM	910	11	Cal 10.0	1	10.0000	STD8	1245890.8	1245890.8	
12/28/2023 12:56:42 PM	900	12	Baseline	1	0.0381	RB	3186.2	3186.2	
12/28/2023 12:57:57 PM	900	13	Baseline	1	0.0230	RB	1099.0	1099.0	
12/28/2023 12:59:12 PM	902	14	ICV	1	4.8883	ICV	642359.3	642359.3	
12/28/2023 1:00:27 PM	901	15	ICVL	1	1.9632	User1	264553.3	264553.3	
12/28/2023 1:01:42 PM	900	16	ICB	1	0.0300	ICB	2059.9	2059.9	
12/28/2023 1:02:57 PM	900	17	Basline	1	0.0189	RB	531.7	531.7	
12/28/2023 1:04:12 PM	900	18	Basline	1	0.0290	RB	1922.1	1922.1	
12/28/2023 1:05:27 PM	101	19	5000 PPB NO2	1	4.8201	EFFCHK	633819.0	633819.0	
12/28/2023 1:06:42 PM	909	20	LCS	1	5.1884	LCS	679806.0	679806.0	
12/28/2023 1:07:57 PM	900	21	MB	1	0.0317	MB	2296.3	2296.3	
12/28/2023 1:09:12 PM	102	22	280-185797-A-2	1	0.0258	SPL	1483.9	1483.9	
12/28/2023 1:10:27 PM	103	23	ms 280-185797-A-2	1	4.1252	SPL	546048.5	546048.5	
12/28/2023 1:11:42 PM	104	24	msd 280-185797-A-2	1	3.8225	SPL	507399.7	507399.7	

Date/Time	Cup #	Peak #	Sample Name	M-Dil	Calc (mg/L)	Type	Peak Response	Avg Response	Avg Ca
12/28/2023 1:12:57 PM	105	25	280-185797-A-3	1	0.0485	SPL	4628.5	4628.5	
12/28/2023 1:14:12 PM	106	26	280-185797-A-4	1	0.0075	SPL	-1047.4	-1047.4	
12/28/2023 1:15:27 PM	107	27	280-185797-A-5	1	0.0063	SPL	-1219.5	-1219.5	
12/28/2023 1:16:42 PM	108	28	280-185797-A-6	1	0.0120	SPL	-422.8	-422.8	
12/28/2023 1:17:57 PM	109	29	280-185797-A-7	1	-0.0176	SPL	-4528.4	-4528.4	
12/28/2023 1:19:12 PM	110	30	280-185797-A-8	1	1.0432	SPL	140903.4	140903.4	
12/28/2023 1:20:27 PM	111	31	280-185797-A-9	1	0.1640	SPL	20592.0	20592.0	
12/28/2023 1:21:42 PM	900	32	Basline	1	0.0253	RB	1420.9	1420.9	
12/28/2023 1:22:57 PM	900	33	Baseline	1	0.0212	RB	844.0	844.0	
12/28/2023 1:24:12 PM	909	34	CCV	1	4.9610	CCV1	651459.5	651459.5	
12/28/2023 1:25:27 PM	907	35	CCVL	1	0.9816	CCV2	132549.5	132549.5	
12/28/2023 1:26:42 PM	900	36	CCB	1	0.0203	CCB	728.0	728.0	
12/28/2023 1:27:57 PM	900	37	Basline	1	0.0229	RB	1078.1	1078.1	
12/28/2023 1:29:12 PM	900	38	Basline	1	0.0320	RB	2343.7	2343.7	
12/28/2023 1:30:27 PM	112	39	280-185797-A-10	1	0.0231	SPL	1106.0	1106.0	
12/28/2023 1:31:42 PM	113	40	280-185797-A-11	1	0.0228	SPL	1070.1	1070.1	
12/28/2023 1:32:57 PM	114	41	280-185814-A-4	1	0.0670	SPL	7189.6	7189.6	
12/28/2023 1:34:12 PM	115	42	ms 280-185814-A-4	1	3.9704	SPL	526311.0	526311.0	
12/28/2023 1:35:27 PM	116	43	msd 280-185814-A-4	1	3.8423	SPL	509938.5	509938.5	
12/28/2023 1:36:42 PM	117	44	280-185814-A-2	1	0.0614	SPL	6407.7	6407.7	
12/28/2023 1:37:57 PM	118	45	280-185814-A-3	5	14.8956	SPL	398410.1	398410.1	
12/28/2023 1:39:12 PM	119	46	280-185814-A-5	10	51.5851	SPL	676088.1	676088.1	
12/28/2023 1:40:27 PM	120	47	280-185814-A-6	1	0.0276	SPL	1729.3	1729.3	
12/28/2023 1:41:42 PM	121	48	280-185814-A-7	1	0.0185	SPL	469.9	469.9	
12/28/2023 1:42:57 PM	900	49	Basline	1	0.0211	RB	832.8	832.8	
12/28/2023 1:44:12 PM	900	50	Baseline	1	0.0201	RB	689.7	689.7	
12/28/2023 1:45:27 PM	909	51	CCV	1	5.0669	CCV1	664673.3	664673.3	
12/28/2023 1:46:42 PM	907	52	CCVL	1	0.9966	CCV2	134573.6	134573.6	
12/28/2023 1:47:57 PM	900	53	CCB	1	0.0267	CCB	1608.1	1608.1	
12/28/2023 1:49:12 PM	900	54	Basline	1	0.0270	RB	1650.4	1650.4	
12/28/2023 1:50:27 PM	900	55	Basline	1	0.0210	RB	817.0	817.0	
12/28/2023 1:51:42 PM	122	56	280-185814-A-8	1	0.0213	SPL	855.1	855.1	
12/28/2023 1:52:57 PM	123	57	280-185814-A-9	1	0.0249	SPL	1352.6	1352.6	
12/28/2023 1:54:12 PM	124	58	280-185814-A-10	1	0.0043	SPL	-1496.1	-1496.1	
12/28/2023 1:55:27 PM	125	59	280-185814-A-11	5	14.1239	SPL	378254.9	378254.9	
12/28/2023 1:56:42 PM	909	60	LCS	1	4.9770	LCS	653454.6	653454.6	
12/28/2023 1:57:57 PM	900	61	MB	1	0.0262	MB	1533.8	1533.8	
12/28/2023 1:59:12 PM	126	62	280-185814-A-12	1	0.0271	SPL	1656.7	1656.7	
12/28/2023 2:00:27 PM	127	63	ms 280-185814-A-12	1	3.7005	SPL	491749.8	491749.8	
12/28/2023 2:01:42 PM	128	64	msd 280-185814-A-12	1	3.7718	SPL	500899.4	500899.4	
12/28/2023 2:02:57 PM	129	65	280-185814-A-13	1	0.0556	SPL	5610.3	5610.3	
12/28/2023 2:04:12 PM	900	66	Basline	1	0.0206	RB	760.7	760.7	
12/28/2023 2:05:27 PM	900	67	Baseline	1	0.0203	RB	718.9	718.9	
12/28/2023 2:06:42 PM	909	68	CCV	1	5.0023	CCV1	656615.7	656615.7	
12/28/2023 2:07:57 PM	907	69	CCVL	1	0.9778	CCV2	132032.3	132032.3	
12/28/2023 2:09:12 PM	900	70	CCB	1	0.0219	CCB	941.1	941.1	
12/28/2023 2:10:27 PM	900	71	Basline	1	0.0198	RB	659.4	659.4	
12/28/2023 2:11:42 PM	900	72	Basline	1	0.0187	RB	498.0	498.0	
12/28/2023 2:12:57 PM	130	73	280-185816-B-1	1	0.1076	SPL	12795.7	12795.7	
12/28/2023 2:14:12 PM	131	74	280-185816-B-2	1	0.1142	SPL	13705.8	13705.8	
12/28/2023 2:15:27 PM	132	75	280-185962-D-1	1	0.0424	SPL	3774.2	3774.2	
12/28/2023 2:16:42 PM	133	76	280-185837-C-1	1	0.0095	SPL	-779.0	-779.0	
12/28/2023 2:17:57 PM	134	77	280-185837-C-2	1	0.2345	SPL	30306.5	30306.5	
12/28/2023 2:19:12 PM	135	78	280-185837-C-3	1	0.0280	SPL	1784.4	1784.4	
12/28/2023 2:20:27 PM	136	79	280-185837-C-4	1	0.0164	SPL	180.6	180.6	
12/28/2023 2:21:42 PM	137	80	280-185837-D-5	1	0.0187	SPL	495.1	495.1	

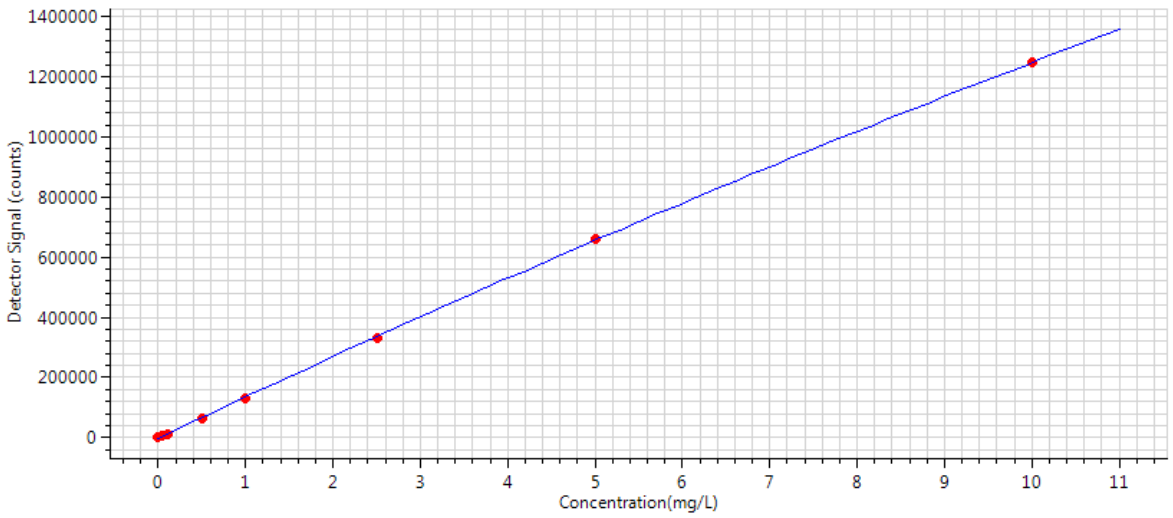
Date/Time	Cup #	Peak #	Sample Name	M-Dil	Calc (mg/L)	Type	Peak Response	Avg Response	Avg Ca
12/28/2023 2:22:57 PM	138	81	280-185827-A-1	50	537.1232	SPL	1328509.8	1328509.8	
12/28/2023 2:24:12 PM	139	82	280-185827-A-1 MS	50	736.1802	SPL	1741805.1	1741805.1	
12/28/2023 2:25:27 PM	900	83	Baseline	1	0.0464	RB	4333.7	4333.7	
12/28/2023 2:26:42 PM	900	84	Baseline	1	0.0221	RB	965.9	965.9	
12/28/2023 2:27:57 PM	909	85	CCV	1	4.7787	CCV1	628629.1	628629.1	
12/28/2023 2:29:12 PM	907	86	CCVL	1	0.9486	CCV2	128053.6	128053.6	
12/28/2023 2:30:27 PM	900	87	CCB	1	0.0175	CCB	336.7	336.7	
12/28/2023 2:31:42 PM	900	88	Baseline	1	0.0181	RB	421.0	421.0	
12/28/2023 2:32:57 PM	900	89	Basline	1	0.0172	RB	288.9	288.9	
12/28/2023 2:34:12 PM	140	90	280-185827-A-1 MSD	50	717.5393	SPL	1704933.6	1704933.6	
12/28/2023 2:35:27 PM	141	91	280-185827-A-2	1	0.6585	SPL	88524.1	88524.1	
12/28/2023 2:36:42 PM	142	92	280-185827-A-3	1	0.0630	SPL	6628.8	6628.8	
12/28/2023 2:37:57 PM	143	93	280-185873-A-1	1	0.0630	SPL	6628.8	6628.8	
12/28/2023 2:39:12 PM	144	94	280-185873-B-2	10	54.8925	SPL	717097.3	717097.3	
12/28/2023 2:40:27 PM	145	95	280-185873-B-3	10	56.1244	SPL	732295.8	732295.8	
12/28/2023 2:41:42 PM	146	96	280-185873-B-4	10	55.9549	SPL	730207.2	730207.2	
12/28/2023 2:42:57 PM	147	97	280-185833-C-1	1	11.9294	SPL	1456245.1	1456245.1	
12/28/2023 2:44:12 PM	148	98	280-186069-I-1	1	1.6582	SPL	223810.1	223810.1	
12/28/2023 2:45:27 PM	900	99	Baseline	1	0.0250	RB	1366.2	1366.2	
12/28/2023 2:46:42 PM	900	100	Baseline	1	0.0192	RB	571.8	571.8	
12/28/2023 2:47:57 PM	909	101	CCV	1	4.6270	CCV1	609561.2	609561.2	
12/28/2023 2:49:12 PM	907	102	CCVL	1	0.9141	CCV2	123374.9	123374.9	
12/28/2023 2:50:27 PM	900	103	CCB	1	0.0166	CCB	209.1	209.1	
12/28/2023 2:51:42 PM	900	104	Baseline	1	0.0202	RB	710.2	710.2	
12/28/2023 2:52:57 PM	900	105	Baseline	1	0.0245	RB	1296.7	1296.7	

Calibration Results - Channel1

Calibration Summary

Curve Fit: =	Second Order		
R^2: =	0.99996089	a: =	-1.361768E+003
RF: =	n/a	b: =	1.384922E+005
Offset:	n/a	c:	-2.088730E+003
HLCAVG:	0.00000000	LHCAVG:	0.00000000

Calibration Details



Name	Type	Std Conc(mg/L)	Avg Height	Calc Avg Conc(mg/L)	%RSD	Flags	Date/Time
Cal 0.00	STD1	0.0000	410.2	0.0180	0.0		12/28/2023 12:46:42 PM
Cal 0.05	STD2	0.0500	6619.4	0.0629	0.0		12/28/2023 12:47:57 PM
Cal 0.1	STD3	0.1000	12532.1	0.1057	0.0		12/28/2023 12:49:12 PM
Cal 0.5	STD4	0.5000	65142.9	0.4878	0.0		12/28/2023 12:50:27 PM
Cal 1.0	STD5	1.0000	131979.5	0.9775	0.0		12/28/2023 12:51:42 PM
Cal 2.5	STD6	2.5000	331937.3	2.4720	0.0		12/28/2023 12:52:57 PM
Cal 5.0	STD7	5.0000	660451.8	5.0330	0.0		12/28/2023 12:54:12 PM
Cal 10.0	STD8	10.0000	1245890.8	9.9931	0.0		12/28/2023 12:55:27 PM

Eurofins Denver
Target Compound Quantitation Report

Data File: \\chromfs\Denver\ChromData\WC_IonChrom16\20230926-125815.b\280-0125815-001_03_CD_1_Total.d
Lims ID: STD1
Client ID:
Sample Type: IC Calib Level: 1
Inject. Date: 26-Sep-2023 11:12:00 ALS Bottle#: 0 Worklist Smp#: 1
Injection Vol: 5.0 ul Dil. Factor: 1.0000
Sample Info: 280-0125815-001
Misc. Info.: std1
Operator ID: Instrument ID: WC_IonChrom16
Sublist: chrom-Anions_IC16*sub3

Method: \\chromfs\Denver\ChromData\WC_IonChrom16\20230926-125815.b\Anions_IC16.m
Limit Group: Wet - Anions 28D
Last Update: 03-Oct-2023 14:40:45 Calib Date: 26-Sep-2023 12:07:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Denver\ChromData\WC_IonChrom16\20230926-125815.b\280-0125815-006_08_CD_1_Total.d

Column 1 : Det: 0005
Process Host: CTX1622

First Level Reviewer: XAY4 Date: 03-Oct-2023 14:31:14

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
1 Fluoride	2.137	2.150	-0.013	1665969	0.2000	0.2257	
2 Chloride	3.265	3.260	0.005	5455787	1.00	1.10	
3 Nitrite as N	4.042	4.052	-0.010	2891822	NC	NC	
7 Orthophosphate as P		4.713			ND	ND	
4 Bromide	5.740	5.725	0.015	340607	0.2000	0.2337	Ma
6 Sulfate	6.572	6.377	0.195	3821073	1.00	1.14	a
5 Nitrate as N	6.912	6.842	0.070	2434383	NC	NC	a

QC Flag Legend

Processing Flags
NC - Not Calibrated
ND - Not Detected or Marked ND
Review Flags
M - Manually Integrated
a - User Assigned ID

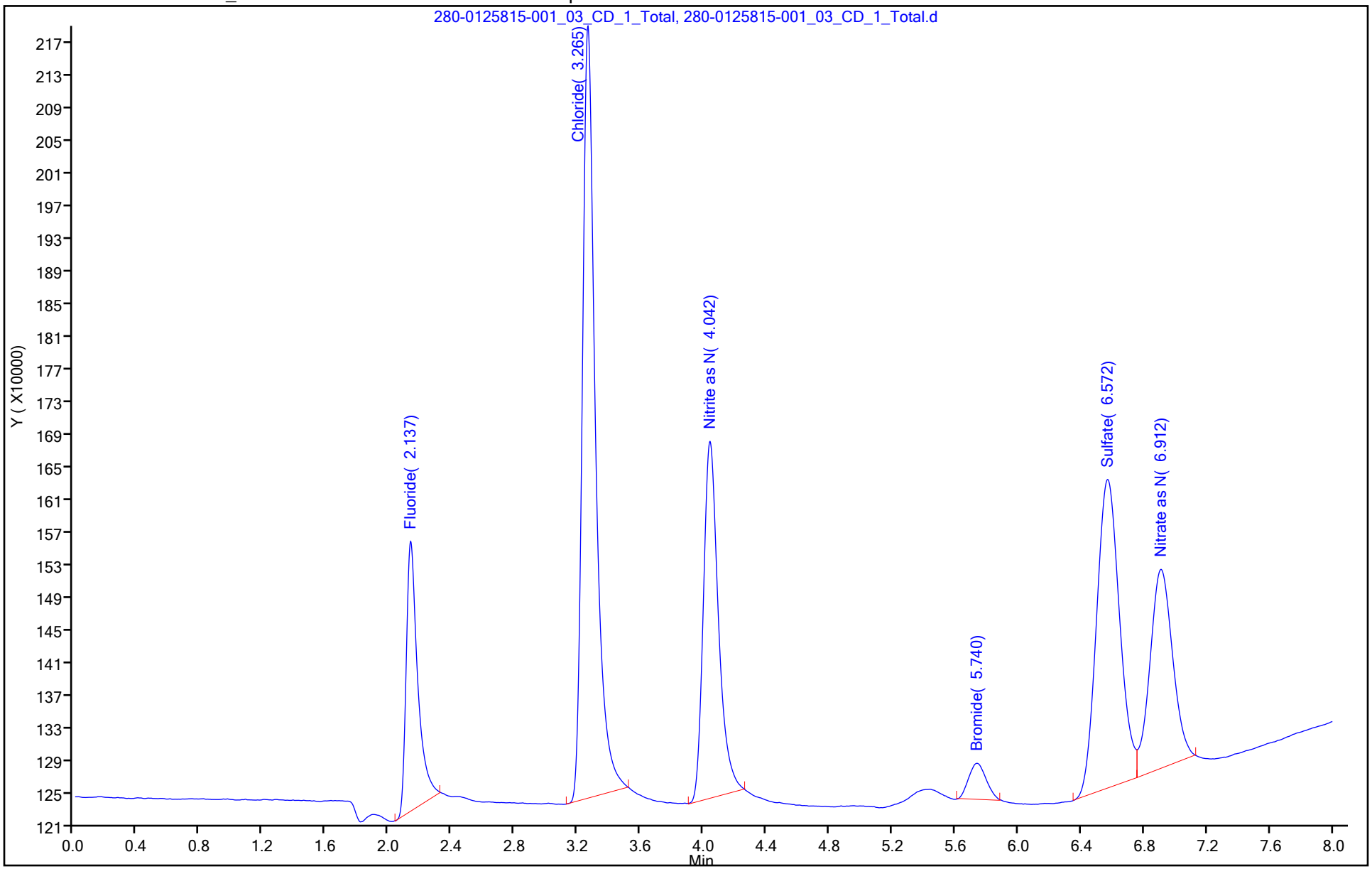
Reagents:

IC Cal low_00730 Amount Added: 0.04 Units: mL
IC CAL cl/so4_00500 Amount Added: 0.04 Units: mL

Report Date: 03-Oct-2023 14:40:45 Chrom Revision: 2.3 22-Sep-2023 11:33:50

Eurofins Denver

Data File:	\\chromfs\Denver\ChromData\WC_IonChrom16\20230926-125815.b\280-0125815-001_03_CD_1_Total.d				
Injection Date:	26-Sep-2023 11:12:00	Instrument ID:	WC_IonChrom16	Operator ID:	
Lims ID:	STD1			Worklist Smp#:	1
Client ID:					
Injection Vol:	5.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	Anions_IC16	Limit Group:	Wet - Anions 28D		



12/29/2023
12:08 PM

Manual Integration/User Assign Peak Report

Eurofins Denver

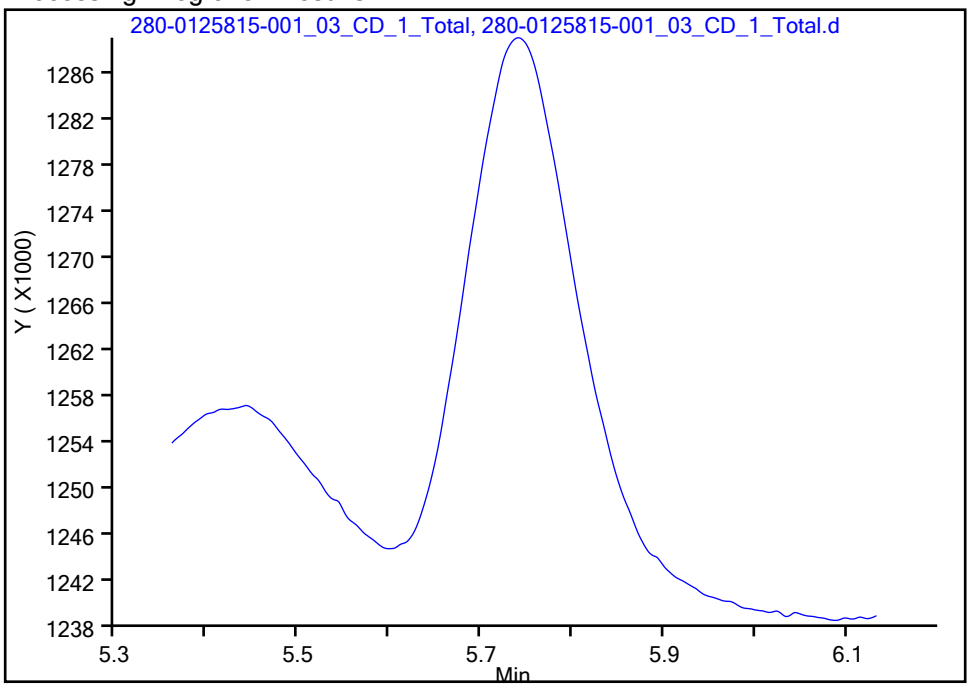
Data File: \\chromfs\Denver\ChromData\WC_IonChrom16\20230926-125815.b\280-0125815-001_03_CD_1_Total.d
Injection Date: 26-Sep-2023 11:12:00 Instrument ID: WC_IonChrom16
Lims ID: STD1
Client ID:
Operator ID: ALS Bottle#: 0 Worklist Smp#: 1
Injection Vol: 5.0 ul Dil. Factor: 1.0000
Method: Anions_IC16 Limit Group: Wet - Anions 28D
Column: Detector 0005

4 Bromide, CAS: 24959-67-9

Signal: 1

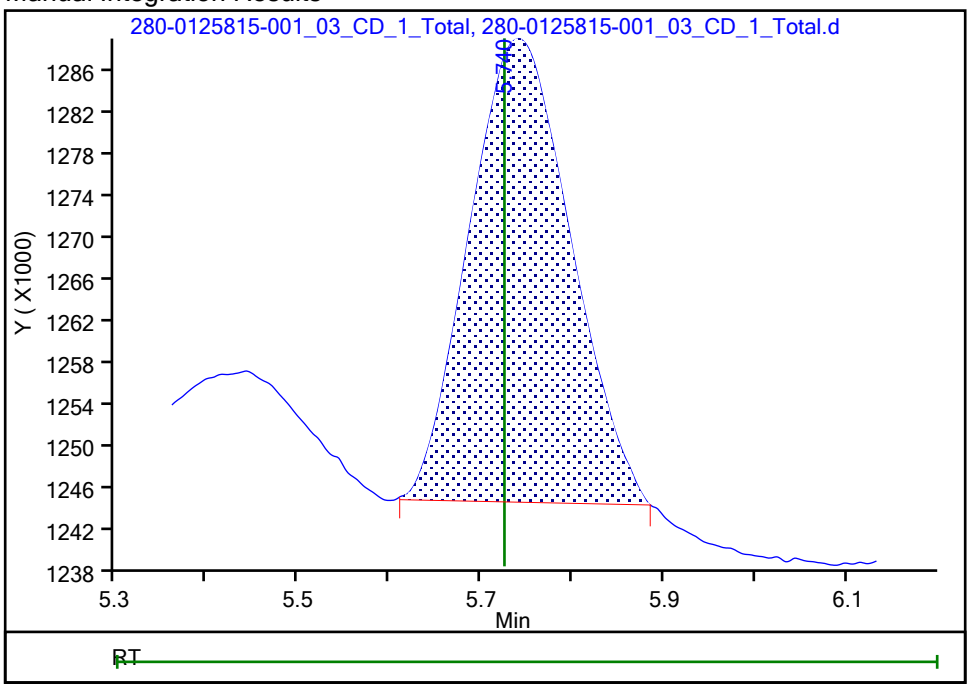
Not Detected
Expected RT: 5.73

Processing Integration Results



Manual Integration Results

RT: 5.74
Area: 340607
Amount: 0.233721
Amount Units: ug/ml



Reviewer: XAY4, 03-Oct-2023 14:38:12 -06:00:00 (UTC)
Audit Action: Manually Integrated Audit Reason: Baseline Smoothing

Manual Integration/User Assign Peak Report

Eurofins Denver

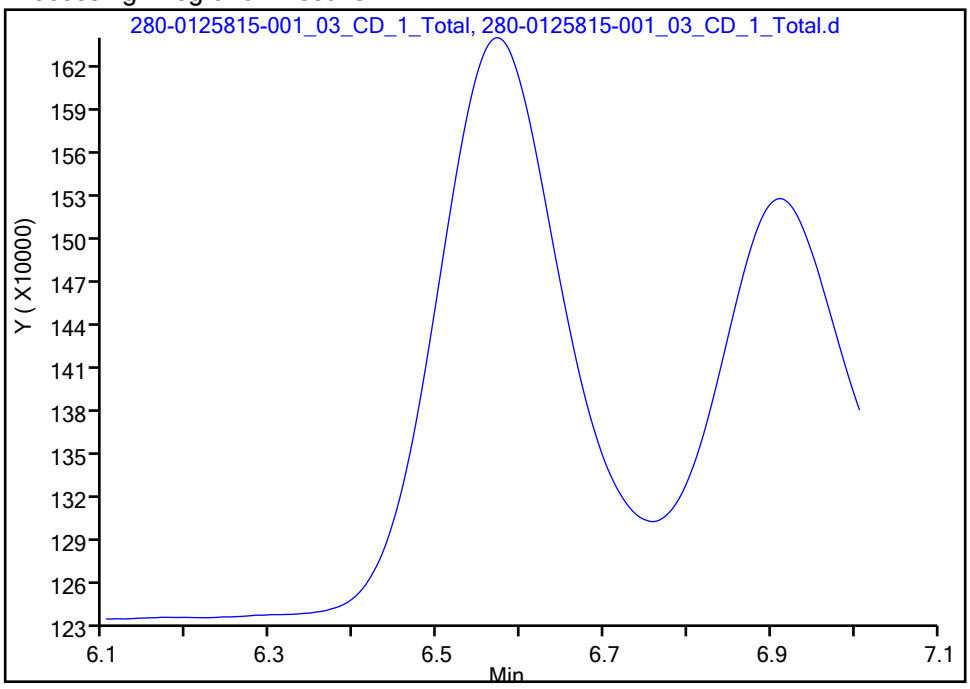
Data File: \\chromfs\Denver\ChromData\WC_IonChrom16\20230926-125815.b\280-0125815-001_03_CD_1_Total.d
Injection Date: 26-Sep-2023 11:12:00 Instrument ID: WC_IonChrom16
Lims ID: STD1
Client ID:
Operator ID: ALS Bottle#: 0 Worklist Smp#: 1
Injection Vol: 5.0 ul Dil. Factor: 1.0000
Method: Anions_IC16 Limit Group: Wet - Anions 28D
Column: Detector 0005

6 Sulfate, CAS: 14808-79-8

Signal: 1

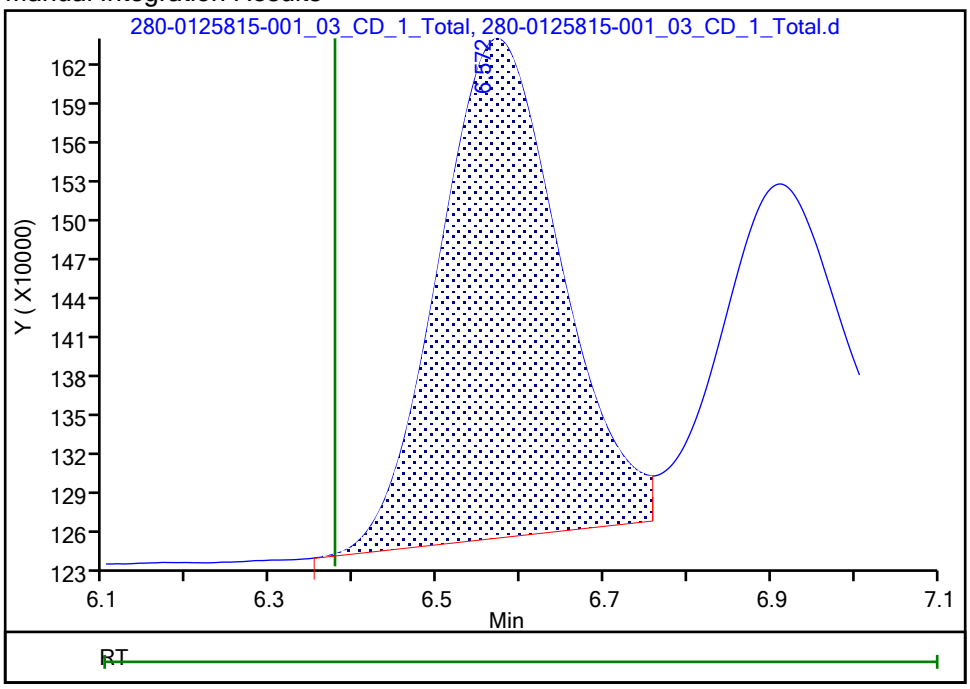
Not Detected
Expected RT: 6.38

Processing Integration Results



Manual Integration Results

RT: 6.57
Area: 3821073
Amount: 1.143252
Amount Units: ug/ml



Reviewer: LVW8, 26-Sep-2023 12:22:48 -06:00:00 (UTC)
Audit Action: Assigned Compound ID Audit Reason: Peak assignment corrected

Eurofins Denver
Target Compound Quantitation Report

Data File: \\chromfs\Denver\ChromData\WC_IonChrom16\20230926-125815.b\280-0125815-002_04_CD_1_Total.d
Lims ID: STD2
Client ID:
Sample Type: IC Calib Level: 2
Inject. Date: 26-Sep-2023 11:23:00 ALS Bottle#: 0 Worklist Smp#: 2
Injection Vol: 5.0 ul Dil. Factor: 1.0000
Sample Info: 280-0125815-002
Misc. Info.: std2
Operator ID: Instrument ID: WC_IonChrom16
Sublist: chrom-Anions_IC16*sub3

Method: \\chromfs\Denver\ChromData\WC_IonChrom16\20230926-125815.b\Anions_IC16.m
Limit Group: Wet - Anions 28D
Last Update: 03-Oct-2023 14:40:46 Calib Date: 26-Sep-2023 12:07:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Denver\ChromData\WC_IonChrom16\20230926-125815.b\280-0125815-006_08_CD_1_Total.d

Column 1 : Det: 0005
Process Host: CTX1622

First Level Reviewer: LVW8 Date: 26-Sep-2023 12:22:40

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
1 Fluoride	2.138	2.150	-0.012	4748857	0.5000	0.4710	
2 Chloride	3.267	3.260	0.007	15235198	2.50	2.39	
3 Nitrite as N	4.043	4.052	-0.009	8321667	NC	NC	
7 Orthophosphate as P		4.713			ND	ND	
4 Bromide	5.740	5.725	0.015	969541	0.5000	0.4880	Ma
6 Sulfate	6.565	6.377	0.188	10405977	2.50	2.35	a
5 Nitrate as N	6.905	6.842	0.063	7106928	NC	NC	a

QC Flag Legend

Processing Flags
NC - Not Calibrated
ND - Not Detected or Marked ND
Review Flags
M - Manually Integrated
a - User Assigned ID

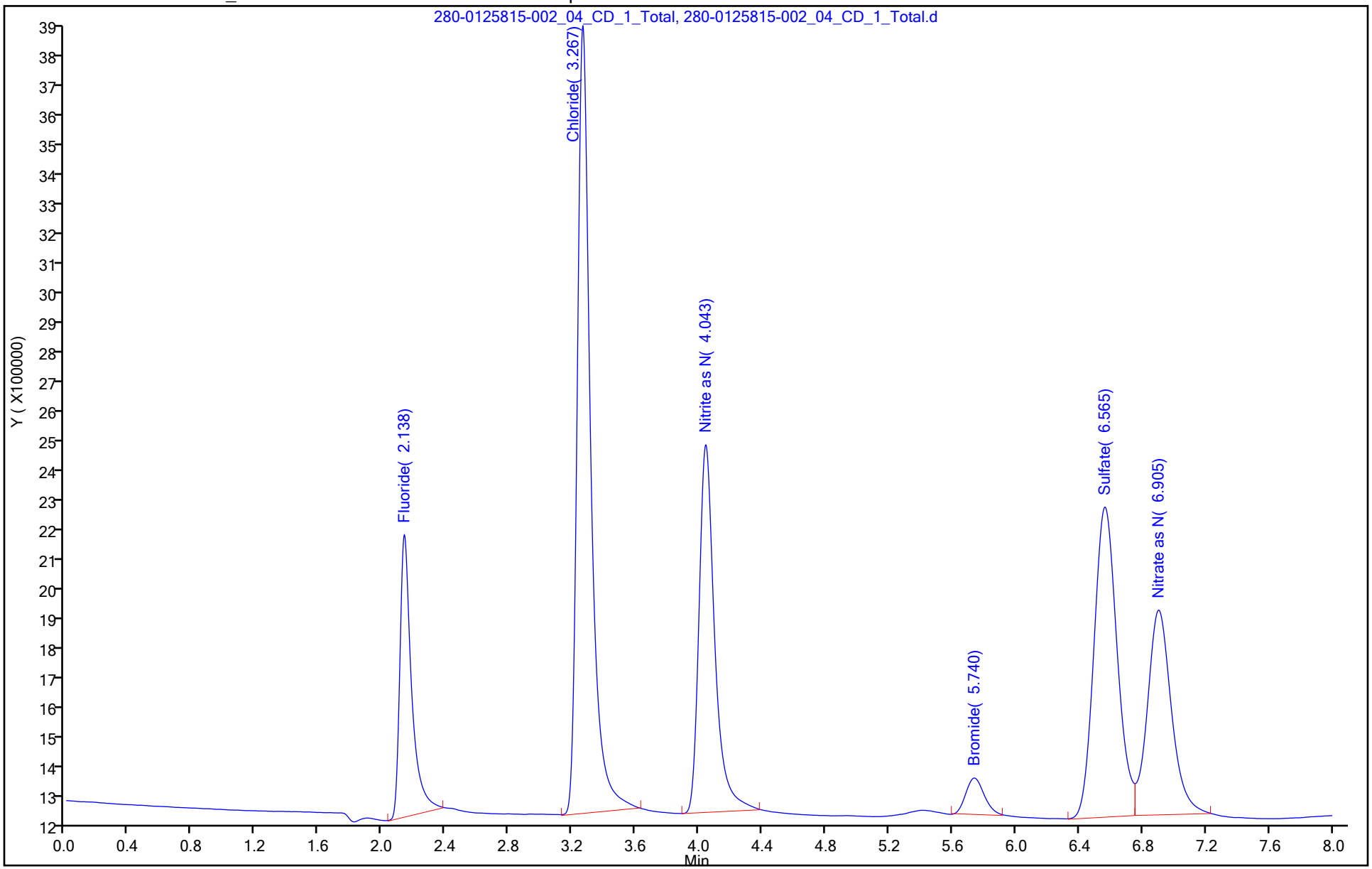
Reagents:

IC Cal low_00730 Amount Added: 0.10 Units: mL
IC CAL cl/so4_00500 Amount Added: 0.10 Units: mL

Report Date: 03-Oct-2023 14:40:46 Chrom Revision: 2.3 22-Sep-2023 11:33:50

Eurofins Denver

Data File:	\\chromfs\Denver\ChromData\WC_IonChrom16\20230926-125815.b\280-0125815-002_04_CD_1_Total.d				
Injection Date:	26-Sep-2023 11:23:00	Instrument ID:	WC_IonChrom16	Operator ID:	
Lims ID:	STD2			Worklist Smp#:	2
Client ID:					
Injection Vol:	5.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	Anions_IC16	Limit Group:	Wet - Anions 28D		



12/29/2023
12:08 PM

Manual Integration/User Assign Peak Report

Eurofins Denver

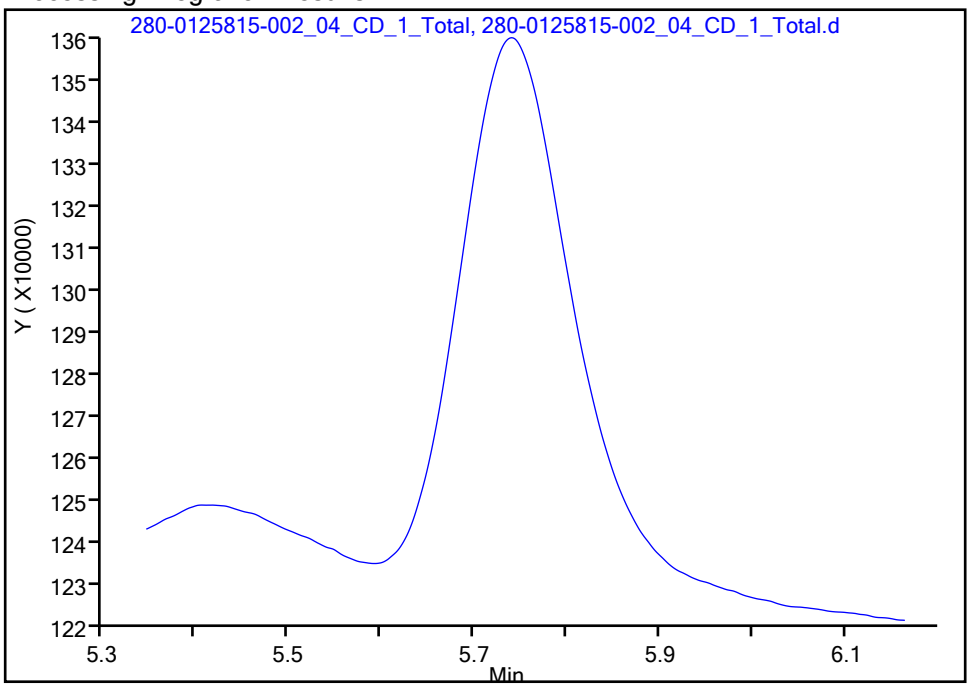
Data File: \\chromfs\Denver\ChromData\WC_IonChrom16\20230926-125815.b\280-0125815-002_04_CD_1_Total.d
Injection Date: 26-Sep-2023 11:23:00 Instrument ID: WC_IonChrom16
Lims ID: STD2
Client ID:
Operator ID: ALS Bottle#: 0 Worklist Smp#: 2
Injection Vol: 5.0 ul Dil. Factor: 1.0000
Method: Anions_IC16 Limit Group: Wet - Anions 28D
Column: Detector 0005

4 Bromide, CAS: 24959-67-9

Signal: 1

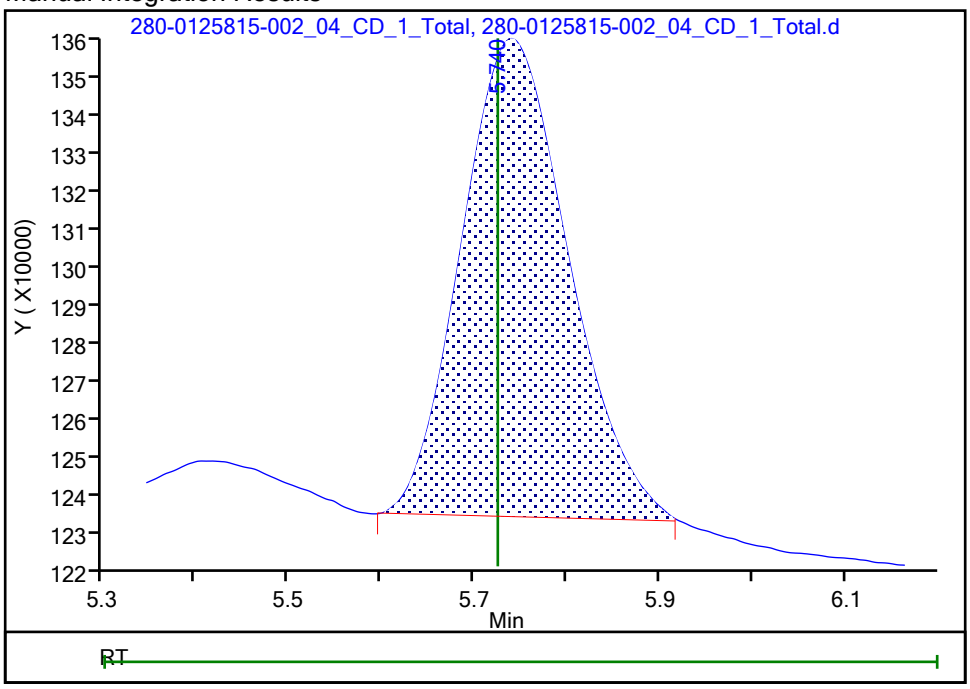
Not Detected
Expected RT: 5.73

Processing Integration Results



Manual Integration Results

RT: 5.74
Area: 969541
Amount: 0.487997
Amount Units: ug/ml



Reviewer: XAY4, 03-Oct-2023 14:38:29 -06:00:00 (UTC)
Audit Action: Manually Integrated Audit Reason: Baseline Smoothing

Manual Integration/User Assign Peak Report

Eurofins Denver

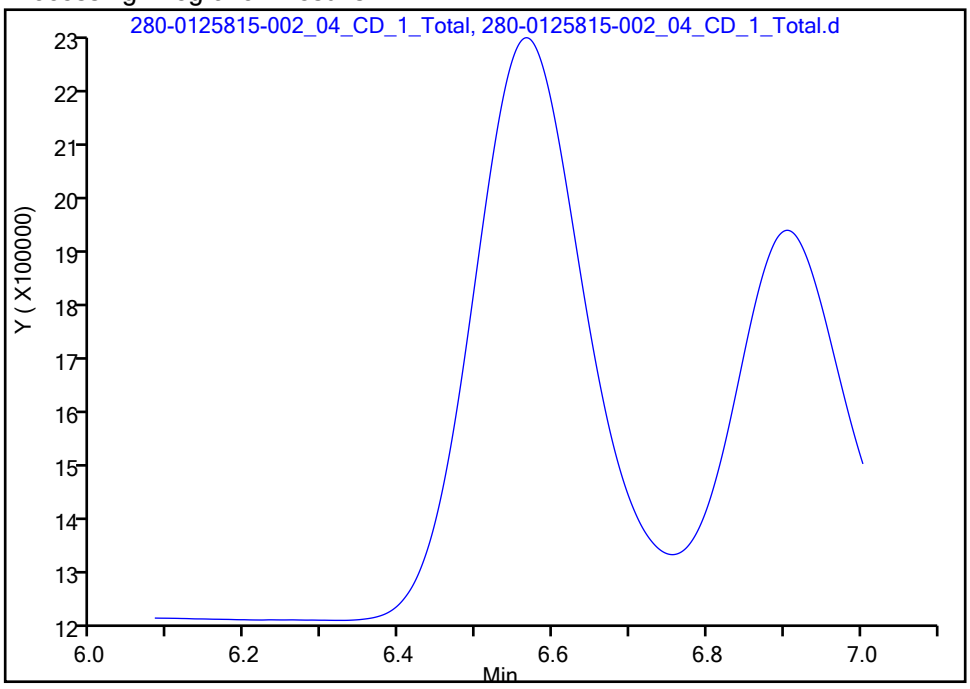
Data File: \\chromfs\Denver\ChromData\WC_IonChrom16\20230926-125815.b\280-0125815-002_04_CD_1_Total.d
Injection Date: 26-Sep-2023 11:23:00 Instrument ID: WC_IonChrom16
Lims ID: STD2
Client ID:
Operator ID: ALS Bottle#: 0 Worklist Smp#: 2
Injection Vol: 5.0 ul Dil. Factor: 1.0000
Method: Anions_IC16 Limit Group: Wet - Anions 28D
Column: Detector 0005

6 Sulfate, CAS: 14808-79-8

Signal: 1

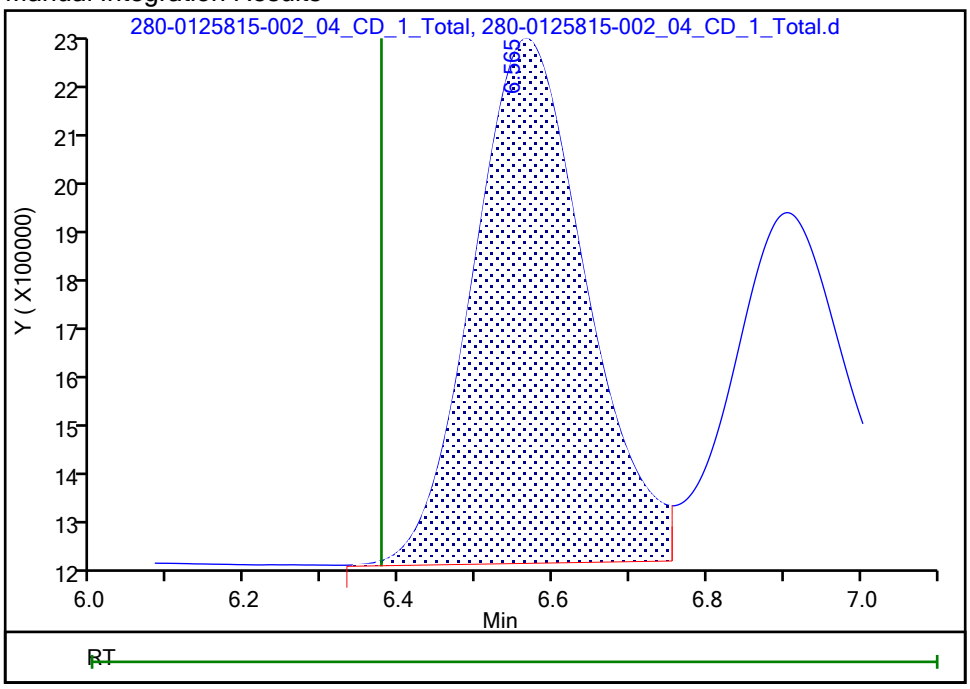
Not Detected
Expected RT: 6.38

Processing Integration Results



Manual Integration Results

RT: 6.57
Area: 10405977
Amount: 2.348917
Amount Units: ug/ml



Reviewer: LVW8, 26-Sep-2023 12:22:37 -06:00:00 (UTC)
Audit Action: Assigned Compound ID Audit Reason: Peak assignment corrected

Eurofins Denver
Target Compound Quantitation Report

Data File: \\chromfs\Denver\ChromData\WC_IonChrom16\20230926-125815.b\280-0125815-003_05_CD_1_Total.d
Lims ID: STD3
Client ID:
Sample Type: IC Calib Level: 3
Inject. Date: 26-Sep-2023 11:34:00 ALS Bottle#: 0 Worklist Smp#: 3
Injection Vol: 5.0 ul Dil. Factor: 1.0000
Sample Info: 280-0125815-003
Misc. Info.: std3
Operator ID: Instrument ID: WC_IonChrom16
Sublist: chrom-Anions_IC16*sub3

Method: \\chromfs\Denver\ChromData\WC_IonChrom16\20230926-125815.b\Anions_IC16.m
Limit Group: Wet - Anions 28D
Last Update: 03-Oct-2023 14:40:47 Calib Date: 26-Sep-2023 12:07:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Denver\ChromData\WC_IonChrom16\20230926-125815.b\280-0125815-006_08_CD_1_Total.d

Column 1 : Det: 0005
Process Host: CTX1622

First Level Reviewer: LVW8 Date: 26-Sep-2023 12:22:30

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
1 Fluoride	2.140	2.150	-0.010	10427442	1.00	0.9230	
2 Chloride	3.267	3.260	0.007	32768385	5.00	4.71	
3 Nitrite as N	4.045	4.052	-0.007	17962776	NC	NC	
7 Orthophosphate as P		4.713			ND	ND	
4 Bromide	5.738	5.725	0.013	1916983	1.00	0.8710	Ma
6 Sulfate	6.562	6.377	0.185	22440212	5.00	4.55	a
5 Nitrate as N	6.895	6.842	0.053	15562891	NC	NC	a

QC Flag Legend

Processing Flags
NC - Not Calibrated
ND - Not Detected or Marked ND
Review Flags
M - Manually Integrated
a - User Assigned ID

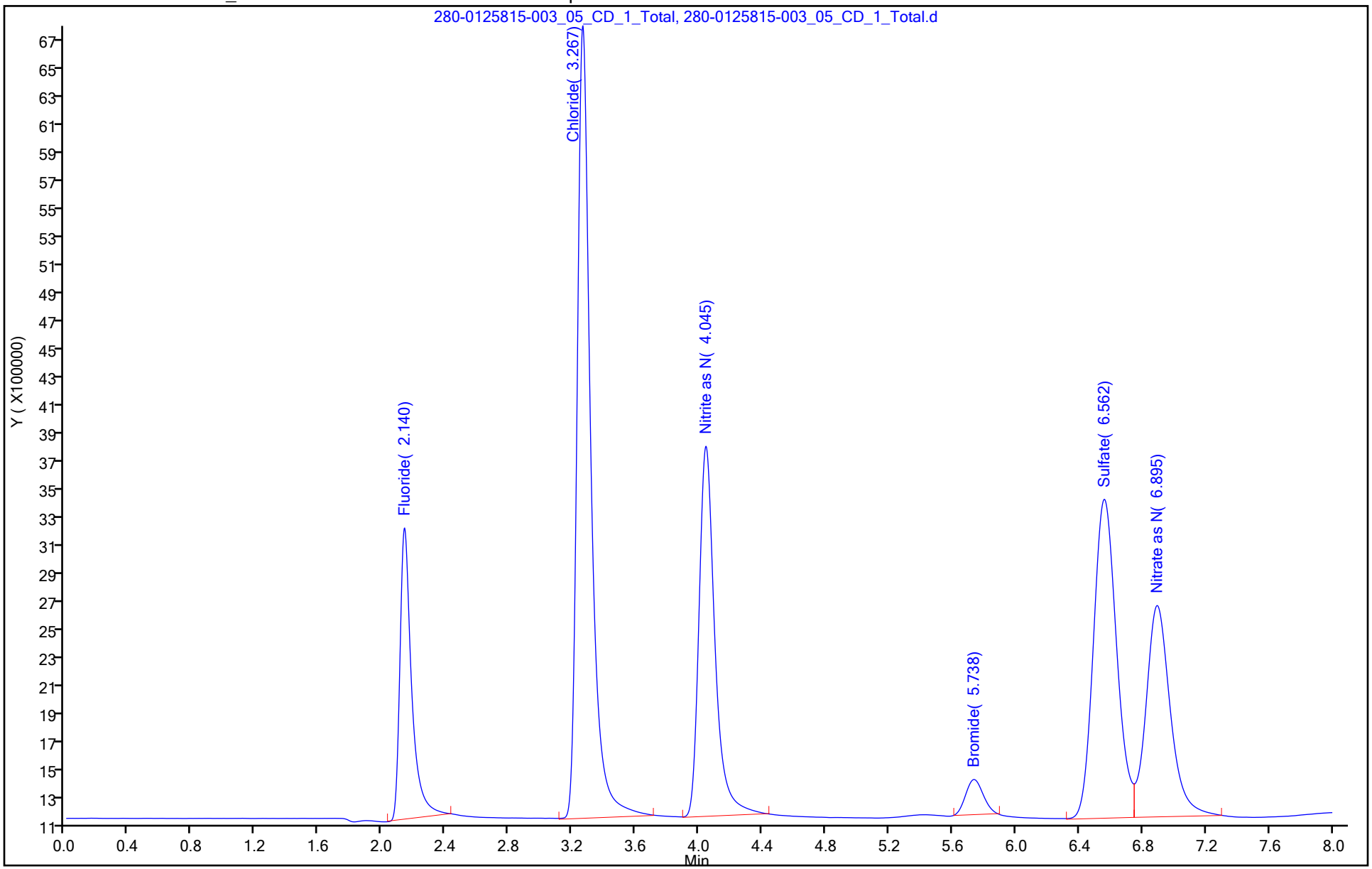
Reagents:

IC Cal low_00730 Amount Added: 0.20 Units: mL
IC CAL cl/so4_00500 Amount Added: 0.20 Units: mL

Report Date: 03-Oct-2023 14:40:47 Chrom Revision: 2.3 22-Sep-2023 11:33:50

Eurofins Denver

Data File:	\\chromfs\Denver\ChromData\WC_IonChrom16\20230926-125815.b\280-0125815-003_05_CD_1_Total.d				
Injection Date:	26-Sep-2023 11:34:00	Instrument ID:	WC_IonChrom16	Operator ID:	
Lims ID:	STD3			Worklist Smp#:	3
Client ID:					
Injection Vol:	5.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	Anions_IC16	Limit Group:	Wet - Anions 28D		



12/29/2023
12:08 PM

Manual Integration/User Assign Peak Report

Eurofins Denver

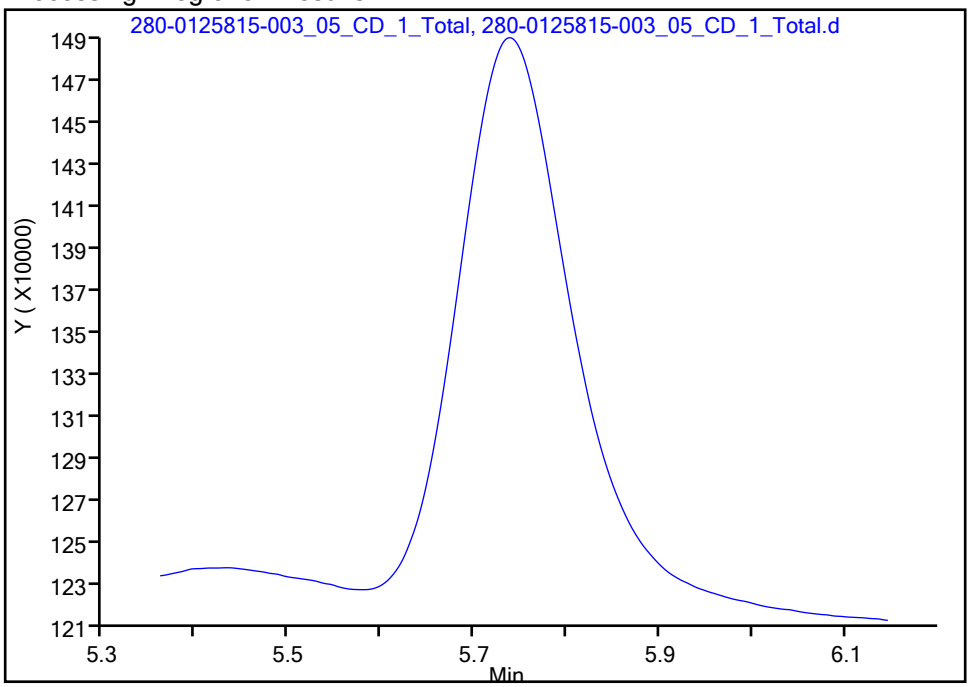
Data File: \\chromfs\Denver\ChromData\WC_IonChrom16\20230926-125815.b\280-0125815-003_05_CD_1_Total.d
Injection Date: 26-Sep-2023 11:34:00 Instrument ID: WC_IonChrom16
Lims ID: STD3
Client ID:
Operator ID: ALS Bottle#: 0 Worklist Smp#: 3
Injection Vol: 5.0 ul Dil. Factor: 1.0000
Method: Anions_IC16 Limit Group: Wet - Anions 28D
Column: Detector 0005

