REMEDIAL INVESTIGATION REPORT

CENTRAL AND CAMELBACK WQARF SITE
PHOENIX, ARIZONA

TASK ASSIGNMENT NUMBER: ADEQ12-010145

December 15, 2014

Prepared for:

ARIZONA DEPARTMENT OF ENVIRONMENTAL QUALITY
1110 West Washington Street
Phoenix, Arizona 85007

HGC Contract Number: EV11-0032

Prepared by:

HYDRO GEO CHEM, INC.
6340 East Thomas Road, Suite 228
Scottsdale, Arizona 85251
(480) 421-1501

Project Number 2010032.70-03.5

HYDRO GEO CHEM, INC.
Environmental Science & Technology

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Prepared by:

Steven P. Sutherland, R.G.
Project Geologist

Frank J. Skocypec, P.E., C.P.G.
Vice President

December 15, 2014

EXECUTIVE SUMMARY

This Remedial Investigation (RI) report for the Central Avenue and Camelback Road Water Quality Assurance Revolving Fund (WQARF) site in Phoenix, Arizona (Site) summarizes the results of RI activities and Early Response Actions (ERAs). It was prepared by Hydro Geo Chem, Inc. (HGC) to meet the requirements of Arizona Revised Statutes (A.R.S.) §49-287.03 and Arizona Administrative Code (A.A.C.) R18-16-406.

The Site incorporates a groundwater plume that originates from former dry cleaning operations, Maroney's Cleaners and Laundry facility (Maroney's), which was located at 4902 North Central Avenue, Phoenix, Arizona (Figure 1). Contaminants of concern (COCs) include tetrachloroethene (PCE), trichloroethene (TCE), and cis-1,2-dichloroethene (cis-1,2-DCE). Other contaminants from past underground storage tank (UST) releases include: benzene, toluene, ethylbenzene, total xylenes, methyl tertiary butyl ether (MTBE), and 1,2-dichloroethane (1,2-DCA). The Maroney's facility operated at that location from approximately 1951 to 2006 and, during this time period, releases of PCE and potentially TCE occurred to the surface and subsurface. Soils and groundwater on and around the facility have been impacted with these chlorinated volatile organic compounds (CVOCs). No other businesses that used CVOCs or other related chemicals reportedly operated at this location.

The PCE found at the Site was apparently released in the soil and subsurface over an extended period of time, ultimately impacting the underlying groundwater, and was subsequently transported off of the property through groundwater movement primarily in a northward direction. Contamination associated with the release was first detected in 1993 as part of groundwater investigations associated with leaking underground storage tanks (LUSTs) at multiple former service station locations in the immediate vicinity of the Southwest Corner Source Area (SCSA) that encompasses the Maroney's facility. Samples collected and analyzed from the monitoring wells associated with those LUST investigations indicated the presence of PCE and other CVOCs above their respective Arizona Department of Environmental Quality (ADEQ) Aquifer Water Quality Standards (AWQS). At the same time, PCE was identified in samples collected from water being pumped from dewatering wells at an adjacent property known as One East Camelback (OEC) and from Salt River Project (SRP) Well 13.5E-9.4N at the north end of the Site. It was determined that the CVOCs were not associated with releases from the LUST sites and must instead originate from an upgradient source. Additional sampling and investigation confirmed the presence of CVOCs above the AWQS, and the ADEQ subsequently designated the area of groundwater contaminated with CVOCs as the Central and Camelback WQARF site. The Site was placed on the WQARF registry in January 1999, with an eligibility

and evaluation score of 31 out of 120. The SCSA was added to the WQARF registry in 2000, with an eligibility and evaluation score of 32 out of 120.

Investigations defined soil and groundwater contamination associated with the Site, especially in the vicinity of the SCSA. An ERA groundwater pump-and-treat system that could hydraulically control and treat the groundwater plume, and an ERA soil vapor extraction (SVE) system to remediate vadose soil and eliminate the groundwater contamination source, were designed. The groundwater pump and treat system was started in early 2003. The SVE system was started in late 2007. During the ERA investigations, the monitor well network at the Site was expanded to further define the magnitude and extent of PCE contamination in groundwater and evaluate groundwater flow direction. Soil gas and soil sampling was also conducted to investigate other potential CVOC sources.

The groundwater solute plume at the Site has been influenced by changes in groundwater flow patterns after year 2000. Prior to year 2000, historic groundwater flow directions and gradients were controlled by the formerly unlined Grand Canal to the south and pumping from SRP Well 13.5E-9.4N on the north end of the Site. These factors effectively resulted in local alteration of the regional flow pattern to a northerly pattern, transporting the impacted groundwater from the release source north for nearly one half mile, based on reported PCE concentrations found in the SRP well. At a later date when the SRP well was no longer pumped regularly and the Grand Canal had been lined, significant groundwater pumping began on the south side of the Site from dewatering wells associated with the OEC property and from groundwater extraction wells at the SCSA. These factors caused changes in the groundwater flow pattern, with primarily northerly movement replaced by movement to the northeast, east, southeast, and then south-southeast near the dewatering and extraction wells. This change in flow pattern appears to have caused a plume elongated in a north-south direction to migrate to the northeast, east, southeast, and then south-southeast. Data indicate that the highest concentrations associated with the plume may be entering the cone of depression created by the extraction wells.

Currently, PCE and TCE are the CVOCs present in the groundwater at concentrations greater than their AWQS of 5 micrograms per liter (µg/L). Benzene and 1,2-DCA are LUST COCs found in groundwater above their AWQS of 5 µg/L. PCE is the primary COC, found at the highest concentrations. TCE is present at lower concentrations than PCE; available information does not support a determination of whether the TCE is associated with a separate source release or is a product of PCE degradation in the subsurface. Cis-1,2-DCE concentrations have also been found in multiple locations, but are currently not in excess of AWQS (70 µg/L). The ERAs have caused an apparent dramatic decline in COC concentrations. Currently, COC plumes above AWQS standards are only found on the east side of the SCSA and within a limited area in the

northeastern portion of the Site. The lateral extent of the northeastern plume is currently well defined to the north, south and east; however, due to the recent detection of elevated PCE concentrations in a grab groundwater sample in soil boring SB-01, the western extent of the plume is indeterminate.

A mix of commercial and residential land uses prevail within the WQARF study area. The only supply well at the Site, the SRP irrigation well on the north side of the Site, has already been impacted. No other supply wells appear to be at risk of impact from the COCs, due to hydraulic control at the SCSA. However, any future development of groundwater resources in the Site vicinity could be impacted by groundwater contamination. Therefore, exposure pathways include direct ingestion, inhalation, and dermal contact with contaminated groundwater. Based on the results of extensive soil and soil vapor sampling, and current and expected uses in the Site area, direct contact with soils and inhalation exposure to soil vapor do not represent exposure pathways for CVOCs at the Site.

Existing data gaps at the Site are related to delineation of the western edge of the plume and adequate assessment of plume mass.

The Remedial Objectives established for the Site are: 1) to restore soil conditions to the remediation standards for residential use specified in A.A.C. R18-7-203 and to prevent exposure to contaminants either by direct exposure resulting from construction or industrial activities and from vapor intrusion into occupied structures which would create a health risk; and 2) to protect for the use of regional groundwater as a groundwater supply by the City of Phoenix and SRP.

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ACRONYMS AND ABBREVIATIONS

A.A.C.	Arizona Administrative Code
ADEQ	Arizona Department of Environmental Quality
ADWR	Arizona Department of Water Resources
AFY	Acre feet per year
AMA	Active Management Area
amsl	Above mean sea level
ASRAC	Arizona Superfund Response Action Contract
AWQS	Aquifer Water Quality Standards
AZPDES	Arizona Pollutant Discharge Elimination System
bgs	Below ground surface
Brophy	Brophy Preparatory High School
BTEX	Benzene, toluene, ethylbenzene and xylenes
CAP	Central Arizona Project
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
cis-1,2-DCE	Cis-1,2-Dichloroethene
COC	Contaminant of Concern
COP	City of Phoenix
CSM	Conceptual Site Model
CVOC	Chlorinated Volatile Organic Compound
DNAPL	Dense Non-Aqueous Phase Liquids
EPA	United States Environmental Protection Agency
ERA	Early Response Action
FSP	Field Sampling Plan
FS	Feasibility Study
ft	feet
ft/day	feet per day
ft/ft	feet per foot
GAC	Granular Activated Carbon
GEC-SA&B	Geotechnical & Environmental Consultants – Scott, Allard & Bohannan, Inc.
gpm	gallons per minute
g/cm^3	grams per cubic centimeter
HAP	Hazardous Air Pollutant
HGC	Hydro Geo Chem, Inc.
IDW	Investigation Derived Waste
LAU	Lower Alluvial Aquifer/Unit
lbs	pounds
LGAC	Liquid Granular Activated Carbon
LUST	Leaking Underground Storage Tank
MAU	Middle Alluvial Aquifer/Unit
MCAQD	Maricopa County Air Quality Department
MGD	Millions of gallons per day
mg/kg	milligrams per kilogram
mg/L	milligrams per liter

ACRONYMS AND ABBREVIATIONS (Continued)

mg/m^3	milligrams per cubic meter
MTBE	Methyl tertiary butyl ether
NPDES	National Pollutant Discharge Elimination System
O&M	Operation & Maintenance
OEC	One East Camelback
PCE	Tetrachloroethene or tetrachloroethylene
PCS-ICIS	Permit Compliance System and Integrated Compliance Information System
PDB	Passive Diffusion Bag
PID	Photoionization Detector
ppmv	parts per million by volume
PQGWP	Poor Quality Groundwater Withdrawal Permit
PVC	Polyvinyl chloride
QA/QC	Quality Assurance/Quality Control
QAPP	Quality Assurance Project Plan
RI	Remedial Investigation
RO	Remedial Objective
RSL	Regional Screening Level
scfm	standard cubic feet per minute
SCSA	Southwest Corner Source Area
SRL	Soil Remediation Levels
SRP	Salt River Project
SRVWUA	Salt River Valley Water Users' Association
SVE	Soil Vapor Extraction
TCE	Trichloroethene or trichloroethylene
TOC	Total Organic Carbon
TPH	Total Petroleum Hydrocarbons
UAU	Upper Alluvial Aquifer/Unit
UST	Underground Storage Tank
µg/L	micrograms per liter
VCP	Vitreous Clay Pipe
VGAC	Vapor Granular Activated Carbon
VOC	Volatile Organic Compound
WQARF	Water Quality Assurance Revolving Fund
WSRV	West Salt River Valley
WTI	Western Technologies, Inc.
1,2-DCA	1,2-Dichloroethane
1,1-DCE	1,1-Dichloroethene or 1,1-dichloroethylene

1. INTRODUCTION

Hydro Geo Chem, Inc. (HGC) has prepared this report to summarize the results of Remedial Investigation (RI) activities conducted at the Central and Camelback Water Quality Assurance Revolving Fund (WQARF) site (Site). The RI is the first step in the process of identifying a final remedial alternative for the Site. The specific purpose of the RI is to provide a detailed assessment of the Site conditions, to collect information about land and water uses, and to support the selection of remedial objectives and the subsequent remedial action. This report incorporates information gathered from RI activities and other related investigative activities completed at the Site and vicinity from approximately 1991 through February 2014 by HGC and other consultants under contract with the Arizona Department of Environmental Quality (ADEQ) (including Weston Solutions, Inc., and Western Technologies, Inc. [WTI]) and under contract to other entities (Four Corners Environmental, Inc., GEC-SA&B, Environmental Research Associates, and others). HGC has prepared this RI report as part of the completion of the scope of work for Task Assignment No. ADEQ12-010145, and in general agreement with the terms and conditions established in the Arizona Superfund Response Action Contract (ASRAC) between the ADEQ and HGC (Contract No. EV09-0100). The RI report was prepared to satisfy the requirements pursuant to Arizona Revised Statutes (A.R.S.) §49-287.03 and Arizona Administrative Code (A.A.C.) R18-16-406.

1.1 Objectives of the Remedial Investigation

The RI was conducted at the Site as part of the WQARF program, with goals to assess the following (per A.A.C. R18-16-406(A)):

1. Establish the nature and extent of the contamination and the sources thereof;
2. Identify current and potential impacts to public health, welfare, and the environment;
3. Identify current and reasonably foreseeable uses of land and waters of the state; and
4. Obtain and evaluate any other information necessary for identification and comparison of alternative remedial actions.

The RI process is designed to provide a stepwise evaluation of the presence, magnitude, and extent of contamination, to assess potential contaminant source areas, and to identify potential exposure pathways. The objective of the RI is to provide sufficient information to identify appropriate Remedial Objectives (ROs) for the Site The feasibility study (FS) phase of the WQARF process will evaluate specific remedial measures and strategies required to meet the established ROs.

1.2 Report Organization

This report includes the compilation of geological, hydrological, and land use information about the Site from previous investigations, a description of businesses in the area that potentially used, stored, or disposed of hazardous substances, subsequent investigations associated with these findings, and a review of the associated early response actions (ERAs). Facilities described in this report were evaluated based on the results of detailed literature searches, groundwater sampling investigations, limited field reconnaissance, and responses to questionnaires. Some facilities at the Site conducted separate site characterization activities (associated with leaking underground storage tank [LUST] investigations) that included groundwater sampling and evaluation, and are described where appropriate. Additional monitoring wells and other related investigations were performed to gather groundwater contamination and flow information across the Site. This information was used to identify chlorinated volatile organic compound (CVOC) contaminant plume areas based on identified potential source areas and site-specific groundwater data.

This RI report summarizes the following information and data pertaining to the Site:

- Boring logs and well construction diagrams;
- Summarized data tables presenting analytical results for groundwater, soil vapor and soil samples, including comparisons to appropriate regulatory standards, criteria, and guidance [e.g., ADEQ Soil Remediation Levels (SRLs) and Aquifer Water Quality Standards (AWQS); United States Environmental Protection Agency (EPA) screening levels for soil vapor (Arizona does not currently have soil vapor standards, criteria, or guidance values for concentrations of volatile chemicals in subsurface vapor)];
- Figures presenting groundwater flow direction and concentrations of groundwater contaminants;
- A graphical conceptual model of the Site;
- A narrative that summarizes the results of the remedial investigation, including a discussion of the physical and analytical results;
- A land and water use study;
- A risk evaluation;; and
- Gaps in data for the completion of the remedial investigation.

1.3 Site Description

As depicted on Figure 1, the Site encompasses an area generally bounded by Missouri Avenue to the north, 2nd Street to the east, Pierson Street to the south, and 3rd Avenue to the west. The Site is located on the Sunnyslope 7.5' topographic quadrangle, and the cadastral legal description for

the Site area is the southern half of Section 17 and the northern half of Section 20, Township 2 North, Range 3 East of the Gila and Salt River Baseline and Meridian, Maricopa County. The area of study is comprised of mixed urban land uses consisting of single- and multi-family residential homes, retail and commercial developments, parks, schools, and religious facilities.

The primary focus of the Site is a release of contaminants into the subsurface reportedly associated with the former Maroney's Dry Cleaners and Laundry facility (Maroney's), a dry cleaning operation formerly located at 4902 North Central Avenue, near the southwest corner of the intersection of Central Avenue and Camelback Road (Figure 2). In this report, this area is referred to as the southwest corner source area (SCSA). The CVOC tetrachloroethene (PCE) was released into the soil and subsurface over an extended period of time which ultimately impacted the underlying groundwater and was subsequently transported off of the property through groundwater movement primarily in a northward direction. Indications of the release were first detected in 1993 as part of groundwater investigations associated with LUSTs at multiple former service station locations in the immediate vicinity of the SCSA. Samples collected and analyzed from the monitoring wells associated with those LUST investigations indicated the presence of PCE and other CVOCs above their respective AWQS. Additional sampling and investigation confirmed the presence of these CVOCs above the AWQS, and the ADEQ subsequently designated the area of groundwater contaminated with CVOCs as the Central and Camelback WQARF site. The SCSA Portion of the Site was placed on the WQARF registry in January 1999 with an eligibility and evaluation score of 31 out of 120. The SCSA became listed as part of the Site in 2000 with an eligibility and evaluation score of 32 out of 120 (WTI, 1999). Based upon the additional collection of data, the Site was redefined to include other suspect properties and extended to their approximate boundaries as depicted on Figure 1.

As depicted on Figure 3, the SCSA currently consists primarily of a dirt lot, a concrete pad associated with the former Maroney's dry cleaning building (demolished in late 2006/early 2007), and operating soil vapor extraction (SVE) and groundwater pump-and-treat systems associated with the ERA activities (described in Section 4). There are also two large billboards located on the SCSA and power lines intersecting the central portion of the area in a north-south and east-west orientation. The City of Phoenix's Central Avenue/Camelback Road Transit Center is located immediately west of the SCSA, associated with a northwest-southeast running light rail transit right-of-way that cuts the southwest corner of Central Avenue and Camelback Road directly south and west of the SCSA.

The primary contaminants of concern (COCs) for the Site are PCE and trichloroethene (TCE), and to a lesser extent the daughter product cis-1,2-dichloroethene (cis-1,2-DCE). Other contaminants detected in groundwater are associated with the LUST releases in the Site, and

primarily include benzene, toluene, ethylbenzene, and xylenes (BTEX), methyl tertiary butyl ether (MTBE), and 1,2-dichloroethane (1,2-DCA). Figure 4 depicts the existing monitoring well network at the Site and includes the location of the groundwater extraction wells associated with the groundwater pump and treat system and the SVE wells installed as part of the ERA activities.

Currently, PCE, TCE, 1,2-DCA, and benzene concentrations above their respective AWQS of 5 micrograms per liter (µg/L) are still detected in groundwater in some of the monitoring wells (HGC, 2013). Elevated COC concentrations have also been detected in monitoring wells recently installed further north of the SCSA (HGC, 2014).

1.4 Site History

Prior to about 1940, the Central Avenue and Camelback Road area was cultivated with citrus fruit. Citrus agriculture is not currently practiced in the area, but irrigation facilities provided by Salt River Project (SRP) via Medlock Homeowners Association canal system are present and remain active today. These irrigation facilities mainly supply residential properties with irrigation water for landscaping purposes. Non-agricultural development in the Site area began in the late 1930s and early 1940s, initially with residential development along the main roads and beyond. Initial development occurred on the western portion of the Site between Central and Third Avenues, and consisted of single-family homes. Large multi-family developments were constructed in the area in the 1950s, 1970s, and 1980s as single-family home construction continued (WTI, 1999).

Commercial development near the Site is concentrated along Camelback Road and Central Avenue. Commercial uses in the area typically include retail and service activities necessary to support the residential areas. Commercial development, initiated at the Central Avenue and Camelback Road intersection, expanded linearly along these arterial thoroughfares. Residential areas that had fronted Camelback Road west of Central Avenue were redeveloped into commercial uses over the course of the 1970s and 1980s.

Generally, chemical usage in the Site area has been associated with commercial development in support of residential land uses, such as dry cleaning and laundry services (cleaning solvents, typically PCE); automotive repair services and fuel sales (petroleum-based fuels and oils, degreasers); and photographic development and printing activities (silver, inks, dyes, solvents). No indication of historical industrial or manufacturing activities has been identified in the Site area (WTI, 1999).

1.4.1 Dry Cleaning Facilities

Multiple dry cleaning facilities have operated or currently operate in the immediate area of the Site (WTI, 1999), including:

- Bartoli Cleaners and Laundry, 4660 North Central Avenue;
- Uptowne Cleaners, 5104 North Central Avenue;
- Community Cleaners, 5217 North Central Avenue;
- Esquire Cleaners, 27 East Camelback Road;
- Maroney's Cleaners and Laundry, 4902 North Central Avenue;
- Neat Pleat of Phoenix/Squaw Skirt, 4817 North Central Avenue;
- Phoenix Laundry and Dry Cleaners, 4821 North Central Avenue;
- Society Cleaners, 16 East Camelback Road; and
- Windsor Square Dry Cleaners, 5014 North Central Avenue and 167 West Camelback Road.

Of the facilities listed, only Uptowne Cleaners and Society Cleaners are currently operating. The locations of selected dry cleaning facilities are depicted on Figure 5.

1.4.2 Automobile Fuel Sales and Service Facilities

Several automobile fuel sales and service businesses with underground storage tank (UST) systems have also operated in the vicinity of the Site. Of these, six were identified as having a LUST (WTI, 1999), including:

- Exxon Service Station at the southeast corner of Central Avenue and Camelback Road;
- Chevron Service Station at the southwest corner Central Avenue and Camelback Road;
- Weiss Guys Car Wash west of the southwest corner of Central Avenue and Camelback Road (also depicted on Figure 2);
- Unocal Service Station on the northwest corner of Central Avenue and Camelback Road;
- Circle K Station at the southeast corner of Central Avenue and East Colter Street; and
- Texaco Service Station at the northeast corner of Central Avenue and East Colter Street.

The releases from the various UST systems (mostly gasoline) have produced documented aromatic petroleum hydrocarbon impacts to both soil and groundwater in the Site area (primarily BTEX, MTBE, and 1,2-DCA). Of the facilities listed, only the Circle K Station is currently

operating. The locations of selected automobile fuel sales and service facilities are depicted on Figure 5.

1.4.3 Salt River Project Wells

One groundwater well owned by SRP is located within one-half mile of the SCSA in the northern portion of the Site. SRP Well 13.5E-9.4N, constructed in 1971, is designated for irrigation use and SRP has performed periodic sampling of this well for inorganic and organic constituents. Since at least 1989, PCE has been consistently detected in this well above the AWQS. Currently, this well is only used intermittently (Elliot, 2013).

1.5 Facility Description – Maroney's

HydroGeoLogic, Inc. (HGL) conducted a historic review of property ownership and tenant occupation of the Maroney's facility (HGL, 2014). The Maroney's facility, located at 4902 North Central Avenue (Figure 2), reportedly was operated as a retail dry cleaner and laundromat from 1951 to 2006. The facility was constructed between 1949 and 1951. No use is identified prior to this date and the property is believed to have been vacant. The following table below depicts the ownership history of the Maroney's property:

Owner	Date
Edwin J. and Margaret Maroney	1950-1974
Ray C. and Alice A. Roles	1974-1976
Allan J. and Elaine Waxman	1976
Ideal Center	1976-1978
Benjamin and Jaewin Weinstein (1/2 interest) and Louis Weinstein (1/2 interest)	1978-1981
Outdoor Systems Company	1981-1982
C & C Land Venture	1982-1984
Steer West Enterprises, Inc.	1984
Jerry Steer as Trustee of Steer West Enterprises, Inc.	1984-1998
The Heirs and Devisee of Jerald H. Steer	1998
Seven S Investments Limited Partnership	1998
Outdoor Systems, Inc./Viacom	1998-2007
Cornerstone at Camelback, LLC	2007-Present

Cornerstone at Camelback, LLC, the current owner, also purchased the remaining undeveloped parcels on the southwest corner of Central Avenue and Camelback Road in 2007.

The Maroney's facility underwent two major building improvement stages following original construction (HGL, 2014). The building was expanded to the south in or before 1954 and was

expanded to the west in or prior to 1958. The "L" shaped Maroney's structure did not significantly change after 1958, though a canopy along the western side of the building was constructed in or prior to 2006. According to an October 11, 1982, City of Phoenix Fire Department occupancy activity report, the Maroney's building was approximately 10,000 square feet in size. The building was demolished sometime between October 2006 and February 2007.

The chemicals used at this facility were determined to be PCE and to a lesser extent TCE. The Maroney's facility was listed as a Resource Conservation and Recovery Act (RCRA) small quantity generator of hazardous waste, producing between 100 kilograms to 1,000 kilograms of hazardous waste per calendar month. A hazardous waste inspection was conducted by the ADEQ on December 29, 1993. The inspection indicated that minor spillage had been observed around the clean-out traps, at the wastewater separator outlets at the rear of the cleaning machines, at the separator wastewater buckets, and at the separator wastewater evaporation tank at the rear of the facility. The RCRA inspector also recommended maintenance improvements, as well as improvements in uses of dry cleaning equipment and wastes (GEC-SA&B, 2005).

Currently, the property at the former Maroney's facility is undeveloped, with only the concrete pad footprint of the former building remaining. The property is located north and adjacent to the City of Phoenix Metro Light Rail right-of-way and Transit Center, which was constructed in 2006-2007 (depicted on Figure 3).

1.6 Other Facilities

An assessment of the facilities listed in Sections 1.5.1 and 1.5.2 was conducted, with the intent to identify other facilities of concern that may have been additional contributing sources to the CVOCs found in the groundwater across the Site. The properties of concern from those lists were investigated and are described in the following sections. The property locations are depicted on Figure 5. The properties described below were not identified as additional contributing sources to CVOC contamination.

1.6.1 Weiss Guys Car Wash

The former Weiss Guys Car Wash facility and automotive fueling station was located at 15 West Camelback Road, immediately west of the former Chevron station and northwest of the former Maroney's facility, and operated from 1954 to 1995. Chemicals used at this property likely included petroleum fuels and automotive cleaning compounds such as soaps, surfactants, and polishing compounds (WTI, 1999).

The former Weiss Guys property was listed in the LUST database for three releases. Two releases were filed in January 1991 and one in February 1996, based upon reported petroleum hydrocarbon concentrations in soil identified from UST removal investigations at the property. As of 1996, all USTs at the former Weiss Guys facility had been removed. Site investigation activities occurred throughout the 1990s, including soil borings and monitor well installations. Eighteen soil borings were drilled and seven groundwater monitoring wells were installed to characterize the petroleum fuel releases at the property. Soil samples collected were not analyzed for CVOC; however, aromatic hydrocarbons were identified in both soil and groundwater samples.

Subsequently, ten additional soil borings and three additional groundwater monitoring wells were drilled and installed to complete the delineation of the extent of petroleum-impacted soil and groundwater released on the property. Free-phase petroleum hydrocarbon was identified, as well as high BTEX and MTBE concentrations. In addition, high concentrations of PCE were identified (up to 21,000 µg/L, as depicted on Figure 6), along with concentrations of TCE ranging from non-detect to 90 µg/L and cis-1,2-DCE concentrations ranging from 88 to 840 µg/L (WTI, 1999). Since the CVOCs did not originate from their property, focused efforts were made to remediate the aromatic hydrocarbons. The LUST cases for the property were closed by the ADEQ in April 2008.

1.6.2 Unocal Service Station No. 3166

The former Unocal Service Station was located at 4 West Camelback Road, on the northwest corner of Central Avenue and Camelback Road. It operated as a gasoline fueling operation with light automotive maintenance activities under various names from 1951 to 1989. The chemicals used at this property likely consisted of petroleum fuels, automotive degreasing fluids, and petroleum lubrication compounds. Information also indicated that the property was listed as a conditionally exempt small quantity generator (CESQG) of hazardous waste, meaning less than 100 kilograms of hazardous waste was generated within a calendar month (WTI, 1999).

From 1990 to 1991, three releases from USTs were reported to the ADEQ. In 1993, the UST system was removed. Site characterization of the property began in 1991 with the drilling and sampling of 12 soil borings, including in the area of the waste oil UST, and the samples were analyzed for CVOCs. All constituents were reported as less than the laboratory reporting limits.

Additional investigations were conducted in 1994; 18 soil samples from 15 soil borings were analyzed for aromatic petroleum hydrocarbons and CVOCs, and four monitoring wells were installed (MW-1 through MW-4), as depicted on Figure 7. The soil investigations indicated that aromatic hydrocarbons were detected in soil samples down to groundwater in seven of the

borings, but the lateral extent of soil contamination was determined not to have migrated beyond the property boundaries. In one boring located on the north side of the property (for the installation of monitoring well MW-4), PCE was detected at 0.11 milligrams per kilogram (mg/kg) and 0.01 mg/kg at 20 feet and 60 feet below ground surface (bgs), respectively. TCE was also detected at 0.02 mg/kg at 20 feet bgs, with minor concentration of 1,2-DCE, as combined cis-1,2-DCE and trans-1,2-DCE, detected at that depth. 1,2-DCA was detected at levels from 0.04 to 0.07 mg/kg at 45 feet bgs in three sample locations (WTI, 1999). This boring location (and monitoring well) was installed beneath or in close proximity to the former location of Windsor Square Dry Cleaners (described in Section 1.7.9 and depicted on Figure 5). The Windsor Square Dry Cleaners was razed and incorporated into the Unocal property.

An additional nine groundwater monitoring wells were subsequently installed offsite (MW-5 through MW-13, depicted on Figure 6). PCE, TCE, cis-1,2-DCE, trans-1,2-DCE, 1,1-dichloroethene (1,1-DCE), and vinyl chloride were detected above AWQS in some or all of the wells during multiple groundwater sampling events. The highest CVOC concentrations from the onsite wells were detected in MW-2 and MW-4, located up and downgradient, respectively. All measured levels of PCE and TCE in those two wells exceeded the AWQS. The highest levels measured in the offsite wells were detected in MW-5, which is located on the south side of Camelback Road. The concentrations in this well consistently exceeded the levels measured in MW-2 on the property and were above the AWQS. It was noted that monitoring well MW-5 is downgradient from two former gasoline service stations, a former car wash, and a dry cleaning business. The highest levels of the CVOCs detected in the wells downgradient of the Unocal property were in MW-8 and MW-9. Wells MW-6, MW-11, and MW-12 also exhibited levels of CVOCs that exceeded AWQS for the respective compounds (WTI, 1999).

Even though PCE was identified in soil on the property, monitoring well sample results indicate that an upgradient property (the SCSA) is the source of the high CVOC concentrations. After subsequent remediation of the aromatic petroleum hydrocarbons, the LUST cases for the Unocal property were closed by the ADEQ in April 2008.

1.6.3 One East Camelback Building/ Exxon

The One East Camelback (OEC) office building, located at 1 East Camelback Road on the southeast corner of the intersection of Central Avenue and Camelback Road, constructed from 1983 to 1984, has an underground parking structure which currently penetrates the water table. Groundwater elevations were not above the level of the parking garage at the time of construction, but subsequently rose above the level of the parking garage, possibly due to the shutdown of nearby SRP and COP supply wells, as well as incidental recharge from seasonal

irrigation and from the unlined Grand Canal. A series of dewatering wells, installed in 1993 to prevent groundwater from entering the below-grade portions of the building, began operating after the facility received an Arizona Department of Water Resources (ADWR) Dewatering Permit. During the course of sampling the discharge water, aromatic petroleum hydrocarbons were discovered.

Prior to the construction of the OEC building, an Exxon Service Station existed at this location from 1952 until 1974, with the service station itself dating to 1942 under other ownership. In the early 1990s, work to identify the source of the aromatic hydrocarbons with soil and groundwater collection and analysis began. Two source areas were identified and two LUST cases were opened (dated February 1996 and September 1997). Petroleum-impacted soil and groundwater above relevant SRLs and AWQS, respectively, were identified around and beneath the OEC building, attributed to the former Exxon service station. The upgradient well located near the SCSA source area indicated the presence of PCE above the AWQS.

In May 1998, ADEQ ultimately determined that the PCE concentrations identified in the groundwater were attributed to releases at the SCSA (WTI, 1999). The two LUST cases associated with the releases from the former Exxon station are still open.

1.6.4 Chevron Service Station

The Chevron Service Station was located at 3 West Camelback Road, on the southwest corner of Central Avenue and Camelback Road (adjacent to the north side of Maroney's facility). A service station was operated on the property from 1940 to circa 1976. A UST closure investigation was conducted in November 1996, and aromatic hydrocarbons were found to have been released. Monitoring well MW-1 was subsequently installed and sampled, resulting in concentrations of PCE at 4,730 µg/L, TCE at 264 µg/L, cis-1,2-DCE at 16 µg/L, trans-1,2- DCE at 4.8 µg/L, and 1,1-DCE at 7.2 µg/L. No BTEX or other VOCs were detected. The CVOCs were attributed to the SCSA and all issues associated with the LUST were reportedly closed by October 9, 1996 (WTI, 1999).

1.6.5 Circle K #1741

The Circle K Store #1741 is located at 5141 North Central Avenue at the southeast corner of Central Avenue and East Colter Street. This property is currently used as a convenience store and fueling operation. A service station and/or convenience store with gasoline retail has operated on the premises since 1958 (WTI, 1999).

Circle K reported a release on September 20, 1994, during a product re-piping project associated with the UST system. Soil samples were not analyzed for CVOCs while investigating this release. Groundwater samples were collected and analyzed for CVOCs on two occasions (April and June 1995) from the three onsite wells (SECOR International Incorporated, 1995a and b). PCE and TCE were detected in the groundwater samples but at concentrations less than AWQS. The LUST cases were closed on December 16, 1999. As part of a property transaction, soil samples were collected in the vicinity of the USTs and underground piping in April 2004. Three soil samples were analyzed for CVOCs and the analytical results were all below the laboratory reporting limits (Blaes Environmental Management Inc., 2004).

1.6.6 Texaco

The Texaco Service Station was located at 5201 North Central Avenue at the northeast corner of Central Avenue and East Colter Street. This property reportedly operated as a service station from 1949 to the mid-1970's. After that date, the property was completely redeveloped and was used as a convenience store and fueling operation. Based upon this information, the chemicals used at this property most likely consisted of petroleum fuels, automotive degreasing fluids, and petroleum lubrication compounds (WTI, 1999).

LUST releases in 1985, 1992, and 1993 have been listed for this facility. The LUST cases remain open today. In 1994, five monitoring wells were installed (Tex-MW-1 through Tex-MW-5) and samples were collected for VOC analysis (including CVOCs). High aromatic hydrocarbon concentrations were identified, including benzene and 1,2-DCA. PCE concentrations and daughter products were also identified in multiple wells above AWQS. The CVOCs were located in the northwest corner and later in the west central area away from the primary release point for the aromatic VOCs. The CVOC source was possibly attributed to potential releases from the Community Dry Cleaners located immediately north of the property (5217 North Central Avenue). However, this dry cleaning operation reportedly only operated in 1995 and 1996, and the first PCE concentrations were detected in the monitoring wells in 1994 (WTI, 1999). Additional investigation efforts confirmed that the source of the CVOCs is not associated with Community Dry Cleaners, as described in Section 3 of this report.

After closure of the service station/convenience store, the UST system was removed in May 2004 and the structures and all pavement were subsequently demolished. In 2005, remediation of the contaminant plume began on the property via air sparge/soil vapor extraction by others representing the property owners. In an effort to fully characterize the aromatic hydrocarbon plume in groundwater, three additional monitoring wells were installed and sampled (Tex-MW-6, Tex-MW-7, and Tex-MW-8) (Figure 4). Groundwater monitoring and sampling results

indicated that PCE, TCE, and cis-1,2-DCE concentrations were focused in the southeastern portion of the property. In 2005, HGC began collecting and obtaining split groundwater samples from these monitoring wells as part of the RI investigation (results summarized in Table 3).

The air sparge/soil vapor extraction unit at the property was shut down in 2013 based upon significantly decreased contaminant concentrations; however the LUST cases are still open. The last groundwater monitoring event occurred in January 2014, with only the groundwater sample collected from monitoring well Tex-MW-2 containing detectable PCE and TCE concentrations (at 1.9 µg/L and 2.6 µg/L, respectively).

1.6.7 Uptowne Cleaners

Uptowne Cleaners is located at 5104 North Central Avenue and currently operates as a retail dry cleaning service. Information indicates that the property has been operated as a dry cleaning business since 1952, known as Blue Sam Cleaners from 1952 to 1966, and Uptowne Cleaners from 1966 to present (WTI, 1999).

Based on a review of hazardous waste manifests and air permits, the chemicals used at this property include PCE as a dry cleaning solvent, TCE, and petroleum solvents. Uptowne Cleaners is also listed as a RCRA small quantity generator of hazardous waste. No RCRA inspections or chemical releases have been identified and there have been no reported environmental investigations directly associated with this property (WTI, 1999).

Additional investigation efforts confirmed that the source of the CVOCs is not associated with Uptowne Cleaners as described in Section 3 of this report.

1.6.8 Society Cleaners

Society Cleaners is located at 16 East Camelback Road, within the Uptown Shopping Center located northeast of the intersection of Central Avenue and Camelback Road. This business currently operates as a retail dry cleaning service and reportedly has only operated since 1994.

Based on a review of hazardous waste manifests and air permits, the chemicals used at this property include PCE as a dry cleaning solvent and TCE. They are listed as a conditionally exempt small quantity generator of hazardous waste. No RCRA inspections or chemical releases have been identified and there have been no reported environmental investigations directly associated with this property (WTI, 1999).

Additional investigation efforts confirmed that the source of the CVOCs is not associated with Society Cleaners as described in Section 3 of this report.

1.6.9 Windsor Square Dry Cleaners

Windsor Square Dry Cleaners was located at 5014 North Central Avenue and formerly operated as a retail dry cleaning service; it was listed as operating at this location from 1951 to 1959. This property occupied the southernmost section of a strip retail/commercial development on the west side of Camelback Road, adjoining the north side of the former Unocal Service Station. Sometime between 1964 and 1971, the building was razed and the property incorporated into the expansion of the adjacent Unocal Service Station (described in Section 1.6.2).

Reports and records describing permits, inspections, or chemical usage on the property were not found, but based upon the dates of operation it is assumed that PCE was likely used because it is a common dry cleaning solvent. There was no information identified indicating that testing or assessment specifically for this property has been conducted. As discussed in Section 1.6.2, soil and groundwater samples associated with the Unocal Service Station investigation were collected and included areas which had been occupied by Windsor Square Dry Cleaners. Results from the Unocal investigations indicated the presence of CVOCs in soil, and PCE, TCE, and other CVOCs in the groundwater at levels which exceeded AWQS for the respective compounds.

As stated in Section 1.6.2, even though reported PCE concentrations were identified in soil on the property, monitoring well sample results confirm that the source of the CVOCs is the SCSA.

2. PHYSICAL CHARACTERISTICS

2.1 Topography

Arizona is primarily divided into two main physiographic provinces: the Colorado Plateau and the Basin and Range (USGS, 1996). The Site is situated within the Basin and Range physiographic province. The Basin and Range physiographic province consists of broad alluvial basins dissected by northwest-southeast trending block-faulted Precambrian through Tertiary igneous, sedimentary, and metamorphic highlands. These basins are filled with Holocene age alluvial sediments that are primarily derived from the weathering of these adjacent highlands, and consist primarily of fine-grained, well-sorted sediments, but also include coarse to gravelly channel, terrace, and alluvial fan deposits at depth (Rascona, 2005).

Based on surveyed elevations of the monitoring wells at the Site, the topography of the Site is relatively flat with a slight regional gradient to the southwest at approximately 15 to 20 feet (ft) per mile. Monitoring well elevations range from 1,127 ft above mean sea level (amsl) in the southern portion of the Site to 1,140 ft amsl in the northern portion.

2.2 Climate

The Site is located in the northern Sonoran Desert, where the climate is characterized as semiarid. The region experiences hot summers and mild winters. Daytime high temperatures in July, typically the hottest month, are generally between 100°F and 110°F, with overnight lows usually between 75°F and 85°F. January, usually the coolest month, typically experiences daytime highs between 60°F and 70°F and nighttime lows from 35°F to 45°F.

Annual precipitation is low, averaging from seven to eight inches for the greater Phoenix area. There are two distinct but erratic precipitation periods during the year: the monsoon season and the winter rains. The monsoon season occurs primarily in July and August, and in the winter months there is less intense but more widespread and longer-lasting rainfall events. Most of the precipitation evaporates, with rates varying between about 65 to 75 inches per year (Schmidli, 1996).

Prolonged droughts are common and shorter periods of drought even more so. Spring runoff from snow melt in the Salt, Gila, and Verde River watersheds provides most of the surface water stored by the reservoirs that serve significant portions of the metropolitan area's population. During years of winter drought, reduced surface water availability can result in elevated groundwater pumping (Schmidli, 1996).

2.3 Soils

Lithologic boring logs from remedial investigation activities conducted at the Site (described in Section 3) indicate that the Site area is underlain by a typical sequence of basin-fill alluvial sediments, consisting of reddish brown to medium brown gravelly, silty sand to clayey and sandy silt and sandy clay (e.g. Weston, 2001b; HGC, 2005a; Four Corners, 2007; HGC, 2006; HGC, 2007; HGC, 2014). The generalized lithology beneath the Site is comprised of silt and sand to approximately 20 ft bgs; interbedded elastic silt, clay, and sand from roughly 20 to 45 ft bgs; and clay from approximately 45 to 100 ft bgs (Weston, 2001b, 2002; HGC, 2004b, 2005b, 2008a, 2006, 2007b, 2014; Four Corners Environmental, 2007). The lithology beyond that depth, encountered in the borings of monitoring wells CC-1 and CC-2, is generally comprised of silts and clays to 187 ft bgs, then sands with interbedded clays from 187 to 203 ft bgs, followed by silts and clays from 203 to 297 ft bgs (with some interbedded sand layers from 215 to 227 ft bgs), and primarily sands and gravels from 297 to at least 302 ft bgs, the maximum depth drilled (Weston, 2001b). Overall, lithology on the Site is dominated by finer-grained materials of varying plasticity depending on moisture content.

The soil samples collected during the ERA activities were analyzed for their physical properties, with the results as follows: Dry densities ranged from 1.39 to 1.74 grams per cubic centimeter (g/cm^3) at 51 ft bgs; moisture content varied from 14.4 percent to 26.6 percent; total organic content (TOC) was measured between 0.6 percent and 1.3 percent; and total porosity ranged from 0.34 to 0.48, assuming a grain density of 2.65 g/cm^3 (HGC, 2005a).

2.4 Geologic Setting

2.4.1 Regional Geologic Setting

Basement rock in the Phoenix area consists of Proterozoic metavolcanic and metasedimentary rocks, and Proterozoic foliated to gneissic plutonic rock. Greenstone and metarhyolite dominate the metavolcanic rocks, and outcrop in the Phoenix Mountains and Papago Park. Near the Phoenix Mountains, metasedimentary rocks that include slate, schist, phyllite, and quartzite are also exposed. Several distinct granitic plutons also intrude the metamorphic rocks, including the Camelback Granite and Tovrea Granite, which are exposed at Camelback Mountain and near Papago Park (Reynolds and Bartlett, 2002).

Paleozoic and Mesozoic sedimentary rocks were deposited atop the Proterozoic crystalline rock, but completely eroded away due to uplifting during the Mesozoic to early Tertiary. As a result, Middle Tertiary sedimentary and then volcanic rocks were unconformably deposited atop the Proterozoic rock. Middle Tertiary sedimentary rocks occur at Camelback Mountain and Papago

Park, while the volcanic rocks occur in the northwestern portions of the Phoenix Mountains. In the eastern portion of the Phoenix basin area, these Middle Tertiary rocks consist mainly of three distinct units: the Camels Head Formation, the Tempe Formation, and Tertiary volcanic rocks (Reynolds and Bartlett, 2002).

The Camels Head Formation is comprised primarily of coarse sedimentary breccia and conglomerate, with interbedded sandstone conglomerates. The overlying Tempe formation consists mainly of fine-grained siltstone and sandstone. This formation is overlain by mafic to intermediate volcanic rocks. Concomitant with deposition of Middle Tertiary rocks, crustal extension divided the regional landscape into a collection of tilted fault blocks bordered by northwest-trending normal faults that dip 25 to 50 degrees to the northeast. Sedimentary basins formed between the fault blocks, and Middle Tertiary rocks were deposited in these basins as faulting continued (Reynolds and Bartlett, 2002).

Circa fifteen to five million years ago, the uplifted fault blocks and units in-between were eroded into a low-relief pediment sloping from northeast to southwest. Overlying this pediment surface are Quaternary deposits of alluvium from the surrounding mountains. Near the Site, these basin-fill deposits are composed of three primary hydrogeologic units: the Lower, Middle, and Upper Alluvial units, dominated by conglomerate and gravel, silt and clay, and gravel and sand, respectively (Corkhill et al., 1993). Holocene to Recent alluvial deposits overly these units along the Salt River and its major tributaries. These alluvial deposits consist of coarse gravel, cobbles, and boulder clasts in a sandy matrix. The total depth of alluvial deposits in the Phoenix basin varies from less than 500 feet near the basin margins to in excess of 10,000 feet in the center of the Basin (Brown and Pool, 1989).

2.4.2 Site Geology

The total depth to the Proterozoic crystalline bedrock in the vicinity of the Site is unknown, but is estimated to be at least 1,500 feet based on information provided from Brown and Pool (1989). Sediments observed at the Site during activities conducted for the ERA and RI are primarily quaternary alluvial floodplain deposits from tributary channels of the Salt River and deposits originating from weathering of the Phoenix Mountains (WTI, 1999).

2.5 Surface Water Hydrology

The Salt River is the primary natural surface water body in the vicinity of the Site, located approximately six miles south of the Site. The COP storm sewer system is the primary regulator of surface water runoff flow in the vicinity of the Site. Several ephemeral washes and streams also drain the area, acting as tributaries to the Salt River. Artificial surface water features are

present in the area, including the Grand Canal (approximately 0.3 miles south of the Site) and the Arizona Canal (approximately 2.5 miles northeast of the Site). When canals are unlined, these features act as sources of groundwater recharge.

Surface water for residential irrigation near the Site is provided by SRP via the Medlock Homeowners Association canal system (Salvatierra, 2013). This system is served by SRP Lateral 1 11.4 27, which discharges to the Grand Canal, a Phoenix area canal. Discharge from the Site groundwater remediation and treatment system (discussed in Section 4) also empties into the SRP Lateral. SRP Lateral 1 11.4 27 is completely covered from at least Missouri Avenue (northern boundary of the Site) south to the Grand Canal, and does not provide surface water to facilities within the boundaries of the Site (Salt River Valley Water Users' Association, 2013).

The Grand Canal was originally constructed in 1878 by the Grand Canal Company as an unlined dirt-bottomed canal. By 2004, the section of the canal in the vicinity of the Site was fully lined (WTI, 1999).

2.6 Hydrogeologic Setting

2.6.1 Regional Hydrogeology

The Site is located in the West Salt River Valley (WSRV) sub-basin of the Phoenix Basin, which is a broad, relatively level, alluvial valley within the Basin and Range Physiographic Province in central Arizona. The valley is filled with layers of unconsolidated sand, gravel, silt, and clay, commonly referred to as basin-fill, that have been derived from the erosion of surrounding bedrock uplands (Brown and Pool, 1989).

The most commonly used subsurface hydrostratigraphic nomenclature for the Phoenix Basin is that proposed by the ADWR. The ADWR has defined three hydrogeologic units, generally defined by differences in grain size that occur throughout most of the Phoenix Basin: the Upper Alluvial Unit (UAU), the Middle Alluvial Unit (MAU), and the Lower Alluvial Unit (LAU). (Corkhill et al., 1993).

2.6.2 Site Hydrostratigraphy

The aquifer underlying the Site is located in the UAU, and is comprised primarily of silt and sand, with variable amounts of gravel and clay in thinner lenses. Typically, the UAU is considered an unconfined aquifer (Corkhill et al., 1993). At the Site, a review of boring logs completed for monitoring well installations indicates that semi-confined conditions have been

defined in the upper 200 feet of the UAU, due to the presence of clay layers (boring logs are included in Appendix A).

Numerous groundwater monitoring wells have been installed within the area of study by ADEQ as part of the ERA and RI, and by others for various purposes. Most of the wells were completed in the upper portion of the unconfined UAU aquifer, with total depths ranging from 100-120 feet bgs with well screens designed to straddle the water table. However, two monitoring wells were also installed in the SCSA at depths near the middle (200 feet bgs) and lower (302 feet bgs) portions of the UAU, to vertically delineate the contaminant plume.

Shallow groundwater beneath the Site and surrounding vicinity has historically flowed northward with a shallow gradient under non-pumping conditions. The hydraulic gradient in the upper portion of the aquifer appeared to have been influenced by recharge and groundwater mounding caused by leakage from the Grand Canal prior to lining. According to SRP, the canal was lined with concrete from 7th Avenue to Central Avenue by 1995 and from Central Avenue to 7th Street by 2004. The northward gradient was also likely affected by pumping from SRP Well 13.5E-9.4N, located in the northern portion of the Site (Figure 4). Once the canal was lined and SRP no longer regularly pumped the irrigation well, the groundwater flow direction appeared to be in flux.

Concomitant with the lining of the canal and SRP's discontinuing regular pumping from its irrigation well, the dewatering system associated with the OEC office complex was installed and began operation in 1993 (to dewater the basement level of the underground parking garage). Later, due to increasing groundwater levels, the OEC property installed a dewatering system in 2002 that pumped at a higher rate. Subsequently, in 2001, extraction wells were installed at the SCSA and began operation in 2003 as part of the ERA to capture and treat impacted groundwater, and prevent impacted groundwater from moving onto the OEC property. The inclusion of the dewatering wells from the OEC property and the extraction wells at the SCSA has created a cone of depression across the southern portion of the Site, further altering the groundwater flow direction over time. The groundwater in the southern portion of the area of study now flows south-southeast, primarily toward the extraction wells.

Currently, depth to groundwater at the Site is approximately 65 ft bgs, corresponding to groundwater elevations of approximately 1,065 ft amsl. Historic water levels in the vicinity of the SCSA in the early 90's were shallower, at roughly 40 ft bgs, likely due to the groundwater mounding associated with the unlined Grand Canal and the absence of the dewatering and extraction wells (WTI, 1999).

2.6.3 Pumping Wells in the Vicinity of the Site

The Site lies within the Phoenix Active Management Area (AMA) (ADWR, 2013). The Phoenix AMA was created by the Arizona Groundwater Management Code, passed in 1980, and covers approximately 5,646 square miles in central Arizona. All groundwater withdrawn from any AMA must occur under a groundwater right or permit, unless groundwater is being withdrawn from an exempt well, i.e. a well with a maximum pump capacity of 35 gallons per minute (gpm). Exempt wells may be used to withdraw groundwater for non-irrigation purposes and are generally used for domestic purposes. All exempt wells must be registered with the ADWR. Non-exempt wells have a pump capacity greater than 35 gpm and are associated with one of the following types of rights or permits: grandfathered rights, service area rights, and withdrawal permits. Generally, monitoring wells are not considered pumping wells, although every monitoring well must also be registered with the ADWR.

According to ADWR records, the only pumping wells within one half mile of the Site are the SRP irrigation well, the dewatering wells associated with the OEC property, the extraction wells associated with the pump-and-treat system on the SCSA, and one private drinking water supply well located approximately 1,600 feet south of the SCSA at the Brophy Preparatory High School (Brophy) (ADWR, 2013). At the request of the ADEQ, the Brophy well was added to the monitoring and sampling network in 2007. However, no water level measurements are available for the Brophy well, since it is continually operated which prevents accurate measurement of depth to water (HGC, 2007b). This well location is depicted on Figure 4.

3. REMEDIAL INVESTIGATION ACTIVITIES

Investigative activities conducted for the Site since 1997 have included soil and soil vapor (i.e. soil-gas) sampling, groundwater monitoring well installations, groundwater elevation measurements, groundwater sampling, Hydropunch® and SimulProbe® sampling, aquifer testing, particle tracking and groundwater modeling. As required under A.R.S. §49-287.03(E), data have been collected to characterize the Site for the purpose of developing and evaluating effective remedial alternatives. The data collected during the field investigations were used to develop a better understanding of the Site hydrogeology (Section 2), nature and extent of contamination (Section 3), design and operation of ERAs (Section 4), contaminant fate and transport (Section 6), and risk evaluation (Section 7). The field investigations were conducted in accordance with the procedures and field methodologies outlined in the appropriate pre-approved field sampling plans (FSPs) and quality assurance project plans (QAPPs) for the project.

As part of the RI field investigation, 19 monitoring wells have been installed since 2001 (CC-1 through CC-19) and 14 additional monitoring wells have been included in the monitoring well network, six from the City of Phoenix light rail investigation (MW-101 through MW-107; not including MW-104) and eight from the former Texaco property (Tex MW-1 through Tex MW-8). Before drilling began at each location, access agreements were obtained from property owners (where appropriate) or permits were acquired from the COP for those locations in the COP Right-of-Way. Drilling permits were also acquired from ADWR for the well installations.

In general, the locations and depths of the wells were selected to evaluate the horizontal extent (and vertical extent where appropriate) of groundwater contamination. The well locations in the current monitoring well network are depicted on Figure 4 and the monitoring well construction details are summarized in Table 1. Boring logs are included in Appendix A and selected well construction diagrams are included in Appendix B.

The following sections discuss the activities associated with the field investigations conducted chronologically for the Site.

3.1 Initial Investigation – Maroney's

Environmental Research Associates conducted an investigation of the Maroney's facility in August and September 1997 as part of a due diligence transaction (GEC-SA&B, 2005). The investigation consisted of collecting 12 soil vapor samples at approximately 6 to 7 ft bgs, and advancing five soil borings to 30 ft bgs to collect soil samples. The locations of the soil vapor points and subsequent soil borings are depicted on Figure 8.

Elevated PCE concentrations were reported from most of the soil vapor samples. The soil vapor results were used to select the locations for five soil borings, from which soil samples were collected at 5, 10, 15, 20 and 30 ft bgs for VOC analysis. PCE was reported at concentrations ranging from 6.6 micrograms per kilogram (µg/kg) at 30 ft bgs in boring SB-2 to 810 µg/kg at 30 ft bgs in boring SB-1 (located in the west-central portion of the property). The highest PCE concentrations were found in the samples collected from the 30-foot depths in all soil borings except SB-2. No other CVOCs were detected. Groundwater samples were not collected as part of this investigation and groundwater was not encountered (WTI, 1999).

Although none of the reported PCE concentrations in the samples collected exceeded regulatory standards, the investigation conducted by Environmental Research Associates was the first indication that the CVOC impacts to the subsurface groundwater across the Site, later observed in groundwater at the LUST sites adjacent to the SCSA, were likely to have originated from the former dry cleaning operations conducted on the property (Weston, 2001a).

3.2 ADEQ Investigations

Based upon the 1997 investigation conducted by Environmental Research Associates, including the documented presence of PCE and other CVOCs found in groundwater samples from monitoring wells associated with the petroleum-based LUST investigations in the vicinity of the SCSA and the presence of PCE in discharge water from the existing sump pump system at the OEC property, ADEQ placed the Site on the WQARF Registry in January 1999 (WTI, 1999) and an ERA was initiated. Weston conducted the investigation and remediation work at the SCSA from 1999 to 2004.

At approximately the same time the Site was placed on the WQARF Registry, the OEC property planned to install a dewatering system composed of 10 groundwater extraction wells to keep the basement parking garage dry, due to increasing groundwater levels. OEC generated a groundwater model to predict groundwater movement and required pump rates. The model predicted that the dewatering system would need to be pumped at approximately 250 gpm (a pump rate three times higher than the existing dewatering system), with increases in pumping up to 400 gpm through 2014. The model also predicted that this significant increase in pumping would draw PCE-contaminated groundwater toward the garage from the still uncharacterized SCSA and into the dewatering system unless a corrective action was implemented at the SCSA (Weston, 2000).

ADEQ conducted groundwater modeling to confirm these findings and to evaluate options to hydraulically control the PCE in groundwater. A groundwater pump-and-treat system was selected as the method to provide containment. As part of the ERA, Weston began to design and

implement a remedial system, including the installation of monitoring wells and extraction wells, geophysical logging, and aquifer testing (Weston, 2000). The groundwater pump-and-treat system began operation in 2003 (Weston, 2003c).

ADEQ initiated the ERA with the central purpose of acquiring and maintaining hydraulic control of the PCE-impacted groundwater associated with releases in the SCSA, while simultaneously reducing contaminant concentrations in the groundwater and underlying soil. The ERA was also initiated to characterize soil and groundwater impacted by the CVOCs associated with the Site. A discussion of the installation and operation of the remediation systems associated with the ERA is included in Section 4.

3.2.1 Monitor Well Installation

As part of the data collection activities for design of the groundwater pump-and-treat system, Weston began field investigation activities in early 2001 with the installation of four monitoring wells, CC-1, CC-2, CC-3 near the north end of the Maroney's structure, and CC-4 near the northeast corner of the Maroney's structure (Figure 4). Wells CC-1, CC-2, and CC-3 were constructed and designed to evaluate the vertical extent of CVOC impact and to measure piezometric head differences at various depths in the aquifer (Weston, 2001b). The total depth of monitoring well CC-1 is 302 ft bgs, CC-2 at 202 ft bgs, and CC-3 at 112 ft bgs. Geophysical logging and aquifer testing was conducted in these wells (Weston, 2001b).

In late 2001, five extraction wells were installed (EW-1, EW-2, EW-3, EW-4, and CC-5) as part of the pump-and-treat system (discussed further in Section 4). CC-5 was used for groundwater monitoring purposes until March 2013, when it was converted for extraction purposes (Weston, 2002). Extraction well construction diagrams are included in Appendix B.

In June 2004, after the groundwater pump-and-treat system began operating, HGC installed monitoring well CC-6 in the SCSA to further evaluate the central plume and monitor the change in contaminant concentrations associated with the pump-and-treat system. Soil samples were collected at CC-6 as part the soil investigation associated with Maroney's facility (HGC, 2004b).

In August 2005, based on indications that the contaminant plume had previously migrated northward from the SCSA and the fact that groundwater monitoring wells associated with the adjacent LUST investigations had become dry (discussed in Section 3.2.2.5), HGC installed monitoring wells CC-7, CC-8, and CC-9. CC-7 and CC-8 were installed due north of the SCSA (and north of Camelback Road), while CC-9 was installed to the northwest of the SCSA to delineate the western edge of the contaminant plume. CC-7 and CC-8 also allowed assessment of the extent of the cone of depression created by the extraction wells (HGC, 2005b).

In January 2006, as part of site characterization activities being conducted by GEC-SA&B (on behalf of the COP) for the planned light rail stop (discussed in Section 3.2.3.2), monitoring wells MW-101, MW-102, MW-103, MW-104, MW-105, MW-106, and MW-107 were installed on and around the SCSA. These wells were later incorporated into the monitoring well network for the Site (HGC, 2008a). MW-104 was properly abandoned in 2007 after being damaged.

In June 2006, monitoring wells CC-10 and CC-11 were installed by HGC in response to elevated PCE concentrations in groundwater samples collected from monitoring wells associated with the former Texaco property and to further delineate the primary contaminant plume originating from the SCSA (HGC, 2006).

In early 2007, HGC installed monitoring wells CC-12 and CC-13 on Pierson Street to evaluate the groundwater conditions upgradient of the SCSA and CC-14 within the SCSA in a location where contaminant data in groundwater were lacking. The solute plume had been sufficiently delineated in the vicinity of the SCSA by this time. However, the northern and eastern boundaries of the solute plume were still not adequately delineated (HGC, 2007b).

In May 2008, monitoring wells CC-16 and CC-18 were installed by HGC. CC-16 was installed in an effort to further delineate the northern boundaries of the plume, as well as to generate additional data associated with CVOC constituents identified above AWQS in samples collected from monitoring wells at the former Texaco Service Station facility and SRP Well 13.5E-9.4N (Figure 4). CC-18 was installed to evaluate the plume boundary in the southeast portion of the Site, where contaminants were within the zone of capture of the dewatering and extraction wells and the groundwater flow direction by this time was to the south-southeast (HGC, 2008a).

In June 2013, HGC installed monitoring wells CC-15 and CC-17. Due to a change in groundwater flow direction over time from a northerly direction to an east-southeast direction, CC-15 was installed to delineate the northeastern portion of the plume and to gain additional downgradient information related to the CVOC-impacted groundwater previously identified at the former Texaco facility, especially from southeastern-most monitoring well Tex-MW-2 (Figure 4). CC-17 was installed to delineate the east-central portion of the plume (HGC, 2014).

In December 2013, based upon elevated CVOC groundwater sample results from CC-17, HGC installed monitoring well CC-19 to further evaluate the east-central boundary of the plume (HGC, 2014).

3.2.2 Groundwater Monitoring Activities

Prior to startup of the OEC dewatering system in 2002 and groundwater extraction from the SCSA in 2003, the monitoring well network was primarily comprised of wells associated with the adjacent LUST investigations at the former Unocal, Weiss Guys, Exxon (OEC), and Texaco properties (Figures 6 and 7). Wells were generally constructed to depths of 50 to 60 ft bgs (Table 1), since groundwater levels at this time were approximately 40 to 45 ft bgs. Once groundwater extraction and dewatering activities commenced, groundwater levels in monitoring wells located within the cone of depression dropped significantly, including wells associated with the Unocal, Weiss Guys, and OEC properties. The Texaco wells were outside of the cone of depression, but the groundwater levels in those wells were also affected by the additional pumping. The monitoring wells associated with these LUST investigations were all listed as 'dry' by July 2004, as documented on the hydrographs presented in Appendix C, and were later properly abandoned (HGC, 2004b). The loss of this initial monitoring well network necessitated the installation of additional monitoring wells (as documented in Section 3.2.1), which began with CC-6 in June 2004 (HGC, 2004b). HGC began groundwater monitoring activities in 2004, incorporating newly installed wells into the network over time. Water level measurement data were also provided to HGC from April to June 2013 from selected wells at the OEC property (OW-W1, OW-W3, and OW-N1), to evaluate groundwater conditions at the OEC property.

Monthly water level measurements and quarterly groundwater sampling activities have generally continued to the present. A summary of the historical depth to water measurements and subsequent groundwater elevations are provided in Table 2. Figure 9 depicts a profile view of the water level measurements collected from selected SCSA wells in February 2014. Figure 10 presents the locations of the wells.

3.2.2.1 Groundwater Elevations

Historical groundwater elevation data for wells in the monitoring well network from 2000 to 2014 are summarized in Table 2 and hydrographs are included in Appendix C. The hydrographs for the initial monitoring well network (pre-2004) generally depicted a decreasing trend in groundwater elevations, which accelerated upon initiation of pumping associated with the cone of depression generated from the OEC dewatering wells. This was further accelerated upon initiation of additional pumping of the OEC dewatering wells combined with the SCSA extraction wells that generated a larger and deeper cone of depression. The hydrographs ultimately indicate that the groundwater levels from all of the monitoring wells gauged as part of the initial well network dropped approximately 15 feet prior to going dry in 2004 (HGC, 2004b).

The hydrographs for the existing monitoring well network indicate a similar drop in groundwater elevations across the Site through 2004, including wells in the SCSA and the former Texaco Service Station property. From 2004 to the present, the groundwater levels across the Site generally have been relatively consistent with a slight average upward trend over time of approximately five feet, with the exception of CC-5 which was equipped with a pump and converted to an extraction well as of March 27, 2013 after use of EW-1 was discontinued (HGC, 2013). Once groundwater extraction in CC-5 began, there was an approximate 20 foot drop in the groundwater levels, followed by relatively stabilized groundwater levels thereafter. Generally, the groundwater elevations are typically lowest during July through August, and show recovery during the late fall and winter months. Fluctuations were also noted when some of the extraction wells were offline for short periods of time for various purposes; these are illustrated in approximate five-foot rebounds in water levels followed by similar five-foot drops in levels shortly after pumping re-started.

As previously described, monitoring wells CC-1, CC-2, and CC-3 are screened at different depths in the aquifer at roughly the same location (Figure 4), to evaluate variation of piezometric heads at various depths within the aquifer. As indicated from the groundwater elevations from these monitoring wells over time (Table 1), as well as from the associated hydrograph, the average piezometric head for CC-1 has been consistently lower by approximately 20 feet compared to the shallower aquifer depicted from CC-2 and CC-3, indicating a strong downward gradient. These ratios have remained relatively consistent over the life of the investigation.

3.2.2.2 Flow and Gradient

Regional groundwater flow in the West Salt River Valley has been greatly influenced by groundwater pumping. Water level elevation contour maps developed using historical data from 1913, prior to significant groundwater pumping, show a west to southwest flow direction, and indicate an average hydraulic gradient of approximately 0.002 foot/foot (ft/ft) (USBR, 1977). Transient groundwater elevations and flow directions have occurred historically due to recharge and groundwater mounding from the unlined Grand Canal near the south side of the Site, and from historic pumping from SRP Well 13.5E-09.4N in the northern end of the Site. These factors effectively altered the groundwater flow direction and gradient away from the expected west-southwest flow direction and toward a northerly direction across the Site. The groundwater flow direction and gradient were further complicated by operation of the original groundwater dewatering system at the OEC parking garage, which caused a localized cone of depression in the vicinity of the OEC property (WTI, 1999). Furthermore, the underground parking garage itself has also caused groundwater flow interference with the water table.

As depicted on Figures 11 and 12 from January 2001 and June 2001, respectively, the groundwater flow direction for the Site was calculated to still be northerly, with slight variations to the northeast and northwest and hydraulic gradient was on average 0.0007 ft/ft. However, the groundwater contours were indeterminate in the southern portion of the Site due to interferences from the OEC parking garage and associated pump system, as well as ongoing remediation associated with the adjacent LUST sites (Unocal and Weiss Guys). Data gaps also existed in the central portion of the Site due to a lack of monitoring well locations for data collection (Weston, 2001b, 2002, 2003).

This groundwater regime was relatively stable until the new OEC groundwater dewatering system was initiated in 2002, causing the cone of depression to expand and groundwater levels in the wells near the OEC property to drop, as depicted on the hydrographs (Appendix C). This change, combined with the flat hydraulic gradient, began to alter the groundwater flow in the southern portion of the Site toward the dewatering well network and necessitated the groundwater pump-and-treat extraction system at the SCSA. Once the SCSA pump-and-treat system began operation in 2003, the combined cone of depression significantly expanded, leading to the dewatering of the monitoring well network in the SCSA vicinity by 2004.

With the combined pumping, the groundwater flow direction and gradient began to alter across the entire Site. As depicted on Figure 13, the current groundwater flow direction is to the south-southeast closest to the extraction wells with the cone of depression depicted as a groundwater trough. With distance to the north, the groundwater flow direction transitions to an east-southeast flow direction. Appendix E provides selected groundwater elevation maps from 2006 to the present, which display the transition to the current groundwater flow direction for the Site.

3.2.2.3 Groundwater Quality

A summary of the historical analytical results collected from the monitoring well network are presented in Table 3, dating back to 2002. Note that the original monitoring well network, prior to initiation of pumping from the extraction wells and subsequent dewatering of those monitoring wells, was primarily used for groundwater gauging purposes and groundwater samples generally were not collected from those wells (Weston, 2001b, 2002).

Of the 33 monitoring wells currently in the network, groundwater samples collected from 18 wells have included laboratory reported COC concentrations at least once, and COC concentrations in groundwater samples collected from 11 of the 18 wells have exceeded a respective AWQS at least once. Furthermore, samples collected from 18 of the 33 wells have had detections of petroleum hydrocarbon that most likely originated from one of the known former fueling operations located within the boundaries of the Site. Of those, concentrations in samples

collected from 10 wells exceeded an AWQS at least once (four wells on the former Texaco property, and six wells elsewhere across the Site), primarily for benzene and 1,2-DCA, and to a lesser extent ethylbenzene and toluene on the Texaco property. Note that samples collected from monitoring well MW-104 all included reported PCE concentrations. However, since that monitoring well was abandoned in 2007, it is not included in this discussion (HGC, 2008a).

In approximately 2008, contaminant concentrations dropped to below reporting limits in the monitoring wells west of Central Avenue, while contaminant concentrations in wells east of Central Avenue (such as well C-11) appeared to increase at approximately the same time, ultimately to above AWQS. With the addition of data with concentrations above AWQS from monitoring wells Tex-MW-2 and Tex-MW-5, it became apparent that two separate contaminant masses existed (the other at the SCSA). Figure 14 depicts the estimated location of the PCE plumes in 2008. Samples collected from monitoring well CC-17 (installed in 2013) were also above AWQS for the COCs, which provided additional information regarding the northern plume. Figure 15 depicts the current estimated location of this plume. Selected historic plume maps are included as Appendix F.

With regard to the monitoring wells located on the former Texaco property, the CVOC concentrations have steadily decreased over time. Since 2008, only samples from monitoring wells Tex-MW-2 and Tex-MW-5 exhibited CVOC concentrations above reporting limits; however, sample results have been consistently above AWQS in both wells. By 2009, the CVOC concentrations from Tex-MW-5 dropped below the AWQS for both TCE and PCE. The concentrations then dropped below the laboratory reporting limits by 2012. For Tex-MW-2, both the TCE and PCE concentrations began a steady decline in early 2011 and concentrations for both have dropped below the AWQS as of June 2013. The latest sample results from January 2014 from monitoring well Tex-MW-2 are 2.6 µg/L for TCE and 1.9 µg/L for PCE. Based on the decreased CVOC concentrations in these wells, the elevated CVOC concentrations observed in monitoring well CC-11 and CC-17, and the later increase in TCE concentrations in monitoring well CC-18 above the AWQS (as of 2011), the previously mentioned central contaminant mass may be migrating south-southeast from its former location.

A review of the historic data also indicates the presence of benzene and 1,2-DCA concentrations above their AWQS associated with releases from the aforementioned former fueling operations. Benzene above its AWQS was initially found in samples from wells CC-5, CC-14, and CC-18. Currently, benzene at concentrations slightly above the AWQS are detected in samples collected from well CC-18. 1,2-DCA at concentrations above the AWQS have been identified in samples from wells CC-5, CC-11, CC-15, CC-17, and CC-18; currently, detections of 1,2-DCA at concentrations above the AWQS are only in samples collected from wells CC-17 and CC-18.

Wells CC-11, CC-17, and CC-18 are aligned from north to south, with CC-11 being upgradient of CC-17, and CC-18 downgradient of both (Figure 4). 1,2-DCA concentrations in CC-11 dropped below AWQS in 2012. CC-17, which was installed in 2013, currently contains 1,2-DCA at 31 µg/L (as of January 2014). Groundwater at downgradient well CC-18 initially contained 1,2-DCA at 5.3 µg/L in 2008, with concentrations increasing up to 37 µg/L by 2011 (currently at 24 µg/L as of January 2014). The decrease in 1,2-DCA concentrations in CC-11, combined with the later increase in CC-18, may be another indicator of groundwater movement to the south-southeast.

The latest full round of groundwater sampling from the monitoring well network occurred in October 2013. Selected wells were also sampled again in January 2014. The following sections discuss the current status of the CVOCs in groundwater at the Site. The complete test results for the October 2013 sampling event are summarized in Table 4A, and the complete test results for the January 2014 sampling event are summarized in Table 4B.

In general, the analytical test results are consistent with the historic analytical data presented in Table 3 and discussed above. The results continue to indicate the presence of reported concentrations of the three primary CVOCs (PCE, TCE, and cis-1,2-DCE) in groundwater at the Site. At least one of the CVOCs was detected above laboratory reporting limits in seven groundwater monitoring wells, in all four extraction wells, and in two of the three Texaco wells that were sampled during the January 2014 sampling event. Of the wells with reported CVOCs, samples from monitoring wells CC-5, CC-11, CC-17, and CC-18 continue to exhibit PCE and/or TCE concentrations at levels above their respective AWQS. Other various VOCs were also detected above laboratory reporting limits and are discussed in the following sections.

3.2.2.4 Contaminants of Concern

The table below summarizes the concentrations of PCE, TCE, and cis,1-2-DCE in samples collected from each monitoring well in the network, as well as the four extraction wells. The sample date depicts the latest analytical results available for that well.

WELL	CVOC CONCENTRATIONS			
	SAMPLE DATE	PCE (µg/L)	TCE (µg/L)	CIS,1-2-DCE (µg/L)
CC-1	10/12/13	<0.50	**0.54**	<0.50
CC-2	10/15/13	<0.50	<0.50	<0.50
CC-3	10/15/13	<0.50	<0.50	<0.50
CC-4	10/14/13	<0.50	**1.2**	<0.50
CC-5	10/12/13	**29**	**3.3**	**0.82**
CC-6	10/14/13	<0.50	<0.50	<0.50

WELL	CVOC CONCENTRATIONS			
	SAMPLE DATE	PCE (µg/L)	TCE (µg/L)	CIS,1-2-DCE (µg/L)
CC-7	10/13/13	<0.50	<0.50	<0.50
CC-8	10/13/13	<0.50	<0.50	<0.50
CC-9	10/14/13	<0.50	<0.50	<0.50
CC-10	10/13/13	<0.50	<0.50	<0.50
CC-11	10/16/13	**11**	**17**	<0.50
CC-12	10/14/13	<0.50	<0.50	<0.50
CC-13	10/13/13	<0.50	<0.50	<0.50
CC-14	10/15/13	<0.50	<0.50	<0.50
CC-15	1/23/14	<0.50	<0.50	<0.50
CC-16	10/13/13	<0.50	<0.50	<0.50
CC-17	1/22/14	**130**	**51**	**5.5**
CC-18	1/21/14	<0.50	**12**	<0.50
CC-19	1/22/14	<0.50	<0.50	<0.50
MW-101	1/22/14	<0.50	<0.50	<0.50
MW-102	1/22/14	<0.50	<0.50	<0.50
MW-103	1/22/14	<0.50	<0.50	<0.50
MW-105	1/22/14	<0.50	<0.50	<0.50
MW-106	1/22/14	<0.50	<0.50	<0.50
MW-107	1/22/14	<0.50	<0.50	<0.50
EW-1	10/12/13	**1.6**	<0.50	<0.50
EW-2	10/12/13	**1.1**	<0.50	<0.50
EW-3	10/16/13	**1.1**	<0.50	<0.50
EW-4	10/15/13	**1.6**	<0.50	<0.50
Tex-MW-1	1/20/14	<0.50	<0.50	<0.50
Tex-MW-2	1/21/14	**1.9**	**2.6**	<0.50
Tex-MW-3	6/11/13	<0.50	<0.50	<0.50
Tex-MW-4	6/11/13	<0.50	<0.50	<0.50
Tex-MW-5	1/20/14	<0.50	<0.50	<0.50
Tex-MW-6	6/11/13	<0.50	<0.50	<0.50
Tex-MW-7	6/10/13	<0.50	<0.50	<0.50
Tex-MW-8	6/10/13	<0.50	<0.50	<0.50
ADEQ AWQS		**5**	**5**	**70**

As shown in the table above, PCE was detected in three wells (CC-5, CC-11, CC-17) and TCE was detected in three wells (CC-5, CC-11, CC-18), exceeding their respective AWQS. No reported cis-1,2-DCE concentrations collected from this monitoring well network exceeded the AWQS of 70 µg/L.

Generally, contaminant concentrations have dropped significantly since the groundwater pump-and-treat system began operation in 2003. PCE and TCE concentration time series graphs are presented in Figure 16 for samples collected from monitoring wells CC-5, CC-11 and CC-18. Concentrations in well CC-11 appear to have leveled off, while TCE concentrations in CC-18 may be increasing over time. Generally, the TCE concentrations have paralleled their PCE concentrations. As shown in Figure 17, PCE concentrations have generally decreased in all of the wells except for monitoring well CC-17, which was installed less than one year ago. Furthermore, the PCE and TCE concentrations that have been observed in Tex-MW-2 have been below AWQS for both PCE and TCE for one year.

3.2.2.4.1 Other VOCs

As previously mentioned, 1,2-DCA concentrations above AWQS have been reported in wells across the network, and the latest analytical data indicate that this contaminant is still present above AWQS in samples collected from CC-17 and CC-18. 1,2-DCA is a common gasoline additive and is not a degradation product of PCE or TCE.

Chloroform and other trihalomethanes have been detected at low concentrations in samples collected from various wells over time; however, there have not been detections above the AWQS of 80 µg/L for total trihalomethanes. In addition to the previously discussed benzene concentrations, a number of other aromatic compounds generally associated with gasoline fuels have been detected in various samples. These contaminants have been remediated and the LUST sites closed, with the exception of the former Texaco property which is still open. Trichlorofluoromethane has also been detected in several samples over time. There is no established AWQS for trichlorofluoromethane.

3.2.2.4.2 Water Supply Wells

The water supply well located at the Brophy Preparatory High School was included in the sampling efforts for the October 2013 round of groundwater sampling, and has been regularly sampled since 2007. To date, no VOCs have been detected above laboratory reporting limits except for minor chloroform concentrations and one minor bromoform concentration detected in April 2013.

While SRP Well 13.5E-9.4N is not regularly pumped, SRP still collects water quality samples for the presence of VOCs (typically during pumping periods). A review of data provided by SRP indicates that the last sample was collected on June 14, 2012, and had a PCE concentration of 6.8 µg/L. Furthermore, samples collected between 1989 and 2012 contained PCE concentrations

ranging from 6.8 to 25 µg/L. The concentrations decreased slightly over time. A copy of the data provided by SRP is included in Appendix D.

3.2.2.4.3 Extraction Wells

The ADEQ has obtained a Permit to Withdraw Poor Quality Groundwater (Permits No. 59-588107.0000 and 59-588107.0001) for the operation of the extraction wells installed as part of the groundwater remedial system for the Site (described in Section 4). Monitoring requirements for this permit include obtaining groundwater samples on a quarterly basis for the analysis of PCE.

The table below presents the analytical results for the CVOCs from each of the extraction wells, from the first sample collection prior to initiation of pumping in 2001, and from the latest sample results from October 2013.

WELL	CVOC CONCENTRATIONS			
	SAMPLE DATE	PCE (µg/L)	TCE (µg/L)	CIS,1-2-DCE (µg/L)
EW-1	12/5/01	**2400**	**36**	**42**
	10/12/13	**1.6**	<0.50	<0.50
EW-2	12/6/01	**3700**	**35**	**28**
	10/12/13	**1.1**	<0.50	<0.50
EW-3	12/7/01	**630**	**8.3**	**4.9**
	10/16/13	**1.1**	<0.50	<0.50
EW-4	10/17/01	**93**	**1.5**	**<0.50**
	10/15/13	**1.6**	<0.50	<0.50
CC-5	10/16/01	**3800**	**56**	**39**
	10/12/13	**29**	**3.3**	**0.82**
ADEQ AWQS		**5**	**5**	**70**

As the table indicates, the CVOC concentrations have significantly decreased over time, with CVOC detections above AWQS only in CC-5 as of October 2013. CC-5 and EW-2 are currently being pumped.

3.2.3 Soil and Soil Vapor

Exploratory soil borings and soil sample collection, soil vapor sampling, and passive soil gas surveys were conducted at the SCSA and elsewhere across other portions of the Site. The

following sections chronologically describe the activities associated with the completion of soil borings and the subsequent collection of soil and soil vapor samples, and conducting the passive soil gas surveys. Note that soil and soil vapor sampling activities conducted at the Maroney's facility in 1997, prior to the date the Site was placed on the WQARF registry, are discussed in Section 3.1 of this report.

3.2.3.1 HGC – SVE Well Installation and Soil Vapor Sampling

In February 2005, HGC began work on the investigation and remediation of the soils impacted with PCE in the vicinity of the Maroney's facility. A discussion regarding the installation and subsequent operation of the SVE remediation system is included in Section 4. As shown on Figure 18, two SVE wells at depths of approximately 50 ft bgs were located west of the former dry cleaner building (SVE 1 and SVE/MP1). Two vapor monitoring wells (SVE/MP2 and MLP2) were located south of SVE/MP1 and east of SVE/MP2, respectively (HGC, 2012b). As part of the installation of the wells, soil vapor samples were collected at varying depths using a SimulProbe® tool in SVE-1, MLP1, SVE-MP1 and SVE-MP2, and were analyzed for the presence of the CVOCs by EPA Method TO-14. SVE well construction diagrams are included in Appendix B.

The results of the soil vapor sampling indicated the presence of elevated COCs. Specifically, PCE was detected in all samples, at concentrations ranging from 300 milligrams per cubic meter (mg/m^3) in a shallow sample from SVE-MP2 to 6,500 mg/m^3 in SVE-1. TCE concentrations above reporting limits ranged from 1.4 to 35 mg/m^3 (half of the samples did not have reported TCE concentrations) (HGC, 2005c). Based upon these data and other related testing, HGC began operation of the SVE remediation system in 2007 (HGC, 2012b).

3.2.3.2 GEC-SA&B – Soil Borings in SCSA

In 2006, as part of GEC-SA&B's investigation associated with the COP light rail stop to be constructed adjacent to the SCSA, a Phase II environmental site assessment was conducted. As depicted in Figure 2, their assessment included the installation of four soil borings (TB-109 to TB-112) and four soil vapor sampling points (SG-1 to SG-4), and the installation of a soil vapor monitoring well (MLP-2). Groundwater monitoring wells MW-101 to MW-107, now part of the monitoring well network, were also installed as part of this investigation. Both soil and soil vapor samples were collected from the four soil borings and from the borings for the monitoring wells. Soil borings TB-109 and TB-110 were drilled to five feet bgs, with samples collected at 1 and 5 feet bgs, and the remaining borings were drilled to 50 feet bgs, with samples collected at depths of approximately 1, 2, 5, 10, 20, 30, 40 and 50 feet bgs.

The results of the soil sampling indicated reported PCE concentrations of 0.12 mg/kg at 40 ft bgs in soil boring MW-101, and ranging from 0.11 to 0.31 mg/kg in boring SG-3 from samples collected at 0.5 to 40 ft bgs. PCE was also detected at 0.86 mg/kg in a soil sample collected at 20 ft bgs from the boring for MLP-2. All other soil sample results were below laboratory reporting limits.

The results of the soil vapor sampling activities indicated PCE concentrations in nearly all vapor samples analyzed from the above-mentioned locations, with reported concentrations ranging from 3.5 to 290 mg/m^3. The higher concentrations were found in borings SG-3 and SG-4, decreasing with distance from the Maroney's building. TCE was also identified in some of the deeper samples at each boring location, ranging from 1.6 to 1,100 mg/m^3. The highest concentrations were found in the basal vapor samples collected from the boring for MLP-2 (GEC-SA&B, 2006).

3.2.3.3 Four Corners Environmental – Soil Borings in SCSA

Based upon the findings in a Phase I ESA conducted in February 2007 by Four Corners Environmental, Inc. (FCE), FCE was contracted by the property owners to investigate the vertical and lateral extent of CVOC contamination in the soil near the former Maroney's facility. FCE was also contracted to install a vapor extraction well from one of the soil borings for subsequent connection to the SVE system (FCE, 2007).

In March 2007, FCE drilled and sampled six soil borings at the former Maroney's facility (Figure 19), based upon former locations of operational equipment, a chemical storage area, and sumps associated with operations. Two of the soil borings (FCE-B1/SVE and FCE-B2) were located within historic sump systems to evaluate the vertical extent of contamination, and the remaining four soil borings (FCE-B3 through FCE-B6) were placed around the source areas to evaluate the lateral extent of contamination.

The soil borings were advanced using hollow-stem auger techniques to a total depth of 60 ft bgs, with the exception of FCE-B3 and FCE-B4 which were advanced to a total depth of 50 ft bgs. Soil samples were collected at five-foot intervals. Results from the analysis of the samples indicated the presence of PCE above laboratory reporting limits in 45 of the 65 samples submitted for analysis. The PCE concentration reported for sample FCE-B1 at 35 feet bgs was 210 mg/kg, which is above the non-residential Soil Remediation Level (SRL). PCE concentrations for the other samples ranged from 0.11 to 28 mg/kg. The highest concentrations from these borings were found from approximately 30 to 40 ft bgs.

FCE indicated that the release appears to have occurred at the sump located near the southwestern corner of the historic exterior process equipment area (i.e., the location of FCE-B1/SVE-l), and the release extended from the ground surface to groundwater (FCE, 2007).

Upon completion of the drilling and sampling activities, boring FCE-B1 was completed as a soil vapor extraction well and was named FCE-SVE-1 (later renamed SVE-FC, as discussed in Section 4). SVE-FC was connected to the SVE system in early 2008 (HGC, 2012b).

3.2.3.4 HGC – Passive Soil Gas Survey and Exploratory Borings in SCSA

In 2011-2012, in an effort to further characterize the impacted soil in the SCSA, as well as further define the specific release source area, HGC conducted a limited passive soil gas (PSG) survey, followed by the installation of exploratory soil borings (HGC, 2012b).

3.2.3.4.1 Passive Soil Gas Survey

As shown on Figure 18, 26 PSG locations were marked in a grid on the former Maroney's facility, including locations within the former footprint of the building. Sample points were located 30 feet apart, unless an obstruction was present, and five additional sample points were selected based on suspect features in the former concrete floor slab (such as for PSG-10 and 11), one location near piping that extended through the floor slab (PSG-12), one location near a former low area along the western side of the northern portion of the floor slab (PSG-6), and one on the eastern end of a trench east of extraction well SVE-FC (PSG-20).

HGC subcontracted Beacon Environmental Services, Inc. (Beacon) to provide the pre-cleaned metal sleeves and PSG samplers for field sampling and laboratory analysis of the collected samples. PSG samplers consisted of hydrophobic adsorbent cartridge vials equipped with a length of wire for retrieval. The PSG samplers were installed in June 2011, and subsequently retrieved two weeks later. Test results for the PSG samples are summarized in Beacon's report, presented in Appendix G. Beacon's report also depicts the results in various figures. The test results indicated the presence of several VOCs in the soil gas samples, including PCE, TCE, toluene, ethylbenzene, xylenes, methylene chloride, 1,2,4-trimethylbenzene, 1,1-dichlorethene, trans 1,2-dichlorethene, and cis-1,2-DCE. PCE was detected in 24 of 26 samples and TCE was detected in 18 of 26 samples. PCE concentrations ranged from less than 25 nanograms (ng) to 12,087 ng, with the highest PCE concentrations from locations PSG-7 (978 ng), PSG-21 (9,350 ng), and PSG-22 (12,087 ng). TCE concentrations ranged from less than 25 ng to 3,107 ng in the samples from location PSG-21 (HGC, 2012b).

3.2.3.4.2 Exploratory Soil Borings

In early 2012, based on the results of the PSG survey, additional investigation was conducted to confirm the presence of the elevated PCE. Three exploratory borings were advanced to 55 ft bgs at locations where the highest PCE concentrations were detected in the passive soil gas survey (PSG-7, PSG-21, and PSG-22). Soil and soil vapor samples were collected at 10-foot intervals for laboratory analysis.

Laboratory results for soil vapor samples from the borings at the PSG-7 (PCE concentrations ranging from non-detect to 19 $\mu g/m^3$) and PSG-22 (PCE concentrations ranging from 6.78 $\mu g/m^3$ to 949 $\mu g/m^3$) locations did not indicate the presence of significant PCE or TCE concentrations and the borings were subsequently abandoned. Laboratory results for soil vapor samples from the boring at the PSG-21 location indicated elevated PCE concentrations with the highest concentration of 15,600 $\mu g/m^3$ detected at 45 ft bgs. This boring location was completed as a nested vapor extraction well (SVE-2S and SVE-2D on Figure 18).

3.2.3.5 HGC – PSG Survey, Exploratory Borings, & Sewer Survey – North of SCSA

In 2013, based upon the elevated CVOC concentrations identified in samples collected from monitoring wells in the north-central portion of the Site, additional investigation was conducted by HGC. The objectives of the investigation were to identify other potential contributing sources of the CVOCs by implementing a PSG survey to evaluate potential additional contributing sources of contamination via installation of exploratory soil borings and to conduct limited video-logging inspection of the COP municipal sanitary sewers at likely selected locations (HGC, 2014).

3.2.3.5.1 Passive Soil Gas Survey

As shown on Figure 20, 142 PSG points were installed in landscaped areas on the COP Right-of-Way line along both sides of Central Avenue at selected locations on the side streets off of Central Avenue from Pasadena Avenue to Georgia Avenue and in an alley located parallel to and west of Central Avenue (between Pasadena Avenue and Medlock Drive). The sample point locations were planned at 20 feet apart in locations to avoid repairs of any roadways, curbs, gutters, or sidewalks. However, adjustments were made in the final selected locations after identification of underground utilities and other obstructions.

HGC subcontracted Beacon for the PSG survey. PSG samplers and installation were as previously described, with installation of the samplers at depths of approximately 35 inches bgs. Although the ideal depth was reached in most of the sample locations, other locations were either

shallower or deeper, ranging from 20 to 41 inches bgs, due to limitations in the field. The PSG samplers were installed in two separate events. The first group of samplers was installed west of Central Avenue from May 6 to 9, 2013, and the second group of samplers was installed east of Central Avenue on May 14 to 15, 2013. The PSG samplers were retrieved two weeks after installation for analysis of selected VOCs using EPA Method 8260C.

Test results for the PSG samples are summarized in Beacon's report, presented in Appendix H. Beacon's report also depicts the results in various figures. The laboratory test results indicated the presence of VOCs in a number of the soil gas samples, including PCE, TCE, TPH (diesel range), and naphthalene. One sample also contained 2-methylnaphthalene and one sample collected at the southern-most portion of the study area contained benzene, toluene, 1,2,4-trimethylbenzene, and TPH in the gas range (HGC, 2014).

As depicted in the Beacon report (Figure 3 of Appendix H), PCE was detected in 48 of the 142 sample locations, with detectable concentrations ranging from 5 to 5,994 ng. 36 of the 48 locations exceeded the reporting limit of 10 ng and 12 of the locations were between the laboratory detection limit of 5 ng and the reporting limit of 10 ng. The PCE concentrations were found primarily in two areas in the southern portion of the study area. The highest concentrations were found in samples collected in the central portion of Medlock Drive east of Central Avenue and in the alley immediately west of Central Avenue and north of Pasadena Avenue. The most significant PCE concentration (5,994 ng) was identified from a soil gas sample collected in the alley west of Central Avenue (sample 'Sect 4-8'), approximately 10 ft from an active dry cleaning facility (HGC, 2014).

Detectable TCE concentrations were only reported for four of the 142 samples submitted for analysis, ranging from 6 to 27 ng; these minor TCE concentrations were located at the PCE hotspot in the alley west of Central Avenue.

3.2.3.5.2 Exploratory Soil Borings

In late 2013, based on the results of the PSG survey, additional investigation was conducted to confirm the presence of the elevated PCE concentrations identified in the alley west of Central Avenue and on E. Medlock Drive. Soil boring SB-01 was advanced in the alley way as close as practicable to the highest identified PCE soil gas measurement near an active dry cleaning facility (Figure 21). Soil boring SB-02 was advanced south of the highest concentrations found on E. Medlock Drive, on the north side of the Uptown Plaza Shopping Center and adjacent to a dry well located near an active dry cleaning facility. At each location, soil and soil vapor samples were collected across the vadose zone every five feet, down to the groundwater table at

approximately 65 ft bgs, followed by the collection of groundwater grab samples (via disposable bailer) and HydroPunch® samples through the augers (at approximately 65 and 75 ft bgs).

CVOCs were not detected above their respective laboratory reporting limits in any of the samples collected from soil borings SB-01 and SB-02. Furthermore, no other VOC constituents were detected above their respective laboratory reporting limits in soils. PCE was detected in soil vapor from all of the exploratory soil boring samples. TCE concentrations were detected in some of the soil vapor samples from each location. For exploratory soil boring SB-01, PCE concentrations ranged from 35.7 micrograms per cubic meter ($\mu g/m^3$) in sample SB-01@15 (i.e., 15 ft bgs), to 38,700 $\mu g/m^3$ in sample SB-01@60. TCE concentrations were also detected in SB-01 samples collected from 35 to 65 ft bgs, with concentrations ranging from 35.4 $\mu g/m^3$ in sample SB-01@35 to 579 $\mu g/m^3$ in sample SB-01@60. For exploratory soil boring SB-02, PCE concentrations ranged from 174 $\mu g/m^3$ in sample SB-02@35 to 17,400 $\mu g/m^3$ in sample SB-02@30. TCE concentrations were only detected in two samples collected from SB-02: 30.1 $\mu g/m^3$ in sample SB-02@30 and 27.1 $\mu g/m^3$ in sample SB-02@35. Copies of the soil boring logs are included in Appendix A of this report.

Groundwater analytical results from samples collected from SB-01 detected PCE and TCE concentrations of 88 µg/L and 1.1 µg/L, respectively, in the 65-foot sample and a PCE concentration of 3.5 µg/L in the 75-foot sample. The PCE concentration of 88 µg/L exceeds the AWQS. No other VOC constituents were identified above their respective laboratory reporting limit for the samples collected from SB-01. For SB-02, PCE and TCE concentrations were detected in the 65-foot sample at 0.5 µg/L and 3.7 µg/L, respectively, and a reported TCE concentration of 16 µg/L (exceeding the AWQS) was identified in the 75-foot sample. Other reported VOC constituents were also identified in the groundwater samples collected from SB-02, including 1,2-DCA at 14 µg/L and 17 µg/L (exceeding the AWQS), and cis-1,2-DCE at 1.8 µg/L in the 75-foot sample (HGC, 2014). These reported groundwater concentrations from SB-02 are consistent with the groundwater concentrations detected from recent sampling from the nearby monitoring wells (CC-11, CC-17, and CC-18).

For SB-01, this location was determined to not be a potential contributing source based upon no reported VOC concentrations in any of the soil samples and the increase in PCE soil vapor concentrations with depth. The PCE soil vapor concentrations were instead likely attributed to off-gassing from the CVOC-impacted groundwater and smear zone above the groundwater table. The elevated PCE concentration in groundwater at SB-01 was unexpected, as compared to groundwater concentrations typically below COC reporting limits from adjacent monitoring wells CC-8 and CC-10.

For SB-02, although there was an elevated PCE soil vapor concentration at 30 ft bgs, soil vapor concentrations were significantly lower above and below this depth. Furthermore, there were no reported VOC concentrations in any of the soil samples, and the reported PCE and TCE groundwater concentrations found in SB-02 were consistent with nearby concentrations detected in groundwater. These results suggest that this location is not a potential contributing source of groundwater contamination, and the elevated soil vapor concentration at 30 ft bgs is originating from a different location.

3.2.3.5.3 Sewer Survey

In December 2013, in an additional effort to identify a potential source of the elevated COC concentrations in soil vapors, HGC subcontracted Pro-Pipe to conduct video-logging of the municipal sewers and service lines in the vicinity of exploratory soil borings SB-01 and SB-02. Pro-Pipe logged the south-flowing sewer line in the alley located parallel to and west of Central Avenue, between Pasadena Avenue and Medlock Drive, and logged an east-west trending sewer line located in the back lot of the Uptown Plaza Shopping Center (east flowing), located parallel to and south of Medlock Drive. Pro-Pipe was also directed to conduct video-logging of the sewer located in an alley adjacent to the north side of the former Texaco facility at the northeast corner of Central Avenue and Colter Street, and north along Central Avenue to Oregon Avenue. The surveys were conducted to determine if the structural integrity of the sewer lines and associated service lines had been compromised to create a potential conduit for CVOC releases to the subsurface (HGC, 2014).

As detailed in Pro-Pipe's report included as Appendix I, the sewer line in the alley was primarily comprised of 8-inch diameter vitreous clay pipe (VCP), although a section was also identified as ductile iron. This section of sewer line exhibited minor cracking in various locations and some roots were observed penetrating the pipes. However, there were no obvious conduits identified that could have contributed to a release of CVOCs into the subsurface. The sewer lines in the back lot of the Uptown Plaza Shopping Center were identified as 6-inch diameter concrete and were found to be damaged and could not be fully video surveyed. Sections of the sewer line near the former Texaco station were constructed of 8-inch diameter VCP and were clogged and couldn't be logged. The other sections were also constructed of 8-inch diameter VCP and were noted to be dirty and not flowing optimally, but Pro-Pipe was able to complete their log for these sections. A section of the VCP sewer pipe near Oregon Avenue and northwest of the Texaco station on Central Avenue exhibited broken and fractured sections of sewer pipe. The remainder of the pipe run appeared to be in good shape with a couple of minor spiral and circumferential fractures. The section of broken and fractured sewer pipe was in a location that would not be expected to be a contributing source of CVOCs in the groundwater (HGC, 2014).

4. EARLY RESPONSE ACTIONS

ERA activities, as described in A.A.C. R18-16-405, have been performed at the Site. The ERA activities, including pilot testing and installation and operation of both groundwater extraction and treatment, and soil vapor extraction (SVE) systems, were undertaken at the former Maroney's facility or SCSA specifically, although the Site extends beyond the SCSA.

The ADEQ initiated the SCSA ERA to characterize soil and groundwater contamination associated with the Site, to reduce contaminant concentrations in the underlying vadose and groundwater zones, and to establish and maintain hydraulic control of the groundwater impacted by CVOC releases at the SCSA. A discussion of the installation and operation of the remediation systems associated with the ERA is included here.

4.1 Groundwater Extraction & Treatment System

The purpose of the groundwater extraction and treatment system is to contain and limit the movement of contaminated groundwater from the SCSA, and in particular, to prevent the migration of contamination from the SCSA to the OEC groundwater extraction system. Groundwater modeling was performed utilizing data that had been collected and reported for the Site. This included data from the LUST sites, the OEC building, ADWR, and the U.S. Geological Survey. The model was limited to the UAU. It was calibrated to March 1998 groundwater conditions and then simulated to reflect the effects of the proposed remedial options (ADEQ, 1999) (Weston, 2001a). Modeling determined that four extraction wells along the east edge of the SCSA, pumping at 45 gpm each for a total extraction rate of 180 gpm, would contain the PCE-impacted groundwater. Based on the modeling results, the five extraction wells (EW-1, EW-2, EW-3, EW-4, and CC-5, with CC-5 initially utilized as a monitor well) were installed at the Site from October 12 to December 1, 2001.

Following the extraction well installations, step-drawdown tests were conducted to test the efficiencies of the wells. The wells were determined to be able to pump up to 40 gpm each (Weston, 2002). The treatment system was designed to treat an influent flow of at least 180 gpm with CVOC concentrations of up to 5,600 µg/L (Weston, 2001a).

The groundwater extraction and treatment system utilizes two liquid-phase granular activated carbon (LGAC) treatment vessels arranged in series and designed to each hold 10,000 pounds (lbs) of activated carbon, to remove CVOCs from the extracted groundwater. A RockLink control system monitors system functions and is set to shut down the entire treatment system if failures are detected in any of the treatment components. Remote monitoring is provided to the ADEQ and SRP, and allows for remote shutdown by either pending system status (HGC, 2004c).

ADEQ obtained two discharge permits to operate the groundwater extraction and treatment system and discharge treated water to the COP sewer system initially, and later to the SRP canal system. Initial testing and operation of the system required discharge to the COP sewer system in accordance with COP Class "A" Industrial Wastewater Discharge Permit 0212-21409. Normal operation of the system was later conducted with discharge to the SRP Grand Canal system in accordance with National Pollutant Discharge Elimination System (NPDES) permit AZ0024848. ADEQ also obtained a Poor Quality Groundwater Withdrawal Permit (PQGWP) 59-588107.0000 from ADWR on June 7, 2002 (renewed as 59-588107.0001 on August 21, 2012) to withdraw groundwater via the extraction wells. Construction and installation of the system were completed in January 2003 by Weston Solutions, Inc. (HGC, 2004c).

The groundwater treatment system's NPDES Permit was taken over by the ADEQ as an Arizona Pollutant Discharge Elimination System (AZPDES) Permit, which was reissued on February 20, 2008 and April 5, 2013. The COP sewer system Class "A" Industrial Wastewater Discharge Permit was renewed on February 1, 2005 (No. 0502-21409) and October 1, 2007 (No. 0710-21409); the COP permit was terminated in September 2012 because it was no longer needed. A Salt River Valley Water Users' Association (SRVWUA) License (No. 0200028) was issued on January 28, 2003 to allow discharge of treated water to the SRP Grand Canal. This permit does not require renewal, but can be modified every 10 years (ADEQ, 2014b).

Initial testing of the groundwater extraction and treatment system was conducted from January 10 through January 21, 2003. Official startup testing commenced on January 22, 2003. Normal operation of the system began on February 6, 2003, with discharge to the SRP canal system (Weston, 2004). During start-up, influent and effluent samples were collected every other day. Influent PCE concentrations were as high as 740 µg/L, TCE concentrations were as high as 16 µg/L and cis-1,2-DCE concentrations were as high as 20 µg/L. Initial groundwater extraction rates at the extraction wells ranged from 21 to 26 gpm. The cone of depression created during the first month of operation at the SCSA extended to the OEC building and created a gradient to the west at the OEC building (Weston, 2003a). Influent and effluent sampling was then reduced to twice monthly and eventually monthly and/or quarterly as specified in the NPDES permit. Extraction rates at the extraction wells were reduced slightly and ranged from 19 to 21 gpm (Weston, 2003b). The first carbon change-out occurred in April 2003. The carbon has been changed-out seven additional times since then.

Currently, groundwater is being extracted from two of the five extraction wells, EW-2 and CC-5. The EW-2 pump was replaced in early October 2013, subsequent to failure on September 2, 2013. The pump in EW-4 was turned off on January 20, 2009 because PCE concentrations were below the AWQS for several consecutive quarters. EW-2 and EW-3 were shut down in mid-

2009 to improve efficiency as contaminant concentrations in these wells were low; however, EW-2 was restarted on October 29, 2009. Prior to March 2013, CC-5 had been used only for groundwater sampling and monitoring. However, because of problems at EW-1, including filter pack sand entering the well and diminishing capacity, EW-1 was removed from service on March 13, 2013, and pumping equipment was installed in CC-5. Well CC-5, a monitor well installed at the SCSA in 2001 (location shown in Figure 4), was subsequently connected into the groundwater extraction and treatment system on March 27, 2013 (ADEQ, 2014b).

A cone of depression in the aquifer beneath the SCSA began as the result of groundwater extraction related to dewatering at the OEC property. The configuration of this cone of depression, which appears to extend well beyond the SCSA, has shifted with the operating strategy for the groundwater extraction and treatment system. Groundwater near the SCSA currently flows in a generally south-southeast direction under the influence of pumping from the extraction wells (Figure 13; HGC, 2013).

Recent water quality sampling results (2013) show that groundwater in monitoring wells west of CC-5 have no CVOCs at concentrations greater than the AWQSs, while CVOCs PCE and TCE were detected in groundwater at concentrations greater than their AWQS at monitoring wells to the east and northeast of the SCSA. PCE concentrations have decreased significantly in all monitoring wells since the groundwater extraction and treatment system began operating. As previously described, initial groundwater extraction and treatment system influent PCE concentrations commonly exceeded 100 µg/L. Average concentrations of PCE, TCE, and cis-1,2-DCE in the combined influent stream to the groundwater treatment system were recently detected at 14, 2.0, and <0.50 µg/L, respectively. Samples of treatment system effluent are routinely analyzed for VOCs, as required by the AZPDES permit, and are all below laboratory reporting limits (HGC, 2013).

4.2 Soil Vapor Extraction System

The SVE system is designed to remove and treat CVOCs, primarily PCE and TCE, from impacted portions of the vadose zone. Portions of the vadose zone targeted for SVE have been identified as the primary source of CVOCs to groundwater. Removal of vadose CVOC mass is therefore expected to reduce the length of time that will be required for operation of the groundwater extraction and treatment system (HGC, 2005a).

HGC drilled and installed two SVE wells, SVE-1 and SVE/MP1, west of the former building footprint in June 2004. Pilot testing of these wells was conducted in 2005 (HGC, 2005a). Another nested vapor monitoring/SVE well, SVE/MP2 (SVE/MP2S screened from 10 to 20 ft bgs and MP2D screened from 40 to 50 ft bgs), was installed at this time, but was not tied into the

SVE system due to lower soil vapor CVOC concentrations. HGC prepared the remedial design documentation for the SVE system in early 2007 (HGC, 2008b). SVE well locations are shown on Figure 18.

4.2.1 2005 Pilot Testing

HGC conducted pilot testing of SVE-1 and SVE/MP1 in 2005 using a portable SVE system consisting of a positive displacement blower, flow measurement and control instrumentation, and an off-gas carbon treatment system with two 2,000 lb carbon vessels, in series. Groundwater PCE concentrations as high as 1,200 µg/L were measured at the SCSA at the time of testing.

SVE tests at SVE-1 and SVE/MP1 were conducted using the portable SVE system. SVE tests were performed at increasing vapor flow rates for approximately 22 hours, with the majority of each test conducted at the higher flow rates. VOC samples were collected from the pumped wellhead at intervals during and immediately after the test. The highest background levels of CVOCs were detected at SVE-1, with PCE and TCE detected at concentrations as high as 950 parts per million by volume (ppmv) and 6.6 ppmv, respectively. During SVE testing, PCE concentrations ranged from 560 to 660 ppmv at SVE-1 and from 310 to 510 ppmv at SVE/MP1; TCE was detected only in SVE/MP1 at 5.9 and 12 ppmv.

Baro-pneumatic and SVE test data were analyzed via two computer programs; TRACRN and ASAP. TRACRN is a three-dimensional (3-D), finite-difference computer code developed at Los Alamos National Laboratories that is capable of simulating liquid and gas movement and solute transport within variably saturated porous media. ASAP is a proprietary HGC pneumatic pumping test analysis package that allows for vertical anisotropy and partial penetration of pumping and observation wells.

The baro-pneumatic data were analyzed using TRACRN to estimate average vertical air permeability. SVE test data from SVE-1 and SVE/MP1 were analyzed using ASAP for both horizontal and vertical air permeabilities. The baro-pneumatic data analysis provided independent estimates of vertical air permeability for comparison to ASAP estimates. Vertical permeability estimates are important because they affect the amount of surface leakage induced by SVE operation.

Using data obtained from SCSA soil borings and the SVE and baro-pneumatic tests, a 3-D TRACRN numerical model was developed to simulate PCE removal via SVE from vadose zone soils. The model predicted slightly more than 90 percent PCE removal after two years with both SVE wells pumping and slightly less than 90 percent PCE removal after two years with only SVE-1 pumping. PCE mass removal in both simulations was predicted to level off after

approximately two years. This phenomenon resulted from development of a diffusion-dominated system. Once PCE was advectively removed from coarser-grained materials, the rate of mass removal was dominated by mainly diffusive transport of PCE from relatively finer-grained materials into the coarser-grained materials hosting the majority of the air flow. As a result, after two years' simulation time, the highest residual concentrations occurred within the fine-grained materials represented in the model.

Based on these results, HGC proposed that both wells be operated for two years at a total extraction rate of 85 standard cubic feet per minute (scfm), after which the system could be operated under lower soil vapor extraction rates as PCE removal became diffusion-dominated (HGC, 2005c).

4.2.2 SVE System

HGC completed the SVE system installation in October 2007 and an air permit was issued and received from the Maricopa County Air Quality District (MCAQD) for SVE operation. The SVE system is located in a fenced compound northwest of the former dry cleaner building (Figure 18). PCE is removed from the gas stream via activated carbon contained in vessels. The carbon vessels were initially charged with 10,000 lbs of activated carbon (by Siemens-USFilter) on November 13, 2007, and the SVE system, consisting of wells SVE-1 and SVE/MP1, was started on November 20, 2007. The most recent MCAQD air permit is included in Appendix J.

Another vapor extraction well (SVE-FC) was drilled and installed by Four Corners in the western part of the former building footprint after its removal in March 2007 (FCE, 2007), based on subsurface soil samples collected as part of ongoing site characterization activities. SVE-FC was installed in a suspected source area about 25 ft south of SVE-1 and connected to the SVE treatment system in February 2008 (Figure 19; FCE, 2007; ADEQ, 2014a). HGC updated the system design in late 2007 to include the future connection of SVE-FC to the SVE system (HGC, 2008b). Modifications were made to the moisture removal system in early 2011, resulting in increased air flow and soil vapor concentrations, allowing the system to be operated continuously since December 2011. Prior to that time, the SVE system was generally operated on a two weeks on, two weeks off schedule.

From the onset of SVE remedial operations through the end of November 2012, daily PCE/TCE recovery showed an overall decline, from approximately five lbs per day to approximately two lbs per day. Cumulative mass recovery of PCE/TCE by the SVE system at the end of November 2012 was 4,174 lbs.

4.2.3 2012 SVE Testing

In 2012, HGC conducted an evaluation of the SVE system and additional subsurface soil characterization activities. One of the boreholes installed as part of these activities was completed as SVE-2 (Figure 18). SVE-2, SVE/MP1, and the shallow and deep casings for SVE/MP2 were tested. Tests were conducted to 1) determine achievable flow rates; 2) collect the data needed to estimate soil permeabilities; and 3) measure VOC concentrations in soil vapor under various vacuum and flow rate conditions (HGC, 2012b). A portable SVE system was used for the tests, which were conducted in the same manner as the 2005 tests.

Soil vapor samples collected from the SVE blower inlet at selected intervals during the tests were analyzed for VOCs using EPA Method TO-15. PCE concentrations were highest in SVE-2, ranging from 290-330 ppmv and 2,700-3,900 ppmv in the deep and shallow casings, respectively. PCE was detected at 0.22 ppmv in the shallow casing of SVE/MP1. PCE concentrations were 0.09 ppmv and 0.18-0.23 ppmv in the shallow and deep casings of SVE/MP2, respectively (HGC, 2012b).

The relatively high concentrations of PCE in SVE-2 were not anticipated, as SVE-1 and SVE-FC, less than 30 feet away, had been pumped for several years and had lower PCE concentrations. The relatively high concentrations at SVE-2 suggested the existence of a "hot spot" at the SCSA having high levels of PCE bound up in fine-grained material. Adding SVE-2 was anticipated to affect the SVE system's status with MCAQD, and operating flow rates had to be adjusted downward to ensure the facility would avoid classification as a Major Source for HAPs (HGC, 2012b).

4.2.4 Modified SVE System

To improve CVOC removal, SVE-2 was connected to the existing SVE system on December 12, 2012, following approval by MCAQD on November 27, 2012. Daily PCE/TCE recoveries of approximately 10 lbs per day in SVE-1, SVE-2, and SVE-FC from December 2012 through April 2013, declined steadily to approximately two lbs per day in January 2014. Cumulative mass recovery of PCE/TCE through the end of January 2014 was 6,180 lbs, an increase of nearly 50 percent since the end of November 2012.

5. LAND AND WATER USE

Information presented in this section has partially been obtained from a Land and Water Use Report that was recently completed by the ADEQ and is included in Appendix K.

5.1 Land Uses

The entire Site is located within the City of Phoenix (COP). Arizona state law requires every city to have a General Plan that establishes a policy for the city's land development. The COP General Plan includes goals, policies, and recommendations to guide land use and neighborhood development for the next 10 to 20 years and beyond. Thus, most of the discussion of land development and use centers on the COP General Plan (COP, 2002).

As described in the COP General Plan, the COP is comprised of 15 "urban villages", and the Site is located in the southeast corner of the Alhambra Urban Village, including portions of three historic neighborhoods, and is in proximity to four schools (COP, 2002). The Site is also located along the Light Rail Transit Corridor. Development in the area occurs consistent with zoning laws and must go through a site-planning review and permit process. The primary land use within the Site boundary is single family residential (56 percent) followed by multiple family residential (16 percent) and commercial (11 percent) (COP, 2013). The current zoning designation for the former Maroney's facility is C-2, Commercial—Intermediate Commercial, and generally properties along primary roads (Central Avenue & Camelback Road) are zoned similarly (COP, 2013). Typical land uses in and around the Site are shown in Figure 22.

Several businesses are known to have sold petroleum fuel in the area and experienced leaking UST systems. These releases (mostly gasoline) have also produced documented petroleum hydrocarbon impacts to soil and groundwater at the Site (primarily BTEX, MTBE, and 1,2-DCA).

The Alhambra Planning Coordinator and Alhambra Village Planning Committee meet regularly to accept and review requests for zoning changes within the Alhambra Urban Village. The COP has indicated that possible alterations to current zoning districts in the Site vicinity would most likely involve rezoning requests along the Light Rail Transit Corridor. In this area, rezoning requests will most likely involve requests for high-rise buildings, as have previously been granted for the southwest corner of Central Avenue and Camelback Road and south of the southeast corner of Central Avenue and Camelback Road. Requests by property owners for zoning changes must go through a public hearing and be approved by the City Council prior to finalization (Appendix K).

5.2 Groundwater Uses

As discussed in Section 2.6.3, the Site lies within the Phoenix AMA. The only pumping wells within one half mile of the Site are the SRP irrigation well, the dewatering wells associated with the OEC property, the extraction wells associated with the pump-and-treat system on the SCSA, and the Brophy well (ADWR, 2013). ADWR records indicate that there are no exempt withdrawal wells in the Site and there are no grandfathered rights in the Site (Christiana, 2013). The COP and SRP have service area rights in the Site; however, only SRP has a functional pumping groundwater in the Site.

Beyond one-half mile, ADWR records indicate that there are three exempt withdrawal wells (within one mile of the Site): a domestic/irrigation well, a stock well, and a domestic well. There is also one abandoned exempt withdrawal well near the Brophy well. These well locations are depicted on Figure 22.

5.2.1 City of Phoenix Groundwater Use

The following sections discuss the current and future groundwater uses of the COP.

5.2.1.1 Current City of Phoenix Needs

The COP receives water from four major sources:

1. Salt River Project (SRP);
2. Colorado River via the Central Arizona Project (CAP);
3. Groundwater from COP potable water supply wells; and
4. Reclaimed water.

During normal supply years, approximately 50 percent of the COP water supply comes from SRP; 44 percent from CAP; and approximately 3 percent each from groundwater pumping and reclaimed water. When SRP and/or CAP water supplies are reduced, the COP supplements water supplies with groundwater pumped from COP water supply wells (COP, 2011).

Because of groundwater quality degradation due to the presence of industrial solvents such as PCE and TCE, the COP has abandoned or discontinued use of 20 wells (COP, 2011). This has resulted in a loss of approximately 23 million gallons per day of groundwater production. More than 40 additional wells have been closed by the COP because of groundwater contamination by other pollutants such as pesticides, petroleum hydrocarbons, heavy metals, and nitrates, reducing COP groundwater supplies by approximately 75 million gallons per day. Currently, there are no

COP wells located within the Site. A COP well was located within one mile of the Site, but was abandoned on December 5, 2000. No other COP wells exist within one mile of the Site contaminant plumes.

5.2.1.2 Future City of Phoenix Needs

According to information provided by COP, since 2002 the population of COP has increased by approximately 8 percent but demand for water production declined by approximately 16 percent (COP, 2011). This is due to a 15-year decline in per-capita use by approximately 25 percent. Improved infrastructure, increased use of desert landscaping, fewer pools, and water rate increases have contributed to the per capita water use reduction. The COP expects less robust growth rates (compared to prior growth forecasts) and continued declines in per-capita demand that will likely result in relatively minor increases in overall system demand by mid-century. However, there are numerous factors associated with growth and consumption that cannot be fully predicted.

Uncertainty also exists regarding water resources and the ability to meet current and future demands (COP, 2011). The SRP and CAP supplies are dependent on rainfall/snow pack and can be limited during extended drought periods. If the Colorado River surface water flows should decline, allotment of CAP water for the COP may be reduced. SRP allotment could also be reduced if reservoir water levels drop substantially and groundwater pumping cannot compensate for the lack of surface water availability. As a buffer to potential surface water supply reductions, the COP has been recharging to underground storage or banking unused CAP allotments for future use. However, high increases in consumption coupled with severe reductions in surface water supplies could deplete these built reserves by 2020 (COP, 2011).

If extended drought conditions should create a substantial shortage of surface water and demand increases beyond estimates, a maximum deficit of 165,000 acre-feet of water could be experienced by the COP in the latter part of the 50-year planning horizon. This water deficit creates deeper shortages than those observed in historic records but is considered reasonable. More extreme conditions are feasible and have been considered quantitatively by the COP. Managing water use can be accomplished by continuing to increase efficiency of water distribution, curtailing demand, and monetary incentives. These can be addressed through infrastructure improvements, conservation programs, drought management plans, and water pricing strategies (COP, 2011).

Besides obtaining additional surface water supplies, local groundwater is the most accessible alternate water source (COP, 2011). The COP has access to more than 3.5 million acre-feet of groundwater in the Phoenix service area over a 100 year period. Currently the COP can produce

28 million gallons per day (MGD) or (15,000 to 20,000 acre-feet per year [AFY]), but only withdraws between 6,000 and 9,000 AFY. Pumping capacity has been lost in the past two decades due to aquifer contamination, including in the vicinity of the Site, and aging well conditions.

Plans and funding to expand well capacity within the service area by rehabilitating older wells and developing new service area wells are underway (COP, 2011). The COP plans to develop 15 additional wells at a cost of $233 million. This will yield approximately 70,000 AFY. This increased yield would be allowable in any one year as long as the 100 year average usage does not exceed available groundwater and stored water credits. Recent well development has been focused in the northeast Phoenix area, but the COP has indicated it may consider the area near the Site for well development in the future. Therefore, the potential exists for the COP to install municipal wells within the Site or within one mile of the Site groundwater plume.

5.2.2 Salt River Project Groundwater Use

The following sections discuss the current and future groundwater uses of SRP.

5.2.2.1 Current Salt River Project Needs

As a water supplier, SRP delivers nearly one million AFY of water to the Phoenix area. In normal runoff years, most of the water is supplied from surface water stored in reservoirs on the Salt and Verde River Watersheds. However, in drier years, more groundwater must be pumped to supplement the surface water supply. During extended periods of low runoff, groundwater can account for almost one-third of the total SRP water supply. Typically, groundwater comprises approximately 15 percent of the total water supplied by SRP to municipal treatment plants. The groundwater contribution varies seasonally with the highest contribution occurring in March through August. Historically, there has been enough surface water to meet demand in only one out of every three years.

According to SRP data, provided in Appendix D, SRP operates and maintains one irrigation well (13.5E-9.4N) within the Site (Figure 4). The last groundwater sample collected from SRP Well 13.5E-9.4N in 2012 contained PCE at a concentration slightly greater than the AWQS. Four other SRP irrigation wells (13E-8.6N, 13E-9.1N, 14E-8.5N, and 14E-9.6N) are located greater than one-half mile (but less than one mile) from the Site groundwater plume. Groundwater quality data collected from these wells indicate that two of the wells, 13E-9.1N and 14E-9.6N, contain PCE at concentrations greater than the AWQS; however, PCE detected at these two wells is not attributed to the Site (Elliot, 2013). Groundwater pumping at these wells has been intermittent in the recent past.

5.2.2.2 Future Salt River Project Needs

According to the Land and Water Use Report (Appendix K), although recent use of the irrigation wells in and adjacent to the Site has been intermittent, SRP has no plans to eliminate any of these wells from their delivery system. Based on a demand analysis, SRP has indicated it will continue to need wells in the area to remain operational, especially during dry years. Because of the recent drought conditions, SRP intends to increase pumping at all of their wells with a total annual groundwater pumpage of approximately 300,000 acre-feet.

SRP has indicated that they intend to convert their irrigation wells in and adjacent to the Site to drinking water supply wells. The intent is to either discharge groundwater directly into the COP municipal water system or pipe groundwater to a canal that is accessible to a municipal water treatment plant. SRP also indicated that there may be future plans for the proposed construction of a drinking water treatment plant at the end of the Grand Canal. Overall, water demand will likely increase if the treatment plant is constructed. Additionally, a drinking water treatment plant on the Grand Canal will require that water sources discharging to the canal comply with more stringent water quality criteria. According to SRP, they do not plan on installing any new wells in the vicinity of the Site. However, this could change pending COP future water needs (Elliot, 2013).

5.2.3 Private Groundwater Use

According to ADWR records, there is no documented private groundwater use, or non-municipal groundwater use, at the Site (ADWR, 2013). Four private wells are located within one mile of the Site contaminant groundwater plumes, including the Brophy well that is sampled (Figure 22). Groundwater uses are irrigation, stock watering, and domestic.

5.3 Surface Water Uses

The surface water in the vicinity of the Site is provided by the Medlock Homeowners Association canal system (Salvatierra, 2013). SRP provides water to the Medlock Homeowners Association canal system with a connection at Missouri and Central Avenues from SRP Lateral 1 11.4 27. Water from the Medlock Homeowners Association is used for residential irrigation. SRP Lateral 1 11.4 27 is also located within the Site but does not provide surface water to other facilities/properties in the vicinity of the Site (Salt River Valley Water Users' Association, 2013). SRP Lateral 1 11.4 27 receives water from the Arizona Canal, SRP Well 13.5E-9.4N, and effluent discharge from the Site groundwater remediation and treatment system. Water from the lateral canal discharges into the Grand Canal and is used for irrigation. The Grand Canal lies

approximately 0.3 miles south of the Site. Future plans for the Grand Canal, as previously discussed, could include a drinking water treatment plant at the end of the Grand Canal.

SRP Lateral 1 11.4 27 lies completely underground from Missouri Avenue, the northern boundary of the Site, south to the Grand Canal. The Grand Canal was fully concrete-lined in the vicinity of the Site by 2004, but is exposed to the surface.

6. CONCEPTUAL SITE MODEL

The former Maroney's dry cleaning facility is located at the southwest corner of Central Avenue and Camelback Road, where CVOC contamination was initially detected in 1993. Releases from the former Maroney's facility at the south end of the Site resulted in PCE impacts to vadose zone soils and groundwater. Initially reported concentrations were consistent with the presence of dense non-aqueous phase liquid (DNAPL) in soil and groundwater below the facility. A PCE groundwater solute plume extends north and northeast of the former Maroney's facility. Additionally, groundwater solute plumes consisting of petroleum hydrocarbon constituents and additives are present within the Site that are associated with various LUST releases.

The COCs for the Site are PCE, TCE, and cis-1,2-DCE. PCE is the primary CVOC and is found at concentrations in excess of the AWQS of 5 µg/L. TCE is present at levels exceeding the AWQS of 5 µg/L, but available information does not support a determination of whether the TCE is entirely a product of PCE biodegradation in the subsurface or is partially associated with a separate release. Cis-1,2-DCE has also been reported in multiple locations, but concentrations have not been in excess of its AWQS of 70 µg/L. Other contaminants from historical LUST releases detected in groundwater from the Site include BTEX, MTBE, and 1,2-DCA. Both benzene and 1,2-DCA have been detected above their respective AWQS of 5 µg/L.

The Site is underlain by a basin-fill sequence of alluvial sediments associated with the Salt River that consist of interbedded gravelly and silty sand, clayey and sandy silt, and sandy clay. Overall, lithology is dominated by fine-grained materials of varying plasticity depending on moisture content (HGC, 2005a).

Groundwater currently occurs at depths ranging from 60 to 70 ft bgs below the Site. Groundwater flow was formerly to the north under the influence of recharge from the unlined Grand Canal to the south and pumping from SRP Well 13.5E-9.4N to the north. Subsequent lining of the Grand Canal eliminated the recharge source to the south and this, combined with reduced pumping of SRP Well 13.5E-9.4N, has allowed the hydraulic gradients to shift to the east and southeast. Additionally, groundwater pumping at the former Maroney's facility and the OEC facility has induced southerly components of flow in the southern part of the Site. Water levels in deep monitoring well CC-1 have historically been lower than in shallower nearby wells, indicating a downward hydraulic gradient.

The groundwater solute plume at the Site has been influenced by changes in groundwater flow patterns after year 2000. Particle tracking analysis (Appendix M) based on historical hydraulic gradients indicates that prior to year 2000, historic groundwater flow directions were northerly, transporting the impacted groundwater from the former Maroney's facility to the north for nearly

one half mile, based on reported PCE concentrations found in the SRP well. Subsequent changes in the groundwater flow pattern in response to altered hydraulic gradients resulted in the primarily northerly solute transport being replaced by movement to the northeast, east, southeast, and then south-southeast near the dewatering and extraction wells (Appendix M). This change in flow pattern appears to have caused a plume elongated in a north-south direction to migrate to the northeast, east, southeast, and then south-southeast. Data indicates that the highest concentrations associated with the plume may be entering the cone of depression created by the extraction wells.

PCE concentrations in shallow groundwater are influenced by hydrodynamic dispersion, retardation by sorption, volatilization into the vadose zone and biodegradation. PCE migrating northward in groundwater from the former Maroney's facility commingled with several petroleum hydrocarbon solute plumes associated with LUST sites, in particular from the former Weiss Guys, Unocal, Circle K, and Texaco facilities. Biodegradation of petroleum hydrocarbons likely produced anaerobic conditions conducive to reductive dechlorination of PCE resulting in the production of TCE and cis-1,2-DCE in these areas. Notably, cis-1,2-DCE typically has been reported from these areas, which supports this hypothesis.

Source control of the SCSA groundwater plume has been established by the groundwater pump-and-treat system installed during ERA activities that also captures a portion of the CVOCs that had initially migrated downgradient of the SCSA. Concentrations of CVOCs in groundwater and soil near the SCSA, and the extent of the plume underlying the SCSA, have decreased, and remedial extraction wells at the Site prevent CVOCs from being drawn into the OEC dewatering wells. However, CVOC concentrations in the eastern portion of the Site (northeast of the SCSA) have not decreased at a similar rate to those at the SCSA. The elevated CVOCs in this area originated from the SCSA and are a result of the change in groundwater flow over time from north, to east, to south-southeast.

CVOCs are present both in soil and soil vapor at the Site. Elevated PCE concentrations are present in soil and soil vapor underlying the former Maroney's facility and the CVOCs are distributed unevenly in soil, reflecting soil heterogeneity that creates preferential flow paths for soil vapor (HGC, 2012b). CVOCs also have been detected in shallow passive soil gas surveys extending north along Central Avenue. Transport mechanisms from the vadose zone to groundwater include an advective component (via downward percolating pore waters) and a vapor phase component (aided by gas-phase diffusion, with dispersion enhanced by barometric pumping). Transport mechanisms from groundwater to the vadose zone are expected to involve only the vapor phase component.

The soil vapor concentration profile for PCE at SB-01 (Figure 23) exhibits an upward decreasing trend that is consistent with volatilization from groundwater. In contrast, the soil vapor concentration profile for PCE at SB-02 shows a heterogeneous distribution that is more consistent with contamination in the vadose zone (Figure 23), although both soil and groundwater sample results collected from SB-02 (discussed in Section 3.2.3.5.2) indicate that this location is unlikely to be the source of the elevated soil vapor concentrations.

The land surface in this region is mostly paved and/or built upon, with landscaped areas along street right-of-ways and parking areas and on residential lots. Possible sensitive receptors in proximity to the Site include schools, preschools, day cares, religious centers, elder care centers, and hospitals, of which there are approximately 25 within a half-mile radius of the Site boundaries. Several are located close to and/or possibly downgradient of the CVOC plumes at the Site.

There are four private withdrawal wells located within one mile of the Site (Figure 22). The owners of these wells and those who come into contact with the water pumped from them are possibly at risk of exposure to CVOCs via the groundwater pathway. However, the Brophy well is the only well known to be actively pumping and, since 2007, has been sampled with the other monitoring wells in the network to confirm there are no CVOCs present.

The main surface water body in the Site area is the Grand Canal, located about 0.3 miles south of the Site. SRP Lateral 1 11.4 27 receives water from the Arizona Canal, SRP Well 13.5E-9.4N, and discharge from the Site groundwater remediation and treatment system. Water from the lateral canal is used for irrigation and also discharges into the Grand Canal. Groundwater pumped from the OEC dewatering well network is treated and discharged into the COP storm sewer in compliance with AZPDES Permit No. AZ0023868.

7. RISK EVALUATION

This risk evaluation identifies relevant human receptors and exposure scenarios, evaluates potential exposures and characterizes human health risks associated with Site-related chemicals. Due to the presence of CVOCs at depth and the urban character of the site, evaluation of ecological receptors is not warranted.

CVOCs identified for the risk evaluation include PCE, TCE, and 1,2-DCA based on their presence in groundwater at concentrations greater than their respective AWQS. Additionally, PCE and TCE have been detected in soil and/or soil gas at various locations. Relevant toxicity values for the CVOCs are identified using the most current toxicity values consistent with EPA's toxicity value hierarchy provided in OSWER Directive 9285.7-53 (EPA, 2003) and are summarized in Table 5.

Characterization of the exposure setting is based on an evaluation of current land and water use in the vicinity of the Site (Section 5). Land use in the area of the Site includes commercial and residential settings and identified potential receptors include residents and commercial workers.

The impacted media include soil, soil vapor and groundwater below the former Maroney's facility. Additionally, groundwater is impacted to the north and northeast of the property and soil vapor impacts have been documented from soil borings SB-01 and SB-02 (Figure 21). Passive soil gas sampling indicates the potential presence of additional source areas, but does not yield concentration data that can be used to evaluate risk.

7.1 Exposure Pathways

The identification of a potentially complete exposure pathway is based on the following four (4) components:

1. Source and mechanism of chemical release;
2. Retention or transport medium;
3. Exposure point (i.e., a setting where potential human contact with the chemical-affected medium or media occurs); and
4. Route of exposure at the exposure point (e.g., ingestion).

A complete exposure pathway exists when all four of these components are present.

7.1.1 Groundwater Pathway

Consumptive use of groundwater is a potential exposure pathway of concern when water supply wells are present that draw water from the underlying aquifer. Exposure can occur through direct ingestion, inhalation or dermal contact with contaminated groundwater. There is no documented private groundwater use in the study area, and the only private wells in the area of the Site are located approximately 0.25 miles or more from the Site contaminant plumes and are not believed to be impacted by groundwater contamination from the Site. Further, the Brophy well is regularly sampled to confirm there are no COC impacts.

SRP's intent to convert their irrigation wells in and adjacent to the study area into drinking water supply wells suggests the potential for these wells to be impacted by contaminated groundwater from the Site. Based on the reasonably anticipated future use of the groundwater as a water supply, exposures due to direct ingestion, inhalation or dermal contact with contaminated groundwater are considered a complete exposure pathway for the Site.

Evaluation of cancer risk and non-cancer health hazard for PCE, TCE and 1,2-DCA in tap water was performed using the online U.S. EPA Regional Screening Level (RSL) calculator (http://epa-prgs.ornl.gov/cgi-bin/chemicals/csl_search). The RSL calculator determines risk using standard exposure factors and equations described in the User's Guide. The most recent (January 2014) concentrations for the CVOCs in monitoring well CC-17 represent the maximum concentrations at the Site and are used as the basis for the risk calculations. Output from the calculator using these exposure concentrations is included as Appendix L.

A summary of the cancer risk and health hazard for ingestion, inhalation and dermal exposures by residents from tap water are presented in Table 6. Cancer risk estimates from combined exposure by these routes for each COC range from 1.33×10^{-5} to 2.34×10^{-4} and the cumulative cancer risk estimate for all CVOCs is 4.1×10^{-4}. These values exceed the *de minimis* level of $1\text{x}10^{-6}$ and the cumulative risk exceeds the accepted risk management range of 1×10^{-4} to 1×10^{-6} for carcinogenic risk. Non-cancer health hazards are determined separately for child and adult receptors (Table 6). Hazard quotients for a child range from 1.91 to 19.8 with a hazard index of 25.4; those for an adult range from 1.76 to 15.5 with a hazard index of 19.8. All of these estimates exceed the target value of one. TCE is the major risk driver for both cancer and non-cancer effects.

7.1.2 Air Pathway

The potentially complete exposure pathways at the Site include transport of vapor-phase contaminants to outdoor and indoor air with subsequent inhalation exposure. The soil vapor

concentration profiles for PCE at SB-01 and SB-02 are consistent with volatilization from groundwater and from a vadose zone source, respectively. Inhalation exposure from outdoor air would be negligible due to the effects of atmospheric mixing. However, potential vapor intrusion into buildings with subsequent inhalational exposure to indoor air is of potential concern.

Quantitative estimates of the magnitude of potential exposures to PCE at the Site are calculated based on shallow soil vapor concentrations at SB-01 and SB-02 (HGC, 2014). SB-01 is located in close proximity to a residential area and SB-02 is located in a commercial area. Vapor intrusion to indoor air is evaluated using an empirical attenuation factor to estimate indoor air concentrations of PCE (Table 7). Cancer risk and non-cancer health hazard for inhalation are calculated using standard exposure frequency and duration factors for residential and commercial worker scenarios. Evaluation was performed using the RSL calculator and output is included as Appendix L.

The estimated cancer risk and hazard quotient for residential exposure at SB-01 and commercial worker exposure at SB-02 are shown in Table 7. For both scenarios, the resulting cancer risk estimates are less than the *de minimis* level of $1x10^{-6}$ and the hazard quotients are less than the target value of one.

Historically, very high soil vapor concentrations of PCE were present at the former Maroney's facility. Concentrations in shallow soil vapor ranged from 12,000 $\mu g/m^3$ to 329,600 $\mu g/m^3$ at 5 ft bgs. This property is currently vacant. A formal risk characterization is not being performed for this location since it is currently being mitigated by SVE system operation and the historical concentrations likely do not reflect current conditions.

7.1.3 Soil Contact Pathway

Comparatively few soil samples have been obtained from the Site. Those from soil borings SB-01 and SB-02 did not show concentrations of VOCs above reporting limits. Soil has been confirmed to be impacted with PCE at the Maroney's facility, formerly with the highest concentrations at 30 to 40 ft bgs. There is currently a soil vapor extraction (SVE) system in operation at the southwest corner source area that is addressing the soil exposure pathway to protect human health and the environment. The system will be operated until contaminant concentrations are remediated to concentrations less than soil standards that will be protective of both residential and non-residential future land uses and that are protective of groundwater. .

7.1.4 Surface Water Pathway

There are no points of natural discharge of groundwater to surface water in the vicinity of the Site. Surface water in the area of the Site includes the Medlock Homeowners Association canal system that receives water from SRP Lateral 1 11.4 27. The connection to the SRP lateral is located at the southwest corner of Missouri Avenue and Central Avenue, which is approximately 450 ft upstream of SRP Well 13.5E-9.4N. The SRP Lateral receives water from the Arizona Canal, SRP Well 13.5E-9.4N, and effluent discharge from the Site groundwater remediation and treatment system. SRP Well 13.5E-9.4N is impacted by PCE from the Site at slightly more than 5 µg/L. Effluent discharge is under a permit and does not contain contaminants above applicable surface water standards.

The residential properties in the area of the Site are irrigated with untreated mixed surface water from SRP Lateral 1 11.4 27. There are no numeric standards for PCE for these designated uses. Assuming partial or full body contact is a possibility with irrigation waters at the Site, the EPA RSL for dermal contact with water would be 56 µg/L. The concentrations of PCE in the groundwater from SRP Well 13.5E-9.4N have consistently been well below that RSL (Appendix D).

8. REMEDIAL OBJECTIVES

A Remedial Objectives (RO) Report was prepared by the ADEQ utilizing information from the Draft RI Report, the Land and Water Use Report (Appendix K), and input from stakeholders and interested parties, and is included as Appendix O. A Responsiveness Summary documenting the input from stakeholders and interested parties regarding the RI Report and how these were addressed is included in Appendix N. The RO Report includes comments received from oral and written solicitations for the proposed ROs. ROs were established by the ADEQ for soil and groundwater as follows:

- "To restore soil conditions to the remediation standards for residential use specified in A.A.C. R18-7-203 (specifically background remediation standards prescribed in R18-7-204, predetermined remediation standards prescribed in R18-7-205, or site specific remediation standards prescribed in R18-7-206) that are applicable to the hazardous substances identified (PCE) and to prevent exposure to contaminants either by direct exposure resulting from construction or industrial activities and from vapor intrusion into occupied structures which would create a health risk. This action is needed for the present time and for as long as the level of contamination in the soil threatens its use as a residential property".
- "The remedial objective for regional groundwater at the Site is to protect for the use as a groundwater supply by the City of Phoenix, and SRP. This action is currently needed and will be needed if/when groundwater use changes to municipal/drinking water. This action will be needed for as long as the level of contamination in the groundwater threatens the use of the regional groundwater for municipal/drinking water uses".

No RO was deemed necessary for surface water.

9. DATA GAPS

The following data gaps have been identified during site activities:

- The identification of elevated PCE in a groundwater grab sample from soil boring SB-01 was unexpected, considering that concentrations in groundwater samples from monitoring wells CC-8 and CC-10 (south and north of SB-01, respectively) have been consistently below laboratory reporting limits. A monitoring well should be installed in this area to further evaluate the elevated PCE concentration found in SB-01.
- The elevated PCE concentration in groundwater from SB-01 also indicates that the western extent of the plume in this vicinity is uncertain, considering the distance between SB-01 and monitoring well CC-9 (to the west of SB-01). It is likely that an additional monitoring well will need to be installed further west to identify the western boundary of the plume in this vicinity.
- It is unknown if there is a link between the elevated PCE concentrations in groundwater found in well CC-17 and boring SB-01.
- The availability of natural attenuation parameters in groundwater is minimal. Available data are more than a decade old and were collected from a limited number of monitoring wells. The need exists to collect new geochemical data that could be used for the evaluation of future natural attenuation. Evaluation of whether TCE is a product of PCE degradation would also be useful.

10. CONCLUSIONS

Contaminant releases from the former Maroney's dry cleaning facility have resulted in impacts to vadose soil and to groundwater beneath the property and beyond. The chemicals of concern for the Site are PCE, TCE, and cis-1,2-DCE. Petroleum hydrocarbon constituents and additives have also been found across the Site and are associated with various LUST releases. Of note are benzene and 1,2-DCA, both found above their AWQS. PCE is the primary CVOC, found at concentrations in excess of the AWQS at locations across the Site. TCE is present at levels exceeding the AWQS, but available information does not support a determination of whether the TCE is associated with a separate source release or is a product of PCE degradation in the subsurface. Cis-1,2-DCE has also been detected in multiple locations, but not in excess of its AWQS.

The groundwater solute plume at the Site has been influenced by changes in groundwater flow patterns after year 2000. Prior to year 2000, historic groundwater flow directions and gradients were controlled by the formerly unlined Grand Canal to the south and pumping from a SRP irrigation well on the north end of the Site. These factors effectively resulted in local alteration of regional flow to a northerly pattern, transporting the impacted groundwater from the release source north for nearly one half mile, based on PCE concentrations detected in the SRP well. At a later date when the SRP well was no longer pumped regularly and the Grand Canal had been lined, significant groundwater pumping began on the south side of the Site from dewatering wells associated with the OEC property and from groundwater extraction wells at the SCSA. These factors caused changes in the groundwater flow pattern, with primarily northerly movement replaced by movement to the northeast, east, southeast, and then south-southeast near the dewatering and extraction wells. This change in flow pattern appears to have caused a plume elongated in a north-south direction to migrate to the northeast, east, southeast, and then south-southeast. Data indicate that the highest concentrations associated with the plume may be entering the cone of depression created by the extraction wells.

The lateral extent of the plume is currently well defined to the north, south and east; however, due to the recent detection of elevated PCE concentrations in a grab groundwater sample in soil boring SB-01, the western extent of the plume is indeterminate.

An ERA involving a groundwater treatment system in operation for over a decade in the SCSA has caused a dramatic decline in COC concentrations. Currently, contaminants in groundwater above AWQS standards are only found on the east side of the SCSA and within a limited area in the northeastern portion of the Site. There are only two active extraction wells; however, the highest COC concentrations in the SCSA have been detected within one of the pumped wells

(CC-5). The groundwater extraction and treatment system was initially installed to maintain hydraulic control of the impacted groundwater at the source, due to increased pumping from dewatering wells at the adjacent OEC property. The treatment system has been successful in maintaining hydraulic control at the SCSA.

The SVE system for the former Maroney's facility has been in operation since 2007 and, as of January 2014, the cumulative mass of PCE/TCE removed from the vadose zone was 6,180 lbs. Influent concentrations remain elevated and the groundwater extraction and treatment system will continue operate until concentrations decline.

Existing data gaps at the Site are related to elevated PCE groundwater concentrations identified at soil boring location SB-01 and the associated delineation of the western edge of the plume due to these findings. A data gap also exists due to the lack of information associated with the elevated PCE concentrations in groundwater from well CC-17 and boring SB-01. Additional investigation to address these data gaps is necessary to adequately assess plume mass.

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12. LIMITATIONS

The opinions and recommendations presented in this report are based upon the scope of services and information obtained through the performance of the services, as agreed upon by HGC and the ADEQ. Results of any investigations, tests, or findings presented in this report apply solely to conditions existing at the time HGC's investigative work was performed and are inherently based on and limited to the available data and the extent of the investigation activities. No representation, warranty, or guarantee, express or implied, is intended or given. HGC makes no representation as to the accuracy or completeness of any information provided by other parties not under contract to HGC to the extent that HGC relied upon that information. This report is expressly for the sole and exclusive use of ADEQ and for the particular purpose that it was intended. Reuse of this report, or any portion thereof, for other than its intended purpose, or if modified, or if used by third parties, shall be at the sole risk of the user.