4 Bromide, CAS: 24959-67-9

Signal: 1

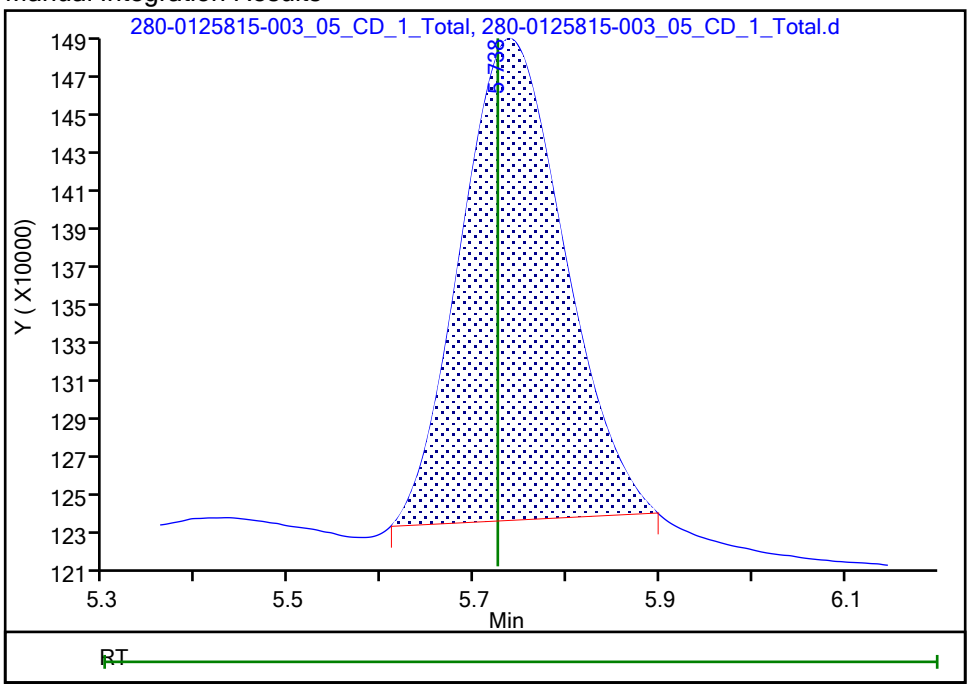
Not Detected
Expected RT: 5.73

Processing Integration Results



Manual Integration Results

RT: 5.74
Area: 1916983
Amount: 0.871044
Amount Units: ug/ml



Reviewer: XAY4, 03-Oct-2023 14:37:08 -06:00:00 (UTC)
Audit Action: Manually Integrated Audit Reason: Baseline Smoothing

Manual Integration/User Assign Peak Report

Eurofins Denver

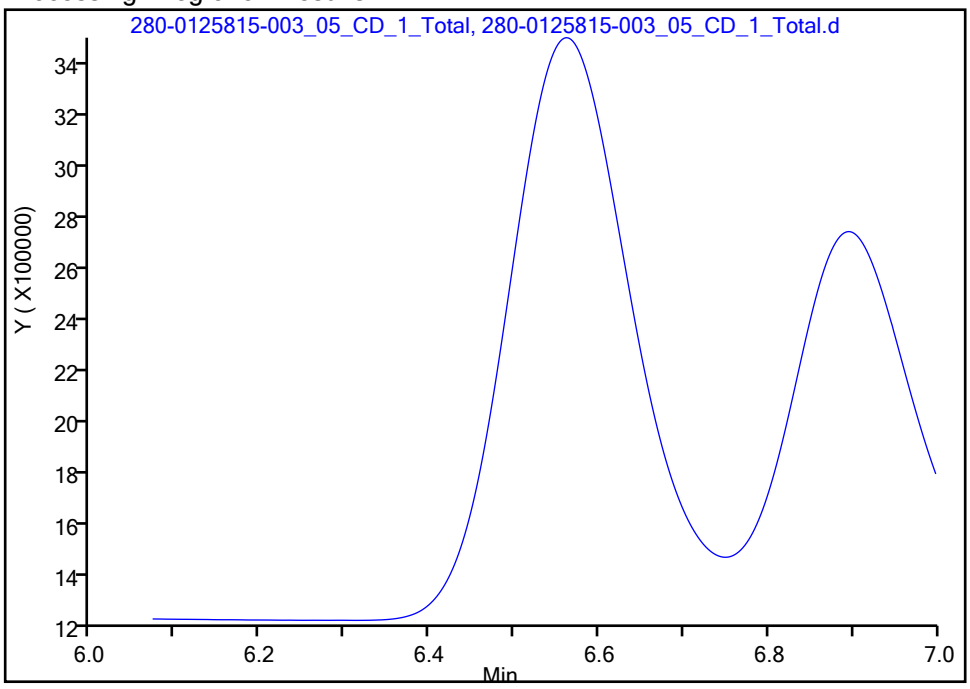
Data File: \\chromfs\Denver\ChromData\WC_IonChrom16\20230926-125815.b\280-0125815-003_05_CD_1_Total.d
Injection Date: 26-Sep-2023 11:34:00 Instrument ID: WC_IonChrom16
Lims ID: STD3
Client ID:
Operator ID: ALS Bottle#: 0 Worklist Smp#: 3
Injection Vol: 5.0 ul Dil. Factor: 1.0000
Method: Anions_IC16 Limit Group: Wet - Anions 28D
Column: Detector 0005

6 Sulfate, CAS: 14808-79-8

Signal: 1

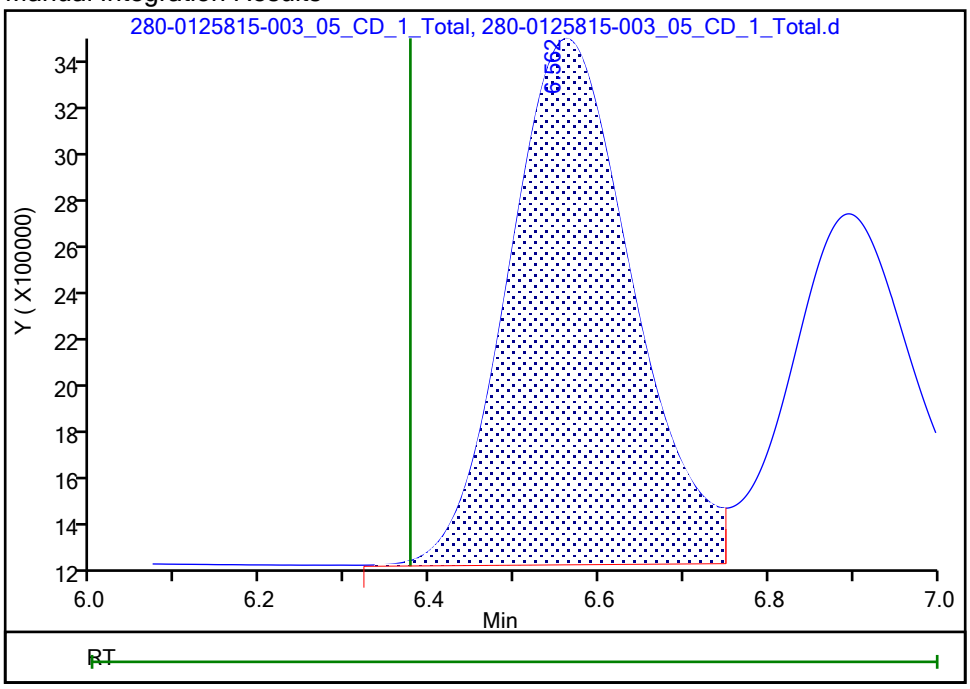
Not Detected
Expected RT: 6.38

Processing Integration Results



Manual Integration Results

RT: 6.56
Area: 22440212
Amount: 4.552328
Amount Units: ug/ml



Reviewer: LVW8, 26-Sep-2023 12:22:22 -06:00:00 (UTC)
Audit Action: Assigned Compound ID Audit Reason: Peak assignment corrected

Eurofins Denver
Target Compound Quantitation Report

Data File: \\chromfs\Denver\ChromData\WC_IonChrom16\20230926-125815.b\280-0125815-004_06_CD_1_Total.d
Lims ID: STD4
Client ID:
Sample Type: IC Calib Level: 4
Inject. Date: 26-Sep-2023 11:45:00 ALS Bottle#: 0 Worklist Smp#: 4
Injection Vol: 5.0 ul Dil. Factor: 1.0000
Sample Info: 280-0125815-004
Misc. Info.: std4
Operator ID: Instrument ID: WC_IonChrom16
Sublist: chrom-Anions_IC16*sub3

Method: \\chromfs\Denver\ChromData\WC_IonChrom16\20230926-125815.b\Anions_IC16.m
Limit Group: Wet - Anions 28D
Last Update: 03-Oct-2023 14:40:48 Calib Date: 26-Sep-2023 12:07:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Denver\ChromData\WC_IonChrom16\20230926-125815.b\280-0125815-006_08_CD_1_Total.d

Column 1 : Det: 0005
Process Host: CTX1622

First Level Reviewer: LVW8 Date: 26-Sep-2023 12:22:19

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
1 Fluoride	2.150	2.150	0.000	48493000	4.00	3.95	
2 Chloride	3.267	3.267	0.000	443610297	60.0	59.1	
3 Nitrite as N	4.053	4.053	0.000	79462449	NC	NC	
7 Orthophosphate as P		4.713			ND	ND	
4 Bromide	5.732	5.732	0.000	9068654	4.00	3.76	Ma
6 Sulfate	6.447	6.447	0.000	322364119	60.0	59.5	a
5 Nitrate as N	6.855	6.855	0.000	76812215	NC	NC	a

QC Flag Legend

Processing Flags
NC - Not Calibrated
ND - Not Detected or Marked ND
Review Flags
M - Manually Integrated
a - User Assigned ID

Reagents:

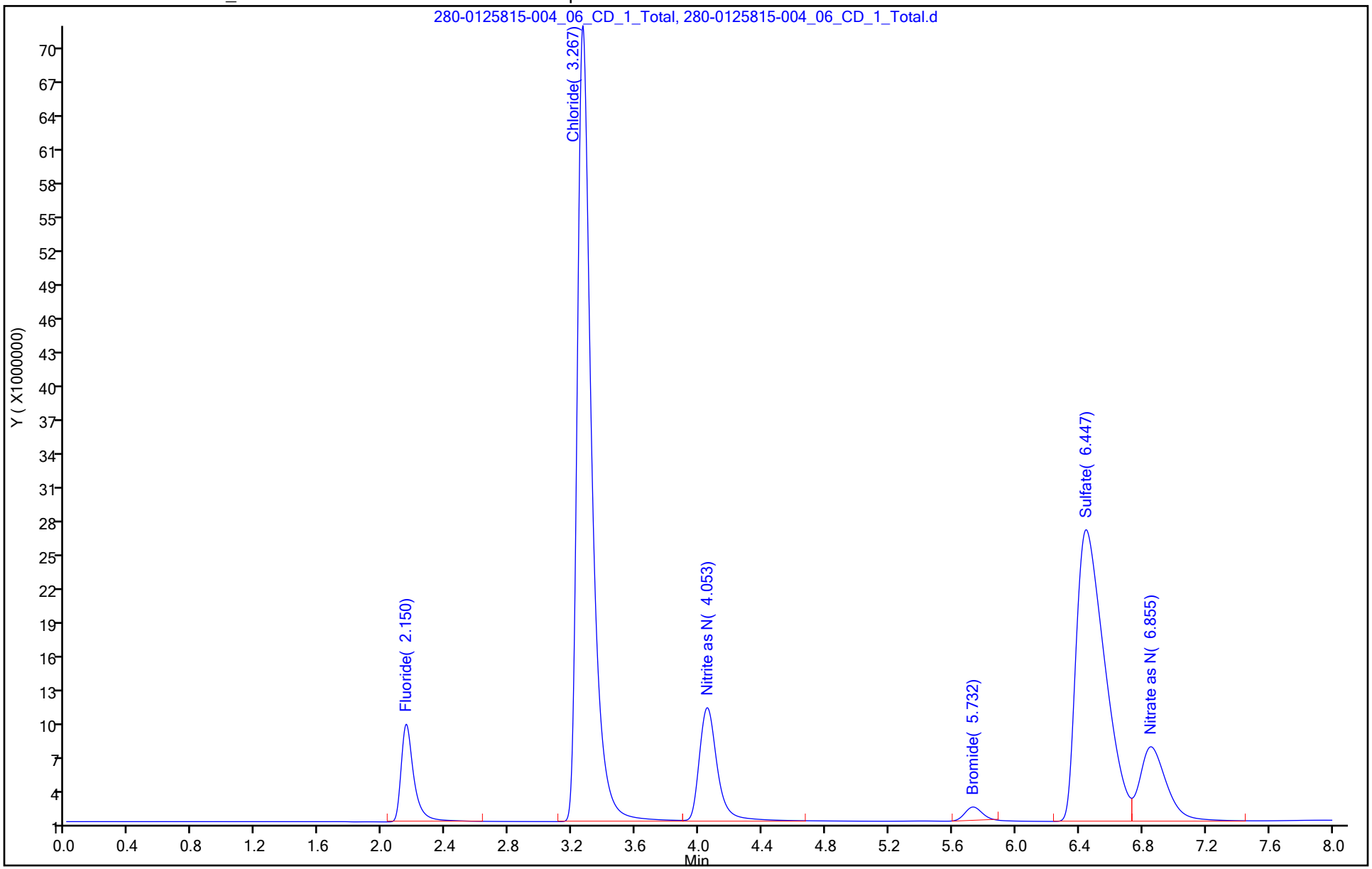
IC Cal low_00730 Amount Added: 0.80 Units: mL
IC CAL cl/so4_00500 Amount Added: 2.40 Units: mL

Report Date: 03-Oct-2023 14:40:48 Chrom Revision: 2.3 22-Sep-2023 11:33:50

Eurofins Denver

Data File: \\chromfs\Denver\ChromData\WC_IonChrom16\20230926-125815.b\280-0125815-004_06_CD_1_Total.d

Injection Date:	26-Sep-2023 11:45:00	Instrument ID:	WC_IonChrom16	Operator ID:	
Lims ID:	STD4			Worklist Smp#:	4
Client ID:					
Injection Vol:	5.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	Anions_IC16	Limit Group:	Wet - Anions 28D		



12/29/2023
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Manual Integration/User Assign Peak Report

Eurofins Denver

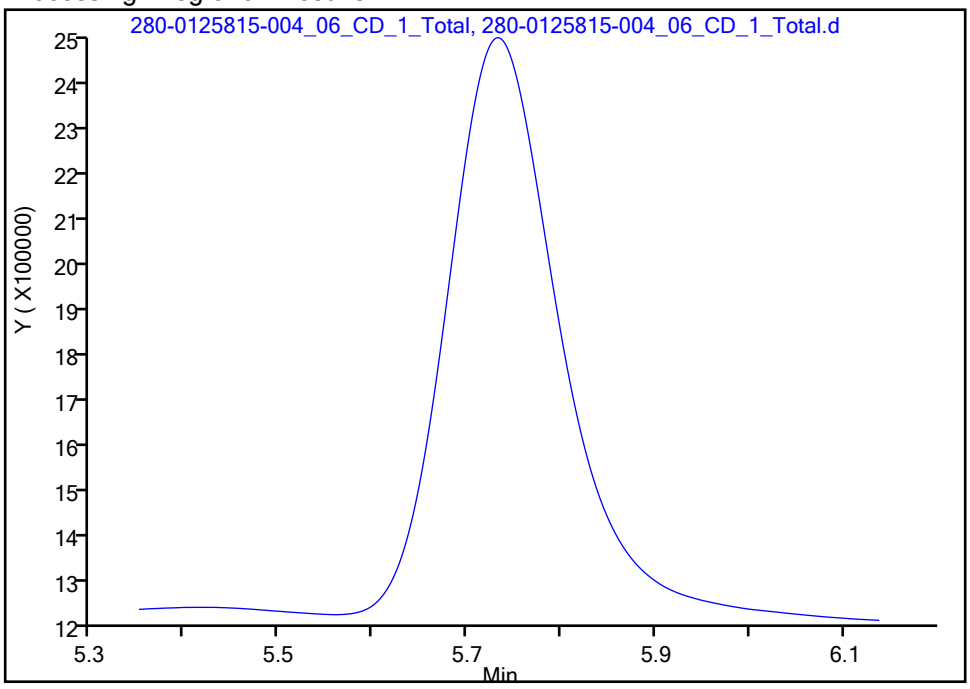
Data File: \\chromfs\Denver\ChromData\WC_IonChrom16\20230926-125815.b\280-0125815-004_06_CD_1_Total.d
Injection Date: 26-Sep-2023 11:45:00 Instrument ID: WC_IonChrom16
Lims ID: STD4
Client ID:
Operator ID: ALS Bottle#: 0 Worklist Smp#: 4
Injection Vol: 5.0 ul Dil. Factor: 1.0000
Method: Anions_IC16 Limit Group: Wet - Anions 28D
Column: Detector 0005

4 Bromide, CAS: 24959-67-9

Signal: 1

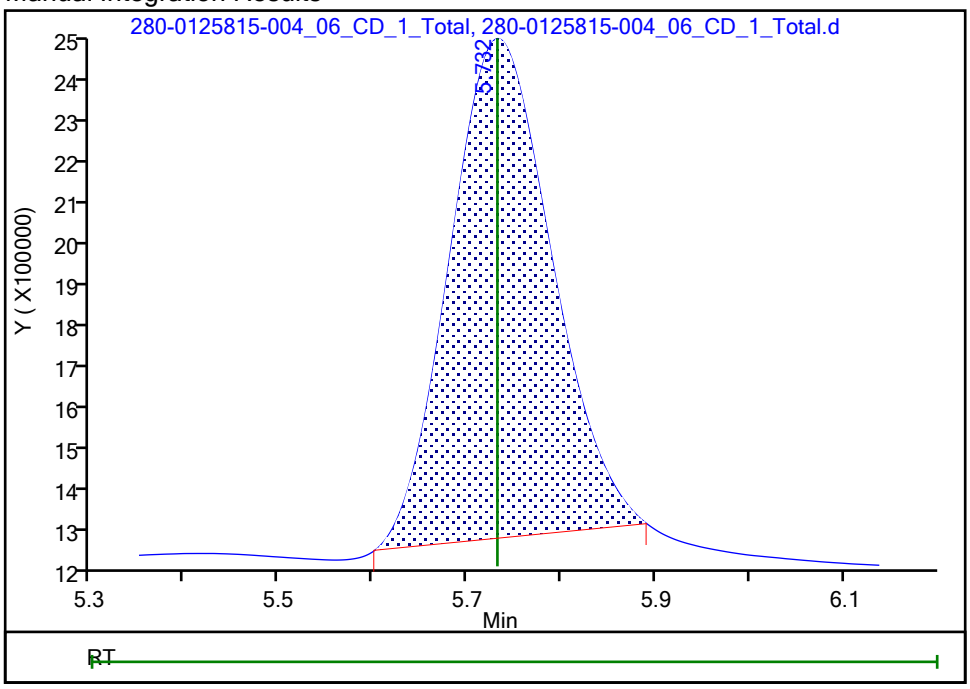
Not Detected
Expected RT: 5.73

Processing Integration Results



Manual Integration Results

RT: 5.73
Area: 9068654
Amount: 3.762438
Amount Units: ug/ml



Reviewer: XAY4, 03-Oct-2023 14:37:19 -06:00:00 (UTC)
Audit Action: Manually Integrated Audit Reason: Baseline Smoothing

Manual Integration/User Assign Peak Report

Eurofins Denver

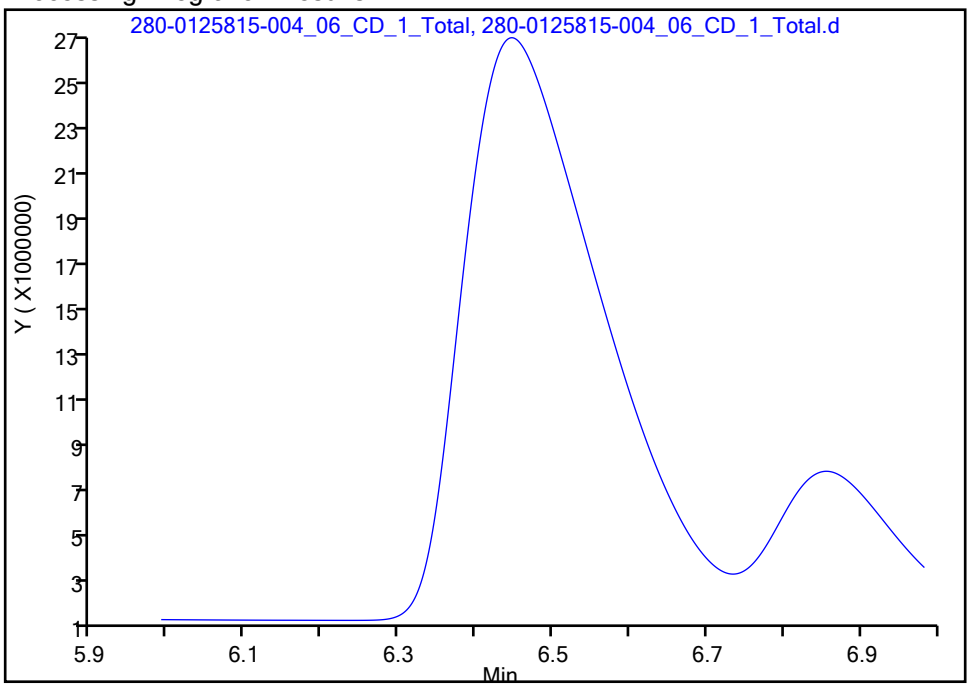
Data File: \\chromfs\Denver\ChromData\WC_IonChrom16\20230926-125815.b\280-0125815-004_06_CD_1_Total.d
Injection Date: 26-Sep-2023 11:45:00 Instrument ID: WC_IonChrom16
Lims ID: STD4
Client ID:
Operator ID: ALS Bottle#: 0 Worklist Smp#: 4
Injection Vol: 5.0 ul Dil. Factor: 1.0000
Method: Anions_IC16 Limit Group: Wet - Anions 28D
Column: Detector 0005

6 Sulfate, CAS: 14808-79-8

Signal: 1

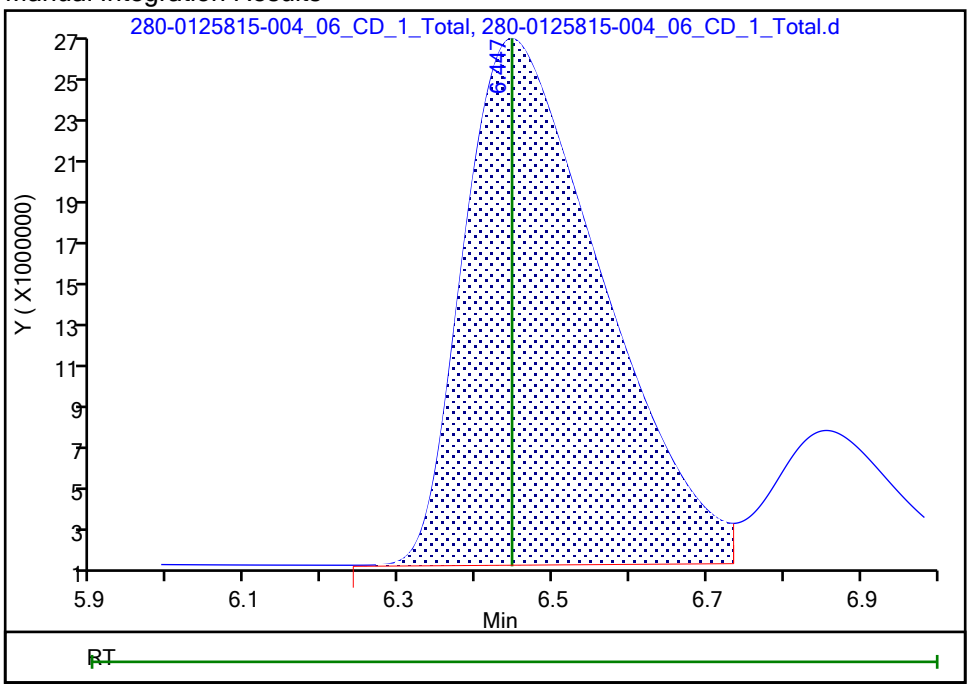
Not Detected
Expected RT: 6.45

Processing Integration Results



Manual Integration Results

RT: 6.45
Area: 322364119
Amount: 59.466971
Amount Units: ug/ml



Reviewer: LVW8, 26-Sep-2023 12:22:16 -06:00:00 (UTC)
Audit Action: Assigned Compound ID Audit Reason: Peak assignment corrected

Eurofins Denver
Target Compound Quantitation Report

Data File: \\chromfs\Denver\ChromData\WC_IonChrom16\20230926-125815.b\280-0125815-005_07_CD_1_Total.d
Lims ID: STD5
Client ID:
Sample Type: IC Calib Level: 5
Inject. Date: 26-Sep-2023 11:56:00 ALS Bottle#: 0 Worklist Smp#: 5
Injection Vol: 5.0 ul Dil. Factor: 1.0000
Sample Info: 280-0125815-005
Misc. Info.: std5
Operator ID: Instrument ID: WC_IonChrom16
Sublist: chrom-Anions_IC16*sub3

Method: \\chromfs\Denver\ChromData\WC_IonChrom16\20230926-125815.b\Anions_IC16.m
Limit Group: Wet - Anions 28D
Last Update: 03-Oct-2023 14:40:49 Calib Date: 26-Sep-2023 12:07:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Denver\ChromData\WC_IonChrom16\20230926-125815.b\280-0125815-006_08_CD_1_Total.d

Column 1 : Det: 0005
Process Host: CTX1622

First Level Reviewer: LVW8 Date: 26-Sep-2023 12:22:09

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
1 Fluoride	2.155	2.155	0.000	102173826	8.00	8.22	
2 Chloride	3.258	3.258	0.000	924071379	120.0	122.6	
3 Nitrite as N	4.052	4.052	0.000	165744711	NC	NC	
7 Orthophosphate as P		4.713			ND	ND	
4 Bromide	5.717	5.717	0.000	20466678	8.00	8.37	Ma
6 Sulfate	6.348	6.348	0.000	670435251	120.0	123.2	a
5 Nitrate as N	6.808	6.808	0.000	163315310	NC	NC	a

QC Flag Legend

Processing Flags
NC - Not Calibrated
ND - Not Detected or Marked ND
Review Flags
M - Manually Integrated
a - User Assigned ID

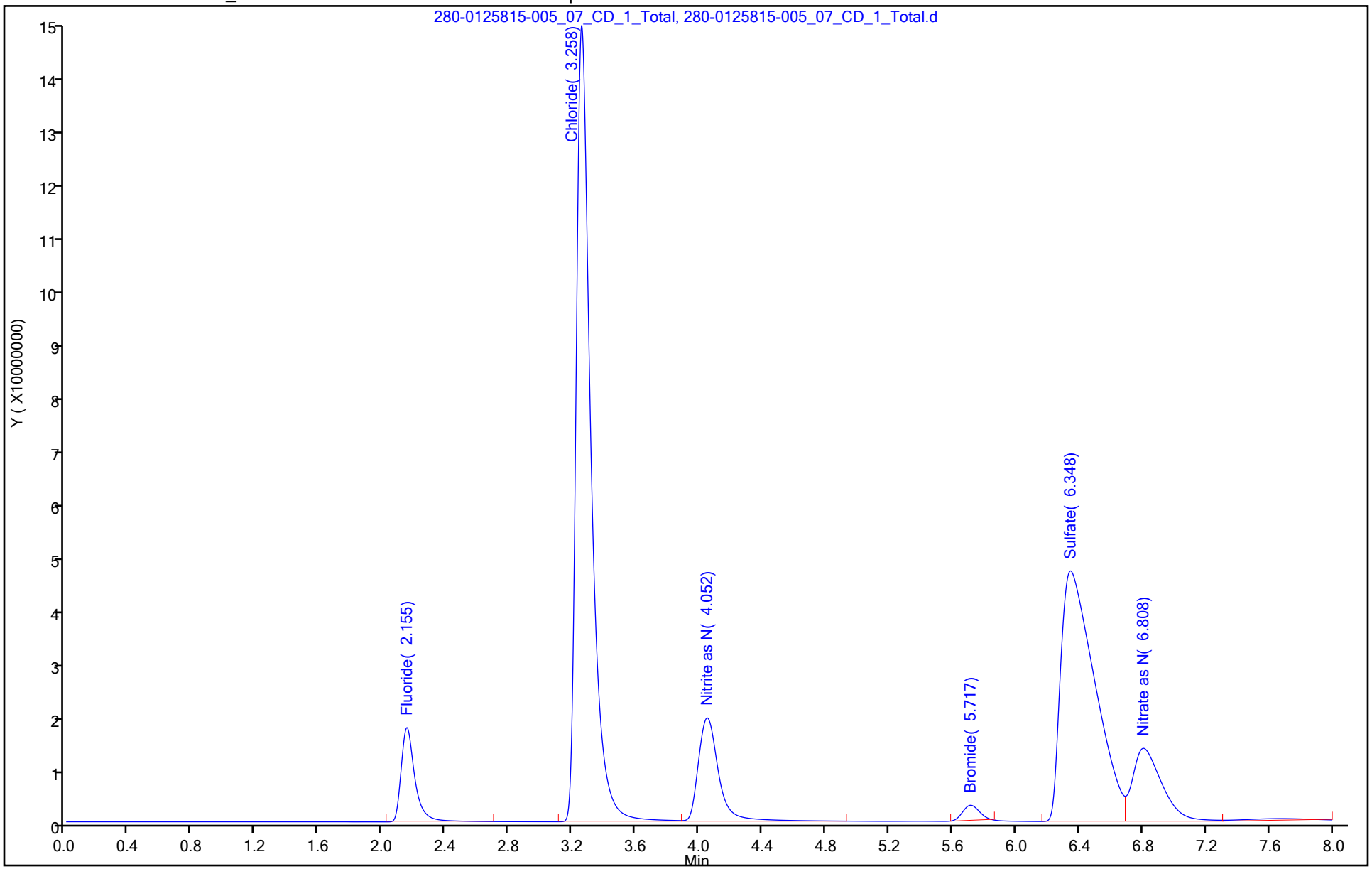
Reagents:

IC Cal low_00730 Amount Added: 1.60 Units: mL
IC CAL cl/so4_00500 Amount Added: 4.80 Units: mL

Report Date: 03-Oct-2023 14:40:49 Chrom Revision: 2.3 22-Sep-2023 11:33:50

Eurofins Denver

Data File:	\\chromfs\Denver\ChromData\WC_IonChrom16\20230926-125815.b\280-0125815-005_07_CD_1_Total.d				
Injection Date:	26-Sep-2023 11:56:00	Instrument ID:	WC_IonChrom16	Operator ID:	
Lims ID:	STD5			Worklist Smp#:	5
Client ID:					
Injection Vol:	5.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	Anions_IC16	Limit Group:	Wet - Anions 28D		



12/29/2023
12:08 PM

Manual Integration/User Assign Peak Report

Eurofins Denver

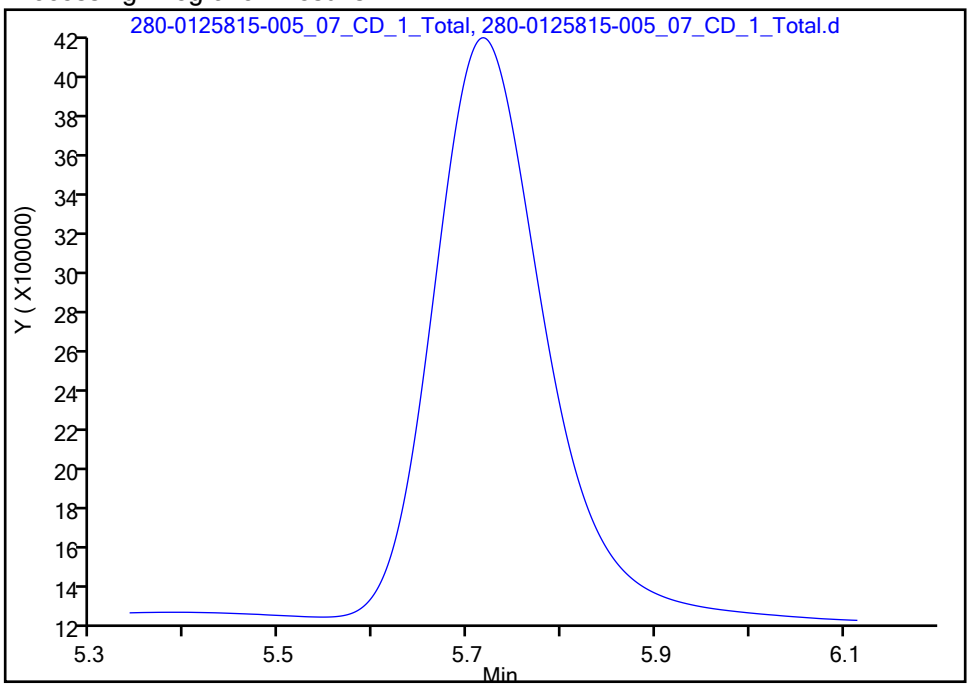
Data File: \\chromfs\Denver\ChromData\WC_IonChrom16\20230926-125815.b\280-0125815-005_07_CD_1_Total.d
Injection Date: 26-Sep-2023 11:56:00 Instrument ID: WC_IonChrom16
Lims ID: STD5
Client ID:
Operator ID: ALS Bottle#: 0 Worklist Smp#: 5
Injection Vol: 5.0 ul Dil. Factor: 1.0000
Method: Anions_IC16 Limit Group: Wet - Anions 28D
Column: Detector 0005

4 Bromide, CAS: 24959-67-9

Signal: 1

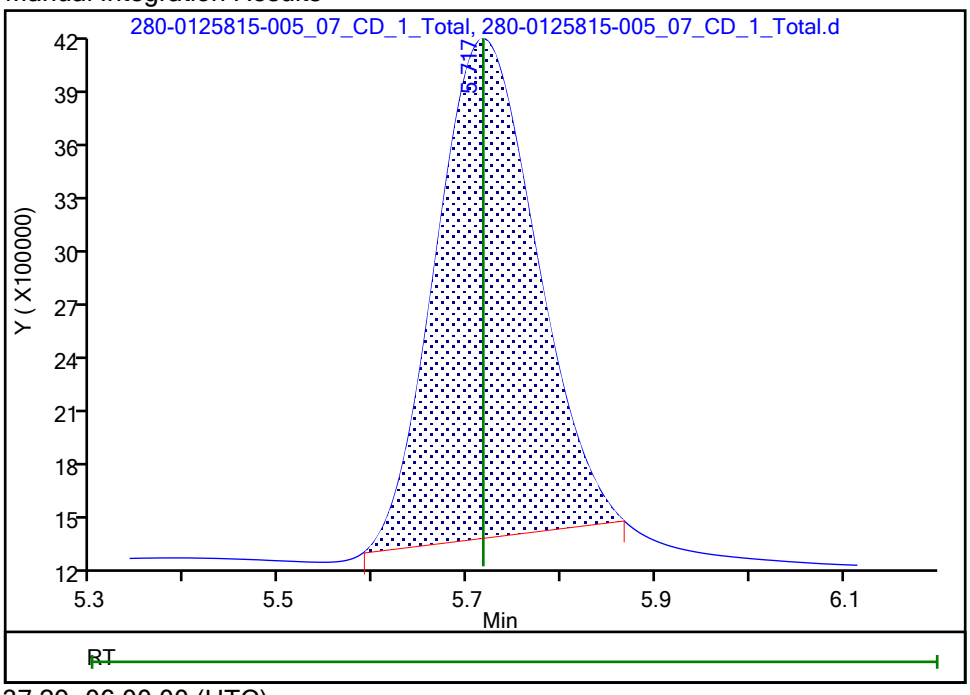
Not Detected
Expected RT: 5.72

Processing Integration Results



Manual Integration Results

RT: 5.72
Area: 20466678
Amount: 8.370616
Amount Units: ug/ml



Reviewer: XAY4, 03-Oct-2023 14:37:29 -06:00:00 (UTC)
Audit Action: Manually Integrated Audit Reason: Baseline Smoothing

Manual Integration/User Assign Peak Report

Eurofins Denver

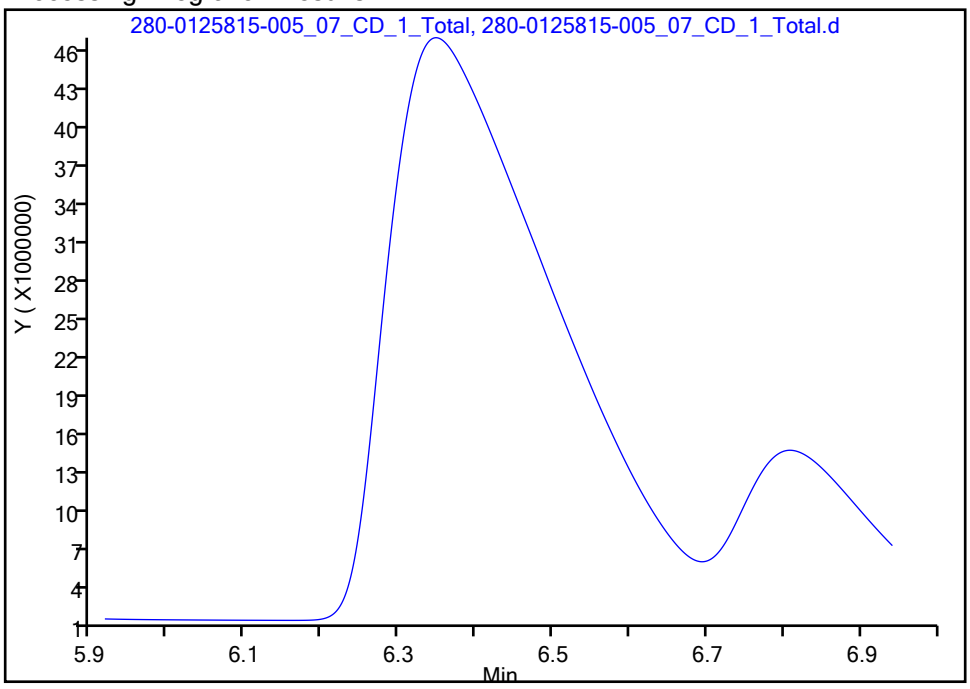
Data File: \\chromfs\Denver\ChromData\WC_IonChrom16\20230926-125815.b\280-0125815-005_07_CD_1_Total.d
Injection Date: 26-Sep-2023 11:56:00 Instrument ID: WC_IonChrom16
Lims ID: STD5
Client ID:
Operator ID: ALS Bottle#: 0 Worklist Smp#: 5
Injection Vol: 5.0 ul Dil. Factor: 1.0000
Method: Anions_IC16 Limit Group: Wet - Anions 28D
Column: Detector 0005

6 Sulfate, CAS: 14808-79-8

Signal: 1

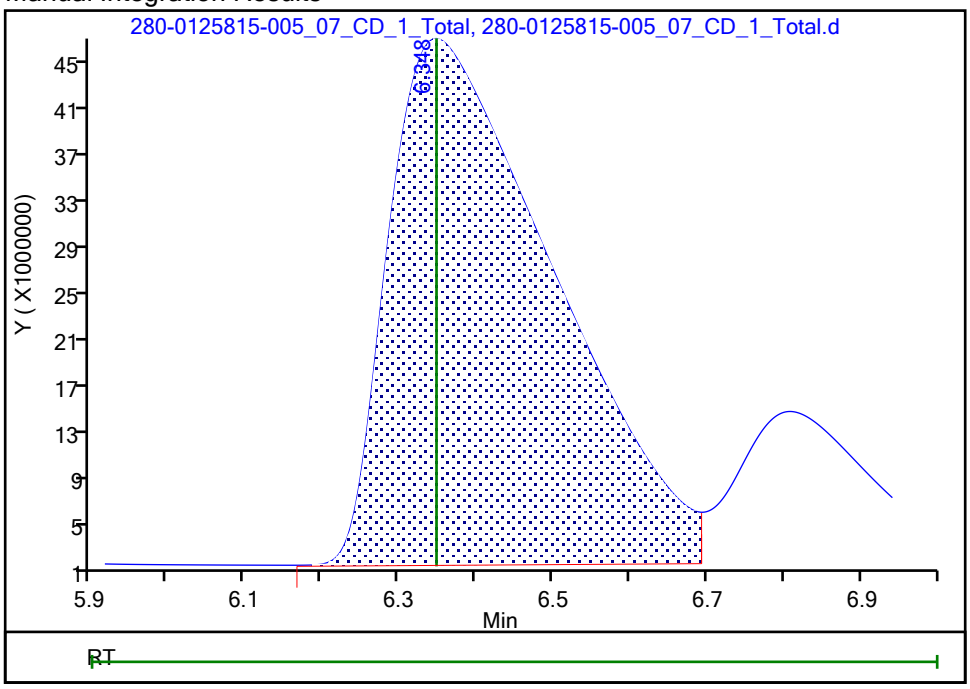
Not Detected
Expected RT: 6.35

Processing Integration Results



Manual Integration Results

RT: 6.35
Area: 670435251
Amount: 123.1971
Amount Units: ug/ml



Reviewer: LVW8, 26-Sep-2023 12:22:04 -06:00:00 (UTC)
Audit Action: Assigned Compound ID Audit Reason: Peak assignment corrected

Eurofins Denver
Target Compound Quantitation Report

Data File: \\chromfs\Denver\ChromData\WC_IonChrom16\20230926-125815.b\280-0125815-006_08_CD_1_Total.d
Lims ID: STD6
Client ID:
Sample Type: IC Calib Level: 6
Inject. Date: 26-Sep-2023 12:07:00 ALS Bottle#: 0 Worklist Smp#: 6
Injection Vol: 5.0 ul Dil. Factor: 1.0000
Sample Info: 280-0125815-006
Misc. Info.: std6
Operator ID: Instrument ID: WC_IonChrom16
Sublist: chrom-Anions_IC16*sub3

Method: \\chromfs\Denver\ChromData\WC_IonChrom16\20230926-125815.b\Anions_IC16.m
Limit Group: Wet - Anions 28D
Last Update: 03-Oct-2023 14:40:50 Calib Date: 26-Sep-2023 12:07:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Denver\ChromData\WC_IonChrom16\20230926-125815.b\280-0125815-006_08_CD_1_Total.d

Column 1 : Det: 0005
Process Host: CTX1622

First Level Reviewer: LVW8 Date: 26-Sep-2023 12:21:57

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
1 Fluoride	2.150	2.155	-0.005	123275557	10.0	9.90	
2 Chloride	3.247	3.258	-0.011	1498830424	200.0	198.6	
3 Nitrite as N	4.045	4.052	-0.007	202739940	NC	NC	
7 Orthophosphate as P		4.713			ND	ND	
4 Bromide	5.695	5.717	-0.022	24432995	10.0	9.97	Ma
6 Sulfate	6.255	6.348	-0.093	1077842031	200.0	197.8	
5 Nitrate as N	6.783	6.808	-0.025	184915835	NC	NC	a

QC Flag Legend

Processing Flags
NC - Not Calibrated
ND - Not Detected or Marked ND
Review Flags
M - Manually Integrated
a - User Assigned ID

Reagents:

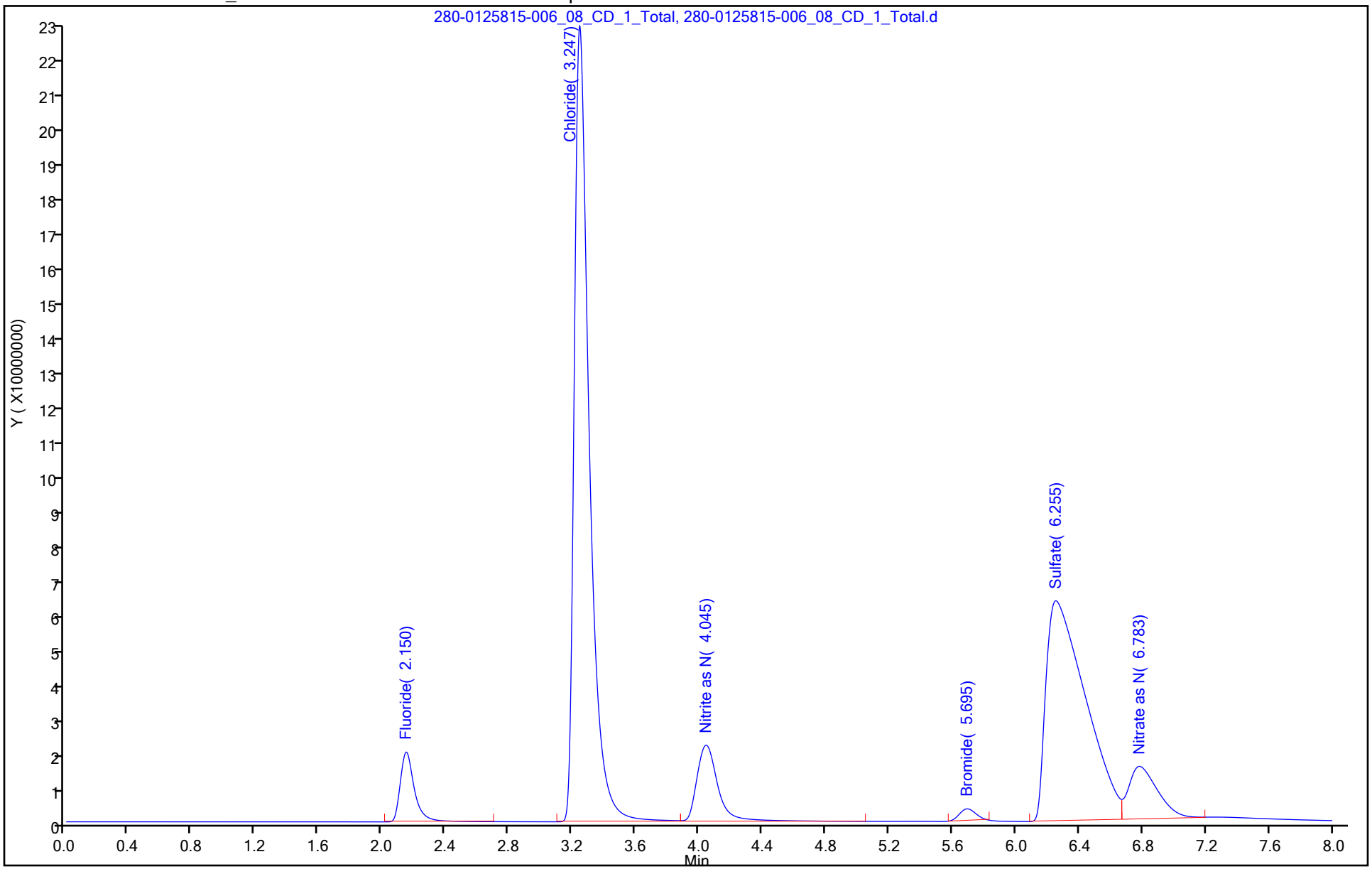
IC Cal low_00730 Amount Added: 2.00 Units: mL
IC CAL cl/so4_00500 Amount Added: 8.00 Units: mL

Report Date: 03-Oct-2023 14:40:50 Chrom Revision: 2.3 22-Sep-2023 11:33:50

Eurofins Denver

Data File: \\chromfs\Denver\ChromData\WC_IonChrom16\20230926-125815.b\280-0125815-006_08_CD_1_Total.d

Injection Date:	26-Sep-2023 12:07:00	Instrument ID:	WC_IonChrom16	Operator ID:	
Lims ID:	STD6			Worklist Smp#:	6
Client ID:					
Injection Vol:	5.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	Anions_IC16	Limit Group:	Wet - Anions 28D		



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Manual Integration/User Assign Peak Report

Eurofins Denver

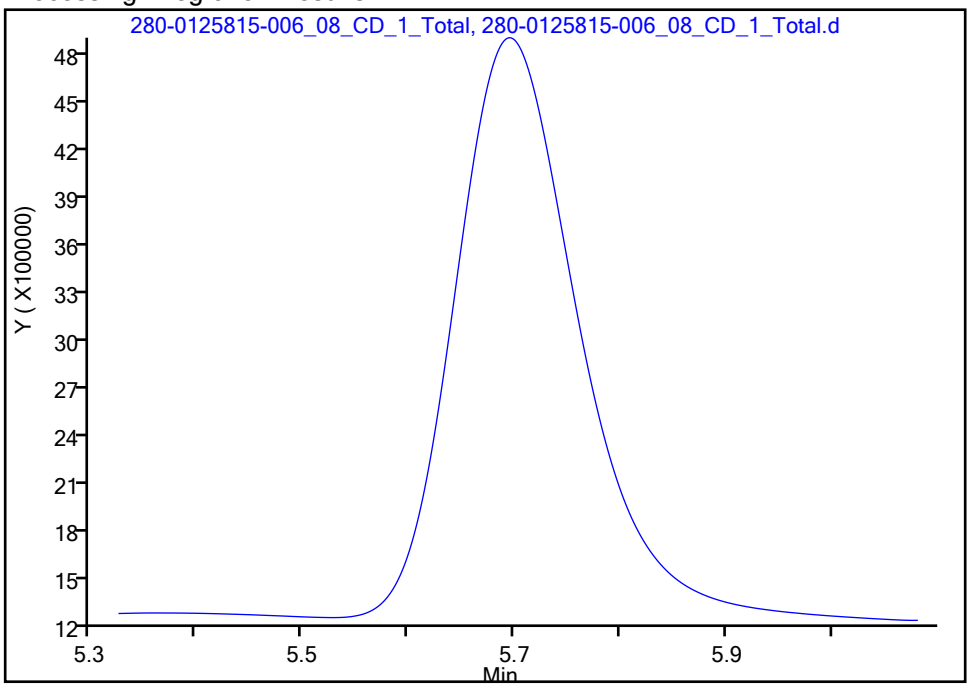
Data File: \\chromfs\Denver\ChromData\WC_IonChrom16\20230926-125815.b\280-0125815-006_08_CD_1_Total.d
Injection Date: 26-Sep-2023 12:07:00 Instrument ID: WC_IonChrom16
Lims ID: STD6
Client ID:
Operator ID: ALS Bottle#: 0 Worklist Smp#: 6
Injection Vol: 5.0 ul Dil. Factor: 1.0000
Method: Anions_IC16 Limit Group: Wet - Anions 28D
Column: Detector 0005

4 Bromide, CAS: 24959-67-9

Signal: 1

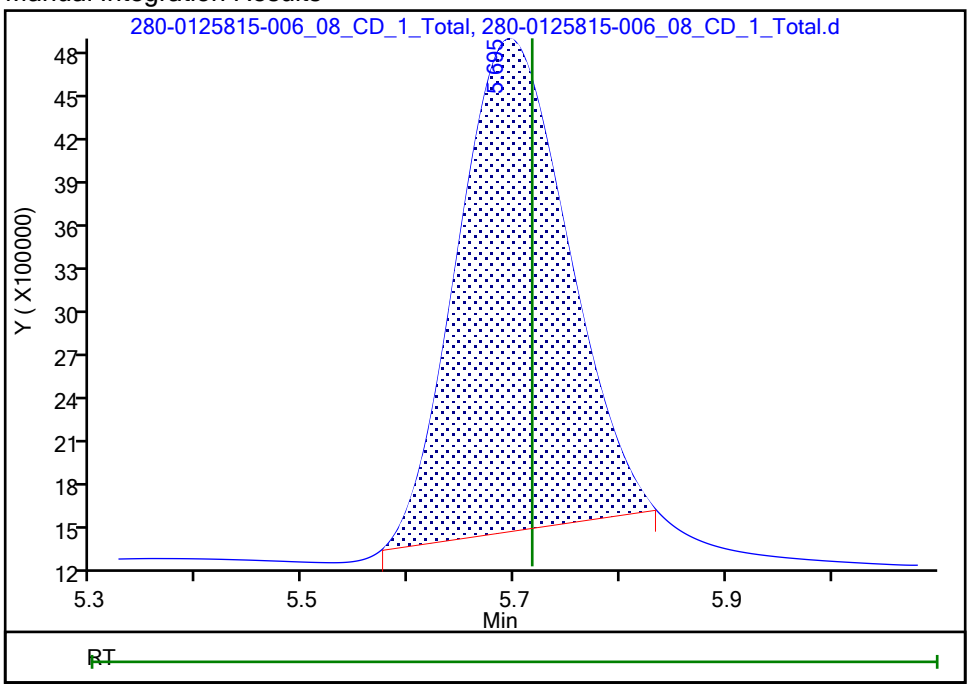
Not Detected
Expected RT: 5.72

Processing Integration Results



Manual Integration Results

RT: 5.70
Area: 24432995
Amount: 9.974183
Amount Units: ug/ml



Reviewer: XAY4, 03-Oct-2023 14:37:53 -06:00:00 (UTC)
Audit Action: Manually Integrated Audit Reason: Baseline Smoothing

Eurofins Denver
Target Compound Quantitation Report

Data File: \\chromfs\Denver\ChromData\WC_IonChrom16\20230926-125815.b\280-0125815-008_10_CD_1_Total.d
Lims ID: icv
Client ID:
Sample Type: ICV
Inject. Date: 26-Sep-2023 12:29:00 ALS Bottle#: 0 Worklist Smp#: 8
Injection Vol: 5.0 ul Dil. Factor: 1.0000
Sample Info: 280-0125815-008
Misc. Info.: icv
Operator ID: Instrument ID: WC_IonChrom16
Sublist:

Method: \\chromfs\Denver\ChromData\WC_IonChrom16\20230926-125815.b\Anions_IC16.m
Limit Group: Wet - Anions 28D
Last Update: 03-Oct-2023 14:46:11 Calib Date: 26-Sep-2023 12:07:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Denver\ChromData\WC_IonChrom16\20230926-125815.b\280-0125815-006_08_CD_1_Total.d

Column 1 : Det: 0005
Process Host: CTX1622

First Level Reviewer: LVW8 Date: 26-Sep-2023 13:11:42

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
1 Fluoride	2.143	2.143	0.000	49580235	4.00	4.04	
2 Chloride	3.257	3.257	0.000	615375756	80.0	81.8	
3 Nitrite as N	4.045	4.045	0.000	82751787	NC	NC	
7 Orthophosphate as P		4.713			ND	ND	
4 Bromide	5.723	5.723	0.000	9774756	4.00	4.05	M
6 Sulfate	6.392	6.392	0.000	450357446	80.0	82.9	
5 Nitrate as N	6.848	6.848	0.000	77196403	NC	NC	

QC Flag Legend

Processing Flags
NC - Not Calibrated
ND - Not Detected or Marked ND
Review Flags
M - Manually Integrated

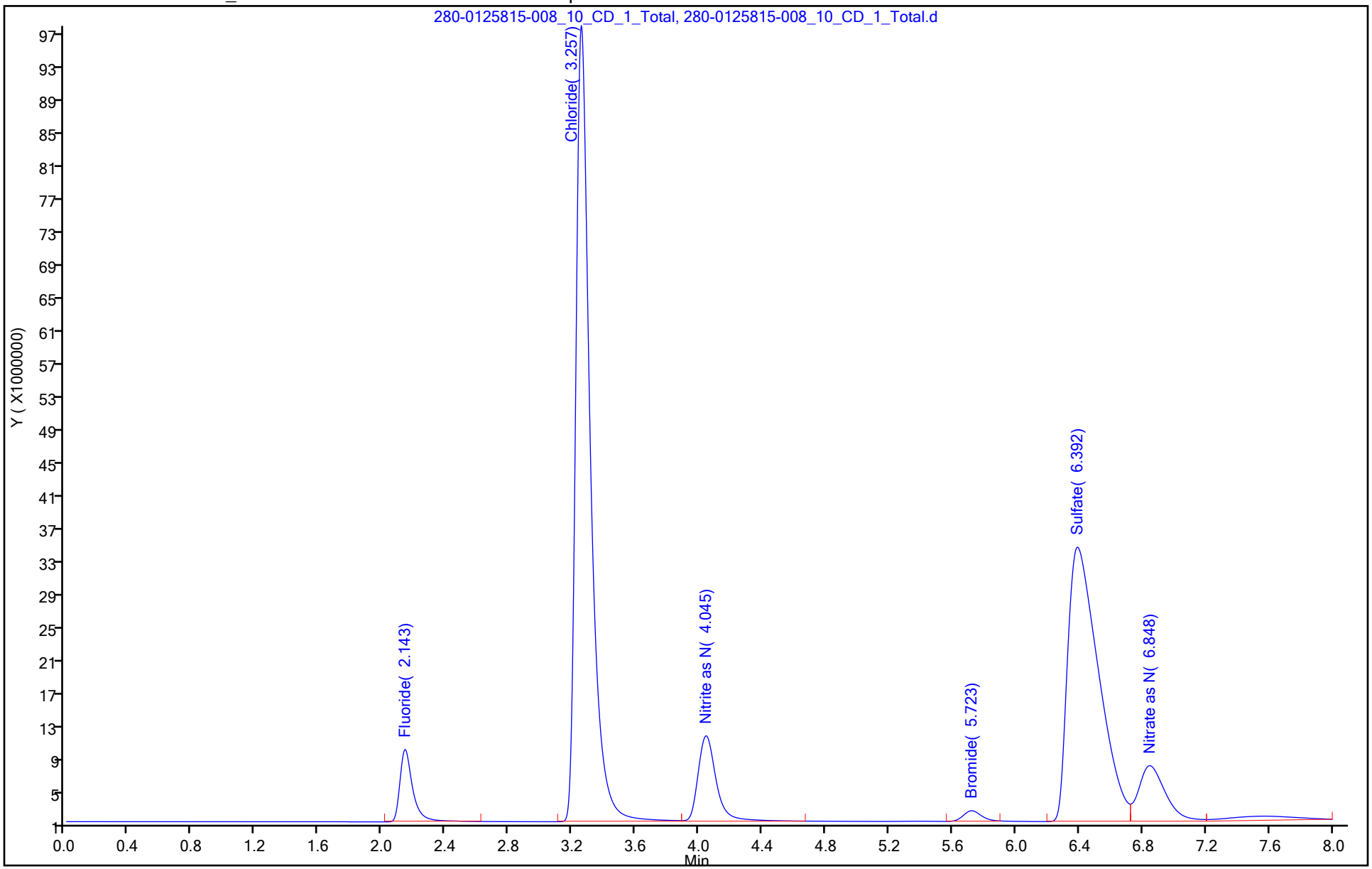
Reagents:

IC ICV 5_00416	Amount Added:	0.80	Units: mL
IC SO4 ICV_00024	Amount Added:	0.80	Units: mL
Cl ICV Std_00006	Amount Added:	0.80	Units: mL

Report Date: 03-Oct-2023 14:46:12 Chrom Revision: 2.3 22-Sep-2023 11:33:50

Eurofins Denver

Data File:	\\chromfs\Denver\ChromData\WC_IonChrom16\20230926-125815.b\280-0125815-008_10_CD_1_Total.d				
Injection Date:	26-Sep-2023 12:29:00	Instrument ID:	WC_IonChrom16	Operator ID:	
Lims ID:	icv			Worklist Smp#:	8
Client ID:					
Injection Vol:	5.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	Anions_IC16	Limit Group:	Wet - Anions 28D		



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Eurofins Denver
Target Compound Quantitation Report

Data File: \\chromfs\Denver\ChromData\WC_IonChrom16\20230926-125815.b\280-0125815-009_11_CD_1_Total.d
Lims ID: icb
Client ID:
Sample Type: ICB
Inject. Date: 26-Sep-2023 12:40:00 ALS Bottle#: 0 Worklist Smp#: 9
Injection Vol: 5.0 ul Dil. Factor: 1.0000
Sample Info: 280-0125815-009
Misc. Info.: icb
Operator ID: Instrument ID: WC_IonChrom16

Method: \\chromfs\Denver\ChromData\WC_IonChrom16\20230926-125815.b\Anions_IC16.m
Limit Group: Wet - Anions 28D
Last Update: 27-Sep-2023 11:13:30 Calib Date: 26-Sep-2023 12:07:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Denver\ChromData\WC_IonChrom16\20230926-125815.b\280-0125815-006_08_CD_1_Total.d

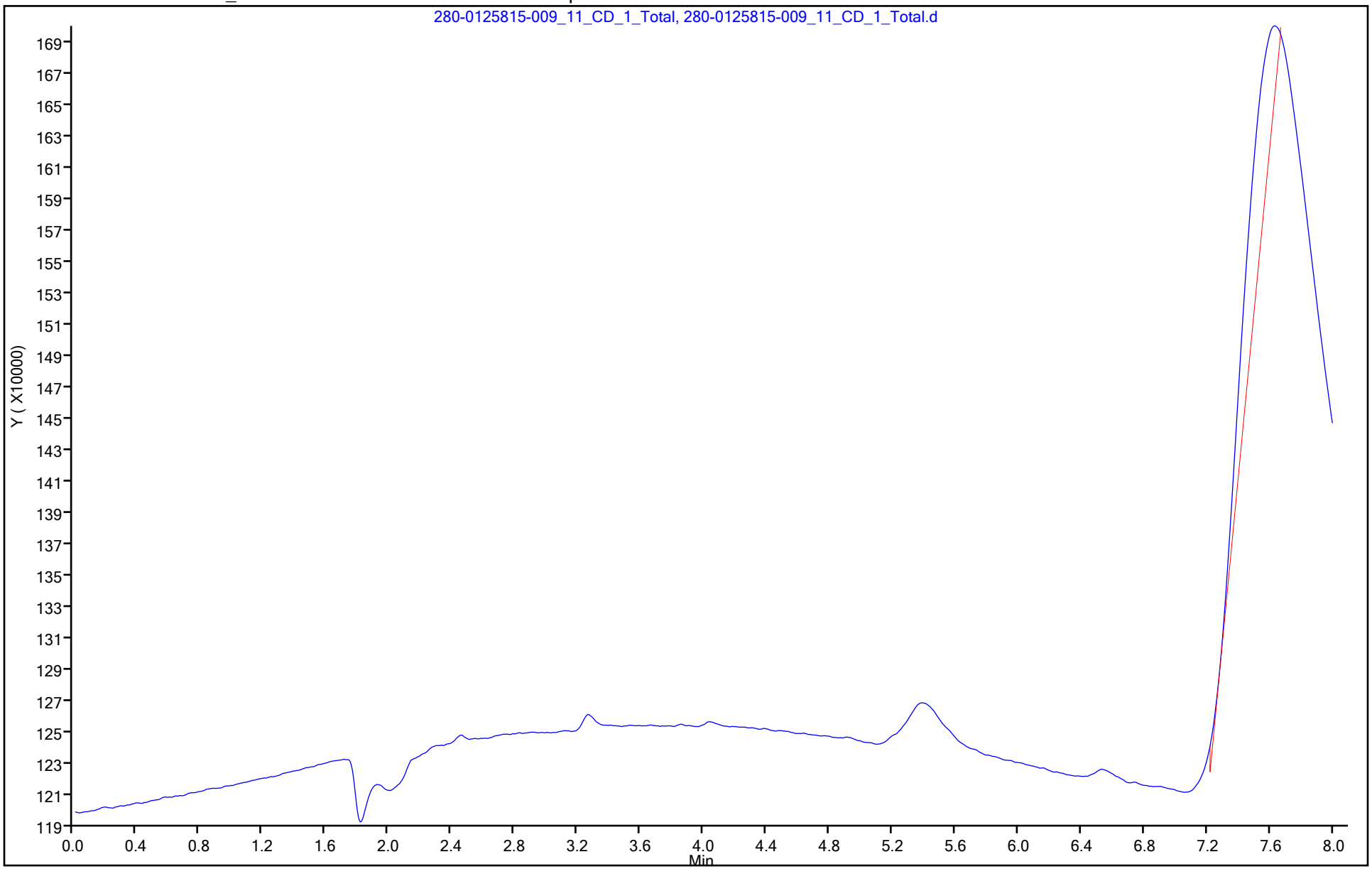
Column 1 : Det: 0005
Process Host: CTX1636

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
1 Fluoride		2.143				ND	
2 Chloride		3.257				ND	
3 Nitrite as N		4.045				ND	
7 Orthophosphate as P		4.713				ND	
4 Bromide		5.723				ND	
6 Sulfate		6.392				ND	
5 Nitrate as N		6.848				ND	

Report Date: 27-Sep-2023 11:13:31 Chrom Revision: 2.3 22-Sep-2023 11:33:50

Eurofins Denver

Data File:	\\chromfs\Denver\ChromData\WC_IonChrom16\20230926-125815.b\280-0125815-009_11_CD_1_Total.d				
Injection Date:	26-Sep-2023 12:40:00	Instrument ID:	WC_IonChrom16	Operator ID:	
Lims ID:	icb			Worklist Smp#:	9
Client ID:					
Injection Vol:	5.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	Anions_IC16	Limit Group:	Wet - Anions 28D		



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Eurofins Denver
Target Compound Quantitation Report

Data File: \\chromfs\Denver\ChromData\WC_IonChrom16\20231221-128814.b\280-0128814-001_02_CD_1_Total.d
Lims ID: ccv
Client ID:
Sample Type: CCV
Inject. Date: 21-Dec-2023 10:16:00 ALS Bottle#: 0 Worklist Smp#: 1
Injection Vol: 5.0 ul Dil. Factor: 1.0000
Sample Info: 280-0128814-001
Misc. Info.: CCV
Operator ID: Instrument ID: WC_IonChrom16
Sublist: chrom-Anions_IC16*sub3

Method: \\chromfs\Denver\ChromData\WC_IonChrom16\20231221-128814.b\Anions_IC16.m
Limit Group: Wet - Anions 28D
Last Update: 22-Dec-2023 11:45:29 Calib Date: 26-Sep-2023 12:07:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Denver\ChromData\WC_IonChrom16\20230926-125815.b\280-0125815-006_08_CD_1_Total.d

Column 1 : Det: 0005
Process Host: CTX1628

First Level Reviewer: BMJ3 Date: 22-Dec-2023 11:29:19

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
1 Fluoride	1.997	1.997	0.000	56608451	5.00	4.60	
2 Chloride	2.683	2.683	0.000	733604113	100.0	97.4	
3 Nitrite as N	3.173	3.173	0.000	91171058	NC	NC	
7 Orthophosphate as P	4.180	4.180	0.000	6595193	NC	NC	
4 Bromide		4.227			ND	ND	
6 Sulfate	4.340	4.340	0.000	545137293	100.0	100.3	
5 Nitrate as N	4.867	4.867	0.000	98448751	NC	NC	

QC Flag Legend

Processing Flags
NC - Not Calibrated
ND - Not Detected or Marked ND

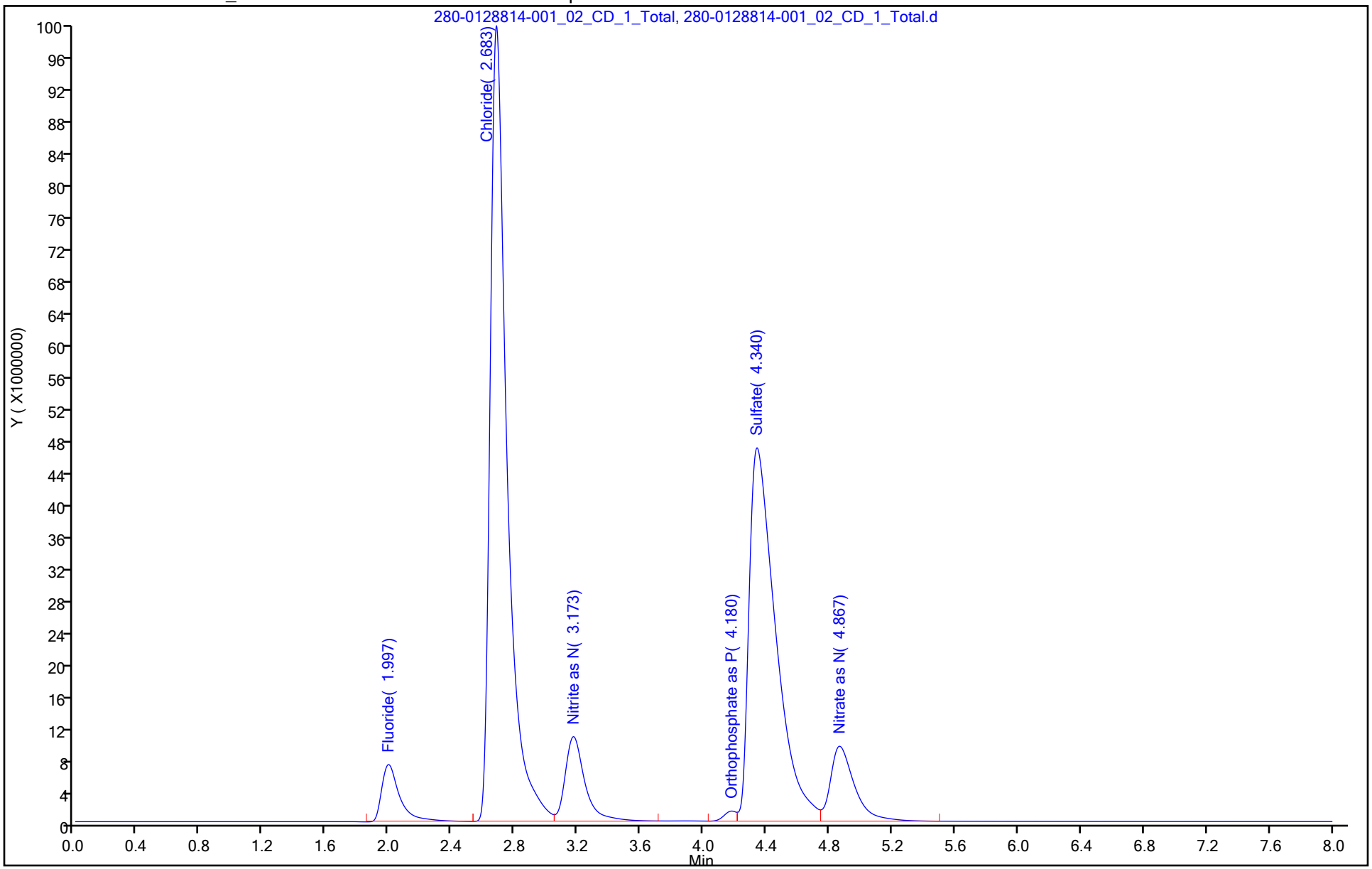
Reagents:

IC LCS_01998 Amount Added: 10.00 Units: mL

Report Date: 22-Dec-2023 11:45:30 Chrom Revision: 2.3 15-Nov-2023 20:54:34

Eurofins Denver

Data File:	\\chromfs\Denver\ChromData\WC_IonChrom16\20231221-128814.b\280-0128814-001_02_CD_1_Total.d				
Injection Date:	21-Dec-2023 10:16:00	Instrument ID:	WC_IonChrom16	Operator ID:	
Lims ID:	ccv			Worklist Smp#:	1
Client ID:					
Injection Vol:	5.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	Anions_IC16	Limit Group:	Wet - Anions 28D		



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Eurofins Denver
Target Compound Quantitation Report

Data File: \\chromfs\Denver\ChromData\WC_IonChrom16\20231221-128814.b\280-0128814-002_03_CD_1_Total.d
Lims ID: ccb
Client ID:
Sample Type: CCB
Inject. Date: 21-Dec-2023 10:27:00 ALS Bottle#: 0 Worklist Smp#: 2
Injection Vol: 5.0 ul Dil. Factor: 1.0000
Sample Info: 280-0128814-002
Misc. Info.: CCB
Operator ID: Instrument ID: WC_IonChrom16

Method: \\chromfs\Denver\ChromData\WC_IonChrom16\20231221-128814.b\Anions_IC16.m
Limit Group: Wet - Anions 28D
Last Update: 22-Dec-2023 11:45:30 Calib Date: 26-Sep-2023 12:07:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Denver\ChromData\WC_IonChrom16\20230926-125815.b\280-0125815-006_08_CD_1_Total.d

Column 1 : Det: 0005
Process Host: CTX1628

First Level Reviewer: BMJ3 Date: 22-Dec-2023 11:29:23

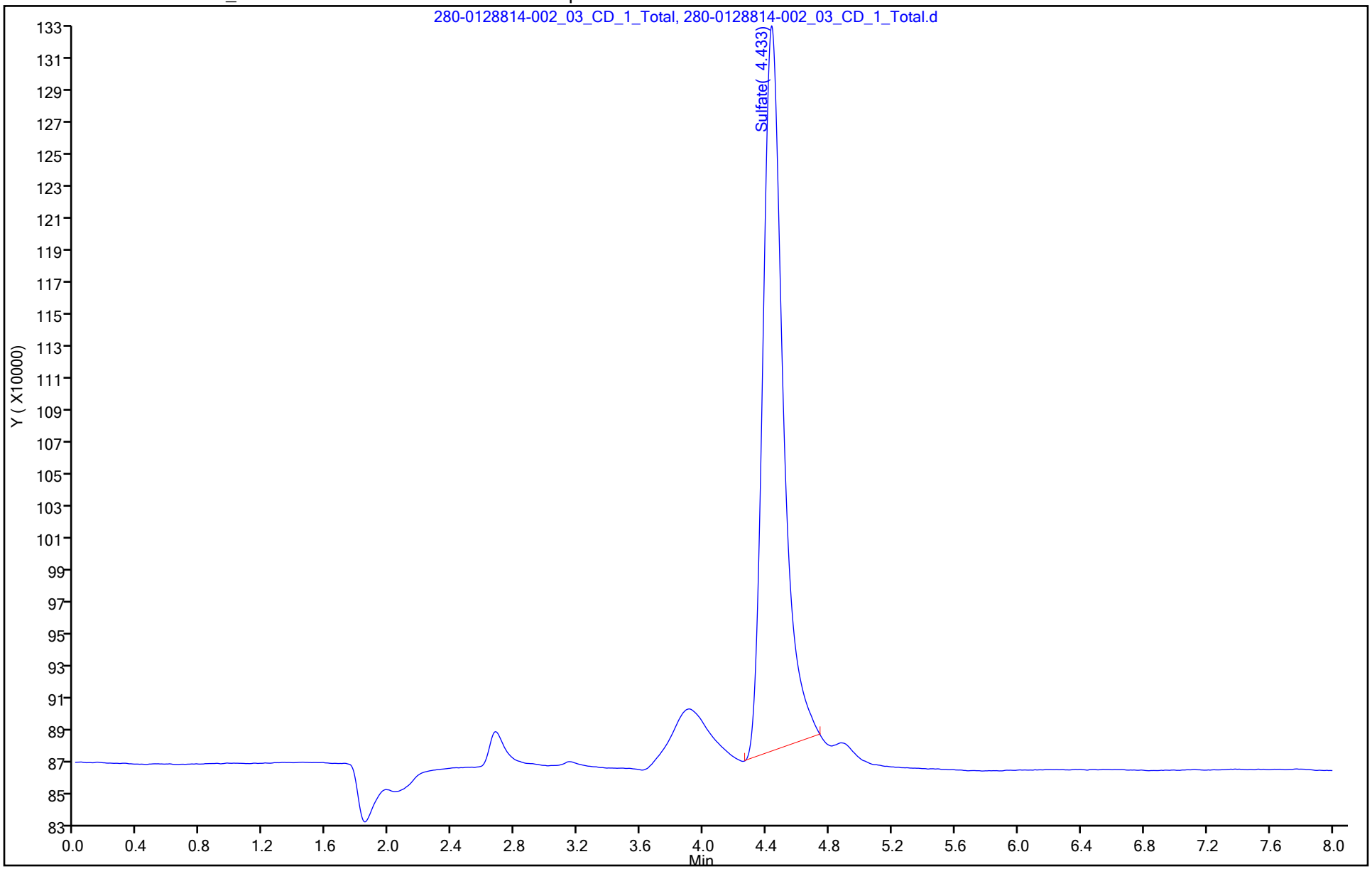
Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
1 Fluoride		1.997				ND	
2 Chloride		2.683				ND	
3 Nitrite as N		3.173				ND	
7 Orthophosphate as P		4.180				ND	
4 Bromide		4.227				ND	
6 Sulfate	4.433	4.433	0.000	4057413		1.19	
5 Nitrate as N		4.867				ND	

QC Flag Legend
Processing Flags

Report Date: 22-Dec-2023 11:45:30 Chrom Revision: 2.3 15-Nov-2023 20:54:34

Eurofins Denver

Data File:	\\chromfs\Denver\ChromData\WC_IonChrom16\20231221-128814.b\280-0128814-002_03_CD_1_Total.d				
Injection Date:	21-Dec-2023 10:27:00	Instrument ID:	WC_IonChrom16	Operator ID:	
Lims ID:	ccb			Worklist Smp#:	2
Client ID:					
Injection Vol:	5.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	Anions_IC16	Limit Group:	Wet - Anions 28D		



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Eurofins Denver
Target Compound Quantitation Report

Data File: \\chromfs\Denver\ChromData\WC_IonChrom16\20231221-128814.b\280-0128814-003_04_CD_1_Total.d
Lims ID: mrl
Client ID:
Sample Type: MRL
Inject. Date: 21-Dec-2023 10:38:00 ALS Bottle#: 0 Worklist Smp#: 3
Injection Vol: 5.0 ul Dil. Factor: 1.0000
Sample Info: 280-0128814-003
Misc. Info.: MRL
Operator ID: Instrument ID: WC_IonChrom16

Method: \\chromfs\Denver\ChromData\WC_IonChrom16\20231221-128814.b\Anions_IC16.m
Limit Group: Wet - Anions 28D
Last Update: 22-Dec-2023 11:45:30 Calib Date: 26-Sep-2023 12:07:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Denver\ChromData\WC_IonChrom16\20230926-125815.b\280-0125815-006_08_CD_1_Total.d

Column 1 : Det: 0005
Process Host: CTX1628

First Level Reviewer: BMJ3 Date: 22-Dec-2023 11:29:29

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
1 Fluoride	1.988	1.988	0.000	4310307	0.5000	0.4361	
2 Chloride	2.682	2.682	0.000	34356463	5.00	4.92	
3 Nitrite as N	3.158	3.158	0.000	7453867	NC	NC	
7 Orthophosphate as P	4.183	4.183	0.000	603588	NC	NC	
4 Bromide		4.227			ND	ND	
6 Sulfate	4.432	4.432	0.000	26991845	5.00	5.39	
5 Nitrate as N	4.890	4.890	0.000	7665891	NC	NC	

QC Flag Legend

Processing Flags
NC - Not Calibrated
ND - Not Detected or Marked ND

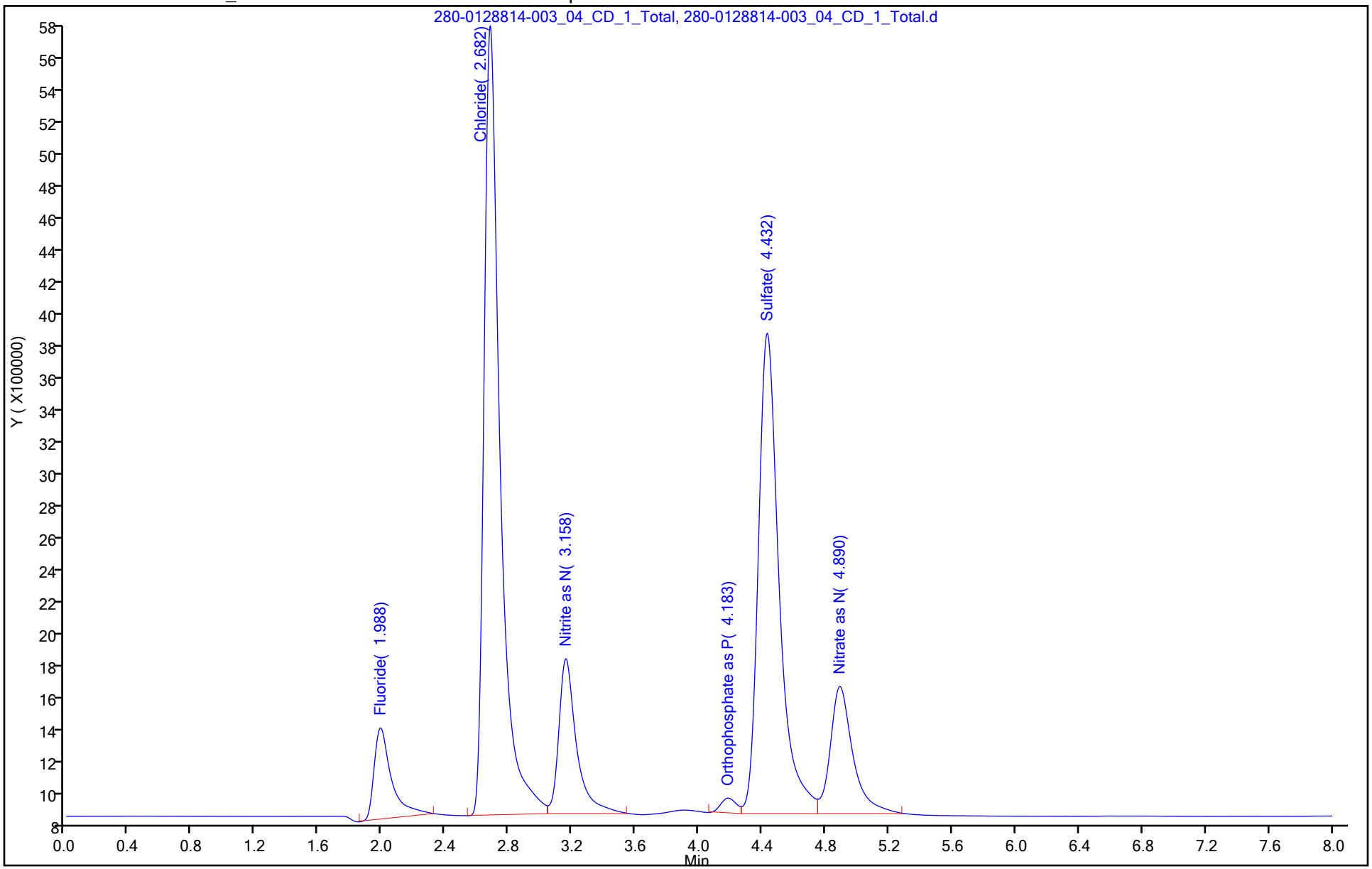
Reagents:

IC CAL cl/so4_00515 Amount Added: 0.20 Units: mL
IC Cal low_00749 Amount Added: 0.10 Units: mL

Report Date: 22-Dec-2023 11:45:31 Chrom Revision: 2.3 15-Nov-2023 20:54:34

Eurofins Denver

Data File:	\\chromfs\Denver\ChromData\WC_IonChrom16\20231221-128814.b\280-0128814-003_04_CD_1_Total.d				
Injection Date:	21-Dec-2023 10:38:00	Instrument ID:	WC_IonChrom16	Operator ID:	
Lims ID:	mrl			Worklist Smp#:	3
Client ID:					
Injection Vol:	5.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	Anions_IC16	Limit Group:	Wet - Anions 28D		



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Eurofins Denver
Target Compound Quantitation Report

Data File: \\chromfs\Denver\ChromData\WC_IonChrom16\20231221-128814.b\280-0128814-004_05_CD_1_Total.d
Lims ID: lcs
Client ID:
Sample Type: LCS
Inject. Date: 21-Dec-2023 10:49:00 ALS Bottle#: 0 Worklist Smp#: 4
Injection Vol: 5.0 ul Dil. Factor: 1.0000
Sample Info: 280-0128814-004
Misc. Info.: LCS
Operator ID: Instrument ID: WC_IonChrom16

Method: \\chromfs\Denver\ChromData\WC_IonChrom16\20231221-128814.b\Anions_IC16.m
Limit Group: Wet - Anions 28D
Last Update: 22-Dec-2023 11:45:31 Calib Date: 26-Sep-2023 12:07:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Denver\ChromData\WC_IonChrom16\20230926-125815.b\280-0125815-006_08_CD_1_Total.d

Column 1 : Det: 0005
Process Host: CTX1628

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
1 Fluoride	1.998	1.998	0.000	55768820	5.00	4.53	
2 Chloride	2.687	2.687	0.000	729020706	100.0	96.8	
3 Nitrite as N	3.178	3.178	0.000	89777461	NC	NC	
7 Orthophosphate as P	4.185	4.185	0.000	6146999	NC	NC	
4 Bromide		4.227			ND	ND	
6 Sulfate	4.343	4.343	0.000	537145757	100.0	98.8	
5 Nitrate as N	4.870	4.870	0.000	96592582	NC	NC	

QC Flag Legend

Processing Flags
NC - Not Calibrated
ND - Not Detected or Marked ND

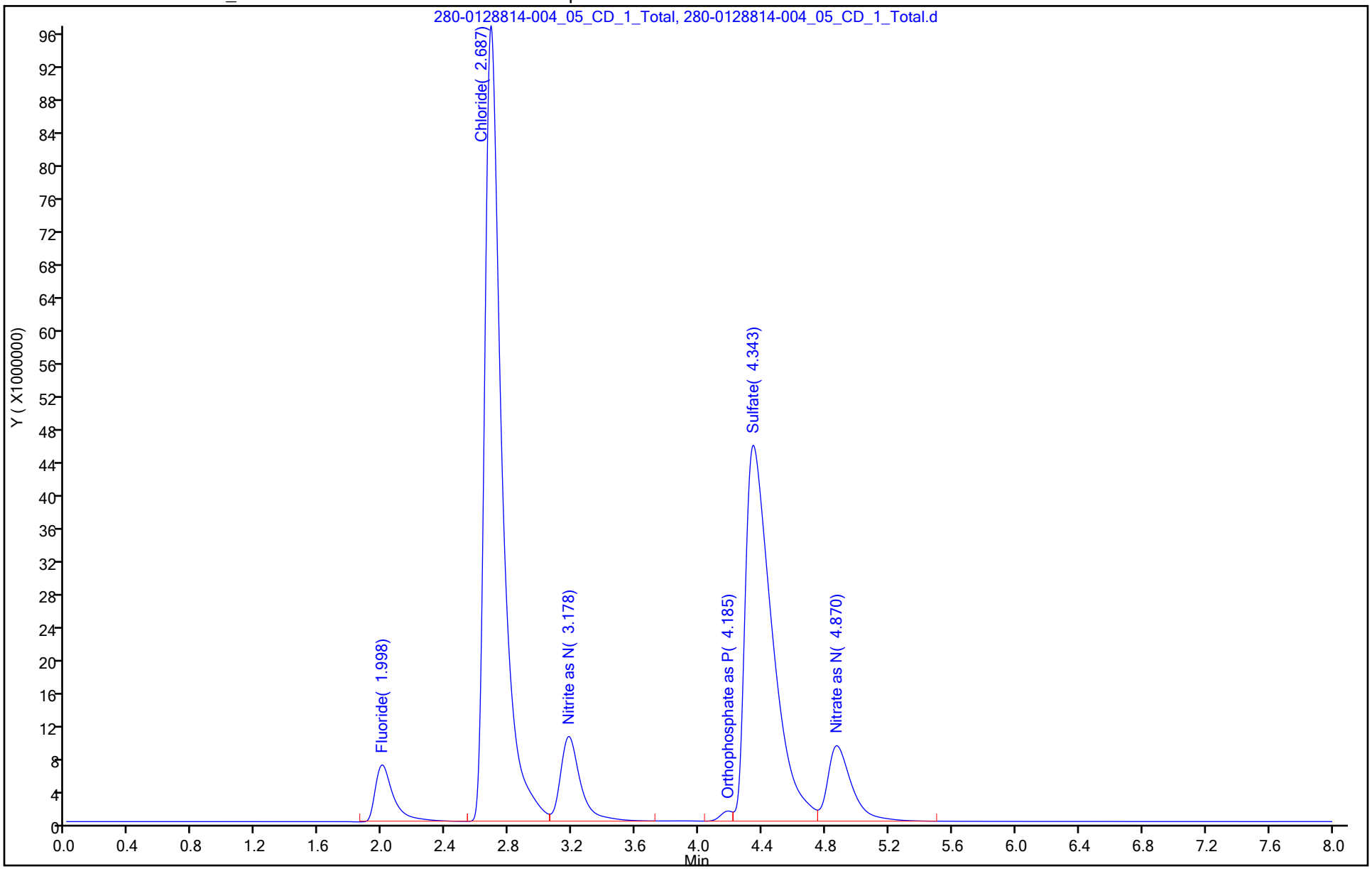
Reagents:

IC LCS_01998 Amount Added: 10.00 Units: mL

Report Date: 22-Dec-2023 11:45:31 Chrom Revision: 2.3 15-Nov-2023 20:54:34

Eurofins Denver

Data File:	\\chromfs\Denver\ChromData\WC_IonChrom16\20231221-128814.b\280-0128814-004_05_CD_1_Total.d				
Injection Date:	21-Dec-2023 10:49:00	Instrument ID:	WC_IonChrom16	Operator ID:	
Lims ID:	lcs			Worklist Smp#:	4
Client ID:					
Injection Vol:	5.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	Anions_IC16	Limit Group:	Wet - Anions 28D		



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Eurofins Denver
Target Compound Quantitation Report

Data File: \\chromfs\Denver\ChromData\WC_IonChrom16\20231221-128814.b\280-0128814-005_06_CD_1_Total.d
Lims ID: lcsd
Client ID:
Sample Type: LCSD
Inject. Date: 21-Dec-2023 11:00:00 ALS Bottle#: 0 Worklist Smp#: 5
Injection Vol: 5.0 ul Dil. Factor: 1.0000
Sample Info: 280-0128814-005
Misc. Info.: LCSD
Operator ID: Instrument ID: WC_IonChrom16

Method: \\chromfs\Denver\ChromData\WC_IonChrom16\20231221-128814.b\Anions_IC16.m
Limit Group: Wet - Anions 28D
Last Update: 22-Dec-2023 11:45:32 Calib Date: 26-Sep-2023 12:07:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Denver\ChromData\WC_IonChrom16\20230926-125815.b\280-0125815-006_08_CD_1_Total.d

Column 1 : Det: 0005
Process Host: CTX1628

First Level Reviewer: BMJ3 Date: 22-Dec-2023 11:29:37

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
1 Fluoride	1.990	1.990	0.000	55508548	5.00	4.51	
2 Chloride	2.677	2.677	0.000	726476804	100.0	96.5	
3 Nitrite as N	3.165	3.165	0.000	90058320	NC	NC	
7 Orthophosphate as P	4.172	4.172	0.000	6293926	NC	NC	
4 Bromide		4.227			ND	ND	
6 Sulfate	4.332	4.332	0.000	535171601	100.0	98.4	
5 Nitrate as N	4.860	4.860	0.000	97142618	NC	NC	

QC Flag Legend

Processing Flags
NC - Not Calibrated
ND - Not Detected or Marked ND

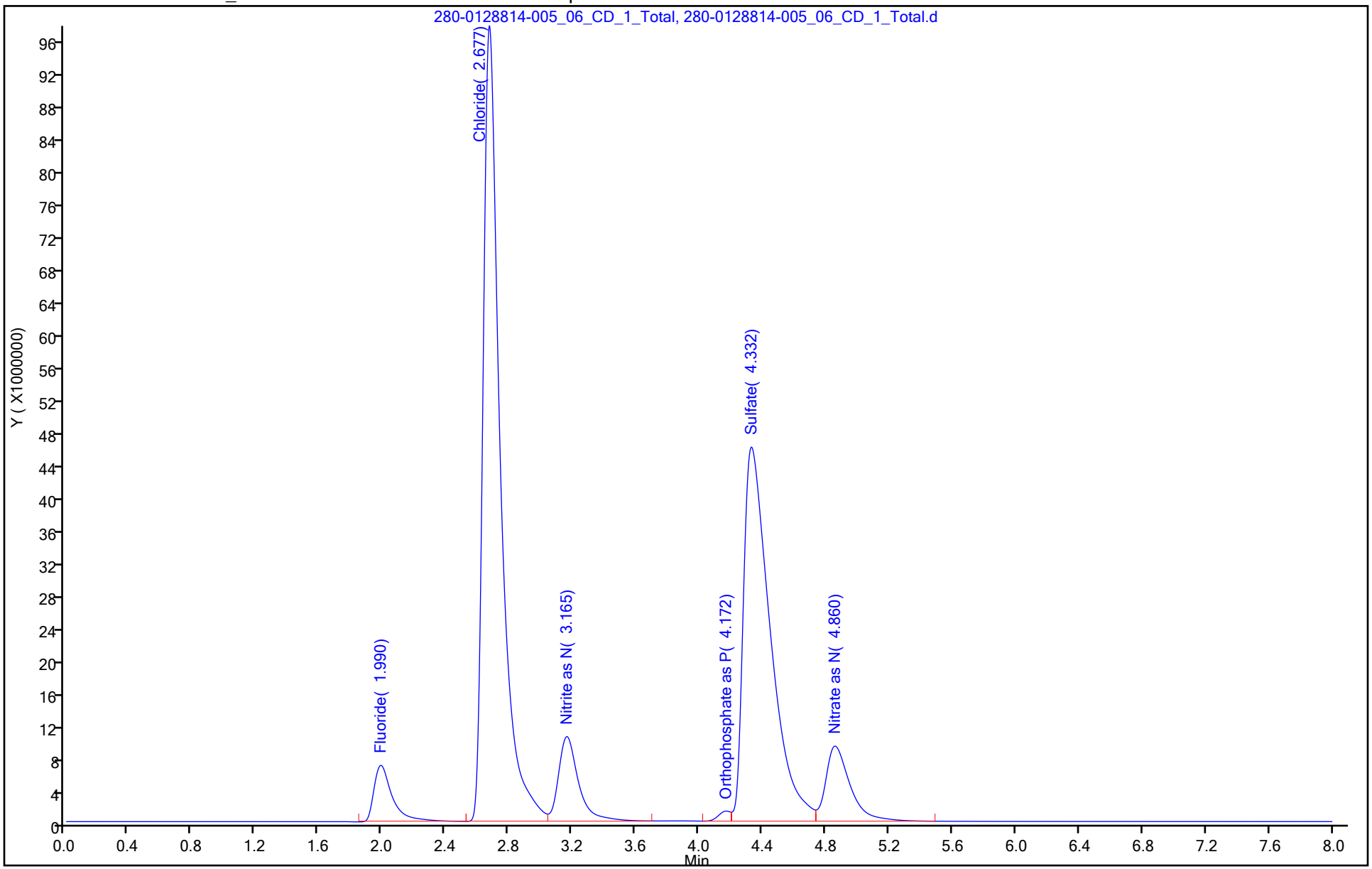
Reagents:

IC LCS_01998 Amount Added: 10.00 Units: mL

Report Date: 22-Dec-2023 11:45:32 Chrom Revision: 2.3 15-Nov-2023 20:54:34

Eurofins Denver

Data File:	\\chromfs\Denver\ChromData\WC_IonChrom16\20231221-128814.b\280-0128814-005_06_CD_1_Total.d				
Injection Date:	21-Dec-2023 11:00:00	Instrument ID:	WC_IonChrom16	Operator ID:	
Lims ID:	lcsd			Worklist Smp#:	5
Client ID:					
Injection Vol:	5.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	Anions_IC16	Limit Group:	Wet - Anions 28D		



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Eurofins Denver
Target Compound Quantitation Report

Data File:	\\chromfs\Denver\ChromData\WC_IonChrom16\20231221-128814.b\280-0128814-006_07_CD_1_Total.d				
Lims ID:	mb				
Client ID:					
Sample Type:	MB				
Inject. Date:	21-Dec-2023 11:11:00	ALS Bottle#:	0	Worklist Smp#:	6
Injection Vol:	5.0 ul	Dil. Factor:	1.0000		
Sample Info:	280-0128814-006				
Misc. Info.:	MB				
Operator ID:		Instrument ID:	WC_IonChrom16		
Method:	\\chromfs\Denver\ChromData\WC_IonChrom16\20231221-128814.b\Anions_IC16.m				
Limit Group:	Wet - Anions 28D				
Last Update:	22-Dec-2023 11:45:32	Calib Date:	26-Sep-2023 12:07:00		
Integrator:	Falcon				
Quant Method:	External Standard	Quant By:	Initial Calibration		
Last ICal File:	\\chromfs\Denver\ChromData\WC_IonChrom16\20230926-125815.b\280-0125815-006_08_CD_1_Total.d				
Column 1 :			Det: 0005		
Process Host:	CTX1628				
First Level Reviewer: BMJ3		Date:	22-Dec-2023 11:29:41		

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
1 Fluoride		1.990				ND	
2 Chloride		2.677				ND	
3 Nitrite as N		3.165				ND	
7 Orthophosphate as P		4.172				ND	
4 Bromide		4.227				ND	
6 Sulfate	4.442	4.442	0.000	696198		0.5711	
5 Nitrate as N		4.860				ND	

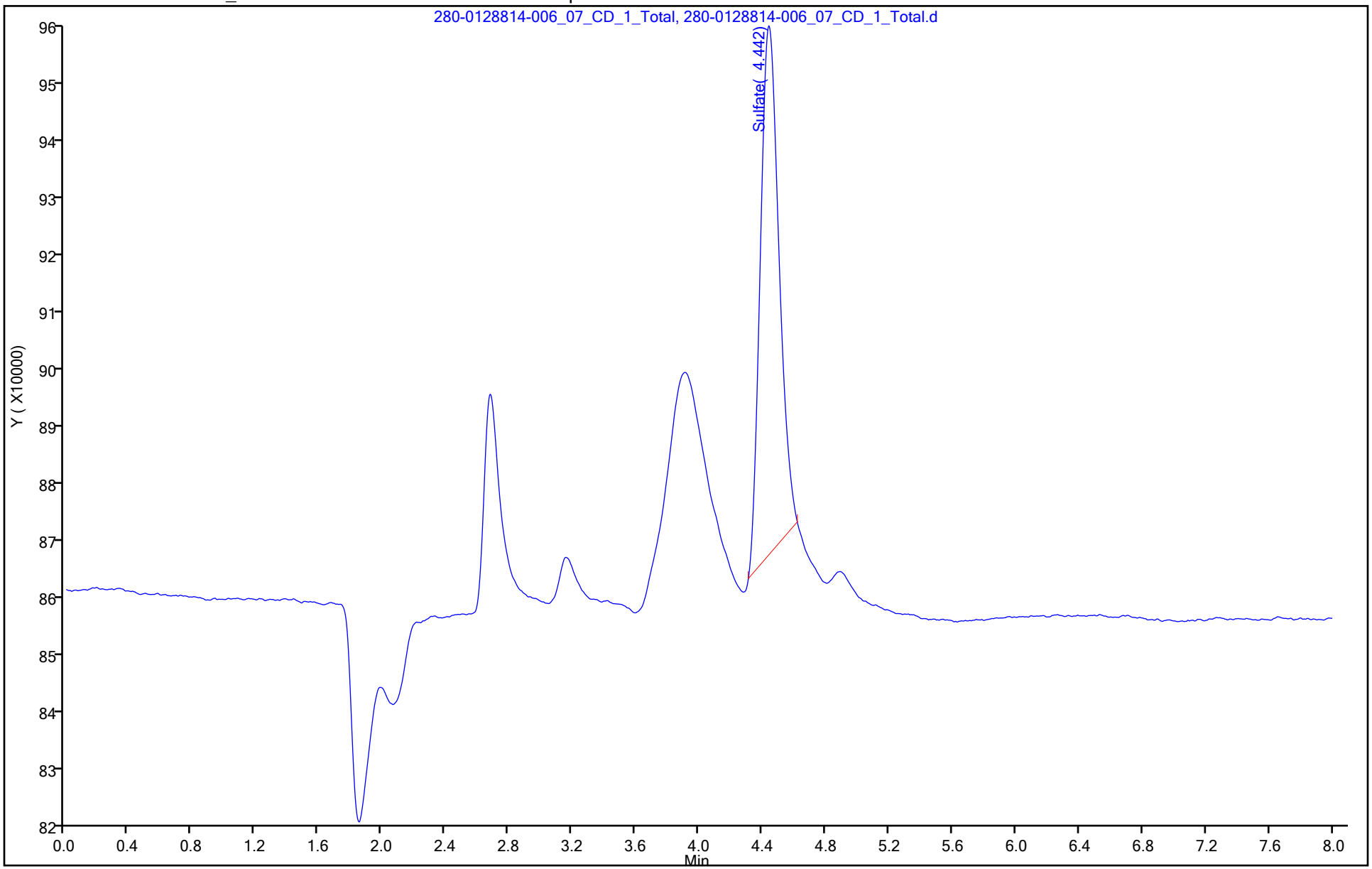
QC Flag Legend

Processing Flags

Report Date: 22-Dec-2023 11:45:32 Chrom Revision: 2.3 15-Nov-2023 20:54:34

Eurofins Denver

Data File:	\\chromfs\Denver\ChromData\WC_IonChrom16\20231221-128814.b\280-0128814-006_07_CD_1_Total.d				
Injection Date:	21-Dec-2023 11:11:00	Instrument ID:	WC_IonChrom16	Operator ID:	
Lims ID:	mb			Worklist Smp#:	6
Client ID:					
Injection Vol:	5.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	Anions_IC16	Limit Group:	Wet - Anions 28D		



12/29/2023
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Eurofins Denver
Target Compound Quantitation Report

Data File: \\chromfs\Denver\ChromData\WC_IonChrom16\20231221-128814.b\280-0128814-015_16_CD_1_Total.d
Lims ID: 280-185814-C-2
Client ID: TV044-EB011223
Sample Type: Client
Inject. Date: 21-Dec-2023 14:32:00 ALS Bottle#: 0 Worklist Smp#: 15
Injection Vol: 5.0 ul Dil. Factor: 1.0000
Sample Info: 280-0128814-015
Misc. Info.: 280-185814-C-2
Operator ID: Instrument ID: WC_IonChrom16

Method: \\chromfs\Denver\ChromData\WC_IonChrom16\20231221-128814.b\Anions_IC16.m
Limit Group: Wet - Anions 28D
Last Update: 22-Dec-2023 11:45:32 Calib Date: 26-Sep-2023 12:07:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Denver\ChromData\WC_IonChrom16\20230926-125815.b\280-0125815-006_08_CD_1_Total.d

Column 1 : Det: 0005
Process Host: CTX1628

First Level Reviewer: BMJ3 Date: 22-Dec-2023 11:31:52

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	OnCol Amt ug/ml	Flags
1 Fluoride		1.990			ND	
2 Chloride	2.673	2.677	-0.004	91731745	12.5	
3 Nitrite as N		3.165			ND	
7 Orthophosphate as P	3.890	4.172	-0.282	2437498	NC	
4 Bromide		4.227			ND	
6 Sulfate	4.420	4.442	-0.022	3584963	1.10	
5 Nitrate as N		4.860			ND	

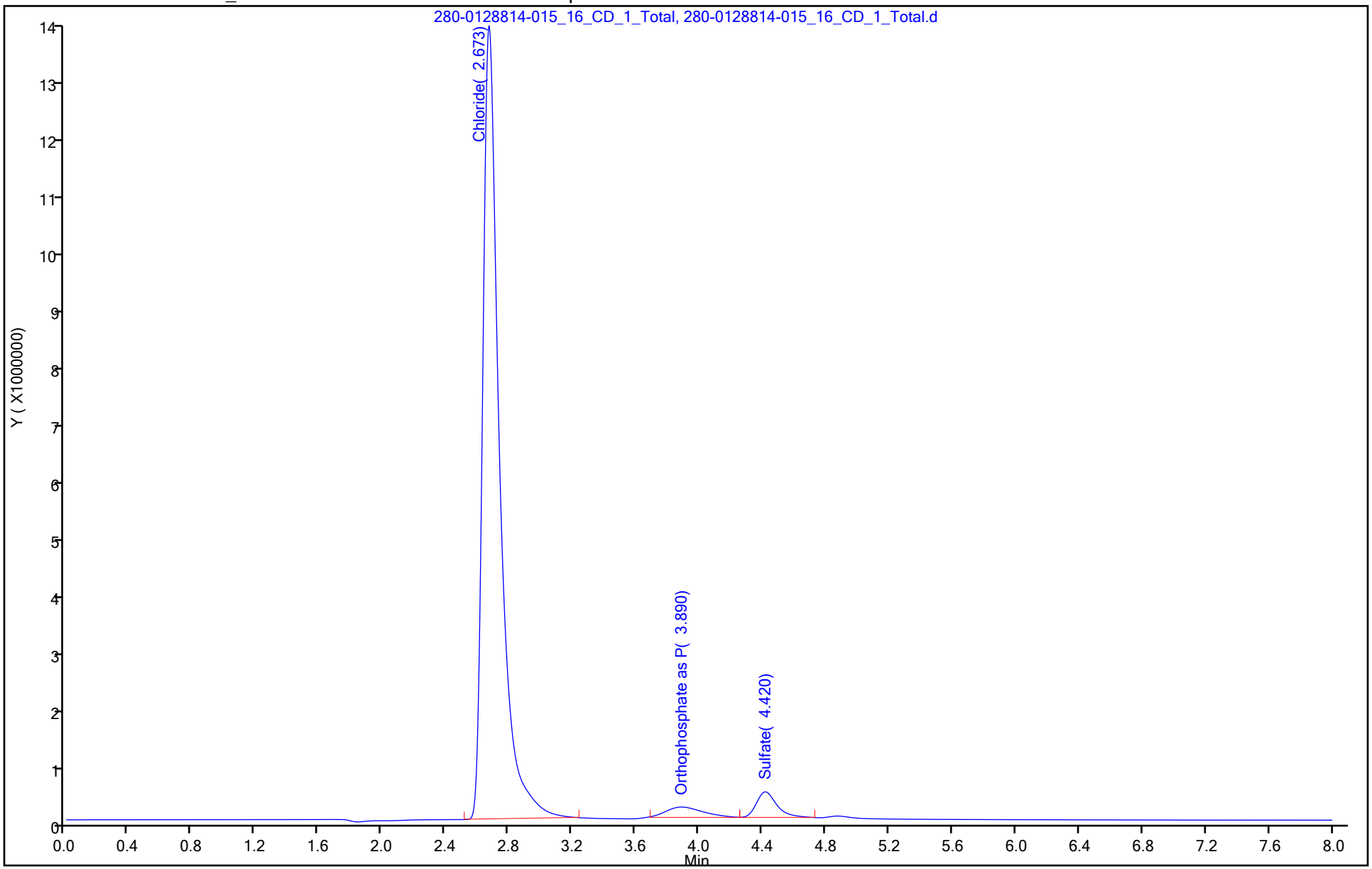
QC Flag Legend

Processing Flags
NC - Not Calibrated

Report Date: 22-Dec-2023 11:45:37 Chrom Revision: 2.3 15-Nov-2023 20:54:34

Eurofins Denver

Data File:	\\chromfs\Denver\ChromData\WC_IonChrom16\20231221-128814.b\280-0128814-015_16_CD_1_Total.d				
Injection Date:	21-Dec-2023 14:32:00	Instrument ID:	WC_IonChrom16	Operator ID:	
Lims ID:	280-185814-C-2	Lab Sample ID:	280-185814-2	Worklist Smp#:	15
Client ID:	TV044-EB011223				
Injection Vol:	5.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	Anions_IC16	Limit Group:	Wet - Anions 28D		



12/29/2023
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Eurofins Denver
Target Compound Quantitation Report

Data File: \\chromfs\Denver\ChromData\WC_IonChrom16\20231221-128814.b\280-0128814-016_17_CD_1_Total.d
Lims ID: 280-185814-C-3
Client ID: TV044-MW81223A
Sample Type: Client
Inject. Date: 21-Dec-2023 14:43:00 ALS Bottle#: 0 Worklist Smp#: 16
Injection Vol: 5.0 ul Dil. Factor: 1.0000
Sample Info: 280-0128814-016
Misc. Info.: 280-185814-C-3
Operator ID: Instrument ID: WC_IonChrom16

Method: \\chromfs\Denver\ChromData\WC_IonChrom16\20231221-128814.b\Anions_IC16.m
Limit Group: Wet - Anions 28D
Last Update: 22-Dec-2023 11:45:32 Calib Date: 26-Sep-2023 12:07:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Denver\ChromData\WC_IonChrom16\20230926-125815.b\280-0125815-006_08_CD_1_Total.d

Column 1 : Det: 0005
Process Host: CTX1628

First Level Reviewer: BMJ3 Date: 22-Dec-2023 11:32:09

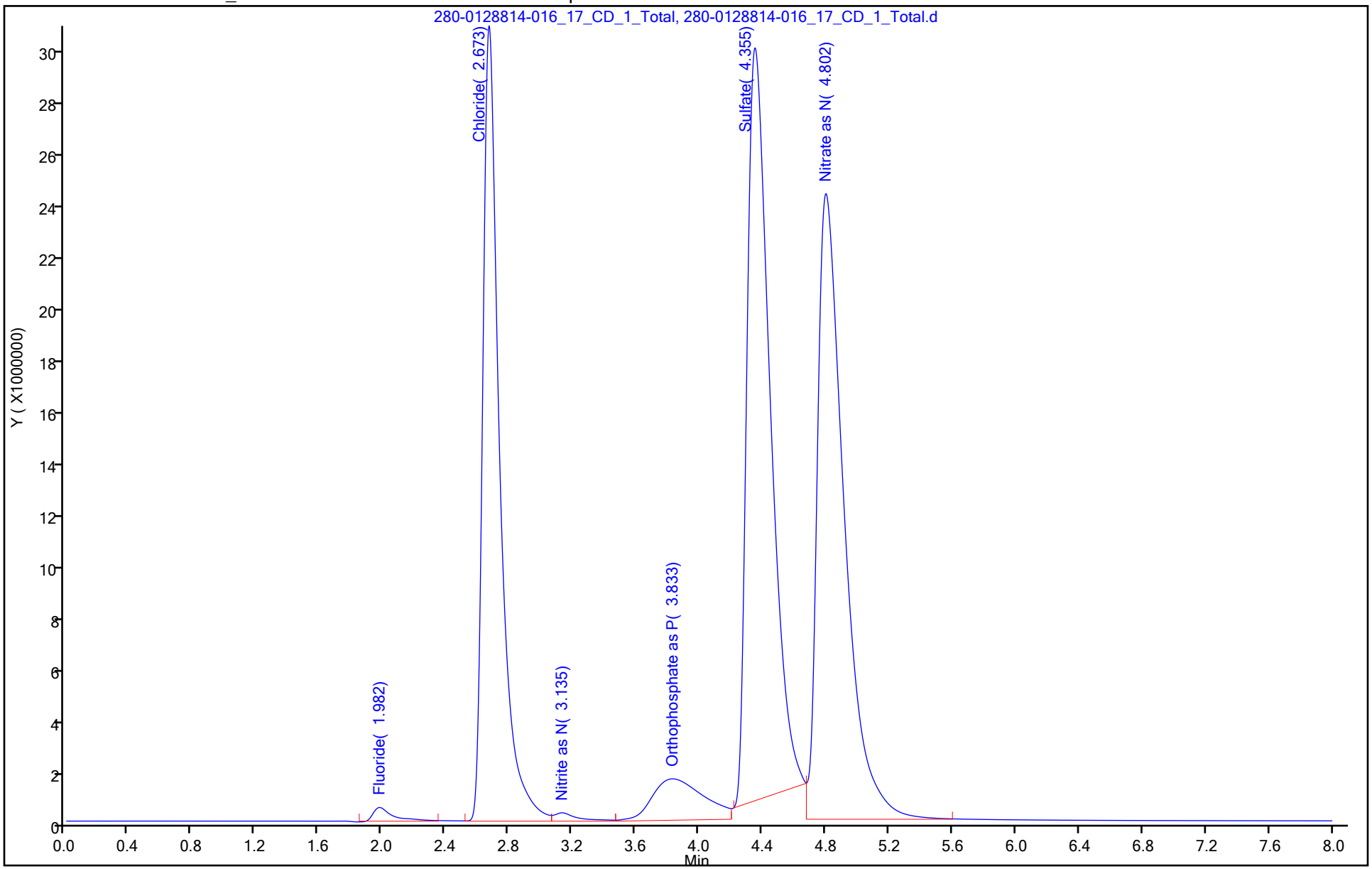
Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	OnCol Amt ug/ml	Flags
1 Fluoride	1.982	1.990	-0.008	4589132	0.4583	
2 Chloride	2.673	2.677	-0.004	223164059	29.9	
3 Nitrite as N	3.135	3.165	-0.030	2624317	NC	
7 Orthophosphate as P	3.833	4.172	-0.339	35388844	NC	
4 Bromide		4.227			ND	
6 Sulfate	4.355	4.442	-0.087	290719523	53.7	M
5 Nitrate as N	4.802	4.860	-0.058	279753891	NC	

QC Flag Legend

Processing Flags
NC - Not Calibrated
Review Flags
M - Manually Integrated

Eurofins Denver

Data File:	\\chromfs\Denver\ChromData\WC_IonChrom16\20231221-128814.b\280-0128814-016_17_CD_1_Total.d				
Injection Date:	21-Dec-2023 14:43:00	Instrument ID:	WC_IonChrom16	Operator ID:	
Lims ID:	280-185814-C-3	Lab Sample ID:	280-185814-3	Worklist Smp#:	16
Client ID:	TV044-MW81223A				
Injection Vol:	5.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	Anions_IC16	Limit Group:	Wet - Anions 28D		



Eurofins Denver

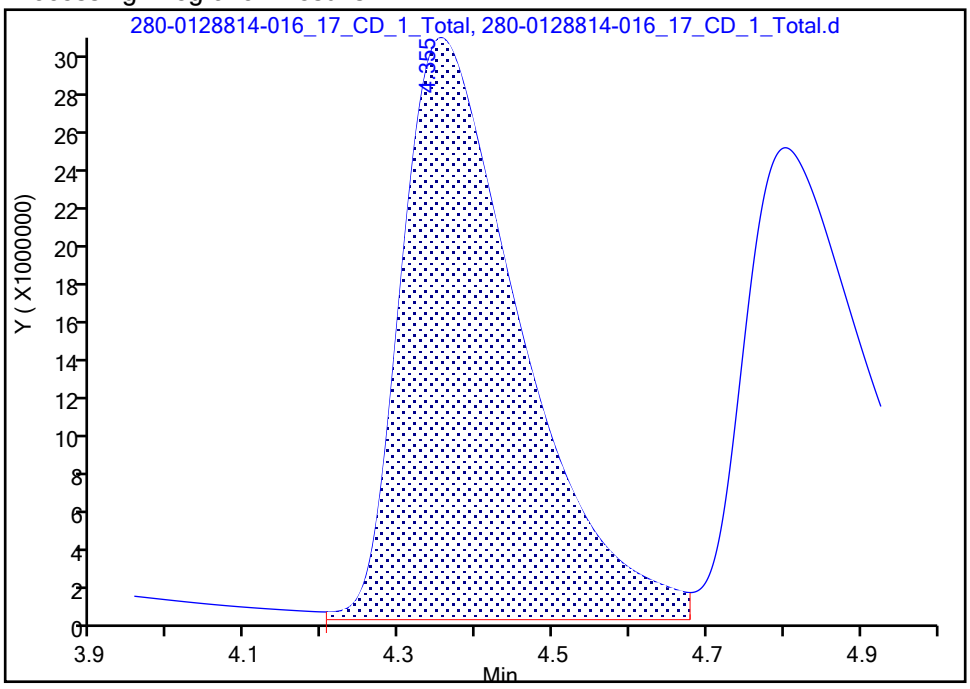
Data File:	\\chromfs\Denver\ChromData\WC_IonChrom16\20231221-128814.b\280-0128814-016_17_CD_1_Total.d				
Injection Date:	21-Dec-2023 14:43:00	Instrument ID:	WC_IonChrom16		
Lims ID:	280-185814-C-3	Lab Sample ID:	280-185814-3		
Client ID:	TV044-MW81223A				
Operator ID:		ALS Bottle#:	0	Worklist Smp#:	16
Injection Vol:	5.0 ul	Dil. Factor:	1.0000		
Method:	Anions_IC16	Limit Group:	Wet - Anions 28D		
Column:		Detector	0005		