TABLES

TABLE 1
Well Construction Information[a]

ADEQ Well No.	Well Name	TOC Elevation	Coordinates		Well Owner	Total Depth (feet)	Casing Diameter (inches)	ADWR Number	Screen Interval (ft bls)	Status	Sampled By	Install Date
			Latitude	Longitude								
58023	MW-1	1,129.70	33º 30' 32.82705"	112º 04" 25.58588"	Weiss Guys	60	2	544316	40-60	ABND	NA	NA
58027	MW-3	1,130.32	33º 30' 31.79743"	112º 04" 28.40085"	Weiss Guys	60	2	544318	40-60	ABND	NA	NA
58028	MW-4	1,129.26	33º 30' 32.80520"	112º 04" 28.76409"	Weiss Guys	60	2	544319	40-60	ABND	NA	NA
58026	MW-5	1,129.80	33º 30' 32.75609"	112º 04" 26.92508"	Weiss Guys	59	4	551320	31-59	ABND	NA	Sep-95
59441	MW-6	1,127.80	33º 30' 31.39963"	112º 04" 26.09588"	Weiss Guys	59	4	551353	30-58	Dry	NA	Sep-95
58024	MW-7[b]	1,130.04	33º 30' 31.95816"	112º 04" 24.93708"	Weiss Guys	62	4	551321	37-62	Dry	NA	Sep-95
62820	MW-8	1,129.44	33º 30' 32.29446"	112º 04" 24.23968"	Weiss Guys	65	4	582440	30-65	Dry	NA	Aug-00
62821	MW-9	1,130.11	33º 30' 31.71838"	112º 04" 25.20003"	Weiss Guys	65	4	582443	30-65	Dry	NA	Aug-00
57987	HLA MW-1	1,129.81	33º 30' 34.42234"	112º 04" 28.45050"	UNOCAL	55	4	527241	40-55	ABND	NA	Mar-90
57988	HLA MW-2	1,129.49	33º 30' 33.64175"	112º 04" 28.39121"	UNOCAL	55	4	527242	40-55	ABND	NA	Mar-90
57989	HLA MW-3	1,130.37	33º 30' 34.06227"	112º 04" 26.05109"	UNOCAL	65	4	527243	40-55	ABND	NA	Mar-90
57991	HLA MW-5	1,129.73	33º 30' 32.87832"	112º 04" 24.94819"	UNOCAL	55	4	545292	40-55	ABND	NA	Sep-94
57992	HLA MW-6	1,130.34	33º 30' 34.84240"	112º 04" 28.81031"	UNOCAL	55	4	545293	40-55	ABND	NA	Sep-94
57996	HLA MW-10	1,128.80	33º 30' 33.70150"	112º 04" 24.97094"	UNOCAL	55	4	546221	40-55	ABND	NA	Oct-94
57997	HLA MW-11	1,130.12	33º 30' 35.08238"	112º 04" 26.05057"	UNOCAL	55	4	546223	40-55	ABND	NA	Oct-94
57998	HLA MW-12	1,130.53	33º 30' 36.22145"	112º 04" 25.87075"	UNOCAL	55	4	546222	40-55	ABND	NA	Oct-94
57999	HLA MW-13	1,131.10	33º 30' 36.26135"	112º 04" 24.84210"	UNOCAL	55	4	546220	40-55	ABND	NA	Oct-94
59442	OCI MW-E	1,130.61	33º 30' 32.26162"	112º 04" 21.25034"	One Camelback	60	4	527119	40-60	Dry	NA	NA
57965	OCI MW-S	1,129.69	33º 30' 30.34228"	112º 04" 22.69133"	One Camelback	60	4	527122	40-60	Dry	NA	NA
57963	OCI MW-SW	1,128.28	33º 30' 30.34175"	112º 04" 24.67079"	One Camelback	60	4	527121	40-60	Dry	NA	NA
57964	OCI MW-N	1,130.45	33º 30' 32.80157"	112º 04" 23.05126"	One Camelback	60	4	527120	40-60	Dry	NA	NA
NA	OCI DW-N1	1,130.87	33º 30' 32.82"	112º 04" 23.36"	One Camelback	86.5	6	577696	NA	Active	NA	Dec-99
74661	OCI DW-W1	1,130.30	33º 30' 31.23"	112º 04" 24.85"	One Camelback	118	6	577695	NA	Active	NA	Nov-99
NA	OCI DW-W3	1,129.62	33º 30' 30.62"	112º 04" 24.76"	One Camelback	110	6	579469	NA	Active	NA	Jun-00
59443	MW-A1	1,128.34	33º 30' 29.44167"	112º 04" 25.99076"	EXXON	60	2	563214	34-59	ABND	NA	NA
59444	MW-A2	1,089.40	33º 30' 31.78199"	112º 04" 23.41083"	EXXON	48	4	563215	42-48	Dry	NA	NA
59445	MW-A4	1,130.39	33º 30' 33.88211"	112º 04" 22.99060"	EXXON	61	4	563213	34-60	Dry	NA	NA
59446	MW-A5	1,131.13	33º 30' 34.06147"	112º 04" 19.63077"	EXXON	60	4	565457	34-59	Dry	NA	NA
59447	MW-A6	1,132.38	33º 30' 36.88191"	112º 04" 20.77084"	EXXON	62	4	565456	34-59	Dry	NA	NA
59444	MW-A7	1,128.93	33º 30' 28.68449"	112º 04" 24.63000"	EXXON	60.9	2	575580	35-60	Dry	NA	NA
57996	MW-A8	1,129.84	33º 30' 32.44233"	112º 04" 24.67104"	EXXON	60	4	563216	37-59	Dry	NA	NA
59448	CC-1[f]	1,132.62	33º 30' 32.06674"	112º 04" 24.35501"	ADEQ	302	3	584473	282-302	Active	ADEQ	Jan-01
59449	CC-2[f, h]	1,132.36	33º 30' 32.07351"	112º 04" 24.47904"	ADEQ	202	4	584474	180-200	Active	ADEQ	Feb-01
59450	CC-3[f]	1,131.92	33º 30' 32.09019"	112º 04" 24.59599"	ADEQ	112	4	584471	90-110	Active	ADEQ	Feb-01
59451	CC-4[f]	1,130.04	33º 30' 31.47101"	112º 04" 23.64294"	ADEQ	120	4	584472	30-120	Active	ADEQ	Jan-01
60373	CC-5[f, h]	1,129.56	33º 30' 32.24765"	112º 04" 23.69985"	ADEQ	113	6	588113	45-110	Active	ADEQ	Oct-01
64596	CC-6[f]	1,130.18	33º 30' 31.09312"	112º 04" 25.14929"	ADEQ	115	6	203763	50-110	Active	ADEQ	Jun-04
61808	CC-7[f]	1,132.58	33º 30' 35.41503"	112º 04" 25.89881"	ADEQ	100	4	207557	45-95	Active	ADEQ	Aug-05
61809	CC-8[f]	1,132.89	33º 30' 37.57891"	112º 04" 25.28266"	ADEQ	100	4	207558	45-95	Active	ADEQ	Aug-05
61810	CC-9[f]	1,133.54	33º 30' 42.27326"	112º 04" 34.83835"	ADEQ	100	4	207555	45-95	Active	ADEQ	Aug-05
67537	CC-10[f]	1,135.33	33º 30' 42.26607"	112º 04" 24.49945"	ADEQ	100	4	211541	45-95	Active	ADEQ	Jun-06
67538	CC-11[f]	1,135.76	33º 30' 43.03582"	112º 04" 20.05565"	ADEQ	100	4	211542	45-95	Active	ADEQ	Jun-06
68458	CC-12[f]	1,128.26	33º 30' 26.74744"	112º 04" 24.60874"	ADEQ	100	4	214463	45-95	Active	ADEQ	Feb-07
68459	CC-13[f]	1,127.77	33º 30' 26.80606"	112º 04" 15.75099"	ADEQ	100	4	214464	45-95	Active	ADEQ	Feb-07
68460	CC-14[f]	1,131.30	33º 30' 31.85347"	112º 04" 25.76595"	ADEQ	100	4	906802	45-95	Active	ADEQ	Apr-07
78967	CC-15[h]	1,137.96	33º 30' 46.3580"	112º 04" 18.7435"	ADEQ	100	4	222082	55-100	Active	ADEQ	Jun-13
74220	CC-16[f]	1,140.33	33º 30' 52.65273"	112º 04" 24.00703"	ADEQ	100	4	908894	45-95	Active	ADEQ	May-08
78968	CC-17[h]	1,134.54	33º 30' 40.3206"	112º 04" 22.3075"	ADEQ	100	4	222083	55-100	Active	ADEQ	Jun-13
74221	CC-18[f]	1,133.15	33º 30' 35.95165"	112º 04" 19.80648"	ADEQ	100	4	908869	45-95	Active	ADEQ	May-08
78969	CC-19[i]	1,135.10	33º 30' 40.2913"	112º 04" 17.5654"	ADEQ	100	4	916285	55-100	Active	ADEQ	Dec-13
60372	EW-1[f, h]	1,129.80	30º 30' 32.36040"	112º 04" 23.73666"	ADEQ	120	6	588109	45-110	Active	ADEQ	Nov-01
60374	EW-2[f, h]	1,129.24	30º 30' 32.00017"	112º 04" 23.79743"	ADEQ	121	6	588110	45-110	Active	ADEQ	Nov-01
60375	EW-3[f, h]	1,128.10	30º 30' 31.56472"	112º 04" 23.87459"	ADEQ	120	6	588111	45-110	Active	ADEQ	Dec-01
60376	EW-4[f]	1,127.74	30º 30' 30.95925"	112º 04" 23.81681"	ADEQ	120	6	588112	45-110	Active	ADEQ	Oct-01
67539	MW-101[f]	1,129.89	33º 30' 29.87280"	112º 04' 26.31883"	City of Phoenix	100	4	209349	30-100	Active	ADEQ	Jan-06
67540	MW-102[f]	1,132.50	33º 30' 30.59878"	112º 04' 30.56793"	City of Phoenix	100	4	209350	30-100	Active	ADEQ	Jan-06
67541	MW-103[f]	1,130.46	33º 30' 32.40647"	112º 04' 31.74288"	City of Phoenix	100	4	209351	30-100	Active	ADEQ	Jan-06
67542	MW-104[c]	1,132.15	33º 30' 32.72876"	112º 04' 26.50681"	ADEQ	100	4	209352	32-102	ABND	ADEQ	Jan-06
67543	MW-105[f]	1,131.43	33º 30' 32.78419"	112º 04' 27.54965"	City of Phoenix	100	4	209353	30-100	Active	ADEQ	Jan-06
67544	MW-106[f]	1,131.39	33º 30' 32.67237"	112º 04' 28.82514"	City of Phoenix	100	4	209354	30-100	Active	ADEQ	Jan-06
67545	MW-107[f]	1,132.23	33º 30' 31.26369"	112º 04' 28.99829"	City of Phoenix	100	4	209355	30-100	Active	ADEQ	Jan-06
9856	13.5E9.4N	NA	33º 30' 54.64"	112º 04' 25.86"	Salt River Project	405	18	608425	154-405	Active	SRP	Aug-71
59436	Tex MW-1[g]	1,138.14	33º 30' 48.24"	112º 04' 24.02"	Texaco/Shell	75	4	545788	55-75	Active	Tex/Shell	Oct-94
59437	Tex MW-2[g]	1,137.32	33º 34' 17"	112º 04' 18"	Texaco/Shell	75	4	545789	55-75	Active	Tex/Shell	Oct-94
59438	Tex MW-3[g]	1,138.57	33º 34' 17"	112º 04' 18"	Texaco/Shell	75	4	545790	45-75	Active	Tex/Shell	Oct-94
59439	Tex MW-4[g]	1,138.81	33º 30' 49.1"	112º 04' 23.7"	Texaco/Shell	76	4	560138	55-75	Active	Tex/Shell	Jan-97
59440	Tex MW-5[g]	1,137.99	33º 30' 47.69"	112º 04' 22.79"	Texaco/Shell	75	4	560139	55-75	Active	Tex/Shell	Jan-97
76161	Tex MW-6[g]	1,139.00	33º 30' 49.6"	112º 04' 21.4"	Texaco/Shell	90	4	560140	60-90	Active	Tex/Shell	Sep-04
75988	Tex MW-7[g]	1,139.89	33º 30' 50.684"	112º 04' 20.903"	Texaco/Shell	90	4	546545	60-90	Active	Tex/Shell	Nov-04
75989	Tex MW-8[g]	1,139.00	33º 30' 49.6"	112º 04' 21.4"	Texaco/Shell	90	4	546546	60-90	Active	Tex/Shell	Jun-05
09867	Brophy Prep	NA	33º 30' 18.03"	112º 04' 17.27"	Brophy College Prep	180[d]	5	800731-L	unknown	Active	ADEQ	1928
NA	E-1	NA	NA	NA	One Camelback	60[e]	6	579470	48-98	Active	OCI	2000
NA	E-2	NA	NA	NA	One Camelback	60[e]	6	579471	48-98	Active	OCI	2000
NA	E-3	NA	NA	NA	One Camelback	60[e]	6	579472	48-98	Active	OCI	2000
NA	W-1	NA	NA	NA	One Camelback	100	6	577695	50-100	Active	OCI	1999
NA	W-2	NA	NA	NA	One Camelback	100	6	579468	40-100	Active	OCI	2000
NA	W-3	NA	NA	NA	One Camelback	100	6	579469	40-100	Active	OCI	2000
NA	S-1	NA	NA	NA	One Camelback	100	6	577694	50-100	Active	OCI	1999
NA	S-2	NA	NA	NA	One Camelback	100	6	577697	50-100	Active	OCI	1999
NA	N-1	NA	NA	NA	One Camelback	100	6	577696	50-100	Active	OCI	1999
NA	N-2	NA	NA	NA	One Camelback	100	6	579467	40-100	Active	OCI	2000

Notes:

[a] Table modified from Weston, 2003.

[b] TOC repaired - previous elevation 1,131.17

[c] Abandoned by HGC, December 14, 2007

[d] Original depth of well 300 bls current depth (1983) is 180 ft bls

[e] Depth is reported from underground garage floor approximately 40 ft below land surface.

[f] Top of casing re-surveyed April 27, 2011.

[g] Top of casing re-surveyed June, 2011.

[h] Top of casing re-surveyed June, 2013. Top of casing surveyed for CC-15 and CC-17 June, 2013.

[i] Top of casing surveyed for CC-19 January, 2014.

ADWR = Arizona Department of Water Resources

ft bls = Feet below land surface

NA = Not available

TOC = Top of casing

ABND = Abandoned

TABLE 2
Historical Groundwater Elevations 2000-2014
Central and Camelback Water Level Monitoring Network

Date	CC-1	CC-2	CC-3	CC-4	CC-5	CC-6	CC-7	CC-8	CC-9	CC-10	CC-11	CC-12	CC-13	CC-14	CC-15	CC-16	CC-17	CC-18	CC-19	MW-101	MW-102	MW-103	MW-104	MW-105	MW-106	MW-107	Tex-MW-1[a]	Tex-MW-2[a]	Tex-MW-3[a]	Tex-MW-4[a]	Tex-MW-5[a]	Tex-MW-6[a]	Tex-MW-7[a]	Tex-MW-8[a]
TOC Elevation Before April 2011	*1,130.60*	*1,130.45*	*1,130.07*	*1,128.20*	*1,127.42*	*1,128.27*	*1,130.73*	*1,131.01*	*1,131.78*	*1,133.44*	*1,133.84*	*1,126.33*	*1,125.86*	*1,129.10*		*1,137.90*		*1,130.90*		*1,127.66*	*1,131.87*	*1,129.71*	*1,132.15*	*1,130.86*	*1,130.67*	*1,131.61*	*1,136.41*	*1,135.89*	*1,136.76*	*1,137.08*	*1,136.98*	*1,137.66*	*1,137.86*	*1,137.01*
TOC Elevation After April 2011	*1,132.62*	*1,132.36*	*1,131.92*	*1,130.04*	*1,129.39*	*1,130.18*	*1,132.58*	*1,132.89*	*1,133.54*	*1,135.33*	*1,135.76*	*1,128.26*	*1,127.77*	*1,131.30*		*1,140.33*		*1,133.15*		*1,129.89*	*1,132.50*	*1,130.46*	*1,132.15*	*1,131.43*	*1,131.39*	*1,132.23*	*1,138.14*	*1,137.32*	*1,138.57*	*1,138.81*	*1,137.99*	*1,139.00*	*1,139.89*	*1,139.00*
TOC Elevation After June 2013	*1,132.62*	*1,132.36*	*1,131.92*	*1,130.04*	*1,129.56*	*1,130.18*	*1,132.58*	*1,132.89*	*1,133.54*	*1,135.33*	*1,135.76*	*1,128.26*	*1,127.77*	*1,131.30*	*1,137.96*	*1,140.33*	*1,134.54*	*1,133.15*	*1,135.10*	*1,129.89*	*1,132.50*	*1,130.46*	*1,132.15*	*1,131.43*	*1,131.39*	*1,132.23*	*1,138.14*	*1,137.32*	*1,138.57*	*1,138.81*	*1,137.99*	*1,139.00*	*1,139.89*	*1,139.00*
07/13/00	NM	NM	NM	NM	NA Well Installed Oct-01	NA Well Installed June -04	NA Well Installed Aug-05	NA Well Installed Aug-05	NA Well Installed Aug-05	NA Well Installed June-06	NA Well Installed June -06	NA Well Installed Feb-07	NA Well Installed Feb-07	NA Well Installed Apr-07	NA Well Installed May-2013	NA Well Installed May-08	NA Well Installed May-2013	NA Well installed May-08	NA Well Installed Dec-13	NA Well Installed Jan-06	NA Well Installed Jan-06	NA Well Installed Jan-06	NA Well Installed Jan-06	NA Well Installed Jan-06	NA Well Installed Jan-06	NA Well Installed Jan-06	NA	NA	NA	NA	NA	NA Well Installed Sep-04	NA Well Installed Nov-04	NA well Installed Jun-05
10/13/00	NM	NM	NM	NM																							NA	NA	NA	NA	NA			
11/21/00	NM	NM	NM	NM																							NA	NA	NA	NA	NA			
12/16/00	NM	NM	NM	NM																							1,083.18	1,083.28	1,083.09	1,082.99	1,083.31			
01/17/01	NM	NM	NM	NM																							NA	NA	NA	NA	NA			
02/16/01	1,055.86	1,072.76	1,083.36	1,083.21																							NA	NA	NA	NA	NA			
03/14/01	1,054.65	1,081.63	1,083.04	1,082.95																							1,082.41	1,082.50	1,082.32	1,082.23	1,082.29			
04/18/01	1,053.12	1,080.95	1,082.77	1,082.66																							NA	NA	NA	NA	NA			
05/18/01	NM	NM	NM	NM																							NA	NA	NA	NA	NA			
06/14/01	1,049.39	1,079.45	1,082.39	1,080.92																							1,081.73	1,081.78	1,081.59	1,081.54	1,081.64			
07/20/01	1,047.11	1,079.61	1,082.26	1,082.23																							NA	NA	NA	NA	NA			
08/17/01	1,044.63	1,079.47	1,082.40	1,082.37																							NA	NA	NA	NA	NA			
09/24/01	1,051.32	1,080.40	1,082.65	1,082.66																							1,081.73	1,081.48	1,081.22	1,081.12	1,081.34			
10/19/01	1,052.23	1,080.82	1,082.99	1,082.99																							NA	NA	NA	NA	NA			
11/16/01	1,053.65	1,080.70	1,082.72	1,082.76																							1,081.66	1,081.73	1,081.57	1,081.50	1,082.12			
12/21/01	1,052.26	1,080.22	1,082.36	1,082.31																							NA	NA	NA	NA	NA			
01/18/02	1,052.42	1,079.85	1,082.00	1,081.94																							NA	NA	NA	NA	NA			
02/15/02	1,046.45	1,079.20	1,081.56	1,081.55																							NA	NA	NA	NA	NA			
03/22/02	1,048.00	1,078.87	1,081.37	1,081.38																							NA	NA	NA	NA	NA			
04/19/02	1,048.60	1,078.14	1,079.35	1,078.15																							NA	NA	NA	NA	NA			
05/17/02	1,048.30	1,077.34	1,077.92	1,076.70																							1,079.68	1,079.74	1,079.58	1,079.50	1,079.61			
06/14/02	1,044.12	1,076.41	1,076.70	1,075.38																							NA	NA	NA	NA	NA			
07/19/02	1,044.45	1,076.11	1,076.27	1,075.05																							NA	NA	NA	NA	NA			
08/16/02	1,040.58	1,075.47	1,076.19	1,075.12																							NA	NA	NA	NA	NA			
09/20/02	1,046.72	1,075.90	1,075.82	1,074.70																							1,078.30	1,078.28	1,078.16	1,078.11	1,078.13			
10/11/02	1,040.05	1,075.50	1,075.92	1,074.85																							NA	NA	NA	NA	NA			
11/15/02	1,045.50	1,075.20	1,075.67	1,074.65																							NA	NA	NA	NA	NA			
12/20/02	1,048.00	1,075.34	1,075.34	1,074.20																							NA	NA	NA	NA	NA			
01/17/03	1,048.40	1,075.14	1,074.97	1,073.91																							NA	NA	NA	NA	NA			
02/21/03	1,048.25	1,073.88	1,069.55	1,066.10	1,063.17																						NA	NA	NA	NA	NA			
03/14/03	1,048.58	1,073.88	1,069.97	1,067.20	1,063.19																						NA	NA	NA	NA	NA			
04/25/03	1,039.72	1,072.67	1,070.62	1,068.65	1,068.20																						NA	NA	NA	NA	NA			
05/23/03	1,041.53	1,072.80	1,069.77	1,067.43	1,067.12																						NA	NA	NA	NA	NA			
06/20/03	1,032.39	1,071.87	1,069.89	1,067.70	1,067.54																						NA	NA	NA	NA	NA			
07/11/03	1,033.49	1,071.42	1,068.92	1,066.32	1,066.22																						1,072.75	1,073.18	1,072.64	1,072.88	1,073.02			
08/15/03	1,035.65	1,071.55	1,070.25	1,069.52	1,069.39																						NA	NA	NA	NA	NA			
09/05/03	1,033.45	1,071.28	1,068.90	1,066.52	1,066.44																						NA	NA	NA	NA	NA			
04/01/04	1,035.10	1,069.35	1,068.17	1,066.70	1,065.77																						NA	NA	NA	NA	NA			
05/01/04	1,035.13	1,069.35	1,068.88	1,066.72	1,065.81																						NA	NA	NA	NA	NA			
06/07/04	1,034.66	1,069.35	1,068.16	1,066.22	1,065.81																						NA	NA	NA	NA	NA			
07/15/04	1,039.61	1,067.87	1,065.14	1,062.62	1,062.00	1,066.72																					1,069.02	1,069.13	1,062.91	1,066.49	1,068.10			
08/09/04	1,040.27	1,067.92	1,066.28	1,063.65	1,065.07	1,067.40																					NA	NA	NA	NA	NA			
09/14/04	1,028.55	1,065.53	1,064.22	1,063.65	1,061.88	1,065.30																					1,067.43	1,067.11	1,066.97	1,066.77	1,067.34			
10/13/04	1,038.22	1,066.58	1,063.16	1,059.59	1,060.58	1,064.54																					NA	NA	NA	NA	NA			
11/09/04	1,038.38	1,066.81	1,064.49	1,060.65	1,062.12	1,065.62																					1,068.19	1,068.14	1,068.02	1,068.00	1,068.22	1,068.00		
12/13/04	1,041.65	1,066.62	1,063.38	1,060.25	1,061.01	1,064.61																					1,068.16	1,068.19	1,068.02	1,067.98	1,068.23	1,070.20	1,067.36	
01/17/05	1,042.32	1,066.71	1,063.72	1,060.00	1,061.36	1,064.72																					NA	NA	NA	NA	NA	NA	NA	
02/07/05	1,042.65	1,066.64	1,066.15	1,061.50	1,061.78	1,065.20																					NA	NA	NA	NA	NA	NA	NA	
03/14/05	1,042.85	1,066.15	1,065.22	1,061.41	1,060.52	1,064.39																					1,068.01	1,067.98	1,067.97	1,067.83	1,068.08	1,067.75	1,067.26	
04/11/05	1,043.55	1,066.00	1,065.12	1,058.55	1,058.92	1,064.09																					NA	NA	NA	NA	NA	NA	NA	
05/09/05	1,043.49	1,065.83	1,062.21	1,058.77	1,058.82	1,063.59																					NA	NA	NA	NA	NA	NA	NA	
06/01/05	1,043.37	1,065.79	1,062.25	1,058.96	1,058.90	1,063.43																					1,067.95	1,067.84	1,068.39	1,067.18	1,067.51	1,066.79	1,067.14	
07/11/05	1,043.30	1,065.27	1,062.59	1,059.52	1,059.70	1,063.83																					NA	NA	NA	NA	NA	NA	NA	NA
08/01/05	1,043.07	1,065.84	1,062.86	1,059.84	1,059.68	1,064.06																					1,068.77	1,068.64	1,068.65	1,068.62	1,068.76	1,068.57	1,068.08	1,068.23
09/19/05	1,044.05	1,066.32	1,063.03	1,059.54	1,059.68	1,064.01	1,067.60	1,068.43	1,071.45																		NA	NA	NA	NA	NA	NA	NA	NA
10/03/05	1,044.59	1,066.57	1,063.23	1,059.99	1,063.57	1,064.42	1,067.76	1,068.56	1,071.59																		NA	NA	NA	NA	NA	NA	NA	NA
11/11/05	1,045.52	1,067.04	1,065.59	1,063.00	1,064.12	1,066.36	1,068.64	1,069.24	1,072.03																		NA	NA	NA	NA	NA	NA	NA	NA
12/12/05	1,046.11	1,067.55	1,066.08	1,063.27	1,064.51	1,066.83	1,067.60	1,068.43	1,071.45																		1,069.97	1,069.77	1,069.87	1,069.83	1,070.06	1,068.78	1,069.33	1,069.46
01/16/06	1,042.85	1,066.90	1,063.81	1,060.08	1,060.42	1,065.74	1,067.58	1,068.03	1,070.41																		NA	NA	NA	NA	NA	NA	NA	NA
02/21/06	1,046.38	1,066.94	1,065.66	1,063.12	1,064.11	1,066.36	1,068.56	1,069.14	1,071.48											1068.10	1069.59	1070.00	1064.99	1067.84	1068.63	1068.83	NA	NA	NA	NA	NA	NA	NA	NA
03/22/06	1,047.09	1,067.30	1,067.21	1,064.61	1,066.24	1,067.18	1,068.95	1,069.35	1,071.36											1068.65	1072.66	1070.21	1066.56	1069.43	1068.63	1069.32	1,069.47	1,069.33	1,069.54	1,069.51	1,069.42	1,069.40	1,068.82	1,068.97
04/11/06	1,046.85	1,066.72	1,063.52	1,060.60	1,060.14	1,064.77	1,068.15	1,068.94	1,071.20											1066.46	1068.65	1069.15	1061.74	1065.86	1067.26	1067.45	NA	NA	NA	NA	NA	NA	NA	NA
05/15/06	1,046.40	1,066.05	1,063.22	1,060.50	1,060.12	1,064.27	1,067.39	1,068.16	1,070.90											NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
06/28/06	1,045.70	1,065.85	1,062.71	1,059.57	1,058.78	1,063.78	1,067.21	1,068.04	1,071.04	1,070.02	1,068.94									NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
07/17/06	1,045.30	1,065.79	1,062.52	1,059.30	1,059.44	1,063.66	1,067.12	1,067.98	1,071.07	1,069.07	1,068.77									NA	NA	NA	NA	NA	NA	NA	1,069.47	1,068.86	1,068.91	1,069.26	1,068.93	1,069.86	NM	1,068.64
08/18/06	1,045.35	1,065.75	1,062.64	1,059.04	1,059.23	1,063.85	1,067.37	1,068.23	1,071.20	1,069.24	1,068.93									NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
09/19/06	1,045.50	1,066.04	1,064.32	1,059.14	1,059.14	1,063.61	1,067.37	1,068.29	1,071.42	1,069.41	1,069.09									NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
10/18/06	1,045.55	1,066.09	1,062.66	1,059.31	1,062.20	1,063.88	1,067.62	1,068.56	1,071.81	1,069.69	1,069.35									1,066.17	1,068.43	1,069.08	1,061.40	1,065.60	1,067.01	1,067.16	NA	NA	NA	NA	NA	NA	NA	NA
11/28/06	1,046.66	1,066.30	1,062.91	1,059.78	1,062.72	1,063.96	1,067.67	1,068.70	1,072.06	1,069.90	1,069.64									1,066.09	1,068.37	1,069.06	1,061.65	NA	1,067.05	1,067.15	NA	NA	NA	NA	NA	NA	NA	NA
12/18/06	1,046.92	1,066.87	1,063.93	1,060.46	1,063.53	1,065.09	1,068.53	1,069.26	1,072.10	1,070.16	1,069.86									1,067.54	1,069.30	1,069.89	1,063.50	1,067.46	1,068.49	1,068.52	1,070.21	1,069.99	1,070.06	1,070.08	1,070.08	1,070.01	1,069.76	1,069.81
01/23/07	1,047.40	1,066.47	1,063.09	1,059.72	1,062.89	1,063.92	1,067.78	1,068.03	1,071.84	1,069.91	1,069.60									1,066.18	1,068.46	1,069.19	1,061.79	1,065.86	1,067.18	1,067.31	NA	NA	NA	NA	NA	NA	NA	NA
02/28/07	1,047.05	1,066.20	1,063.71	1,060.91	1,065.25	1,064.14	1,067.58	1,068.45	1,071.28	1,069.52	1,069.23									1,066.21	1,068.37	1,068.92	1,062.75	1,066.03	1,067.15	1,067.25	NA	NA	NA	NA	NA	NA	NA	NA
03/19/07	1,036.41	1,065.01	1,063.22	1,059.91	1,061.97	1,064.13	1,067.41	1,068.23	1,071.00	1,069.13	1,068.76	1,066.68	1,067.28							1,065.10	1,068.21	1,068.83	1,062.20	1,065.96	1,067.08	1,067.34	1,069.51	1,069.27	1,069.35	1,069.33	1,069.38	1,069.29	1,069.06	1,069.14
04/25/07	1,037.41	1,064.15	NM	1,058.78	1,062.04	1,063.07	1,066.47	1,067.20	1,070.00	1,067.59	1,067.08	1,066.05	1,066.63	1,064.04						1,065.26	1,067.47	1,068.06	1,060.87	1,064.83	1,066.14	1,066.26	NA	NA	NA	NA	NA	NA	NA	NA

TABLE 2
Historical Groundwater Elevations 2000-2014
Central and Camelback Water Level Monitoring Network

Date	CC-1	CC-2	CC-3	CC-4	CC-5	CC-6	CC-7	CC-8	CC-9	CC-10	CC-11	CC-12	CC-13	CC-14	CC-15	CC-16	CC-17	CC-18	CC-19
TOC Elevation Before April 2011	*1,130.60*	*1,130.45*	*1,130.07*	*1,128.20*	*1,127.42*	*1,128.27*	*1,130.73*	*1,131.01*	*1,131.78*	*1,133.44*	*1,133.84*	*1,126.33*	*1,125.86*	*1,129.10*		*1,137.90*		*1,130.90*	
TOC Elevation After April 2011	*1,132.62*	*1,132.36*	*1,131.92*	*1,130.04*	*1,129.39*	*1,130.18*	*1,132.58*	*1,132.89*	*1,133.54*	*1,135.33*	*1,135.76*	*1,128.26*	*1,127.77*	*1,131.30*		*1,140.33*		*1,133.15*	
TOC Elevation After June 2013	*1,132.62*	*1,132.36*	*1,131.92*	*1,130.04*	*1,129.56*	*1,130.18*	*1,132.58*	*1,132.89*	*1,133.54*	*1,135.33*	*1,135.76*	*1,128.26*	*1,127.77*	*1,131.30*	*1,137.96*	*1,140.33*	*1,134.54*	*1,133.15*	*1,135.10*
05/24/07	1,033.33	1,063.15	1,062.82	1,058.42	1,061.89	1,062.58	1,065.81	1,066.45	1,069.30	1,066.74	1,066.19	1,065.61	1,066.14	1,063.50					
06/06/07	1,039.95	1,063.55	1,061.19	1,057.91	1,061.13	1,062.35	1,065.59	1,066.21	1,069.08	1,066.52	1,065.99	1,065.38	1,065.99	1,063.20					
07/27/07	1,042.65	1,064.37	1,061.50	1,059.34	1,061.04	1,062.43	1,065.67	1,066.38	1,069.21	1,067.16	1,066.83	1,065.21	1,065.82	1,063.29					
08/10/07	1,042.55	1,064.22	1,061.69	1,059.51	1,061.42	1,062.56	1,065.79	1,066.50	1,069.36	1,067.30	1,066.91	1,065.30	1,065.84	1,063.45					
09/04/07	1,042.78	1,064.34	1,061.61	1,058.43	1,061.59	1,062.38	1,065.86	1,066.63	1,069.64	1,067.55	1,067.13	1,065.29	1,065.84	1,063.35					
10/16/07	1,043.54	1,064.67	1,061.48	1,058.17	1,061.74	1,062.55	1,066.18	1,067.00	1,070.17	NM	1,067.64	1,065.42	1,066.06	1,063.57					
11/13/07	1,044.25	1,064.97	1,061.97	1,058.54	1,062.32	1,062.81	1,066.42	1,067.25	1,070.44	1,068.34	1,067.92	1,065.50	1,066.18	1,063.80					
12/03/07	1,044.62	1,065.34	1,063.77	1,063.60	1,065.32	1,064.65	1,066.81	1,067.43	1,070.48	1,068.41	1,067.98	1,065.78	1,066.36	1,065.14					
01/24/08	1,045.24	1,065.30	1,062.59	1,059.30	1,063.01	1,064.42	1,066.91	1,067.74	1,070.77	1,068.57	1,068.15	1,065.93	1,066.62	1,065.04					
02/20/08	1,045.58	1,065.40	1,062.90	1,059.88	1,063.89	1,063.62	1,066.92	1,067.70	1,070.66	1,068.52	1,068.09	1,065.86	1,066.52	1,064.57					
03/10/08	1,045.76	1,065.16	1,063.05	1,060.15	1,063.86	1,063.71	1,066.82	1,067.55	1,070.43	1,068.38	1,067.94	1,065.75	1,066.41	1,064.52					
04/16/08	1,045.50	1,065.19	1,065.02	1,064.51	1,067.79	1,065.11	1,066.77	1,067.33	1,070.12	1,068.06	1,067.61	1,065.68	1,066.27	1,065.20					
05/27/08	1,045.38	1,064.63	1,062.52	1,060.15	1,062.87	1,063.85	1,066.32	1,067.04	1,070.06	1,067.86	1,067.43	1,065.40	1,066.02	1,064.14		1,067.10		1,065.57	
06/19/08	1,045.59	1,064.75	1,062.64	1,060.49	1,063.04	1,063.91	1,066.31	1,067.03	1,070.17	1,067.99	1,067.34	1,065.16	1,065.81	1,064.25		1,067.26		1,065.48	
07/29/08	1,044.72	1,064.89	1,064.13	1,061.11	1,066.79	1,064.18	1,066.94	1,067.54	1,070.52	1,068.39	1,067.93	1,065.60	1,066.18	1,065.13		1,068.00		1,066.01	
08/25/08	1,044.89	1,064.96	1,063.19	1,059.99	1,061.75	1,064.05	1,066.92	1,067.67	NM	1,068.69	1,068.22	1,065.61	1,066.25	1,064.59		1,068.23		1,066.12	
09/15/08	1,045.05	1,065.05	1,063.14	1,059.71	1,064.61	1,063.46	1,067.03	1,067.83	1,071.09	1,068.96	1,068.50	1,065.72	1,066.33	1,064.53		1,068.63		1,066.25	
10/23/08	1,045.65	1,065.40	1,062.86	1,059.58	1,060.97	1,063.18	1,067.26	1,068.16	1,071.56	1,069.45	1,068.66	1,065.93	1,066.51	1,064.44		1,069.09		1,066.50	
11/20/08	1,046.00	1,065.77	1,063.36	1,059.91	1,061.56	1,063.55	1,067.48	1,068.32	1,071.77	1,069.69	1,068.83	1,066.04	1,066.72	1,064.60		1,069.23		1,066.73	
12/02/08	1,046.84	1,065.82	1,063.42	1,060.15	1,061.84	1,064.10	1,067.66	1,068.57	1,071.83	1,069.69	1,069.33	1,066.26	1,066.76	1,065.02		1,069.38		1,067.02	
01/14/09	1,046.24	1,066.01	1,063.97	1,060.27	1,062.17	1,064.38	1,067.84	1,068.62	1,071.64	1,069.64	1,069.25	1,066.47	1,066.95	1,065.47		1,069.19		1,067.15	
03/20/09	1,047.28	1,065.00	1,062.34	1,059.36	1,059.05	1,063.29	1,066.67	1,067.54	1,070.67	1,068.61	1,068.21	1,065.56	1,066.13	1,064.10		1,067.98		1,065.99	
06/2009	1,047.05	1,065.30	1,065.42	1,064.75	1,063.30	1,065.77	1,067.42	1,067.94	1,070.67	1,068.73	1,068.18	1,066.28	1,066.61	1,065.96		1,067.80		1,066.60	
09/28/09	1,046.78	1,066.28	1,066.39	1,065.87	1,064.65	1,066.78	1,068.62	1,069.21	1,072.17	1,070.09	1,069.49	1,067.08	1,067.45	1,067.01		1,069.15		1,067.61	
12/07/09	1,048.03	1,066.57	1,065.06	1,063.74	1,062.16	1,065.87	1,068.62	1,069.48	1,072.65	1,070.62	1,070.04	1,067.01	1,067.50	1,066.38		1,070.12		1,067.79	
01/05/10	1,048.15	1,066.43	1,065.07	1,063.67	1,062.13	1,065.71	1,068.44	1,069.30	1,072.46	1,070.47	1,069.92	1,066.89	1,067.35	1,066.22		1,070.10		1,067.53	
02/04/10	1,048.28	1,066.92	1,068.13	1,067.30	1,066.70	1,067.79	1,069.36	1,069.83	1,072.23	1,070.52	1,069.97	1,067.53	1,067.87	1,068.05		1,069.95		1,068.16	
03/01/10	1,048.60	1,066.87	NA	1,067.01	1,067.48	NA	1,069.30	1,069.77	1,071.96	NA	1,069.83	1,067.36	1,067.80	1,067.97		1,069.69		1,068.16	
04/19/10	1,048.38	1,065.69	1,065.22	1,062.74	1,061.69	1,064.98	1,067.73	1,068.53	1,071.31	1,069.55	1,069.05	1,066.19	1,066.75	1,065.56		1,069.00		1,066.87	
06/02/10	1,048.59	1,065.48	1,063.39	1,062.51	1,061.52	1,064.71	1,067.43	1,068.23	1,071.20	1,069.41	1,068.93	1,065.95	1,066.44	1,065.19		1,068.97		1,066.60	
08/30/10	1,047.65	1,065.77	1,064.13	1,062.92	1,061.37	1,065.04	1,067.83	1,068.74	1,071.83	1,070.13	1,069.59	1,065.76	1,066.73	1,065.51		1,069.89		1,067.08	
09/21/10	1,047.75	1,066.04	1,064.23	1,063.05	1,061.44	1,065.17	1,068.02	1,068.96	1,072.11	1,070.41	1,069.88	1,066.41	1,066.86	1,065.67		1,070.25		1,067.30	
10/15/10	1,047.94	1,066.31	1,064.71	1,063.43	1,061.89	1,065.46	1,068.30	1,069.20	1,072.41	1,070.73	1,070.17	1,066.92	1,067.08	1,066.03	NA Well Installed May-2013	1,070.51	NA Well Installed May-2013	1,067.59	
11/17/10	1,048.75	1,066.62	1,064.93	1,063.95	1,062.23	1,065.75	1,068.66	1,069.59	1,072.76	1,071.01	1,070.49	1,066.83	1,067.32	1,066.29		1,070.96		1,067.90	NA Well Installed Dec-13
12/21/10	1,049.39	1,066.90	1,065.09	1,064.09	1,062.46	1,065.90	1,068.65	1,069.59	1,072.68	1,071.03	1,070.55	1,066.93	1,067.40	1,066.36		1,071.19		1,067.95	
01/21/11	1,049.65	1,067.42	1,067.54	1,067.34	1,067.52	1,067.82	1,069.47	1,070.05	1,072.68	1,071.10	1,070.66	1,067.49	1,067.91	1,068.05		1,071.10		1,068.44	
02/23/11	1,049.91	1,067.45	1,068.17	1,067.50	1,067.67	1,067.92	1,069.59	1,070.11	1,072.43	1,070.96	1,070.53	1,067.56	1,068.00	1,068.19		1,070.73		1,068.56	
03/22/11	1,049.82	1,066.73	1,065.06	1,063.90	1,062.59	1,065.69	1,068.49	1,069.31	1,072.00	1,070.46	1,070.11	1,066.77	1,067.31	1,066.27		1,070.22		1,067.80	
04/22/11	1,049.49	1,066.41	1,064.66	1,063.55	1,062.29	1,065.42	1,068.08	1,068.34	1,071.64	1,070.05	1,069.66	1,066.57	1,067.03	1,065.96		1,069.76		1,067.44	
05/25/11	1,048.76	1,066.09	1,064.61	1,063.68	1,062.28	1,065.34	1,067.86	1,068.65	1,071.48	1,069.78	1,069.35	1,066.29	1,066.73	1,065.80		1,069.42		1,067.25	
06/21/11	1,048.63	1,066.17	1,065.23	1,064.48	1,063.81	1,065.64	1,067.94	1,068.68	1,071.50	1,069.84	1,069.39	1,066.27	1,066.71	1,066.04		NM		1,067.36	
07/28/11	1,050.04	1,067.99	1,066.23	1,065.22	1,063.66	1,067.15	1,069.83	1,070.71	1,073.64	1,072.06	1,071.57	1,068.19	1,068.63	1,067.94		1,072.34		1,069.53	
08/29/11	1,049.67	1,067.94	1,065.95	1,064.94	1,063.09	1,066.90	1,069.74	1,070.72	1,073.91	1,072.28	1,071.74	1,068.00	1,068.57	1,067.73		1,072.72		1,069.42	
09/26/11	1,049.98	1,068.41	1,066.86	1,066.21	1,064.39	1,067.70	1,070.22	1,071.15	1,074.26	1,072.77	1,072.07	1,068.46	1,068.93	1,068.40		1,073.03		1,070.06	
10/28/11	1,050.13	1,068.43	1,066.81	1,065.62	1,063.99	1,067.50	1,070.39	1,071.44	1,074.79	1,073.21	1,072.44	1,068.42	1,069.02	1,068.37		1,073.47		1,069.99	
11/23/11	1,050.83	1,068.77	1,067.10	1,066.30	1,064.68	1,067.96	1,070.64	1,071.61	1,074.92	1,073.14	1,072.61	1,068.59	1,069.18	1,068.74		1,073.70		1,070.32	
12/20/11	1,051.14	1,068.69	1,066.95	1,065.93	1,064.34	1,067.77	1,070.58	1,071.56	1,074.84	1,073.03	1,072.56	1,068.50	1,069.14	1,068.57		1,073.75		1,070.16	
01/31/12	1,051.18	1,068.35	1,066.68	1,065.67	1,064.18	1,067.48	1,070.25	1,071.22	1,074.35	1,072.65	1,072.22	1,068.22	1,068.86	1,068.31		1,073.36		1,069.88	
02/29/12	1,050.81	1,068.09	1,066.45	1,065.50	1,063.97	1,067.28	1,069.98	1,070.91	1,073.89	1,072.23	1,071.86	1,067.98	1,068.58	1,068.07		1,072.92		1,069.67	
03/22/12	1,050.88	1,067.92	1,066.10	1,065.16	1,063.49	1,067.00	1,069.75	1,070.68	1,073.52	1,071.92	1,071.55	1,067.91	1,068.46	1,067.82		1,072.54		1,069.48	
04/20/12	1,050.23	1,067.65	1,066.07	1,065.30	1,063.63	1,067.18	1,069.39	1,070.31	1,073.14	1,071.55	1,071.13	1,067.59	1,068.20	1,067.56		1,072.06		1,069.22	
05/24/12	1,048.73	1,067.29	1,065.43	1,064.49	1,062.79	1,066.32	1,069.11	1,070.05	1,073.19	1,071.53	1,070.92	1,067.37	1,067.90	1,067.17		1,071.82		1,068.77	
06/28/12	1,043.72	1,066.53	1,066.27	1,065.29	1,064.91	1,066.78	1,069.17	1,069.92	1,072.95	1,070.88	1,070.07	1,067.29	1,067.84	1,067.54		1,068.50		1,068.61	
07/31/12	1,043.25	1,066.31	1,066.42	1,065.27	1,064.88	1,066.98	1,069.09	1,069.68	1,072.55	1,070.32	1,069.44	1,067.32	1,067.89	1,067.71		1,067.93		1,068.30	
08/26/12	1,046.25	1,066.69	1,066.17	1,065.18	1,064.77	1,066.68	1,068.97	1,069.63	1,072.56	1,070.48	1,069.60	1,067.29	1,067.82	1,067.44		1,069.33		1,068.32	
09/27/12	1,047.03	1,067.45	1,068.34	1,067.85	1,068.12	1,068.17	1,069.85	1,070.45	1,073.28	1,071.48	1,070.65	1,067.77	1,068.25	1,068.72		1,071.03		1,069.07	
10/26/12	1,047.19	1,067.78	1,067.14	1,066.06	1,063.44	1,067.65	1,070.29	1,071.01	1,073.80	1,072.05	1,071.31	1,068.29	1,068.69	1,068.59		1,071.69		1,069.55	
11/30/12	1,047.34	1,067.13	1,065.50	1,064.17	1,061.85	1,066.21	1,069.34	1,070.40	1,073.79	1,071.88	1,071.25	1,067.32	1,067.89	1,067.08		1,071.93		1,068.95	
12/28/12	1,047.99	1,067.19	1,066.27	1,065.38	1,064.98	1,066.73	1,069.41	1,070.28	1,073.40	1,071.57	1,070.97	1,067.31	1,067.84	1,067.60		1,071.70		1,068.91	
01/25/13	1,047.88	1,066.86	1,065.11	1,063.96	1,061.71	1,065.91	1,068.90	1,069.90	1,073.04	1,071.29	1,070.78	1,067.01	1,067.61	1,066.84		1,071.46		1,068.58	
02/25/13	1,047.89	1,067.06	1,067.69	1,067.31	1,067.52	1,067.32	1,069.29	1,069.94	1,072.55	1,070.89	1,070.43	1,067.30	1,067.75	1,068.02		1,070.96		1,068.86	
03/31/13	1,047.14	1,066.90	1,068.15	1,067.57	1,067.68	1,067.83	1,069.34	1,069.84	1,072.09	1,070.49	1,070.01	1,067.33	1,067.76	1,068.35		1,070.34		1,068.72	
04/30/13	1,046.89	1,066.48	1,065.45	1,064.37	1,041.59	1,066.19	1,068.69	1,069.50	1,071.97	1,070.43	1,069.86	1,067.03	1,067.51	1,066.97		1,070.04		1,068.31	
05/29/13	1,046.45	1,066.18	1,064.98	1,064.10	1,042.24	1,065.68	1,068.33	1,069.17	1,071.99	1,070.36	1,069.73	1,066.66	1,067.17	1,066.48		1,070.12		1,067.91	
06/30/13	1,045.59	1,066.16	1,064.99	1,064.10	1,043.43	1,065.68	1,068.33	1,069.21	1,072.23	1,070.49	1,069.86	1,066.47	1,066.99	1,066.49	1,069.61	1,070.40	1,069.23	1,067.87	
07/27/13	1,045.22	1,066.25	1,065.12	1,064.32	1,043.11	1,065.78	1,068.54	1,069.46	1,072.53	1,070.79	1,070.08	1,066.54	1,067.04	1,066.64	1,069.99	1,070.69	1,069.47	1,068.02	
08/30/13	1,044.70	1,066.42	1,065.49	1,064.57	1,043.10	1,066.07	1,068.82	1,069.77	1,072.96	1,071.18	1,070.41	1,066.62	1,067.17	1,066.89	1,070.37	1,071.12	1,069.78	1,068.31	
09/30/13	1,040.28	1,066.22	1,066.58	1,066.27	1,044.79	1,067.19	1,069.45	1,070.28	1,073.37	1,071.63	1,070.76	1,067.15	1,067.67	1,067.82	1,070.66	1,071.37	1,070.19	1,068.82	

Date	MW-101	MW-102	MW-103	MW-104	MW-105	MW-106	MW-107	Tex-MW-1[a]	Tex-MW-2[a]	Tex-MW-3[a]	Tex-MW-4[a]	Tex-MW-5[a]	Tex-MW-6[a]	Tex-MW-7[a]	Tex-MW-8[a]
TOC Elevation Before April 2011	*1,127.66*	*1,131.87*	*1,129.71*	*1,132.15*	*1,130.86*	*1,130.67*	*1,131.61*	*1,136.41*	*1,135.89*	*1,136.76*	*1,137.08*	*1,136.98*	*1,137.66*	*1,137.86*	*1,137.01*
TOC Elevation After April 2011	*1,129.89*	*1,132.50*	*1,130.46*	*1,132.15*	*1,131.43*	*1,131.39*	*1,132.23*	*1,138.14*	*1,137.32*	*1,138.57*	*1,138.81*	*1,137.99*	*1,139.00*	*1,139.89*	*1,139.00*
TOC Elevation After June 2013	*1,129.89*	*1,132.50*	*1,130.46*	*1,132.15*	*1,131.43*	*1,131.39*	*1,132.23*	*1,138.14*	*1,137.32*	*1,138.57*	*1,138.81*	*1,137.99*	*1,139.00*	*1,139.89*	*1,139.00*
05/24/07	1,064.86	1,066.97	1,067.56	1,060.35	1,064.29	1,065.57	1,065.76	NA	NA	NA	NA	NA	NA	NA	NA
06/06/07	1,064.61	1,066.72	1,067.26	1,059.87	1,063.90	1,065.25	1,065.49	1,065.31	1,065.47	1,065.51	1,065.30	1,066.10	1,065.23	1,064.31	1,064.55
07/27/07	1,064.63	1,066.66	1,067.23	1,060.46	1,064.19	1,065.35	1,065.50	NA	NA	NA	NA	NA	NA	NA	NA
08/10/07	1,064.82	1,066.76	1,067.31	1,060.64	1,064.39	1,065.53	1,065.60	NA	NA	NA	NA	NA	NA	NA	NA
09/04/07	1,064.69	1,066.73	1,067.36	1,060.34	1,064.20	1,064.44	1,065.53	1,067.32	1,067.11	1,067.14	1,067.12	1,067.23	1,067.08	1,066.72	1,066.84
10/16/07	1,064.81	1,067.01	1,067.67	1,060.49	1,064.38	1,065.65	1,065.73	NM	NM	NA	NA	NM	NA	NA	NA
11/13/07	1,064.98	1,067.24	1,067.93	1,060.96	1,064.73	1,065.95	1,065.99	NM	NM	NA	NA	NM	NA	NA	NA
12/03/07	1,066.06	1,067.66	1,068.25	1,064.67	1,066.66	1,067.00	1,066.93	1,068.50	1,068.19	1,067.62	1,068.27	1,068.33	1,068.27	NM	1,068.14
01/24/08	1,065.39	1,067.73	1,068.41		1,065.28	NM	1,066.53	NM	NM	NA	NA	NM	NA	NA	NA
02/20/08	1,065.54	1,067.71	1,068.39		1,065.60	1,066.62	1,066.63	1,068.51	1,068.25	1,068.31	1,068.31	1,068.38	1,068.28	1,068.08	1,068.13
03/10/08	NM [b]	1,067.62	1,068.28		1,065.60	1,066.58	1,066.57	NM	NM	NA	NA	NM	NA	NA	NA
04/16/08	1,066.20	1,067.60	1,068.13		1,066.73	1,067.00	1,066.93	NM	NM	NA	NA	NM	NA	NA	NA
05/27/08	NM [c]	1,067.21	1,067.83		1,065.07	1,066.14	1,066.23	1,067.74	1,067.47	1,067.56	1,067.54	1,067.62	1,067.49	1,067.20	1,067.30
06/19/08	NM [c]	1,067.11	1,067.74		1,064.96	1,066.96	1,066.21	NM	NM	NA	NA	NM	NA	NA	NA
07/29/08	NM [c]	1,067.57	1,068.22		1,066.34	1,066.94	1,066.82	NM	NM	NA	NA	NM	NA	NA	NA
08/25/08	NM [c]	1,067.63	1,068.32		1,065.71	1,066.60	1,066.55	1,068.75	1,068.44	1,068.54	1,068.56	1,068.60	1,068.48	1,068.43	1,067.45
09/15/08	1,063.62	1,067.60	1,068.35		1,065.61	1,066.57	1,066.50	NM	NM	NA	NA	NM	NA	NA	NA
10/23/08	1,063.75	1,067.84	1,068.53		1,065.58	1,066.65	1,066.60	NM	NM	NM	NM	NM	NM	NM	NM
11/20/08	1,063.97	1,068.06	1,068.81		1,065.84	1,066.92	1,066.84	1,069.81	1,069.52	1,069.62	1,069.64	1,069.65	1,069.59	1,069.42	1,069.47
12/02/08	1,064.23	1,068.15	1,068.90		1,066.30	1,067.26	1,067.15	NM	NM	NM	NM	NM	NM	NM	NM
01/14/09	1,064.64	1,068.37	1,069.04		1,066.58	1,067.52	1,067.51	NM	NM	NM	NM	NM	NM	NM	NM
03/20/09	1,063.66	1,067.37	1,068.05		1,064.93	1,066.19	1,066.27	NM	NM	NM	NM	NM	NM	NM	NM
06/2009	1,065.41	1,068.21	1,068.66		1,067.19	1,067.70	1,067.76	1,068.38	1,068.11	1,068.19	1,068.18	1,068.25	1,068.15	1,067.85	1,067.94
09/28/09	1,066.42	1,069.16	1,069.72		1,068.30	1,068.77	1,068.74	NM	NM	NM	NM	NM	NM	NM	NM
12/07/09	1,065.72	1,069.10	1,069.67		1,067.40	1,068.33	1,068.32	NM	NM	NM	NM	NM	NM	NM	NM
01/05/10	1,065.66	1,068.93	1,069.62		1,067.21	1,068.15	1,068.16	1,070.49	1,070.24	1,070.25	1,070.33	1,070.44	1,070.35	1,070.15	1,070.26
02/04/10	1,067.05	1,069.79	1,070.36		1,069.65	1,069.74	1,069.52	NM	NM	NM	NM	NM	NM	NM	NM
03/01/10	1,066.88	1,069.72	1,070.26		NA	1,069.66	1,069.46	NM	NM	NM	NM	NM	NM	NM	NM
04/19/10	1,064.84	1,068.26	1,068.94		1,066.55	1,067.50	1,067.51	1,069.55	1,068.34	1,069.33	1,069.39	1,069.55	1,069.43	1,069.04	1,069.21
06/02/10	1,064.56	1,067.99	1,068.80		1,066.28	1,067.96	1,067.16	NM	NM	NM	NM	NM	NM	NM	NM
08/30/10	1,064.96	1,068.26	1,068.95		1,066.52	1,067.47	1,067.48	NM	NM	NM	NM	NM	NM	NM	NM
09/21/10	1,065.13	1,068.41	1,069.13		1,066.65	1,067.62	1,067.62	NM	NM	NM	NM	NM	NM	NM	NM
10/15/10	1,065.46	1,068.67	1,069.36		1,067.03	1,067.96	1,067.95	1,070.77	1,070.61	1,070.76	1,070.61	1,070.76	1,070.67	1,070.42	1,070.55
11/17/10	1,065.69	1,068.99	1,069.72		1,067.34	1,068.24	1,068.25	NM	NM	NM	NM	NM	NM	NM	NM
12/21/10	1,065.76	1,069.04	1,069.76		1,067.39	1,068.31	1,068.31	NM	NM	NM	NM	NM	NM	NM	NM
01/21/11	1,067.05	1,069.85	1,070.43		1,069.63	1,069.78	1,069.60	NM	NM	NM	NM	NM	NM	NM	NM
02/23/11	1,067.12	1,069.97	1,070.53		1,069.76	1,069.92	1,069.71	NM	NM	NM	NM	NM	NM	NM	NM
03/22/11	1,065.58	1,068.90	1,069.59	Abandoned Dec -07	1,067.31	1,068.21	1,068.15	NM	NM	NM	NM	NM	NM	NM	NM
04/22/11	1,065.40	1,068.66	1,069.31		1,067.04	1,067.92	1,067.89	NM	NM	NM	NM	NM	NM	NM	NM
05/25/11	1,065.33	1,068.34	1,068.96		1,066.88	1,067.68	1,067.67	1,070.29	1,070.39	1,070.10	1,070.08	1,070.90	1,070.71	1,069.60	1,069.64
06/21/11	1,065.51	1,068.39	1,069.01		1,067.32	1,067.92	1,067.84	NM	NM	NM	NM	NM	NM	NM	NM
07/28/11	1,067.41	1,069.04	1,069.84		1,067.33	1,068.39	1,068.32	NM	NM	NM	NM	NM	NM	NM	NM
08/29/11	1,067.16	1,068.93	1,069.80		1,067.07	1,068.23	1,068.14	NM	NM	NM	NM	NM	NM	NM	NM
09/26/11	1,068.05	1,069.35	1,070.18		1,067.86	1,068.84	1,068.73	NM	NM	NM	NM	NM	NM	NM	NM
10/28/11	1,067.64	1,069.48	1,070.38		1,067.74	1,068.86	1,068.69	NM	NM	NM	NM	NM	NM	NM	NM
11/23/11	1,068.13	1,069.70	1,070.65		1,068.18	1,069.20	1,069.00	NM	NM	NM	NM	NM	NM	NM	NM
12/20/11	1,067.83	1,069.64	1,070.55		1,067.96	1,069.05	1,068.91	1,073.54	1,073.22	1,073.37	1,073.43	1,073.35	1,073.52	1,073.05	1,073.10
01/31/12	1,067.56	1,069.34	1,070.25		1,067.73	1,068.79	1,068.63	NM	NM	NM	NM	NM	NM	NM	NM
02/29/12	1,067.36	1,069.07	1,069.96		1,067.50	1,068.51	1,068.38	NM	NM	NM	NM	NM	NM	NM	NM
03/22/12	1,067.24	1,068.89	1,069.72		1,067.22	1,068.30	1,068.18	NM	NM	NM	NM	NM	NM	NM	NM
04/20/12	1,067.17	1,068.57	1,069.35		1,066.97	1,068.00	1,067.88	NM	NM	NM	NM	NM	NM	NM	NM
05/24/12	1,066.58	1,068.30	1,069.13		1,066.54	1,067.65	1,067.53	1,071.84	1,071.56	1,071.78	1,071.88	1,071.72	1,071.87	1,071.27	1,071.32
06/28/12	1,066.78	1,068.32	1,069.16		1,067.17	1,067.94	1,067.76	NM	NM	NM	NM	NM	NM	NM	NM
07/31/12	1,066.89	1,068.41	1,069.13		1,067.34	1,068.05	1,067.92	NM	NM	NM	NM	NM	NM	NM	NM
08/26/12	1,066.79	1,068.29	1,069.05		1,067.04	1,067.83	1,067.69	NM	NM	NM	NM	NM	NM	NM	NM
09/27/12	1,067.74	1,068.96	1,069.69		1,068.71	1,068.98	1,068.70	NM	NM	NM	NM	NM	NM	NM	NM
10/26/12	1,068.75	1,069.50	1,070.19		1,069.44	1,069.62	1,069.29	NM	NM	NM	NM	NM	NM	NM	NM
11/30/12	1,066.52	1,068.33	1,069.27		1,066.37	1,067.61	1,067.52	1,072.11	1,071.86	1,071.99	1,072.00	1,072.00	1,072.14	1,071.43	1,071.55
12/28/12	1,066.81	1,068.40	1,069.26		1,067.25	1,068.03	1,067.79	NM	NM	NM	NM	NM	NM	NM	NM
01/25/13	1,066.22	1,067.99	1,068.95		1,066.13	1,067.34	1,067.21	NM	NM	NM	NM	NM	NM	NM	NM
02/25/13	1,067.26	1,068.40	1,069.16		1,068.03	1,068.34	1,068.09	NM	NM	NM	NM	NM	NM	NM	NM
03/31/13	1,067.41	1,068.47	1,069.17		1,068.37	1,068.58	1,068.27	1,070.41	1,070.31	1,070.38	1,070.42	1,070.43	1,070.49	1,070.01	1,070.05
04/30/13	1,066.47	1,067.94	1,068.70		1,066.36	1,067.39	1,067.28	NM	NM	NM	NM	NM	NM	NM	NM
05/29/13	1,065.99	1,067.53	1,068.35		1,065.90	1,066.90	1,066.85	NM	NM	NM	NM	NM	NM	NM	NM
06/30/13	1,065.85	1,067.43	1,068.25		1,065.95	1,066.93	1,066.77	1,070.39	1,070.16	1,070.31	1,070.29	1,070.28	1,070.45	1,069.78	1,069.86
07/27/13	1,065.99	1,067.55	1,068.43		1,066.16	1,067.09	1,066.92	NM	NM	NM	NM	NM	NM	NM	NM
08/30/13	1,066.17	1,067.76	1,068.70		1,066.41	1,067.34	1,067.16	NM	NM	NM	NM	NM	NM	NM	NM
09/30/13	1,066.97	1,068.39	1,069.22		1,067.56	1,068.20	1,067.94	NM	NM	NM	NM	NM	NM	NM	NM

TABLE 2
Historical Groundwater Elevations 2000-2014
Central and Camelback Water Level Monitoring Network

Date	CC-1	CC-2	CC-3	CC-4	CC-5	CC-6	CC-7	CC-8	CC-9	CC-10	CC-11	CC-12	CC-13	CC-14	CC-15	CC-16	CC-17	CC-18	CC-19	MW-101	MW-102	MW-103	MW-104	MW-105	MW-106	MW-107	Tex-MW-1[a]	Tex-MW-2[a]	Tex-MW-3[a]	Tex-MW-4[a]	Tex-MW-5[a]	Tex-MW-6[a]	Tex-MW-7[a]	Tex-MW-8[a]
TOC Elevation Before April 2011	*1,130.60*	*1,130.45*	*1,130.07*	*1,128.20*	*1,127.42*	*1,128.27*	*1,130.73*	*1,131.01*	*1,131.78*	*1,133.44*	*1,133.84*	*1,126.33*	*1,125.86*	*1,129.10*		*1,137.90*		*1,130.90*		*1,127.66*	*1,131.87*	*1,129.71*	*1,132.15*	*1,130.86*	*1,130.67*	*1,131.61*	*1,136.41*	*1,135.89*	*1,136.76*	*1,137.08*	*1,136.98*	*1,137.66*	*1,137.86*	*1,137.01*
TOC Elevation After April 2011	*1,132.62*	*1,132.36*	*1,131.92*	*1,130.04*	*1,129.39*	*1,130.18*	*1,132.58*	*1,132.89*	*1,133.54*	*1,135.33*	*1,135.76*	*1,128.26*	*1,127.77*	*1,131.30*		*1,140.33*		*1,133.15*		*1,129.89*	*1,132.50*	*1,130.46*	*1,132.15*	*1,131.43*	*1,131.39*	*1,132.23*	*1,138.14*	*1,137.32*	*1,138.57*	*1,138.81*	*1,137.99*	*1,139.00*	*1,139.89*	*1,139.00*
TOC Elevation After June 2013	*1,132.62*	*1,132.36*	*1,131.92*	*1,130.04*	*1,129.56*	*1,130.18*	*1,132.58*	*1,132.89*	*1,133.54*	*1,135.33*	*1,135.76*	*1,128.26*	*1,127.77*	*1,131.30*	*1,137.96*	*1,140.33*	*1,134.54*	*1,133.15*	*1,135.10*	*1,129.89*	*1,132.50*	*1,130.46*	*1,132.15*	*1,131.43*	*1,131.39*	*1,132.23*	*1,138.14*	*1,137.32*	*1,138.57*	*1,138.81*	*1,137.99*	*1,139.00*	*1,139.89*	*1,139.00*
10/16/13	1,040.44	1,066.15	1,065.67	1,064.44	1,042.81	1,066.28	1,069.25	1,070.21	1,073.36	1,071.70	1,070.79	1,066.99	1,067.58	1,067.10	1,070.67	1,071.46	1,070.13	1,068.70		1,067.29	1,068.53	1,069.38	Abandoned Dec -07	1,068.32	1,068.60	1,068.27	1,071.82	1,071.54	1,071.68	1,071.72	1,071.69	1,071.83	1,072.17	1,071.28
11/30/13	1,045.37	1,066.85	1,065.72	1,064.70	1,042.16	1,066.48	1,069.37	1,070.32	1,073.39	1,071.70	1,071.01	1,067.03	1,067.52	1,067.30	1,070.97	1,071.83	1,070.37	1,068.92		1,066.65	1,068.15	1,069.09		1,066.79	1,067.77	1,067.56	NM	NM	NM	NM	NM	NM	NM	NM
12/26/13	1,045.72	1,066.73	1,065.46	1,064.47	1,042.21	1,066.22	1,069.06	1,070.03	1,073.15	1,071.43	1,070.78	1,066.82	1,067.29	1,066.95	1,070.77	1,071.58	1,070.14	1,068.66	1,070.61	1,066.36	1,067.90	1,068.80		1,066.46	1,067.42	1,067.31	NM	NM	NM	NM	NM	NM	NM	NM
01/31/14	1,045.45	1,066.38	1,065.21	1,064.24	1,045.26	1,065.98	1,068.86	1,069.80	1,072.79	1,071.08	1,070.53	1,066.63	1,067.11	1,066.80	1,070.53	1,071.34	1,069.94	1,068.49	1,069.45	1,066.15	1,067.70	1,068.60		1,066.30	1,067.28	1,067.07	1,071.41	1,071.12	1,071.24	1,071.30	1,071.28	1,071.38	1,070.92	1,070.97
02/23/14	1,045.54	1,066.16	1,065.16	1,064.42	1,045.80	1,066.14	1,068.53	1,069.40	1,072.26	1,070.60	1,070.08	1,066.49	1,066.93	1,066.65	1,070.06	1,070.86	1,069.54	1,068.28	1,069.07	1,066.12	1,067.47	1,068.34		1,066.22	1,067.09	1,066.88	NM	NM	NM	NM	NM	NM	NM	NM
03/31/14	1,044.91	1,065.81	1,064.82	1,063.90	1,046.72	1,065.53	1,068.07	1,068.94	1,071.54	1,069.96	1,069.44	1,066.30	1,066.73	1,066.30	1,069.40	1,070.02	1,069.03	1,067.85	1,068.59	1,065.68	1,067.15	1,067.96		1,065.70	1,066.64	1,066.51	NM	NM	NM	NM	NM	NM	NM	NM
04/27/14	1,042.62	1,065.23	1,064.28	1,063.22	1,045.86	1,064.98	1,067.62	1,068.48	1,071.19	1,069.61	1,069.03	0.00	1,066.37	1,065.82	1,068.91	1,069.44	1,068.55	1,067.28	1,068.11	1,065.19	1,066.78	1,067.65		1,065.26	1,066.28	1,066.12	NM	NM	NM	NM	NM	NM	NM	NM
06/01/14	1,043.52	1,065.16	1,064.25	1,063.67	1,047.11	1,064.98	1,067.45	1,068.29	1,071.13	1,069.49	1,068.84	1,065.74	1,066.13	1,065.75	1,068.68	1,069.25	1,068.37	1,067.19	1,067.87	1,065.23	1,066.58	1,067.36		1,065.26	1,066.14	1,065.98	NM	NM	NM	NM	NM	NM	NM	NM

[a] Texaco well measurements were collected within the month listed. Texaco water level data supplied by Others. Wells not surveyed by ADEQ until June 2011.
[b] No access to MW-101 at time of water level monitoring

[c] The casing for MW-101 was cut to allow for a flush mounted surface vault due to light rail construction. The new well head elevation (1127.66) was provided to ADEQ on 2/11/09 and used on readings after June 2008.

NM = Water level not measured
NA = Data not available
Well measuring points were re-surveyed on April 27, 2011. Texaco wells were re-surveyed June 2011.
Well measuring points were re-surveyed on June 28, 2013 for CC-2, CC-5, EW-1, EW-2 and EW-3.
Well measuring points were surveyed on June 28, 2013 for CC-15 and CC-17.
Well measuring point was surveyed on January 20, 2014 for CC-19.

TABLE 3
Comparison of Historical Analytical Detected Results, 2002-2014
All values in ug/L

Well Name	Date	Benzene	Bromodichloromethane	Bromoform	Bromomethane	Carbon tetrachloride	Chlorobenzene	Chloroethane	Chloroform	Chloromethane	Dibromochloromethane	1,2-Dichlorobenzene	1,3-Dichlorobenzene	1,4-Dichlorobenzene	Dichlorodifluoromethane	1,1-Dichloroethane	1,2-Dichloroethane	1,1-Dichloroethene	trans-1,2-Dichloroethene	cis-1,2-Dichloroethene	1,2-Dichloropropane	cis-1,3-Dichloropropene	trans-1,3-Dichloropropene	Ethylbenzene	Methylene chloride	Methyl tert-butyl ether	1,1,2,2-Tetrachloroethane	Toluene	Trichloroethene (TCE)	1,1,1-Trichloroethane	1,1,2-Trichloroethane	Tetrachloroethene (PCE)	Trichlorofluoromethane	Vinyl Chloride	Xylenes, Total
CC-1	3/25/2002	<0.50	<0.50	<1.0	<1.0	<0.50	<0.50	<1.0	<0.50	<1.0	<0.50	<1.5	<1.5	<1.5	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<2.0	<3.0	<2.0	<0.50	**14**	<0.50	<0.50	<0.50	**1.6**	<0.50	<0.50	<3.0
	9/30/2002	<0.50	<0.50	<1.0	<1.0	<0.50	<0.50	<1.0	<0.50	<1.0	<0.50	<1.5	<1.5	<1.5	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<2.0	<3.0	<2.0	<0.50	**11**	<0.50	<0.50	<0.50	**0.85**	<2.0	<0.50	<3.0
	4/15/2004	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<2.0	<1.0	<2.0	<0.50	<0.50	<0.50	<0.50	<3.0	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<1.0	<1.0	<1.0	<0.50	<0.50	<0.50	<1.0	<0.50	<1.0	<1.0	<1.5
	6/14/2004	<0.50	<0.50	<0.50	<1.0	<1.0	<0.50	<2.0	<1.0	<2.0	<0.50	<0.50	<0.50	<0.50	<3.0	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<1.0	<1.0	<1.0	<0.50	<0.50	<0.50	<1.0	**2.1**	<1.0	<1.0	<1.5
	9/14/2004	<0.50	<0.50	<0.50	<1.0	<1.0	<0.50	<2.0	<1.0	<2.0	<0.50	<0.50	<0.50	<0.50	<3.0	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<1.0	<1.0	<1.0	**3.0**	<0.50	<0.50	<1.0	**0.70**	<1.0	<1.0	<1.5
	12/13/2004	<0.50	<0.50	<0.50	<1.0	<2.0	<0.50	<2.0	<1.0	<2.0	<0.50	<0.50	<0.50	<0.50	<3.0	<1.0	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<2.0	<1.0	<1.0	**0.61**	<0.50	<0.50	<1.0	**0.98**	<1.0	<1.0	<1.5
	3/14/2005	<0.50	<1.0	<1.0	<1.0	<0.50	<0.50	<1.0	<0.50	<1.0	<1.0	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<2.0	<2.0	<0.50	<0.50	<0.50	<0.50	<0.50	**1.1**	<1.0	<0.50	<1.5
	6/1/2005	<0.50	<1.0	<0.50	<2.0	<2.0	<0.50	<2.0	<1.0	<2.0	<0.50	<0.50	<0.50	<0.50	<3.0	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<2.0	<1.0	<1.0	<0.50	<0.50	<0.50	<1.0	**0.82**	<1.0	<1.0	<1.5
	9/19/2005	<0.50	<1.0	<0.50	<2.0	<2.0	<0.50	<2.0	<1.0	<2.0	<0.50	<0.50	<0.50	<0.50	<3.0	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<2.0	<1.0	<1.0	<0.50	<0.50	<0.50	<1.0	**2.2**	<1.0	<1.0	<1.5
	12/13/2005	<0.50	<0.50	<1.0	<5.0	<0.50	<0.50	<5.0	<0.50	<5.0	<0.50	<1.5	<1.5	<1.5	<2.0	<1.0	<1.0	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<2.0	<3.0	<2.0	<0.50	<3.0	<0.50	<0.50	<0.50	**0.84**	<2.0	<3.0	<3.0
	2/21/2006	<0.50	<0.50	<1.0	<5.0	<0.50	<0.50	<5.0	<0.50	<5.0	<0.50	<1.5	<1.5	<1.5	<2.0	<1.0	<1.0	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<2.0	<3.0	<2.0	<0.50	<3.0	<0.50	<0.50	<0.50	**0.93**	<2.0	<0.50	<3.0
	6/27/2006	<0.50	<0.50	<1.0	<5.0	<0.50	<0.50	<5.0	<0.50	<5.0	<0.50	<1.5	<1.5	<1.5	<2.0	<1.0	<1.0	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<2.0	<3.0	<2.0	<0.50	<3.0	<0.50	<0.50	<0.50	**0.73**	<2.0	<0.50	<3.0
	9/19/2006	<0.50	<0.50	<1.0	<5.0	<0.50	<0.50	<5.0	<0.50	<5.0	<0.50	<1.5	<1.5	<1.5	<2.0	<1.0	<1.0	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<2.0	<3.0	<2.0	<0.50	<3.0	<0.50	<0.50	<0.50	**1.0**	<2.0	<0.50	<3.0
	12/19/2006	<0.50	<0.50	<1.0	<5.0	<0.50	<0.50	<5.0	<0.50	<5.0	<0.50	<1.5	<1.5	<1.5	<2.0	<1.0	<1.0	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<2.0	<3.0	<2.0	<0.50	<3.0	<0.50	<0.50	<0.50	**0.80**	<2.0	<0.50	<3.0
	3/20/2007	<0.50	<0.50	<1.0	<5.0	<0.50	<0.50	<5.0	<0.50	<5.0	<0.50	<1.5	<1.5	<1.5	<2.0	<1.0	<1.0	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<2.0	<3.0	<2.0	<0.50	<3.0	<0.50	<0.50	<0.50	**0.85**	<2.0	<0.50	<3.0
	6/7/2007	<0.50	<0.50	<1.0	<5.0	<0.50	<0.50	<5.0	<0.50	<5.0	<0.50	<1.5	<1.5	<1.5	<2.0	<1.0	<1.0	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<2.0	<3.0	<2.0	<0.50	<3.0	<0.50	<0.50	<0.50	**1.10**	<2.0	<0.50	<3.0
	9/6/2007	<0.50	<0.50	<1.0	<5.0	<0.50	<0.50	<5.0	<0.50	<5.0	<0.50	<1.5	<1.5	<1.5	<2.0	<1.0	<1.0	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<2.0	<3.0	<2.0	<0.50	<3.0	<0.50	<0.50	<0.50	**0.92**	<2.0	<0.50	<3.0
	12/3/2007	<0.50	<0.50	<1.0	<5.0	<0.50	<0.50	<5.0	<0.50	<5.0	<0.50	<1.5	<1.5	<1.5	<2.0	<1.0	<1.0	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<2.0	<3.0	<2.0	<0.50	<3.0	<0.50	<0.50	<0.50	**0.83**	<2.0	<0.50	<3.0
	3/12/2008	<0.50	<0.50	<1.0	<5.0	<0.50	<0.50	<5.0	<0.50	<5.0	<0.50	<1.5	<1.5	<1.5	<2.0	<1.0	<1.0	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<2.0	<3.0	<2.0	<0.50	<3.0	<0.50	<0.50	<0.50	<0.50	<2.0	<0.50	<3.0
	5/29/2008	<0.50	<1.0	<1.0	<1.0	<0.50	<0.50	<1.0	<0.50	<1.0	<1.0	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<2.0	<2.0	<0.50	<0.50	<0.50	<0.50	<0.50	**0.83**	<1.0	<0.50	<1.5
	6/1/2010	<0.50	<0.50	<1.0	<1.0	<0.50	<0.50	<1.0	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	**0.71**	<0.50	<0.50	<1.0
	10/12/2010	<0.50	<0.50	<1.0	<5.0	<0.50	<0.50	<4.0	<0.50	<5.0	<0.50	<1.5	<1.5	<1.5	<2.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<2.0	<3.0	<2.0	<0.50	<2.0	<0.50	<0.50	<0.50	**0.880**	<2.0	<0.50	<1.0
	4/19/2011	<0.50	<0.50	<1.0	<1.0	<0.50	<0.50	<1.0	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.5
	10/3/2011	<0.50	<0.50	<1.0	<1.0	<0.50	<0.50	<1.0	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	**1.0**	<0.50	<0.50	<1.5
	4/16/2012	<0.50	<0.50	<1.0	<1.0	<0.50	<0.50	<1.0	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	**0.52**	<0.50	<0.50	<1.5
	10/23/2012	<0.50	<0.50	<1.0	<1.0	<0.50	<0.50	<1.0	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	**0.79**	<0.50	<0.50	<1.5
	4/8/2013	<0.50	<0.50	<1.0	<1.0	<0.50	<0.50	<1.0	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	**0.93**	<0.50	<0.50	<1.5
	10/12/2013	<0.50	<0.50	<1.0	<1.0	<0.50	<0.50	<1.0	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	**0.54**	<0.50	<0.50	<1.5
CC-2	3/26/2002	<0.50	<0.50	<1.0	<1.0	<0.50	<0.50	<1.0	<0.50	<1.0	<0.50	<1.5	<1.5	<1.5	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<2.0	<3.0	<2.0	<0.50	<3.0	<0.50	<0.50	<0.50	<0.50	**2.4**	<0.50	<3.0
	9/30/2002	<0.50	<0.50	<1.0	<1.0	<0.50	<0.50	<1.0	<0.50	<1.0	<0.50	<1.5	<1.5	<1.5	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<2.0	<3.0	<2.0	<0.50	<3.0	<0.50	<0.50	<0.50	<0.50	<2.0	<0.50	<3.0
	4/14/2004	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<2.0	<1.0	<2.0	<0.50	<0.50	<0.50	<0.50	<3.0	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<1.0	<1.0	<1.0	<0.50	<0.50	<0.50	<1.0	<0.50	**1.3**	<1.0	<1.5
	4/14/2004[a]	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<2.0	<1.0	<2.0	<0.50	<0.50	<0.50	<0.50	<3.0	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<1.0	<1.0	<1.0	<0.50	<0.50	<0.50	<1.0	<0.50	**1.4**	<1.0	<1.5
	6/15/2004	<0.50	<0.50	<0.50	<1.0	<1.0	<0.50	<2.0	<1.0	<2.0	<0.50	<0.50	<0.50	<0.50	<3.0	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<1.0	<1.0	<1.0	<0.50	<0.50	<0.50	<1.0	<0.50	**1.8**	<1.0	<1.5
	9/14/2004	<0.50	<0.50	<0.50	<1.0	<1.0	<0.50	<2.0	<1.0	<2.0	<0.50	<0.50	<0.50	<0.50	<3.0	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<1.0	<1.0	<1.0	**1.0**	<0.50	<0.50	<1.0	<0.50	**1.2**	<1.0	<1.5
	12/13/2004	<0.50	<0.50	<0.50	<1.0	<2.0	<0.50	<2.0	<1.0	<2.0	<0.50	<0.50	<0.50	<0.50	<3.0	<1.0	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<2.0	<1.0	<1.0	**0.92**	<0.50	<0.50	<1.0	<0.50	**1.1**	<1.0	<1.5
	3/14/2005	<0.50	<1.0	<1.0	<1.0	<0.50	<0.50	<1.0	<0.50	<1.0	<1.0	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<2.0	<2.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<1.5
	6/1/2005	<0.50	<1.0	<0.50	<2.0	<2.0	<0.50	<2.0	<1.0	<2.0	<0.50	<0.50	<0.50	<0.50	<3.0	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<2.0	<1.0	<1.0	<0.50	<0.50	<0.50	<1.0	<0.50	**1.7**	<1.0	<1.5
	9/19/2005	<0.50	<1.0	<0.50	<2.0	<2.0	<0.50	<2.0	<1.0	<2.0	<0.50	<0.50	<0.50	<0.50	<3.0	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<2.0	<1.0	<1.0	<0.50	<0.50	<0.50	<1.0	<0.50	<1.0	<1.0	<1.5
	12/13/2005	<0.50	<0.50	<1.0	<5.0	<0.50	<0.50	<5.0	<0.50	<5.0	<0.50	<1.5	<1.5	<1.5	<2.0	<1.0	<1.0	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<2.0	<3.0	<2.0	<0.50	<3.0	<0.50	<0.50	<0.50	<0.50	<2.0	<0.50	<3.0
	2/21/2006	<0.50	<0.50	<1.0	<5.0	<0.50	<0.50	<5.0	<0.50	<5.0	<0.50	<1.5	<1.5	<1.5	<2.0	<1.0	<1.0	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<2.0	<3.0	<2.0	<0.50	<3.0	<0.50	<0.50	<0.50	<0.50	<2.0	<0.50	<3.0
	6/27/2006	<0.50	<0.50	<1.0	<5.0	<0.50	<0.50	<5.0	<0.50	<5.0	<0.50	<1.5	<1.5	<1.5	<2.0	<1.0	<1.0	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<2.0	<3.0	<2.0	<0.50	<3.0	<0.50	<0.50	<0.50	<0.50	<2.0	<0.50	<3.0
	9/19/2006	<0.50	<0.50	<1.0	<5.0	<0.50	<0.50	<5.0	<0.50	<5.0	<0.50	<1.5	<1.5	<1.5	<2.0	<1.0	<1.0	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<2.0	<3.0	<2.0	<0.50	<3.0	<0.50	<0.50	<0.50	<0.50	<2.0	<0.50	<3.0
	12/19/2006	<0.50	<0.50	<1.0	<5.0	<0.50	<0.50	<5.0	<0.50	<5.0	<0.50	<1.5	<1.5	<1.5	<2.0	<1.0	<1.0	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<2.0	<3.0	<2.0	<0.50	<3.0	<0.50	<0.50	<0.50	<0.50	<2.0	<0.50	<3.0
	3/20/2007	<0.50	<0.50	<1.0	<5.0	<0.50	<0.50	<5.0	<0.50	<5.0	<0.50	<1.5	<1.5	<1.5	<2.0	<1.0	<1.0	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<2.0	<3.0	<2.0	<0.50	<3.0	<0.50	<0.50	<0.50	<0.50	<2.0	<0.50	<3.0
	6/7/2007	<0.50	<0.50	<1.0	<5.0	<0.50	<0.50	<5.0	<0.50	<5.0	<0.50	<1.5	<1.5	<1.5	<2.0	<1.0	<1.0	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<2.0	<3.0	<2.0	<0.50	<3.0	<0.50	<0.50	<0.50	<0.50	<2.0	<0.50	<3.0
	9/6/2007	<0.50	<0.50	<1.0	<5.0	<0.50	<0.50	<5.0	<0.50	<5.0	<0.50	<1.5	<1.5	<1.5	<2.0	<1.0	<1.0	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<2.0	<3.0	<2.0	<0.50	<3.0	<0.50	<0.50	<0.50	<0.50	<2.0	<0.50	<3.0
	12/3/2007	<0.50	<0.50	<1.0	<5.0	<0.50	<0.50	<5.0	<0.50	<5.0	<0.50	<1.5	<1.5	<1.5	<2.0	<1.0	<1.0	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<2.0	<3.0	<2.0	<0.50	<3.0	<0.50	<0.50	<0.50	<0.50	<2.0	<0.50	<3.0
	3/12/2008	<0.50	<0.50	<1.0	<5.0	<0.50	<0.50	<5.0	<0.50	<5.0	<0.50	<1.5	<1.5	<1.5	<2.0	<1.0	<1.0	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<2.0	<3.0	<2.0	<0.50	<3.0	<0.50	<0.50	<0.50	<0.50	<2.0	<0.50	<3.0
	5/29/2008	<0.50	<1.0	<1.0	<1.0	<0.50	<0.50	<1.0	<0.50	<1.0	<1.0	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<2.0	<2.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<1.5
	6/2/2010	<0.50	<0.50	<1.0	<1.0	<0.50	<0.50	<1.0	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	**0.67**	<0.50	<1.0
	10/12/2010	<0.50	<0.50	<1.0	<5.0	<0.50	<0.50	<4.0	<0.50	<5.0	<0.50	<1.5	<1.5	<1.5	<2.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<2.0	<3.0	<2.0	<0.50	<2.0	<0.50	<0.50	<0.50	<0.50	<2.0	<0.50	<1.0
	4/19/2011	<0.50	<0.50	<1.0	<1.0	<0.50	<0.50	<1.0	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	**0.74**	<0.50	<1.5
	10/3/2011	<0.50	<0.50	<1.0	<1.0	<0.50	<0.50	<1.0	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	**0.97**	<0.50	<1.5
	10/25/2012	<0.50	<0.50	<1.0	<1.0	<0.50	<0.50	<1.0	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	**0.99**	<0.50	<1.5
	10/25/2012[a]	<0.50	<0.50	<1.0	<1.0	<0.50	<0.50	<1.0	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	**0.92**	<0.50	<1.5
	4/9/2013	<0.50	<0.50	<1.0	<1.0	<0.50	<0.50	<1.0	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	**0.71**	<0.50	<1.5
	10/15/2013	<0.50	<0.50	<1.0	<1.0	<0.50	<0.50	<1.0	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	**0.75**	<0.50	<1.5

TABLE 3
Comparison of Historical Analytical Detected Results, 2002-2014
All values in ug/L

Well Name	Date	Benzene	Bromodichloromethane	Bromoform	Bromomethane	Carbon tetrachloride	Chlorobenzene	Chloroethane	Chloroform	Chloromethane	Dibromochloromethane	1,2-Dichlorobenzene	1,3-Dichlorobenzene	1,4-Dichlorobenzene	Dichlorodifluoromethane	1,1-Dichloroethane	1,2-Dichloroethane	1,1-Dichloroethene	trans-1,2-Dichloroethene	cis-1,2-Dichloroethene	1,2-Dichloropropane	cis-1,3-Dichloropropene	trans-1,3-Dichloropropene	Ethylbenzene	Methylene chloride	Methyl tert-butyl ether	1,1,2,2-Tetrachloroethane	Toluene	Trichloroethene (TCE)	1,1,1-Trichloroethane	1,1,2-Trichloroethane	Tetrachloroethene (PCE)	Trichlorofluoromethane	Vinyl Chloride	Xylenes, Total
CC-3	3/26/2002	<0.50	<0.50	<1.0	<1.0	<0.50	<0.50	<1.0	**1.4**	<1.0	<0.50	<1.5	<1.5	<1.5	<0.50	<0.50	<0.50	<0.50	<0.50	**0.87**	<0.50	<0.50	<0.50	<2.0	<3.0	<2.0	<0.50	<3.0	**0.62**	<0.50	<0.50	**4.7**	**0.62**	<0.50	<3.0
	9/30/2002	<0.50	<0.50	<1.0	<1.0	<0.50	<0.50	<1.0	**1.4**	<1.0	<0.50	<1.5	<1.5	<1.5	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<2.0	<3.0	<2.0	<0.50	<3.0	<0.50	<0.50	<0.50	**15**	<2.0	<0.50	<3.0
	4/15/2004	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<2.0	**1.4**	<2.0	<0.50	<0.50	<0.50	<0.50	<3.0	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<1.0	<1.0	<1.0	<0.50	<0.50	<0.50	<1.0	**2.2**	**3.4**	<1.0	<1.5
	6/15/2004	<0.50	<0.50	<0.50	<1.0	<1.0	<0.50	<2.0	**1.2**	<2.0	<0.50	<0.50	<0.50	<0.50	<3.0	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<1.0	<1.0	<1.0	<0.50	<0.50	<0.50	<1.0	**2.1**	**2.5**	<1.0	<1.5
	9/14/2004	<0.50	<0.50	<0.50	<1.0	<1.0	<0.50	<2.0	**1.1**	<2.0	<0.50	<0.50	<0.50	<0.50	<3.0	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<1.0	<1.0	<1.0	**1.2**	<0.50	<0.50	<1.0	<0.50	**2.3**	<1.0	<1.5
	12/14/2004	<0.50	<0.50	<0.50	<1.0	<2.0	<0.50	<2.0	**1.7**	<2.0	<0.50	<0.50	<0.50	<0.50	<3.0	<1.0	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<2.0	<1.0	<1.0	**1.5**	<0.50	<0.50	<1.0	**1.3**	**3.2**	<1.0	<1.5
	3/14/2005	<0.50	<1.0	<1.0	<1.0	<0.50	<0.50	<1.0	**2.0**	<1.0	<1.0	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<2.0	<2.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	**2.4**	<0.50	<1.5
	6/1/2005	<0.50	<1.0	<0.50	<2.0	<2.0	<0.50	<2.0	**2.1**	<2.0	<0.50	<0.50	<0.50	<0.50	<3.0	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<2.0	<1.0	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	**3.5**	<1.0	<1.5
	9/19/2005	<0.50	<1.0	<0.50	<2.0	<2.0	<0.50	<2.0	**2.2**	<2.0	<0.50	<0.50	<0.50	<0.50	<3.0	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<2.0	<1.0	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	**2.8**	<1.0	<1.5
	12/13/2005	<0.50	<0.50	<1.0	<5.0	<0.50	<0.50	<5.0	**2.8**	<5.0	<0.50	<1.5	<1.5	<1.5	<2.0	<1.0	<1.0	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<2.0	<3.0	<2.0	<0.50	<3.0	<0.50	<0.50	<0.50	<0.50	<0.50	**2.8**	<0.50	<3.0
	2/21/2006	<0.50	<0.50	<1.0	<5.0	<0.50	<0.50	<5.0	**3.0**	<5.0	<0.50	<1.5	<1.5	<1.5	<2.0	<1.0	<1.0	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<2.0	<3.0	<2.0	<0.50	<3.0	<0.50	<0.50	<0.50	<0.50	**4.9**	<0.50	<3.0
	6/28/2006	<0.50	<0.50	<1.0	<5.0	<0.50	<0.50	<5.0	**3.4**	<5.0	<0.50	<1.5	<1.5	<1.5	<2.0	<1.0	<1.0	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<2.0	<3.0	<2.0	<0.50	<3.0	<0.50	<0.50	<0.50	<0.50	**3.1**	<0.50	<3.0
	9/19/2006	<0.50	<0.50	<1.0	<5.0	<0.50	<0.50	<5.0	**3.7**	<5.0	<0.50	<1.5	<1.5	<1.5	<2.0	<1.0	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<1.1	<5.1	<0.50	<0.50	<5.1	**4.7**	<5.1	<0.51	<1.5	<1.5	<1.5	<2.1	<1.0
	12/18/2006	<0.50	<0.50	<1.0	<5.0	<0.50	<0.50	<5.0	**4.4**	<5.0	<0.50	<1.5	<1.5	<1.5	<2.0	<1.0	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<1.1	<5.1	<0.50	<0.50	<5.1	<3.0	<5.1	<0.51	<1.5	<1.5	**3.0**	<2.1	<1.0
	3/20/2007	<0.50	<0.50	<1.0	<5.0	<0.50	<0.50	<5.0	**5.7**	<5.0	<0.50	<1.5	<1.5	<1.5	<2.0	<1.0	<1.0	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<2.0	<3.0	<2.0	<0.50	<3.0	<0.50	<0.50	<0.50	<0.50	**3.1**	<0.50	<3.0
	6/7/2007	<0.50	<0.50	<1.0	<5.0	<0.50	<0.50	<5.0	**5.9**	<5.0	<0.50	<1.5	<1.5	<1.5	<2.0	<1.0	<1.0	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<2.0	<3.0	<2.0	<0.50	<3.0	<0.50	<0.50	<0.50	<0.50	**2.6**	<0.50	<3.0
	9/5/2007	<0.50	<0.50	<1.0	<5.0	<0.50	<0.50	<5.0	**7.3**	<5.0	<0.50	<1.5	<1.5	<1.5	<2.0	<1.0	<1.0	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<2.0	<3.0	<2.0	<0.50	<3.0	<0.50	<0.50	<0.50	<0.50	**3.1**	<0.50	<3.0
	12/5/2007	<0.50	<0.50	<1.0	<5.0	<0.50	<0.50	<5.0	**7.0**	<5.0	<0.50	<1.5	<1.5	<1.5	<2.0	<1.0	<1.0	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<2.0	<3.0	<2.0	<0.50	<3.0	<0.50	<0.50	<0.50	<0.50	**2.4**	<0.50	<3.0
	3/13/2008	<0.50	<0.50	<1.0	<5.0	<0.50	<0.50	<5.0	**10**	<5.0	<0.50	<1.5	<1.5	<1.5	<2.0	<1.0	<1.0	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<2.0	<3.0	<2.0	<0.50	<3.0	<0.50	<0.50	<0.50	<0.50	**2.5**	<0.50	<3.0
	5/30/2008	<0.50	<1.0	<1.0	<1.0	<0.50	<0.50	<1.0	**10**	<1.0	<1.0	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<2.0	<2.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	**2.4**	<0.50	<1.5
	6/3/2010	<0.50	<0.50	<1.0	<1.0	<1.0	<0.50	<0.50	**14**	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<2.0	<2.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	**1.6**	<0.50	<1.0
	10/14/2010	<0.50	<0.50	<1.0	<5.0	<0.50	<0.50	<4.0	**15.8**	<5.0	<0.50	<1.5	<1.5	<1.5	<2.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<2.0	<3.0	<2.0	<0.50	<2.0	<0.50	<0.50	<0.50	<0.50	<2.0	<0.50	<1.0
	4/21/2011	<0.50	<0.50	<1.0	<1.0	<0.50	<0.50	<1.0	**19**	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	**1.6**	<0.50	<1.5
	10/6/2011	<0.50	<0.50	<1.0	<1.0	<0.50	<0.50	<1.0	**21**	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	**1.5**	<0.50	<1.5
	4/18/2012	<0.50	<0.50	<1.0	<1.0	<0.50	<0.50	<1.0	**16**	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	**1.0**	<0.50	<1.5
	10/23/2012	<0.50	<0.50	<1.0	<1.0	<0.50	<0.50	<1.0	**20**	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	**1.1**	<0.50	<1.5
	4/11/2013	<0.50	<0.50	<1.0	<1.0	<0.50	<0.50	<1.0	**14**	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	**0.88**	<0.50	<1.5
	10/15/2013	<0.50	<0.50	<1.0	<1.0	<0.50	<0.50	<1.0	**16**	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	**0.75**	<0.50	<1.5
CC-4	3/23/2002	**1.2**	<1.0	<2.0	<2.0	<1.0	<1.0	<2.0	**2.5**	<2.0	<1.0	<3.0	<3.0	<3.0	<1.0	<1.0	<1.0	<1.0	<1.0	**1.9**	<1.0	<1.0	<1.0	<4.0	<6.0	<4.0	<1.0	<6.0	**11**	<1.0	<1.0	**320**	<1.0	<1.0	<6.0
	10/1/2002	<0.50	<0.50	<1.0	<1.0	<0.50	<0.50	<1.0	**1.7**	<1.0	<0.50	<1.5	<1.5	<1.5	<0.50	<0.50	<0.50	<0.50	<0.50	**3.8**	<0.50	<0.50	<0.50	<2.0	<3.0	<2.0	<0.50	<3.0	**17**	<0.50	<0.50	**230**	<2.0	<0.50	<3.0
	4/15/2004	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<2.0	**5.2**	<2.0	<0.50	<0.50	<0.50	<0.50	<3.0	<0.50	<0.50	<1.0	<0.50	**4.7**	<0.50	<0.50	<1.0	<0.50	<1.0	<1.0	<1.0	<0.50	**10**	<0.50	<1.0	**660**	**1.8**	<1.0	<1.5
	6/15/2004	<5.0	<5.0	<5.0	<10	<10	<5.0	<20	**11**	<20	<5.0	<5.0	<5.0	<5.0	<30	<5.0	<5.0	<10	<5.0	<5.0	<5.0	<5.0	<5.0	<10	<5.0	<10	<10	<5.0	**11**	<5.0	<10	**630**	<10	<10	<15
	9/14/2004	<0.50	<0.50	<0.50	<1.0	<1.0	<0.50	<2.0	**2.1**	<2.0	<0.50	<0.50	<0.50	<0.50	<3.0	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<1.0	<1.0	<1.0	**2.1**	**1.1**	<0.50	<1.0	**140**	<1.0	<1.0	<1.5
	12/14/2004	<5.0	<5.0	<5.0	<10	<20	<5.0	<20	<10	<20	<5.0	<5.0	<5.0	<5.0	<30	<5.0	<5.0	<10	<5.0	<5.0	<5.0	<5.0	<10	<5.0	<20	<10	<10	<5.0	<5.0	<5.0	<10	**64**	<10	<10	<15
	3/15/2005	<0.50	<1.0	<1.0	<1.0	<0.50	<0.50	<1.0	**1.7**	<1.0	<1.0	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<2.0	<2.0	<0.50	<0.50	**0.71**	<0.50	<0.50	**50**	<1.0	<0.50	<1.5
	6/2/2005	<0.50	<1.0	<0.50	<2.0	<2.0	<0.50	<2.0	**2.2**	<2.0	<0.50	<0.50	<0.50	<0.50	<3.0	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<2.0	<1.0	<1.0	<0.50	**0.85**	<0.50	<1.0	**28**	<1.0	<1.0	<1.5
	9/19/2005	<0.50	<1.0	<0.50	<2.0	<2.0	<0.50	<2.0	**1.3**	<2.0	<0.50	<0.50	<0.50	<0.50	<3.0	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<2.0	<1.0	<1.0	<0.50	**0.56**	<0.50	<1.0	**32**	<1.0	<1.0	<1.5
	12/13/2005	<0.50	<0.50	<1.0	<5.0	<0.50	<0.50	<5.0	**1.5**	<5.0	<0.50	<1.5	<1.5	<1.5	<2.0	<1.0	<1.0	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<2.0	<3.0	<2.0	<0.50	<3.0	<0.50	<0.50	<0.50	**40**	<2.0	<0.50	<3.0
	2/22/2006	<0.50	<0.50	<1.0	<5.0	<0.50	<0.50	<5.0	**1.5**	<5.0	<0.50	<1.5	<1.5	<1.5	<2.0	<1.0	<1.0	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<2.0	<3.0	<2.0	<0.50	<3.0	**0.62**	<0.50	<0.50	**45**	<2.0	<0.50	<3.0
	6/28/2006	<0.50	<0.50	<1.0	<5.0	<0.50	<0.50	<5.0	**1.3**	<5.0	<0.50	<1.5	<1.5	<1.5	<2.0	<1.0	<1.0	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<2.0	<3.0	<2.0	<0.50	<3.0	<0.50	<0.50	<0.50	**11**	<2.0	<0.50	<3.0
	9/19/2006	<0.50	<0.50	<1.0	<5.0	<0.50	<0.50	<5.0	**0.96**	<5.0	<0.50	<1.5	<1.5	<1.5	<2.0	<1.0	<1.0	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<2.0	<3.0	<2.0	<0.50	<3.0	<0.50	<0.50	<0.50	**22**	<2.0	<0.50	<3.0
	12/19/2006	<0.50	<0.50	<1.0	<5.0	<0.50	<0.50	<5.0	**0.9**	<5.0	<0.50	<1.5	<1.5	<1.5	<2.0	<1.0	<1.0	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<2.0	<3.0	<2.0	<0.50	<3.0	**0.53**	<0.50	<0.50	**40**	<2.0	<0.50	<3.0
	3/21/2007	<0.50	<0.50	<1.0	<5.0	<0.50	<0.50	<5.0	**0.79**	<5.0	<0.50	<1.5	<1.5	<1.5	<2.0	<1.0	<1.0	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<2.0	<3.0	<2.0	<0.50	<3.0	<0.50	<0.50	<0.50	**26**	<2.0	<0.50	<3.0
	6/6/2007	<0.50	<0.50	<1.0	<5.0	<0.50	<0.50	<5.0	**0.7**	<5.0	<0.50	<1.5	<1.5	<1.5	<2.0	<1.0	<1.0	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<2.0	<3.0	<2.0	<0.50	<3.0	<0.50	<0.50	<0.50	**19**	<2.0	<0.50	<3.0
	9/6/2007	<0.50	<0.50	<1.0	<5.0	<0.50	<0.50	<5.0	**1.5**	<5.0	<0.50	<1.5	<1.5	<1.5	<2.0	<1.0	<1.0	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<2.0	<3.0	<2.0	<0.50	<3.0	<0.50	<0.50	<0.50	**21**	<2.0	<0.50	<3.0
	12/4/2007	<0.50	<0.50	<1.0	<5.0	<0.50	<0.50	<5.0	**2.0**	<5.0	<0.50	<1.5	<1.5	<1.5	<2.0	<1.0	<1.0	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<2.0	<3.0	<2.0	<0.50	<3.0	<0.50	<0.50	<0.50	**20**	<2.0	<0.50	<3.0
	3/12/2008	<0.50	<0.50	<1.0	<5.0	<0.50	<0.50	<5.0	**3.2**	<5.0	<0.50	<1.5	<1.5	<1.5	<2.0	<1.0	<1.0	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<2.0	<3.0	<2.0	<0.50	<3.0	<0.50	<0.50	<0.50	**37**	<2.0	<0.50	<3.0
	5/29/2008	<0.50	<1.0	<1.0	<1.0	<0.50	<0.50	<1.0	**2.2**	<1.0	<1.0	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<2.0	<2.0	<0.50	<0.50	<0.50	<0.50	<0.50	**15**	<1.0	<0.50	<1.5
	4/21/2011	<0.50	<0.50	<1.0	<1.0	<0.50	<0.50	<1.0	**2.0**	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	**0.93**	**0.50**	<0.50	<1.5
	4/21/2011[a]	<0.50	<0.50	<1.0	<1.0	<0.50	<0.50	<1.0	**1.9**	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	**0.93**	<0.50	<0.50	<1.5
	10/6/2011	<0.50	<0.50	<1.0	<1.0	<0.50	<0.50	<1.0	**2.4**	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	**0.64**	**0.56**	<0.50	<1.5
	4/18/2012	<0.50	<0.50	<1.0	<1.0	<0.50	<0.50	<1.0	**2.0**	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	**0.63**	<0.50	<0.50	<1.5
	10/24/2012	<0.50	<0.50	<1.0	<1.0	<0.50	<0.50	<1.0	**2.8**	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	**1.3**	<0.50	<0.50	<1.5
	4/9/2013	<0.50	<0.50	<1.0	<1.0	<0.50	<0.50	<1.0	**2.2**	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	**0.92**	<0.50	<0.50	<1.5
	10/14/2013	<0.50	<0.50	<1.0	<1.0	<0.50	<0.50	<1.0	**2.9**	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	**1.2**	<0.50	<0.50	<1.5

TABLE 3
Comparison of Historical Analytical Detected Results, 2002-2014
All values in ug/L

Well Name	Date	Benzene	Bromodichloromethane	Bromoform	Bromomethane	Carbon tetrachloride	Chlorobenzene	Chloroethane	Chloroform	Chloromethane	Dibromochloromethane	1,2-Dichlorobenzene	1,3-Dichlorobenzene	1,4-Dichlorobenzene	Dichlorodifluoromethane	1,1-Dichloroethane	1,2-Dichloroethane	1,1-Dichloroethene	trans-1,2-Dichloroethene	cis-1,2-Dichloroethene	1,2-Dichloropropane	cis-1,3-Dichloropropene	trans-1,3-Dichloropropene	Ethylbenzene	Methylene chloride	Methyl tert-butyl ether	1,1,2,2-Tetrachloroethane	Toluene	Trichloroethene (TCE)	1,1,1-Trichloroethane	1,1,2-Trichloroethane	Tetrachloroethene (PCE)	Trichlorofluoromethane	Vinyl Chloride	Xylenes, Total
CC-5	3/26/2002	12	<10	<20	<20	<10	<10	<20	<10	<20	<10	<30	<30	<30	<10	<10	21	<10	<10	50	<10	<10	<10	<40	<60	<40	<10	<60	85	<10	<10	4000	<10	<10	<60
	10/2/2002	<2.5	<2.5	<5.0	<5.0	<2.5	<2.5	<5.0	<2.5	<5.0	<2.5	<7.5	<7.5	<7.5	<10	<5.0	<5.0	<2.5	<2.5	40	<2.5	<5.0	<2.5	<10	<15	<10	<2.5	<15	25	<2.5	<2.5	1400	<10	<2.5	<15
	10/2/2002[a]	<2.5	<2.5	<5.0	<5.0	<2.5	<2.5	<5.0	<2.5	<5.0	<2.5	<7.5	<7.5	<7.5	<10	<5.0	<5.0	<2.5	<2.5	41	<2.5	<5.0	<2.5	<10	<15	<10	<2.5	<15	26	<2.5	<2.5	1300	<10	<2.5	<15
	4/14/2004	12	<0.50	<0.50	<1.0	<0.50	<0.50	<2.0	<1.0	<2.0	<0.50	<0.50	<0.50	<0.50	<3.0	<0.50	9.0	3.6	0.77	14	<0.50	<0.50	<1.0	30	<1.0	1.3	<1.0	1.6	150	<0.50	<1.0	560	<1.0	<1.0	15
	6/16/2004	58	<0.50	<0.50	<1.0	<1.0	<0.50	<2.0	<1.0	<2.0	<0.50	<0.50	<0.50	<0.50	<3.0	<0.50	11	3.7	0.56	85	<0.50	<0.50	<1.0	300	<1.0	<1.0	<1.0	2.8	88	<0.50	<1.0	130	<1.0	<1.0	35
	9/13/2004	0.68	<0.50	<0.50	<1.0	<1.0	<0.50	<2.0	<1.0	<2.0	<0.50	<0.50	<0.50	<0.50	<3.0	<0.50	5.2	<1.0	<0.50	8.4	<0.50	<0.50	<1.0	<0.50	<1.0	<1.0	<1.0	0.52	53	<0.50	35	720	<1.0	<1.0	<1.5
	12/14/2004	<5.0	<5.0	<5.0	<10	<20	<5.0	<20	<10	<20	<5.0	<5.0	<5.0	<5.0	<30	<5.0	<5.0	<10	<5.0	8.8	<5.0	<5.0	<10	<5.0	<20	<10	<10	<5.0	26	<5.0	<10	600	<10	<10	<15
	3/15/2005	<5.0	<10	<10	<10	<5.0	<5.0	<10	<5.0	<10	<10	<5.0	<5.0	<5.0	<10	<5.0	<5.0	<5.0	<5.0	7.2	<5.0	<5.0	<5.0	<5.0	<20	<20	<5.0	<5.0	76	<5.0	<5.0	610	<10	<5.0	<15
	6/1/2005	6.6	<1.0	<0.50	<2.0	<2.0	<0.50	<2.0	<1.0	<2.0	<0.50	<0.50	<0.50	<0.50	<3.0	<0.50	4.6	2.6	0.60	6.6	<0.50	<0.50	<1.0	<0.50	<2.0	<1.0	<1.0	<0.50	120	<0.50	<1.0	400	<1.0	<1.0	<1.5
	6/1/2005[a]	6.4	<1.0	<0.50	<2.0	<2.0	<0.50	<2.0	<1.0	<2.0	<0.50	<0.50	<0.50	<0.50	<3.0	<0.50	4.5	2.5	0.56	6.4	<0.50	<0.50	<1.0	<0.50	<2.0	<1.0	<1.0	<0.50	120	<0.50	<1.0	440	<1.0	<1.0	<1.5
	9/20/2005	1.7	<1.0	<0.50	<2.0	<2.0	<0.50	<2.0	1.2	<2.0	<0.50	<0.50	<0.50	<0.50	<3.0	<0.50	18	2.4	0.56	12	<0.50	<0.50	<1.0	<0.50	<2.0	<1.0	<1.0	<0.50	85	<0.50	<1.0	68	<1.0	<1.0	4.4
	9/20/2005[a]	1.7	<1.0	<0.50	<2.0	3.0	<0.50	<2.0	1.2	<2.0	<0.50	<0.50	<0.50	<0.50	<3.0	<0.50	17	2.1	0.56	12	<0.50	<0.50	<1.0	<0.50	<2.0	<1.0	<1.0	1.8	87	<0.50	<1.0	72	<1.0	<1.0	4.3
	12/13/2005	<0.50	<0.50	<1.0	<5.0	<0.50	<0.50	<5.0	0.63	<5.0	<0.50	<1.5	<1.5	<1.5	<2.0	<1.0	<1.0	<0.50	<0.50	0.84	<0.50	<1.0	<0.50	<2.0	<3.0	<2.0	<0.50	<3.0	4.7	<0.50	<0.50	63	<2.0	<0.50	<3.0
	12/13/2005[a]	<0.50	<0.50	<1.0	<5.0	<0.50	<0.50	<5.0	0.6	<5.0	<0.50	<1.5	<1.5	<1.5	<2.0	<1.0	<1.0	<0.50	<0.50	0.86	<0.50	<1.0	<0.50	<2.0	<3.0	<2.0	<0.50	<3.0	4.6	<0.50	<0.50	60	<2.0	<0.50	<3.0
	2/21/2006	1.2	<0.50	<1.0	<5.0	<0.50	<0.50	<5.0	0.64	<5.0	<0.50	<1.5	<1.5	<1.5	<2.0	<1.0	1.4	0.60	<0.50	3.1	<0.50	<1.0	<0.50	<2.0	<3.0	<2.0	<0.50	<3.0	39	<0.50	<0.50	220	<2.0	<0.50	<3.0
	2/21/2006[a]	1.3	<0.50	<1.0	<5.0	<0.50	<0.50	<5.0	0.66	<5.0	<0.50	<1.5	<1.5	<1.5	<2.0	<1.0	1.6	0.67	<0.50	3.6	<0.50	<1.0	<0.50	<2.0	<3.0	<2.0	<0.50	<3.0	43	<0.50	<0.50	250	<2.0	<0.50	<3.0
	6/27/2006	4.3	<0.50	<1.0	<5.0	<0.50	<0.50	<5.0	1.2	<5.0	<0.50	<1.5	<1.5	<1.5	<2.0	<1.0	1.6	1.6	0.61	17	<0.50	<1.0	<0.50	32	<3.0	<2.0	<0.50	<3.0	86	<0.50	<0.50	43	<2.0	<0.50	<3.0
	6/27/2006[a]	4.2	<0.50	<1.0	<5.0	<0.50	<0.50	<5.0	1.1	<5.0	<0.50	<1.5	<1.5	<1.5	<2.0	<1.0	1.6	1.7	0.54	18	<0.50	<1.0	<0.50	24	<3.0	<2.0	<0.50	<3.0	77	<0.50	<0.50	37	<2.0	<0.50	<3.0
	9/19/2006	1.9	<0.50	<1.0	<5.0	<0.50	<0.50	<5.0	0.82	<5.0	<0.50	<1.5	<1.5	<1.5	<2.0	1.9	13	<0.50	0.56	11	<0.50	<1.0	<0.50	<2.0	<3.0	<2.0	<0.50	<3.0	100	<0.50	<0.50	42	<2.0	<0.50	<3.0
	12/19/2006	0.66	<0.50	<1.0	<5.0	<0.50	<0.50	<5.0	0.82	<5.0	<0.50	<1.5	<1.5	<1.5	<2.0	9.2	1.3	<0.50	0.81	6.9	<0.50	<1.0	<0.50	<2.0	<3.0	<2.0	<0.50	<3.0	95	<0.50	<0.50	72	<2.0	<0.50	<3.0
	12/19/2006[a]	1.9	<0.50	<1.0	<5.0	<0.50	<0.50	<5.0	1.5	<5.0	<0.50	<1.5	<1.5	<1.5	<2.0	<1.0	5.9	1.1	<0.50	5.5	<0.50	<1.0	<0.50	<2.0	<3.0	<2.0	<0.50	<3.0	61	<0.50	<0.50	39	<2.0	<0.50	<3.0
	3/20/2007	1.2	<0.50	<1.0	<5.0	<0.50	<0.50	<5.0	1.3	<5.0	<0.50	<1.5	<1.5	<1.5	<2.0	<1.0	19	1.1	<0.50	4.6	<0.50	<1.0	<0.50	<2.0	<3.0	<2.0	<0.50	<3.0	72	<0.50	<0.50	26	<2.0	<0.50	<3.0
	6/8/2007	0.91	<0.50	<1.0	<5.0	<0.50	<0.50	<5.0	<0.50	<5.0	<0.50	<1.5	<1.5	<1.5	<2.0	<1.0	7.2	2.1	0.71	5.4	<0.50	<1.0	<0.50	<2.0	<3.0	<2.0	<0.50	<3.0	220	<0.50	<0.50	81	<2.0	<0.50	<3.0
	9/5/2007	0.56	<0.50	<1.0	<5.0	<0.50	<0.50	<5.0	<0.50	<5.0	<0.50	<1.5	<1.5	<1.5	<2.0	<1.0	9.6	1.8	0.57	4.6	<0.50	<1.0	<0.50	<2.0	<3.0	<2.0	<0.50	<3.0	160	<0.50	<0.50	35	<2.0	<0.50	<3.0
	9/5/2007[a]	0.53	<0.50	<1.0	<5.0	<0.50	<0.50	<5.0	<0.50	<5.0	<0.50	<1.5	<1.5	<1.5	<2.0	<1.0	9.8	1.7	0.62	4.6	<0.50	<1.0	<0.50	<2.0	<3.0	<2.0	<0.50	<3.0	150	<0.50	<0.50	31	<2.0	<0.50	<3.0
	12/5/2007	<0.50	<0.50	<1.0	<5.0	<0.50	<0.50	<5.0	<0.50	<5.0	<0.50	<1.5	<1.5	<1.5	<2.0	<1.0	4.5	1.2	<0.50	2.9	<0.50	<1.0	<0.50	<2.0	<3.0	<2.0	<0.50	<3.0	99	<0.50	<0.50	51	<2.0	<0.50	<3.0
	12/05/07[a]	<0.50	<0.50	<1.0	<5.0	<0.50	<0.50	<5.0	<0.50	<5.0	<0.50	<1.5	<1.5	<1.5	<2.0	<1.0	4.9	0.91	<0.50	2.6	<0.50	<1.0	<0.50	<2.0	<3.0	<2.0	<0.50	<3.0	85	<0.50	<0.50	42	<2.0	<0.50	<3.0
	3/13/2008	<0.50	<0.50	<1.0	<5.0	<0.50	<0.50	<5.0	<0.50	<5.0	<0.50	<1.5	<1.5	<1.5	<2.0	<1.0	17	<0.50	<0.50	2.0	<0.50	<1.0	<0.50	<2.0	<3.0	<2.0	<0.50	<3.0	17	<0.50	<0.50	40	<2.0	<0.50	<3.0
	3/13/2008[a]	<0.50	<0.50	<1.0	<5.0	<0.50	<0.50	<5.0	<0.50	<5.0	<0.50	<1.5	<1.5	<1.5	<2.0	<1.0	19	<0.50	<0.50	2.0	<0.50	<1.0	<0.50	<2.0	<3.0	<2.0	<0.50	<3.0	16	<0.50	<0.50	36	<2.0	<0.50	<3.0
	5/28/2008	<0.50	<0.50	<1.0	<5.0	<0.50	<0.50	<5.0	<0.50	<5.0	<0.50	<1.5	<1.5	<1.5	<2.0	<1.0	2.4	1.1	<0.50	3.1	<0.50	<1.0	<0.50	<2.0	<3.0	<2.0	<0.50	<3.0	120	<0.50	<0.50	140	<2.0	<0.50	<3.0
	5/28/2008[a]	<0.50	<0.50	<1.0	<5.0	<0.50	<0.50	<5.0	<0.50	<5.0	<0.50	<1.5	<1.5	<1.5	<2.0	<1.0	2.7	1.2	0.57	3.1	<0.50	<1.0	<0.50	<2.0	<3.0	<2.0	<0.50	<3.0	120	<0.50	<0.50	140	<2.0	<0.50	<3.0
	6/3/2010	<0.50	<0.50	<1.0	<1.0	<0.50	<0.50	<1.0	1.0	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	0.85	<0.50	<0.50	9.7	<0.50	<0.50	<1.0
	6/3/2010[a]	<0.50	<0.50	<1.0	<1.0	<0.50	<0.50	<1.0	0.79	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	1.0	<0.50	<0.50	11	<0.50	<0.50	<1.0
	10/14/2010	<0.50	<0.50	<1.0	<5.0	<0.50	<0.50	<4.0	0.830	<5.0	<0.50	<1.5	<1.5	<1.5	<2.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<2.0	<3.0	<2.0	<0.50	<2.0	5.46	<0.50	<0.50	9.95	<2.0	<0.50	<1.0
	10/14/2010[a]	<0.50	<0.50	<1.0	<5.0	<0.50	<0.50	<4.0	0.870	<5.0	<0.50	<1.5	<1.5	<1.5	<2.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<2.0	<3.0	<2.0	<0.50	<2.0	5.53	<0.50	<0.50	9.96	<2.0	<0.50	<1.0
	4/22/2011	<0.50	<0.50	<1.0	<1.0	<0.50	<0.50	<1.0	0.86	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	6.0	<0.50	<0.50	<1.5
	10/7/2011	<0.50	<0.50	<1.0	<1.0	<0.50	<0.50	<1.0	0.54	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	1.3	<0.50	3.7	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	51	<0.50	<0.50	9.0	<0.50	<0.50	<1.5
	4/19/2012	<0.50	<0.50	<1.0	<1.0	<0.50	<0.50	<1.0	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	1.2	<0.50	3.1	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	37	<0.50	<0.50	6.5	<0.50	<0.50	<1.5
	10/25/2012	<0.50	<0.50	<1.0	<1.0	<0.50	<0.50	<1.0	4.0	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	3.6	<0.50	<0.50	<1.5
	4/8/2013	<0.50	<0.50	<1.0	<1.0	<0.50	<0.50	<1.0	1.1	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	1.3	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	9.9	<0.50	<0.50	16	<0.50	<0.50	<1.5
	10/12/2013	<0.50	<0.50	<1.0	<1.0	<0.50	<0.50	<1.0	2.5	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	0.82	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	3.3	<0.50	<0.50	29	1.0	<0.50	<1.5

TABLE 3
Comparison of Historical Analytical Detected Results, 2002-2014
All values in ug/L

Well Name	Date	Benzene	Bromodichloromethane	Bromoform	Bromomethane	Carbon tetrachloride	Chlorobenzene	Chloroethane	Chloroform	Chloromethane	Dibromochloromethane	1,2-Dichlorobenzene	1,3-Dichlorobenzene	1,4-Dichlorobenzene	Dichlorodifluoromethane	1,1-Dichloroethane	1,2-Dichloroethane	1,1-Dichloroethene	trans-1,2-Dichloroethene	cis-1,2-Dichloroethene	1,2-Dichloropropane	cis-1,3-Dichloropropene	trans-1,3-Dichloropropene	Ethylbenzene	Methylene chloride	Methyl tert-butyl ether	1,1,2,2-Tetrachloroethane	Toluene	Trichloroethene (TCE)	1,1,1-Trichloroethane	1,1,2-Trichloroethane	Tetrachloroethene (PCE)	Trichlorofluoromethane	Vinyl Chloride	Xylenes, Total
CC-6	9/13/2004	<0.50	<0.50	<0.50	<1.0	<1.0	<0.50	<2.0	**4.6**	<2.0	<0.50	<0.50	<0.50	<0.50	<3.0	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<1.0	<1.0	<1.0	<0.50	**0.65**	<0.50	<1.0	**64**	**2.1**	<1.0	<1.5
	9/13/2004[a]	<0.50	<0.50	<0.50	<1.0	<1.0	<0.50	<2.0	**4.8**	<2.0	<0.50	<0.50	<0.50	<0.50	<3.0	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<1.0	<1.0	<1.0	<0.50	**0.74**	<0.50	<1.0	**85**	**2.1**	<1.0	<1.5
	12/14/2004	<5.0	<5.0	<5.0	<10	<20	<5.0	<20	<10	<20	<5.0	<5.0	<5.0	<5.0	<30	<5.0	<5.0	<10	<5.0	<5.0	<5.0	<5.0	<10	<5.0	<20	<10	<10	<5.0	<5.0	<5.0	<10	**17**	<10	<10	<15
	3/15/2005	<0.50	<1.0	<1.0	<1.0	<0.50	<0.50	<1.0	**10**	<1.0	<1.0	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<2.0	<2.0	<0.50	**0.58**	<0.50	<0.50	<0.50	**26**	<1.0	<0.50	<1.5
	6/2/2005	<0.50	<1.0	<0.50	<2.0	<2.0	<0.50	<2.0	**9.0**	<2.0	<0.50	<0.50	<0.50	<0.50	<3.0	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<2.0	<1.0	<1.0	<0.50	<0.50	<0.50	<1.0	**21**	**1.5**	<0.50	<1.5
	9/20/2005	<0.50	<1.0	<0.50	<2.0	<2.0	<0.50	<2.0	**5.6**	<2.0	<0.50	<0.50	<0.50	<0.50	<3.0	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<2.0	<1.0	<1.0	<0.50	<0.50	<0.50	<1.0	**21**	<2.0	<0.50	<1.5
	12/12/2005	<0.50	<0.50	<1.0	<5.0	<0.50	<0.50	<5.0	**5.7**	<5.0	<0.50	<1.5	<1.5	<1.5	<2.0	<1.0	<1.0	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<2.0	<3.0	<2.0	<0.50	**0.88**	<0.50	<0.50	<0.50	**91**	<2.0	<0.50	<3.0
	2/21/2006	<0.50	<0.50	<1.0	<5.0	<0.50	<0.50	<5.0	**4.4**	<5.0	<0.50	<1.5	<1.5	<1.5	<2.0	<1.0	<1.0	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<2.0	<3.0	<2.0	<0.50	**0.64**	<0.50	<0.50	<0.50	**56**	<2.0	<0.50	<3.0
	6/28/2006	<0.50	<0.50	<1.0	<5.0	<0.50	<0.50	<5.0	**2.6**	<5.0	<0.50	<1.5	<1.5	<1.5	<2.0	<1.0	<1.0	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<2.0	<3.0	<2.0	<0.50	<3.0	<0.50	<0.50	<0.50	**19**	<2.0	<0.50	<3.0
	9/19/2006	<0.50	<0.50	<1.0	<5.0	<0.50	<0.50	<5.0	**2.1**	<5.0	<0.50	<1.5	<1.5	<1.5	<2.0	<1.0	<1.0	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<2.0	<3.0	<2.0	<0.50	<3.0	**0.54**	<0.50	<0.50	**36**	<2.0	<0.50	<3.0
	9/19/2006[a]	<0.50	<0.50	<1.0	<5.0	<0.50	<0.50	<5.0	**2.0**	<5.0	<0.50	<1.5	<1.5	<1.5	<2.0	<1.0	<1.0	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<2.0	<3.0	<2.0	<0.50	<3.0	<0.50	<0.50	<0.50	**28**	<2.0	<0.50	<3.0
	12/19/2006	<0.50	<0.50	<1.0	<5.0	<0.50	<0.50	<5.0	**2.5**	<5.0	<0.50	<1.5	<1.5	<1.5	<2.0	<1.0	<1.0	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<2.0	<3.0	<2.0	<0.50	<3.0	**1.1**	<0.50	<0.50	**55**	<2.0	<0.50	<3.0
	3/1/2007	<0.50	<0.50	<1.0	<5.0	<0.50	<0.50	<5.0	**3.1**	<5.0	<0.50	<1.5	<1.5	<1.5	<2.0	<1.0	<1.0	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<2.0	<3.0	<2.0	<0.50	<3.0	**0.54**	<0.50	<0.50	**40**	<2.0	<0.50	<3.0
	6/7/2007	<0.50	<0.50	<1.0	<5.0	<0.50	<0.50	<5.0	**2.2**	<5.0	<0.50	<1.5	<1.5	<1.5	<2.0	<1.0	<1.0	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<2.0	<3.0	<2.0	<0.50	<3.0	<0.50	<0.50	<0.50	**12**	<2.0	<0.50	<3.0
	6/7/2007[a]	<0.50	<0.50	<1.0	<5.0	<0.50	<0.50	<5.0	**2.1**	<5.0	<0.50	<1.5	<1.5	<1.5	<2.0	<1.0	<1.0	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<2.0	<3.0	<2.0	<0.50	<3.0	<0.50	<0.50	<0.50	**7.9**	<2.0	<0.50	<3.0
	9/6/2007	<0.50	<0.50	<1.0	<5.0	<0.50	<0.50	<5.0	**2.6**	<5.0	<0.50	<1.5	<1.5	<1.5	<2.0	<1.0	<1.0	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<2.0	<3.0	<2.0	<0.50	<3.0	<0.50	<0.50	<0.50	**18**	<2.0	<0.50	<3.0
	12/5/2007	<0.50	<0.50	<1.0	<5.0	<0.50	<0.50	<5.0	**1.6**	<5.0	<0.50	<1.5	<1.5	<1.5	<2.0	<1.0	<1.0	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<2.0	<3.0	<2.0	<0.50	<3.0	<0.50	<0.50	<0.50	**8.2**	<2.0	<0.50	<3.0
	3/13/2008	<0.50	<0.50	<1.0	<5.0	<0.50	<0.50	<5.0	**5.3**	<5.0	<0.50	<1.5	<1.5	<1.5	<2.0	<1.0	<1.0	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<2.0	<3.0	<2.0	<0.50	<3.0	<0.50	<0.50	<0.50	**11**	<2.0	<0.50	<3.0
	5/29/2008	<0.50	<1.0	<1.0	<1.0	<0.50	<0.50	<1.0	**6.1**	<1.0	<1.0	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<2.0	<2.0	<0.50	<0.50	<0.50	<0.50	<0.50	**3.9**	<1.0	<0.50	<1.5
	6/4/2010	<0.50	<0.50	<1.0	<1.0	<0.50	<0.50	<1.0	**6.2**	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	**0.98**	<0.50	<1.0
	10/14/2010	<0.50	<0.50	<1.0	<5.0	<0.50	<0.50	<4.0	**6.54**	<5.0	<0.50	<1.5	<1.5	<1.5	<2.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<2.0	<3.0	<2.0	<0.50	<2.0	<0.50	<0.50	<0.50	**0.610**	<2.0	<0.50	<1.0
	4/22/2011	<0.50	<0.50	<1.0	<1.0	<0.50	<0.50	<1.0	**6.2**	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	**0.54**	**0.80**	<0.50	<1.5
	10/6/2011	<0.50	<0.50	<1.0	<1.0	<0.50	<0.50	<1.0	**7.0**	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	**1.2**	<0.50	<1.5
	10/6/2011[a]	<0.50	<0.50	<1.0	<1.0	<0.50	<0.50	<1.0	**6.9**	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	**1.1**	<0.50	<1.5
	4/18/2012	<0.50	<0.50	<1.0	<1.0	<0.50	<0.50	<1.0	**5.2**	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	**0.74**	<0.50	<1.5
	4/18/2012[a]	<0.50	<0.50	<1.0	<1.0	<0.50	<0.50	<1.0	**6.0**	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	**1.0**	<0.50	<1.5
	10/25/2012	<0.50	<0.50	<1.0	<1.0	<0.50	<0.50	<1.0	**7.1**	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	**0.89**	<0.50	<1.5
	4/9/2013	<0.50	<0.50	<1.0	<1.0	<0.50	<0.50	<1.0	**5.1**	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	**0.77**	<0.50	<1.5
	4/9/2013[a]	<0.50	<0.50	<1.0	<1.0	<0.50	<0.50	<1.0	**5.3**	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	**0.74**	<0.50	<1.5
	10/14/2013	<0.50	<0.50	<1.0	<1.0	<0.50	<0.50	<1.0	**6.9**	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	**0.70**	<0.50	<1.5
CC-7	9/20/2005	<0.50	<1.0	<0.50	<2.0	<2.0	<0.50	<2.0	**2.7**	<2.0	<0.50	<0.50	<0.50	<0.50	<3.0	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<2.0	<1.0	<1.0	<0.50	<0.50	<0.50	<1.0	**2.4**	<1.0	<1.0	<1.5
	12/12/2005	<0.50	<0.50	<1.0	<5.0	<0.50	<0.50	<5.0	**3.0**	<5.0	<0.50	<1.5	<1.5	<1.5	<2.0	<1.0	<1.0	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<2.0	<3.0	<2.0	<0.50	<3.0	<0.50	<0.50	<0.50	**1.1**	<2.0	<0.50	<3.0
	2/22/2006	<0.50	<0.50	<1.0	<5.0	<0.50	<0.50	<5.0	**3.6**	<5.0	<0.50	<1.5	<1.5	<1.5	<2.0	<1.0	<1.0	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<2.0	<3.0	<2.0	<0.50	<3.0	<0.50	<0.50	<0.50	**0.96**	<2.0	<0.50	<3.0
	6/28/2006	<0.50	<0.50	<1.0	<5.0	<0.50	<0.50	<5.0	**2.9**	<5.0	<0.50	<1.5	<1.5	<1.5	<2.0	<1.0	<1.0	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<2.0	<3.0	<2.0	<0.50	<3.0	<0.50	<0.50	<0.50	**0.80**	<2.0	<0.50	<3.0
	9/20/2006	<0.50	<0.50	<1.0	<5.0	<0.50	<0.50	<5.0	**3.4**	<5.0	<0.50	<1.5	<1.5	<1.5	<2.0	<1.0	<1.0	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<2.0	<3.0	<2.0	<0.50	<3.0	<0.50	<0.50	<0.50	**0.68**	<2.0	<0.50	<3.0
	12/18/2006	<0.50	<0.50	<1.0	<5.0	<0.50	<0.50	<5.0	**3.2**	<5.0	<0.50	<1.5	<1.5	<1.5	<2.0	<1.0	<1.0	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<2.0	<3.0	<2.0	<0.50	<3.0	<0.50	<0.50	<0.50	<0.50	<2.0	<0.50	<3.0
	3/20/2007	<0.50	<0.50	<1.0	<5.0	<0.50	<0.50	<5.0	**3.5**	<5.0	<0.50	<1.5	<1.5	<1.5	<2.0	<1.0	<1.0	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<2.0	<3.0	<2.0	<0.50	<3.0	<0.50	<0.50	<0.50	<0.50	<2.0	<0.50	<3.0
	6/6/2007	<0.50	<0.50	<1.0	<5.0	<0.50	<0.50	<5.0	**3.6**	<5.0	<0.50	<1.5	<1.5	<1.5	<2.0	<1.0	<1.0	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<2.0	<3.0	<2.0	<0.50	<3.0	<0.50	<0.50	<0.50	<0.50	<2.0	<0.50	<3.0
	9/5/2007	<0.50	<0.50	<1.0	<5.0	<0.50	<0.50	<5.0	**4.7**	<5.0	<0.50	<1.5	<1.5	<1.5	<2.0	<1.0	<1.0	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<2.0	<3.0	<2.0	<0.50	<3.0	<0.50	<0.50	<0.50	<0.50	<2.0	<0.50	<3.0
	12/4/2007	<0.50	<0.50	<1.0	<5.0	<0.50	<0.50	<5.0	**4.5**	<5.0	<0.50	<1.5	<1.5	<1.5	<2.0	<1.0	<1.0	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<2.0	<3.0	<2.0	<0.50	<3.0	<0.50	<0.50	<0.50	<0.50	<2.0	<0.50	<3.0
	3/11/2008	<0.50	<0.50	<1.0	<5.0	<0.50	<0.50	<5.0	**7.0**	<5.0	<0.50	<1.5	<1.5	<1.5	<2.0	<1.0	<1.0	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<2.0	<3.0	<2.0	<0.50	<3.0	<0.50	<0.50	<0.50	<0.50	<2.0	<0.50	<3.0
	5/28/2008	<0.50	<0.50	<1.0	<5.0	<0.50	<0.50	<5.0	**5.3**	<5.0	<0.50	<1.5	<1.5	<1.5	<2.0	<1.0	<1.0	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<2.0	<3.0	<2.0	<0.50	<3.0	<0.50	<0.50	<0.50	<0.50	<2.0	<0.50	<3.0
	6/3/2010	<0.50	<0.50	<1.0	<1.0	<0.50	<0.50	<1.0	**4.2**	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0
	10/13/2010	<0.50	**0.520**	<1.0	<5.0	<0.50	<0.50	<4.0	**9.42**	<5.0	<0.50	<1.5	<1.5	<1.5	<2.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<2.0	<3.0	<2.0	<0.50	<2.0	<0.50	<0.50	<0.50	<0.50	<2.0	<0.50	<1.0
	4/21/2011	<0.50	<0.50	<1.0	<1.0	<0.50	<0.50	<1.0	**16**	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.5
	10/4/2011	<0.50	<0.50	<1.0	<1.0	<0.50	<0.50	<1.0	**12**	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.5
	4/17/2012	<0.50	<0.50	<1.0	<1.0	<0.50	<0.50	<1.0	**5.7**	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.5
	10/24/2012	<0.50	<0.50	<1.0	<1.0	<0.50	<0.50	<1.0	**5.4**	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.5
	4/9/2013	<0.50	<0.50	<1.0	<1.0	<0.50	<0.50	<1.0	**3.2**	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.5
	10/13/2013	<0.50	<0.50	<1.0	<1.0	<0.50	<0.50	<1.0	**3.8**	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.5

TABLE 3
Comparison of Historical Analytical Detected Results, 2002-2014
All values in ug/L

Well Name	Date	Benzene	Bromodichloromethane	Bromoform	Bromomethane	Carbon tetrachloride	Chlorobenzene	Chloroethane	Chloroform	Chloromethane	Dibromochloromethane	1,2-Dichlorobenzene	1,3-Dichlorobenzene	1,4-Dichlorobenzene	Dichlorodifluoromethane	1,1-Dichloroethane	1,2-Dichloroethane	1,1-Dichloroethene	trans-1,2-Dichloroethene	cis-1,2-Dichloroethene	1,2-Dichloropropane	cis-1,3-Dichloropropene	trans-1,3-Dichloropropene	Ethylbenzene	Methylene chloride	Methyl tert-butyl ether	1,1,2,2-Tetrachloroethane	Toluene	Trichloroethene (TCE)	1,1,1-Trichloroethane	1,1,2-Trichloroethane	Tetrachloroethene (PCE)	Trichlorofluoromethane	Vinyl Chloride	Xylenes, Total
CC-8	9/20/2005	<0.50	<1.0	<0.50	<2.0	<2.0	<0.50	<2.0	<1.0	<2.0	<0.50	<0.50	<0.50	<0.50	<3.0	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<2.0	<1.0	<1.0	<0.50	<0.50	<0.50	<1.0	**3.5**	<1.0	<1.0	<1.5
	12/12/2005	<0.50	<0.50	<1.0	<5.0	<0.50	<0.50	<5.0	**0.88**	<5.0	<0.50	<1.5	<1.5	<1.5	<2.0	<1.0	<1.0	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<2.0	<3.0	<2.0	<0.50	<3.0	<0.50	<0.50	<0.50	**2.0**	<2.0	<0.50	<3.0
	2/22/2006	<0.50	<0.50	<1.0	<5.0	<0.50	<0.50	<5.0	**0.89**	<5.0	<0.50	<1.5	<1.5	<1.5	<2.0	<1.0	<1.0	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<2.0	<3.0	<2.0	<0.50	<3.0	<0.50	<0.50	<0.50	**1.8**	<2.0	<0.50	<3.0
	6/28/2006	<0.50	<0.50	<1.0	<5.0	<0.50	<0.50	<5.0	**0.89**	<5.0	<0.50	<1.5	<1.5	<1.5	<2.0	<1.0	<1.0	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<2.0	<3.0	<2.0	<0.50	<3.0	<0.50	<0.50	<0.50	**1.3**	<2.0	<0.50	<3.0
	9/20/2006	<0.50	<0.50	<1.0	<5.0	<0.50	<0.50	<5.0	**0.92**	<5.0	<0.50	<1.5	<1.5	<1.5	<2.0	<1.0	<1.0	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<2.0	<3.0	<2.0	<0.50	<3.0	<0.50	<0.50	<0.50	**0.99**	<2.0	<0.50	<3.0
	12/18/2006	<0.50	<0.50	<1.0	<5.0	<0.50	<0.50	<5.0	**0.98**	<5.0	<0.50	<1.5	<1.5	<1.5	<2.0	<1.0	<1.0	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<2.0	<3.0	<2.0	<0.50	<3.0	<0.50	<0.50	<0.50	**0.92**	<2.0	<0.50	<3.0
	3/20/2007	<0.50	<0.50	<1.0	<5.0	<0.50	<0.50	<5.0	**1.2**	<5.0	<0.50	<1.5	<1.5	<1.5	<2.0	<1.0	<1.0	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<2.0	<3.0	<2.0	<0.50	<3.0	<0.50	<0.50	<0.50	**0.66**	<2.0	<0.50	<3.0
	6/6/2007	<0.50	<0.50	<1.0	<5.0	<0.50	<0.50	<5.0	**1.2**	<5.0	<0.50	<1.5	<1.5	<1.5	<2.0	<1.0	<1.0	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<2.0	<3.0	<2.0	<0.50	<3.0	<0.50	<0.50	<0.50	**0.53**	<2.0	<0.50	<3.0
	9/5/2007	<0.50	<0.50	<1.0	<5.0	<0.50	<0.50	<5.0	**1.3**	<5.0	<0.50	<1.5	<1.5	<1.5	<2.0	<1.0	<1.0	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<2.0	<3.0	<2.0	<0.50	<3.0	<0.50	<0.50	<0.50	**0.53**	<2.0	<0.50	<3.0
	12/4/2007	<0.50	<0.50	<1.0	<5.0	<0.50	<0.50	<5.0	**1.1**	<5.0	<0.50	<1.5	<1.5	<1.5	<2.0	<1.0	<1.0	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<2.0	<3.0	<2.0	<0.50	<3.0	<0.50	<0.50	<0.50	<0.50	<2.0	<0.50	<3.0
	3/11/2008	<0.50	<0.50	<1.0	<5.0	<0.50	<0.50	<5.0	**1.6**	<5.0	<0.50	<1.5	<1.5	<1.5	<2.0	<1.0	<1.0	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<2.0	<3.0	<2.0	<0.50	<3.0	<0.50	<0.50	<0.50	<0.50	<2.0	<0.50	<3.0
	5/28/2008	<0.50	<0.50	<1.0	<5.0	<0.50	<0.50	<5.0	**1.2**	<5.0	<0.50	<1.5	<1.5	<1.5	<2.0	<1.0	<1.0	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<2.0	<3.0	<2.0	<0.50	<3.0	<0.50	<0.50	<0.50	<0.50	<2.0	<0.50	<3.0
	6/3/2010	<0.50	<0.50	<1.0	<1.0	<0.50	<0.50	<1.0	**1.4**	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0
	10/13/2010	<0.50	<0.50	<1.0	<5.0	<0.50	<0.50	<4.0	**1.72**	<5.0	<0.50	<1.5	<1.5	<1.5	<2.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<2.0	<3.0	<2.0	<0.50	<2.0	<0.50	<0.50	<0.50	<0.50	<2.0	<0.50	<1.0
	4/20/2011	<0.50	<0.50	<1.0	<1.0	<0.50	<0.50	<1.0	**1.2**	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.5
	10/4/2011	<0.50	<0.50	<1.0	<1.0	<0.50	<0.50	<1.0	**1.4**	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.5
	4/17/2012	<0.50	<0.50	<1.0	<1.0	<0.50	<0.50	<1.0	**1.4**	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.5
	10/24/2012	<0.50	<0.50	<1.0	<1.0	<0.50	<0.50	<1.0	**1.7**	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.5
	4/10/2013	<0.50	<0.50	<1.0	<1.0	<0.50	<0.50	<1.0	**1.4**	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.5
	10/13/2013	<0.50	<0.50	<1.0	<1.0	<0.50	<0.50	<1.0	**2.5**	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.5
CC-9	9/20/2005	<0.50	<1.0	<0.50	<2.0	<2.0	<0.50	<2.0	**9.0**	<2.0	<0.50	<0.50	<0.50	<0.50	<3.0	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<2.0	<1.0	<1.0	<0.50	<0.50	<0.50	<1.0	<0.50	<1.0	<1.0	<1.5
	12/12/2005	<0.50	<0.50	<1.0	<5.0	<0.50	<0.50	<5.0	**4.5**	<5.0	<0.50	<1.5	<1.5	<1.5	<2.0	<1.0	<1.0	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<2.0	<3.0	<2.0	<0.50	<3.0	<0.50	<0.50	<0.50	<0.50	<2.0	<0.50	<3.0
	2/22/2006	<0.50	<0.50	<1.0	<5.0	<0.50	<0.50	<5.0	**3.5**	<5.0	<0.50	<1.5	<1.5	<1.5	<2.0	<1.0	<1.0	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<2.0	<3.0	<2.0	<0.50	<3.0	<0.50	<0.50	<0.50	<0.50	<2.0	<0.50	<3.0
	6/28/2006	<0.50	<0.50	<1.0	<5.0	<0.50	<0.50	<5.0	**2.1**	<5.0	<0.50	<1.5	<1.5	<1.5	<2.0	<1.0	<1.0	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<2.0	<3.0	<2.0	<0.50	<3.0	<0.50	<0.50	<0.50	<0.50	<2.0	<0.50	<3.0
	9/20/2006	<0.50	<0.50	<1.0	<5.0	<0.50	<0.50	<5.0	**1.2**	<5.0	<0.50	<1.5	<1.5	<1.5	<2.0	<1.0	<1.0	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<2.0	<3.0	<2.0	<0.50	<3.0	<0.50	<0.50	<0.50	<0.50	<2.0	<0.50	<3.0
	12/18/2006	<0.50	<0.50	<1.0	<5.0	<0.50	<0.50	<5.0	**0.81**	<5.0	<0.50	<1.5	<1.5	<1.5	<2.0	<1.0	<1.0	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<2.0	<3.0	<2.0	<0.50	<3.0	<0.50	<0.50	<0.50	<0.50	<2.0	<0.50	<3.0
	3/20/2007	<0.50	<0.50	<1.0	<5.0	<0.50	<0.50	<5.0	**0.69**	<5.0	<0.50	<1.5	<1.5	<1.5	<2.0	<1.0	<1.0	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<2.0	<3.0	<2.0	<0.50	<3.0	<0.50	<0.50	<0.50	<0.50	<2.0	<0.50	<3.0
	6/6/2007	<0.50	<0.50	<1.0	<5.0	<0.50	<0.50	<5.0	**0.63**	<5.0	<0.50	<1.5	<1.5	<1.5	<2.0	<1.0	<1.0	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<2.0	<3.0	<2.0	<0.50	<3.0	<0.50	<0.50	<0.50	<0.50	<2.0	<0.50	<3.0
	9/4/2007	<0.50	<0.50	<1.0	<5.0	<0.50	<0.50	<5.0	**0.77**	<5.0	<0.50	<1.5	<1.5	<1.5	<2.0	<1.0	<1.0	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<2.0	<3.0	<2.0	<0.50	<3.0	<0.50	<0.50	<0.50	<0.50	<2.0	<0.50	<3.0
	12/4/2007	<0.50	<0.50	<1.0	<5.0	<0.50	<0.50	<5.0	**0.51**	<5.0	<0.50	<1.5	<1.5	<1.5	<2.0	<1.0	<1.0	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<2.0	<3.0	<2.0	<0.50	<3.0	<0.50	<0.50	<0.50	<0.50	<2.0	<0.50	<3.0
	3/11/2008	<0.50	<0.50	<1.0	<5.0	<0.50	<0.50	<5.0	<0.50	<5.0	<0.50	<1.5	<1.5	<1.5	<2.0	<1.0	<1.0	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<2.0	<3.0	<2.0	<0.50	<3.0	<0.50	<0.50	<0.50	<0.50	<2.0	<0.50	<3.0
	5/28/2008	<0.50	<0.50	<1.0	<5.0	<0.50	<0.50	<5.0	<0.50	<5.0	<0.50	<1.5	<1.5	<1.5	<2.0	<1.0	<1.0	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<2.0	<3.0	<2.0	<0.50	<3.0	<0.50	<0.50	<0.50	<0.50	<2.0	<0.50	<3.0
	6/3/2010	<0.50	<0.50	<1.0	<1.0	<0.50	<0.50	<1.0	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0
	10/13/2010	<0.50	<0.50	<1.0	<5.0	<0.50	<0.50	<4.0	<0.50	<5.0	<0.50	<1.5	<1.5	<1.5	<2.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<2.0	<3.0	<2.0	<0.50	<2.0	<0.50	<0.50	<0.50	<0.50	<2.0	<0.50	<1.0
	4/21/2011	<0.50	<0.50	<1.0	<1.0	<0.50	<0.50	<1.0	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.5
	10/5/2011	<0.50	<0.50	<1.0	<1.0	<0.50	<0.50	<1.0	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.5
	4/17/2012	<0.50	<0.50	<1.0	<1.0	<0.50	<0.50	<1.0	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.5
	10/24/2012	<0.50	<0.50	<1.0	<1.0	<0.50	<0.50	<1.0	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.5
	4/10/2013	<0.50	<0.50	<1.0	<1.0	<0.50	<0.50	<1.0	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.5
	10/14/2013	<0.50	<0.50	<1.0	<1.0	<0.50	<0.50	<1.0	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.5
CC-10	6/28/2006	<0.50	<0.50	<1.0	<5.0	<0.50	<0.50	<5.0	<0.50	<5.0	<0.50	<1.5	<1.5	<1.5	<2.0	<1.0	<1.0	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<2.0	<3.0	<2.0	<0.50	<3.0	<0.50	<0.50	<0.50	<0.50	<2.0	<0.50	<3.0
	9/20/2006	<0.50	<0.50	<1.0	<5.0	<0.50	<0.50	<5.0	<0.50	<5.0	<0.50	<1.5	<1.5	<1.5	<2.0	<1.0	<1.0	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<2.0	<3.0	<2.0	<0.50	<3.0	<0.50	<0.50	<0.50	<0.50	<2.0	<0.50	<3.0
	12/18/2006	<0.50	<0.50	<1.0	<5.0	<0.50	<0.50	<5.0	<0.50	<5.0	<0.50	<1.5	<1.5	<1.5	<2.0	<1.0	<1.0	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<2.0	<3.0	<2.0	<0.50	<3.0	<0.50	<0.50	<0.50	<0.50	<2.0	<0.50	<3.0
	3/19/2007	<0.50	<0.50	<1.0	<5.0	<0.50	<0.50	<5.0	<0.50	<5.0	<0.50	<1.5	<1.5	<1.5	<2.0	<1.0	<1.0	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<2.0	<3.0	<2.0	<0.50	<3.0	<0.50	<0.50	<0.50	<0.50	<2.0	<0.50	<3.0
	6/6/2007	<0.50	<0.50	<1.0	<5.0	<0.50	<0.50	<5.0	<0.50	<5.0	<0.50	<1.5	<1.5	<1.5	<2.0	<1.0	<1.0	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<2.0	<3.0	<2.0	<0.50	<3.0	<0.50	<0.50	<0.50	<0.50	<2.0	<0.50	<3.0
	9/5/2007	<0.50	<0.50	<1.0	<5.0	<0.50	<0.50	<5.0	<0.50	<5.0	<0.50	<1.5	<1.5	<1.5	<2.0	<1.0	<1.0	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<2.0	<3.0	<2.0	<0.50	<3.0	<0.50	<0.50	<0.50	<0.50	<2.0	<0.50	<3.0
	12/4/2007	<0.50	<0.50	<1.0	<5.0	<0.50	<0.50	<5.0	<0.50	<5.0	<0.50	<1.5	<1.5	<1.5	<2.0	<1.0	<1.0	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<2.0	<3.0	<2.0	<0.50	<3.0	<0.50	<0.50	<0.50	<0.50	<2.0	<0.50	<3.0
	3/11/2008	<0.50	<0.50	<1.0	<5.0	<0.50	<0.50	<5.0	<0.50	<5.0	<0.50	<1.5	<1.5	<1.5	<2.0	<1.0	<1.0	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<2.0	<3.0	<2.0	<0.50	<3.0	<0.50	<0.50	<0.50	<0.50	<2.0	<0.50	<3.0
	5/28/2008	<0.50	<0.50	<1.0	<5.0	<0.50	<0.50	<5.0	<0.50	<5.0	<0.50	<1.5	<1.5	<1.5	<2.0	<1.0	<1.0	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<2.0	<3.0	<2.0	<0.50	<3.0	<0.50	<0.50	<0.50	<0.50	<2.0	<0.50	<3.0
	6/2/2010	<0.50	<0.50	<1.0	<1.0	<0.50	<0.50	<1.0	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0
	10/13/2010	<0.50	**1.63**	<1.0	<5.0	<0.50	<0.50	<4.0	**2.86**	<5.0	**0.600**	<1.5	<1.5	<1.5	<2.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<2.0	<3.0	<2.0	<0.50	<2.0	<0.50	<0.50	<0.50	<0.50	<2.0	<0.50	<1.0
	4/20/2011	<0.50	**1.0**	<1.0	<1.0	<0.50	<0.50	<1.0	**2.5**	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.5
	10/4/2011	<0.50	<0.50	<1.0	<1.0	<0.50	<0.50	<1.0	**0.94**	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.5
	4/17/2012	<0.50	<0.50	<1.0	<1.0	<0.50	<0.50	<1.0	**0.66**	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.5
	10/23/2012	<0.50	<0.50	<1.0	<1.0	<0.50	<0.50	<1.0	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.5
	4/10/2013	<0.50	<0.50	<1.0	<1.0	<0.50	<0.50	<1.0	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.5
	10/13/2013	<0.50	<0.50	<1.0	<1.0	<0.50	<0.50	<1.0	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.5