6 Sulfate, CAS: 14808-79-8

Signal: 1

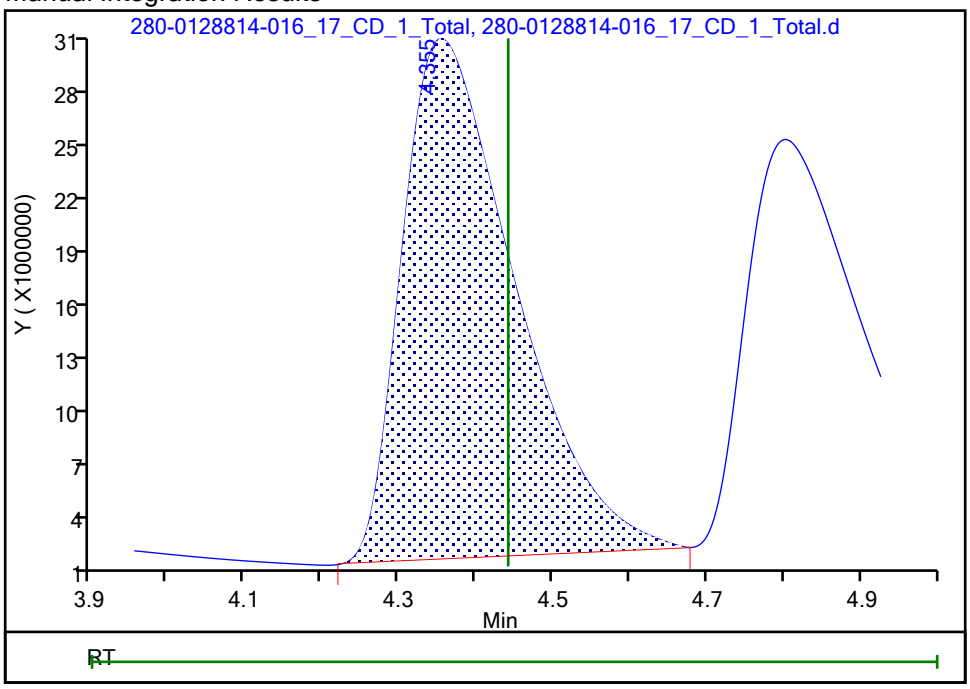
Processing Integration Results

RT: 4.36
Area: 316386965
Amount: 58.372583
Amount Units: ug/ml



Manual Integration Results

RT: 4.36
Area: 290719523
Amount: 53.672996
Amount Units: ug/ml



Reviewer: BMJ3, 22-Dec-2023 11:32:07 -07:00:00 (UTC)
Audit Action: Manually Integrated Audit Reason: Baseline Smoothing

Eurofins Denver
Target Compound Quantitation Report

Data File: \\chromfs\Denver\ChromData\WC_IonChrom16\20231221-128814.b\280-0128814-017_18_CD_1_Total.d
Lims ID: 280-185814-C-7
Client ID: TV044-MW22D1223A
Sample Type: Client
Inject. Date: 21-Dec-2023 14:54:00 ALS Bottle#: 0 Worklist Smp#: 17
Injection Vol: 5.0 ul Dil. Factor: 1.0000
Sample Info: 280-0128814-017
Misc. Info.: 280-185814-C-7
Operator ID: Instrument ID: WC_IonChrom16

Method: \\chromfs\Denver\ChromData\WC_IonChrom16\20231221-128814.b\Anions_IC16.m
Limit Group: Wet - Anions 28D
Last Update: 22-Dec-2023 11:45:32 Calib Date: 26-Sep-2023 12:07:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Denver\ChromData\WC_IonChrom16\20230926-125815.b\280-0125815-006_08_CD_1_Total.d

Column 1 : Det: 0005
Process Host: CTX1628

First Level Reviewer: BMJ3 Date: 22-Dec-2023 11:32:31

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	OnCol Amt ug/ml	Flags
1 Fluoride	1.988	1.990	-0.002	2063920	0.2574	M
2 Chloride	2.673	2.677	-0.004	1769012796	234.4	E
3 Nitrite as N		3.165			ND	
7 Orthophosphate as P	3.710	4.172	-0.462	95875585	NC	
4 Bromide		4.227			ND	
6 Sulfate	4.400	4.442	-0.042	3182100	1.03	M
5 Nitrate as N		4.860			ND	

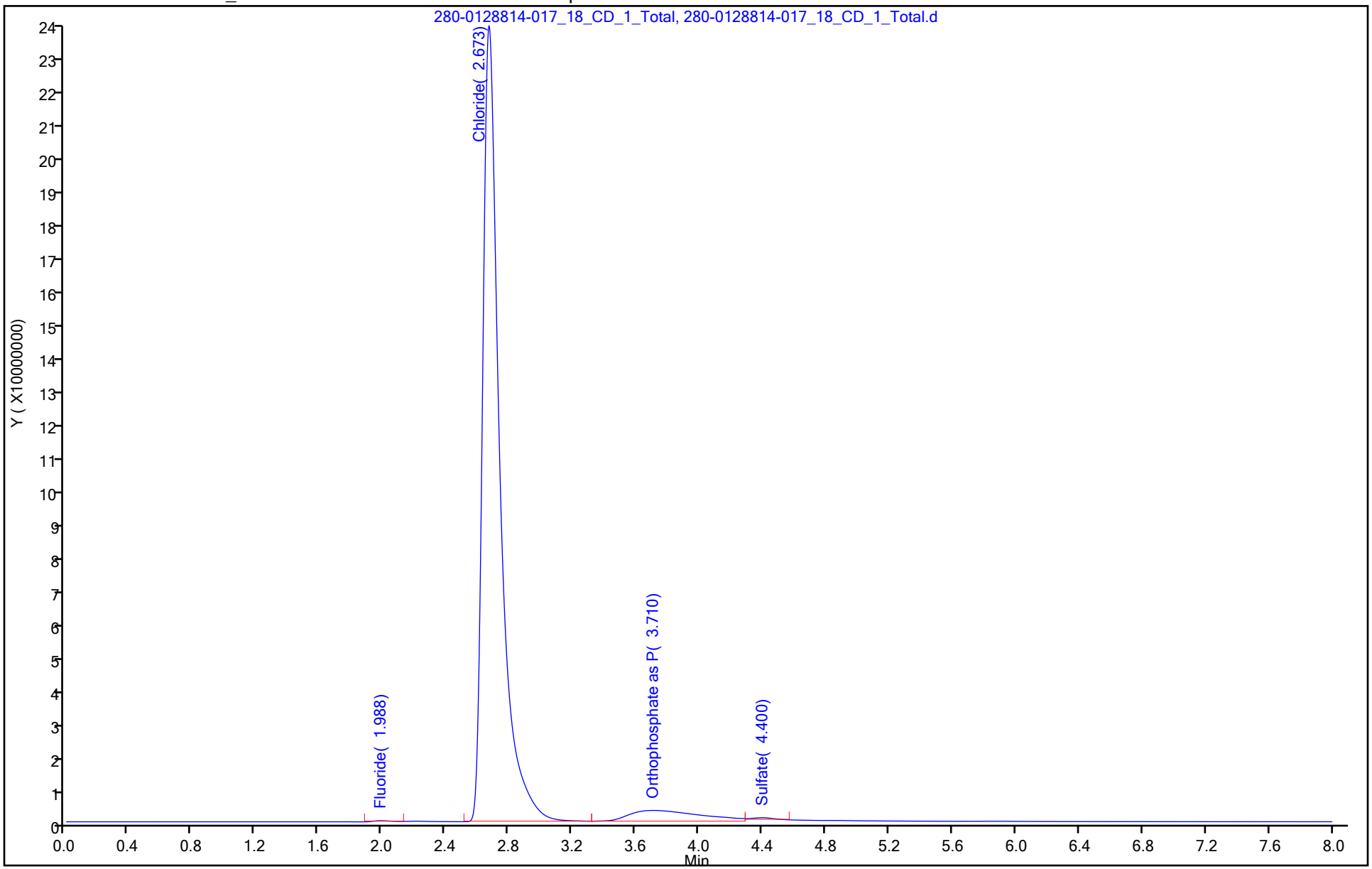
QC Flag Legend

Processing Flags
NC - Not Calibrated
E - Exceeded Maximum Amount
Review Flags
M - Manually Integrated

Report Date: 22-Dec-2023 11:45:37 Chrom Revision: 2.3 15-Nov-2023 20:54:34

Eurofins Denver

Data File:	\\chromfs\Denver\ChromData\WC_IonChrom16\20231221-128814.b\280-0128814-017_18_CD_1_Total.d				
Injection Date:	21-Dec-2023 14:54:00	Instrument ID:	WC_IonChrom16	Operator ID:	
Lims ID:	280-185814-C-7	Lab Sample ID:	280-185814-7	Worklist Smp#:	17
Client ID:	TV044-MW22D1223A				
Injection Vol:	5.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	Anions_IC16	Limit Group:	Wet - Anions 28D		



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Manual Integration/User Assign Peak Report

Eurofins Denver

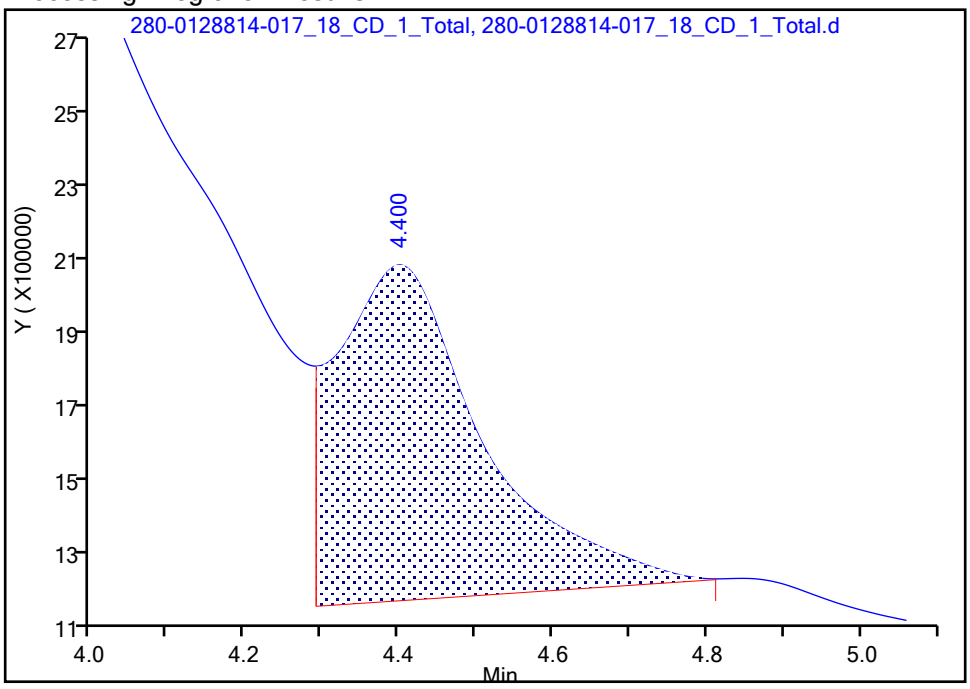
Data File:	\\chromfs\Denver\ChromData\WC_IonChrom16\20231221-128814.b\280-0128814-017_18_CD_1_Total.d				
Injection Date:	21-Dec-2023 14:54:00	Instrument ID:	WC_IonChrom16		
Lims ID:	280-185814-C-7	Lab Sample ID:	280-185814-7		
Client ID:	TV044-MW22D1223A				
Operator ID:		ALS Bottle#:	0	Worklist Smp#:	17
Injection Vol:	5.0 ul	Dil. Factor:	1.0000		
Method:	Anions_IC16	Limit Group:	Wet - Anions 28D		
Column:		Detector	0005		

6 Sulfate, CAS: 14808-79-8

Signal: 1

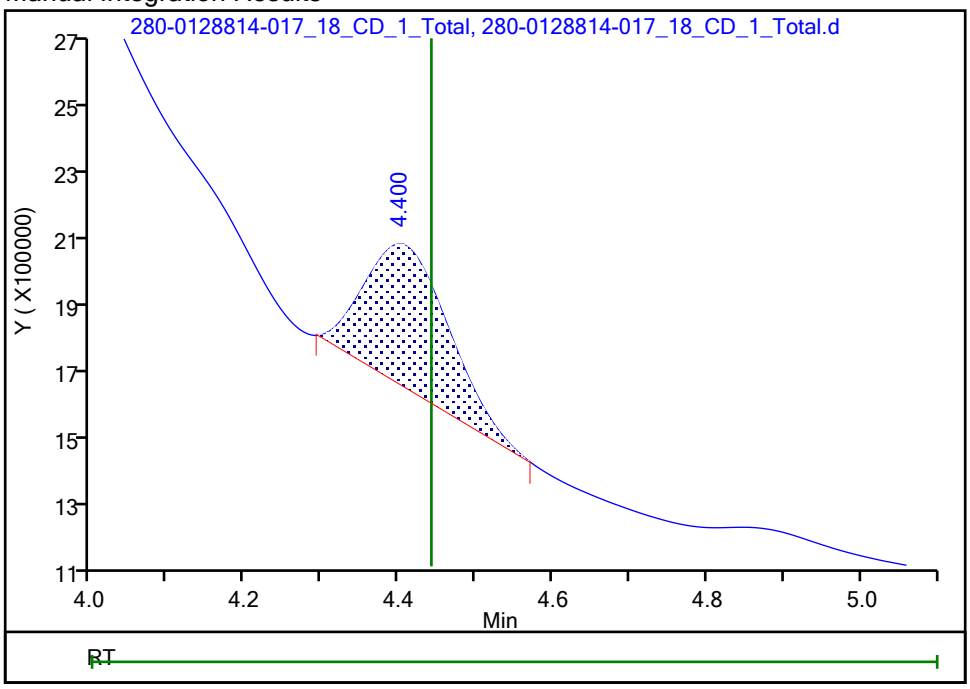
Processing Integration Results

RT: 4.40
Area: 11573226
Amount: 2.562634
Amount Units: ug/ml



Manual Integration Results

RT: 4.40
Area: 3182100
Amount: 1.026259
Amount Units: ug/ml



Reviewer: BMJ3, 22-Dec-2023 11:32:29 -07:00:00 (UTC)

Audit Action: Manually Integrated Audit Reason: Baseline Smoothing

Eurofins Denver
Target Compound Quantitation Report

Data File: \\chromfs\Denver\ChromData\WC_IonChrom16\20231221-128814.b\280-0128814-018_19_CD_1_Total.d
Lims ID: 280-185814-C-10
Client ID: TV044-MW131223A
Sample Type: Client
Inject. Date: 21-Dec-2023 15:05:00 ALS Bottle#: 0 Worklist Smp#: 18
Injection Vol: 5.0 ul Dil. Factor: 1.0000
Sample Info: 280-0128814-018
Misc. Info.: 280-185814-C-10
Operator ID: Instrument ID: WC_IonChrom16

Method: \\chromfs\Denver\ChromData\WC_IonChrom16\20231221-128814.b\Anions_IC16.m
Limit Group: Wet - Anions 28D
Last Update: 22-Dec-2023 11:45:32 Calib Date: 26-Sep-2023 12:07:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Denver\ChromData\WC_IonChrom16\20230926-125815.b\280-0125815-006_08_CD_1_Total.d

Column 1 : Det: 0005
Process Host: CTX1628

First Level Reviewer: BMJ3 Date: 22-Dec-2023 11:32:56

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	OnCol Amt ug/ml	Flags
1 Fluoride	1.995	1.990	0.005	4255265	0.4318	M
2 Chloride	2.678	2.677	0.001	1517207262	201.1	E
3 Nitrite as N	3.643	3.165	0.478	147450953	NC	
7 Orthophosphate as P		4.172			ND	
4 Bromide		4.227			ND	
6 Sulfate	4.397	4.442	-0.045	2578734	0.9158	M
5 Nitrate as N		4.860			ND	

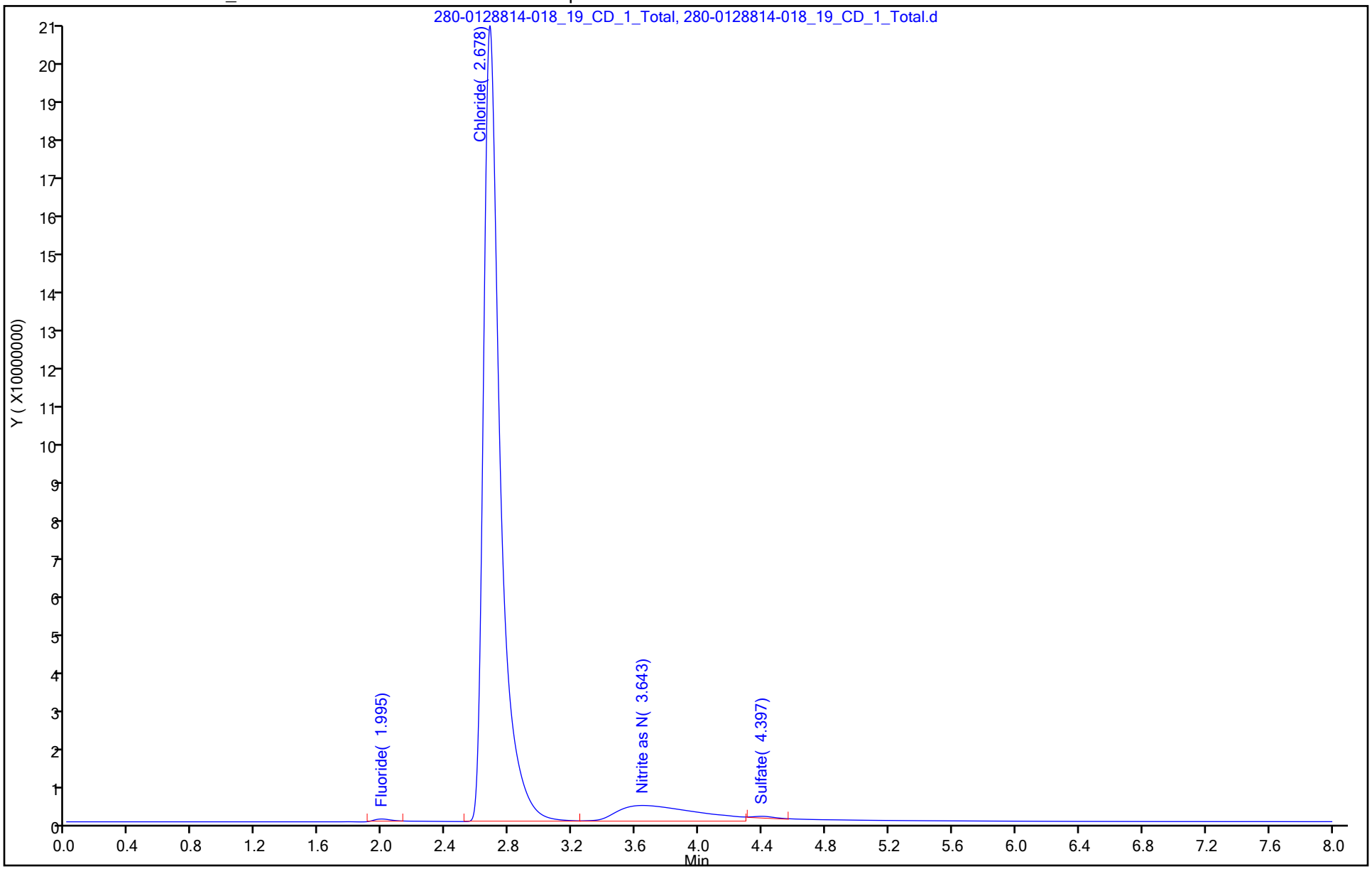
QC Flag Legend

Processing Flags
NC - Not Calibrated
E - Exceeded Maximum Amount
Review Flags
M - Manually Integrated

Report Date: 22-Dec-2023 11:45:38 Chrom Revision: 2.3 15-Nov-2023 20:54:34

Eurofins Denver

Data File:	\\chromfs\Denver\ChromData\WC_IonChrom16\20231221-128814.b\280-0128814-018_19_CD_1_Total.d				
Injection Date:	21-Dec-2023 15:05:00	Instrument ID:	WC_IonChrom16	Operator ID:	
Lims ID:	280-185814-C-10	Lab Sample ID:	280-185814-10	Worklist Smp#:	18
Client ID:	TV044-MW131223A				
Injection Vol:	5.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	Anions_IC16	Limit Group:	Wet - Anions 28D		



12/29/2023
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Manual Integration/User Assign Peak Report

Eurofins Denver

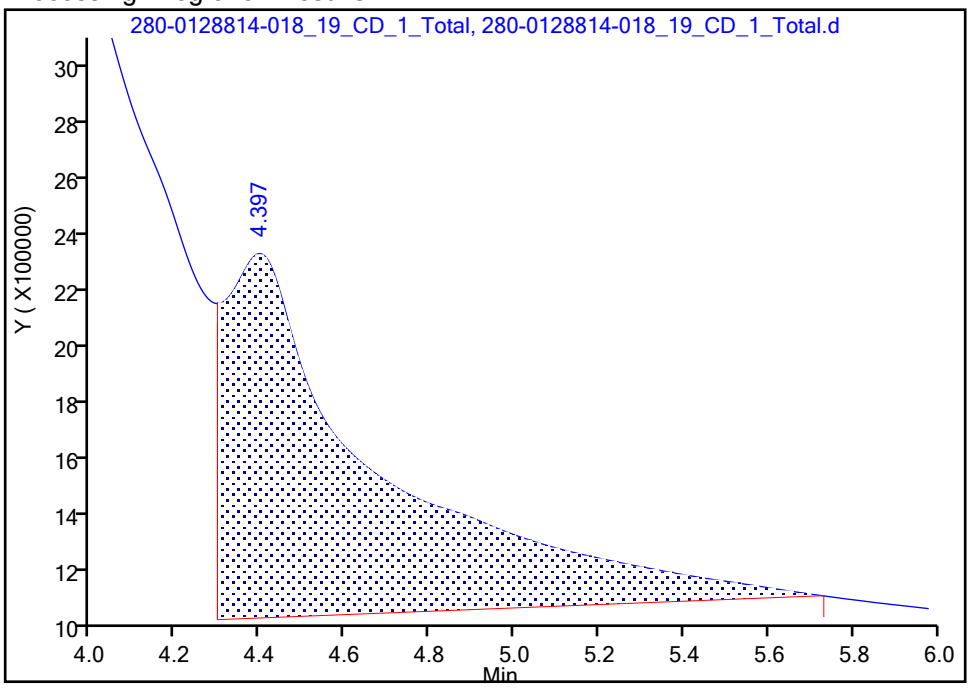
Data File:	\\chromfs\Denver\ChromData\WC_IonChrom16\20231221-128814.b\280-0128814-018_19_CD_1_Total.d		
Injection Date:	21-Dec-2023 15:05:00	Instrument ID:	WC_IonChrom16
Lims ID:	280-185814-C-10	Lab Sample ID:	280-185814-10
Client ID:	TV044-MW131223A		
Operator ID:		ALS Bottle#:	0 Worklist Smp#: 18
Injection Vol:	5.0 ul	Dil. Factor:	1.0000
Method:	Anions_IC16	Limit Group:	Wet - Anions 28D
Column:		Detector	0005

6 Sulfate, CAS: 14808-79-8

Signal: 1

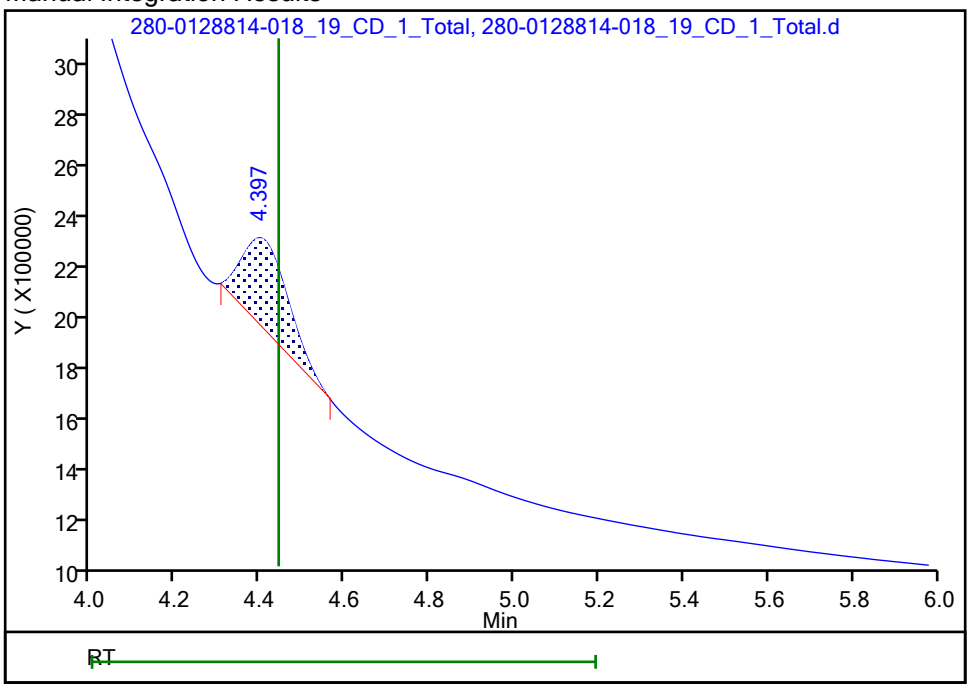
Processing Integration Results

RT: 4.40
Area: 32745669
Amount: 6.439208
Amount Units: ug/ml



Manual Integration Results

RT: 4.40
Area: 2578734
Amount: 0.915785
Amount Units: ug/ml



Reviewer: BMJ3, 22-Dec-2023 11:32:54 -07:00:00 (UTC)

Audit Action: Manually Integrated Audit Reason: Baseline Smoothing

Eurofins Denver
Target Compound Quantitation Report

Data File: \\chromfs\Denver\ChromData\WC_IonChrom16\20231221-128814.b\280-0128814-019_20_CD_1_Total.d
Lims ID: 280-185814-C-13
Client ID: TV044-EB021223
Sample Type: Client
Inject. Date: 21-Dec-2023 15:16:00 ALS Bottle#: 0 Worklist Smp#: 19
Injection Vol: 5.0 ul Dil. Factor: 1.0000
Sample Info: 280-0128814-019
Misc. Info.: 280-185814-C-13
Operator ID: Instrument ID: WC_IonChrom16

Method: \\chromfs\Denver\ChromData\WC_IonChrom16\20231221-128814.b\Anions_IC16.m
Limit Group: Wet - Anions 28D
Last Update: 22-Dec-2023 11:45:32 Calib Date: 26-Sep-2023 12:07:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Denver\ChromData\WC_IonChrom16\20230926-125815.b\280-0125815-006_08_CD_1_Total.d

Column 1 : Det: 0005
Process Host: CTX1628

First Level Reviewer: BMJ3 Date: 22-Dec-2023 11:33:21

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	OnCol Amt ug/ml	Flags
1 Fluoride		1.990			ND	
2 Chloride	2.673	2.677	-0.004	476842	0.4420	
3 Nitrite as N		3.165			ND	
7 Orthophosphate as P		4.172			ND	
4 Bromide		4.227			ND	
6 Sulfate	4.432	4.442	-0.010	337626	0.5054	Ma
5 Nitrate as N		4.860			ND	

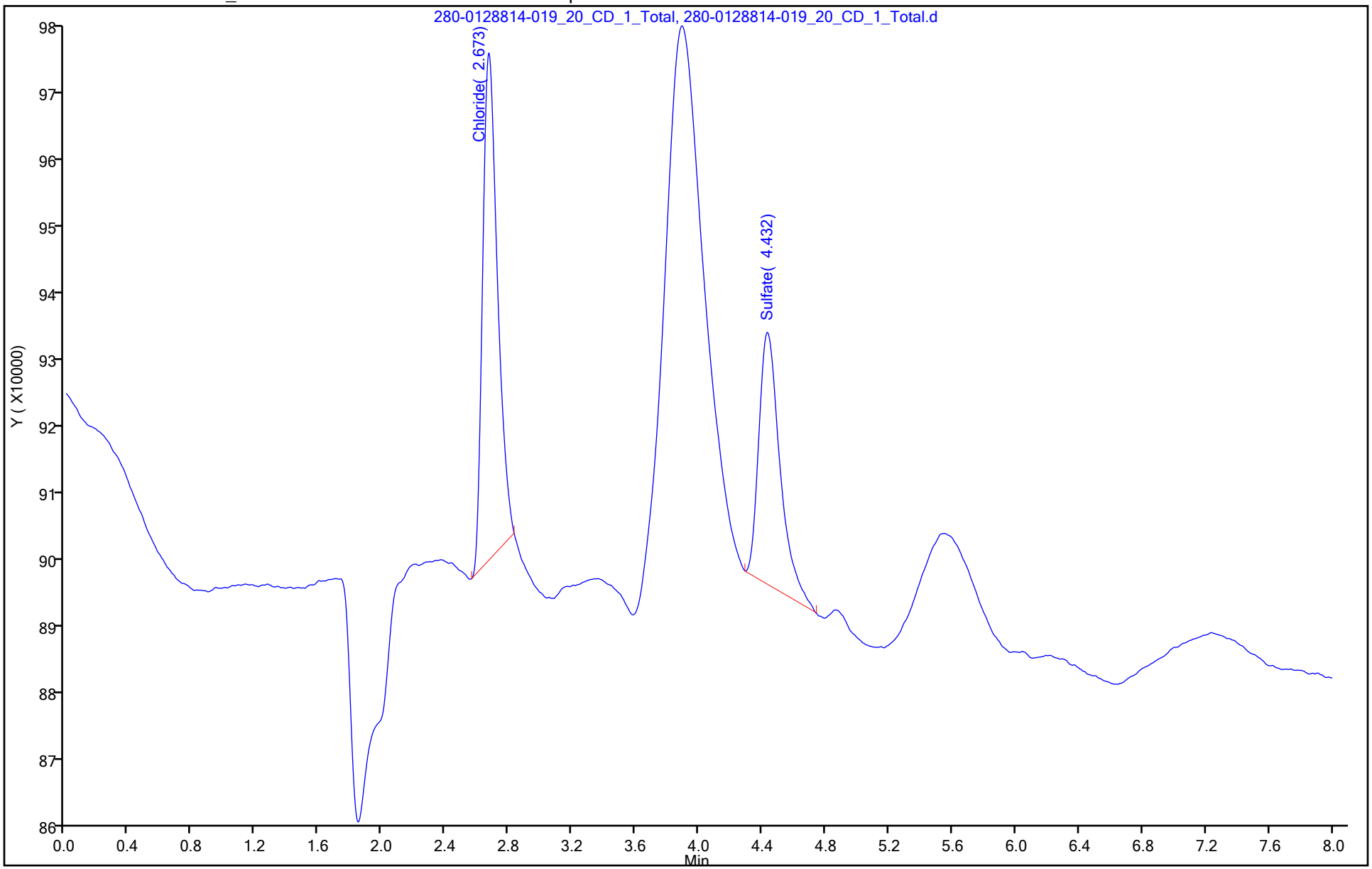
QC Flag Legend

Processing Flags
Review Flags
M - Manually Integrated
a - User Assigned ID

Report Date: 22-Dec-2023 11:45:38 Chrom Revision: 2.3 15-Nov-2023 20:54:34

Eurofins Denver

Data File:	\\chromfs\Denver\ChromData\WC_IonChrom16\20231221-128814.b\280-0128814-019_20_CD_1_Total.d				
Injection Date:	21-Dec-2023 15:16:00	Instrument ID:	WC_IonChrom16	Operator ID:	
Lims ID:	280-185814-C-13	Lab Sample ID:	280-185814-13	Worklist Smp#:	19
Client ID:	TV044-EB021223				
Injection Vol:	5.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	Anions_IC16	Limit Group:	Wet - Anions 28D		



12/29/2023
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Manual Integration/User Assign Peak Report

Eurofins Denver

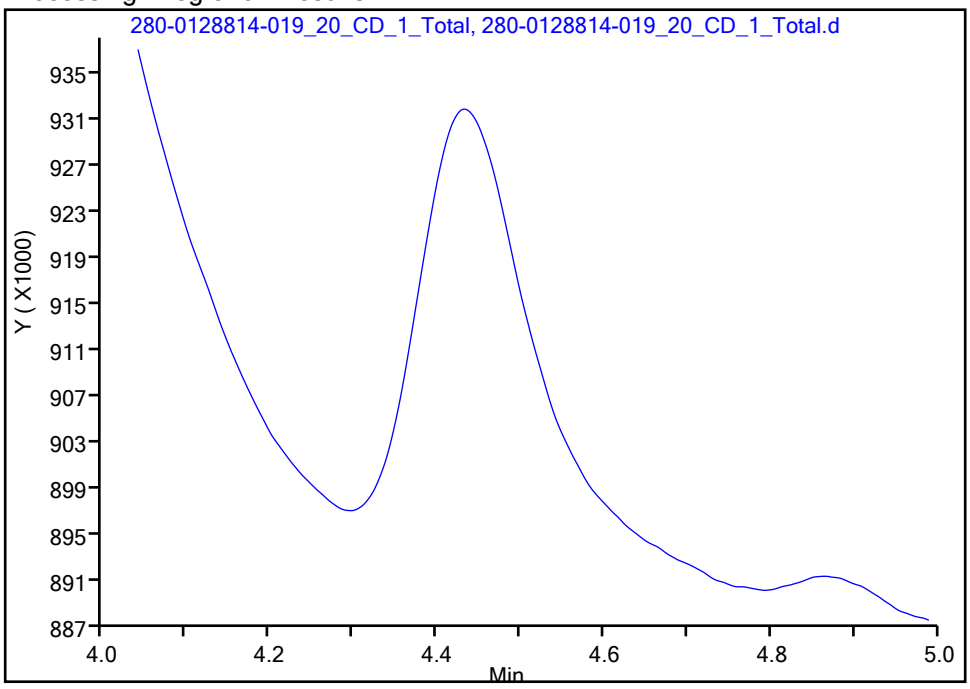
Data File:	\\chromfs\Denver\ChromData\WC_IonChrom16\20231221-128814.b\280-0128814-019_20_CD_1_Total.d				
Injection Date:	21-Dec-2023 15:16:00	Instrument ID:	WC_IonChrom16		
Lims ID:	280-185814-C-13	Lab Sample ID:	280-185814-13		
Client ID:	TV044-EB021223				
Operator ID:		ALS Bottle#:	0	Worklist Smp#:	19
Injection Vol:	5.0 ul	Dil. Factor:	1.0000		
Method:	Anions_IC16	Limit Group:	Wet - Anions 28D		
Column:		Detector	0005		

6 Sulfate, CAS: 14808-79-8

Signal: 1

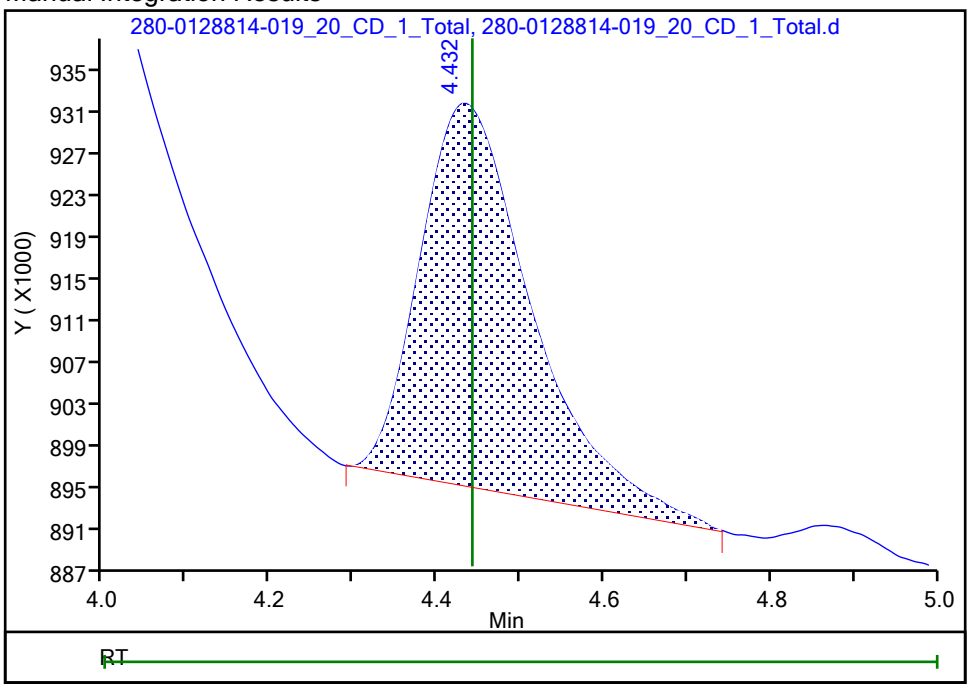
Not Detected
Expected RT: 4.44

Processing Integration Results



Manual Integration Results

RT: 4.43
Area: 337626
Amount: 0.505449
Amount Units: ug/ml



Reviewer: BMJ3, 22-Dec-2023 11:33:19 -07:00:00 (UTC)
Audit Action: Manually Integrated/Assigned Compound ID Audit Reason: Assign Peak

Eurofins Denver
Target Compound Quantitation Report

Data File: \\chromfs\Denver\ChromData\WC_IonChrom16\20231221-128814.b\280-0128814-021_22_CD_1_Total.d
Lims ID: ccv
Client ID:
Sample Type: CCV
Inject. Date: 21-Dec-2023 15:38:00 ALS Bottle#: 0 Worklist Smp#: 21
Injection Vol: 5.0 ul Dil. Factor: 1.0000
Sample Info: 280-0128814-021
Misc. Info.: CCV
Operator ID: Instrument ID: WC_IonChrom16
Sublist: chrom-Anions_IC16*sub3

Method: \\chromfs\Denver\ChromData\WC_IonChrom16\20231221-128814.b\Anions_IC16.m
Limit Group: Wet - Anions 28D
Last Update: 22-Dec-2023 11:45:39 Calib Date: 26-Sep-2023 12:07:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Denver\ChromData\WC_IonChrom16\20230926-125815.b\280-0125815-006_08_CD_1_Total.d

Column 1 : Det: 0005
Process Host: CTX1628

First Level Reviewer: BMJ3 Date: 22-Dec-2023 11:34:03

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
1 Fluoride	1.990	1.990	0.000	57170228	5.00	4.64	
2 Chloride	2.673	2.677	-0.004	735980396	100.0	97.7	
3 Nitrite as N	3.162	3.165	-0.003	90578430	NC	NC	
7 Orthophosphate as P	4.163	4.172	-0.009	5893168	NC	NC	
4 Bromide		4.227			5.00	ND	a
6 Sulfate	4.318	4.442	-0.124	513488393	100.0	94.5	Ma
5 Nitrate as N	4.847	4.860	-0.013	97647981	NC	NC	

QC Flag Legend

Processing Flags
NC - Not Calibrated
Review Flags
M - Manually Integrated
a - User Assigned ID

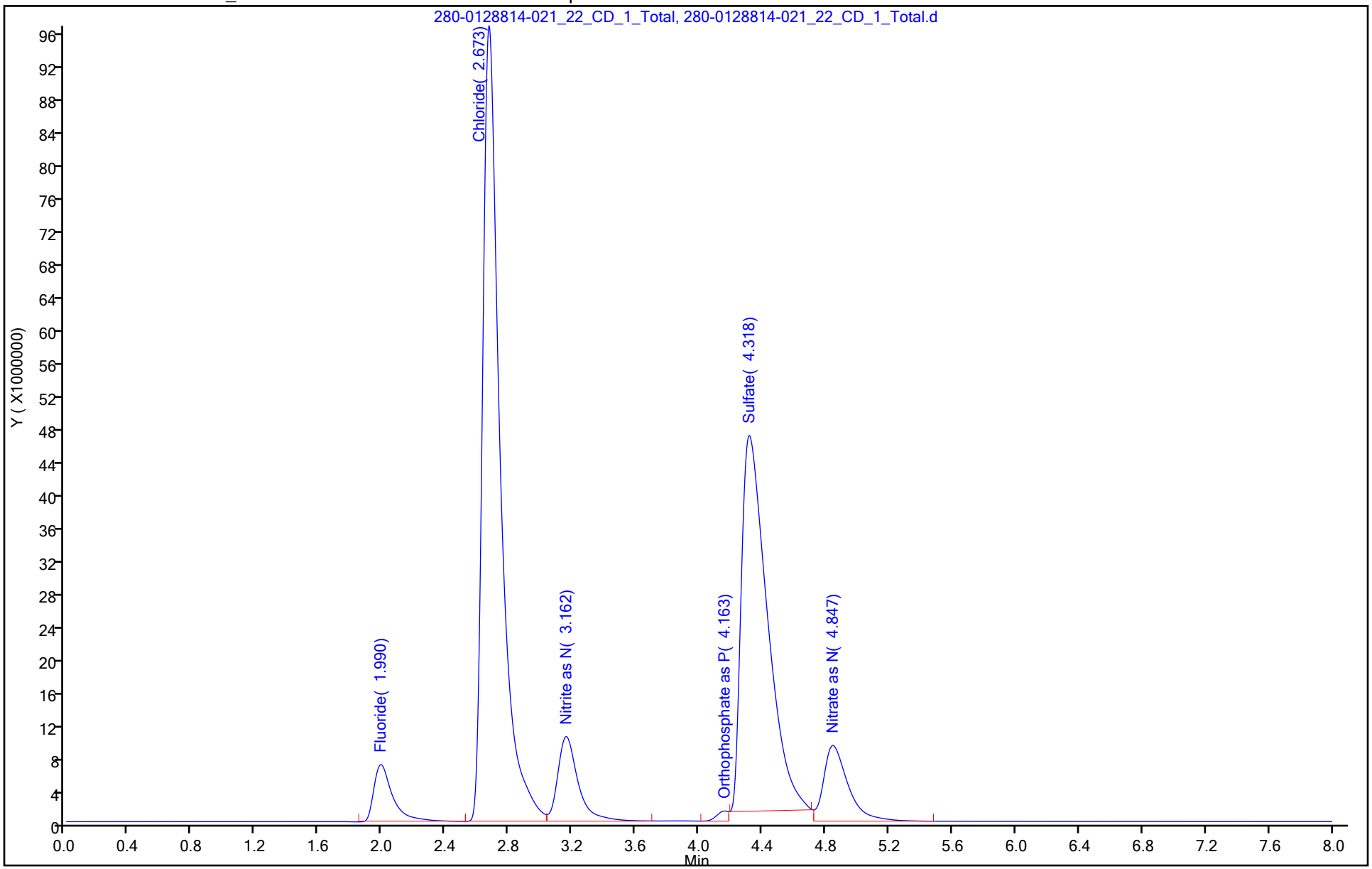
Reagents:

IC LCS_01998 Amount Added: 10.00 Units: mL

Report Date: 22-Dec-2023 11:45:39 Chrom Revision: 2.3 15-Nov-2023 20:54:34

Eurofins Denver

Data File:	\\chromfs\Denver\ChromData\WC_IonChrom16\20231221-128814.b\280-0128814-021_22_CD_1_Total.d				
Injection Date:	21-Dec-2023 15:38:00	Instrument ID:	WC_IonChrom16	Operator ID:	
Lims ID:	ccv			Worklist Smp#:	21
Client ID:					
Injection Vol:	5.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	Anions_IC16	Limit Group:	Wet - Anions 28D		



12/29/2023
12:08 PM

Manual Integration/User Assign Peak Report

Eurofins Denver

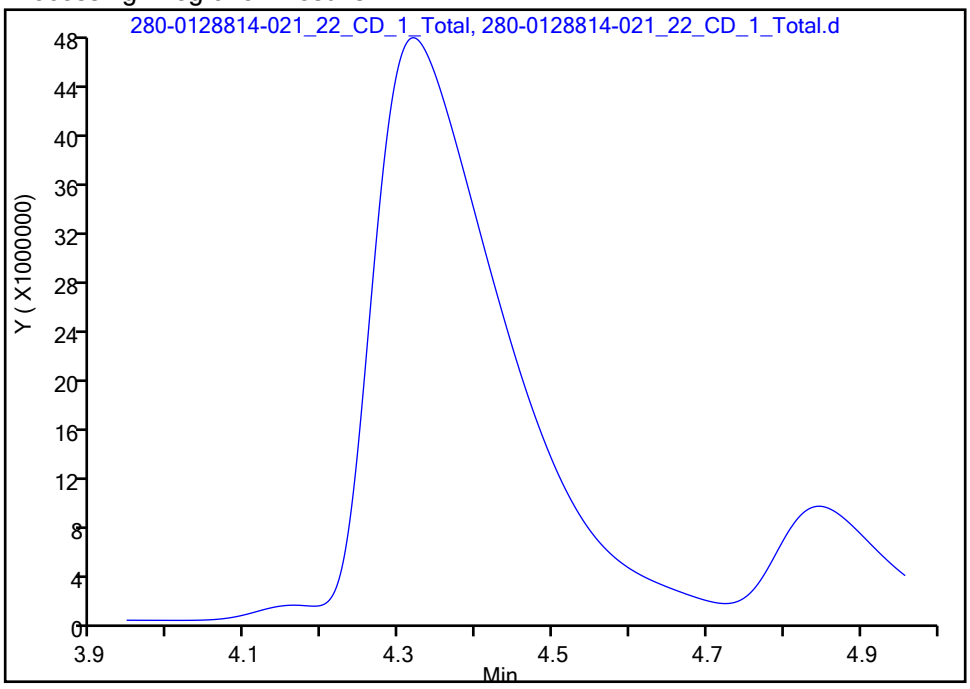
Data File:	\\chromfs\Denver\ChromData\WC_IonChrom16\20231221-128814.b\280-0128814-021_22_CD_1_Total.d				
Injection Date:	21-Dec-2023 15:38:00	Instrument ID:	WC_IonChrom16		
Lims ID:	ccv				
Client ID:					
Operator ID:		ALS Bottle#:	0	Worklist Smp#:	21
Injection Vol:	5.0 ul	Dil. Factor:	1.0000		
Method:	Anions_IC16	Limit Group:	Wet - Anions 28D		
Column:		Detector	0005		

6 Sulfate, CAS: 14808-79-8

Signal: 1

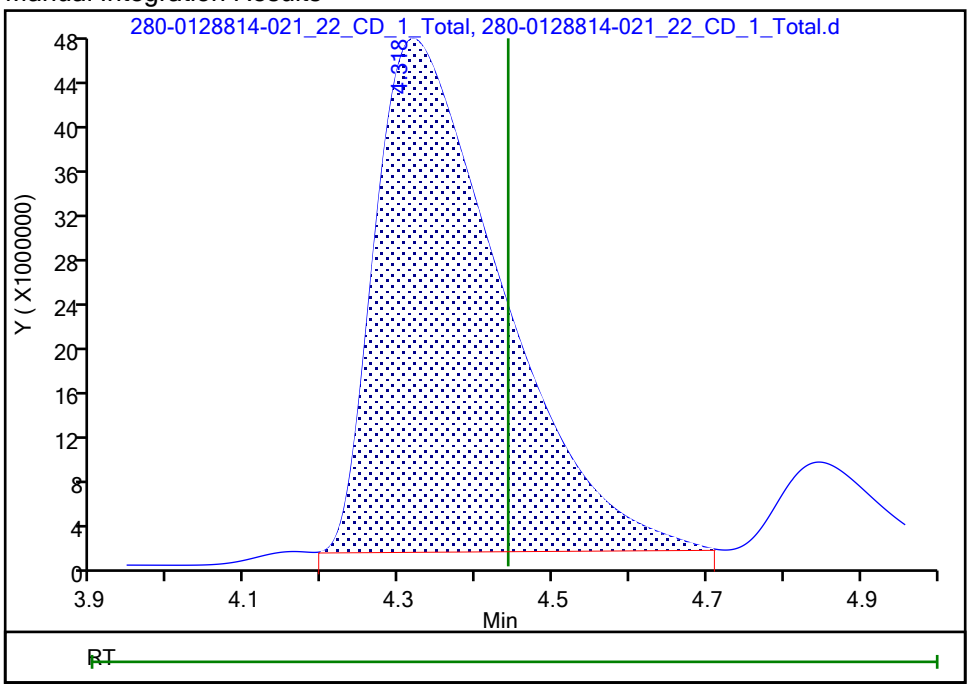
Not Detected
Expected RT: 4.44

Processing Integration Results



Manual Integration Results

RT: 4.32
Area: 513488393
Amount: 94.460918
Amount Units: ug/ml



Reviewer: BMJ3, 22-Dec-2023 11:34:00 -07:00:00 (UTC)
Audit Action: Manually Integrated Audit Reason: Assign Peak

Eurofins Denver
Target Compound Quantitation Report

Data File: \\chromfs\Denver\ChromData\WC_IonChrom16\20231221-128814.b\280-0128814-022_23_CD_1_Total.d
Lims ID: ccb
Client ID:
Sample Type: CCB
Inject. Date: 21-Dec-2023 15:49:00 ALS Bottle#: 0 Worklist Smp#: 22
Injection Vol: 5.0 ul Dil. Factor: 1.0000
Sample Info: 280-0128814-022
Misc. Info.: CCB
Operator ID: Instrument ID: WC_IonChrom16

Method: \\chromfs\Denver\ChromData\WC_IonChrom16\20231221-128814.b\Anions_IC16.m
Limit Group: Wet - Anions 28D
Last Update: 22-Dec-2023 11:45:39 Calib Date: 26-Sep-2023 12:07:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Denver\ChromData\WC_IonChrom16\20230926-125815.b\280-0125815-006_08_CD_1_Total.d

Column 1 : Det: 0005
Process Host: CTX1628

First Level Reviewer: BMJ3 Date: 22-Dec-2023 11:34:08

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
1 Fluoride		1.990				ND	
2 Chloride	2.670	2.677	-0.007	286997		0.4169	
3 Nitrite as N		3.165				ND	
7 Orthophosphate as P	3.890	4.172	-0.282	2316241		NC	
4 Bromide		4.227				ND	
6 Sulfate	4.422	4.442	-0.020	1972308		0.8048	
5 Nitrate as N		4.860				ND	

QC Flag Legend

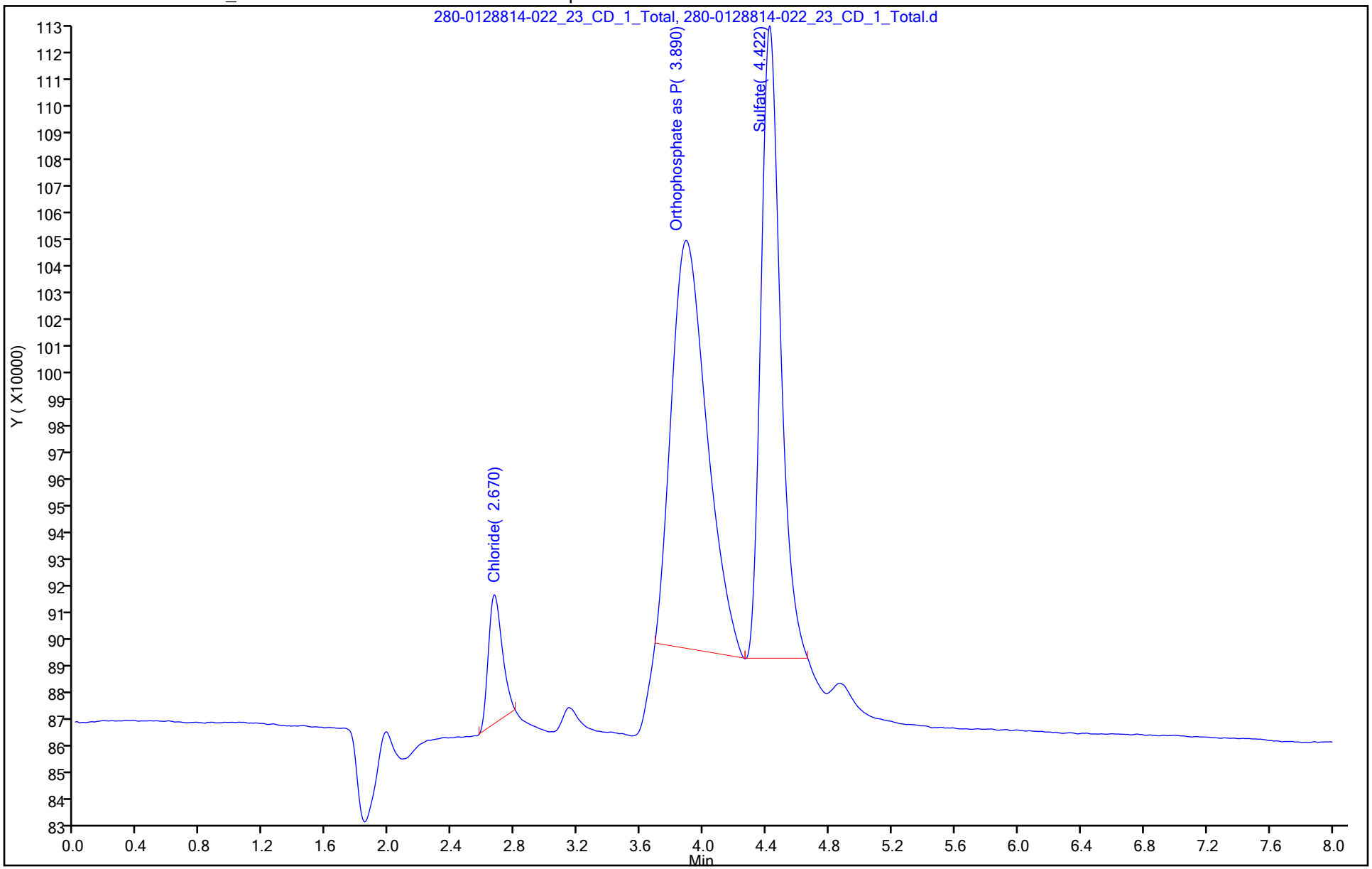
Processing Flags
NC - Not Calibrated

Report Date: 22-Dec-2023 11:45:40 Chrom Revision: 2.3 15-Nov-2023 20:54:34

Eurofins Denver

Data File: \\chromfs\Denver\ChromData\WC_IonChrom16\20231221-128814.b\280-0128814-022_23_CD_1_Total.d

Injection Date:	21-Dec-2023 15:49:00	Instrument ID:	WC_IonChrom16	Operator ID:	
Lims ID:	ccb			Worklist Smp#:	22
Client ID:					
Injection Vol:	5.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	Anions_IC16	Limit Group:	Wet - Anions 28D		



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Eurofins Denver
Target Compound Quantitation Report

Data File: \\chromfs\Denver\ChromData\WC_IonChrom16\20231221-128814.b\280-0128814-023_24_CD_1_Total.d
Lims ID: 280-185814-C-4
Client ID: TV044-MW141223A
Sample Type: Client
Inject. Date: 21-Dec-2023 16:00:00 ALS Bottle#: 0 Worklist Smp#: 23
Injection Vol: 5.0 ul Dil. Factor: 1.0000
Sample Info: 280-0128814-023
Misc. Info.: 280-185814-C-4
Operator ID: Instrument ID: WC_IonChrom16

Method: \\chromfs\Denver\ChromData\WC_IonChrom16\20231221-128814.b\Anions_IC16.m
Limit Group: Wet - Anions 28D
Last Update: 22-Dec-2023 11:45:39 Calib Date: 26-Sep-2023 12:07:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Denver\ChromData\WC_IonChrom16\20230926-125815.b\280-0125815-006_08_CD_1_Total.d

Column 1 : Det: 0005
Process Host: CTX1628

First Level Reviewer: BMJ3 Date: 22-Dec-2023 11:34:33

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	OnCol Amt ug/ml	Flags
1 Fluoride	1.988	1.990	-0.002	6555436	0.6148	M
2 Chloride	2.670	2.677	-0.007	3982399097	527.1	E
3 Nitrite as N		3.165			ND	
7 Orthophosphate as P	3.695	4.172	-0.477	105302184	NC	
4 Bromide		4.227			ND	a
6 Sulfate	4.272	4.442	-0.170	915940607	168.1	a
5 Nitrate as N		4.860			ND	