TABLE 3
Comparison of Historical Analytical Detected Results, 2002-2014
All values in ug/L

Well Name	Date	Benzene	Bromodichloromethane	Bromoform	Bromomethane	Carbon tetrachloride	Chlorobenzene	Chloroethane	Chloroform	Chloromethane	Dibromochloromethane	1,2-Dichlorobenzene	1,3-Dichlorobenzene	1,4-Dichlorobenzene	Dichlorodifluoromethane	1,1-Dichloroethane	1,2-Dichloroethane	1,1-Dichloroethene	trans-1,2-Dichloroethene	cis-1,2-Dichloroethene	1,2-Dichloropropane	cis-1,3-Dichloropropene	trans-1,3-Dichloropropene	Ethylbenzene	Methylene chloride	Methyl tert-butyl ether	1,1,2,2-Tetrachloroethane	Toluene	Trichloroethene (TCE)	1,1,1-Trichloroethane	1,1,2-Trichloroethane	Tetrachloroethene (PCE)	Trichlorofluoromethane	Vinyl Chloride	Xylenes, Total
CC-11	6/28/2006	**3.5**	<0.50	<1.0	<5.0	<0.50	<0.50	<5.0	<0.50	<5.0	<0.50	<1.5	<1.5	<1.5	<2.0	<1.0	**68**	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	**320**	<3.0	<2.0	<0.50	**11**	<0.50	<0.50	<0.50	<0.50	<2.0	<0.50	**2,200**
	9/20/2006	**2.8**	<0.50	<1.0	<5.0	<0.50	<0.50	<5.0	<0.50	<5.0	<0.50	<1.5	<1.5	<1.5	<2.0	<1.0	**58**	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	**330**	<3.0	<2.0	<0.50	**6.8**	<0.50	<0.50	<0.50	<0.50	<2.0	<0.50	**1,500**
	12/19/2006	**2.8**	<0.50	<1.0	<5.0	<0.50	<0.50	<5.0	<0.50	<5.0	<0.50	<1.5	<1.5	<1.5	<2.0	<1.0	**78**	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	**290**	<3.0	<2.0	<0.50	**5.2**	<0.50	<0.50	<0.50	**1.7**	<2.0	<0.50	**1,400**
	3/21/2007	**2.2**	<0.50	<1.0	<5.0	<0.50	<0.50	<5.0	<0.50	<5.0	<0.50	<1.5	<1.5	<1.5	<2.0	<1.0	**51**	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	**340**	<3.0	<2.0	<0.50	**4.5**	**1.7**	<0.50	<0.50	**2.5**	<2.0	<0.50	**1,600**
	6/8/2007	**1.4**	<0.50	<1.0	<5.0	<0.50	<0.50	<5.0	<0.50	<5.0	<0.50	<1.5	<1.5	<1.5	<2.0	<1.0	**49**	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	**270**	<3.0	<2.0	<0.50	<3.0	**1.9**	<0.50	<0.50	**2.6**	<2.0	<0.50	**370**
	9/6/2007	**1.6**	<0.50	<1.0	<5.0	<0.50	<0.50	<5.0	<0.50	<5.0	<0.50	<1.5	<1.5	<1.5	<2.0	<1.0	**44**	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	**380**	<3.0	<2.0	<0.50	**4.4**	**2.0**	<0.50	**0.6**	**3.4**	<2.0	<0.50	**1,600**
	12/5/2007	**1.3**	<0.50	<1.0	<5.0	<0.50	<0.50	<5.0	<0.50	<5.0	<0.50	<1.5	<1.5	<1.5	<2.0	<1.0	**40**	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	**280**	<3.0	<2.0	<0.50	<3.0	**3.3**	<0.50	<0.50	**6.2**	<2.0	<0.50	**1,200**
	3/13/2008	<10	<10	<20	<100	<10	<10	<100	<10	<100	<10	<30	<30	<30	<40	<20	**40**	<10	<10	<10	<10	<20	<10	**260**	<60	<40	<10	<60	<10	<10	<10	<10	<40	<10	**1,100**
	5/30/2008	**<5.0**	<10	<10	<10	<5.0	<5.0	<10	<5.0	<10	<10	<5.0	<5.0	<5.0	<10	<5.0	**35**	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	**250**	<20	<20	<5.0	<5.0	**<5.0**	<5.0	<5.0	**11**	<10	<5.0	**1,000**
	6/4/2010	<0.50	<0.50	<1.0	<1.0	<0.50	<0.50	<1.0	**1.1**	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	**12**	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	**200**	<1.0	<0.50	<0.50	<0.50	**15**	<0.50	<0.50	**36**	<0.50	<0.50	**600**
	10/15/2010	<0.50	<0.50	<1.0	<5.0	<0.50	<0.50	<4.0	**1.72**	<5.0	<0.50	<1.5	<1.5	<1.5	<2.0	<0.50	**8.95**	<0.50	<0.50	**2.62**	<0.50	<1.0	<0.50	**193**	<3.0	<2.0	<0.50	<2.0	**15.7**	<0.50	<0.50	**34.1**	<2.0	<0.50	**705**
	10/15/2010[a]	<0.50	<0.50	<1.0	<5.0	<0.50	<0.50	<4.0	**1.85**	<5.0	<0.50	<1.5	<1.5	<1.5	<2.0	<0.50	**10.5**	<0.50	<0.50	**2.39**	<0.50	<1.0	<0.50	**178**	<3.0	<2.0	<0.50	<2.0	**16.4**	<0.50	<0.50	**32.7**	<2.0	<0.50	**657**
	4/22/2011	<0.50	<0.50	<1.0	<1.0	<0.50	<0.50	<1.0	<5.0	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	**8.3**	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	**210**	<1.0	<0.50	<0.50	<0.50	**17**	<0.50	<0.50	**21**	<5.0	<0.50	**610**
	4/22/2011[a]	<0.50	<0.50	<1.0	<1.0	<0.50	<0.50	<1.0	<5.0	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	**10**	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	**220**	<1.0	<0.50	<0.50	<0.50	**19**	<0.50	<0.50	**25**	<5.0	<0.50	**660**
	10/7/2011	<0.50	<0.50	<1.0	<1.0	<0.50	<0.50	<1.0	**2.4**	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	**6.5**	<0.50	<0.50	**2.6**	<0.50	<0.50	<0.50	**240**	<1.0	<0.50	<0.50	<0.50	**25**	<0.50	<0.50	**31**	<5.0	<0.50	**800**
	4/19/2012	<0.50	<0.50	<1.0	<1.0	<0.50	<0.50	<1.0	**2.0**	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	**4.8**	<0.50	<0.50	**2.5**	<0.50	<0.50	<0.50	**160**	<1.0	<0.50	<0.50	<0.50	**18**	<0.50	<0.50	**24**	<5.0	<0.50	**450**
	4/19/2012[a]	<0.50	<0.50	<1.0	<1.0	<0.50	<0.50	<1.0	**2.0**	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	**5.0**	<0.50	<0.50	**2.6**	<0.50	<0.50	<0.50	**170**	<1.0	<0.50	<0.50	<0.50	**18**	<0.50	<0.50	**23**	<0.50	<0.50	**430**
	10/26/2012	<0.50	<0.50	<1.0	<1.0	<0.50	<0.50	<1.0	**2.3**	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	**3.1**	<0.50	<0.50	**2.4**	<0.50	<0.50	<0.50	**180**	<1.0	<0.50	<0.50	<0.50	**22**	<0.50	<0.50	**19**	<0.50	<0.50	**530**
	10/26/2012[a]	<0.50	<0.50	<1.0	<1.0	<0.50	<0.50	<1.0	**2.4**	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	**3.4**	<0.50	<0.50	**2.3**	<0.50	<0.50	<0.50	**160**	<1.0	<0.50	<0.50	<0.50	**21**	<0.50	<0.50	**22**	<0.50	<0.50	**560**
	4/12/2013	<0.50	<0.50	<1.0	<1.0	<0.50	<0.50	<1.0	**1.5**	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	**2.0**	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	**110**	<1.0	<0.50	<0.50	<0.50	**14**	<0.50	<0.50	**12**	<0.50	<0.50	**290**
	4/12/2013 [a]	<0.50	<0.50	<1.0	<1.0	<0.50	<0.50	<1.0	**1.3**	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	**1.9**	<0.50	<0.50	**1.3**	<0.50	<0.50	<0.50	**120**	<1.0	<0.50	<0.50	<0.50	**13**	<0.50	<0.50	**9.5**	<0.50	<0.50	**310**
	10/16/2013	<0.50	<0.50	<1.0	<1.0	<0.50	<0.50	<1.0	**1.6**	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	**1.6**	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	**140**	<1.0	<0.50	<0.50	<0.50	**17**	<0.50	<0.50	**11**	<0.50	<0.50	**440**
	10/16/2013 [a]	<0.50	<0.50	<1.0	<1.0	<0.50	<0.50	<1.0	**1.5**	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	**1.7**	<0.50	<0.50	**1.7**	<0.50	<0.50	<0.50	**130**	<1.0	<0.50	<0.50	<0.50	**18**	<0.50	<0.50	**12**	<0.50	<0.50	**430**
CC-12	3/19/2007	<0.50	<0.50	<1.0	<5.0	<0.50	<0.50	<5.0	**1.6**	<5.0	<0.50	<1.5	<1.5	<1.5	<2.0	<1.0	<1.0	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<2.0	<3.0	<2.0	<0.50	<3.0	<0.50	<0.50	<0.50	<0.50	<2.0	<0.50	<3.0
	3/19/2007[a]	<0.50	<0.50	<1.0	<5.0	<0.50	<0.50	<5.0	**1.6**	<5.0	<0.50	<1.5	<1.5	<1.5	<2.0	<1.0	<1.0	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<2.0	<3.0	<2.0	<0.50	<3.0	<0.50	<0.50	<0.50	<0.50	<2.0	<0.50	<3.0
	6/6/2007	<0.50	<0.50	<1.0	<5.0	<0.50	<0.50	<5.0	**1.9**	<5.0	<0.50	<1.5	<1.5	<1.5	<2.0	<1.0	<1.0	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<2.0	<3.0	<2.0	<0.50	<3.0	<0.50	<0.50	<0.50	<0.50	<2.0	<0.50	<3.0
	9/4/2007	<0.50	**0.53**	<1.0	<5.0	<0.50	<0.50	<5.0	**3.0**	<5.0	<0.50	<1.5	<1.5	<1.5	<2.0	<1.0	<1.0	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<2.0	<3.0	<2.0	<0.50	<3.0	<0.50	<0.50	<0.50	<0.50	<2.0	<0.50	<3.0
	12/4/2007	<0.50	**1.0**	<1.0	<5.0	<0.50	<0.50	<5.0	**4.3**	<5.0	**1.0**	<1.5	<1.5	<1.5	<2.0	<1.0	<1.0	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<2.0	<3.0	<2.0	<0.50	<3.0	<0.50	<0.50	<0.50	<0.50	<2.0	<0.50	<3.0
	3/11/2008	<0.50	**2.3**	<1.0	<5.0	<0.50	<0.50	<5.0	**12**	<5.0	<0.50	<1.5	<1.5	<1.5	<2.0	<1.0	<1.0	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<2.0	<3.0	<2.0	<0.50	<3.0	<0.50	<0.50	<0.50	<0.50	<2.0	<0.50	<3.0
	5/28/2008	<0.50	**1.8**	<1.0	<5.0	<0.50	<0.50	<5.0	**16**	<5.0	<0.50	<1.5	<1.5	<1.5	<2.0	<1.0	<1.0	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<2.0	<3.0	<2.0	<0.50	<3.0	<0.50	<0.50	<0.50	<0.50	<2.0	<0.50	<3.0
	6/2/2010	<0.50	<0.50	<1.0	<1.0	<0.50	<0.50	<1.0	**4.9**	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	**1.5**	<0.50	<1.0
	10/13/2010	<0.50	<0.50	<1.0	<5.0	<0.50	<0.50	<4.0	**4.12**	<5.0	<0.50	<1.5	<1.5	<1.5	<2.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<2.0	<3.0	<2.0	<0.50	<2.0	<0.50	<0.50	<0.50	<0.50	<2.0	<0.50	<1.0
	4/20/2011	<0.50	<0.50	<1.0	<1.0	<0.50	<0.50	<1.0	**2.9**	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	**1.1**	<0.50	<1.5
	10/4/2011	<0.50	<0.50	<1.0	<1.0	<0.50	<0.50	<1.0	**2.9**	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	**1.1**	<0.50	<1.5
	4/17/2012	<0.50	<0.50	<1.0	<1.0	<0.50	<0.50	<1.0	**1.8**	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	**0.63**	<0.50	<1.5
	10/23/2012	<0.50	<0.50	<1.0	<1.0	<0.50	<0.50	<1.0	**1.7**	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.5
	4/9/2013	<0.50	<0.50	<1.0	<1.0	<0.50	<0.50	<1.0	**1.4**	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.5
	10/14/2013	<0.50	<0.50	<1.0	<1.0	<0.50	<0.50	<1.0	**1.6**	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.5
CC-13	3/19/2007	<0.50	<0.50	<1.0	<5.0	<0.50	<0.50	<5.0	**2.9**	<5.0	<0.50	<1.5	<1.5	<1.5	<2.0	<1.0	<1.0	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<2.0	<3.0	<2.0	<0.50	<3.0	<0.50	<0.50	<0.50	<0.50	<2.0	<0.50	<3.0
	6/6/2007	<0.50	<0.50	<1.0	<5.0	<0.50	<0.50	<5.0	**2.9**	<5.0	<0.50	<1.5	<1.5	<1.5	<2.0	<1.0	<1.0	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<2.0	<3.0	<2.0	<0.50	<3.0	<0.50	<0.50	<0.50	<0.50	<2.0	<0.50	<3.0
	9/4/2007	<0.50	<0.50	<1.0	<5.0	<0.50	<0.50	<5.0	**3.0**	<5.0	<0.50	<1.5	<1.5	<1.5	<2.0	<1.0	<1.0	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<2.0	<3.0	<2.0	<0.50	<3.0	<0.50	<0.50	<0.50	<0.50	<2.0	<0.50	<3.0
	12/4/2007	<0.50	<0.50	<1.0	<5.0	<0.50	<0.50	<5.0	**2.8**	<5.0	<0.50	<1.5	<1.5	<1.5	<2.0	<1.0	<1.0	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<2.0	<3.0	<2.0	<0.50	<3.0	<0.50	<0.50	<0.50	<0.50	<2.0	<0.50	<3.0
	3/11/2008	<0.50	<0.50	<1.0	<5.0	<0.50	<0.50	<5.0	**2.7**	<5.0	<0.50	<1.5	<1.5	<1.5	<2.0	<1.0	<1.0	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<2.0	<3.0	<2.0	<0.50	<3.0	<0.50	<0.50	<0.50	<0.50	<2.0	<0.50	<3.0
	5/28/2008	<0.50	<0.50	<1.0	<5.0	<0.50	<0.50	<5.0	**2.5**	<5.0	<0.50	<1.5	<1.5	<1.5	<2.0	<1.0	<1.0	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<2.0	<3.0	<2.0	<0.50	<3.0	<0.50	<0.50	<0.50	<0.50	<2.0	<0.50	<3.0
	6/2/2010	<0.50	<0.50	<1.0	<1.0	<0.50	<0.50	<1.0	**1.1**	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<2.0	<0.50	<1.0
	10/13/2010	<0.50	<0.50	<1.0	<5.0	<0.50	<0.50	<4.0	**1.01**	<5.0	<0.50	<1.5	<1.5	<1.5	<2.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<2.0	<3.0	<2.0	<0.50	<2.0	<0.50	<0.50	<0.50	<0.50	<2.0	<0.50	<1.0
	4/20/2011	<0.50	<0.50	<1.0	<1.0	<0.50	<0.50	<1.0	**0.93**	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.5
	10/4/2011	<0.50	<0.50	<1.0	<1.0	<0.50	<0.50	<1.0	**1.2**	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.5
	4/17/2012	<0.50	<0.50	<1.0	<1.0	<0.50	<0.50	<1.0	**0.89**	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.5
	10/23/2012	<0.50	<0.50	<1.0	<1.0	<0.50	<0.50	<1.0	**1.1**	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.5
	4/10/2013	<0.50	<0.50	<1.0	<1.0	<0.50	<0.50	<1.0	**0.81**	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.5
	10/13/2013	<0.50	<0.50	<1.0	<1.0	<0.50	<0.50	<1.0	**1.4**	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.5
CC-14	6/7/2007	**0.76**	<0.50	<1.0	<5.0	<0.50	<0.50	<5.0	**5.9**	<5.0	<0.50	<1.5	<1.5	<1.5	<2.0	<1.0	<1.0	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<2.0	<3.0	**20**	<0.50	**4.5**	<0.50	<0.50	<0.50	**3.2**	<2.0	<0.50	**4.2**
	9/6/2007	<0.50	<0.50	<1.0	<5.0	<0.50	<0.50	<5.0	**6.6**	<5.0	<0.50	<1.5	<1.5	<1.5	<2.0	<1.0	<1.0	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<2.0	<3.0	**7.0**	<0.50	<3.0	<0.50	<0.50	<0.50	**2.6**	<2.0	<0.50	**4.2**
	12/5/2007	**6.3**	<0.50	<1.0	<5.0	<0.50	<0.50	<5.0	**2.0**	<5.0	<0.50	<1.5	<1.5	<1.5	<2.0	<1.0	<1.0	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<2.0	<3.0	**24**	<0.50	**23**	<0.50	<0.50	<0.50	**2.0**	<2.0	<0.50	**15**
	3/13/2008	**8.0**	<0.50	<1.0	<5.0	<0.50	<0.50	<5.0	**11**	<5.0	<0.50	<1.5	<1.5	<1.5	<2.0	<1.0	<1.0	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<2.0	<3.0	**71**	<0.50	**19**	<0.50	<0.50	<0.50	**1.7**	<2.0	<0.50	**8.9**
	5/30/2008	**0.53**	<1.0	<1.0	<1.0	<0.50	<0.50	<1.0	**11**	<1.0	<1.0	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<2.0	**19**	<0.50	<0.50	<0.50	<0.50	<0.50	**1.1**	**1.6**	<0.50	<1.5
	6/4/2010	<0.50	<0.50	<1.0	<1.0	<0.50	<0.50	<1.0	**6.1**	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	**0.75**	<0.50	<1.0
	10/14/2010	<0.50	<0.50	<1.0	<5.0	<0.50	<0.50	<4.0	**7.36**	<5.0	<0.50	<1.5	<1.5	<1.5	<2.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<2.0	<3.0	<2.0	<0.50	<2.0	<0.50	<0.50	<0.50	<0.50	<2.0	<0.50	<1.0
	4/21/2011	<0.50	<0.50	<1.0	<1.0	<0.50	<0.50	<1.0	**9.5**	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	**0.57**	<0.50	<1.5
	10/5/2011	<0.50	<0.50	<1.0	<1.0	<0.50	<0.50	<1.0	**9.6**	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.5
	4/18/2012	<0.50	<0.50	<1.0	<1.0	<0.50	<0.50	<1.0	**9.2**	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.5
	10/24/2012	<0.50	<0.50	<1.0	<1.0	<0.50	<0.50	<1.0	**12**	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.5
	4/9/2013	<0.50	<0.50	<1.0	<1.0	<0.50	<0.50	<1.0	**9.4**	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.5
	10/15/2013	<0.50	<0.50	<1.0	<1.0	<0.50	<0.50	<1.0	**12**	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.5

TABLE 3
Comparison of Historical Analytical Detected Results, 2002-2014
All values in ug/L

Well Name	Date	Benzene	Bromodichloromethane	Bromoform	Bromomethane	Carbon tetrachloride	Chlorobenzene	Chloroethane	Chloroform	Chloromethane	Dibromochloromethane	1,2-Dichlorobenzene	1,3-Dichlorobenzene	1,4-Dichlorobenzene	Dichlorodifluoromethane	1,1-Dichloroethane	1,2-Dichloroethane	1,1-Dichloroethene	trans-1,2-Dichloroethene	cis-1,2-Dichloroethene	1,2-Dichloropropane	cis-1,3-Dichloropropene	trans-1,3-Dichloropropene	Ethylbenzene	Methylene chloride	Methyl tert-butyl ether	1,1,2,2-Tetrachloroethane	Toluene	Trichloroethene (TCE)	1,1,1-Trichloroethane	1,1,2-Trichloroethane	Tetrachloroethene (PCE)	Trichlorofluoromethane	Vinyl Chloride	Xylenes, Total
CC-15	6/11/2013	<0.50	<0.50	<1.0	<1.0	<0.50	<0.50	<1.0	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	**9.9**	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.5
	10/14/2013	<0.50	<0.50	<1.0	<1.0	<0.50	<0.50	<1.0	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	**5.4**	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.5
	1/23/2014	<0.50	<0.50	<1.0	<1.0	<0.50	<0.50	<1.0	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	**1.8**	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.5
CC-16	5/30/2008	<0.50	<1.0	<1.0	<1.0	<0.50	<0.50	<1.0	**1.4**	<1.0	<1.0	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<2.0	<2.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<1.5
	6/2/2010	<0.50	<0.50	<1.0	<1.0	<0.50	<0.50	<1.0	**0.82**	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0
	10/13/2010	<0.50	<0.50	<1.0	<5.0	<0.50	<0.50	<4.0	**0.770**	<5.0	<0.50	<1.5	<1.5	<1.5	<2.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<2.0	<3.0	<2.0	<0.50	<2.0	<0.50	<0.50	<0.50	<0.500	<2.0	<0.50	<1.0
	4/20/2011	<0.50	<0.50	<1.0	<1.0	<0.50	<0.50	<1.0	**0.78**	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.5
	10/5/2011	<0.50	<0.50	<1.0	<1.0	<0.50	<0.50	<1.0	**0.84**	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.5
	4/17/2012	<0.50	<0.50	<1.0	<1.0	<0.50	<0.50	<1.0	**0.83**	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.5
	10/23/2012	<0.50	<0.50	<1.0	<1.0	<0.50	<0.50	<1.0	**0.67**	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.5
	4/10/2013	<0.50	<0.50	<1.0	<1.0	<0.50	<0.50	<1.0	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.5
	10/13/2013	<0.50	<0.50	<1.0	<1.0	<0.50	<0.50	<1.0	**0.66**	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.5
CC-17	6/11/2013	<0.50	<0.50	<1.0	<1.0	<0.50	<0.50	<1.0	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	**27**	<0.50	<0.50	**3.9**	<0.50	<0.50	<0.50	**32**	<1.0	<0.50	<0.50	<0.50	**34**	<0.50	<0.50	**120**	<0.50	<0.50	**14**
	10/14/2013	<0.50	<0.50	<1.0	<1.0	<0.50	<0.50	<1.0	**0.66**	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	**28**	**0.52**	<0.50	**4.7**	<0.50	<0.50	<0.50	**34**	<1.0	<0.50	<0.50	<0.50	**39**	<0.50	<0.50	**140**	<0.50	<0.50	**15**
	10/14/2013 [a]	<0.50	<0.50	<1.0	<1.0	<0.50	<0.50	<1.0	**0.65**	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	**31**	**0.55**	<0.50	**5.2**	<0.50	<0.50	<0.50	**40**	<1.0	<0.50	<0.50	<0.50	**36**	<0.50	<0.50	**120**	<0.50	<0.50	**18**
	1/22/2014	<0.50	<0.50	<1.0	<1.0	<0.50	<0.50	<1.0	**0.76**	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	**24**	**0.55**	<0.50	**5.5**	<0.50	<0.50	<0.50	**34**	<1.0	<0.50	<0.50	<0.50	**51**	<0.50	<0.50	**130**	<0.50	<0.50	**14**
CC-18	5/30/2008	**23**	<1.0	<1.0	<1.0	<0.50	<0.50	<1.0	<0.50	<1.0	<1.0	<0.50	<0.50	<0.50	<1.0	<0.50	**5.3**	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	**72**	<2.0	<2.0	<0.50	**7.8**	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	**260**
	5/30/2008[a]	**60**	<1.0	<1.0	<1.0	<0.50	<0.50	<1.0	<0.50	<1.0	<1.0	<0.50	<0.50	<0.50	<1.0	<0.50	**7.4**	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	**170**	<2.0	<2.0	<0.50	**20**	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	**620**
	6/4/2010	**36**	<0.50	<1.0	<1.0	<0.50	<0.50	<1.0	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	**20**	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	**280**	<1.0	<0.50	<0.50	**2.2**	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	**500**
	6/4/2010[a]	**34**	<0.50	<1.0	<1.0	<0.50	<0.50	<1.0	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	**20**	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	**280**	<1.0	<0.50	<0.50	**2.1**	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	**510**
	10/15/2010	**40.2**	<0.50	<1.0	<5.0	<0.50	<0.50	<4.0	<0.50	<5.0	<0.50	<1.5	<1.5	<1.5	<2.0	<0.50	**26.4**	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	**377**	<3.0	<2.0	<0.50	**4.33**	**0.560**	<0.50	<0.50	<0.500	<2.0	<0.50	**899**
	4/22/2011	**25**	<0.50	<1.0	<1.0	<0.50	<0.50	<1.0	<5.0	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	**37**	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	**450**	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	**830**
	10/7/2011	**21**	<0.50	<1.0	<1.0	<0.50	<0.50	<1.0	<5.0	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	**35**	<0.50	<0.50	**1.6**	<0.50	<0.50	<0.50	**580**	<1.0	<0.50	<0.50	**2.6**	**4.0**	<0.50	<0.50	<0.50	<0.50	<0.50	**1100**
	10/7/2011[a]	**22**	<0.50	<1.0	<1.0	<0.50	<0.50	<1.0	<5.0	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	**36**	<0.50	<0.50	**1.8**	<0.50	<0.50	<0.50	**560**	<1.0	<0.50	<0.50	**2.7**	**4.1**	<0.50	<0.50	<0.50	<0.50	<0.50	**1000**
	4/19/2012	**9.2**	<0.50	<1.0	<1.0	<0.50	<0.50	<1.0	<5.0	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	**32**	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	**560**	<1.0	<0.50	<0.50	**1.3**	**4.8**	<0.50	<0.50	<0.50	<0.50	<0.50	**850**
	10/26/2012	**1.4**	<0.50	<1.0	<1.0	<0.50	<0.50	<1.0	<5.0	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	**3.1**	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	**65**	<1.0	<0.50	<0.50	<0.50	**0.75**	<0.50	<0.50	<0.50	<0.50	<0.50	**92**
	4/10/2013	**6.6**	<0.50	<1.0	<1.0	<0.50	<0.50	<1.0	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	**23**	<0.50	<0.50	**2.6**	<0.50	<0.50	<0.50	**520**	<1.0	<0.50	<0.50	**0.76**	**7.5**	<0.50	<0.50	<0.50	<0.50	<0.50	**630**
	10/16/2013	**7.5**	<0.50	<1.0	<1.0	<0.50	<0.50	<1.0	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	**28**	<0.50	<0.50	**4.3**	<0.50	<0.50	<0.50	**540**	<1.0	<0.50	<0.50	**0.99**	**12**	<0.50	<0.50	<0.50	<0.50	<0.50	**570**
	1/21/2014	**5.7**	<0.50	<1.0	<1.0	<0.50	<0.50	<1.0	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	**24**	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	**470**	<1.0	<0.50	<0.50	<0.50	**12**	<0.50	<0.50	<0.50	<0.50	<0.50	**530**
CC-19	1/22/2014	<0.50	<0.50	<1.0	<1.0	<0.50	<0.50	<1.0	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.5
MW-101	12/19/2006	<0.50	<0.50	<1.0	<5.0	<0.50	<0.50	<5.0	**2.0**	<5.0	<0.50	<1.5	<1.5	<1.5	<2.0	<1.0	<1.0	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<2.0	<3.0	NA	<0.50	<3.0	**0.81**	<0.50	<0.50	**70**	<2.0	<0.50	<3.0
	12/19/2006[a]	<0.50	<0.50	<1.0	<5.0	<0.50	<0.50	<5.0	**2.6**	<5.0	<0.50	<1.5	<1.5	<1.5	<2.0	<1.0	<1.0	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<2.0	<3.0	NA	<0.50	<3.0	**0.81**	1.2	<0.50	**59**	<2.0	<0.50	<3.0
	3/19/2007	<0.50	**1.2**	<1.0	<5.0	<0.50	<0.50	<5.0	**3.0**	<5.0	<0.50	<1.5	<1.5	<1.5	<2.0	<1.0	<1.0	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<2.0	<3.0	NA	<0.50	<3.0	**0.81**	<0.50	<0.50	**52**	<2.0	<0.50	<3.0
	3/19/2007[a]	<0.50	**1.8**	<1.0	<5.0	<0.50	<0.50	<5.0	**3.7**	<5.0	<0.50	<1.5	<1.5	<1.5	<2.0	<1.0	<1.0	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<2.0	<3.0	NA	<0.50	<3.0	**1.3**	<0.50	<0.50	**83**	<2.0	<0.50	<3.0
	6/7/2007	<0.50	<0.50	<1.0	<5.0	<0.50	<0.50	<5.0	**1.4**	<5.0	<0.50	<1.5	<1.5	<1.5	<2.0	<1.0	<1.0	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<2.0	<3.0	NA	<0.50	<3.0	<0.50	<0.50	<0.50	**1.1**	<2.0	<0.50	<3.0
	6/7/2007[a]	<0.50	<0.50	<1.0	<5.0	<0.50	<0.50	<5.0	**1.9**	<5.0	<0.50	<1.5	<1.5	<1.5	<2.0	<1.0	<1.0	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<2.0	<3.0	NA	<0.50	<3.0	<0.50	<0.50	<0.50	**0.8**	<2.0	<0.50	<3.0
	9/4/2007	<0.50	<0.50	<1.0	<5.0	<0.50	<0.50	<5.0	**1.4**	<5.0	<0.50	<1.5	<1.5	<1.5	<2.0	<1.0	<1.0	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<2.0	<3.0	NA	<0.50	<3.0	<0.50	<0.50	<0.50	**5.3**	<2.0	<0.50	<3.0
	9/4/2007[a]	<0.50	<0.50	<1.0	<5.0	<0.50	<0.50	<5.0	**1.6**	<5.0	<0.50	<1.5	<1.5	<1.5	<2.0	<1.0	<1.0	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<2.0	<3.0	NA	<0.50	<3.0	<0.50	<0.50	<0.50	**5.1**	<2.0	<0.50	<3.0
	12/3/2007	<0.50	<0.50	<1.0	<5.0	<0.50	<0.50	<5.0	**1.3**	<5.0	<0.50	<1.5	<1.5	<1.5	<2.0	<1.0	<1.0	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<2.0	<3.0	NA	<0.50	<3.0	<0.50	<0.50	<0.50	**1.7**	<2.0	<0.50	<3.0
	12/3/2007[a]	<0.50	<0.50	<1.0	<5.0	<0.50	<0.50	<5.0	**1.3**	<5.0	<0.50	<1.5	<1.5	<1.5	<2.0	<1.0	<1.0	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<2.0	<3.0	NA	<0.50	<3.0	<0.50	<0.50	<0.50	**1.7**	<2.0	<0.50	<3.0
	3/10/2008	<0.50	<0.50	<1.0	<5.0	<0.50	<0.50	<5.0	**5.0**	<5.0	<0.50	<1.5	<1.5	<1.5	<2.0	<1.0	<1.0	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<2.0	<3.0	NA	<0.50	<3.0	<0.50	<0.50	<0.50	**0.84**	<2.0	<0.50	<3.0
	3/10/2008[a]	<0.50	<0.50	<1.0	<5.0	<0.50	<0.50	<5.0	**4.9**	<5.0	<0.50	<1.5	<1.5	<1.5	<2.0	<1.0	<1.0	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<2.0	<3.0	NA	<0.50	<3.0	<0.50	<0.50	<0.50	**0.84**	<2.0	<0.50	<3.0
	5/27/2008	<0.50	<1.0	<1.0	<1.0	<0.50	<0.50	<1.0	**18**	<1.0	<1.0	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<2.0	<2.0	<0.50	<0.50	<0.50	<0.50	<0.50	**0.81**	<1.0	<0.50	<1.5
	5/27/2008[a]	<0.50	<1.0	<1.0	<1.0	<0.50	<0.50	<1.0	**17**	<1.0	<1.0	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<2.0	<2.0	<0.50	<0.50	<0.50	<0.50	<0.50	**0.75**	<1.0	<0.50	<1.5
	6/8/2010	<0.50	<0.50	<1.0	<1.0	<0.50	<0.50	<1.0	**2.4**	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	**0.83**	<0.50	<1.0
	10/25/2010	<0.50	<0.50	<1.0	<5.0	<0.50	<0.50	<4.0	**2.82**	<5.0	<0.50	<1.5	<1.5	<1.5	<2.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<2.0	<3.0	<2.0	<0.50	<2.0	<0.50	<0.50	<0.50	<0.50	<2.0	<0.50	<1.0
	1/21/2011	<0.50	<0.50	<1.0	<1.0	<0.50	<0.50	<1.0	**2.49**	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.5
	4/18/2011	<0.50	<0.50	<1.0	<1.0	<0.50	<0.50	<1.0	**2.3**	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.5
	10/10/2011	<0.50	<0.50	<1.0	<1.0	<0.50	<0.50	<1.0	**1.8**	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.5
	1/31/2012	<0.50	<0.50	<1.0	<1.0	<0.50	<0.50	<1.0	**1.8**	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.5
	4/20/2012	<0.50	<0.50	<1.0	<1.0	<0.50	<0.50	<1.0	**1.7**	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.5
	10/21/2012	<0.50	<0.50	<1.0	<1.0	<0.50	<0.50	<1.0	**4.1**	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.5
	1/30/2013	<0.50	<0.50	<1.0	<1.0	<0.50	<0.50	<1.0	**4.5**	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.5
	4/15/2013	<0.50	<0.50	<1.0	<1.0	<0.50	<0.50	<1.0	**6.1**	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.5
	7/21/2013	<0.50	<0.50	<1.0	<1.0	<0.50	<0.50	<1.0	**7.4**	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.5
	10/20/2013	<0.50	<0.50	<1.0	<1.0	<0.50	<0.50	<1.0	**9.1**	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.5
	1/22/2014	<0.50	<0.50	<1.0	<1.0	<0.50	<0.50	<1.0	**9.4**	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.5

TABLE 3
Comparison of Historical Analytical Detected Results, 2002-2014
All values in ug/L

Well Name	Date	Benzene	Bromodichloromethane	Bromoform	Bromomethane	Carbon tetrachloride	Chlorobenzene	Chloroethane	Chloroform	Chloromethane	Dibromochloromethane	1,2-Dichlorobenzene	1,3-Dichlorobenzene	1,4-Dichlorobenzene	Dichlorodifluoromethane	1,1-Dichloroethane	1,2-Dichloroethane	1,1-Dichloroethene	trans-1,2-Dichloroethene	cis-1,2-Dichloroethene	1,2-Dichloropropane	cis-1,3-Dichloropropene	trans-1,3-Dichloropropene	Ethylbenzene	Methylene chloride	Methyl tert-butyl ether	1,1,2,2-Tetrachloroethane	Toluene	Trichloroethene (TCE)	1,1,1-Trichloroethane	1,1,2-Trichloroethane	Tetrachloroethene (PCE)	Trichlorofluoromethane	Vinyl Chloride	Xylenes, Total
MW-102	12/19/2006	<0.50	<0.50	<1.0	<5.0	<0.50	<0.50	<5.0	**2.6**	<5.0	<0.50	<1.5	<1.5	<1.5	<2.0	<1.0	<1.0	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<2.0	<3.0	NA	<0.50	<3.0	<0.50	<0.50	<0.50	<0.50	<2.0	<0.50	<3.0
	3/19/2007	<0.50	<0.50	<1.0	<5.0	<0.50	<0.50	<5.0	**2.5**	<5.0	<0.50	<1.5	<1.5	<1.5	<2.0	<1.0	<1.0	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<2.0	<3.0	NA	<0.50	<3.0	<0.50	<0.50	<0.50	<0.50	<2.0	<0.50	<3.0
	6/7/2007	<0.50	<0.50	<1.0	<5.0	<0.50	<0.50	<5.0	**2.7**	<5.0	<0.50	<1.5	<1.5	<1.5	<2.0	<1.0	<1.0	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<2.0	<3.0	NA	<0.50	<3.0	<0.50	<0.50	<0.50	<0.50	<2.0	<0.50	<3.0
	9/4/2007	<0.50	<0.50	<1.0	<5.0	<0.50	<0.50	<5.0	**2.6**	<5.0	<0.50	<1.5	<1.5	<1.5	<2.0	<1.0	<1.0	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<2.0	<3.0	NA	<0.50	<3.0	<0.50	<0.50	<0.50	<0.50	<2.0	<0.50	<3.0
	12/3/2007	<0.50	<0.50	<1.0	<5.0	<0.50	<0.50	<5.0	**2.4**	<5.0	<0.50	<1.5	<1.5	<1.5	<2.0	<1.0	<1.0	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<2.0	<3.0	NA	<0.50	<3.0	<0.50	<0.50	<0.50	<0.50	<2.0	<0.50	<3.0
	3/10/2008	<0.50	<0.50	<1.0	<5.0	<0.50	<0.50	<5.0	**3.6**	<5.0	<0.50	<1.5	<1.5	<1.5	<2.0	<1.0	<1.0	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<2.0	<3.0	NA	<0.50	<3.0	<0.50	<0.50	<0.50	<0.50	<2.0	<0.50	<3.0
	5/27/2008	<0.50	<1.0	<1.0	<1.0	<0.50	<0.50	<1.0	**3.9**	<1.0	<1.0	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<2.0	<2.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<1.5
	6/8/2010	<0.50	<0.50	<1.0	<1.0	<0.50	<0.50	<1.0	**8.2**	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	**0.98**	**0.53**	<0.50	<1.0
	6/8/2010[a]	<0.50	<0.50	<1.0	<1.0	<0.50	<0.50	<1.0	**8.1**	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	**0.91**	**0.59**	<0.50	<1.0
	10/25/2010	<0.50	<0.50	<1.0	<5.0	<0.50	<0.50	<4.0	**9.63**	<5.0	<0.50	<1.5	<1.5	<1.5	<2.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<2.0	<3.0	<2.0	<0.50	<2.0	<0.50	<0.50	<0.50	**1.23**	<2.0	<0.50	<1.0
	1/21/2011	<0.50	<0.50	<1.0	<1.0	<0.50	<0.50	<1.0	**8.75**	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	**0.980**	<0.50	<0.50	<1.5
	1/21/2011[a]	<0.50	<0.50	<1.0	<1.0	<0.50	<0.50	<1.0	**8.99**	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	**0.840**	<0.50	<0.50	<1.5
	4/18/2011	<0.50	<0.50	<1.0	<1.0	<0.50	<0.50	<1.0	**7.8**	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	**1.3**	<0.50	<0.50	<1.5
	4/18/2011[a]	<0.50	<0.50	<1.0	<1.0	<0.50	<0.50	<1.0	**8.2**	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	**1.3**	<0.50	<0.50	<1.5
	10/10/2011	<0.50	<0.50	<1.0	<1.0	<0.50	<0.50	<1.0	**6.9**	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	**0.99**	**0.65**	<0.50	<1.5
	10/10/2011[a]	<0.50	<0.50	<1.0	<1.0	<0.50	<0.50	<1.0	**6.8**	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	**0.81**	**0.62**	<0.50	<1.5
	1/31/2012	<0.50	<0.50	<1.0	<1.0	<0.50	<0.50	<1.0	**7.9**	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	**0.80**	<0.50	<0.50	<1.5
	1/31/2012[a]	<0.50	<0.50	<1.0	<1.0	<0.50	<0.50	<1.0	**7.3**	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	**0.77**	<0.50	<0.50	<1.5
	4/20/2012	<0.50	<0.50	<1.0	<1.0	<0.50	<0.50	<1.0	**6.9**	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	**0.50**	**0.67**	<0.50	<1.5
	4/20/2012[a]	<0.50	<0.50	<1.0	<1.0	<0.50	<0.50	<1.0	**6.6**	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	**0.65**	<0.50	<1.5
	10/21/2012	<0.50	<0.50	<1.0	<1.0	<0.50	<0.50	<1.0	**6.6**	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	**0.57**	<0.50	<1.5
	10/21/2012[a]	<0.50	<0.50	<1.0	<1.0	<0.50	<0.50	<1.0	**6.9**	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	**0.58**	<0.50	<1.5
	1/30/2013	<0.50	<0.50	<1.0	<1.0	<0.50	<0.50	<1.0	**5.6**	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.5
	1/30/2013[a]	<0.50	<0.50	<1.0	<1.0	<0.50	<0.50	<1.0	**6.1**	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.5
	4/15/2013	<0.50	<0.50	<1.0	<1.0	<0.50	<0.50	<1.0	**5.5**	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.5
	4/15/2013[a]	<0.50	<0.50	<1.0	<1.0	<0.50	<0.50	<1.0	**6.3**	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.5
	7/21/2013	<0.50	<0.50	<1.0	<1.0	<0.50	<0.50	<1.0	**5.1**	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.5
	7/21/2013[a]	<0.50	<0.50	<1.0	<1.0	<0.50	<0.50	<1.0	**4.4**	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.5
	10/20/2013	<0.50	<0.50	<1.0	<1.0	<0.50	<0.50	<1.0	**4.6**	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.5
	10/20/2013[a]	<0.50	<0.50	<1.0	<1.0	<0.50	<0.50	<1.0	**4.7**	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.5
	1/22/2014	<0.50	<0.50	<1.0	<1.0	<0.50	<0.50	<1.0	**4.8**	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.5
	1/22/2014[a]	<0.50	<0.50	<1.0	<1.0	<0.50	<0.50	<1.0	**5.0**	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.5
MW-103	12/19/2006	<0.50	<0.50	<1.0	<5.0	<0.50	<0.50	<5.0	**6.7**	<5.0	<0.50	<1.5	<1.5	<1.5	<2.0	<1.0	<1.0	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<2.0	<3.0	NA	<0.50	<3.0	<0.50	<0.50	<0.50	<0.50	<2.0	<0.50	<3.0
	3/19/2007	<0.50	<0.50	<1.0	<5.0	<0.50	<0.50	<5.0	**6.9**	<5.0	<0.50	<1.5	<1.5	<1.5	<2.0	<1.0	<1.0	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<2.0	<3.0	NA	<0.50	<3.0	<0.50	<0.50	<0.50	<0.50	<2.0	<0.50	<3.0
	6/7/2007	<0.50	<0.50	<1.0	<5.0	<0.50	<0.50	<5.0	**8.3**	<5.0	<0.50	<1.5	<1.5	<1.5	<2.0	<1.0	<1.0	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<2.0	<3.0	NA	<0.50	<3.0	<0.50	<0.50	<0.50	<0.50	<2.0	<0.50	<3.0
	9/4/2007	<0.50	<0.50	<1.0	<5.0	<0.50	<0.50	<5.0	**7.5**	<5.0	<0.50	<1.5	<1.5	<1.5	<2.0	<1.0	<1.0	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<2.0	<3.0	NA	<0.50	<3.0	<0.50	<0.50	<0.50	<0.50	<2.0	<0.50	<3.0
	12/3/2007	<0.50	<0.50	<1.0	<5.0	<0.50	<0.50	<5.0	**6.4**	<5.0	<0.50	<1.5	<1.5	<1.5	<2.0	<1.0	<1.0	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<2.0	<3.0	NA	<0.50	<3.0	<0.50	<0.50	<0.50	<0.50	<2.0	<0.50	<3.0
	3/10/2008	<0.50	<0.50	<1.0	<5.0	<0.50	<0.50	<5.0	**9.0**	<5.0	<0.50	<1.5	<1.5	<1.5	<2.0	<1.0	<1.0	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<2.0	<3.0	NA	<0.50	<3.0	<0.50	<0.50	<0.50	<0.50	<2.0	<0.50	<3.0
	5/27/2008	<0.50	<1.0	<1.0	<1.0	<0.50	<0.50	<1.0	**8.1**	<1.0	<1.0	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<2.0	<2.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<1.5
	6/8/2010	<0.50	<0.50	<1.0	<1.0	<0.50	<0.50	<1.0	**8.2**	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0
	10/25/2010	<0.50	<0.50	<1.0	<5.0	<0.50	<0.50	<4.0	**8.58**	<5.0	<0.50	<1.5	<1.5	<1.5	<2.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<2.0	<3.0	<2.0	<0.50	<2.0	<0.50	<0.50	<0.50	<0.50	<2.0	<0.50	<1.0
	1/21/2011	<0.50	<0.50	<1.0	<1.0	<0.50	<0.50	<1.0	**9.14**	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.5
	4/18/2011	<0.50	<0.50	<1.0	<1.0	<0.50	<0.50	<1.0	**9.9**	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.5
	10/10/2011	<0.50	<0.50	<1.0	<1.0	<0.50	<0.50	<1.0	**10**	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.5
	1/31/2012	<0.50	<0.50	<1.0	<1.0	<0.50	<0.50	<1.0	**11**	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.5
	4/20/2012	<0.50	<0.50	<1.0	<1.0	<0.50	<0.50	<1.0	**11**	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.5
	10/21/2012	<0.50	<0.50	<1.0	<1.0	<0.50	<0.50	<1.0	**9.8**	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.5
	1/30/2013	<0.50	<0.50	<1.0	<1.0	<0.50	<0.50	<1.0	**9.8**	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.5
	4/15/2013	<0.50	<0.50	<1.0	<1.0	<0.50	<0.50	<1.0	**6.7**	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.5
	7/21/2013	<0.50	<0.50	<1.0	<1.0	<0.50	<0.50	<1.0	**8.8**	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.5
	10/20/2013	<0.50	<0.50	<1.0	<1.0	<0.50	<0.50	<1.0	**8.5**	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.5
	1/22/2014	<0.50	<0.50	<1.0	<1.0	<0.50	<0.50	<1.0	**7.2**	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.5
MW-104	12/19/2006	<0.50	<0.50	<1.0	<5.0	<0.50	<0.50	<5.0	**2.7**	<5.0	<0.50	<1.5	<1.5	<1.5	<2.0	<1.0	<1.0	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<2.0	<3.0	NA	<0.50	<3.0	<0.50	<0.50	<0.50	**6.9**	<2.0	<0.50	<3.0
	3/19/2007	<0.50	<0.50	<1.0	<5.0	<0.50	<0.50	<5.0	**2.9**	<5.0	<0.50	<1.5	<1.5	<1.5	<2.0	<1.0	<1.0	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<2.0	<3.0	NA	<0.50	<3.0	<0.50	<0.50	<0.50	**6.7**	<2.0	<0.50	<3.0
	6/7/2007	<0.50	<0.50	<1.0	<5.0	<0.50	<0.50	<5.0	**4.0**	<5.0	<0.50	<1.5	<1.5	<1.5	<2.0	<1.0	<1.0	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<2.0	<3.0	NA	<0.50	<3.0	<0.50	<0.50	<0.50	**3.7**	<2.0	<0.50	<3.0
	9/4/2007	<0.50	<0.50	<1.0	<5.0	<0.50	<0.50	<5.0	**3.9**	<5.0	<0.50	<1.5	<1.5	<1.5	<2.0	<1.0	<1.0	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<2.0	<3.0	NA	<0.50	<3.0	<0.50	<0.50	<0.50	**6.8**	<2.0	<0.50	<3.0
	12/3/2007	<0.50	<0.50	<1.0	<5.0	<0.50	<0.50	<5.0	**3.1**	<5.0	<0.50	<1.5	<1.5	<1.5	<2.0	<1.0	<1.0	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<2.0	<3.0	NA	<0.50	<3.0	<0.50	<0.50	<0.50	**3.6**	<2.0	<0.50	<3.0
	Abandoned December 14, 2007																																		

TABLE 3
Comparison of Historical Analytical Detected Results, 2002-2014
All values in ug/L

Well Name	Date	Benzene	Bromodichloromethane	Bromoform	Bromomethane	Carbon tetrachloride	Chlorobenzene	Chloroethane	Chloroform	Chloromethane	Dibromochloromethane	1,2-Dichlorobenzene	1,3-Dichlorobenzene	1,4-Dichlorobenzene	Dichlorodifluoromethane	1,1-Dichloroethane	1,2-Dichloroethane	1,1-Dichloroethene	trans-1,2-Dichloroethene	cis-1,2-Dichloroethene	1,2-Dichloropropane	cis-1,3-Dichloropropene	trans-1,3-Dichloropropene	Ethylbenzene	Methylene chloride	Methyl tert-butyl ether	1,1,2,2-Tetrachloroethane	Toluene	Trichloroethene (TCE)	1,1,1-Trichloroethane	1,1,2-Trichloroethane	Tetrachloroethene (PCE)	Trichlorofluoromethane	Vinyl Chloride	Xylenes, Total
MW-105	12/19/2006	<0.50	<0.50	<1.0	<5.0	<0.50	<0.50	<5.0	**14**	<5.0	<0.50	<1.5	<1.5	<1.5	<2.0	<1.0	<1.0	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<2.0	<3.0	NA	<0.50	<3.0	<0.50	<0.50	<0.50	**2.5**	<2.0	<0.50	<3.0
	3/19/2007	<0.50	<0.50	<1.0	<5.0	<0.50	<0.50	<5.0	**12**	<5.0	<0.50	<1.5	<1.5	<1.5	<2.0	<1.0	<1.0	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<2.0	<3.0	NA	<0.50	<3.0	<0.50	<0.50	<0.50	**1.6**	<2.0	<0.50	<3.0
	6/7/2007	<0.50	<0.50	<1.0	<5.0	<0.50	<0.50	<5.0	**14**	<5.0	<0.50	<1.5	<1.5	<1.5	<2.0	<1.0	<1.0	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<2.0	<3.0	NA	<0.50	<3.0	<0.50	<0.50	<0.50	**1.3**	<2.0	<0.50	<3.0
	9/4/2007	<0.50	<0.50	<1.0	<5.0	<0.50	<0.50	<5.0	**12**	<5.0	<0.50	<1.5	<1.5	<1.5	<2.0	<1.0	<1.0	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<2.0	<3.0	NA	<0.50	<3.0	<0.50	<0.50	<0.50	**1.4**	<2.0	<0.50	<3.0
	12/3/2007	<0.50	<0.50	<1.0	<5.0	<0.50	<0.50	<5.0	**0.86**	<5.0	<0.50	<1.5	<1.5	<1.5	<2.0	<1.0	<1.0	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<2.0	<3.0	NA	<0.50	<3.0	<0.50	<0.50	<0.50	<0.50	<2.0	<0.50	<3.0
	3/10/2008	<0.50	<0.50	<1.0	<5.0	<0.50	<0.50	<5.0	**10**	<5.0	<0.50	<1.5	<1.5	<1.5	<2.0	<1.0	<1.0	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<2.0	<3.0	NA	<0.50	<3.0	<0.50	<0.50	<0.50	**0.99**	<2.0	<0.50	<3.0
	5/27/2008	<0.50	<1.0	<1.0	<1.0	<0.50	<0.50	<1.0	**8.5**	<1.0	<1.0	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<2.0	<2.0	<0.50	<0.50	<0.50	<0.50	<0.50	**0.62**	<1.0	<0.50	<1.5
	6/8/2010	<0.50	<0.50	<1.0	<1.0	<0.50	<0.50	<1.0	**6.1**	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0
	10/25/2010	<0.50	<0.50	<1.0	<5.0	<0.50	<0.50	<4.0	**5.82**	<5.0	<0.50	<1.5	<1.5	<1.5	<2.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<2.0	<3.0	<2.0	<0.50	<2.0	<0.50	<0.50	<0.50	<0.50	<2.0	<0.50	<1.0
	1/21/2011	<0.50	<0.50	<1.0	<1.0	<0.50	<0.50	<1.0	**5.59**	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.5
	4/18/2011	<0.50	<0.50	<1.0	<1.0	<0.50	<0.50	<1.0	**4.6**	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.5
	10/10/2011	<0.50	<0.50	<1.0	<1.0	<0.50	<0.50	<1.0	**3.8**	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.5
	1/31/2012	<0.50	<0.50	<1.0	<1.0	<0.50	<0.50	<1.0	**3.7**	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.5
	4/20/2012	<0.50	<0.50	<1.0	<1.0	<0.50	<0.50	<1.0	**3.3**	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.5
	10/21/2012	<0.50	<0.50	<1.0	<1.0	<0.50	<0.50	<1.0	**3.7**	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.5
	1/30/2013	<0.50	<0.50	<1.0	<1.0	<0.50	<0.50	<1.0	**2.4**	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.5
	4/15/2013	<0.50	<0.50	<1.0	<1.0	<0.50	<0.50	<1.0	**2.7**	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.5
	7/21/2013	<0.50	<0.50	<1.0	<1.0	<0.50	<0.50	<1.0	**2.6**	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.5
	10/20/2013	<0.50	<0.50	<1.0	<1.0	<0.50	<0.50	<1.0	**2.3**	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.5
	1/22/2014	<0.50	<0.50	<1.0	<1.0	<0.50	<0.50	<1.0	**1.7**	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.5
MW-106	12/19/2006	<0.50	<0.50	<1.0	<5.0	<0.50	<0.50	<5.0	**9.3**	<5.0	<0.50	<1.5	<1.5	<1.5	<2.0	<1.0	<1.0	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<2.0	<3.0	NA	<0.50	<3.0	<0.50	<0.50	<0.50	<0.50	<2.0	<0.50	<3.0
	3/19/2007	<0.50	<0.50	<1.0	<5.0	<0.50	<0.50	<5.0	**7.9**	<5.0	<0.50	<1.5	<1.5	<1.5	<2.0	<1.0	<1.0	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<2.0	<3.0	NA	<0.50	<3.0	<0.50	<0.50	<0.50	<0.50	**2.3**	<0.50	<3.0
	6/7/2007	<0.50	<0.50	<1.0	<5.0	<0.50	<0.50	<5.0	**13**	<5.0	<0.50	<1.5	<1.5	<1.5	<2.0	<1.0	<1.0	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<2.0	<3.0	NA	<0.50	<3.0	<0.50	<0.50	<0.50	<0.50	**2.2**	<0.50	<3.0
	9/4/2007	<0.50	<0.50	<1.0	<5.0	<0.50	<0.50	<5.0	**9.8**	<5.0	<0.50	<1.5	<1.5	<1.5	<2.0	<1.0	<1.0	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<2.0	<3.0	NA	<0.50	<3.0	<0.50	<0.50	<0.50	<0.50	<2.0	<0.50	<3.0
	12/3/2007	<0.50	<0.50	<1.0	<5.0	<0.50	<0.50	<5.0	**6.9**	<5.0	<0.50	<1.5	<1.5	<1.5	<2.0	<1.0	<1.0	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<2.0	<3.0	NA	<0.50	<3.0	<0.50	<0.50	<0.50	<0.50	**2.1**	<0.50	<3.0
	3/10/2008	<0.50	<0.50	<1.0	<5.0	<0.50	<0.50	<5.0	**10**	<5.0	<0.50	<1.5	<1.5	<1.5	<2.0	<1.0	<1.0	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<2.0	<3.0	NA	<0.50	<3.0	<0.50	<0.50	<0.50	<0.50	**2.3**	<0.50	<3.0
	5/27/2008	<0.50	<1.0	<1.0	<1.0	<0.50	<0.50	<1.0	**9.1**	<1.0	<1.0	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<2.0	<2.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	**1.5**	<0.50	<1.5
	6/8/2010	<0.50	<0.50	<1.0	<1.0	<0.50	<0.50	<1.0	**14**	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	**0.80**	<0.50	<1.0
	10/25/2010	<0.50	<0.50	<1.0	<5.0	<0.50	<0.50	<4.0	**14.6**	<5.0	<0.50	<1.5	<1.5	<1.5	<2.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<2.0	<3.0	<2.0	<0.50	<2.0	<0.50	<0.50	<0.50	<0.50	<2.0	<0.50	<1.0
	1/21/2011	<0.50	<0.50	<1.0	<1.0	<0.50	<0.50	<1.0	**13.8**	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.5
	4/18/2011	<0.50	<0.50	<1.0	<1.0	<0.50	<0.50	<1.0	**15**	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.5
	10/10/2011	<0.50	<0.50	<1.0	<1.0	<0.50	<0.50	<1.0	**15**	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	**0.52**	<0.50	<1.5
	1/31/2012	<0.50	<0.50	<1.0	<1.0	<0.50	<0.50	<1.0	**15**	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.5
	4/20/2012	<0.50	<0.50	<1.0	<1.0	<0.50	<0.50	<1.0	**15**	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.5
	10/21/2012	<0.50	<0.50	<1.0	<1.0	<0.50	<0.50	<1.0	**12**	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.5
	1/30/2013	<0.50	<0.50	<1.0	<1.0	<0.50	<0.50	<1.0	**11**	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.5
	4/15/2013	<0.50	<0.50	<1.0	<1.0	<0.50	<0.50	<1.0	**8.2**	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.5
	7/21/2013	<0.50	<0.50	<1.0	<1.0	<0.50	<0.50	<1.0	**11**	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.5
	10/20/2013	<0.50	<0.50	<1.0	<1.0	<0.50	<0.50	<1.0	**9.6**	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.5
	1/22/2014	<0.50	<0.50	<1.0	<1.0	<0.50	<0.50	<1.0	**7.3**	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.5
MW-107	12/19/2006	<0.50	<0.50	<1.0	<5.0	<0.50	<0.50	<5.0	**5.5**	<5.0	<0.50	<1.5	<1.5	<1.5	<2.0	<1.0	<1.0	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<2.0	<3.0	NA	<0.50	<3.0	<0.50	<0.50	<0.50	**7.9**	<2.0	<0.50	<3.0
	3/19/2007	<0.50	<0.50	<1.0	<5.0	<0.50	<0.50	<5.0	**6.7**	<5.0	<0.50	<1.5	<1.5	<1.5	<2.0	<1.0	<1.0	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<2.0	<3.0	NA	<0.50	<3.0	<0.50	<0.50	<0.50	<0.50	<2.0	<0.50	<3.0
	6/7/2007	<0.50	<0.50	<1.0	<5.0	<0.50	<0.50	<5.0	**6.9**	<5.0	<0.50	<1.5	<1.5	<1.5	<2.0	<1.0	<1.0	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<2.0	<3.0	NA	<0.50	<3.0	<0.50	<0.50	<0.50	<0.50	<2.0	<0.50	<3.0
	9/4/2007	<0.50	<0.50	<1.0	<5.0	<0.50	<0.50	<5.0	**5.8**	<5.0	<0.50	<1.5	<1.5	<1.5	<2.0	<1.0	<1.0	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<2.0	<3.0	NA	<0.50	<3.0	<0.50	<0.50	<0.50	<0.50	<2.0	<0.50	<3.0
	12/3/2007	<0.50	<0.50	<1.0	<5.0	<0.50	<0.50	<5.0	**5.4**	<5.0	<0.50	<1.5	<1.5	<1.5	<2.0	<1.0	<1.0	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<2.0	<3.0	NA	<0.50	<3.0	<0.50	<0.50	<0.50	<0.50	<2.0	<0.50	<3.0
	3/10/2008	<0.50	<0.50	<1.0	<5.0	<0.50	<0.50	<5.0	**11**	<5.0	<0.50	<1.5	<1.5	<1.5	<2.0	<1.0	<1.0	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<2.0	<3.0	NA	<0.50	<3.0	<0.50	<0.50	<0.50	<0.50	<2.0	<0.50	<3.0
	5/27/2008	<0.50	<1.0	<1.0	<1.0	<0.50	<0.50	<1.0	**9.4**	<1.0	<1.0	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<2.0	<2.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<1.5
	6/8/2010	<0.50	<0.50	<1.0	<1.0	<0.50	<0.50	<1.0	**8.0**	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	**0.80**	<0.50	<1.0
	10/25/2010	<0.50	<0.50	<1.0	<5.0	<0.50	<0.50	<4.0	**7.13**	<5.0	<0.50	<1.5	<1.5	<1.5	<2.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<2.0	<3.0	<2.0	<0.50	<2.0	<0.50	<0.50	<0.50	<0.50	<2.0	<0.50	<1.0
	10/25/2010[a]	<0.500	<1.0	<1.0	<1.0	<0.50	<0.50	<4.0	**6.32**	<0.50	<0.50	<1.5	<1.5	<1.5	<2.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<2.0	<2.0	<2.0	<0.50	<2.0	<0.50	<0.50	<0.50	<0.50	<2.0	<0.50	<1.0
	1/21/2011	<0.50	<0.50	<1.0	<1.0	<0.50	<0.50	<1.0	**7.40**	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.5
	4/18/2011	<0.50	<0.50	<1.0	<1.0	<0.50	<0.50	<1.0	**7.2**	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.5
	10/10/2011	<0.50	<0.50	<1.0	<1.0	<0.50	<0.50	<1.0	**6.7**	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	**0.59**	<0.50	<1.5
	1/31/2012	<0.50	<0.50	<1.0	<1.0	<0.50	<0.50	<1.0	**7.5**	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.5
	4/20/2012	<0.50	<0.50	<1.0	<1.0	<0.50	<0.50	<1.0	**7.5**	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	**0.61**	<0.50	<1.5
	10/21/2012	<0.50	<0.50	<1.0	<1.0	<0.50	<0.50	<1.0	**9.6**	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.5
	1/30/2013	<0.50	<0.50	<1.0	<1.0	<0.50	<0.50	<1.0	**7.2**	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.5
	4/15/2013	<0.50	<0.50	<1.0	<1.0	<0.50	<0.50	<1.0	**7.1**	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.5
	7/21/2013	<0.50	<0.50	<1.0	<1.0	<0.50	<0.50	<1.0	**8.2**	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.5
	10/20/2013	<0.50	<0.50	<1.0	<1.0	<0.50	<0.50	<1.0	**7.5**	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.5
	1/22/2014	<0.50	<0.50	<1.0	<1.0	<0.50	<0.50	<1.0	**6.3**	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.5

TABLE 3
Comparison of Historical Analytical Detected Results, 2002-2014
All values in ug/L

Well Name	Date	Benzene	Bromodichloromethane	Bromoform	Bromomethane	Carbon tetrachloride	Chlorobenzene	Chloroethane	Chloroform	Chloromethane	Dibromochloromethane	1,2-Dichlorobenzene	1,3-Dichlorobenzene	1,4-Dichlorobenzene	Dichlorodifluoromethane	1,1-Dichloroethane	1,2-Dichloroethane	1,1-Dichloroethene	trans-1,2-Dichloroethene	cis-1,2-Dichloroethene	1,2-Dichloropropane	cis-1,3-Dichloropropene	trans-1,3-Dichloropropene	Ethylbenzene	Methylene chloride	Methyl tert-butyl ether	1,1,2,2-Tetrachloroethane	Toluene	Trichloroethene (TCE)	1,1,1-Trichloroethane	1,1,2-Trichloroethane	Tetrachloroethene (PCE)	Trichlorofluoromethane	Vinyl Chloride	Xylenes, Total
Brophy Well	8/10/2007	<0.50	<0.50	<1.0	<5.0	<0.50	<0.50	<5.0	<0.50	<5.0	<0.50	<1.5	<1.5	<1.5	<2.0	<1.0	<1.0	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<2.0	<3.0	<2.0	<0.50	<3.0	<0.50	<0.50	<0.50	<0.50	<2.0	<0.50	<3.0
	9/6/2007	<0.50	<0.50	<1.0	<5.0	<0.50	<0.50	<5.0	<0.50	<5.0	<0.50	<1.5	<1.5	<1.5	<2.0	<1.0	<1.0	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<2.0	<3.0	<2.0	<0.50	<3.0	<0.50	<0.50	<0.50	<0.50	<2.0	<0.50	<3.0
	12/6/2007	<0.50	<0.50	<1.0	<5.0	<0.50	<0.50	<5.0	<0.50	<5.0	<0.50	<1.5	<1.5	<1.5	<2.0	<1.0	<1.0	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<2.0	<3.0	<2.0	<0.50	<3.0	<0.50	<0.50	<0.50	<0.50	<2.0	<0.50	<3.0
	3/13/2008	<0.50	<0.50	<1.0	<5.0	<0.50	<0.50	<5.0	<0.50	<5.0	<0.50	<1.5	<1.5	<1.5	<2.0	<1.0	<1.0	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<2.0	<3.0	<2.0	<0.50	<3.0	<0.50	<0.50	<0.50	<0.50	<2.0	<0.50	<3.0
	5/30/2008	<0.50	<1.0	<1.0	<1.0	<0.50	<0.50	<1.0	<0.50	<1.0	<1.0	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<2.0	<2.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<1.5
	6/3/2010	<0.50	<0.50	<1.0	<1.0	<0.50	<0.50	<1.0	**0.53**	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0
	10/12/2010	<0.50	<0.50	<1.0	<5.0	<0.50	<0.50	<4.0	**0.520**	<5.0	<0.50	<1.5	<1.5	<1.5	<2.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<2.0	<3.0	<2.0	<0.50	<2.0	<0.50	<0.50	<0.50	<0.50	<2.0	<0.50	<1.0
	4/20/2011	<0.50	<0.50	<1.0	<1.0	<0.50	<0.50	<1.0	**0.56**	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.5
	10/5/2011	<0.50	<0.50	<1.0	<1.0	<0.50	<0.50	<1.0	**0.72**	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.5
	4/18/2012	<0.50	<0.50	<1.0	<1.0	<0.50	<0.50	<1.0	**0.55**	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.5
	10/24/2012	<0.50	<0.50	<1.0	<1.0	<0.50	<0.50	<1.0	**0.60**	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.5
	4/10/2013	<0.50	<0.50	**2.0**	<1.0	<0.50	<0.50	<1.0	**0.54**	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.5
	10/15/2013	<0.50	<0.50	<1.0	<1.0	<0.50	<0.50	<1.0	**0.73**	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.5
TEX-MW-1	3/2/2005[b,c]	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	**0.73**	**7.5**	NR	<1.0	<1.0	NR	<3.0	,<2.0	NR	<3.0	**1.5**	NR	NR	<0.50	<2.0	<1.0	<3.0
	12/14/2005[b]	<1.0	<2.0	<5.0	<5.0	<5.0	<1.0	<5.0	<2.0	<5.0	<2.0	<1.0	<1.0	<1.0	<5.0	<2.0	<1.0	<5.0	<2.0	**4.7**	<2.0	<2.0	<2.0	<2.0	<5.0	<5.0	<2.0	<2.0	**3.0**	<2.0	<2.0	<2.0	<5.0	<5.0	<3.0
	3/3/2006[b]	<1.0	<2.0	<5.0	<5.0	<5.0	<1.0	<5.0	<2.0	<5.0	<2.0	<1.0	<1.0	<1.0	<5.0	<2.0	<1.0	<5.0	<2.0	**2.8**	<2.0	<2.0	<2.0	<2.0	<5.0	<5.0	<2.0	<2.0	**2.9**	<2.0	<2.0	<2.0	<5.0	<5.0	<3.0
	9/4/2007	<0.50	<0.50	<1.0	<5.0	<0.50	<0.50	<5.0	<0.50	<5.0	<0.50	<1.5	<1.5	<1.5	<2.0	<1.0	<1.0	<0.50	<0.50	**1.9**	<0.50	<1.0	<0.50	<2.0	<3.0	<2.0	<0.50	<3.0	<0.50	<0.50	<0.50	<0.50	<2.0	<0.50	<3.0
	12/3/2007	<0.50	<0.50	<1.0	<5.0	<0.50	<0.50	<5.0	<0.50	<5.0	<0.50	<1.5	<1.5	<1.5	<2.0	<1.0	<1.0	<0.50	<0.50	**1.1**	<0.50	<1.0	<0.50	<2.0	<3.0	<2.0	<0.50	<3.0	**3.1**	<0.50	<0.50	**1.6**	<2.0	<0.50	<3.0
	2/25/2008	<0.50	<0.50	<1.0	<5.0	<0.50	<0.50	<5.0	<0.50	<5.0	<0.50	<1.5	<1.5	<1.5	<2.0	<1.0	<1.0	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<2.0	<3.0	<2.0	<0.50	<3.0	**1.0**	<0.50	<0.50	**0.57**	<2.0	<0.50	<3.0
	5/19/2008[b,c]	<5.0	<5.0	<5.0	<10	<5.0	<5.0	<10	<5.0	<10	<5.0	<5.0	<5.0	<5.0	<10	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<10	<5.0
	8/25/2008[b,c]	<5.0	<5.0	<5.0	<10	<5.0	<5.0	<10	<5.0	<10	<5.0	<5.0	<5.0	<5.0	<10	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<10	<5.0
	11/17/2008[b,c]	<5.0	<5.0	<5.0	<10	<5.0	<5.0	<10	<5.0	<10	<5.0	<5.0	<5.0	<5.0	<10	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<10	<5.0
	2/9/2009[b,c]	<5.0	<5.0	<5.0	<10	<5.0	<5.0	<10	<5.0	<10	<5.0	<5.0	<5.0	<5.0	<10	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<10	<5.0
	6/10/2009[b,c]	<5.0	<5.0	<5.0	<10	<5.0	<5.0	<10	<5.0	<10	<5.0	<5.0	<5.0	<5.0	<10	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<10	<5.0
	8/28/2009[b,d]	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<10	<5.0	<10	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	**7.81**	<5.0	<5.0	<5.0	**6.60**	<5.0	<5.0	<5.0	<5.0	<5.0	<2.0	**13.1**
	10/30/2009[b,d]	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<10	<5.0	<10	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<2.0	<5.0
	1/22/2010[b,d]	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<10	<5.0	<10	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<2.0	<5.0
	4/9/2010[b,d]	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<10	<5.0	<10	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<2.0	<5.0
	7/23/2010[b,d]	<5.0	<5.0	<1.0	<5.0	<0.50	<0.50	<4.0	<0.50	<5.0	<5.0	<1.5	<1.5	<1.5	<2.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<2.0	<3.0	<2.0	<0.50	<2.0	<0.50	<0.50	<0.50	<0.50	<2.0	<0.50	<3.0
	10/13/2010[b,d]	<5.0	<5.0	<1.0	<5.0	<0.50	<0.50	<4.0	<0.50	<5.0	<0.50	<1.5	<1.5	<1.5	<2.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<2.0	<3.0	<2.0	<0.50	<2.0	<0.50	<0.50	<0.50	<0.50	<2.0	<0.50	<1.0
	3/16/2011[b,e]	<0.50	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.50	NA	<0.50	NA	<0.50	NA	NA	NA	NA	NA	NA	<1.5
	5/3/2011	<0.50	<0.50	<1.0	<1.0	<0.50	<0.50	<1.0	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	**0.73**	<0.50	<0.50	<1.5
	12/2/2011	<0.50	<0.50	<1.0	<1.0	<0.50	<0.50	<1.0	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	**0.73**	<0.50	<0.50	<1.5
	12/2/2011[b,e]	<1.0	<1.0	<1.0	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<20	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<2.0
	5/10/2012	<0.50	<0.50	<1.0	<1.0	<0.50	<0.50	<1.0	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.5
	11/12/2012	<0.50	<0.50	<1.0	<1.0	<0.50	<0.50	<1.0	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.5
	3/26/2013	<0.50	<0.50	<1.0	<1.0	<0.50	<0.50	<1.0	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.5
	6/10/2013	<0.50	<0.50	<1.0	<1.0	<0.50	<0.50	<1.0	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.5
	10/28/2013	<0.50	<0.50	<1.0	<1.0	<0.50	<0.50	<1.0	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.5
	1/20/2014	<0.50	<0.50	<1.0	<1.0	<0.50	<0.50	<1.0	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.5
TEX-MW-2	12/14/2005[b]	<1.0	<2.0	<5.0	<5.0	<5.0	<1.0	<5.0	<2.0	<5.0	<2.0	<1.0	<1.0	<1.0	<5.0	<2.0	<1.0	<5.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<5.0	<5.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<5.0	<5.0	<3.0
	3/3/2006[b]	<1.0	<2.0	<5.0	<5.0	<5.0	<1.0	<5.0	<2.0	<5.0	<2.0	<1.0	<1.0	<1.0	<5.0	<2.0	<1.0	<5.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<5.0	<5.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<5.0	<5.0	<3.0
	9/4/2007	<0.50	<0.50	<1.0	<5.0	<0.50	<0.50	<5.0	**3.0**	<5.0	<0.50	<1.5	<1.5	<1.5	<2.0	<1.0	<1.0	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<2.0	<3.0	<2.0	<0.50	<3.0	**21**	<0.50	<0.50	**41**	<2.0	<0.50	<3.0
	12/3/2007	<0.50	<0.50	<1.0	<5.0	<0.50	<0.50	<5.0	**3.0**	<5.0	<0.50	<1.5	<1.5	<1.5	<2.0	<1.0	<1.0	<0.50	<0.50	**4.1**	<0.50	<1.0	<0.50	<2.0	<3.0	<2.0	<0.50	<3.0	**29**	<0.50	<0.50	**56**	<2.0	<0.50	<3.0
	2/25/2008	<0.50	<0.50	<1.0	<5.0	<0.50	<0.50	<5.0	<0.50	<5.0	<0.50	<1.5	<1.5	<1.5	<2.0	<1.0	<1.0	<0.50	<0.50	**7.1**	<0.50	<1.0	<0.50	<2.0	<3.0	<2.0	<0.50	<3.0	**41**	<0.50	<0.50	**67**	<2.0	<0.50	<3.0
	5/19/2008[b,c]	<5.0	<5.0	<5.0	<10	<5.0	<5.0	<10	<5.0	<10	<5.0	<5.0	<5.0	<5.0	<10	<5.0	<5.0	<5.0	<5.0	**5**	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	**32**	<5.0	<5.0	**65**	<5.0	<10	<5.0
	8/25/2008[b,c]	<5.0	<5.0	<5.0	<10	<5.0	<5.0	<10	<5.0	<10	<5.0	<5.0	<5.0	<5.0	<10	<5.0	<5.0	<5.0	<5.0	**7.8**	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	**50**	<5.0	<5.0	**98**	<5.0	<10	<5.0
	11/17/2008[b,c]	<5.0	<5.0	<5.0	<10	<5.0	<5.0	<10	<5.0	<10	<5.0	<5.0	<5.0	<5.0	<10	<5.0	<5.0	<5.0	<5.0	**6.2**	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	**38**	<5.0	<5.0	**93**	<5.0	<10	<5.0
	2/9/2009[b,c]	<5.0	<5.0	<5.0	<10	<5.0	<5.0	<10	<5.0	<10	<5.0	<5.0	<5.0	<5.0	<10	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<10	<5.0
	6/10/2009[b,c]	<5.0	<5.0	<5.0	<10	<5.0	<5.0	<10	<5.0	<10	<5.0	<5.0	<5.0	<5.0	<10	<5.0	<5.0	<5.0	<5.0	**10**	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	**51**	<5.0	<5.0	**91**	<5.0	<10	<5.0
	8/28/2009[b,d]	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<10	<5.0	<10	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	**9.54**	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	**42.3**	<5.0	<5.0	**101**	<5.0	<2.0	<5.0
	10/30/2009[b,d]	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<10	<5.0	<10	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	**30.2**	<5.0	<5.0	**71.9**	<5.0	<2.0	<5.0
	1/22/2010[b,d]	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<10	<5.0	<10	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	**29.4**	<5.0	<5.0	**65.5**	<5.0	<2.0	<5.0
	4/9/2010[b,d]	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<10	<5.0	<10	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	**25.4**	<5.0	<5.0	**49.5**	<5.0	<2.0	<5.0
	7/23/2010[b,d]	<5.0	<5.0	<1.0	<5.0	<0.50	<0.50	<4.0	<0.50	<5.0	<5.0	<1.5	<1.5	<1.5	<2.0	<0.50	<0.50	<0.50	<0.50	**4.0**	<0.50	<1.0	<0.50	<2.0	<3.0	<2.0	<0.50	<2.0	**33**	<0.50	<0.50	**61**	<2.0	<0.50	<3.0
	10/13/2010[b,d]	<5.0	<5.0	<1.0	<5.0	<0.50	<0.50	<4.0	<0.50	<5.0	<0.50	<1.5	<1.5	<1.5	<2.0	<0.50	<0.50	<0.50	<0.50	**4.57**	<0.50	<1.0	<0.50	<2.0	<3.0	<2.0	<0.50	<2.0	**31.7**	<0.50	**1.36**	**58.1**	<2.0	<0.50	<1.0
	3/16/2011[b,e]	<0.50	<0.50	<1.0	<1.0	<0.50	<0.50	<1.0	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.5
	5/3/2011	<0.50	<0.50	<1.0	<1.0	<0.50	<0.50	<1.0	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	**2.3**	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	**20**	<0.50	<0.50	**26**	<0.50	<0.50	<1.5
	12/2/2011	<0.50	<0.50	<1.0	<1.0	<0.50	<0.50	<1.0	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	**1.6**	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	**20**	<0.50	<0.50	**20**	<0.50	<0.50	<1.5
	12/2/2011[b,e]	<1.0	<1.0	<1.0	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	**1.8**	<1.0	<1.0	<1.0	<1.0	<20	<1.0	<1.0	<1.0	**15.3**	<1.0	<1.0	**17.7**	<1.0	<1.0	<2.0
	5/10/2012	<0.50	<0.50	<1.0	<1.0	<0.50	<0.50	<1.0	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	**1.4**	<0.50	<0.50	<0.50	**1.4**	<1.0	<0.50	<0.50	**0.55**	**12**	<0.50	<0.50	**10**	<0.50	<0.50	**3.4**
	11/12/2012	<0.50	<0.50	<1.0	<1.0	<0.50	<0.50	<1.0	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	**1.3**	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	**9.4**	<0.50	<0.50	**5.3**	<0.50	<0.50	<1.5
	3/26/2013	<0.50	<0.50	<1.0	<1.0	<0.50	<0.50	<1.0	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	**0.78**	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	**5.2**	<0.50	<0.50	**3.5**	<0.50	<0.50	<1.5
	6/10/2013	<0.50	<0.50	<1.0	<1.0	<0.50	<0.50	<1.0	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	**0.52**	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	**4.2**	<0.50	<0.50	**3.6**	<0.50	<0.50	<1.5
	6/10/2013[a]	<0.50	<0.50	<1.0	<1.0	<0.50	<0.50	<1.0	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	**4.2**	<0.50	<0.50	**3.7**	<0.50	<0.50	<1.5
	10/28/2013	<0.50	<0.50	<1.0	<1.0	<0.50	<0.50	<1.0	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	**0.50**	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	**2.4**	<0.50	<0.50	**2.0**	<0.50	<0.50	<1.5
	1/21/2014	<0.50	<0.50	<1.0	<1.0	<0.50	<0.50	<1.0	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	**2.6**	<0.50	<0.50	**1.9**	<0.50	<0.50	<1.5

Well Name	Date	Benzene	Bromodichloromethane	Bromoform	Bromomethane	Carbon tetrachloride	Chlorobenzene	Chloroethane	Chloroform	Chloromethane	Dibromochloromethane	1,2-Dichlorobenzene	1,3-Dichlorobenzene	1,4-Dichlorobenzene	Dichlorodifluoromethane	1,1-Dichloroethane	1,2-Dichloroethane	1,1-Dichloroethene	trans-1,2-Dichloroethene	cis-1,2-Dichloroethene	1,2-Dichloropropane	cis-1,3-Dichloropropene	trans-1,3-Dichloropropene	Ethylbenzene	Methylene chloride	Methyl tert-butyl ether	1,1,2,2-Tetrachloroethane	Toluene	Trichloroethene (TCE)	1,1,1-Trichloroethane	1,1,2-Trichloroethane	Tetrachloroethene (PCE)	Trichlorofluoromethane	Vinyl Chloride	Xylenes, Total
TEX-MW-3	12/14/2005[b]	**710**	<20	<50	<50	<50	<10	<50	<20	<50	<20	<10	<10	<10	<50	<20	<10	<50	<20	<20	<20	<20	<20	**610**	<50	<50	<20	**3000**	<20	<20	<20	<20	<50	<50	**8700**
	3/3/2006[b]	**590**	<20	<50	<50	<50	<10	<50	<20	<50	<20	<10	<10	<10	<50	<20	<10	<50	<20	<20	<20	<20	<20	**660**	<50	<50	<20	**1800**	<20	<20	<20	<20	<50	<50	**7900**
	5/19/2008[b,c]	**670**	<120	<120	<250	<120	<120	<250	<120	<250	<120	<120	<120	<120	<250	<120	<120	<120	<120	<120	<120	<120	<120	**1000**	<120	<120	<120	**200**	<120	<120	<120	<120	<120	<250	**910**
	8/25/2008[b,c]	**1200**	<5.0	<5.0	<10	<5.0	<5.0	<10	<5.0	<10	<5.0	<5.0	<5.0	<5.0	<10	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	**630**	<5.0	<5.0	<5.0	**74**	<5.0	<5.0	<5.0	<5.0	<5.0	<10	**250**
	11/17/2008[b,c]	**120**	<5.0	<5.0	<10	<5.0	<5.0	<10	<5.0	<10	<5.0	<5.0	<5.0	<5.0	<10	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	**92**	<5.0	<5.0	<5.0	**7.4**	<5.0	<5.0	<5.0	<5.0	<5.0	<10	**44**
	2/9/2009[b,c]	**200**	<5.0	<5.0	<10	<5.0	<5.0	<10	<5.0	<10	<5.0	<5.0	<5.0	<5.0	<10	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	**130**	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<10	**8.5**
	6/10/2009[b,c]	**33**	<5.0	<5.0	<10	<5.0	<5.0	<10	<5.0	<10	<5.0	<5.0	<5.0	<5.0	<10	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	**25**	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<10	<5.0
	8/28/2009[b,d]	**700**	<5.0	<5.0	<5.0	<5.0	<5.0	<10	<5.0	<10	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	**559**	<5.0	<5.0	<5.0	**67.6**	<5.0	<5.0	<5.0	<5.0	<5.0	<2.0	**376**
	10/30/2009[b,d]	**428**	<5.0	<5.0	<5.0	<5.0	<5.0	<10	<5.0	<10	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	**266**	<5.0	<5.0	<5.0	**18.7**	<5.0	<5.0	<5.0	<5.0	<5.0	<2.0	**107**
	1/22/2010[b,d]	**47.8**	<5.0	<5.0	<5.0	<5.0	<5.0	<10	<5.0	<10	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	**40**	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<2.0	**12**
	4/9/2010[b,d]	**993**	<5.0	<5.0	<5.0	<5.0	<5.0	<10	<5.0	<10	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	**440**	<5.0	<5.0	<5.0	**53.2**	<5.0	<5.0	<5.0	<5.0	<5.0	<2.0	**262**
	7/23/2010[b,d]	**7.3**	<5.0	<1.0	<5.0	<0.50	<0.50	<4.0	<0.50	<5.0	<5.0	<1.5	<1.5	<1.5	<2.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	**4.7**	<3.0	<2.0	<0.50	<2.0	<0.50	<0.50	<0.50	<0.50	<2.0	<0.50	<3.0
	10/13/2010[b,d]	**201**	<5.0	<1.0	<5.0	<0.50	<0.50	<4.0	<0.50	<5.0	<0.50	<1.5	<1.5	<1.5	<2.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	**241**	<3.0	<2.0	<0.50	**9.42**	<0.50	<0.50	<0.50	<0.50	<2.0	<0.50	**24.8**
	3/16/2011[b,e]	**102**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**121**	NA	<2.0	NA	**4.9**	NA	NA	NA	NA	NA	NA	**25**
	5/3/2011	**140**	<0.50	<1.0	<1.0	<0.50	<0.50	<1.0	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	**120**	<1.0	<0.50	<0.50	**10**	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	**51**
	5/3/2011[a]	**74**	<0.50	<1.0	<1.0	<0.50	<0.50	<1.0	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	**60**	<1.0	<0.50	<0.50	**5.8**	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	**26**
	12/2/2011[b,e]	<1.0	<1.0	<1.0	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<20	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<2.0
	6/11/2013	**74**	<5.0	<10	<10	<5.0	<5.0	<10	<5.0	<10	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	**70**	<10	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	**20**
TEX-MW-4	12/14/2005[b]	**3600**	<20	<50	<50	<50	<10	<50	<20	<50	<20	<10	<10	<10	<50	<20	<10	<50	<20	<20	<20	<20	<20	**890**	<50	<50	<20	**9100**	<20	<20	<20	<20	<50	<50	**6700**
	3/3/2006[b]	**2800**	<20	<50	<50	<50	<10	<50	<20	<50	<20	<10	<10	<10	<50	<20	<10	<50	<20	<20	<20	<20	<20	**800**	<50	<50	<20	**6300**	<20	<20	<20	<20	<50	<50	**5600**
	5/19/2008[b,c]	**5100**	<500	<500	<1000	<500	<500	<1000	<500	<1000	<500	<500	<500	<500	<1000	<500	<500	<500	<500	<500	<500	<500	<500	**1700**	<500	<500	<500	**5500**	<500	<500	<500	<500	<500	<1000	**7200**
	8/25/2008[b,c]	**6200**	<5.0	<5.0	<10	<5.0	<5.0	<10	<5.0	<10	<5.0	<5.0	<5.0	<5.0	<10	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	**1400**	<5.0	<5.0	<5.0	**1300**	<5.0	<5.0	<5.0	<5.0	<5.0	<10	**4670**
	11/17/2008[b,c]	**3200**	<5.0	<5.0	<10	<5.0	<5.0	<10	<5.0	<10	<5.0	<5.0	<5.0	<5.0	<10	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	**690**	<5.0	<5.0	<5.0	**970**	<5.0	<5.0	<5.0	<5.0	<5.0	<10	**2610**
	2/9/2009[b,c]	**2200**	<5.0	<5.0	<10	<5.0	<5.0	<10	<5.0	<10	<5.0	<5.0	<5.0	<5.0	<10	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	**730**	<5.0	<5.0	<5.0	**820**	<5.0	<5.0	<5.0	<5.0	<5.0	<10	**1310**
	6/10/2009[b,c]	**1500**	<5.0	<5.0	<10	<5.0	<5.0	<10	<5.0	<10	<5.0	<5.0	<5.0	<5.0	<10	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	**530**	<5.0	<5.0	<5.0	**810**	<5.0	<5.0	<5.0	<5.0	<5.0	<10	**2480**
	8/28/2009[b,d]	**1610**	<5.0	<5.0	<5.0	<5.0	<5.0	<10	<5.0	<10	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	**906**	<5.0	<5.0	<5.0	**2100**	<5.0	<5.0	<5.0	<5.0	<5.0	<2.0	**4030**
	10/30/2009[b,d]	**2500**	<5.0	<5.0	<5.0	<5.0	<5.0	<10	<5.0	<10	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	**1320**	<5.0	<5.0	<5.0	**3010**	<5.0	<5.0	<5.0	<5.0	<5.0	<2.0	**5590**
	1/22/2010[b,d]	**1160**	<5.0	<5.0	<5.0	<5.0	<5.0	<10	<5.0	<10	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	**723**	<5.0	<5.0	<5.0	**929**	<5.0	<5.0	<5.0	<5.0	<5.0	<2.0	**2147**
	4/9/2010[b,d]	**1890**	<5.0	<5.0	<5.0	<5.0	<5.0	<10	<5.0	<10	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	**7.32**	<5.0	<5.0	<5.0	**1340**	<5.0	<5.0	<5.0	**1900**	<5.0	<5.0	<5.0	<5.0	<5.0	<2.0	**4080**
	7/23/2010[b,d]	**1500**	<5.0	<1.0	<5.0	<0.50	<0.50	<4.0	<0.50	<5.0	<5.0	<1.5	<1.5	<1.5	<2.0	<0.50	<0.50	<0.50	<0.50	**8.1**	<0.50	<1.0	<0.50	**1400**	<3.0	<2.0	<0.50	**1000**	<0.50	<0.50	<0.50	<0.50	<2.0	<0.50	**4200**
	10/13/2010[b,d]	**620**	<5.0	<1.0	<5.0	<0.50	<0.50	<4.0	<0.50	<5.0	<0.50	<1.5	<1.5	<1.5	<2.0	<0.50	<0.50	<0.50	<0.50	**1.44**	<0.50	<1.0	<0.50	**937**	<3.0	<2.0	<0.50	**538**	<0.50	<0.50	<0.50	<0.50	<2.0	<0.50	**2665**
	3/16/2011[b,e]	**1510**	<0.50	<1.0	NA	<0.50	<0.50	<1.0	<0.50	NA	<0.50	NA	NA	NA	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	**1550**	<1.0	<0.50	<0.50	**1220**	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	**4390**
	12/2/2011[b,e]	<1.0	<1.0	<1.0	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<20	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<2.0
	6/11/2013	**1,400**	<5.0	<10	<10	<5.0	<5.0	<10	<5.0	<10	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	**5.0**	<5.0	<5.0	<5.0	**3,000**	<10	<5.0	<5.0	**780**	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	**4,400**
TEX-MW-5	3/2/2005[b,c]	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	**1.1**	**18**	NR	<1.0	<1.0	NR	<3.0	7.7	NR	**6.3**	**13**	NR	NR	**18**	<2.0	<1.0	**16**
	12/14/2005[b]	<1.0	<2.0	<5.0	<5.0	<5.0	<1.0	<5.0	<2.0	<5.0	<2.0	<1.0	<1.0	<1.0	<5.0	<2.0	<1.0	<5.0	<2.0	**58**	<2.0	<2.0	<2.0	**2.3**	<5.0	<5.0	<2.0	<2.0	**54**	<2.0	<2.0	**110**	<5.0	<5.0	<3.0
	3/3/2006[b]	<1.0	<2.0	<5.0	<5.0	<5.0	<1.0	<5.0	<2.0	<5.0	<2.0	<1.0	<1.0	<1.0	<5.0	<2.0	<1.0	<5.0	<2.0	**55**	<2.0	<2.0	<2.0	<2.0	<5.0	<5.0	<2.0	**2.3**	**52**	<2.0	<2.0	**130**	<5.0	<5.0	**3.5**
	9/4/2007	**1.2**	<0.50	<1.0	<5.0	<0.50	<0.50	<5.0	**1.9**	<5.0	**1.0**	<1.5	<1.5	<1.5	<2.0	<1.0	<1.0	<0.50	<0.50	**8.0**	<0.50	<1.0	<0.50	<2.0	<3.0	<2.0	<0.50	<3.0	**18**	<0.50	<0.50	**29**	<2.0	<0.50	<3.0
	12/3/2007	<0.50	<0.50	<1.0	<5.0	<0.50	<0.50	<5.0	<0.50	<5.0	<0.50	<1.5	<1.5	<1.5	<2.0	<1.0	<1.0	<0.50	<0.50	**3.6**	<0.50	<1.0	<0.50	<2.0	<3.0	<2.0	<0.50	<3.0	**9.8**	<0.50	<0.50	**17**	<2.0	<0.50	<3.0
	2/25/2008	<0.50	<0.50	<1.0	<5.0	<0.50	<0.50	<5.0	<0.50	<5.0	<0.50	<1.5	<1.5	<1.5	<2.0	<1.0	<1.0	<0.50	<0.50	**4.9**	<0.50	<1.0	<0.50	<2.0	<3.0	<2.0	<0.50	<3.0	**11**	<0.50	<0.50	**25**	<2.0	<0.50	<3.0
	5/19/2008[b,c]	<5.0	<5.0	<5.0	<10	<5.0	<5.0	<10	<5.0	<10	<5.0	<5.0	<5.0	<5.0	<10	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	**13**	<5.0	<10	<5.0
	8/25/2008[b,c]	<5.0	<5.0	<5.0	<10	<5.0	<5.0	<10	<5.0	<10	<5.0	<5.0	<5.0	<5.0	<10	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	**5.5**	<5.0	<5.0	**9**	<5.0	<10	<5.0
	11/17/2008[b,c]	<5.0	<5.0	<5.0	<10	<5.0	<5.0	<10	<5.0	<10	<5.0	<5.0	<5.0	<5.0	<10	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	**12**	<5.0	<10	<5.0
	2/9/2009[b,c]	<5.0	<5.0	<5.0	<10	<5.0	<5.0	<10	<5.0	<10	<5.0	<5.0	<5.0	<5.0	<10	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<10	<5.0
	6/10/2009[b,c]	<5.0	<5.0	<5.0	<10	<5.0	<5.0	<10	<5.0	<10	<5.0	<5.0	<5.0	<5.0	<10	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	**7.3**	<5.0	<10	<5.0
	8/28/2009[b,d]	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<10	<5.0	<10	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	**5.24**	<5.0	<2.0	<5.0
	10/30/2009[b,d]	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<10	<5.0	<10	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<2.0	<5.0
	1/22/2010[b,d]	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<10	<5.0	<10	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<2.0	<5.0
	4/9/2010[b,d]	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<10	<5.0	<10	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<2.0	<5.0
	7/23/2010[b,d]	<5.0	<5.0	<1.0	<5.0	<0.50	<0.50	<4.0	<0.50	<5.0	<5.0	<1.5	<1.5	<1.5	<2.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<2.0	<3.0	<2.0	<0.50	<2.0	**1.1**	<0.50	<0.50	**1.9**	<2.0	<0.50	<3.0
	10/13/2010[b,d]	<5.0	<5.0	<1.0	<5.0	<0.50	<0.50	<4.0	<0.50	<5.0	<0.50	<1.5	<1.5	<1.5	<2.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<2.0	<3.0	<2.0	<0.50	<2.0	**0.780**	<0.50	<0.50	**1.60**	<2.0	<0.50	<1.0
	3/16/2011[b,e]	<0.50	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.50	NA	<0.50	NA	<0.50	NA	NA	NA	NA	NA	NA	<1.5
	12/2/2011	<0.50	<0.50	<1.0	<1.0	<0.50	<0.50	<1.0	**1.1**	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0	**0.98**	<0.50	<0.50	<0.50	<0.50	<0.50	**0.80**	<0.50	<0.50	<1.5
	12/2/2011[b,e]	<1.0	<1.0	<1.0	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<20	**1.6**	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<2.0
	5/10/2012	**0.96**	<0.50	<1.0	<1.0	<0.50	<0.50	<1.0	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	**2.1**	<1.0	<0.50	<0.50	**1.0**	<0.50	<0.50	<0.50	**0.53**	<0.50	<0.50	**5.6**
	11/12/2012	<0.50	<0.50	<1.0	<1.0	<0.50	<0.50	<1.0	**0.55**	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.5
	3/26/2013	<0.50	<0.50	<1.0	<1.0	<0.50	<0.50	<1.0	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.5
	6/10/2013	<0.50	<0.50	<1.0	<1.0	<0.50	<0.50	<1.0	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.5
	10/28/2013	<0.50	<0.50	<1.0	<1.0	<0.50	<0.50	<1.0	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.5
	1/20/2014	<0.50	<0.50	<1.0	<1.0	<0.50	<0.50	<1.0	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.5

TABLE 3
Comparison of Historical Analytical Detected Results, 2002-2014
All values in ug/L

Well Name	Date	Benzene	Bromodichloromethane	Bromoform	Bromomethane	Carbon tetrachloride	Chlorobenzene	Chloroethane	Chloroform	Chloromethane	Dibromochloromethane	1,2-Dichlorobenzene	1,3-Dichlorobenzene	1,4-Dichlorobenzene	Dichlorodifluoromethane	1,1-Dichloroethane	1,2-Dichloroethane	1,1-Dichloroethene	trans-1,2-Dichloroethene	cis-1,2-Dichloroethene	1,2-Dichloropropane	cis-1,3-Dichloropropene	trans-1,3-Dichloropropene	Ethylbenzene	Methylene chloride	Methyl tert-butyl ether	1,1,2,2-Tetrachloroethane	Toluene	Trichloroethene (TCE)	1,1,1-Trichloroethane	1,1,2-Trichloroethane	Tetrachloroethene (PCE)	Trichlorofluoromethane	Vinyl Chloride	Xylenes, Total
TEX-MW-6	12/14/2005[b]	**4600**	<40	<100	<100	<100	<20	<100	<40	<100	<40	<20	<20	<20	<100	<40	<20	<100	<40	<40	<40	<40	<40	**1500**	<100	<100	<40	**7300**	<40	<40	<40	<40	<100	<100	**7700**
	3/3/2006[b]	**6600**	<40	<100	<100	<100	<20	<100	<40	<100	<40	<20	<20	<20	<100	<40	<20	<100	<40	<40	<40	<40	<40	**2200**	<100	<100	<40	**11000**	<40	<40	<40	<40	<100	<100	**10000**
	5/19/2008[b,c]	**2800**	<120	<120	<250	<120	<120	<250	<120	<250	<120	<120	<120	<120	<250	<120	<120	<120	<120	<120	<120	<120	<120	**1100**	<120	<120	<120	**670**	<120	<120	<120	<120	<120	<250	**2080**
	8/25/2008[b,c]	**6800**	<5.0	<5.0	<10	<5.0	<5.0	<10	<5.0	<10	<5.0	<5.0	<5.0	<5.0	<10	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	**1400**	<5.0	<5.0	<5.0	**740**	<5.0	<5.0	<5.0	<5.0	<5.0	<10	**2040**
	11/17/2008[b,c]	<5.0	<5.0	<5.0	<10	<5.0	<5.0	<10	<5.0	<10	<5.0	<5.0	<5.0	<5.0	<10	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	**48**	<5.0	<5.0	<5.0	**9.9**	<5.0	<5.0	<5.0	<5.0	<5.0	<10	**51**
	2/9/2009[b,c]	**23**	<5.0	<5.0	<10	<5.0	<5.0	<10	<5.0	<10	<5.0	<5.0	<5.0	<5.0	<10	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	**24**	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<10	**13.1**
	6/10/2009[b,c]	**130**	<5.0	<5.0	<10	<5.0	<5.0	<10	<5.0	<10	<5.0	<5.0	<5.0	<5.0	<10	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	**20**	<5.0	<5.0	<5.0	**7.2**	<5.0	<5.0	<5.0	<5.0	<5.0	<10	**19.2**
	8/28/2009[b,d]	**573**	<5.0	<5.0	<5.0	<5.0	<5.0	<10	<5.0	<10	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	**191**	<5.0	<5.0	<5.0	**90.8**	<5.0	<5.0	<5.0	<5.0	<5.0	<2.0	**216**
	10/30/2009[b,d]	**405**	<5.0	<5.0	<5.0	<5.0	<5.0	<10	<5.0	<10	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	**164**	<5.0	<5.0	<5.0	**86**	<5.0	<5.0	<5.0	<5.0	<5.0	<2.0	**253**
	1/22/2010[b,d]	**575**	<5.0	<5.0	<5.0	<5.0	<5.0	<10	<5.0	<10	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	**248**	<5.0	<5.0	<5.0	**155**	<5.0	<5.0	<5.0	<5.0	<5.0	<2.0	**356**
	4/9/2010[b,d]	**666**	<5.0	<5.0	<5.0	<5.0	<5.0	<10	<5.0	<10	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	**260**	<5.0	<5.0	<5.0	**177**	<5.0	<5.0	<5.0	<5.0	<5.0	<2.0	**426**
	7/23/2010[b,d]	**3.3**	<5.0	<1.0	<5.0	<0.50	<0.50	<4.0	<0.50	<5.0	<5.0	<1.5	<1.5	<1.5	<2.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	**2.4**	<3.0	<2.0	<0.50	<2.0	<0.50	<0.50	<0.50	<0.50	<2.0	<0.50	<3.0
	10/13/2010[b,d]	**100**	<5.0	<1.0	<5.0	<0.50	<0.50	<4.0	<0.50	<5.0	<0.50	<1.5	<1.5	<1.5	<2.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	**82.2**	<3.0	<2.0	<0.50	**20.7**	<0.50	<0.50	<0.50	<0.50	<2.0	<0.50	**91.1**
	3/16/2011[b,e]	**63.0**	<0.50	<1.0	NA	<0.50	<0.50	<1.0	<0.50	NA	<0.50	NA	NA	NA	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	**29.7**	<1.0	<0.50	<0.50	**7.5**	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	**31.1**
	12/2/2011[b,e]	<1.0	<1.0	<1.0	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<20	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<2.0
	6/11/2013	**2.9**	<0.50	<1.0	<1.0	<0.50	<0.50	<1.0	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	**7.2**	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	**2.1**
TEX-MW-7	12/14/2005[b]	<1.0	<2.0	<5.0	<5.0	<5.0	<1.0	<5.0	**7.4**	<5.0	<2.0	<1.0	<1.0	<1.0	<5.0	<2.0	<1.0	<5.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<5.0	<5.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<5.0	<5.0	<3.0
	3/3/2006[b]	<1.0	<2.0	<5.0	<5.0	<5.0	<1.0	<5.0	**6.2**	<5.0	<2.0	<1.0	<1.0	<1.0	<5.0	<2.0	<1.0	<5.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<5.0	<5.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<5.0	<5.0	<3.0
	5/19/2008[b,c]	<5.0	<5.0	<5.0	<10	<5.0	<5.0	<10	<5.0	<10	<5.0	<5.0	<5.0	<5.0	<10	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<10	<5.0
	2/9/2009[b,c]	<5.0	<5.0	<5.0	<10	<5.0	<5.0	<10	<5.0	<10	<5.0	<5.0	<5.0	<5.0	<10	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<10	<5.0
	10/30/2009[b,d]	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<10	<5.0	<10	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<2.0	<5.0
	1/22/2010[b,d]	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<10	<5.0	<10	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<2.0	<5.0
	4/9/2010[b,d]	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<10	<5.0	<10	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	**13.8**	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<2.0	<5.0
	7/23/2010[b,d]	<5.0	<5.0	<1.0	<5.0	<0.50	<0.50	<4.0	**2.0**	<5.0	<5.0	<1.5	<1.5	<1.5	<2.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<2.0	<3.0	<2.0	<0.50	<2.0	<0.50	<0.50	<0.50	<0.50	<2.0	<0.50	<3.0
	10/13/2010[b,d]	<5.0	<5.0	<1.0	<5.0	<0.50	<0.50	<4.0	**1.67**	<5.0	<0.50	<1.5	<1.5	<1.5	<2.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<2.0	<3.0	<2.0	<0.50	<2.0	<0.50	<0.50	<0.50	<0.50	<2.0	<0.50	<1.0
	12/2/2011[b,e]	<1.0	<1.0	<1.0	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<20	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<2.0
	6/10/2013	<0.50	<0.50	<1.0	<1.0	<0.50	<0.50	<1.0	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.5
TEX-MW-8	12/14/2005[b]	<1.0	<2.0	<5.0	<5.0	<5.0	<1.0	<5.0	<2.0	<5.0	<2.0	<1.0	<1.0	<1.0	<5.0	<2.0	<1.0	<5.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<5.0	<5.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<5.0	<5.0	<3.0
	3/3/2006[b]	<1.0	<2.0	<5.0	<5.0	<5.0	<1.0	<5.0	<2.0	<5.0	<2.0	<1.0	<1.0	<1.0	<5.0	<2.0	<1.0	<5.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<5.0	<5.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<5.0	<5.0	<3.0
	5/19/2008[b,c]	<5.0	<5.0	<5.0	<10	<5.0	<5.0	<10	<5.0	<10	<5.0	<5.0	<5.0	<5.0	<10	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<10	<5.0
	8/25/2008[b,c]	<5.0	<5.0	<5.0	<10	<5.0	<5.0	<10	<5.0	<10	<5.0	<5.0	<5.0	<5.0	<10	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<10	<5.0
	11/17/2008[b,c]	<5.0	<5.0	<5.0	<10	<5.0	<5.0	<10	<5.0	<10	<5.0	<5.0	<5.0	<5.0	<10	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<10	<5.0
	2/9/2009[b,c]	<5.0	<5.0	<5.0	<10	<5.0	<5.0	<10	<5.0	<10	<5.0	<5.0	<5.0	<5.0	<10	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<10	<5.0
	6/10/2009[b,c]	<5.0	<5.0	<5.0	<10	<5.0	<5.0	<10	<5.0	<10	<5.0	<5.0	<5.0	<5.0	<10	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<10	<5.0
	8/28/2009[b,d]	**6.91**	<5.0	<5.0	<5.0	<5.0	<5.0	<10	<5.0	<10	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	**12.4**	<5.0	<5.0	<5.0	**8.59**	<5.0	<5.0	<5.0	<5.0	<5.0	<2.0	**22.8**
	10/30/2009[b,d]	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<10	<5.0	<10	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<2.0	<5.0
	1/22/2010[b,d]	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<10	<5.0	<10	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<2.0	<5.0
	4/9/2010[b,d]	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<10	<5.0	<10	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	**13.3**	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<2.0	<5.0
	7/23/2010[b,d]	<5.0	<5.0	<1.0	<5.0	<0.50	<0.50	<4.0	**0.61**	<5.0	<5.0	<1.5	<1.5	<1.5	<2.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<2.0	<3.0	<2.0	<0.50	<2.0	<0.50	<0.50	<0.50	<0.50	<2.0	<0.50	<3.0
	10/13/2010[b,d]	<5.0	<5.0	<1.0	<5.0	<0.50	<0.50	<4.0	<0.50	<5.0	<0.50	<1.5	<1.5	<1.5	<2.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<2.0	<3.0	**2.22**	<0.50	<2.0	<0.50	<0.50	<0.50	<0.50	<2.0	<0.50	<1.0
	12/2/2011[b,e]	<1.0	<1.0	<1.0	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<20	**1.9**	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<2.0
	6/10/2013	<0.50	<0.50	<1.0	<1.0	<0.50	<0.50	<1.0	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	**6.1**	<1.0	**0.96**	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.5

Notes:
[a] = *Duplicate sample*
[b] = *sampled by Others*
[c] = *SPL Analytical*
[d] = *Xenco Laboratories*
[e] = *Accutest Laboratories*

All values in ug/L
Bold values exceed detection limit.
NA = Not analyzed
Passive Diffusion Bags (PDBs) were used for MW-101 through MW-107.
PDBs in MW-101 through MW-107 were deployed approximately halfway between the recorded groundwater elevation and the total depth of the well or approximately 80 feet to 82 feet below top of casing.
NR = No Data available

TABLE 4A
October 2013 Groundwater Sampling Results

Analyte (EPA Method 8260B)	CC-1	CC-2	CC-3	CC-4	CC-5	CC-6	CC-7	CC-8	CC-9	CC-10	CC-11	CC-99 [a]	CC-12	CC-13	CC-14	CC-15	CC-16	CC-17	CC-98 [b]	CC-18	MW-101	MW-102	MW-100 [c]	MW-103	MW-105	MW-106	MW-107
Date sampled	10/12/2013	10/15/2013	10/15/2013	10/14/2013	10/12/2013	10/14/2013	10/13/2013	10/13/2013	10/14/2013	10/13/2013	10/16/2013	10/16/2013	10/14/2013	10/13/2013	10/15/2013	10/14/2013	10/13/2013	10/14/2013	10/14/2013	10/16/2013	10/20/2013	10/20/2013	10/20/2013	10/20/2013	10/20/2013	10/20/2013	10/20/2013
1,1,1,2-Tetrachloroethane	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
1,1,1-Trichloroethane (TCA)	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
1,1,2,2-Tetrachloroethane	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
1,1,2-Trichloroethane	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
1,1-Dichloroethane (1,1-DCA)	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
1,1-Dichloroethene (1,1-DCE)	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	**0.52**	**0.55**	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
1,1-Dichloropropene	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
1,2,3-Trichlorobenzene	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	**1.1**	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,2,3-Trichloropropane	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
1,2,4-Trichlorobenzene	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,2,4-Trimethylbenzene	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	**750**	**720**	<0.50	<0.50	<0.50	<0.50	<0.50	**170**	**180**	**380**	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
1,2-Dibromo-3-chloropropane (DBCP)	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
1,2-Dibromoethane	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
1,2-Dichlorobenzene	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
1,2-Dichloroethane (1,2-DCA)	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	**1.6**	**1.7**	<0.50	<0.50	<0.50	**5.4**	<0.50	**28**	**31**	**28**	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
1,2-Dichloropropane	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
1,3,5-Trimethylbenzene	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	**160**	**150**	<0.50	<0.50	<0.50	<0.50	<0.50	**33**	**37**	**88**	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
1,3-Dichlorobenzene	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
1,3-Dichloropropane	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
1,4-Dichlorobenzene	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
2,2-Dichloropropane	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
2-Butanone (MEK)	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
2-Chlorotoluene	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
2-Hexanone	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
4-Chlorotoluene	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
4-Isopropyltoluene (p-Cymene)	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	**3.5**	**3.2**	<0.50	<0.50	<0.50	<0.50	<0.50	**0.87**	**1.1**	**1.3**	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
4-Methyl-2-pentanone (MIBK)	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5
Acetone	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	**15**	**14**	**12**	<10	<10	<10	<10
Benzene	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	**7.5**	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Bromobenzene	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Bromochloromethane	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Bromodichloromethane	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Bromoform	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Bromomethane	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Carbon disulfide	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Carbon Tetrachloride	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Chlorobenzene	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Chloroethane	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Chloroform	<0.50	<0.50	**16**	**2.9**	**2.5**	**6.9**	**3.8**	**2.5**	<0.50	<0.50	**1.6**	**1.5**	**1.6**	**1.4**	**12**	<0.50	**0.66**	**0.66**	**0.65**	<0.50	**9.1**	**4.6**	**4.7**	**8.5**	**2.3**	**9.6**	**7.5**
Chloromethane	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
cis-1,2-Dichloroethene (cis-1,2-DCE)	<0.50	<0.50	<0.50	<0.50	**0.82**	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	**1.7**	<0.50	<0.50	<0.50	<0.50	<0.50	**4.7**	**5.2**	**4.3**	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
cis-1,3-Dichloropropene	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Dibromochloromethane	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Dibromomethane	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Dichlorodifluoromethane (CFC 12)	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Dichloromethane (Methylene chloride)	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Ethylbenzene	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	**140**	**130**	<0.50	<0.50	<0.50	<0.50	<0.50	**34**	**40**	**540**	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Hexachlorobutadiene	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	**1.1**	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Iodomethane	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5
Isopropylbenzene	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	**41**	**39**	<0.50	<0.50	<0.50	<0.50	<0.50	**10**	**12**	**26**	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Methyl tert-butyl ether (MTBE)	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Naphthalene	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	**14**	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5
n-Butylbenzene	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	**23**	**22**	<0.50	<0.50	<0.50	<0.50	<0.50	**4.6**	**5.2**	**13**	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
n-Propylbenzene	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	**75**	**71**	<0.50	<0.50	<0.50	<0.50	<0.50	**20**	**22**	**57**	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
p-Isopropyltoluene	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
sec-Butylbenzene	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	**7.8**	**8.3**	<0.50	<0.50	<0.50	**1.7**	<0.50	**2.5**	**2.9**	**4.2**	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Styrene	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
tert-Butylbenzene	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Tetrachloroethene (PCE)	**0.54**	<0.50	<0.50	**1.2**	**29**	<0.50	<0.50	<0.50	<0.50	<0.50	**11**	**12**	<0.50	<0.50	<0.50	<0.50	<0.50	**140**	**120**	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Toluene	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	**0.99**	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
trans-1,2-Dichloroethene (trans-1,2-DCE)	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
trans-1,3-Dichloropropene	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Trichloroethene (TCE)	<0.50	<0.50	<0.50	<0.50	**3.3**	<0.50	<0.50	<0.50	<0.50	<0.50	**17**	**18**	<0.50	<0.50	<0.50	<0.50	<0.50	**39**	**36**	**12**	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Trichlorofluoromethane (CFC 11)	<0.50	**0.75**	**0.75**	<0.50	**1.0**	**0.70**	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
o-Xylene	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	**57**	**57**	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	**15**	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
m-Xylene & p-Xylene	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	**370**	**390**	<1.0	<1.0	<1.0	<1.0	<1.0	**15**	**18**	**590**	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Vinyl Acetate	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
Vinyl Chloride	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Xylenes, Total	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5	**440**	**430**	<1.5	<1.5	<1.5	<1.5	<1.5	**15**	**18**	**570**	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5

Notes:

[a] CC-99 is a duplicate of CC-11.

[b] CC-98 is a duplicate of CC-17.

[c] MW-100 is a duplicate of MW-102.

[d] Tex-MW-3, Tex-MW-4, Tex-MW-6, Tex-MW-7and Tex-MW-8 former Texaco facility 5201 N. Central Avenue not sampled by HGC.

Bold values were detected at concentrations above the laboratory reporting limits.
All values are in micrograms per liter.
NA = Not analyzed
ND = Not detected. See laboratory report for Laboratory Reporting Limits.
NS = Not sampled
MW-104 was abandoned December 2007

TABLE 4A
October 2013 Groundwater Sampling Results

Analyte (EPA Method 8260B)	Tex-MW1	Tex-MW2	Tex-MW3[d]	Tex-MW4[d]	Tex-MW5	Tex-MW6[d]	Tex-MW7[d]	Tex-MW8[d]	Brophy Well	EW-1	EW-2	EW-3	EW-4	OEC-E1	OEC-E2	OEC-E3	OEC-S1	OEC-S2	OEC-W1	OEC-W2	OEC-W3	OEC-N1	OEC-N2
Date sampled	**10/28/2013**	**10/28/2013**			**10/28/2013**				**10/15/2013**	**10/12/2013**	**10/12/2013**	**10/16/2013**	**10/15/2013**										
1,1,1,2-Tetrachloroethane	<0.50	<0.50	NS	NS	<0.50	NS	NS	NS	<0.50	<0.50	<0.50	<0.50	<0.50	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
1,1,1-Trichloroethane (TCA)	<0.50	<0.50	NS	NS	<0.50	NS	NS	NS	<0.50	<0.50	<0.50	<0.50	<0.50	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
1,1,2,2-Tetrachloroethane	<0.50	<0.50	NS	NS	<0.50	NS	NS	NS	<0.50	<0.50	<0.50	<0.50	<0.50	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
1,1,2-Trichloroethane	<0.50	<0.50	NS	NS	<0.50	NS	NS	NS	<0.50	<0.50	<0.50	<0.50	<0.50	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
1,1-Dichloroethane (1,1-DCA)	<0.50	<0.50	NS	NS	<0.50	NS	NS	NS	<0.50	<0.50	<0.50	<0.50	<0.50	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
1,1-Dichloroethene (1,1-DCE)	<0.50	<0.50	NS	NS	<0.50	NS	NS	NS	<0.50	<0.50	<0.50	<0.50	<0.50	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
1,1-Dichloropropene	<0.50	<0.50	NS	NS	<0.50	NS	NS	NS	<0.50	<0.50	<0.50	<0.50	<0.50	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
1,2,3-Trichlorobenzene	<1.0	<1.0	NS	NS	<1.0	NS	NS	NS	<1.0	<1.0	<1.0	<1.0	<1.0	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
1,2,3-Trichloropropane	<2.0	<2.0	NS	NS	<2.0	NS	NS	NS	<2.0	<2.0	<2.0	<2.0	<2.0	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
1,2,4-Trichlorobenzene	<1.0	<1.0	NS	NS	<1.0	NS	NS	NS	<1.0	<1.0	<1.0	<1.0	<1.0	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
1,2,4-Trimethylbenzene	<0.50	<0.50	NS	NS	<0.50	NS	NS	NS	<0.50	<0.50	**1.4**	<0.50	<0.50	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
1,2-Dibromo-3-chloropropane (DBCP)	<5.0	<5.0	NS	NS	<5.0	NS	NS	NS	<5.0	<5.0	<5.0	<5.0	<5.0	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
1,2-Dibromoethane	<0.50	<0.50	NS	NS	<0.50	NS	NS	NS	<0.50	<0.50	<0.50	<0.50	<0.50	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
1,2-Dichlorobenzene	<0.50	<0.50	NS	NS	<0.50	NS	NS	NS	<0.50	<0.50	<0.50	<0.50	<0.50	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
1,2-Dichloroethane (1,2-DCA)	<0.50	<0.50	NS	NS	<0.50	NS	NS	NS	<0.50	<0.50	<0.50	<0.50	<0.50	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
1,2-Dichloropropane	<0.50	<0.50	NS	NS	<0.50	NS	NS	NS	<0.50	<0.50	<0.50	<0.50	<0.50	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
1,3,5-Trimethylbenzene	<0.50	<0.50	NS	NS	<0.50	NS	NS	NS	<0.50	<0.50	<0.50	<0.50	<0.50	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
1,3-Dichlorobenzene	<0.50	<0.50	NS	NS	<0.50	NS	NS	NS	<0.50	<0.50	<0.50	<0.50	<0.50	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
1,3-Dichloropropane	<0.50	<0.50	NS	NS	<0.50	NS	NS	NS	<0.50	<0.50	<0.50	<0.50	<0.50	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
1,4-Dichlorobenzene	<0.50	<0.50	NS	NS	<0.50	NS	NS	NS	<0.50	<0.50	<0.50	<0.50	<0.50	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
2,2-Dichloropropane	<1.0	<1.0	NS	NS	<1.0	NS	NS	NS	<1.0	<1.0	<1.0	<1.0	<1.0	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
2-Butanone (MEK)	<5.0	<5.0	NS	NS	<5.0	NS	NS	NS	<5.0	<5.0	<5.0	<5.0	<5.0	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
2-Chlorotoluene	<0.50	<0.50	NS	NS	<0.50	NS	NS	NS	<0.50	<0.50	<0.50	<0.50	<0.50	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
2-Hexanone	<5.0	<5.0	NS	NS	<5.0	NS	NS	NS	<5.0	<5.0	<5.0	<5.0	<5.0	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
4-Chlorotoluene	<0.50	<0.50	NS	NS	<0.50	NS	NS	NS	<0.50	<0.50	<0.50	<0.50	<0.50	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
4-Isopropyltoluene (p-Cymene)	<0.50	<0.50	NS	NS	<0.50	NS	NS	NS	<0.50	<0.50	<0.50	<0.50	<0.50	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
4-Methyl-2-pentanone (MIBK)	<2.5	<2.5	NS	NS	<2.5	NS	NS	NS	<2.5	<2.5	<2.5	<2.5	<2.5	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Acetone	<10	<10	NS	NS	<10	NS	NS	NS	<10	<10	<10	<10	<10	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Benzene	<0.50	<0.50	NS	NS	<0.50	NS	NS	NS	<0.50	<0.50	<0.50	<0.50	<0.50	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Bromobenzene	<0.50	<0.50	NS	NS	<0.50	NS	NS	NS	<0.50	<0.50	<0.50	<0.50	<0.50	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Bromochloromethane	<0.50	<0.50	NS	NS	<0.50	NS	NS	NS	<0.50	<0.50	<0.50	<0.50	<0.50	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Bromodichloromethane	<0.50	<0.50	NS	NS	<0.50	NS	NS	NS	<0.50	<0.50	<0.50	<0.50	<0.50	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Bromoform	<1.0	<1.0	NS	NS	<1.0	NS	NS	NS	<1.0	<1.0	<1.0	<1.0	<1.0	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Bromomethane	<1.0	<1.0	NS	NS	<1.0	NS	NS	NS	<1.0	<1.0	<1.0	<1.0	<1.0	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Carbon disulfide	<1.0	<1.0	NS	NS	<1.0	NS	NS	NS	<1.0	<1.0	<1.0	<1.0	<1.0	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Carbon Tetrachloride	<0.50	<0.50	NS	NS	<0.50	NS	NS	NS	<0.50	<0.50	<0.50	<0.50	<0.50	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Chlorobenzene	<0.50	<0.50	NS	NS	<0.50	NS	NS	NS	<0.50	<0.50	<0.50	<0.50	<0.50	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Chloroethane	<1.0	<1.0	NS	NS	<1.0	NS	NS	NS	<1.0	<1.0	<1.0	<1.0	<1.0	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Chloroform	<0.50	<0.50	NS	NS	<0.50	NS	NS	NS	**0.73**	**4.5**	**7.2**	**5.0**	**5.3**	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Chloromethane	<1.0	<1.0	NS	NS	<1.0	NS	NS	NS	<1.0	<1.0	<1.0	<1.0	<1.0	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
cis-1,2-Dichloroethene (cis-1,2-DCE)	<0.50	**0.50**	NS	NS	<0.50	NS	NS	NS	<0.50	<0.50	<0.50	<0.50	<0.50	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
cis-1,3-Dichloropropene	<0.50	<0.50	NS	NS	<0.50	NS	NS	NS	<0.50	<0.50	<0.50	<0.50	<0.50	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Dibromochloromethane	<0.50	<0.50	NS	NS	<0.50	NS	NS	NS	<0.50	<0.50	<0.50	<0.50	<0.50	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Dibromomethane	<0.50	<0.50	NS	NS	<0.50	NS	NS	NS	<0.50	<0.50	<0.50	<0.50	<0.50	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Dichlorodifluoromethane (CFC 12)	<0.50	<0.50	NS	NS	<0.50	NS	NS	NS	<0.50	<0.50	<0.50	<0.50	<0.50	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Dichloromethane (Methylene chloride)	<1.0	<1.0	NS	NS	<1.0	NS	NS	NS	<1.0	<1.0	<1.0	<1.0	<1.0	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Ethylbenzene	<0.50	<0.50	NS	NS	<0.50	NS	NS	NS	<0.50	<0.50	**0.56**	<0.50	<0.50	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Hexachlorobutadiene	<1.0	<1.0	NS	NS	<1.0	NS	NS	NS	<1.0	<1.0	<1.0	<1.0	<1.0	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Iodomethane	<2.5	<2.5	NS	NS	<2.5	NS	NS	NS	<2.5	<2.5	<2.5	<2.5	<2.5	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Isopropylbenzene	<0.50	<0.50	NS	NS	<0.50	NS	NS	NS	<0.50	<0.50	<0.50	<0.50	<0.50	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Methyl tert-butyl ether (MTBE)	<0.50	<0.50	NS	NS	<0.50	NS	NS	NS	<0.50	<0.50	<0.50	<0.50	<0.50	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Naphthalene	<2.5	<2.5	NS	NS	<2.5	NS	NS	NS	<2.5	<2.5	<2.5	<2.5	<2.5	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
n-Butylbenzene	<0.50	<0.50	NS	NS	<0.50	NS	NS	NS	<0.50	<0.50	<0.50	<0.50	<0.50	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
n-Propylbenzene	<0.50	<0.50	NS	NS	<0.50	NS	NS	NS	<0.50	<0.50	<0.50	<0.50	<0.50	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
p-Isopropyltoluene	<0.50	<0.50	NS	NS	<0.50	NS	NS	NS	<0.50	<0.50	<0.50	<0.50	<0.50	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
sec-Butylbenzene	<0.50	<0.50	NS	NS	<0.50	NS	NS	NS	<0.50	<0.50	<0.50	<0.50	<0.50	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Styrene	<0.50	<0.50	NS	NS	<0.50	NS	NS	NS	<0.50	<0.50	<0.50	<0.50	<0.50	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
tert-Butylbenzene	<0.50	<0.50	NS	NS	<0.50	NS	NS	NS	<0.50	<0.50	<0.50	<0.50	<0.50	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Tetrachloroethene (PCE)	<0.50	**2.0**	NS	NS	<0.50	NS	NS	NS	<0.50	**1.6**	**1.1**	**1.1**	**1.6**	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Toluene	<0.50	<0.50	NS	NS	<0.50	NS	NS	NS	<0.50	<0.50	<0.50	<0.50	<0.50	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
trans-1,2-Dichloroethene (trans-1,2-DCE)	<0.50	<0.50	NS	NS	<0.50	NS	NS	NS	<0.50	<0.50	<0.50	<0.50	<0.50	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
trans-1,3-Dichloropropene	<0.50	<0.50	NS	NS	<0.50	NS	NS	NS	<0.50	<0.50	<0.50	<0.50	<0.50	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Trichloroethene (TCE)	<0.50	**2.4**	NS	NS	<0.50	NS	NS	NS	<0.50	<0.50	<0.50	<0.50	<0.50	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Trichlorofluoromethane (CFC 11)	<0.50	<0.50	NS	NS	<0.50	NS	NS	NS	<0.50	**0.52**	**0.57**	**0.54**	<0.50	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
o-Xylene	<0.50	<0.50	NS	NS	<0.50	NS	NS	NS	<0.50	<0.50	<0.50	<0.50	<0.50	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
m-Xylene & p-Xylene	<1.0	<1.0	NS	NS	<1.0	NS	NS	NS	<1.0	<1.0	<1.0	<1.0	<1.0	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Vinyl Acetate	<2.0	<2.0	NS	NS	<2.0	NS	NS	NS	<2.0	<2.0	<2.0	<2.0	<2.0	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Vinyl Chloride	<0.50	<0.50	NS	NS	<0.50	NS	NS	NS	<0.50	<0.50	<0.50	<0.50	<0.50	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Xylenes, Total	<1.5	<1.5	NS	NS	<1.5	NS	NS	NS	<1.5	<1.5	<1.5	<1.5	<1.5	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS

Notes:

[a] *CC-99 is a duplicate of CC-11.*

[b] *CC-98 is a duplicate of CC-17.*

[c] *MW-100 is a duplicate of MW-102.*

[d] *Tex-MW-3, Tex-MW-4, Tex-MW-6, Tex-MW-7and Tex-MW-8 former Texaco facility 5201 N. Central Avenue not sampled by HGC.*

Bold values were detected at concentrations above the laboratory reporting limits.
All values are in micrograms per liter.
NA = Not analyzed
ND = Not detected. See laboratory report for Laboratory Reporting Limits.
NS = Not sampled
MW-104 was abandoned December 2007

TABLE 4B
January 2014 Groundwater Sampling Results

Analyte (EPA Method 8260B)	MW-101	MW-102	MW-100[a]	MW-103	MW-105	MW-106	MW-107	CC-15	CC-17	CC-18	CC-19	TEX-MW1	TEX-MW2	TEX-MW5
Date sampled	**1/22/2014**	**1/22/2014**	**1/22/2014**	**1/22/2014**	**1/22/2014**	**1/22/2014**	**1/22/2014**	**1/23/2014**	**1/22/2014**	**1/21/2014**	**1/22/2014**	**1/20/2014**	**1/21/2014**	**1/20/2014**
1,1,1,2-Tetrachloroethane	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
1,1,1-Trichloroethane (TCA)	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
1,1,2,2-Tetrachloroethane	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
1,1,2-Trichloroethane	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
1,1-Dichloroethane (1,1-DCA)	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
1,1-Dichloroethene (1,1-DCE)	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	**0.55**	<0.50	<0.50	<0.50	<0.50	<0.50
1,1-Dichloropropene	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
1,2,3-Trichlorobenzene	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,2,3-Trichloropropane	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
1,2,4-Trichlorobenzene	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,2,4-Trimethylbenzene	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	**160**	**310**	<0.50	<0.50	<0.50	<0.50
1,2-Dibromo-3-chloropropane (DBCP)	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
1,2-Dibromoethane	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
1,2-Dichlorobenzene	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
1,2-Dichloroethane (1,2-DCA)	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	**1.8**	**24**	**24**	<0.50	<0.50	<0.50	<0.50
1,2-Dichloropropane	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
1,3,5-Trimethylbenzene	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	**28**	**76**	<0.50	<0.50	<0.50	<0.50
1,3-Dichlorobenzene	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
1,3-Dichloropropane	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
1,4-Dichlorobenzene	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
2,2-Dichloropropane	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
2-Butanone (MEK)	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
2-Chlorotoluene	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
2-Hexanone	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
4-Chlorotoluene	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
4-Isopropyltoluene (p-Cymene)	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	**0.63**	<0.50	<0.50	<0.50	<0.50	<0.50
4-Methyl-2-pentanone (MIBK)	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5
Acetone	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
Benzene	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	**5.7**	<0.50	<0.50	<0.50	<0.50
Bromobenzene	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Bromochloromethane	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Bromodichloromethane	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Bromoform	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Bromomethane	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Carbon disulfide	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Carbon Tetrachloride	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Chlorobenzene	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Chloroethane	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Chloroform	**9.4**	**4.8**	**5.0**	**7.2**	**1.7**	**7.3**	**6.3**	<0.50	**0.76**	<0.50	<0.50	<0.50	<0.50	<0.50
Chloromethane	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
cis-1,2-Dichloroethene (cis-1,2-DCE)	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	**5.5**	<0.50	<0.50	<0.50	<0.50	<0.50
cis-1,3-Dichloropropene	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Dibromochloromethane	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Dibromomethane	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Dichlorodifluoromethane (CFC 12)	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Dichloromethane (Methylene chloride)	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Ethylbenzene	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	**34**	**470**	<0.50	<0.50	<0.50	<0.50
Hexachlorobutadiene	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Iodomethane	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5
Isopropylbenzene	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	**12**	**27**	<0.50	<0.50	<0.50	<0.50
Methyl tert-butyl ether (MTBE)	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Naphthalene	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5
n-Butylbenzene	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	**3.8**	**12**	<0.50	<0.50	<0.50	<0.50
n-Propylbenzene	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	**19**	**55**	<0.50	<0.50	<0.50	<0.50
sec-Butylbenzene	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	**3.0**	<0.50	<0.50	<0.50	<0.50	<0.50
Styrene	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
tert-Butylbenzene	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Tetrachloroethene (PCE)	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	**130**	<0.50	<0.50	<0.50	**1.9**	<0.50
Toluene	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
trans-1,2-Dichloroethene (trans-1,2-DCE)	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
trans-1,3-Dichloropropene	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Trichloroethene (TCE)	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	**51**	**12**	<0.50	<0.50	**2.6**	<0.50
Trichlorofluoromethane (CFC 11)	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
o-Xylene	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	**22**	<0.50	<0.50	<0.50	<0.50
m,p-Xylenes	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	**14**	**510**	<1.0	<1.0	<1.0	<1.0
Vinyl Acetate	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
Vinyl Chloride	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Xylenes, Total	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5	**14**	**530**	<1.5	<1.5	<1.5	<1.5

Notes: *[a] MW-100 is a duplicate of MW-102.*
Bold values were detected at concentrations above the laboratory reporting limits.
All values are in micrograms per liter.
ND = Not detected. See laboratory report for Laboratory Reporting Limits.
NS = Not sampled
MW-104 was abandoned December 2007

TABLE 5
Toxicity Values for PCE, TCE, and 1,2-DCA

Chemical	SFO $(mg/kg\text{-}day)^{-1}$	SFO Ref	IUR $(ug/m3)^{-1}$	IUR Ref	RfD (mg/kg-day)	RfD Ref	RfC (mg/m^3)	RfC Ref
1,2-DCA	9.10E-02	I	2.60E-05	I	6.00E-03	X	7.00E-03	P
PCE	2.10E-03	I	2.60E-07	I	6.00E-03	I	4.00E-02	I
TCE	4.60E-02	I	4.10E-06	I	5.00E-04	I	2.00E-03	I

Notes:

1,2-Dichloroethane = 1,2-DCA
Tetrachloroethene = PCE
Trichloroethene = TCE
SFO = Oral cancer slope factor
IUR = Inhalation unit risk
RfD = Oral reference dose
RfC = Inhalation reference concentration
Ref: I = IRIS; X = PPRTV Appendix; P = PPRTV
PPRTV = Provisional Peer-Reviewd Toxicity Value
mg/kg-day = milligrams per kilogram per day
$\mu g/m^3$ = micrograms per cubic meter
mg/m^3 = milligrams per cubic meter

TABLE 6
Cancer Risk and Health Hazard for Tap Water

Cancer Risk

Chemical	Concentration (µg/L)	Ingestion	Dermal	Inhalation	Total
1,2-Dichloroethane	24	3.25E-05	1.53E-06	1.28E-04	1.62E-04
Tetrachloroethene	130	4.06E-06	2.34E-06	6.95E-06	1.33E-05
Trichloroethene	51	1.09E-04	1.61E-05	1.09E-04	2.34E-04
Cumulative Risk		1.45E-04	2.00E-05	2.44E-04	4.10E-04

Non-Cancer Hazard (Child)

Chemical	Concentration (µg/L)	Ingestion	Dermal	Inhalation	Total
1,2-Dichloroethane	24	0.256	0.0124	1.64	1.91
Tetrachloroethene	130	1.39	0.797	1.56	3.74
Trichloroethene	51	6.52	1.04	12.2	19.8
Hazard Index		8.16	1.85	15.4	25.4

Non-Cancer Hazard (Adult)

Chemical	Concentration (µg/L)	Ingestion	Dermal	Inhalation	Total
1,2-Dichloroethane	24	0.11	0.00535	1.64	1.76
Tetrachloroethene	130	0.594	0.355	1.56	2.51
Trichloroethene	51	2.79	0.465	12.2	15.5
Hazard Index		3.5	0.825	15.4	19.8

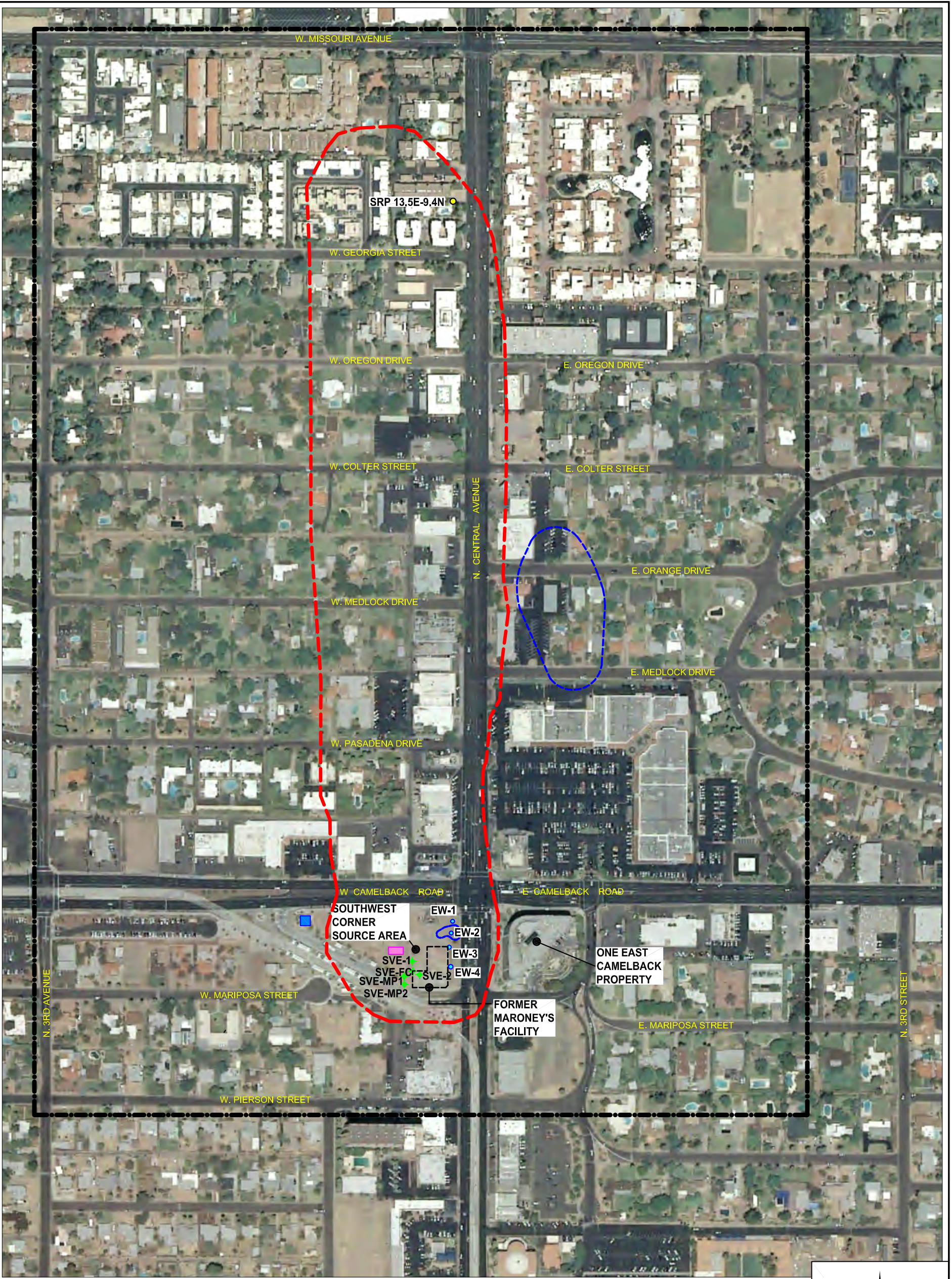
Note:
µg/L = micrograms per Liter

TABLE 7
Cancer Risk and Health Hazard for PCE in Indoor Air

Sample Name	Soil Vapor Concentration µg/m^3	AF	Indoor Air Concentration µg/m^3	Cancer Risk	Hazard Quotient
SB-01@10'	12,000	0.02	240.00	1.61E-07	0.0362
SB-02@5'	329,600	0.02	6592.00	2.05E-07	0.0551

Notes:
AF = Attenuation factor
µg/m^3 = micrograms per cubic meter

FIGURES



LEGEND

SVE-1	Identification and Approximate Location of Soil Vapor Extraction Well
EW-1	Identification and Approximate Location of Groundwater Extraction Well
SRP 13.5E-9.4N	Identification and Approximate Location of SRP Well
	Soil Vapor Extraction Compound
	Groundwater Treatment Compound
	WQARF Boundary, 2014
	Estimated Extent of PCE concentrations above 5 ug/L in 2005 (ADEQ-Defined WQARF Site Boundary, January 2005)
	Estimated area where reportable PCE concentration is greater than 5 ug/L as of 2013

N

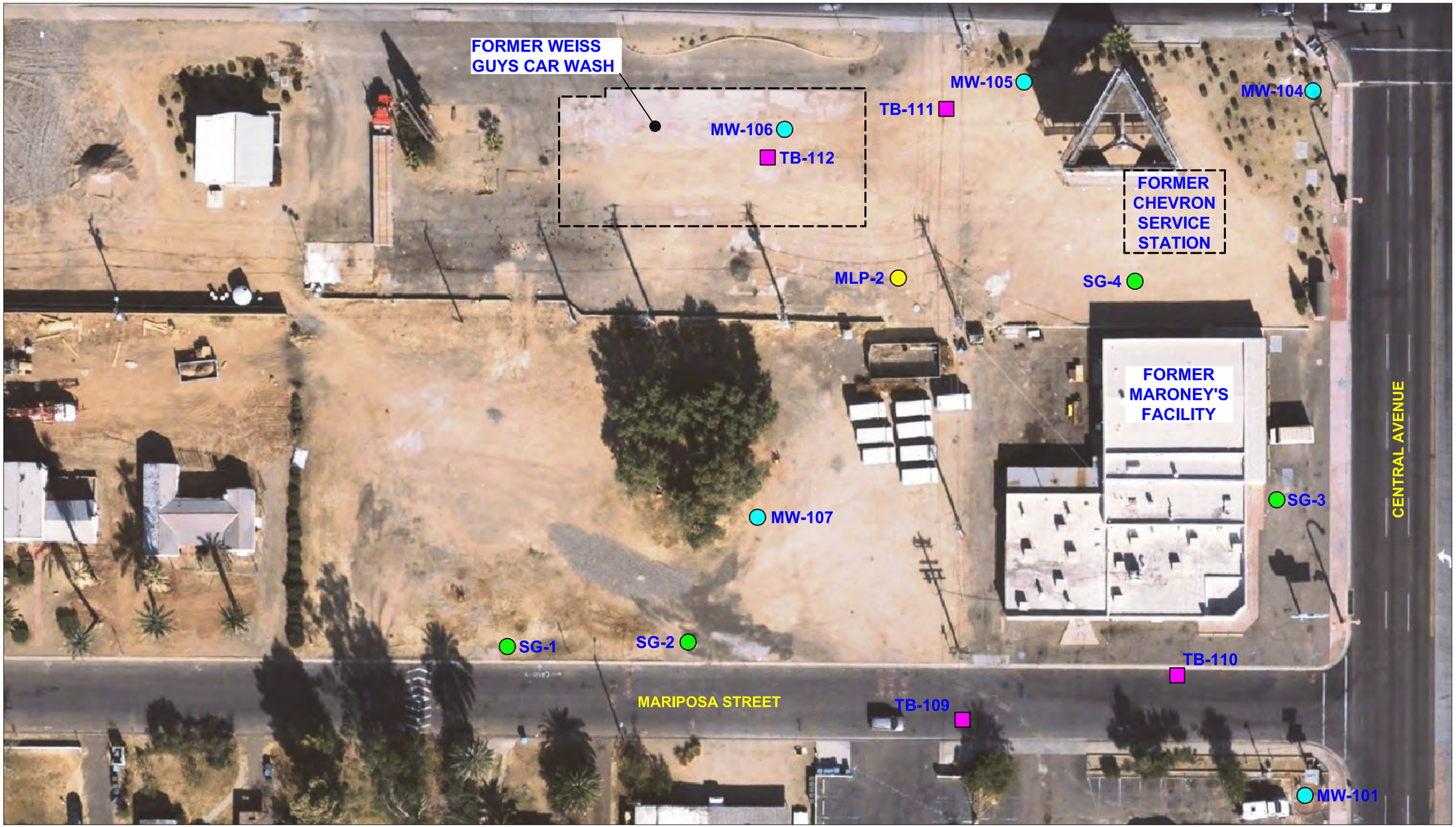
0 150 300

APPROXIMATE SCALE IN FEET

HYDRO GEO CHEM, INC.