QC Flag Legend

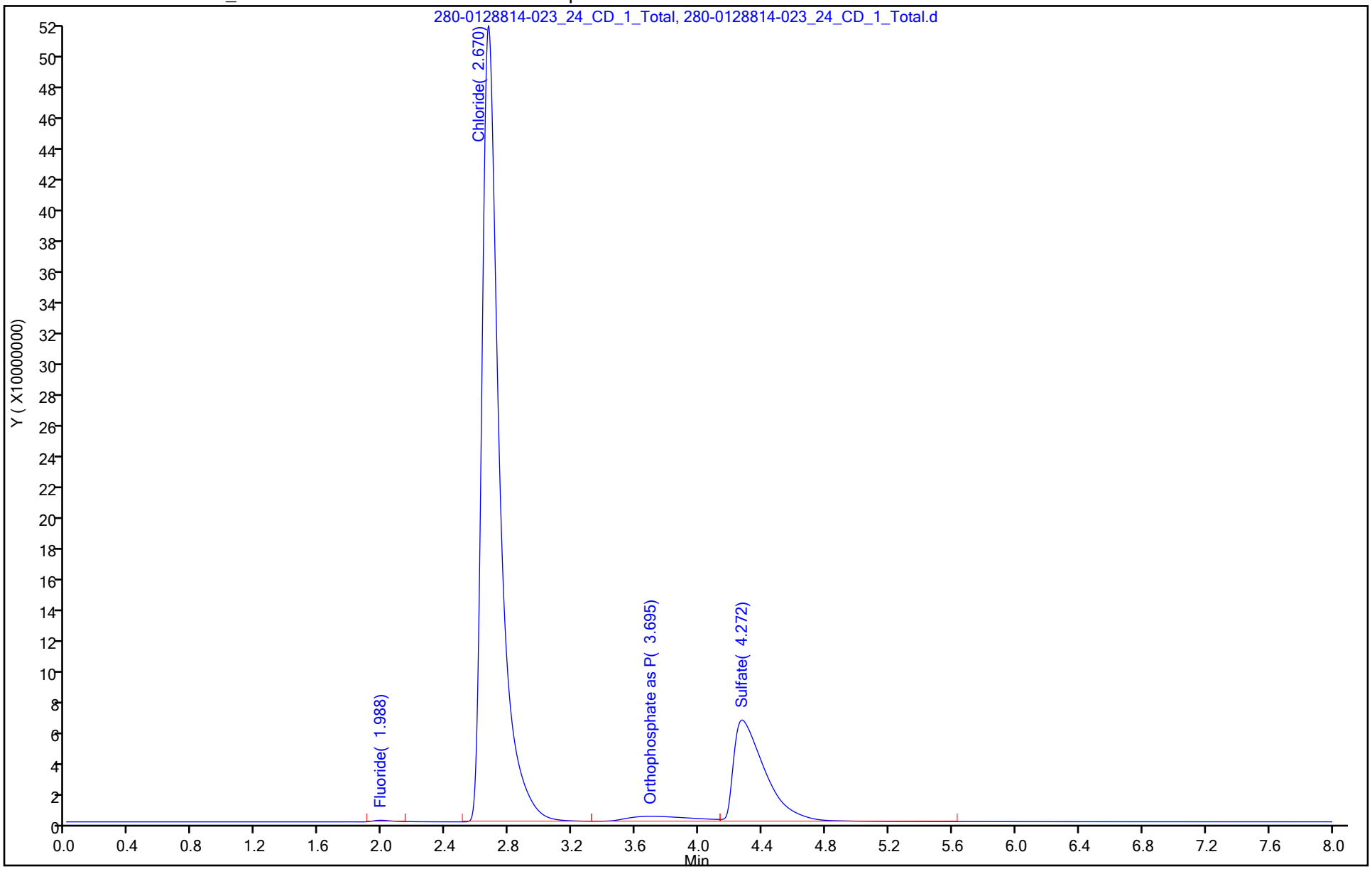
Processing Flags
- NC - Not Calibrated
- E - Exceeded Maximum Amount

Review Flags
- M - Manually Integrated
- a - User Assigned ID

Report Date: 22-Dec-2023 11:45:40 Chrom Revision: 2.3 15-Nov-2023 20:54:34

Eurofins Denver

Data File:	\\chromfs\Denver\ChromData\WC_IonChrom16\20231221-128814.b\280-0128814-023_24_CD_1_Total.d				
Injection Date:	21-Dec-2023 16:00:00	Instrument ID:	WC_IonChrom16	Operator ID:	
Lims ID:	280-185814-C-4	Lab Sample ID:	280-185814-4	Worklist Smp#:	23
Client ID:	TV044-MW141223A				
Injection Vol:	5.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	Anions_IC16	Limit Group:	Wet - Anions 28D		



12/29/2023
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Manual Integration/User Assign Peak Report

Eurofins Denver

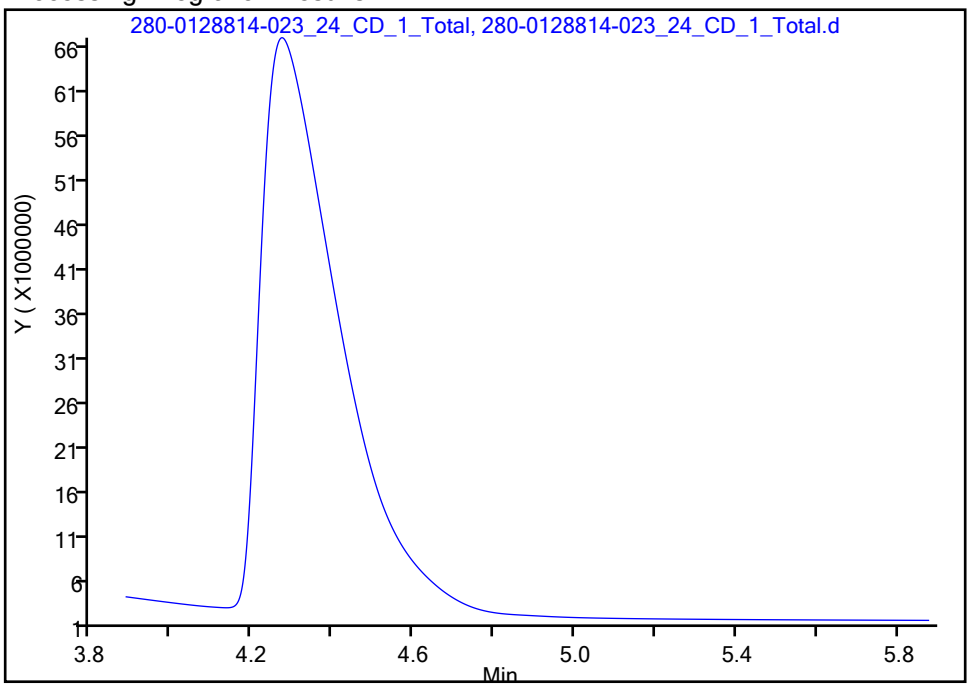
Data File:	\\chromfs\Denver\ChromData\WC_IonChrom16\20231221-128814.b\280-0128814-023_24_CD_1_Total.d				
Injection Date:	21-Dec-2023 16:00:00	Instrument ID:	WC_IonChrom16		
Lims ID:	280-185814-C-4	Lab Sample ID:	280-185814-4		
Client ID:	TV044-MW141223A				
Operator ID:		ALS Bottle#:	0	Worklist Smp#:	23
Injection Vol:	5.0 ul	Dil. Factor:	1.0000		
Method:	Anions_IC16	Limit Group:	Wet - Anions 28D		
Column:		Detector	0005		

6 Sulfate, CAS: 14808-79-8

Signal: 1

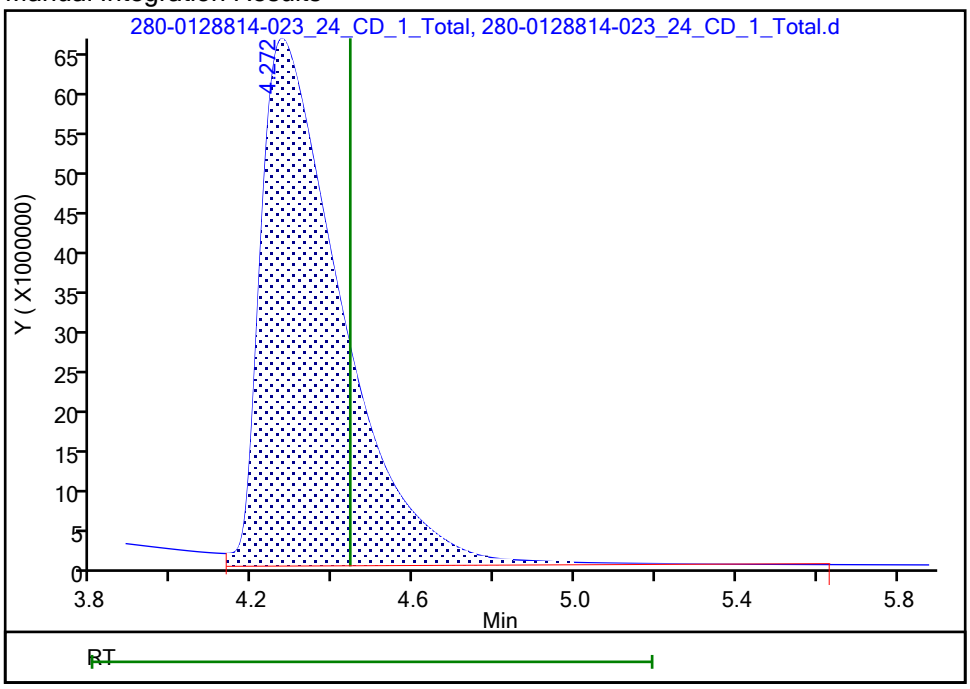
Not Detected
Expected RT: 4.44

Processing Integration Results



Manual Integration Results

RT: 4.27
Area: 915940607
Amount: 168.1480
Amount Units: ug/ml



Reviewer: BMJ3, 22-Dec-2023 11:34:29 -07:00:00 (UTC)
Audit Action: Assigned Compound ID Audit Reason: Assign Peak

Eurofins Denver
Target Compound Quantitation Report

Data File: \\chromfs\Denver\ChromData\WC_IonChrom16\20231221-128814.b\280-0128814-024_25_CD_1_Total.d
Lims ID: 280-185814-C-4 DU
Client ID:
Sample Type: DU
Inject. Date: 21-Dec-2023 16:11:00 ALS Bottle#: 0 Worklist Smp#: 24
Injection Vol: 5.0 ul Dil. Factor: 1.0000
Sample Info: 280-0128814-024
Misc. Info.: 280-185814-C-4 DU
Operator ID: Instrument ID: WC_IonChrom16

Method: \\chromfs\Denver\ChromData\WC_IonChrom16\20231221-128814.b\Anions_IC16.m
Limit Group: Wet - Anions 28D
Last Update: 22-Dec-2023 11:45:39 Calib Date: 26-Sep-2023 12:07:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Denver\ChromData\WC_IonChrom16\20230926-125815.b\280-0125815-006_08_CD_1_Total.d

Column 1 : Det: 0005
Process Host: CTX1628

First Level Reviewer: BMJ3 Date: 22-Dec-2023 11:34:57

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
1 Fluoride	1.992	1.990	0.002	8358909		0.7583	M
2 Chloride	2.672	2.677	-0.005	4009634408		530.7	E
3 Nitrite as N		3.165				ND	
7 Orthophosphate as P	3.695	4.172	-0.477	104444795		NC	
4 Bromide		4.227				ND	a
6 Sulfate	4.267	4.442	-0.175	924402110		169.7	a
5 Nitrate as N		4.860				ND	

QC Flag Legend

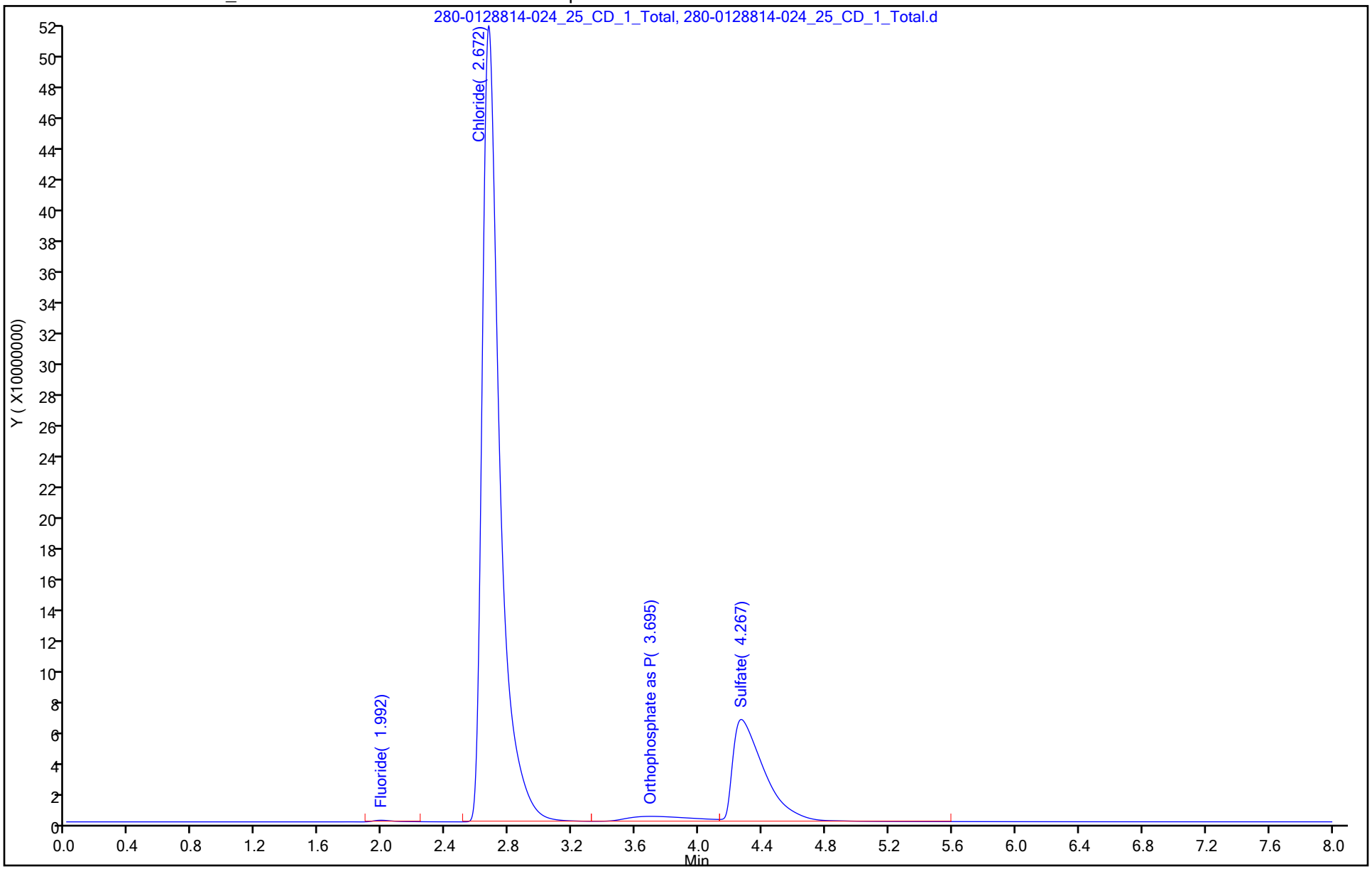
Processing Flags
- NC - Not Calibrated
- E - Exceeded Maximum Amount

Review Flags
- M - Manually Integrated
- a - User Assigned ID

Report Date: 22-Dec-2023 11:45:41 Chrom Revision: 2.3 15-Nov-2023 20:54:34

Eurofins Denver

Data File:	\\chromfs\Denver\ChromData\WC_IonChrom16\20231221-128814.b\280-0128814-024_25_CD_1_Total.d				
Injection Date:	21-Dec-2023 16:11:00	Instrument ID:	WC_IonChrom16	Operator ID:	
Lims ID:	280-185814-C-4 DU			Worklist Smp#:	24
Client ID:					
Injection Vol:	5.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	Anions_IC16	Limit Group:	Wet - Anions 28D		



12/29/2023
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Manual Integration/User Assign Peak Report

Eurofins Denver

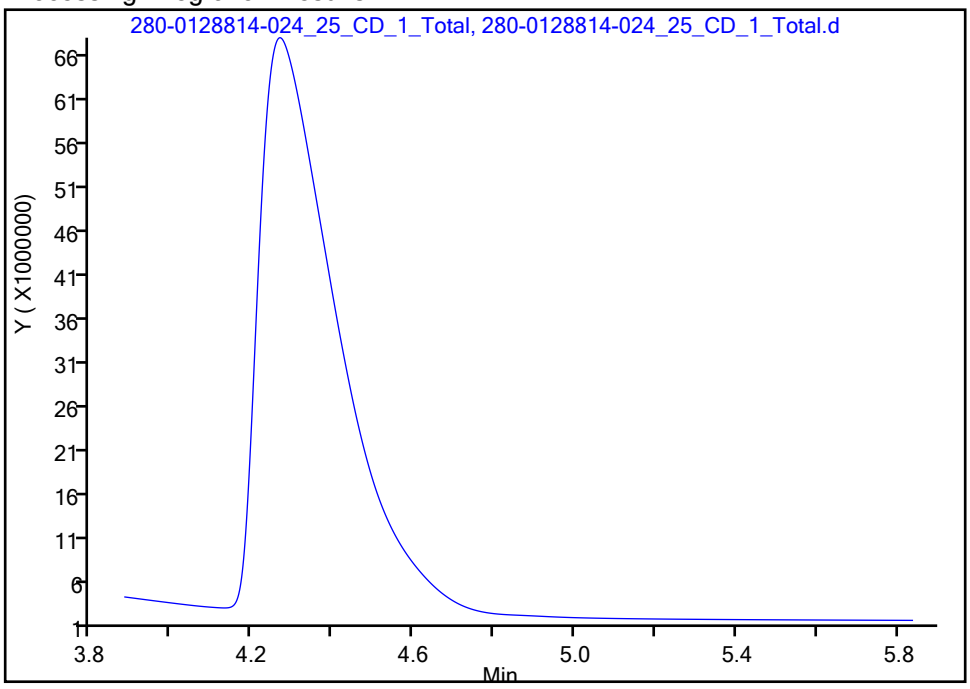
Data File:	\\chromfs\Denver\ChromData\WC_IonChrom16\20231221-128814.b\280-0128814-024_25_CD_1_Total.d				
Injection Date:	21-Dec-2023 16:11:00	Instrument ID:	WC_IonChrom16		
Lims ID:	280-185814-C-4 DU				
Client ID:					
Operator ID:		ALS Bottle#:	0	Worklist Smp#:	24
Injection Vol:	5.0 ul	Dil. Factor:	1.0000		
Method:	Anions_IC16	Limit Group:	Wet - Anions 28D		
Column:		Detector	0005		

6 Sulfate, CAS: 14808-79-8

Signal: 1

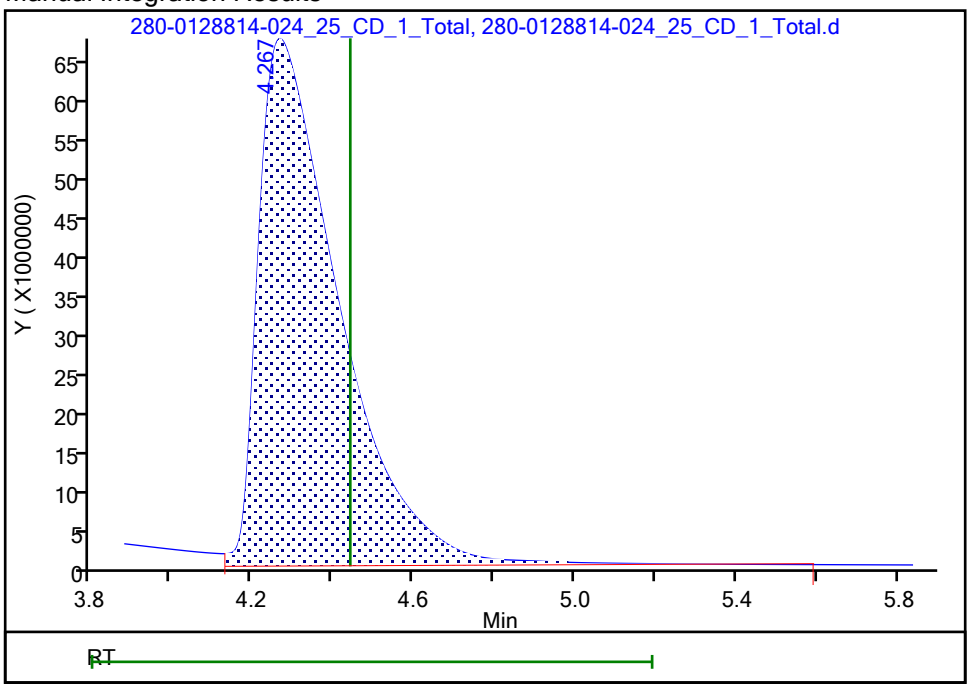
Not Detected
Expected RT: 4.44

Processing Integration Results



Manual Integration Results

RT: 4.27
Area: 924402110
Amount: 169.6973
Amount Units: ug/ml



Reviewer: BMJ3, 22-Dec-2023 11:34:55 -07:00:00 (UTC)
Audit Action: Assigned Compound ID Audit Reason: Assign Peak

Eurofins Denver
Target Compound Quantitation Report

Data File: \\chromfs\Denver\ChromData\WC_IonChrom16\20231221-128814.b\280-0128814-025_26_CD_1_Total.d
Lims ID: 280-185814-C-4 MS
Client ID: TV044-MW141223A
Sample Type: MS
Inject. Date: 21-Dec-2023 16:22:00 ALS Bottle#: 0 Worklist Smp#: 25
Injection Vol: 5.0 ul Dil. Factor: 1.0000
Sample Info: 280-0128814-025
Misc. Info.: 280-185814-C-4 MS
Operator ID: Instrument ID: WC_IonChrom16

Method: \\chromfs\Denver\ChromData\WC_IonChrom16\20231221-128814.b\Anions_IC16.m
Limit Group: Wet - Anions 28D
Last Update: 22-Dec-2023 11:45:39 Calib Date: 26-Sep-2023 12:07:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Denver\ChromData\WC_IonChrom16\20230926-125815.b\280-0125815-006_08_CD_1_Total.d

Column 1 : Det: 0005
Process Host: CTX1628

First Level Reviewer: BMJ3 Date: 22-Dec-2023 11:35:13

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
1 Fluoride	1.995	1.990	0.005	67379675	5.00	5.46	
2 Chloride	2.668	2.677	-0.009	4360360929	50.0	577.1	E
3 Nitrite as N	3.140	3.165	-0.025	114431444	NC	NC	
7 Orthophosphate as P	3.692	4.172	-0.480	96191575	NC	NC	
4 Bromide		4.227			5.00	ND	a
6 Sulfate	4.233	4.442	-0.209	1153357733	50.0	211.6	EMa
5 Nitrate as N	4.848	4.860	-0.012	114623437	NC	NC	

QC Flag Legend

Processing Flags
NC - Not Calibrated
E - Exceeded Maximum Amount
Review Flags
M - Manually Integrated
a - User Assigned ID

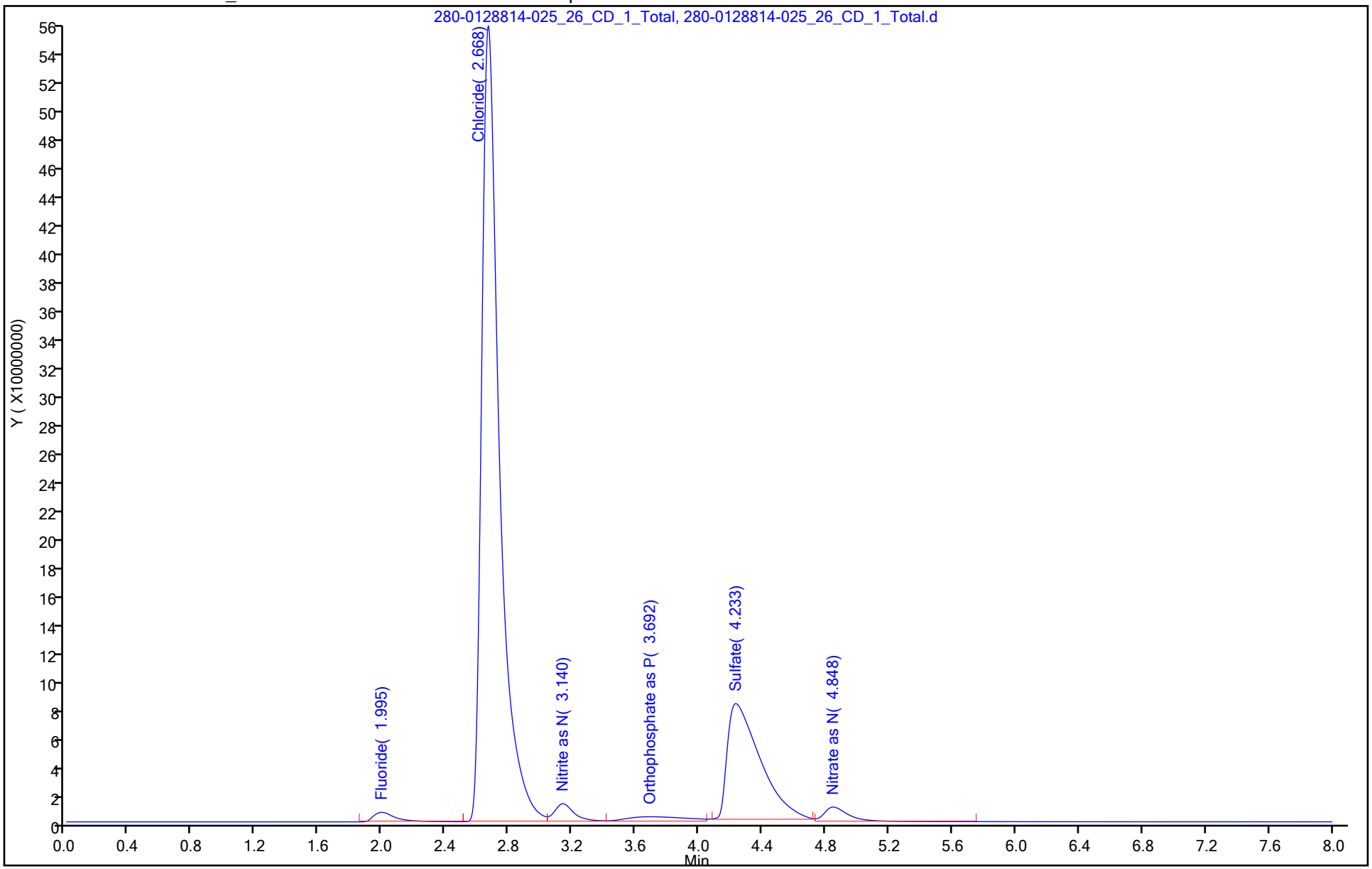
Reagents:

ICMS/MSD WEEK_00850 Amount Added: 0.10 Units: mL

Report Date: 22-Dec-2023 11:45:41 Chrom Revision: 2.3 15-Nov-2023 20:54:34

Eurofins Denver

Data File:	\\chromfs\Denver\ChromData\WC_IonChrom16\20231221-128814.b\280-0128814-025_26_CD_1_Total.d				
Injection Date:	21-Dec-2023 16:22:00	Instrument ID:	WC_IonChrom16	Operator ID:	
Lims ID:	280-185814-C-4 MS			Worklist Smp#:	25
Client ID:	TV044-MW141223A				
Injection Vol:	5.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	Anions_IC16	Limit Group:	Wet - Anions 28D		



12/29/2023
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Eurofins Denver

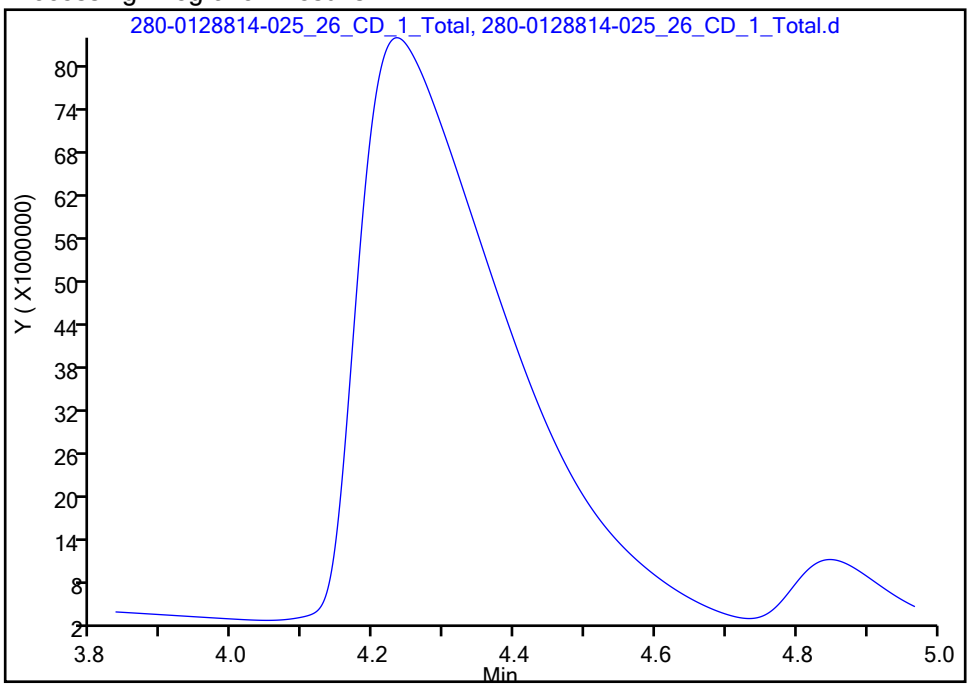
Data File:	\\chromfs\Denver\ChromData\WC_IonChrom16\20231221-128814.b\280-0128814-025_26_CD_1_Total.d				
Injection Date:	21-Dec-2023 16:22:00	Instrument ID:	WC_IonChrom16		
Lims ID:	280-185814-C-4 MS				
Client ID:	TV044-MW141223A				
Operator ID:		ALS Bottle#:	0	Worklist Smp#:	25
Injection Vol:	5.0 ul	Dil. Factor:	1.0000		
Method:	Anions_IC16	Limit Group:	Wet - Anions 28D		
Column:		Detector	0005		

6 Sulfate, CAS: 14808-79-8

Signal: 1

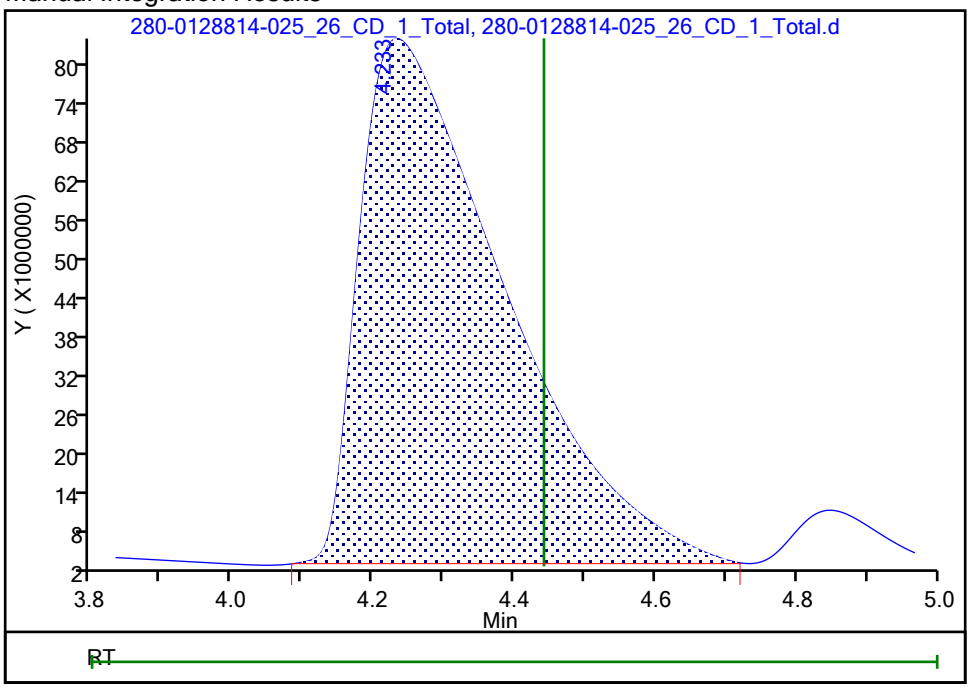
Not Detected
Expected RT: 4.44

Processing Integration Results



Manual Integration Results

RT: 4.23
Area: 1153357733
Amount: 211.6180
Amount Units: ug/ml



Reviewer: BMJ3, 22-Dec-2023 11:35:11 -07:00:00 (UTC)
Audit Action: Manually Integrated Audit Reason: Assign Peak

Eurofins Denver
Target Compound Quantitation Report

Data File: \\chromfs\Denver\ChromData\WC_IonChrom16\20231221-128814.b\280-0128814-026_27_CD_1_Total.d
Lims ID: 280-185814-C-4 MSD
Client ID: TV044-MW141223A
Sample Type: MSD
Inject. Date: 21-Dec-2023 16:33:00 ALS Bottle#: 0 Worklist Smp#: 26
Injection Vol: 5.0 ul Dil. Factor: 1.0000
Sample Info: 280-0128814-026
Misc. Info.: 280-185814-C-4 MSD
Operator ID: Instrument ID: WC_IonChrom16

Method: \\chromfs\Denver\ChromData\WC_IonChrom16\20231221-128814.b\Anions_IC16.m
Limit Group: Wet - Anions 28D
Last Update: 22-Dec-2023 11:45:39 Calib Date: 26-Sep-2023 12:07:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Denver\ChromData\WC_IonChrom16\20230926-125815.b\280-0125815-006_08_CD_1_Total.d

Column 1 : Det: 0005
Process Host: CTX1628

First Level Reviewer: BMJ3 Date: 22-Dec-2023 11:35:29

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
1 Fluoride	1.995	1.990	0.005	68473761	5.00	5.54	
2 Chloride	2.670	2.677	-0.007	4349170368	50.0	575.6	E
3 Nitrite as N	3.142	3.165	-0.023	117608594	NC	NC	
7 Orthophosphate as P	3.693	4.172	-0.479	96011612	NC	NC	
4 Bromide		4.227			5.00	ND	a
6 Sulfate	4.232	4.442	-0.210	1156648058	50.0	212.2	EMa
5 Nitrate as N	4.848	4.860	-0.012	116795428	NC	NC	

QC Flag Legend

Processing Flags
NC - Not Calibrated
E - Exceeded Maximum Amount
Review Flags
M - Manually Integrated
a - User Assigned ID

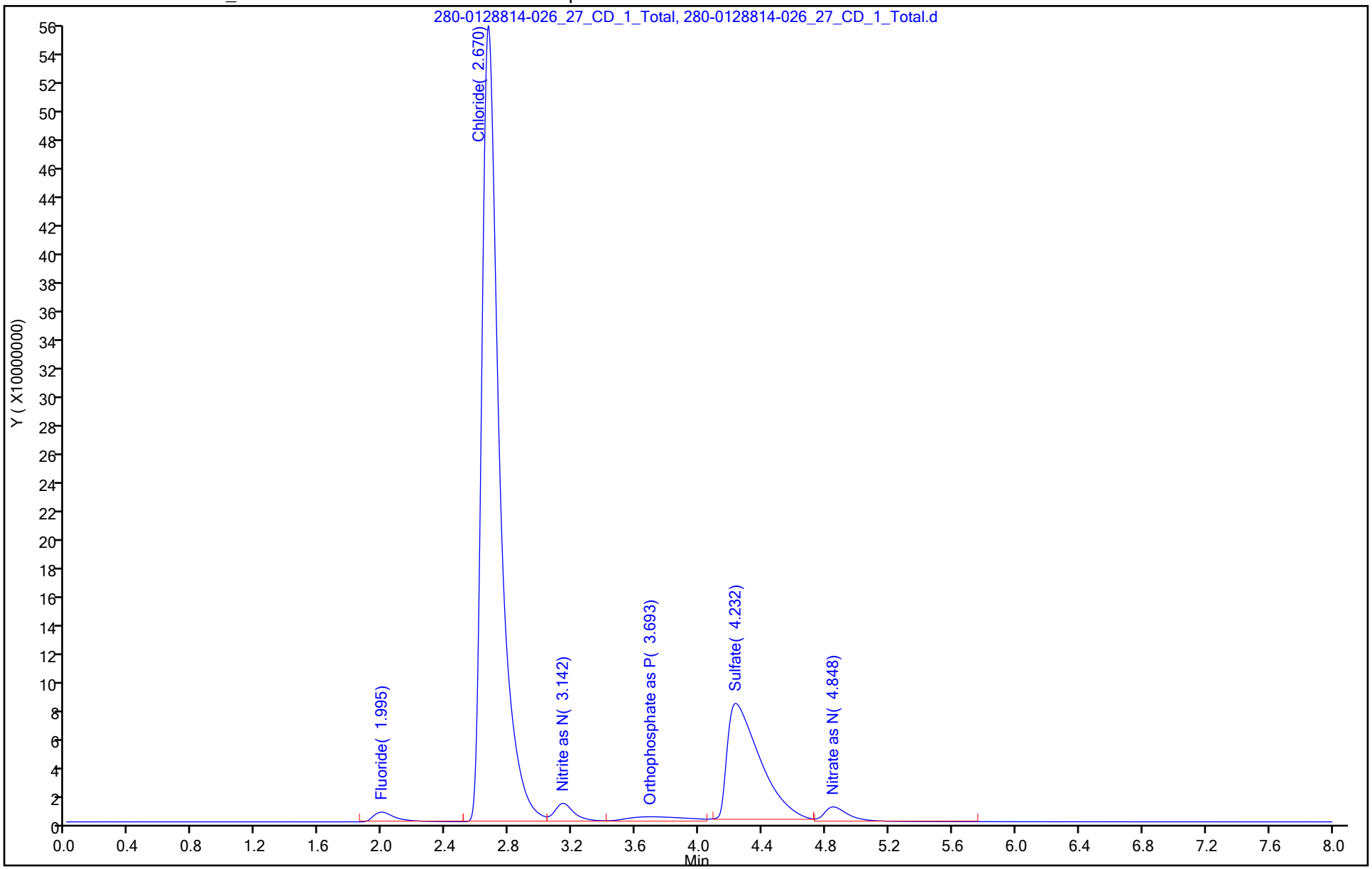
Reagents:

ICMS/MSD WEEK_00850 Amount Added: 0.10 Units: mL

Report Date: 22-Dec-2023 11:45:42 Chrom Revision: 2.3 15-Nov-2023 20:54:34

Eurofins Denver

Data File:	\\chromfs\Denver\ChromData\WC_IonChrom16\20231221-128814.b\280-0128814-026_27_CD_1_Total.d				
Injection Date:	21-Dec-2023 16:33:00	Instrument ID:	WC_IonChrom16	Operator ID:	
Lims ID:	280-185814-C-4 MSD			Worklist Smp#:	26
Client ID:	TV044-MW141223A				
Injection Vol:	5.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	Anions_IC16	Limit Group:	Wet - Anions 28D		



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Manual Integration/User Assign Peak Report

Eurofins Denver

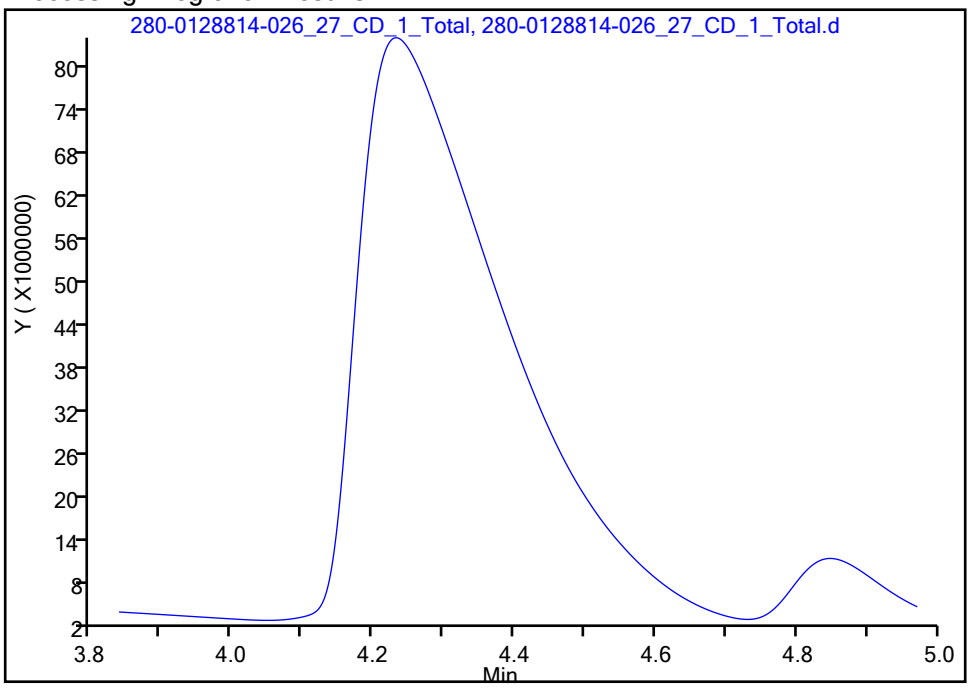
Data File: \\chromfs\Denver\ChromData\WC_IonChrom16\20231221-128814.b\280-0128814-026_27_CD_1_Total.d
Injection Date: 21-Dec-2023 16:33:00 Instrument ID: WC_IonChrom16
Lims ID: 280-185814-C-4 MSD
Client ID: TV044-MW141223A
Operator ID: ALS Bottle#: 0 Worklist Smp#: 26
Injection Vol: 5.0 ul Dil. Factor: 1.0000
Method: Anions_IC16 Limit Group: Wet - Anions 28D
Column: Detector 0005

6 Sulfate, CAS: 14808-79-8

Signal: 1

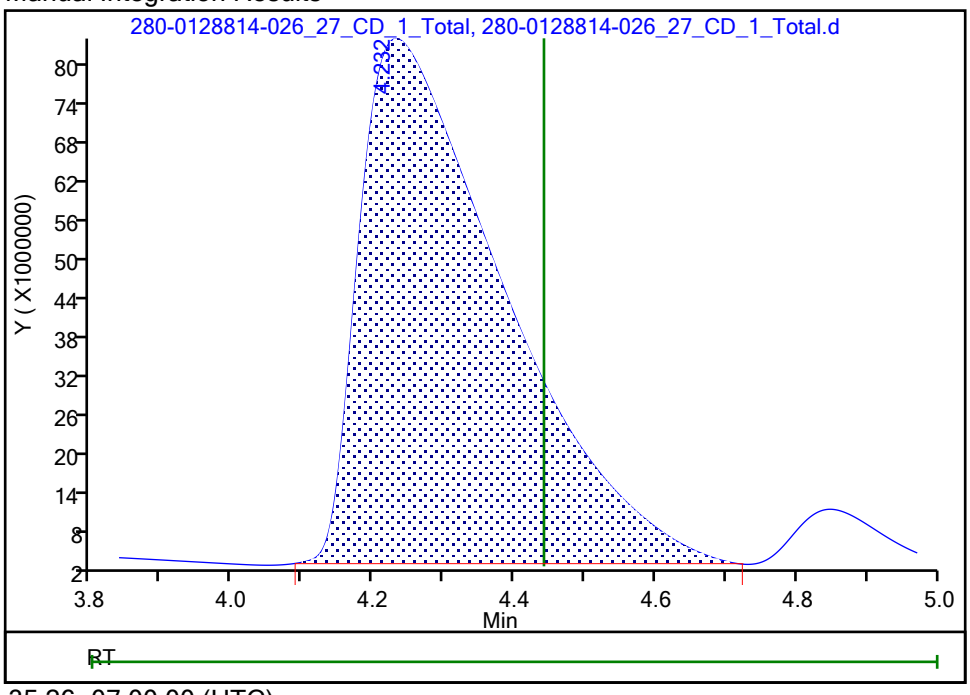
Not Detected
Expected RT: 4.44

Processing Integration Results



Manual Integration Results

RT: 4.23
Area: 1156648058
Amount: 212.2204
Amount Units: ug/ml



Reviewer: BMJ3, 22-Dec-2023 11:35:26 -07:00:00 (UTC)
Audit Action: Manually Integrated Audit Reason: Assign Peak

Eurofins Denver
Target Compound Quantitation Report

Data File: \\chromfs\Denver\ChromData\WC_IonChrom16\20231221-128814.b\280-0128814-027_28_CD_1_Total.d
Lims ID: 280-185814-C-12
Client ID: TV044-MW23D1223A
Sample Type: Client
Inject. Date: 21-Dec-2023 16:44:00 ALS Bottle#: 0 Worklist Smp#: 27
Injection Vol: 5.0 ul Dil. Factor: 1.0000
Sample Info: 280-0128814-027
Misc. Info.: 280-185814-C-12
Operator ID: Instrument ID: WC_IonChrom16

Method: \\chromfs\Denver\ChromData\WC_IonChrom16\20231221-128814.b\Anions_IC16.m
Limit Group: Wet - Anions 28D
Last Update: 22-Dec-2023 11:45:39 Calib Date: 26-Sep-2023 12:07:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Denver\ChromData\WC_IonChrom16\20230926-125815.b\280-0125815-006_08_CD_1_Total.d

Column 1 : Det: 0005
Process Host: CTX1628

First Level Reviewer: BMJ3 Date: 22-Dec-2023 11:35:55

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	OnCol Amt ug/ml	Flags
1 Fluoride	2.010	1.990	0.020	3530386	0.3741	M
2 Chloride	2.685	2.677	0.008	2902072625	384.2	E
3 Nitrite as N	3.663	3.165	0.498	118659775	NC	
7 Orthophosphate as P		4.172			ND	
4 Bromide		4.227			ND	a
6 Sulfate	4.270	4.442	-0.172	873551677	160.4	a
5 Nitrate as N		4.860			ND	

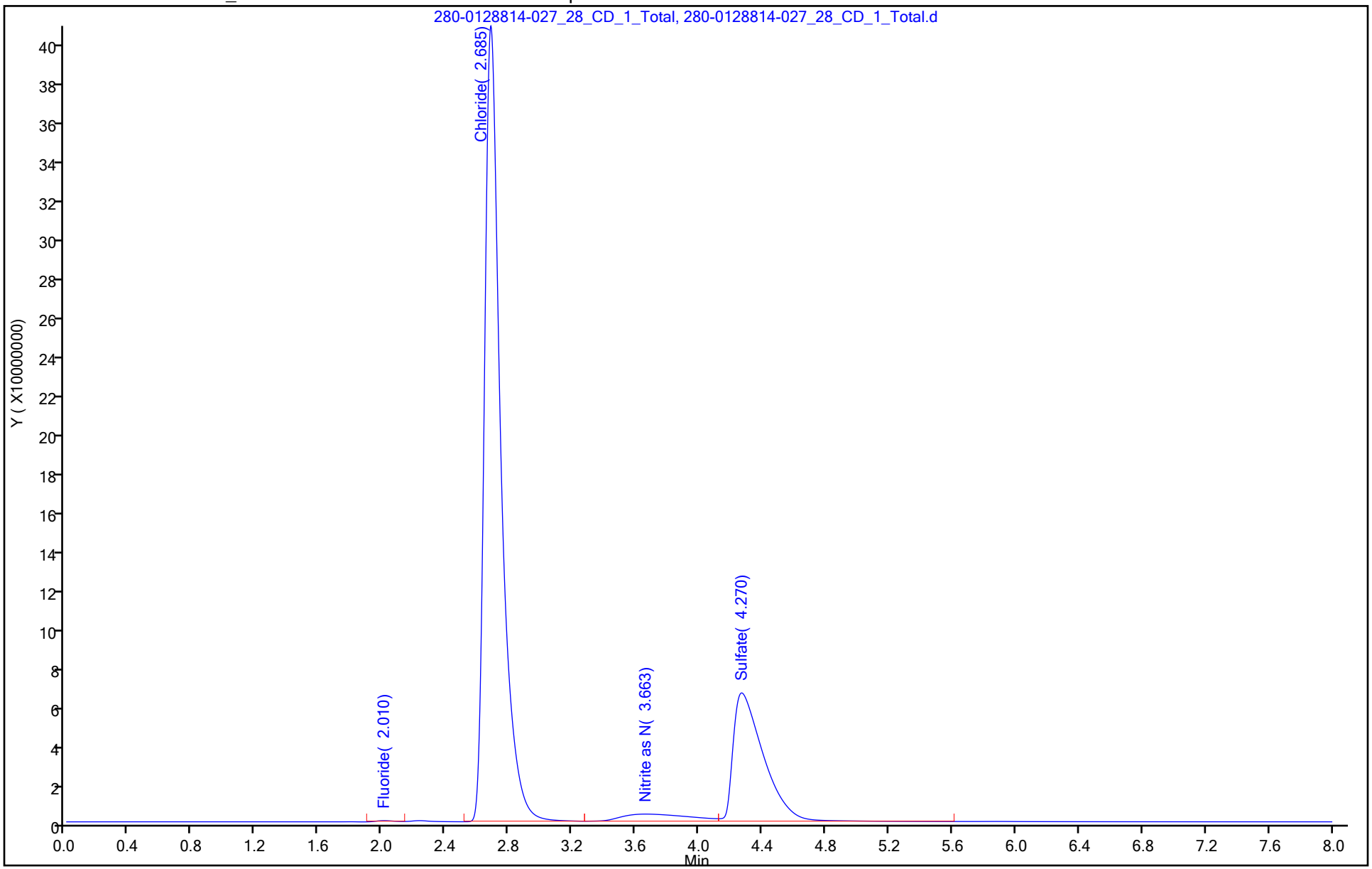
QC Flag Legend

Processing Flags
NC - Not Calibrated
E - Exceeded Maximum Amount
Review Flags
M - Manually Integrated
a - User Assigned ID

Report Date: 22-Dec-2023 11:45:42 Chrom Revision: 2.3 15-Nov-2023 20:54:34

Eurofins Denver

Data File:	\\chromfs\Denver\ChromData\WC_IonChrom16\20231221-128814.b\280-0128814-027_28_CD_1_Total.d				
Injection Date:	21-Dec-2023 16:44:00	Instrument ID:	WC_IonChrom16	Operator ID:	
Lims ID:	280-185814-C-12	Lab Sample ID:	280-185814-12	Worklist Smp#:	27
Client ID:	TV044-MW23D1223A				
Injection Vol:	5.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	Anions_IC16	Limit Group:	Wet - Anions 28D		



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Manual Integration/User Assign Peak Report

Eurofins Denver

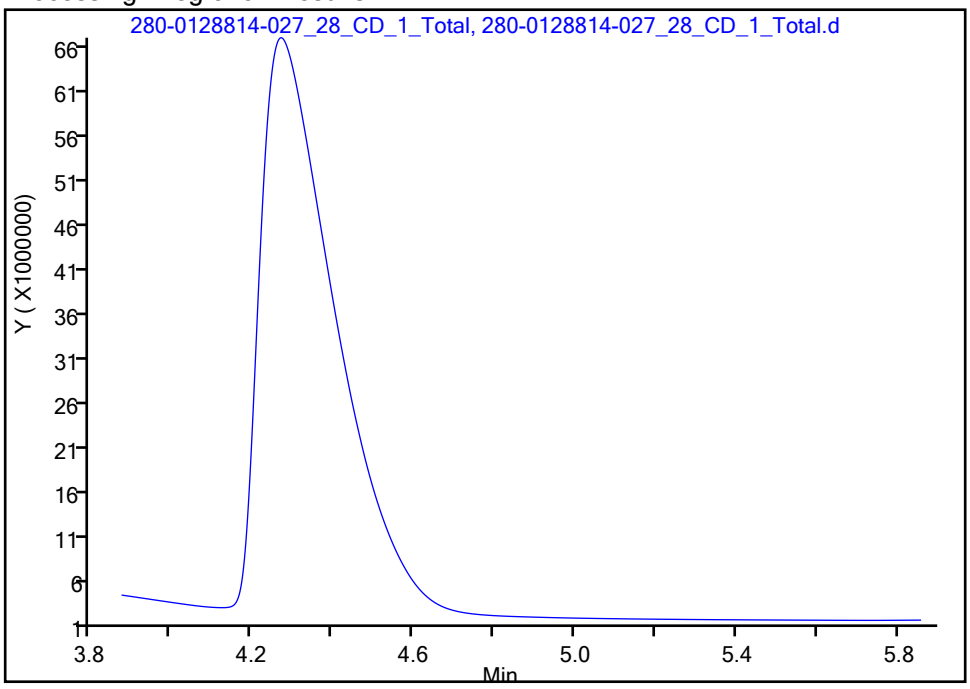
Data File:	\\chromfs\Denver\ChromData\WC_IonChrom16\20231221-128814.b\280-0128814-027_28_CD_1_Total.d				
Injection Date:	21-Dec-2023 16:44:00	Instrument ID:	WC_IonChrom16		
Lims ID:	280-185814-C-12	Lab Sample ID:	280-185814-12		
Client ID:	TV044-MW23D1223A				
Operator ID:		ALS Bottle#:	0	Worklist Smp#:	27
Injection Vol:	5.0 ul	Dil. Factor:	1.0000		
Method:	Anions_IC16	Limit Group:	Wet - Anions 28D		
Column:		Detector	0005		

6 Sulfate, CAS: 14808-79-8

Signal: 1

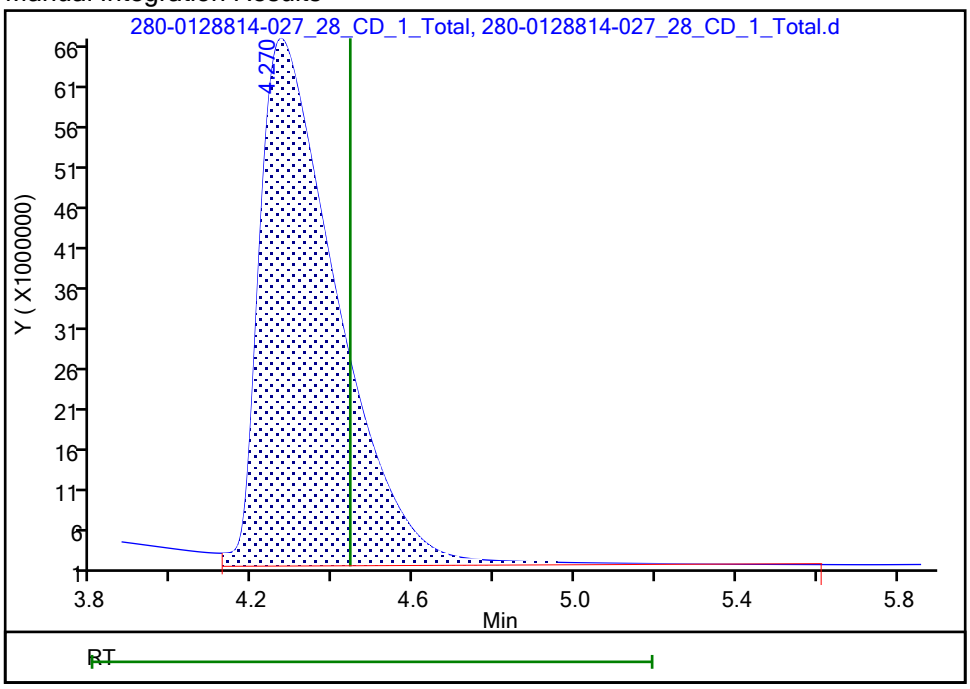
Not Detected
Expected RT: 4.44

Processing Integration Results



Manual Integration Results

RT: 4.27
Area: 873551677
Amount: 160.3868
Amount Units: ug/ml



Reviewer: BMJ3, 22-Dec-2023 11:35:52 -07:00:00 (UTC)
Audit Action: Assigned Compound ID Audit Reason: Assign Peak

Eurofins Denver
Target Compound Quantitation Report

Data File: \\chromfs\Denver\ChromData\WC_IonChrom16\20231221-128814.b\280-0128814-030_31_CD_1_Total.d
Lims ID: 280-185814-C-11
Client ID: TV044-MW91223A
Sample Type: Client
Inject. Date: 21-Dec-2023 17:17:00 ALS Bottle#: 0 Worklist Smp#: 30
Injection Vol: 5.0 ul Dil. Factor: 5.0000
Sample Info: 280-0128814-030
Misc. Info.: 280-185814-C-11
Operator ID: Instrument ID: WC_IonChrom16

Method: \\chromfs\Denver\ChromData\WC_IonChrom16\20231221-128814.b\Anions_IC16.m
Limit Group: Wet - Anions 28D
Last Update: 22-Dec-2023 11:45:39 Calib Date: 26-Sep-2023 12:07:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Denver\ChromData\WC_IonChrom16\20230926-125815.b\280-0125815-006_08_CD_1_Total.d

Column 1 : Det: 0005
Process Host: CTX1628

First Level Reviewer: BMJ3 Date: 22-Dec-2023 11:36:59

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	OnCol Amt ug/ml	Flags
1 Fluoride	1.993	1.990	0.003	721250	0.1505	
2 Chloride	2.683	2.677	0.006	385378672	51.4	
3 Nitrite as N		3.165			ND	
7 Orthophosphate as P	3.862	4.172	-0.310	25542693	NC	
4 Bromide		4.227			ND	
6 Sulfate	4.362	4.442	-0.080	331092391	61.1	
5 Nitrate as N	4.870	4.860	0.010	50544416	NC	