SITE LOCATION MAP
CENTRAL AND CAMELBACK WQARF SITE

Approved	Date	Author	Revised	File Name	Figure
SPS	3/17/14	JAA	4/16/14	2010032091A	1



N

0 20 40

APPROXIMATE SCALE IN FEET

Legend

MW-107	Identification and Approximate Location of Monitor Well
MLP-2	Identification and Approximate Location of Soil Vapor Sampling Well
SG-3	Identification and Approximate Location of Soil Gas Sampling Point
TB-111	Identification and Approximate Location of Exploratory Soil Boring

SOURCE: ADAPTED FROM GEC-SA&B PHASE I REPORT, 2006
(AERIAL) MARICOPA COUNTY ASSESSOR, FEBRUARY 2006

HYDRO GEO CHEM, INC.

FORMER LAYOUT OF SOUTHWEST CORNER SOURCE AREA and GEC-SA&B INVESTIGATIVE SAMPLING LOCATIONS
CENTRAL & CAMELBACK WQARF SITE

Approved	Date	Revised	Date	File Name	Figure
SPS	3/6/14	JAA	4/7/14	2010032078A	2

N

0 20 40

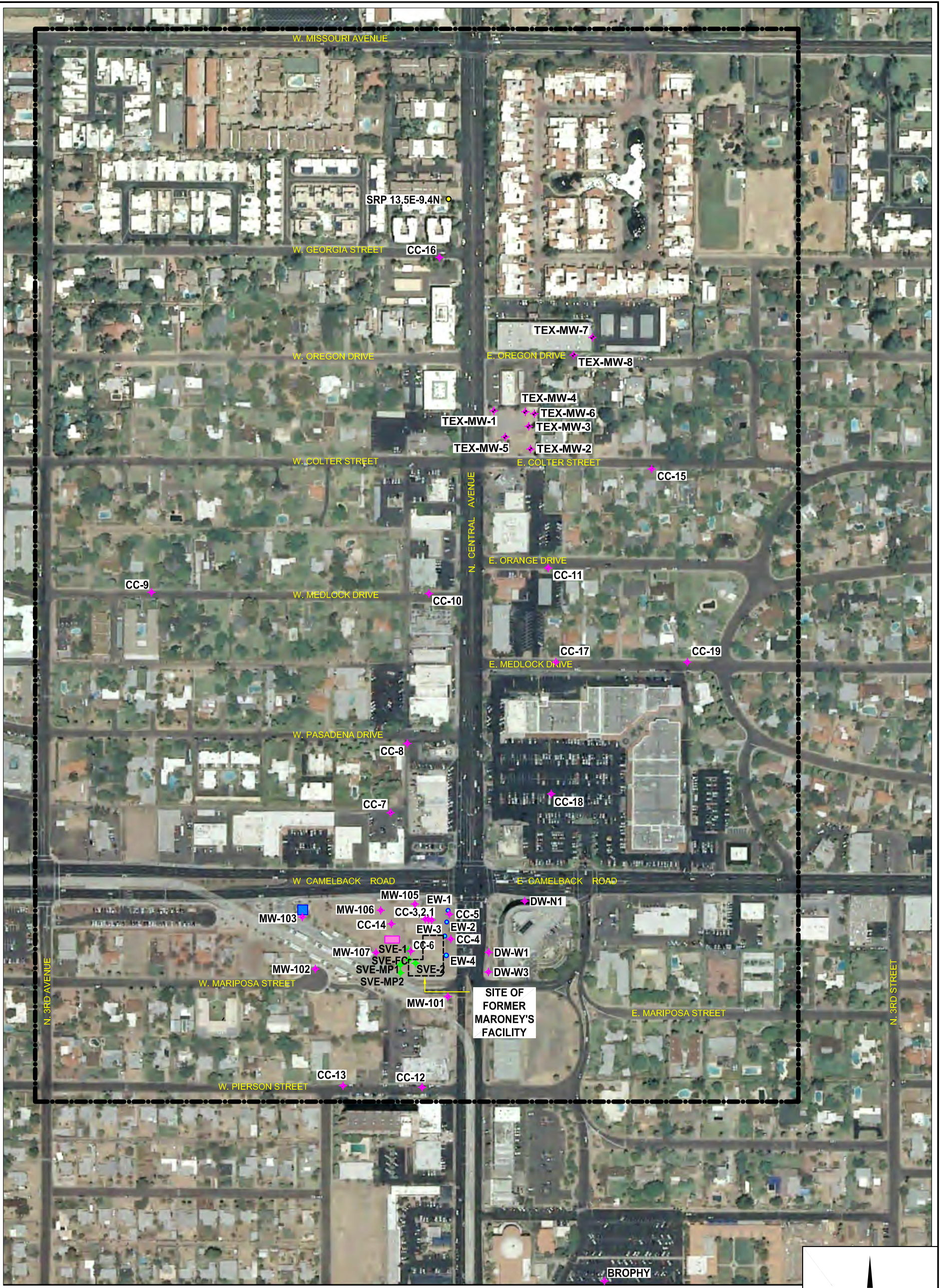
APPROXIMATE SCALE IN FEET

SOURCE: MARICOPA COUNTY ASSESSOR, NOVEMBER 2013

HYDRO GEO CHEM, INC.

CURRENT
SOUTHWEST CORNER SOURCE AREA LAYOUT
CENTRAL & CAMELBACK WQARF SITE

Approved	Date	Revised	Date	File Name	Figure
SPS	3/6/14	JAA	4/7/14	2010032079A	3



LEGEND

MW-101	Identification and Approximate Location of Monitoring Well
SVE-1	Identification and Approximate Location of Soil Vapor Extraction Well
EW-1	Identification and Approximate Location of Groundwater Extraction Well
SRP 13.5E-9.4N	Identification and Approximate Location of SRP Well
	Soil Vapor Extraction Compound
	Groundwater Treatment Compound
	WQARF Boundary, 2013

N

0 150 300

APPROXIMATE SCALE IN FEET

HYDRO GEO CHEM, INC.

ENTIRE MONITORING WELL NETWORK (ON-SITE and OFF-SITE) CENTRAL AND CAMELBACK WQARF SITE

Approved	Date	Author	Revised	File Name	Figure
SPS	3/17/14	JAA	3/17/14	2010032083A	4

W. Missouri Avenue
E. Missouri Avenue
SRP Well 13.5E - 9.4N
W. Georgia Avenue
CC-16
N. Central Avenue
TEX-MW-7
TEX-MW-8
N. Second Street
Community Cleaners 1995 - 1996
Central Park Dry Cleaners 1997
W. Oregon Avenue
E. Oregon Avenue
TEX-MW-4
TEX-MW-1
TEX-MW-6
TEX-MW-3
Other Service Stations 1949 - 1985
Texaco Service Station 1985 - 1998
Circle K 1958 - Present
TEX-MW-5
TEX-MW-2
W. Colter Street
CC-15
E. Colter Street
E. Orange Drive
CC-11
E. Orange Drive
CC-9
W. Medlock Drive
CC-10
Blue Sam Dry Cleaning 1952 - 1963
Uptowne Dry Cleaners 1964 - Present
Society Cleaners 1994 - Present
CC-17
CC-19
E. Medlock Drive
W. Pasadena Avenue
CC-8
E. Pasadena Avenue
Windsor Square Dry Cleaners 1959 - 1960
CC-7
CC-18
Unocal 1951 - 1982
Exxon 1940 - 1973
Weiss Guys Car Wash 1954 - 1995
W. Camelback Road
E. Camelback Road
CC-2
CC-1
MW-106
MW-105
EW-1
MW-103
CC-3
CC-5
CC-14
EW-2
EW-3
CC-4
MW-107
CC-6
EW-4
MW-102
Chevron Station 1940 - 1976
W. Mariposa Street
MW-101
Maroney's Cleaners 1951 - 2006
E. Mariposa Street
Mobil Service Station
CC-13
CC-12
W. Pierson Street
E. Pierson Street
W. Elm Street

Potential Source Properties
Monitor Well - Shallow
Monitor Well - Intermediate or Deep
Extraction Well

150 0 300 Feet

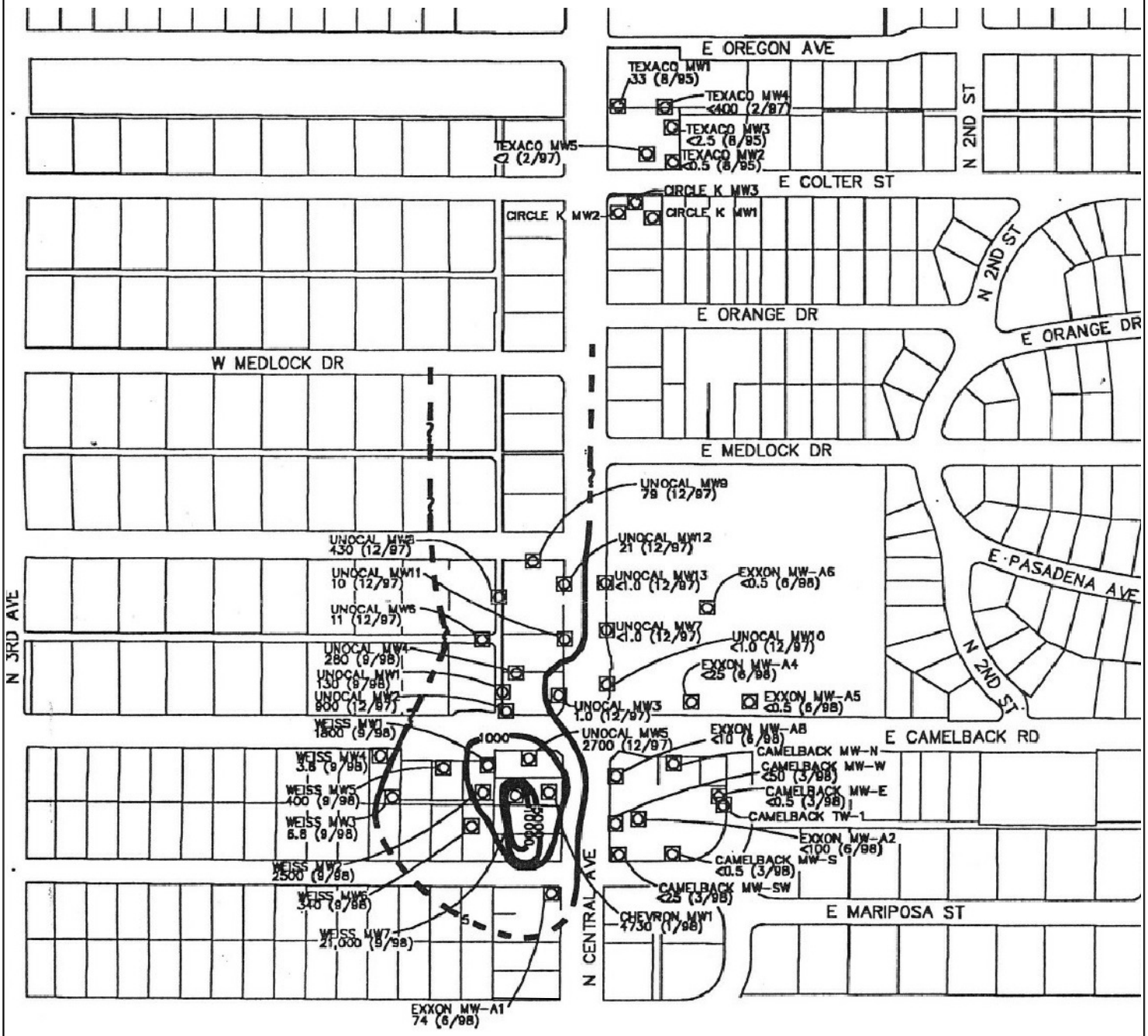
N

Spatial Reference: NAD_1983_HARN_StatePlane_Arizona_Central_FIPS_0202_Feet_Intl

HYDRO GEO CHEM, INC.

PROPERTIES OF CONCERN
CENTRAL AND CAMELBACK WQARF SITE

Approved	Date	File	Figure
SPS	04/08/14	2010032016G.mxd	5

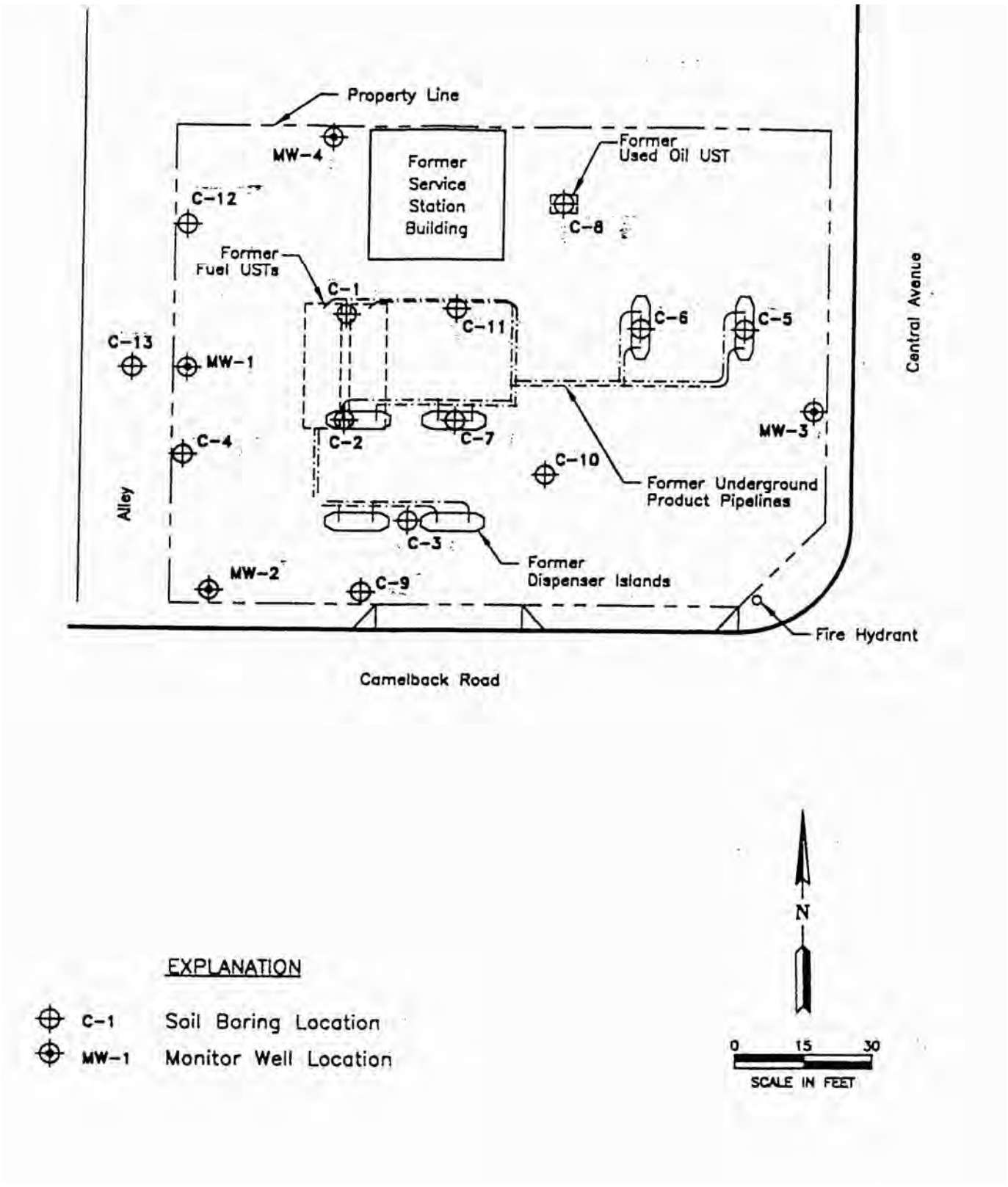


Source: Western Technologies, Inc. Figure Entitled "PCE Isoconcentration Map", Dated February 8, 1999

HYDRO GEO CHEM, INC.

MONITORING WELL LOCATIONS AND PCE ISOCONCENTRATION MAP - FEBRUARY 1999 CENTRAL AND CAMELBACK WQARF SITE

Approved	Date	Author	Date	File Name	Figure
SPS	3/18/14	JAA	3/18/14	2010032085A	6

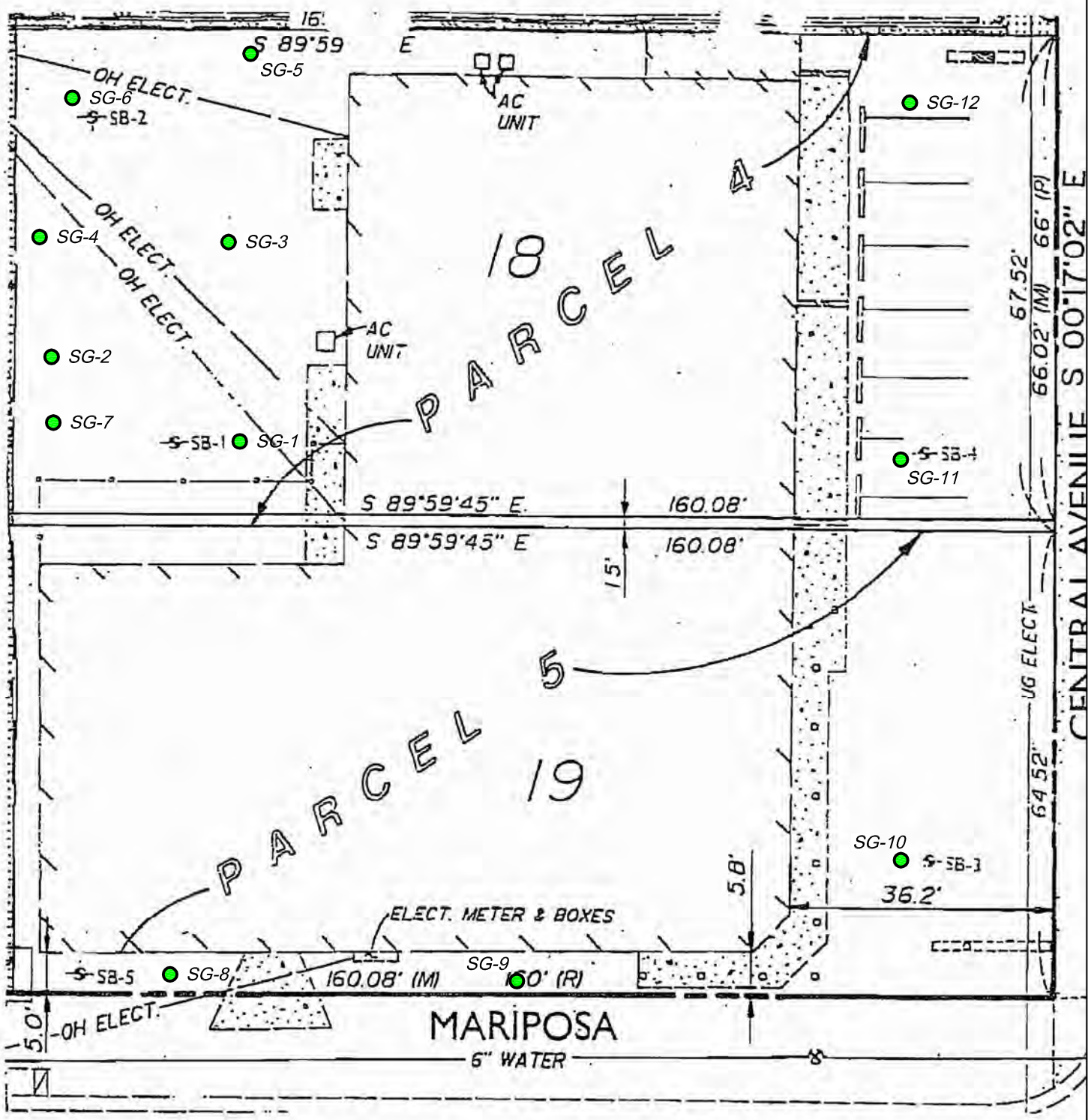


Source: Harding Lawson Associates Figure Entitled "Soil Boring Location Map", Dated August, 1994

HYDRO GEO CHEM, INC.

UNOCAL MONITORING WELLS MW-1 through MW-4
LOCATION MAP
CENTRAL AND CAMELBACK WQARF SITE

Approved	Date	Author	Date	File Name	Figure
SPS	3/18/14	JAA	3/18/14	2010032084A	7



Legend

SB-1 **Soil Boring Location**

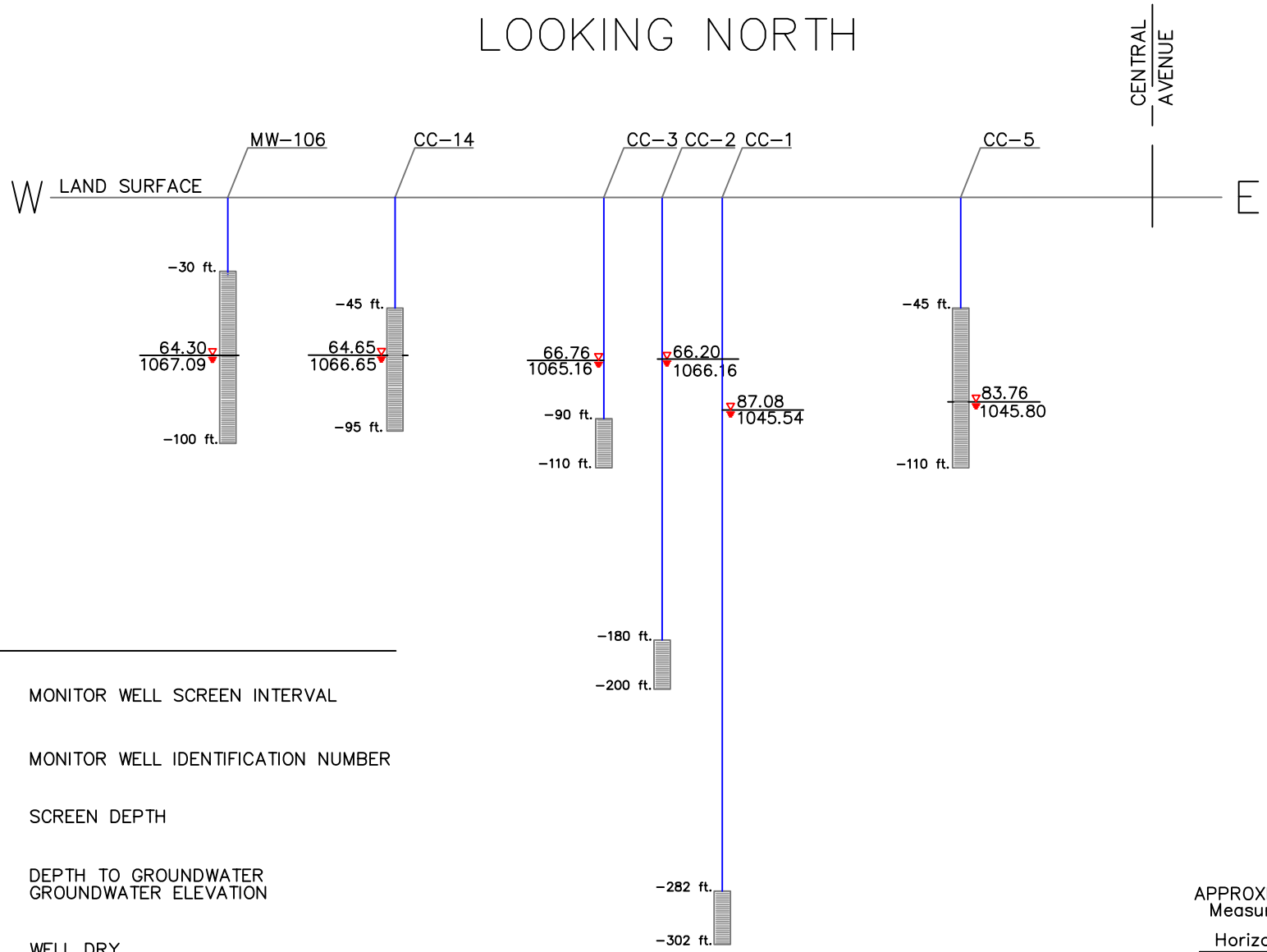
SG-1 **Soil Gas Sampling Location**

Source: GEC Phase I Report Dated May, 2005

HYDRO GEO CHEM, INC.

SOIL BORING & SOIL GAS SAMPLING LOCATIONS
FORMER MARONEY'S FACILITY
CENTRAL AND CAMELBACK WQARF SITE

Approved	Date	Author	Date	File Name	Figure
SPS	3/18/14	JAA	3/18/14	2010032088A	8



LEGEND

-180 ft. / -200 ft.	MONITOR WELL SCREEN INTERVAL
CC-5	MONITOR WELL IDENTIFICATION NUMBER
-200 ft.	SCREEN DEPTH
83.76 / 1045.80	DEPTH TO GROUNDWATER / GROUNDWATER ELEVATION
DRY	WELL DRY
NA	NOT APPLICABLE

NOTE WATER LEVELS WERE COLLECTED FEBRUARY 22 & 23, 2014. CROSS SECTION LOCATION SHOWN ON FIGURE 10.

APPROXIMATE SCALE
Measured in Feet

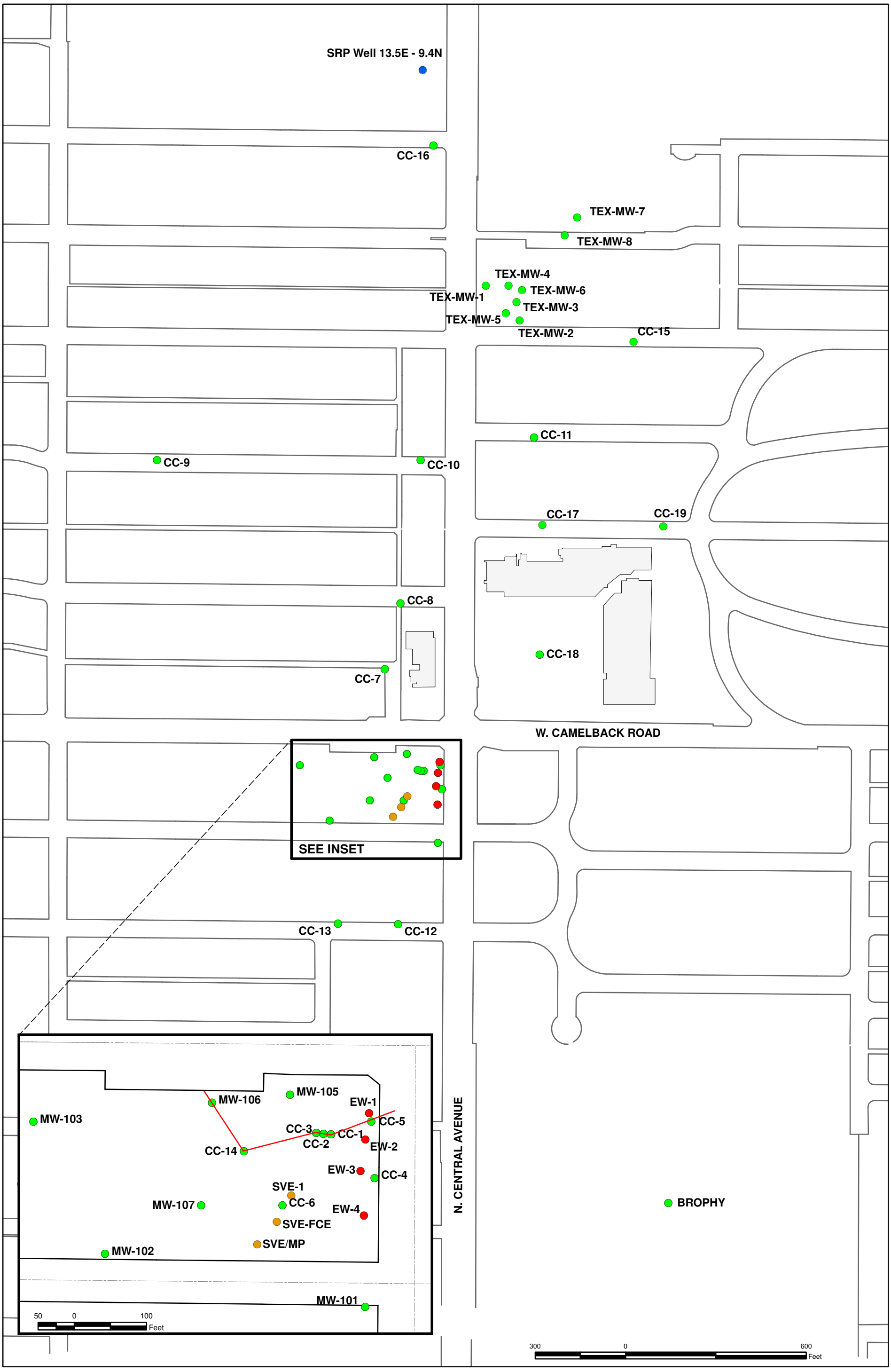
Horizontal Scale

0 15 30

HYDRO GEO CHEM, INC.

PROFILE VIEW OF GROUNDWATER LEVELS FROM SELECTED WELLS CENTRAL AND CAMELBACK WQARF SITE

Approved	Date	Author	Date	File Name	Figure
FJS	3/18/14	JAA	3/18/14	2010032086A	9



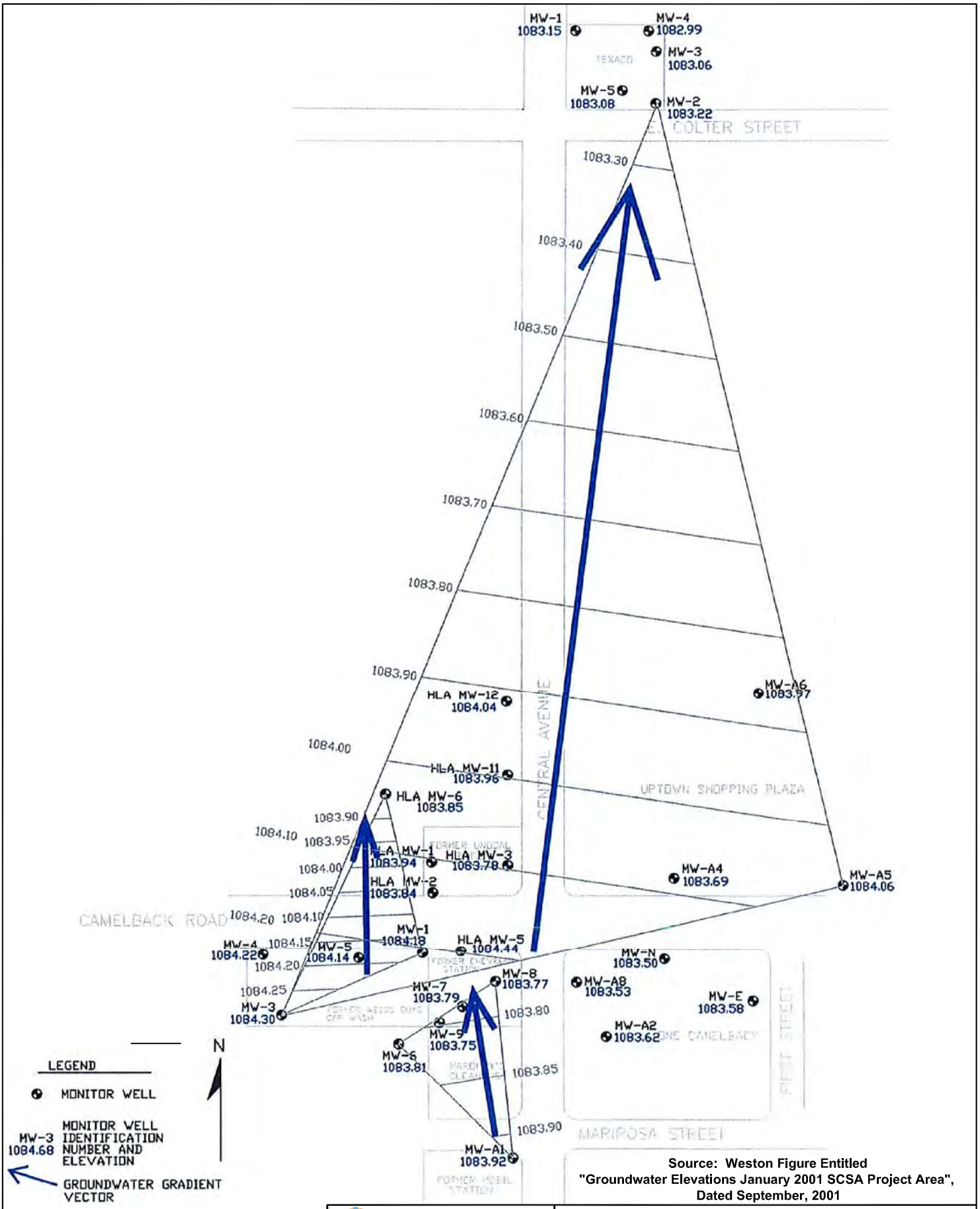
- CC-8 Monitor Well and Identification
- EW-1 Groundwater Extraction Well and Identification
- SVE-1 Soil Vapor Extraction Well and Identification
- SRP Irrigation Well 13.5E - 9.4N
- Profile View

NORTH

HYDRO GEO CHEM, INC.

CROSS SECTION OF MONITOR WELL NETWORK

Approved	Date	Author	Date	File Name	Figure
CJ	12/20/10	TGC	03/19/14	201003202G	10

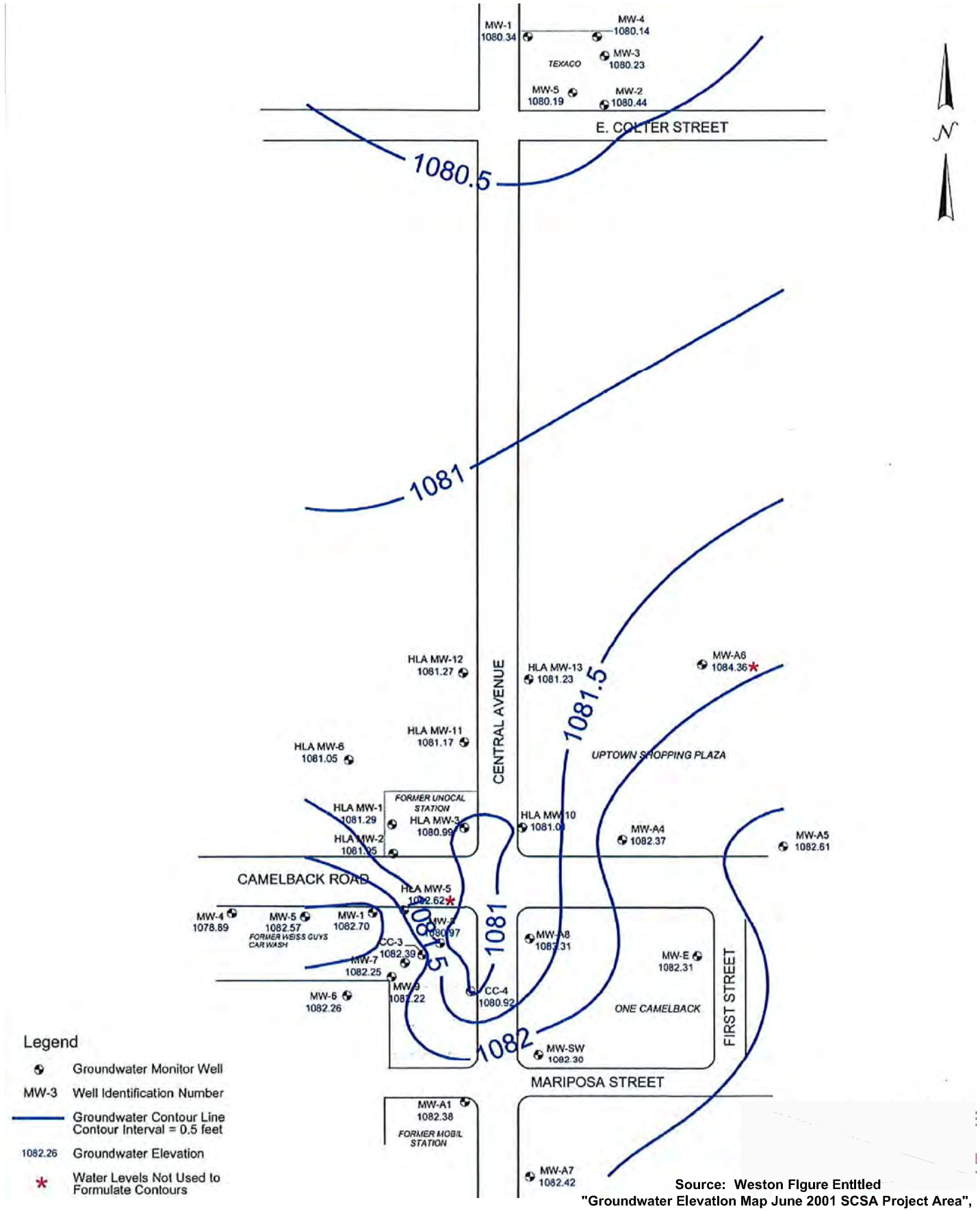


Source: Weston Figure Entitled "Groundwater Elevations January 2001 SCSA Project Area", Dated September, 2001

HYDRO GEO CHEM, INC.

GROUNDWATER GRADIENT VECTORS
JANUARY 2001
CENTRAL AND CAMELBACK WQARF SITE

Approved	Date	Author	Date	File Name	Figure
SPS	3/18/14	JAA	3/18/14	2010032087A	11

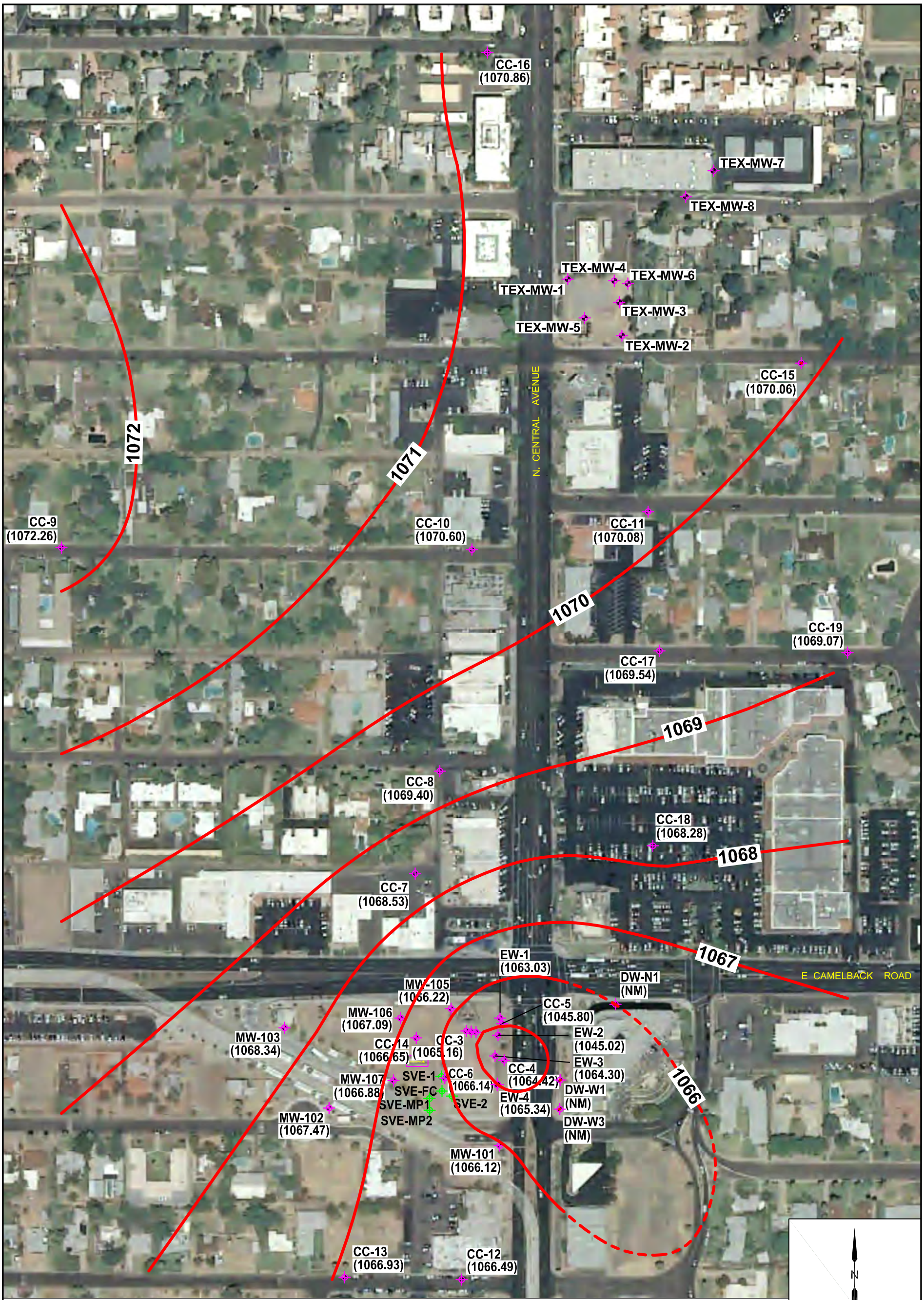


Source: Weston Figure Entitled "Groundwater Elevation Map June 2001 SCSA Project Area", Dated September, 2001

HYDRO GEO CHEM, INC.

GROUNDWATER ELEVATIONS
JUNE 2001
CENTRAL AND CAMELBACK WQARF SITE

Approved	Date	Author	Date	File Name	Figure
SPS	3/18/14	JAA	3/18/14	2010032088A	12



Note: CC-1, CC-2, CC-5, EW-1, EW-2, EW-3 and EW-4 were not used for contouring.

LEGEND

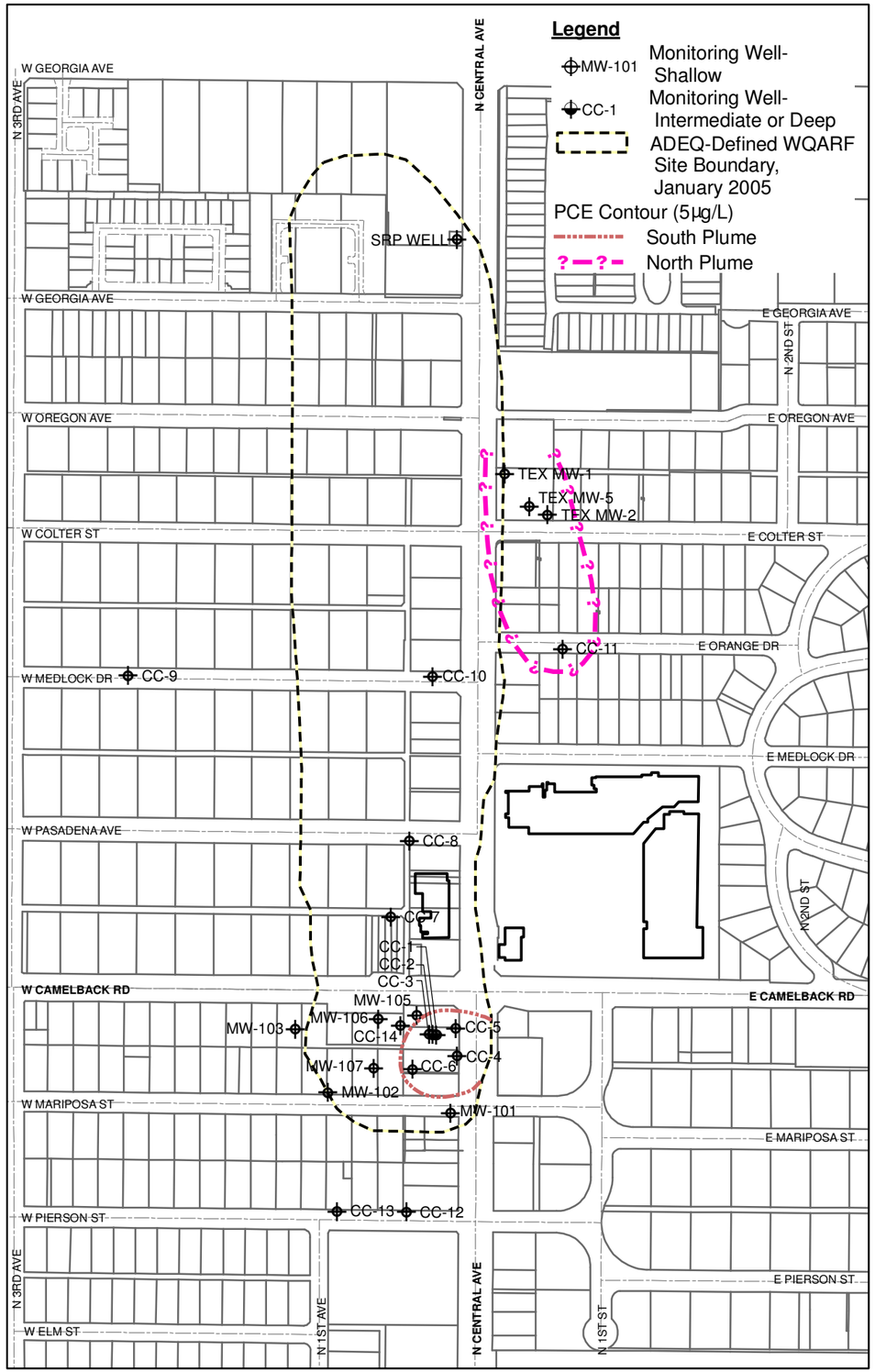
MW-101 (1066.12)	Identification and Approximate Location of Monitoring Well Groundwater Elevation in Feet Above Mean Sea Level (amsl)
SVE-1	Identification and Approximate Location of Soil Vapor Extraction Well
	Groundwater Contour in Feet (amsl)
(NM)	Not Measured

Well measurements taken February 22 and 23, 2014.
EW-2 and CC-5 pumping at time of well measurement.

HYDRO GEO CHEM, INC.

GROUNDWATER ELEVATIONS FOR FEBRUARY 2014
CENTRAL AND CAMELBACK WQARF SITE

Approved	Date	Author	Date	File Name	Figure
FJS	3/5/14	JAA	3/5/14	2010032077A	13



1 inch equals 400 feet

0 175 350 Feet

PROJECTION: State Plane
AZ Central FIPS 0202 Feet NAD83

N

CC-1	ANALYTE	RESULTS (µg/L)
	Benzene	<0.50
	Chloroform	<0.50
	cis-1,2-DCE	<0.50
	trans-1,2-DCE	<0.50
	TCE	<0.50
	PCE	<0.50
	MTBE	<2.0
	Toluene	<3.0
	1,1-DCA	<1.0
	1,2-DCA	<1.0

CC-2	ANALYTE	RESULTS (µg/L)
	Benzene	<0.50
	Chloroform	<0.50
	cis-1,2-DCE	<0.50
	trans-1,2-DCE	<0.50
	TCE	<0.50
	PCE	<0.50
	MTBE	<2.0
	Toluene	<3.0
	1,1-DCA	<1.0
	1,2-DCA	<1.0

CC-3	ANALYTE	RESULTS (µg/L)
	Benzene	<0.50
	Chloroform	10
	cis-1,2-DCE	<0.50
	trans-1,2-DCE	<0.50
	TCE	<0.50
	PCE	<0.50
	MTBE	<2.0
	Toluene	<3.0
	1,1-DCA	<1.0
	1,2-DCA	<1.0

CC-4	ANALYTE	RESULTS (µg/L)
	Benzene	<0.50
	Chloroform	3.2
	cis-1,2-DCE	<0.50
	trans-1,2-DCE	<0.50
	TCE	<0.50
	PCE	37
	MTBE	<2.0
	Toluene	<3.0
	1,1-DCA	<1.0
	1,2-DCA	<1.0

CC-5	ANALYTE	RESULTS (µg/L)
	Benzene	<0.50
	Chloroform	<0.50
	cis-1,2-DCE	2.0
	trans-1,2-DCE	<0.50
	TCE	40
	PCE	17
	MTBE	<2.0
	Toluene	<3.0
	1,1-DCA	<1.0
	1,2-DCA	17

CC-6	ANALYTE	RESULTS (µg/L)
	Benzene	<0.50
	Chloroform	5.3
	cis-1,2-DCE	<0.50
	trans-1,2-DCE	<0.50
	TCE	<0.50
	PCE	11
	MTBE	<2.0
	Toluene	<3.0
	1,1-DCA	<1.0
	1,2-DCA	<1.0

CC-7	ANALYTE	RESULTS (µg/L)
	Benzene	<0.50
	Chloroform	7.0
	cis-1,2-DCE	<0.50
	trans-1,2-DCE	<0.50
	TCE	<0.50
	PCE	<0.50
	MTBE	<2.0
	Toluene	<3.0
	1,1-DCA	<1.0
	1,2-DCA	<1.0

CC-8	ANALYTE	RESULTS (µg/L)
	Benzene	<0.50
	Chloroform	1.6
	cis-1,2-DCE	<0.50
	trans-1,2-DCE	<0.50
	TCE	<0.50
	PCE	<0.50
	MTBE	<2.0
	Toluene	<3.0
	1,1-DCA	<1.0
	1,2-DCA	<1.0

CC-9	ANALYTE	RESULTS (µg/L)
	Benzene	<0.50
	Chloroform	<0.50
	cis-1,2-DCE	<0.50
	trans-1,2-DCE	<0.50
	TCE	<0.50
	PCE	<0.50
	MTBE	<2.0
	Toluene	<3.0
	1,1-DCA	<1.0
	1,2-DCA	<1.0

CC-10	ANALYTE	RESULTS (µg/L)
	Benzene	<0.50
	Chloroform	<0.50
	cis-1,2-DCE	<0.50
	trans-1,2-DCE	<0.50
	TCE	<0.50
	PCE	<0.50
	MTBE	<2.0
	Toluene	<3.0
	1,1-DCA	<1.0
	1,2-DCA	<1.0

CC-11	ANALYTE	RESULTS (µg/L)
	Benzene	<10
	Chloroform	<10
	cis-1,2-DCE	<10
	trans-1,2-DCE	<10
	TCE	<10
	PCE	<10
	MTBE	<40
	Toluene	<60
	1,1-DCA	<200
	1,2-DCA	40

CC-12	ANALYTE	RESULTS (µg/L)
	Benzene	<0.50
	Chloroform	12
	cis-1,2-DCE	<0.50
	trans-1,2-DCE	<0.50
	TCE	<0.50
	PCE	<0.50
	MTBE	<2.0
	Toluene	<3.0
	1,1-DCA	<1.0
	1,2-DCA	<1.0

CC-13	ANALYTE	RESULTS (µg/L)
	Benzene	<0.50
	Chloroform	2.7
	cis-1,2-DCE	<0.50
	trans-1,2-DCE	<0.50
	TCE	<0.50
	PCE	<0.50
	MTBE	<2.0
	Toluene	<3.0
	1,1-DCA	<1.0
	1,2-DCA	<1.0

CC-14	ANALYTE	RESULTS (µg/L)
	Benzene	8.0
	Chloroform	11
	cis-1,2-DCE	<0.50
	trans-1,2-DCE	<0.50
	TCE	<0.50
	PCE	1.7
	MTBE	71
	Toluene	19
	1,1-DCA	<1.0
	1,2-DCA	<1.0

MW-101	ANALYTE	RESULTS (µg/L)
	Benzene	<0.50
	Chloroform	5.0
	cis-1,2-DCE	<0.50
	trans-1,2-DCE	<0.50
	TCE	<0.50
	PCE	0.84
	MTBE	N/A
	Toluene	<3.0
	1,1-DCA	<1.0
	1,2-DCA	<1.0

MW-102	ANALYTE	RESULTS (µg/L)
	Benzene	<0.50
	Chloroform	3.6
	cis-1,2-DCE	<0.50
	trans-1,2-DCE	<0.50
	TCE	<0.50
	PCE	<0.50
	MTBE	N/A
	Toluene	<3.0
	1,1-DCA	<1.0
	1,2-DCA	<1.0

MW-103	ANALYTE	RESULTS (µg/L)
	Benzene	<0.50
	Chloroform	9.0
	cis-1,2-DCE	<0.50
	trans-1,2-DCE	<0.50
	TCE	<0.50
	PCE	<0.50
	MTBE	N/A
	Toluene	<3.0
	1,1-DCA	<1.0
	1,2-DCA	<1.0

MW-105	ANALYTE	RESULTS (µg/L)
	Benzene	<0.50
	Chloroform	10
	cis-1,2-DCE	<0.50
	trans-1,2-DCE	<0.50
	TCE	<0.50
	PCE	0.99
	MTBE	N/A
	Toluene	<3.0
	1,1-DCA	<1.0
	1,2-DCA	<1.0

MW-106	ANALYTE	RESULTS (µg/L)
	Benzene	<0.50
	Chloroform	10
	cis-1,2-DCE	<0.50
	trans-1,2-DCE	<0.50
	TCE	<0.50
	PCE	<0.50
	MTBE	N/A
	Toluene	<3.0
	1,1-DCA	<1.0
	1,2-DCA	<1.0

MW-107	ANALYTE	RESULTS (µg/L)
	Benzene	<0.50
	Chloroform	11
	cis-1,2-DCE	<0.50
	trans-1,2-DCE	<0.50
	TCE	<0.50
	PCE	<0.50
	MTBE	N/A
	Toluene	<3.0
	1,1-DCA	<1.0
	1,2-DCA	<1.0

TEX MW-1	ANALYTE	RESULTS (µg/L)
	Benzene	<0.50
	Chloroform	<0.50
	cis-1,2-DCE	<0.50
	trans-1,2-DCE	<0.50
	TCE	1.0
	PCE	0.57
	MTBE	<2.0
	Toluene	<3.0
	1,1-DCA	<1.0
	1,2-DCA	<1.0

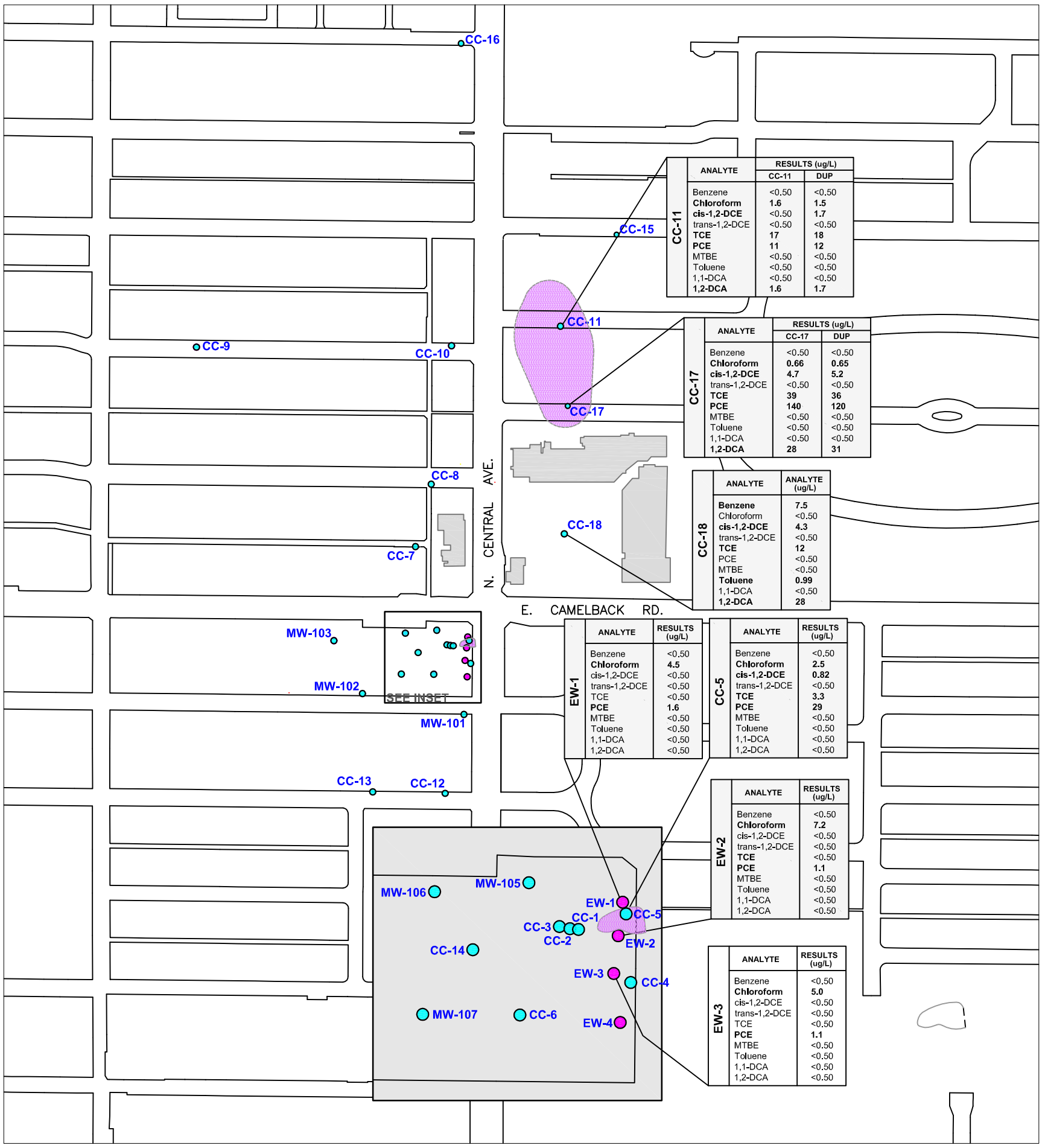
TEX MW-2	ANALYTE	RESULTS (µg/L)
	Benzene	<0.50
	Chloroform	<0.50
	cis-1,2-DCE	7.1
	trans-1,2-DCE	<0.50
	TCE	41
	PCE	67
	MTBE	<2.0
	Toluene	<3.0
	1,1-DCA	<1.0
	1,2-DCA	<1.0

TEX MW-5	ANALYTE	RESULTS (µg/L)
	Benzene	<0.50
	Chloroform	<0.50
	cis-1,2-DCE	4.9
	trans-1,2-DCE	<0.50
	TCE	11
	PCE	25
	MTBE	<2.0
	Toluene	<3.0
	1,1-DCA	<1.0
	1,2-DCA	<1.0

HYDRO GEO CHEM, INC.

PCE PLUME MAP
FIRST QUARTER 2008

Approved	Date	Author	Date	File Name	Figure
RTP	04/30/08	RAM	04/30/08	815016G	14



CC-11

ANALYTE	RESULTS (ug/L) CC-11	DUP
Benzene	<0.50	<0.50
Chloroform	**1.6**	**1.5**
cis-1,2-DCE	<0.50	**1.7**
trans-1,2-DCE	<0.50	<0.50
TCE	**17**	**18**
PCE	**11**	**12**
MTBE	<0.50	<0.50
Toluene	<0.50	<0.50
1,1-DCA	<0.50	<0.50
1,2-DCA	**1.6**	**1.7**

CC-17

ANALYTE	RESULTS (ug/L) CC-17	DUP
Benzene	<0.50	<0.50
Chloroform	**0.66**	**0.65**
cis-1,2-DCE	**4.7**	**5.2**
trans-1,2-DCE	<0.50	<0.50
TCE	**39**	**36**
PCE	**140**	**120**
MTBE	<0.50	<0.50
Toluene	<0.50	<0.50
1,1-DCA	<0.50	<0.50
1,2-DCA	**28**	**31**

CC-18

ANALYTE	ANALYTE (ug/L)
Benzene	**7.5**
Chloroform	<0.50
cis-1,2-DCE	**4.3**
trans-1,2-DCE	<0.50
TCE	**12**
PCE	<0.50
MTBE	<0.50
Toluene	**0.99**
1,1-DCA	<0.50
1,2-DCA	**28**

EW-1

ANALYTE	RESULTS (ug/L)
Benzene	<0.50
Chloroform	**4.5**
cis-1,2-DCE	<0.50
trans-1,2-DCE	<0.50
TCE	<0.50
PCE	**1.6**
MTBE	<0.50
Toluene	<0.50
1,1-DCA	<0.50
1,2-DCA	<0.50

CC-5

ANALYTE	RESULTS (ug/L)
Benzene	<0.50
Chloroform	**2.5**
cis-1,2-DCE	**0.82**
trans-1,2-DCE	<0.50
TCE	**3.3**
PCE	**29**
MTBE	<0.50
Toluene	<0.50
1,1-DCA	<0.50
1,2-DCA	<0.50

EW-2

ANALYTE	RESULTS (ug/L)
Benzene	<0.50
Chloroform	**7.2**
cis-1,2-DCE	<0.50
trans-1,2-DCE	<0.50
TCE	<0.50
PCE	**1.1**
MTBE	<0.50
Toluene	<0.50
1,1-DCA	<0.50
1,2-DCA	<0.50

EW-3

ANALYTE	RESULTS (ug/L)
Benzene	<0.50
Chloroform	**5.0**
cis-1,2-DCE	<0.50
trans-1,2-DCE	<0.50
TCE	<0.50
PCE	**1.1**
MTBE	<0.50
Toluene	<0.50
1,1-DCA	<0.50
1,2-DCA	<0.50

Well ID	Benzene	Toluene	MTBE	Chloroform	1,1-DCA	1,2-DCA	TCE	PCE	cis-1,2-DCE	trans-1,2-DCE
BROPHY	<0.50	<0.50	<0.50	**0.73**	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
CC-1	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	**0.54**	<0.50	<0.50
CC-2	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
CC-3	<0.50	<0.50	<0.50	**16**	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
CC-4	<0.50	<0.50	<0.50	**2.9**	<0.50	<0.50	<0.50	**1.2**	<0.50	<0.50
CC-6	<0.50	<0.50	<0.50	**6.9**	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
CC-7	<0.50	<0.50	<0.50	**3.8**	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
CC-8	<0.50	<0.50	<0.50	**2.5**	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
CC-9	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
CC-10	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
CC-12	<0.50	<0.50	<0.50	**1.6**	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
CC-13	<0.50	<0.50	<0.50	**1.4**	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
CC-14	<0.50	<0.50	<0.50	**12**	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
CC-15	<0.50	<0.50	<0.50	<0.50	<0.50	**5.4**	<0.50	<0.50	<0.50	<0.50
CC-16	<0.50	<0.50	<0.50	**0.66**	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
EW-4	<0.50	<0.50	<0.50	**5.3**	<0.50	<0.50	<0.50	**1.6**	<0.50	<0.50
MW-101	<0.50	<0.50	<0.50	**9.1**	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
MW-102	<0.50	<0.50	<0.50	**4.6**	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
MW-103	<0.50	<0.50	<0.50	**8.5**	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
MW-105	<0.50	<0.50	<0.50	**2.3**	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
MW-106	<0.50	<0.50	<0.50	**9.6**	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
MW-107	<0.50	<0.50	<0.50	**7.5**	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
MCL	**5**	**1,000**	**NE**	**80**	**5**	**5**	**5**	**5**	**70**	**100**

MCL = Maximum Contaminant Level
NE = None Established

N

0 200 400
APPROXIMATE SCALE IN FEET

Legend

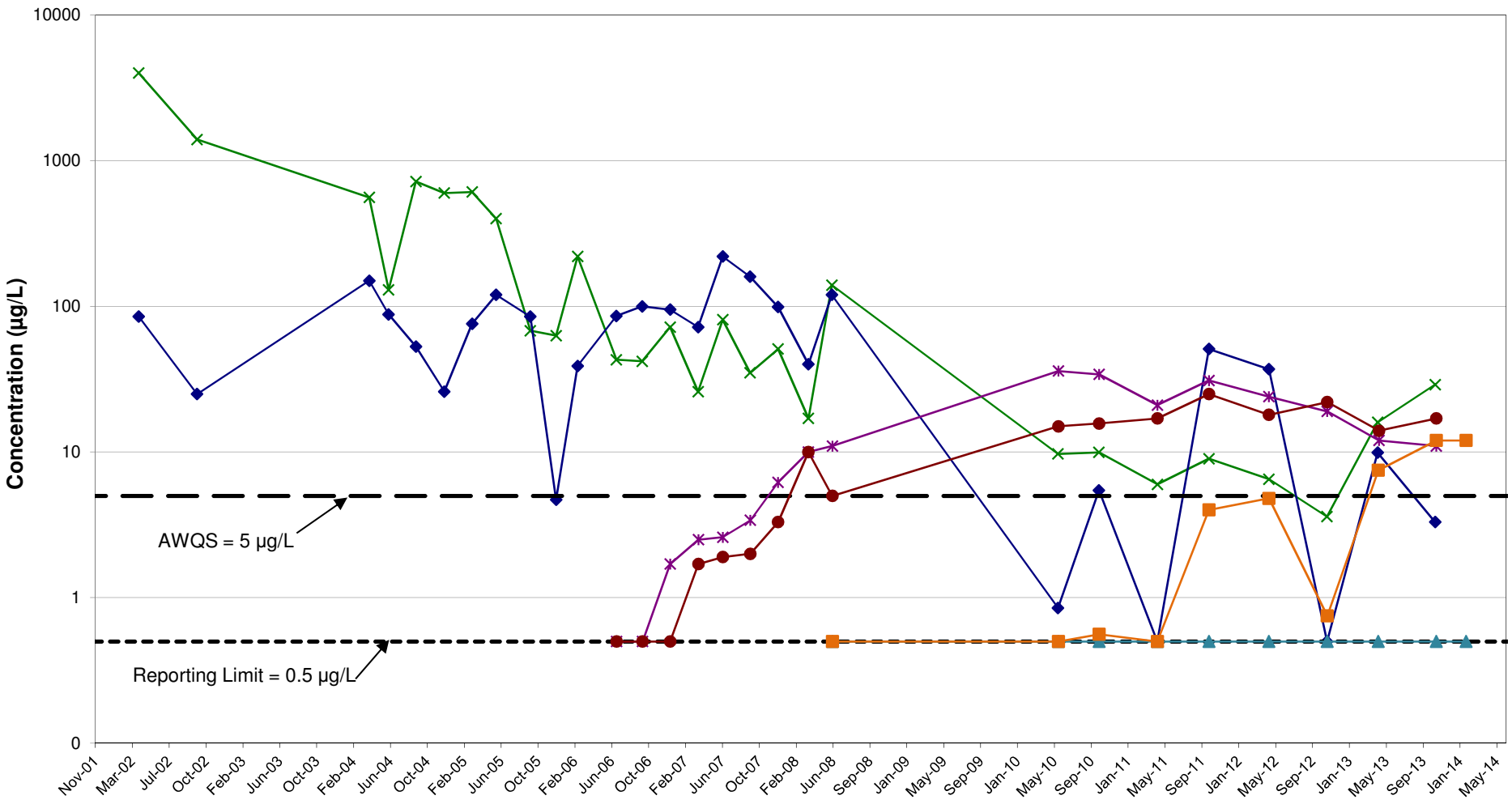
- CC-4 — **Identification and Approximate Location of Monitor Well**
- EW-1 — **Identification and Approximate Location of Groundwater Extraction Well**
- **Area where PCE concentration is greater than MCL of 5**

Results presented in micrograms per Liter (ug/L)

HYDRO GEO CHEM, INC.

PCE PLUME MAP
FOURTH QUARTER 2013

Approved	Date	Author	Date	File Name	Figure
FJS	12/31/13	JAA	12/31/13	2010032071A	15



EXPLANATION

Note: due to higher PCE concentrations, data are presented on a logarithmic scale on the Y-Axis

CC-5-PCE — CC-5-TCE — CC-11-PCE

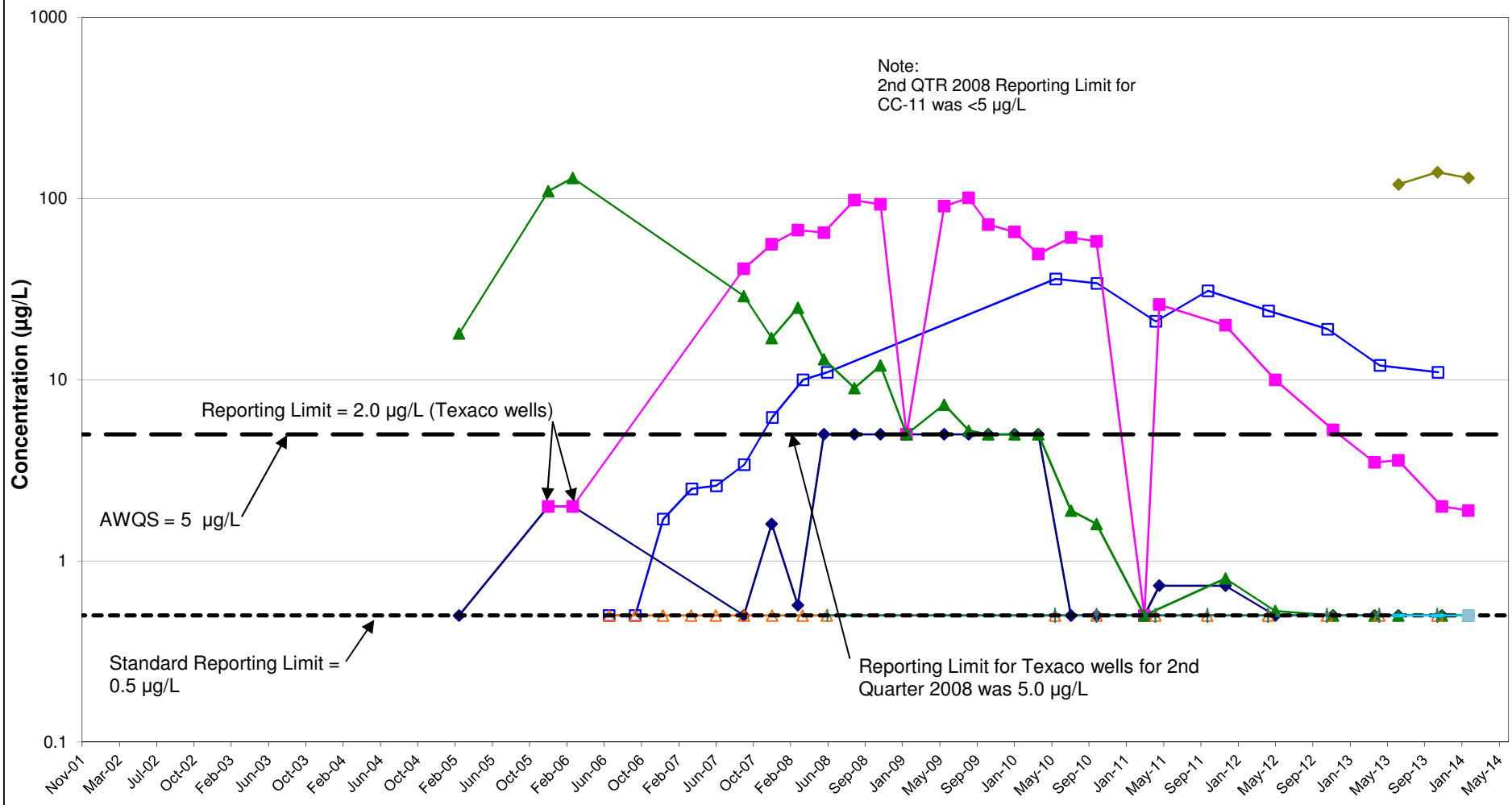
CC-11-TCE — CC-18-PCE — CC-18-TCE

HYDRO GEO CHEM, INC.

PCE AND TCE CONCENTRATIONS IN MONITORING WELLS CC-5, CC-11 and CC-18

APPROVED	DATE	FIGURE
SPS	3/17/14	16

H:\2010032 ADEQ Central and Camelback\RI - GWM 2010032.01_.50_.60_.70\GWM Rpts\2014.Jan-June.SemiAnnual.Rpt\Tables\Table 5.xls: Figure 14 CC-5 PCE-TCE



EXPLANATION

Note: due to higher PCE concentrations, data are presented on a logarithmic scale on the Y-Axis

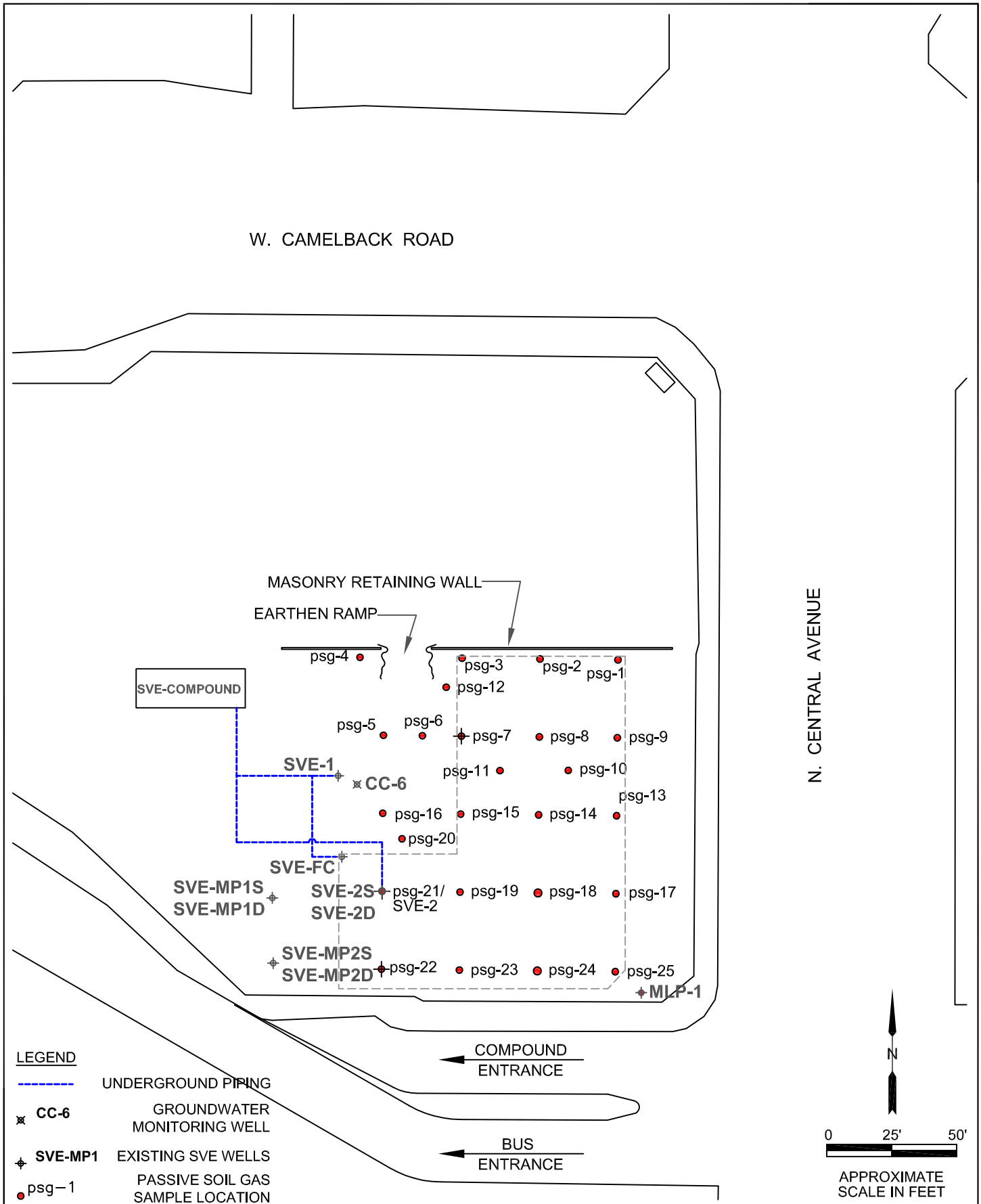
CC-11	TEX-MW-1	TEX-MW-2
TEX-MW-5	CC-10	CC-16
CC-15	CC-17	CC-19

HYDRO GEO CHEM, INC.

PCE CONCENTRATIONS IN NORTH MONITORING WELLS

APPROVED	DATE	FIGURE
SPS	3/17/14	17

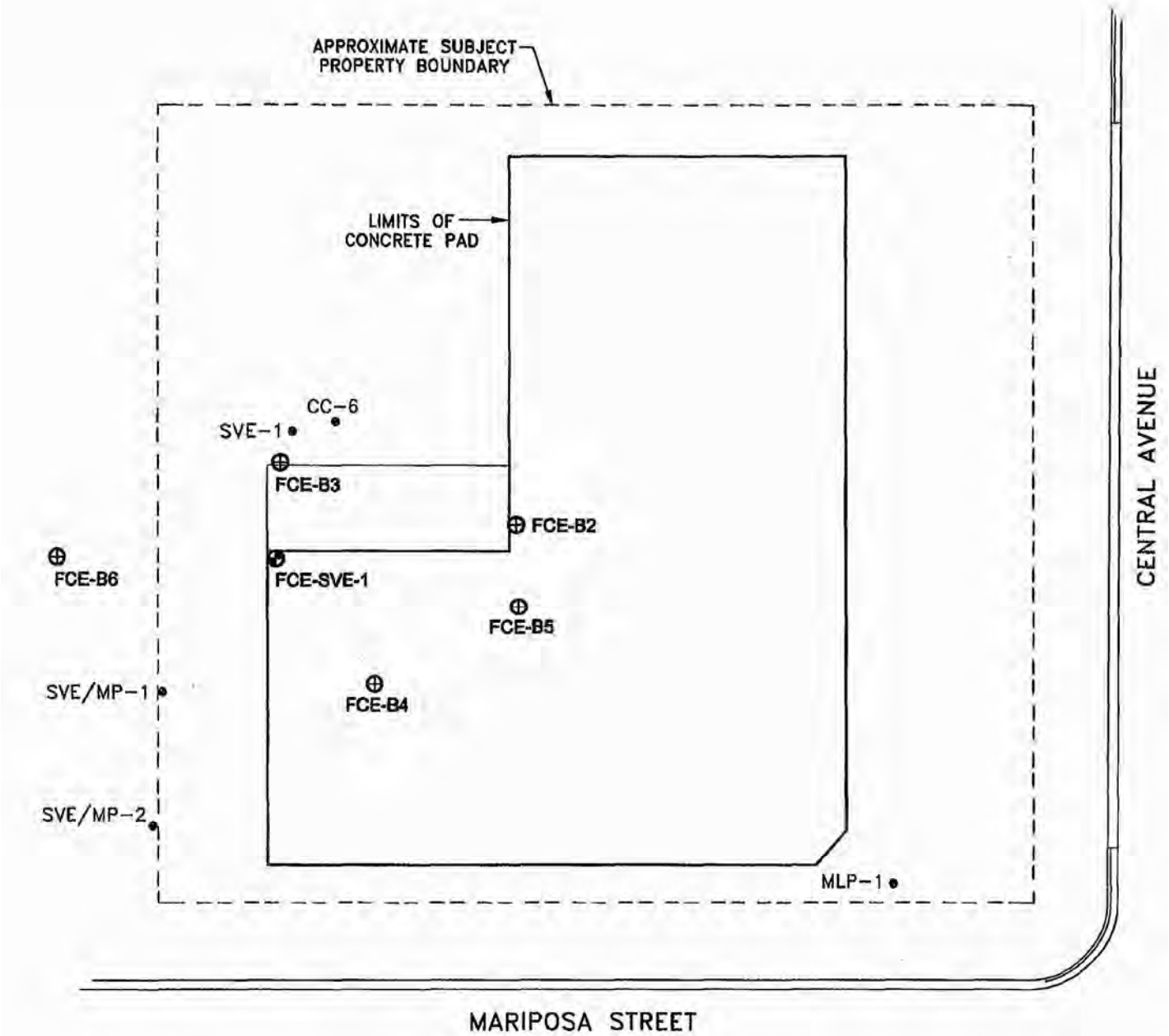
H:\2010032 ADEQ Central and Camelback\RI - GWM 2010032.01_.50_.60_.70\GWM Rpts\2014.Jan-June.SemiAnnual.Rpt\Tables\Table 5.xls: Figure 13 PCE NORTH



HYDRO GEO CHEM, INC.

SOIL, SOIL-VAPOR AND PASSIVE SOIL-GAS SAMPLING LOCATIONS, SOUTHWEST CORNER SOURCE AREA CENTRAL AND CAMELBACK WQARF SITE

Approved	Date	Author	Date	File Name	Figure
SPS	3/11/14	JAA	3/11/14	2010032082A	18



LEGEND

- FCE SOIL BORING CONVERTED TO MONITORING WELL
- FCE ⊕ – SOIL BORING LOCATION
- MLP • – MONITORING WELL
- SVE • – SOIL VAPOR EXTRACTION WELL
- SVE/MP-2 • – SOIL VAPOR EXTRACTION/MONITORING POINT
- CC • – NESTED MONITORING WELL

N

0 FEET 30
SCALE

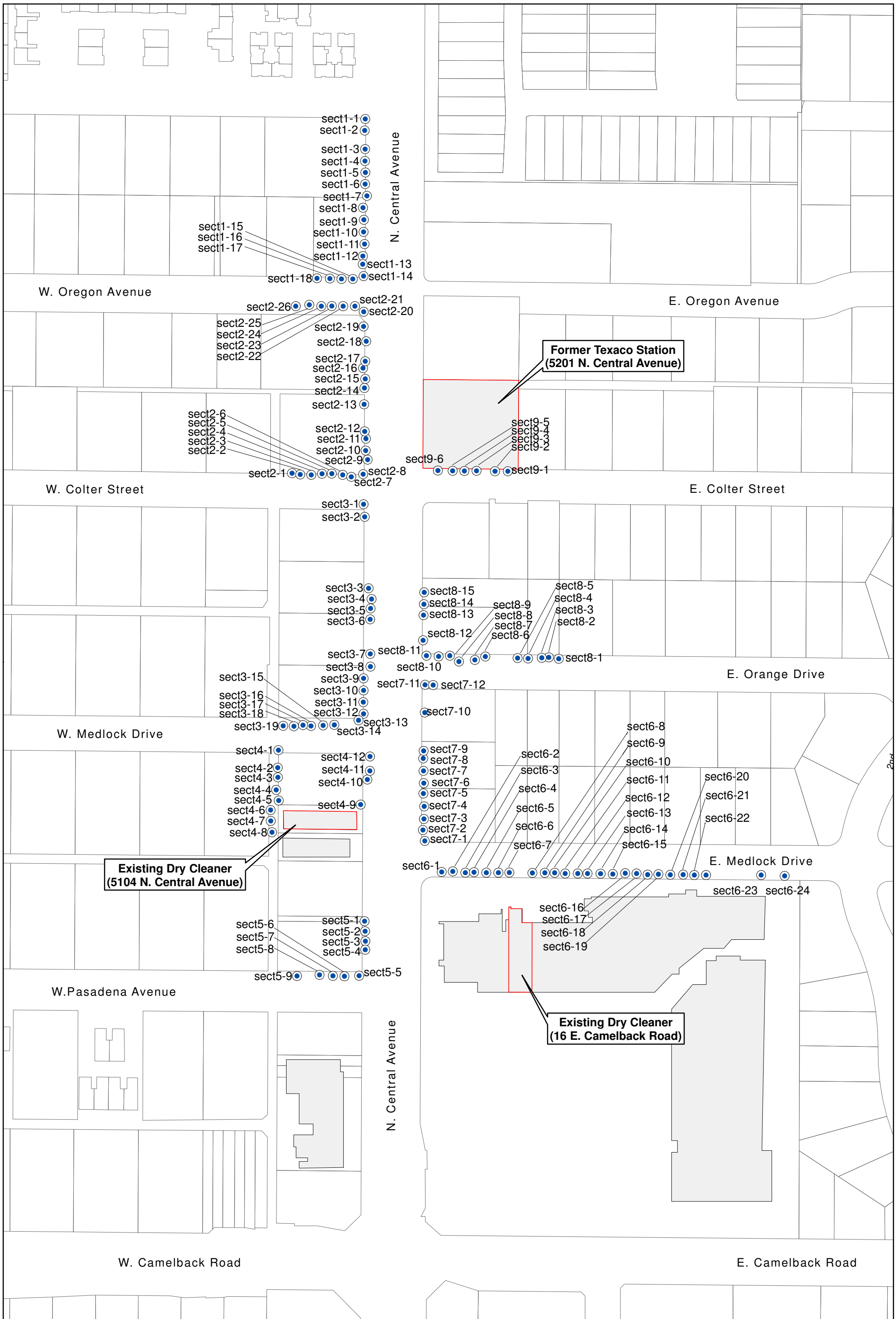
SOURCES: FCE FIELD NOTES, 2007

Source: Four Corners Environmental, Inc. Figure Entitled "Soil Boring Location Map" Dated April 2007

HYDRO GEO CHEM, INC.

SOIL BORING LOCATION MAP
FORMER MARONEY'S FACILITY
CENTRAL AND CAMELBACK WQARF SITE

Approved	Date	Author	Date	File Name	Figure
SPS	3/18/14	JAA	3/18/14	2010032090A	19



Explanation

Sect 3-3 Passive Soil Gas Sample Location and Sample Name

150 0 300 Feet

NORTH

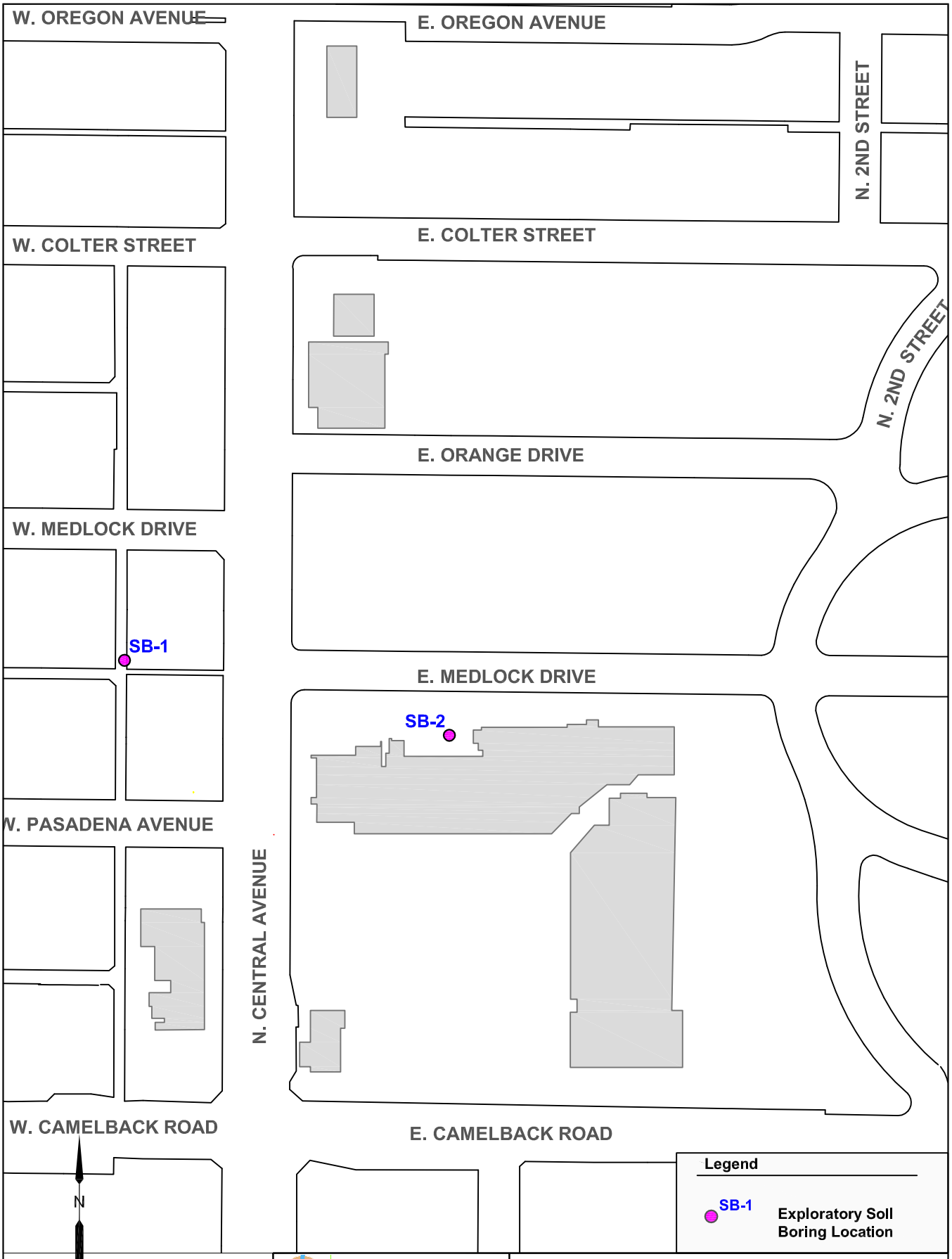
HYDRO GEO CHEM, INC.

PASSIVE SOIL GAS SAMPLE LOCATIONS
CENTRAL AND CAMELBACK WQARF SITE

Approved	Date	Author	Date	File	Figure
SPS	03/18/14	TGC	03/18/14	2010032010G.mxd	20

K:\2010032 CentralCamelback\2010032010G

Coordinate System: NAD_1983_HARN_StatePlane_Arizona_Central_FIPS_0202_Feet_Intl



0 100 200

APPROXIMATE SCALE IN FEET

HYDRO GEO CHEM, INC.

EXPLORATORY SOIL BORING LOCATIONS
NORTH AREA
CENTRAL & CAMELBACK WQARF SITE

Approved	Date	Author	Revised	File Name	Figure
SPS	3/11/14	JAA	3/11/14	2010032080A	21

Wells 55 ID #803822
Owner: David Cheshire
Use: Irrigation

Wells 55 ID #608425
Owner: SRP 13.5E - 9.4N
Use: Irrigation

Wells 55 ID #595079
Owner: Robert Walker
Use: Stock

Wells 55 ID #640379
Owner: G. Marshall
Use: Domestic

Wells 55 ID #220153
Owner: Brophy College Prep.
Use: Irrigation

Wells 55 ID #800731
Owner: Brophy College Prep.
Use: Abandoned

W. Missouri Avenue
E. Missouri Avenue
W. Georgia Avenue
W. Oregon Avenue
E. Oregon Avenue
W. Colter Street
E. Colter Street
E. Orange Drive
W. Medlock Drive
E. Medlock Drive
W. Pasadena Avenue
E. Pasadena Avenue
W. Camelback Road
E. Camelback Road
W. Mariposa Street
E. Mariposa Street
W. Pierson Street
E. Pierson Street
W. Elm Street
W. Highland Avenue
N. Central Avenue
N. Second Street
N. 3rd Avenue
N. 3rd Street

Supply Well
WQARF Site Boundary
Commercial Properties
Residential Properties

200 0 400 Feet

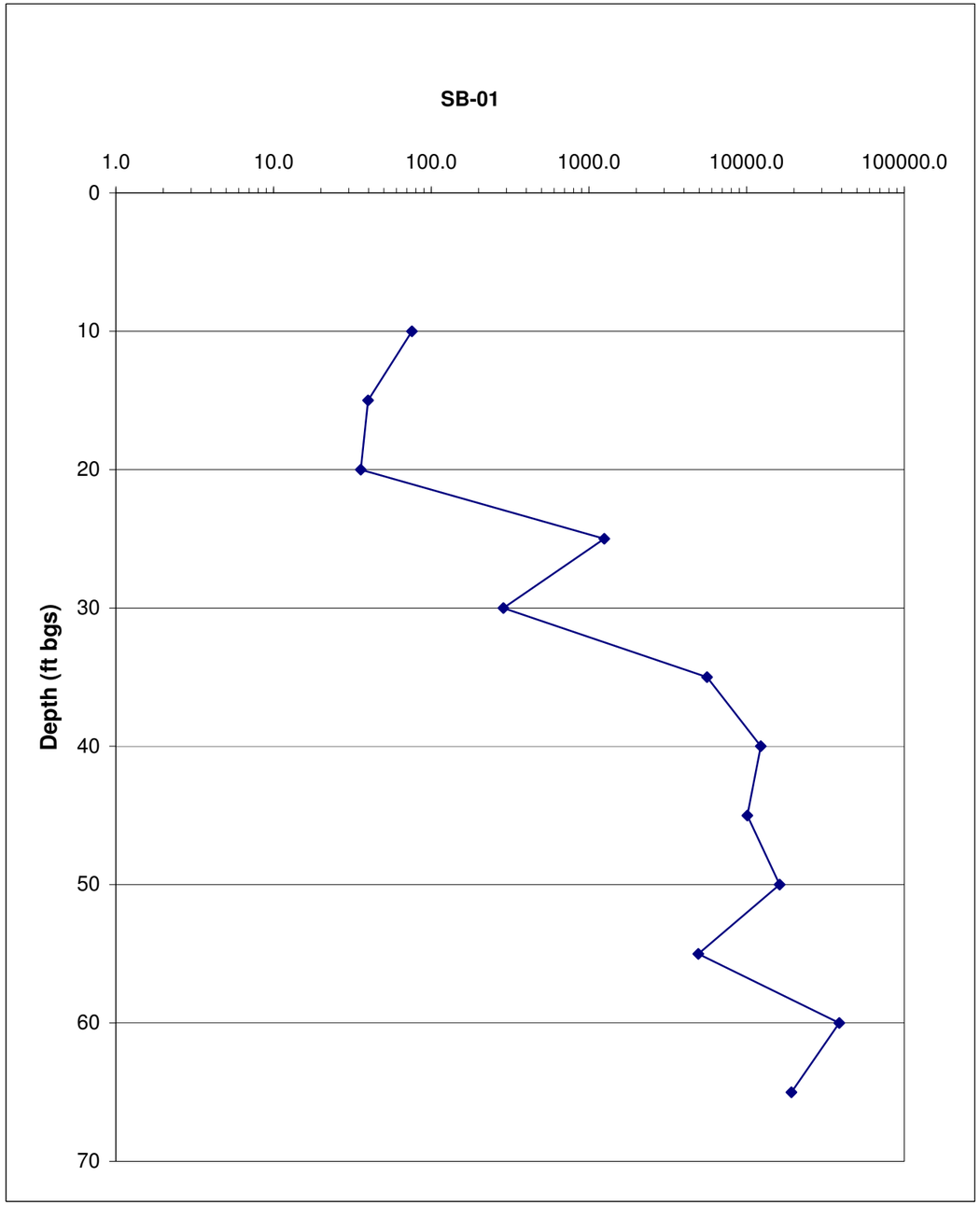
N

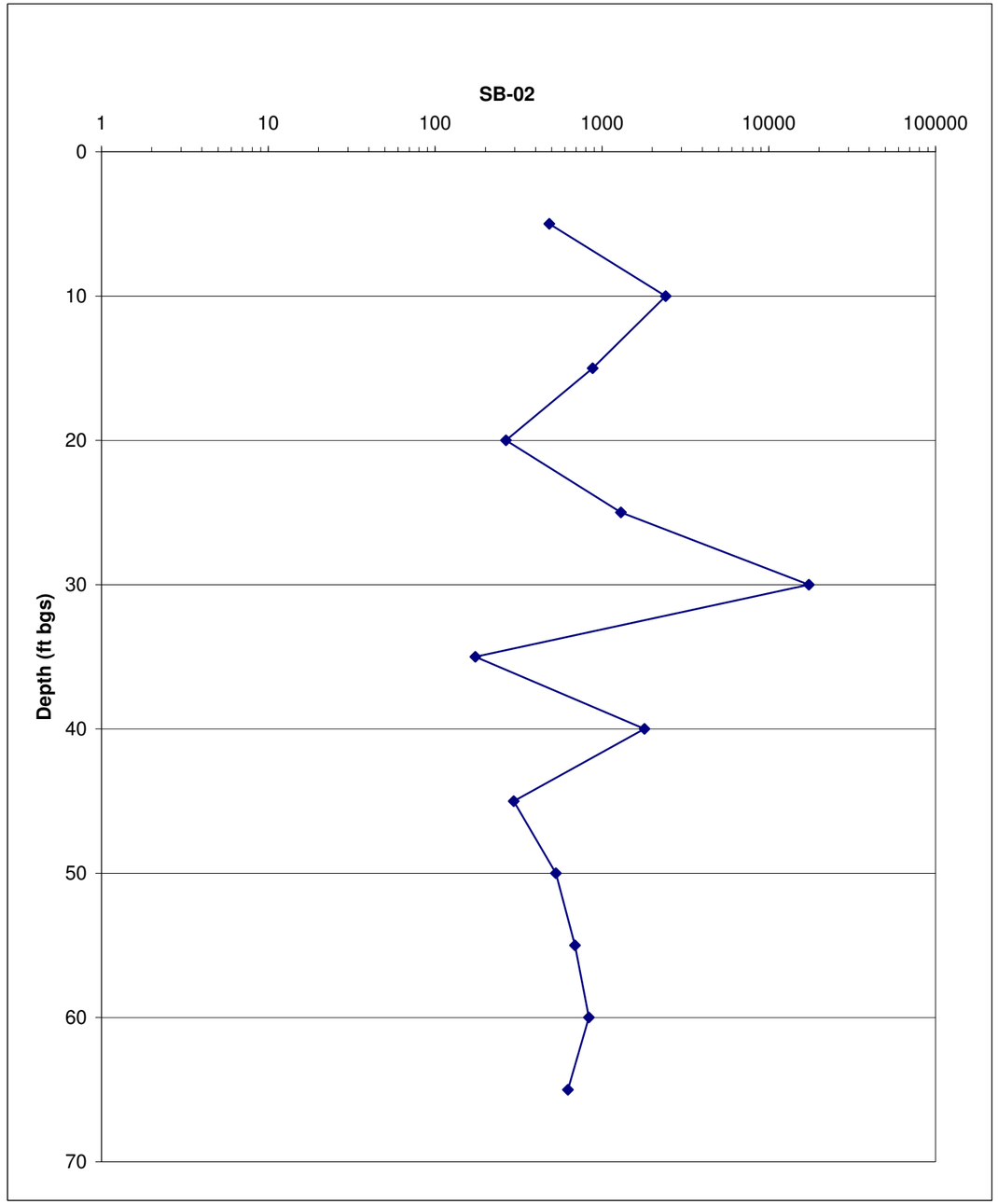
Spatial Reference: NAD_1983_HARN_StatePlane_Arizona_Central_FIPS_0202_Feet_Intl

HYDRO GEO CHEM, INC.

LAND USE AND SUPPLY WELL LOCATIONS
CENTRAL AND CAMELBACK WQARF SITE

Approved	Date	File	Figure
SPS	03/19/14	2010032012G.mxd	22





HYDRO GEO CHEM, INC.

SB-1 AND SB-2
PCE SOIL VAPOR CONCENTRATIONS (µg/m^3)

Approved	Date	Author	Date	File Name	Figure
MJB	5/27/14	MJB	5/27/14	Figure 23	23

APPENDIX A

LITHOLOGIC BORING LOGS

LOG OF BORING EW-1

Arizona Department of Environmental Quality
Southwest Corner Source Area
Early Response Action
Central & Camelback WQARF Site

Project Number	: 20084-001-002	Field Geologist	: T. Mehall
Project Location	: SCSA	Total Depth	: 120.00'
Boring Number	: EW-1	Initial GW Depth	: NA
Rig Type	: STAR 30K	Static GW Depth	: NA
Drilling Method	: Air Rotary Casing Hammer	Completion Date	: 11-29-01

Depth in feet	TIME	Samples	Lab No.	GRAPHIC	USCS	DESCRIPTION
0					SC	CLAYEY SAND (SC); reddish brown; 30% clayey fines with medium plasticity; 65% fine to medium sand; 5% gravel; slightly moist; no odor.
5						
10					SM	SILTY SAND (SM); light brown; 30% silty fines; 70% fine to medium sand; trace gravel; slightly moist; no odor.
15						SILTY SAND (SM); light brown; 40% silty fines; 60% fine to medium sand; trace gravel; slightly moist; no odor.
20						No significant change.
25					CH	FAT CLAY WITH SAND (CH); reddish brown; 75% clayey fines with high plasticity; 25% fine sand; moist; no odor; high plasticity.
30					SC	CLAYEY SAND (SC/ML); light brown; 35% clayey fines with low to medium plasticity; 65% fine to medium sand; no odor (sample wet from added water).

LOG OF BORING EW-1

Arizona Department of Environmental Quality
Southwest Corner Source Area
Early Response Action
Central & Camelback WQARF Site

Project Number	: 20084-001-002	Field Geologist	: T. Mehall
Project Location	: SCSA	Total Depth	: 120.00'
Boring Number	: EW-1	Initial GW Depth	: NA
Rig Type	: STAR 30K	Static GW Depth	: NA
Drilling Method	: Air Rotary Casing Hammer	Completion Date	: 11-29-01

Depth in feet	TIME	Samples	Lab No.	GRAPHIC	USCS	DESCRIPTION
30						No significant change.
35						Note: Configuration of rig on site prevented safe collection of cuttings for close examination. Cuttings for remainder of borehole were viewed from a distance and no significant changes were identified. Refer to log of CC-5 for better description of lithology in this location.
40						
45					SC	
50						
55						
60						

LOG OF BORING EW-1

Arizona Department of Environmental Quality
Southwest Corner Source Area
Early Response Action
Central & Camelback WQARF Site

Project Number	: 20084-001-002	Field Geologist	: T. Mehall
Project Location	: SCSA	Total Depth	: 120.00'
Boring Number	: EW-1	Initial GW Depth	: NA
Rig Type	: STAR 30K	Static GW Depth	: NA
Drilling Method	: Air Rotary Casing Hammer	Completion Date	: 11-29-01

Depth in feet	TIME	Samples	Lab No.	GRAPHIC	USCS	DESCRIPTION
60						No significant change.
65						
70						
75					SC	
80						
85						
90						

LOG OF BORING EW-1

Arizona Department of Environmental Quality
Southwest Corner Source Area
Early Response Action
Central & Camelback WQARF Site

Project Number	: 20084-001-002	Field Geologist	: T. Mehall
Project Location	: SCSA	Total Depth	: 120.00'
Boring Number	: EW-1	Initial GW Depth	: NA
Rig Type	: STAR 30K	Static GW Depth	: NA
Drilling Method	: Air Rotary Casing Hammer	Completion Date	: 11-29-01

Depth in feet	TIME	Samples	Lab No.	GRAPHIC	USCS	DESCRIPTION
90						No significant change.
95						
100						
105					SC	
110						
115						
120						Total Depth = 120 feet

LOG OF BORING EW-2

Arizona Department of Environmental Quality
Southwest Corner Source Area
Early Response Action
Central & Camelback WQARF Site

Project Number	: 20084-001-002	Field Geologist	: T. Mehall
Project Location	: SCSA	Total Depth	: 121.00'
Boring Number	: EW-2	Initial GW Depth	: NA
Rig Type	: STAR 30K	Static GW Depth	: NA
Drilling Method	: Air Rotary Casing Hammer	Completion Date	: 11-29-01

Depth in feet	TIME	Samples	Lab No.	GRAPHIC	USCS	DESCRIPTION
0					ML	SANDY SILT (ML); dark brown; 65% silty fines; 35% fine to medium sand; slightly moist; no odor; moderate reaction to HCl. Note: coarse gravel in cuttings at 8' bgs.
5						
10					SC	CLAYEY SAND (SC); brown; 30% clayey fines; 70% fine to medium sand with trace gravel; slightly moist; no odor; moderate reaction to HCl.
15					ML	SANDY SILT (ML); brown; 80% silty fines; 20% fine sand; slightly moist; no odor; moderate reaction to HCl.
20						SANDY SILT (ML); brown; 65% silty fines; 35% fine sand; slightly moist; no odor; moderate reaction to HCl.
25						SANDY SILT (ML); brown; 50% silty fines; 50% fine sand; slightly moist; no odor; moderate reaction to HCl. Drillers comments: 28' bgs; hard layer; possibly caliche.
					SM	
30						

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LOG OF BORING EW-2

Arizona Department of Environmental Quality
Southwest Corner Source Area
Early Response Action
Central & Camelback WQARF Site

Project Number	: 20084-001-002	Field Geologist	: T. Mehall
Project Location	: SCSA	Total Depth	: 121.00'
Boring Number	: EW-2	Initial GW Depth	: NA
Rig Type	: STAR 30K	Static GW Depth	: NA
Drilling Method	: Air Rotary Casing Hammer	Completion Date	: 11-29-01

Depth in feet	TIME	Samples	Lab No.	GRAPHIC	USCS	DESCRIPTION
30					SM	SILTY SAND (SM); brown; 30% silty fines; 70% fine to medium sand; slightly moist; no odor; moderate reaction to HCl.
35					GC/CL	CLAYEY GRAVEL WITH SAND (GC/CL); brown; 50% clayey fines; 20% fine sand; 30% fine gravel; moist; no odor; no reaction to HCl.
40					ML	SILT WITH SAND (ML); light brown; 80% fines; 20% fine sand; wet; no odor; no reaction to HCl.
45						Trace gravel at 45' bgs.
50						No significant change.
55						No significant change.
60						

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LOG OF BORING EW-2

Arizona Department of Environmental Quality
Southwest Corner Source Area
Early Response Action
Central & Camelback WQARF Site

Project Number	: 20084-001-002	Field Geologist	: T. Mehall
Project Location	: SCSA	Total Depth	: 121.00'
Boring Number	: EW-2	Initial GW Depth	: NA
Rig Type	: STAR 30K	Static GW Depth	: NA
Drilling Method	: Air Rotary Casing Hammer	Completion Date	: 11-29-01

Depth in feet	TIME	Samples	Lab No.	GRAPHIC	USCS	DESCRIPTION
60						SANDY SILT (ML); light brown; 70% silty fines; 30% fine sand; wet; no odor; no reaction to HCl.
65						No significant change.
70					ML	No significant change; trace gravel.
75						No significant change; trace gravel.
80						No significant change; trace gravel.
85					SC/CL	SANDY CLAY (SC/CL); light brown; 50% clayey fines with medium plasticity; 50% fine to medium sand with trace gravel; wet; no odor.
90					SM	

LOG OF BORING EW-2

Arizona Department of Environmental Quality
Southwest Corner Source Area
Early Response Action
Central & Camelback WQARF Site

Project Number	: 20084-001-002	Field Geologist	: T. Mehall
Project Location	: SCSA	Total Depth	: 121.00'
Boring Number	: EW-2	Initial GW Depth	: NA
Rig Type	: STAR 30K	Static GW Depth	: NA
Drilling Method	: Air Rotary Casing Hammer	Completion Date	: 11-29-01

Depth in feet	TIME	Samples	Lab No.	GRAPHIC	USCS	DESCRIPTION
90						SILTY SAND (SM); light brown; 40% silty fines; 60% fine to medium sand with trace gravel; wet; no odor.
95						No significant change.
100						No significant change.
105					SM	No significant change.
110						No significant change.
115						No significant change.
120						Total Depth = 121 feet bgs

LOG OF BORING EW-3

Arizona Department of Environmental Quality
Southwest Corner Source Area
Early Response Action
Central & Camelback WQARF Site

Project Number	: 20084-001-002	Field Geologist	: T. Mehall
Project Location	: SCSA	Total Depth	: 120.00'
Boring Number	: EW-3	Initial GW Depth	: NA
Rig Type	: STAR 30K	Static GW Depth	: NA
Drilling Method	: Air Rotary Casing Hammer	Completion Date	: 12-01-01

Depth in feet	TIME	Samples	Lab No.	GRAPHIC	USCS	DESCRIPTION
0					SC	CLAYEY SAND (SC); reddish brown; 40% clayey fines; 60% fine to medium sand; moist; no odor.
5					SM	SILTY SAND WITH GRAVEL (SM); light brown; 15% silty fines; 70% fine to coarse sand; 15% gravel; moist; no odor.
10					SC	CLAYEY SAND (SC); light brown; 40% clayey fines with medium plasticity; 60% fine to medium sand; moist; no odor.
15						No significant change; increase moisture and trace caliche.
20						No significant change; increase moisture and no caliche.
25					SM	
30						

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LOG OF BORING EW-3

Arizona Department of Environmental Quality
Southwest Corner Source Area
Early Response Action
Central & Camelback WQARF Site

Project Number	: 20084-001-002	Field Geologist	: T. Mehall
Project Location	: SCSA	Total Depth	: 120.00'
Boring Number	: EW-3	Initial GW Depth	: NA
Rig Type	: STAR 30K	Static GW Depth	: NA
Drilling Method	: Air Rotary Casing Hammer	Completion Date	: 12-01-01

Depth in feet	TIME	Samples	Lab No.	GRAPHIC	USCS	DESCRIPTION
30					SM	SILTY SAND (SM); brown; 25% silty fines; 75% fine to medium sand; moist; no odor.
35						No significant change; light brown.
40					CH	SANDY FAT CLAY (CH); brown; 70% clayey fines with medium plasticity; 30% fine sand; moist; no odor.
45						No significant change.
50						No significant change.
55						No significant change.
60						

LOG OF BORING EW-3

Arizona Department of Environmental Quality
Southwest Corner Source Area
Early Response Action
Central & Camelback WQARF Site

Project Number	: 20084-001-002	Field Geologist	: T. Mehall
Project Location	: SCSA	Total Depth	: 120.00'
Boring Number	: EW-3	Initial GW Depth	: NA
Rig Type	: STAR 30K	Static GW Depth	: NA
Drilling Method	: Air Rotary Casing Hammer	Completion Date	: 12-01-01

Depth in feet	TIME	Samples	Lab No.	GRAPHIC	USCS	DESCRIPTION
60					CH	SANDY FAT CLAY (CH); brown; 70% clayey fines with high plasticity; 30% medium sand; wet; no odor; high plasticity.
65					SC	CLAYEY SAND (SC); light brown; 40% clayey fines with low plasticity; 60% fine to medium sand; trace gravel; wet; no odor.
70						No significant change.
75					SM	SILTY SAND (SM); light brown; 30% silty fines; 70% predominantly fine to medium sand; wet; no odor.
80					ML	SILT WITH SAND (ML); light brown; 75% silty fines; 25% fine sand; wet; no odor.
85						No significant change.
90						

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LOG OF BORING EW-3

Arizona Department of Environmental Quality
Southwest Corner Source Area
Early Response Action
Central & Camelback WQARF Site

Project Number	: 20084-001-002	Field Geologist	: T. Mehall
Project Location	: SCSA	Total Depth	: 120.00'
Boring Number	: EW-3	Initial GW Depth	: NA
Rig Type	: STAR 30K	Static GW Depth	: NA
Drilling Method	: Air Rotary Casing Hammer	Completion Date	: 12-01-01

Depth in feet	TIME	Samples	Lab No.	GRAPHIC	USCS	DESCRIPTION
90						SILT WITH SAND (ML); light brown; 75% silty fines; 25% fine sand; wet; no odor.
95						No significant change.
100						No significant change.
105					ML	No significant change.
110						No significant change.
115						No significant change.
120						Total Depth = 120 feet

LOG OF BORING EW-4

Arizona Department of Environmental Quality
Southwest Corner Source Area
Early Response Action
Central & Camelback WQARF Site

Project Number	: 20084-001-002	Field Geologist	: T. Mehall
Project Location	: SCSA	Total Depth	: 120.00'
Boring Number	: EW-4	Initial GW Depth	: NA
Rig Type	: T70W	Static GW Depth	: NA
Drilling Method	: Air Rotary Casing Hammer	Completion Date	: 10-13-01

Depth in feet	TIME	Samples	Lab No.	GRAPHIC	USCS	DESCRIPTION
0						
5						CLAYEY SAND (SC); light brown; 35% clayey fines; 65% fine to medium sand; slightly moist; strong reaction to HCl.
10						CLAYEY SAND WITH GRAVEL (SC); light brown; 25% clayey fines; 60% fine to coarse sand; 15% fine gravel; slightly moist; strong reaction to HCl.
					SC	
15						CLAYEY SAND (SC); dark brown; 20% clayey fines with medium plasticity; 80% fine to medium sand; moist; strong reaction to HCl.
20						No significant change; increased moisture.
25						No significant change; increased moisture.
					SM	SILTY SAND (SM); brown; 30% silty fines; 70% fine to medium sand; moist; strong reaction to HCl.
30						

LOG OF BORING EW-4

Arizona Department of Environmental Quality
Southwest Corner Source Area
Early Response Action
Central & Camelback WQARF Site

Project Number	: 20084-001-002	Field Geologist	: T. Mehall
Project Location	: SCSA	Total Depth	: 120.00'
Boring Number	: EW-4	Initial GW Depth	: NA
Rig Type	: T70W	Static GW Depth	: NA
Drilling Method	: Air Rotary Casing Hammer	Completion Date	: 10-13-01

Depth in feet	TIME	Samples	Lab No.	GRAPHIC	USCS	DESCRIPTION
30						
35					SM	SILTY SAND (SM); brown; 50% silty fines; 50% fine to medium sand with trace gravel; moist; strong reaction to HCl.
40						SILTY SAND (SM); dark brown; 50% silty fines; 50% fine to medium sand; moist; moderate reaction to HCl.
45					ML	SILT WITH SAND (ML); dark brown; 80% silty fines with no plasticity; 20% fine sand; wet; no reaction to HCl.
50						
55						Trace coarse sand.
					SM	
60						

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LOG OF BORING EW-4

Arizona Department of Environmental Quality
Southwest Corner Source Area
Early Response Action
Central & Camelback WQARF Site

Project Number	: 20084-001-002	Field Geologist	: T. Mehall
Project Location	: SCSA	Total Depth	: 120.00'
Boring Number	: EW-4	Initial GW Depth	: NA
Rig Type	: T70W	Static GW Depth	: NA
Drilling Method	: Air Rotary Casing Hammer	Completion Date	: 10-13-01

Depth in feet	TIME	Samples	Lab No.	GRAPHIC	USCS	DESCRIPTION
60					SM	SILTY SAND (SM); dark brown; 15% silty non-plastic fines; 85% fine to medium sand with trace coarse sand; wet; no plasticity; weak reaction to HCl.
65					ML	SANDY SILT (ML); light brown; 60% silty fines; 40% fine to medium sand; with trace gravel; wet; no reaction to HCl.
70						Increased medium sand and clay; low plasticity; trace fine gravel; approaching SC.
75						Increased fines; decreased medium sand and clay; no plasticity; no gravel.
80						No significant change.
85						No significant change.
90						

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LOG OF BORING EW-4

Arizona Department of Environmental Quality
Southwest Corner Source Area
Early Response Action
Central & Camelback WQARF Site

Project Number	: 20084-001-002	Field Geologist	: T. Mehall
Project Location	: SCSA	Total Depth	: 120.00'
Boring Number	: EW-4	Initial GW Depth	: NA
Rig Type	: T70W	Static GW Depth	: NA
Drilling Method	: Air Rotary Casing Hammer	Completion Date	: 10-13-01

Depth in feet	TIME	Samples	Lab No.	GRAPHIC	USCS	DESCRIPTION
90						No significant change.
95					ML	No significant change; increased fine sand.
100						No significant change; trace caliche.
105						No significant change.
110					CL	SANDY LEAN CLAY (CL); light brown; 65% clayey to silty fines with medium plasticity; 35% fine to medium sand; wet; no reaction to HCl.
115					ML	SILT WITH SAND (ML); light brown; 80% silty fines; 20% fine sand; wet; no reaction to HCl.
120					SC	CLAYEY SAND (SC); light brown; 45% clayey fines; 55% fine to medium sand; wet. Total Depth = 120 feet

LOG OF BORING CC-1

Arizona Department of Environmental Quality
Southwest Corner Source Area
Early Response Action

Project Number	: 20084-001-002	Field Geologist	: F. Van Alstine
Project Location	: SCSA	Total Depth	: 302.00'
Boring Number	: CC-1	Initial GW Depth	: NA
Rig Type	:	Static GW Depth	: NA
Drilling Method	: Rotasonic	Completion Date	: January 22, 2001

Depth in feet	Lab No.	GRAPHIC	USCS	DESCRIPTION
0			SM	SILTY SAND (SM), strong brown, (15% gravel, 50% sand, 35% silty fines), medium to coarse sand, moist, soft, no odor, moderate reaction to 10% HCL.
5			ML	SANDY SILT (ML), strong brown, (45% sand, 55% silty to clayey fines), medium to fine sand, damp, no odor, moderate reaction to 10% HCL. SILT with sand (ML), light brown, (80% silty to clayey fines, 20% sand), fine sand, slightly moist, no odor, stiff, moderate reaction to 10% HCL. SILT with sand (ML), with trace gravel, brown, (45% sand, 55% silty to clayey fines), fine to medium sand, no odor, some cementitious layering, soft, strong reaction to 10% HCL. Increased clay content and moisture. SILT with sand (ML), brown, (80% silty to clayey fines, 20% fine sand), damp, no odor, strong reaction to 10% HCL.
10			ML	SILT with sand (ML), whitish brown, (90% silty fines, 10% fine sand), slightly damp, cemented layers, no odor, strong reaction to 10% HCL. SANDY SILT (ML), brown, (65% silty fines, 35% sand), fine-grained with trace medium sand, damp, no odor, soft, weak reaction to 10% HCL.
15			ML	SILT with sand (ML), brown, (85% silt, 15% fine sand), damp, no odor, stiff, no reaction to 10% HCL. SANDY SILT (ML), brown, (65% silty fines, 35% fine sand), damp, no odor, soft, strong reaction to 10% HCL. SILT with sand (ML), strong brown, (80% silty to clayey fines, 20% fine sand), damp, no odor, soft, moderate reaction to 10% HCL.
20			CL	LEAN CLAY (CL), strong brown, (100% clayey fines), damp, no odor, soft, strong reaction to 10% HCL.
25			SM	

REVIEWED BY
Field Geologist
Project Manager
Registered Geologist

Note: Well was logged from cuttings

LOG OF BORING CC-1

Arizona Department of Environmental Quality
Southwest Corner Source Area
Early Response Action

Project Number	: 20084-001-002	Field Geologist	: F. Van Alstine
Project Location	: SCSA	Total Depth	: 302.00'
Boring Number	: CC-1	Initial GW Depth	: NA
Rig Type	:	Static GW Depth	: NA
Drilling Method	: Rotasonic	Completion Date	: January 22, 2001

Depth in feet		Lab No.	GRAPHIC	USCS	DESCRIPTION
25				SM	SILTY SAND (SM), light brown, (40% silty fines, 60% fine sand), slightly damp, no odor, soft, strong reaction to 10% HCL.
					SILTY SAND with gravel (SM), whitish brown, (30% gravel, 40% medium to coarse sand, 30% silt), slightly damp, no odor, loose, strong reaction to 10% HCL.
				ML	SILT with sand (ML), light brown, (65% silty fines, 35% fine to medium sand), slightly damp, no odor, loose, strong reaction to 10% HCL.
30					CLAYEY SILT with sand (ML), light brown, (80% silty fines, 20% fine sand), damp, some cemented nodules, no odor, stiff, strong reaction to 10% HCL.
					Caliche, strongly cemented (ML), whitish brown, slightly damp, trace sand, no odor, hard, strong reaction to 10% HCL.
					SILT with sand (ML), trace sand, light brown, (85% silty to clayey fines, 15% fine sand), damp, no odor, strong reaction to 10% HCL.
35					SILT with trace fine sand (ML), (90% silty sand, 10% sand), moist no odor, stiff, no reaction to 10% HCL.
					SILT with sand (ML), light brown, (75% silty fines, 25% very fine sand), damp, no odor, soft, no reaction to 10% HCL.
40				SM/ML	SILTY SAND (SM/ML), light brown, (50% very fine sand, 50% silty fines), moist, no odor, soft, no reaction to 10% HCL.
				SM/CL	CLAYEY SAND (SM/CL), light brown, (50% very fine sand, 50% clayey to silty fines), moist, no odor, soft, no reaction to 10% HCL.
				SM	SILTY SAND (SM), brown, (60% very fine sand, 40% silt), moist to wet, no odor, no reaction to 10% HCL.
45				ML	SILT (ML), light brown, wet, no odor, soft, no reaction to 10% HCL.
	1430	SS-001-045			10% SAND 63% SILT ML 28% CLAY
					SANDY SILT (ML), light brown, (70% silt, 30% very fine sand), wet, no odor, hard, no reaction to 10% HCL.
50					

REVIEWED BY
Field Geologist
Project Manager
Registered Geologist

Note: Well was logged from cuttings

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LOG OF BORING CC-1

Arizona Department of Environmental Quality
Southwest Corner Source Area
Early Response Action

Project Number	: 20084-001-002	Field Geologist	: F. Van Alstine
Project Location	: SCSA	Total Depth	: 302.00'
Boring Number	: CC-1	Initial GW Depth	: NA
Rig Type	:	Static GW Depth	: NA
Drilling Method	: Rotasonic	Completion Date	: January 22, 2001

Depth in feet	Lab No.	GRAPHIC	USCS	DESCRIPTION
50			ML	
	HP-001-053		SM	SILTY SAND (SM), light brown, (60% very fine sand, 40% silty fines), damp, crusted layers, no odor, hard, no reaction to 10% HCL.
55				SANDY SILT (SM), light brown, (70% silt, 30% fine to medium sand), damp, trace fine gravel, some clay nodules, no reaction to 10% HCL.
				Cemented layer, whitish brown cemented sand and gravel, (40% fine to coarse sand, 35% rounded fine gravel, 25% fines), strong reaction to 10% HCL.
60	HP-001-060		GC	CLAYEY gravel with sand (GC), light brown, (35% medium to coarse sand, 45% fine to medium gravel, 20% clayey fines), no odor, moderate reaction to 10% HCL.
			SM	SILTY SAND (SM) with clay, light brown, (60% fine to medium sand, 40% silty fines), trace fine gravel, damp, no odor, moderate reaction to 10% HCL.
65			SC/GC	CLAYEY SAND and GRAVEL (SC/GC), (40% medium to coarse sand, 40% fine to medium rounded gravel, 20% clayey fines), damp, no odor, moderate reaction to 10% HCL.
	SS-001-067		SC	CLAYEY SAND (SC), light brown, (60% very fine sand, 40% clay), damp, no odor.
70				18% SAND 33% SILT CL 41% CLAY
			CL	LEAN CLAY (CL), light brown, (90% clayey fines, 5% very fine sand), damp, no odor, stiff, no reaction to 10% HCL.
75				

REVIEWED BY
Field Geologist
Project Manager
Registered Geologist

Note: Well was logged from cuttings

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LOG OF BORING CC-1

Arizona Department of Environmental Quality
Southwest Corner Source Area
Early Response Action

Project Number	: 20084-001-002	Field Geologist	: F. Van Alstine
Project Location	: SCSA	Total Depth	: 302.00'
Boring Number	: CC-1	Initial GW Depth	: NA
Rig Type	:	Static GW Depth	: NA
Drilling Method	: Rotasonic	Completion Date	: January 22, 2001

Depth in feet	Lab No.	GRAPHIC	USCS	DESCRIPTION
75				
	HP-001-078		CL	LEAN CLAY (CL), brown, (100% clayey fines), damp, no odor, medium plasticity, very stiff, moderate reaction to 10% HCL.
80				Increased silt, very fine sand.
85				
			SC	CLAYEY SAND (SC), brown, (65% fine to coarse sand, 35% clayey fines), wet, no odor, no reaction to 10% HCL.
90				CLAYEY SAND (SC), brown, (60% fine to medium sand, 40% clayey fines), wet, no odor, stiff, no reaction to 10% HCL.
			ML	SILT (ML), some sand, whitish brown, (90% silty fines, 10% fine to medium sand), no odor, stiff, moderate reaction to 10% HCL.
	HP-001-094		SC	CLAYEY SAND (SC), and Gravel, brown, (40% fine to coarse sand, 30% fine to coarse gravel, 30% clayey fines), wet, soft, no reaction to 10% HCL.
95			CL	LEAN CLAY (CL), with trace fine sand, whitish brown, (95% clayey fines, 5% fine sand), damp, no odor, cemented nodules, strong reaction to 10% HCL.
	SS-001-099			18 % SAND 60 % SILT ML 23 % CLAY
100				

REVIEWED BY
Field Geologist
Project Manager
Registered Geologist

Note: Well was logged from cuttings

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LOG OF BORING CC-1

Arizona Department of Environmental Quality
Southwest Corner Source Area
Early Response Action

Project Number	: 20084-001-002	Field Geologist	: F. Van Alstine
Project Location	: SCSA	Total Depth	: 302.00'
Boring Number	: CC-1	Initial GW Depth	: NA
Rig Type	:	Static GW Depth	: NA
Drilling Method	: Rotasonic	Completion Date	: January 22, 2001

Depth in feet	Lab No.	GRAPHIC	USCS	DESCRIPTION
100			SM/ML	SILTY SAND (SM/ML) with trace clay, brown, (50% fine to coarse sub-angular sand, 50% silty fines), moist, soft, no reaction to 10% HCL.
105			ML	SILT with sand (ML), whitish brown, (80% silty fines, 20% fine sand), moist, soft, moderate reaction to 10% HCL.
			CL	LEAN CLAY with sand (CL), light brown, (80% clayey fines, 20% very fine sand), damp, soft, no reaction to 10% HCL. 33% SAND 31% SILT ~CL 36% CLAY
110	HP-001-009 SS-001-009		ML	SILT with sand (ML), light brown, (80% silty fines, 20% very fine sand), damp, no odor, weak reaction to 10% HCL.
115				SILT with sand (ML), light brown, (80% silty fines, 20% very fine sand), damp, no odor, weak reaction to 10% HCL.
120				Cemented layering, strong reaction to 10% HCL, clay streaking, rust colored.
			CL	LEAN CLAY with sand (CL), light brown, rust streaking, (80% clayey fines, 20% sand), damp, no odor, soft, weak reaction to 10% HCL.
125			ML	

REVIEWED BY
Field Geologist
Project Manager
Registered Geologist

Note: Well was logged from cuttings

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LOG OF BORING CC-1

Arizona Department of Environmental Quality
Southwest Corner Source Area
Early Response Action

Project Number	: 20084-001-002	Field Geologist	: F. Van Alstine
Project Location	: SCSA	Total Depth	: 302.00'
Boring Number	: CC-1	Initial GW Depth	: NA
Rig Type	:	Static GW Depth	: NA
Drilling Method	: Rotasonic	Completion Date	: January 22, 2001

Depth in feet	Lab No.	GRAPHIC	USCS	DESCRIPTION
125			ML	SILT (ML), (95% silty fines, 5% very fine sand), damp, no odor, soft, no reaction to 10% HCL, cobble-sized cemented nodule, strong reaction to 10% HCL.
			CL	LEAN CLAY (CL), (95% clayey to silty fines, 5% very fine sand), damp, no odor, stiff, slight reaction to 10% HCL.
130			ML	SILT with some sand (ML), light brown, (90% clayey to silty fines, 10% very fine sand), no odor, soft, no reaction to 10% HCL.
135			CL	SILTY CLAY with some fine sand (CL), light brown, (90% clayey to silty fines, 10% very fine sand), no odor, stiff, no reaction to 10% HCL. SILTY CLAY with some fine sand (CL), light brown, (90% clayey to silty fines, 10% very fine sand), no odor, stiff, no reaction to 10% HCL. Gravel-sized cemented nodules, strong reaction to 10% HCL.
140	HP-001-139			SILTY CLAY with some fine sand (CL), light brown, (90% clayey to silty fines, 10% very fine sand), no odor, stiff, no reaction to 10% HCL. Gravel-sized cemented nodules, strong reaction to 10% HCL.
145				SILTY CLAY with some fine sand (CL), light brown, (90% clayey to silty fines, 10% very fine sand), no odor, stiff, no reaction to 10% HCL. Gravel-sized cemented nodules, strong reaction to 10% HCL.
			ML	SILT (ML), light brown, (100% silty fines), no odor, stiff, no reaction to 10% HCL, 6 inch cemented layer, strong reaction to 10% HCL.
			CL	LEAN CLAY (CL), light brown, (95% clayey fines, 5% sand), no odor, stiff, no reaction to 10% HCL.
150				

REVIEWED BY
Field Geologist
Project Manager
Registered Geologist

Note: Well was logged from cuttings

LOG OF BORING CC-1

Arizona Department of Environmental Quality
Southwest Corner Source Area
Early Response Action

Project Number	: 20084-001-002	Field Geologist	: F. Van Alstine
Project Location	: SCSA	Total Depth	: 302.00'
Boring Number	: CC-1	Initial GW Depth	: NA
Rig Type	:	Static GW Depth	: NA
Drilling Method	: Rotasonic	Completion Date	: January 22, 2001

Depth in feet	Lab No.	GRAPHIC	USCS	DESCRIPTION
150			CL	LEAN CLAY (CL), light brown, (100% clayey fines), no odor, soft, weak reaction to 10% HCL, 4 inch cemented zone, strong reaction to 10% HCL.
155			ML	CLAYEY SILT (ML), light brown, (60% silt, 40% clay), no odor, stiff, weak reaction to 10% HCL.
160			CL	LEAN CLAY (CL), whitish brown, (100% clayey fines), damp, no odor, high plasticity, stiff, moderate reaction to 10% HCL. LEAN CLAY (CL), light brown, (100% clayey fines), damp, no odor, high plasticity, stiff, weak reaction to 10% HCL. Cemented LEAN CLAY (CL), whitish brown, (60% clay, 40% silt), damp, no odor, hard, cobble-sized cemented nodules, strong reaction to 10% HCL. LEAN CLAY (CL), light brown, (100% clayey fines), damp, no odor, high plasticity, stiff, weak reaction to 10% HCL.
165				
170	HP-001-179		ML	SILT with trace sand (ML), light brown, (90% silty fines, 10% very fine sand), wet, no odor, soft, slight reaction to 10% HCL. 6 inch cemented layer, strong reaction to 10% HCL.
			SC	CLAYEY SAND (SC), orangish brown, (60% fine sand, 40% clayey fines), no odor, wet, soft, slight reaction to 10% HCL, 6 inch cemented layer, strong reaction to 10% HCL.
175			CL	LEAN CLAY (CL), light brown, (100% clayey fines), damp, stiff, no odor, high plasticity, weak reaction to 10% HCL.

REVIEWED BY
Field Geologist
Project Manager
Registered Geologist

Note: Well was logged from cuttings

LOG OF BORING CC-1

Arizona Department of Environmental Quality
Southwest Corner Source Area
Early Response Action

Project Number	: 20084-001-002	Field Geologist	: F. Van Alstine
Project Location	: SCSA	Total Depth	: 302.00'
Boring Number	: CC-1	Initial GW Depth	: NA
Rig Type	:	Static GW Depth	: NA
Drilling Method	: Rotasonic	Completion Date	: January 22, 2001

Depth in feet	Lab No.	GRAPHIC	USCS	DESCRIPTION
175			CL	LEAN CLAY (CL), pinkish brown, damp, no odor, high plastiicity, very stiff, strong reaction to 10% HCL.
180			ML	SILT with trace sand (ML), (90% silty fines, 10% very fine sand), damp, no odor, no reaction to 10% HCL, coarse sand sized cemented nodules.
185				
190			SC	CLAYEY SAND (SC), with some clay, brown, (85% fine to medium sand, 15% clay), fine to medium sand, wet, no odor, loose, slight reaction to 10% HCL, some cemented nodules.
195			CL	LEAN CLAY (CL), pinkish brown, trace silt, (100% clayey fines), damp, high plasticity, no odor, moderate reaction to 10% HCL, cemented layering.
200	HP-001-199		SP	

REVIEWED BY
Field Geologist
Project Manager
Registered Geologist

Note: Well was logged from cuttings

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LOG OF BORING CC-1

Arizona Department of Environmental Quality
Southwest Corner Source Area
Early Response Action

Project Number	: 20084-001-002	Field Geologist	: F. Van Alstine
Project Location	: SCSA	Total Depth	: 302.00'
Boring Number	: CC-1	Initial GW Depth	: NA
Rig Type	:	Static GW Depth	: NA
Drilling Method	: Rotasonic	Completion Date	: January 22, 2001

Depth in feet	Lab No.	GRAPHIC	USCS	DESCRIPTION
200			SP	POORLY GRADED SAND (SP), fine gravel, fine sand, no odor, wet, no reaction to 10% HCL.
			CL	LEAN CLAY (CL), brown, trace silt, (100% clayey fines), damp, no odor, high plasticity, stiff, moderate reaction to 10% HCL.
205				
			CL	LEAN CLAY (CL), brown, (100% clayey fines), damp, no odor, high plasticity, stiff, moderate reaction to 10% HCL, cemented nodules.
210				
			ML	SILT (ML), light brown, (100% silty fines), wet, no odor, soft, moderate reaction to 10% HCL.
215			SP	POORLY GRADED SAND (SP), light brown, fine sand, wet, loose, moderate reaction to 10% HCL.
			ML	SILT (ML) with sand and clay, light brown, (90% silty fines, 10% very fine sand), damp, no odor, soft, moderate reaction to 10% HCL, interbedded cemented sand.
220			SC	CLAYEY SAND (SC), light bown, (60% fine sand, 40% clayey fines), wet, no odor, soft, slight reaction to 10% HCL, interbedded sand.
225			ML	

REVIEWED BY
Field Geologist
Project Manager
Registered Geologist

Note: Well was logged from cuttings

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LOG OF BORING CC-1

Arizona Department of Environmental Quality
Southwest Corner Source Area
Early Response Action

Project Number	: 20084-001-002	Field Geologist	: F. Van Alstine
Project Location	: SCSA	Total Depth	: 302.00'
Boring Number	: CC-1	Initial GW Depth	: NA
Rig Type	:	Static GW Depth	: NA
Drilling Method	: Rotasonic	Completion Date	: January 22, 2001

Depth in feet	Lab No.	GRAPHIC	USCS	DESCRIPTION
225			ML	SILT with trace sand (ML), (90% silty fines, 10% very fine sand), damp, no odor, stiff, moderate reaction to 10% HCL.
			SC	CLAYEY SAND (SC), light brown, (70% fine sand, 30% clayey fines), wet, no odor, soft, slight reaction to 10% HCL.
	HP-001-229		CH	FAT CLAY (CH), brown, (100% clayey fines), damp, no odor, stiff, moderate reaction to 10% HCL.
230				FAT CLAY (CH), brown, (100% clayey fines), damp, no odor, stiff, moderate reaction to 10% HCL.
				FAT CLAY (CH), brown, damp, no odor, high plasticity, stiff, moderate reaction to 10% HCL.
235				FAT CLAY (CH), brown, damp, no odor, high plasticity, very stiff, no reaction to 10% HCL.
				FAT CLAY (CH), light brown, (100% clayey to silty fines), damp, no odor, very stiff, moderate reaction to 10% HCL.
240			SP	POORLY GRADED SAND (SP), light brown, fine sand, wet, loose, slight reaction to 10% HCL.
			CL	LEAN CLAY (CL) with trace silt, brown, (100% clayey fines), damp, no odor, high plasticity, stiff, moderate reaction to 10% HCL.
245			ML	SILT with trace fine sand (ML), (90% silty fines, 10% very fine sand), damp, no odor, soft, moderate reaction to 10% HCL.
			CH	FAT CLAY (CH), pinkish brown, damp, no odor, high plasticity, very stiff, moderate reaction to 10% HCL.
250			ML	SILT (ML), (100% silty fines), wet, no odor, cemented nodules, hard, strong reaction to 10% HCL.