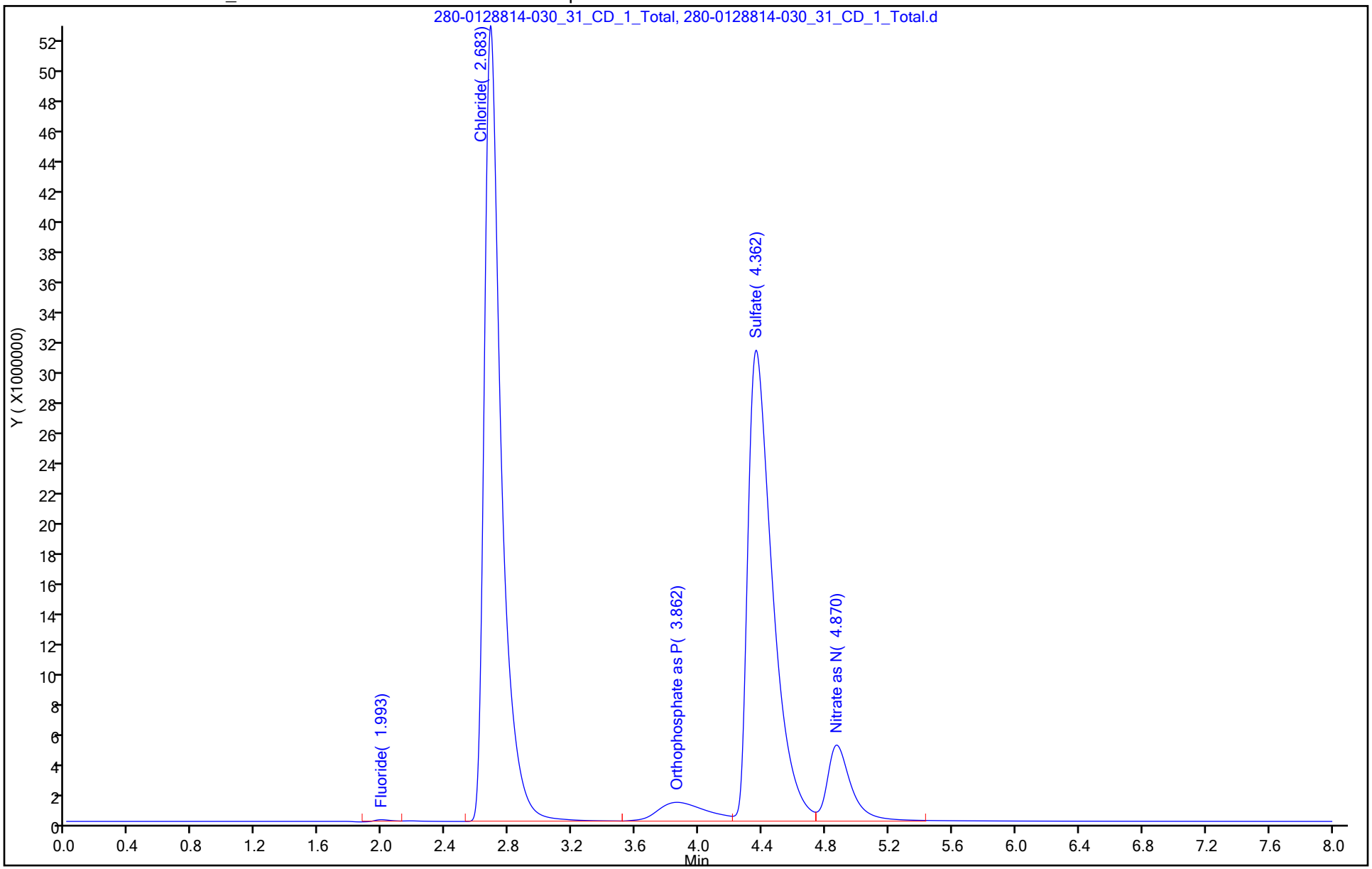
QC Flag Legend

Processing Flags
NC - Not Calibrated

Report Date: 22-Dec-2023 11:45:44 Chrom Revision: 2.3 15-Nov-2023 20:54:34

Eurofins Denver

Data File:	\\chromfs\Denver\ChromData\WC_IonChrom16\20231221-128814.b\280-0128814-030_31_CD_1_Total.d				
Injection Date:	21-Dec-2023 17:17:00	Instrument ID:	WC_IonChrom16	Operator ID:	
Lims ID:	280-185814-C-11	Lab Sample ID:	280-185814-11	Worklist Smp#:	30
Client ID:	TV044-MW91223A				
Injection Vol:	5.0 ul	Dil. Factor:	5.0000	ALS Bottle#:	0
Method:	Anions_IC16	Limit Group:	Wet - Anions 28D		



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Eurofins Denver
Target Compound Quantitation Report

Data File: \\chromfs\Denver\ChromData\WC_IonChrom16\20231221-128814.b\280-0128814-032_33_CD_1_Total.d
Lims ID: 280-185814-C-9
Client ID: TV044-MW111223C
Sample Type: Client
Inject. Date: 21-Dec-2023 17:39:00 ALS Bottle#: 0 Worklist Smp#: 32
Injection Vol: 5.0 ul Dil. Factor: 5.0000
Sample Info: 280-0128814-032
Misc. Info.: 280-185814-C-9
Operator ID: Instrument ID: WC_IonChrom16

Method: \\chromfs\Denver\ChromData\WC_IonChrom16\20231221-128814.b\Anions_IC16.m
Limit Group: Wet - Anions 28D
Last Update: 22-Dec-2023 11:45:39 Calib Date: 26-Sep-2023 12:07:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Denver\ChromData\WC_IonChrom16\20230926-125815.b\280-0125815-006_08_CD_1_Total.d

Column 1 : Det: 0005
Process Host: CTX1628

First Level Reviewer: BMJ3 Date: 22-Dec-2023 11:37:29

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	OnCol Amt ug/ml	Flags
1 Fluoride	1.993	1.990	0.003	2368086	0.2816	
2 Chloride	2.680	2.677	0.003	1360057407	180.3	
3 Nitrite as N		3.165			ND	
7 Orthophosphate as P	3.858	4.172	-0.314	29563129	NC	
4 Bromide		4.227			ND	
6 Sulfate	4.385	4.442	-0.057	210896882	39.1	
5 Nitrate as N		4.860			ND	

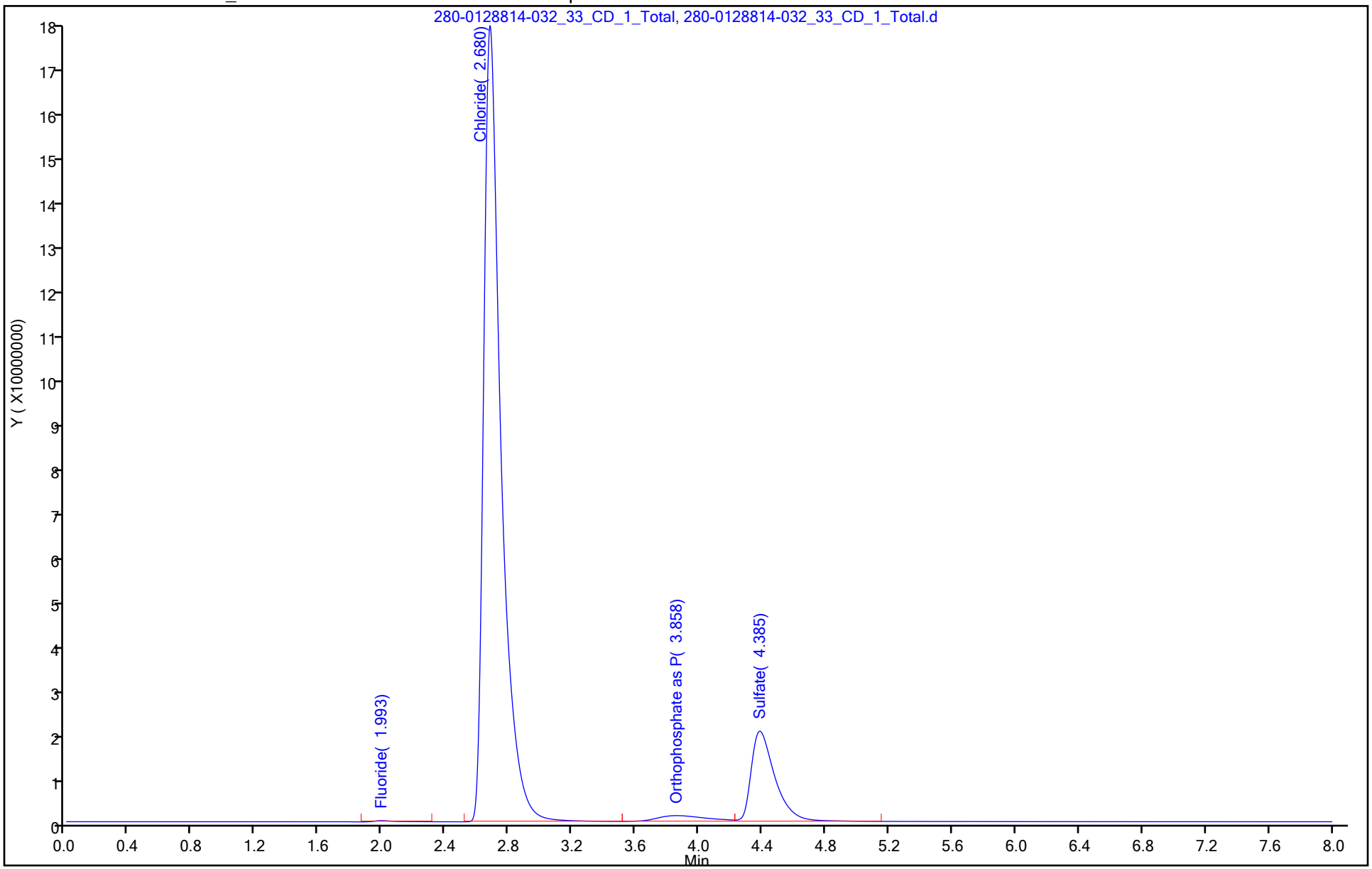
QC Flag Legend

Processing Flags
NC - Not Calibrated

Report Date: 22-Dec-2023 11:45:45 Chrom Revision: 2.3 15-Nov-2023 20:54:34

Eurofins Denver

Data File:	\\chromfs\Denver\ChromData\WC_IonChrom16\20231221-128814.b\280-0128814-032_33_CD_1_Total.d				
Injection Date:	21-Dec-2023 17:39:00	Instrument ID:	WC_IonChrom16	Operator ID:	
Lims ID:	280-185814-C-9	Lab Sample ID:	280-185814-9	Worklist Smp#:	32
Client ID:	TV044-MW111223C				
Injection Vol:	5.0 ul	Dil. Factor:	5.0000	ALS Bottle#:	0
Method:	Anions_IC16	Limit Group:	Wet - Anions 28D		



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Eurofins Denver
Target Compound Quantitation Report

Data File: \\chromfs\Denver\ChromData\WC_IonChrom16\20231221-128814.b\280-0128814-034_35_CD_1_Total.d
Lims ID: 280-185814-C-8
Client ID: TV044-MW111223A
Sample Type: Client
Inject. Date: 21-Dec-2023 18:01:00 ALS Bottle#: 0 Worklist Smp#: 34
Injection Vol: 5.0 ul Dil. Factor: 5.0000
Sample Info: 280-0128814-034
Misc. Info.: 280-185814-C-8
Operator ID: Instrument ID: WC_IonChrom16

Method: \\chromfs\Denver\ChromData\WC_IonChrom16\20231221-128814.b\Anions_IC16.m
Limit Group: Wet - Anions 28D
Last Update: 22-Dec-2023 11:45:39 Calib Date: 26-Sep-2023 12:07:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Denver\ChromData\WC_IonChrom16\20230926-125815.b\280-0125815-006_08_CD_1_Total.d

Column 1 : Det: 0005
Process Host: CTX1628

First Level Reviewer: BMJ3 Date: 22-Dec-2023 11:38:19

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	OnCol Amt ug/ml	Flags
1 Fluoride	1.995	1.990	0.005	1867559	0.2417	
2 Chloride	2.682	2.677	0.005	1237438238	164.1	
3 Nitrite as N		3.165			ND	
7 Orthophosphate as P	3.860	4.172	-0.312	27547378	NC	
4 Bromide		4.227			ND	
6 Sulfate	4.385	4.442	-0.057	176981272	32.8	M
5 Nitrate as N	4.882	4.860	0.022	7080403	NC	

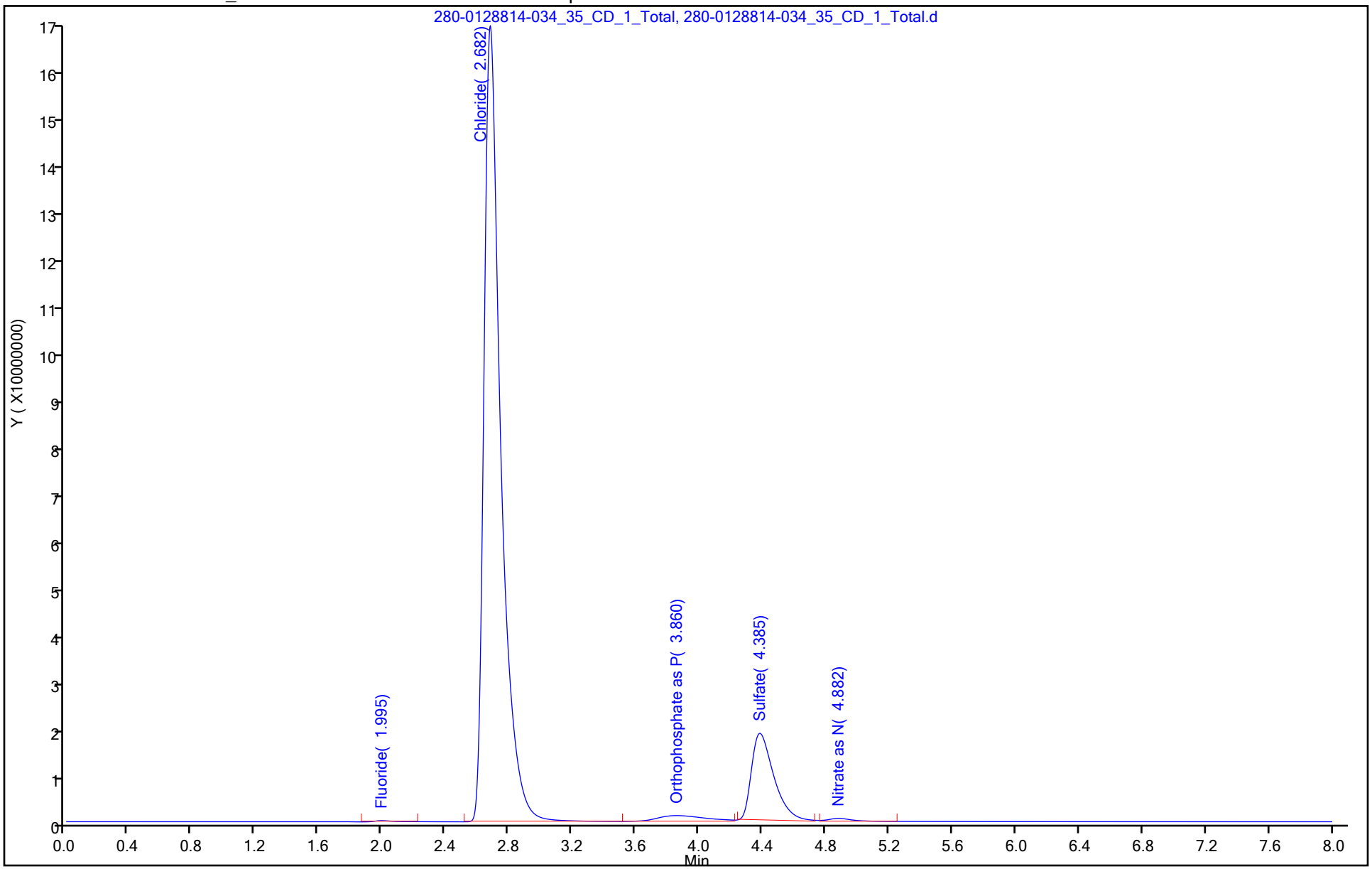
QC Flag Legend

Processing Flags
NC - Not Calibrated
Review Flags
M - Manually Integrated

Report Date: 22-Dec-2023 11:45:46 Chrom Revision: 2.3 15-Nov-2023 20:54:34

Eurofins Denver

Data File:	\\chromfs\Denver\ChromData\WC_IonChrom16\20231221-128814.b\280-0128814-034_35_CD_1_Total.d				
Injection Date:	21-Dec-2023 18:01:00	Instrument ID:	WC_IonChrom16	Operator ID:	
Lims ID:	280-185814-C-8	Lab Sample ID:	280-185814-8	Worklist Smp#:	34
Client ID:	TV044-MW111223A				
Injection Vol:	5.0 ul	Dil. Factor:	5.0000	ALS Bottle#:	0
Method:	Anions_IC16	Limit Group:	Wet - Anions 28D		



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Manual Integration/User Assign Peak Report

Eurofins Denver

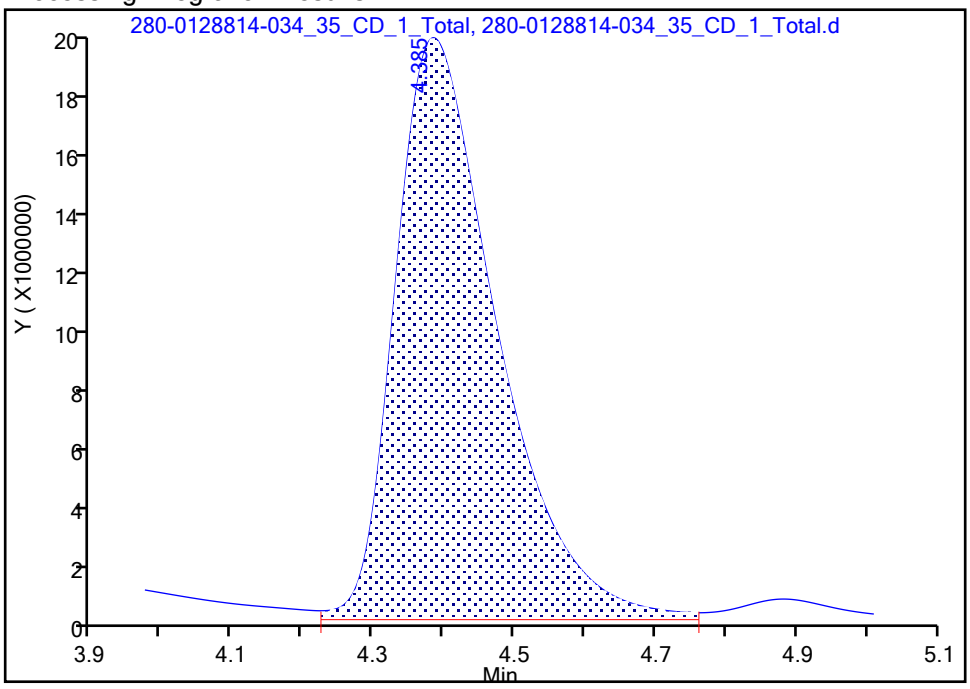
Data File:	\\chromfs\Denver\ChromData\WC_IonChrom16\20231221-128814.b\280-0128814-034_35_CD_1_Total.d		
Injection Date:	21-Dec-2023 18:01:00	Instrument ID:	WC_IonChrom16
Lims ID:	280-185814-C-8	Lab Sample ID:	280-185814-8
Client ID:	TV044-MW111223A		
Operator ID:		ALS Bottle#:	0 Worklist Smp#: 34
Injection Vol:	5.0 ul	Dil. Factor:	5.0000
Method:	Anions_IC16	Limit Group:	Wet - Anions 28D
Column:		Detector	0005

6 Sulfate, CAS: 14808-79-8

Signal: 1

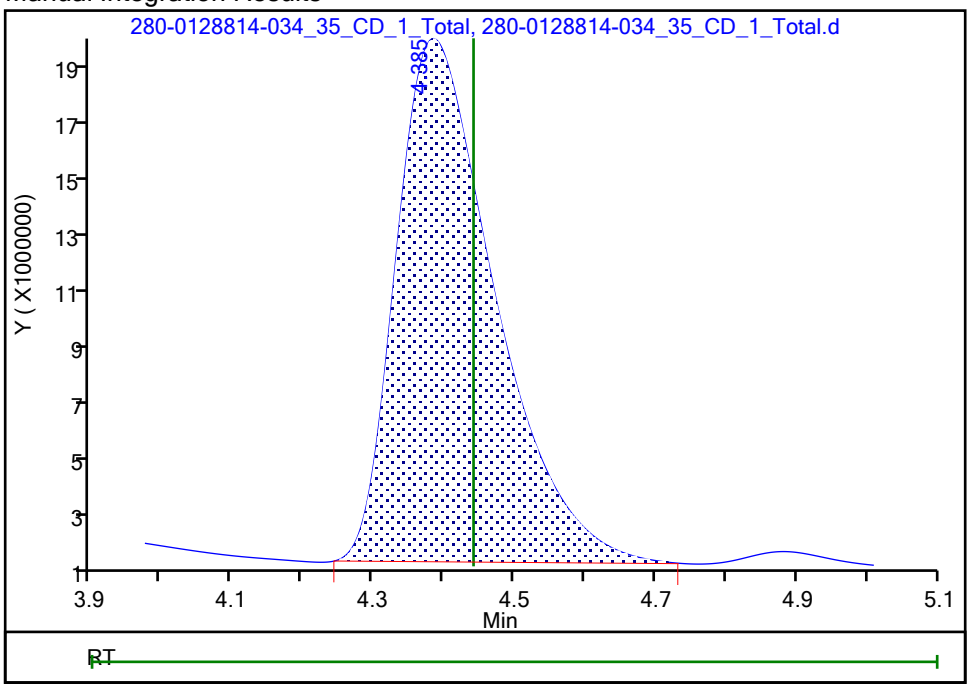
Processing Integration Results

RT: 4.39
Area: 186589532
Amount: 34.607289
Amount Units: ug/ml



Manual Integration Results

RT: 4.39
Area: 176981272
Amount: 32.848062
Amount Units: ug/ml



Reviewer: BMJ3, 22-Dec-2023 11:38:16 -07:00:00 (UTC)

Audit Action: Manually Integrated Audit Reason: Baseline Smoothing

Eurofins Denver
Target Compound Quantitation Report

Data File: \\chromfs\Denver\ChromData\WC_IonChrom16\20231221-128814.b\280-0128814-035_36_CD_1_Total.d
Lims ID: 280-185814-C-6
Client ID: TV044-MW22S1223A
Sample Type: Client
Inject. Date: 21-Dec-2023 18:12:00 ALS Bottle#: 0 Worklist Smp#: 35
Injection Vol: 5.0 ul Dil. Factor: 50.0000
Sample Info: 280-0128814-035
Misc. Info.: 280-185814-C-6
Operator ID: Instrument ID: WC_IonChrom16

Method: \\chromfs\Denver\ChromData\WC_IonChrom16\20231221-128814.b\Anions_IC16.m
Limit Group: Wet - Anions 28D
Last Update: 22-Dec-2023 11:45:39 Calib Date: 26-Sep-2023 12:07:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Denver\ChromData\WC_IonChrom16\20230926-125815.b\280-0125815-006_08_CD_1_Total.d

Column 1 : Det: 0005
Process Host: CTX1628

First Level Reviewer: BMJ3 Date: 22-Dec-2023 11:38:26

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	OnCol Amt ug/ml	Flags
1 Fluoride		1.990			ND	
2 Chloride	2.680	2.677	0.003	65552085	9.05	
3 Nitrite as N		3.165			ND	
7 Orthophosphate as P	3.892	4.172	-0.280	6862072	NC	
4 Bromide		4.227			ND	
6 Sulfate	4.392	4.442	-0.050	160245243	29.8	
5 Nitrate as N		4.860			ND	

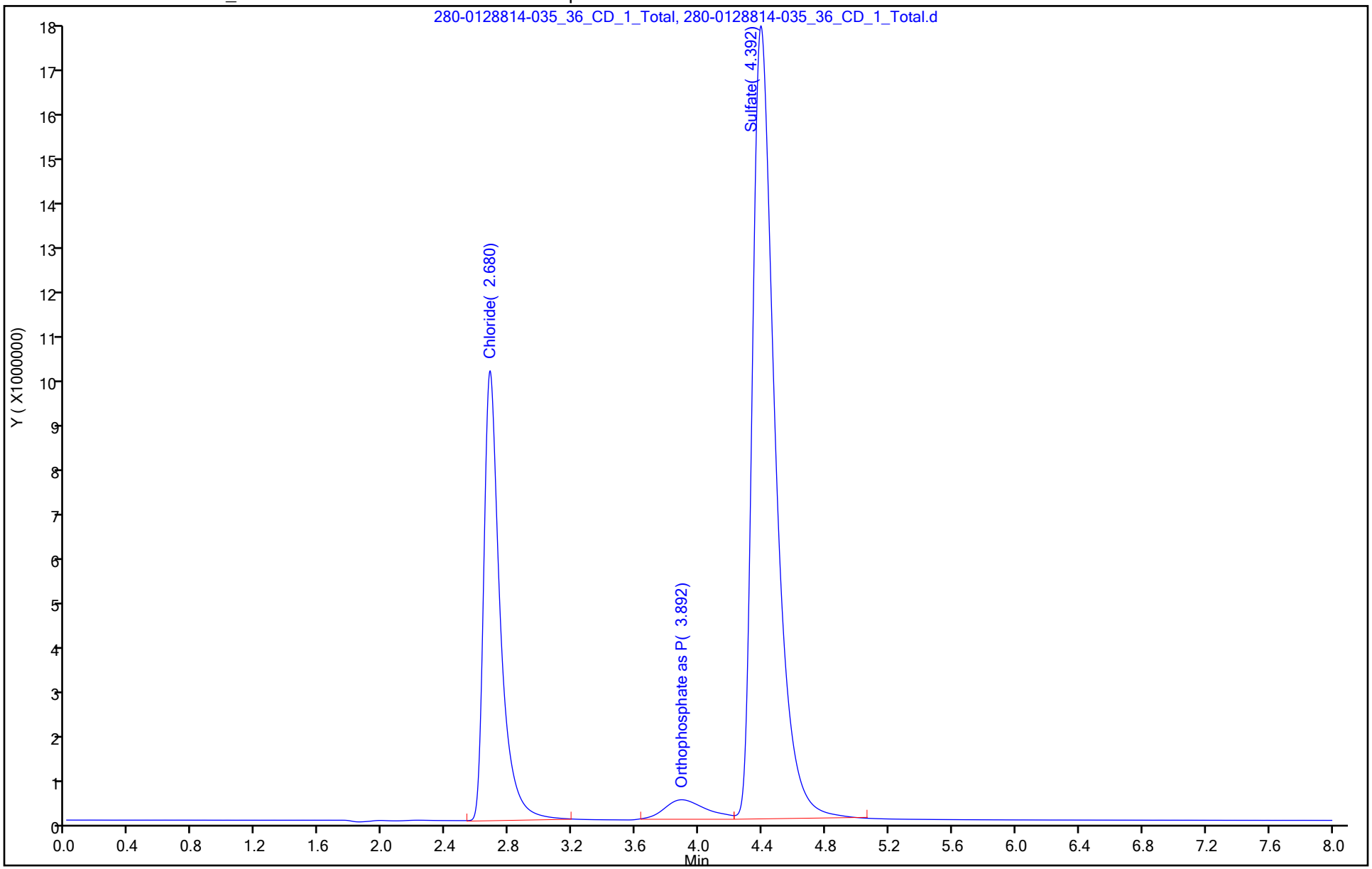
QC Flag Legend

Processing Flags
NC - Not Calibrated

Report Date: 22-Dec-2023 11:45:46 Chrom Revision: 2.3 15-Nov-2023 20:54:34

Eurofins Denver

Data File:	\\chromfs\Denver\ChromData\WC_IonChrom16\20231221-128814.b\280-0128814-035_36_CD_1_Total.d				
Injection Date:	21-Dec-2023 18:12:00	Instrument ID:	WC_IonChrom16	Operator ID:	
Lims ID:	280-185814-C-6	Lab Sample ID:	280-185814-6	Worklist Smp#:	35
Client ID:	TV044-MW22S1223A				
Injection Vol:	5.0 ul	Dil. Factor:	50.0000	ALS Bottle#:	0
Method:	Anions_IC16	Limit Group:	Wet - Anions 28D		



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Eurofins Denver
Target Compound Quantitation Report

Data File: \\chromfs\Denver\ChromData\WC_IonChrom16\20231221-128814.b\280-0128814-036_37_CD_1_Total.d
Lims ID: ccv
Client ID:
Sample Type: CCV
Inject. Date: 21-Dec-2023 18:23:00 ALS Bottle#: 0 Worklist Smp#: 36
Injection Vol: 5.0 ul Dil. Factor: 1.0000
Sample Info: 280-0128814-036
Misc. Info.: CCV
Operator ID: Instrument ID: WC_IonChrom16
Sublist: chrom-Anions_IC16*sub3

Method: \\chromfs\Denver\ChromData\WC_IonChrom16\20231221-128814.b\Anions_IC16.m
Limit Group: Wet - Anions 28D
Last Update: 22-Dec-2023 11:45:47 Calib Date: 26-Sep-2023 12:07:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Denver\ChromData\WC_IonChrom16\20230926-125815.b\280-0125815-006_08_CD_1_Total.d

Column 1 : Det: 0005
Process Host: CTX1628

First Level Reviewer: BMJ3 Date: 22-Dec-2023 11:38:51

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
1 Fluoride	1.993	1.990	0.003	60547453	5.00	4.91	
2 Chloride	2.675	2.677	-0.002	768092502	100.0	102.0	
3 Nitrite as N	3.163	3.165	-0.002	94151604	NC	NC	
7 Orthophosphate as P	4.165	4.172	-0.007	6443422	NC	NC	
4 Bromide		4.227			5.00	ND	a
6 Sulfate	4.322	4.442	-0.120	535235516	100.0	98.4	Ma
5 Nitrate as N		4.860			NC	ND	Ma

QC Flag Legend

Processing Flags
NC - Not Calibrated
Review Flags
M - Manually Integrated
a - User Assigned ID

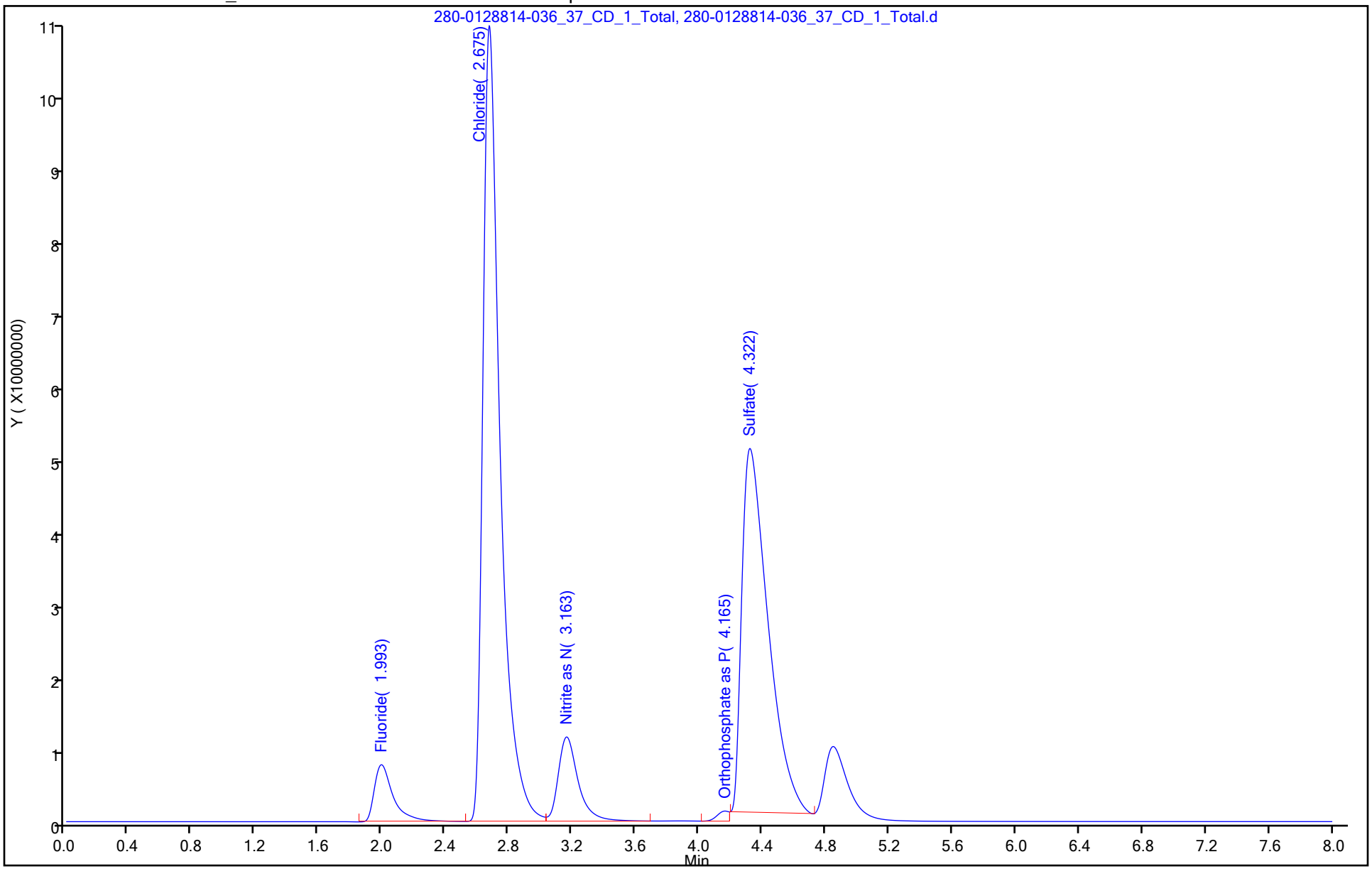
Reagents:

IC LCS_01998 Amount Added: 10.00 Units: mL

Report Date: 22-Dec-2023 11:45:47 Chrom Revision: 2.3 15-Nov-2023 20:54:34

Eurofins Denver

Data File:	\\chromfs\Denver\ChromData\WC_IonChrom16\20231221-128814.b\280-0128814-036_37_CD_1_Total.d				
Injection Date:	21-Dec-2023 18:23:00	Instrument ID:	WC_IonChrom16	Operator ID:	
Lims ID:	ccv			Worklist Smp#:	36
Client ID:					
Injection Vol:	5.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	Anions_IC16	Limit Group:	Wet - Anions 28D		



12/29/2023
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Eurofins Denver

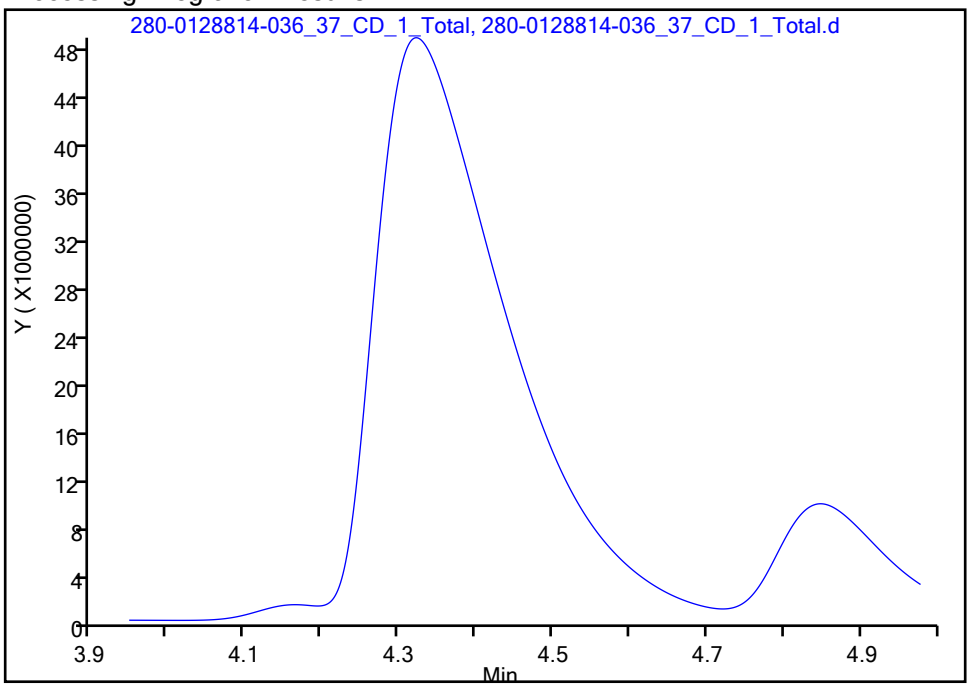
Data File:	\\chromfs\Denver\ChromData\WC_IonChrom16\20231221-128814.b\280-0128814-036_37_CD_1_Total.d				
Injection Date:	21-Dec-2023 18:23:00	Instrument ID:	WC_IonChrom16		
Lims ID:	ccv				
Client ID:					
Operator ID:		ALS Bottle#:	0	Worklist Smp#:	36
Injection Vol:	5.0 ul	Dil. Factor:	1.0000		
Method:	Anions_IC16	Limit Group:	Wet - Anions 28D		
Column:		Detector	0005		

6 Sulfate, CAS: 14808-79-8

Signal: 1

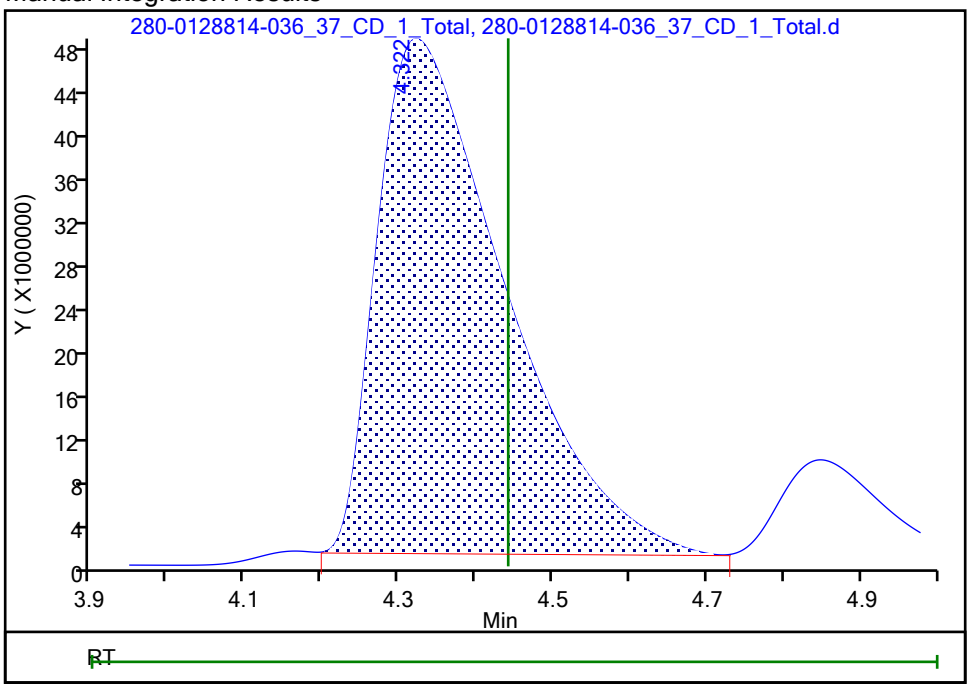
Not Detected
Expected RT: 4.44

Processing Integration Results



Manual Integration Results

RT: 4.32
Area: 535235516
Amount: 98.442713
Amount Units: ug/ml



Reviewer: BMJ3, 22-Dec-2023 11:38:49 -07:00:00 (UTC)
Audit Action: Manually Integrated/Assigned Compound ID Audit Reason: Assign Peak

Eurofins Denver
Target Compound Quantitation Report

Data File: \\chromfs\Denver\ChromData\WC_IonChrom16\20231221-128814.b\280-0128814-037_38_CD_1_Total.d
Lims ID: ccb
Client ID:
Sample Type: CCB
Inject. Date: 21-Dec-2023 18:34:00 ALS Bottle#: 0 Worklist Smp#: 37
Injection Vol: 5.0 ul Dil. Factor: 1.0000
Sample Info: 280-0128814-037
Misc. Info.: CCB
Operator ID: Instrument ID: WC_IonChrom16

Method: \\chromfs\Denver\ChromData\WC_IonChrom16\20231221-128814.b\Anions_IC16.m
Limit Group: Wet - Anions 28D
Last Update: 22-Dec-2023 11:45:47 Calib Date: 26-Sep-2023 12:07:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Denver\ChromData\WC_IonChrom16\20230926-125815.b\280-0125815-006_08_CD_1_Total.d

Column 1 : Det: 0005
Process Host: CTX1628

First Level Reviewer: BMJ3 Date: 22-Dec-2023 11:38:58

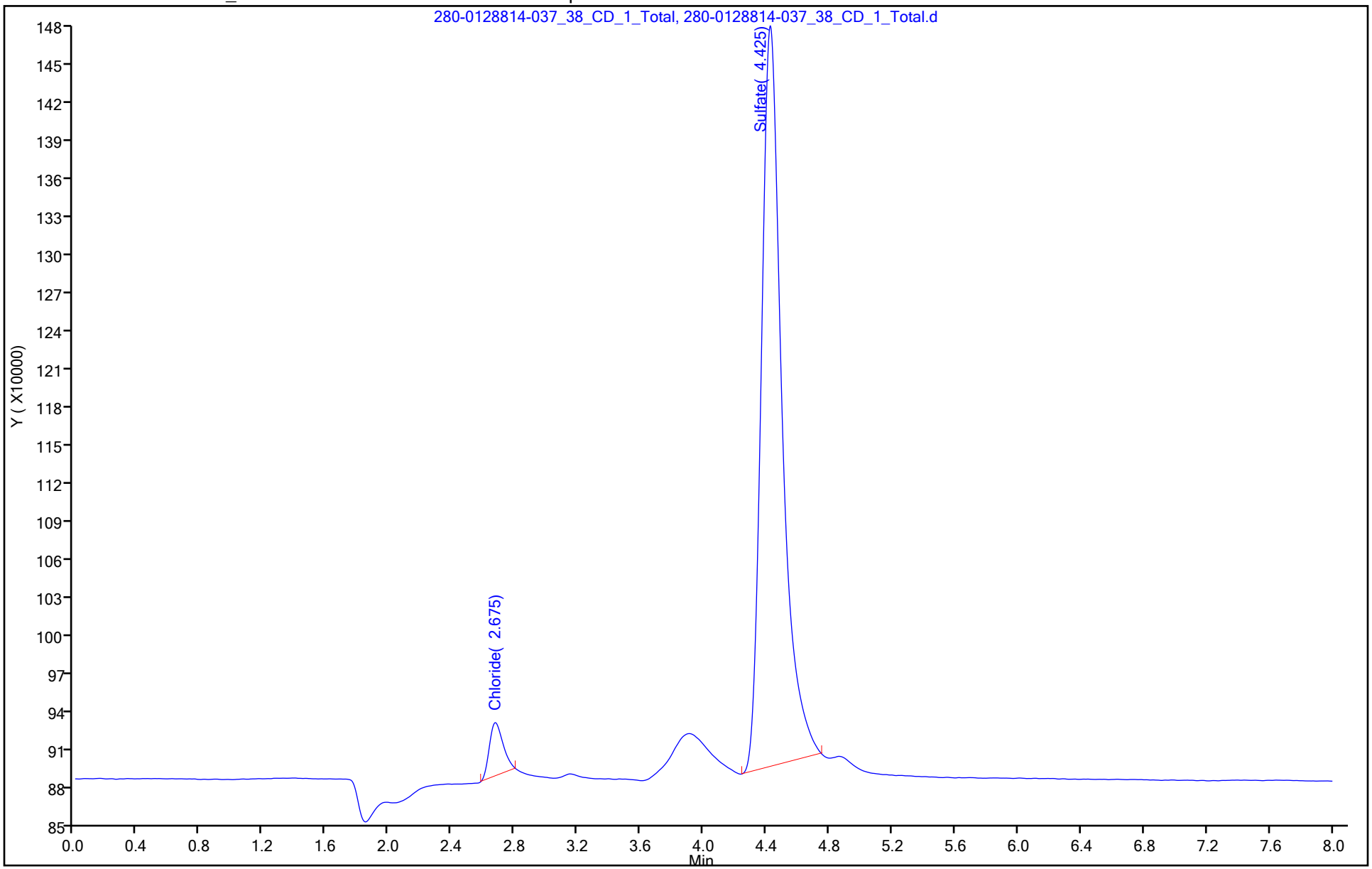
Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
1 Fluoride		1.990				ND	
2 Chloride	2.675	2.677	-0.002	253832		0.4125	
3 Nitrite as N		3.165				ND	
7 Orthophosphate as P		4.172				ND	
4 Bromide		4.227				ND	
6 Sulfate	4.425	4.442	-0.017	5321149		1.42	
5 Nitrate as N		4.860				ND	

QC Flag Legend
Processing Flags

Report Date: 22-Dec-2023 11:45:48 Chrom Revision: 2.3 15-Nov-2023 20:54:34

Eurofins Denver

Data File:	\\chromfs\Denver\ChromData\WC_IonChrom16\20231221-128814.b\280-0128814-037_38_CD_1_Total.d				
Injection Date:	21-Dec-2023 18:34:00	Instrument ID:	WC_IonChrom16	Operator ID:	
Lims ID:	ccb			Worklist Smp#:	37
Client ID:					
Injection Vol:	5.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	Anions_IC16	Limit Group:	Wet - Anions 28D		



12/29/2023
12:08 PM

Eurofins Denver
Target Compound Quantitation Report

Data File: \\chromfs\Denver\ChromData\WC_IonChrom16\20231221-128814.b\280-0128814-038_39_CD_1_Total.d
Lims ID: 280-185814-C-5
Client ID: TV044-MW151223A
Sample Type: Client
Inject. Date: 21-Dec-2023 18:45:00 ALS Bottle#: 0 Worklist Smp#: 38
Injection Vol: 5.0 ul Dil. Factor: 50.0000
Sample Info: 280-0128814-038
Misc. Info.: 280-185814-C-5
Operator ID: Instrument ID: WC_IonChrom16

Method: \\chromfs\Denver\ChromData\WC_IonChrom16\20231221-128814.b\Anions_IC16.m
Limit Group: Wet - Anions 28D
Last Update: 22-Dec-2023 11:45:47 Calib Date: 26-Sep-2023 12:07:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Denver\ChromData\WC_IonChrom16\20230926-125815.b\280-0125815-006_08_CD_1_Total.d

Column 1 : Det: 0005
Process Host: CTX1628

First Level Reviewer: BMJ3 Date: 22-Dec-2023 11:39:04

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	OnCol Amt ug/ml	Flags
1 Fluoride	1.985	1.990	-0.005	294520	0.1166	
2 Chloride	2.678	2.677	0.001	82917627	11.3	
3 Nitrite as N		3.165			ND	
7 Orthophosphate as P	3.885	4.172	-0.287	8887794	NC	
4 Bromide		4.227			ND	
6 Sulfate	4.373	4.442	-0.069	240961475	44.6	
5 Nitrate as N	4.872	4.860	0.012	18152010	NC	

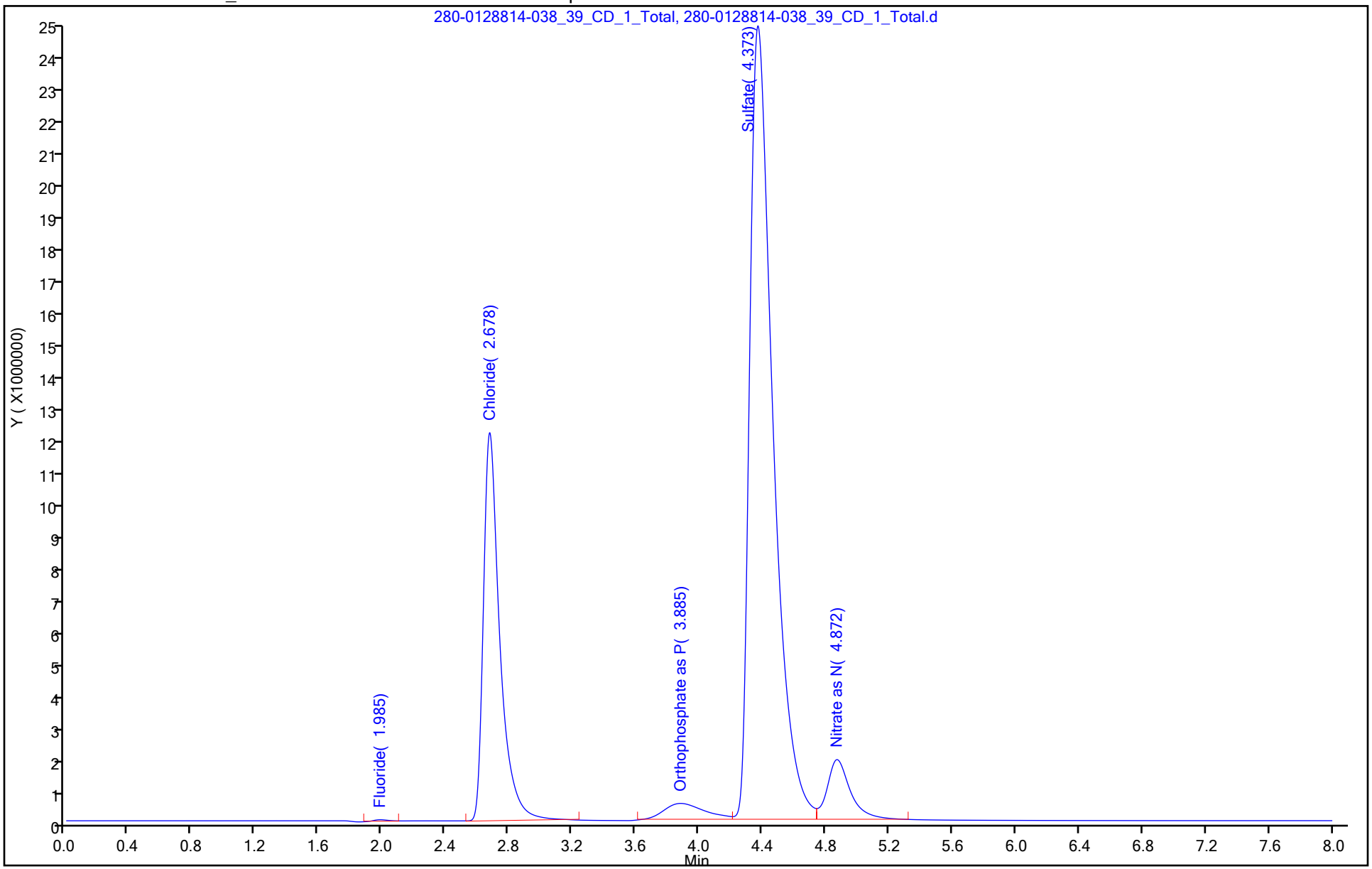
QC Flag Legend

Processing Flags
NC - Not Calibrated

Report Date: 22-Dec-2023 11:45:48 Chrom Revision: 2.3 15-Nov-2023 20:54:34

Eurofins Denver

Data File:	\\chromfs\Denver\ChromData\WC_IonChrom16\20231221-128814.b\280-0128814-038_39_CD_1_Total.d				
Injection Date:	21-Dec-2023 18:45:00	Instrument ID:	WC_IonChrom16	Operator ID:	
Lims ID:	280-185814-C-5	Lab Sample ID:	280-185814-5	Worklist Smp#:	38
Client ID:	TV044-MW151223A				
Injection Vol:	5.0 ul	Dil. Factor:	50.0000	ALS Bottle#:	0
Method:	Anions_IC16	Limit Group:	Wet - Anions 28D		



12/29/2023
12:08 PM

Eurofins Denver
Target Compound Quantitation Report

Data File: \\chromfs\Denver\ChromData\WC_IonChrom16\20231221-128814.b\280-0128814-041_42_CD_1_Total.d
Lims ID: ccv
Client ID:
Sample Type: CCV
Inject. Date: 21-Dec-2023 19:18:00 ALS Bottle#: 0 Worklist Smp#: 41
Injection Vol: 5.0 ul Dil. Factor: 1.0000
Sample Info: 280-0128814-041
Misc. Info.: CCV
Operator ID: Instrument ID: WC_IonChrom16
Sublist: chrom-Anions_IC16*sub3

Method: \\chromfs\Denver\ChromData\WC_IonChrom16\20231221-128814.b\Anions_IC16.m
Limit Group: Wet - Anions 28D
Last Update: 22-Dec-2023 11:45:49 Calib Date: 26-Sep-2023 12:07:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Denver\ChromData\WC_IonChrom16\20230926-125815.b\280-0125815-006_08_CD_1_Total.d

Column 1 : Det: 0005
Process Host: CTX1628

First Level Reviewer: BMJ3 Date: 22-Dec-2023 11:41:32

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
1 Fluoride	1.990	1.990	0.000	61648869	5.00	5.00	
2 Chloride	2.672	2.677	-0.005	757022907	100.0	100.5	
3 Nitrite as N	3.160	3.165	-0.005	94638931	NC	NC	
7 Orthophosphate as P	4.158	4.172	-0.014	6731436	NC	NC	
4 Bromide		4.227			5.00	ND	a
6 Sulfate	4.317	4.442	-0.125	539043942	100.0	99.1	Ma
5 Nitrate as N	4.843	4.860	-0.017	95592827	NC	NC	

QC Flag Legend

Processing Flags
NC - Not Calibrated
Review Flags
M - Manually Integrated
a - User Assigned ID

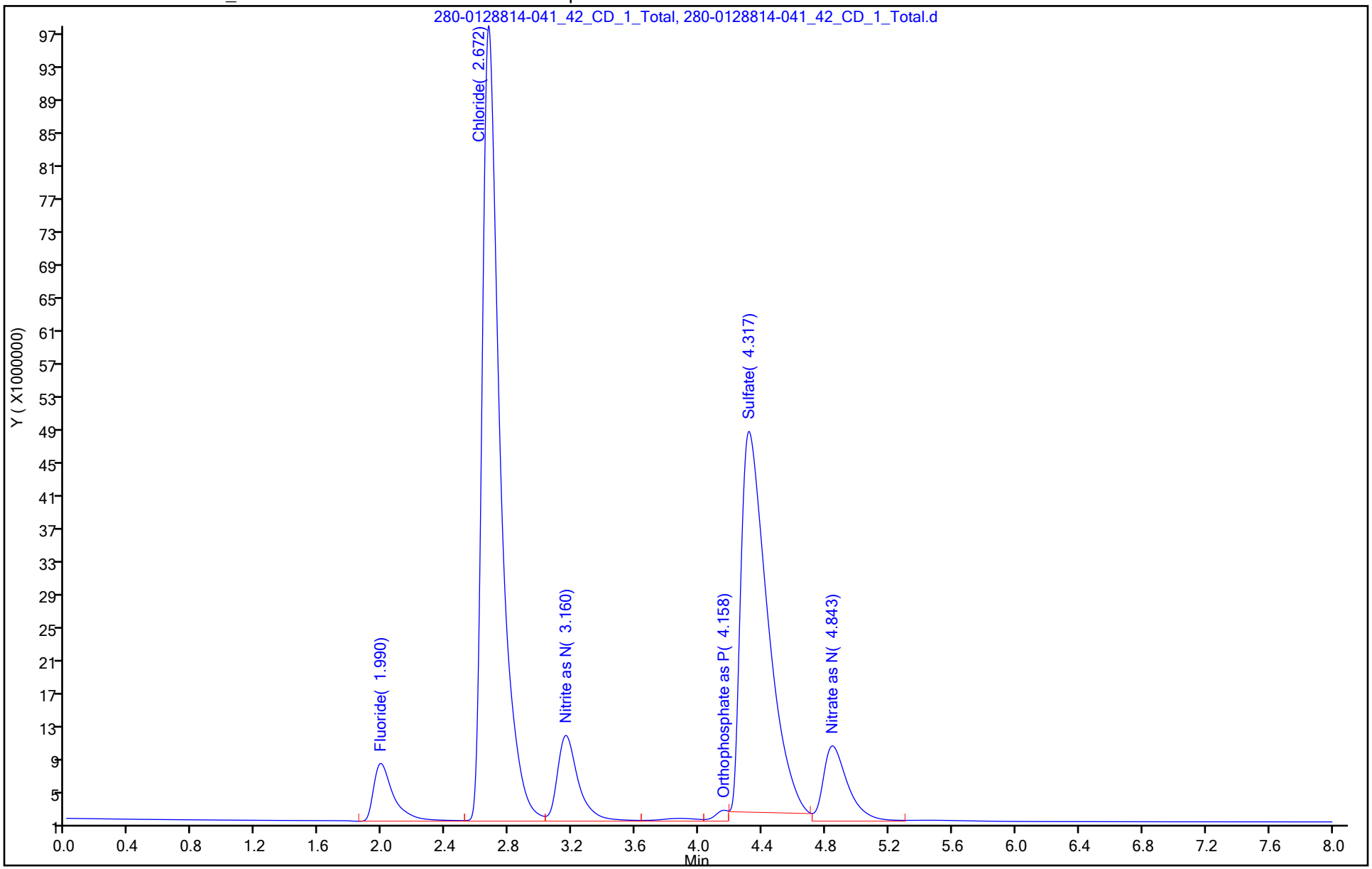
Reagents:

IC LCS_01998 Amount Added: 10.00 Units: mL

Report Date: 22-Dec-2023 11:45:50 Chrom Revision: 2.3 15-Nov-2023 20:54:34

Eurofins Denver

Data File:	\\chromfs\Denver\ChromData\WC_IonChrom16\20231221-128814.b\280-0128814-041_42_CD_1_Total.d				
Injection Date:	21-Dec-2023 19:18:00	Instrument ID:	WC_IonChrom16	Operator ID:	
Lims ID:	ccv			Worklist Smp#:	41
Client ID:					
Injection Vol:	5.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	Anions_IC16	Limit Group:	Wet - Anions 28D		



12/29/2023
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Manual Integration/User Assign Peak Report