REVIEWED BY
Field Geologist
Project Manager
Registered Geologist

Note: Well was logged from cuttings

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LOG OF BORING CC-1

Arizona Department of Environmental Quality
Southwest Corner Source Area
Early Response Action

Project Number	: 20084-001-002	Field Geologist	: F. Van Alstine
Project Location	: SCSA	Total Depth	: 302.00'
Boring Number	: CC-1	Initial GW Depth	: NA
Rig Type	:	Static GW Depth	: NA
Drilling Method	: Rotasonic	Completion Date	: January 22, 2001

Depth in feet		Lab No.	GRAPHIC	USCS	DESCRIPTION	0 1	0 1
250					Less cementation.		
255					SILT (ML), light brown, (90% silty fines, 10% very fine sand), damp, no odor, moderate reaction to 10% HCL.		
				ML	SILT (ML), (100% silty fines), wet, no odor, firm, no reaction to 10% HCL, cemented layering.		
		HP-001-259			Cobble-sized cemented silt and sand, moderate reaction to 10% HCL.		
260							
				SM	SILTY SAND (SM), light brown, (70% very fine sand, 30% silty fines), wet, moderate reaction to 10% HCL.		
265					SILT (ML), light brown, (90% silty fines, 10% sand), wet, no odor, weak reaction to 10% HCL.		
270				ML			
275							

REVIEWED BY
Field Geologist
Project Manager
Registered Geologist

Note: Well was logged from cuttings

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LOG OF BORING CC-1

Arizona Department of Environmental Quality
Southwest Corner Source Area
Early Response Action

Project Number	: 20084-001-002	Field Geologist	: F. Van Alstine
Project Location	: SCSA	Total Depth	: 302.00'
Boring Number	: CC-1	Initial GW Depth	: NA
Rig Type	:	Static GW Depth	: NA
Drilling Method	: Rotasonic	Completion Date	: January 22, 2001

Depth in feet	Lab No.	GRAPHIC	USCS	DESCRIPTION
275			ML	SILT (ML), light brown, damp, no odor, slight reaction to 10% HCL.
280			ML	Clay mottling.
			ML	Cemented zone, strong reaction to 10% HCL.
285			ML	SILT (ML), light brown, (90% silty fines, 10% fine sand), wet, no odor, soft, weak reaction to 10% HCL.
			ML	SANDY SILT (ML) with gravel, olive brown, (50% silty fines, 40% fine to coarse sand, 10% fine sub-rounded gravel), wet, no odor, weak reaction to 10% HCL.
290			SP	POORLY GRADED SAND with gravel (SP), (70% medium to coarse sand, 20% fine sub-rounded gravel, 10% clay), wet, no reaction to 10% HCL.
			ML	SILT with trace sand (ML), light brown, (90% silt, 10% very fine sand), wet, no odor, weak reaction to 10% HCL.
295			ML	SILT (ML), light brown, (100% silty fines), damp, no odor, weak reaction to 10% HCL.
			SP/GP	POORLY GRADED SAND and gravel (SP/GP), light brown, (50% fine to coarse sand, 40% fine to coarse sub-angular to sub-rounded gravel, 10% clay), wet, no odor, no reaction to 10% HCL.
300				

REVIEWED BY
Field Geologist
Project Manager
Registered Geologist

Note: Well was logged from cuttings

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LOG OF BORING CC-1

Arizona Department of Environmental Quality
Southwest Corner Source Area
Early Response Action

Project Number	: 20084-001-002	Field Geologist	: F. Van Alstine
Project Location	: SCSA	Total Depth	: 302.00'
Boring Number	: CC-1	Initial GW Depth	: NA
Rig Type	:	Static GW Depth	: NA
Drilling Method	: Rotasonic	Completion Date	: January 22, 2001

Depth in feet		Lab No.	GRAPHIC	USCS	DESCRIPTION	0 1	0 1
300				SP/GP			

Total Depth 302 feet

305
310
315
320
325

REVIEWED BY
Field Geologist
Project Manager
Registered Geologist

Note: Well was logged from cuttings

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LOG OF BORING CC-2

Arizona Department of Environmental Quality
Southwest Corner Source Area
Early Response Action

Project Number	: 20084-001-002	Field Geologist	: T. Mehall
Project Location	: SCSA	Total Depth	: 203.00'
Boring Number	: CC-2	Initial GW Depth	: 48.00'
Rig Type	: CME-95	Static GW Depth	: 58.81'
Drilling Method	: HSA	Completion Date	: February 8, 2001

Depth in feet	TIME	Lab No.	GRAPHIC	USCS	DESCRIPTION
0	0815			SM	SILTY SAND (SM), reddish brown, 40% silty fines, 60% fine sand, slightly moist, soft.
5				SM	SILTY SAND (SM), light brown, 35% silty fines, 65% fine to medium sand, slightly moist, soft. Trace gravel.
10				SM	
15	0823			SM	
				ML	SILT with sand (ML), brown, 20% fine sand, 80% silty to clayey fines, slightly moist, soft.
20	0847			ML	
				SM	SILTY SAND (SM), brown, 40% silt, 60% fine to medium sand, with trace fine gravel, slightly moist, soft.
25				SM	

REVIEWED BY
Field Geologist:
Project Manager:
Registered Geologist:

Note: Well was logged from cuttings

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LOG OF BORING CC-2

Arizona Department of Environmental Quality
Southwest Corner Source Area
Early Response Action

Project Number	: 20084-001-002	Field Geologist	: T. Mehall
Project Location	: SCSA	Total Depth	: 203.00'
Boring Number	: CC-2	Initial GW Depth	: 48.00'
Rig Type	: CME-95	Static GW Depth	: 58.81'
Drilling Method	: HSA	Completion Date	: February 8, 2001

Depth in feet	TIME	Lab No.	GRAPHIC	USCS	DESCRIPTION
25					
30				SM	Caliche throughout from 30' - 35' bgs.
35					SANDY LEAN CLAY (CL), dark brown, 30% fine sand, 70% clayey fines, slightly moist to moist, soft, moderate plasticity.
40				CL	
45					Increase moisture to wet.
50					

REVIEWED BY
Field Geologist:
Project Manager:
Registered Geologist:

Note: Well was logged from cuttings

09-07-2001 h:\All\Rebekah\SCSA\CC-2.BOR

LOG OF BORING CC-2

Arizona Department of Environmental Quality
Southwest Corner Source Area
Early Response Action

Project Number	: 20084-001-002	Field Geologist	: T. Mehall
Project Location	: SCSA	Total Depth	: 203.00'
Boring Number	: CC-2	Initial GW Depth	: 48.00'
Rig Type	: CME-95	Static GW Depth	: 58.81'
Drilling Method	: HSA	Completion Date	: February 8, 2001

Depth in feet	TIME	Lab No.	GRAPHIC	USCS	DESCRIPTION
50		HP-002-050			SANDY LEAN CLAY (CL), dark brown, 30% fine sand, 70% clayey fines, slightly moist to moist, soft, moderate plasticity.
55					
					Saturated at 58' bgs.
60					
				CL	
65	1110	HP-002-065			
70					
75					

REVIEWED BY
Field Geologist:
Project Manager:
Registered Geologist:

Note: Well was logged from cuttings

LOG OF BORING CC-2

Arizona Department of Environmental Quality
Southwest Corner Source Area
Early Response Action

Project Number	: 20084-001-002	Field Geologist	: T. Mehall
Project Location	: SCSA	Total Depth	: 203.00'
Boring Number	: CC-2	Initial GW Depth	: 48.00'
Rig Type	: CME-95	Static GW Depth	: 58.81'
Drilling Method	: HSA	Completion Date	: February 8, 2001

Depth in feet	TIME	Lab No.	GRAPHIC	USCS	DESCRIPTION
75					
80	1205	HP-002-080		CL	
85					
90					SILTY SAND (sm), brown, 25% silty fines, 75% fine to coarse grained sand, saturated, loose.
95	1320	HP-002-095		SM	
100				ML	

REVIEWED BY
Field Geologist:
Project Manager:
Registered Geologist:

Note: Well was logged from cuttings

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LOG OF BORING CC-2

Arizona Department of Environmental Quality
Southwest Corner Source Area
Early Response Action

Project Number	: 20084-001-002	Field Geologist	: T. Mehall
Project Location	: SCSA	Total Depth	: 203.00'
Boring Number	: CC-2	Initial GW Depth	: 48.00'
Rig Type	: CME-95	Static GW Depth	: 58.81'
Drilling Method	: HSA	Completion Date	: February 8, 2001

Depth in feet	TIME	Lab No.	GRAPHIC	USCS	DESCRIPTION
100					SILT with sand (ML), light brown, 80% silty fines, 20% fine sand, saturated.
105					
					SANDY SILT (ML), brown, 70% silty fines, 20% fine to medium sand, 10% fine gravel, saturated.
110					
				ML	
115		HP-002-115			
					SANDY SILT with CLAY (ML), brown, 20% fine sand, 80% silty fines, saturated.
120					
					Drillers comments: hit coarse lense at 123' bgs.
125					

REVIEWED BY
Field Geologist:
Project Manager:
Registered Geologist:

Note: Well was logged from cuttings

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LOG OF BORING CC-2

Arizona Department of Environmental Quality
Southwest Corner Source Area
Early Response Action

Project Number	: 20084-001-002	Field Geologist	: T. Mehall
Project Location	: SCSA	Total Depth	: 203.00'
Boring Number	: CC-2	Initial GW Depth	: 48.00'
Rig Type	: CME-95	Static GW Depth	: 58.81'
Drilling Method	: HSA	Completion Date	: February 8, 2001

Depth in feet	TIME	Lab No.	GRAPHIC	USCS	DESCRIPTION
125					SILT with sand (ML), light brown, 80% silty fines, 20% fine sand, saturated.
130					
135	0955	HP-002-135			
				ML	
140					
145					
150					

REVIEWED BY
Field Geologist:
Project Manager:
Registered Geologist:

Note: Well was logged from cuttings

LOG OF BORING CC-2

Arizona Department of Environmental Quality
Southwest Corner Source Area
Early Response Action

Project Number	: 20084-001-002	Field Geologist	: T. Mehall
Project Location	: SCSA	Total Depth	: 203.00'
Boring Number	: CC-2	Initial GW Depth	: 48.00'
Rig Type	: CME-95	Static GW Depth	: 58.81'
Drilling Method	: HSA	Completion Date	: February 8, 2001

Depth in feet	TIME	Lab No.	GRAPHIC	USCS	DESCRIPTION
150					SILT with sand (ML), light brown, 80% silty fines, 20% fine sand, saturated.
155					
160					Drillers comments: difficulty drilling from 160' - 165' bgs, possibly caliche.
				ML	
165					
170					
175					

REVIEWED BY
Field Geologist:
Project Manager:
Registered Geologist:

Note: Well was logged from cuttings

LOG OF BORING CC-2

Arizona Department of Environmental Quality
Southwest Corner Source Area
Early Response Action

Project Number	: 20084-001-002	Field Geologist	: T. Mehall
Project Location	: SCSA	Total Depth	: 203.00'
Boring Number	: CC-2	Initial GW Depth	: 48.00'
Rig Type	: CME-95	Static GW Depth	: 58.81'
Drilling Method	: HSA	Completion Date	: February 8, 2001

Depth in feet	TIME	Lab No.	GRAPHIC	USCS	DESCRIPTION
175					SILT with sand (ML/CL), 20% fine sand, 80% silty to clayey fines, brown, saturated, stiff.
180					
185				ML/CL	
190					
195					
200					

REVIEWED BY
Field Geologist:
Project Manager:
Registered Geologist:

Note: Well was logged from cuttings

09-07-2001 h:\All\Rebekah\SCSA\CC-2.BOR

LOG OF BORING CC-2

Arizona Department of Environmental Quality
Southwest Corner Source Area
Early Response Action

Project Number	: 20084-001-002	Field Geologist	: T. Mehall
Project Location	: SCSA	Total Depth	: 203.00'
Boring Number	: CC-2	Initial GW Depth	: 48.00'
Rig Type	: CME-95	Static GW Depth	: 58.81'
Drilling Method	: HSA	Completion Date	: February 8, 2001

Depth in feet	TIME	Lab No.	GRAPHIC	USCS	DESCRIPTION
200				ML/CL	

Total Depth = 203' bgs

205
210
215
220
225

REVIEWED BY
Field Geologist:
Project Manager:
Registered Geologist:

Note: Well was logged from cuttings

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LOG OF BORING CC-3

Arizona Department of Environmental Quality
Southwest Corner Source Area
Early Response Action

Project Number	: 20084-001-002	Field Geologist	: T. Mehall
Project Location	: SCSA	Total Depth	: 113.00'
Boring Number	: CC-3	Initial GW Depth	: 45.00'
Rig Type	: CME-95	Static GW Depth	: 46.66'
Drilling Method	: HSA	Completion Date	: February 9, 2001

Depth in feet	TIME	Lab No.	GRAPHIC	USCS	DESCRIPTION
0				SM	SILTY SAND (SM), reddish brown, 40% silty fines, 60% fine sand, slightly moist to moist, soft.
5				SM	SILTY SAND (SM), light brown, 35% silt, 65% fine to medium sand, slightly moist, soft.
10				SM	
15				ML	SILT with sand (ML), brown, 20% fine sand, 80% silty to clayey fines, slightly most, soft.
20				ML	
25				ML	

REVIEWED BY
Field Geologist:
Project Manager:
Registered Geologist:

Note: Well was logged from cuttings

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LOG OF BORING CC-3

Arizona Department of Environmental Quality
Southwest Corner Source Area
Early Response Action

Project Number	: 20084-001-002	Field Geologist	: T. Mehall
Project Location	: SCSA	Total Depth	: 113.00'
Boring Number	: CC-3	Initial GW Depth	: 45.00'
Rig Type	: CME-95	Static GW Depth	: 46.66'
Drilling Method	: HSA	Completion Date	: February 9, 2001

Depth in feet	TIME	Lab No.	GRAPHIC	USCS	DESCRIPTION
25					
30				ML	
35					
				SC	CLAYEY SAND (SC), dark brown, 30% clayey fines, 70% fine to medium sand, slightly moist.
40					
45	1300	MW-CC-003-045		CL	LEAN CLAY with sand (CL), brown, 25% fine sand, 75% clayey fines, moist, dark brown, soft, moderate plasticity.
50					

REVIEWED BY
Field Geologist:
Project Manager:
Registered Geologist:

Note: Well was logged from cuttings

09-07-2001 h:\All\Rebekah\SCSA\CC-3.BOR

LOG OF BORING CC-3

Arizona Department of Environmental Quality
Southwest Corner Source Area
Early Response Action

Project Number	: 20084-001-002	Field Geologist	: T. Mehall
Project Location	: SCSA	Total Depth	: 113.00'
Boring Number	: CC-3	Initial GW Depth	: 45.00'
Rig Type	: CME-95	Static GW Depth	: 46.66'
Drilling Method	: HSA	Completion Date	: February 9, 2001

Depth in feet	TIME	Lab No.	GRAPHIC	USCS	DESCRIPTION
50					LEAN CLAY with sand (CL), brown, 25% fine sand, 75% clayey fines, moist, dark brown, soft, moderate plasticity.
55					
60				CL	
65					
70					
75					

REVIEWED BY
Field Geologist:
Project Manager:
Registered Geologist:

Note: Well was logged from cuttings

09-07-2001 h:\All\Rebekah\SCSA\CC-3.BOR

LOG OF BORING CC-3

Arizona Department of Environmental Quality
Southwest Corner Source Area
Early Response Action

Project Number	: 20084-001-002	Field Geologist	: T. Mehall
Project Location	: SCSA	Total Depth	: 113.00'
Boring Number	: CC-3	Initial GW Depth	: 45.00'
Rig Type	: CME-95	Static GW Depth	: 46.66'
Drilling Method	: HSA	Completion Date	: February 9, 2001

Depth in feet	TIME	Lab No.	GRAPHIC	USCS	DESCRIPTION
75				CL	
80					
85					
90				SM	SILTY SAND (SM), brown, 25% silty fines, 75% fine to coarse sand, saturated, loose.
95					
100				ML	SILT with sand (ML), light brown, 80% silty fines, 20% fine sand, saturated.

REVIEWED BY
Field Geologist:
Project Manager:
Registered Geologist:

Note: Well was logged from cuttings

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LOG OF BORING CC-3

Arizona Department of Environmental Quality
Southwest Corner Source Area
Early Response Action

Project Number	: 20084-001-002	Field Geologist	: T. Mehall
Project Location	: SCSA	Total Depth	: 113.00'
Boring Number	: CC-3	Initial GW Depth	: 45.00'
Rig Type	: CME-95	Static GW Depth	: 46.66'
Drilling Method	: HSA	Completion Date	: February 9, 2001

Depth in feet	TIME	Lab No.	GRAPHIC	USCS	DESCRIPTION
100					
105				ML	
110					
					Total Depth = 113' bgs
115					
120					
125					

REVIEWED BY
Field Geologist:
Project Manager:
Registered Geologist:

Note: Well was logged from cuttings

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LOG OF BORING CC-4

Arizona Department of Environmental Quality
Southwest Corner Source Area
Early Response Action

Project Number	: 20084-001-002	Field Geologist	: Frank Van Alstine
Project Location	: SCSA	Total Depth	: 130.00'
Boring Number	: CC-4	Initial GW Depth	: NA
Rig Type	:	Static GW Depth	: 45.25'
Drilling Method	: Rotosonic	Completion Date	: January 25, 2001

Depth in feet	TIME	Samples	Lab No.	GRAPHIC	USCS	DESCRIPTION
0					CL	LEAN CLAY with sand (CL), rusty brown, (80% clayey fines, 20% predominately fine sand, trace coarse), wet (rain) no odor, soft, strong reaction to 10% HCL.
5					SP/SC	POORLY GRADED SAND with clay (SP/SC), light brown to whitish brown, (80% fine to coarse sand, 10% clayey fines, 10% fine sub-rounded gravel), damp, no odor, fine gravel sized cemented nodules, loose, strong reaction to 10% HCL.
10					CL	LEAN CLAY (CL) with trace sand, light brown, (95% clayey fines, 5% fine sand), fine sand, slightly damp, no odor, hard, strong reaction to 10% HCL.
15						LEAN CLAY (CL) with trace sand, brown, (95% clayey fines, 5% fine sand), fine sand, damp, no odor, hard, strong reaction to 10% HCL.
						LEAN CLAY (CL), (95% clayey fines, 5% fine to medium sand), damp, no odor, hard, strong reaction to 10% HCL.
20						Caliche layering.
						LEAN CLAY (CL), (95% clayey fines, 5% fine to medium sand), damp, no odor, hard, strong reaction to 10% HCL, trace fine gravel, sub-rounded.
25						

REVIEWED BY
Field Geologist:
Project Manager:
Registered Geologist:

LOG OF BORING CC-4

Arizona Department of Environmental Quality
Southwest Corner Source Area
Early Response Action

Project Number	: 20084-001-002	Field Geologist	: Frank Van Alstine
Project Location	: SCSA	Total Depth	: 130.00'
Boring Number	: CC-4	Initial GW Depth	: NA
Rig Type	:	Static GW Depth	: 45.25'
Drilling Method	: Rotosonic	Completion Date	: January 25, 2001

Depth in feet	TIME	Samples	Lab No.	GRAPHIC	USCS	DESCRIPTION
25					SC	Clayey Sand (SC), light brown, (70% sand, 30% clayey fines), damp, no odor, loose, caliche layering, strong reaction to 10% HCL, trace fine gravel.
						Clayey Sand (SC), light brown, (70% sand, 30% clayey fines), damp, no odor, loose, caliche layering, strong reaction to 10% HCL, trace medium gravel, sub-rounded.
30						Caliche cemented sand, silt, and clay, light brown (40% sand, 65% clayey to silty fines), slightly damp, no odor, very hard, strong reaction to 10% HCL.
35					CL	LEAN CLAY (CL) with trace sand, light brown, (90% clayey fines, 10% fine sand), damp, no odor, soft.
40					ML	SILT (ML), light brown, (100% silty fines), damp, no odor, soft, small cemented nodules.
						SILT (ML), light brown, (90% silty fines, 10% fine to medium sand), wet, no odor, soft, slight reaction to 10% HCL.
45					SM	SILTY SAND (SM), olive brown, (70% very fine sand, 30% silty fines), wet, no odor, soft, no reaction to 10% HCL. 26 % SAND 46 % SILT ML 29 % CLAY
	1444		SS-004-48		ML	SILT (ML) with sand, light brown, (80% silty fines, 20% very fine sand), damp, no odor, soft, cemented layering, slight reaction to 10% HCL.
50						

REVIEWED BY
Field Geologist:
Project Manager:
Registered Geologist:

09-07-2001 h:\All\Rebekah\SCSA\CC-4.BOR

LOG OF BORING CC-4

Arizona Department of Environmental Quality
Southwest Corner Source Area
Early Response Action

Project Number	: 20084-001-002	Field Geologist	: Frank Van Alstine
Project Location	: SCSA	Total Depth	: 130.00'
Boring Number	: CC-4	Initial GW Depth	: NA
Rig Type	:	Static GW Depth	: 45.25'
Drilling Method	: Rotosonic	Completion Date	: January 25, 2001

Depth in feet	TIME	Samples	Lab No.	GRAPHIC	USCS	DESCRIPTION
50					ML	SILT (ML) with sand, light brown, (80% silty fines, 20% very fine sand), very fine sand, trace coarse gravel, damp, no odor, no reaction to 10% HCL.
					SC	Clayey SAND with GRAVEL (SC), rusty brown, (45% fine to coarse sand, 35% fine to medium, sub-rounded gravel, 20% clayey fines), damp, no odor, loose, weak reaction to 10% HCL.
55						CLAYEY SAND with GRAVEL (SC), light brown, (45% fine to coarse sand, 25% fine to medium, sub-rounded gravel, 10% clayey fines), damp, no odor, loose, weak reaction to 10% HCL.
						Cemented layering, moderate reaction to 10% HCL.
			SS-004-58			CLAYEY SAND (SC), light brown, (80% fine to medium sand, 20% clayey fines), trace coarse sand, wet, no odor, loose, no reaction to 10% HCL.
60						CLAYEY SAND with GRAVEL (SC), light brown, (50% fine to coarse sand, 30% fine to medium, sub-rounded gravel, 20% clay), damp, no odor, dense, weak reaction to 10% HCL.
						22% GRAVEL 39% SAND ~SM 23% SILT 16% CLAY
65			SS-004-56			CLAYEY SAND (SC), light brown, (60% fine sand, 40% clayey fines), fine sand, damp, no odor, soft, weak reaction to 10% HCL, trace fine, sub-rounded gravel.
70						Large gravel.
			HP-004-72		CL	LEAN CLAY (CL) with trace sand, light brown, (90% clayey fines, 10% fine sand), damp, no odor, very hard, moderate reaction to 10% HCL.
75						

REVIEWED BY
Field Geologist:
Project Manager:
Registered Geologist:

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LOG OF BORING CC-4

Arizona Department of Environmental Quality
Southwest Corner Source Area
Early Response Action

Project Number	: 20084-001-002	Field Geologist	: Frank Van Alstine
Project Location	: SCSA	Total Depth	: 130.00'
Boring Number	: CC-4	Initial GW Depth	: NA
Rig Type	:	Static GW Depth	: 45.25'
Drilling Method	: Rotosonic	Completion Date	: January 25, 2001

Depth in feet	TIME	Samples	Lab No.	GRAPHIC	USCS	DESCRIPTION
75					CL	LEAN CLAY with sand (CL), light brown, (75% clayey fines, 25% fine sand), damp, no odor, weak reaction to 10% HCL.
						LEAN CLAY (CL) with trace sand, brown, (90% clayey fines, 10% fine sand), damp, no odor, very stiff, no reaction to 10% HCL.
80					SC	CLAYEY SAND (SC), light brown (75% fine to medium sand, 25% clayey fines), trace coarse sand, wet, no odor, loose, no reaction to 10% HCL.
						CLAYEY SAND (SC), light brown (15% fine to medium sand, 85% clayey fines), trace coarse sand, wet, no odor, loose, no reaction to 10% HCL.
85						Cemented layering.
90						CLAYEY SAND (SC), light brown (10% fine to medium, sub-rounded gravel, 15% fine to medium sand, 75% clayey fines), trace coarse sand, wet, no odor, loose, no reaction to 10% HCL. Caliche, strong reaction to 10% HCL.
95			HP-004-95		SP/GP	Clayey SAND and GRAVEL (SP/GP), rusty brown, (50% fine to medium sand, 30% fine sub-rounded gravel, 20% clayey fines), damp, no odor, loose, weak reaction to 10% HCL.
100					SC/CL	CLAYEY SAND (SC/CL), light brown, (50% fine to medium sand, 50% clayey fines), damp, no odor, loose, weak reaction to 10% HCL.

REVIEWED BY
Field Geologist:
Project Manager:
Registered Geologist:

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LOG OF BORING CC-4

Arizona Department of Environmental Quality
Southwest Corner Source Area
Early Response Action

Project Number	: 20084-001-002	Field Geologist	: Frank Van Alstine
Project Location	: SCSA	Total Depth	: 130.00'
Boring Number	: CC-4	Initial GW Depth	: NA
Rig Type	:	Static GW Depth	: 45.25'
Drilling Method	: Rotosonic	Completion Date	: January 25, 2001

Depth in feet	TIME	Samples	Lab No.	GRAPHIC	USCS	DESCRIPTION
100					CL	LEAN CLAY (CL) with trace sand, whitish brown, (90% clayey fines, 10% fine sand), damp, no odor, soft, weak reaction to 10% HCL.
					ML	SILT (ML) with trace sand, light brown, (90% silty to clayey fines, 10% fine sand), wet, no odor, soft, no reaction to 10% HCL.
105					SC	CLAYEY SAND with GRAVEL (SC), brown, (50% fine to coarse sand, 30% fine sub-rounded gravel, 20% clayey fines), damp, no odor, loose, no reaction to 10% HCL.
					ML	SILT (ML) with trace sand, light brown, (90% silty to clayey fines, 10% fine sand), damp, no odor, soft, weak reaction to 10% HCL.
						Caliche.
110						SILT with sand (ML), light brown, (80% silty fines, 20% fine sand), wet, no odor, soft, no reaction to 10% HCL.
115						Caliche.
						SANDY SILT (ML), light brown, (60% silty fines, 40% fine sand), wet, no odor, soft, no reaction to 10% HCL.
						SANDY SILT (ML), light brown, (70% silty fines, 30% fine sand), wet, no odor, soft, no reaction to 10% HCL.
120			HP-004-120			
125						SANDY SILT (ML), light brown, (65% silty fines, 35% fine sand), wet, no odor, soft, no reaction to 10% HCL, light cementation.

REVIEWED BY
Field Geologist:
Project Manager:
Registered Geologist:

NOTE: Page 6 missing from original Weston document (HGC, 2014)

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LOG OF BORING CC-5

Arizona Department of Environmental Quality
Southwest Corner Source Area
Early Response Action
Central & Camelback WQARF Site

Project Number	: 20084-001-002	Field Geologist	: T. Mehall
Project Location	: SCSA	Total Depth	: 120.00'
Boring Number	: CC-5	Initial GW Depth	: NA
Rig Type	: T70W	Static GW Depth	: NA
Drilling Method	: Air Rotary Casing Hammer	Completion Date	: 10-12-01

Depth in feet	TIME	Samples	Lab No.	GRAPHIC	USCS	DESCRIPTION
0					SC	CLAYEY SAND (SC); brown; 85% clayey fines with medium plasticity; 15% fine sand with trace gravel; moist; no odor; strong reaction to HCl.
5						Light brown; slightly moist; increased sand (trace medium to coarse).
10					ML	SANDY SILT (ML); light brown; 75% silty fines; 25% fine sand; slightly moist; no odor; strong reaction to HCl.
15						
20						Moist; dark brown.
25						
30						

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LOG OF BORING CC-5

Arizona Department of Environmental Quality
Southwest Corner Source Area
Early Response Action
Central & Camelback WQARF Site

Project Number	: 20084-001-002	Field Geologist	: T. Mehall
Project Location	: SCSA	Total Depth	: 120.00'
Boring Number	: CC-5	Initial GW Depth	: NA
Rig Type	: T70W	Static GW Depth	: NA
Drilling Method	: Air Rotary Casing Hammer	Completion Date	: 10-12-01

Depth in feet	TIME	Samples	Lab No.	GRAPHIC	USCS	DESCRIPTION
30						
35						Slightly moist; brown.
40						Medium plasticity; dark brown; trace caliche; trace clay.
					ML	
45						Increased moisture; decreased sand to 15% fine; increased clay content; low plasticity; weak reaction to HCl.
50						Wet; medium plasticity.
55						No reaction to HCl.
					SC	
60						

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LOG OF BORING CC-5

Arizona Department of Environmental Quality
Southwest Corner Source Area
Early Response Action
Central & Camelback WQARF Site

Project Number	: 20084-001-002	Field Geologist	: T. Mehall
Project Location	: SCSA	Total Depth	: 120.00'
Boring Number	: CC-5	Initial GW Depth	: NA
Rig Type	: T70W	Static GW Depth	: NA
Drilling Method	: Air Rotary Casing Hammer	Completion Date	: 10-12-01

Depth in feet	TIME	Samples	Lab No.	GRAPHIC	USCS	DESCRIPTION
60					SC	CLAYEY SAND (SC); dark brown; 40% clayey fines with medium plasticity; 60% fine to medium sand; no odor; weak reaction to HCl.
65						CLAYEY SAND (SC); dark brown; 40% clayey fines; 50% fine to medium sand; 10% fine gravel; wet; caliche throughout.
70					ML	SILT WITH SAND (ML); light brown; 85% silty fines; 15% fine sand; wet; no odor; no reaction to HCl.
75						
80						Trace caliche; increase in cohesion.
85						Decreased sand to 10% fine sand; 90% silt.
90						

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LOG OF BORING CC-5

Arizona Department of Environmental Quality
Southwest Corner Source Area
Early Response Action
Central & Camelback WQARF Site

Project Number	: 20084-001-002	Field Geologist	: T. Mehall
Project Location	: SCSA	Total Depth	: 120.00'
Boring Number	: CC-5	Initial GW Depth	: NA
Rig Type	: T70W	Static GW Depth	: NA
Drilling Method	: Air Rotary Casing Hammer	Completion Date	: 10-12-01

Depth in feet	TIME	Samples	Lab No.	GRAPHIC	USCS	DESCRIPTION
90						
95						
100					ML	
105						SILT (ML); brown; 95% silty fines; 5% fine sand; wet; no odor; no reaction to HCl.
110					CL	SANDY LEAN CLAY (CL); light brown; 60% clayey fines with medium plasticity; 40% coarse to fine sand; no odor; no reaction to HCl.
115					ML	SILT (ML); light brown; 90% silty fines; 10% fine sand; wet; no odor; no reaction to HCl.
120						Total Depth = 120 feet

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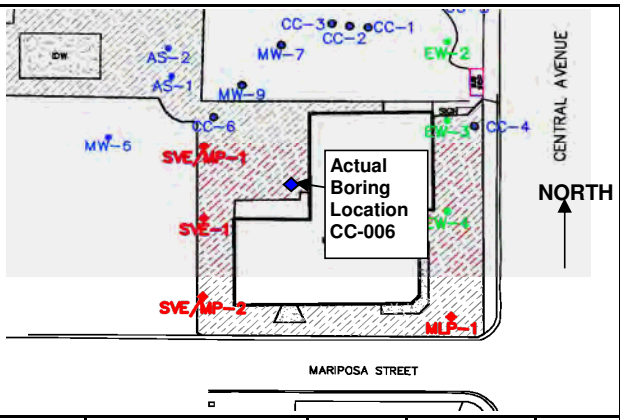
HYDRO GEO CHEM, INC.

Geologic Boring Log

Project Name: Central & Camelback			Boring No.: CC-006
Drilling Company: Yellow Jacket	Driller: Mark Hickox		Project No.: 816000

Site Plan at Boring:

Notes:
D=Dry
M=Moist
NA = not available.
%Recovery Listed from uphole to downhole brass sleeve.



Drilling Equipment:	L-8000 Auger Rig
Drilling Method: Auger	
Bit Type: Auger	Size: 8" & 16" HSAuger
Started, Time: 8:30	Date: 6/26/2004
Completed, Time: 16:30	Date: 6/27/2004
Water Depth, First (Ft):	64 ft bls
Water Depth, After days (Ft):	NA
Casing Depth (Ft):	50 ft, sump 110-115 ft
Boring Depth (Ft):	117 ft
Screened Interval (Ft):	50-110 ft
Logged By/Date: Alexandra Etheridge 6/26, 27/04	
Checked By/Date: Rich Petrus 6/28/04	

Depth (Ft)	% Rec	Soil Gas PCE Results (ppmv)	Estimated % GR	SA	FI	USCS Symbol	Munsell Color	HCl Rxn	Sample Description
0	100		0	10	90	ML	5YR4/4	S	Silt, reddish brown, no odor. Fines 90% silt, 10% clay.
1	100							M	Well graded angular to subrounded lithic sand.
2	100								
3			PID =	13.5	ppm				
4		**48.61**	11/6/18	Blows/6 inches					Samle Location: 5.0 ft, bottom sleeve.
5	0		0	0	100	MH	5YR5/4	S	Elastic silt, reddish brown, no odor. Fines 60% silt, 40% clay
6	80							M	low plasticity. Trace sand. Argillized caliche present.
7	100								
8			PID =	>50	ppm				
9		**64.81**	50	Blows/6 inches					Samle Location: 10.0 ft, bottom sleeve.
10	50		0	0	100	MH	5YR5/4	S	As above.
11	90							M	
12	90								
13			PID =	>100	ppm				
14		**106.05**	25/50	Blows/6 inches					Samle Location: 15.0 ft, bottom sleeve.
15									
16									
17									
18									
19									Samle Location: NONE
20	50		0	0	100	CL	5YR5/4	S	Lean clay, reddish brown, low plasticity. Trace sand.
21	90							M	
22	100								
23			PID =	19	ppm				
24		**265.12**	24/50	Blows/6 inches					Samle Location: 25.0 ft, bottom sleeve.

Project Name: Central & Camelback			Project No.: 816000			Boring No.: CC-006			Sheet 2 of 3
Depth	%	Graphic	Estimated %			USCS	Munsell	HCl	Logged By/Date: Alexandra Etheridge 6/26/04
(Ft)	Rec	Log	GR	SA	FI	Symbol	Color	Rxn	Checked By/Date: Rich Petrus 6/27/04
25	10		0	0	100	CL	5YR4/3	S	As above.
26	80							M	
27	90								
28			PID =	NA	ppm				
29			15/50	Blows/6 inches					Samle Location: Geotech sample at 30.0 ft.
30	15		0	0	100	MH	5YR5/3	S	Elastic silt. Reddish brown, no odor. Drier and very low
31	85							M	plasticity compared to above.
32	90								
33			PID =	12.1	ppm				
34		**427.14**	50	Blows/6 inches					Samle Location: NONE
35									
36									
37									
38									
39									Samle Location: NONE
40	0		0	0	100	MH	5YR5/3	S	As above.
41	70							M	
42	95								
43			PID =	3.1	ppm				
44		**162.02**	30/50	Blows/6 inches					Samle Location: Bottom sleeve, 45.0 ft
45									
46									
47									
48									
49									Samle Location: NONE
50	0		0	0	100	CL	5YR4/2	S	Lean clay, dark reddish gray, low plasticity. Fines 60%
51	35							M	clay, 40% silt. Trace lithic sand.
52	80								
53		**412.41**	PID =	>100	ppm				Samle Location: Bottom sleeve, 55.0 ft.
54		**471.33-Dup**	50	Blows/6 inches					Geotech sample and Soil Gas Dup-001.
55									
56									
57									
58									
59									
60									
61									
62									
63		Static WL = 64.0 ft 11:40 6/26/04							
64									
65	10		0	0	100	CL	5YR4/2	W	Lean hard clay.
66	85							M	As above.
67	95		Note: Taking PID readings from zip-lock headspace.						
68			PID=	10.2	ppm				Sample Location: 70.0 ft, water and soil. Dup-002 Water.
69			50	Blows/6 inches					

Project Name: Central & Camelback			Project No.: 816000				Boring No.: CC-006		Sheet 3 of 3
Depth	%	Graphic	Estimated %			USCS	Munsell	HCl	Logged By/Date: Alexandra Etheridge 6/26/04
(Ft)	Rec	Log	GR	SA	FI	Symbol	Color	Rxn	Checked By/Date: Rich Petrus 6/27/04
70									
71									
72									
73									
74									Samle Location: NONE
75									
76									
77									
78									
79									Samle Location: NONE
80	0		0	0	100	CL	5YR5/3	W	Lean clay, dark reddish gray. Medium plasticity. No odor.
81	0							M	Trace sand and gravel.
82	20								
83			PID =	1.2	ppm				
84			28/50	Blows/6 inches					Samle Location: Groundwater sample at 85.0 ft.
85									
86									
87									
88									
89									Samle Location: NONE
90									
91									
92									
93									
94									Samle Location: NONE
95	0		0	0	100	CL	5YR5/3	N	As above.
96	0							M	
97	35								
98			PID =	6.1	ppm				
99			3/21	Blows/6 inches					Samle Location: Groundwater sample @ 100.0 ft.
100									
101									
102									
103									
104									Samle Location: NONE
105									
106									
107									
108									
109									Samle Location: NONE
110	0		0	5	95	CL	5YR4/3	N	No sample recovery but appears to be similar clay to
111	0							M	above, possibly slightly more sand.
112	0								
113			PID =	NA	ppm				
114		**TD=117 ft**	50	Blows/6 inches					Samle Location: Groundwater sample @ 115.0 ft.

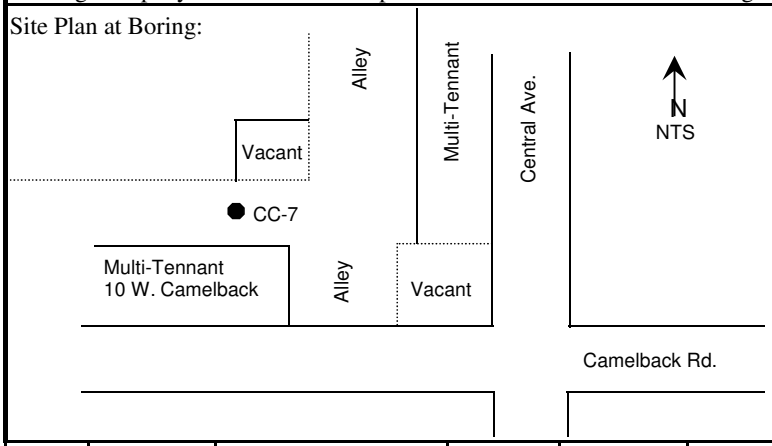
HYDRO GEO CHEM, INC.

Geologic Boring Log

Project Name: Central and Camelback WQARF Site — Boring No.: CC-07

Drilling Company: WDC Wells & Exploration — Driller: George Guzman — Project No.: 81613

Site Plan at Boring:



Drilling Equipment:	CME-85
Drilling Method: Auger	
Bit Type: Auger	Size: 10"
Started, Time: 9:20	Date: 8/15/2005
Completed, Time 15:30	Date: 8/16/2005
Water Depth, First (Ft):	63.8
Water Depth, After days (Ft):	NA
Casing Depth (Ft):	99
Boring Depth (Ft):	102
Screened Interval (Ft):	43.5-93.5
Logged By/Date:	Chris Robertson
Checked By/Date:	

Depth (Ft)	Blow Counts	Estimated % GR	SA	FI	USCS Symbol	Munsell Color	PID	Sample Description
0								Asphalt pavement - 4 inches.
1		15	70	15	FILL	5YR 4/3		Dry - becomes moist.
2								
3			15	85	ML	5YR 3/3		SILT - dark reddish brown; low plasticity, with clay.
4								
5							0.3	
6			50	50	SC	7.5YR 5/4		CLAYEY SAND - brown; sand is medium to coarse-grained;
7								low plasticity, cuttings become less sandy.
8					CL	7.5YR 5/6		
9								
10	26,50/4"			100	ML	5YR 5/4	0.8	SILT - reddish brown; with white mottling.
11								
12								
13								
14								
15	23,25,25		15	85	ML	7.5YR 4/4	0.1	SILT - brown; no mottling, some fine sand.
16								
17								
18								
19								
20	40,24,50/5"		10	90	ML	5YR 4/6	0.3	SILT - yellowish red; some fine sand.
21								
22								
23								
24								

Project Name: Central & Camelback Project No.: 81613 Boring No.: CC-07 Sheet 2 of 3

Logged By/Date: Chris Robertson 8/16/2005

Checked By/Date:

Depth (Ft)	Blow Counts	Estimated % GR	SA	FI	USCS Symbol	Munsell Color	PID	
25	15,50/6"		10	90	ML	5YR 4/2	0.0	SILT - dark reddish gray; low plasticity, with fine sand.
26								
27								
28								
29								
30	50/4"		15	85	ML-CL	7.5YR 5/4	0.0	CLAY WITH SILT - brown; medium plasticity, some medium
31								to fine-grained sand.
32								Adding 2-gallongs of water to hole.
33								
34								
35								
36	5,5,36		5	95	CL	7.5YR 4/3	0.8	LEAN CLAY - brown; some fine-grained sand.
37								
38								
39								
40	5,19,27			100	CL	5YR 5/4	0.8	LEAN CLAY - reddish brown; medium plasticity, with silt.
41								
42								
43								
44								
45	6,15,28		5	95	ML-CL	5YR 5/4	0.0	SILT WITH CLAY - reddish brown; little fine-grained sand;
46								medium to low plasticity.
47								
48								
49	3,13,34		5	95	ML	5YR 5/4	0.0	SILT - reddish brown; low plasticity, with clay, little sand.
50								
51								
52								
53								
54								
55	40,50/4"		10	90	ML	7.5YR 4/4	1.2	SILT - brown; with clay.
56								
57								
58		90		10	GM			SILTY GRAVEL; angular gravel 1/2" to 1" in cuttings.
59								
60	15,43,47		10	90	CL	7.5YR 5/4	2.4	LEAN CLAY - brown; with silt; low plasticity, some fine to
61								medium-grained sand, very moist/wet cuttings.
62								
63								
64								
65	20,30,42	5	15	80	CL	7.5YR 3/4	0.7	LEAN CLAY WITH SAND - dark brown; low plasticity;
66								some medium to fine-grained sand.
67								
68								
69								

Project Name: Central & Camelback Project No.: 81613						Boring No.: CC-07		Sheet 3 of 3
Depth	Blow	Estimated %			USCS	Munsell		Logged By/Date: Chris Robertson 8/16/2005
(Ft)	Counts	GR	SA	FI	Symbol	Color	PID	Checked By/Date:
70		10	10	80	CL	7.5YR 4/4	1.0	LEAN CLAY - brown; low plasticity, with silt, some sand
71								and gravel.
72								
73								
74								
75								
76								
77								
78								
79								
80	12,28,50/6"		5	95	CL	7.5YR 4/4	0.6	LEAN CLAY - brown; low plasticity, with silt, minor sand.
81								
82								
83								
84								
85								
86								
87								
88								
89								
90			5	95	CL	7.5YR 4/4	1.4	Similar to above.
91								
92								
93								
94								
95								
96								
97								
98								
99								
100	19,32,48		5	95	CL	7.5YR 4/4	0.4	LEAN CLAY - brown; low plasticity, minor sand.
101								
102								T.D. = 102' bls.
103								
104								
105								
106								
107								
108								
109								
110								
111								
112								
113								
114								

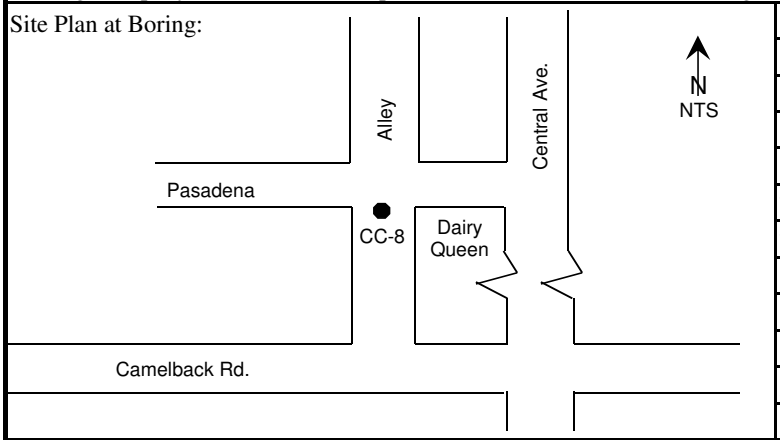
HYDRO GEO CHEM, INC.

Geologic Boring Log

Project Name: Central and Camelback WQARF Site — Boring No.: CC-08

Drilling Company: WDC Wells & Exploration — Driller: George Guzman — Project No.: 81613

Site Plan at Boring:



Drilling Equipment:	CME-85
Drilling Method: Auger	
Bit Type: Auger	Size: 10"
Started, Time: 11:03	Date: 8/16/2005
Completed, Time 16:00	Date: 8/17/2005
Water Depth, First (Ft):	63.8
Water Depth, After days (Ft):	NA
Casing Depth (Ft):	100
Boring Depth (Ft):	102
Screened Interval (Ft):	45-95
Logged By/Date:	Chris Robertson
Checked By/Date:	

Depth (Ft)	Blow Counts	Estimated % GR	SA	FI	USCS Symbol	Munsell Color	PID	Sample Description
0		50	25	25	FILL			FILL - 3" of asphalt, 9" of ABC fill.
1			10	90	CL	5YR 4/4	0.5	LEAN CLAY - reddish brown; medium plasticity, with sand.
2								
3								
4								
5								
6			10	90	CL	7.5YR 6/4	0.7	LEAN CLAY - light brown; medium plasticity, with fine to
7								medium grained sand.
8								
9								
10	8,20,30		10	90	ML	7.5YR 5/4	0.4	SILT - brown; with clay, low plasticity, same sand.
11								
12								
13								
14								
15	5,14,17			100	CL	7.5YR 4/4	1.0	LEAN CLAY - brown; with silt, medium plasticity.
16								
17								
18								
19								
20	12,35,46			100	CL	7.5YR 4/3	0.3	LEAN CLAY - brown; with silt, low to medium plasticity.
21								
22								
23								
24								

Project Name: Central & Camelback Project No.: 81613 Boring No.: CC-08 Sheet 2 of 3

Logged By/Date: Chris Robertson 8/17/2005

Checked By/Date:

Depth (Ft)	Blow Counts	Estimated % GR	SA	FI	USCS Symbol	Munsell Color	PID	
25	11, 50/4"		15	85	ML	5YR 4/4	0.2	SILT - reddish brown; with fine sand, low plasticity.
26								
27								
28								
29								
30	43, 50/3"		15	85	CL	5YR 5/4	0.4	LEAN CLAY - reddish brown; with fine sand, medium to
31								low plasticity.
32								
33								Added water to hole.
34								
35			10	90	CL	5YR 4/4	0.9	LEAN CLAY - reddish brown; with silt and fine sand,
36								medium to low plasticity.
37								
38								
39								
40	30, 50/6"	5		95	CL	5YR 5/4	0.3	LEAN CLAY - reddish brown; medium plasticity, some
41								gravel, mottled with white.
42								
43								
44								
45	25,40,50/4"		30	70	ML	5YR 4/4	0.1	SILT - reddish brown; with fine sand and clay, low plasticity.
46								
47								
48								
49								
50	30,50/5"		10	90	CL	7.5YR 5/4	0.6	LEAN CLAY - brown; with silt and fine sand, low plasticity.
51								
52								
53								
54								
55	50/6"		15	85	CL	7.5YR 4/4	0.3	LEAN CLAY WITH SAND - brown; with silt, moderate
56								cementation.
57								
58								
59								
60	23,45,50		15	85	ML	7.5YR 5/6	0.8	SILT WITH SAND - strong brown.
61								
62								
63								
64								
65			15	85	ML	7.5YR 5/6	NA	SILT WITH SAND - strong brown.
66								
67								
68								
69								

Project Name: Central & Camelback Project No.: 81613 Boring No.: CC-08 Sheet 3 of 3

Logged By/Date: Chris Robertson 8/17/2005

Checked By/Date:

Depth (Ft)	Blow Counts	Estimated % GR	SA	FI	USCS Symbol	Munsell Color	PID	
70	40, 50/9"		15	85	ML	7.5YR 4/4	0.1	SILT - brown; with fine grained sand.
71								
72								
73								
74								
75								
76								
77								
78								
79	27,45,50/4"		20	80	CL	5YR 5/4	0.3	LEAN CLAY WITH SAND - reddish brown; medium
80								plasticity.
81								
82								
83								
84								
85								
86								
87								
88								
89								
90								
91	32,40,50/6"		10	90	CL	5YR 4/4	0.1	LEAN CLAY - reddish brown; some sand; medium plasticity.
92								
93								
94								
95								
96								
97								
98								
99								
100	28,32,46		10	90	CL	5YR 4/4	0.5	LEAN CLAY - reddish brown; some sand; medium plasticity.
101								
102								T.D. = 102' bls.
103								
104								
105								
106								
107								
108								
109								
110								
111								
112								
113								
114								

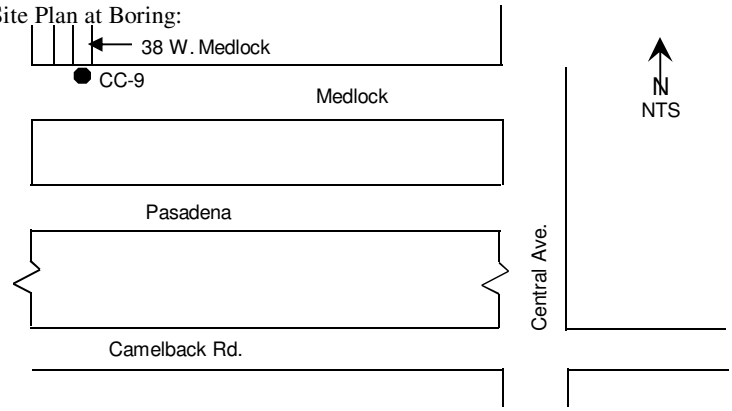
HYDRO GEO CHEM, INC.

Geologic Boring Log

Project Name: Central and Camelback WQARF Site — Boring No.: CC-09

Drilling Company: WDC Wells & Exploration — Driller: George Guzman — Project No.: 81613

Site Plan at Boring:



Drilling Equipment:	CME-85
Drilling Method: Auger	
Bit Type: Auger	Size: 10"
Started, Time:	Date: 8/17/2005
Completed, Time:	Date: 8/18/2005
Water Depth, First (Ft):	61.3
Water Depth, After days (Ft):	NA
Casing Depth (Ft):	95
Boring Depth (Ft):	102
Screened Interval (Ft):	45-95
Logged By/Date:	Chris Robertson
Checked By/Date:	

Depth (Ft)	Blow Counts	Estimated % GR	SA	FI	USCS Symbol	Munsell Color	PID	Sample Description
0		50	25	25	FILL	5YR 4/1		FILL - dark gray; 4" of asphalt and then ABC fill.
1								
2								
3			15	85	CL	5YR 5/4		LEAN CLAY WITH SAND - reddish brown.
4								
5	GRAB		10	90	CL	5YR 5/4	0.1	LEAN CLAY - reddish brown; some sand, low to medium
6								plasticity.
7								
8								
9								
10	18,35,50/4"			100	ML	5YR 5/4	0.3	SILT - reddish brown; low plasticity.
11								
12								
13								
14								
15	15,25,30			100	CL	5YR 4/4	0.6	LEAN CLAY - reddish brown; low to medium plasticity.
16								
17								
18								
19								
20	20,50/6"		5	95	CL	7.5YR 5/4	0.6	LEAN CLAY - brown; low to moderate plasticity, some
21								white mottling.
22								
23								
24								

Project Name: Central & Camelback Project No.: 81613						Boring No.: CC-09		Sheet 2 of 3
Depth	Blow	Estimated %			USCS	Munsell		Logged By/Date: Chris Robertson 8/18/2005
(Ft)	Counts	GR	SA	FI	Symbol	Color	PID	Checked By/Date:
25	38,50/6"		5	95	CL	7.5YR 5/4	1.0	LEAN CLAY - brown; with sand, medium plasticity, white
26								mottling.
27								
28								Adding water to hole.
29								
30	18,40,50/3"		10	90	CL	7.5YR 5/6	0.3	LEAN CLAY - strong brown; with sand, medium plasticity.
31								
32								
33								
34								
35	40,50/3"	10	10	80	CL	5YR 5/6	0.2	LEAN CLAY WITH SAND - yellowish red; 1/4" to 1"
36								angular gravel in cuttings.
37								
38								
39								
40	37,50/6"	10	10	80	CL	5YR 5/6	NA	LEAN CLAY WITH SAND - yellowish red; similar to above.
41								
42								
43								
44								
45								
46	27,50/6"		5	95	CL	5YR 5/6	0.4	LEAN CLAY - yellowish red; low to moderate plasticity,
47								some sand.
48								
49								
50								
51	23,27,35	15	35	50	SC	5YR 4/4	NA	CLAYEY SAND WITH GRAVEL - reddish brown; sand is
52								well graded.
53								
54								
55	27,33,35		45	55	SC	5YR 4/4	0.7	CLAYEY SAND - reddish brown.
56								
57								
58								
59								
60	32,35,41	10	35	55	SC	5YR 6/4	0.3	CLAYEY SAND - light reddish brown; 1/4" - 1" gravel in
61								cuttings.
62								
63								
64								
65	23,50/6"	10	20	70	SC	5YR 5/4	0.2	CLAYEY SAND - reddish brown.
66								
67								
68								
69								

Project Name: Central & Camelback Project No.: 81613						Boring No.: CC-09		Sheet 3 of 3
Depth	Blow	Estimated %			USCS	Munsell		Logged By/Date: Chris Robertson 8/18/2005
(Ft)	Counts	GR	SA	FI	Symbol	Color	PID	Checked By/Date:
70	50/6"	15	15	70	CL	5YR 6/4	0.1	SANDY LEAN CLAY WITH GRAVEL - light reddish brown;
71								wet.
72								
73								
74								
75	50/3"		15	85	CL	5YR 6/4	0.3	LEAN CLAY WITH SAND - light reddish brown; wet.
76								
77								
78								
79								
80	50/3"		10	90	CL	5YR 5/4	0.4	LEAN CLAY - reddish brown; with sand, wet.
81								
82								
83								
84								
85								
86								
87								
88								
89								
90	50/6", 50/2"		5	95	CL	5YR 6/4	0.8	LEAN CLAY - light reddish brown; low plasticity, some
91								sand, wet.
92								
93								
94								
95								
96								
97								
98								
99								
100	50/4"		5	95	CL	5YR 5/4	0.4	LEAN CLAY - reddish brown; low plasticity, some sand,
101								wet.
102								T.D. = 102' bls.
103								
104								
105								
106								
107								
108								
109								
110								
111								
112								
113								
114								

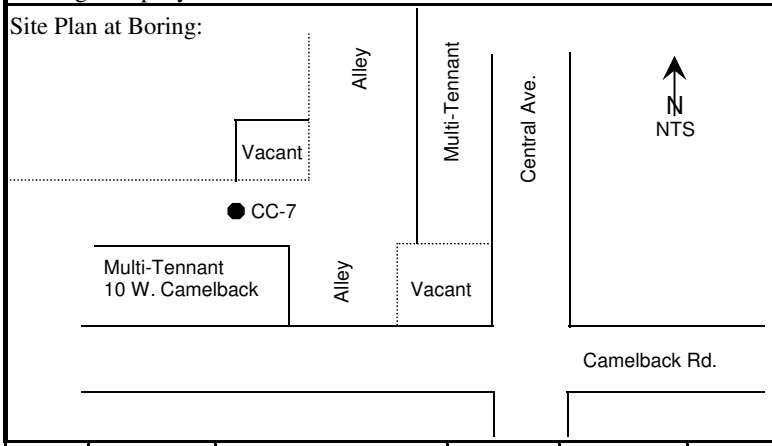
HYDRO GEO CHEM, INC.

Geologic Boring Log

Project Name: Central and Camelback WQARF Site — Boring No.: CC-10

Drilling Company: Yellow Jacket — Driller: Mike Lester — Project No.: 81643

Site Plan at Boring:



Drilling Equipment:	BK-81
Drilling Method: Auger	
Bit Type: Auger	Size: 10"
Started, Time: 12:30	Date: 6/8/2006
Completed, Time 10:30	Date: 6/9/2006
Water Depth, First (Ft):	63.8
Water Depth, After days (Ft):	NA
Casing Depth (Ft):	100
Boring Depth (Ft):	101
Screened Interval (Ft):	45-95
Logged By/Date:	N. J. Babb 6/8-9/2006
Checked By/Date:	

Depth (Ft)	Blow Counts	Estimated % GR	SA	FI	USCS Symbol	Munsell Color	PID	Sample Description
0								4" Asphaltic-Concrete. 9" dark gray gravel/sand fill.
1		0	5	95	CL	7.5 YR 5/4		LEAN CLAY w/ SILT. Brown (7.5YR 5/4). Low to medium pla
2								
3		<5	75	20	SM	7.5YR 5/3		SILTY SAND. Brown (7.5YR 5/3). Sand poorly graded, fine. T
4								
5		0	10	90	CL	7.5 YR 5/4		LEAN CLAY w/ SILT. Brown (7.5YR 5/4). Low to medium pla
6								
7		0	5	95	ML	7.5YR 6/4		SILT. Light Brown (7.5YR 6/4). Trace fine sand. Dry
8								
9								
10	10,11,14	0	10	90	ML	7.5YR 6/4	0	SILT. Light Brown (7.5YR 6/4). Sand poorly graded, fine. Very
11								
12								
13								
14								
15	12,12,15	0	5	95	ML	7.5YR 5/4	0.4	SILT. Light Brown (7.5YR 6/4). Sand poorly graded, fine. Very
16								
17								
18								
19								
20	50/6"	0	5	95	CL-ML	7.5yr 5/4	0	SILT. Brown (7.5YR 5/4). Sand poorly graded, trace fine. Low
21								
22								
23								
24								

Project Name: Central & Camelback Project No.: 81643 Boring No.: CC-10 Sheet 2 of 3

Logged By/Date: Chris Robertson 6/9/2006

Checked By/Date:

Depth (Ft)	Blow Counts	Estimated % GR	SA	FI	USCS Symbol	Munsell Color	PID	
25	50/6"	0	5	95	ML-CL	7.5YR5/4	0.0	SILT W/ CLAY. Brown (7.5YR 5/4). Sand poorly graded, trace
26								
27								
28								
29								
30	50/6"	0	5	95	ML	7.5YR 5/4	0.0	SILT. Brown (7.5YR 5/4). Sand poorly graded, trace fine. Hard.
31								
32								
33								
34								
35	50/6"	0	15	85	CL	7.5YR 5/4	0	LEAN CLAY W/ SAND. Brown (7.5 YR5/4). Low to medium
36								
37								
38								
39								
40	50/6"	0	<5	95	CL	7.5YR 5/4	0	LEAN CLAY W/ SILT. Brown (7.5YR 5/4). Low plasticity. Ha
41								
42								
43								
44								
45	50/6"	0	0	100	ML	7.5YR 5/4	0.0	SILT. Brown (7.5YR 5/4). Hard. Moist.
46								
47								
48								
49								
50	14,28,29	0	20	80	ML	7.5YR 5/4	0.0	SILT W/SAND. Brown (7.5YR 5/4). Sand poorly graded, fine.
51								
52								
53								
54								
55	20,21,25		60	40	SC	7.5YR 5/4	0	CLAYEY SAND. Brown (7.5YR 5/4). Dense. Moist.
56								
57								
58								
59								
60	16,18,21	0	30	70	CL	7.5YR 5/4	0	SANDY CLAY. Brown (7.5YR 5/4). Hard. Moist.
61								
62								
63								
64								
65	50/6"	0	30	70	CL	7.5YR 4/4	1.6	SILTY CLAY W/SAND. Brown (7.5YR 4/4). Sand poorly grad
66								
67								
68								
69								

Project Name: Central & Camelback Project No.: 81643 Boring No.: CC-10 Sheet 3 of 3

Logged By/Date: Chris Robertson 6/9/2006

Checked By/Date:

Depth (Ft)	Blow Counts	Estimated % GR	SA	FI	USCS Symbol	Munsell Color	PID	
70	50/6"	0	30	70	CL	7.5YR 4/4	2.8	SILTY CLAY W/SAND. Brown (7.5YR 4/4). Sand poorly grad
71								
72								
73								
74								
75	50/6"	0	30	70	CL	7.5YR 4/4	3.2	SILTY CLAY W/SAND. Brown (7.5YR 4/4). Sand poorly grad
76								
77								
78								
79								
80	50/6"	0	30	70	CL	7.5YR 4/4	3.8	SILTY CLAY W/SAND. Brown (7.5YR 4/4). Sand poorly grad
81								
82								
83								
84								
85	50/6"	0	30	70	CL	7.5YR 4/4	64.4	SILTY CLAY W/SAND. Brown (7.5YR 4/4). Sand poorly grad
86								
87								
88								
89								
90	50/6"	0	30	70	CL	7.5YR 4/4	52.1	SILTY CLAY W/SAND. Brown (7.5YR 4/4). Sand poorly grad
91								
92								
93								
94								
95	50/6"	0	30	70	CL	7.5YR 4/4	45.5	SILTY CLAY W/SAND. Brown (7.5YR 4/4). Sand poorly grad
96								
97								
98								
99								
100								
101								TOTAL DEPTH 101'
102								
103								
104								
105								
106								
107								
108								
109								
110								
111								
112								
113								
114								

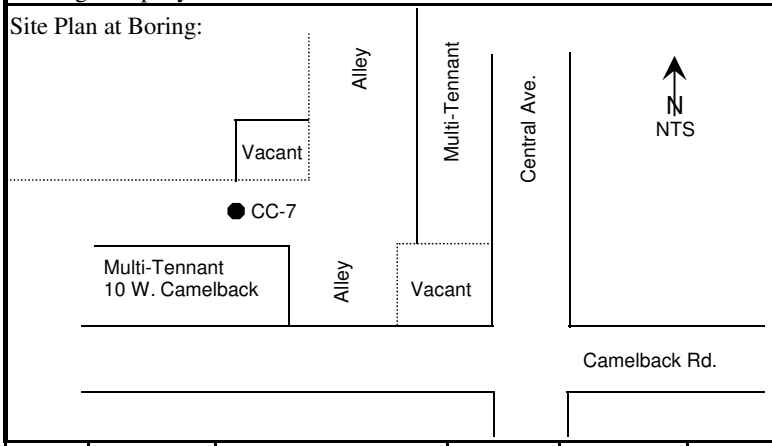
HYDRO GEO CHEM, INC.

Geologic Boring Log

Project Name: Central and Camelback WQARF Site — Boring No.: CC-11

Drilling Company: Yellow Jacket — Driller: Mike Lester — Project No.: 81643

Site Plan at Boring:



Drilling Equipment:	BK-81
Drilling Method: Auger	
Bit Type: Auger	Size: 10"
Started, Time: 8:50	Date: 6/6/2006
Completed, Time 10:45	Date: 6/7/2006
Water Depth, First (Ft):	63.8
Water Depth, After days (Ft):	NA
Casing Depth (Ft):	95
Boring Depth (Ft):	101
Screened Interval (Ft):	45-95
Logged By/Date:	Chris Robertson
Checked By/Date:	

Depth (Ft)	Blow Counts	Estimated % GR	SA	FI	USCS Symbol	Munsell Color	PID	Sample Description
0								3" Asphaltic-Concrete. 9" dark gray gravel/sand fill.
1		0	5	95	CL	7.5 YR 5/4		LEAN CLAY w/ SILT. Brown (7.5YR 5/4). Low to medium pla
2								
3		<5	75	20	SM	7.5YR 5/3		SILTY SAND. Brown (7.5YR 5/3). Sand poorly graded, fine. T
4								
5		0	10	90	CL	7.5 YR 5/4		LEAN CLAY w/ SILT. Brown (7.5YR 5/4). Low to medium pla
6								
7		0	5	95	ML	7.5YR 6/4		SILT. Light Brown (7.5YR 6/4). Trace fine sand. Dry
8								
9								
10	10,11,14	0	10	90	ML	7.5YR 6/4	0	SILT. Light Brown (7.5YR 6/4). Sand poorly graded, fine. Very
11								
12								
13								
14								
15	12,12,15	0	5	95	ML	7.5YR 5/4	0.4	SILT. Light Brown (7.5YR 6/4). Sand poorly graded, fine. Very
16								
17								
18								
19								
20	50/6"	0	5	95	CL-ML	7.5yr 5/4	0	SILT. Brown (7.5YR 5/4). Sand poorly graded, trace fine. Low
21								
22								
23								
24								

Project Name: Central & Camelback Project No.: 81643 Boring No.: CC-11 Sheet 2 of 3

Logged By/Date: Chris Robertson 6/7/2006

Checked By/Date:

Depth (Ft)	Blow Counts	Estimated % GR	SA	FI	USCS Symbol	Munsell Color	PID	
25	50/6"	0	5	95	ML-CL	7.5YR5/4	0.0	SILT W/ CLAY. Brown (7.5YR 5/4). Sand poorly graded, trace
26								
27								
28								
29								
30	50/6"	0	5	95	ML	7.5YR 5/4	0.0	SILT. Brown (7.5YR 5/4). Sand poorly graded, trace fine. Hard.
31								
32								
33								
34								
35	50/6"	0	15	85	CL	7.5YR 5/4	0	LEAN CLAY W/ SAND. Brown (7.5 YR5/4). Low to medium
36								
37								
38								
39								
40	50/6"	0	<5	95	CL	7.5YR 5/4	0	LEAN CLAY W/ SILT. Brown (7.5YR 5/4). Low plasticity. Ha
41								
42								
43								
44								
45	50/6"	0	0	100	ML	7.5YR 5/4	0.0	SILT. Brown (7.5YR 5/4). Hard. Moist.
46								
47								
48								
49								
50	14,28,29	0	20	80	ML	7.5YR 5/4	0.0	SILT W/SAND. Brown (7.5YR 5/4). Sand poorly graded, fine.
51								
52								
53								
54								
55	20,21,25		60	40	SC	7.5YR 5/4	0	CLAYEY SAND. Brown (7.5YR 5/4). Dense. Moist.
56								
57								
58								
59								
60	16,18,21	0	30	70	CL	7.5YR 5/4	0	SANDY CLAY. Brown (7.5YR 5/4). Hard. Moist.
61								
62								
63								
64								
65	50/6"	0	30	70	CL	7.5YR 4/4	1.6	SILTY CLAY W/SAND. Brown (7.5YR 4/4). Sand poorly grad
66								
67								
68								
69								

Project Name: Central & Camelback Project No.: 81643 Boring No.: CC-11 Sheet 3 of 3

Logged By/Date: Chris Robertson 6/7/2006

Checked By/Date:

Depth (Ft)	Blow Counts	Estimated % GR	SA	FI	USCS Symbol	Munsell Color	PID	
70	50/6"	0	30	70	CL	7.5YR 4/4	2.8	SILTY CLAY W/SAND. Brown (7.5YR 4/4). Sand poorly grad
71								
72								
73								
74								
75	50/6"	0	30	70	CL	7.5YR 4/4	3.2	SILTY CLAY W/SAND. Brown (7.5YR 4/4). Sand poorly grad
76								
77								
78								
79								
80	50/6"	0	30	70	CL	7.5YR 4/4	3.8	SILTY CLAY W/SAND. Brown (7.5YR 4/4). Sand poorly grad
81								
82								
83								
84								
85	50/6"	0	30	70	CL	7.5YR 4/4	64.4	SILTY CLAY W/SAND. Brown (7.5YR 4/4). Sand poorly grad
86								
87								
88								
89								
90	50/6"	0	30	70	CL	7.5YR 4/4	52.1	SILTY CLAY W/SAND. Brown (7.5YR 4/4). Sand poorly grad
91								
92								
93								
94								
95	50/6"	0	30	70	CL	7.5YR 4/4	45.5	SILTY CLAY W/SAND. Brown (7.5YR 4/4). Sand poorly grad
96								
97								
98								
99								
100								
101								TOTAL DEPTH 101'
102								
103								
104								
105								
106								
107								
108								
109								
110								
111								
112								
113								
114								

HYDRO GEO CHEM, INC.

Geologic Boring Log

Project Name: ADEQ - Central & Camelback RI TAO — Boring No.: CC-12

Drilling Company: WDC Exploration & Drilling — Driller: Miguel Alvarado — Project No.: 87405

Site Plan at Boring Location:

Drilling Equipment: BK - 81
Drilling Method: Hollow Stem Auger
Bit Type: Auger — Size: 8"
Started, Time: 14:00 — Date: 2/22/07
Completed, Time: 11:00 — Date: 2/23/07
Water Depth, First (Ft): Approx. 60' bls
Water Depth, After 48 Hours (Ft):
Casing Depth (Ft): 100'
Boring Depth (Ft): 105'
Screened Interval (Ft): 45 to 95 bls
Logged By/Date: NJ. Babb on 2/22-23/07
Checked By/Date: R. Petrus on 4/10/07

Samp	Depth (Ft)	PID (ppm)	Blow Counts	Estimated % GR	SA	FI	USCS Symbol	Munsell Color	HCl Rxn	Sample Description
G	0	N/A	N/A	50	25	25	FILL	5YR 4/1	N/A	3" ASPHALT - w/ 9" fill (dark gray, gravelly sand)
	1									
	2									
	3									
	4									
G	5	N/A	N/A	0	10	90	CL	7.5YR 5/4	N/A	CLAY - w/sand, low to medium plasticity
	6									
	7									
	8									
	9									
SS	10	3.5	17,27,36/6	0	0	100	ML	7.5YR 6/4	M	SILT - none to low dry strength, medium to high
	11									plasticity, moist, very stiff, lt. brown.
	12									
	13									
	14									
	15									
	16									
	17									
	18									
	19									
SS	20	23.4	37, 50/6	0	10	90	ML	7.5YR 5/4	M	SILT- w/fine sand, medium plasticity, dry to moist,
	21									hard, brown.
	22									
	23									
	24									

Project Name: ADEQ - C & C RI TAO Project No.: 87405 Boring No.: CC-12

Logged By/Date: NJ. Babb on 2/22/07
Checked By/Date: R. Petrus on 4/10/07

	Depth (Ft)	PID (ppm)	Blow Counts	Estimated % GR	SA	FI	USCS Symbol	Munsell Color	HCl Rxn	
	25									
	26									
	27									
	28									
	29									
SS	30	14.3	33, 50/6	0	5	95	CL	10YR 5/4	M	CLAY - w/silt, medium plasticity, dry to moist,
	31									hard, yellowish-brown.
	32									
	33									
	34									
	35									
	36									
	37									
	38									
	39									
SS	40	3.4	50/6	0	0	100	CL	7.5YR 5/3	W	CLAY- w/silt, medium plasticity, dry to moist,
	41									hard, brown.
	42									
	43									
	44									
	45									
	46									
	47									
	48									
	49									
SS	50	0	15, 50/6	0	20	80	ML	7.5YR 5/4	N	SILT- w/fine sand, low plasticity, dry to moist,
	51									very stiff to hard, brown.
	52									
	53									
	54									
	55									
	56									
	57									
	58									
	59									Encountered water table @ approx. 59 ft bls
SS	60	26.1	35, 50/6	0	20	80	ML	10YR 3/4	N	SILT- w/fine sand, low plasticity, saturated, very
	61									stiff to hard, dark yellowish-brown.
	62									
	63									
	64									
	65									
	66									
	67									
	68									
	69									

Project Name: ADEQ - C & C RI TAO Project No.: 87405 Boring No.: CC-12

	Depth (Ft)	PID (ppm)	Blow Counts	Estimated % GR	SA	FI	USCS Symbol	Munsell Color	HCl Rxn	Logged By/Date: NJ. Babb on 2/23/07 Checked By/Date: 4/10/07
SS	70	10.1	35, 50/6	0	0	100	CH	10YR 6/3	S	FAT CLAY- w/silt, mottled w/caliche (10YR 8/1),
	71									very high dry strength, medium plasticity, satur-
	72									ated, hard, pale brown.
	73	**********								*Note removed plug from Hollow Stem Auger
	74									
	75									
	76									
	77									
	78									
	79									
SS	80	14.7	37, 50/6	0	0	100	CL	10YR 3/4	N	LEAN CLAY- w/silt, low dry strength, medium
	81									plasticity, wet, hard, dark yellowish-brown.
	82									
	83									
	84									
	85									
	86									
	87									
	88									
	89									
SS	90	0	50/6	0	30	70	CL	7.5 YR 5/4	W	SILTY CLAY- w/fine sand, mottled w/pinkish-
	91									white caliche (7.5YR 8/2), high plasticity, wet,
	92									hard, micaceous, brown.
	93									
	94									
	95									
	96									
	97									
	98									
	99									
SS	100	0	50/6	0	30	70	CL	7.5 YR 5/4	W	SILTY CLAY- w/fine sand, mottled w/pinkish-
	101									white caliche (7.5YR 8/2), high plasticity, wet,
	102									hard, micaceous, brown.
	103									
	104									
	105									Total Boring Depth = 105 ft
	106									
	107									
	108									
	109									
	110									
	111									
	112									
	113									
	114									

HYDRO GEO CHEM, INC.

Geologic Boring Log

Project Name: ADEQ - Central & Camelback RI TAO — Boring No.: CC-13

Drilling Company: WDC Drilling & Exploration — Driller: Miguel Alvarado — Project No.: 87405

Site Plan at Boring Location:

Drilling Equipment: BK - 81
Drilling Method: Hollow Stem Auger
Bit Type: Auger — Size: 8"
Started, Time: 9:30 — Date: 2/21/07
Completed, Time: 10:30 — Date: 2/22/07
Water Depth, First (Ft): Approx. 58' bls
Water Depth, After 48 Hours (Ft): 58.05'
Casing Depth (Ft): 100'
Boring Depth (Ft): 105'
Screened Interval (Ft): 45 to 95 bls
Logged By/Date: NJ. Babb on 2/21-22/07
Checked By/Date: R. Petrus on 4/10/07

Samp	Depth (Ft)	PID (ppm)	Blow Counts	Estimated % GR	SA	FI	USCS Symbol	Munsell Color	HCl Rxn	Sample Description
G	0	N/A	N/A	50	25	25	FILL	5YR 4/1	N/A	3" Asphalt - w/ 9" fill (dark gray, gravelly sand)
	1									
	2									
	3									
	4									
G	5	N/A	N/A	0	10	90	CL	7.5YR 5/4	N/A	CLAY - w/sand, low to medium plasticity
	6									
	7									
	8									
	9									
SS	10	15.9	50/6				CL	7.5YR 7/3	S	LEAN CLAY- mottled w/very pale brown caliche
	11									(10YR 8/3), medium to high dry strength, low to
	12									medium plasticity, dry, hard, pink.
	13									
	14									
	15									
	16									
	17									
	18									
	19									
SS	20	7.1	50/6	0	10	90	ML	7.5YR 5/4	M	SILT- w/fine sand, medium plasticity, dry to moist,
	21									hard, brown.
	22									
	23									
	24									

Project Name: ADEQ C & C RI TAO Project No.: 87405 Boring No.: CC-13

Logged By/Date: NJ. Babb on 2/21/07
Checked By/Date: R. Petrus on 4/10/07

	Depth (Ft)	PID (ppm)	Blow Counts	Estimated % GR	SA	FI	USCS Symbol	Munsell Color	HCl Rxn	
	25									
	26									
	27									
	28									
	29									
SS	30	2.7	50/6	0	5	95	CL	10YR 5/4	M	CLAY - w/silt, medium plasticity, dry to moist,
	31									hard, yellowish-brown.
	32									
	33									
	34									
	35									
	36									
	37									
	38									
	39									
SS	40	0	49, 50/6	0	0	100	CL	10YR 6/3	W	CLAY - w/silt, medium plasticity, dry to moist,
	41									hard, yellowish-brown.
	42									
	43									
	44									
	45									
	46									
	47									
	48									
	49									
SS	50	4.4	50, 50/6	0	0	100	CH	10YR 7/2	S	FAT CLAY- w/silt, high to very high dry strength,
	51									medium plasticity, dry to moist, hard, lt gray.
	52									
	53									
	54									
	55									
	56									
	57									
	58									Encountered water table @ approx. 58 ft bls
	59									
SS	60	2.2	50/4	0	0	100	CH	10YR 7/2	S	FAT CLAY- w/silt, high to very high dry strength,
	61									medium plasticity, saturated, hard, lt gray.
	62									
	63									
	64									
	65									
	66									
	67									
	68									
	69									

Project Name: ADEQ - C & C RI TAO Project No.: 87405 Boring No.: CC-13

Logged By/Date: NJ. Babb on 2/22/07

Checked By/Date: R. Petrus on 4/10/07

	Depth (Ft)	PID (ppm)	Blow Counts	Estimated % GR	SA	FI	USCS Symbol	Munsell Color	HCl Rxn	
SS	70	6.8	50/4	0	0	100	CH	10YR 6/3	S	FAT CLAY- w/silt, mottled w/caliche (10YR 8/1),
	71									very high dry strength, medium plasticity, satur-
	72									ated, hard, pale brown
	73									
	74									
	75									
	76									
	77									
	78									
	79	**********								*Note plug in Hollow Stem Auger
SS	80	24.8	50/6	0	0	100	CL	10YR 3/4	W	LEAN CLAY- w/silt, mottled w/very pale brown
	81									caliche, medium plasticity, wet, hard, dark yellow-
	82									ish-brown.
	83									
	84									
	85									
	86									
	87									
	88									
	89									
SS	90	36.1	50/6	0	30	70	CL	7.5YR 6/4	M	Silty Clay- w/fine sand, mottled w/very pale brown
	91									caliche, low plasticity, wet, hard, lt brown.
	92									
	93									
	94									
	95									
	96									
	97									
	98									
	99									
SS	100	0	50/6	0	10	90	CL	7.5YR 5/4	S	LEAN CLAY- w/silt, high plasticity, wet, hard,
	101									brown.
	102									
	103									
	104									
	105									Total Boring Depth = 105 ft
	106									
	107									
	108									
	109									
	110									
	111									
	112									
	113									
	114									

HYDRO GEO CHEM, INC.

Geologic Boring Log

Project Name: ADEQ - Central & Camelback RI TAO — Boring No.: CC-14

Drilling Company: WDC Drilling & Exploration — Driller: George Guzman — Project No.: 87405

Site Plan at Boring Location:

Drilling Equipment: BK - 81
Drilling Method: Hollow Stem Auger
Bit Type: Auger — Size: 10"
Started, Time: 10:05 — Date: 4/12/07
Completed, Time: 16:30 — Date: 4/13/07
Water Depth, First (Ft): Approx. 59 ft bls
Water Depth, After 48 Hours (Ft): 58.05 ft bls
Casing Depth (Ft): 101'
Boring Depth (Ft): 102'
Screened Interval (Ft): 45 to 95 ft bls
Logged By/Date: CC. Robinson on 4/12-13/07
Checked By/Date: R. Petrus on 5/9/07

Samp	Depth (Ft)	PID (ppm)	Blow Counts	Estimated % GR	SA	FI	USCS Symbol	Munsell Color	HCl Rxn	Sample Description
G	0	N/A	N/A	30	60	10	FILL	5YR 4/1	N/A	3" Asphalt - followed by 4 ft. of ABC fill
	1									
	2									
	3									
	4									
G	5	N/A	N/A	0	20	80	CL	5YR 4/4	N/A	LEAN CLAY - w/sand, reddish-brown, medium
	6									plasticity.
	7									
	8									
	9									
S	10	0	6/28/2021	0	10	90	CL	5YR 4/4	N/A	LEAN CLAY - w/sand, reddish-brown, medium
	11									plasticity.
	12									
G	13	N/A	N/A	10	10	80	ML	7.5YR 5/4	N/A	SILT - w/some sand & fine gravel, brown, low
	14									plasticity.
	15									
	16									
	17									
	18									
	19									
S	20	0.3	17/29/33	10	10	80	ML	7.5YR 5/4	N/A	SILT- w/some sand & gravel, brown, low plasticity
	21									
G	22	N/A	N/A	20	20	60	ML	7.5YR 5/3	N/A	SILT- w/sand & gravel, brown, low plasticity.
	23									
	24									

Project Name: ADEQ C & C RI TAO Project No.: 87405 Boring No.: CC-14

Logged By/Date: CC. Robinson on 4/12/07
Checked By/Date: R. Petrus on 5/9/07

	Depth (Ft)	PID (ppm)	Blow Counts	Estimated % GR	SA	FI	USCS Symbol	Munsell Color	HCl Rxn	
	25									
	26									
	27									
	28									
	29									
S	30	1.8	17,46, 50/4	5	15	80	ML/CL	5YR 5/4	N/A	SILT/CLAY - brown, low plasticity,
	31									
	32									
G	33	N/A	N/A	25	20	55	CL	5YR 5/4	N/A	CLAY - w/sand & gravel, brown,
	34									
	35									
	36									
	37									
	38									
	39									
S	40	500	21/ 36/ 5	0	5	95	CL	7.5YR 4/4	N/A	CLAY - dark brown, medium plasticity, note hydro-
	41									carbon odor.
	42									
	43									
	44									
	45									
	46									
	47									
	48									
	49									
S	50	9.5	12/17/2027	0	15	85	ML	7.5YR 4/4	N/A	SILT- w/sand, brown, low plasticity
	51									
	52									
	53									
	54									
G	55	N/A	N/A	15	70	15	SW	7.5YR 4/4	N/A	SAND - well graded w/fines & gravel, brown
	56									
	57									
	58									
	59									*Encountered water table @ approx. 59 ft bls
S	60	1.3	13/ 26/ 28	10	75	15	SP	7.5YR 4/3	N/A	SAND - poorly graded w/fines & fine gravel,
	61									brown
	62									
	63									
	64									
	65									
G	66	N/A	N/A	0	5	95	CL	5YR 5/4	N/A	CLAY - w/fine sand, brown, medium plasticity
	67									
	68									
	69									

Project Name: ADEQ - C & C RI TAO Project No.: 87405 Boring No.: CC-14

Logged By/Date: CC. Robinson on 4/12-13/07

Checked By/Date: R. Petrus on 5/9/07

	Depth (Ft)	PID (ppm)	Blow Counts	Estimated % GR	SA	FI	USCS Symbol	Munsell Color	HCl Rxn	
S	70	1.6	12,19, 50/6	0	5	95	CL	5YR 5/4	N/A	CLAY- w/some fine sand, brown, medium
	71									plasticity
	72									
	73									
	74									
	75									
	76									
	77									
	78									
	79									
S	80	1	21/ 28/ 15	0	5	95	CL	5YR 5/4	N/A	CLAY- w/some sand, brown, medium plasticity
	81									
	82									*Note cementation is moderate in drill cuttings
	83									
	84									
	85									
	86									
	87									
	88									
	89									
S	90	1.3	15/ 12/ 17	0	5	95	CL	5YR 5/4	N/A	CLAY - w/some fine sand, brown, medium
	91									plasticity
	92									
	93									
	94									
	95									
	96									
	97									
	98									
	99									
S	100	2.1	18/ 28/ 24	0	5	95	CL	5YR 5/4	S	CLAY- w/some fine sand, brown, medium
	101									plasticity
	102									Total Boring Depth = 102 ft
	103									
	104									
	105									
	106									
	107									
	108									
	109									
	110									
	111									
	112									
	113									
	114									

Project: Central & Camelback WQARF Site | Boring: **CC-15** | Pg. 1 of 3

Drilling Co: Geomechanics SW - M.Shelquist | Drilling Method: Hollow Stem Auger - CME-95 | Date Started: 6/5/13

Location: Near 25 E. Colter Street, Phoenix (within right-of-way) | Sampler Type: Grab | Date Completed: 6/5/13

Desc. of Meas Pt: Top of Inner Casing | Logged by: S.Sutherland

Land Surf. Elev (ft amsl): 1142.0 | Meas. Pt. Elev: _____ | Reviewed by: C. Jacquemin

Blow Count	% Recovery	PID (ppm)	Samples	Depth - FT bgs	Graphic Log	DESCRIPTION	USCS Symbol	ESTIMATED % OF GR	SA	FI	Moisture
						BOREHOLE DIAMETER - 10-inches					
						Asphalt (4-inches thick)	SM		60	40	M
						Silty Sand - dark brown; moist; very fine to medium grained sand; trace coarse grained sand; trace clay					
		0		5							
		5.9		10		light brown; dry; some coarse gained sand; no clay			65	35	D
		10.2		15		medium brown; very fine to fine grained sand; trace clay; some weakly cemented nodules			60	40	D
		9.7		20		moist; very fine to medium grained sand; some clay; trace weakly cemented nodules			55	45	M
		33.9		25		trace clay			60	40	M
		37.0		30		Well-Graded Sand - medium brown; moist; very fine to medium grained sand, with coarse grained sand; trace subangular gravels	SW	5	60	5	M
				35							

HYDRO GEO CHEM, INC.

Lithologic Log of Soil Boring CC-15

Approved	Date	Revised	Date	Reference:	FIG.
CLJ	7/25/2013			CC-15	a

Project: Central & Camelback WQARF Site | Boring: **CC-15** | Pg. 2 of 3

Drilling Co: Geomechanics SW - M.Shelquist | Drilling Method: Hollow Stem Auger - CME-95 | Date Started: 6/5/13

Location: Near 25 E. Colter Street, Phoenix (within right-of-way) | Sampler Type: Grab | Date Completed: 6/5/13

Desc. of Meas Pt: Top of Inner Casing | Logged by: S.Sutherland

Land Surf. Elev (ft amsl): 1142.0 | Meas. Pt. Elev: _____ | Reviewed by: C. Jacquemin

Blow Count	% Recovery	PID (ppm)	Samples	Depth - FT bgs	Graphic Log	DESCRIPTION	USCS Symbol	ESTIMATED % OF GR	SA	FI	Moisture
		17.2				Silty Sand - medium brown; moist; very fine to medium grained sand; trace coarse grained sand; trace clay; weakly cemented	SM		65	35	M
		26.3		40		increasing cementation					M
		6.9		45		no coarse grained sand; strongly cemented			60	40	M
		11.8		50		Silty Clay - medium brown; moist; low plasticity clay and silt; trace very fine to fine grained sand; weakly cemented	CL		5	95	M
		26.3		55		Silty Sand - medium brown; moist; very fine to medium grained sand; some clay	SM		60	40	M
		44.1		60		trace clay; some coarse grained sand; moderate cementation			70	30	M
		14.3		65		Well-Graded Sand - medium to light brown; moist; very fine to coarse grained sand; some silt	SW		85	15	M
				70							

HYDRO GEO CHEM, INC.

Lithologic Log of Soil Boring CC-15

Approved	Date	Revised	Date	Reference:	FIG.
CLJ	7/25/2013			CC-15	b

Project: Central & Camelback WQARF Site | Boring: **CC-15** | Pg. 3 of 3

Drilling Co: Geomechanics SW - M.Shelquist | Drilling Method: Hollow Stem Auger - CME-95 | Date Started: 6/5/13

Location: Near 25 E. Colter Street, Phoenix (within right-of-way) | Sampler Type: Grab | Date Completed: 6/5/13

Desc. of Meas Pt: Top of Inner Casing | Logged by: S.Sutherland

Land Surf. Elev (ft amsl): 1142.0 | Meas. Pt. Elev: _____ | Reviewed by: C. Jacquemin

Blow Count	% Recovery	PID (ppm)	Samples	Depth - FT bgs	Graphic Log	DESCRIPTION	USCS Symbol	ESTIMATED % OF GR	SA	FI	Moisture
		30.7				Silty Sand - medium brown; moist; very fine to medium grained sand, some coarse grained sand; trace clay; moderate cementation	SM		65	35	M
		52.5		75		trace coarse grained sand; strongly cemented			60	40	M
		37.4		80		moderately cemented					M
		22.1		85							M
		19.6		90		wet; soft; some clay			60	40	W
		17.0		95							W
		22.9		100		with clay			55	45	W
						Total depth 100 ft bls.					

HYDRO GEO CHEM, INC.

Lithologic Log of Soil Boring CC-15

Approved	Date	Revised	Date	Reference:	FIG.
CLJ	7/25/2013			CC-15	C

ADEQ_LOG C&C.GPJ NEWPROJ.GDT 8/9/13

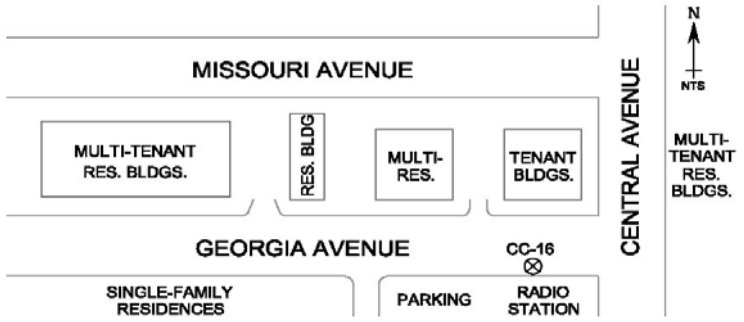
HYDRO GEO CHEM, INC.

Geologic Boring Log

Project Name: Central & Camelback RI TAO — Boring No.: CC-16

Drilling Company: WDC Exploration & Wells — Driller: Jose Miranda — Project No: 8740000,T3.2

Site Plan at Boring Location: Approx. 35 ft. west of Central Avenue in southside of Georgia Avenue R.O.W.; Phoenix, AZ.



Drilling Equipment: CME - 75
Drilling Method: Hollow-Stem Rotary Auger
Bit Type: 5 -Tooth — Size: 6.25"in. I.D.
Started, Time: 8:30 — Date: 5/15/08
Completed, Time: 15:20 — Date: 5/15/08
DTW, Pre-Dvlpt (Ft): 70.80 bgs — Date: 5/27/08
DTW,Post Dvlpt (Ft): 65.33 bgs — Date: 5/30/08
Casing Depth (Ft): 100 ft.
Boring Depth (Ft): 103 ft.
Screened Interval (Ft): 95 ft. to 45 ft. bgs
Logged By/Date: NJ. Babb on 5/15/08
Checked By/Date: K. Ross on 6/11/08

Samp Time	Depth (Ft)	PID (ppm)	Blow Counts	Estimated % GR	SA	FI	USCS Symbol	Munsell Color	HCl Rxn	Sample Description
8:30	0	0.5	Grab	<20	80	<5	SW	5YR 4/3	M	3"in. ASPHALT followed by:
	1									WELL GRADED SAND w/GRAVEL -very fine to
	2									medium sand w/trace fines; contains fine gravel,
	3									subrounded to sub angular, flat & elongated;
	4									maximum particle size, 10 mm; dry, reddish-brown.
	5									
	6									
	7									
	8									
	9									
9:10	10	0.5	7, 14, 20	25	35	40	ML	7.5YR 5/6	M	SANDY SILT w/GRAVEL - fine to medium sand &
	11		80%							silt, rounded to subrounded; contains few fine
	12		Recovery							gravel, subrounded to angular; maximum particle
	13									size, 20 mm; silt fines have low dry strength, slow
	14									dilatancy, non-plastic, non-cohesive; dry, strong-
	15									brown; loose to medium dense density.
	16									
	17									
	18									
	19									
9:35	20		5, 10, 15	0	40	60	CH	7.5YR 5/6	N	SANDY FAT CLAY - fine to medium sand and
	21		100%							clay; contains flakes of black mineral (micaceous);
	22		Recovery							clay fines have high dry strength, medium to high
	23									plasicity, medium to high toughness; moist,
	24									strong-brown; medium stiff to stiff consistency.

Project Name: Central & Camelback RI TAO				Project No.: 8740000, T3.2			Boring No.: CC-16			Sheet 2 of 3
Sample Time	Depth (Ft)	PID (ppm)	Blow Counts	Estimated % GR	SA	FI	USCS Symbol	Munsell Color	HCl Rxn	Logged By/Date: NJ. Babb on 5/15/08 Checked By/Date: K. Ross on 6/11/08
	25									
	26									
	27									
	28									
	29									
10:00	30	0	15, 50/5	5	80	15	SW- SM	7.5YR 5/4	S	WELL GRADED SAND w/SILT - fine to coarse
	31		50%							sand and silt; contains trace amounts of fine to
	32		Recovery							coarse gravel, subrounded to angular; maximum
	33									particle size, 1"in.; fines are non-plastic; dry,
	34									strong-brown; medium dense to dense density.
	35									
	36									
	37									
	38									
	39									
10:25	40	0	5, 24, 35	0	90	10	SP- SM	7.5YR 5/4	M	POORLY GRADED SAND w/SILT - fine sand and
	41		100%							silt, rounded to subrounded; silt fines are non-
	42		Recovery							plastic, non-cohesive; dry, brown; loose to dense
	43									density.
	44									
	45									
	46									
	47									
	48									
	49									
10:45	50	0	18, 50/5	5	85	10	SP- SM	7.5YR 6/4	W	POORLY GRADED SAND w/SILT - fine sand and
	51		70%							silt, rounded to subrounded; silt fines are non-
	52		Recovery							plastic, non-cohesive; contains flakes of black
	53									mineral (micaceous) and small white nodules of
	54									clay (7.5YR 8/1); contains trace fine gravel, sub-
	55									rounded to subangular; maximum particle size,
▼	56	▼	▼	▼	▼	▼	▼	▼	▼	5 mm; dry, lt. brown; medium dense to dense
	57			Driller stated water table encountered.						density.
	58									
	59									
11:10	60	0	5, 27, 50/2	50	30	20	GM	7.5YR 5/4	M	SILTY GRAVEL w/SAND - predominately fine
	61		40%							gravel, rounded to subangular; maximum particle
	62		Recovery							size, 5 mm; approximately 50% of sand fraction is
	63									very coarse sand w/remaining 50% consisting of
	64									coarse to fine sand w/silt and clay; fines have low
	65									to medium dry strength, low plasticity, low tough-
	66									ness; wet, brown; loose to dense density. Note
	67									bottom 6" in. of sample was saturated.
	68									
	69									

Project Name: Central & Camelback RI TAO				Project No.: 8740000, T3.2			Boring No.: CC-16			Sheet 3 of 3
Sample	Depth	PID	Blow	Estimated %			USCS	Munsell	HCl	Logged By/Date: NJ. Babb on 5/15/08
Time	(Ft)	(ppm)	Counts	GR	SA	FI	Symbol	Color	Rxn	Checked By/Date: K. Ross on 6/11/08
11:40	70	0	3, 6, 25	5	15	80	ML	7.5YR 6/4	M	ELASTIC SILT w/SAND - poorly graded medium
	71		80%							sand, sub-rounded; contains fine to coarse
	72		Recovery							gravel, rounded to subangular; maximum particle
	73									size, 20 mm; silt fines have low dry strength, low to
	74									medium plasticity, none to slow dilatancy, low
	75									toughness; sample contained black mineral frag-
	76									ments (micaceous); wet, lt. brown; soft to very
	77									stiff consistency.
	78									
	79									
12:05	80	0	3, 6, 12	30	40	30	SC	7.5 YR 4/4	N	CLAYEY SAND w/GRAVEL - fine to coarse sand
	81		70%							and clay fines, subrounded to subangular; con-
	82		Recovery							tains few fine to coarse gravel, subrounded to
	83									angular; maximum particle size, 1½" in.; clay fines
	84									have medium dry strength, medium plasticity, med-
	85									ium toughness; wet to saturated, brown; very
	86									loose to medium dense density.
	87									
****	88	****	******	****	****	****	******	******	****	Note driller cleaning-out bit &add water to boring.
	89									
14:00	90	N/A	6, 50/6	****	****	****	******	******	N/A	** No recovery, sample completely saturated ***
	91		0%							
	92		Recovery							
	93									
	94									
	95									
	96									
	97									
	98									
	99									
15:00	100	0	13, 50/6	30	60	10	SP-SC	7.5 YR 4/4	W	POORLY GRADED SAND w/CLAY & GRAVEL -
	101		80%							fine sand and clay, rounded; clay fines have high
	102		Recovery							dry strength, medium plasticity, medium tough-
15:20	103		******	****	****	****	Total Depth of boring		****	ness; contains few fine to coarse gravel, angular to
	104									subrounded; maximum particle size, 30 mm; wet,
	105									brown; medium dense to dense density.
	106									
	107									
	108									
	109									
N/A	110									
	111									
	112									
	113									
	114									

HYDRO GEO CHEM, INC.

Well Construction Summary

Project Name: Central & Camelback RI TAO		Boring No.: CC-16
Drilling Company: W. D. C. Exploration & Wells	Driller: Jose Miranda	Project No.: 8740000, T3.2
ADWR Well Registration No.: 55 - 908894		Geologist: NJ. Babb
Location: Approx. 35 ft. west of Central Ave on the southside of Georgia Ave; Phoenix, AZ.		

AS-BUILT DIAGRAM

Depth (Ft)	Lithology
0'	
	Cement
10'	
	Volclay/ Bentonite Grout
37'	
	Bentonite Chips
40'	
	#60 Sand
42.5'	
T.O. Screened Interval 45'	
	#10/20 Pack-Sand
95'	
	Sump
100'	
	#10/20 Pack-Sand
103'	

DRILLING SUMMARY

Total Depth: 103 ft.	Hole Diameter: 8" in.
Drill Rig: CME-75	Bit Type: Hollow-stem auger w/5-tooth bit

WELL DATA

Well Casing	Depth Interval (Ft) Screen	Diameter, Material, Screen Slot Size
4" SCH. 40 PVC (0 to 45 ft. bgs)	50 ft. Interval	4" in. Sch 40 PVC, 0.010 ft.
5 ft. solid sump casing (95-100)	45 ft. to 95 ft. bgs	

Filter Pack Material: #10/20 pack-sand	Interval: 103 ft. to 42.5 ft. bgs
Filter Pack Material: #60 choke/ finer pack-sand	Interval: 42.5 ft. to 40 ft. bgs
Screen Seal Layer: Bentonite medium chips	Interval: 40 ft. to 37 ft. bgs
Grout: Volclay/Bentonite Slurry	Interval: 37 ft. to 10 ft. bgs
Cement:	Interval: 10 ft. to 0 ft. bgs
Surface Completion: 12" in. metal vault around well-head w/in 2 ft. diameter concrete form.	
*Measuring Point of T. O. C: Surveyed at approx. 6" in. bgs on northside of well-head.	

CONSTRUCTION TIME LOG

CC-16	Start Date: 5/15/08 Time: 8:30	Finish Date: 5/15/08 Time: 15:20
Drilling: 103 ft. / 6 hrs 50 mins.	5/15/08 @ 8:30	5/15/08 @ 15:20
Casing: 100 ft. / 0.25 hrs	5/15/08 @ 15:30	5/15/08 @ 15:45
Filter Pack: 66 ft. / 2.25 hrs	5/15/08 @ 16:30 to 18:00	5/16/08 @ 7:30 to 8:15
Cement & Bentonite Slurry	5/16/08 @ 9:15	5/16/08 @ 9:45
Surface Completion	5/16/08 @ 11:00	5/16/08 @ 15:00

WELL DEVELOPMENT

Date & Time Started: 5/27/08 @ 9:15	Date & Time Completed: 5/27/08 @ 15:37
a = Cased Depth (ft): 100'	d = Casing Diameter (in.): 4"
b = Water Depth (ft): 70.35'	Date & Time Measured: 5/27/08 @ 9:10
Well Volume = (a - b) x d^2 x 0.0408 = 19.4 gallons	
Method of Development: 3" in. grundfos submersible pump	
Swabbed and Bailed: 55 minutes (30-bailers @ 5.0-gals ea. = 150-gals)	
Pumped at: 15 gpm for 5 minutes	
Pumped at: 11 gpm for 27 minutes	Gallons Bailed: 150-gallons
	Gallons Purged: 372-gallons
	Total Gallons: 522-gallons

Remarks: *Used a 10 ft. long x 3" in. diameter bottom-loading suction type bailer.
*Used a 4"in. vented surge block attached to cable for swabbing.

Project: Central & Camelback WQARF Site | Boring: **CC-17** | Pg. 1 of 3

Drilling Co: Geomechanics SW - M.Shelquist | Drilling Method: Hollow Stem Auger - CME-95 | Date Started: 6/3/13

Location: Near 16 E. Medlock Drive, Phoenix (within right-of-way) | Sampler Type: Grab | Date Completed: 6/3/13

Desc. of Meas Pt: Top of Inner Casing | Logged by: S.Sutherland

Land Surf. Elev (ft amsl): 1139.0 | Meas. Pt. Elev: _____ | Reviewed by: C. Jacquemin

Blow Count	% Recovery	PID (ppm)	Samples	Depth - FT bgs	Graphic Log	DESCRIPTION	USCS Symbol	ESTIMATED % OF GR	SA	FI	Moisture
		0				BOREHOLE DIAMETER - 10-inches Asphalt (4-inches thick) Silty Sand - dark brown, moist, very fine to medium grained sand, trace coarse grained sand, some clay	SM		60	40	M
				5							
		0		10		dry, weakly cemented nodules					D
		0		15		Sandy Silt - medium brown, dry, very fine to fine grained sand, little medium grained sand, increasing cementation	ML		40	60	D
		0		20		Silty Sand - light brown, dry, very fine to medium grained sand, weak to moderately cemented nodules thoughtout interval	SM		60	40	D
		0		25		medium brown, trace coarse grained sand			70	30	D
		0		30		decreasing cementation					D
				35							

HYDRO GEO CHEM, INC.

Lithologic Log of Soil Boring CC-17

Approved	Date	Revised	Date	Reference:	FIG.
CLJ	7/25/2013			CC-17	a

ADEQ_LOG C&C.GPJ NEWPROJ.GDT 8/9/13

Project: Central & Camelback WQARF Site | Boring: **CC-17** | Pg. 2 of 3

Drilling Co: Geomechanics SW - M.Shelquist | Drilling Method: Hollow Stem Auger - CME-95 | Date Started: 6/3/13

Location: Near 16 E. Medlock Drive, Phoenix (within right-of-way) | Sampler Type: Grab | Date Completed: 6/3/13

Desc. of Meas Pt: Top of Inner Casing | Logged by: S.Sutherland

Land Surf. Elev (ft amsl): 1139.0 | Meas. Pt. Elev: _____ | Reviewed by: C. Jacquemin

Blow Count	% Recovery	PID (ppm)	Samples	Depth - FT bgs	Graphic Log	DESCRIPTION	USCS Symbol	ESTIMATED % OF GR	SA	FI	Moisture
		1				increasing silt content, trace clay, no coarse sand			65	35	D
		0		40		strongly cemented nodules					D
		1.7		45		moist, some clay, no cementation			60	40	M
		2.2		50		Silty Clay - medium brown, moist, low plasticity clay and silt, trace very fine to fine grained sand, weakly cemented	CL		5	95	M
		1.5		55		Silty Sand - medium brown, moist, very fine to fine grained sand, with clay	SM		55	45	M
		3.4		60		very fine to medium grained sand, trace clay, weakly cemented			60	40	M
		4.7		65		Well-Graded Sand - medium to light brown, moist, very fine to coarse grained sand, some small subrounded gravels, trace silt	SW	25	40	5	M
				70							

HYDRO GEO CHEM, INC.

Lithologic Log of Soil Boring CC-17

Approved	Date	Revised	Date	Reference:	FIG.
CLJ	7/25/2013			CC-17	b

ADEQ_LOG C&C.GPJ NEWPROJ.GDT 8/9/13

Project: Central & Camelback WQARF Site | Boring: **CC-17** | Pg. 3 of 3

Drilling Co: Geomechanics SW - M.Shelquist | Drilling Method: Hollow Stem Auger - CME-95 | Date Started: 6/3/13

Location: Near 16 E. Medlock Drive, Phoenix (within right-of-way) | Sampler Type: Grab | Date Completed: 6/3/13

Desc. of Meas Pt: Top of Inner Casing | Logged by: S.Sutherland

Land Surf. Elev (ft amsl): 1139.0 | Meas. Pt. Elev: _____ | Reviewed by: C. Jacquemin

Blow Count	% Recovery	PID (ppm)	Samples	Depth - FT bgs	Graphic Log	DESCRIPTION	USCS Symbol	ESTIMATED % OF GR	SA	FI	Moisture
		5.0				Silty Sand - medium brown, moist, very fine to medium grained sand, trace clay	SM		65	35	M
		8.9		75		some clay			60	40	M
		8.7		80		with clay, weakly cemented			55	45	M
		21.5		85		wet, soft					W
		31.1		90		slight odor					W
		87.3		95		slight odor					W
		30.8		100		Total depth at 100 ft bls.					W

HYDRO GEO CHEM, INC.

Lithologic Log of Soil Boring CC-17

Approved	Date	Revised	Date	Reference:	FIG.
CLJ	7/25/2013			CC-17	C

ADEQ_LOG C&C.GPJ NEWPROJ.GDT 8/9/13

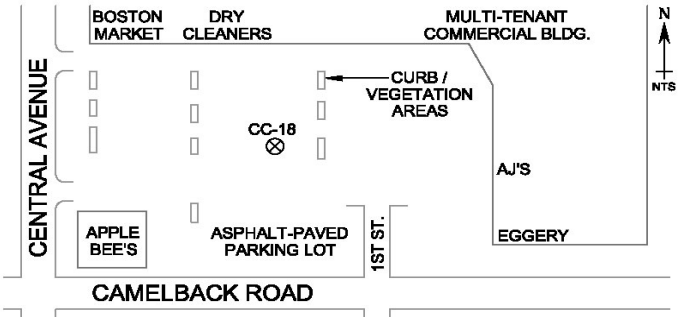
HYDRO GEO CHEM, INC.

Geologic Boring Log

Project Name: Central & Camelback RI TAO — Boring No.: CC-18

Drilling Company: WDC Exploration & Wells — Driller: Jose Miranda — Project No: 8740000,T3.2

Site Plan at Boring Location:



Drilling Equipment: CME - 75
Drilling Method: Hollow-Stem Rotary Auger
Bit Type: 5 -Tooth — Size: 6.25"in. I.D.
Started, Time: 9:20 — Date: 5/17/08
Completed, Time: 13:45 — Date: 5/17/08
DTW, Pre-Dvlpt (Ft): 65.36 bgs — Date: 5/27/08
DTW,Post Dvlpt (Ft): 65.33 bgs — Date: 5/30/08
Casing Depth (Ft): 100 ft.
Boring Depth (Ft): 103 ft.
Screened Interval (Ft): 95 ft. to 45 ft. bgs
Logged By/Date: NJ. Babb on 5/17/08
Checked By/Date: K. Ross on 6/11/08

Samp Time	Depth (Ft)	PID (ppm)	Blow Counts	Estimated % GR	SA	FI	USCS Symbol	Munsell Color	HCl Rxn	Sample Description
9:20	0	4.5	Grab	<20	80	<5	SW	5YR 4/3	M	4 inches of concrete followed by:
	1									WELL GRADED SAND w/GRAVEL -very fine to
	2									medium sand w/trace fines; contains fine gravel,
	3									subrounded to sub angular, flat & elongated;
	4									maximum particle size, 10 mm; dry, reddish-brown.
	5									
	6									
	7									
	8									
	9									
9:30	10	0.5	12, 50/5	25	35	40	ML	7.5YR 5/6	M	SANDY SILT w/GRAVEL - fine to medium sand &
	11		60%							silt, rounded to subrounded; contains few fine
	12		Recovery							gravel, subrounded to angular; maximum particle
	13									size, 20 mm; silt fines have low dry strength, slow
	14									dilatancy, non-plastic, non-cohesive; dry, strong-
	15									brown w/lt. brown mottling; medium dense to
	16									dense density.
	17									
	18									
	19									
9:50	20	0	3, 19, 35	25	35	40	ML	7.5YR 5/6	M	SANDY SILT w/GRAVEL - fine to medium sand &
	21		100%							silt; contains few fine gravel, subrounded to
	22		Recovery							angular; maximum particle size, 20 mm; silt fines
	23									have low dry strength, non-plastic, non-cohesive;
	24									dry, strong-brown; very loose to dense density.

Project Name: Central & Camelback RI TAO				Project No.: 8740000, T 3.2			Boring No.: CC-18			Sheet 2 of 3
Sample	Depth	PID	Blow	Estimated %			USCS	Munsell	HCl	Logged By/Date: NJ. Babb on 5/17/08
Time	(Ft)	(ppm)	Counts	GR	SA	FI	Symbol	Color	Rxn	Checked By/Date: K. Ross on 6/11/08
	25									
	26									
10:05	27	*****	*******	****	****	****	*******	*******	****	Crew added water into boring.
	28									
	29									
10:15	30	0	12, 50/6	5	80	15	SW- SM	7.5YR 5/4	S	WELL GRADED SAND w/SILT - fine to coarse
	31		70%							sand and silt; contains trace amounts of fine to
	32		Recovery							coarse gravel, subrounded to angular; maximum
	33									particle size, 1"in.; fines are non-plastic; dry,
	34									strong-brown; medium dense to dense density.
	35									
	36									
	37									
	38									
	39									
10:35	40	0.5	10, 50/6	0	90	10	SP- SM	7.5YR 5/4	M	POORLY GRADED SAND w/SILT - fine sand and
	41		80%							silt, rounded to subrounded; silt fines are non-
	42		Recovery							plastic, non-cohesive; contains flakes of black
	43									mineral (micaceous); dry, brown w/lt. brown mott-
	44									ling; loose to dense density.
	45									
	46									
	47									
	48									
	49									
10:55	50	1	20, 50/5	5	85	10	SP- SM	7.5YR 6/4	W	POORLY GRADED SAND w/SILT - fine sand and
	51		80%							silt, rounded to subrounded; silt fines are non-
	52		Recovery							plastic, non-cohesive; contains flakes of black
	53									mineral (micaceous) and small white nodules of
	54									clay (7.5YR 8/1); contains trace fine gravel, sub-
	55									rounded to subangular; maximum particle size,
	56									5 mm; dry, lt. brown; medium dense to dense
	57									density.
	58									
	59									
11:20	60	0.5	5, 20, 22	50	30	20	GM	7.5YR 5/4	M	SILTY GRAVEL w/SAND - predominately fine
	61		100%							gravel, rounded to subangular; maximum particle
	62		Recovery							size, 5 mm; approximately 50% of sand fraction is
▼	63	▼	▼	▼	▼	▼	▼	▼	▼	very coarse sand w/remaining 50% consisting of
	64			*Driller stated water table encountered.						coarse to fine sand w/silt and clay; fines have low
	65			**Note noticeable hydrocarbon odor at interval.						to medium dry strength, low plasticity, low tough-
	66									ness; moist to wet, brown; loose to dense density;
	67		********	15	80	5	SW	7.5YR 5/1	N-W	Note bottom 1/2 of spoon sample was grayish in
	68									color and reacted weaker to HCl; also contained
	69									fine to coarse gravel, max. size, 1" inch.

Project Name: Central & Camelback RI TAO			Project No.: 8740000, T 3.2				Boring No.: CC-18			Sheet 3 of 3
Sample	Depth	PID	Blow	Estimated %			USCS	Munsell	HCl	Logged By/Date: NJ. Babb on 5/17/08
Time	(Ft)	(ppm)	Counts	GR	SA	FI	Symbol	Color	Rxn	Checked By/Date: K. Ross on 6/11/08
12:15	70	89	32, 50/5	20	70	10	SW- SM	7.5YR 5/4	M	WELL GRADED SAND w/SILT & GRAVEL - fine
	71		50%							to coarse sand and silt; contains fine to coarse
	72		Recovery							gravel, sub-angular to rounded; maximum particle
	73									size, 1" inch; silt fines have low dry strength, low
	74									plasticity; moist to wet, brown; dense to very
	75									density; note strong petroleum odor.
	76									
	77									
	78									
	79									
13:00	80	6	10, 10, 25	30	40	30	SC	7.5 YR 4/4	N	CLAYEY SAND w/GRAVEL - fine to coarse sand
	81		30%							and clay fines, subrounded to subangular; con-
	82		Recovery							tains few fine to coarse gravel, subrounded to
	83									angular; maximum particle size, 1½" in.; clay fines
	84									have medium dry strength, medium plasticity, med-
	85									ium toughness; moist to wet, brown; loose to
	86									medium dense density; note petroleum odor still
	87									noticeable, but is lessening.
	88									
	89									
13:35	90	N/A	N/A	****	****	****	*******	*******	****	Note no recovery; driller stated heavy clay for
	91									last 10 feet & has plugged the inside of the auger-
	92									bit; Note attempted to remove plug but was un-
	93									successful; driller stated that the augers would
	94									have to be removed from boring to remove plug;
	95									decided to complete boring to T.D and then re-
	96									move augers.
	97									
	98									
	99									
N/A	100	N/A	N/A	****	****	****	*******	*******	****	Note no recovery.
	101									
	102									
13:45	103	****	******	****	****	****	Total Depth of boring		****	
	104									
	105									
	106									
	107									
	108									
	109									
N/A	110									
	111									
	112									
	113									
	114									

HYDRO GEO CHEM, INC.

Well Construction Summary

Project Name: Central & Camelback RI TAO		Boring No.: CC-18
Drilling Company: W. D. C. Exploration & Wells	Driller: Jose Miranda	Project No.: 8740000, T3.2
ADWR Well Registration No.: 55 - 908869		Geologist: NJ. Babb
Location: NEC of Central & Camelback Avenues in commercial parking lot, north of Applebees		

AS-BUILT DIAGRAM

Depth (Ft)	Lithology
0'	
	Cement
10'	
	Volclay/ Bentonite Grout
36'	
	Medium Bentonite Chips
40'	
	#60 Sand
43'	
T.O. Screened Interval 45'	
	#10/20 Pack-Sand
95'	
	Sump
100'	
	#10/20 Pack-Sand
103'	

DRILLING SUMMARY

Total Depth: 103 ft.	Hole Diameter: 8" in.
Drill Rig: CME-75	Bit Type: Hollow-stem auger w/5-tooth bit

WELL DATA

Well Casing	Depth Interval (Ft) Screen	Diameter, Material, Screen Slot Size
4" SCH. 40 PVC (0 to 45 ft. bgs)	50 ft. Interval	4" in. Sch 40 PVC, 0.020 ft.
5 ft solid sump casing (95-100)	45 ft. to 95 ft. bgs	
Filter Pack Material: #10/20 pack-sand		Interval: 103 ft. to 43 ft. bgs
Filter Pack Material: #60 choke/ finer pack-sand		Interval: 43 ft. to 40 ft. bgs
Screen Seal Layer: Bentonite medium chips		Interval: 40 ft. to 36 ft. bgs
Grout: Volclay/Bentonite Slurry		Interval: 36 ft. to 10 ft. bgs
Cement:		Interval: 10 ft. to 0 ft. bgs
Surface Completion: 12" in. metal vault around well-head w/in 2 ft. diameter concrete form.		
*Measuring Point of T. O. C: Surveyed at approx. 6" in. bgs on northside of well-head.		

CONSTRUCTION TIME LOG

CC-18	Start Date: 5/17/08 Time: 9:20	Finish Date: 5/18/08 Time: 16:30
Drilling: 103 ft. / 4 hrs 25 mins.	5/17/08 @ 9:20	5/17/08 @ 13:45
Casing: 100 ft. / 0.5 hrs	5/17/08 @ 16:15	5/17/08 @ 16:45
Filter Pack: 67 ft. / 1.25 hrs	5/17/08 @ 16:45	5/17/08 @ 18:00
Cement & Bentonite Slurry	5/18/08 @ 11:00	5/18/08 @ 11:30
Surface Completion	5/18/08 @ 14:30	5/18/08 @ 16:30

WELL DEVELOPMENT

Date & Time Started: 5/27/08 @ 16:00	Date & Time Completed: 5/27/08 @ 19:17
a = Cased Depth (ft): 100'	d = Casing Diameter (in.): 4"
b = Water Depth (ft): 65.36'	Date & Time Measured: 5/27/08 @ 16:00
Well Volume = (a - b) x d^2 x 0.0408 = 22.61 gallons	
Method of Development: 3" in. grundfos submersible pump	
Swabbed and Bailed: 35 minutes (20-bailers @ 5.0-gals ea. = 100-gals)	
Pumped at: 12 gpm for 102 minutes	
	Gallons Bailed: 100-gallons
	Gallons Purged: 1224-gallons
	Total Gallons: 1324-gallons

Remarks: *Used a 10 ft. long x 3" in. diameter bottom-loading suction type bailer.
*Used a 4" in. vented surge block attached to cable for swabbing.

Project: Central & Camelback WQARF Site | Boring: **CC-19** | Pg. 1 of 3

Drilling Co: Geomechanics SW - Brian | Drilling Method: Hollow Stem Auger - CME-75 | Date Started: 12/18/13

Location: Adj. to 50 E. Medlock ~75' W. of 3rd St. on N. side | Sampler Type: Grab | Date Completed: 12/19/13

Desc. of Meas Pt: | Logged by: NJ. Babb

Land Surf. Elev (ft amsl): 1137.0 | Meas. Pt. Elev: | Reviewed by: S. Sutherland

Blow Count	% Recovery	PID (ppm)	Samples	Depth - FT bgs	Graphic Log	DESCRIPTION	USCS Symbol	ESTIMATED % OF GR	SA	FI	Moisture
						BOREHOLE DIAMETER - 10-inches Asphalt (4-inches) Fill material (Silty Sand - silt with sand and some coarse to fine gravel)					
		0		5		Lean Clay - dark brown (7.5YR 3/4); clay with some sand; with pieces of asphalt; high plasticity; weak to moderate reaction to HCl	CL		10	90	M
		0		10		Well-Graded Sands with Silt - brown (7.5YR 5/3); sand fraction is medium to very fine grained; trace subrounded fine gravel to 5mm max. diameter; low plasticity; strong reaction to HCl	SW-SM	10	80	10	D
		0.2		15		Poorly Graded Sand with Silt - brown (7.5YR 5/3); sand fraction is fine grained; fine fraction is primarily a silty clay; moderate reaction to HCl	SP-SM	10	85	5	D
		0.1	G	20		Well-Graded Sand with Silt - dark brown (7.5YR 3/2); distinct coloration change; sand fraction medium to very fine grained; fines are a silty clay; trace subangular fine gravel; moderate reaction to HCl	SW-SM	5	85	10	D
		0.0		25		Clayey Sand - brown (7.5YR 4/3); trace fine subangular to subrounded gravels, max. diameter <3/4 inch; increase in fines; poorly graded; low to moderate plasticity; moderate reaction to HCL	SC	5	70	25	D
		2.8		30		Poorly Graded Sand with Silt - brown (7.5YR 4/2); sand fraction is fine grained; silt fraction has increased; non-plastic; non-cohesive; weak reaction to HCL	SP-SM	5	85	10	D
				35							

HYDRO GEO CHEM, INC.

Lithologic Log of Soil Boring CC-19

Approved	Date	Revised	Date	Reference:	FIG.
SPS	3/4/14	WAT	3/3/14	CC-19	a

Project: Central & Camelback WQARF Site | Boring: **CC-19** | Pg. 2 of 3

Drilling Co: Geomechanics SW - Brian | Drilling Method: Hollow Stem Auger - CME-75 | Date Started: 12/18/13

Location: Adj. to 50 E. Medlock ~75' W. of 3rd St. on N. side | Sampler Type: Grab | Date Completed: 12/19/13

Desc. of Meas Pt: | Logged by: NJ. Babb

Land Surf. Elev (ft amsl): 1137.0 | Meas. Pt. Elev: | Reviewed by: S. Sutherland

Blow Count	% Recovery	PID (ppm)	Samples	Depth - FT bgs	Graphic Log	DESCRIPTION	USCS Symbol	ESTIMATED % OF GR	SA	FI	Moisture
		1.3				Poorly Graded Sand with Silt and Gravel - brown (7.5YR 5/3); gravel fraction is fine grained and angular to subrounded; sand fraction is well graded; non-plastic; non-cohesive; weak reaction to HCL		15	70	15	D
		0.9		40		Lean Clay - dark brown (7.5YR 3/3); minor poorly graded sand fraction; moderately plastic; cohesive; weak reaction to HCL	CL		10	90	D
		0.1		45		strong brown (7.5YR 5/6); moderate to high plasticity			15	85	M
		1.3	G	50		dark brown (7.5YR 3/3); increase in well graded sand			30	70	M
		NA		55		Well-Graded Sand with Silt - dark brown (7.5YR 4/4); sand fraction is well graded and coarse to fine grained; non-plastic; non-cohesive; weak reaction to HCL	SW-SM		75	25	D
		NA		60		Well-Graded Sand with Clay - dark brown (7.5YR 4/4); with white motteling (7.5YR 8/1); some fine to coarse angular to subangular gravel; sand fraction is coarse to very fine grained; clay fraction is moderately plastic; cohesive; very weak reaction to HCL	SW-SC	10	70	20	M
				65		brown (7.5YR 4/2); slight increase in sand fraction; few cobbles; non-plastic; non-cohesive; weak reaction to HCL		10	70	20	M
				70							

ADEQ_LOG C&C.GPJ NEWPROJ.GDT 3/4/14

HYDRO GEO CHEM, INC.

Lithologic Log of Soil Boring CC-19

Approved	Date	Revised	Date	Reference:	FIG.
SPS	3/4/14	WAT	3/3/14	CC-19	b

Project: Central & Camelback WQARF Site | Boring: **CC-19** | Pg. 3 of 3

Drilling Co: Geomechanics SW - Brian | Drilling Method: Hollow Stem Auger - CME-75 | Date Started: 12/18/13

Location: Adj. to 50 E. Medlock ~75' W. of 3rd St. on N. side | Sampler Type: Grab | Date Completed: 12/19/13

Desc. of Meas Pt: | Logged by: NJ. Babb

Land Surf. Elev (ft amsl): 1137.0 | Meas. Pt. Elev: | Reviewed by: S. Sutherland

Blow Count	% Recovery	PID (ppm)	Samples	Depth - FT bgs	Graphic Log	DESCRIPTION	USCS Symbol	ESTIMATED % OF GR	SA	FI	Moisture
						Sandy Lean Clay - brown (7.5YR 4/2); clay with well graded coarse to fine grained sand; moderate to low plasticity; cohesive; moderate to strong reaction to HCL	CL		50	50	W
				75		strong brown (7.5YR 4/6); moderate plasticity; moist to wet			50	50	W
				80					50	50	W
			G	85		Clayey Sand - strong brown (7.5YR 4/6); sand fraction is well graded and very coarse to fine grained; fines are primarily a clay; low to moderate plasticity; strong reaction to HCL	SC		55	45	W
				90		brown (7.5YR 4/3); trace fine subangular to subrounded gravels (3-5mm); sand fraction is coarse to fine grained; moderate to highly plastic; cohesive; weak reaction to HCL		10	60	30	W
				95		strong brown (7.5YR 5/6)		10	60	30	W
				100		Total depth 100 ft bls					

HYDRO GEO CHEM, INC.

Lithologic Log of Soil Boring CC-19

Approved	Date	Revised	Date	Reference:	FIG.
SPS	3/4/14	WAT	3/3/14	CC-19	C

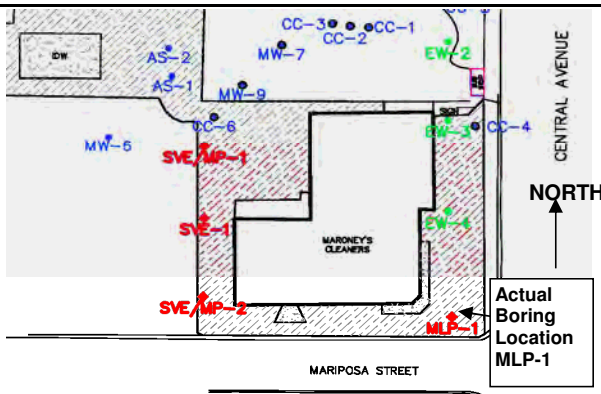
HYDRO GEO CHEM, INC.

Geologic Boring Log

Project Name: Central & Camelback			Boring No.: MLP-1
Drilling Company: Yellow Jacket	Driller: Mark Hickox		Project No.: 816000

Site Plan at Boring:

Notes:
D=Dry
M=Moist
NA = not available.
%Recovery Listed from uphole to downhole brass sleeve.



Drilling Equipment:	L-8000 Auger Rig
Drilling Method: Auger	
Bit Type: Auger	Size: 12" HSAuger
Started, Time: 8:10	Date: 6/20/2004
Completed, Time: 11:10	Date: 6/20/2004
Water Depth, First (Ft):	NA
Water Depth, After days (Ft):	NA
Casing Depth (Ft):	see well diagram
Boring Depth (Ft):	54.3 ft
Screened Interval (Ft):	see well diagram
Logged By/Date: Alexandra Etheridge 6/20/04	
Checked By/Date: Rich Petrus 6/20/04	

Depth (Ft)	% Rec	Soil Gas PCE Results (ppmv)	Estimated % GR	SA	FI	USCS Symbol	Munsell Color	HCl Rxn	Sample Description
0	0		25	25	50	ML	5YR4/3	S	Silt with sand and gravel. No odor. Reddish brown silt
1	20							D	with subangular medium to fine sand and subrounded
2	90								caliche gravel up to 1".
3			PID =	12.3	ppm				
4		**2.06**	20/50	Blows/6 inches					Samle Location: 5.0 ft, bottom sleeve.
5	0		0	25	75	ML	5YR4/3	S	Not much of a sample. Sandy silt with low plasticity clay
6	1							M	chunks up to 1/4". No odor, reddish brown. Angular
7	80								medium-grained calcic sand.
8			PID =	10.2	ppm				
9		**39.77**	6/7/30	Blows/6 inches					Samle Location: 10.0 ft, bottom sleeve.
10	0		0	10	90	ML	5YR4/6	S	Yellowish red silt with sand. Fines mostly silt with 10%
11	30							M	low plasticity lean clay chunks. Angular to subrounded
12	90								fine to medium sand.
13			PID =	8.7	ppm				
14		**35.35**	11/22/30	Blows/6 inches					Samle Location: 15.0 ft, bottom sleeve.
15	0		0	10	90	MH	5YR4/4	S	Elastic silt, reddish brown with approx. 15% low
16	30							M	plasticity lean clay chunks up to 0.5". Subangular
17	90								fine lithic sand.
18			PID =	9.4	ppm				
19		**82.48**	27/50	Blows/6 inches					Samle Location: 20.0 ft, bottom sleeve.
20	0		0	10	90	MH	5YR4/4	S	As above, fewer chunks of low plasticity lean clay.
21	0							M	
22	85								*Note: Elastic Silt is crumbly sediment. When pressed,*
23			PID =	7.8	ppm				*able to form low plasticity 6-mm logs.*
24		**41.24**	50	Blows/6 inches					Samle Location: 25.0 ft, bottom sleeve.

Project Name: Central & Camelback			Project No.: 816000				Boring No.: MLP-1		Sheet 2 of 2
Depth	%	Soil Gas PCE	Estimated %			USCS	Munsell	HCl	Logged By/Date: Alexandra Etheridge 6/20/04
(Ft)	Rec	Results (ppmv)	GR	SA	FI	Symbol	Color	Rxn	Checked By/Date: Rich Petrus 6/20/04
25	0		0	10	90	CL	5YR5/3	S	Lean clay, reddish brown. Fines silt and 50% silty clay
26	80							M	chunks, low plasticity. Chunks up to 0.75". Medium
27	95								grained subangular lithic sand. No odor.
28			PID =	9.4	ppm				
29		**119.3**	78	Blows/6 inches					Samle Location: Bottom sleeve, 30.0 ft.
30	0		0	5	95	CL	5YR5/3	S	As above. Larger chunks of lean low plasticity clay up to
31	75							M	1", very hard to break apart. No odor. Trace gravel,
32	85								medium grained lithic sand.
33			PID =	49.2	ppm				
34		**114.89**	64	Blows/6 inches					Samle Location: Bottom sleeve, 35.0 ft.
35	0		0	5	95	MH	5YR5/3	S	Elastic silt, reddish brown, no odor. Fines 80% silt, 20%
36	90							M	low plasticity lean clay chunks up to 0.5".
37	85								Trace gravel and sand.
38			PID =	16.2	ppm				
39		**145.82**	25/50	Blows/6 inches					Samle Location: Bottom sleeve, 40.0 ft.
40	0		0	5	95	MH	5YR4/3	S	As above.
41	90							M	
42	90								
43			PID =	9.8	ppm				
44		**107.52**	57	Blows/6 inches					Samle Location: Bottom sleeve, 45.0 ft.
45	0		0	0	100	CL	5YR4/3	S	Lean clay, low plasticity, reddish brown. Not much sample.
46	1							M	Trace sand. Fines 60% clay, 40% silt.
47	90								
48			PID =	12.9	ppm				
49		**119.3**	50	Blows/6 inches					Samle Location: Bottom sleeve, 50.0 ft.
50	0		0	0	100	CL	5YR4/3	S	Lean clay, low plasticity, 65% silt, 35% clay chunks,
51	1							M	reddish brown. Trace sand and gravel.
52	90								
53			PID =	9.1	ppm				
54		**142.87**	60	Blows/6 inches					Samle Location: Bottom sleeve, 55.0 ft.
55		**TD = 54.3 ft**							
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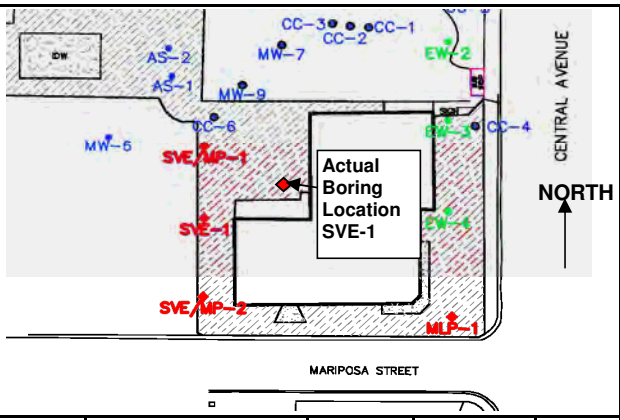
HYDRO GEO CHEM, INC.

Geologic Boring Log

Project Name: Central & Camelback			Boring No.: SVE-1
Drilling Company: Yellow Jacket	Driller: John		Project No.: 816000

Site Plan at Boring:

Notes:
D=Dry
M=Moist
NA = not available.
%Recovery Listed from uphole to downhole brass sleeve.



Drilling Equipment:	L-8000 Auger Rig
Drilling Method: Auger	
Bit Type: Auger	Size: 12" HSAuger
Started, Time: 8:15	Date: 6/21/2004
Completed, Time: 12:40	Date: 6/21/2004
Water Depth, First (Ft):	NA
Water Depth, After days (Ft):	NA
Casing Depth (Ft):	20 ft
Boring Depth (Ft):	55
Screened Interval (Ft):	50-20 ft bls
Logged By/Date: Alexandra Etheridge 6/21/04	
Checked By/Date: Rich Petrus 6/21/04	

Depth (Ft)	% Rec	Soil Gas PCE Results (ppmv)	Estimated % GR	SA	FI	USCS Symbol	Munsell Color	HCl Rxn	Sample Description
0	0		0	5	95	MH	5YR5/4	S	Elastic silt, reddish brown. Fines mostly moist silt, 25%
1	90							M	light reddish brown silty low plasticity clay chunks up
2	90								to 0.25". Medium lithic sand. No odor.
3			PID =	7.2	ppm				
4		**20.62**	6/50	Blows/6 inches					Samle Location: 5.0 ft, bottom sleeve.
5	0		5	10	85	ML	5YR5/4	S	Silt, reddish brown. Fines mostly silt, 5% low plasticity
6	10							M	lean clay as described above, up to 0.125". Angular
7	90								lithic coarse sand and fine gravel.
8			PID =	8.9	ppm				
9		**41.24**	4/6/24	Blows/6 inches					Samle Location: 10.0 ft, bottom sleeve.
10	0		0	5	95	ML	5YR4/3	S	Silt, reddish brown, no odor. Fines mostly silt. A few
11	15							M	consolidated chunks of sandy/silty clay up to 0.5", low
12	90								plasticity. Angular lithic sand, trace gravel.
13			PID =	69	ppm				
14		**191.48**	6/8/23	Blows/6 inches					Samle Location: 15.0 ft, bottom sleeve. 16.5 ft geotech smp.
15	0		0	10	90	MH	5YR4/3	S	Elastic silt, reddish brown, chemical odor.
16	20							M	Fines 50% silt, 50% silty clay chunks up to 0.5", low
17	95								plasticity, lean clay. Angular lithic sand.
18		**206.2**	PID =	123.4	ppm				
19		**191.48-Dup**	20/40/50	Blows/6 inches					Samle Location: 20.0 ft, bottom sleeve. Soil Gas Dup-001.
20	0		0	0	100	MH	5YR4/4	S	Elastic silt, reddish brown, no odor. Fines 90% silt, 10%
21	10							M	clay. Trace sand. Can squeeze silt into chunks, non plastic.
22	90								
23			PID =	64.9	ppm				
24		**69.23**	40/8	Blows/6 inches					Samle Location: 25.0 ft, bottom sleeve.

Project Name: Central & Camelback			Project No.: 816000				Boring No.: SVE-1		Sheet 2 of 2
Depth	%	Soil Gas PCE	Estimated %			USCS	Munsell	HCl	Logged By/Date: Alexandra Etheridge 6/21/04
(Ft)	Rec	Results (ppmv)	GR	SA	FI	Symbol	Color	Rxn	Checked By/Date: Rich Petrus 6/21/04
25	0		0	0	100	MH	5YR5/3	S	As above, no odor.
26	0							M	
27	25								
28			PID =	90.7	ppm				
29		**94.27**	23/65	Blows/6 inches					Samle Location: Bottom sleeve, 30.0 ft.
30	0		0	10	90	CL	5YR5/3	S	Lean clay. Fines 50% silt, 50% clay. Large silty and sandy
31	0							M	chunks of consolidated low to non-plastic clay up to 1.5".
32	65								Angular coarse sand. No odor
33		**500.78**	PID =	>340	ppm				
34		**176.75-Dup**	40/65	Blows/6 inches					Samle Location: Bottom sleeve, 35.0 ft. Soil Gas Dup-002.
35	0		0	0	100	CL	5YR5/3	S	As above. Low plasticity clay. More moisture and
36	25							M	only trace sand. Chemical odor.
37	75								
38			PID =	>340	ppm				
39		**765.9**	24/30/50	Blows/6 inches					Samle Location: Bottom sleeve, 40.0 ft.
40	0		20	20	60	ML	5YR5/3	S	Sandy silt with gravel, reddish brown, moist. Fines 50% silt
41	0							M	50% low plasticity clay. Angular coarse sand and large
42	65								angular gravel up to 2", fresh surface shale.
43			PID =	60.7	ppm				
44		**114.89**	23/60	Blows/6 inches					Samle Location: Bottom sleeve, 45.0 ft
45	0		0	5	95	CL	5YR5/3	S	Lean clay, low plasticity, reddish brown. No odor.
46	0							M	Fines 60% clay, 40% silt, low plasticity. Angular coarse
47	25								sand.
48			PID =	20.8	ppm				
49		**63.33**	30/50	Blows/6 inches					Samle Location: Bottom sleeve, 50.0 ft.
50	0		5	15	80	CL	5YR5/3	S	Lean clay with sand. Reddish brown, no odor.
51	0							M	Fines 60% silt, 40% clay, sandy clay low plasticity,
52	50								chunks up to 1". Angular to rounded lithic coarse sand.
53			PID =	8.5	ppm				
54		**123.72**	24/60	Blows/6 inches					Samle Location: Bottom sleeve, 55.0 ft.
55		**TD = 55 ft**							
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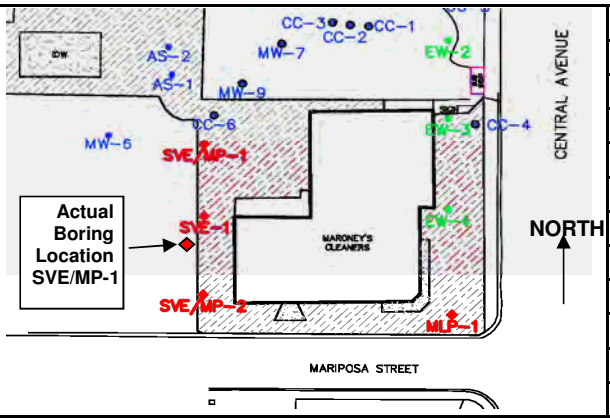
HYDRO GEO CHEM, INC.

Geologic Boring Log

Project Name: Central & Camelback			Boring No.: SVE/MP-1
Drilling Company: Yellow Jacket	Driller: Norman		Project No.: 816000

Site Plan at Boring:

Notes:
D=Dry
M=Moist
NA = not available.
%Recovery Listed from uphole to downhole brass sleeve.



Drilling Equipment:	L-10 Auger Rig
Drilling Method: Auger	
Bit Type: Auger	Size: 8" and 12" HSAuger
Started, Time: 8:40	Date: 6/22/2004
Completed, Time: 14:00	Date: 6/22/2004
Water Depth, First (Ft):	NA
Water Depth, After days (Ft):	NA
Casing Depth (Ft):	53 ft, 33 ft
Boring Depth (Ft):	56.7 ft
Screened Interval (Ft):	53-43 ft, 33-23 ft
Logged By/Date: Michael Geddis 6/22/04	
Checked By/Date: Rich Petrus 6/22/04	

Depth (Ft)	% Rec	Soil Gas PCE Results (ppmv)	Estimated % GR	SA	FI	USCS Symbol	Munsell Color	HCl Rxn	Sample Description
0	0		5	20	75	ML	5YR5/4	S	Sandy silt, reddish brown. No odor. Fines entirely silt.
1	90							D	Well graded sand, angular to subrounded, lithic.
2	90								Rounded gravel up to 0.75".
3			PID =	4	ppm				
4		**8.69**	47/50	Blows/6 inches					Samle Location: 5.0 ft, bottom sleeve
5	0		5	20	75	ML	5YR6/3	S	Sandy silt, light reddish brown, no odor. Well graded,
6	10							D	angular, angualr gravel <0.5".
7	100								
8			PID =	2.7	ppm				
9		**16.2**	40/50	Blows/6 inches					Samle Location: 10.0 ft, top of bottom sleeve.
10	0		0	10	90	CL	5YR5/3	S	Lean clay. No odor, well graded.
11	30							D	
12	100								
13			PID =	NA	ppm				
14		**23.57**	8/21/41	Blows/6 inches					Samle Location: Top of bottom sleeve.
15	0		T	10	90	CL	5YR6/3	S	Lean clay with trace gravel, no odor. Well granded
16	30							D	angular sand and gravel.
17	100								
18			PID =	27.5	ppm				
19		**66.28**	40/70	Blows/6 inches					Samle Location: Top of bottom sleeve.
20	0		0	20	80	ML	5YR5/3	S	Silt with sand. Well graded, qtz sand grains, low
21	100							D	lithic content.
22	100								
23			PID =	16.3	ppm				
24		**53.02**	48/76	Blows/6 inches					Samle Location: Bottom of middle sleeve.

Project Name: Central & Camelback			Project No.: 816000				Boring No.: SVE/MP-1		Sheet 2 of 2
Depth	%	Soil Gas PCE	Estimated %			USCS	Munsell	HCl	Logged By/Date: Michael Geddis 6/22/04
(Ft)	Rec	Results (ppmv)	GR	SA	FI	Symbol	Color	Rxn	Checked By/Date: Rich Petrus 6/22/04
25	0		5	15	80	ML	5YR6/3	S	Silt with sand, trace gravel. Well graded, no lithic content,
26	75							D	qtz sand.
27	100								
28			PID =	1.2	ppm				
29		**83.95**	50/50	Blows/6 inches					Samle Location: Top of bottom sleeve.
30	50		T	15	85	ML	5YR6/3	S	Silt with sand, trace gravel, well graded, no lithic content,
31	100							D	qtz sand.
32	100								
33			PID =	0.8	ppm				
34		**220.93**	20/35/40	Blows/6 inches					Samle Location: Top of bottom sleeve.
35	0		0	10	90	CL	5YR4/3	S	Clay, dark reddish brown, no lithic content.
36	75							D	Very fine rounded sand.
37	100								
38			PID =	1.2	ppm				
39		**176.75**	17/60	Blows/6 inches					Samle Location: Top of bottom sleeve
40	90		5	5	90	CL	5YR4/3	S	Clay. Dark reddish brown, no lithic content. Very fine
41	100							D	rounded sand.
42	100								
43			PID =	0.8	ppm				
44		**4.85**	12/15/43	Blows/6 inches					Samle Location: Top of bottom sleeve.
45	100		0	5	95	CL	5YR4/3	S	Lean clay. No lithic content, no sand.
46	100							D	
47	100								
48			PID =	>240	ppm				
49		**765.9**	NA	Blows/6 inches					Samle Location: Top of bottom sleeve
50	0								No sample to log, appears same as above.
51	0								
52	100								
53		**780.63**	PID =	210	ppm				
54		**648.07-DUP**	16/50	Blows/6 inches					Samle Location: Top of bottom sleeve
55									
56									
57		**TD = 56.7 ft**							
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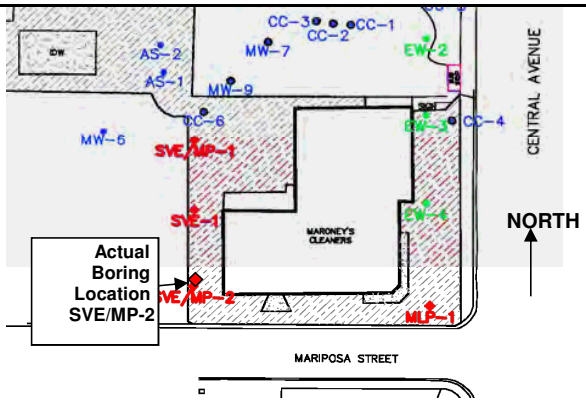
HYDRO GEO CHEM, INC.

Geologic Boring Log

Project Name: Central & Camelback			Boring No.: SVE/MP-2
Drilling Company: Yellow Jacket	Driller: Norman		Project No.: 816000

Site Plan at Boring:

Notes:
D=Dry
M=Moist
NA = not available.
%Recovery Listed from uphole to downhole brass sleeve.