Eurofins Denver

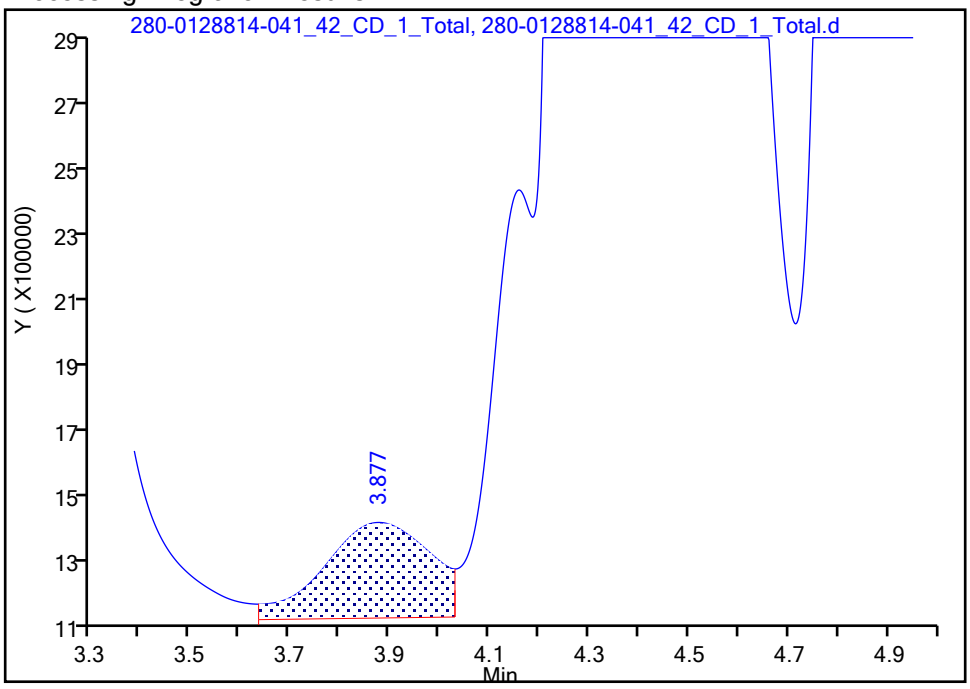
Data File: \\chromfs\Denver\ChromData\WC_IonChrom16\20231221-128814.b\280-0128814-041_42_CD_1_Total.d
Injection Date: 21-Dec-2023 19:18:00 Instrument ID: WC_IonChrom16
Lims ID: ccv
Client ID:
Operator ID: ALS Bottle#: 0 Worklist Smp#: 41
Injection Vol: 5.0 ul Dil. Factor: 1.0000
Method: Anions_IC16 Limit Group: Wet - Anions 28D
Column: Detector 0005

6 Sulfate, CAS: 14808-79-8

Signal: 1

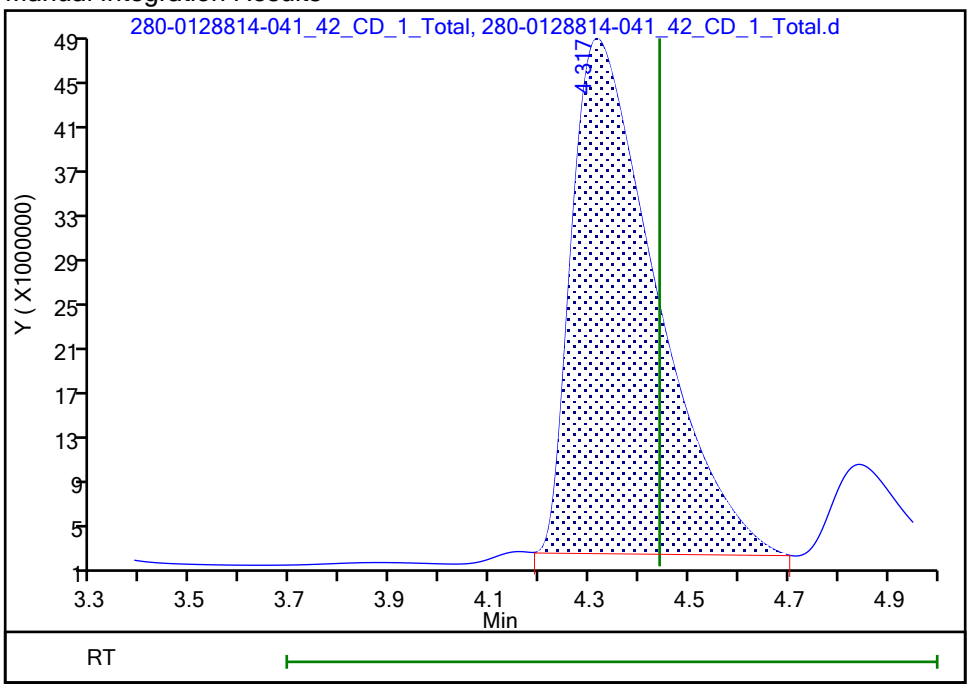
Processing Integration Results

RT: 3.88
Area: 4162525
Amount: 1.205770
Amount Units: ug/ml



Manual Integration Results

RT: 4.32
Area: 539043942
Amount: 99.140018
Amount Units: ug/ml



Reviewer: BMJ3, 22-Dec-2023 11:41:30 -07:00:00 (UTC)
Audit Action: Manually Integrated Audit Reason: Assign Peak

Eurofins Denver
Target Compound Quantitation Report

Data File: \\chromfs\Denver\ChromData\WC_IonChrom16\20231221-128814.b\280-0128814-042_43_CD_1_Total.d
Lims ID: ccb
Client ID:
Sample Type: CCB
Inject. Date: 21-Dec-2023 19:29:00 ALS Bottle#: 0 Worklist Smp#: 42
Injection Vol: 5.0 ul Dil. Factor: 1.0000
Sample Info: 280-0128814-042
Misc. Info.: CCB
Operator ID: Instrument ID: WC_IonChrom16

Method: \\chromfs\Denver\ChromData\WC_IonChrom16\20231221-128814.b\Anions_IC16.m
Limit Group: Wet - Anions 28D
Last Update: 22-Dec-2023 11:45:49 Calib Date: 26-Sep-2023 12:07:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Denver\ChromData\WC_IonChrom16\20230926-125815.b\280-0125815-006_08_CD_1_Total.d

Column 1 : Det: 0005
Process Host: CTX1628

First Level Reviewer: BMJ3 Date: 22-Dec-2023 11:41:50

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
1 Fluoride		1.990				ND	
2 Chloride	2.695	2.677	0.018	271744		0.4149	
3 Nitrite as N		3.165				ND	
7 Orthophosphate as P		4.172				ND	
4 Bromide		4.227				ND	
6 Sulfate	4.423	4.442	-0.019	5413935		1.43	
5 Nitrate as N		4.860				ND	

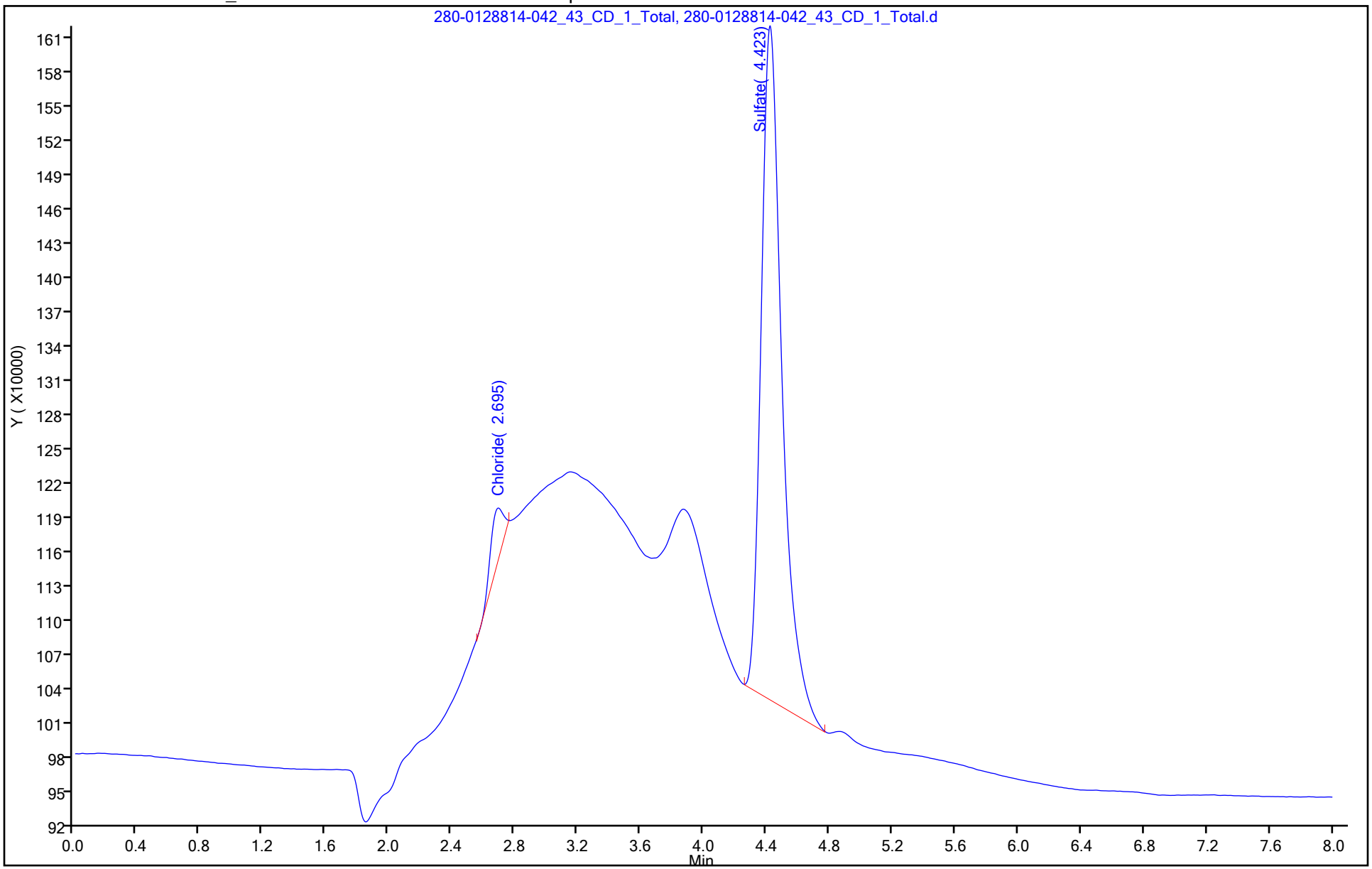
QC Flag Legend
Processing Flags

Report Date: 22-Dec-2023 11:45:50 Chrom Revision: 2.3 15-Nov-2023 20:54:34

Eurofins Denver

Data File: \\chromfs\Denver\ChromData\WC_IonChrom16\20231221-128814.b\280-0128814-042_43_CD_1_Total.d

Injection Date:	21-Dec-2023 19:29:00	Instrument ID:	WC_IonChrom16	Operator ID:	
Lims ID:	ccb			Worklist Smp#:	42
Client ID:					
Injection Vol:	5.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	Anions_IC16	Limit Group:	Wet - Anions 28D		



12/29/2023
12:08 PM

Shipping and Receiving Documents

Eurofins Denver
4955 Yarrow Street
Arvada, CO 80002
Phone (303) 736-0100 Phone (303) 431-7171

Chain of Custody Record

eurofins | Environment Testing

Client Information	Sampler: Jason McDavid	Lab PM: McElheny, Megan E	Carrier Tracking No(s):	COC No: 280-134612-37320.3
Client Contact: Mr. Chris Coonfare	Phone: 830 328-0851	E-Mail: Megan.Mcelheny@et.eurofinsus.com	State of Origin:	Page: Page ~~3of3~~ 1 of 2
Company: FPM Remediations Inc	PWSID:			Job #:

Address: 181 Kenwood Ave	Due Date Requested:
City: Oneida	TAT Requested (days): Normal
State, Zip: NY, 13421	Compliance Project: Δ Yes Δ No
Phone: 760 427-8282	PO #: Purchase Order Requested
Email: c.coonfare@fpm-remediations.com	WO #:
Project Name: Luke AFB Waterdog TU044, AZ	Project #: 28025740
Site:	SSOW#:

Analysis Requested

280-185814 Chain of Custody

Preservation Codes:
A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Y - Trizma, Z - other (specify)
Other:

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	353.2 - Nitrogen	9056A - Sulfate	6020B - Total Lead	8260D - VOCs	Total Number of containers	Special Instructions/Note:
Preservation Code:							S	N	D	N		
TU044-TB021223	12/14/23	1010	G	Water	N	N	X	~~X~~		X		VOC only
TU044-EB011223	"	1020	G	Water	N	N	X	X	X	X		
TU044-MW81223A	"	1030	G	Water	N	N	X	X	X	X		
TU044-MW141223A	"	1110	G	Water	N	N	X	X	X	X		
TU044-MW141223MS	"	1110	G	Water	N	Y	X	X	X	X		
TU044-MW141223MSD	"	1110	G	Water	N	Y	X	X	X	X		
TU044-MW151223A	"	1130	G	Water	N	N	X	X	X	X		High Carbon
TU044-MW225 1223A	"	1205	G	Water	N	N	X	X	X	X		High Carbon
TU044-MW22D1223A	"	1235	G	Water	N	N	X	X	X	X		
TU044-MW111223A	"	1245	G	Water	N	N	X	X	X	X		
TU044-MW111223C	"	1245	G	Water	N	N	X	X	X	X		

Possible Hazard Identification
☒ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return To Client ☒ Disposal By Lab ☐ Archive For _____ Months

Deliverable Requested: I, II, III, IV, Other (specify) EDD

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

Relinquished by:	Date/Time: 12/15/23 0900	Company	Received by:	Date/Time: 12.16.23 0930	Company EETDEN
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks: 0.2 °C FO/2 IRAPA -0.1 C 2.1 C

Ver: 01/16/2019

12/29/2023 12:08 PM

Eurofins Denver
4955 Yarrow Street
Arvada, CO 80002
Phone (303) 736-0100 Phone (303) 431-7171

Chain of Custody Record

eurofins | Environment Testing

Client Information	Sampler: Jason M. David	Lab PM: McElheny, Megan E	Carrier Tracking No(s):	COC No: 280-134612-37320.2
Client Contact: Mr. Chris Coonfare	Phone: 850 723-0851	E-Mail: Megan.Mcelheny@et.eurofinsus.com	State of Origin:	Page: Page ~~2 of 3~~ 2 of 2
Company: FPM Remediations Inc	PWSID:			Job #:

Address: 181 Kenwood Ave	Due Date Requested:
City: Oneida	TAT Requested (days): Normal
State, Zip: NY, 13421	Compliance Project: Δ Yes Δ No
Phone: 760427-8282	PO #: Purchase Order Requested
Email: c.coonfare@fpm-remediations.com	WO #:
Project Name: Luke AFB Waterdog TU044, AZ	Project #: 28025740
Site:	SSOW#:

Analysis Requested

Preservation Codes:
A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Y - Trizma, Z - other (specify)
Other:

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	353.2 - Nitrogen	9056A - Sulfate	6020B - Total Lead	8260D - VOCs	Total Number of containers	Special Instructions/Note:
			Preservation Code:				S	N	D	N		
TU044-MW131223A	12/14/23	1300	G	Water	N	N	X	X	X	X		
TU044-MW91223A	"	1330	G	Water	N	N	X	X	X	X		High Carbon
TU044-MW23D1223A	"	1355	G	Water	N	N	X	X	X	X		
TU044-EB021223	"	1400	G	Water	N	N	X	X	X	X		
				Water								
				Water								
				Water								
				Water								
				Water								
				Water								
				Water								
				Water								

Dm 12/14/23

Possible Hazard Identification
☒ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return To Client ☒ Disposal By Lab ☐ Archive For _____ Months

Deliverable Requested: I, II, III, IV, Other (specify) EDD

Special Instructions/QC Requirements:

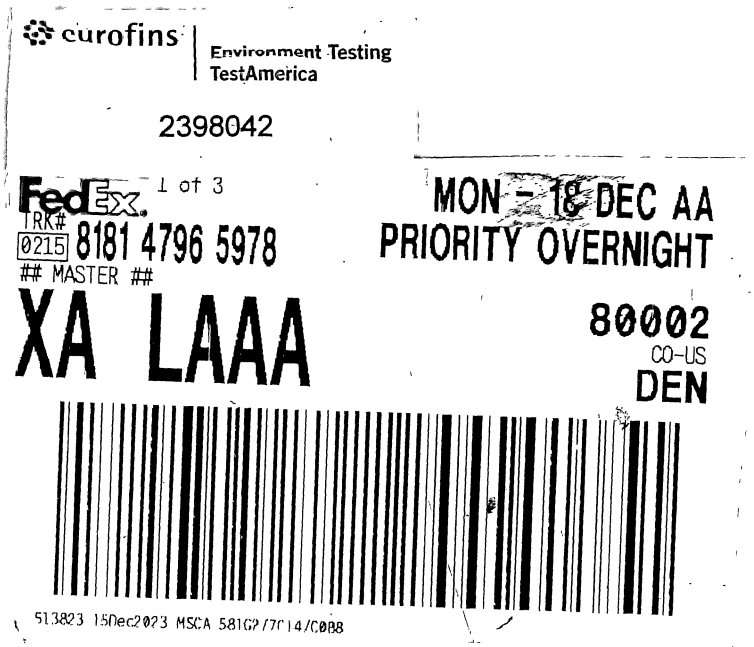
Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
	12/15/23 0900			12-16-23 0930	EETDEN
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks:

Ver: 01/16/2019

12/29/2023 12:08 PM



280-185814 Waybill

eurofins
Environment Testing
TestAmerica
2398040
2 of 3
FedEx
MPS# 0260 8677 8001 4623
Mstr# 8181 4796 5978 0215
XA LAAA
MON - 18 DEC AA
PRIORITY OVERNIGHT
80002
CO-US
DEN
513823 15Dec2023 MSCA 581G2/7C14/C0B8

Login Sample Receipt Checklist

Client: FPM Remediations Inc

Job Number: 280-185814-1

Login Number: 185814
List Number: 1
Creator: Roehsner, Karen P

List Source: Eurofins Denver

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	False	Refer to Job Narrative for details.
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Login Sample Receipt Checklist

Client: FPM Remediations Inc

Job Number: 280-185814-1

Login Number: 185814
List Number: 2
Creator: Roehsner, Karen P

List Source: Eurofins Denver

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	False	Refer to Job Narrative for details.
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

APPENDIX C
DATA VERIFICATION SUMMARIES

Data Validation Report

Project/Site: Luke Air Force Base TU044 **Event:** December 2023 Groundwater
Laboratory: Eurofins Environment Testing Denver, CO (Eurofins) **AECOM Chemist**: Sawyer Hunt
Sample Delivery Groups (SDGs): 280-185797-1, 280-185814-1 **Date:** 3/20/2024

Introduction:

This validation report documents the data review through the checklists below. Boxes checked "No" indicate a data quality anomaly or sample result qualification. Further identification and explanation of the anomaly are provided following each section of the checklist, as needed.

The field sample and laboratory identification associations are summarized in Table 1. Qualified data are summarized and presented in Table 2. Data are qualified per the definitions and reason codes presented in the definitions included at the end of this report.

Table 1 – Sample Summary and Laboratory Association

Sample Identification	Collection Date	Laboratory Identification	Quality Control Sample Type	Matrix
Data Package 280-185797-1				
TB01	12/13/2023	280-185797-1	Trip Blank	Water
TU044-MW24D1223A	12/13/2023	280-185797-2	Sample	Water
TU044-MW24I1223A	12/13/2023	280-185797-3	Sample	Water
TU044-MW21M1223A	12/13/2023	280-185797-4	Sample	Water
TU044-MW21D1223A	12/13/2023	280-185797-5	Sample	Water
TU044-MW21D1223C	12/13/2023	280-185797-6	Field Duplicate	Water
TU044-MW23S1223A	12/13/2023	280-185797-7	Sample	Water
TU044-MW31223A	12/13/2023	280-185797-8	Sample	Water
TU044-MW25D1223A	12/13/2023	280-185797-9	Sample	Water
TU044-MW21223A	12/13/2023	280-185797-10	Sample	Water
TU044-MW25I1223A	12/13/2023	280-185797-11	Sample	Water
Data Package 280-185814-1				
TU044-TB021223	12/14/2023	280-185814-1	Trip Blank	Water
TU044-EB011223	12/14/2023	280-185814-2	Equipment Blank	Water
TU044-MW81223A	12/14/2023	280-185814-3	Sample	Water
TU044-MW141223A	12/14/2023	280-185814-4	MS/MSD	Water
TU044-MW151223A	12/14/2023	280-185814-5	Sample	Water
TU044-MW22S1223A	12/14/2023	280-185814-6	Sample	Water
TU044-MW22D1223A	12/14/2023	280-185814-7	Sample	Water
TU044-MW111223A	12/14/2023	280-185814-8	Sample	Water
TU044-MW111223C	12/14/2023	280-185814-9	Field Duplicate	Water
TU044-MW131223A	12/14/2023	280-185814-10	Sample	Water
TU044-MW91223A	12/14/2023	280-185814-11	Sample	Water
TU044-MW23D1223A	12/14/2023	280-185814-12	Sample	Water
TU044-EB021223	12/14/2023	280-185814-13	Equipment Blank	Water

Methods: Lead (6020B), Volatile Organic Compounds (VOCs) (8260D), Sulfate (9056A), Nitrate-Nitrite as Nitrogen (N) (353.2)

Validation: Stage 2B Validation Manual (2BSVM)

Guidance Documents: Final Uniform Federal Policy Quality Assurance Project Plan TU044 – Waterdog Recreation Annex Luke Air Force Base Glendale, Arizona (January 2021); Department of Defense (DoD) and Department of Energy (DoE) Consolidated Quality Systems Manual (QSM) for Environmental Laboratories, Version 5.4 (DoD-DoE, 2021); current DoD Module Data Validation Guidelines (Modules 1 and 5), Revised Table for sample

Data Validation Report

Project/Site: Luke Air Force Base TU044 **Event:** December 2023 Groundwater
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Qualification in the Presence of Blank Contamination (DoD, 2023), where evaluated in DoD QSM 5.4, National Function Guidelines for Inorganic Superfund Methods Data Review (November 2020) will be utilized, and method requirements, where applicable.

Overall Assessment of Data:

The overall assessment of data was acceptable and considered 100% complete. Qualified data are summarized and presented in Table 2.

1.0 Sample Documentation

Sample Documentation Criteria	Yes	No	NA
Were all samples documented correctly on the chain-of-custody (COC) and container labels?		X[1]	
Were sample analyses completed per the COC?	X		
Were samples extracted and analyzed within the method required holding times?	X		

1. Due to a transcription error, the sample identifications were reported as "TV" instead of "TU". No analyses were affected by this error, and the samples were referenced in this validation report and associated database with the correct "TU" prefix.

2.0 Quality Control and Performance Checks

A. Lead (Method 6020B)

Metals			
Tuning Criteria	**Yes**	**No**	**NA**
Was instrument tuning completed prior to calibration?	X		
Was mass calibration < 0.1 amu from true value?	X		
Was resolution < 0.9 amu full width at 10% peak height?	X		
For stability, was the RSD ≤ 5% for at least four replicate analytes?	X		
Initial Calibration (ICAL) Criteria	**Yes**	**No**	**NA**
Was a minimum of one high standard and a calibration blank used for ICAL?	X		
If more than one calibration standard was used, $r^2 \geq 0.99$?	X		
Initial Calibration Verification (ICV) Criteria	**Yes**	**No**	**NA**
Was the ICV analyzed after each ICAL, prior to the beginning of a sample analysis?	X		
Were all reported analytes within ± 10% of the true value?	X		
Continuing Calibration Verification (CCV) Criteria	**Yes**	**No**	**NA**
Were the CCVs analyzed after every 10 samples and at the end of the analysis sequence?	X		
Were all reported analytes within ± 10% of the true value?	X		
Initial Calibration Blank (ICB) and Continuing Calibration Blank (CCB) Criteria	**Yes**	**No**	**NA**
Was the calibration blank analyzed after the ICV and each CCV?	X		
Were analytes detected < 1/2 LOQ or 1/10th the amount measured in any sample?	X		
Internal Standards (ISTD) Criteria	**Yes**	**No**	**NA**
Were internal standards spiked for all samples and standards?	X		
Were metals ISTD recoveries within 30-120%?	X		
Low-Level Calibration Check (LLCCV) Standard Criteria	**Yes**	**No**	**NA**
Was a low-level calibration check standard analyzed daily?	X		
Were all reported analytes within ± 20% of the true value?	X		

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Sample Delivery Groups (SDGs): 280-185797-1, 280-185814-1 **Date:** 3/20/2024

Metals			
Interference Check Sample (ICS) Criteria	**Yes**	**No**	**NA**
Were ICS-A and ICS-AB samples analyzed at the beginning of the analytical run and every 12 hours?	X		
Was the ICS-A absolute value concentration for all non-spiked metals < LOD (unless they are a verified trace impurity from one of the spiked metals)	X		
Were the ICS-AB recoveries within ± 20%?	X		
Method Blank Criteria	**Yes**	**No**	**NA**
Was a method blank analyzed for each batch?	X		
Were method blank concentrations reported as not detected?	X		
Laboratory Control Sample Criteria	**Yes**	**No**	**NA**
Was an LCS reported with each preparation batch?	X		
Were LCS/LCSD recoveries and/or RPDs within project specific limits?	X		
Matrix Spike/Matrix Spike Duplicates	**Yes**	**No**	**NA**
For concentrations <4x the spike concentration, were MS/MSD recoveries and RPDs within criteria?	X		
Serial Dilution Test Criteria	**Yes**	**No**	**NA**
If the MS or MSD failed, was a serial dilution test performed?			X
Was a serial dilution test performed for a site-specific sample?	X		
For metals concentrations >50x the LOQ, did 5x dilution %D agree within ±10% of the original measurement?			X
Post Digestion Spike Criteria	**Yes**	**No**	**NA**
If the MS/MSD failed, was a PDS sample analyzed?			X
Was a PDS sample performed for a site-specific sample?	X		
If the dilution test failed, was a PDS sample analyzed?			X
For sample concentrations <50x the LOQ and <4x the spike concentration, were the PDS recoveries within 80-120%?	X		
Laboratory Case Narrative	**Yes**	**No**	**NA**
Items in the laboratory case narrative required clarifications or qualifications? (if yes, include comment below)			X

B. Volatile Organic Compounds (Method 8260D)

Volatile Organic Compounds (VOCs)			
Tuning Criteria	**Yes**	**No**	**NA**
Was the tune performed prior to initial calibration?	X		
Were the ion relative abundances within method criteria?	X		
Initial Calibration (ICAL) Criteria	**Yes**	**No**	**NA**
Was the ICAL analyzed prior to sample analysis?	X		
Was the RSD for each analyte ≤15%, or alternative regression with $r^2 \geq 0.99$?	X		
If non-linear regression was used were 6 points used for second order and 7 points for third order?	X		
Initial Calibration Verification (ICV) Criteria	**Yes**	**No**	**NA**
Was the ICV analyzed after each calibration?	X		
Were all reported analytes within ±20% of the true value?		X[1]	
Continuing Calibration Verification (CCV) Criteria	**Yes**	**No**	**NA**
Was a CCV analyzed daily before and after sample analysis and within 12 hours of analysis time?	X		
Were all reported analytes within ±20% of true value?		X[1]	
Were all reported analytes within ±50% of true value for the end of analytical batch CCV?		X[1]	

Data Validation Report

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Sample Delivery Groups (SDGs): 280-185797-1, 280-185814-1 **Date:** 3/20/2024

Volatile Organic Compounds (VOCs)			
Surrogate Standards Criteria	**Yes**	**No**	**NA**
Were surrogate recoveries within project specified limits?		X[2]	
Internal Standards (ISTD) Criteria	**Yes**	**No**	**NA**
Were internal standards spiked for all samples and standards?	X		
Were internal standard areas within -50% to + 100% of the ICAL midpoint standard area?		X[3]	
Were retention times ± 30 seconds from the retention times of the midpoint standard of the ICAL?	X		
Method Blank Criteria	**Yes**	**No**	**NA**
Was a method blank analyzed for each batch?	X		
Were method blank concentrations reported as not detected?	X		
Laboratory Control Sample Criteria	**Yes**	**No**	**NA**
Was an LCS reported with each preparation batch?	X		
Were LCS/LCSD recoveries and/or RPDs within project specific limits?	X		
Matrix Spike/Matrix Spike Duplicates	**Yes**	**No**	**NA**
For concentrations <4x the spike concentration, were MS/MSD recoveries and RPDs within criteria?		X[4]	
Tentatively Identified Compounds	**Yes**	**No**	**NA**
Tentatively identified compounds were reported by the laboratory and qualified during validation.	X		
Laboratory Case Narrative	**Yes**	**No**	**NA**
Items in the laboratory case narrative required clarifications or qualifications? (if yes, include comment below)			X

1. The following calibration verifications were outside acceptance limits:

Calibration Identification	Method	Analyte	Recovery	Criteria
Data Package 280-185797-1				
ICV 280-636738/11	8260D	Cyclohexanone	68.6	± 20%
CCV 280-637616/2	8260D	Dichlorodifluoromethane	-29.3	± 20%
		Chloromethane	-23.1	± 20%
		Cyclohexanone	26.6	± 20%
Data Package 280-185814-1				
ICV 280-636738/11	8260D	Cyclohexanone	68.6	± 20%
CCV 280-637903/2	8260D	Cyclohexanone	20.7	± 20%
CCVC 280-637903/36	8260D	Cyclohexanone	55.8	± 50%

No qualification was considered necessary for non-detected results associated with a high calibration verification recovery.

Non-detected results associated with low calibration recoveries were qualified as estimated (UJ). The qualified data are presented in Table 2.

2. The following surrogate recoveries were outside acceptance limits:

Sample Identification	Method	Surrogate	Recovery	Criteria
Data Package 280-185797-1				
TU044-MW23S1223A	8260D	1,2-Dichloroethane	121	81-118
TU044-MW23S1223A	8260D	4-Bromofluorobenzene	122	85-114
TU044-MW23S1223A	8260D	Dibromofluoromethane	123	80-119
TU044-MW23S1223A	8260D	Toluene-d8	130	89-112

Data qualification was not considered necessary for non-detected results associated with high surrogate recoveries.

3. The following internal standard area recoveries were outside acceptance limits:

Sample Identification	Method	Internal Standard	Area	Criteria
Data Package 280-185797-1				
TU044-MW21D1223A	8260D	1,4-Dichlorobenzene-d4	399157	401840-1607360
TU044-MW23S1223A	8260D	1,4-Dichlorobenzene-d4	188442	401840-1607360

No qualification was considered necessary as the potential bias was high, and the associated sample results affiliated with the internal standard were reported as non-detect.

4. The following matrix spike recoveries and/or RPD results were outside control limits:

MS Identification	Method	Analyte	Recovery	Criteria	RPD	Criteria
Data Package 280-185814-1						
TU044-MW141223A	8260D	Chloroethane	96/78	60-138	21	20
		2-Chloroethyl vinyl ether	111/87	51-139	24	20
		Chloromethane	96/78	50-139	21	20
		Dichlorodifluoromethane	94/75	32-152	22	20
		Vinyl Chloride	96/78	58-137	21	20

No qualification is required for non-detected results associated with a high recovery or RPD outside criteria.

C. Anions (Method 9056A)

Anions (Sulfate)			
Initial Calibration (ICAL) Criteria	**Yes**	**No**	**NA**
Was a minimum of three standards and a reagent blank used for ICAL?	X		
Was the correlation coefficient (r^2) ≥ 0.99?	X		
Initial Calibration Verification (ICV) Criteria	**Yes**	**No**	**NA**
Was the ICV analyzed after each ICAL, prior to the beginning of a sample analysis?	X		
Were the reported analytes within ± 10% of the true value?	X		
Continuing Calibration Verification (CCV) Criteria	**Yes**	**No**	**NA**
Were the CCVs analyzed after every 10 samples and at the end of the analysis sequence?	X		
Were the reported analytes within ± 10% of the true value?	X		
Initial Calibration Blank (ICB) and Continuing Calibration Blank (CCB) Criteria	**Yes**	**No**	**NA**
Was the calibration blank analyzed after the ICV and each CCV?	X		
Were analytes detected <1/2 LOQ or 1/10th the amount measured in any sample?	X		
Method Blank Criteria	**Yes**	**No**	**NA**
Was a method blank analyzed for each batch?	X		
Were method blank concentrations reported as not detected?	X		

Data Validation Report

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Laboratory: Eurofins Environment Testing Denver, CO (Eurofins) **AECOM Chemist**: Sawyer Hunt
Sample Delivery Groups (SDGs): 280-185797-1, 280-185814-1 **Date:** 3/20/2024

Anions (Sulfate)			
Laboratory Control Sample Criteria	**Yes**	**No**	**NA**
Was an LCS reported with each preparation batch?	X		
Were LCS/LCSD recoveries and/or RPDs within project specific limits?	X		
Matrix Spike/Matrix Spike Duplicates (MS/MSD) Criteria	**Yes**	**No**	**NA**
For concentrations <4x the spike concentration, were MS/MSD recoveries and RPDs within criteria?	X		
Laboratory Duplicate (LD) Criteria	**Yes**	**No**	**NA**
Were LD RPDs within acceptance criteria?	X		
Laboratory Case Narrative	**Yes**	**No**	**NA**
Items in the laboratory case narrative required clarifications or qualifications? (if yes, include comment below)			X

D. Nitrate-Nitrite as Nitrogen (Method 353.2)

Nitrate-Nitrite as Nitrogen (N)			
Initial Calibration (ICAL) Criteria	**Yes**	**No**	**NA**
Was a minimum of three standards and a reagent blank used for ICAL?	X		
Was the correlation coefficient ≥ 0.99?	X		
Initial Calibration Verification (ICV) Criteria	**Yes**	**No**	**NA**
Was the ICV analyzed after each ICAL, prior to the beginning of a sample analysis?	X		
Were the reported analytes within ± 10% of the true value?	X		
Continuing Calibration Verification (CCV) Criteria	**Yes**	**No**	**NA**
Were the CCVs analyzed after every 10 samples and at the end of the analysis sequence?	X		
Were the reported analytes within ± 10% of the true value?	X		
Initial Calibration Blank (ICB) and Continuing Calibration Blank (CCB) Criteria	**Yes**	**No**	**NA**
Was the calibration blank analyzed after the ICV and each CCV?	X		
Were analytes detected < 1/2 LOQ or 1/10th the amount measured in any sample?	X		
Method Blank Criteria	**Yes**	**No**	**NA**
Was a method blank analyzed for each batch?	X		
Were method blank concentrations reported as not detected?	X		
Laboratory Control Sample Criteria	**Yes**	**No**	**NA**
Was an LCS reported with each preparation batch?	X		
Were LCS/LCSD recoveries and/or RPDs within project specific limits?	X		
Matrix Spike/Matrix Spike Duplicates	**Yes**	**No**	**NA**
For concentrations <4x the spike concentration, were MS/MSD recoveries and RPDs within criteria?	X		
Laboratory Duplicate (LD) Criteria	**Yes**	**No**	**NA**
Were LD RPDs within acceptance criteria?			X
Laboratory Case Narrative	**Yes**	**No**	**NA**
Items in the laboratory case narrative required clarifications or qualifications? (if yes, include comment below)			X

Data Validation Report

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3.0 Field Quality Control Samples

Verification Criteria		Yes	No	NA
Was a trip blank shipped with, and analyzed with the samples?		X		
Were trip blank concentrations reported as non-detected for target analytes?		X		
Were field and/or equipment blanks collected and analyzed with the samples?		X		
Were field QC blank concentrations reported as non-detected for the target analytes?			X[1]	
Field Duplicate Criteria		**Yes**	**No**	**NA**
Were field duplicate samples collected for this SDG? (if yes, list below)		X		
Parent Sample	Field Duplicate Sample			
TU044-MW21D1223A	TU044-MW21D1223C			
TU044-MW111223A	TU044-MW111223C			
Were parent sample/field duplicate RPDs ≤30% for waters, for analytes that had concentrations >5x the LOQ?		X		
Were the differences between the parent sample/field duplicate <2xLOQ for analytes that had concentrations <5x the LOQ?		X		

1. The following equipment blank concentrations were reported as detected:

Blank Identification	Method	Analyte	Concentration (mg/L)
TU044-EB011223	353.2	Nitrate Nitrite as N	0.061
	9056A	Sulfate	1.1
TU044-EB021223	353.2	Nitrate Nitrite as N	0.056

Qualification was not considered necessary for sample results reported at concentrations greater than 5x the equipment blank contamination. Sample results reported at concentrations ≤ the LOD were qualified as non-detected at the LOD (U). Sample results reported at concentrations >LOD but ≤5x the blank concentration were qualified as estimated (J).

The qualified data are presented in Table 2.

4.0 Sensitivity and Additional Qualification

Sensitivity Criteria	Yes	No	NA
Was the laboratory sensitivity consistent with project (QAPP) requirements?	X		
Did all analytes meet sensitivity requirements?		X[1]	
Completeness Criteria	**Yes**	**No**	**NA**
Were the reported results usable if qualified?	X		
Were the analyses requested performed, the correct analyte lists used, and correct sample preparation and analyses methods and units utilized?	X		
Additional Qualification Criteria	**Yes**	**No**	**NA**
Was professional judgment used to qualify data (if yes, list below)?			X
Trace level detections, results reported between the detection limit (DL) and the limit of quantitation (LOQ), were qualified as estimated by the laboratory and retained during validation.	X		

1. Due to dilutions, several sample results were reported as non-detect at elevated reporting limits. These non-detect results will need to be evaluated by the end user of the data with respect to project objectives.

Data Validation Report

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Table 2 – Summary of Qualified Data

Data Package	Sample Identification	Method	Analyte	Validation Qualifier	Reason Code
280-185797-1	TB01	8260D	Dichlorodifluoromethane	UJ	CCL
280-185797-1	TU044-MW24D1223A	8260D	Dichlorodifluoromethane	UJ	CCL
280-185797-1	TU044-MW24I1223A	8260D	Dichlorodifluoromethane	UJ	CCL
280-185797-1	TU044-MW21M1223A	8260D	Dichlorodifluoromethane	UJ	CCL
280-185797-1	TU044-MW21D1223A	8260D	Dichlorodifluoromethane	UJ	CCL
280-185797-1	TU044-MW21D1223C	8260D	Dichlorodifluoromethane	UJ	CCL
280-185797-1	TU044-MW23S1223A	8260D	Dichlorodifluoromethane	UJ	CCL
280-185797-1	TU044-MW31223A	8260D	Dichlorodifluoromethane	UJ	CCL
280-185797-1	TU044-MW25D1223A	8260D	Dichlorodifluoromethane	UJ	CCL
280-185797-1	TU044-MW21223A	8260D	Dichlorodifluoromethane	UJ	CCL
280-185797-1	TU044-MW25I1223A	8260D	Dichlorodifluoromethane	UJ	CCL
280-185797-1	TB01	8260D	Chloromethane	UJ	CCL
280-185797-1	TU044-MW24D1223A	8260D	Chloromethane	UJ	CCL
280-185797-1	TU044-MW24I1223A	8260D	Chloromethane	UJ	CCL
280-185797-1	TU044-MW21M1223A	8260D	Chloromethane	UJ	CCL
280-185797-1	TU044-MW21D1223A	8260D	Chloromethane	UJ	CCL
280-185797-1	TU044-MW21D1223C	8260D	Chloromethane	UJ	CCL
280-185797-1	TU044-MW23S1223A	8260D	Chloromethane	UJ	CCL
280-185797-1	TU044-MW31223A	8260D	Chloromethane	UJ	CCL
280-185797-1	TU044-MW25D1223A	8260D	Chloromethane	UJ	CCL
280-185797-1	TU044-MW21223A	8260D	Chloromethane	UJ	CCL
280-185797-1	TU044-MW25I1223A	8260D	Chloromethane	UJ	CCL
280-185814-1	TU044-MW141223A	353.2	Nitrate Nitrite as N	U	EBL
280-185814-1	TU044-MW22D1223A	9056A	Sulfate	U	EBL
280-185797-1	TU044-MW24I1223A	353.2	Nitrate Nitrite as N	U	EBL
280-185797-1	TU044-MW25D1223A	353.2	Nitrate Nitrite as N	J	EBL
280-185797-1	TU044-MW24D1223A	9056A	Sulfate	J	EBL
280-185797-1	TU044-MW21M1223A	9056A	Sulfate	U	EBL

Definitions

Notes:
For instances where the sample results were reported as non-detect, the DL was set to the LOD in order to accommodate the Environmental Resources Program Information Management System (ERPIMS) reporting criterion.

For instances where the sample results were qualified as non-detect, the DL, LOD, and LOQ were included.

A full list of possibly assigned definitions, qualifier codes, and reason codes used during validation are provided below, which may or may not be included in the validation report.

ug/m3	Micrograms per Meter Cubed
ug/L	Micrograms per Liter
mg/L	Milligrams per Liter
<	Less Than
>	Greater Than
DL	Detection Limit
ID	Identification
LOD	Limit of Detection
LOQ	Limit of Quantitation

Qualifier Codes:

U The analyte was analyzed for, but was not detected.

J The analyte was positively identified; the associated numeric value is the approximate concentration of the analyte in the sample.

UJ The analyte was not detected. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.

NJ The analysis indicates the presence of an analyte that has been “tentatively identified” and the associate numerical value represents its approximate concentration.

F The analysis meets all qualitative identification criteria, but the measured concentration is less than the reporting limit (LOQ).

R The data are unusable and have been rejected due to serious deficiencies in the ability to analyze the sample and meet quality control criteria. The presence or absence of the analyte cannot be verified.

Reason Codes:

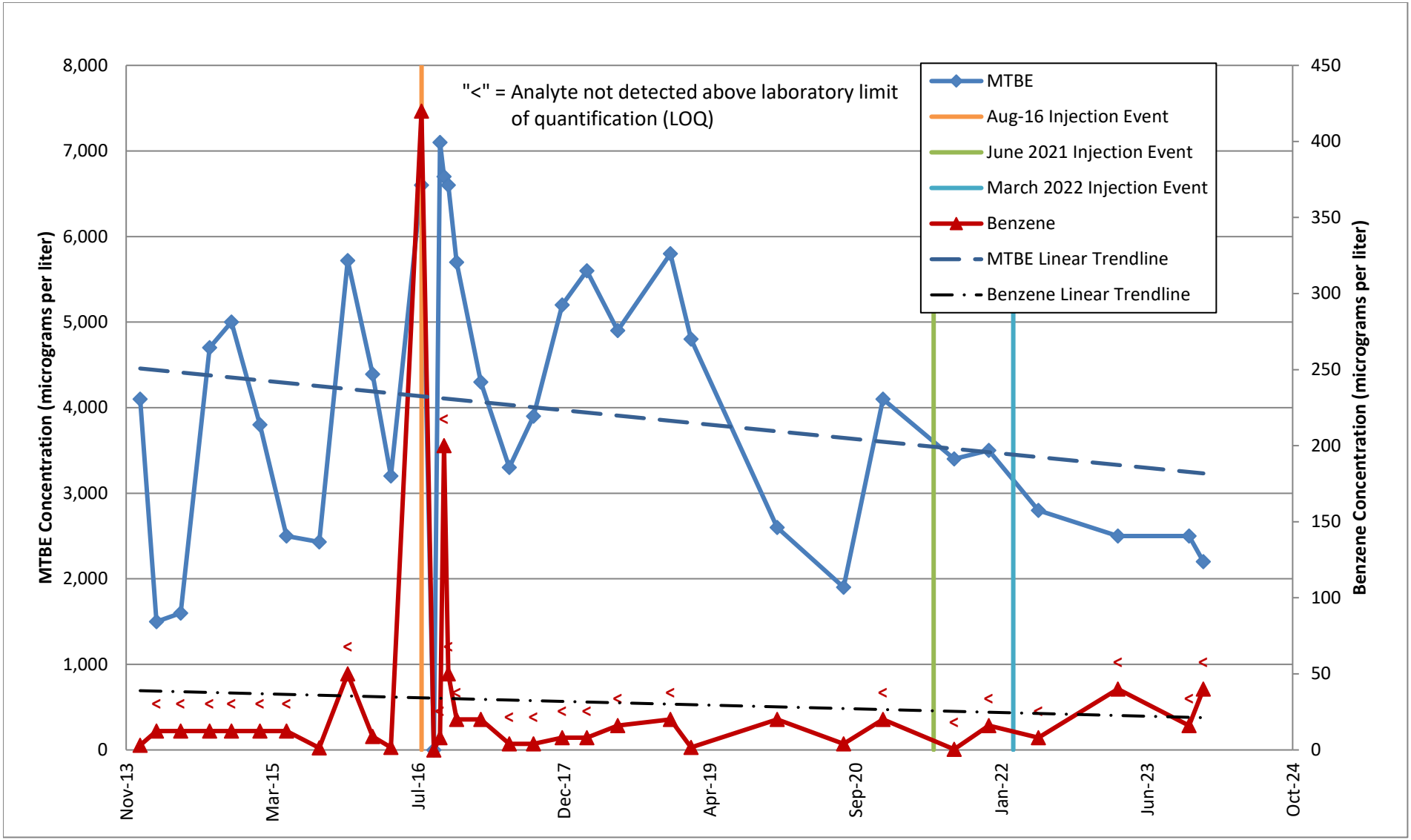
ABG	BLANK: AMBIENT BLANK CONCENTRATION GREATER THAN THE REPORTING LIMIT (LOQ)
ABL	BLANK: AMBIENT BLANK CONCENTRATION LESS THAN THE REPORTING LIMIT (LOQ)
CBH	CALIBRATION: CONTINUING CALIBRATION BLANK CONCENTRATION GREATER THAN THE REPORTING LIMIT (LOQ)
CBL	BLANK: CONTINUING CALIBRATION BLANK CONCENTRATION LESS THAN THE REPORTING LIMIT (LOQ)
CCL	CALIBRATION: CONTINUING CALIBRATION RECOVERY LESS THAN THE LOWER CONTROL LIMIT
CCVD	CALIBRATION: CONTINUING CALIBRATION RPD GREATER THAN THE UPPER CONTROL LIMIT
CVHL	CALIBRATION: CONTINUING CALIBRATION RECOVERY GREATER THAN THE UPPER CONTROL LIMIT
DS	DILUTION: SERIAL DILUTION %D EXCEEDED CONTROL LIMIT
DUNC	DETECTION LEVEL NOT MET UNCERTAINTY GREATER THAN MDL OR MDC
EBG	BLANK: EQUIPMENT BLANK CONCENTRATION GREATER THAN THE REPORTING LIMIT (LOQ)
EBL	BLANK: EQUIPMENT BLANK CONCENTRATION LESS THAN THE REPORTING LIMIT (LOQ)
EXC	MISCELLANEOUS: DATA NOT USED; ANOTHER VALUE IS APPROPRIATE OR DATA WAS NOT REQUESTED
FBG	BLANK: FIELD BLANK CONCENTRATION GREATER THAN THE REPORTING LIMIT (LOQ)
FBL	BLANK: FIELD BLANK CONCENTRATION LESS THAN THE REPORTING LIMIT (LOQ)
FDD	DUPLICATES: FIELD DUPLICATE RPD CRITERIA EXCEEDED
HAHL	HOLDINGTIME: EXTRACTION TO ANALYSIS HOLDING TIME EXCEEDED
HHL	HOLDINGTIME: SAMPLING TO ANALYSIS HOLDING TIME EXCEEDED
HPHL	HOLDINGTIME: SAMPLING TO EXTRACTION HOLDING TIME EXCEEDED
ICD	CALIBRATION: INITIAL CALIBRATION RSD EXCEEDED
ICE	CALIBRATION: RESULT GREATER THAN LINEAR CALIBRATION RANGE
ICS	CALIBRATION: INDUCTIVELY COUPLED PLASMA (ICP) AND/OR ICP MASS SPECTROSCOPY (ICPMS) INTERFERENCE CHECK SAMPLE (ICS) SOLUTIONS A AND B (ICS A/B) RECOVERIES ARE OUTSIDE CONTROL LIMITS.
IMPR	IMPROPER SAMPLE PRESERVATION/HANDLING/COLLECTION
ISH	INTERNALSTANDARD: INTERNAL STANDARD RESPONSE GREATER THAN THE UPPER CONTROL LIMIT
ISL	INTERNALSTANDARD: INTERNAL STANDARD RESPONSE LESS THAN THE LOWER CONTROL LIMIT

Reason Codes (continued):

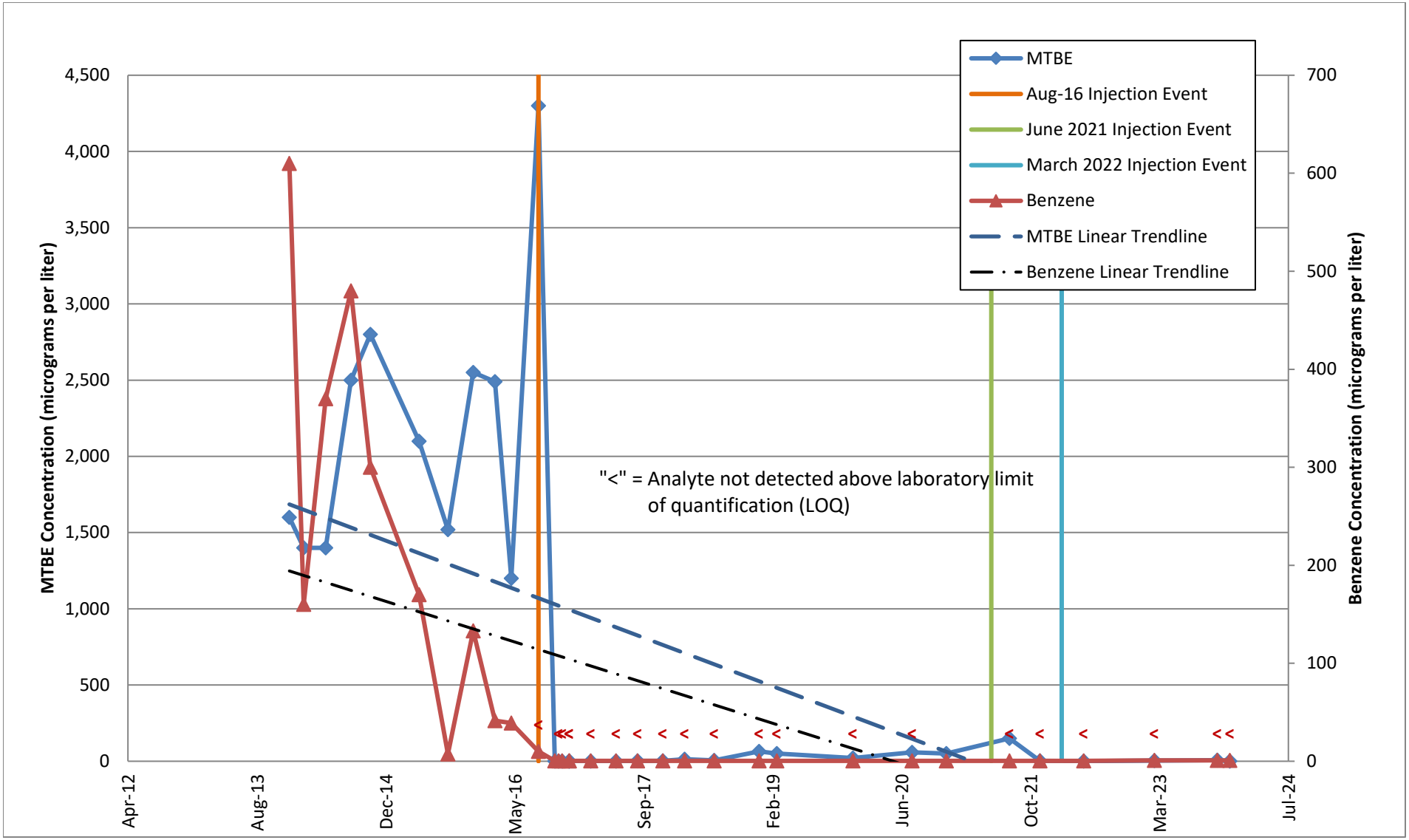
IVD	CALIBRATION: EXCEEDS ICVS %D CRITERIA
LBG	BLANK: LABORATORY BLANK CONTAMINATION GREATER THAN THE REPORTING LIMIT (LOQ)
LBL	BLANK: LABORATORY BLANK CONTAMINATION LESS THAN THE REPORTING LIMIT (LOQ)
LCD	LABORATORYCONTROLSAMPLE: LCS RPD CRITERIA EXCEEDED
LCH	LABORATORYCONTROLSAMPLE: LCS RECOVERY GREATER THAN THE UPPER CONTROL LIMIT
LCL	LABORATORYCONTROLSAMPLE: LCS RECOVERY LESS THAN THE LOWER CONTROL LIMIT
LCR	LABORATORYCONTROLSAMPLE: LCS RECOVERY FAILURE, BIAS UNSPECIFIED
LDD	DUPLICATES: LAB DUPLICATE RPD CRITERIA EXCEEDED
MSD	MATRIX: MATRIX SPIKE RPD CRITERIA EXCEEDED
MSH	MATRIX: MATRIX SPIKE RECOVERY GREATER THAN THE UPPER CONTROL LIMIT
MSL	MATRIX: MATRIX SPIKE RECOVERY LESS THAN THE LOWER CONTROL LIMIT
MSR	MATRIX: MATRIX SPIKE RECOVERY FAILURE, UNSPECIFIED BIAS
PDSH	POST DIGESTION SPIKE RECOVERY: PDS RECOVERY GREATER THAN THE UPPER CONTROL LIMIT
PDSL	POST DIGESTION SPIKE RECOVERY: PDS RECOVERY LESS THAN THE LOWER CONTROL LIMIT
PJ	PROFESSIONAL JUDGEMENT
SGH	SURROGATERECOVERY: SURROGATE RECOVERY GREATER THAN THE UPPER CONTROL LIMIT
SGL	SURROGATERECOVERY: SURROGATE RECOVERY LESS THAN THE LOWER CONTROL LIMIT
SGR	SURROGATERECOVERY: SURROGATE RECOVERY FAILURE, UNSPECIFIED BIAS
TBG	BLANK: TRIP BLANK CONCENTRATION GREATER THAN THE REPORTING LIMIT (LOQ)
TBL	BLANK: TRIP BLANK CONCENTRATION LESS THAN THE REPORTING LIMIT (LOQ)
TIC	TENTATIVELYIDENTIFIEDCOMPOUND: TENTATIVELY IDENTIFIED COMPOUND
TR	RL: RESULT BETWEEN THE METHOD DETECTION LIMIT AND REPORTING LIMIT (LOQ)
TVP	PARTIAL RESULTS GREATER THAN TOTAL RESULTS, DIFFERENCE IS GREATER THAN ACCURACY UCL (UPPER CONTROL LIMIT)

APPENDIX D
TREND GRAPHS

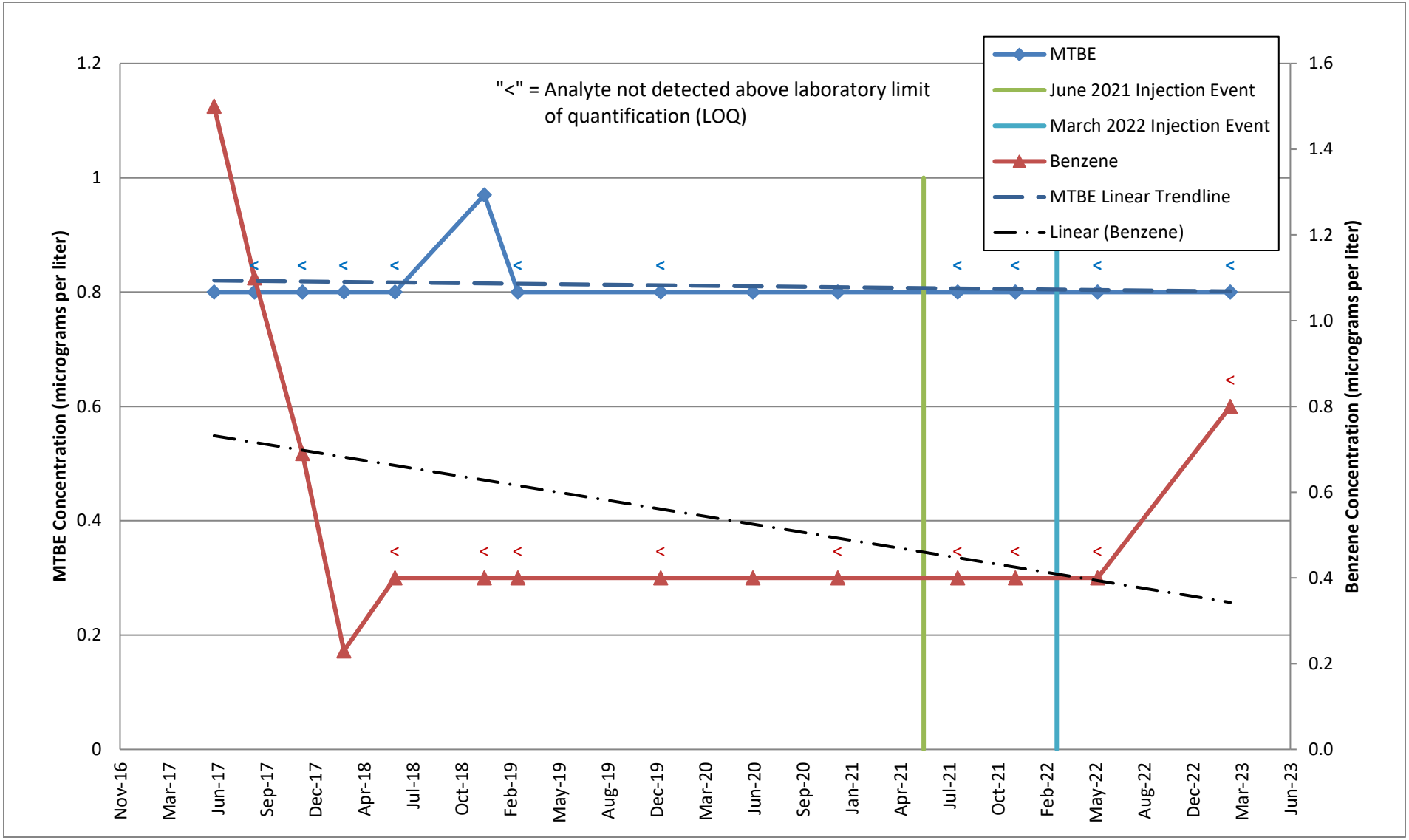
MW-2
BENZENE AND MTBE CONCENTRATIONS
LUKE AFB - WATERDOG RECREATIONAL ANNEX - TU044