Drilling Equipment:	L-10 Auger Rig
Drilling Method: Auger	
Bit Type: Auger	Size: 8" and 12" HSAuger
Started, Time: 8:00	Date: 6/23/2004
Completed, Time: 15:00	Date: 6/23/2004
Water Depth, First (Ft):	NA
Water Depth, After days (Ft):	NA
Casing Depth (Ft):	40 ft, 10 ft
Boring Depth (Ft):	NA
Screened Interval (Ft):	50-40 ft, 20-10 ft
Logged By/Date: Michael Geddis 6/23/04	
Checked By/Date: Rich Petrus 6/23/04	

Depth (Ft)	% Rec	Soil Gas PCE Results (ppmv)	Estimated % GR	SA	FI	USCS Symbol	Munsell Color	HCl Rxn	Sample Description
0	0		10	60	30	SM	5YR6/3	S	Fill. Silty sand with gravel. Angular gravel <0.75".
1	100							D	Wood chips, angular sand, no odor.
2	100								
3			PID =	16.6	ppm				
4		**1.77**	49/50	Blows/6 inches					Samle Location: Top of bottom sleeve.
5	0		15	50	35	SC	5YR4/4	S	Clayey sand with gravel, abundant lithic minerals,
6	100							D	angular sand, no odor.
7	100								
8			PID =	2.7	ppm				
9		**3.98**	25/71	Blows/6 inches					Samle Location: Top of bottom sleeve.
10	75		T	10	90	ML	5YR4/4	S	Silt. Angular sand, no lithic content, no odor.
11	100							D	
12	100								
13			PID =	3.2	ppm				
14		**14.29**	21/43/48	Blows/6 inches					Samle Location: Top of bottom sleeve.
15	0		0	<5	95	CL	5YR4/3	S	Lean clay, medium plasticity, no odor.
16	70							D	
17	100								
18			PID =	2.5	ppm				
19		**11.49**	20/60	Blows/6 inches					Samle Location: Top of bottom sleeve.
20	0		0	20	80	ML	5YR5/3	S	Lean clay, medium to high plasticity, no odor.
21	10							D	
22	100								
23			PID =	4.2	ppm				
24		**22.09**	48/50	Blows/6 inches					Samle Location: Top of bottom sleeve.

Project Name: Central & Camelback			Project No.: 816000			Boring No.: SVE/MP-2			Sheet 2 of 2
Depth	%	Soil Gas PCE	Estimated %			USCS	Munsell	HCl	Logged By/Date: Michael Geddis 6/23/04
(Ft)	Rec	Results (ppmv)	GR	SA	FI	Symbol	Color	Rxn	Checked By/Date: Rich Petrus 6/23/04
25	0		0	5	95	ML	5YR6/3	S	Silt, non plastic. Driller reports hard layer at 29-30 ft.
26	0							D	
27	100								
28			PID =	5.5	ppm				
29		**14.73**	81	Blows/6 inches					Samle Location: Top of bottom sleeve.
30	100		T	5	95	ML	5YR5/3	S	Silt, non plastic.
31	100							D	
32	100								
33			PID =	2.6	ppm				
34		**26.51**	20/32/51	Blows/6 inches					Samle Location: Top of bottom sleeve.
35	100		T	5	95	CL	5YR4/3	S	Same as above, but medium plasticity fines.
36	100							D	
37	100								
38			PID =	9.7	ppm				
39		**42.71**	15/20/39	Blows/6 inches					Samle Location: Top of bottom sleeve
40	100		15	45	40	SC	5YR5/3	S	Clayey sand with gravel. Gravel <0.75", angular.
41	100							D	Angular sand with low lithic content. Driller reports
42	100								"rock layer" 44-45 ft.
43			PID =	3.3	ppm				
44		**85.43**	17/40/50	Blows/6 inches					Samle Location: Top of bottom sleeve.
45	50		T	10	90	ML	5YR6/3	S	Silt. Abundant dark minerals in angular sand.
46	100							D	
47	100								
48			PID =	59	ppm				
49		**206.2**	14/33/65	Blows/6 inches					Samle Location: Top of bottom sleeve,Geotech Sample at 50.0 ft
50			5	15	80	SM	5YR6/3	S	Silty very fine sand, minimal clay and gravel.
51								D	
52									
53			PID =	11.3	ppm				
54		**98.68**	85/61	Blows/6 inches					Samle Location: Top of bottom sleeve
55		**TD = 55 ft**							
56									
57									
58									
59			32/41	Blows/6 inches					
60									
61									
62									
63									
64									
65									
66									
67									
68									
69									

HYDRO GEO CHEM, INC.

Geologic Boring Log

Project Name: Central & Camelback WQARF Site, SVE-System Drilling	Boring No.: PSG-7
Drilling Company: WDC — Driller: Miguel Alvarado	Proj No.: 2010032.10, T2.2
Site Plan at Boring Location: Lower lot area of the fenced area at the SWC of Central Ave and Camelback Rd.	Drilling Equipment: CME-85
	Drilling Method: Hollow-Stem Auger
	Bit Type: 4-tooth shoe — Size: 4.25-inches
	Started, Time: 9:20 am — Date: 1-4-12
	Completed, Time: 15:00 — Date: 1-4-12
	Water Depth, First (Ft): N/A
	Water Depth, After 24 Hours (Ft): N/A
	Casing Depth (Ft): N/A
	Boring Depth: 55 ft bgs
	Screened Interval (Ft): N/A
	Logged By/Date: Neil J. Babb, G.I.T.
	Checked By/Date: Chris Jacquemin, P.E., BCEE

Samp Time	Depth (Ft)	Blow-Counts	Moisture (Vis Obs)	Estimated % GR	SA	FI	USCS Symbol	Munsell Color	PID (ppm)	Sample Description
	0									Approx 4-6 inches thick concrete-pad surface
	1									
	2									
	3									
	4									
9:30	5	Grab	Dry	< 5	90	< 10	SW	5YR 4/3	0	**WELL GRADED SAND:** non-plastic, non-cohesive;
	6							Reddish-		mostly coarse and medium-grained sand w/fine to very
	7							Brown		fine-grained sands intermixed w/traces of clayey fines and
	8									fine-size gravels.
	9									
9:40	10	Grab	Dry	< 5	95	<5	SW	7.5 YR 6/4	0.1	**WELL GRADED SAND:** non-plastic, non-cohesive; no
	11							Lt Brown		dry strength; well graded sand coarse to very fine-grained
	12									sand intermixed w/trace silty fines and fine-size gravels,
	13									max size 3/4-inch, sub-angular to angular.
	14									
9:45	15	24, 35,	Dry	< 5	85	< 15	SW-SC	7.5YR 5/4	0	**WELL GRADED SAND W/SILT:** no to low plasticity, no
	16	40/6						Brown		to low cohessiveness; medium to high dry strength; well
	17									graded sand coarse to very fine-grained sand intermixed
	18									w/mostly clayey fines; medium dense to dense density;
	19									obtained summa & soil samples.
10:50	20	Grab	Dry	< 5	80	<20	SM	7.5YR 4/3	0	**SILTY SAND:** non-plastic, non-cohesive, low dry
	21							Brown		strength; mostly medium-grained sand intermixed w/silty
	22									fines.
	23									
	24									

Project Name: Central & Camelback SVE Project No.: 2010032.10, T2.2 Boring No.: PSG-7 Sheet 2 of 2

Sample Time	Depth (Ft)	Blow-Counts	Moisture (Vis Obs)	Estimated % GR	SA	FI	USCS Symbol	Munsell Color	PID (ppm)	Logged By/Date: NJ. Babb, G.I.T. Checked By/Date: Chris Jacquemin, P.E., BCEE
10:55	25	21,	Dry	<5	70	< 30	SC	7.5YR 5/3	0.7	**CLAYEY SAND:** low to medium plasticity, cohesive, low
	26	70/6						Brown		to medium dry strength; well graded coarse to fine-
	27									grained sand intermixed w/clayey fines; medium dense to
	28									very dense density; obtained summa and soil samples.
	29									
11:50	30	Grab	Dry	25	65	10	SW-SC	7.5YR 5/3	1.8	**WELL GRADED SAND W/CLAY & GRAVEL:** none
	31							Brown		plastic, non-cohesive; coarse to fine-grained sand inter-
	32									mixed w/clayey fines and fine to coarse size gravels, max
	33									size 1-inch, sub-rounded to sub-angular.
	34									
12:00	35	32,	Dry	< 5	< 55	45	SM	7.5 YR 6/4	1.5	**SILTY SAND:** non-plastic, non-cohesive, low to medium
	36	78/6						Lt Brown		dry strength; mostly fine to very fine-grained-sand inter-
	37									mixed w/silty fines; dense to very dense density; obtain-
	38									ed summa and soil samples.
	39									
12:45	40	Grab	Dry	0	70	30	SC	7.5YR 4/2	0.5	**CLAYEY SAND:** no to low to plasticity, low cohessive-
	41							Brown		ness, low dry strength; poorly graded sand mostly fine
	42									to medium-grainedintermixed w/mostly clayey fines.
	43									
	44									
12:50	45	25, 35,	Dry	0	45	55	MH	7.5 YR 6/3	0.8	**SANDY ELASTIC SILT:** medium plasticity, cohesive,
	46	50						Lt Brown		medium dry strength; mostly silty fines intermixed w/
	47									mostly fine to medium-grained sand; vert stiff to hard
	48									consistency; obtained summa and soil samples.
	49									
14:55	50	Grab	Dry	0	65	35	SC	7.5YR 4/3	1	**CLAYEY SAND:** low to medium plasticity, low cohessive-
	51							Brown		ness, medium dry strength; poorly graded sand mostly
	52									fine-grained w/very fine to medium-grained sands inter-
	53									mixed w/clayey fines.
	54									
15:00	55	220/7	Dry	25	35	40	CL	7.5 YR 7/2	5.5	**SANDY LEAN CLAY W/GRAVEL:** no to low plasticity,
	56							Pinkish-		low cohessive, low to medium dry strength; mostly clay-
	57							Gray		ey fines intermixed w/well graded sands very coarse to
	58									fine-grained and fine-gravels, max size 3/4-inch, sub-
	59									angular; hard consistency; obtained summa & soil sample
	60									
	61									
	62									
	63									
	64									
	65									
	66									
	67									
	68									
	69									

HYDRO GEO CHEM, INC.

Geologic Boring Log

Project Name: Central & Camelback WQARF Site, SVE-System Drilling — Boring No.: PSG-21

Drilling Company: WDC — Driller: Miguel Alvarado — Proj No.: 2010032.10, T2.2

Site Plan at Boring Location: Lower lot area of the fenced area at the SWC of Central Ave and Camelback Rd.

Drilling Equipment: CME-85
Drilling Method: Hollow-Stem Auger
Bit Type: 5-tooth shoe — Size: 6.25-inches
Started, Time: 7:30 am — Date: 1-5-12
Completed, Time: 12:00 pm — Date: 1-6-12
Shallow Casing Depth: 40 ft bgs
Deep Casing Depth: bgs
Boring Depth: 55 ft bgs — Boring Dia: 10 inch
Shallow Screened Interval: 30-40 ft bgs
Deep Screened Interval: 45-55 ft bgs
Logged By/Date: Neil J. Babb, G.I.T.
Checked By/Date: Chris Jacquemin, P.E., BCEE

Samp Time	Depth (Ft)	Blow-Counts	Moisture (Vis Obs)	Estimated % GR	SA	FI	USCS Symbol	Munsell Color	PID (ppm)	Sample Description
	0									Approx 4-inches thick concrete-pad
7:30	1	grab	dry	10	85	5	SW	5YR 4/3	N/A	**WELL GRADED SAND:** non-plastic, non-cohesive,
	2							Reddish-		very fine to coarse-grained sand w/trace silty fines &
	3							Brown		fine-size gravel (rounded to sub-angular).
	4									
7:35	5	grab	dry	10	85	5	SW	5YR 4/3	0	**WELL GRADED SAND:** non-plastic, non-cohesive,
	6							Reddish-		very fine to coarse-grained sand w/trace silty fines &
	7							Brown		fine-size gravel (rounded to sub-angular).
	8									
	9									
7:38	10	grab	dry	15	80	5	SW	7.5YR 5/4	0	**WELL GRADED SAND W/GRAVEL:** non-plastic,
	11							Brown		non-cohesive, very fine to coarse-grained sand (%
	12									of very fine-grained sand is greater than above inter-
	13									vals), intermixed w/fine-size gravel (sub-rounded to
	14									sub-angular) and trace amounts of silt.
7:45	15	20,	dry	10	65	25	SC	7.5YR 4/6	0.6	**CLAYEY SAND:** low to medium plasticity, cohesive,
	16	52/6						Strong-		poorly graded material; mostly medium sand to very
	17							Brown		fine-grained intermixed w/mostly clayey fines & fine-
	18									size gravel (sub-rounded to sub-angular); medium to
	19									very dense density; obtained summa & soil samples
8:20	20	grab	dry	5	60	35	SM	7.5YR 4/3	0.9	**SILTY SAND:** non-plastic, non-cohesive, mostly
	21							Brown		well-graded sands (fine to coarse-grained) inter-
	22									mixed w/mostly silty fines.
	23									
	24									

Project Name: Central & Camelback SVE Project No.: 2010032.10, T2.2 Boring No.: PSG-21 (SVE-2s & d) Sheet 2 of 2										
Sample Time	Depth (Ft)	Blow-Counts	Moisture (Vis Obs)	Estimated % GR	SA	FI	USCS Symbol	Munsell Color	PID (ppm)	Logged By/Date: NJ. Babb, G.I.T. Checked By/Date: Chris Jacquemin, P.E., BCEE
8:25	25	22,	dry	0	70	30	SC	7.5YR 4/4	4.4	**CLAYEY SAND:** very similar to 15 ft bgs interval;
	26	110/6						Brown		low to medium plasticity, cohesive, poorly graded;
	27									mostly medium sand to very fine-grained intermixed
	28									w/mostly clayey fines; med to very dense density;
	29									obtained summa & soil samples.
9:05	30	grab	dry	0	70	30	SC	7.5YR 4/2	N/A	**CLAYEY SAND:** very similar to 25 ft bgs interval;
	31							Brown		low to medium plasticity, cohesive, poorly graded;
	32									sands fraction is getting finer, mostly fine sand to
	33									med-grained intermixed w/mostly clayey fines; note
	34									top of SVE-2s screen is at 30 ft bgs.
9:20	35	35,	dry	0	35	65	CL	7.5YR 5/4	1.2	**SANDY LEAN CLAY:** medium plasticity, cohesive,
	36	130/6						Brown		poorly-graded; mostly clayey fines intermixed w/
	37									mostly fine-grained sands; hard consistency;
	38									obtained summa & soil samples.
	39									
9:55	40	grab	dry	0	40	60	CL	7.5YR 4/3	3.4	**SANDY LEAN CLAY:** low to medium plasticity,
	41							Brown		cohesive, poorly graded; mostly clayey fines inter-
	42									mixed w/medium to coarse-grained sand; sample
	43									contained platy clumps of clayey fines of hard con-
	44									sistency; note bottom of SVE-2s screen is at 40 ft
10:10	45	30, 36,	dry	5	55	40	SC	7.5YR 4/3	2.6	**CLAYEY SAND:** med to high plasticity, cohesive,
	46	42						Brown		medium pressure to make 2mm roll; mostly medium
	47									to fine-grained sand intermixed w/clay; medium
	48									dense to dense density; obtained summa & soil
	49									samples; note top of SVE-2d screen isat 45 ft bgs.
11:00	50	grab	dry	0	45	55	CL	5YR 4/3	3.4	**SANDY LEAN CLAY:** medium plasticity, cohesive,
	51							Reddish-		poorly graded; mostly clayey fines intermixed w/
	52							Brown		mostly medium-grained sand.
	53									
	54									
11:15	55	200/6	dry	5	40	55	ML	7.5YR 5/3	7.4	**SANDY SILT:** low plasticity, cohesive, mostly
	56							Brown		silty fines intermixed w/well-graded sands (coarse to
	57									very fine-grained); hard consistency; otained summa
	58									& soil samples; note bottom of SVE-2 screen is at
	59									55 ft bgs.
	60									*Note used larger diameter augers next day to over-
	61									ream boring to allow for the installation of SVE-2s &
	62									d wells.
	63									
	64									
	65									
	66									
	67									
	68									
	69									

HYDRO GEO CHEM, INC.

Geologic Boring Log

Project Name: Central & Camelback WQARF Site, SVE-System Drilling	Boring No.: PSG-22
Drilling Company: WDC Driller: Miguel Alvarado	Proj No.: 2010032.10, T2.2
Site Plan at Boring Location: Lower lot area of the fenced area at the SWC of Central Ave and Camelback Rd.	Drilling Equipment: CME-85
	Drilling Method: Hollow-Stem Auger
	Bit Type: 4-tooth shoe Size: 4.25-inches
	Started, Time: 14:35 Date: 1-5-12
	Completed, Time: 8:35 am Date: 1-6-12
	Water Depth, First (Ft): N/A
	Water Depth, After 24 Hours (Ft): N/A
	Casing Depth (Ft): N/A
	Boring Depth: 55 ft bgs
	Screened Interval (Ft): N/A
	Logged By/Date: Neil J. Babb, G.I.T.
	Checked By/Date: Chris Jacquemin, P.E., BCEE

Samp Time	Depth (Ft)	Blow-Counts	Moisture (Vis Obs)	Estimated % GR	SA	FI	USCS Symbol	Munsell Color	PID (ppm)	Sample Description
	0									Approx 4-inch thick concrete-pad surface
	1									
	2									
	3									
	4									
14:40	5	Grab	Dry	< 5	85	< 15	SP-SM	7.5YR 5/3	0	**POORLY GRADED SAND W/SILT:** no to low plasticity,
	6							Brown		low cohesiveness, med dry strength; poorly graded sand
	7									mostly very fine to medium-grained intermixed w/silty
	8									fines; contains trace fine gravels, max size 10mm, sub-
	9									rounded to sub-angular.
14:45	10	Grab	Dry	< 5	85	< 15	SP-SM	7.5 YR 6/4	0	**POORLY GRADED SAND W/CLAY:** no to low plastic-
	11							Lt Brown		ity, low cohesiveness, low to med dry strength; poorly
	12									graded sand mostly fine to very fine-grained intermixed w/
	13									w/mostly clayey fines; contains trace fine gravels, max
	14									size 2mm, sub-angular.
14:50	15	25, 40,	Dry	0	90	10	SP-SM	7.5YR 5/4	0.2	**POORLY GRADED SAND W/SILT:** no plasticity, non-
	16	50						Brown		cohessive, low to med dry strength; poorly graded sand
	17									mostly fine to medium-grained intermixed w/silty fines;
	18									medium dense to very dense density; obtained summa
	19									and soil samples.
15:18	20	Grab	Dry	5	70	25	SM	7.5 YR 6/3	0	**SILTY SAND:** non-plastic, non-cohesive, no to low dry
	21							Lt Brown		dry strength; mostly fine to very fine-grained sand inter-
	22									mixed w/silty fines.
	23									
	24									

Project Name: Central & Camelback SVE Project No.: 2010032.10, T2.2 Boring No.: PSG-22 Sheet 2 of 2

Sample Time	Depth (Ft)	Blow-Counts	Moisture (Vis Obs)	Estimated % GR	SA	FI	USCS Symbol	Munsell Color	PID (ppm)	Logged By/Date: NJ. Babb 1-5 & 6-12 Checked By/Date: Chris Jacquemin, P.E, BCEE
15:23	25	40,	Dry	< 5	85	< 15	SW-SM	7.5 YR 6/3	0.9	**WELL GRADED SAND W/SILT:** low plasticity, low co-
	26	90/6						Lt Brown		hessiveness, low to med dry strength; coarse to very fine-
	27									grained sand intermixed w/mostly silty fines; contains
	28									trace fine gravels, max size 3 mm, sub-angular; dense to
	29									very dense density; obtained summa and soil samples.
15:50	30	Grab	Dry	< 30	65	< 20	SW-SM	7.5 YR 6/3	0.9	**WELL GRADED SAND W/SILT & GRAVEL:** no
	31							Lt Brown		plasticity, no cohessiveness, low to med dry strength;
	32									very coarse to very fine-grained sand intermixed w/mostly
	33									silty fines; contains some fine gravels, max size 3/4 inch,
	34									sub-rounded to sub-angular.
15:57	35	45,	Dry	0	40	60	ML	7.5 YR 6/3	2	**SANDY SILT:** no to low plasticity, non-cohesive, low dry
	36	70/6						Lt Brown		strength; silt intermixed w/mostly fine to medium-grained
	37									sand; hard consistency; obtained summa and soil
	38									samples.
	39									
7:25	40	Grab	Dry	0	40	60	CL	7.5YR 5/4	1.2	**SANDY LEAN CLAY:** medium plasticity, cohesive, med-
	41							Brown		ium dry strength; mostly clayey fines intermixed w/fine-
	42									grained sand.
	43									
	44									
7:35	45	50,		0	45	55	CL	7.5 YR 6/3	0.9	**CLAYEY SAND:** low to medium plasticity, cohesive, low
	46	120/5						Lt Brown		to medium dry strength; similar to above interval w/most-
	47									ly clayey fines intermixed w/fine to medium-grained sand;
	48									hard consistency; obtained summa and soil samples.
	49									
8:15	50	Grab	Dry	0	40	60	CL	7.5YR 4/2	1	**SANDY LEAN CLAY:** medium to high plasticity, co-
	51							Brown		hesive, medium dry strength; mostly clayey fines inter-
	52									mixed w/fine to very fine-grained sand.
	53									
	54									
8:35	55	200,	Dry	< 20	< 45	40	SC	7.5 YR 7/3	4.7	**CLAYEY SAND W/GRAVEL:** medium to high plasticity,
	56	120/5						Pink		cohesive, medium to high dry strength; well graded sand
	57									very fine to coarse-grained intermixed w/clayey fines and
	58									little fine-size gravels, max size 5mm, sub-angular; very
	59									dense density; obtained summa and soil samples.
	60									
	61									
	62									
	63									
	64									
	65									
	66									
	67									
	68									
	69									

Project: Central & Camelback WQARF Site | Boring: **SB-01** | Pg. 1 of 3

Drilling Co: Geomechanics SW - Brian | Drilling Method: Hollow Stem Auger - CME-75 | Date Started: 12/14/13

Location: Alley, W. side of dry cleaners, b/t Pasadena and Medlock | Sampler Type: Split Spoon | Date Completed: 12/15/13

Desc. of Meas Pt: | Logged by: NJ. Babb

Land Surf. Elev (ft amsl): 1136.0 | Meas. Pt. Elev: | Reviewed by: S. Sutherland

Blow Count	% Recovery	PID (ppm)	Samples	Depth - FT bgs	Graphic Log	DESCRIPTION	USCS Symbol	ESTIMATED % OF GR	SA	FI	Moisture
						BOREHOLE DIAMETER - 8-inches Asphalt ABC graded construction fill material- a fairly well graded mix of gravel, sand, and silt.					
		0.0		5		Sandy Silty Clay- brown (7.5YR 5/4); Tightly compacted clayey sands; slightly plastic; moderately cohesive; moderate to strong reaction to HCL	CL-ML		50	50	D
12 18 5	100	0.0	X	10							
4 6 5	100	0.0	X	15		Clayey Sand - brown (7.5YR 4/4); trace fine gravels; sand fraction has increased from interval described above; moderately plastic; moderately cohesive; weak to moderate reaction to HCL	SC	5	60	35	D
9 12 20	100	0.0	X	20		Lean Clay with Sand - strong brown (7.5YR 4/6); trace fine gravels; moderate to highly plastic; moderately cohesive; weak reaction to HCL	CL	5	25	70	D
11 27 19	100	0.0	X	25		Well-Graded Sand with Silty Clay and Gravel- brown (7.5YR4/3); mix of sands, silts and fine gravels; non-plastic; non-cohesive; weak reaction to HCL	SW-SC	25	65	10	D
9 19 50/6	85	0.0	X	30		Clayey Sand - brown (7.5YR 5/3); similar to above; fines fraction has increased; moderately plastic; cohesive; very weak reaction to HCL	SC		60	40	D
				35							

ADEQ_LOG C&C.GPJ NEWPROJ.GDT 3/4/14

HYDRO GEO CHEM, INC.

Lithologic Log of Soil Boring SB-01

Approved	Date	Revised	Date	Reference:	FIG.
SPS	3/4/14	WAT	3/3/14	SB-01	a

Project: Central & Camelback WQARF Site | Boring: **SB-01** | Pg. 2 of 3

Drilling Co: Geomechanics SW - Brian | Drilling Method: Hollow Stem Auger - CME-75 | Date Started: 12/14/13

Location: Alley, W. side of dry cleaners, b/t Pasadena and Medlock | Sampler Type: Split Spoon | Date Completed: 12/15/13

Desc. of Meas Pt: | Logged by: NJ. Babb

Land Surf. Elev (ft amsl): 1136.0 | Meas. Pt. Elev: | Reviewed by: S. Sutherland

Blow Count	% Recovery	PID (ppm)	Samples	Depth - FT bgs	Graphic Log	DESCRIPTION	USCS Symbol	ESTIMATED % OF GR	SA	FI	Moisture
17 25 20	100	0.2	X			Driller reports that formation is fairly compacted and tighter than above material; non-plastic; non-cohesive; strong reaction to HCL			65	35	D
4 10 11	100	0.3	X	40		Silty Sand - brown (7.5YR 4/4); non-plastic, non-cohesive; weak reaction to HCL	SM		50	50	D
3 5 4	100	0.1	X	45		Clayey Sand - brown (7.5YR 4/6) Driller reports that interval is softer at 45' bls. Material easily rolls into a 1/2 inch ball; low plasticity; low cohesiveness; weak reaction to HCL	SC	5	70	25	D
7 7 14	100	NA	X	50		Well-Graded Sand with Silt - brown (7.5YR 4/4); sand fraction is coarse to fine grained; well graded; no reaction to HCL	SW-SM		90	10	D
8 14 18	100	0.1	X	55		Increase in coarse sands and fine gravels; decrease in the fines fraction was apparent; non-plastic; non-cohesive		30	60	10	D
8 12 13	100	NA	X	60		Soil in splitspoon sampler is wet at 60' bls. Driller reports encountering gravels at 63' bls; saturated zone intersected at 64 bls		30	60	10	W
5 11 40	100	NA	X G	65		Silty Clayey Sand with Gravel - brown (7.5YR 4/3); primarily very coarse to coarse grained sands, with some grading to very fine grained material; moderate plasticity; wet to saturated; weak reaction to HCL	SC-SM	20	40	40	W
				70							

ADEQ_LOG C&C.GPJ NEWPROJ.GDT 3/4/14

HYDRO GEO CHEM, INC.

Lithologic Log of Soil Boring SB-01

Approved	Date	Revised	Date	Reference:	FIG.
SPS	3/4/14	WAT	3/3/14	SB-01	b

Project: Central & Camelback WQARF Site | Boring: **SB-01** | Pg. 3 of 3

Drilling Co: Geomechanics SW - Brian | Drilling Method: Hollow Stem Auger - CME-75 | Date Started: 12/14/13

Location: Alley, W. side of dry cleaners, b/t Pasadena and Medlock | Sampler Type: Split Spoon | Date Completed: 12/15/13

Desc. of Meas Pt: | Logged by: NJ. Babb

Land Surf. Elev (ft amsl): 1136.0 | Meas. Pt. Elev: | Reviewed by: S. Sutherland

Blow Count	% Recovery	PID (ppm)	Samples	Depth - FT bgs	Graphic Log	DESCRIPTION	USCS Symbol	ESTIMATED % OF GR	SA	FI	Moisture
			G			At 70' bls cobble fragments and gravel are in evidence in soil cuttings.		20	40	40	W
				75		Total depth 75 ft bls		20	40	40	W

HYDRO GEO CHEM, INC.

Lithologic Log of Soil Boring SB-01

Approved	Date	Revised	Date	Reference:	FIG.
SPS	3/4/14	WAT	3/3/14	SB-01	C

ADEQ_LOG C&C.GPJ NEWPROJ.GDT 3/4/14

Project: Central & Camelback WQARF Site | Boring: **SB-02** | Pg. 1 of 3

Drilling Co: Geomechanics SW - Brian | Drilling Method: Hollow Stem Auger - CME-75 | Date Started: 12/16/13

Location: N. central border of commercial parking lot - Uptown Plaza | Sampler Type: Split Spoon | Date Completed: 12/17/13

Desc. of Meas Pt: Top of Inner Casing | Logged by: NJ. Babb

Land Surf. Elev (ft amsl): 1137.0 | Meas. Pt. Elev: _____ | Reviewed by: S. Sutherland

Blow Count	% Recovery	PID (ppm)	Samples	Depth - FT bgs	Graphic Log	DESCRIPTION	USCS Symbol	ESTIMATED % OF GR	SA	FI	Moisture
						BOREHOLE DIAMETER - 8-inch					
						Asphalt (4-inches)					
						No recovery					
6 9 11	100	0.0	X	5		Clayey Sand - brown (7.5YR 5/4); fine to coarse grained sand; fine subangular to subrounded gravel; some clay; low plasticity; moderate reaction to HCl	SC	10	60	30	D
8 11 22	75	0.0	X	10		Silty Sand with Gravel - brown (7.5YR 5/3); fine to very coarse grained sand; fine angular to subangular gravel; silt with some clay; moderate to strong reaction to HCl	SM	15	40	45	D
7 5 7	100	0.5	X	15		Sandy Silt - brown (7.5YR 4/4); fine grained sand; silt with some clay; pieces of angular asphalt in sampler; strong reaction to HCl	ML		35	65	D
7 11 26	100	0.3	X	20		Lean Clay with Sand - brown (7.5YR 4/4); fine to very coarse grained sand; some silt; moderate plasticity; weak to moderate reaction to HCl	CL		25	75	D
5 12 15	100	0.4	X	25							
19 37 42	100	0.3	X	30		Well-Graded Sand with Silt and Gravel - light brown (7.5YR 6/3); medium to very coarse grained sand; some silt; some fine angular gravel; weak reaction to HCl	SW-SM	15	70	15	D
		0.4				Sandy Silt - brown (7.5YR 5/3); silt with fine to coarse grained sand; some clay; low plasticity; moderate reaction to HCl	ML	10	35	55	D
				35							

HYDRO GEO CHEM, INC.

Lithologic Log of Soil Boring SB-02

Approved	Date	Revised	Date	Reference:	FIG.
SS	2/7/14	BDV	2/10/14	SB-02	a

Project: Central & Camelback WQARF Site | Boring: **SB-02** | Pg. 2 of 3

Drilling Co: Geomechanics SW - Brian | Drilling Method: Hollow Stem Auger - CME-75 | Date Started: 12/16/13

Location: N. central border of commercial parking lot - Uptown Plaza | Sampler Type: Split Spoon | Date Completed: 12/17/13

Desc. of Meas Pt: Top of Inner Casing | Logged by: NJ. Babb

Land Surf. Elev (ft amsl): 1137.0 | Meas. Pt. Elev: _____ | Reviewed by: S. Sutherland

Blow Count	% Recovery	PID (ppm)	Samples	Depth - FT bgs	Graphic Log	DESCRIPTION	USCS Symbol	ESTIMATED % OF GR	SA	FI	Moisture
50/5	30	0.8	X			Well-Graded Gravel with Clay - brown (7.5YR 4/3); fine to coarse, angular to subangular gravel; some clay; weak reaction to HCl	GW-GC	90		10	D
						Sandy Silt - brown (7.5YR 5/3); silt with fine to coarse grained sand; some clay; low plasticity; moderate reaction to HCl	ML		45	55	D
7 14 18	100	0.2	X	40		very fine to medium grained sand; weak reaction to HCl					D
11 11 11	100	0.3	X	45		increased silt and clay; with interbedded layers of fine to coarse grained sand			25	75	D
6 8 12	100	0.3	X	50		Clayey Sand - brown (7.5YR 4/4); fine to coarse grained sand; with silt; low to moderate plasticity; trace fine subangular gravel; weak reaction to HCl	SC	5	50	45	D
21 21 27	100	0.0	X	55		Clayey Sand with Gravel - brown (7.5YR 5/3); fine to coarse grained sand; increased fine angular to subangular gravel		15	50	35	D
7 12 22	100	0.0	X	60		Silty Sand with Gravel - brown (7.5YR 5/3); fine to very coarse grained sand; with silt; fine angular to subangular gravel; moderate to strong reaction to HCl	SM	15	55	30	M
6 9 16	100	NA	X	65		Clayey Sand with Gravel - brown (7.5YR 5/3); fine to coarse grained sand; fine angular to subangular gravel; with clay and some silt	SC	25	40	35	M
						cutting are wet; obvious petroleum hydrocarbon odor					
				70							

ADEQ_LOG C&C.GPJ NEWPROJ.GDT 3/4/14

HYDRO GEO CHEM, INC.

Lithologic Log of Soil Boring SB-02

Approved	Date	Revised	Date	Reference:	FIG.
SS	2/7/14	BDV	2/10/14	SB-02	b

Project: Central & Camelback WQARF Site | Boring: **SB-02** | Pg. 3 of 3

Drilling Co: Geomechanics SW - Brian | Drilling Method: Hollow Stem Auger - CME-75 | Date Started: 12/16/13

Location: N. central border of commercial parking lot - Uptown Plaza | Sampler Type: Split Spoon | Date Completed: 12/17/13

Desc. of Meas Pt: Top of Inner Casing | Logged by: NJ. Babb

Land Surf. Elev (ft amsl): 1137.0 | Meas. Pt. Elev: _____ | Reviewed by: S. Sutherland

Blow Count	% Recovery	PID (ppm)	Samples	Depth - FT bgs	Graphic Log	DESCRIPTION	USCS Symbol	ESTIMATED % OF GR	SA	FI	Moisture
		NA				Lean Clay with Gravel - light brown (7.5YR 6/3); clay with some fine to very coarse grained sand; fine gravel; medium to high plasticity*(continued)*	CL	15	10	75	W
				75		Total depth 75 ft bls					

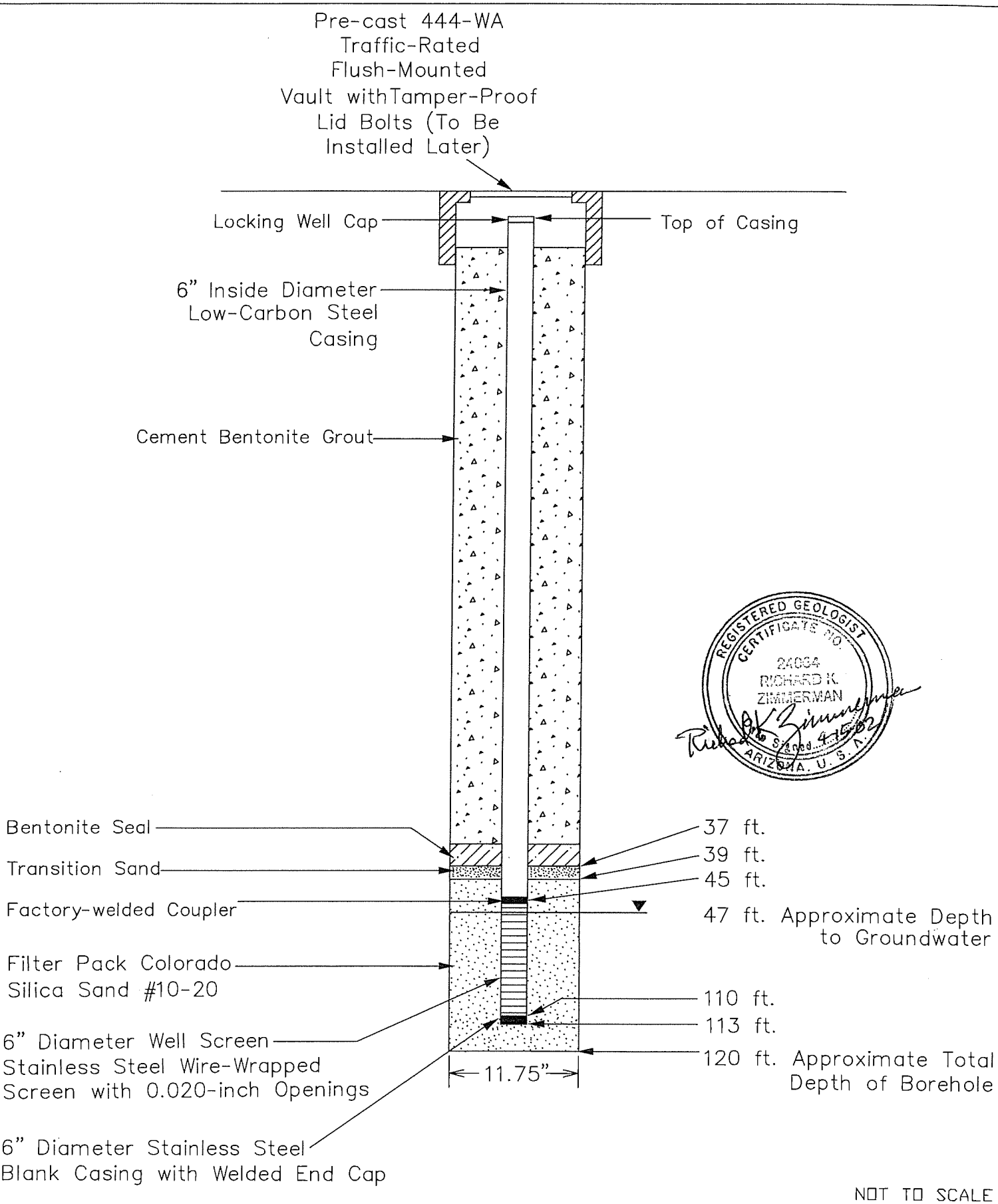
HYDRO GEO CHEM, INC.

Lithologic Log of Soil Boring SB-02

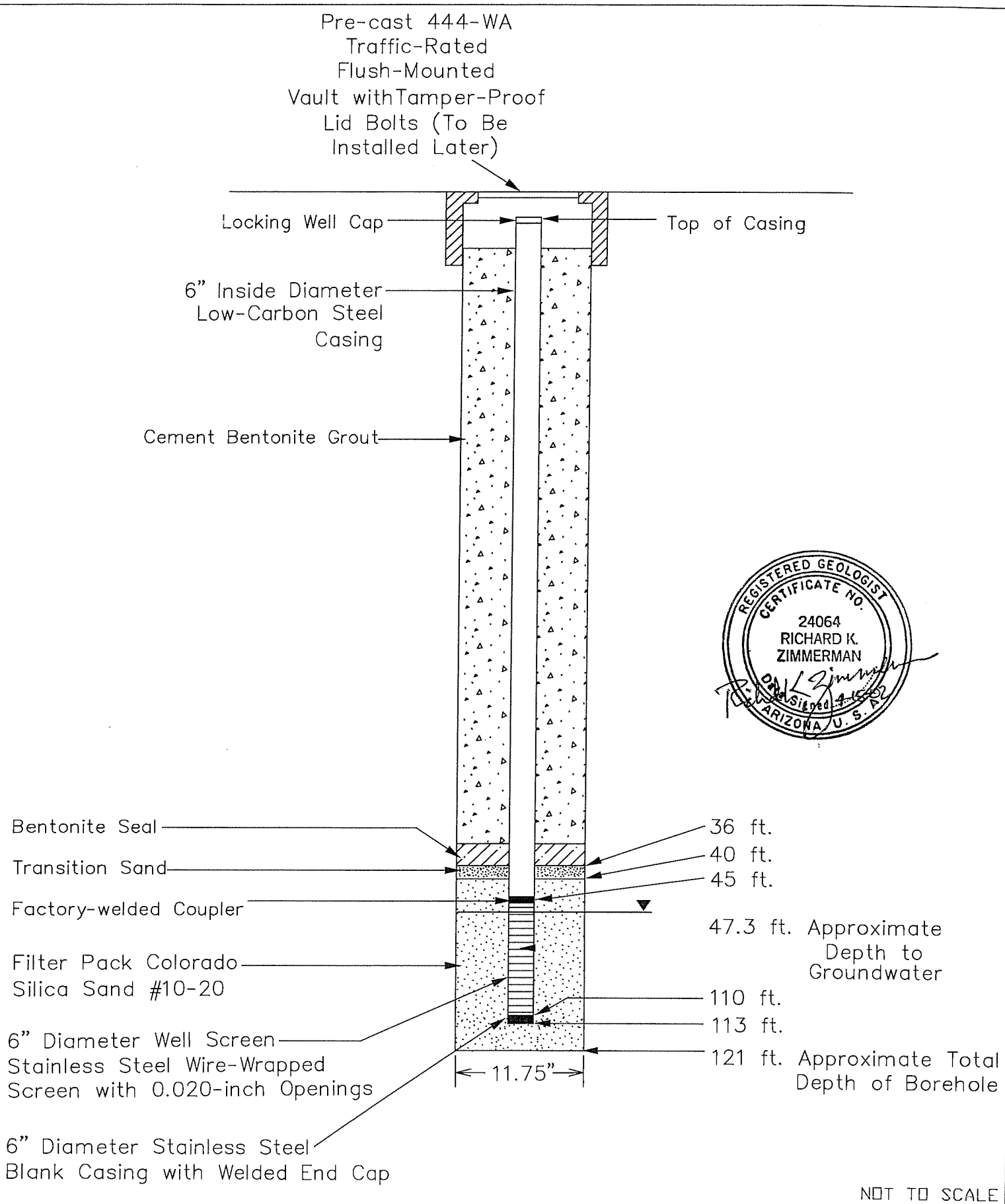
Approved	Date	Revised	Date	Reference:	FIG.
SS	2/7/14	BDV	2/10/14	SB-02	C

APPENDIX B

WELL CONSTRUCTION DIAGRAMS

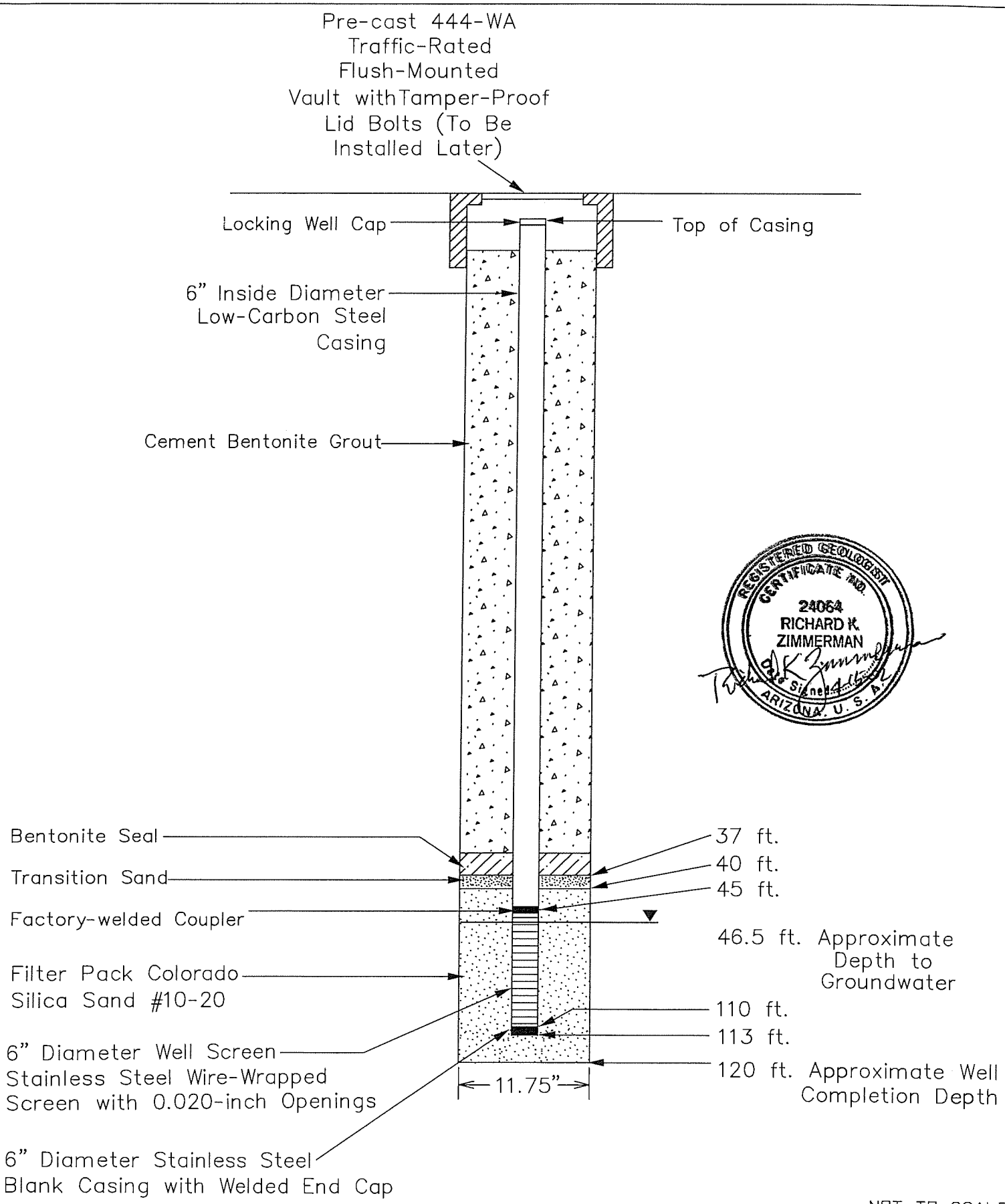


ARIZONA DEPARTMENT OF ENVIRONMENTAL QUALITY	Extraction Well EW-1 Central & Camelback WQARF Site	WESTON MANAGERS DESIGNERS/CONSULTANTS 2702 N. 3rd Street, Suite 2001 Phoenix, AZ 85004



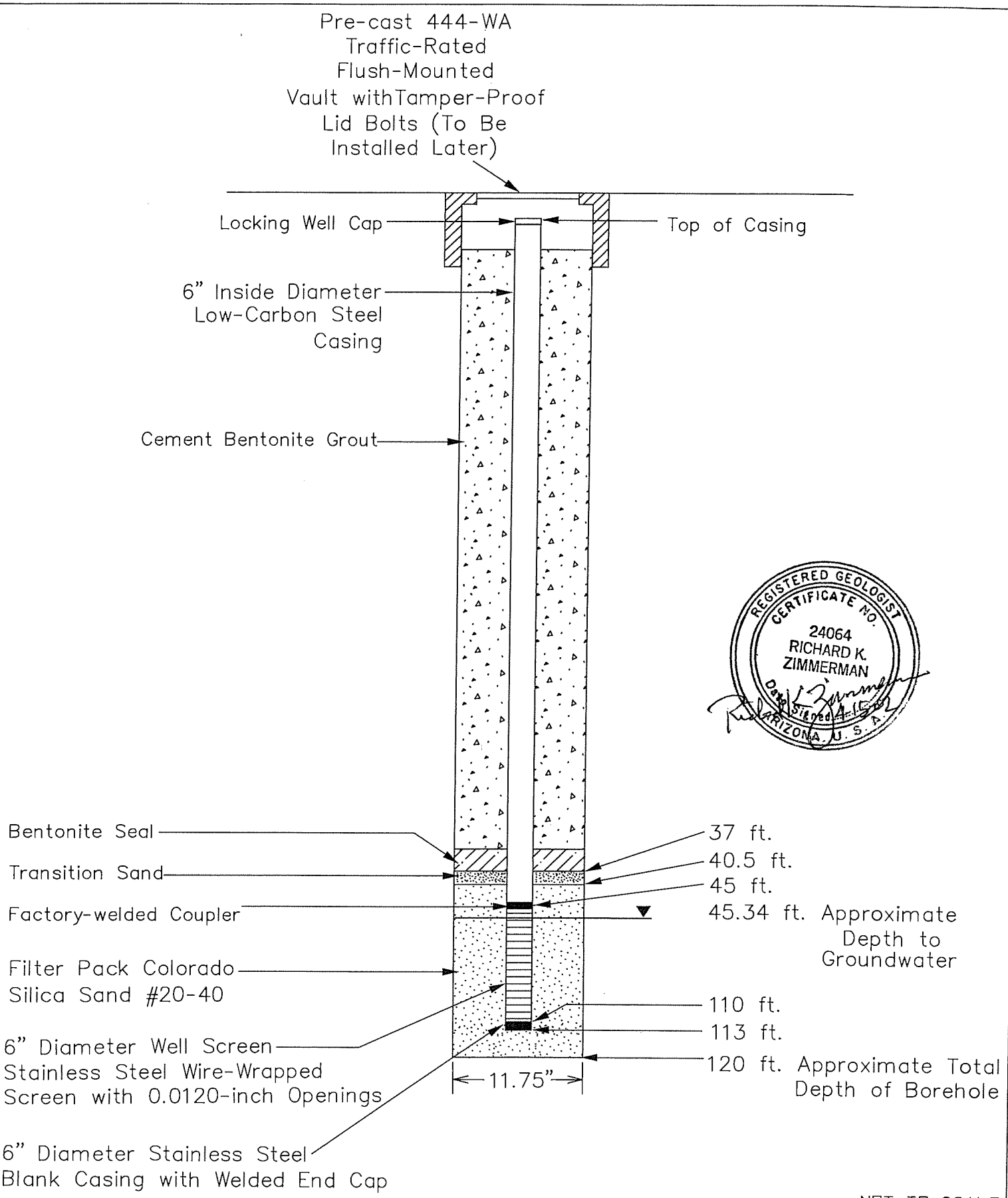
NOT TO SCALE

ARIZONA DEPARTMENT OF ENVIRONMENTAL QUALITY	Extraction Well EW-2 Central & Camelback WQARF Site	WESTON MANAGERS DESIGNERS/CONSULTANTS 2702 N. 3rd Street, Suite 2001 Phoenix, AZ 85004



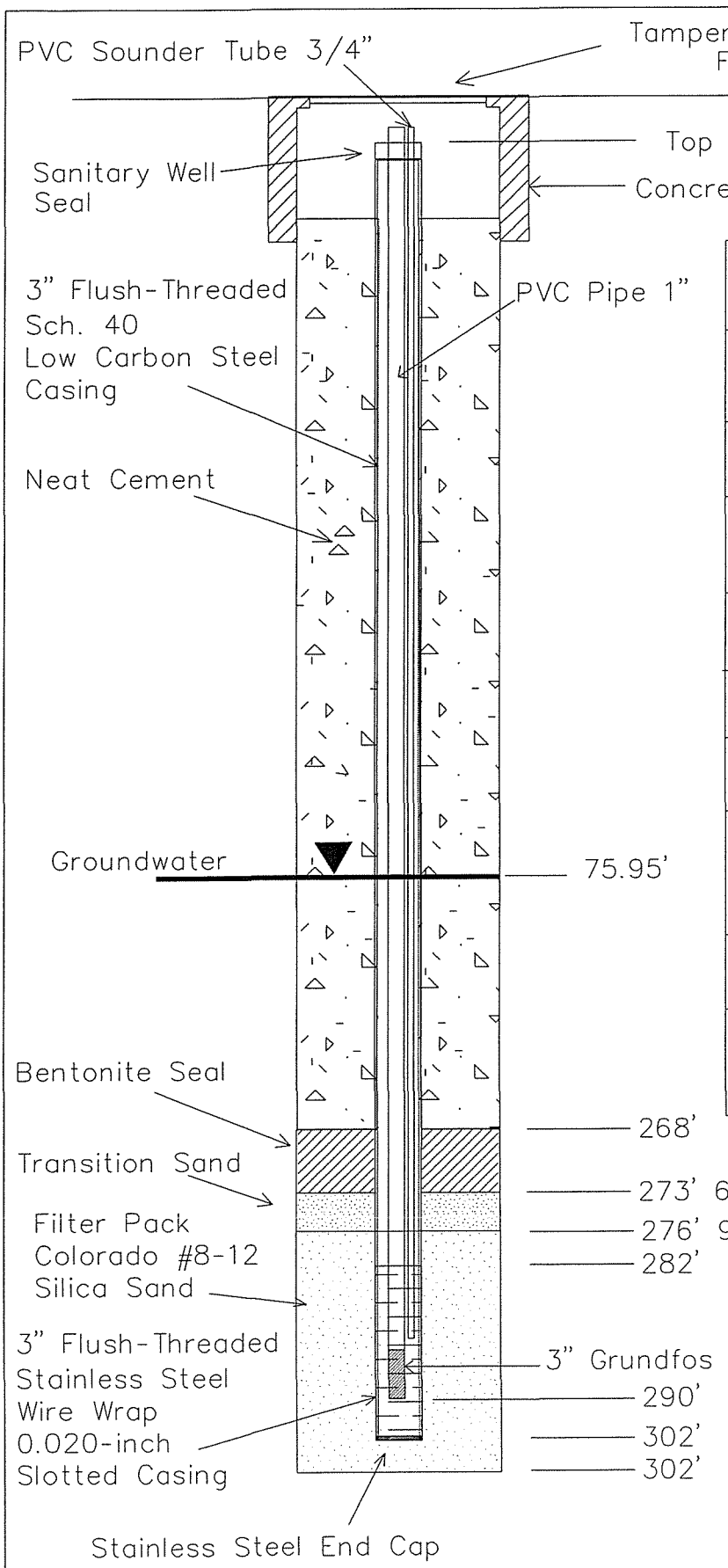
NOT TO SCALE

ARIZONA DEPARTMENT OF ENVIRONMENTAL QUALITY	Extraction Well EW-3 Central & Camelback WQARF Site	WESTON MANAGERS DESIGNERS/CONSULTANTS 2702 N. 3rd Street, Suite 2001 Phoenix, AZ 85004



NOT TO SCALE

ARIZONA DEPARTMENT OF ENVIRONMENTAL QUALITY	Extraction Well EW-4 Central & Camelback WQARF Site	WESTON MANAGERS DESIGNERS/CONSULTANTS 2702 N. 3rd Street, Suite 2001 Phoenix, AZ 85004



CC-1

ADWR Number 55-584473	
Latitude 33.303223	Longitude 112.042688
Northing 912698	Easting 452217
Top of Casing Elevation (ft AMSL) 1130.60	
Static Water Elevation (ft AMSL) 1054.65	
Installation Date January 15, 2001	
Drilling Method Rotosonic	Borehole Diameter 0 - 8' - 10" 8' - 98' - 8" 98' - 302' - 7"
Drilling Contractor Prosonic	
Development Technique Bailed and pumped on 2/21/01 ~390 gallons of water removed	

Reviewed By

Field Geologist:

Project Manager:

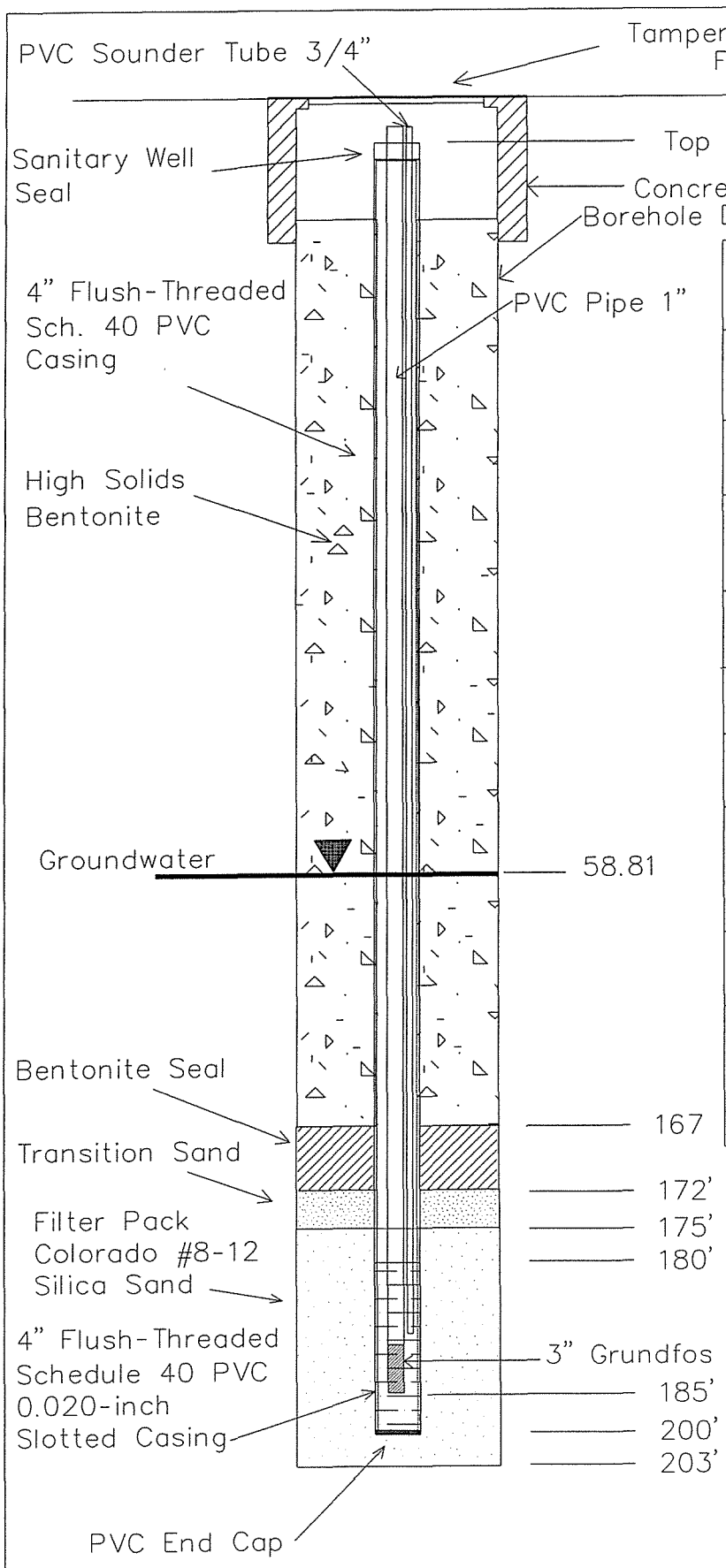
R.G.:

Date:

REGISTERED GEOLOGIST CERTIFICATE NO. 24064 RICHARD K. ZIMMERMAN Date Signed ARIZONA, U.S.A.

Not To Scale

ARIZONA DEPARTMENT OF ENVIRONMENTAL QUALITY	Monitor Well CC-1 Completion Diagram SCSA	WESTON MANAGERS DESIGNERS/CONSULTANTS 2702 North 3rd Street, Suite 2001 Phoenix, AZ 85004



CC-2

ADWR Number 55-584474	
Latitude 33.303224	Longitude 112.042700
Northing 912698	Easting 452207
Top of Casing Elevation (ft AMSL) 1130.45	
Static Water Elevation (ft AMSL) 1071.64	
Installation Date February 6, 2001	
Drilling Method Hollow Stem Auger	
Drilling Contractor HME	
Development Technique Bailed and pumped on 2/21/01 ~75 gallons bailed 1946 gallons pumped	

Reviewed By:

Field Geologist:

Project Manager:

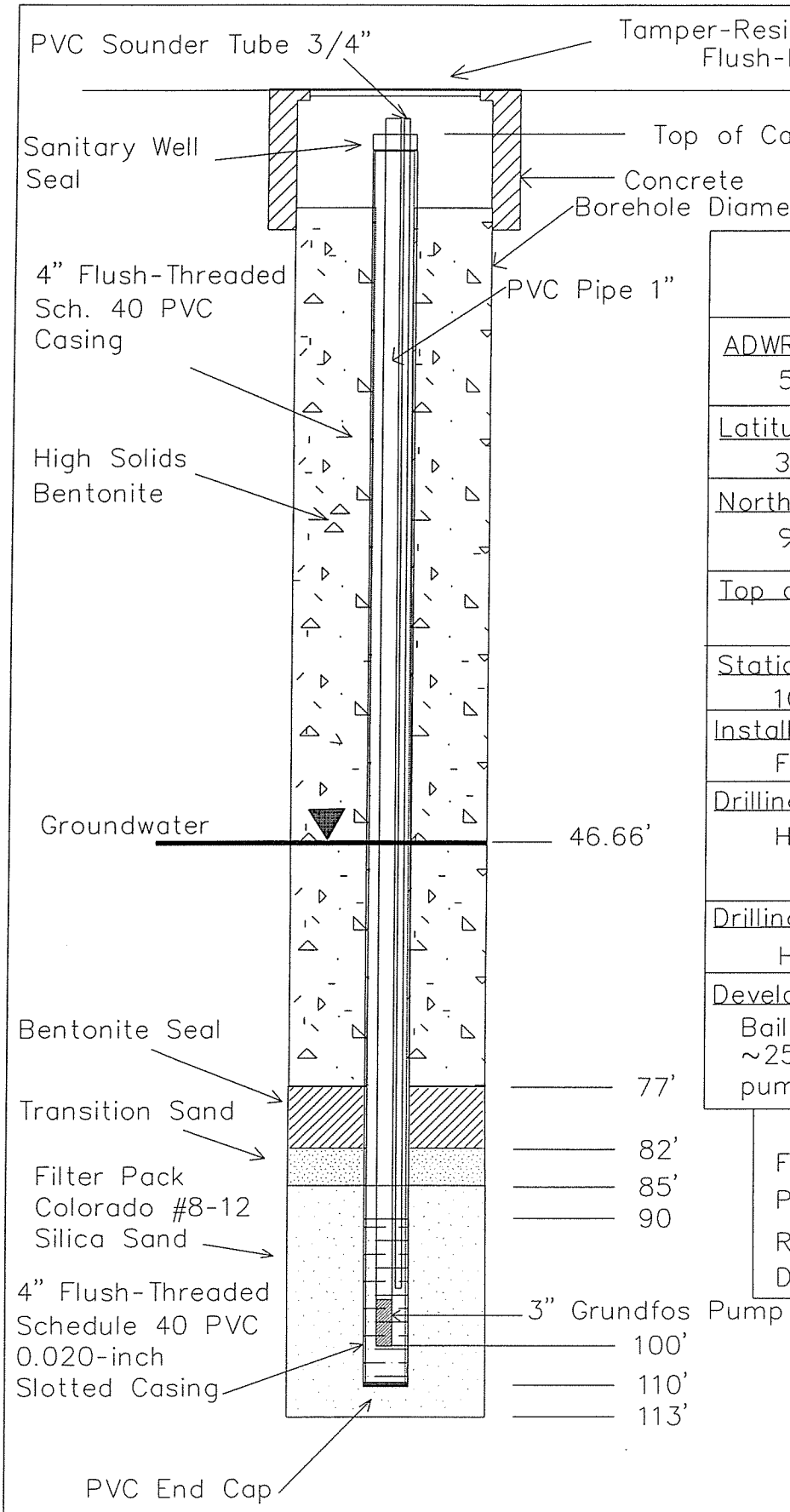
R.G.:

Date:

REGISTERED GEOLOGIST CERTIFICATE NO. 24064 RICHARD K. ZIMMERMAN Date Signed 7/16/01 ARIZONA, U.S.A.

Not To Scale

ARIZONA DEPARTMENT OF ENVIRONMENTAL QUALITY	Monitor Well CC-2 Completion Diagram SCSA	WESTON MANAGERS DESIGNERS/CONSULTANTS 2702 North 3rd Street, Suite 2001 Phoenix, AZ 85004



CC-3

ADWR Number 55-584471	
Latitude 33.303226	Longitude 112.042712
Northing 912700	Easting 452197
Top of Casing Elevation (ft AMSL) 1130.07	
Static Water Elevation (ft AMSL) 1083.41	
Installation Date February 8, 2001	
Drilling Method Hollow Stem Auger	
Drilling Contractor HME	
Development Technique Bailed and pumped on 2/21/01 ~25 gallons bailed 338 gallons pumped	

Reviewed

Field Geologist:

Project Manager:

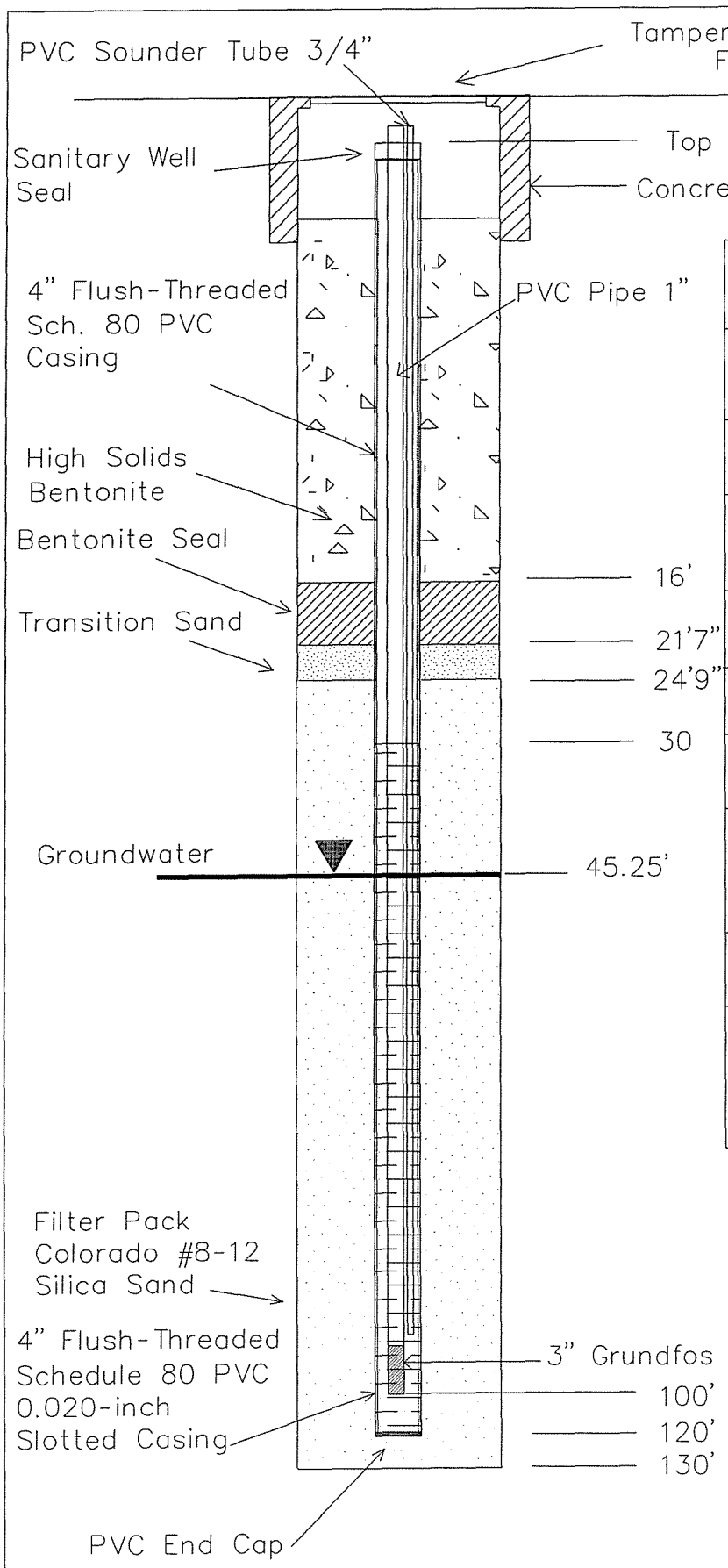
R.G.:

Date:

REGISTERED GEOLOGIST CERTIFICATE NO. 24064 RICHARD K. ZIMMERMAN Date Signed ARIZONA, U.S.A.

Not To Scale

ARIZONA DEPARTMENT OF ENVIRONMENTAL QUALITY	Monitor Well CC-3 Completion Diagram SCSA	WESTON MANAGERS DESIGNERS/CONSULTANTS 2702 North 3rd Street, Suite 2001 Phoenix, AZ 85004



CC-4

ADWR Number 55-584472	
Latitude 33.303164	Longitude 112.042619
Northing 912637	Easting 452277
Top of Casing Elevation (ft AMSL) 1128.20	
Static Water Elevation (ft AMSL) 1082.95	
Installation Date January 23, 2001	
Drilling Method Rotosonic	Borehole Diameter 0 - 8' - 10" 8' - 98' - 8" 98' - 130' - 7"
Drilling Contractor Prosonic	
Development Technique Bailed and pumped on 2/21/01 ~50 gallons bailed 532 gallons pumped	

Reviewed By
Field Geologist:
Project Manager:
R.G.:
Date:

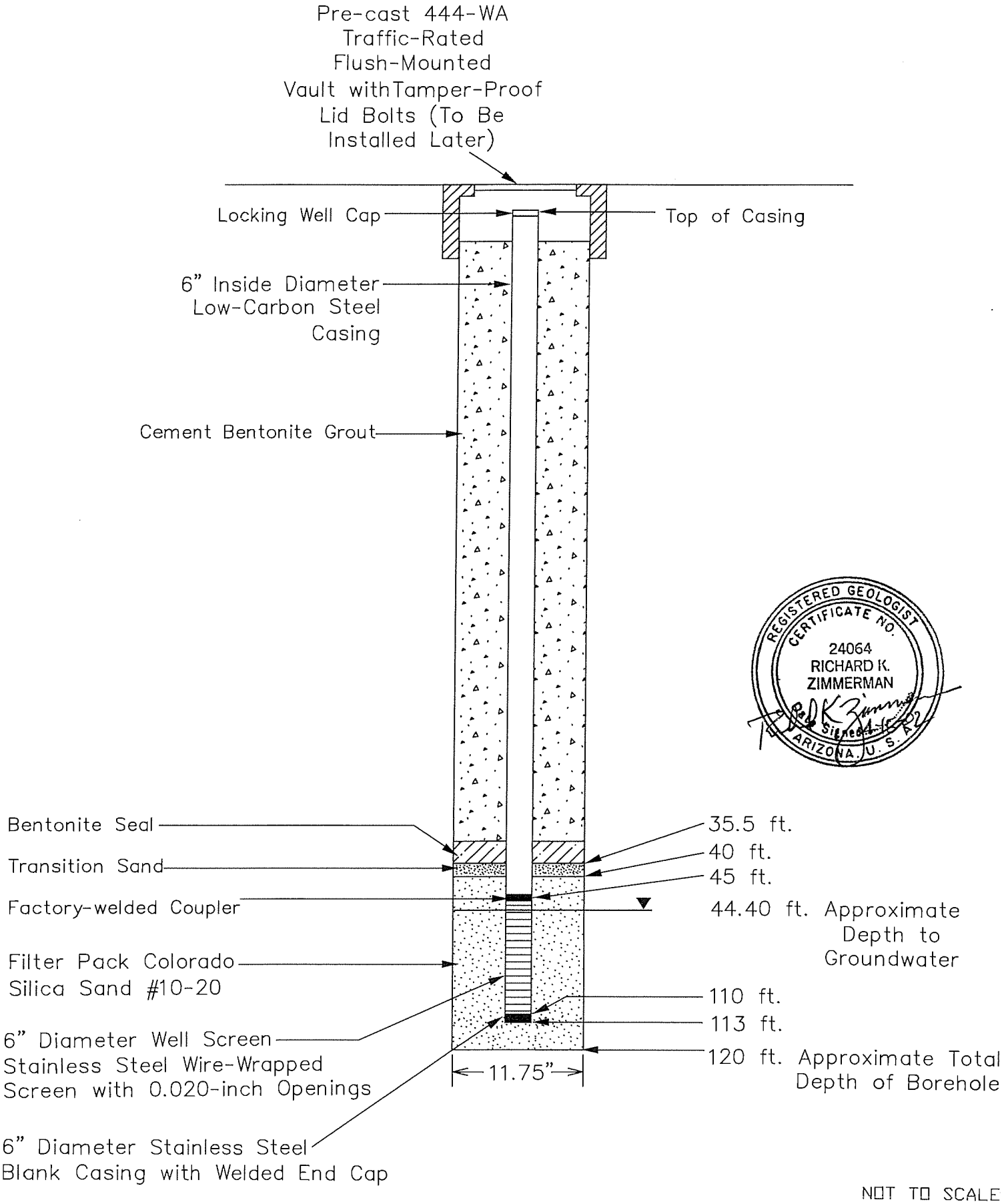
REGISTERED GEOLOGIST CERTIFICATE NO. 24064 RICHARD K. ZIMMERMAN Date Signed 9/10/01 ARIZONA, U.S.A.

Not To Scale

ARIZONA DEPARTMENT OF ENVIRONMENTAL QUALITY

Monitor Well CC-4
Completion Diagram
SCSA

WESTON
MANAGERS DESIGNERS/CONSULTANTS
2702 North 3rd Street, Suite 2001
Phoenix, AZ 85004



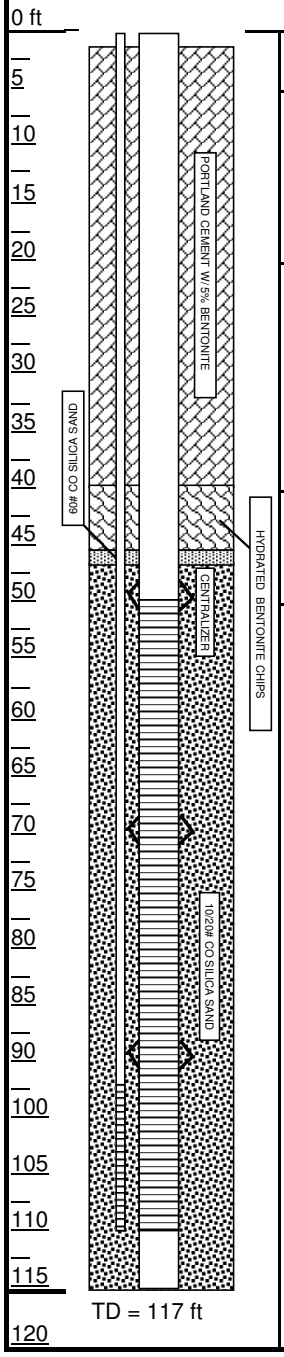
NOT TO SCALE

ARIZONA DEPARTMENT OF ENVIRONMENTAL QUALITY	Monitor Well CC-5 Central & Camelback WQARF Site	WESTON MANAGERS DESIGNERS/CONSULTANTS 2702 N. 3rd Street, Suite 2001 Phoenix, AZ 85004

HYDRO GEO CHEM, INC.
Well Construction Summary

Project Name: Central & Camelback		Well ID:	CC-06
Drilling Company: Yellow Jacket		Project No.:	816000
Well Registration No.: 55-203763		Geologist:	Alexandra Etheridge
Township, Range, Section: 2N, 3E, 20 NE, NE, NE		Driller:	Mark Hickox
Location: West parking lot at Maroney's Cleaners	Casing Elevation: 1128.27 ft amsl	Coordinates:	452150.119 E, 912599.828 N

AS-BUILT DIAGRAM



DRILLING SUMMARY

Total Drilled Depth (ft bls): **117** 8-inch Hollow Stem Auger Pilot Hole Reamed with 15-inch Hollow Stem Auger

Rig: L-8000 Auger Rig

WELL CASING

Depth Interval (ft bls) Casing	Depth Interval (ft bls) Screen	Diameter, Material, Slot Size
0 to 50		6" Low Carbon
110 to 115 sump	50 to 110	6" Stainless Steel wire wrap 0.02" slot

WELL CONSTRUCTION

Filter Pack Material:	10/20# CO. Silica Sand	Interval: 115 to 47 ft bls
Filter Pack Material:	60# CO. Silica Sand	Interval: 47 to 46 ft bls
Well Casing Seal:	Med. Hydrated Bentonite Chips	Interval: 46 to 40 ft bls
Well Casing Grout:	NA	Interval: NA
Cement:	Paragon Portland Cement Type II-V with 5% Bentonite	Interval: 40 to 1 ft bls

TIME LOG

	Start Date	Start Time	Finish Date	Finish Time
8" Auger Drill	6/26/04	8:30	6/27/04	9:00
15" Auger Drill	6/27/04	9:30	6/27/04	16:30
Well Casing/Screen Installation	6/28/04	7:45	6/28/04	9:20
Filter Pack Installation	6/28/04	9:25	6/28/04	13:15
Well Casing Seal	6/28/04	14:47	6/28/04	15:15
Well Casing Grout	6/28/04	15:15	6/28/04	17:45
Surface Completion	6/29/04	8:00	6/29/04	9:15

WELL DEVELOPMENT

Method: Surge block Date: 6/28/04 Time: 13:15 to 13:45

Comments: Tag sand initially at 49 ft bls, surge 15 min, tag at 55 ft bls, after 30 min of surging, sand at 56 ft bls.

Method: Bailer. Fill four 55-gal drums Date: 6/28/04 Time: 14:00 to 14:45

Comments: Water very muddy. Sand at 56 ft bls, fell to 58 ft bls after 220 gal bailed. Water still muddy but not as viscous.

Method: Date: Time:

Comments:

Method: Date: Time:

Comments:

Method: Date: Time:

Comments:

Method: Date: Time:

Comments:

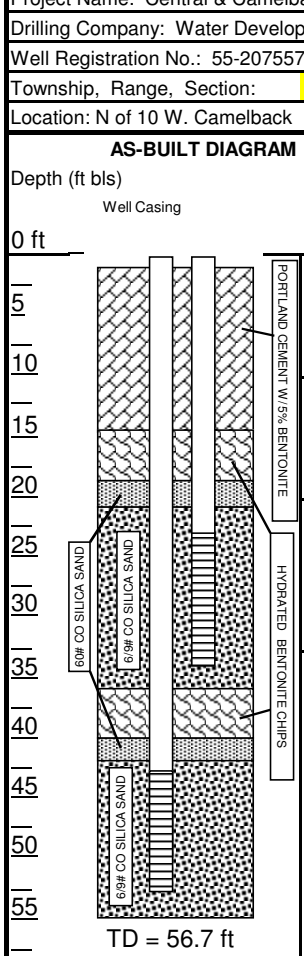
Notes:

Sounding tube 1" SCH 40 PVC blank 0 to 95 ft bls, 0.02" screen 95 to 110 ft bls.

HYDRO GEO CHEM, INC.
Well Construction Summary

Project Name: Central & Camelback		Well ID:	CC-07
Drilling Company: Water Development Corporation		Project No.:	81619
Well Registration No.: 55-207557		Geologist:	Chris Robertson
Township, Range, Section:	2N, 3E, 20 NE, NE, NE	Driller:	George Guzman
Location: N of 10 W. Camelback	Casing Elevation: 1130.73	Coordinates:	452087.29 E, 913036.65 N

AS-BUILT DIAGRAM



DRILLING SUMMARY

Total Drilled Depth (ft bls): **102ft**

Rig: CME-85

WELL CASING

Depth Interval (ft bls) Casing	Depth Interval (ft bls) Screen	Diameter, Material, Slot Size
0 to 43.5 & 93.5 to 98.5	43.5 to 93.5	4" SCH 40 PVC / 4" SCH 40 PVC 0.020" slot

WELL CONSTRUCTION

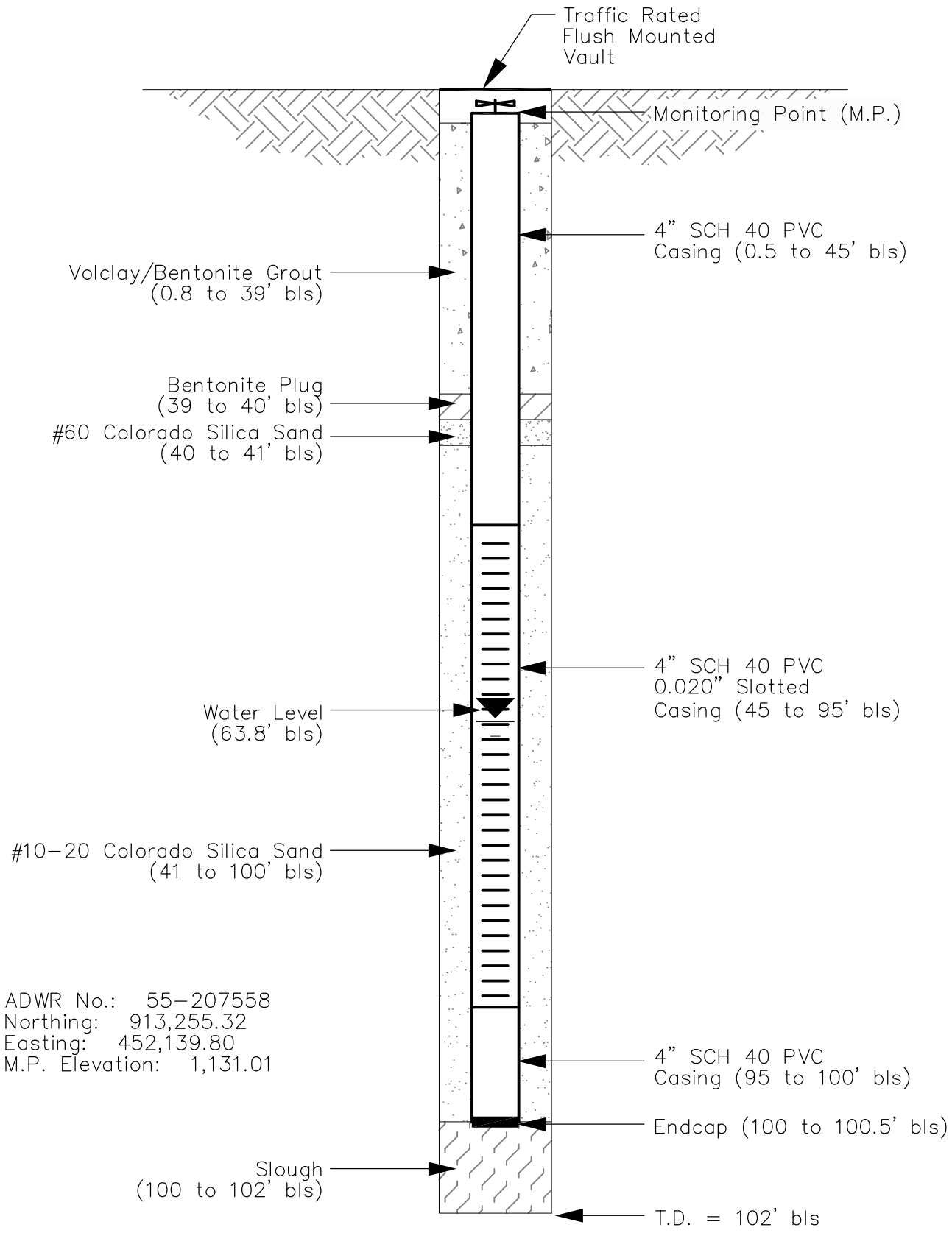
Filter Pack Material:	10/20# CO. Silica Sand	Interval: 99 to 41ft bls
Filter Pack Material:	60# CO. Silica Sand	Interval: 41 to 39 ft bls
Well Casing Seal:	Bentonite plug	Interval: 39 to 38 ft bls
Well Casing Grout:	Grout	Interval: 38 to 0 ft bls
Cement:		Interval:

TIME LOG

	Start Date	Start Time	Finish Date	Finish Time
10" Auger Drill	8/15/05	9:38	8/15/05	16:22
Well Casing/Screen Installation	8/15/05		8/15/05	
Filter Pack Installation	8/15/05		8/16/05	
Well Casing Seal & Grout	8/17/05		8/17/05	
Surface Completion	6/25/04	7:00	6/25/04	10:30

WELL DEVELOPMENT

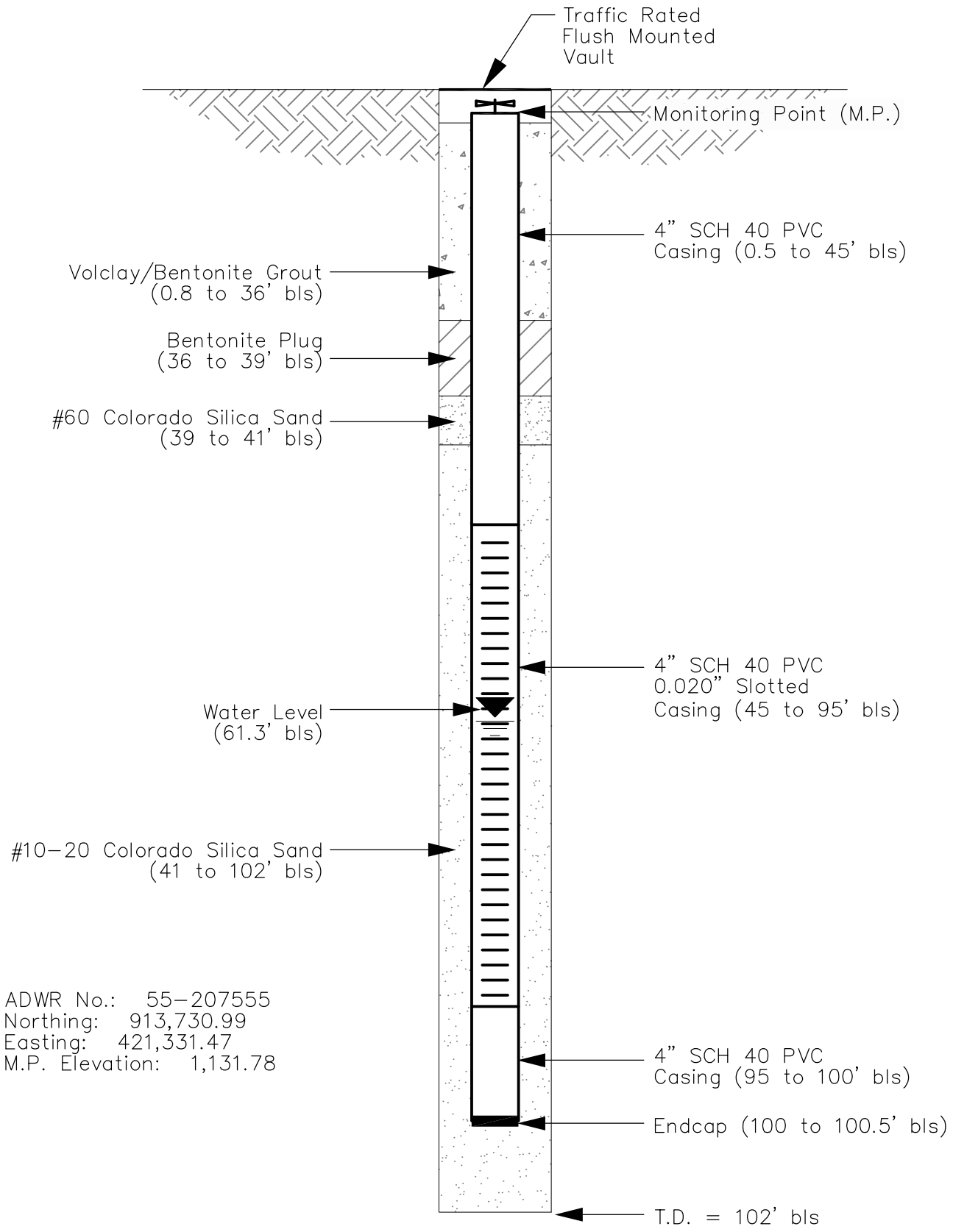
Method: Not Applicable Date: Time:



HYDRO GEO CHEM, INC.

WELL CONSTRUCTION DIAGRAM FOR CC-8

Approved	Date	Revised	Date	Reference:	FIG.
RP	10/14/05			8160322A	



HYDRO GEO CHEM, INC.

WELL CONSTRUCTION DIAGRAM FOR CC-9

Approved	Date	Revised	Date	Reference:	FIG.
RP	10/14/05			8160323A	

HYDRO GEO CHEM, INC.

Well Construction Summary

Project Name: Central & Camelback ERA		Boring No.: CC-10
Drilling Company: Yellow Jacket	Driller: Mike Lester	Project No.: 81643
ADWR Well Registration No.:		Geologist: NJ. Babb
Location: West of the NWC of Medlock & Central Ave., on the north side of Medlock.		

AS-BUILT DIAGRAM

Depth (Ft)	Lithology
0'	Cement
10'	Volclay/ Bentonite Grout
37'	Bentonite Pellets
40'	#60 Sand
43'	
T. O. Screened Interval 45'	#10/20 Pack-Sand
95'	Sump
100'	Pack-Sand
101'	

DRILLING SUMMARY

Total Depth: 101' ft.	Hole Diameter: 10" in.
Drill Rig: BK-81	Bit Type: Hollow-stem auger

WELL DATA

Well Casing	Depth Interval (Ft) Screen	Diameter, Material, Screen Slot Size
4" SCH. 40 PVC (0 to 45'ft bgs)	50' ft. Interval	4" in. Sch 40 PVC, 0.010'
5' ft solid sump casing (95-100)	45' ft. to 95' ft. bgs	

Filter Pack Material: #10/20 pack-sand	Interval: 101' ft. to 43' ft. bgs
Filter Pack Material: #60 choke/ finer pack-sand	Interval: 43' ft. to 40' ft. bgs
Screen Seal Layer: Bentonite Pellets	Interval: 40' ft. to 37' ft. bgs
Grout: Volclay/Bentonite Slurry	Interval: 37' ft. to 10' ft. bgs
Centralizer Locations: West of NWC at Medlock & Central Ave	
Surface Completion: 2' ft. x 2' ft. concrete square around well head and vault.	
*Measuring Point of T. O. C is approx. 0' feet above asphalt-paved surface grade.	

CONSTRUCTION TIME LOG

CC-10	Start Date: 6/8/06 Time: 12:30 Time: 15:30	Finish Date: 6/9/06 Time: 7:45 Time: 10:45
Drilling: 101' ft. / 6 hrs.	0-60' ft. bgs	60-100' ft. bgs
Casing: 100' ft. / 0.5 hrs	6/9/06 @ 10:45	6/9/06 @ 11:15
Filter Pack: 64' ft. / 0.5 hrs	6/9/06 @ 11:15	6/9/06 @ 11:45
Cement & Bentonite Slurry	6/9/06 @ 12:45	6/9/06 @ 13:15
Surface Completion	6/9/06 @ 13:15	6/9/06 @ 14:30

WELL DEVELOPMENT

Date & Time Started:	Date & Time Completed:
a = Cased Depth (ft):	D = Casing Diameter (in.):
b = Water Depth (ft):	Date & Time Measured:
Well Volume = (a - b) *0.1631 = Gallons	
Method of Development:	
Swabbed and Bailed for minutes	
Pumped at gpm for minutes	Gallons Purged:

Remarks:

HYDRO GEO CHEM, INC.

Well Construction Summary

Project Name: Central & Camelback ERA		Boring No.: CC-11
Drilling Company: Yellow Jacket	Driller: Mike Lester	Project No.: 81613
ADWR Well Registration No.: 55-211542		Geologist: NJ. Babb
Location: East of the SEC of Orange and Central Ave, along the south side of Orange Dr		

AS-BUILT DIAGRAM

Depth (Ft)	Lithology
0'	
	cement
10'	
	Volclay/ Bentonite Grout
37'	
	Bentonite Pellets
40	#60 Sand
43'	
T. O. Screened Interval 45'	
	#10/20 Pack-Sand
95'	
	Sump
100'	
101	Pack-Sand

DRILLING SUMMARY

Total Depth: 101' ft.	Hole Diameter: 10" in.
Drill Rig: BK-81	Bit Type: Hollow-stem auger

WELL DATA

Well Casing	Depth Interval (Ft) Screen	Diameter, Material, Screen Slot Size
4" SCH. 40 PVC (0 to 45'ft bgs)	40' ft. Interval	4" in. Sch 40 PVC, 0.010'
5' ft. solid sump casing (95-100)	45' ft. to 95' ft. bgs	

Filter Pack Material: #10/20 pack-sand	Interval: 101' ft. to 43' ft. bgs
Filter Pack Material: #60 choke/ finer pack-sand	Interval: 43' ft. to 40' ft. bgs
Screen Seal Layer: Bentonite Pellets	Interval: 40' ft. to 37' ft. bgs
Grout: Volclay/Bentonite Slurry	Interval: 37' ft. to 10' ft. bgs
Centralizer Locations: East of SEC at Orange & Central Ave	
Surface Completion: 2' ft. x 2' ft. concrete square around well head and vault.	
*Measuring Point of T. O. C is approx. 0' feet above asphalt-paved surface grade.	

CONSTRUCTION TIME LOG

CC-11	Start Date: 6/6/06 Time: 9:30 Time: 15:00	Finish Date: 6/7/06 Time: 8:30 Time:12:00
Drilling: 101' ft. / 9 hrs.	0-60' ft. bgs	60-100' ft. bgs
Casing: 100' ft. / 0.5 hrs.	6/7/06 @ 12:00	6/7/06 @ 12:30
Filter Pack: 64' ft. / 1.5 hrs.	6/7/06 @ 12:30	6/7/06 @ 14:00
Cement & Bentonite Slurry	6/8/06 @ 8:30	6/8/06 @ 9:30
Surface Completion	6/8/06 @ 9:30	6/8/06 @ 10:00

WELL DEVELOPMENT

Date & Time Started:	Date & Time Completed:
a = Cased Depth (ft):	D = Casing Diameter (in.):
b = Water Depth (ft):	Date & Time Measured:
Well Volume = (a - b) *0.1631 = Gallons	
Method of Development:	
Swabbed and Bailed for minutes	
Pumped at gpm for minutes	Gallons Purged:

Remarks:

HYDRO GEO CHEM, INC.

Well Construction Summary

Project Name: Central & Camelback RI TAO		Boring No.: CC-12
Drilling Company: W. D. C. Exploration & Wells	Driller: Miguel Alvarado	Project No.: 87405
ADWR Well Registration No.: 55 -214463		Geologist: NJ. Babb
Location: West of the NWC of Pierson St. & Central Ave., on the north side of Pierson St.		

AS-BUILT DIAGRAM

Depth (Ft)	Lithology
0'	
	Cement
10'	
	Volclay/ Bentonite Grout
38'	
	#60 Sand
43'	
T. O. Screened Interval 45'	
	#10/20 Pack-Sand
95'	
	Sump
100'	
	#10/20 Pack-Sand
105'	

DRILLING SUMMARY

Total Depth: 105' ft.	Hole Diameter: 8" in.
Drill Rig: BK-81	Bit Type: Hollow-stem auger

WELL DATA

Well Casing	Depth Interval (Ft) Screen	Diameter, Material, Screen Slot Size
4" SCH. 40 PVC (0 to 45'ft bgs)	50' ft. Interval	4" in. Sch 40 PVC, 0.020' ft.
5' ft solid sump casing (95-100)	45' ft. to 95' ft. bgs	
Filter Pack Material: #10/20 pack-sand		Interval: 105' ft. to 43' ft. bgs
Filter Pack Material: #60 choke/ finer pack-sand		Interval: 43' ft. to 40' ft. bgs
Screen Seal Layer: An additional 2-feet of # 60 choke-sand		Interval: 40' ft. to 38' ft. bgs
Grout: Volclay/Bentonite Slurry		Interval: 38' ft. to 10' ft. bgs
Centralizer Locations: N/A		
Surface Completion: 2' ft. diameter concrete circle around well head and vault.		
*Measuring Point of T. O. C is approx. 0' feet above asphalt-paved surface grade.		

CONSTRUCTION TIME LOG

CC-12	Start Date: 2/22/07 Time: 13:45 Time: 16:00	Finish Date: 2/24/07 Time: 8:00 Time: 11:00
Drilling: 105' ft. / 6 hrs.	0-60' ft. bgs	60-105' ft. bgs
Casing: 100' ft. / 0.5 hrs	2/23/07 @ 12:30	2/23/07 @ 13:00
Filter Pack: 67' ft. / 0.5 hrs	2/23/07 @ 14:00 to 16:00	2/24/07 @ 8:00 to 9:00
Cement & Bentonite Slurry	2/24/07 @ 9:15	2/24/07 @ 10:15
Surface Completion	2/24/07 @ 10:30	2/24/07 @ 11:00

WELL DEVELOPMENT

Date & Time Started: 3/5/07 @ 15:13	Date & Time Completed: 3/5/07 @ 17:02
a = Cased Depth (ft):100' ft	d = Casing Diameter (in.): 4" in.
b = Water Depth (ft): 59.51	Date & Time Measured: 3/5/07 @ 15:00
Well Volume = (a - b) x d^2 x 0.0408 = 26.43 gallons	
Method of Development: 3" in. grundfos submersible pump	
Swabbed and Bailed: for 46-minutes w/3.75" x 10' plastic hand bailer	
Pumped at: 35 gpm for 2 minutes	
Pumped at: 10 gpm for 5 minutes	
Pumped at: 5 gpm for 98 minutes	Gallons Purged: 470-gal

Remarks:

HYDRO GEO CHEM, INC.

Well Construction Summary

Project Name: Central & Camelback RI TAO		Boring No.: CC-13
Drilling Company: W. D. C. Exploration & Wells	Driller: Miguel Alvarado	Project No.: 87405
ADWR Well Registration No.: 55 - 214464		Geologist: NJ. Babb
Location: East of the NEC of Pierson St. & 1st Ave., on the north side of Pierson St.		

AS-BUILT DIAGRAM

Depth (Ft)	Lithology
0'	
	Cement
10'	
	Volclay/ Bentonite Grout
38'	
	#60 Sand
43'	
T. O. Screened Interval 45'	
	#10/20 Pack-Sand
95'	
	Sump
100'	
	#10/20 Pack-Sand
105'	

DRILLING SUMMARY

Total Depth: 105' ft.	Hole Diameter: 8" in.
Drill Rig: BK-81	Bit Type: Hollow-stem auger

WELL DATA

Well Casing	Depth Interval (Ft) Screen	Diameter, Material, Screen Slot Size
4" SCH. 40 PVC (0 to 45'ft bgs)	50' ft. Interval	4" in. Sch 40 PVC, 0.020' ft.
5' ft solid sump casing (95-100)	45' ft. to 95' ft. bgs	
Filter Pack Material: #10/20 pack-sand		Interval: 105' ft. to 43' ft. bgs
Filter Pack Material: #60 choke/ finer pack-sand		Interval: 43' ft. to 40' ft. bgs
Screen Seal Layer: An additional 2-feet of # 60 choke-sand		Interval: 40' ft. to 38' ft. bgs
Grout: Volclay/Bentonite Slurry		Interval: 38' ft. to 10' ft. bgs
Centralizer Locations: N/A		
Surface Completion: 2' ft. diameter concrete circle around well head and vault.		
*Measuring Point of T. O. C is approx. 0' feet above asphalt-paved surface grade.		

CONSTRUCTION TIME LOG

CC-13	Start Date: 2/21/07 Time: 9:30 Time: 14:15	Finish Date: 2/2207 Time: 8:00 Time: 10:30
Drilling: 105' ft. / 6 hrs.	0-105' ft. bgs	Completed 2/21/07
Casing: 100' ft. / 0.5 hrs	2/21/07 @ 16:00	2/21/07 @ 16:30
Filter Pack: 67' ft. / 0.5 hrs	2/21/07 @ 16:45 to 17:15	2/22/07 @ 8:00 to 8:30
Cement & Bentonite Slurry	2/22/07 @ 8:45	2/22/07 @ 9:45
Surface Completion	2/22/07 @ 10:00	2/22/07 @ 10:30

WELL DEVELOPMENT

Date & Time Started: 3/5/07 @10:17	Date & Time Completed: 3/5/07 @ 12:15
a = Cased Depth (ft):100' ft	d = Casing Diameter (in.): 4" in.
b = Water Depth (ft): 58.44	Date & Time Measured: 3/5/07 @ 10:00
Well Volume = (a - b) x d^2 x 0.0408 = 27.13 gallons	
Method of Development: 3" in. grundfos submersible pump	
Swabbed and Bailed: for 30-minutes w/3.75" x 10' plastic hand bailer	
Pumped at: 24 gpm for 1 minute	
Pumped at: 10 gpm for 3 minutes	
Pumped at: 8 gpm for 5 minutes	Gallons Purged: 514-gal.
Pumped at: 5 gpm for 84 minutes	

Remarks:

HYDRO GEO CHEM, INC.

Well Construction Summary

Project Name: Central & Camelback RI TAO		Boring No.: CC-14
Drilling Company: W. D. C. Exploration & Wells	Driller: George Guzman	Project No.: 87405
ADWR Well Registration No.: 55-906802		Geologist: CC. Robinson
Location: SWC of Central Ave. & Camelback Rd., approximately 50 ft. southwest from the billboard		

AS-BUILT DIAGRAM

Depth (Ft)	Lithology
0'	Cement
1'	Volclay/ Bentonite Grout
35'	Bentonite Pellets
38'	#60 Sand
42'	#10/20 Pack-Sand
95'	Sump
100'	Pack-Sand
102'	

T. O. Screened Interval 45'

DRILLING SUMMARY

Total Depth: 101' ft.	Hole Diameter: 10" in.
Drill Rig: BK-81	Bit Type: Hollow-stem auger

WELL DATA

Well Casing	Depth Interval (Ft) Screen	Diameter, Material, Screen Slot Size
4" SCH. 40 PVC (0 to 45'ft bgs)	50' ft. Interval	4" in. Sch 40 PVC, 0.010'
5' ft solid sump casing (95-100)	45' ft. to 95' ft. bgs	
Filter Pack Material: #10/20 pack-sand		Interval: 101 ft. to 42 ft. bls
Filter Pack Material: #60 choke/ finer pack-sand		Interval: 42 ft. to 38 ft. bls
Screen Seal Layer: Bentonite medium chips		Interval: 38 ft. to 35' ft. bls
Grout: Volclay/Bentonite Slurry		Interval: 35 ft. to 1 ft. bls
Centralizer Locations: N/A		
Surface Completion: 2 ft. x 2 ft. diameter concrete traffic vault.		
*Measuring Point of T. O. C is approx. 6 inches above unfinished surface grade.		

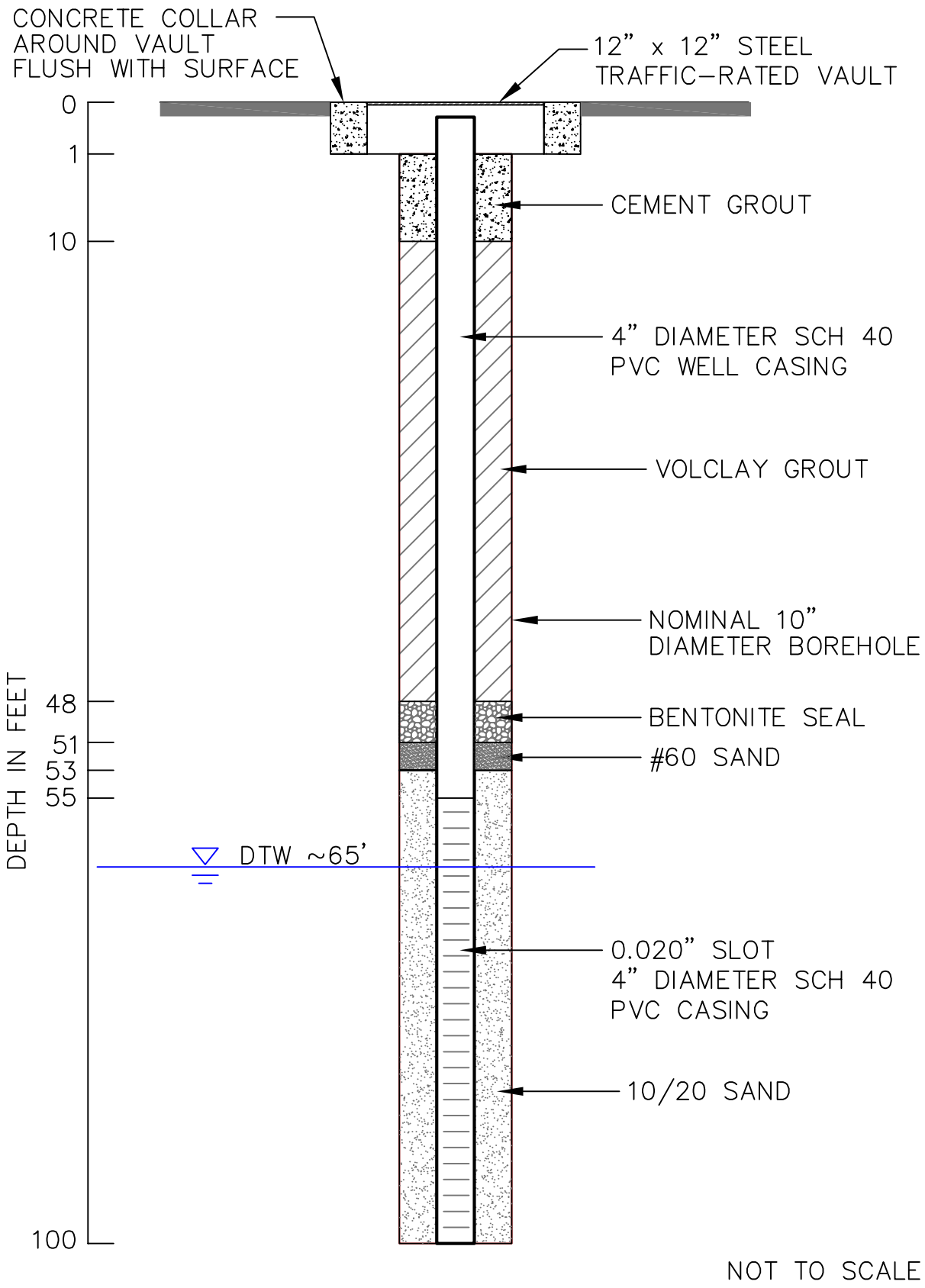
CONSTRUCTION TIME LOG

CC-14	Start Date: 4/12/07 Time: 10:05 Time: 15:30	Finish Date: 4/13/07 Time: 7:40 Time: 16:30
Drilling: 102 ft. / 7 hrs.	0-90 ft. bls	90-102 ft. bls
Casing: 100 ft. / 1.5 hrs	4/13/07 @ 9:00	4/13/07 @ 10:40
Filter Pack: 65 ft. / 0.5 hrs	4/13/07 @ 10:40	4/13/07 @ 13:20
Cement & Bentonite Slurry	4/13/07 @ 14:20	4/13/07 @ 15:30
Surface Completion	4/13/07 @ 16:00	4/13/07 @ 16:30

WELL DEVELOPMENT

Date & Time Started: 4/20/07 @ 9:38	Date & Time Completed: 4/20/07 @ 10:25
a = Cased Depth (ft): 100 f	d = Casing Diameter (in.): 4 in.
b = Water Depth (ft): 64.98	Date & Time Measured: 4/20/07 @ 9:20
Well Volume = (a - b) x d^2 x 0.0408 = 22.86 Gallons	
Method of Development: 3" in. grundfos submersible pump	
Swabbed and Bailed for: 22 minutes	
Pumped at: 12 gpm for 12 minutes	
Pumped at: 14 gpm for 23 minutes	
Pumped at: 8 gpm for 12 minutes	Gallons Purged: 650 gallons

Remarks:



HYDRO GEO CHEM, INC.

MONITORING WELL CC-15
ADWR #55-222082
MONITORING WELL CONSTRUCTION DETAILS

Approved	Date	Author	Date	File Name	Figure
CLJ	06/24/13	JAA	06/24/13	2010032058A	

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HYDRO GEO CHEM, INC.

Well Construction Summary

Project Name: Central & Camelback RI TAO		Boring No.: CC-16
Drilling Company: W. D. C. Exploration & Wells	Driller: Jose Miranda	Project No.: 8740000, T3.2
ADWR Well Registration No.: 55 - 908894		Geologist: NJ. Babb
Location: Approx. 35 ft. west of Central Ave on the southside of Georgia Ave; Phoenix, AZ.		

AS-BUILT DIAGRAM

Depth (Ft)	Lithology
0'	
	Cement
10'	
	Volclay/ Bentonite Grout
37'	
	Bentonite Chips
40'	
	#60 Sand
42.5'	
T.O. Screened Interval 45'	
	#10/20 Pack-Sand
95'	
	Sump
100'	
	#10/20 Pack-Sand
103'	

DRILLING SUMMARY

Total Depth: 103 ft.	Hole Diameter: 8" in.
Drill Rig: CME-75	Bit Type: Hollow-stem auger w/5-tooth bit

WELL DATA

Well Casing	Depth Interval (Ft) Screen	Diameter, Material, Screen Slot Size
4" SCH. 40 PVC (0 to 45 ft. bgs)	50 ft. Interval	4" in. Sch 40 PVC, 0.010 ft.
5 ft. solid sump casing (95-100)	45 ft. to 95 ft. bgs	

Filter Pack Material: #10/20 pack-sand	Interval: 103 ft. to 42.5 ft. bgs
Filter Pack Material: #60 choke/ finer pack-sand	Interval: 42.5 ft. to 40 ft. bgs
Screen Seal Layer: Bentonite medium chips	Interval: 40 ft. to 37 ft. bgs
Grout: Volclay/Bentonite Slurry	Interval: 37 ft. to 10 ft. bgs
Cement:	Interval: 10 ft. to 0 ft. bgs
Surface Completion: 12" in. metal vault around well-head w/in 2 ft. diameter concrete form.	
*Measuring Point of T. O. C: Surveyed at approx. 6" in. bgs on northside of well-head.	

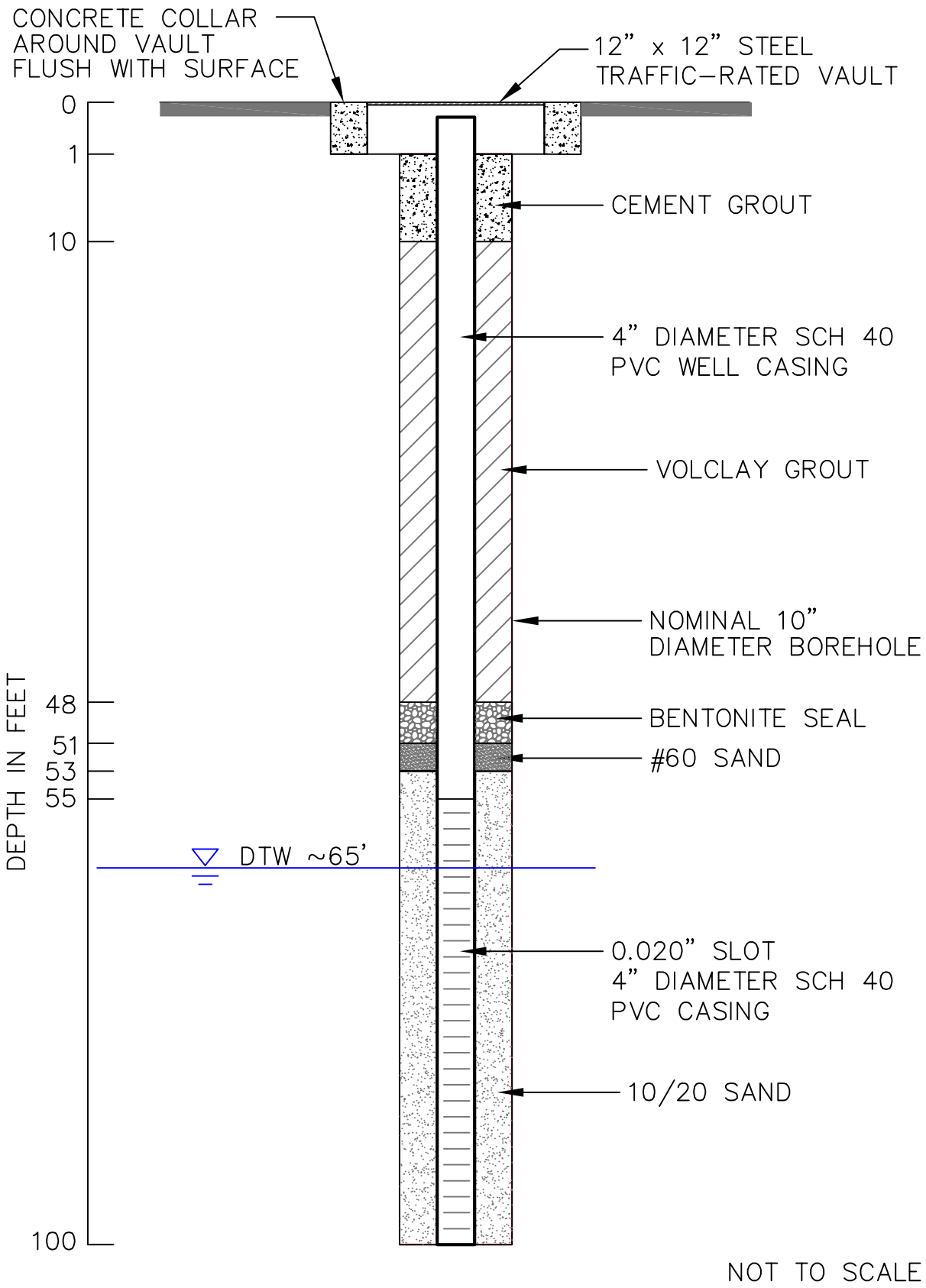
CONSTRUCTION TIME LOG

CC-16	Start Date: 5/15/08 Time: 8:30	Finish Date: 5/15/08 Time: 15:20
Drilling: 103 ft. / 6 hrs 50 mins.	5/15/08 @ 8:30	5/15/08 @ 15:20
Casing: 100 ft. / 0.25 hrs	5/15/08 @ 15:30	5/15/08 @ 15:45
Filter Pack: 66 ft. / 2.25 hrs	5/15/08 @ 16:30 to 18:00	5/16/08 @ 7:30 to 8:15
Cement & Bentonite Slurry	5/16/08 @ 9:15	5/16/08 @ 9:45
Surface Completion	5/16/08 @ 11:00	5/16/08 @ 15:00

WELL DEVELOPMENT

Date & Time Started: 5/27/08 @ 9:15	Date & Time Completed: 5/27/08 @ 15:37
a = Cased Depth (ft): 100'	d = Casing Diameter (in.): 4"
b = Water Depth (ft): 70.35'	Date & Time Measured: 5/27/08 @ 9:10
Well Volume = (a - b) x d^2 x 0.0408 = 19.4 gallons	
Method of Development: 3" in. grundfos submersible pump	
Swabbed and Bailed: 55 minutes (30-bailers @ 5.0-gals ea. = 150-gals)	
Pumped at: 15 gpm for 5 minutes	
Pumped at: 11 gpm for 27 minutes	Gallons Bailed: 150-gallons
	Gallons Purged: 372-gallons
	Total Gallons: 522-gallons

Remarks: *Used a 10 ft. long x 3" in. diameter bottom-loading suction type bailer.
*Used a 4"in. vented surge block attached to cable for swabbing.



HYDRO GEO CHEM, INC.

MONITORING WELL CC-17
ADWR #55-222083
MONITORING WELL CONSTRUCTION DETAILS

Approved	Date	Author	Date	File Name	Figure
CLJ	06/24/13	JAA	06/24/13	2010032057A	

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HYDRO GEO CHEM, INC.

Well Construction Summary

Project Name: Central & Camelback RI TAO		Boring No.: CC-18
Drilling Company: W. D. C. Exploration & Wells	Driller: Jose Miranda	Project No.: 8740000, T3.2
ADWR Well Registration No.: 55 - 908869		Geologist: NJ. Babb
Location: NEC of Central & Camelback Avenues in commercial parking lot, north of Applebees		

AS-BUILT DIAGRAM

Depth (Ft)	Lithology
0'	
	Cement
10'	
	Volclay/ Bentonite Grout
36'	
	Medium Bentonite Chips
40'	
	#60 Sand
43'	
T.O. Screened Interval 45'	
	#10/20 Pack-Sand
95'	
	Sump
100'	
	#10/20 Pack-Sand
103'	

DRILLING SUMMARY

Total Depth: 103 ft.	Hole Diameter: 8" in.
Drill Rig: CME-75	Bit Type: Hollow-stem auger w/5-tooth bit

WELL DATA

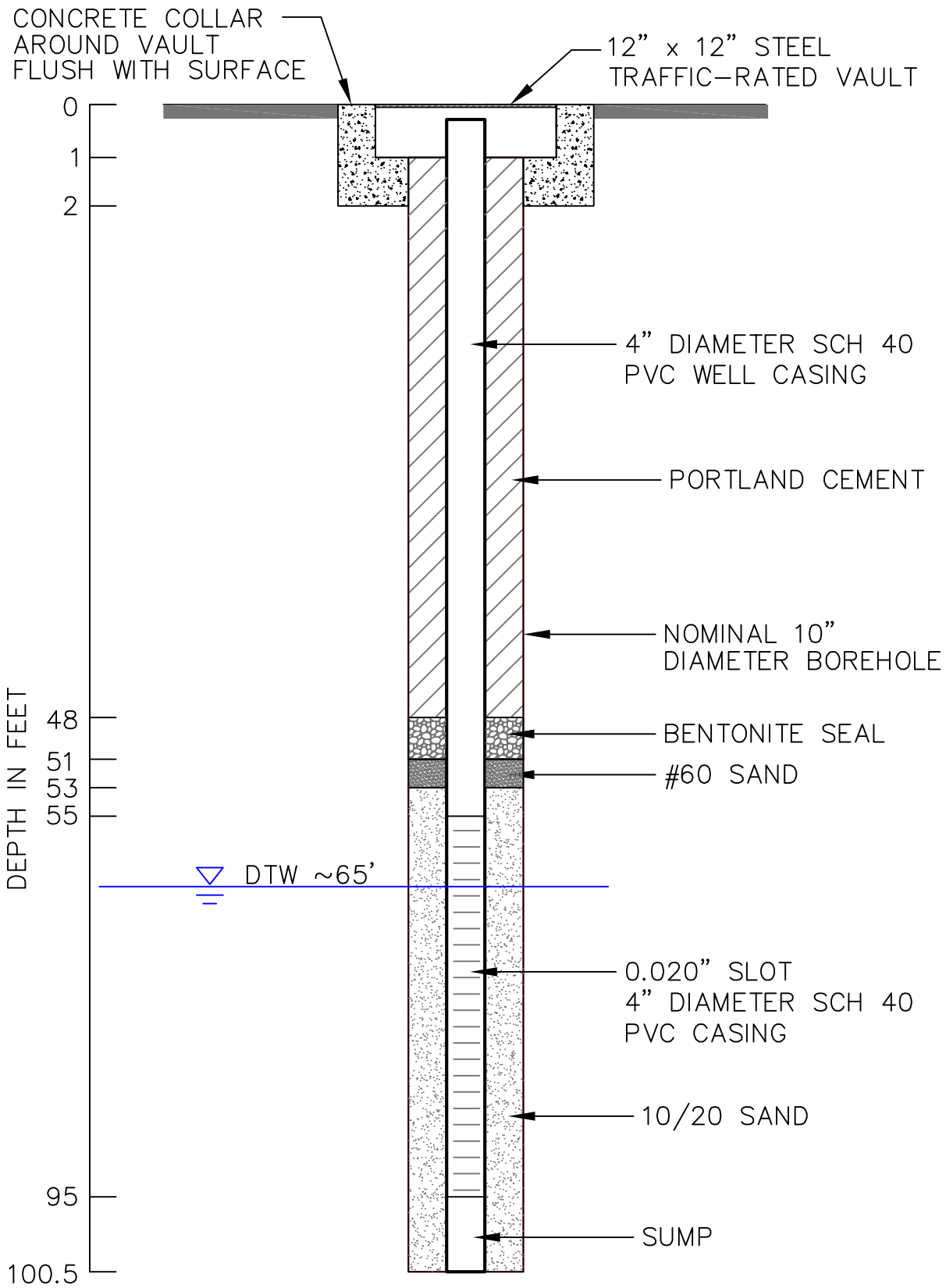
Well Casing	Depth Interval (Ft) Screen	Diameter, Material, Screen Slot Size
4" SCH. 40 PVC (0 to 45 ft. bgs)	50 ft. Interval	4" in. Sch 40 PVC, 0.020 ft.
5 ft solid sump casing (95-100)	45 ft. to 95 ft. bgs	
Filter Pack Material: #10/20 pack-sand		Interval: 103 ft. to 43 ft. bgs
Filter Pack Material: #60 choke/ finer pack-sand		Interval: 43 ft. to 40 ft. bgs
Screen Seal Layer: Bentonite medium chips		Interval: 40 ft. to 36 ft. bgs
Grout: Volclay/Bentonite Slurry		Interval: 36 ft. to 10 ft. bgs
Cement:		Interval: 10 ft. to 0 ft. bgs
Surface Completion: 12" in. metal vault around well-head w/in 2 ft. diameter concrete form.		
*Measuring Point of T. O. C: Surveyed at approx. 6" in. bgs on northside of well-head.		

CONSTRUCTION TIME LOG

CC-18	Start Date: 5/17/08 Time: 9:20	Finish Date: 5/18/08 Time: 16:30
Drilling: 103 ft. / 4 hrs 25 mins.	5/17/08 @ 9:20	5/17/08 @ 13:45
Casing: 100 ft. / 0.5 hrs	5/17/08 @ 16:15	5/17/08 @ 16:45
Filter Pack: 67 ft. / 1.25 hrs	5/17/08 @ 16:45	5/17/08 @ 18:00
Cement & Bentonite Slurry	5/18/08 @ 11:00	5/18/08 @ 11:30
Surface Completion	5/18/08 @ 14:30	5/18/08 @ 16:30

WELL DEVELOPMENT

Date & Time Started: 5/27/08 @ 16:00	Date & Time Completed: 5/27/08 @ 19:17
a = Cased Depth (ft): 100'	d = Casing Diameter (in.): 4"
b = Water Depth (ft): 65.36'	Date & Time Measured: 5/27/08 @ 16:00
Well Volume = (a - b) x d^2 x 0.0408 = 22.61 gallons	
Method of Development: 3" in. grundfos submersible pump	
Swabbed and Bailed: 35 minutes (20-bailers @ 5.0-gals ea. = 100-gals)	
Pumped at: 12 gpm for 102 minutes	
	Gallons Bailed: 100-gallons
Remarks: *Used a 10 ft. long x 3" in. diameter bottom-loading suction type bailer.	Gallons Purged: 1224-gallons
*Used a 4" in. vented surge block attached to cable for swabbing.	Total Gallons: 1324-gallons



NOT TO SCALE

HYDRO GEO CHEM, INC.

MONITORING WELL CC-19
ADWR #55-916285
MONITORING WELL CONSTRUCTION DETAILS

Approved	Date	Author	Date	File Name	Figure
FJS	02/11/14	JAA	02/11/14	2010032075A	

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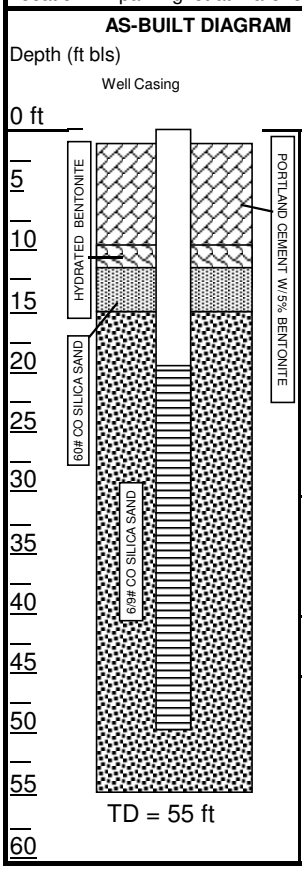
HYDRO GEO CHEM, INC.
Well Construction Summary

Project Name: Central & Camelback		Well ID:	SVE-1
Drilling Company: Yellow Jacket		Project No.:	816000
Well Registration No.: 55-203762		Geologist:	Alexandra Etheridge
Township, Range, Section: 2N, 3E, 20 NE, NE, NE		Driller:	John Manley
Location: W parking lot at Maroney's Cleaners	Casing Elevation: 1128.66	Coordinates:	452142.588 E, 912602.103 N

AS-BUILT DIAGRAM



DRILLING SUMMARY

Total Drilled Depth (ft bls): **55 ft** 12-inch Hollow Stem Auger

Rig: L-8000 Auger Rig

WELL CASING

Depth Interval (ft bls) Casing	Depth Interval (ft bls) Screen	Diameter, Material, Slot Size
	50 to 20	4" SCH 80 PVC 0.06 slot
20 to 0		4" SCH 80 PVC

WELL CONSTRUCTION

Filter Pack Material:	6/9# CO. Silica Sand	Interval: 55 - 15 ft bls
Filter Pack Material:	60# CO. Silica Sand	Interval: 15 - 12 ft bls
Well Casing Seal:	Med. Hydrated Bentonite Chips	Interval: 12 - 10 ft bls
Well Casing Grout:	NA	Interval: NA
Cement:	Paragon Portland Cement Type II-V	Interval: 10 - 1 ft bls
	with 5% Bentonite	

TIME LOG

	Start Date	Start Time	Finish Date	Finish Time
12" Auger Drill	6/21/04	8:10	6/21/04	12:40
Well Casing/Screen Installation	6/21/04	15:10	6/21/04	15:15
Filter Pack Installation	6/21/04	15:15	6/21/04	15:50
Well Casing Seal	6/21/04	15:55	6/21/04	16:00
Well Casing Grout	6/21/04	16:20	6/21/04	16:37
Surface Completion	6/22/04	7:30	6/22/04	8:00

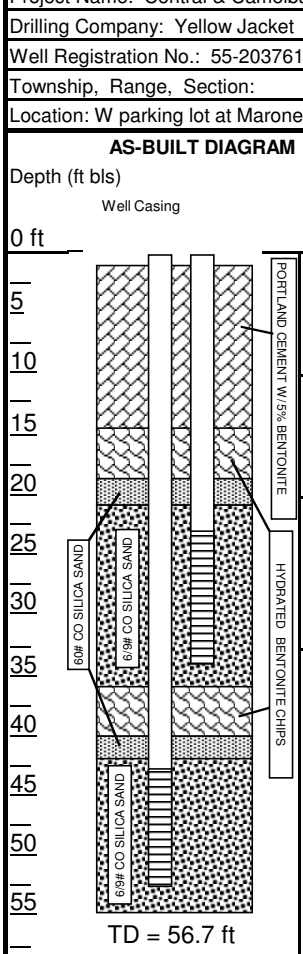
WELL DEVELOPMENT

Method: Not Applicable Date: Time:

HYDRO GEO CHEM, INC.
Well Construction Summary

Project Name: Central & Camelback		Well ID:	SVE/MP-1
Drilling Company: Yellow Jacket		Project No.:	816000
Well Registration No.: 55-203761		Geologist:	Alexandra Etheridge
Township, Range, Section: 2N, 3E, 20 NE, NE, NE		Driller:	Norman
Location: W parking lot at Maroney's Cleaners	Casing Elevation: 1128.52	Coordinates:	452117.131 E, 912555.936 N

AS-BUILT DIAGRAM



DRILLING SUMMARY

Total Drilled Depth (ft bls): **56.7ft** 8-inch Hollow Stem Auger Pilot Hole Reamed with 12-inch Hollow Stem Auger

Rig: L-10 Auger Rig

WELL CASING

Depth Interval (ft bls) Casing	Depth Interval (ft bls) Screen	Diameter, Material, Slot Size
0 to 43	43 to 53	2" SCH 40 PVC / 2" SCH 40 PVC 0.06 slot
0 to 23	33 to 23	2" SCH 40 PVC / 2" SCH 40 PVC 0.06 slot

WELL CONSTRUCTION

Filter Pack Material:	6/9# CO. Silica Sand	Interval:	56.7 to 42 & 36 to 21 ft bls
Filter Pack Material:	60# CO. Silica Sand	Interval:	42 to 39 & 21 to 19 ft bls
Well Casing Seal:	Med. Hydrated Bentonite Chips	Interval:	39 to 36 & 19 to 14 ft bls
Well Casing Grout:	NA	Interval:	NA
Cement:	Paragon Portland Cement Type II-V	Interval:	14 to 1 ft bls
	with 5% Bentonite		

TIME LOG

	Start Date	Start Time	Finish Date	Finish Time
8" Auger Drill	6/22/04	8:40	6/22/04	13:00
12" Auger Ream	6/24/04	9:00	6/22/04	12:54
Well Casing/Screen Installation	6/24/04	14:00 & 15:30	6/24/04	14:15 & 15:45
Filter Pack Installation	6/24/04	14:15 & 15:45	6/24/04	15:00 & 16:00
Well Casing Seal	6/24/04	15:00 & 16:00	6/24/04	15:20 & 16:15
Well Casing Grout	6/24/04	17:00	6/25/04	9:00
Surface Completion	6/25/04	7:00	6/25/04	10:30

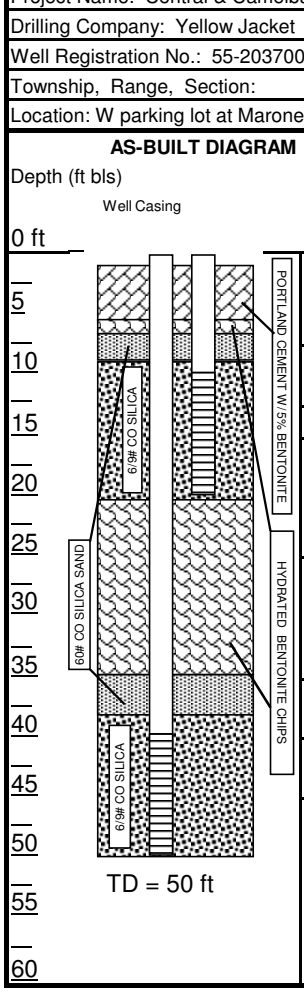
WELL DEVELOPMENT

Method: Not Applicable Date: Time:

HYDRO GEO CHEM, INC.
Well Construction Summary

Project Name: Central & Camelback		Well ID:	SVE/MP-2
Drilling Company: Yellow Jacket		Project No.:	816000
Well Registration No.: 55-203700		Geologist:	Dennis Minnich
Township, Range, Section: 2N, 3E, 20 NE, NE, NE		Driller:	Norman
Location: W parking lot at Maroney's Cleaners	Casing Elevation: 1128.30	Coordinates:	452117.083 E, 912530.405 N

AS-BUILT DIAGRAM



DRILLING SUMMARY

Total Drilled Depth (ft bls): **50** 8-inch Hollow Stem Auger Pilot Hole Reamed with 12-inch Hollow Stem Auger

Rig: L-10 Auger Rig

WELL CASING

Depth Interval (ft bls) Casing	Screen	Diameter, Material, Slot Size
0 to 40	40 to 50	2" SCH 40 PVC / 2" SCH 40 PVC 0.06 slot
0 to 10	10 to 20	2" SCH 40 PVC / 2" SCH 40 PVC 0.06 slot

WELL CONSTRUCTION

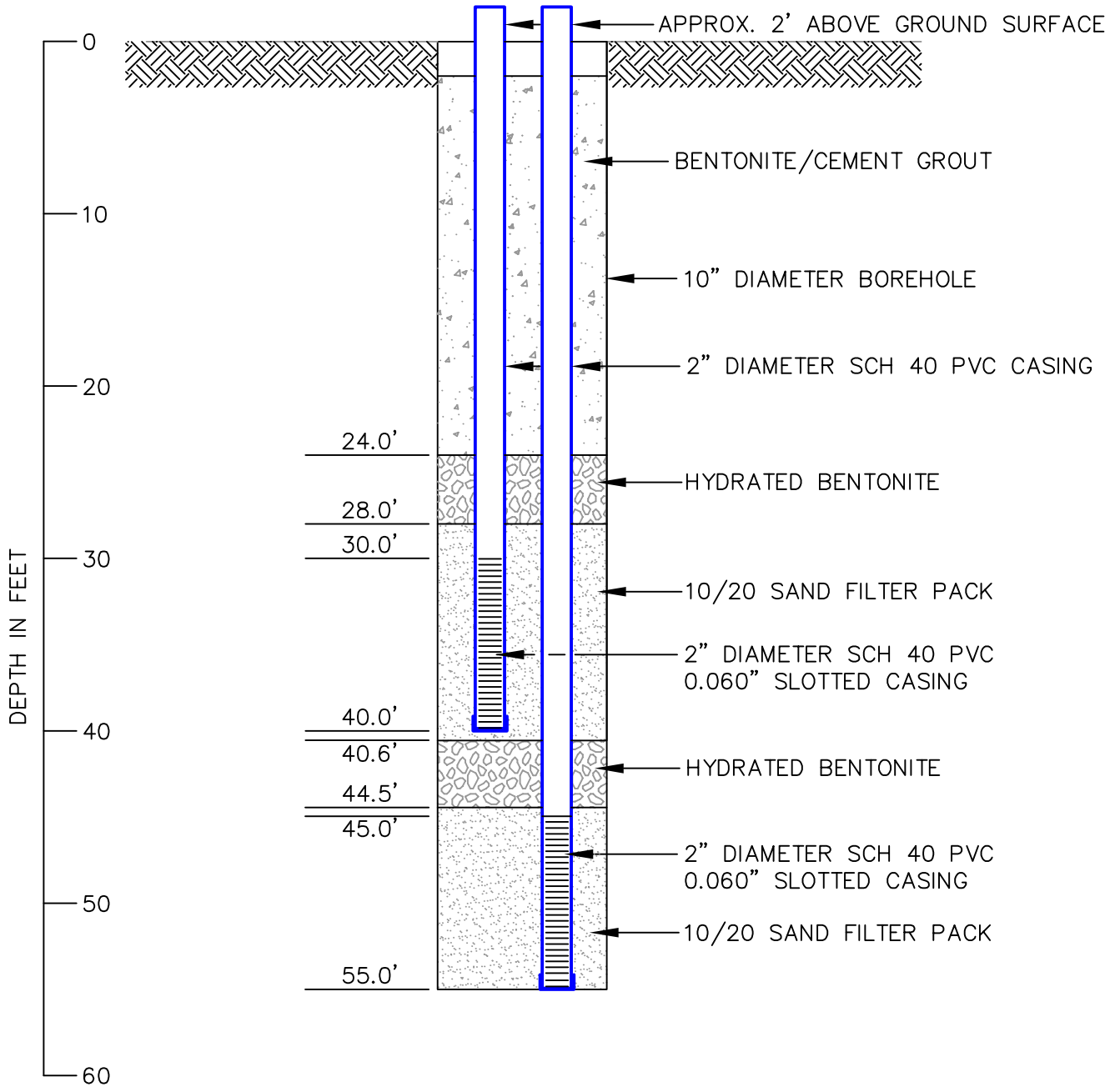
Filter Pack Material:	6/9# CO. Silica Sand	Interval:	50 to 38 & 21 to 9 ft bls
Filter Pack Material:	60# CO. Silica Sand	Interval:	38 to 35 & 9 to 7 ft bls
Well Casing Seal:	Med. Hydrated Bentonite Chips	Interval:	35 to 21 & 7 to 6 ft bls
Well Casing Grout:	NA	Interval:	NA
Cement:	Paragon Portland Cement Type II-V	Interval:	6 to 1 ft bls
	with 5% Bentonite		

TIME LOG

	Start Date	Start Time	Finish Date	Finish Time
8" Auger Drill	6/23/04	8:00	6/23/04	15:00
12" Auger Drill	6/25/04	7:40	6/25/04	10:00
Well Casing/Screen Installation	6/25/04	10:15 &11:30	6/25/04	10:20 & 11:35
Filter Pack Installation	6/25/04	10:20 & 11:35	6/25/04	11:00 & 12:30
Well Casing Seal	6/25/04	11:00 & 12:30	6/25/04	11:15 & 12:45
Well Casing Grout	6/25/04	13:15	6/25/04	14:00
Surface Completion	6/25/04	14:00	6/25/04	15:30

WELL DEVELOPMENT

Method: Not Applicable Date: Time:



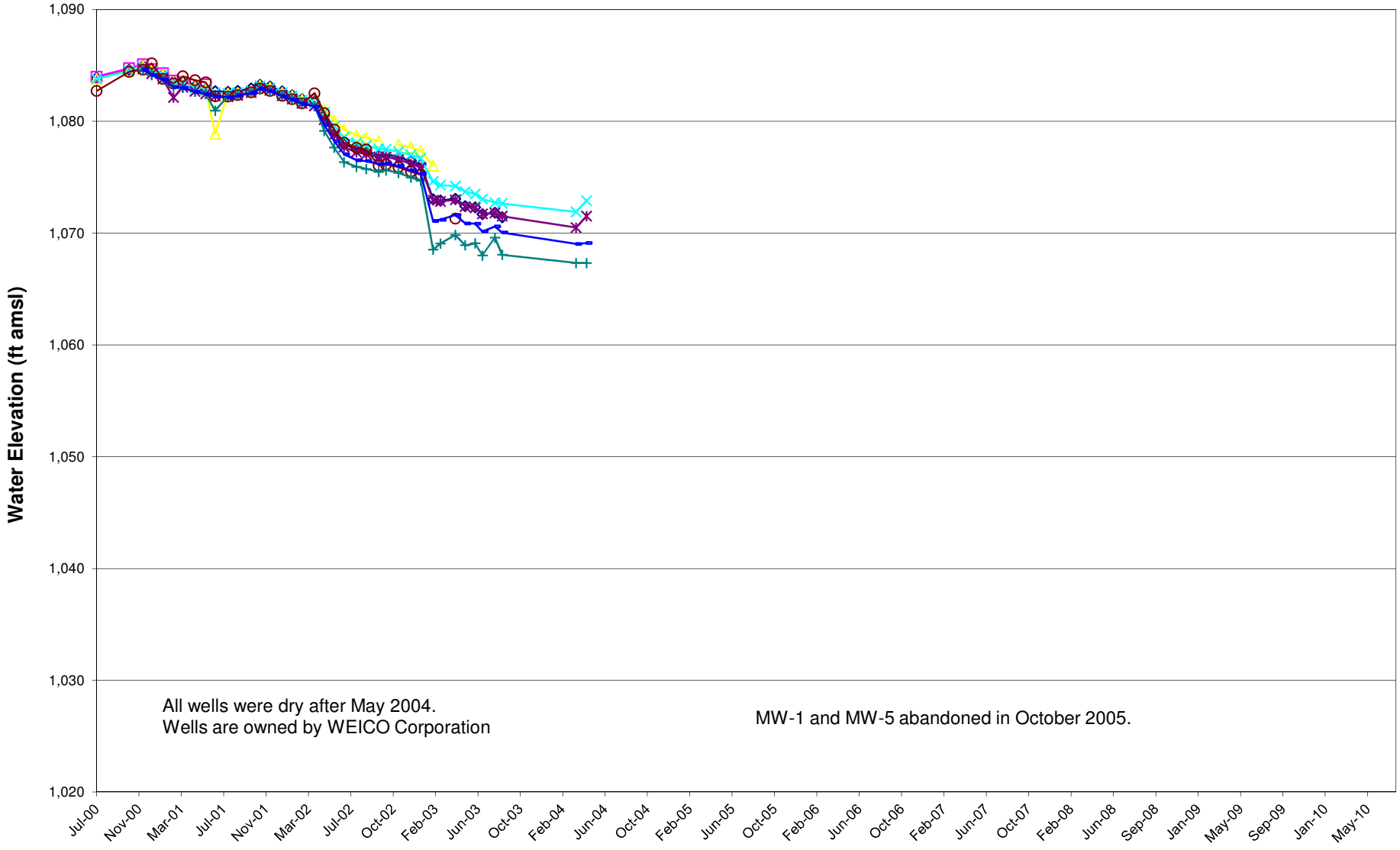
HYDRO GEO CHEM, INC.

SVE-2 CONSTRUCTION DIAGRAM
CENTRAL & CAMELBACK WQARF SITE

Approved	Date	Revised	Date	File Name	Figure
CLJ	4/10/12	JAA	4/10/12	2010032017A	

APPENDIX C

GROUNDWATER HYDROGRAPHS



EXPLANATION

MW-1 MW-3 MW-4 MW-5

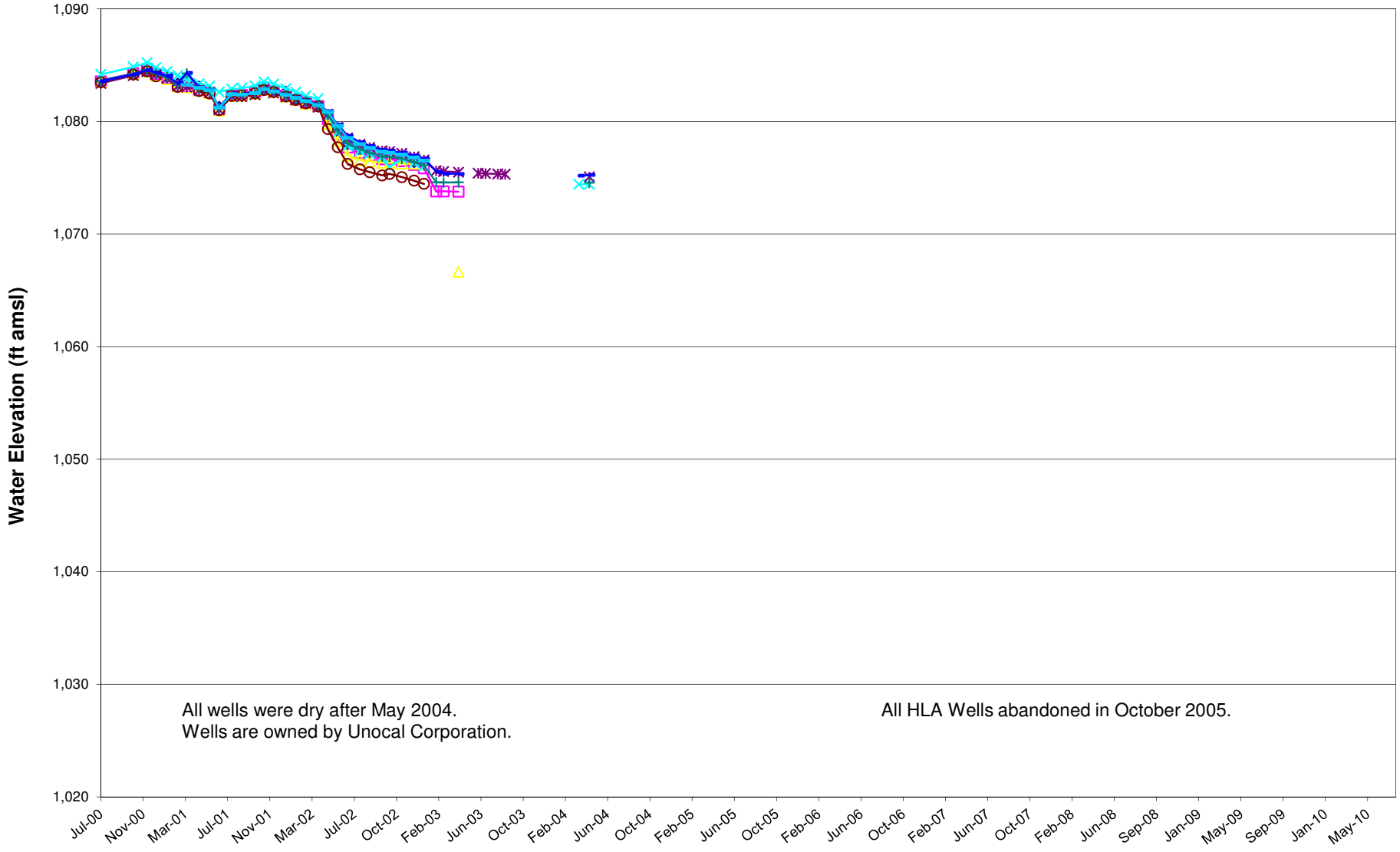
MW-6 MW-7 MW-8 MW-9

HYDRO GEO CHEM, INC.