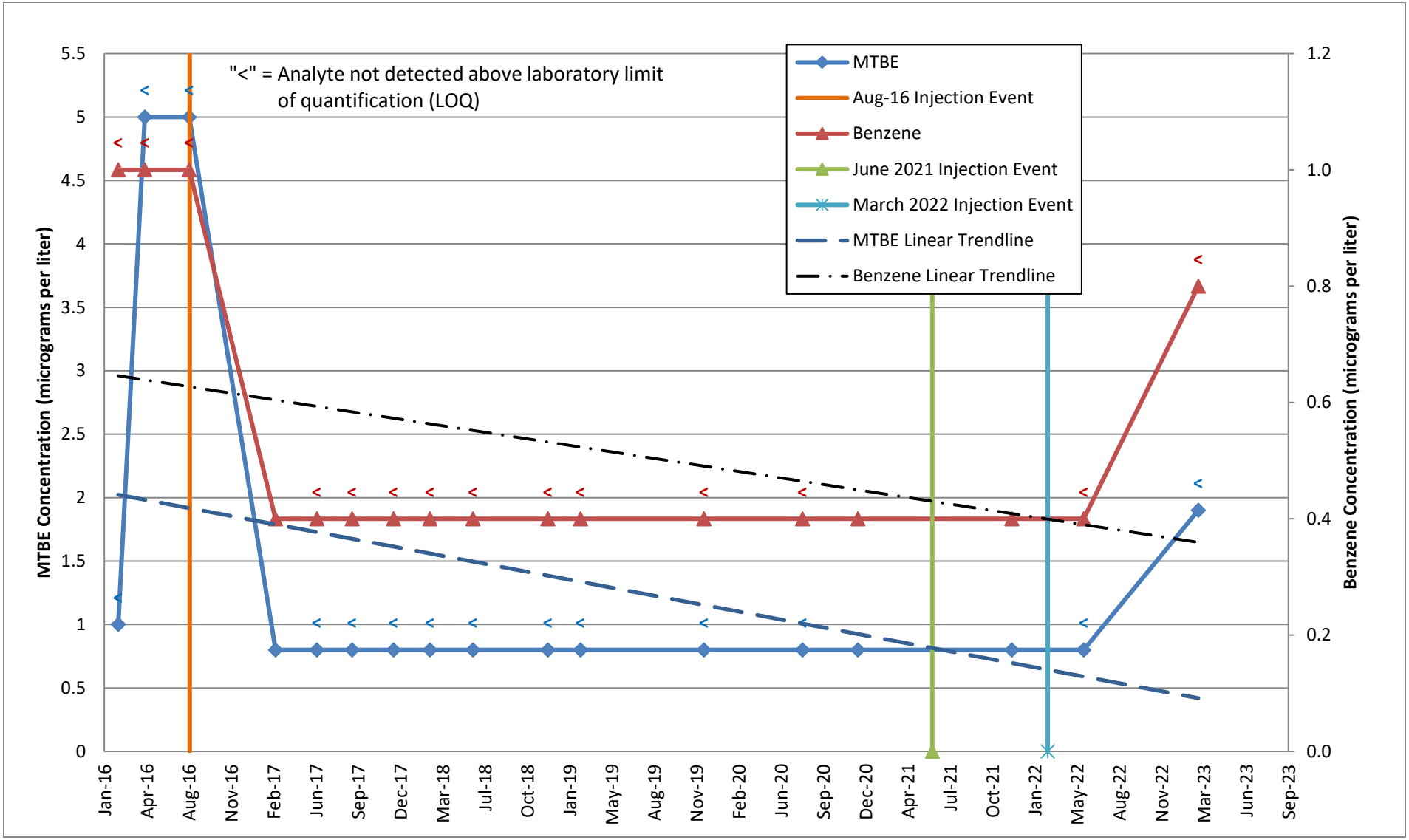
MW-3
BENZENE AND MTBE CONCENTRATIONS
LUKE AFB - WATERDOG RECREATIONAL ANNEX - TU044



MW-5
BENZENE AND MTBE CONCENTRATIONS
LUKE AFB - WATERDOG RECREATIONAL ANNEX - TU044



MW-6
BENZENE AND MTBE CONCENTRATIONS
LUKE AFB - WATERDOG RECREATIONAL ANNEX - TU044



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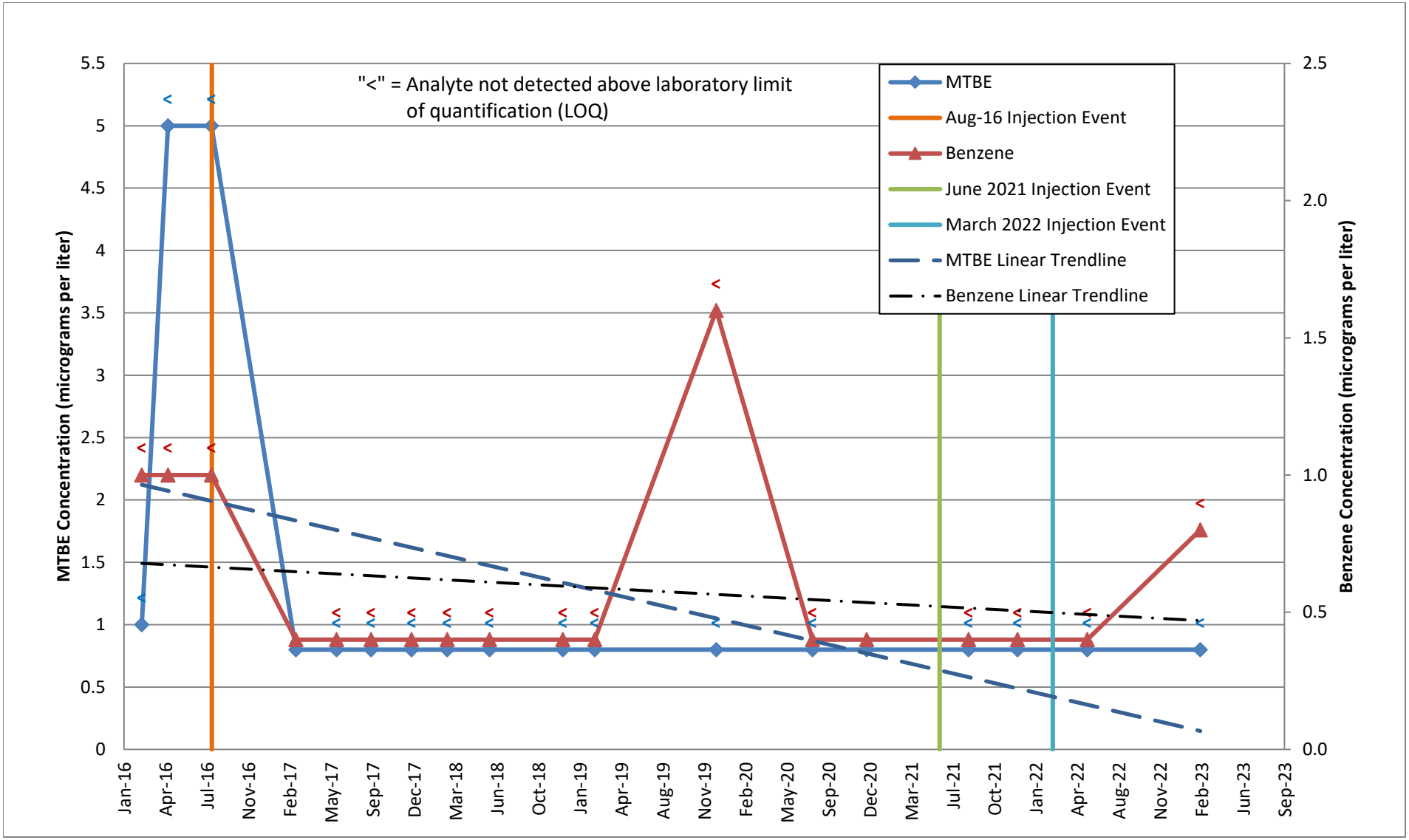
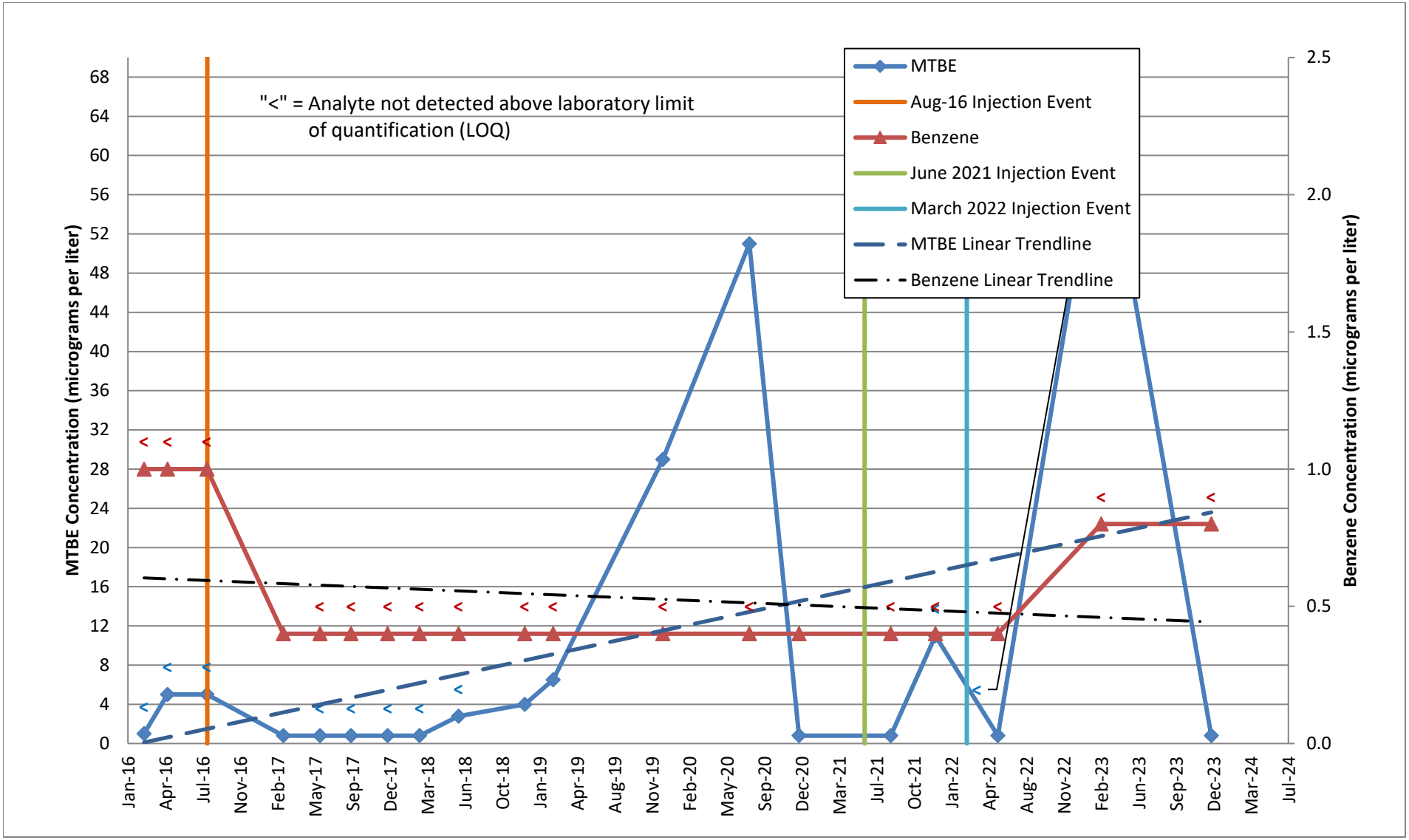
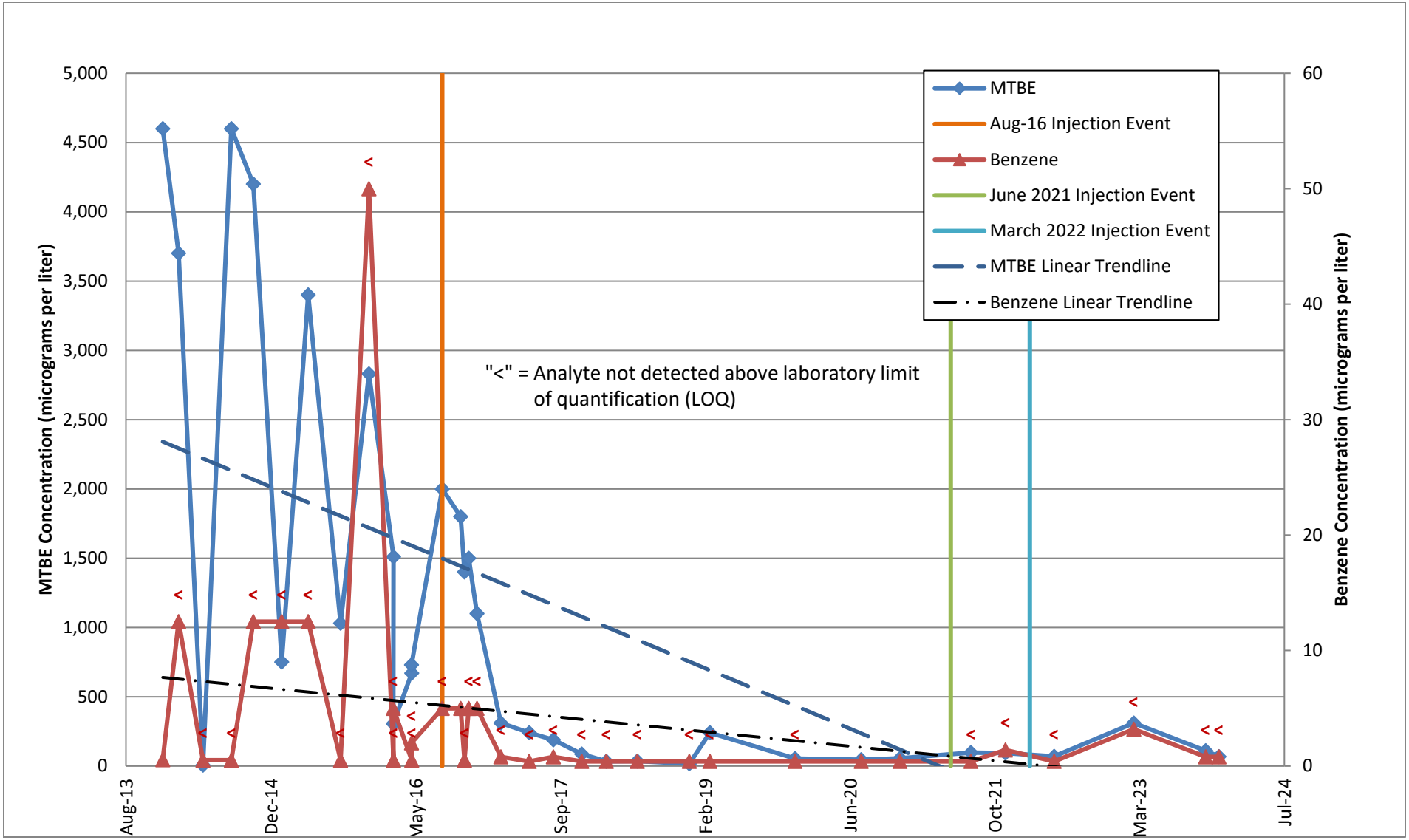
BENZENE AND MTBE CONCENTRATIONS
LUKE AFB - WATERDOG RECREATIONAL ANNEX - TU044



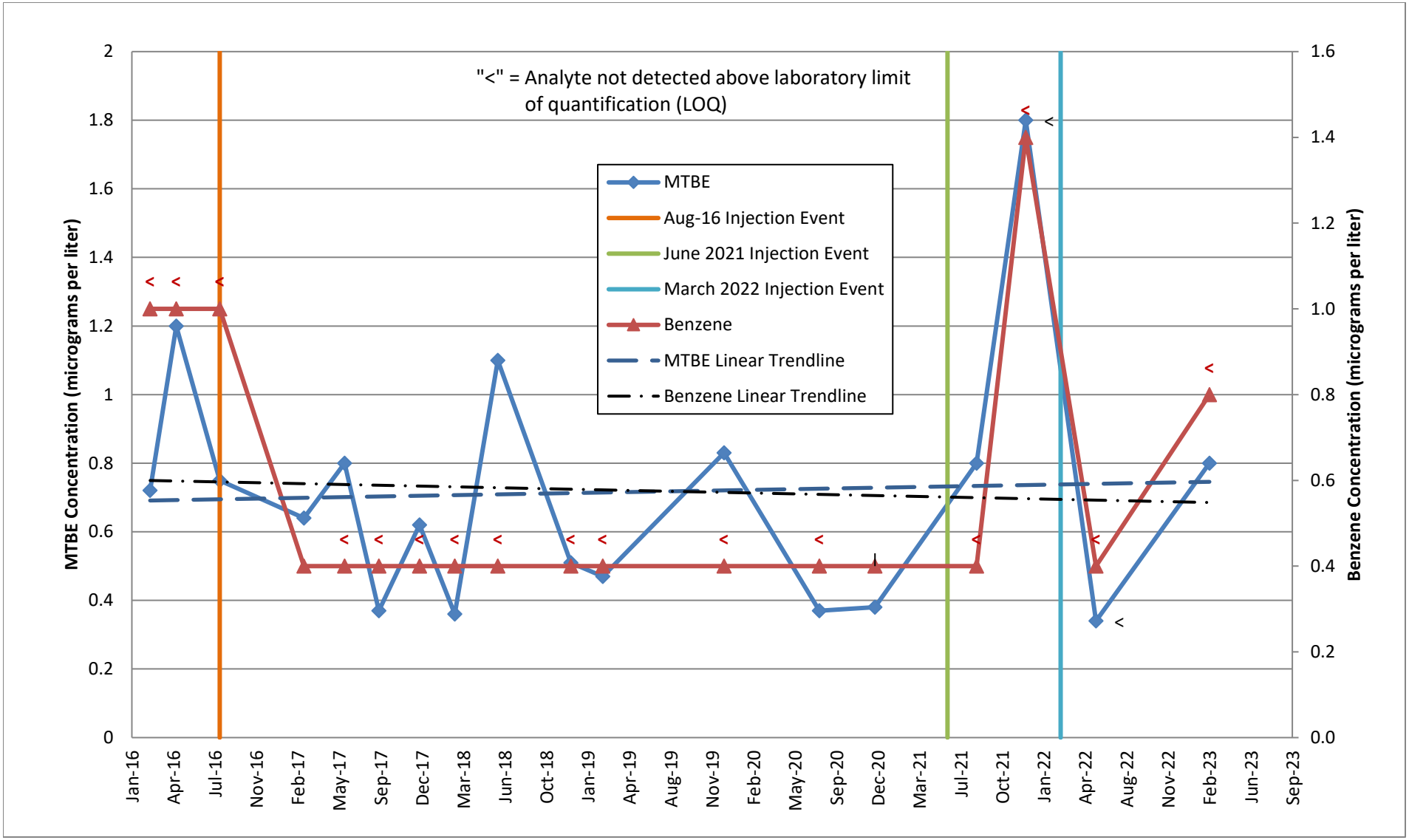
MW-8
BENZENE AND MTBE CONCENTRATIONS
LUKE AFB - WATERDOG RECREATIONAL ANNEX - TU044



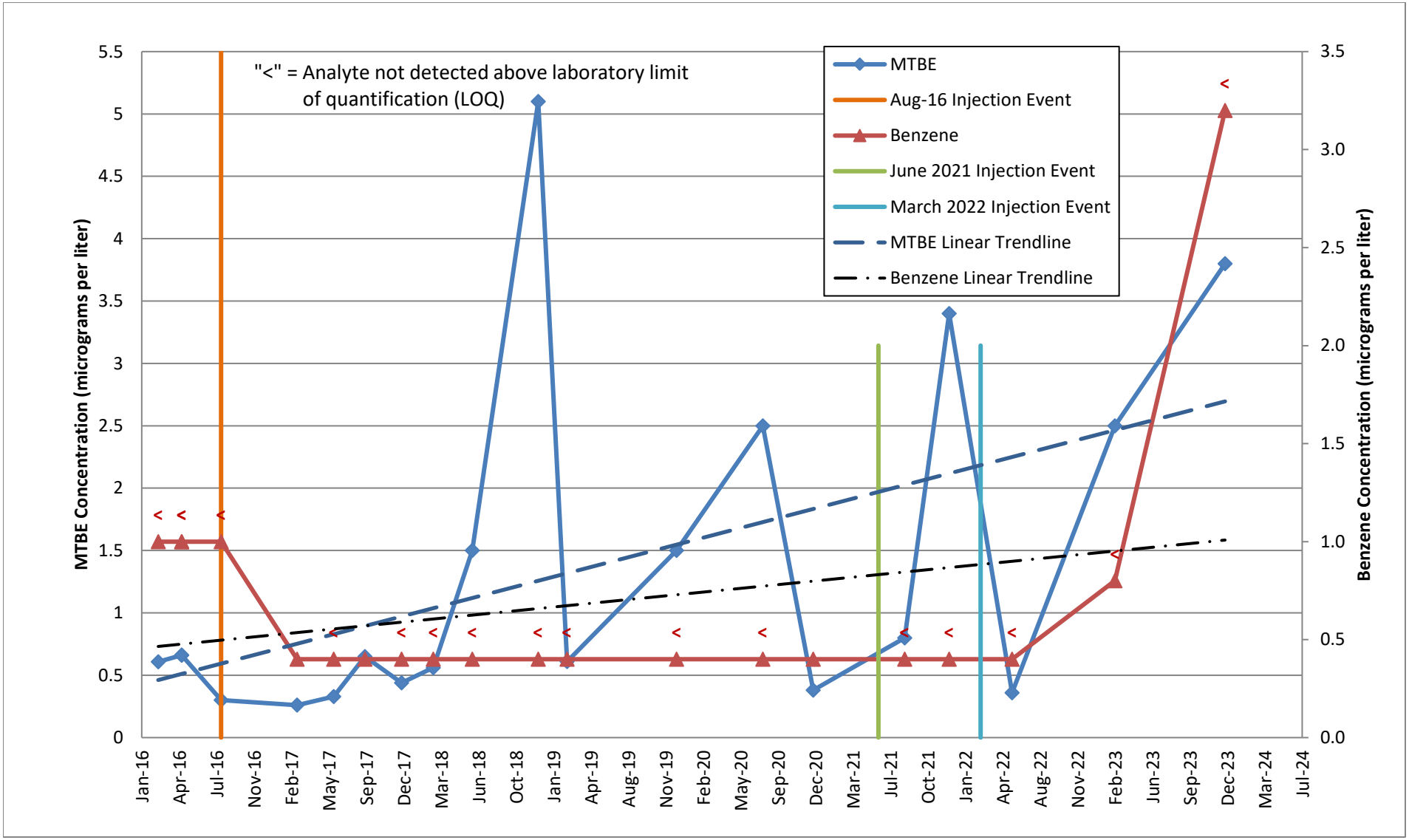
MW-9
BENZENE AND MTBE CONCENTRATIONS
LUKE AFB - WATERDOG RECREATIONAL ANNEX - TU044



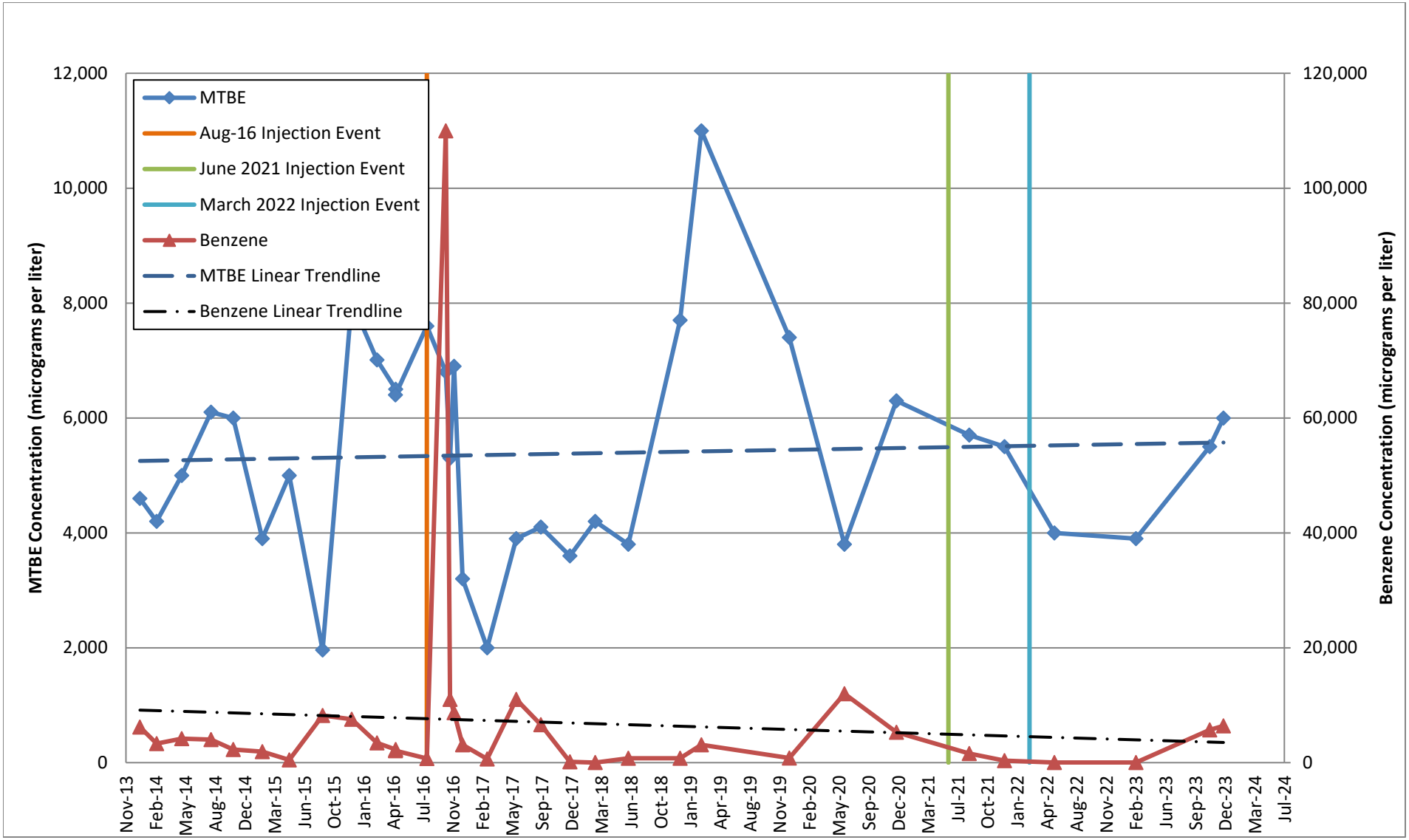
MW-10
BENZENE AND MTBE CONCENTRATIONS
LUKE AFB - WATERDOG RECREATIONAL ANNEX - TU044



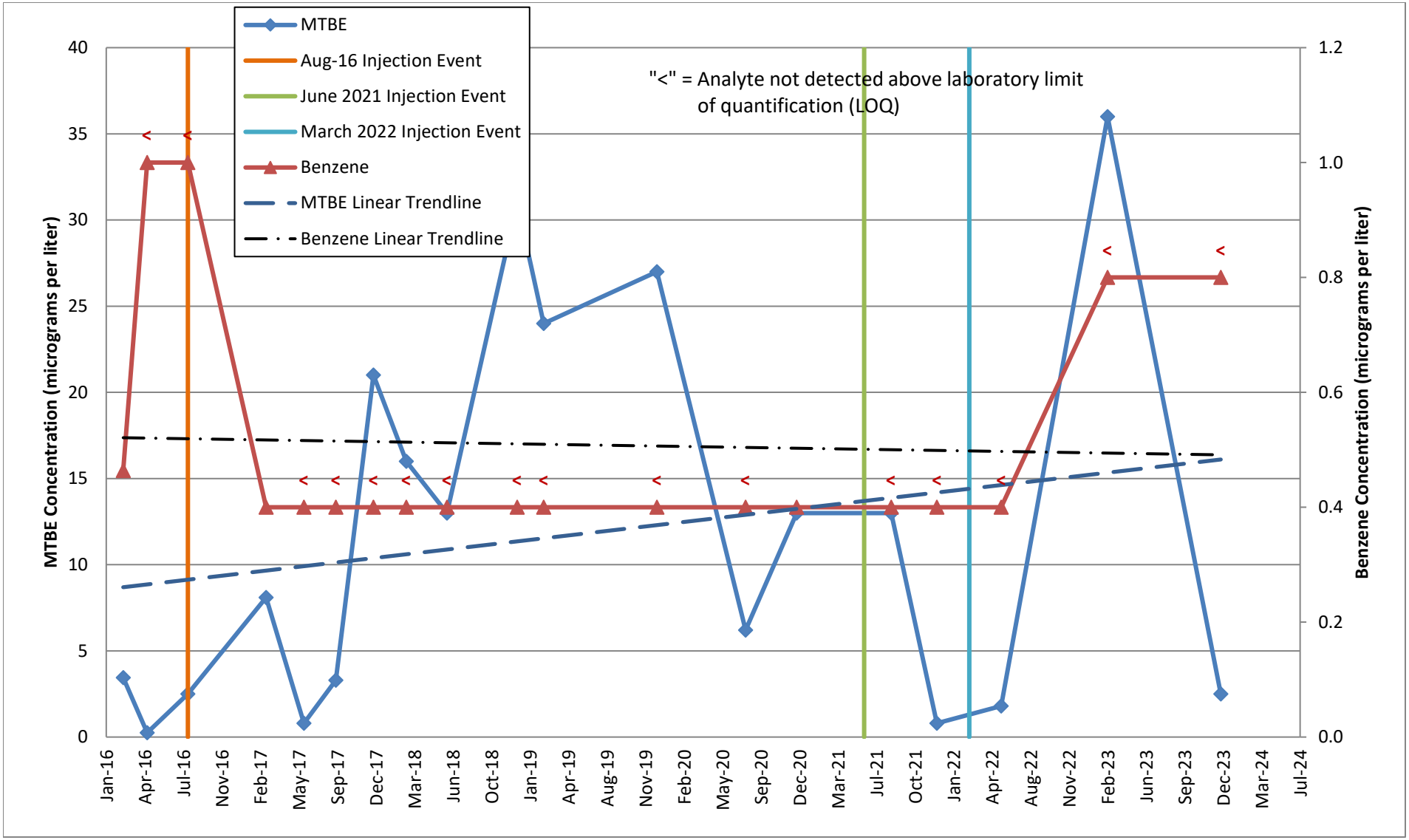
MW-11
BENZENE AND MTBE CONCENTRATIONS
LUKE AFB - WATERDOG RECREATIONAL ANNEX - TU044



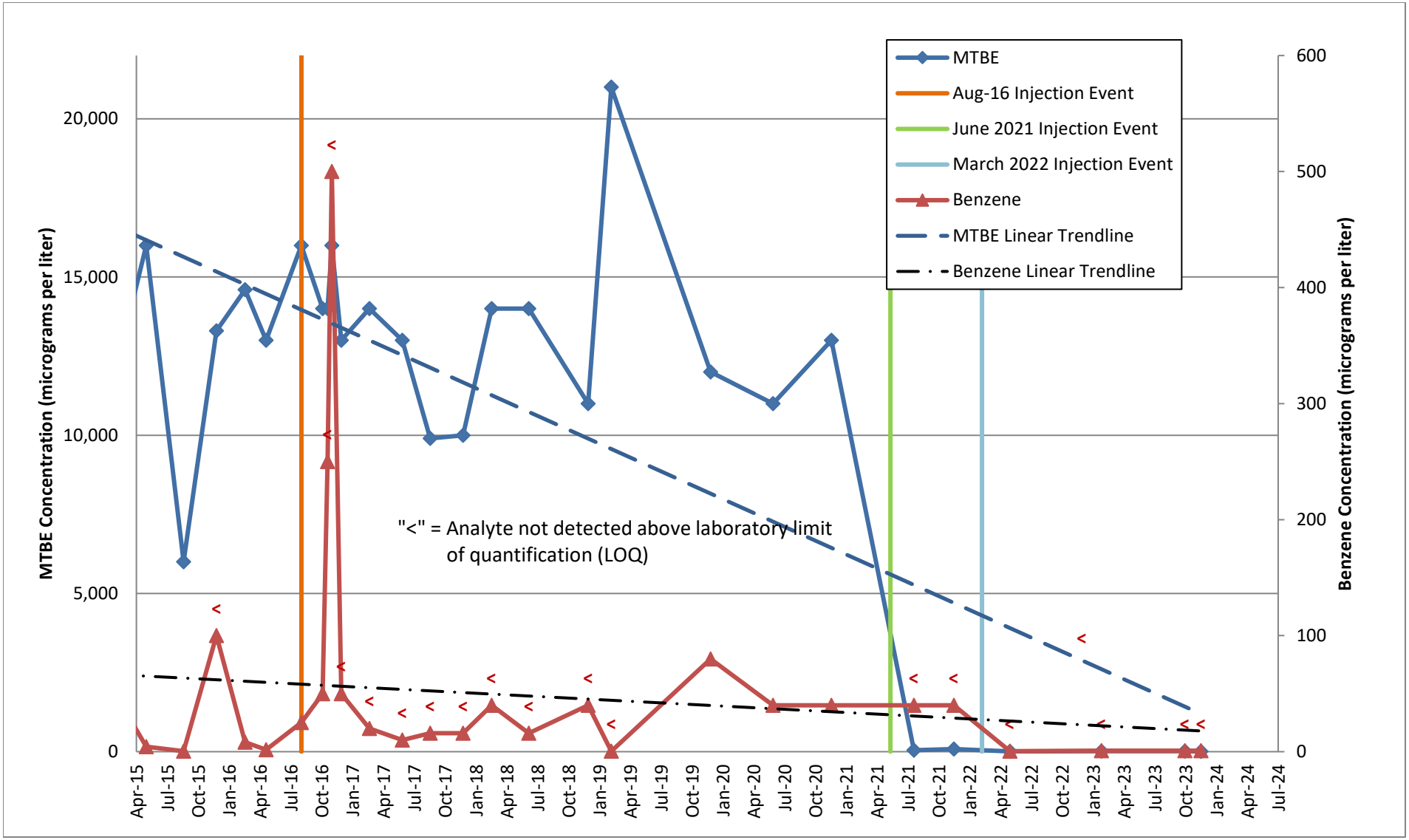
MW-13
BENZENE AND MTBE CONCENTRATIONS
LUKE AFB - WATERDOG RECREATIONAL ANNEX - TU044



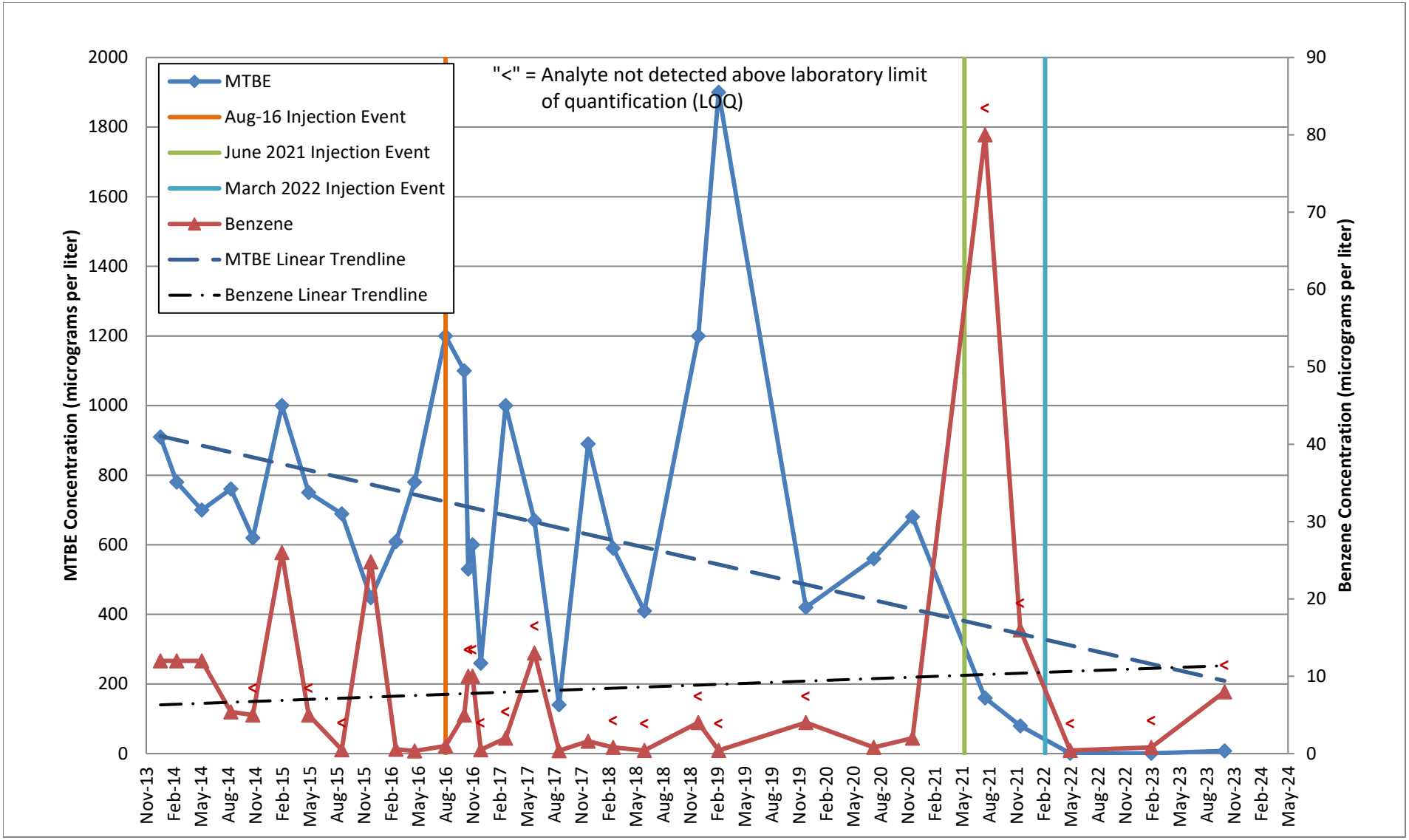
MW-14
BENZENE AND MTBE CONCENTRATIONS
LUKE AFB - WATERDOG RECREATIONAL ANNEX - TU044



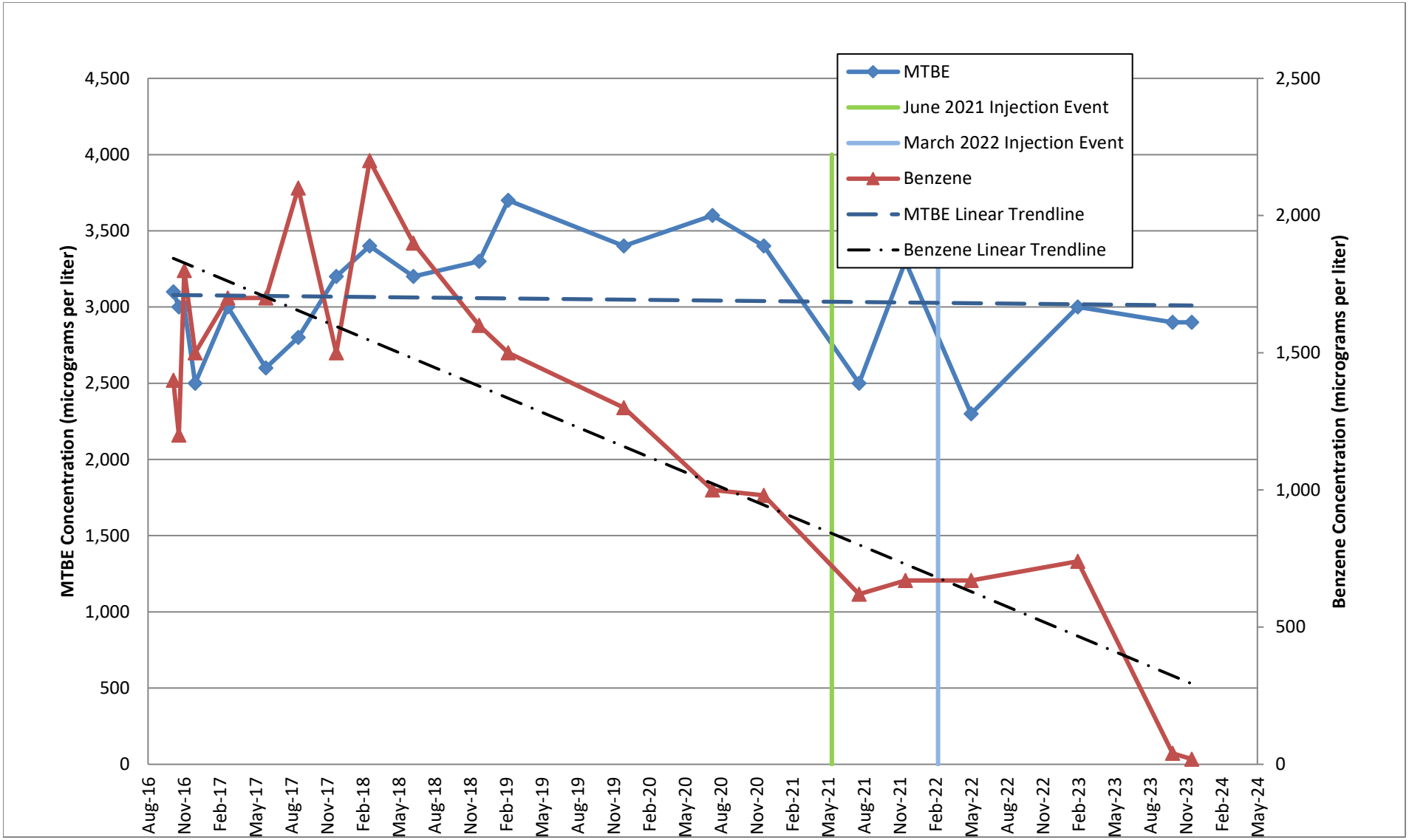
MW-15
BENZENE AND MTBE CONCENTRATIONS
LUKE AFB - WATERDOG RECREATIONAL ANNEX - TU044



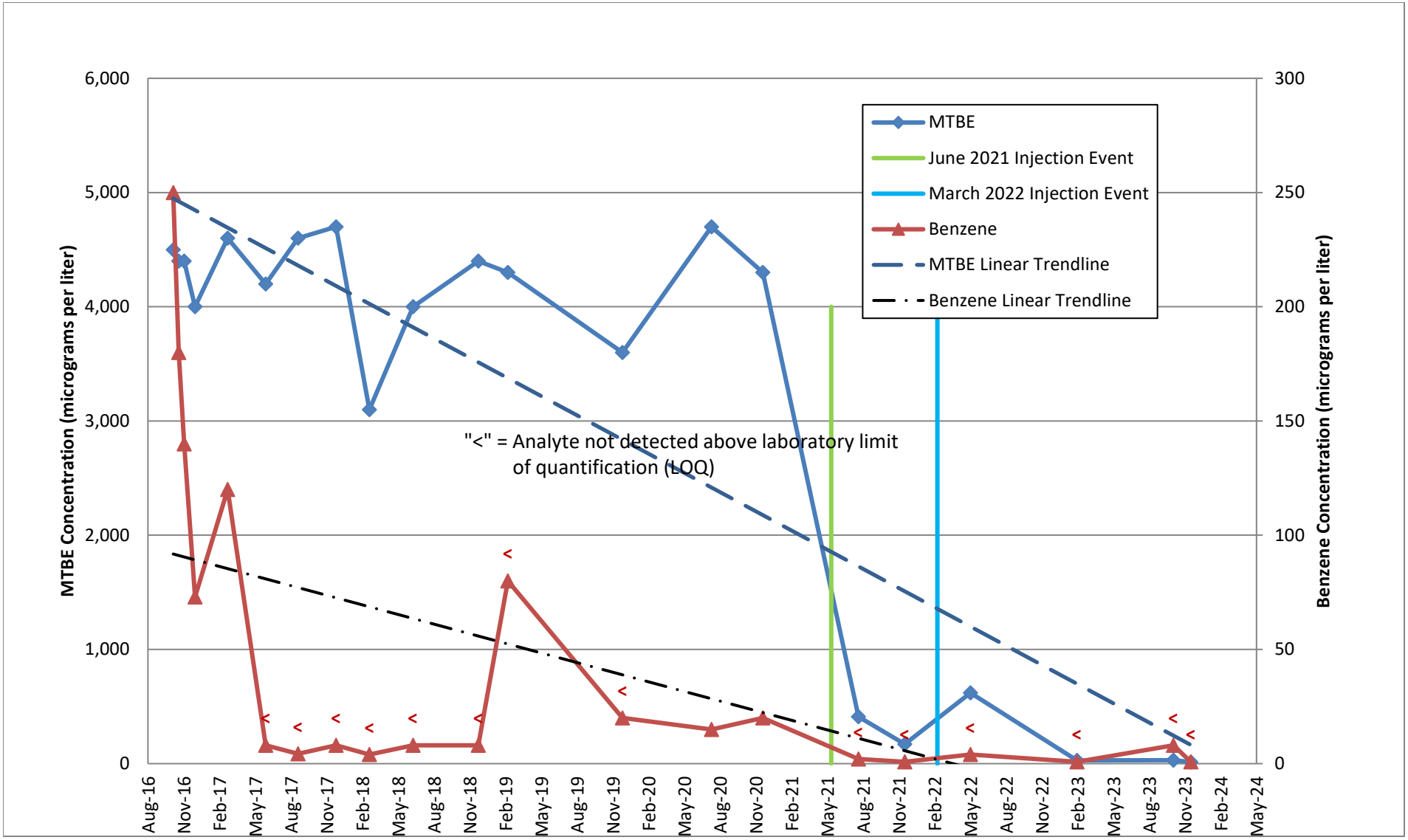
MW-16
BENZENE AND MTBE CONCENTRATIONS
LUKE AFB - WATERDOG RECREATIONAL ANNEX - TU044



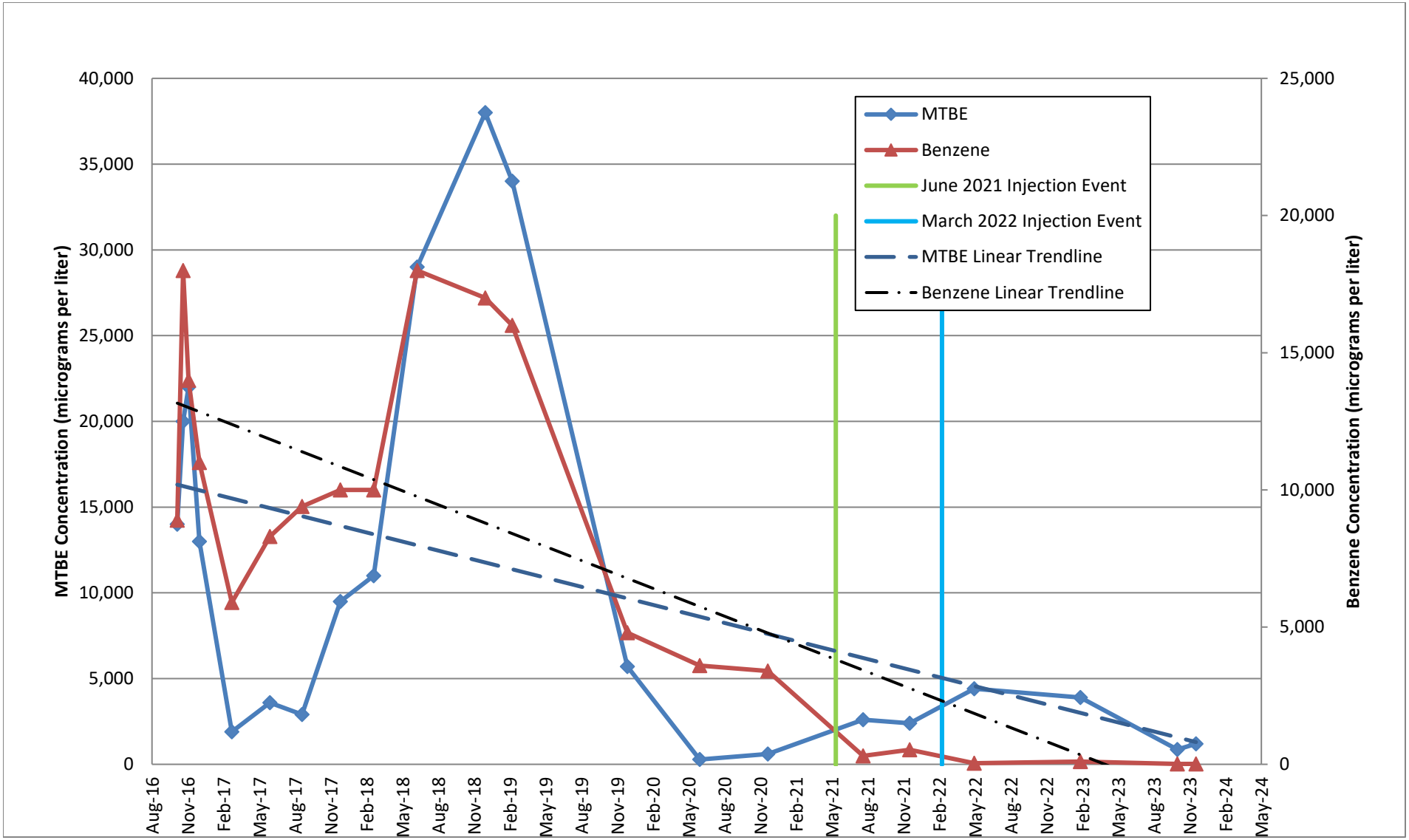
MW-21M
BENZENE AND MTBE CONCENTRATIONS
LUKE AFB - WATERDOG RECREATIONAL ANNEX - TU044



MW-21D
BENZENE AND MTBE CONCENTRATIONS
LUKE AFB - WATERDOG RECREATIONAL ANNEX - TU044



MW-22S
BENZENE AND MTBE CONCENTRATIONS
LUKE AFB - WATERDOG RECREATIONAL ANNEX - TU044



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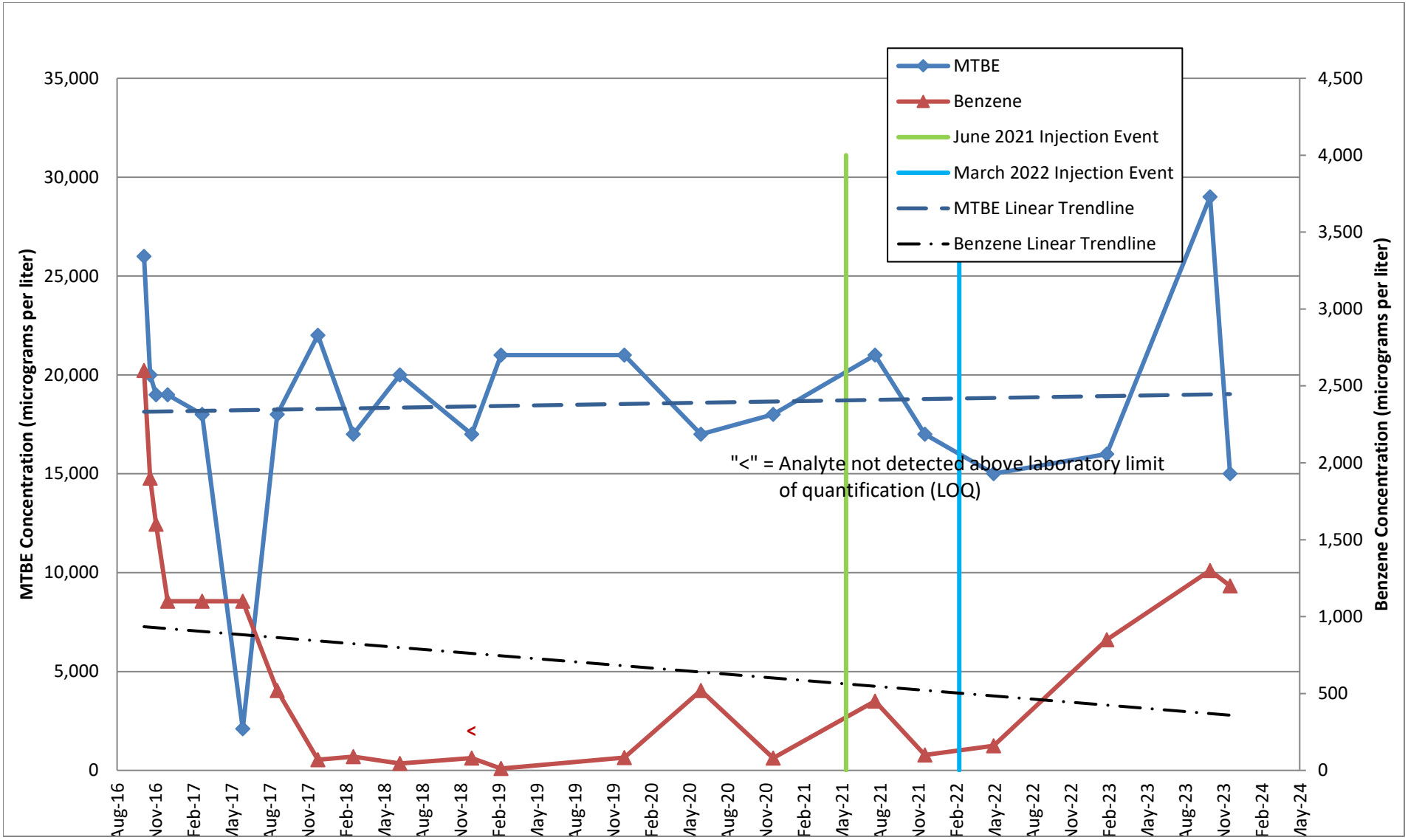
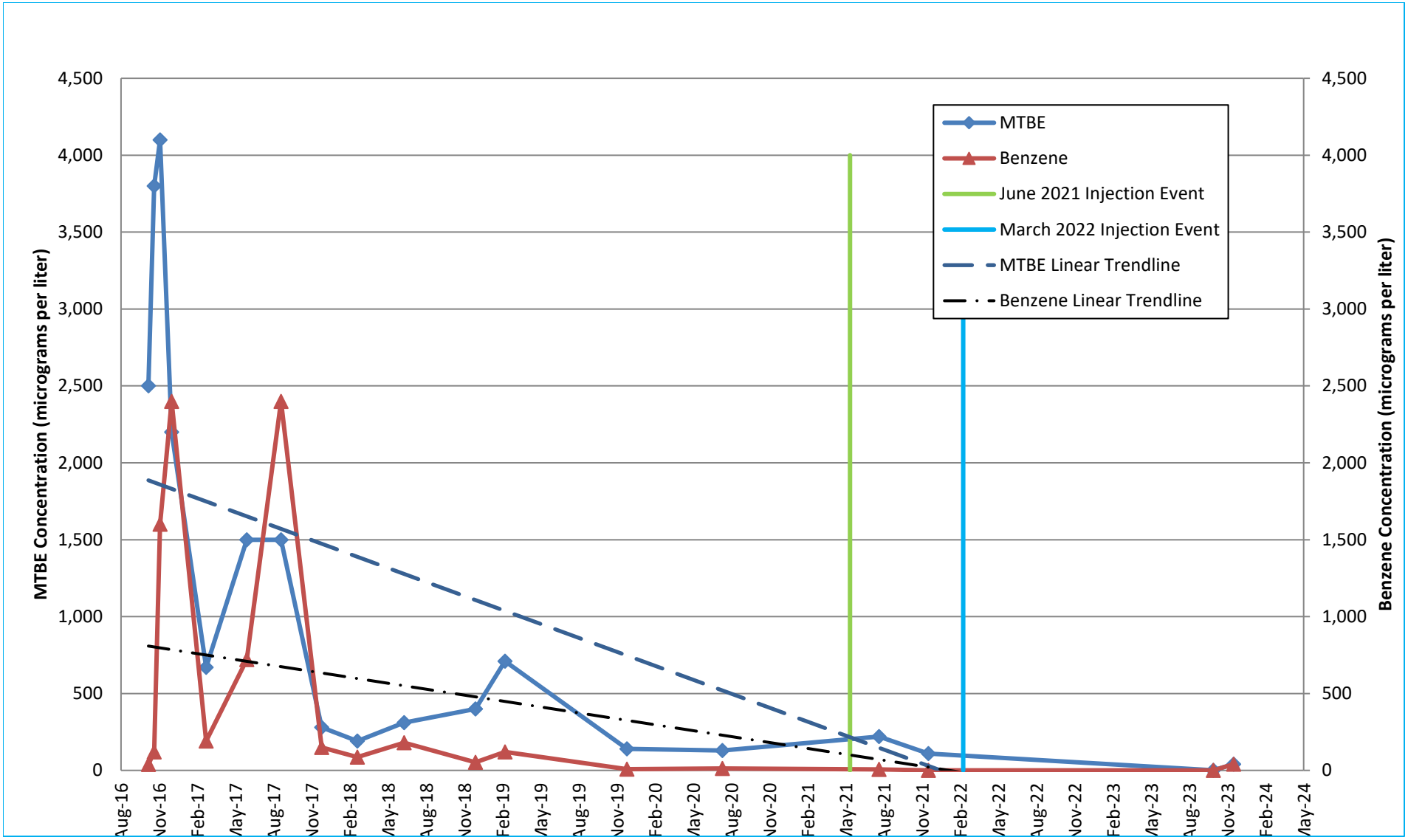
LUKE AFB - WATERDOG RECREATIONAL ANNEX - TU044



MW-23S
BENZENE AND MTBE CONCENTRATIONS
LUKE AFB - WATERDOG RECREATIONAL ANNEX - TU044



MW-23D
BENZENE AND MTBE CONCENTRATIONS
LUKE AFB - WATERDOG RECREATIONAL ANNEX - TU044