HYDROGRAPH (WEISS GUYS WELLS)

APPROVED	SPS	DATE	3/13//14	FIGURE	**C.1**

H:\2010032 ADEQ Central and Camelback\RI - GWM 2010032.01_.50_.60_.70\GWM Rpts\2014.Jan-June.SemiAnnual.Rpt\Appendix C\Appendix C.xls: Figure C.1-2 qtr 14



EXPLANATION

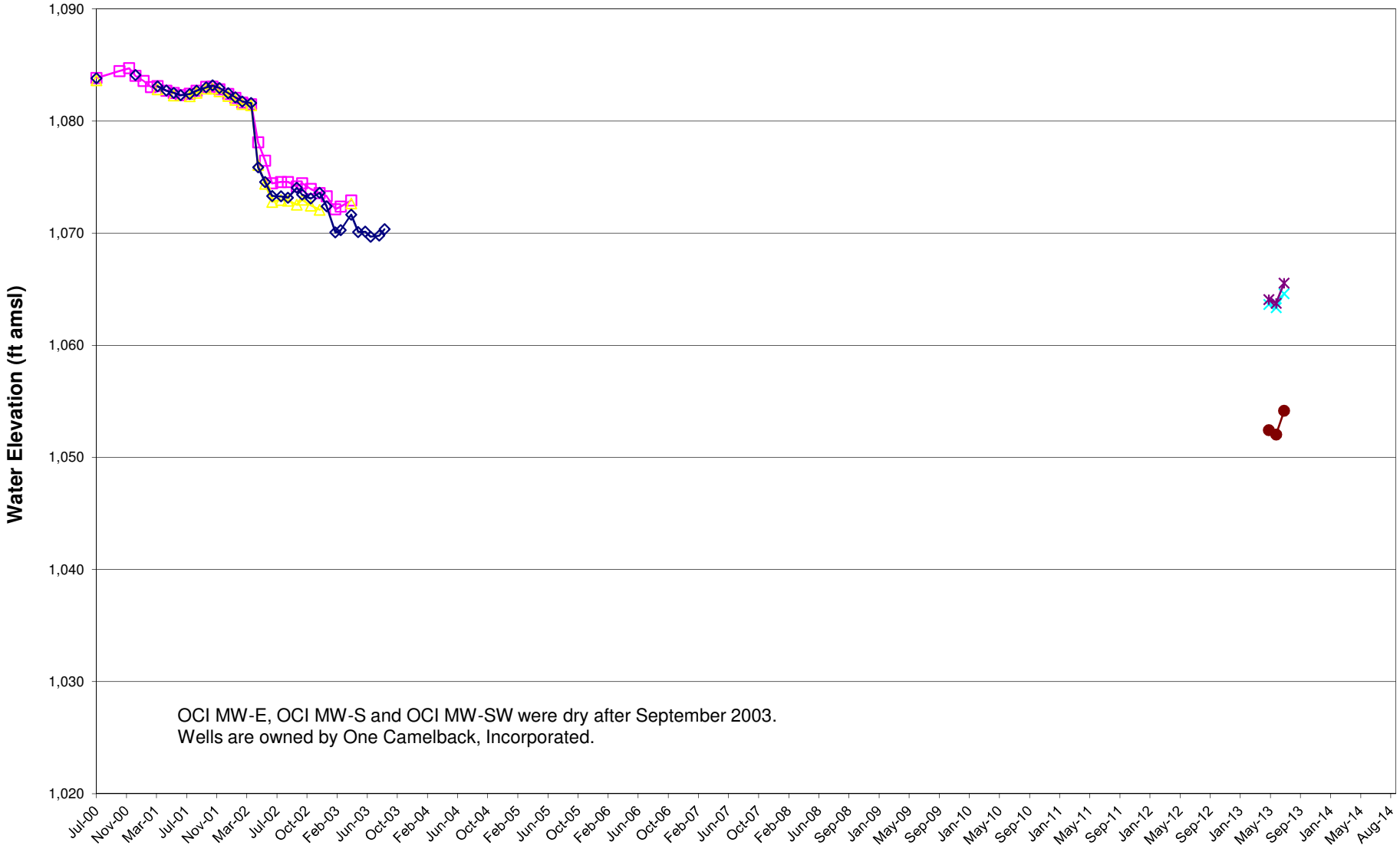
- HLA MW-1
- HLA MW-2
- HLA MW-3
- HLA MW-5
- HLA MW-6
- HLA MW-10
- HLA MW-11
- HLA MW-12
- HLA MW-13

HYDRO GEO CHEM, INC.

HYDROGRAPH (Unocal Wells)

APPROVED	SPS	DATE	3/13/14	FIGURE	C.2

H:\2010032 ADEQ Central and Camelback\RI - GWM 2010032.01_.50_.60_.70\GWM Rpts\2014.Jan-June.SemiAnnual.Rpt\Appendix C\Appendix C.xls: Figure C.2-2 qtr 14



EXPLANATION

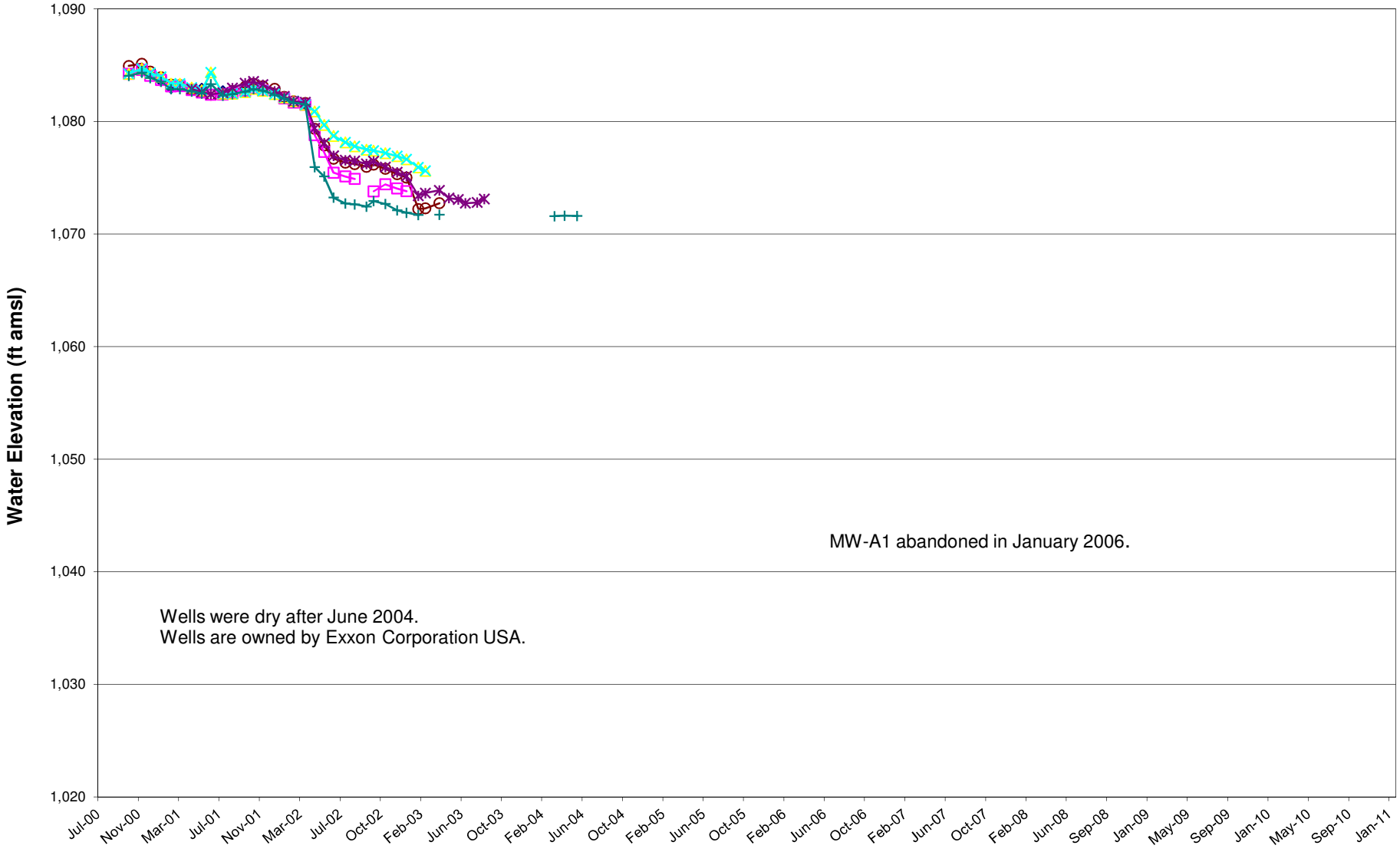
- OCI MW-E
- OCI MW-S
- OCI MW-SW
- DW-W1
- DW-W3
- DW-N1

HYDRO GEO CHEM, INC.

HYDROGRAPH
(One East Camelback, Inc. Wells)

APPROVED	SPS	DATE	3/13/14	FIGURE	C.3

H:\2010032 ADEQ Central and Camelback\RI - GWM 2010032.01_.50_.60_.70\GWM Rpts\2014.Jan-June.SemiAnnual.Rpt\Appendix C\Appendix C.xls: Figure C.3-2 qtr 14



EXPLANATION

MW-A1 MW-A2 MW-A4 MW-A5

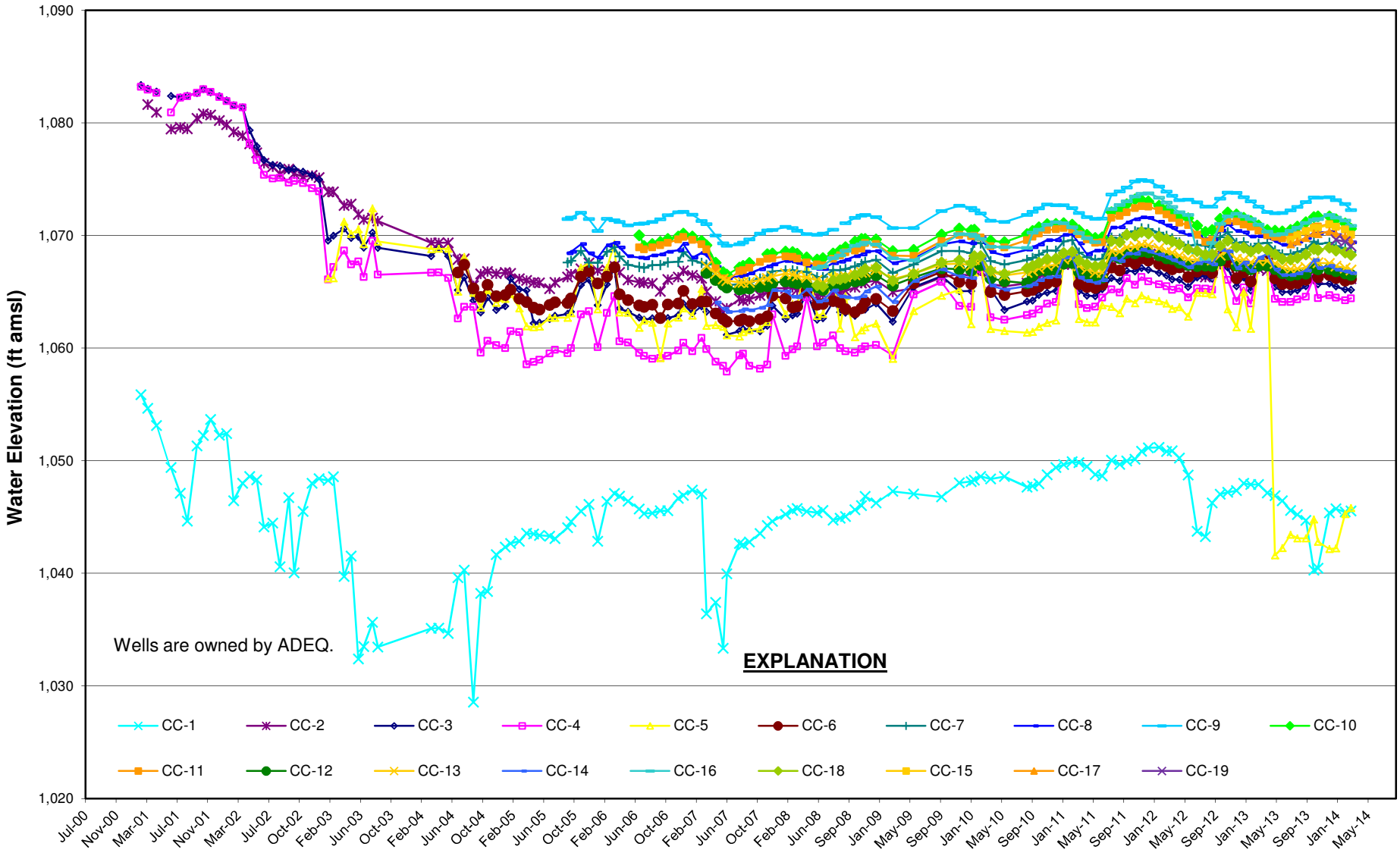
MW-A6 MW-A7 MW-A8

HYDRO GEO CHEM, INC.

HYDROGRAPH (EXXON MOBIL WELLS)

APPROVED	DATE	FIGURE
SPS	3/13/14	**C.4**

H:\2010032 ADEQ Central and Camelback\RI - GWM 2010032.01_.50_.60_.70\GWM Rpts\2014.Jan-June.SemiAnnual.Rpt\Appendix C\Appendix C.xls: Figure C.4-2 qtr 14



Wells re-surveyed April 27, 2011, Measuring Point Elevation Differences as follows:

CC-1: +2.02 feet *CC-2: +1.91 feet* *CC-3: +1.85 feet* *CC-4: +1.84 feet*
CC-5: +1.97 feet *CC-6: +1.91 feet* *CC-7: +1.85 feet* *CC-8: +1.88 feet*
CC-9: +1.76 feet *CC-10:+1.89 feet* *CC-11:+1.92 feet* *CC-12:+1.93 feet*
CC-13:+1.91 feet *CC-16:+2.43 feet* *CC-18:+2.25 feet*
CC-14:+2.20 feet

Wells re-surveyed June 28, 2013, Measuring Point Differences as follows:

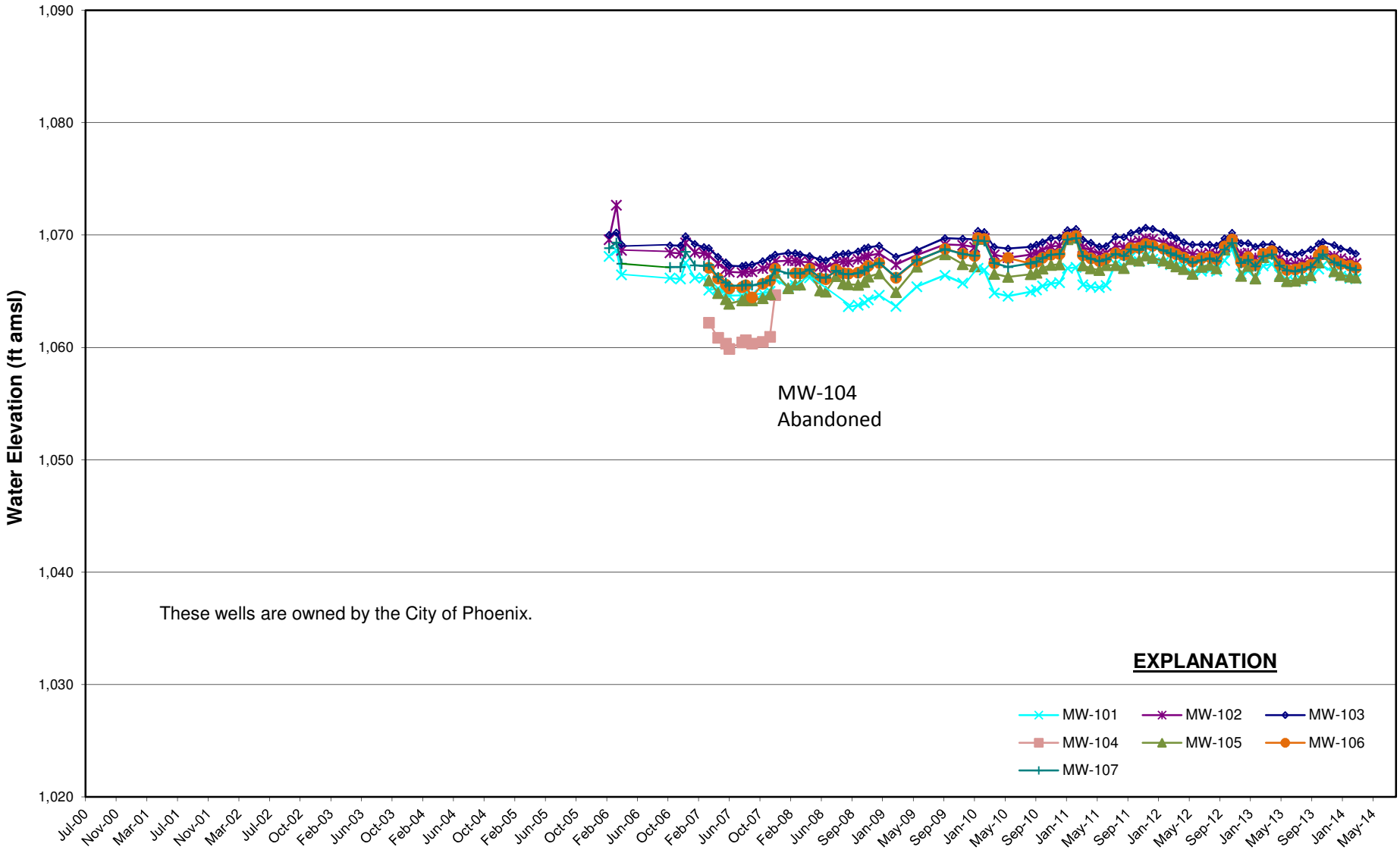
CC-2: 0 feet *CC-5: +0.17 feet* *CC-15:N/A* *CC-17:N/A*

HYDRO GEO CHEM, INC.

HYDROGRAPH (ADEQ WELLS)

APPROVED	DATE	FIGURE
SPS	3/13/14	**C.5**

H:\2010032 ADEQ Central and Camelback\RI - GWM 2010032.01_.50_.60_.70\GWM Rpts\2014.Jan-June.SemiAnnual.Rpt\Appendix C\Appendix C.xls: Figure C.5-2 qtr 14

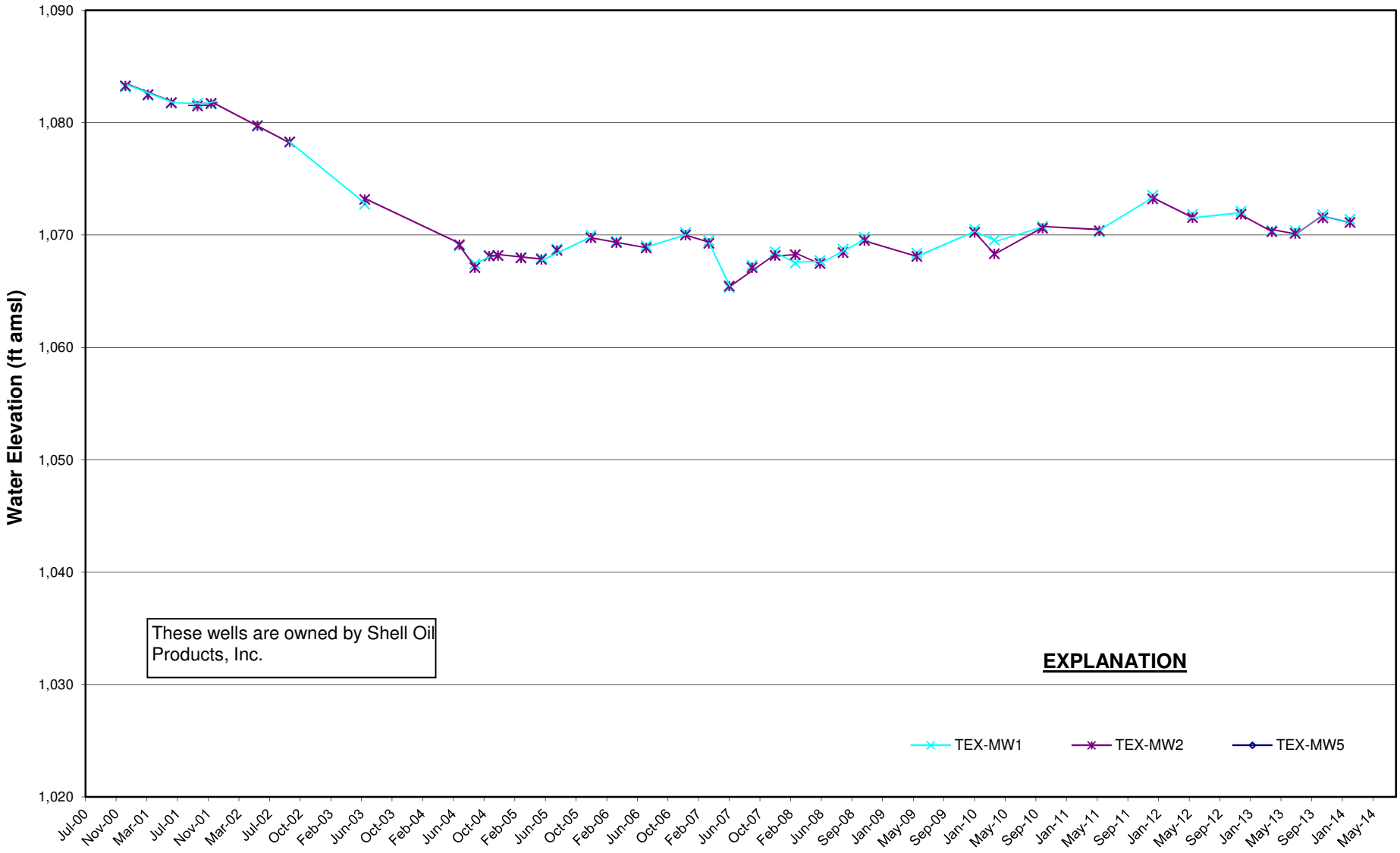


Wells re-surveyed April 27, 2011
MW-101 Measuring Point Elevation Difference = +2.23 feet
MW-102 Measuring Point Elevation Difference = +0.63 feet
MW-103 Measuring Point Elevation Difference = +0.75 feet
MW-104: N/A
MW-105: Measuring Point Elevation Difference = +0.57 feet
MW-106: Measuring Point Elevation Difference = +0.72 feet
MW-107 Measuring Point Elevation Difference = +0.62 feet

HYDRO GEO CHEM, INC.

HYDROGRAPH (COP WELLS)

APPROVED	DATE	FIGURE
SPS	3/13/14	**C.6**



Wells re-surveyed June, 2011
Tex-MW1 Measuring Point Elevation Difference = +1.73 feet
Tex-MW2 Measuring Point Elevation Difference = +1.43 feet
Tex-MW5 Measuring Point Elevation Difference = +1.01 feet

HYDRO GEO CHEM, INC.

HYDROGRAPH (TEXACO-SHELL WELLS)

APPROVED	DATE	FIGURE
SPS	3/13/14	**C.7**

H:\2010032 ADEQ Central and Camelback\RI - GWM 2010032.01_.50_.60_.70\GWM Rpts\2014.Jan-June.SemiAnnual.Rpt\Appendix C\Appendix C.xls: Figure C.7-2 qtr 14

APPENDIX D

SALT RIVER PROJECT (SRP) DATA
WELL 13.5E-9.4N

Yearly Well Pumpage

Between 1950 And 2010

Sample Location	Year	Pumpage AF	Run Hours	SRP AF	City AF
13.5E-09.4N	1972	625.00	0.00	625.00	0.00
	1973	5.00	0.00	5.00	0.00
	1974	774.00	0.00	774.00	0.00
	1975	703.00	0.00	703.00	0.00
	1976	736.00	0.00	736.00	0.00
	1977	580.00	0.00	580.00	0.00
	1978	5.00	0.00	5.00	0.00
	1979	0.00	0.00	0.00	0.00
	1980	0.00	0.00	0.00	0.00
	1981	31.00	0.00	31.00	0.00
	1982	3.00	0.00	3.00	0.00
	1983	1.00	0.00	1.00	0.00
	1984	222.00	0.00	222.00	0.00
	1985	3.00	0.00	3.00	0.00
	1986	4.00	0.00	4.00	0.00
	1987	3.00	0.00	3.00	0.00
	1988	3.65	0.00	3.65	0.00
	1989	8.75	0.00	8.75	0.00
	1990	138.00	0.00	138.00	0.00
	1991	0.00	0.00	0.00	0.00
	1992	0.00	0.00	0.00	0.00
	1993	0.00	0.00	0.00	0.00
	1994	3.18	0.00	3.18	0.00
	1995	0.00	0.00	0.00	0.00
	1996	0.00	0.00	0.00	0.00
	1997	6.68	0.00	6.68	0.00
	1998	0.33	0.00	0.33	0.00
	1999	0.22	0.00	0.22	0.00
	2000	0.00	0.00	0.00	0.00
	2001	0.00	0.00	0.00	0.00
	2002	0.00	0.00	0.00	0.00
	2003	516.20	4,230.20	516.20	0.00
	2004	410.20	2,701.70	410.20	0.00
	2005	3.50	20.00	3.50	0.00
	2006	0.00	0.00	0.00	0.00
	2007	308.30	1,902.50	308.30	0.00
	2008	0.00	1.30	0.00	0.00
	2009	19.80	116.20	19.80	0.00
	2010	0.00	0.00	0.00	0.00

Yearly Well Pumpage

Between 2010 And 2014

Sample Location	Year	Pumpage AF	Run Hours	SRP AF	City AF
13.0E-08.6N	2010	0.00	0.00	0.00	0.00
	2011	0.00	0.00	0.00	0.00
	2012	0.10	0.30	0.10	0.00
	2013	0.20	2.60	0.20	0.00
	2014	0.00	0.00	0.00	0.00
13.0E-09.1N	2010	0.00	0.00	0.00	0.00
	2011	0.00	0.00	0.00	0.00
	2012	2.90	26.60	2.90	0.00
	2013	76.90	704.20	76.90	0.00
	2014	0.00	0.00	0.00	0.00
13.5E-09.4N	2010	0.00	0.00	0.00	0.00
	2011	0.00	0.00	0.00	0.00
	2012	283.30	1,808.40	283.30	0.00
	2013	24.90	0.10	24.90	0.00
	2014	0.00	0.00	0.00	0.00
14.0E-08.5N	2010	0.17	0.80	0.17	0.00
	2011	11.18	63.10	11.18	0.00
	2012	313.71	1,876.30	313.71	0.00
	2013	100.05	654.40	100.05	0.00
	2014	1.34	7.50	1.34	0.00
14.0E-09.6N	2010	0.86	3.40	0.86	0.00
	2011	0.00	0.00	0.00	0.00
	2012	20.70	81.80	20.70	0.00
	2013	0.35	1.40	0.35	0.00
	2014	0.00	0.00	0.00	0.00

Audit Year	Audit Month	Name	SCADA	Well Number	Well Status	Description	ADWR Number	ADWR File Number	SRP Acre Feet Use	City Acre Feet Use	Total Acre Feet	Run Hours	Longitude
2010	January	13.0E-08.6N	2440	10787		Well 13.00E-08.60N	55608379	A(2-3)30BCC	0	0	0	0	-112.0822223
2010	February	13.0E-08.6N	2440	10787		Well 13.00E-08.60N	55608379	A(2-3)30BCC	0	0	0	0	-112.0822223
2010	March	13.0E-08.6N	2440	10787		Well 13.00E-08.60N	55608379	A(2-3)30BCC	0	0	0	0	-112.0822223
2010	April	13.0E-08.6N	2440	10787		Well 13.00E-08.60N	55608379	A(2-3)30BCC	0	0	0	0	-112.0822223
2010	May	13.0E-08.6N	2440	10787		Well 13.00E-08.60N	55608379	A(2-3)30BCC	0	0	0	0	-112.0822223
2010	June	13.0E-08.6N	2440	10787		Well 13.00E-08.60N	55608379	A(2-3)30BCC	0	0	0	0	-112.0822223
2010	July	13.0E-08.6N	2440	10787		Well 13.00E-08.60N	55608379	A(2-3)30BCC	0	0	0	0	-112.0822223
2010	August	13.0E-08.6N	2440	10787		Well 13.00E-08.60N	55608379	A(2-3)30BCC	0	0	0	0	-112.0822223
2010	September	13.0E-08.6N	2440	10787		Well 13.00E-08.60N	55608379	A(2-3)30BCC	0	0	0	0	-112.0822223
2010	October	13.0E-08.6N	2440	10787		Well 13.00E-08.60N	55608379	A(2-3)30BCC	0	0	0	0	-112.0822223
2010	November	13.0E-08.6N	2440	10787		Well 13.00E-08.60N	55608379	A(2-3)30BCC	0	0	0	0	-112.0822223
2010	December	13.0E-08.6N	2440	10787		Well 13.00E-08.60N	55608379	A(2-3)30BCC	0	0	0	0	-112.0822223
								Subtotal by Year:	**0**	**0**	**0**	**0**	
2011	January	13.0E-08.6N	2440	10787		Well 13.00E-08.60N	55608379	A(2-3)30BCC	0	0	0	0	-112.0822223
2011	February	13.0E-08.6N	2440	10787		Well 13.00E-08.60N	55608379	A(2-3)30BCC	0	0	0	0	-112.0822223
2011	March	13.0E-08.6N	2440	10787		Well 13.00E-08.60N	55608379	A(2-3)30BCC	0	0	0	0	-112.0822223
2011	April	13.0E-08.6N	2440	10787		Well 13.00E-08.60N	55608379	A(2-3)30BCC	0	0	0	0	-112.0822223
2011	May	13.0E-08.6N	2440	10787		Well 13.00E-08.60N	55608379	A(2-3)30BCC	0	0	0	0	-112.0822223
2011	June	13.0E-08.6N	2440	10787		Well 13.00E-08.60N	55608379	A(2-3)30BCC	0	0	0	0	-112.0822223
2011	July	13.0E-08.6N	2440	10787		Well 13.00E-08.60N	55608379	A(2-3)30BCC	0	0	0	0	-112.0822223
2011	August	13.0E-08.6N	2440	10787		Well 13.00E-08.60N	55608379	A(2-3)30BCC	0	0	0	0	-112.0822223
2011	September	13.0E-08.6N	2440	10787		Well 13.00E-08.60N	55608379	A(2-3)30BCC	0	0	0	0	-112.0822223
2011	October	13.0E-08.6N	2440	10787		Well 13.00E-08.60N	55608379	A(2-3)30BCC	0	0	0	0	-112.0822223
2011	November	13.0E-08.6N	2440	10787		Well 13.00E-08.60N	55608379	A(2-3)30BCC	0	0	0	0	-112.0822223
2011	December	13.0E-08.6N	2440	10787		Well 13.00E-08.60N	55608379	A(2-3)30BCC	0	0	0	0	-112.0822223
								Subtotal by Year:	**0**	**0**	**0**	**0**	
2012	January	13.0E-08.6N	2440	10787		Well 13.00E-08.60N	55608379	A(2-3)30BCC	0	0	0	0	-112.0822223
2012	February	13.0E-08.6N	2440	10787		Well 13.00E-08.60N	55608379	A(2-3)30BCC	0.1	0	0.1	0.2	-112.0822223
2012	March	13.0E-08.6N	2440	10787		Well 13.00E-08.60N	55608379	A(2-3)30BCC	0	0	0	0	-112.0822223
2012	April	13.0E-08.6N	2440	10787		Well 13.00E-08.60N	55608379	A(2-3)30BCC	0	0	0	0	-112.0822223
2012	May	13.0E-08.6N	2440	10787		Well 13.00E-08.60N	55608379	A(2-3)30BCC	0	0	0	0	-112.0822223
2012	June	13.0E-08.6N	2440	10787		Well 13.00E-08.60N	55608379	A(2-3)30BCC	0	0	0	0.1	-112.0822223
2012	July	13.0E-08.6N	2440	10787		Well 13.00E-08.60N	55608379	A(2-3)30BCC	0	0	0	0	-112.0822223
2012	August	13.0E-08.6N	2440	10787		Well 13.00E-08.60N	55608379	A(2-3)30BCC	0	0	0	0	-112.0822223
2012	September	13.0E-08.6N	2440	10787		Well 13.00E-08.60N	55608379	A(2-3)30BCC	0	0	0	0	-112.0822223
2012	October	13.0E-08.6N	2440	10787		Well 13.00E-08.60N	55608379	A(2-3)30BCC	0	0	0	0	-112.0822223

2012	November	13.0E-08.6N	2440	10787		Well 13.00E-08.60N	55608379	A(2-3)30BCC	0	0	0	0	-112.0822223
2012	December	13.0E-08.6N	2440	10787		Well 13.00E-08.60N	55608379	A(2-3)30BCC	0	0	0	0	-112.0822223
								Subtotal by Year:	**0.1**	**0**	**0.1**	**0.3**	
2013	January	13.0E-08.6N	2440	10787		Well 13.00E-08.60N	55608379	A(2-3)30BCC	0	0	0	0	-112.0822223
2013	February	13.0E-08.6N	2440	10787		Well 13.00E-08.60N	55608379	A(2-3)30BCC	0	0	0	0	-112.0822223
2013	March	13.0E-08.6N	2440	10787		Well 13.00E-08.60N	55608379	A(2-3)30BCC	0	0	0	0	-112.0822223
2013	April	13.0E-08.6N	2440	10787		Well 13.00E-08.60N	55608379	A(2-3)30BCC	0	0	0	0	-112.0822223
2013	May	13.0E-08.6N	2440	10787		Well 13.00E-08.60N	55608379	A(2-3)30BCC	0	0	0	0.3	-112.0822223
2013	June	13.0E-08.6N	2440	10787		Well 13.00E-08.60N	55608379	A(2-3)30BCC	0	0	0	0	-112.0822223
2013	July	13.0E-08.6N	2440	10787		Well 13.00E-08.60N	55608379	A(2-3)30BCC	0	0	0	0	-112.0822223
2013	August	13.0E-08.6N	2440	10787		Well 13.00E-08.60N	55608379	A(2-3)30BCC	0	0	0	0	-112.0822223
2013	September	13.0E-08.6N	2440	10787		Well 13.00E-08.60N	55608379	A(2-3)30BCC	0	0	0	0	-112.0822223
2013	October	13.0E-08.6N	2440	10787		Well 13.00E-08.60N	55608379	A(2-3)20BCC	0	0	0	0.5	-112.0822223
2013	November	13.0E-08.6N	2440	10787		Well 13.00E-08.60N	55608379	A(2-3)20BCC	0.1	0	0.1	0.8	-112.0822223
2013	December	13.0E-08.6N	2440	10787		Well 13.00E-08.60N	55608379	A(2-3)20BCC	0.1	0	0.1	1	-112.0822223
								Subtotal by Year:	**0.2**	**0**	**0.2**	**2.6**	
2014	January	13.0E-08.6N	2440	10787		Well 13.00E-08.60N	55608379	A(2-3)20BCC	0	0	0	0	-112.0822223
2014	February	13.0E-08.6N	2440	10787		Well 13.00E-08.60N	55608379	A(2-3)20BCC	0	0	0	0	-112.0822223
								Subtotal by Year:	**0**	**0**	**0**	**0**	
								Total by Well:	**0.3**	**0**	**0.3**	**2.9**	
2010	January	13.0E-09.1N	2443	10789		Well 13.00E-09.10N	55608423	A(2-3)18DDD	0	0	0	0	-112.0826732
2010	February	13.0E-09.1N	2443	10789		Well 13.00E-09.10N	55608423	A(2-3)18DDD	0	0	0	0	-112.0826732
2010	March	13.0E-09.1N	2443	10789		Well 13.00E-09.10N	55608423	A(2-3)18DDD	0	0	0	0	-112.0826732
2010	April	13.0E-09.1N	2443	10789		Well 13.00E-09.10N	55608423	A(2-3)18DDD	0	0	0	0	-112.0826732
2010	May	13.0E-09.1N	2443	10789		Well 13.00E-09.10N	55608423	A(2-3)18DDD	0	0	0	0	-112.0826732
2010	June	13.0E-09.1N	2443	10789		Well 13.00E-09.10N	55608423	A(2-3)18DDD	0	0	0	0	-112.0826732
2010	July	13.0E-09.1N	2443	10789		Well 13.00E-09.10N	55608423	A(2-3)18DDD	0	0	0	0	-112.0826732
2010	August	13.0E-09.1N	2443	10789		Well 13.00E-09.10N	55608423	A(2-3)18DDD	0	0	0	0	-112.0826732
2010	September	13.0E-09.1N	2443	10789		Well 13.00E-09.10N	55608423	A(2-3)18DDD	0	0	0	0	-112.0826732
2010	October	13.0E-09.1N	2443	10789		Well 13.00E-09.10N	55608423	A(2-3)18DDD	0	0	0	0	-112.0826732
2010	November	13.0E-09.1N	2443	10789		Well 13.00E-09.10N	55608423	A(2-3)18DDD	0	0	0	0	-112.0826732
2010	December	13.0E-09.1N	2443	10789		Well 13.00E-09.10N	55608423	A(2-3)18DDD	0	0	0	0	-112.0826732
								Subtotal by Year:	**0**	**0**	**0**	**0**	
2011	January	13.0E-09.1N	2443	10789		Well 13.00E-09.10N	55608423	A(2-3)18DDD	0	0	0	0	-112.0826732
2011	February	13.0E-09.1N	2443	10789		Well 13.00E-09.10N	55608423	A(2-3)18DDD	0	0	0	0	-112.0826732
2011	March	13.0E-09.1N	2443	10789		Well 13.00E-09.10N	55608423	A(2-3)18DDD	0	0	0	0	-112.0826732
2011	April	13.0E-09.1N	2443	10789		Well 13.00E-09.10N	55608423	A(2-3)18DDD	0	0	0	0	-112.0826732
2011	May	13.0E-09.1N	2443	10789		Well 13.00E-09.10N	55608423	A(2-3)18DDD	0	0	0	0	-112.0826732

2011	June	13.0E-09.1N	2443	10789		Well 13.00E-09.10N	55608423	A(2-3)18DDD	0	0	0	0	-112.0826732
2011	July	13.0E-09.1N	2443	10789		Well 13.00E-09.10N	55608423	A(2-3)18DDD	0	0	0	0	-112.0826732
2011	August	13.0E-09.1N	2443	10789		Well 13.00E-09.10N	55608423	A(2-3)18DDD	0	0	0	0	-112.0826732
2011	September	13.0E-09.1N	2443	10789		Well 13.00E-09.10N	55608423	A(2-3)18DDD	0	0	0	0	-112.0826732
2011	October	13.0E-09.1N	2443	10789		Well 13.00E-09.10N	55608423	A(2-3)18DDD	0	0	0	0	-112.0826732
2011	November	13.0E-09.1N	2443	10789		Well 13.00E-09.10N	55608423	A(2-3)18DDD	0	0	0	0	-112.0826732
2011	December	13.0E-09.1N	2443	10789		Well 13.00E-09.10N	55608423	A(2-3)18DDD	0	0	0	0	-112.0826732
								Subtotal by Year:	**0**	**0**	**0**	**0**	
2012	January	13.0E-09.1N	2443	10789		Well 13.00E-09.10N	55608423	A(2-3)18DDD	0	0	0	0	-112.0826732
2012	February	13.0E-09.1N	2443	10789		Well 13.00E-09.10N	55608423	A(2-3)18DDD	0	0	0	0	-112.0826732
2012	March	13.0E-09.1N	2443	10789		Well 13.00E-09.10N	55608423	A(2-3)18DDD	0	0	0	0	-112.0826732
2012	April	13.0E-09.1N	2443	10789		Well 13.00E-09.10N	55608423	A(2-3)18DDD	0	0	0	0	-112.0826732
2012	May	13.0E-09.1N	2443	10789		Well 13.00E-09.10N	55608423	A(2-3)18DDD	0	0	0	0	-112.0826732
2012	June	13.0E-09.1N	2443	10789		Well 13.00E-09.10N	55608423	A(2-3)18DDD	0	0	0	0	-112.0826732
2012	July	13.0E-09.1N	2443	10789		Well 13.00E-09.10N	55608423	A(2-3)18DDD	2.9	0	2.9	26.6	-112.0826732
2012	August	13.0E-09.1N	2443	10789		Well 13.00E-09.10N	55608423	A(2-3)18DDD	0	0	0	0	-112.0826732
2012	September	13.0E-09.1N	2443	10789		Well 13.00E-09.10N	55608423	A(2-3)18DDD	0	0	0	0	-112.0826732
2012	October	13.0E-09.1N	2443	10789		Well 13.00E-09.10N	55608423	A(2-3)18DDD	0	0	0	0	-112.0826732
2012	November	13.0E-09.1N	2443	10789		Well 13.00E-09.10N	55608423	A(2-3)18DDD	0	0	0	0	-112.0826732
2012	December	13.0E-09.1N	2443	10789		Well 13.00E-09.10N	55608423	A(2-3)18DDD	0	0	0	0	-112.0826732
								Subtotal by Year:	**2.9**	**0**	**2.9**	**26.6**	
2013	January	13.0E-09.1N	2443	10789		Well 13.00E-09.10N	55608423	A(2-3)18DDD	0	0	0	0	-112.0826732
2013	February	13.0E-09.1N	2443	10789		Well 13.00E-09.10N	55608423	A(2-3)18DDD	0	0	0	0	-112.0826732
2013	March	13.0E-09.1N	2443	10789		Well 13.00E-09.10N	55608423	A(2-3)18DDD	0	0	0	0	-112.0826732
2013	April	13.0E-09.1N	2443	10789		Well 13.00E-09.10N	55608423	A(2-3)18DDD	0	0	0	0	-112.0826732
2013	May	13.0E-09.1N	2443	10789		Well 13.00E-09.10N	55608423	A(2-3)18DDD	10.1	0	10.1	92	-112.0826732
2013	June	13.0E-09.1N	2443	10789		Well 13.00E-09.10N	55608423	A(2-3)18DDD	0.1	0	0.1	0.6	-112.0826732
2013	July	13.0E-09.1N	2443	10789		Well 13.00E-09.10N	55608423	A(2-3)18DDD	1.1	0	1.1	11.2	-112.0826732
2013	August	13.0E-09.1N	2443	10789		Well 13.00E-09.10N	55608423	A(2-3)18DDD	0.1	0	0.1	0.3	-112.0826732
2013	September	13.0E-09.1N	2443	10789		Well 13.00E-09.10N	55608423	A(2-3)18DDD	20.9	0	20.9	191.7	-112.0826732
2013	October	13.0E-09.1N	2443	10789		Well 13.00E-09.10N	55608423	A(2-3)18DDD	44.6	0	44.6	407.9	-112.0826732
2013	November	13.0E-09.1N	2443	10789		Well 13.00E-09.10N	55608423	A(2-3)18DDD	0	0	0	0.2	-112.0826732
2013	December	13.0E-09.1N	2443	10789		Well 13.00E-09.10N	55608423	A(2-3)18DDD	0	0	0	0.3	-112.0826732
								Subtotal by Year:	**76.9**	**0**	**76.9**	**704.2**	
2014	January	13.0E-09.1N	2443	10789		Well 13.00E-09.10N	55608423	A(2-3)18DDD	0	0	0	0	-112.0826732
2014	February	13.0E-09.1N	2443	10789		Well 13.00E-09.10N	55608423	A(2-3)18DDD	0	0	0	0	-112.0826732
								Subtotal by Year:	**0**	**0**	**0**	**0**	
								Total by Well:	**79.8**	**0**	**79.8**	**730.8**	

2010	January	13.5E-09.4N	2449	10793		Well 13.50E-09.40N	55608425	A(2-3)17CAA	0	0	0	0	-112.0739848
2010	February	13.5E-09.4N	2449	10793		Well 13.50E-09.40N	55608425	A(2-3)17CAA	0	0	0	0	-112.0739848
2010	March	13.5E-09.4N	2449	10793		Well 13.50E-09.40N	55608425	A(2-3)17CAA	0	0	0	0	-112.0739848
2010	April	13.5E-09.4N	2449	10793		Well 13.50E-09.40N	55608425	A(2-3)17CAA	0	0	0	0	-112.0739848
2010	May	13.5E-09.4N	2449	10793		Well 13.50E-09.40N	55608425	A(2-3)17CAA	0	0	0	0	-112.0739848
2010	June	13.5E-09.4N	2449	10793		Well 13.50E-09.40N	55608425	A(2-3)17CAA	0	0	0	0	-112.0739848
2010	July	13.5E-09.4N	2449	10793		Well 13.50E-09.40N	55608425	A(2-3)17CAA	0	0	0	0	-112.0739848
2010	August	13.5E-09.4N	2449	10793		Well 13.50E-09.40N	55608425	A(2-3)17CAA	0	0	0	0	-112.0739848
2010	September	13.5E-09.4N	2449	10793		Well 13.50E-09.40N	55608425	A(2-3)17CAA	0	0	0	0	-112.0739848
2010	October	13.5E-09.4N	2449	10793		Well 13.50E-09.40N	55608425	A(2-3)17CAA	0	0	0	0	-112.0739848
2010	November	13.5E-09.4N	2449	10793		Well 13.50E-09.40N	55608425	A(2-3)17CAA	0	0	0	0	-112.0739848
2010	December	13.5E-09.4N	2449	10793		Well 13.50E-09.40N	55608425	A(2-3)17CAA	0	0	0	0	-112.0739848
								Subtotal by Year:	**0**	**0**	**0**	**0**	
2011	January	13.5E-09.4N	2449	10793		Well 13.50E-09.40N	55608425	A(2-3)17CAA	0	0	0	0	-112.0739848
2011	February	13.5E-09.4N	2449	10793		Well 13.50E-09.40N	55608425	A(2-3)17CAA	0	0	0	0	-112.0739848
2011	March	13.5E-09.4N	2449	10793		Well 13.50E-09.40N	55608425	A(2-3)17CAA	0	0	0	0	-112.0739848
2011	April	13.5E-09.4N	2449	10793		Well 13.50E-09.40N	55608425	A(2-3)17CAA	0	0	0	0	-112.0739848
2011	May	13.5E-09.4N	2449	10793		Well 13.50E-09.40N	55608425	A(2-3)17CAA	0	0	0	0	-112.0739848
2011	June	13.5E-09.4N	2449	10793		Well 13.50E-09.40N	55608425	A(2-3)17CAA	0	0	0	0	-112.0739848
2011	July	13.5E-09.4N	2449	10793		Well 13.50E-09.40N	55608425	A(2-3)17CAA	0	0	0	0	-112.0739848
2011	August	13.5E-09.4N	2449	10793		Well 13.50E-09.40N	55608425	A(2-3)17CAA	0	0	0	0	-112.0739848
2011	September	13.5E-09.4N	2449	10793		Well 13.50E-09.40N	55608425	A(2-3)17CAA	0	0	0	0	-112.0739848
2011	October	13.5E-09.4N	2449	10793		Well 13.50E-09.40N	55608425	A(2-3)17CAA	0	0	0	0	-112.0739848
2011	November	13.5E-09.4N	2449	10793		Well 13.50E-09.40N	55608425	A(2-3)17CAA	0	0	0	0	-112.0739848
2011	December	13.5E-09.4N	2449	10793		Well 13.50E-09.40N	55608425	A(2-3)17CAA	0	0	0	0	-112.0739848
								Subtotal by Year:	**0**	**0**	**0**	**0**	
2012	January	13.5E-09.4N	2449	10793		Well 13.50E-09.40N	55608425	A(2-3)17CAA	0	0	0	0	-112.0739848
2012	February	13.5E-09.4N	2449	10793		Well 13.50E-09.40N	55608425	A(2-3)17CAA	0	0	0	0	-112.0739848
2012	March	13.5E-09.4N	2449	10793		Well 13.50E-09.40N	55608425	A(2-3)17CAA	0	0	0	0	-112.0739848
2012	April	13.5E-09.4N	2449	10793		Well 13.50E-09.40N	55608425	A(2-3)17CAA	0	0	0	0	-112.0739848
2012	May	13.5E-09.4N	2449	10793		Well 13.50E-09.40N	55608425	A(2-3)17CAA	0	0	0	0	-112.0739848
2012	June	13.5E-09.4N	2449	10793		Well 13.50E-09.40N	55608425	A(2-3)17CAA	80.4	0	80.4	466.5	-112.0739848
2012	July	13.5E-09.4N	2449	10793		Well 13.50E-09.40N	55608425	A(2-3)17CAA	119.6	0	119.6	778.4	-112.0739848
2012	August	13.5E-09.4N	2449	10793		Well 13.50E-09.40N	55608425	A(2-3)17CAA	83.1	0	83.1	560.9	-112.0739848
2012	September	13.5E-09.4N	2449	10793		Well 13.50E-09.40N	55608425	A(2-3)17CAA	0	0	0	0	-112.0739848
2012	October	13.5E-09.4N	2449	10793		Well 13.50E-09.40N	55608425	A(2-3)17CAA	0	0	0	0	-112.0739848
2012	November	13.5E-09.4N	2449	10793		Well 13.50E-09.40N	55608425	A(2-3)17CAA	0	0	0	0	-112.0739848
2012	December	13.5E-09.4N	2449	10793		Well 13.50E-09.40N	55608425	A(2-3)17CAA	0.2	0	0.2	2.6	-112.0739848

								Subtotal by Year:	283.3	0	283.3	1808.4	
2013	January	13.5E-09.4N	2449	10793		Well 13.50E-09.40N	55608425	A(2-3)17CAA	0	0	0	0	-112.0739848
2013	February	13.5E-09.4N	2449	10793		Well 13.50E-09.40N	55608425	A(2-3)17CAA	0	0	0	0.1	-112.0739848
2013	March	13.5E-09.4N	2449	10793		Well 13.50E-09.40N	55608425	A(2-3)17CAA	24.9	0	24.9	0	-112.0739848
2013	April	13.5E-09.4N	2449	10793		Well 13.50E-09.40N	55608425	A(2-3)17CAA	0	0	0	0	-112.0739848
2013	May	13.5E-09.4N	2449	10793		Well 13.50E-09.40N	55608425	A(2-3)17CAA	0	0	0	0	-112.0739848
2013	June	13.5E-09.4N	2449	10793		Well 13.50E-09.40N	55608425	A(2-3)17CAA	0	0	0	0	-112.0739848
2013	July	13.5E-09.4N	2449	10793		Well 13.50E-09.40N	55608425	A(2-3)17CAA	0	0	0	0	-112.0739848
2013	August	13.5E-09.4N	2449	10793		Well 13.50E-09.40N	55608425	A(2-3)17CAA	0	0	0	0	-112.0739848
2013	September	13.5E-09.4N	2449	10793		Well 13.50E-09.40N	55608425	A(2-3)17CAA	0	0	0	0	-112.0739848
2013	October	13.5E-09.4N	2449	10793		Well 13.50E-09.40N	55608425	A(2-3)17CAA	0	0	0	0	-112.0739848
2013	November	13.5E-09.4N	2449	10793		Well 13.50E-09.40N	55608425	A(2-3)17CAA	0	0	0	0	-112.0739848
2013	December	13.5E-09.4N	2449	10793		Well 13.50E-09.40N	55608425	A(2-3)17CAA	0	0	0	0	-112.0739848
								Subtotal by Year:	24.9	0	24.9	0.1	
2014	January	13.5E-09.4N	2449	10793		Well 13.50E-09.40N	55608425	A(2-3)17CAA	0	0	0	0	-112.0739848
2014	February	13.5E-09.4N	2449	10793		Well 13.50E-09.40N	55608425	A(2-3)17CAA	0	0	0	0	-112.0739848
								Subtotal by Year:	0	0	0	0	
								Total by Well:	**308.2**	**0**	**308.2**	**1808.5**	
2010	January	14.0E-08.5N	2452	10794		Well 14.00E-08.50N	55608422	A(2-3)20ADD	0	0	0	0	-112.0652377
2010	February	14.0E-08.5N	2452	10794		Well 14.00E-08.50N	55608422	A(2-3)20ADD	0	0	0	0	-112.0652377
2010	March	14.0E-08.5N	2452	10794		Well 14.00E-08.50N	55608422	A(2-3)20ADD	0	0	0	0	-112.0652377
2010	April	14.0E-08.5N	2452	10794		Well 14.00E-08.50N	55608422	A(2-3)20ADD	0	0	0	0	-112.0652377
2010	May	14.0E-08.5N	2452	10794		Well 14.00E-08.50N	55608422	A(2-3)20ADD	0.06	0	0.06	0.4	-112.0652377
2010	June	14.0E-08.5N	2452	10794		Well 14.00E-08.50N	55608422	A(2-3)20ADD	0.03	0	0.03	0.1	-112.0652377
2010	July	14.0E-08.5N	2452	10794		Well 14.00E-08.50N	55608422	A(2-3)20ADD	0	0	0	0	-112.0652377
2010	August	14.0E-08.5N	2452	10794		Well 14.00E-08.50N	55608422	A(2-3)20ADD	0	0	0	0	-112.0652377
2010	September	14.0E-08.5N	2452	10794		Well 14.00E-08.50N	55608422	A(2-3)20ADD	0	0	0	0	-112.0652377
2010	October	14.0E-08.5N	2452	10794		Well 14.00E-08.50N	55608422	A(2-3)20ADD	0	0	0	0	-112.0652377
2010	November	14.0E-08.5N	2452	10794		Well 14.00E-08.50N	55608422	A(2-3)20ADD	0	0	0	0	-112.0652377
2010	December	14.0E-08.5N	2452	10794		Well 14.00E-08.50N	55608422	A(2-3)20ADD	0.08	0	0.08	0.3	-112.0652377
								Subtotal by Year:	0.17	0	0.17	0.8	
2011	January	14.0E-08.5N	2452	10794		Well 14.00E-08.50N	55608422	A(2-3)20ADD	0	0	0	0	-112.0652377
2011	February	14.0E-08.5N	2452	10794		Well 14.00E-08.50N	55608422	A(2-3)20ADD	0	0	0	0	-112.0652377
2011	March	14.0E-08.5N	2452	10794		Well 14.00E-08.50N	55608422	A(2-3)20ADD	0	0	0	0	-112.0652377
2011	April	14.0E-08.5N	2452	10794		Well 14.00E-08.50N	55608422	A(2-3)20ADD	0	0	0	0	-112.0652377
2011	May	14.0E-08.5N	2452	10794		Well 14.00E-08.50N	55608422	A(2-3)20ADD	9.03	0	9.03	51.2	-112.0652377
2011	June	14.0E-08.5N	2452	10794		Well 14.00E-08.50N	55608422	A(2-3)20ADD	0	0	0	0	-112.0652377
2011	July	14.0E-08.5N	2452	10794		Well 14.00E-08.50N	55608422	A(2-3)20ADD	0	0	0	0	-112.0652377

2011	August	14.0E-08.5N	2452	10794		Well 14.00E-08.50N	55608422	A(2-3)20ADD	0	0	0	0	-112.0652377
2011	September	14.0E-08.5N	2452	10794		Well 14.00E-08.50N	55608422	A(2-3)20ADD	2.15	0	2.15	11.9	-112.0652377
2011	October	14.0E-08.5N	2452	10794		Well 14.00E-08.50N	55608422	A(2-3)20ADD	0	0	0	0	-112.0652377
2011	November	14.0E-08.5N	2452	10794		Well 14.00E-08.50N	55608422	A(2-3)20ADD	0	0	0	0	-112.0652377
2011	December	14.0E-08.5N	2452	10794		Well 14.00E-08.50N	55608422	A(2-3)20ADD	0	0	0	0	-112.0652377
								Subtotal by Year:	**11.18**	**0**	**11.18**	**63.1**	
2012	January	14.0E-08.5N	2452	10794		Well 14.00E-08.50N	55608422	A(2-3)20ADD	0	0	0	0	-112.0652377
2012	February	14.0E-08.5N	2452	10794		Well 14.00E-08.50N	55608422	A(2-3)20ADD	8.88	0	8.88	51.5	-112.0652377
2012	March	14.0E-08.5N	2452	10794		Well 14.00E-08.50N	55608422	A(2-3)20ADD	0.15	0	0.15	0.7	-112.0652377
2012	April	14.0E-08.5N	2452	10794		Well 14.00E-08.50N	55608422	A(2-3)20ADD	0	0	0	0.1	-112.0652377
2012	May	14.0E-08.5N	2452	10794		Well 14.00E-08.50N	55608422	A(2-3)20ADD	0	0	0	0	-112.0652377
2012	June	14.0E-08.5N	2452	10794		Well 14.00E-08.50N	55608422	A(2-3)20ADD	87.31	0	87.31	521.2	-112.0652377
2012	July	14.0E-08.5N	2452	10794		Well 14.00E-08.50N	55608422	A(2-3)20ADD	132.27	0	132.27	792.7	-112.0652377
2012	August	14.0E-08.5N	2452	10794		Well 14.00E-08.50N	55608422	A(2-3)20ADD	84.78	0	84.78	508.5	-112.0652377
2012	September	14.0E-08.5N	2452	10794		Well 14.00E-08.50N	55608422	A(2-3)20ADD	0	0	0	0	-112.0652377
2012	October	14.0E-08.5N	2452	10794		Well 14.00E-08.50N	55608422	A(2-3)20ADD	0.24	0	0.24	1.3	-112.0652377
2012	November	14.0E-08.5N	2452	10794		Well 14.00E-08.50N	55608422	A(2-3)20ADD	0.08	0	0.08	0.3	-112.0652377
2012	December	14.0E-08.5N	2452	10794		Well 14.00E-08.50N	55608422	A(2-3)20ADD	0	0	0	0	-112.0652377
								Subtotal by Year:	**313.71**	**0**	**313.71**	**1876.3**	
2013	January	14.0E-08.5N	2452	10794		Well 14.00E-08.50N	55608422	A(2-3)20ADD	0	0	0	0	-112.0652377
2013	February	14.0E-08.5N	2452	10794		Well 14.00E-08.50N	55608422	A(2-3)20ADD	0	0	0	0	-112.0652377
2013	March	14.0E-08.5N	2452	10794		Well 14.00E-08.50N	55608422	A(2-3)20ADD	0	0	0	0	-112.0652377
2013	April	14.0E-08.5N	2452	10794		Well 14.00E-08.50N	55608422	A(2-3)20ADD	0	0	0	0	-112.0652377
2013	May	14.0E-08.5N	2452	10794		Well 14.00E-08.50N	55608422	A(2-3)20ADD	0	0	0	0	-112.0652377
2013	June	14.0E-08.5N	2452	10794		Well 14.00E-08.50N	55608422	A(2-3)20ADD	0	0	0	0	-112.0652377
2013	July	14.0E-08.5N	2452	10794		Well 14.00E-08.50N	55608422	A(2-3)20ADD	0	0	0	0	-112.0652377
2013	August	14.0E-08.5N	2452	10794		Well 14.00E-08.50N	55608422	A(2-3)20ADD	0	0	0	0	-112.0652377
2013	September	14.0E-08.5N	2452	10794		Well 14.00E-08.50N	55608422	A(2-3)20ADD	27.51	0	27.51	191.4	-112.0652377
2013	October	14.0E-08.5N	2452	10794		Well 14.00E-08.50N	55608422	A(2-3)20ADD	72.42	0	72.42	462.4	-112.0652377
2013	November	14.0E-08.5N	2452	10794		Well 14.00E-08.50N	55608422	A(2-3)20ADD	0.12	0	0.12	0.6	-112.0652377
2013	December	14.0E-08.5N	2452	10794		Well 14.00E-08.50N	55608422	A(2-3)20ADD	0	0	0	0	-112.0652377
								Subtotal by Year:	**100.05**	**0**	**100.05**	**654.4**	
2014	January	14.0E-08.5N	2452	10794		Well 14.00E-08.50N	55608422	A(2-3)20ADD	1.34	0	1.34	7.5	-112.0652377
2014	February	14.0E-08.5N	2452	10794		Well 14.00E-08.50N	55608422	A(2-3)20ADD	0	0	0	0	-112.0652377
								Subtotal by Year:	**1.34**	**0**	**1.34**	**7.5**	
								Total by Well:	**426.45**	**0**	**426.45**	**2602.1**	
2010	January	14.0E-09.6N	2455	10796		Well 14.00E-09.60N	55608424	A(2-3)17ADD	0	0	0	0	-112.0656929
2010	February	14.0E-09.6N	2455	10796		Well 14.00E-09.60N	55608424	A(2-3)17ADD	0	0	0	0	-112.0656929

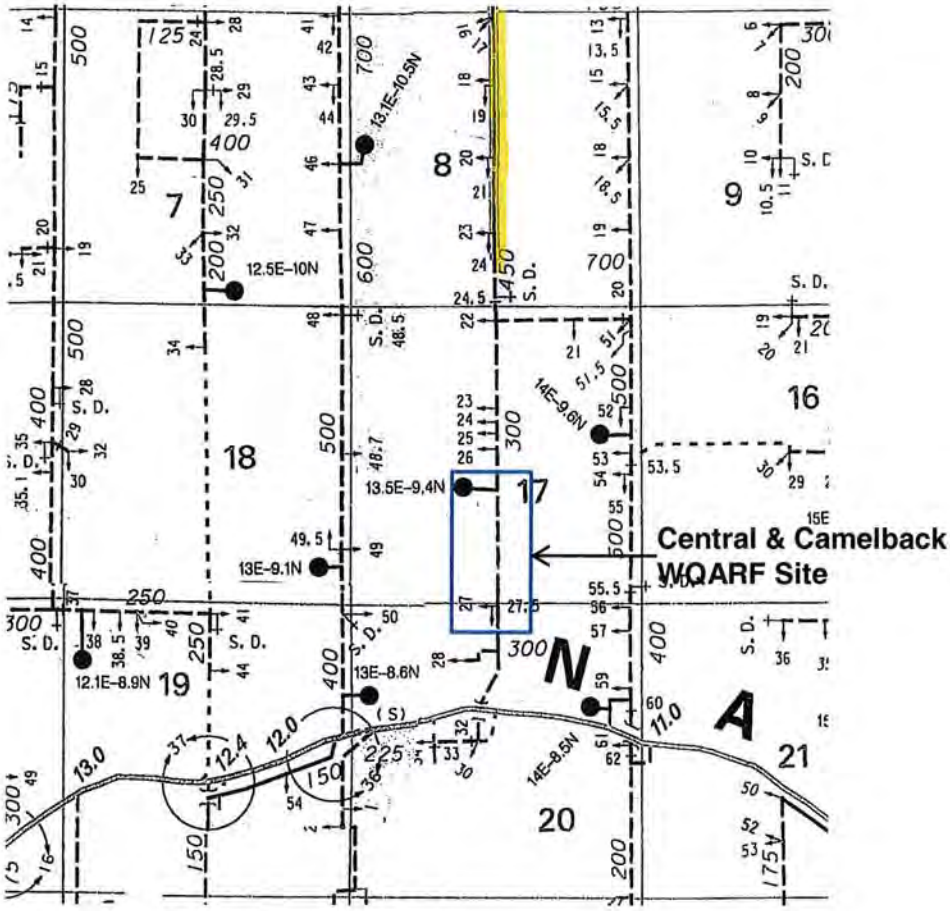
2010	March	14.0E-09.6N	2455	10796		Well 14.00E-09.60N	55608424	A(2-3)17ADD	0	0	0	0	-112.0656929
2010	April	14.0E-09.6N	2455	10796		Well 14.00E-09.60N	55608424	A(2-3)17ADD	0	0	0	0	-112.0656929
2010	May	14.0E-09.6N	2455	10796		Well 14.00E-09.60N	55608424	A(2-3)17ADD	0	0	0	0	-112.0656929
2010	June	14.0E-09.6N	2455	10796		Well 14.00E-09.60N	55608424	A(2-3)17ADD	0	0	0	0	-112.0656929
2010	July	14.0E-09.6N	2455	10796		Well 14.00E-09.60N	55608424	A(2-3)17ADD	0	0	0	0	-112.0656929
2010	August	14.0E-09.6N	2455	10796		Well 14.00E-09.60N	55608424	A(2-3)17ADD	0	0	0	0	-112.0656929
2010	September	14.0E-09.6N	2455	10796		Well 14.00E-09.60N	55608424	A(2-3)17ADD	0	0	0	0	-112.0656929
2010	October	14.0E-09.6N	2455	10796		Well 14.00E-09.60N	55608424	A(2-3)17ADD	0	0	0	0	-112.0656929
2010	November	14.0E-09.6N	2455	10796		Well 14.00E-09.60N	55608424	A(2-3)17ADD	0.86	0	0.86	3.4	-112.0656929
2010	December	14.0E-09.6N	2455	10796		Well 14.00E-09.60N	55608424	A(2-3)17ADD	0	0	0	0	-112.0656929
								Subtotal by Year:	**0.86**	**0**	**0.86**	**3.4**	
2011	January	14.0E-09.6N	2455	10796		Well 14.00E-09.60N	55608424	A(2-3)17ADD	0	0	0	0	-112.0656929
2011	February	14.0E-09.6N	2455	10796		Well 14.00E-09.60N	55608424	A(2-3)17ADD	0	0	0	0	-112.0656929
2011	March	14.0E-09.6N	2455	10796		Well 14.00E-09.60N	55608424	A(2-3)17ADD	0	0	0	0	-112.0656929
2011	April	14.0E-09.6N	2455	10796		Well 14.00E-09.60N	55608424	A(2-3)17ADD	0	0	0	0	-112.0656929
2011	May	14.0E-09.6N	2455	10796		Well 14.00E-09.60N	55608424	A(2-3)17ADD	0	0	0	0	-112.0656929
2011	June	14.0E-09.6N	2455	10796		Well 14.00E-09.60N	55608424	A(2-3)17ADD	0	0	0	0	-112.0656929
2011	July	14.0E-09.6N	2455	10796		Well 14.00E-09.60N	55608424	A(2-3)17ADD	0	0	0	0	-112.0656929
2011	August	14.0E-09.6N	2455	10796		Well 14.00E-09.60N	55608424	A(2-3)17ADD	0	0	0	0	-112.0656929
2011	September	14.0E-09.6N	2455	10796		Well 14.00E-09.60N	55608424	A(2-3)17ADD	0	0	0	0	-112.0656929
2011	October	14.0E-09.6N	2455	10796		Well 14.00E-09.60N	55608424	A(2-3)17ADD	0	0	0	0	-112.0656929
2011	November	14.0E-09.6N	2455	10796		Well 14.00E-09.60N	55608424	A(2-3)17ADD	0	0	0	0	-112.0656929
2011	December	14.0E-09.6N	2455	10796		Well 14.00E-09.60N	55608424	A(2-3)17ADD	0	0	0	0	-112.0656929
								Subtotal by Year:	**0**	**0**	**0**	**0**	
2012	January	14.0E-09.6N	2455	10796		Well 14.00E-09.60N	55608424	A(2-3)17ADD	0	0	0	0	-112.0656929
2012	February	14.0E-09.6N	2455	10796		Well 14.00E-09.60N	55608424	A(2-3)17ADD	19.62	0	19.62	77.6	-112.0656929
2012	March	14.0E-09.6N	2455	10796		Well 14.00E-09.60N	55608424	A(2-3)17ADD	0	0	0	0	-112.0656929
2012	April	14.0E-09.6N	2455	10796		Well 14.00E-09.60N	55608424	A(2-3)17ADD	0	0	0	0	-112.0656929
2012	May	14.0E-09.6N	2455	10796		Well 14.00E-09.60N	55608424	A(2-3)17ADD	1.01	0	1.01	3.9	-112.0656929
2012	June	14.0E-09.6N	2455	10796		Well 14.00E-09.60N	55608424	A(2-3)17ADD	0	0	0	0	-112.0656929
2012	July	14.0E-09.6N	2455	10796		Well 14.00E-09.60N	55608424	A(2-3)17ADD	0	0	0	0	-112.0656929
2012	August	14.0E-09.6N	2455	10796		Well 14.00E-09.60N	55608424	A(2-3)17ADD	0.07	0	0.07	0.3	-112.0656929
2012	September	14.0E-09.6N	2455	10796		Well 14.00E-09.60N	55608424	A(2-3)17ADD	0	0	0	0	-112.0656929
2012	October	14.0E-09.6N	2455	10796		Well 14.00E-09.60N	55608424	A(2-3)17ADD	0	0	0	0	-112.0656929
2012	November	14.0E-09.6N	2455	10796		Well 14.00E-09.60N	55608424	A(2-3)17ADD	0	0	0	0	-112.0656929
2012	December	14.0E-09.6N	2455	10796		Well 14.00E-09.60N	55608424	A(2-3)17ADD	0	0	0	0	-112.0656929
								Subtotal by Year:	**20.7**	**0**	**20.7**	**81.8**	
2013	January	14.0E-09.6N	2455	10796		Well 14.00E-09.60N	55608424	A(2-3)17ADD	0	0	0	0	-112.0656929

2013	February	14.0E-09.6N	2455	10796		Well 14.00E-09.60N	55608424	A(2-3)17ADD	0	0	0	0	-112.0656929
2013	March	14.0E-09.6N	2455	10796		Well 14.00E-09.60N	55608424	A(2-3)17ADD	0	0	0	0	-112.0656929
2013	April	14.0E-09.6N	2455	10796		Well 14.00E-09.60N	55608424	A(2-3)17ADD	0	0	0	0	-112.0656929
2013	May	14.0E-09.6N	2455	10796		Well 14.00E-09.60N	55608424	A(2-3)17ADD	0	0	0	0	-112.0656929
2013	June	14.0E-09.6N	2455	10796		Well 14.00E-09.60N	55608424	A(2-3)17ADD	0	0	0	0	-112.0656929
2013	July	14.0E-09.6N	2455	10796		Well 14.00E-09.60N	55608424	A(2-3)17ADD	0	0	0	0	-112.0656929
2013	August	14.0E-09.6N	2455	10796		Well 14.00E-09.60N	55608424	A(2-3)17ADD	0.35	0	0.35	1.4	-112.0656929
2013	September	14.0E-09.6N	2455	10796		Well 14.00E-09.60N	55608424	A(2-3)17ADD	0	0	0	0	-112.0656929
2013	October	14.0E-09.6N	2455	10796		Well 14.00E-09.60N	55608424	A(2-3)17ADD	0	0	0	0	-112.0656929
2013	November	14.0E-09.6N	2455	10796		Well 14.00E-09.60N	55608424	A(2-3)17ADD	0	0	0	0	-112.0656929
2013	December	14.0E-09.6N	2455	10796		Well 14.00E-09.60N	55608424	A(2-3)17ADD	0	0	0	0	-112.0656929
								Subtotal by Year:	**0.35**	**0**	**0.35**	**1.4**	
2014	January	14.0E-09.6N	2455	10796		Well 14.00E-09.60N	55608424	A(2-3)17ADD	0	0	0	0	-112.0656929
2014	February	14.0E-09.6N	2455	10796		Well 14.00E-09.60N	55608424	A(2-3)17ADD	0	0	0	0	-112.0656929
								Subtotal by Year:	**0**	**0**	**0**	**0**	
								Total by Well:	**21.91**	**0**	**21.91**	**86.6**	
								Ungrouped Total:	**836.66**	**0**	**836.66**	**5230.9**	

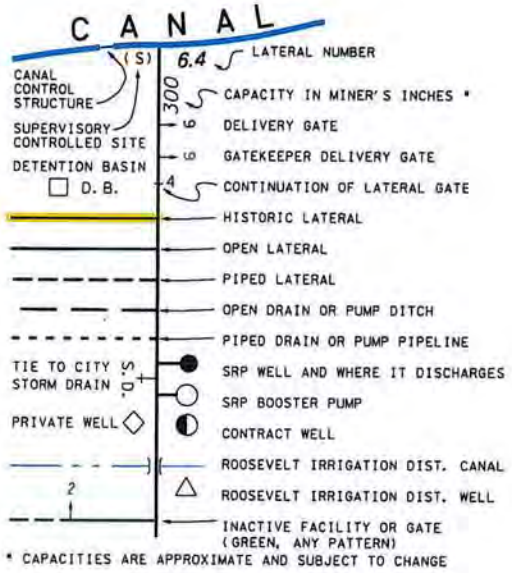
Analysis Results

Between: 01/01/1989 and 01/01/2014

Sample Location	Collection Date	Constituent	Prep	Result	Unit	Report Limit	Method	Lab
13.5E-09.4N	6/14/12 12:10	TETRACHLOROETHENE		6.8	UG/L	0.5	624	OR
13.5E-09.4N	2/4/09 10:00	TETRACHLOROETHENE		11	UG/L	0.5	624	OR
13.5E-09.4N	12/9/08 8:15	TETRACHLOROETHENE		9.4	UG/L	0.50	524.2	COLUM
13.5E-09.4N	12/13/07 9:55	TETRACHLOROETHENE		9.5	UG/L	0.5	601	OR
13.5E-09.4N	11/30/04 7:45	TETRACHLOROETHENE		14	UG/L	0.5	601	OR
13.5E-09.4N	3/25/03 8:30	TETRACHLOROETHENE		14	UG/L	0.5	601	OR
13.5E-09.4N	3/10/99 8:30	TETRACHLOROETHENE		21	UG/L	0.5	601	OR
13.5E-09.4N	11/24/98 7:35	TETRACHLOROETHENE		19	UG/L	0.5	601	OR
13.5E-09.4N	1/18/96 9:45	TETRACHLOROETHENE		17	UG/L	1.0	601	OR
13.5E-09.4N	4/13/94 5:25	TETRACHLOROETHENE		24	UG/L		601	OR
13.5E-09.4N	4/12/94 10:05	TETRACHLOROETHENE		21	UG/L		601	OR
	4/12/94 15:20	TETRACHLOROETHENE		23	UG/L		601	OR
	4/12/94 22:00	TETRACHLOROETHENE		24	UG/L		601	OR
13.5E-09.4N	10/21/91 0:00	TETRACHLOROETHENE		17	UG/L		601	SRP
13.5E-09.4N	5/4/90 0:00	TETRACHLOROETHENE		25	UG/L		601	SRP
13.5E-09.4N	6/28/89 0:00	TETRACHLOROETHENE		14	UG/L		601	SRP

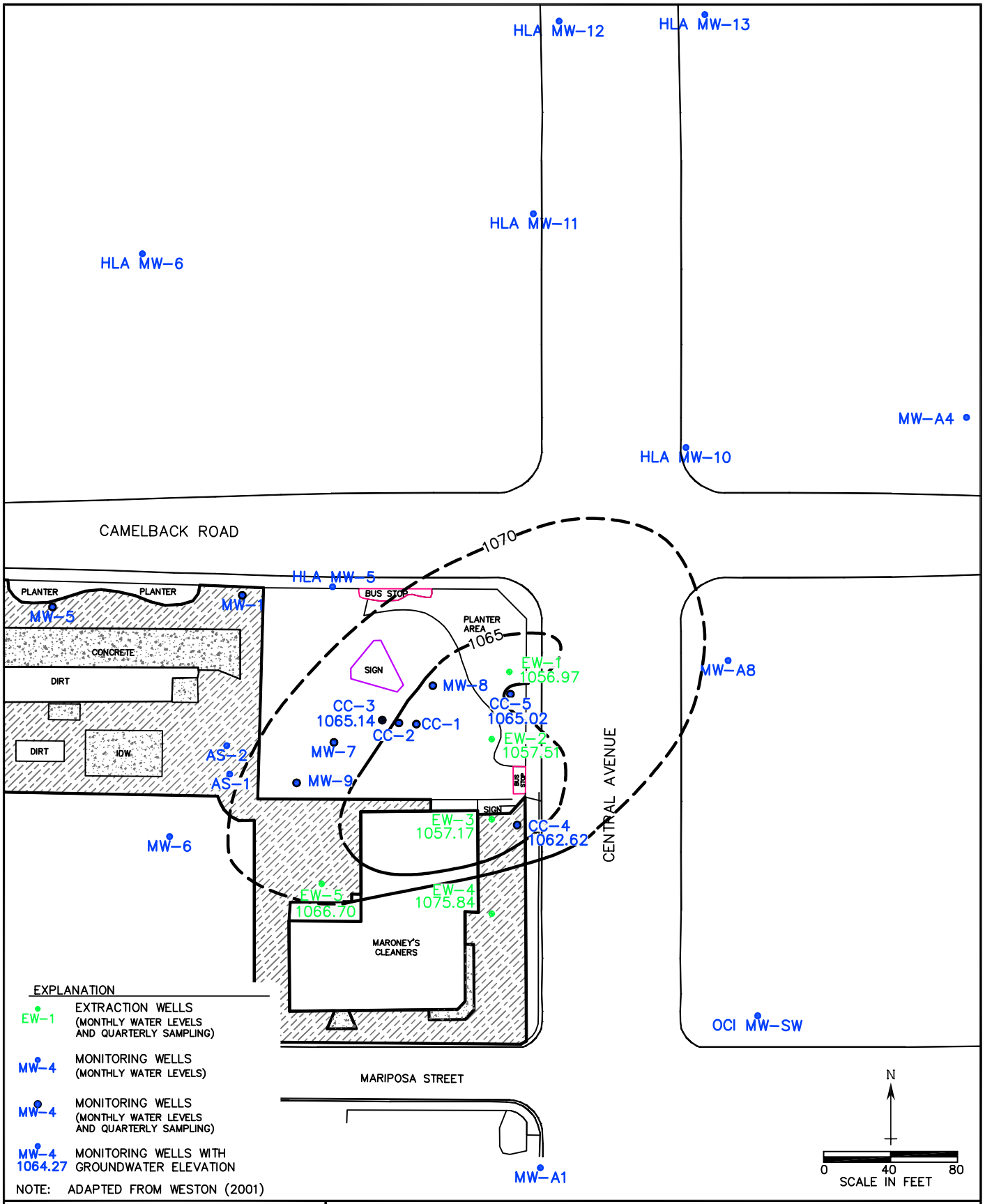


Explanation



APPENDIX E

SELECTED GROUNDWATER CONTOUR MAPS

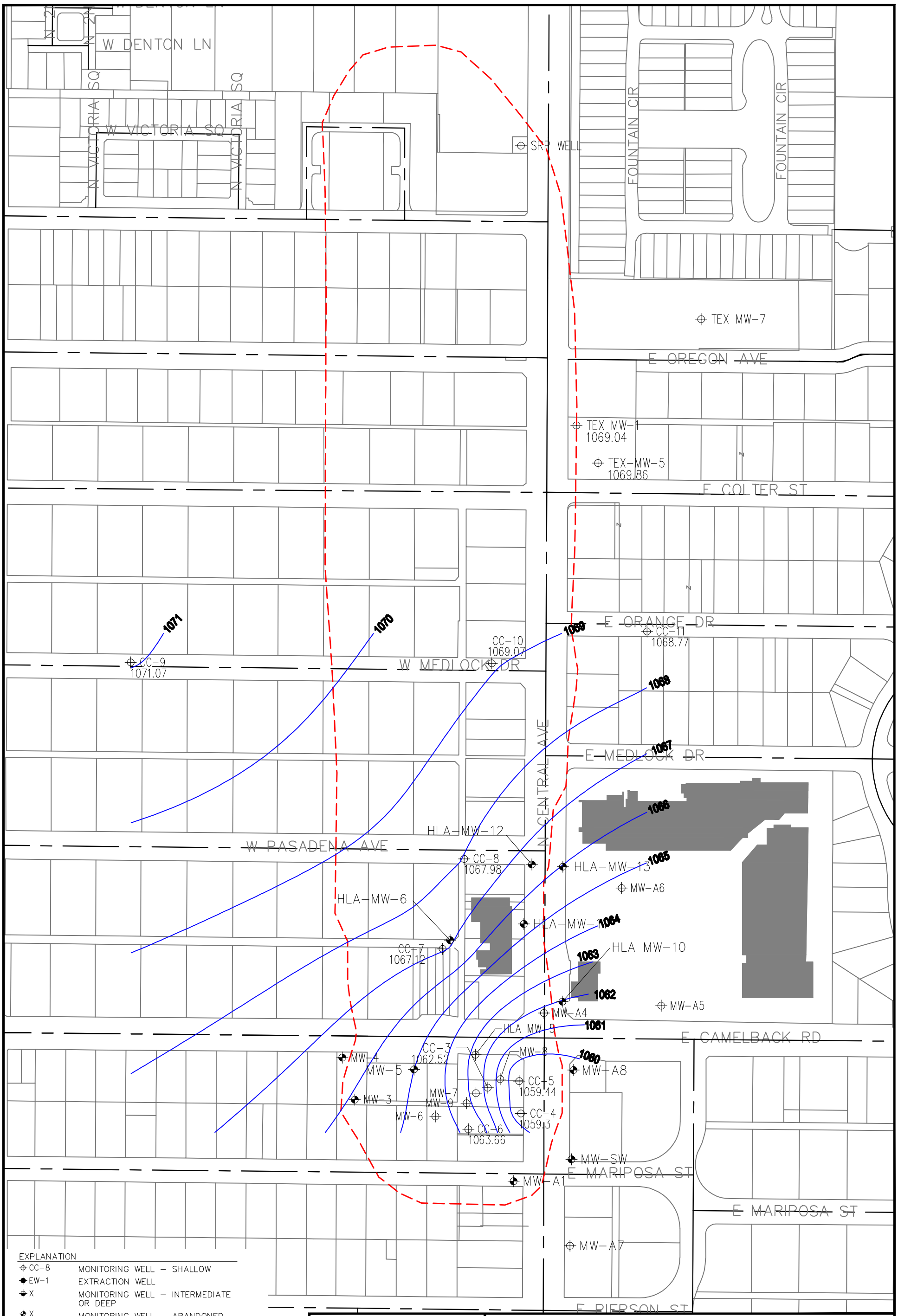


HYDRO GEO CHEM, INC.

JULY 2004 GROUNDWATER ELEVATION (WATER TABLE AQUIFER)

Approved	Date	Revised	Date	Reference:	FIG.
RP	9/09/04			8150005A	E.1

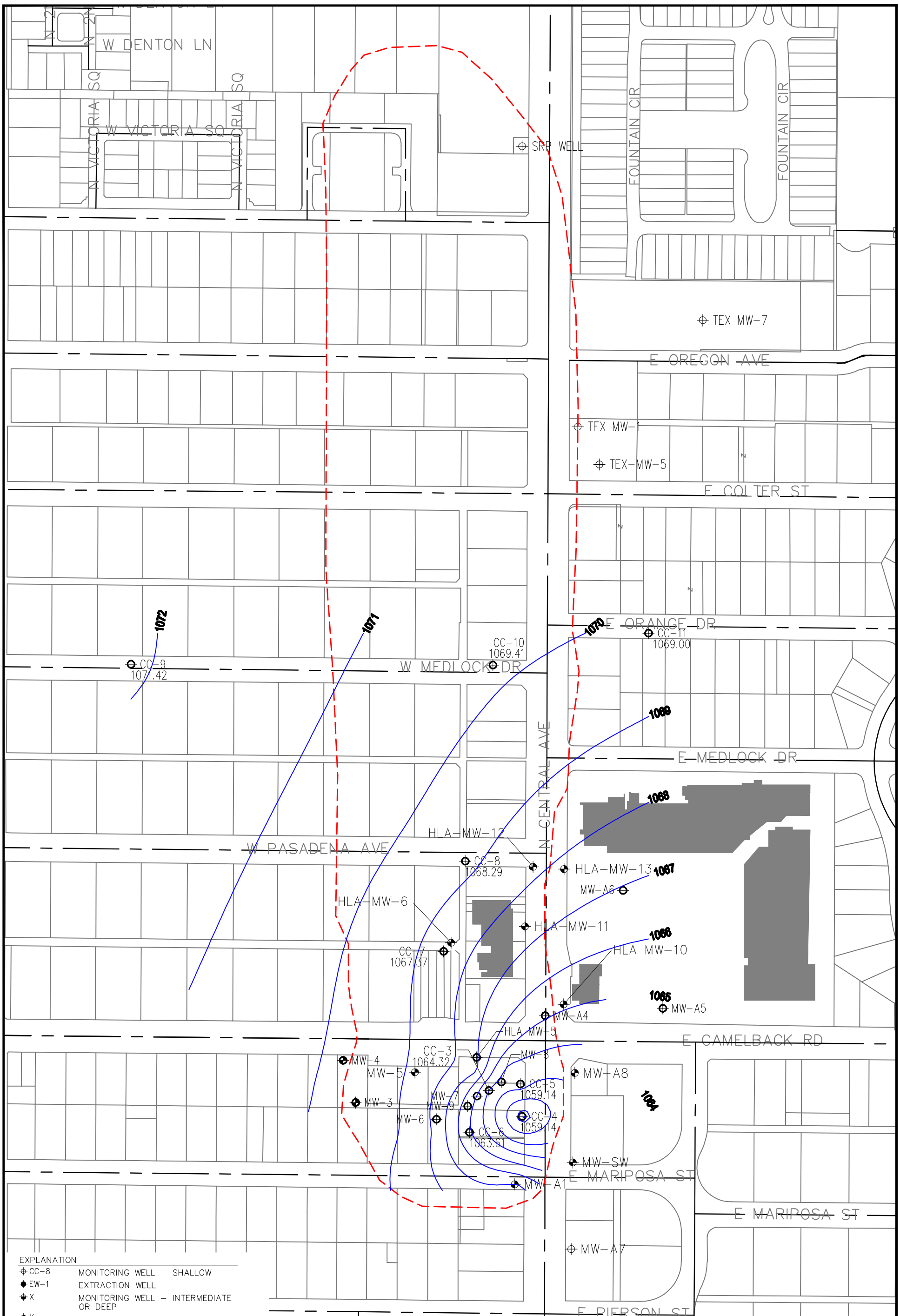
K:\815000\8150005A.dwg (alvinr) FIGURE 2 27Oct2004 – 1:25 PM



HYDRO GEO CHEM, INC.

JULY 2006 GROUND WATER ELEVATIONS

Approved	Date	Revised	Date	Reference:	Figure:
RP	2/12/07			8150093A	E.2



EXPLANATION

CC-8	MONITORING WELL – SHALLOW
EW-1	EXTRACTION WELL
X	MONITORING WELL – INTERMEDIATE OR DEEP
X	MONITORING WELL – ABANDONED
— — —	ADEQ-DEFINED WQARF SITE BOUNDARY, JANUARY 2005

WATER LEVELS MEASURED ON SEPTEMBER 19, 2006

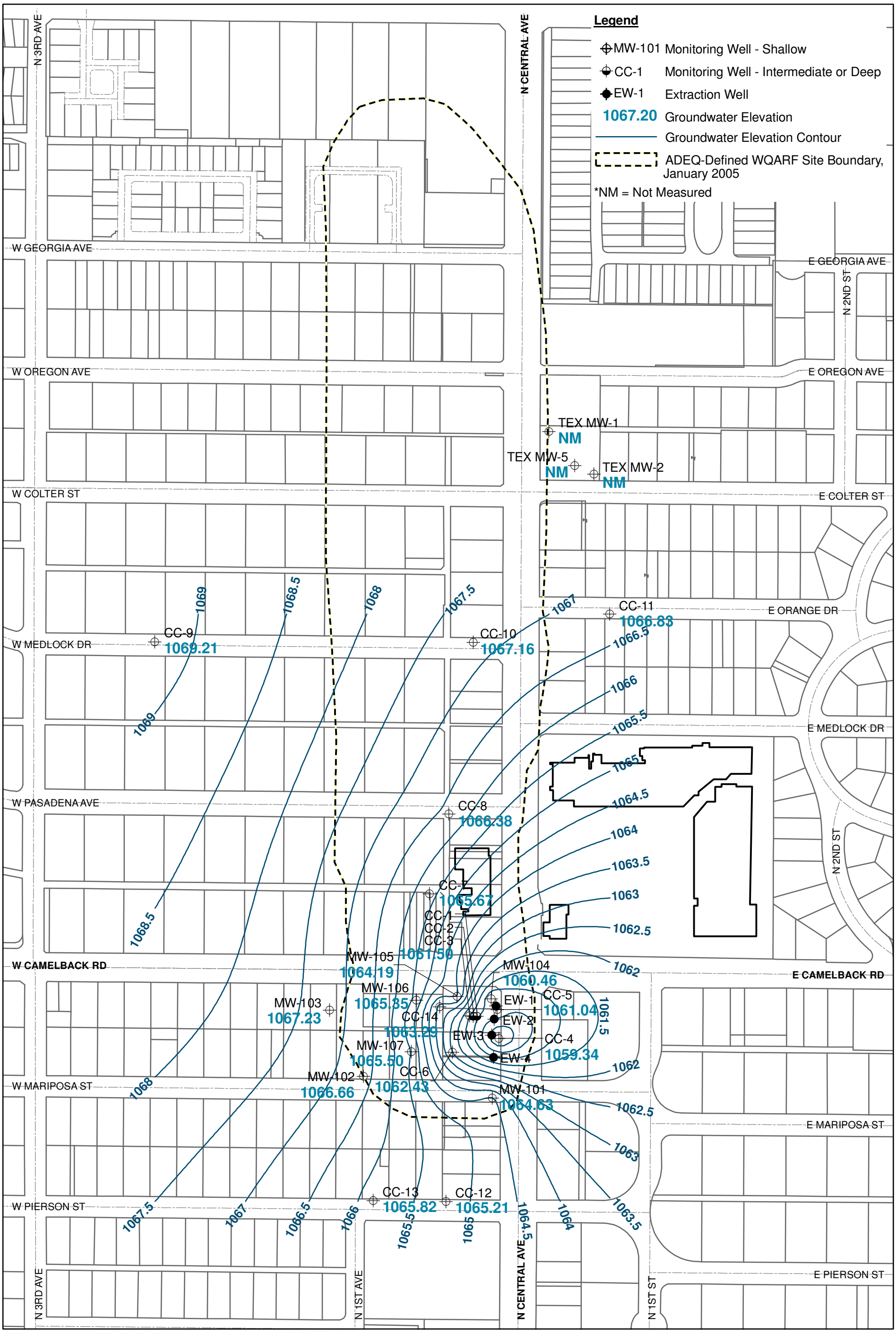
N

0 108 216
SCALE IN FEET

HYDRO GEO CHEM, INC.

DECEMBER 2006 GROUND WATER ELEVATIONS

Approved	Date	Revised	Date	Reference:	Figure:
RP	3/27/07			8150101A	E.3



1 inch equals 250 feet

0 120 240 Feet

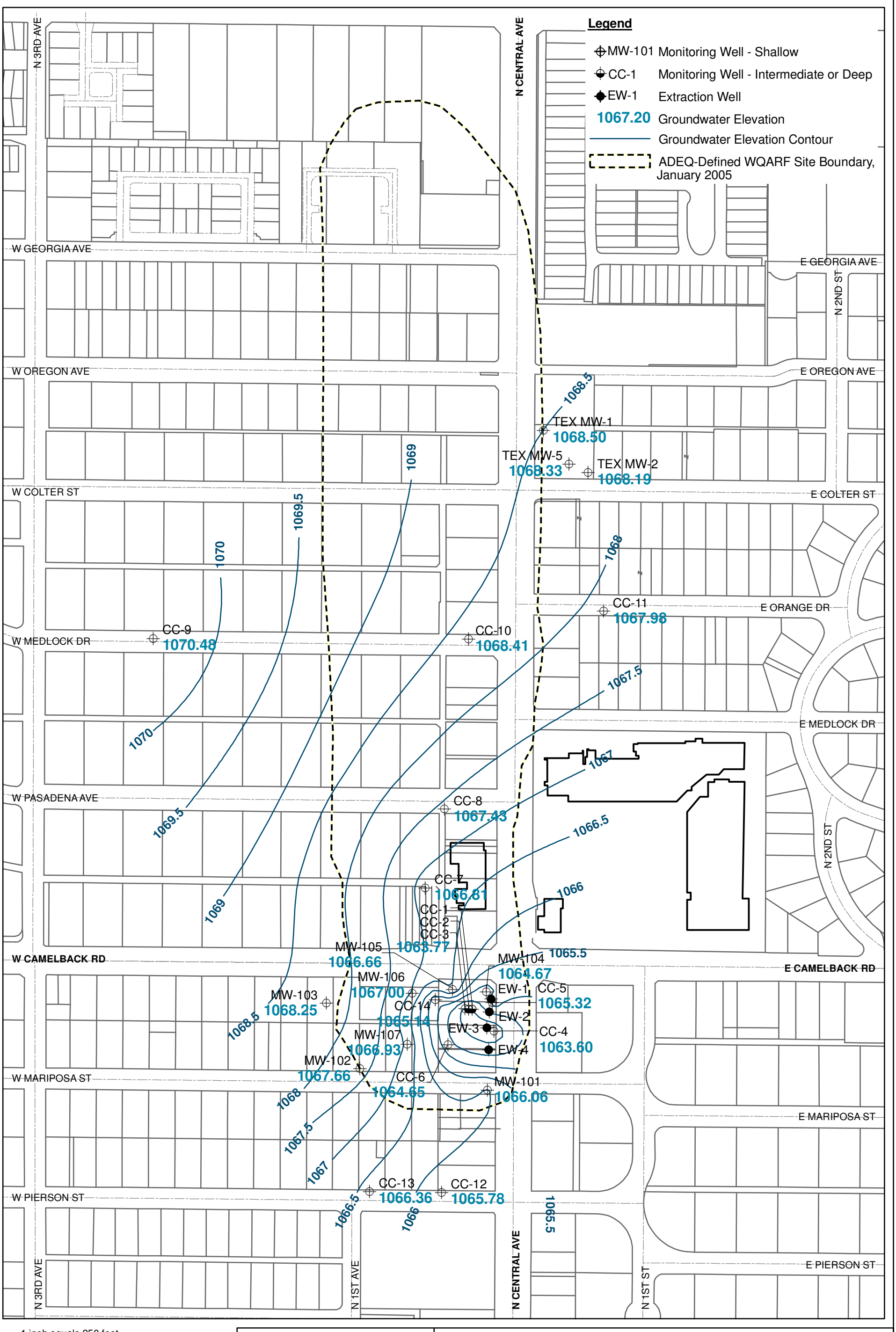
PROJECTION: State Plane
AZ Central FIPS 0202 Feet NAD83

N

HYDRO GEO CHEM, INC.

JULY 2007 GROUNDWATER ELEVATIONS

Approved	Date	Author	Date	File Name	Figure
RTP	02/05/08	RAM	02/05/08	815006G	E.4



1 inch equals 250 feet

0 120 240 Feet

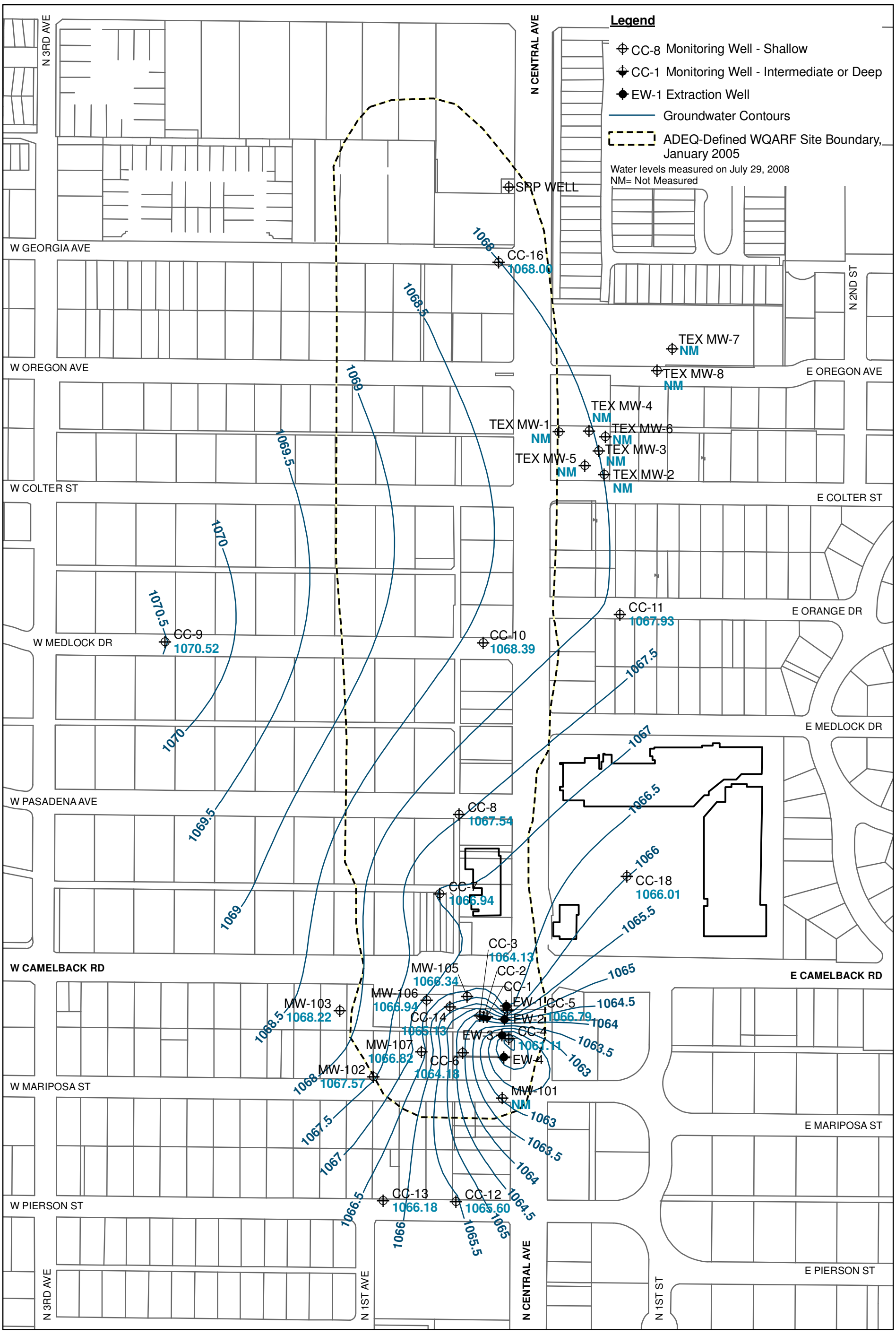
PROJECTION: State Plane
AZ Central FIPS 0202 Feet NAD83

N

HYDRO GEO CHEM, INC.

DECEMBER 2007 GROUNDWATER ELEVATIONS

Approved	Date	Author	Date	File Name	Figure
RTP	03/21/08	RAM	03/21/08	815008G_4	E.5



0 125 250 Feet

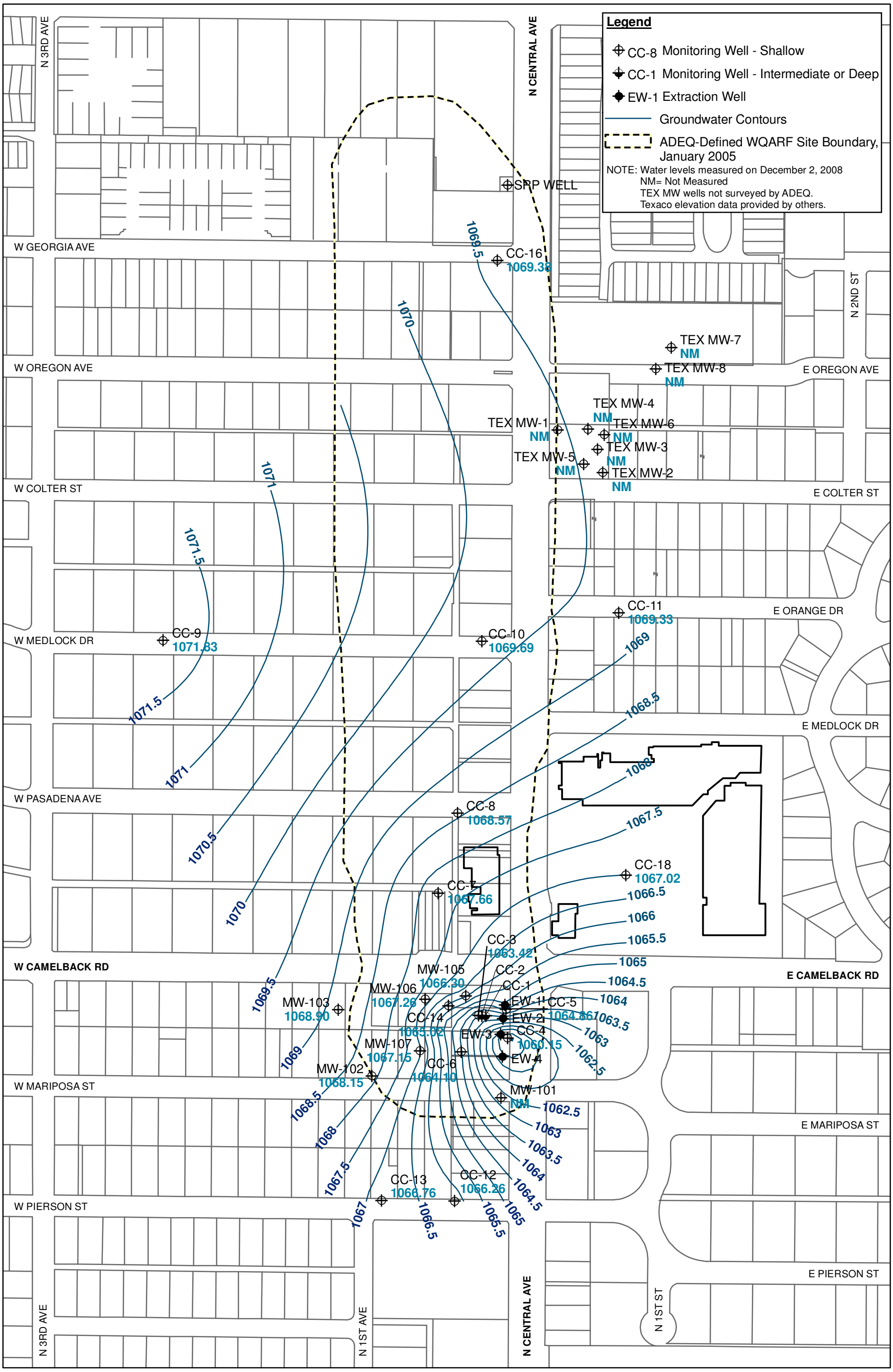
PROJECTION: State Plane
AZ Central FIPS 0202 Feet NAD83

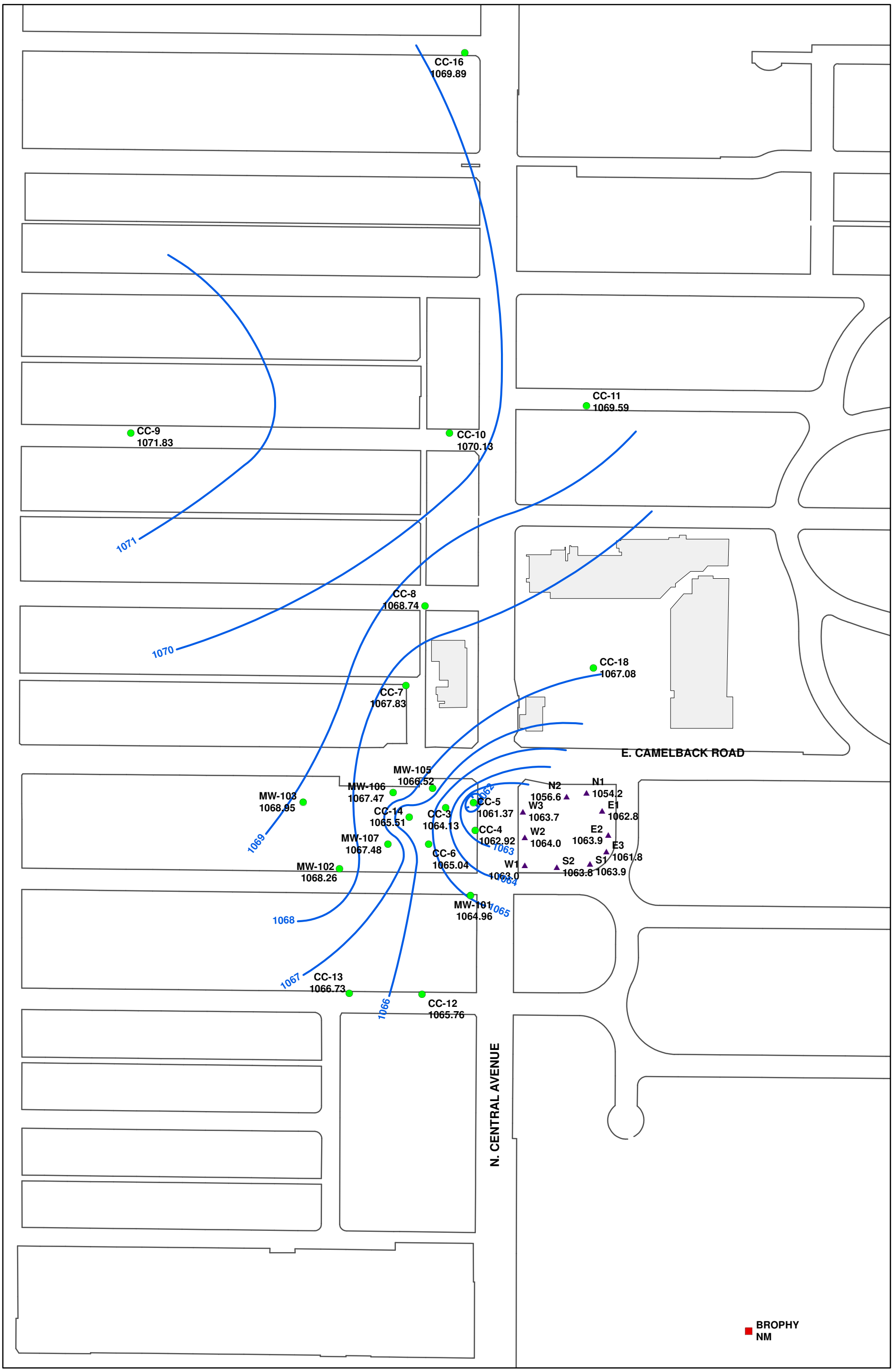
N

HYDRO GEO CHEM, INC.

JULY 2008 GROUNDWATER ELEVATIONS

Approved	Date	Author	Date	File Name	Figure
RTP	10/08/08	RAM	10/08/08	815021G	E.6


Legend
CC-8 Monitoring Well - Shallow
CC-1 Monitoring Well - Intermediate or Deep
EW-1 Extraction Well
Groundwater Contours
ADEQ-Defined WQARF Site Boundary, January 2005
NOTE: Water levels measured on December 2, 2008
NM= Not Measured
TEX MW wells not surveyed by ADEQ.
Texaco elevation data provided by others.
N 3RD AVE
N CENTRAL AVE
N 2ND ST
W GEORGIA AVE
W OREGON AVE
E OREGON AVE
W COLTER ST
E COLTER ST
W MEDLOCK DR
E ORANGE DR
E MEDLOCK DR
W PASADENA AVE
W CAMELBACK RD
E CAMELBACK RD
W MARIPOSA ST
E MARIPOSA ST
W PIERSON ST
E PIERSON ST
N 1ST AVE
N 1ST ST
SRP WELL
CC-16 1069.38
TEX MW-7 NM
TEX MW-8 NM
TEX MW-4 NM
TEX MW-1 NM
TEX MW-6 NM
TEX MW-3 NM
TEX MW-5 NM
TEX MW-2 NM
CC-11 1069.33
CC-9 1071.83
CC-10 1069.69
CC-8 1068.57
CC-7 1067.66
CC-18 1067.02
CC-3 1063.42
MW-105 1066.30
CC-2
CC-1
MW-106 1067.26
EW-1
CC-5 1064.86
MW-103 1068.90
CC-14 1065.02
EW-2
EW-3
CC-4 1060.15
MW-107 1067.15
CC-6 1064.10
EW-4
MW-102 1068.15
MW-101 NM
CC-13 1066.76
CC-12 1066.26
1069.5
1070
1071
1071.5
1069
1068.5
1068
1067.5
1066.5
1066
1065.5
1065
1064.5
1064
1063.5
1063
1062.5
1070.5
1067
0 125 250 Feet
PROJECTION:
UTM Zone 12N NAD83
N
HYDRO GEO CHEM, INC.
DECEMBER 2008 GROUNDWATER ELEVATIONS
Approved RTP
Date 01/09/09
Author RAM
Date 01/09/09
File Name 874005G
Figure E.7



Explanation

- Extraction Well
- Production Well
- Monitor Well
- Groundwater Contour in Ft (amsl)

0 250 500 Feet

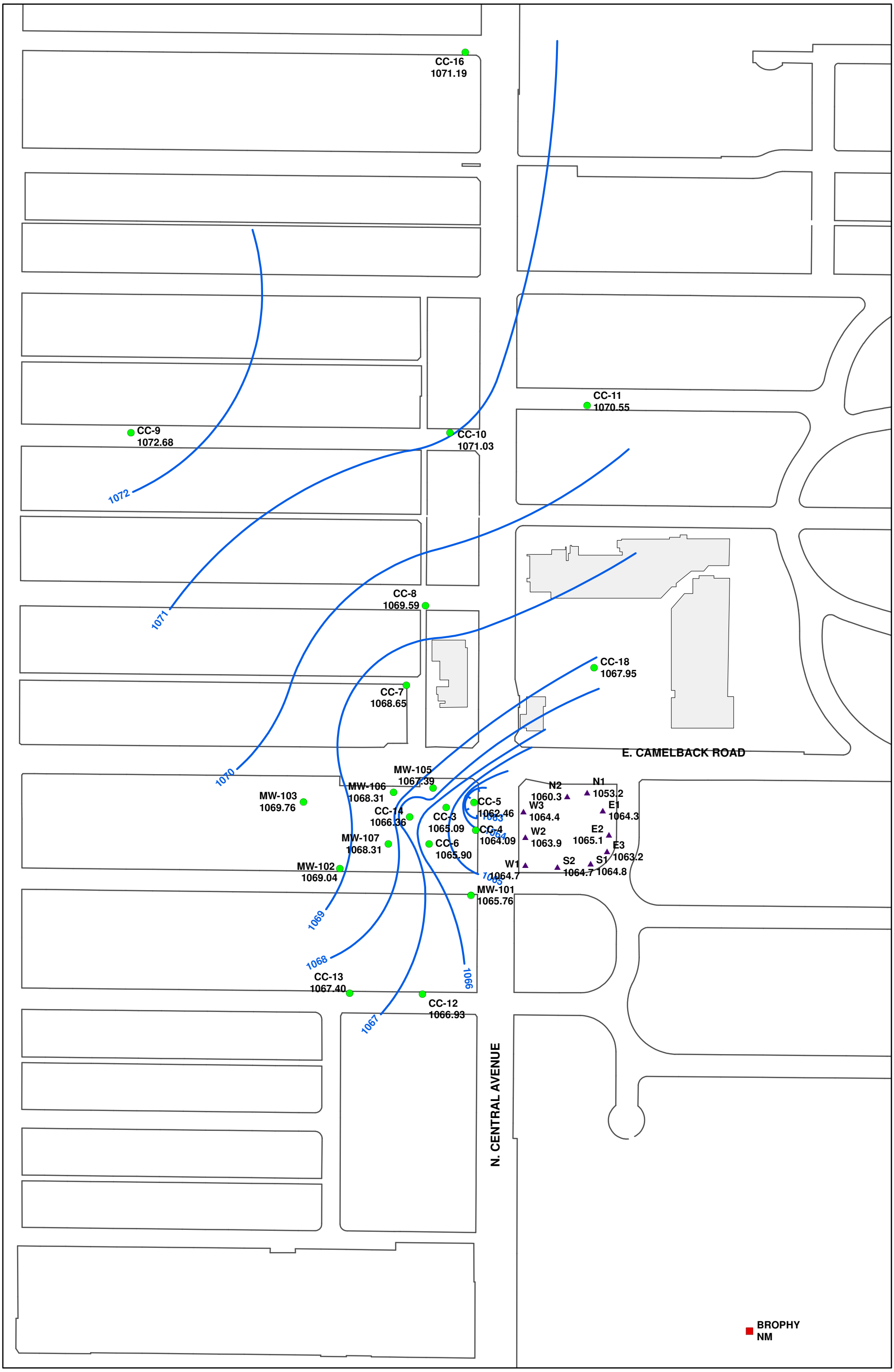
MW-102 Well ID
1068.26 Groundwater elevation in Ft (amsl)
NM = Not Measured

NORTH

HYDRO GEO CHEM, INC.

GROUNDWATER ELEVATIONS FOR AUGUST 2010

Approved	Date	Author	Date	File Name	Figure
CJ	05/19/11	AMC	05/19/11	201003209G	E.8



Explanation

- Extraction Well
- Production Well
- Monitor Well
- Groundwater Contour in Ft (amsl)

0 250 500 Feet

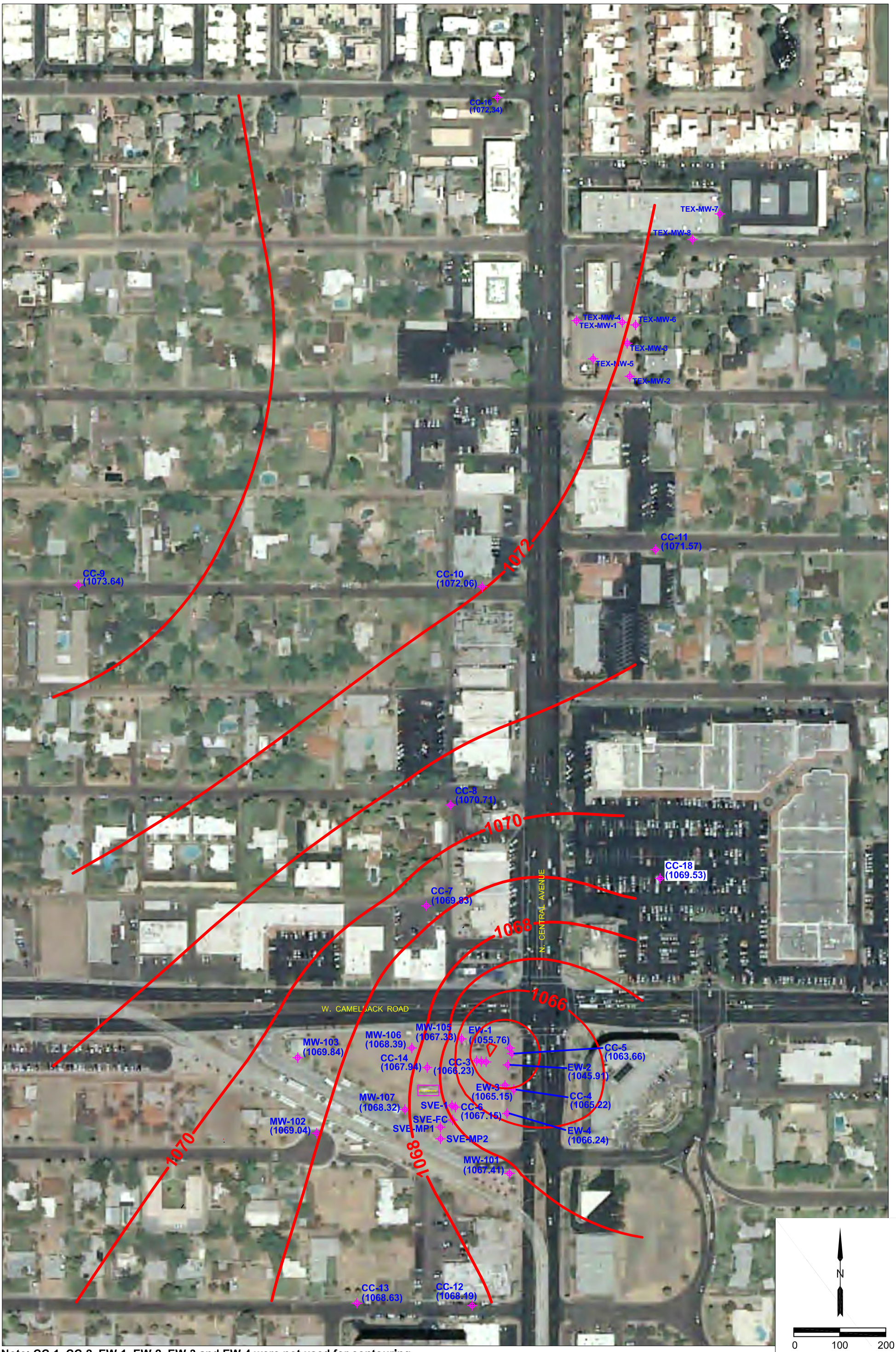
MW-102 Well ID
1069.04 Groundwater Elevation in Ft (amsl)
NM = Not Measured

NORTH

HYDRO GEO CHEM, INC.

GROUNDWATER ELEVATIONS FOR DECEMBER 2010

Approved	Date	Author	Date	File Name	Figure
CJ	05/19/11	AMC	05/19/11	2010032013G	E.9



Note: CC-1, CC-2, EW-1, EW-2, EW-3 and EW-4 were not used for contouring.

LEGEND

EW-4 (1066.24) — Identification and Approximate Location of Monitoring Well Groundwater Elevation in Feet Above Mean Sea Level (amsl)

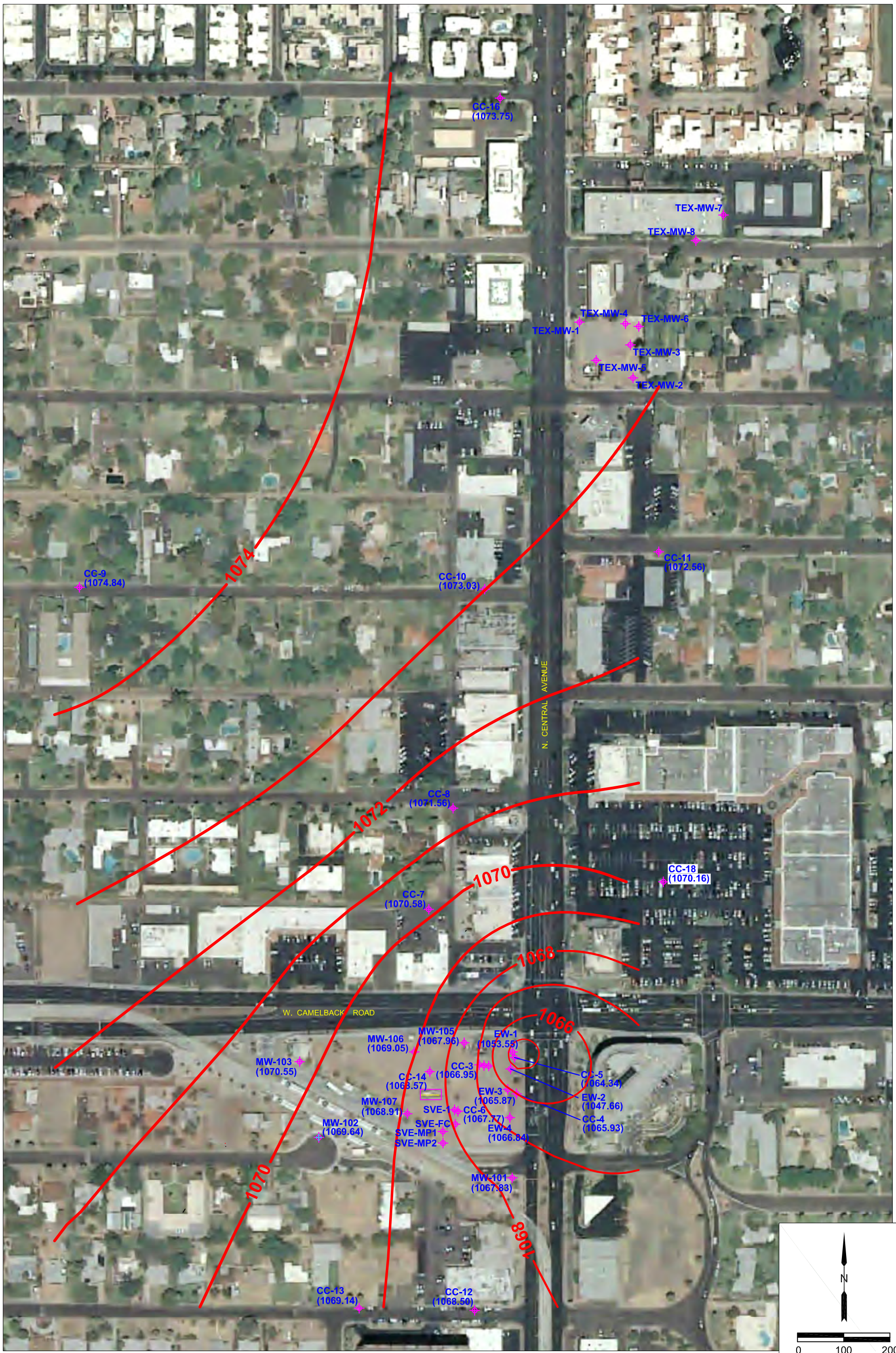
Groundwater Contour in Feet (amsl)

Well measurements taken on July 28, 2011.

HYDRO GEO CHEM, INC.

GROUNDWATER ELEVATIONS FOR JULY 2011
CENTRAL AND CAMELBACK WQARF SITE

Approved	Date	Author	Date	File Name	Figure
CLJ	1/31/12	JAA	1/31/12	2010032007B	E.10



Note: CC-1, CC-2, EW-1, EW-2, EW-3 and EW-4 were not used for contouring.

LEGEND

EW-4 (1066.84) — Identification and Approximate Location of Monitoring Well Groundwater Elevation in Feet Above Mean Sea Level (amsl)

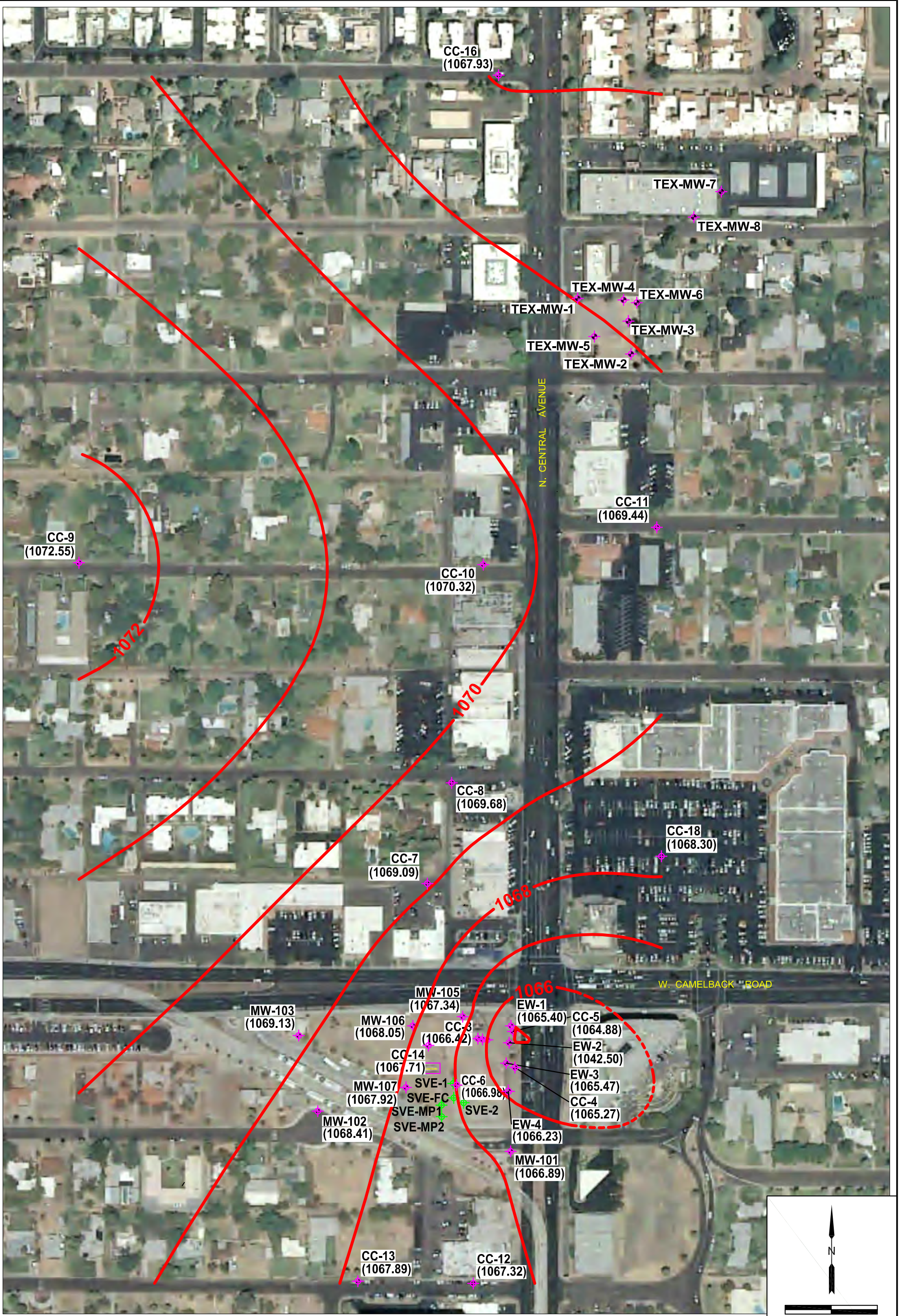
Groundwater Contour in Feet (amsl)

Well measurements taken on December 20, 2011.

HYDRO GEO CHEM, INC.

GROUNDWATER ELEVATIONS FOR DECEMBER 2011
CENTRAL AND CAMELBACK WQARF SITE

Approved	Date	Author	Date	File Name	Figure
CLJ	1/31/12	JAA	1/31/12	2010032016B	E.11



Note: CC-1, CC-2, EW-1, EW-2, EW-3 and EW-4 were not used for contouring.

LEGEND

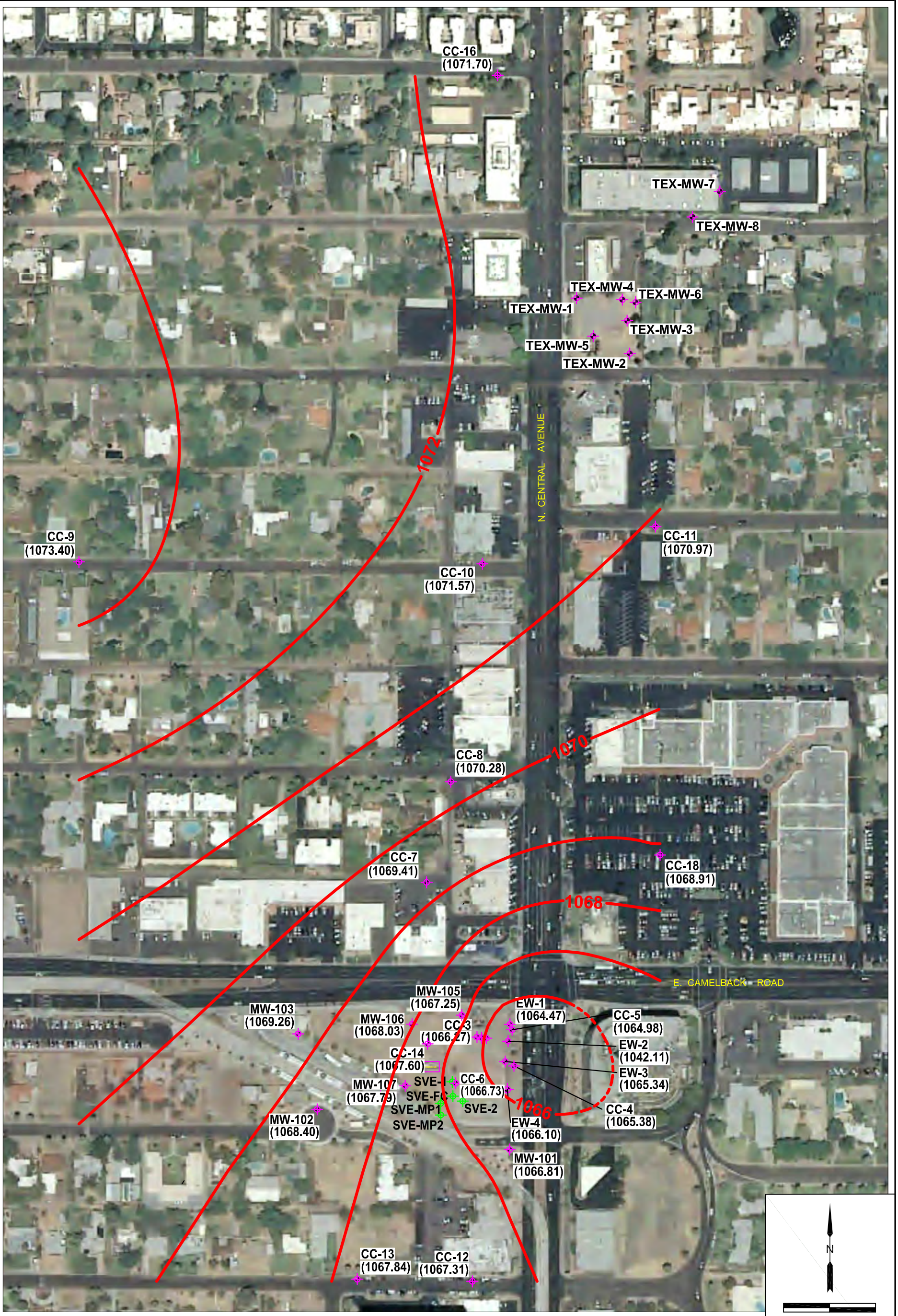
MW-101 (1066.89)	Identification and Approximate Location of Monitoring Well Groundwater Elevation in Feet Above Mean Sea Level (amsl)
SVE-1	Identification and Approximate Location of Soil Vapor Extraction Well
	Groundwater Contour in Feet (amsl) (dashed where inferred)

Well measurements taken on July 31, 2012.
EW-2 pumping at time of well measurement.

HYDRO GEO CHEM, INC.

GROUNDWATER ELEVATIONS FOR JULY 2012
CENTRAL AND CAMELBACK WQARF SITE

Approved	Date	Author	Date	File Name	Figure
CLJ	8/31/12	JAA	8/31/12	2010032030A	E.12



Note: CC-1, CC-2, EW-1, EW-2, EW-3 and EW-4 were not used for contouring.

LEGEND

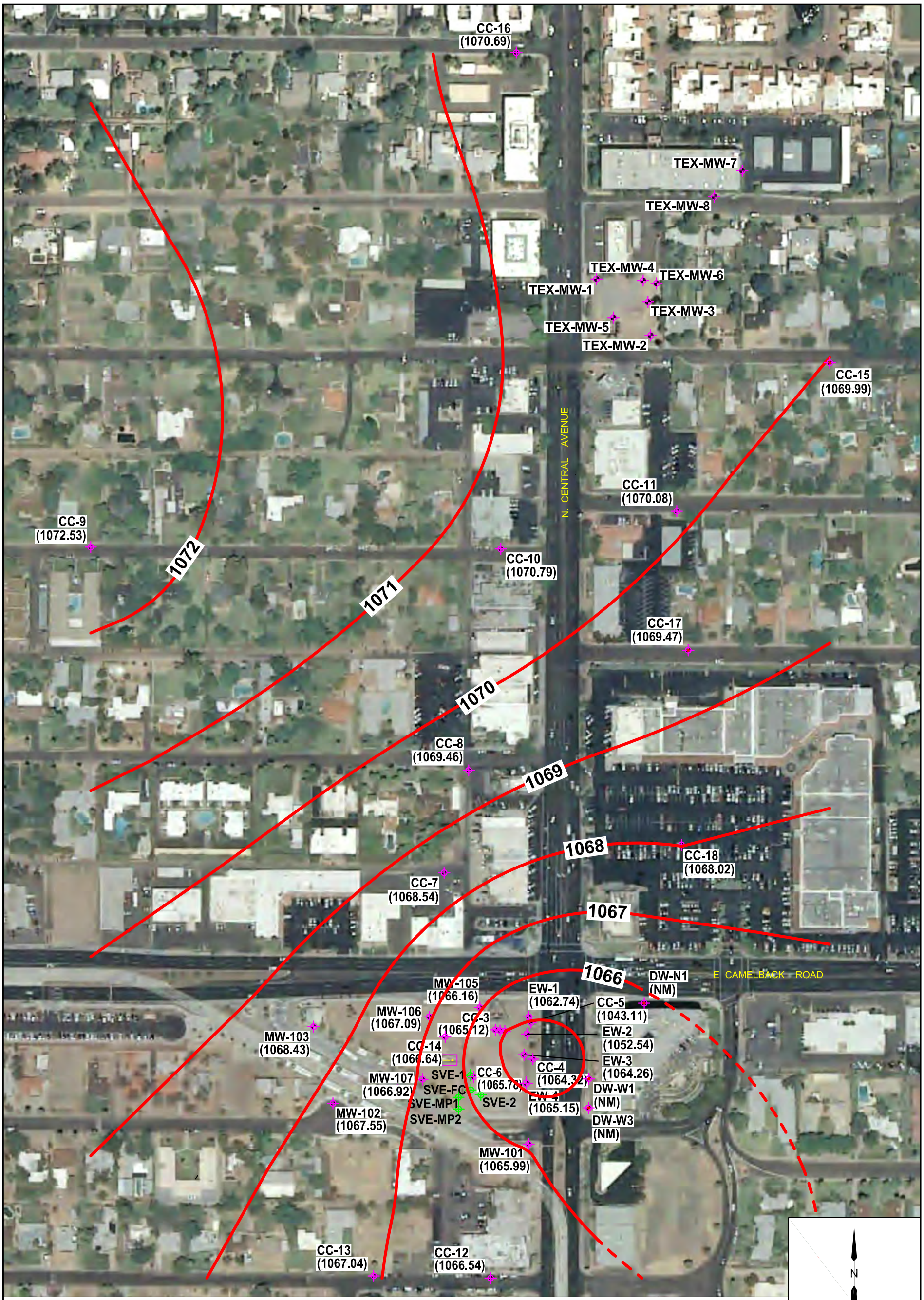
MW-101 (1066.81)	Identification and Approximate Location of Monitoring Well Groundwater Elevation in Feet Above Mean Sea Level (amsl)
SVE-1	Identification and Approximate Location of Soil Vapor Extraction Well
	Groundwater Contour in Feet (amsl) (dashed where inferred)

Well measurements taken on December 28, 2012.
EW-2 pumping at time of well measurement.

HYDRO GEO CHEM, INC.

GROUNDWATER ELEVATIONS FOR DECEMBER 2012
CENTRAL AND CAMELBACK WQARF SITE

Approved	Date	Author	Date	File Name	Figure
CLJ	1/14/13	JAA	1/14/13	2010032040A	E.13



Note: CC-1, CC-2, CC-5, EW-1, EW-2, EW-3 and EW-4 were not used for contouring.

LEGEND

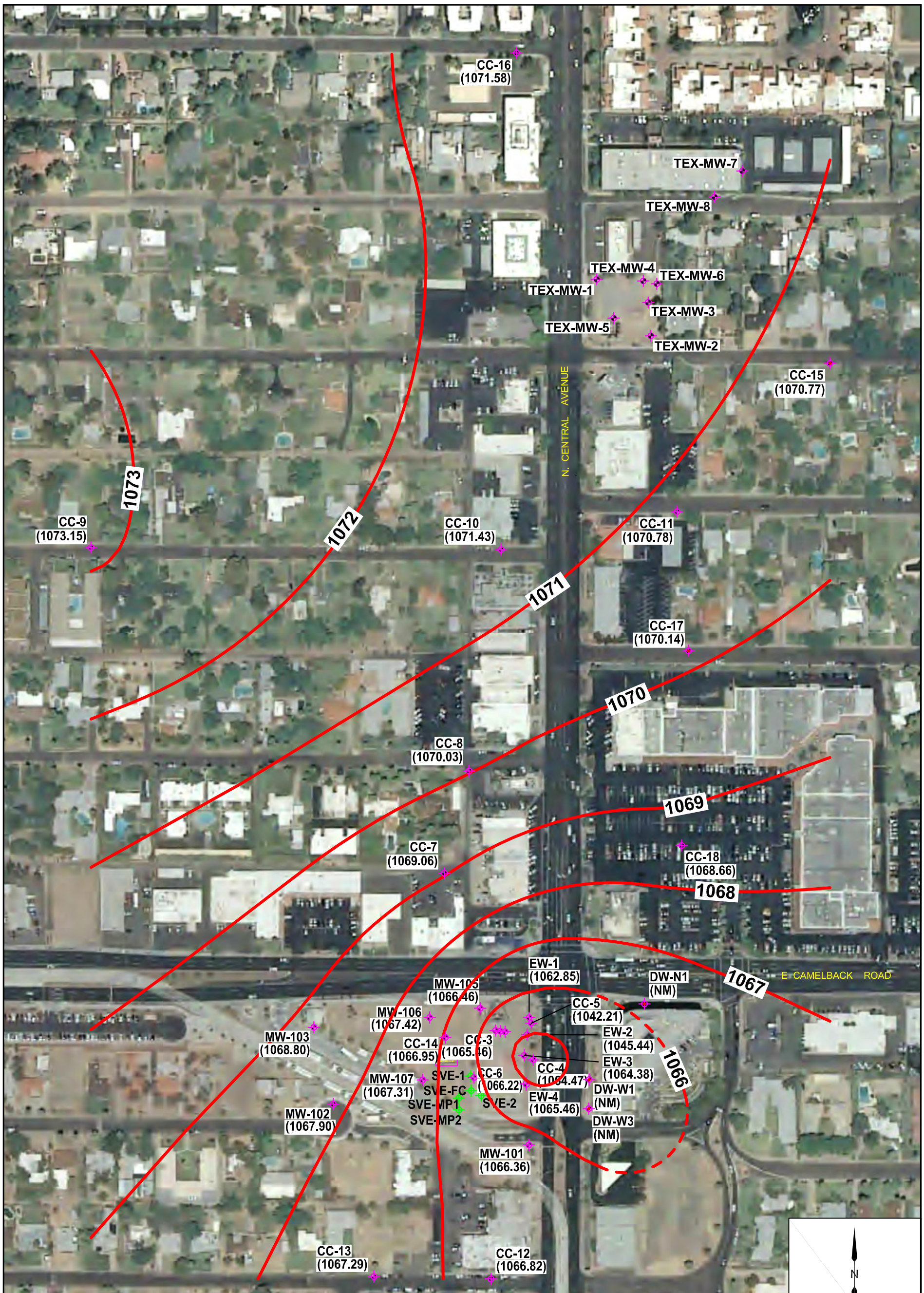
MW-101 (1065.99)	Identification and Approximate Location of Monitoring Well Groundwater Elevation in Feet Above Mean Sea Level (amsl)
SVE-1	Identification and Approximate Location of Soil Vapor Extraction Well
	Groundwater Contour in Feet (amsl)
(NM)	Not Measured

Well measurements taken on July 27, 2013.
EW-2 and CC-5 pumping at time of well measurement.

HYDRO GEO CHEM, INC.

GROUNDWATER ELEVATIONS FOR JULY 2013
CENTRAL AND CAMELBACK WQARF SITE

Approved	Date	Author	Date	File Name	Figure
SPS	8/30/13	JAA	8/30/13	2010032062A	E.14



Note: CC-1, CC-2, CC-5, EW-1, EW-2, EW-3 and EW-4 were not used for contouring.

LEGEND

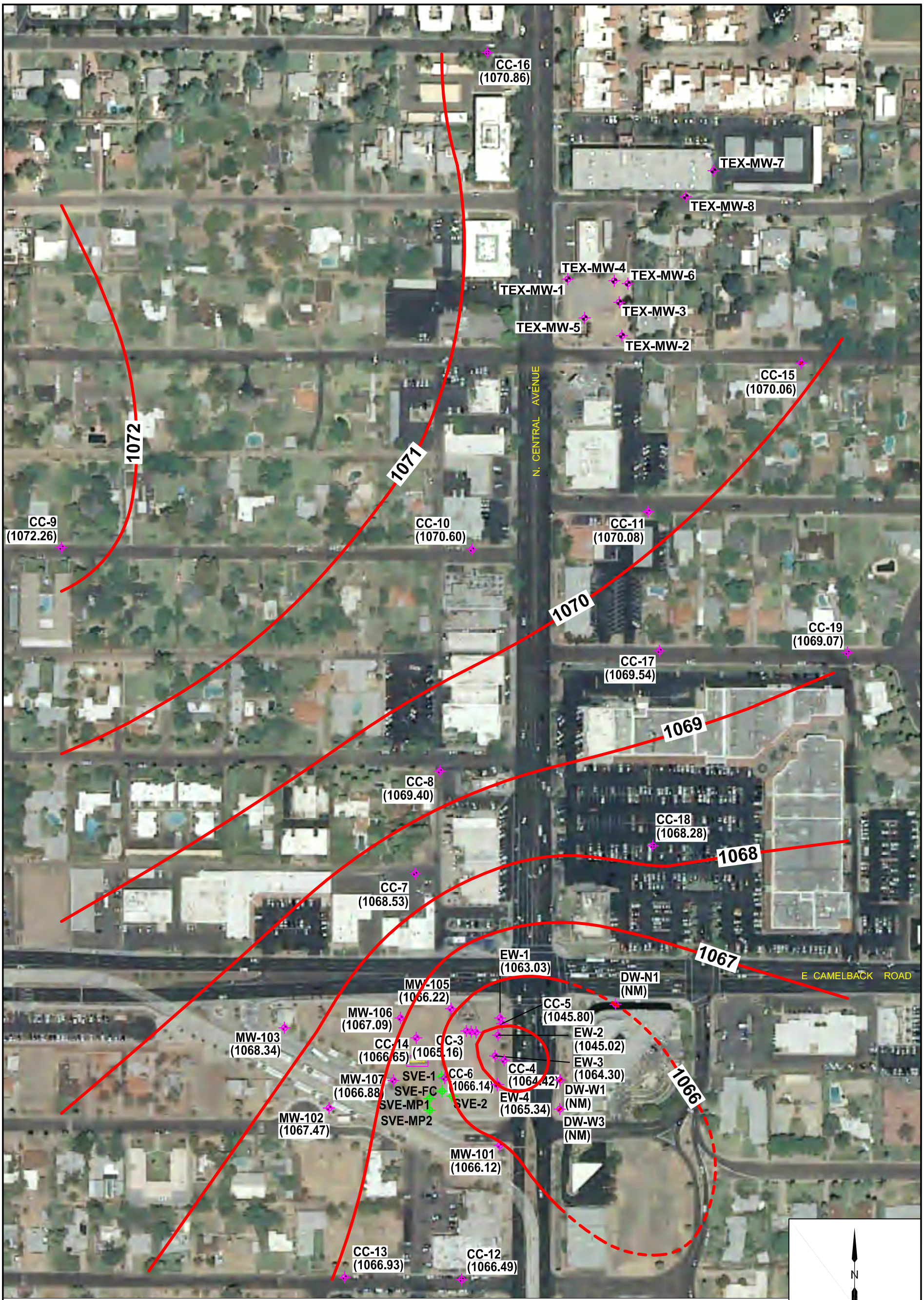
MW-101 (1066.36)	Identification and Approximate Location of Monitoring Well Groundwater Elevation in Feet Above Mean Sea Level (amsl)
SVE-1	Identification and Approximate Location of Soil Vapor Extraction Well
	Groundwater Contour in Feet (amsl)
(NM)	Not Measured

Well measurements taken December 26, 2013.
EW-2 and CC-5 pumping at time of well measurement.

HYDRO GEO CHEM, INC.

GROUNDWATER ELEVATIONS FOR DECEMBER 2013
CENTRAL AND CAMELBACK WQARF SITE

Approved	Date	Author	Date	File Name	Figure
FJS	1/15/14	JAA	1/15/14	2010032074A	E.15



Note: CC-1, CC-2, CC-5, EW-1, EW-2, EW-3 and EW-4 were not used for contouring.

LEGEND

MW-101 (1066.12)	Identification and Approximate Location of Monitoring Well Groundwater Elevation in Feet Above Mean Sea Level (amsl)
SVE-1	Identification and Approximate Location of Soil Vapor Extraction Well
	Groundwater Contour in Feet (amsl)
(NM)	Not Measured

Well measurements taken February 22 and 23, 2014.
EW-2 and CC-5 pumping at time of well measurement.

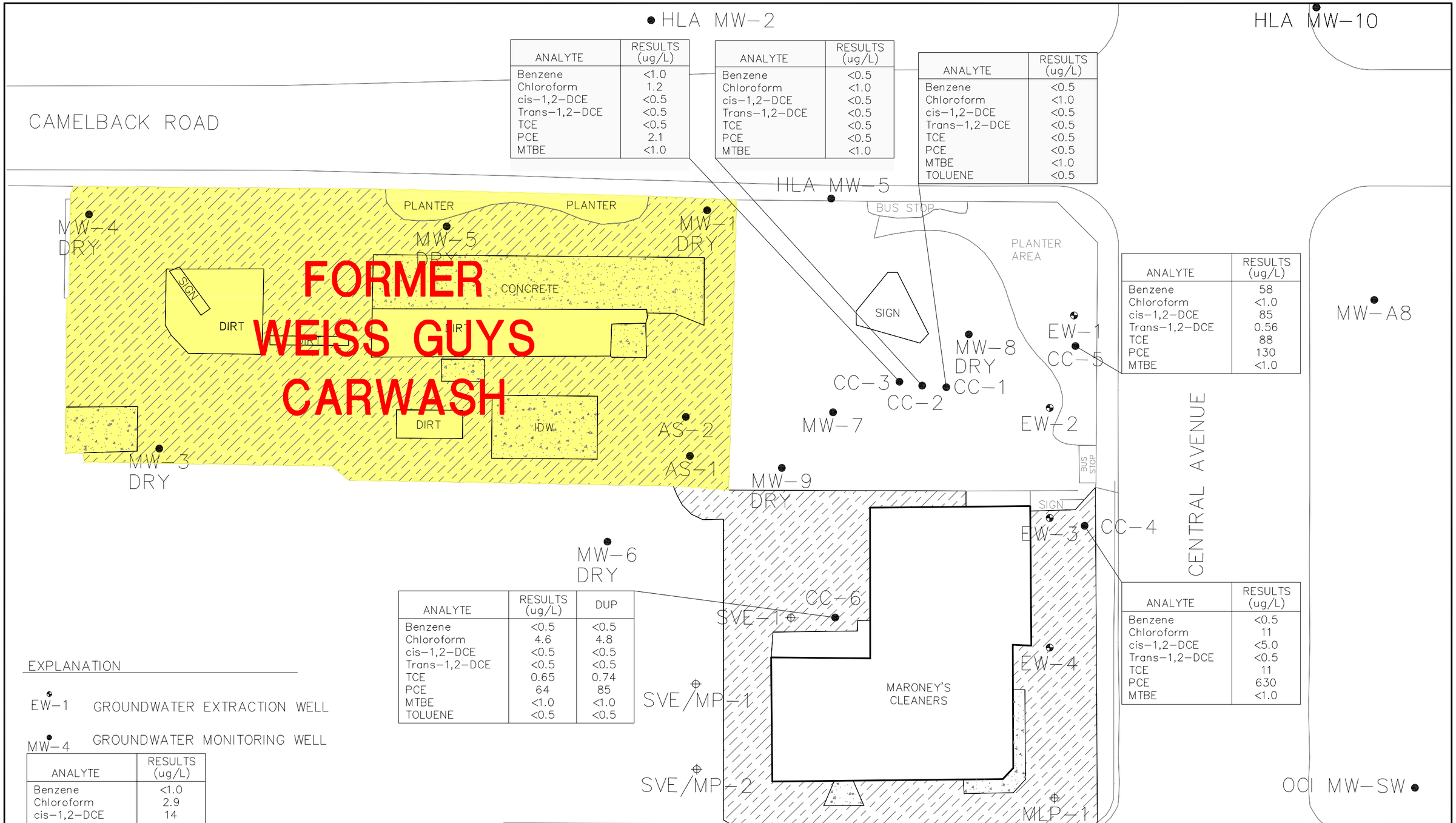
HYDRO GEO CHEM, INC.

GROUNDWATER ELEVATIONS FOR FEBRUARY 2014
CENTRAL AND CAMELBACK WQARF SITE

Approved	Date	Author	Date	File Name	Figure
FJS	3/5/14	JAA	3/5/14	2010032077A	E.16

APPENDIX F

SELECTED PCE PLUME MAPS



ANALYTE	RESULTS (ug/L)
Benzene	<1.0
Chloroform	1.2
cis-1,2-DCE	<0.5
Trans-1,2-DCE	<0.5
TCE	<0.5
PCE	2.1
MTBE	<1.0

ANALYTE	RESULTS (ug/L)
Benzene	<0.5
Chloroform	<1.0
cis-1,2-DCE	<0.5
Trans-1,2-DCE	<0.5
TCE	<0.5
PCE	<0.5
MTBE	<1.0

ANALYTE	RESULTS (ug/L)
Benzene	<0.5
Chloroform	<1.0
cis-1,2-DCE	<0.5
Trans-1,2-DCE	<0.5
TCE	<0.5
PCE	<0.5
MTBE	<1.0
TOLUENE	<0.5

ANALYTE	RESULTS (ug/L)
Benzene	58
Chloroform	<1.0
cis-1,2-DCE	85
Trans-1,2-DCE	0.56
TCE	88
PCE	130
MTBE	<1.0

ANALYTE	RESULTS (ug/L)	DUP
Benzene	<0.5	<0.5
Chloroform	4.6	4.8
cis-1,2-DCE	<0.5	<0.5
Trans-1,2-DCE	<0.5	<0.5
TCE	0.65	0.74
PCE	64	85
MTBE	<1.0	<1.0
TOLUENE	<0.5	<0.5

ANALYTE	RESULTS (ug/L)
Benzene	<0.5
Chloroform	11
cis-1,2-DCE	<5.0
Trans-1,2-DCE	<0.5
TCE	11
PCE	630
MTBE	<1.0

EXPLANATION

EW-1 GROUNDWATER EXTRACTION WELL

MW-4 GROUNDWATER MONITORING WELL

ANALYTE	RESULTS (ug/L)
Benzene	<1.0
Chloroform	2.9
cis-1,2-DCE	14
Trans-1,2-DCE	<0.5
TCE	2.4
PCE	50
MTBE	2.3

(ug/L) RESULTS IN MICROGRAMS/LITER

SAMPLES COLLECTED APRIL, 2004

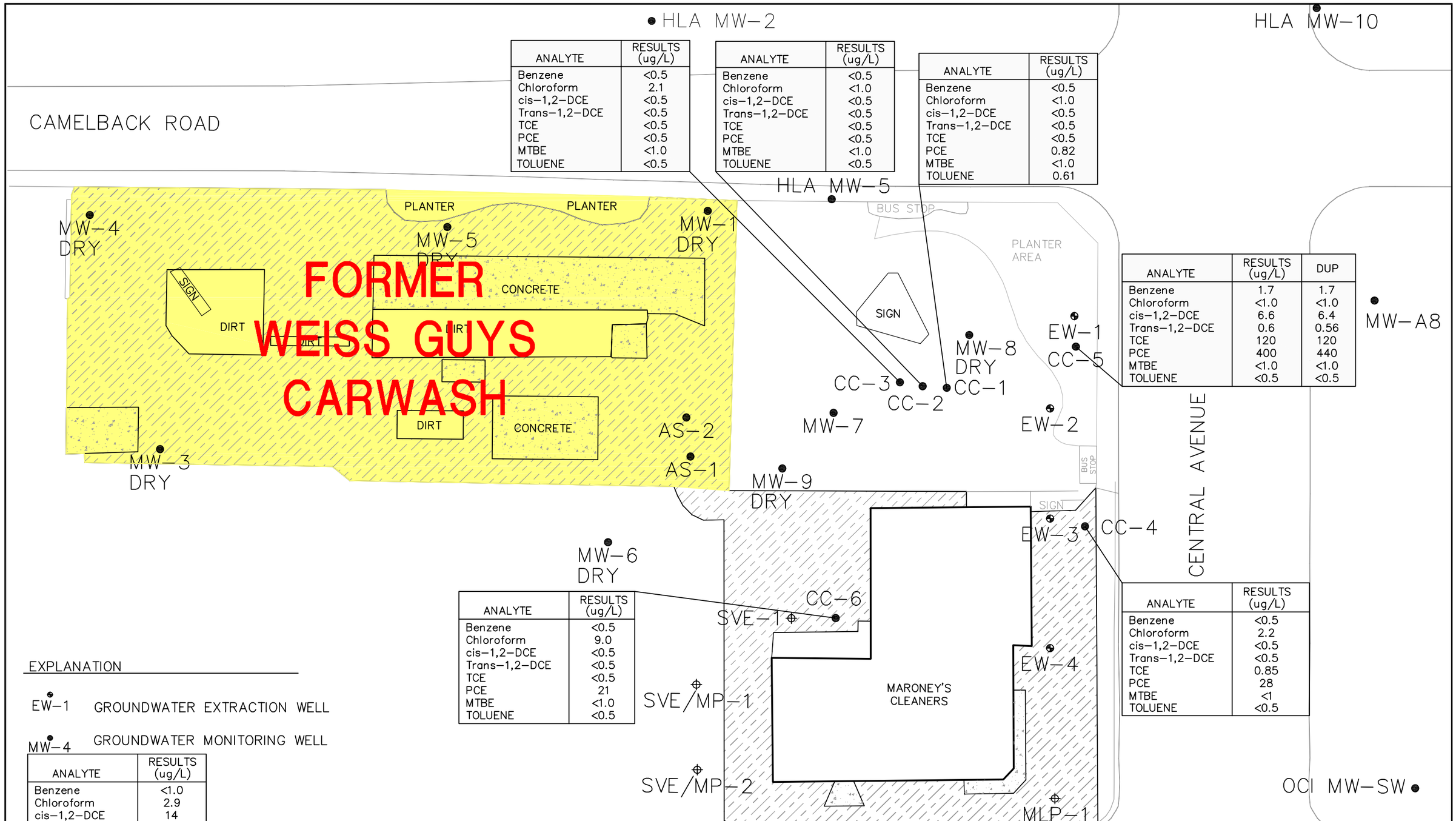
SOURCE: WESTON FIG 4-4

HYDRO GEO CHEM, INC.

MAP OF GROUNDWATER SAMPLING RESULTS
2nd QUARTER 2004

Approved	Date	Revised	Date	Reference:	FIG.
RP	12/10/04			8150019A	F.1

K:\815000\8150019A.dwg (cariet) FIGURE 6 10Dec2004 - 3:18 PM



ANALYTE	RESULTS (ug/L)
Benzene	<0.5
Chloroform	2.1
cis-1,2-DCE	<0.5
Trans-1,2-DCE	<0.5
TCE	<0.5
PCE	<0.5
MTBE	<1.0
TOLUENE	<0.5

ANALYTE	RESULTS (ug/L)
Benzene	<0.5
Chloroform	<1.0
cis-1,2-DCE	<0.5
Trans-1,2-DCE	<0.5
TCE	<0.5
PCE	<0.5
MTBE	<1.0
TOLUENE	<0.5

ANALYTE	RESULTS (ug/L)
Benzene	<0.5
Chloroform	<1.0
cis-1,2-DCE	<0.5
Trans-1,2-DCE	<0.5
TCE	<0.5
PCE	0.82
MTBE	<1.0
TOLUENE	0.61

ANALYTE	RESULTS (ug/L)	DUP
Benzene	1.7	1.7
Chloroform	<1.0	<1.0
cis-1,2-DCE	6.6	6.4
Trans-1,2-DCE	0.6	0.56
TCE	120	120
PCE	400	440
MTBE	<1.0	<1.0
TOLUENE	<0.5	<0.5

ANALYTE	RESULTS (ug/L)
Benzene	<0.5
Chloroform	2.2
cis-1,2-DCE	<0.5
Trans-1,2-DCE	<0.5
TCE	0.85
PCE	28
MTBE	<1
TOLUENE	<0.5

ANALYTE	RESULTS (ug/L)
Benzene	<0.5
Chloroform	9.0
cis-1,2-DCE	<0.5
Trans-1,2-DCE	<0.5
TCE	<0.5
PCE	21
MTBE	<1.0
TOLUENE	<0.5

EXPLANATION

EW-1 GROUNDWATER EXTRACTION WELL

MW-4 GROUNDWATER MONITORING WELL

ANALYTE	RESULTS (ug/L)
Benzene	<1.0
Chloroform	2.9
cis-1,2-DCE	14
Trans-1,2-DCE	<0.5
TCE	2.4
PCE	50
MTBE	2.3

(ug/L) RESULTS IN MICROGRAMS/LITER

SAMPLES COLLECTED DECEMBER 13-14, 2004

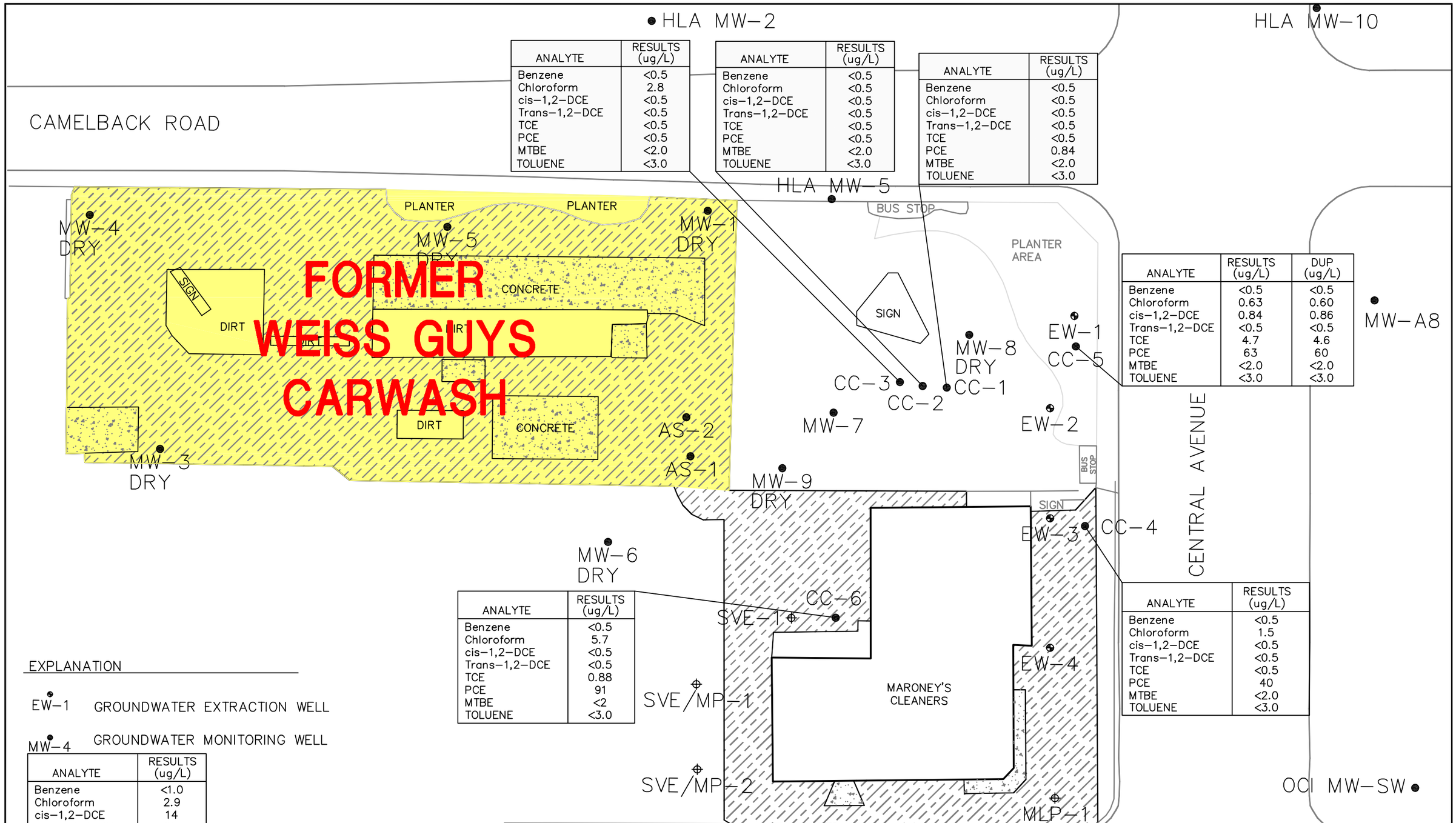
BASE MAP SOURCE: WESTON FIG 4-4

HYDRO GEO CHEM, INC.

MAP OF GROUNDWATER SAMPLING RESULTS
2nd QUARTER 2005

Approved	Date	Revised	Date	Reference:	FIG.
RP	6/21/05			8150039A	F.2

K:\815000\8150039A.dwg (alvinr) FIGURE 6 22Jun2005 - 3:16 PM



ANALYTE	RESULTS (ug/L)
Benzene	<0.5
Chloroform	2.8
cis-1,2-DCE	<0.5
Trans-1,2-DCE	<0.5
TCE	<0.5
PCE	<0.5
MTBE	<2.0
TOLUENE	<3.0

ANALYTE	RESULTS (ug/L)
Benzene	<0.5
Chloroform	<0.5
cis-1,2-DCE	<0.5
Trans-1,2-DCE	<0.5
TCE	<0.5
PCE	<0.5
MTBE	<2.0
TOLUENE	<3.0

ANALYTE	RESULTS (ug/L)
Benzene	<0.5
Chloroform	<0.5
cis-1,2-DCE	<0.5
Trans-1,2-DCE	<0.5
TCE	<0.5
PCE	0.84
MTBE	<2.0
TOLUENE	<3.0

ANALYTE	RESULTS (ug/L)	DUP (ug/L)
Benzene	<0.5	<0.5
Chloroform	0.63	0.60
cis-1,2-DCE	0.84	0.86
Trans-1,2-DCE	<0.5	<0.5
TCE	4.7	4.6
PCE	63	60
MTBE	<2.0	<2.0
TOLUENE	<3.0	<3.0

ANALYTE	RESULTS (ug/L)
Benzene	<0.5
Chloroform	1.5
cis-1,2-DCE	<0.5
Trans-1,2-DCE	<0.5
TCE	<0.5
PCE	40
MTBE	<2.0
TOLUENE	<3.0

ANALYTE	RESULTS (ug/L)
Benzene	<0.5
Chloroform	5.7
cis-1,2-DCE	<0.5
Trans-1,2-DCE	<0.5
TCE	0.88
PCE	91
MTBE	<2
TOLUENE	<3.0

EXPLANATION

EW-1 GROUNDWATER EXTRACTION WELL

MW-4 GROUNDWATER MONITORING WELL

ANALYTE	RESULTS (ug/L)
Benzene	<1.0
Chloroform	2.9
cis-1,2-DCE	14
Trans-1,2-DCE	<0.5
TCE	2.4
PCE	50
MTBE	2.3

(ug/L) RESULTS IN MICROGRAMS/LITER

SAMPLES COLLECTED DECEMBER 12 & 13, 2005

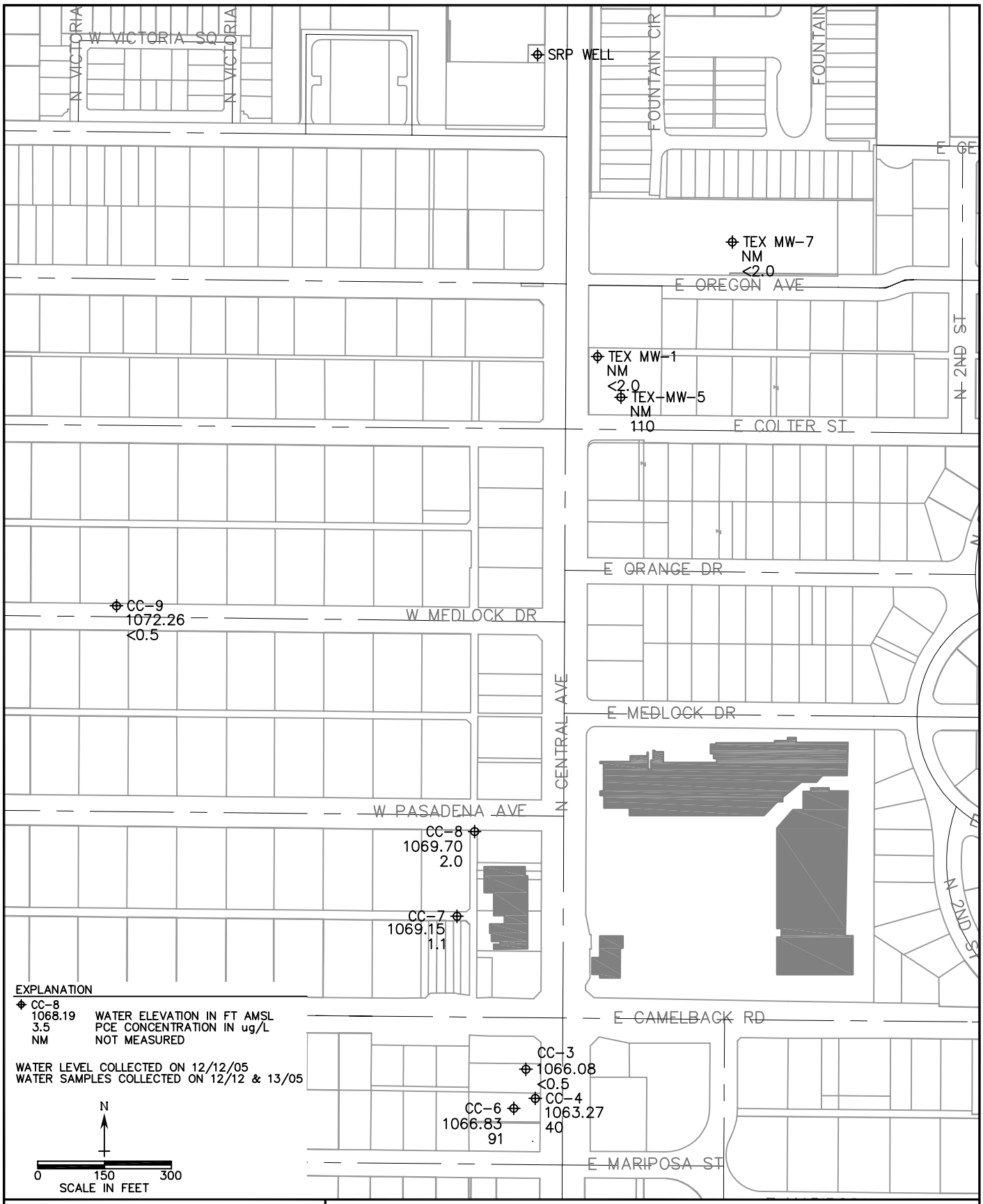
BASE MAP SOURCE: WESTON FIG 4-4

HYDRO GEO CHEM, INC.

MAP OF ON-SITE GROUNDWATER SAMPLING RESULTS FOURTH QUARTER 2005

Approved	Date	Revised	Date	Reference:	FIG.
RP	1/25/06			8150061A	F.3

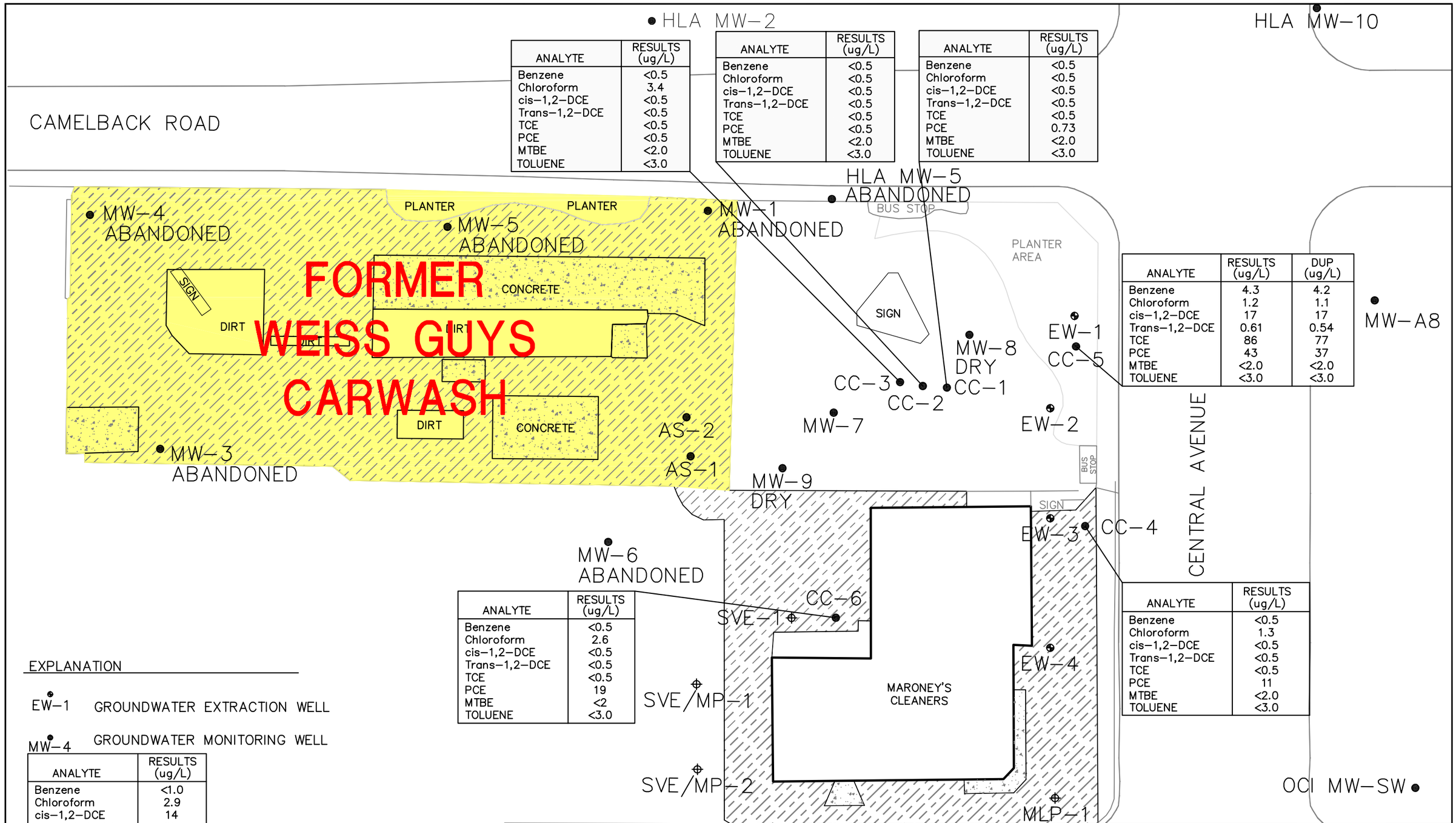
K:\815000\8150061A.dwg (alvinr) FIGURE 7 25Jan2006 - 3:35 PM



HYDRO GEO CHEM, INC.

WATER LEVELS AND PCE CONCENTRATIONS IN SHALLOW AQUIFER CENTRAL AND CAMELBACK WQARF SITE

Approved	Date	Revised	Date	Reference:	FIG.
RP	1/25/06			8150060A	F.4



ANALYTE	RESULTS (ug/L)
Benzene	<0.5
Chloroform	3.4
cis-1,2-DCE	<0.5
Trans-1,2-DCE	<0.5
TCE	<0.5
PCE	<0.5
MTBE	<2.0
TOLUENE	<3.0

ANALYTE	RESULTS (ug/L)
Benzene	<0.5
Chloroform	<0.5
cis-1,2-DCE	<0.5
Trans-1,2-DCE	<0.5
TCE	<0.5
PCE	<0.5
MTBE	<2.0
TOLUENE	<3.0

ANALYTE	RESULTS (ug/L)
Benzene	<0.5
Chloroform	<0.5
cis-1,2-DCE	<0.5
Trans-1,2-DCE	<0.5
TCE	<0.5
PCE	0.73
MTBE	<2.0
TOLUENE	<3.0

ANALYTE	RESULTS (ug/L)	DUP (ug/L)
Benzene	4.3	4.2
Chloroform	1.2	1.1
cis-1,2-DCE	17	17
Trans-1,2-DCE	0.61	0.54
TCE	86	77
PCE	43	37
MTBE	<2.0	<2.0
TOLUENE	<3.0	<3.0

ANALYTE	RESULTS (ug/L)
Benzene	<0.5
Chloroform	1.3
cis-1,2-DCE	<0.5
Trans-1,2-DCE	<0.5
TCE	<0.5
PCE	11
MTBE	<2.0
TOLUENE	<3.0

ANALYTE	RESULTS (ug/L)
Benzene	<0.5
Chloroform	2.6
cis-1,2-DCE	<0.5
Trans-1,2-DCE	<0.5
TCE	<0.5
PCE	19
MTBE	<2
TOLUENE	<3.0

EXPLANATION

EW-1 GROUNDWATER EXTRACTION WELL

MW-4 GROUNDWATER MONITORING WELL

ANALYTE	RESULTS (ug/L)
Benzene	<1.0
Chloroform	2.9
cis-1,2-DCE	14
Trans-1,2-DCE	<0.5
TCE	2.4
PCE	50
MTBE	2.3

(ug/L) RESULTS IN MICROGRAMS/LITER

SAMPLES COLLECTED JUNE 27 AND 28, 2006

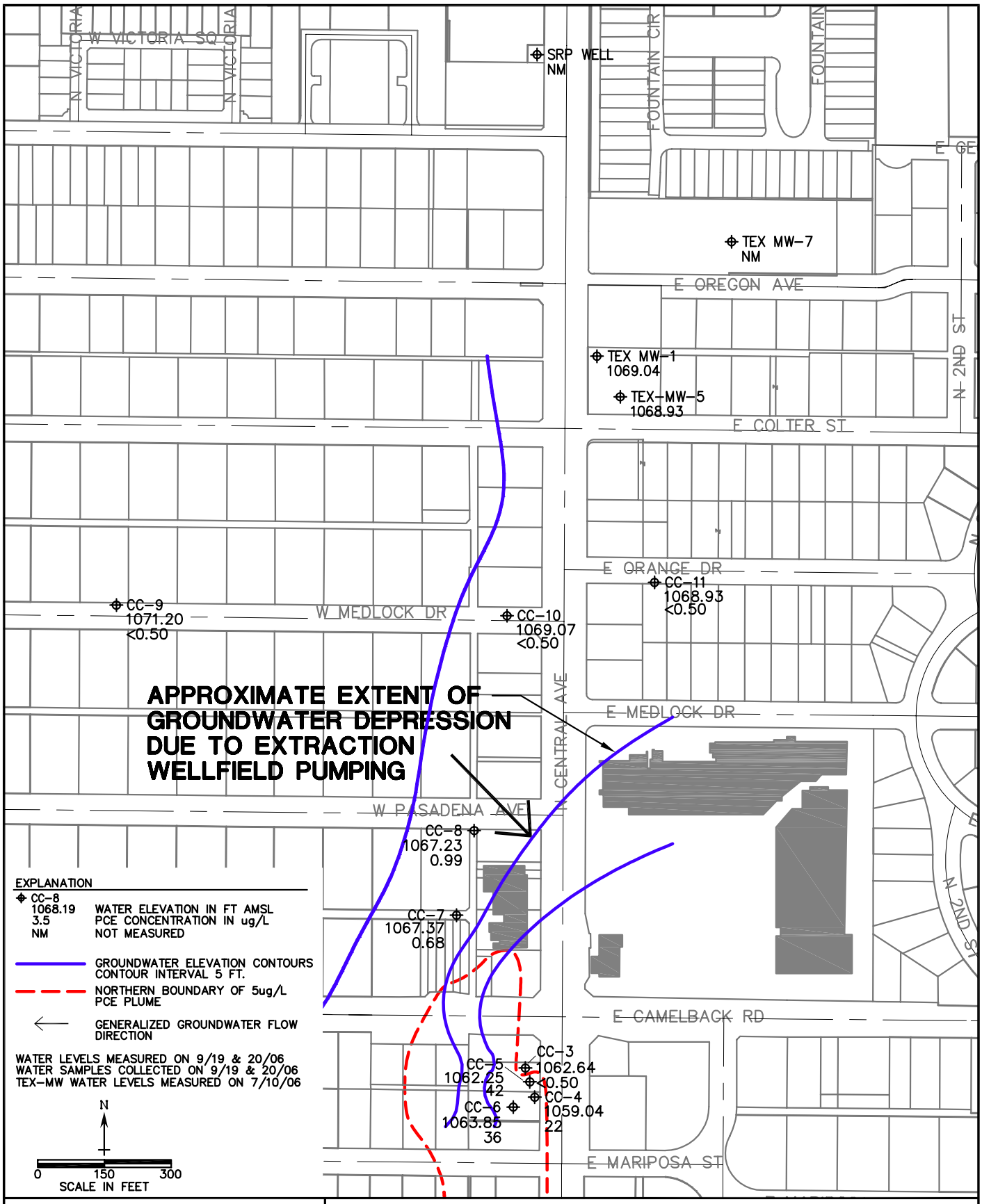
BASE MAP SOURCE: WESTON FIG 4-4

HYDRO GEO CHEM, INC.

MAP OF ON-SITE GROUNDWATER SAMPLING RESULTS SECOND QUARTER 2006

Approved	Date	Revised	Date	Reference:	FIG.
RP	7/17/06			8150078A	F.5

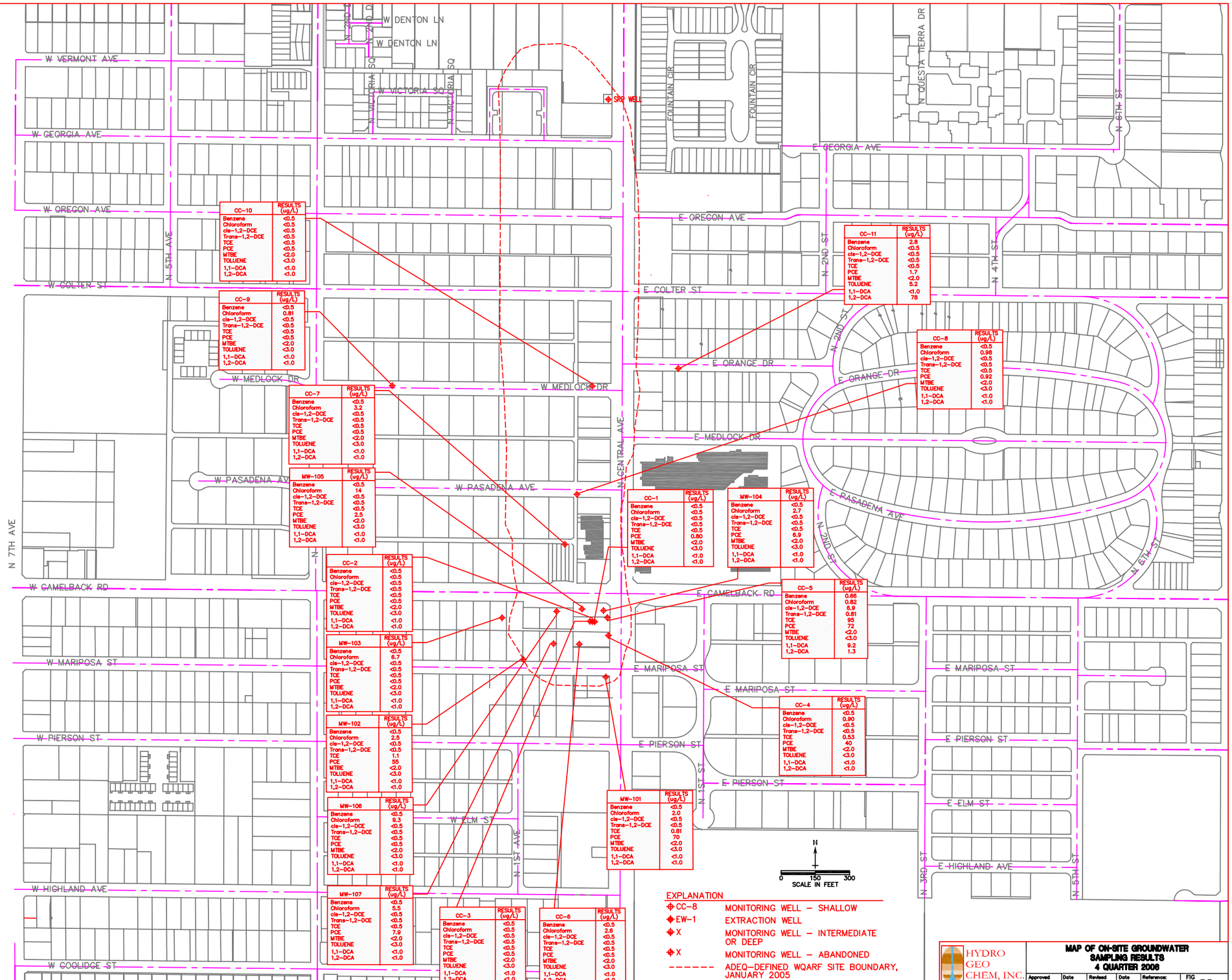
K:\815000\8150078A.dwg (alvinr) FIGURE 7 17Jul2006 - 10:22 AM



HYDRO GEO CHEM, INC.

WATER LEVELS AND PCE CONCENTRATIONS IN SHALLOW AQUIFER CENTRAL AND CAMELBACK WQARF SITE

Approved	Date	Revised	Date	Reference:	FIG.
AE	11/01/06			8150089A	F.6



CC-10	RESULTS (ug/L)
Benzene	<0.5
Chloroform	<0.5
cis-1,2-DCE	<0.5
Trans-1,2-DCE	<0.5
TCE	<0.5
PCE	<0.5
MTBE	<2.0
TOLUENE	<3.0
1,1-DCA	<1.0
1,2-DCA	<1.0

CC-9	RESULTS (ug/L)
Benzene	<0.5
Chloroform	0.81
cis-1,2-DCE	<0.5
Trans-1,2-DCE	<0.5
TCE	<0.5
PCE	<0.5
MTBE	<2.0
TOLUENE	<3.0
1,1-DCA	<1.0
1,2-DCA	<1.0

CC-7	RESULTS (ug/L)
Benzene	<0.5
Chloroform	3.2
cis-1,2-DCE	<0.5
Trans-1,2-DCE	<0.5
TCE	<0.5
PCE	<0.5
MTBE	<2.0
TOLUENE	<3.0
1,1-DCA	<1.0
1,2-DCA	<1.0

MW-105	RESULTS (ug/L)
Benzene	<0.5
Chloroform	14
cis-1,2-DCE	<0.5
Trans-1,2-DCE	<0.5
TCE	<0.5
PCE	2.5
MTBE	<2.0
TOLUENE	<3.0
1,1-DCA	<1.0
1,2-DCA	<1.0

CC-2	RESULTS (ug/L)
Benzene	<0.5
Chloroform	<0.5
cis-1,2-DCE	<0.5
Trans-1,2-DCE	<0.5
TCE	<0.5
PCE	<0.5
MTBE	<2.0
TOLUENE	<3.0
1,1-DCA	<1.0
1,2-DCA	<1.0

MW-103	RESULTS (ug/L)
Benzene	<0.5
Chloroform	6.7
cis-1,2-DCE	<0.5
Trans-1,2-DCE	<0.5
TCE	<0.5
PCE	<0.5
MTBE	<2.0
TOLUENE	<3.0
1,1-DCA	<1.0
1,2-DCA	<1.0

MW-102	RESULTS (ug/L)
Benzene	<0.5
Chloroform	2.5
cis-1,2-DCE	<0.5
Trans-1,2-DCE	<0.5
TCE	1.1
PCE	55
MTBE	<2.0
TOLUENE	<3.0
1,1-DCA	<1.0
1,2-DCA	<1.0

MW-106	RESULTS (ug/L)
Benzene	<0.5
Chloroform	9.3
cis-1,2-DCE	<0.5
Trans-1,2-DCE	<0.5
TCE	<0.5
PCE	<0.5
MTBE	<2.0
TOLUENE	<3.0
1,1-DCA	<1.0
1,2-DCA	<1.0

MW-107	RESULTS (ug/L)
Benzene	<0.5
Chloroform	5.5
cis-1,2-DCE	<0.5
Trans-1,2-DCE	<0.5
TCE	<0.5
PCE	7.9
MTBE	<2.0
TOLUENE	<3.0
1,1-DCA	<1.0
1,2-DCA	<1.0

CC-3	RESULTS (ug/L)
Benzene	<0.5
Chloroform	<0.5
cis-1,2-DCE	<0.5
Trans-1,2-DCE	<0.5
TCE	<0.5
PCE	<0.5
MTBE	<2.0
TOLUENE	<3.0
1,1-DCA	<1.0
1,2-DCA	<1.0

CC-6	RESULTS (ug/L)
Benzene	<0.5
Chloroform	2.6
cis-1,2-DCE	<0.5
Trans-1,2-DCE	<0.5
TCE	<0.5
PCE	<0.5
MTBE	<2.0
TOLUENE	<3.0
1,1-DCA	<1.0
1,2-DCA	<1.0

CC-11	RESULTS (ug/L)
Benzene	2.8
Chloroform	<0.5
cis-1,2-DCE	<0.5
Trans-1,2-DCE	<0.5
TCE	<0.5
PCE	1.7
MTBE	<2.0
TOLUENE	5.2
1,1-DCA	<1.0
1,2-DCA	78

CC-8	RESULTS (ug/L)
Benzene	<0.5
Chloroform	0.98
cis-1,2-DCE	<0.5
Trans-1,2-DCE	<0.5
TCE	<0.5
PCE	0.92
MTBE	<2.0
TOLUENE	<3.0
1,1-DCA	<1.0
1,2-DCA	<1.0

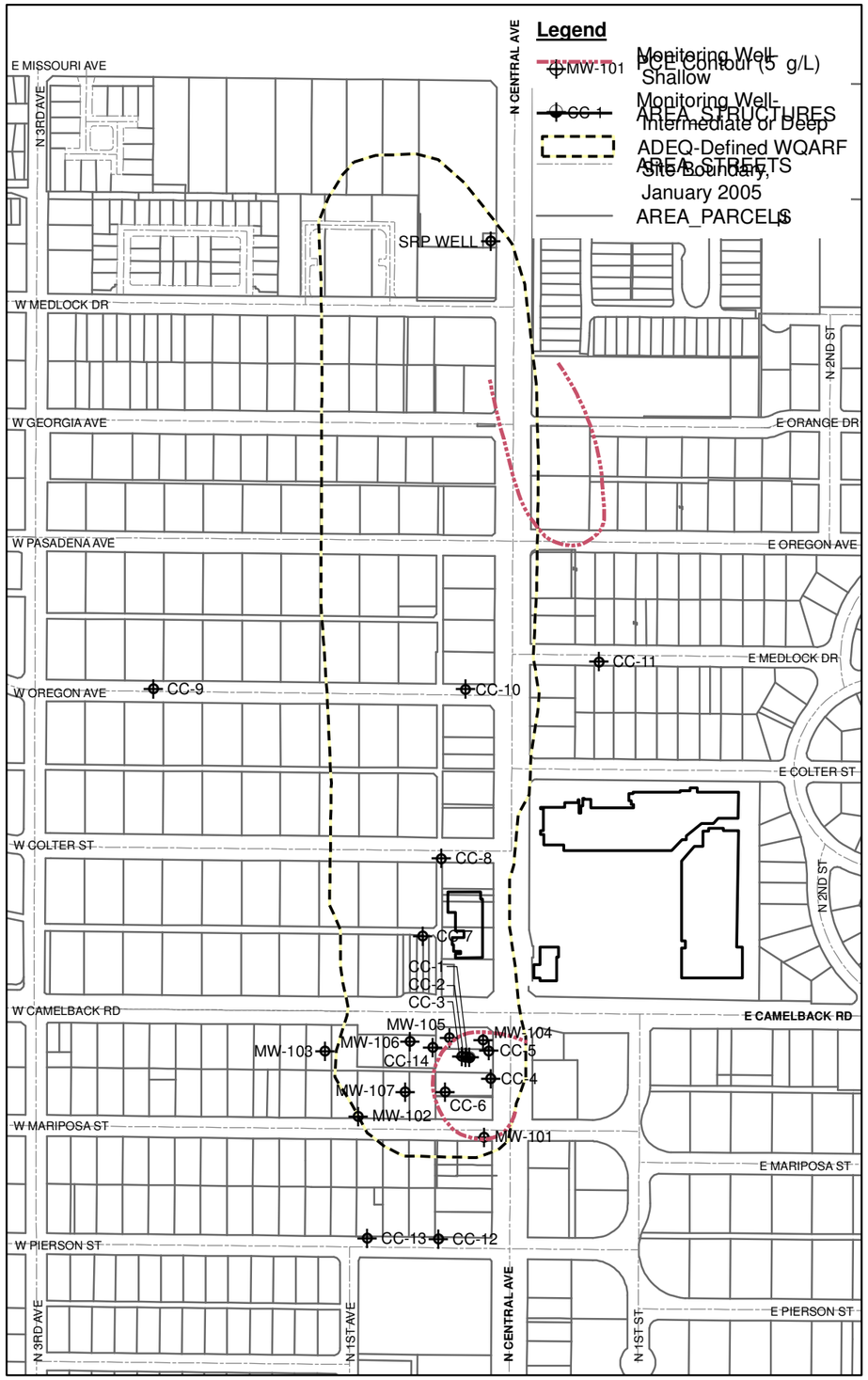
CC-1	RESULTS (ug/L)
Benzene	<0.5
Chloroform	<0.5
cis-1,2-DCE	<0.5
Trans-1,2-DCE	<0.5
TCE	<0.5
PCE	0.80
MTBE	<2.0
TOLUENE	<3.0
1,1-DCA	<1.0
1,2-DCA	<1.0

MW-104	RESULTS (ug/L)
Benzene	<0.5
Chloroform	2.7
cis-1,2-DCE	<0.5
Trans-1,2-DCE	<0.5
TCE	<0.5
PCE	6.9
MTBE	<2.0
TOLUENE	<3.0
1,1-DCA	<1.0
1,2-DCA	<1.0

CC-5	RESULTS (ug/L)
Benzene	0.66
Chloroform	0.82
cis-1,2-DCE	6.9
Trans-1,2-DCE	0.81
TCE	95
PCE	72
MTBE	<2.0
TOLUENE	<3.0
1,1-DCA	9.2
1,2-DCA	1.3

CC-4	RESULTS (ug/L)
Benzene	<0.5
Chloroform	0.90
cis-1,2-DCE	<0.5
Trans-1,2-DCE	<0.5
TCE	0.53
PCE	40
MTBE	<2.0
TOLUENE	<3.0
1,1-DCA	<1.0
1,2-DCA	<1.0

MW-101	RESULTS (ug/L)
Benzene	<0.5
Chloroform	2.0
cis-1,2-DCE	<0.5
Trans-1,2-DCE	<0.5
TCE	0.81
PCE	70
MTBE	<2.0
TOLUENE	<3.0
1,1-DCA	<1.0
1,2-DCA	<1.0



1 inch equals 400 feet

0 200 400 Feet

PROJECTION: State Plane
AZ Central FIPS 0202 NAD 83 Feet

N

CC-1	ANALYTE	RESULTS (µg/L)
	Benzene	<0.5
	Chloroform	<0.5
	cis-1,2-DCE	<0.5
	trans-1,2-DCE	<0.5
	TCE	<0.5
	PCE	1.1
	MTBE	<2.0
	Toluene	<3.0
	1,1-DCA	<1.0
	1,2-DCA	<1.0

CC-2	ANALYTE	RESULTS (µg/L)
	Benzene	<0.5
	Chloroform	<0.5
	cis-1,2-DCE	<0.5
	trans-1,2-DCE	<0.5
	TCE	<0.5
	PCE	<0.5
	MTBE	<2.0
	Toluene	<3.0
	1,1-DCA	<1.0
	1,2-DCA	<1.0

CC-3	ANALYTE	RESULTS (µg/L)
	Benzene	<0.5
	Chloroform	5.9
	cis-1,2-DCE	<0.5
	trans-1,2-DCE	<0.5
	TCE	<0.5
	PCE	<0.5
	MTBE	<2.0
	Toluene	<3.0
	1,1-DCA	<1.0
	1,2-DCA	<1.0

CC-4	ANALYTE	RESULTS (µg/L)
	Benzene	<0.5
	Chloroform	0.70
	cis-1,2-DCE	<0.5
	trans-1,2-DCE	<0.5
	TCE	<0.5
	PCE	19
	MTBE	<2.0
	Toluene	<3.0
	1,1-DCA	<1.0
	1,2-DCA	<1.0

CC-5	ANALYTE	RESULTS (µg/L)
	Benzene	0.91
	Chloroform	<0.5
	cis-1,2-DCE	5.4
	trans-1,2-DCE	0.71
	TCE	220
	PCE	81
	MTBE	<2.0
	Toluene	<3.0
	1,1-DCA	<1.0
	1,2-DCA	7.2

CC-6	ANALYTE	RESULTS (µg/L)
	Benzene	<0.5
	Chloroform	2.2
	cis-1,2-DCE	<0.5
	trans-1,2-DCE	<0.5
	TCE	<0.5
	PCE	12
	MTBE	<2.0
	Toluene	<3.0
	1,1-DCA	<1.0
	1,2-DCA	<1.0

CC-7	ANALYTE	RESULTS (µg/L)
	Benzene	<0.5
	Chloroform	3.6
	cis-1,2-DCE	<0.5
	trans-1,2-DCE	<0.5
	TCE	<0.5
	PCE	<0.5
	MTBE	<2.0
	Toluene	<3.0
	1,1-DCA	<1.0
	1,2-DCA	<1.0

CC-8	ANALYTE	RESULTS (µg/L)
	Benzene	<0.5
	Chloroform	1.1
	cis-1,2-DCE	<0.5
	trans-1,2-DCE	<0.5
	TCE	<0.5
	PCE	0.53
	MTBE	<2.0
	Toluene	<3.0
	1,1-DCA	<1.0
	1,2-DCA	<1.0

CC-9	ANALYTE	RESULTS (µg/L)
	Benzene	<0.5
	Chloroform	0.63
	cis-1,2-DCE	<0.5
	trans-1,2-DCE	<0.5
	TCE	<0.5
	PCE	<0.5
	MTBE	<2.0
	Toluene	<3.0
	1,1-DCA	<1.0
	1,2-DCA	<1.0

CC-10	ANALYTE	RESULTS (µg/L)
	Benzene	<0.5
	Chloroform	<0.5
	cis-1,2-DCE	<0.5
	trans-1,2-DCE	<0.5
	TCE	<0.5
	PCE	<0.5
	MTBE	<2.0
	Toluene	<3.0
	1,1-DCA	<1.0
	1,2-DCA	<1.0

CC-11	ANALYTE	RESULTS (µg/L)
	Benzene	1.4
	Chloroform	<0.5
	cis-1,2-DCE	<0.5
	trans-1,2-DCE	<0.5
	TCE	1.9
	PCE	2.6
	MTBE	<2.0
	Toluene	<3.0
	1,1-DCA	<1.0
	1,2-DCA	49

CC-12	ANALYTE	RESULTS (µg/L)
	Benzene	<0.5
	Chloroform	1.9
	cis-1,2-DCE	<0.5
	trans-1,2-DCE	<0.5
	TCE	<0.5
	PCE	<0.5
	MTBE	<2.0
	Toluene	<3.0
	1,1-DCA	<1.0
	1,2-DCA	<1.0

CC-13	ANALYTE	RESULTS (µg/L)
	Benzene	<0.5
	Chloroform	2.5
	cis-1,2-DCE	<0.5
	trans-1,2-DCE	<0.5
	TCE	<0.5
	PCE	<0.5
	MTBE	<2.0
	Toluene	<3.0
	1,1-DCA	<1.0
	1,2-DCA	<1.0

CC-14	ANALYTE	RESULTS (µg/L)
	Benzene	0.76
	Chloroform	5.9
	cis-1,2-DCE	<0.5
	trans-1,2-DCE	<0.5
	TCE	<0.5
	PCE	3.2
	MTBE	20
	Toluene	4.5
	1,1-DCA	<1.0
	1,2-DCA	<1.0

MW-101	ANALYTE	RESULTS (µg/L)
	Benzene	<0.5
	Chloroform	1.4
	cis-1,2-DCE	<0.5
	trans-1,2-DCE	<0.5
	TCE	0.81
	PCE	1.1
	MTBE	<2.0
	Toluene	<3.0
	1,1-DCA	<1.0
	1,2-DCA	<1.0

MW-102	ANALYTE	RESULTS (µg/L)
	Benzene	<0.5
	Chloroform	1.9
	cis-1,2-DCE	<0.5
	trans-1,2-DCE	<0.5
	TCE	1.2
	PCE	<0.5
	MTBE	<2.0
	Toluene	<3.0
	1,1-DCA	<1.0
	1,2-DCA	<1.0

MW-103	ANALYTE	RESULTS (µg/L)
	Benzene	<0.5
	Chloroform	8.3
	cis-1,2-DCE	<0.5
	trans-1,2-DCE	<0.5
	TCE	<0.5
	PCE	<0.5
	MTBE	<2.0
	Toluene	<3.0
	1,1-DCA	<1.0
	1,2-DCA	<1.0

MW-104	ANALYTE	RESULTS (µg/L)
	Benzene	<0.5
	Chloroform	4
	cis-1,2-DCE	<0.5
	trans-1,2-DCE	<0.5
	TCE	<0.5
	PCE	3.7
	MTBE	<2.0
	Toluene	<3.0
	1,1-DCA	<1.0
	1,2-DCA	<1.0

MW-105	ANALYTE	RESULTS (µg/L)
	Benzene	<0.5
	Chloroform	14
	cis-1,2-DCE	<0.5
	trans-1,2-DCE	<0.5
	TCE	<0.5
	PCE	1.3
	MTBE	<2.0
	Toluene	<3.0
	1,1-DCA	<1.0
	1,2-DCA	<1.0

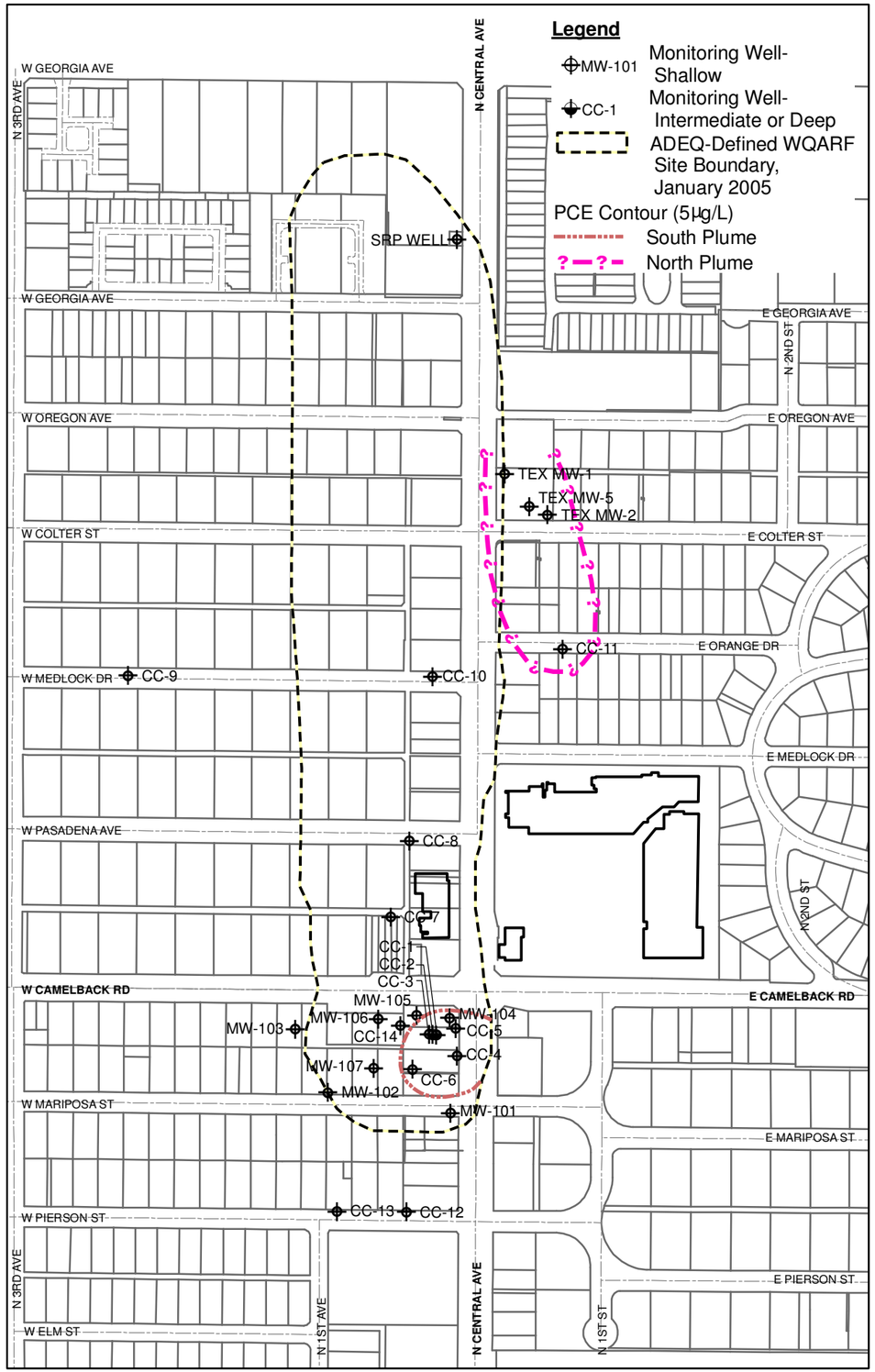
MW-106	ANALYTE	RESULTS (µg/L)
	Benzene	<0.5
	Chloroform	13
	cis-1,2-DCE	<0.5
	trans-1,2-DCE	<0.5
	TCE	<0.5
	PCE	<0.5
	MTBE	<2.0
	Toluene	<3.0
	1,1-DCA	<1.0
	1,2-DCA	<1.0

MW-107	ANALYTE	RESULTS (µg/L)
	Benzene	<0.5
	Chloroform	6.9
	cis-1,2-DCE	<0.5
	trans-1,2-DCE	<0.5
	TCE	<0.5
	PCE	<0.5
	MTBE	<2.0
	Toluene	<3.0
	1,1-DCA	<1.0
	1,2-DCA	<1.0

HYDRO GEO CHEM, INC.

MAP OF ON-SITE GROUNDWATER SAMPLING RESULTS SECOND QUARTER 2007

Approved	Date	Author	Date	File Name	Figure
RTP	01/18/08	RAM	01/18/08	815005G_2	F.8



1 inch equals 400 feet

0 180 360 Feet

PROJECTION: State Plane
AZ Central FIPS 0202 Feet NAD83

N

CC-1	ANALYTE	RESULTS (µg/L)
	Benzene	<0.50
	Chloroform	<0.50
	cis-1,2-DCE	<0.50
	trans-1,2-DCE	<0.50
	TCE	<0.50
	PCE	0.83
	MTBE	<2.0
	Toluene	<3.0
	1,1-DCA	<1.0
	1,2-DCA	<1.0

CC-2	ANALYTE	RESULTS (µg/L)
	Benzene	<0.50
	Chloroform	<0.50
	cis-1,2-DCE	<0.50
	trans-1,2-DCE	<0.50
	TCE	<0.50
	PCE	<0.50
	MTBE	<2.0
	Toluene	<3.0
	1,1-DCA	<1.0
	1,2-DCA	<1.0

CC-3	ANALYTE	RESULTS (µg/L)
	Benzene	<0.50
	Chloroform	7.0
	cis-1,2-DCE	<0.50
	trans-1,2-DCE	<0.50
	TCE	<0.50
	PCE	<0.50
	MTBE	<2.0
	Toluene	<3.0
	1,1-DCA	<1.0
	1,2-DCA	<1.0

CC-4	ANALYTE	RESULTS (µg/L)
	Benzene	<0.50
	Chloroform	2.0
	cis-1,2-DCE	<0.50
	trans-1,2-DCE	<0.50
	TCE	<0.50
	PCE	20
	MTBE	<2.0
	Toluene	<3.0
	1,1-DCA	<1.0
	1,2-DCA	<1.0

CC-5	ANALYTE	RESULTS (µg/L)
	Benzene	<0.50
	Chloroform	<0.50
	cis-1,2-DCE	2.9
	trans-1,2-DCE	<0.50
	TCE	99
	PCE	51
	MTBE	<2.0
	Toluene	<3.0
	1,1-DCA	<1.0
	1,2-DCA	4.5

CC-6	ANALYTE	RESULTS (µg/L)
	Benzene	<0.50
	Chloroform	1.6
	cis-1,2-DCE	<0.50
	trans-1,2-DCE	<0.50
	TCE	<0.50
	PCE	8.2
	MTBE	<2.0
	Toluene	<3.0
	1,1-DCA	<1.0
	1,2-DCA	<1.0

CC-7	ANALYTE	RESULTS (µg/L)
	Benzene	<0.50
	Chloroform	4.5
	cis-1,2-DCE	<0.50
	trans-1,2-DCE	<0.50
	TCE	<0.50
	PCE	<0.50
	MTBE	<2.0
	Toluene	<3.0
	1,1-DCA	<1.0
	1,2-DCA	<1.0

CC-8	ANALYTE	RESULTS (µg/L)
	Benzene	<0.50
	Chloroform	1.1
	cis-1,2-DCE	<0.50
	trans-1,2-DCE	<0.50
	TCE	<0.50
	PCE	<0.50
	MTBE	<2.0
	Toluene	<3.0
	1,1-DCA	<1.0
	1,2-DCA	<1.0

CC-9	ANALYTE	RESULTS (µg/L)
	Benzene	<0.50
	Chloroform	0.51
	cis-1,2-DCE	<0.50
	trans-1,2-DCE	<0.50
	TCE	<0.50
	PCE	<0.50
	MTBE	<2.0
	Toluene	<3.0
	1,1-DCA	<1.0
	1,2-DCA	<1.0

CC-10	ANALYTE	RESULTS (µg/L)
	Benzene	<0.50
	Chloroform	<0.50
	cis-1,2-DCE	<0.50
	trans-1,2-DCE	<0.50
	TCE	<0.50
	PCE	<0.50
	MTBE	<2.0
	Toluene	<3.0
	1,1-DCA	<1.0
	1,2-DCA	<1.0

CC-11	ANALYTE	RESULTS (µg/L)
	Benzene	1.3
	Chloroform	<0.50
	cis-1,2-DCE	<0.50
	trans-1,2-DCE	<0.50
	TCE	3.3
	PCE	6.2
	MTBE	<2.0
	Toluene	<3.0
	1,1-DCA	<1.0
	1,2-DCA	40

CC-12	ANALYTE	RESULTS (µg/L)
	Benzene	<0.50
	Chloroform	4.3
	cis-1,2-DCE	<0.50
	trans-1,2-DCE	<0.50
	TCE	<0.50
	PCE	<0.50
	MTBE	<2.0
	Toluene	<3.0
	1,1-DCA	<1.0
	1,2-DCA	<1.0

CC-13	ANALYTE	RESULTS (µg/L)
	Benzene	<0.50
	Chloroform	2.8
	cis-1,2-DCE	<0.50
	trans-1,2-DCE	<0.50
	TCE	<0.50
	PCE	<0.50
	MTBE	<2.0
	Toluene	<3.0
	1,1-DCA	<1.0
	1,2-DCA	<1.0

CC-14	ANALYTE	RESULTS (µg/L)
	Benzene	6.3
	Chloroform	7.2
	cis-1,2-DCE	<0.50
	trans-1,2-DCE	<0.50
	TCE	<0.50
	PCE	2.0
	MTBE	24
	Toluene	23
	1,1-DCA	<1.0
	1,2-DCA	<1.0

MW-101	ANALYTE	RESULTS (µg/L)
	Benzene	<0.50
	Chloroform	1.3
	cis-1,2-DCE	<0.50
	trans-1,2-DCE	<0.50
	TCE	<0.50
	PCE	1.7
	MTBE	N/A
	Toluene	<3.0
	1,1-DCA	<1.0
	1,2-DCA	<1.0

MW-102	ANALYTE	RESULTS (µg/L)
	Benzene	<0.50
	Chloroform	2.4
	cis-1,2-DCE	<0.50
	trans-1,2-DCE	<0.50
	TCE	<0.50
	PCE	<0.50
	MTBE	N/A
	Toluene	<3.0
	1,1-DCA	<1.0
	1,2-DCA	<1.0

MW-103	ANALYTE	RESULTS (µg/L)
	Benzene	<0.50
	Chloroform	6.4
	cis-1,2-DCE	<0.50
	trans-1,2-DCE	<0.50
	TCE	<0.50
	PCE	<0.50
	MTBE	N/A
	Toluene	<3.0
	1,1-DCA	<1.0
	1,2-DCA	<1.0

MW-104	ANALYTE	RESULTS (µg/L)
	Benzene	<0.50
	Chloroform	3.1
	cis-1,2-DCE	<0.50
	trans-1,2-DCE	<0.50
	TCE	<0.50
	PCE	3.6
	MTBE	N/A
	Toluene	<3.0
	1,1-DCA	<1.0
	1,2-DCA	<1.0

MW-105	ANALYTE	RESULTS (µg/L)
	Benzene	<0.50
	Chloroform	0.86
	cis-1,2-DCE	<0.50
	trans-1,2-DCE	<0.50
	TCE	<0.50
	PCE	<0.50
	MTBE	N/A
	Toluene	<3.0
	1,1-DCA	<1.0
	1,2-DCA	<1.0

MW-106	ANALYTE	RESULTS (µg/L)
	Benzene	<0.50
	Chloroform	6.9
	cis-1,2-DCE	<0.50
	trans-1,2-DCE	<0.50
	TCE	<0.50
	PCE	<0.50
	MTBE	N/A
	Toluene	<3.0
	1,1-DCA	<1.0
	1,2-DCA	<1.0

MW-107	ANALYTE	RESULTS (µg/L)
	Benzene	<0.50
	Chloroform	5.4
	cis-1,2-DCE	<0.50
	trans-1,2-DCE	<0.50
	TCE	<0.50
	PCE	<0.50
	MTBE	N/A
	Toluene	<3.0
	1,1-DCA	<1.0
	1,2-DCA	<1.0

TEX MW-1	ANALYTE	RESULTS (µg/L)
	Benzene	<0.50
	Chloroform	<0.50
	cis-1,2-DCE	1.1
	trans-1,2-DCE	<0.50
	TCE	3.1
	PCE	1.6
	MTBE	<2.0
	Toluene	<3.0
	1,1-DCA	<1.0
	1,2-DCA	<1.0

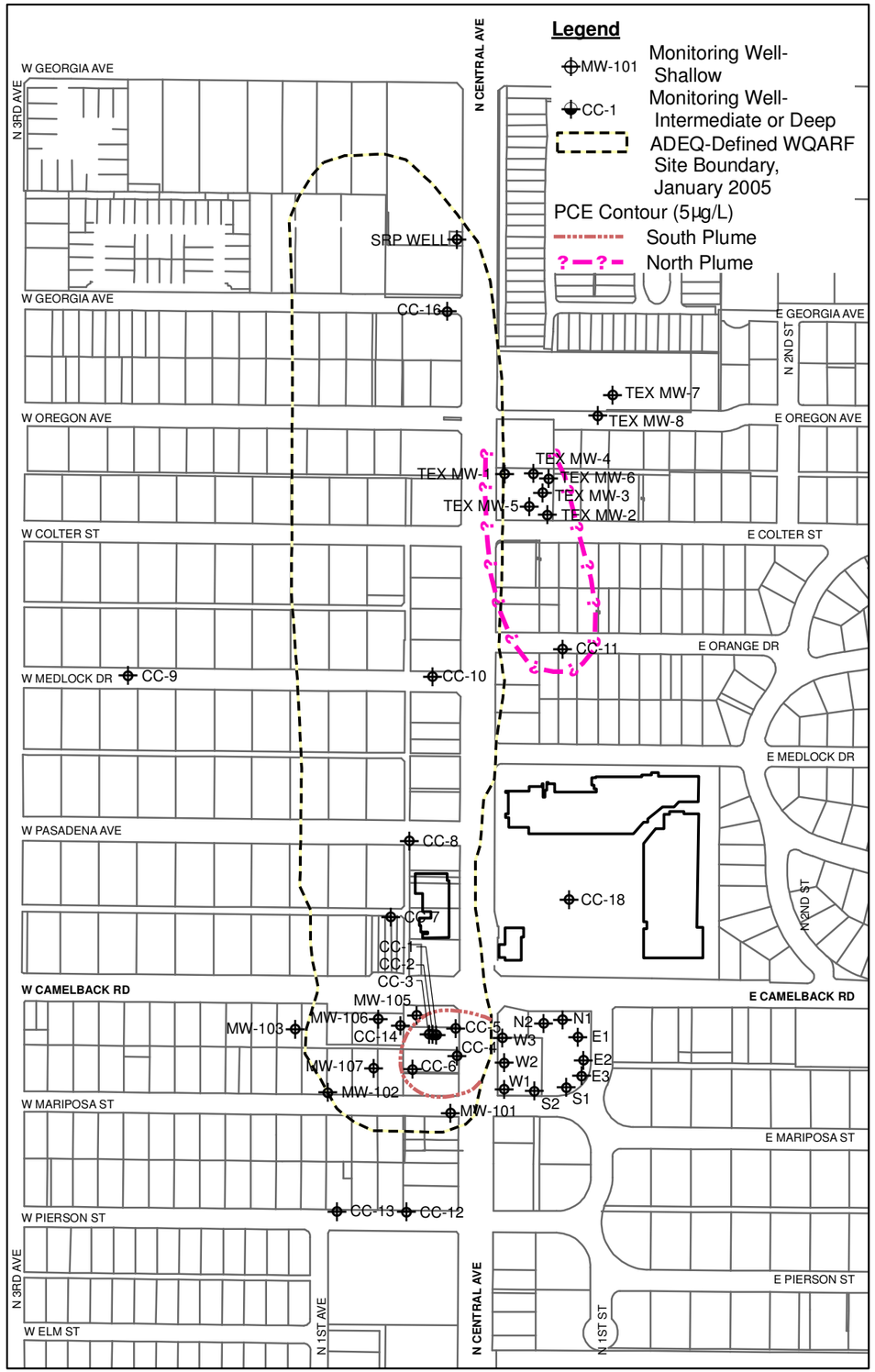
TEX MW-2	ANALYTE	RESULTS (µg/L)
	Benzene	<0.50
	Chloroform	3
	cis-1,2-DCE	4.1
	trans-1,2-DCE	<0.50
	TCE	29
	PCE	56
	MTBE	<2.0
	Toluene	<3.0
	1,1-DCA	<1.0
	1,2-DCA	<1.0

TEX MW-5	ANALYTE	RESULTS (µg/L)
	Benzene	<0.50
	Chloroform	<0.50
	cis-1,2-DCE	3.6
	trans-1,2-DCE	<0.50
	TCE	9.8
	PCE	17
	MTBE	<2.0
	Toluene	<3.0
	1,1-DCA	<1.0
	1,2-DCA	<1.0

HYDRO GEO CHEM, INC.

MAP OF ON-SITE GROUNDWATER SAMPLING RESULTS FOURTH QUARTER 2007

Approved	Date	Author	Date	File Name	Figure
RTP	03/25/08	RAM	03/25/08	815009G_4	F.9



CC-1	ANALYTE	RESULTS (µg/L)
	Benzene	<0.50
	Chloroform	<0.50
	cis-1,2-DCE	<0.50
	trans-1,2-DCE	<0.50
	TCE	<0.50
	PCE	0.83
	MTBE	<2.0
	Toluene	<0.50
	1,1-DCA	<0.50
	1,2-DCA	<0.50

CC-2	ANALYTE	RESULTS (µg/L)
	Benzene	<0.50
	Chloroform	<0.50
	cis-1,2-DCE	<0.50
	trans-1,2-DCE	<0.50
	TCE	<0.50
	PCE	<0.50
	MTBE	<2.0
	Toluene	<0.50
	1,1-DCA	<0.50
	1,2-DCA	<0.50

CC-3	ANALYTE	RESULTS (µg/L)
	Benzene	<0.50
	Chloroform	10
	cis-1,2-DCE	<0.50
	trans-1,2-DCE	<0.50
	TCE	<0.50
	PCE	<0.50
	MTBE	<2.0
	Toluene	<0.50
	1,1-DCA	<0.50
	1,2-DCA	<0.50

CC-4	ANALYTE	RESULTS (µg/L)
	Benzene	<0.50
	Chloroform	2.2
	cis-1,2-DCE	<0.50
	trans-1,2-DCE	<0.50
	TCE	<0.50
	PCE	15
	MTBE	<2.0
	Toluene	<0.50
	1,1-DCA	<0.50
	1,2-DCA	<0.50

CC-5	ANALYTE	RESULTS (µg/L)
	Benzene	<0.50
	Chloroform	<0.50
	cis-1,2-DCE	3.1
	trans-1,2-DCE	<0.50
	TCE	120
	PCE	140
	MTBE	<2.0
	Toluene	<3.0
	1,1-DCA	<1.0
	1,2-DCA	2.4

CC-6	ANALYTE	RESULTS (µg/L)
	Benzene	<0.50
	Chloroform	6.1
	cis-1,2-DCE	<0.50
	trans-1,2-DCE	<0.50
	TCE	<0.50
	PCE	3.9
	MTBE	<2.0
	Toluene	<0.50
	1,1-DCA	<0.50
	1,2-DCA	<0.50

CC-7	ANALYTE	RESULTS (µg/L)
	Benzene	<0.50
	Chloroform	5.3
	cis-1,2-DCE	<0.50
	trans-1,2-DCE	<0.50
	TCE	<0.50
	PCE	<0.50
	MTBE	<2.0
	Toluene	<3.0
	1,1-DCA	<1.0
	1,2-DCA	<1.0

CC-8	ANALYTE	RESULTS (µg/L)
	Benzene	<0.50
	Chloroform	1.2
	cis-1,2-DCE	<0.50
	trans-1,2-DCE	<0.50
	TCE	<0.50
	PCE	<0.50
	MTBE	<2.0
	Toluene	<3.0
	1,1-DCA	<1.0
	1,2-DCA	<1.0

CC-9	ANALYTE	RESULTS (µg/L)
	Benzene	<0.50
	Chloroform	<0.50
	cis-1,2-DCE	<0.50
	trans-1,2-DCE	<0.50
	TCE	<0.50
	PCE	<0.50
	MTBE	<2.0
	Toluene	<3.0
	1,1-DCA	<1.0
	1,2-DCA	<1.0

CC-10	ANALYTE	RESULTS (µg/L)
	Benzene	<0.50
	Chloroform	<0.50
	cis-1,2-DCE	<0.50
	trans-1,2-DCE	<0.50
	TCE	<0.50
	PCE	<0.50
	MTBE	<2.0
	Toluene	<3.0
	1,1-DCA	<1.0
	1,2-DCA	<1.0

CC-11	ANALYTE	RESULTS (µg/L)
	Benzene	<5
	Chloroform	<5
	cis-1,2-DCE	<5
	trans-1,2-DCE	<5
	TCE	<5
	PCE	11
	MTBE	<20
	Toluene	<5
	1,1-DCA	<5
	1,2-DCA	35

CC-12	ANALYTE	RESULTS (µg/L)
	Benzene	<0.50
	Chloroform	16
	cis-1,2-DCE	<0.50
	trans-1,2-DCE	<0.50
	TCE	<0.50
	PCE	<0.50
	MTBE	<2.0
	Toluene	<3.0
	1,1-DCA	<1.0
	1,2-DCA	<1.0

CC-13	ANALYTE	RESULTS (µg/L)
	Benzene	<0.50
	Chloroform	2.5
	cis-1,2-DCE	<0.50
	trans-1,2-DCE	<0.50
	TCE	<0.50
	PCE	<0.50
	MTBE	<2.0
	Toluene	<3.0
	1,1-DCA	<1.0
	1,2-DCA	<1.0

CC-14	ANALYTE	RESULTS (µg/L)
	Benzene	0.53
	Chloroform	11
	cis-1,2-DCE	<0.50
	trans-1,2-DCE	<0.50
	TCE	<0.50
	PCE	1.1
	MTBE	19
	Toluene	<0.50
	1,1-DCA	<0.50
	1,2-DCA	<0.50

CC-16	ANALYTE	RESULTS (µg/L)
	Benzene	<0.50
	Chloroform	1.4
	cis-1,2-DCE	<0.50
	trans-1,2-DCE	<0.50
	TCE	<0.50
	PCE	<0.50
	MTBE	<2.0
	Toluene	<0.50
	1,1-DCA	<0.50
	1,2-DCA	<0.50

CC-18	ANALYTE	RESULTS (µg/L)
	Benzene	23
	Chloroform	<0.50
	cis-1,2-DCE	<0.50
	trans-1,2-DCE	<0.50
	TCE	<0.50
	PCE	<0.50
	MTBE	<2.0
	Toluene	7.8
	1,1-DCA	<0.50
	1,2-DCA	5.3

MW-101	ANALYTE	RESULTS (µg/L)
	Benzene	<0.50
	Chloroform	18.0
	cis-1,2-DCE	<0.50
	trans-1,2-DCE	<0.50
	TCE	<0.50
	PCE	0.81
	MTBE	N/A
	Toluene	<0.50
	1,1-DCA	<0.50
	1,2-DCA	<0.50

MW-102	ANALYTE	RESULTS (µg/L)
	Benzene	<0.50
	Chloroform	3.9
	cis-1,2-DCE	<0.50
	trans-1,2-DCE	<0.50
	TCE	<0.50
	PCE	<0.50
	MTBE	N/A
	Toluene	<0.50
	1,1-DCA	<0.50
	1,2-DCA	<0.50

MW-103	ANALYTE	RESULTS (µg/L)
	Benzene	<0.50
	Chloroform	8.1
	cis-1,2-DCE	<0.50
	trans-1,2-DCE	<0.50
	TCE	<0.50
	PCE	<0.50
	MTBE	N/A
	Toluene	<0.50
	1,1-DCA	<0.50
	1,2-DCA	<0.50

MW-105	ANALYTE	RESULTS (µg/L)
	Benzene	<0.50
	Chloroform	8.5
	cis-1,2-DCE	<0.50
	trans-1,2-DCE	<0.50
	TCE	<0.50
	PCE	0.62
	MTBE	N/A
	Toluene	<0.50
	1,1-DCA	<0.50
	1,2-DCA	<0.50

MW-106	ANALYTE	RESULTS (µg/L)
	Benzene	<0.50
	Chloroform	9.1
	cis-1,2-DCE	<0.50
	trans-1,2-DCE	<0.50
	TCE	<0.50
	PCE	<0.50
	MTBE	N/A
	Toluene	<0.50
	1,1-DCA	<0.50
	1,2-DCA	<0.50

MW-107	ANALYTE	RESULTS (µg/L)
	Benzene	<0.50
	Chloroform	9.4
	cis-1,2-DCE	<0.50
	trans-1,2-DCE	<0.50
	TCE	<0.50
	PCE	<0.50
	MTBE	N/A
	Toluene	<0.50
	1,1-DCA	<0.50
	1,2-DCA	<0.50

TEX MW-1	ANALYTE	RESULTS (µg/L)
	Benzene	<5
	Chloroform	<5
	cis-1,2-DCE	<5
	trans-1,2-DCE	<5
	TCE	<5
	PCE	<5
	MTBE	<5
	Toluene	<5
	1,1-DCA	<5
	1,2-DCA	<5

TEX MW-2	ANALYTE	RESULTS (µg/L)
	Benzene	<5
	Chloroform	<5
	cis-1,2-DCE	5
	trans-1,2-DCE	<5
	TCE	32
	PCE	65
	MTBE	<5
	Toluene	<5
	1,1-DCA	<5
	1,2-DCA	<5

TEX MW-5	ANALYTE	RESULTS (µg/L)
	Benzene	<5
	Chloroform	<5
	cis-1,2-DCE	<5
	trans-1,2-DCE	<5
	TCE	<5
	PCE	13
	MTBE	<5
	Toluene	<5
	1,1-DCA	<5
	1,2-DCA	<5

NOTE: Analytical results for OEC wells N1, N2, E1, E2, E3, S1, S2, W1, W2 and W3 and Texaco wells MW-3, MW-4, MW-6, MW-7 and MW-8 were non-detect for PCE, TCE, cis and trans 1,2-DCE, 1,1-DCA, MTBE, and 1,2-DCA. OEC wells had chloroform, and Texaco wells MW-3, MW-4 and MW-6 had BTEX components.

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PROJECTION: State Plane
AZ Central FIPS 0202 Feet NAD83

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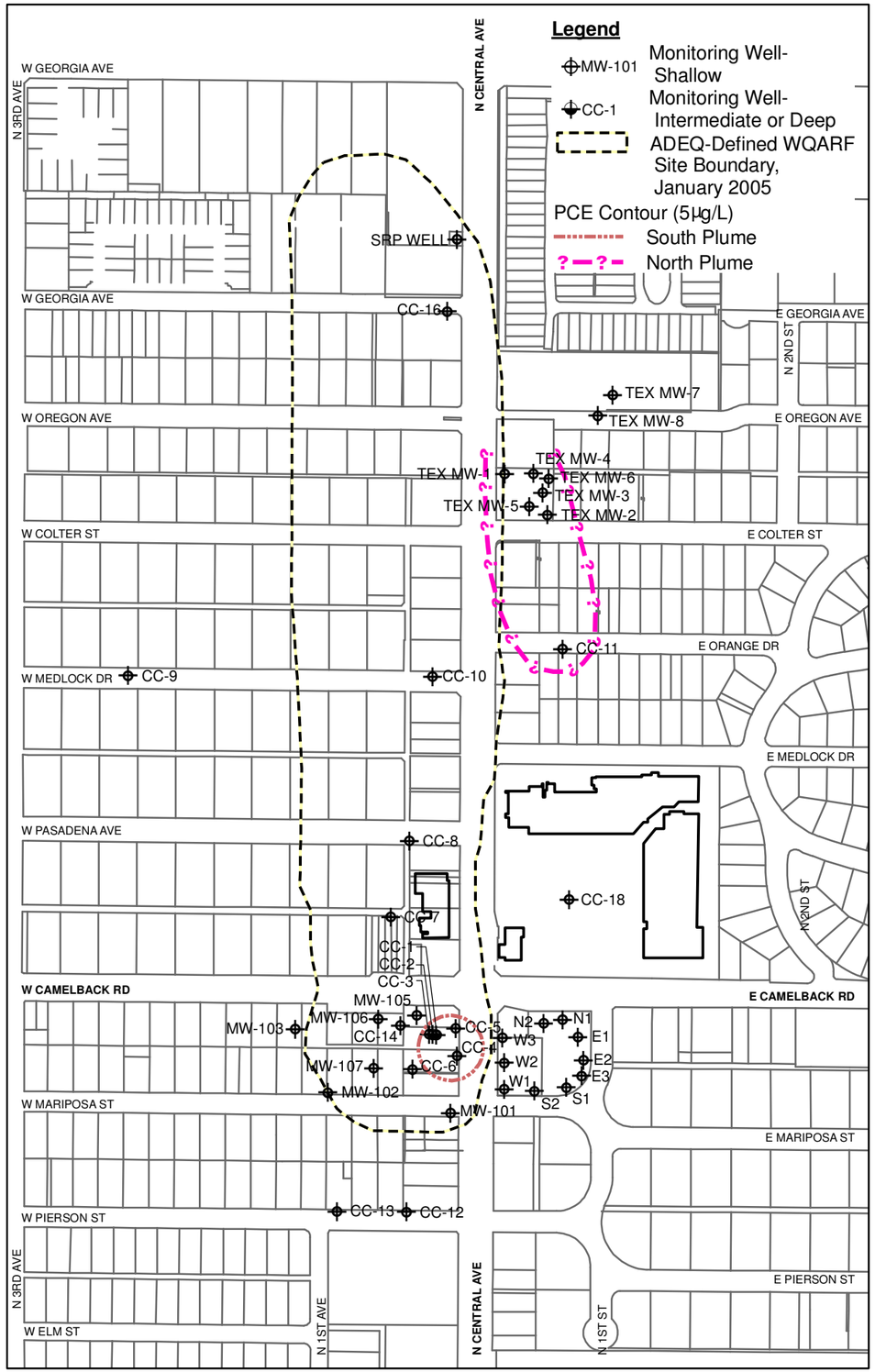
HYDRO GEO CHEM, INC.

MAP OF ON-SITE GROUNDWATER SAMPLING RESULTS SECOND QUARTER 2008

Approved	Date	Author	Date	File Name	Figure
RTP	10/09/08	RAM	10/09/08	815020G	F.10



CC-1	ANALYTE	RESULTS (µg/L)
	Benzene	<0.50
	Chloroform	<0.50
	cis-1,2-DCE	<0.50
	trans-1,2-DCE	<0.50
	TCE	<0.50
	PCE	0.68
	MTBE	<0.50
	Toluene	<0.50
	1,1-DCA	<0.50
	1,2-DCA	<0.50

CC-2	ANALYTE	RESULTS (µg/L)
	Benzene	<0.50
	Chloroform	<0.50
	cis-1,2-DCE	<0.50
	trans-1,2-DCE	<0.50
	TCE	<0.50
	PCE	<0.50
	MTBE	<0.50
	Toluene	<0.50
	1,1-DCA	<0.50
	1,2-DCA	<0.50

CC-3	ANALYTE	RESULTS (µg/L)
	Benzene	<0.50
	Chloroform	11
	cis-1,2-DCE	<0.50
	trans-1,2-DCE	<0.50
	TCE	<0.50
	PCE	<0.50
	MTBE	<0.50
	Toluene	<0.50
	1,1-DCA	<0.50
	1,2-DCA	<0.50

CC-4	ANALYTE	RESULTS (µg/L)
	Benzene	<0.50
	Chloroform	1.9
	cis-1,2-DCE	<0.50
	trans-1,2-DCE	<0.50
	TCE	<0.50
	PCE	2.3
	MTBE	<0.50
	Toluene	<0.50
	1,1-DCA	<0.50
	1,2-DCA	<0.50

CC-5	ANALYTE	RESULTS (µg/L)
	Benzene	<0.50
	Chloroform	0.8
	cis-1,2-DCE	<0.50
	trans-1,2-DCE	<0.50
	TCE	<0.50
	PCE	4.9
	MTBE	<0.50
	Toluene	<0.50
	1,1-DCA	<1.0
	1,2-DCA	<0.50

CC-6	ANALYTE	RESULTS (µg/L)
	Benzene	<0.50
	Chloroform	5.9
	cis-1,2-DCE	<0.50
	trans-1,2-DCE	<0.50
	TCE	<0.50
	PCE	0.74
	MTBE	<0.50
	Toluene	<0.50
	1,1-DCA	<0.50
	1,2-DCA	<0.50

CC-7	ANALYTE	RESULTS (µg/L)
	Benzene	<0.50
	Chloroform	4.2
	cis-1,2-DCE	<0.50
	trans-1,2-DCE	<0.50
	TCE	<0.50
	PCE	<0.50
	MTBE	<0.50
	Toluene	<0.50
	1,1-DCA	<0.50
	1,2-DCA	<0.50

CC-8	ANALYTE	RESULTS (µg/L)
	Benzene	<0.50
	Chloroform	1.1
	cis-1,2-DCE	<0.50
	trans-1,2-DCE	<0.50
	TCE	<0.50
	PCE	<0.50
	MTBE	<0.50
	Toluene	<0.50
	1,1-DCA	<0.50
	1,2-DCA	<0.50

CC-9	ANALYTE	RESULTS (µg/L)
	Benzene	<0.50
	Chloroform	0.66
	cis-1,2-DCE	<0.50
	trans-1,2-DCE	<0.50
	TCE	<0.50
	PCE	<0.50
	MTBE	<0.50
	Toluene	<0.50
	1,1-DCA	<0.50
	1,2-DCA	<0.50

CC-10	ANALYTE	RESULTS (µg/L)
	Benzene	<0.50
	Chloroform	<0.50
	cis-1,2-DCE	<0.50
	trans-1,2-DCE	<0.50
	TCE	<0.50
	PCE	<0.50
	MTBE	<0.50
	Toluene	<0.50
	1,1-DCA	<0.50
	1,2-DCA	<0.50

CC-11	ANALYTE	RESULTS (µg/L)
	Benzene	0.56
	Chloroform	<0.50
	cis-1,2-DCE	<0.50
	trans-1,2-DCE	<0.50
	TCE	9.4
	PCE	31
	MTBE	<0.50
	Toluene	1.5
	1,1-DCA	<0.50
	1,2-DCA	30

CC-12	ANALYTE	RESULTS (µg/L)
	Benzene	<0.50
	Chloroform	18
	cis-1,2-DCE	<0.50
	trans-1,2-DCE	<0.50
	TCE	<0.50
	PCE	<0.50
	MTBE	<0.50
	Toluene	<0.50
	1,1-DCA	<0.50
	1,2-DCA	<0.50

CC-13	ANALYTE	RESULTS (µg/L)
	Benzene	<0.50
	Chloroform	2.2
	cis-1,2-DCE	<0.50
	trans-1,2-DCE	<0.50
	TCE	<0.50
	PCE	<0.50
	MTBE	<0.50
	Toluene	<0.50
	1,1-DCA	<0.50
	1,2-DCA	<0.50

CC-14	ANALYTE	RESULTS (µg/L)
	Benzene	<0.50
	Chloroform	9.4
	cis-1,2-DCE	<0.50
	trans-1,2-DCE	<0.50
	TCE	<0.50
	PCE	<0.50
	MTBE	<0.50
	Toluene	<0.50
	1,1-DCA	<0.50
	1,2-DCA	<0.50

CC-16	ANALYTE	RESULTS (µg/L)
	Benzene	<0.50
	Chloroform	0.93
	cis-1,2-DCE	<0.50
	trans-1,2-DCE	<0.50
	TCE	<0.50
	PCE	<0.50
	MTBE	<0.50
	Toluene	<0.50
	1,1-DCA	<0.50
	1,2-DCA	<0.50

CC-18	ANALYTE	RESULTS (µg/L)
	Benzene	43
	Chloroform	<0.50
	cis-1,2-DCE	<0.50
	trans-1,2-DCE	<0.50
	TCE	<0.50
	PCE	<0.50
	MTBE	<0.50
	Toluene	14
	1,1-DCA	<0.50
	1,2-DCA	10

MW-101	ANALYTE	RESULTS (µg/L)
	Benzene	<0.50
	Chloroform	20
	cis-1,2-DCE	<0.50
	trans-1,2-DCE	<0.50
	TCE	<0.50
	PCE	<0.50
	MTBE	N/A
	Toluene	<0.50
	1,1-DCA	<0.50
	1,2-DCA	<0.50

MW-102	ANALYTE	RESULTS (µg/L)
	Benzene	<0.50
	Chloroform	5.2
	cis-1,2-DCE	<0.50
	trans-1,2-DCE	<0.50
	TCE	<0.50
	PCE	<0.50
	MTBE	N/A
	Toluene	<0.50
	1,1-DCA	<0.50
	1,2-DCA	<0.50

MW-103	ANALYTE	RESULTS (µg/L)
	Benzene	<0.50
	Chloroform	8.2
	cis-1,2-DCE	<0.50
	trans-1,2-DCE	<0.50
	TCE	<0.50
	PCE	<0.50
	MTBE	N/A
	Toluene	<0.50
	1,1-DCA	<0.50
	1,2-DCA	<0.50

MW-105	ANALYTE	RESULTS (µg/L)
	Benzene	<0.50
	Chloroform	6.5
	cis-1,2-DCE	<0.50
	trans-1,2-DCE	<0.50
	TCE	<0.50
	PCE	<0.50
	MTBE	N/A
	Toluene	<0.50
	1,1-DCA	<0.50
	1,2-DCA	<0.50

MW-106	ANALYTE	RESULTS (µg/L)
	Benzene	<0.50
	Chloroform	11.0
	cis-1,2-DCE	<0.50
	trans-1,2-DCE	<0.50
	TCE	<0.50
	PCE	<0.50
	MTBE	N/A
	Toluene	<0.50
	1,1-DCA	<0.50
	1,2-DCA	<0.50

MW-107	ANALYTE	RESULTS (µg/L)
	Benzene	<0.50
	Chloroform	9.5
	cis-1,2-DCE	<0.50
	trans-1,2-DCE	<0.50
	TCE	<0.50
	PCE	<0.50
	MTBE	N/A
	Toluene	<0.50
	1,1-DCA	<0.50
	1,2-DCA	<0.50

TEX MW-1	ANALYTE	RESULTS (µg/L)
	Benzene	<0.50
	Chloroform	<0.50
	cis-1,2-DCE	<0.50
	trans-1,2-DCE	<0.50
	TCE	1.4
	PCE	0.91
	MTBE	<0.50
	Toluene	<0.50
	1,1-DCA	<0.50
	1,2-DCA	<0.50

TEX MW-2	ANALYTE	RESULTS (µg/L)
	Benzene	<0.50
	Chloroform	<0.50
	cis-1,2-DCE	5.5
	trans-1,2-DCE	<0.50
	TCE	40
	PCE	76
	MTBE	<0.50
	Toluene	<0.50
	1,1-DCA	<0.50
	1,2-DCA	<0.50

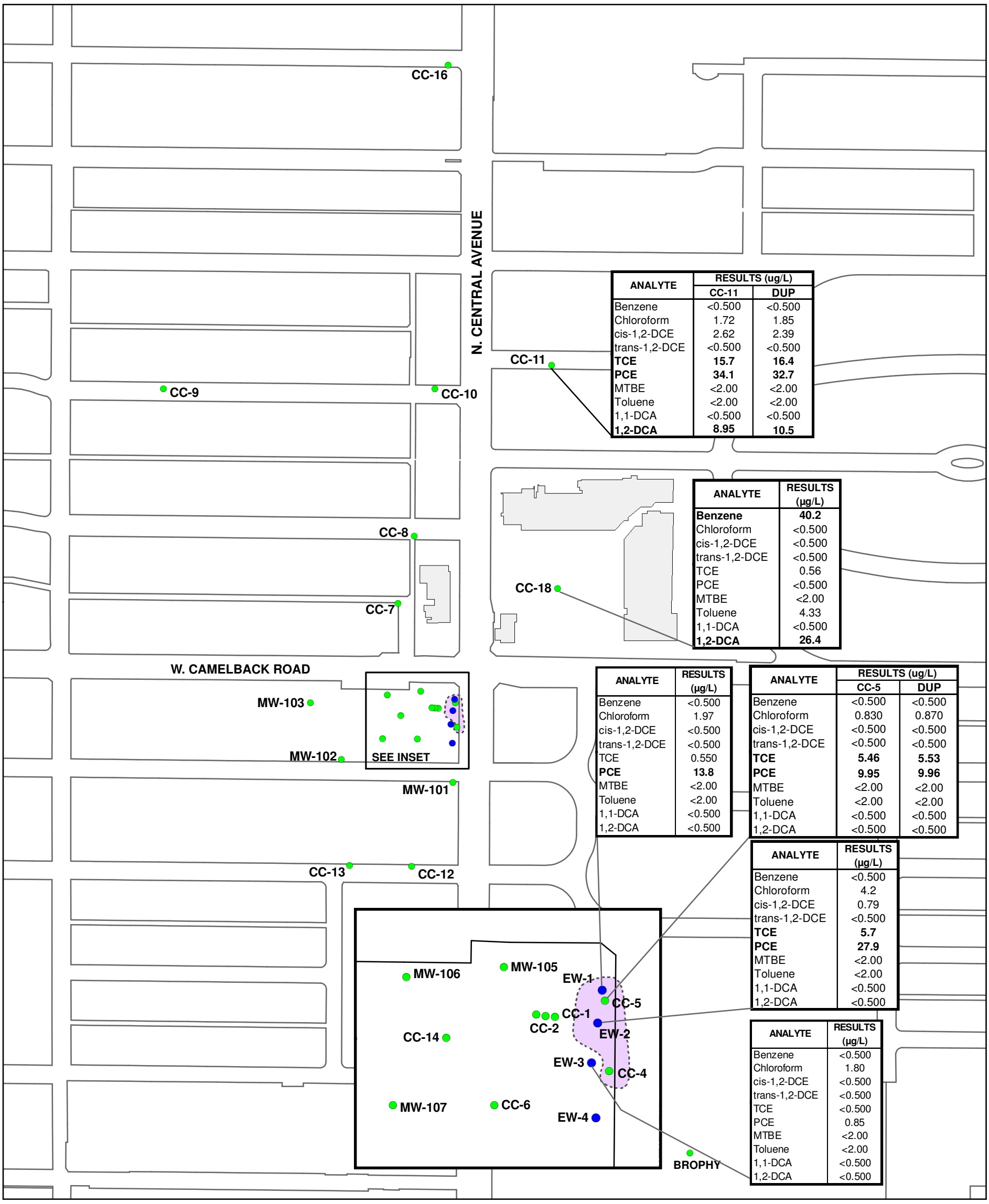
TEX MW-5	ANALYTE	RESULTS (µg/L)
	Benzene	<0.50
	Chloroform	<0.50
	cis-1,2-DCE	2.1
	trans-1,2-DCE	<0.50
	TCE	5.5
	PCE	11
	MTBE	<0.50
	Toluene	<0.50
	1,1-DCA	<0.50
	1,2-DCA	<0.50

NOTE: Analytical results for Texaco wells MW-3, MW-4, MW-6, MW-7 and MW-8 were non-detect for PCE, TCE, cis and trans 1,2-DCE, 1,1-DCA, MTBE, and 1,2-DCA. Texaco wells MW-3, MW-4 and MW-6 had BTEX components. OEC wells N1, N2, E1, E2, E3, S1, S2, W1, W2 and W3 were not sampled in December.

HYDRO GEO CHEM, INC.

MAP OF ON-SITE GROUNDWATER SAMPLING RESULTS FOURTH QUARTER 2008

Approved	Date	Author	Date	File Name	Figure
RTP	01/22/09	AMC	01/22/09	815026G	F.11



ANALYTE	RESULTS (ug/L)	
	CC-11	DUP
Benzene	<0.500	<0.500
Chloroform	1.72	1.85
cis-1,2-DCE	2.62	2.39
trans-1,2-DCE	<0.500	<0.500
TCE	**15.7**	**16.4**
PCE	**34.1**	**32.7**
MTBE	<2.00	<2.00
Toluene	<2.00	<2.00
1,1-DCA	<0.500	<0.500
1,2-DCA	**8.95**	**10.5**

ANALYTE	RESULTS (µg/L)
Benzene	**40.2**
Chloroform	<0.500
cis-1,2-DCE	<0.500
trans-1,2-DCE	<0.500
TCE	0.56
PCE	<0.500
MTBE	<2.00
Toluene	4.33
1,1-DCA	<0.500
1,2-DCA	**26.4**

ANALYTE	RESULTS (µg/L)
Benzene	<0.500
Chloroform	1.97
cis-1,2-DCE	<0.500
trans-1,2-DCE	<0.500
TCE	0.550
PCE	**13.8**
MTBE	<2.00
Toluene	<2.00
1,1-DCA	<0.500
1,2-DCA	<0.500

ANALYTE	RESULTS (ug/L)	
	CC-5	DUP
Benzene	<0.500	<0.500
Chloroform	0.830	0.870
cis-1,2-DCE	<0.500	<0.500
trans-1,2-DCE	<0.500	<0.500
TCE	**5.46**	**5.53**
PCE	**9.95**	**9.96**
MTBE	<2.00	<2.00
Toluene	<2.00	<2.00
1,1-DCA	<0.500	<0.500
1,2-DCA	<0.500	<0.500

ANALYTE	RESULTS (µg/L)
Benzene	<0.500
Chloroform	4.2
cis-1,2-DCE	0.79
trans-1,2-DCE	<0.500
TCE	**5.7**
PCE	**27.9**
MTBE	<2.00
Toluene	<2.00
1,1-DCA	<0.500
1,2-DCA	<0.500

ANALYTE	RESULTS (µg/L)
Benzene	<0.500
Chloroform	1.80
cis-1,2-DCE	<0.500
trans-1,2-DCE	<0.500
TCE	<0.500
PCE	0.85
MTBE	<2.00
Toluene	<2.00
1,1-DCA	<0.500
1,2-DCA	<0.500

Well ID	Benzene	Toluene	MTBE	Chloroform	1,1-DCA	1,2-DCA	TCE	PCE	cis-1,2-DCE	trans-1,2-DCE
BROPHY	<0.500	<2.00	<2.00	0.520	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500
CC-1	<0.500	<2.00	<2.00	<0.500	<0.500	<0.500	<0.500	0.88	<0.500	<0.500
CC-2	<0.500	<2.00	<2.00	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500
CC-3	<0.500	<2.00	<2.00	15.8	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500
CC-6	<0.500	<2.00	<2.00	6.54	<0.500	<0.500	<0.500	0.61	<0.500	<0.500
CC-7	<0.500	<2.00	<2.00	9.42	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500
CC-8	<0.500	<2.00	<2.00	1.72	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500
CC-9	<0.500	<2.00	<2.00	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500
CC-10	<0.500	<2.00	<2.00	2.86	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500
CC-12	<0.500	<2.00	<2.00	4.12	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500
CC-13	<0.500	<2.00	<2.00	1.01	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500
CC-14	<0.500	<2.00	<2.00	7.36	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500
CC-16	<0.500	<2.00	<2.00	0.77	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500
EW-3	<0.500	<2.00	<2.00	1.80	<0.500	<0.500	<0.500	0.85	<0.500	<0.500
EW-4	<0.500	<2.00	<2.00	1.99	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500
MW-101	<0.500	<2.00	<2.00	2.82	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500
MW-102	<0.500	<2.00	<2.00	9.63	<0.500	<0.500	<0.500	1.23	<0.500	<0.500
MW-103	<0.500	<2.00	<2.00	8.58	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500
MW-105	<0.500	<2.00	<2.00	5.82	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500
MW-106	<0.500	<2.00	<2.00	14.60	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500
MW-107	<0.500	<2.00	<2.00	7.13	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500
MCL	**5**	**1000**	**NE**	**80**	**5**	**5**	**5**	**5**	**70**	**100**

MCL = Maximum Contaminant Level
NE = None Established

0 325 650 Feet

Explanation

- **CC-8** Identification and Approximate Location of Monitor Well
- **EW-2** Identification and Approximate Location of Groundwater Extraction Well

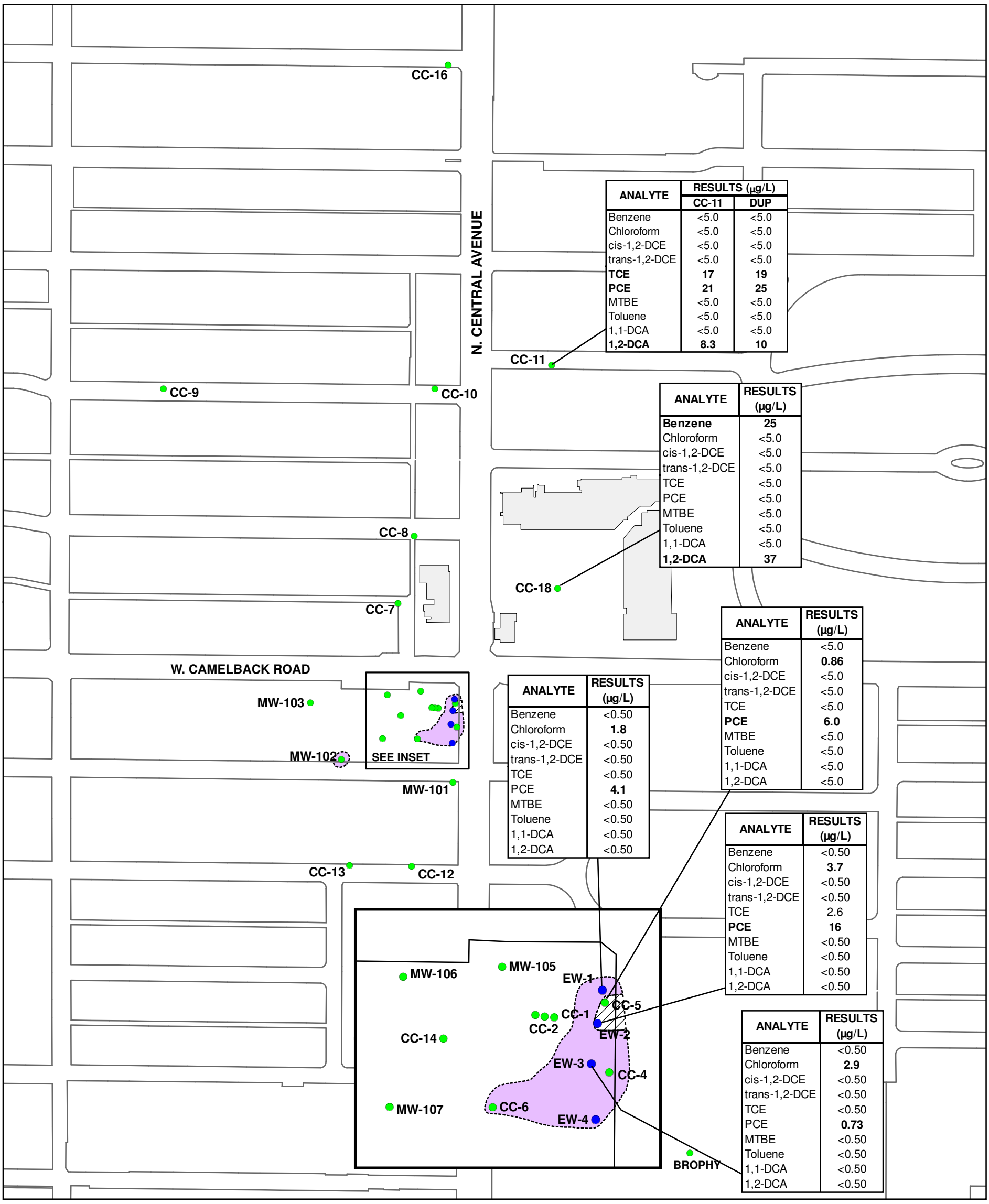
Results presented in micrograms per Liter (ug/L)

NORTH

HYDRO GEO CHEM, INC.

GROUNDWATER SAMPLING RESULTS
FOURTH QUARTER 2010

Approved	Date	Author	Date	File Name	Figure
CJ	02/11/11	AMC	02/11/11	201003205G	F.12



ANALYTE	RESULTS (µg/L) CC-11	DUP
Benzene	<5.0	<5.0
Chloroform	<5.0	<5.0
cis-1,2-DCE	<5.0	<5.0
trans-1,2-DCE	<5.0	<5.0
TCE	**17**	**19**
PCE	**21**	**25**
MTBE	<5.0	<5.0
Toluene	<5.0	<5.0
1,1-DCA	<5.0	<5.0
1,2-DCA	**8.3**	**10**

ANALYTE	RESULTS (µg/L)
Benzene	**25**
Chloroform	<5.0
cis-1,2-DCE	<5.0
trans-1,2-DCE	<5.0
TCE	<5.0
PCE	<5.0
MTBE	<5.0
Toluene	<5.0
1,1-DCA	<5.0
1,2-DCA	**37**

ANALYTE	RESULTS (µg/L)
Benzene	<5.0
Chloroform	**0.86**
cis-1,2-DCE	<5.0
trans-1,2-DCE	<5.0
TCE	<5.0
PCE	**6.0**
MTBE	<5.0
Toluene	<5.0
1,1-DCA	<5.0
1,2-DCA	<5.0

ANALYTE	RESULTS (µg/L)
Benzene	<0.50
Chloroform	**1.8**
cis-1,2-DCE	<0.50
trans-1,2-DCE	<0.50
TCE	<0.50
PCE	**4.1**
MTBE	<0.50
Toluene	<0.50
1,1-DCA	<0.50
1,2-DCA	<0.50

ANALYTE	RESULTS (µg/L)
Benzene	<0.50
Chloroform	**3.7**
cis-1,2-DCE	<0.50
trans-1,2-DCE	<0.50
TCE	2.6
PCE	**16**
MTBE	<0.50
Toluene	<0.50
1,1-DCA	<0.50
1,2-DCA	<0.50

ANALYTE	RESULTS (µg/L)
Benzene	<0.50
Chloroform	**2.9**
cis-1,2-DCE	<0.50
trans-1,2-DCE	<0.50
TCE	<0.50
PCE	**0.73**
MTBE	<0.50
Toluene	<0.50
1,1-DCA	<0.50
1,2-DCA	<0.50

WELL ID	Benzene	Toluene	MTBE	Chloroform	1,1-DCA	1,2-DCA	TCE	PCE	cis-1,2-DCE	trans-1,2-DCE
Brophy Well	<0.50	<0.50	<0.50	**0.56**	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
CC-1	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
CC-2	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
CC-3	<0.50	<0.50	<0.50	**19**	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
CC-4	<0.50	<0.50	<0.50	**2.0**	<0.50	<0.50	<0.50	**0.93**	<0.50	<0.50
CC-4 (DUP)	<0.50	<0.50	<0.50	**1.9**	<0.50	<0.50	<0.50	**0.93**	<0.50	<0.50
CC-6	<5.0	<5.0	<5.0	**6.2**	<5.0	<5.0	<5.0	**0.54**	<5.0	<5.0
CC-7	<0.50	<0.50	<0.50	**16**	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
CC-8	<0.50	<0.50	<0.50	**1.2**	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
CC-9	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
CC-10	<0.50	<0.50	<0.50	**2.5**	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
CC-12	<0.50	<0.50	<0.50	**2.9**	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
CC-13	<0.50	<0.50	<0.50	**0.93**	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
CC-14	<0.50	<0.50	<0.50	**9.5**	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
CC-16	<0.50	<0.50	<0.50	**0.78**	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
MW-101	<0.50	<0.50	<0.50	**2.3**	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
MW-102	<0.50	<0.50	<0.50	**7.8**	<0.50	<0.50	<0.50	**1.3**	<0.50	<0.50
MW-102(DUP)	<0.50	<0.50	<0.50	**8.2**	<0.50	<0.50	<0.50	**1.3**	<0.50	<0.50
MW-103	<0.50	<0.50	<0.50	**9.9**	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
MW-105	<0.50	<0.50	<0.50	**4.6**	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
MW-106	<0.50	<0.50	<0.50	**15**	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
MW-107	<0.50	<0.50	<0.50	**7.2**	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
EW-4	<0.50	<0.50	<0.50	**1.8**	<0.50	<0.50	<0.50	**0.99**	<0.50	<0.50
MCL	**5**	**1000**	**NE**	**80**	**5**	**5**	**5**	**5**	**70**	**100**

MCL = Maximum Contaminant Level
NE = None Established

Explanation

- **CC-8** Identification and Approximate Location of Monitor Well
- **EW-2** Identification and Approximate Location of Groundwater Extraction Well
- Results presented in micrograms per Liter (µg/L)
- PCE Concentration < 5 µg/L
- PCE Concentration > 5 µg/L

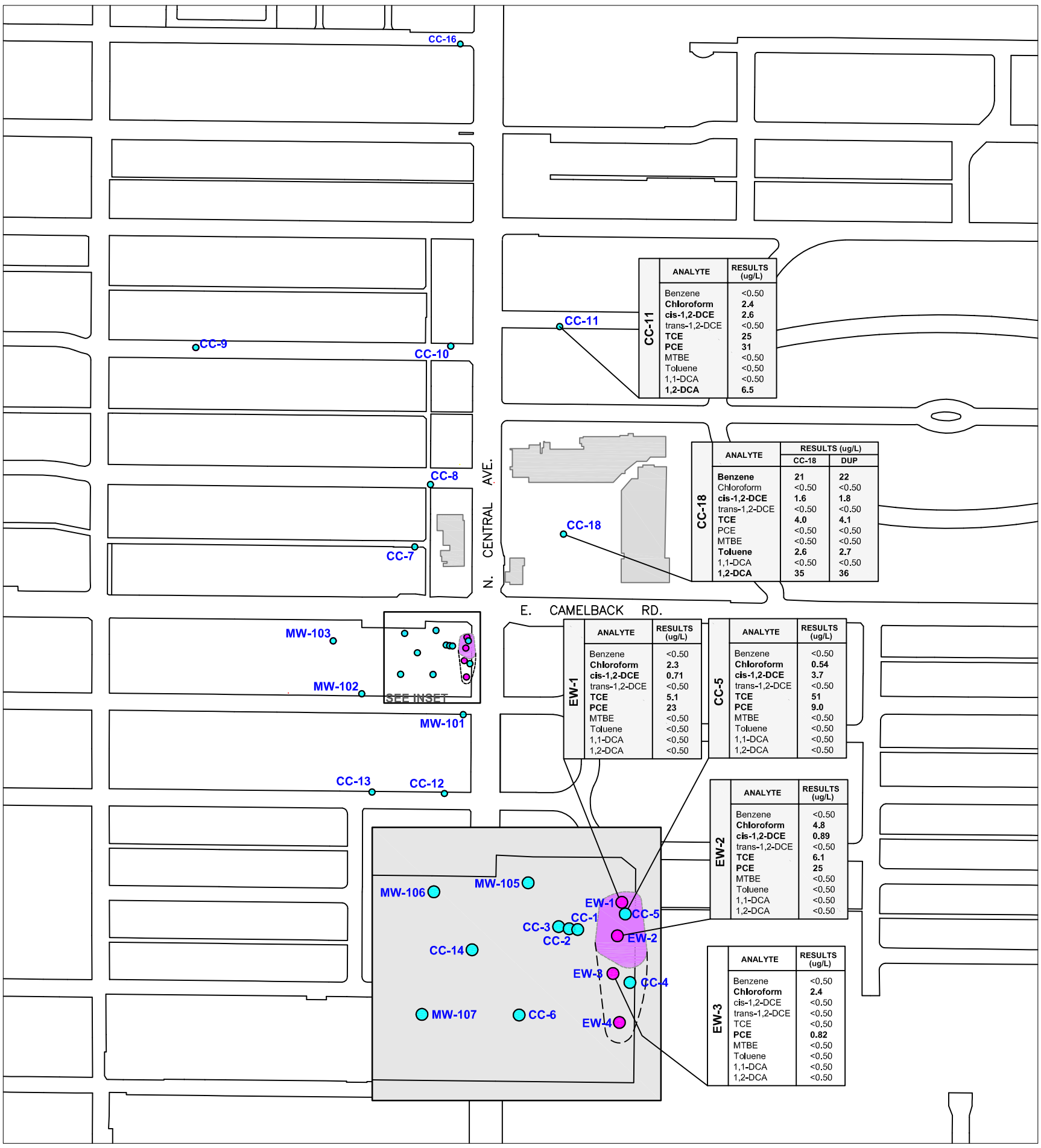
0 325 650 Feet

NORTH

HYDRO GEO CHEM, INC.

GROUNDWATER SAMPLING RESULTS
SECOND QUARTER 2011

Approved	Date	Author	Date	File Name	Figure
CJ	08/24/11	AMC	08/24/11	2010032020G	F.13



CC-11	ANALYTE	RESULTS (ug/L)
	Benzene	<0.50
	Chloroform	**2.4**
	cis-1,2-DCE	**2.6**
	trans-1,2-DCE	<0.50
	TCE	**25**
	PCE	**31**
	MTBE	<0.50
	Toluene	<0.50
	1,1-DCA	<0.50
	1,2-DCA	**6.5**

CC-18	ANALYTE	RESULTS (ug/L) CC-18	RESULTS (ug/L) DUP
	Benzene	**21**	**22**
	Chloroform	<0.50	<0.50
	cis-1,2-DCE	**1.6**	**1.8**
	trans-1,2-DCE	<0.50	<0.50
	TCE	**4.0**	**4.1**
	PCE	<0.50	<0.50
	MTBE	<0.50	<0.50
	Toluene	**2.6**	**2.7**
	1,1-DCA	<0.50	<0.50
	1,2-DCA	**35**	**36**

EW-1	ANALYTE	RESULTS (ug/L)
	Benzene	<0.50
	Chloroform	**2.3**
	cis-1,2-DCE	**0.71**
	trans-1,2-DCE	<0.50
	TCE	**5.1**
	PCE	**23**
	MTBE	<0.50
	Toluene	<0.50
	1,1-DCA	<0.50
	1,2-DCA	<0.50

CC-5	ANALYTE	RESULTS (ug/L)
	Benzene	<0.50
	Chloroform	**0.54**
	cis-1,2-DCE	**3.7**
	trans-1,2-DCE	<0.50
	TCE	**51**
	PCE	**9.0**
	MTBE	<0.50
	Toluene	<0.50
	1,1-DCA	<0.50
	1,2-DCA	<0.50

EW-2	ANALYTE	RESULTS (ug/L)
	Benzene	<0.50
	Chloroform	**4.8**
	cis-1,2-DCE	**0.89**
	trans-1,2-DCE	<0.50
	TCE	**6.1**
	PCE	**25**
	MTBE	<0.50
	Toluene	<0.50
	1,1-DCA	<0.50
	1,2-DCA	<0.50

EW-3	ANALYTE	RESULTS (ug/L)
	Benzene	<0.50
	Chloroform	**2.4**
	cis-1,2-DCE	<0.50
	trans-1,2-DCE	<0.50
	TCE	<0.50
	PCE	**0.82**
	MTBE	<0.50
	Toluene	<0.50
	1,1-DCA	<0.50
	1,2-DCA	<0.50

Well ID	Benzene	Toluene	MTBE	Chloroform	1,1-DCA	1,2-DCA	TCE	PCE	cis-1,2-DCE	trans-1,2-DCE
BROPHY	<0.50	<0.50	<0.50	**0.72**	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
CC-1	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	**1.0**	<0.50	<0.50
CC-2	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
CC-3	<0.50	<0.50	<0.50	**21**	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
CC-4	<0.50	<0.50	<0.50	**2.4**	<0.50	<0.50	<0.50	**0.64**	<0.50	<0.50
CC-6	<0.50	<0.50	<0.50	**7.0**	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
CC-7	<0.50	<0.50	<0.50	**12**	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
CC-8	<0.50	<0.50	<0.50	**1.4**	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
CC-9	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
CC-10	<0.50	<0.50	<0.50	**0.94**	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
CC-12	<0.50	<0.50	<0.50	**2.9**	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
CC-13	<0.50	<0.50	<0.50	**1.2**	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
CC-14	<0.50	<0.50	<0.50	**9.6**	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
CC-16	<0.50	<0.50	<0.50	**0.84**	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
EW-3	<0.50	<0.50	<0.50	**2.4**	<0.50	<0.50	<0.50	**0.82**	<0.50	<0.50
EW-4	<0.50	<0.50	<0.50	**3.2**	<0.50	<0.50	<0.50	**0.80**	<0.50	<0.50
MW-101	<0.50	<0.50	<0.50	**1.8**	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
MW-102	<0.50	<0.50	<0.50	**6.9**	<0.50	<0.50	<0.50	**0.99**	<0.50	<0.50
MW-103	<0.50	<0.50	<0.50	**10**	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
MW-105	<0.50	<0.50	<0.50	**3.8**	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
MW-106	<0.50	<0.50	<0.50	**15**	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
MW-107	<0.50	<0.50	<0.50	**6.7**	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
MCL	**5**	**1000**	**NE**	**80**	**5**	**5**	**5**	**5**	**70**	**100**

MCL = Maximum Contaminant Level
NE = None Established

Legend

- CC-4 — **Identification and Approximate Location of Monitor Well**
- EW-1 — **Identification and Approximate Location of Groundwater Extraction Well**
- **Area where PCE concentration is greater than MCL of 5**
- **Area where PCE concentration is less than MCL of 5**

N

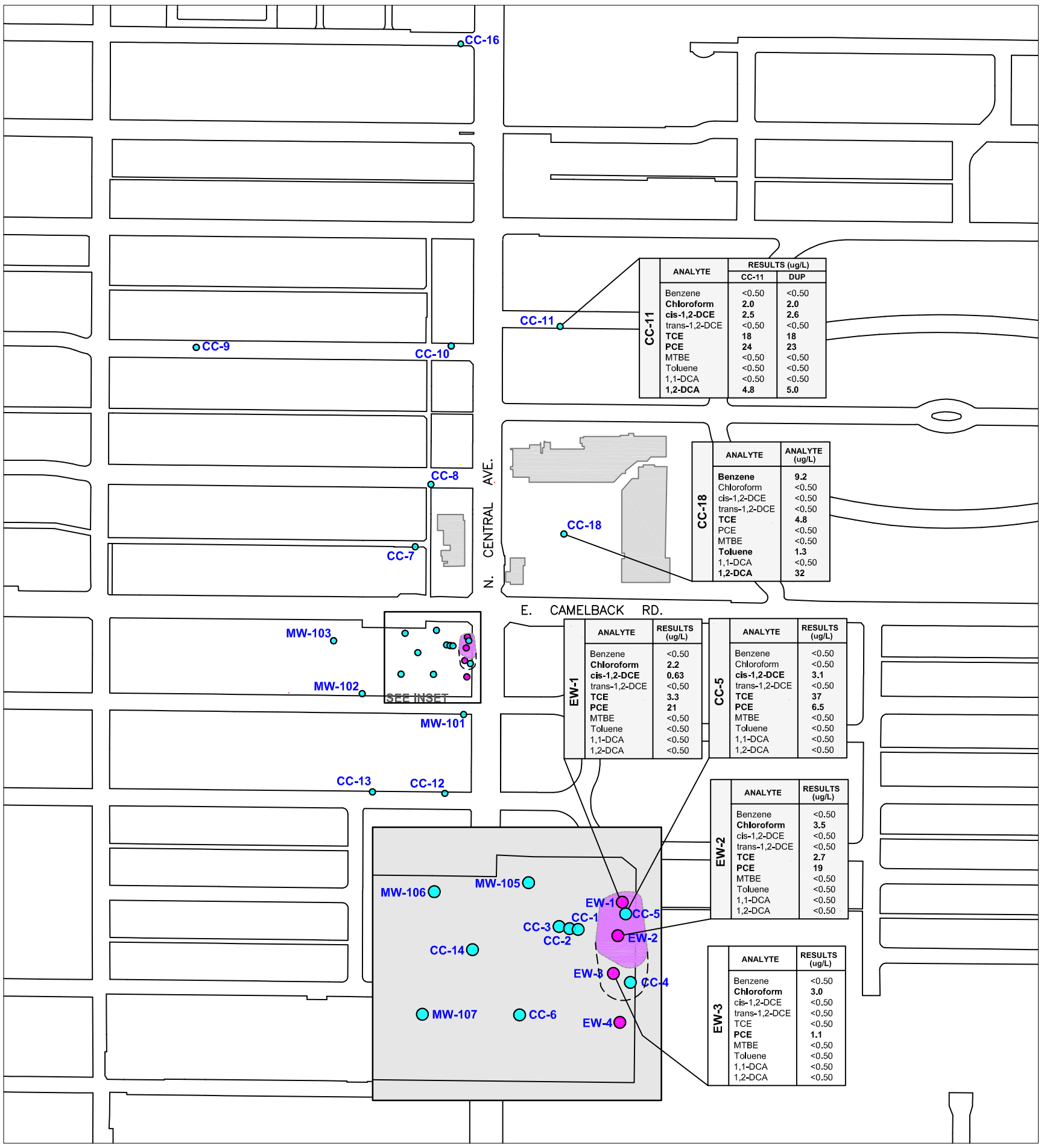
0 200 400
APPROXIMATE SCALE IN FEET

Results presented in micrograms per Liter (ug/L)

HYDRO GEO CHEM, INC.

GROUNDWATER SAMPLING RESULTS
FOURTH QUARTER 2011

Approved	Date	Author	Date	File Name	Figure
CLJ	1/31/12	JAA	1/31/12	2010032014A	F.14



Well ID	Benzene	Toluene	MTBE	Chloroform	1,1-DCA	1,2-DCA	TCE	PCE	cis-1,2-DCE	trans-1,2-DCE
BROPHY	<0.50	<0.50	<0.50	**0.55**	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
CC-1	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	**0.52**	<0.50	<0.50
CC-2	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
CC-3	<0.50	<0.50	<0.50	**16**	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
CC-4	<0.50	<0.50	<0.50	**2.0**	<0.50	<0.50	<0.50	**0.63**	<0.50	<0.50
CC-6	<0.50	<0.50	<0.50	**5.2**	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
CC-7	<0.50	<0.50	<0.50	**5.7**	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
CC-8	<0.50	<0.50	<0.50	**1.4**	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
CC-9	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
CC-10	<0.50	<0.50	<0.50	**0.66**	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
CC-12	<0.50	<0.50	<0.50	**1.8**	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
CC-13	<0.50	<0.50	<0.50	**0.89**	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
CC-14	<0.50	<0.50	<0.50	**9.2**	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
CC-16	<0.50	<0.50	<0.50	**0.83**	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
EW-4	<0.50	<0.50	<0.50	**2.7**	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
MW-101	<0.50	<0.50	<0.50	**1.7**	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
MW-102	<0.50	<0.50	<0.50	**6.9**	<0.50	<0.50	<0.50	**0.50**	<0.50	<0.50
MW-103	<0.50	<0.50	<0.50	**11**	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
MW-105	<0.50	<0.50	<0.50	**3.3**	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
MW-106	<0.50	<0.50	<0.50	**15**	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
MW-107	<0.50	<0.50	<0.50	**7.5**	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
MCL	**5**	**1,000**	**NE**	**80**	**5**	**5**	**5**	**5**	**70**	**100**

MCL = Maximum Contaminant Level
NE = None Established

Legend

- CC-4 — **Identification and Approximate Location of Monitor Well**
- EW-1 — **Identification and Approximate Location of Groundwater Extraction Well**
- **Area where PCE concentration is greater than MCL of 5**
- **Area where PCE concentration is less than MCL of 5**

Results presented in micrograms per Liter (ug/L)

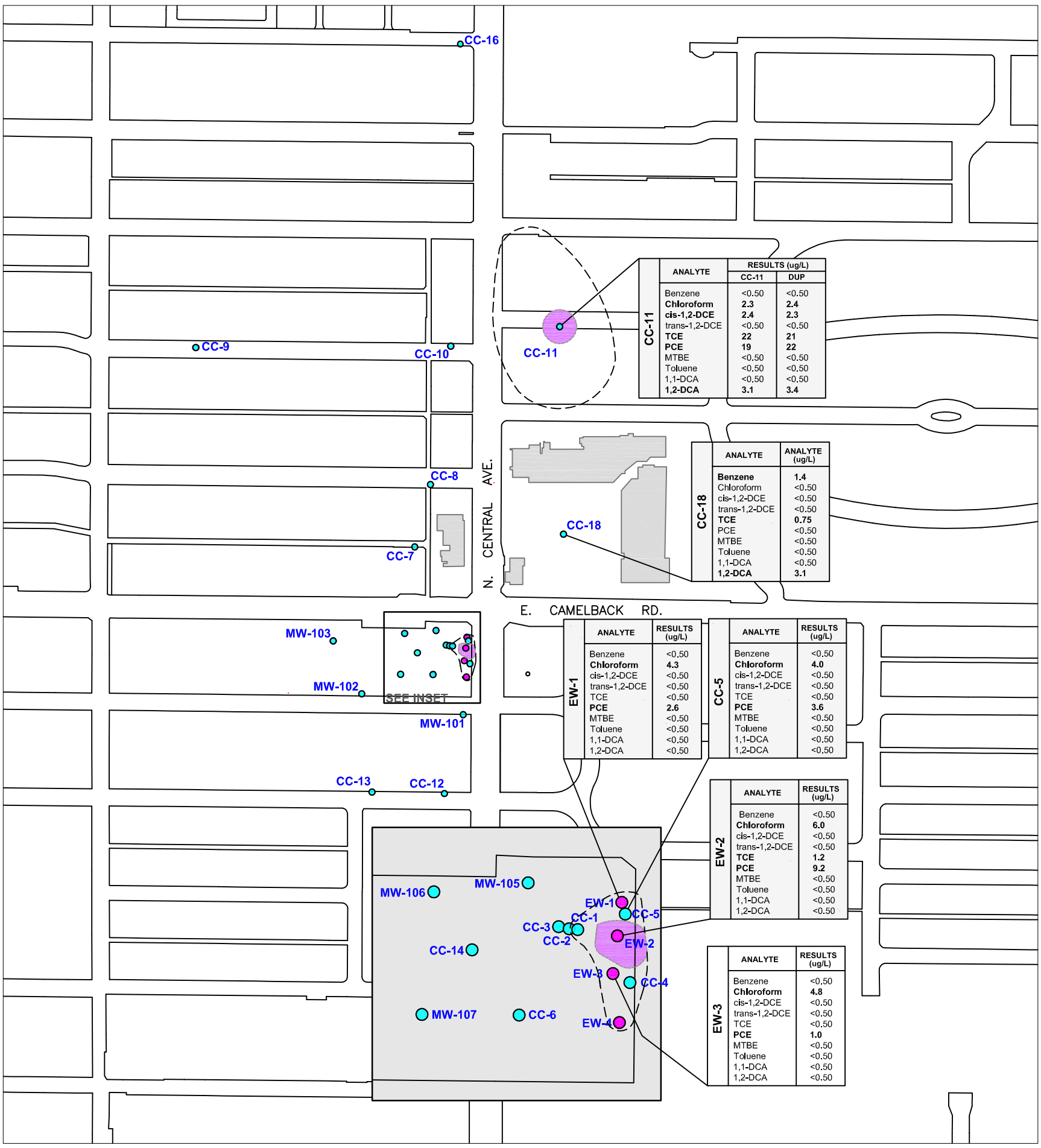
N

0 200 400
APPROXIMATE SCALE IN FEET

HYDRO GEO CHEM, INC.

GROUNDWATER SAMPLING RESULTS
SECOND QUARTER 2012

Approved	Date	Author	Date	File Name	Figure
CLJ	6/30/12	JAA	6/30/12	2010032024A	F.15



Well ID	Benzene	Toluene	MTBE	Chloroform	1,1-DCA	1,2-DCA	TCE	PCE	cis-1,2-DCE	trans-1,2-DCE
BROPHY	<0.50	<0.50	<0.50	**0.60**	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
CC-1	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	**0.79**	<0.50	<0.50
CC-2	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
CC-3	<0.50	<0.50	<0.50	**20**	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
CC-4	<0.50	<0.50	<0.50	**2.8**	<0.50	<0.50	<0.50	**1.3**	<0.50	<0.50
CC-6	<0.50	<0.50	<0.50	**7.1**	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
CC-7	<0.50	<0.50	<0.50	**5.4**	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
CC-8	<0.50	<0.50	<0.50	**1.7**	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
CC-9	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
CC-10	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
CC-12	<0.50	<0.50	<0.50	**1.7**	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
CC-13	<0.50	<0.50	<0.50	**1.1**	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
CC-14	<0.50	<0.50	<0.50	**12**	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
CC-16	<0.50	<0.50	<0.50	**0.67**	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
EW-4	<0.50	<0.50	<0.50	**3.7**	<0.50	<0.50	<0.50	**1.3**	<0.50	<0.50
MW-101	<0.50	<0.50	<0.50	**4.1**	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
MW-102	<0.50	<0.50	<0.50	**6.6**	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
MW-103	<0.50	<0.50	<0.50	**9.8**	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
MW-105	<0.50	<0.50	<0.50	**3.7**	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
MW-106	<0.50	<0.50	<0.50	**12**	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
MW-107	<0.50	<0.50	<0.50	**9.6**	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
MCL	**5**	**1,000**	**NE**	**80**	**5**	**5**	**5**	**5**	**70**	**100**

MCL = Maximum Contaminant Level
NE = None Established

Legend

- CC-4 — **Identification and Approximate Location of Monitor Well**
- EW-1 — **Identification and Approximate Location of Groundwater Extraction Well**
- **Area where PCE concentration is greater than MCL of 5**
- **Area where PCE concentration is less than MCL of 5**

Results presented in micrograms per Liter (ug/L)

N

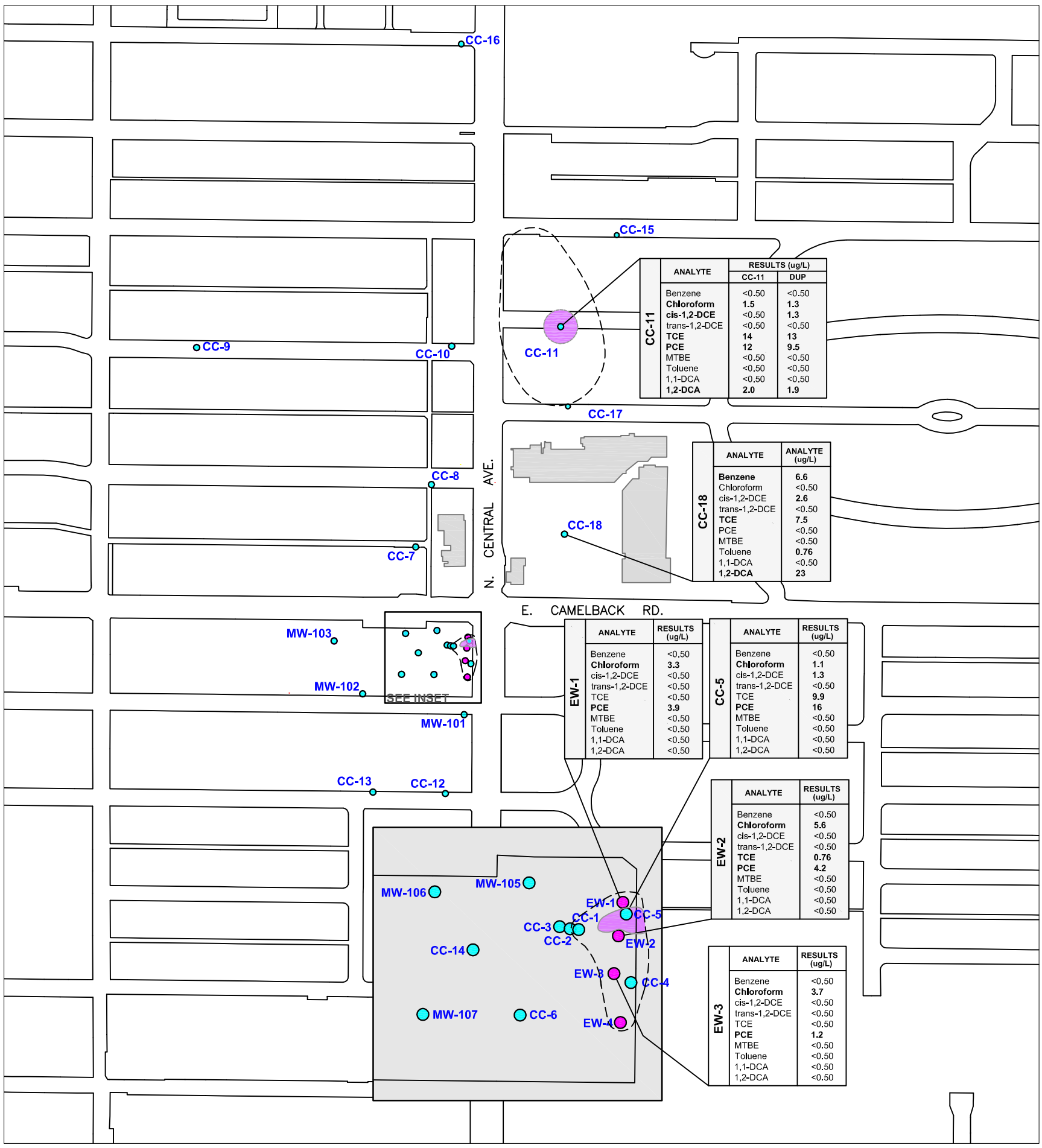
0 200 400

APPROXIMATE SCALE IN FEET

HYDRO GEO CHEM, INC.

GROUNDWATER SAMPLING RESULTS
FOURTH QUARTER 2012

Approved	Date	Author	Date	File Name	Figure
CLJ	12/31/12	JAA	12/31/12	2010032035A	F.16



Well ID	Benzene	Toluene	MTBE	Chloroform	1,1-DCA	1,2-DCA	TCE	PCE	cis-1,2-DCE	trans-1,2-DCE
BROPHY	<0.50	<0.50	<0.50	**0.54**	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
CC-1	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	**0.93**	<0.50	<0.50
CC-2	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
CC-3	<0.50	<0.50	<0.50	**14**	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
CC-4	<0.50	<0.50	<0.50	**2.2**	<0.50	<0.50	<0.50	**0.92**	<0.50	<0.50
CC-6	<0.50	<0.50	<0.50	**5.1**	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
CC-7	<0.50	<0.50	<0.50	**3.2**	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
CC-8	<0.50	<0.50	<0.50	**1.4**	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
CC-9	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
CC-10	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
CC-12	<0.50	<0.50	<0.50	**1.4**	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
CC-13	<0.50	<0.50	<0.50	**0.81**	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
CC-14	<0.50	<0.50	<0.50	**9.4**	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
CC-15	<0.50	<0.50	<0.50	<0.50	<0.50	**9.9**	<0.50	<0.50	<0.50	<0.50
CC-16	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
CC-17	<0.50	<0.50	<0.50	<0.50	<0.50	**27**	**34**	**120**	**3.9**	<0.50
EW-4	<0.50	<0.50	<0.50	**2.8**	<0.50	<0.50	<0.50	**0.84**	<0.50	<0.50
MW-101	<0.50	<0.50	<0.50	**6.1**	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
MW-102	<0.50	<0.50	<0.50	**5.5**	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
MW-103	<0.50	<0.50	<0.50	**6.7**	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
MW-105	<0.50	<0.50	<0.50	**2.7**	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
MW-106	<0.50	<0.50	<0.50	**8.2**	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
MW-107	<0.50	<0.50	<0.50	**7.1**	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
MCL	**5**	**1,000**	**NE**	**80**	**5**	**5**	**5**	**5**	**70**	**100**

MCL = Maximum Contaminant Level
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Legend

- CC-4 — **Identification and Approximate Location of Monitor Well**
- EW-1 — **Identification and Approximate Location of Groundwater Extraction Well**
- **Area where PCE concentration is greater than MCL of 5**
- **Area where PCE concentration is less than MCL of 5**

Results presented in micrograms per Liter (ug/L)

N

0 200 400
APPROXIMATE SCALE IN FEET

HYDRO GEO CHEM, INC.

GROUNDWATER SAMPLING RESULTS
SECOND QUARTER 2013

Approved	Date	Author	Date	File Name	Figure
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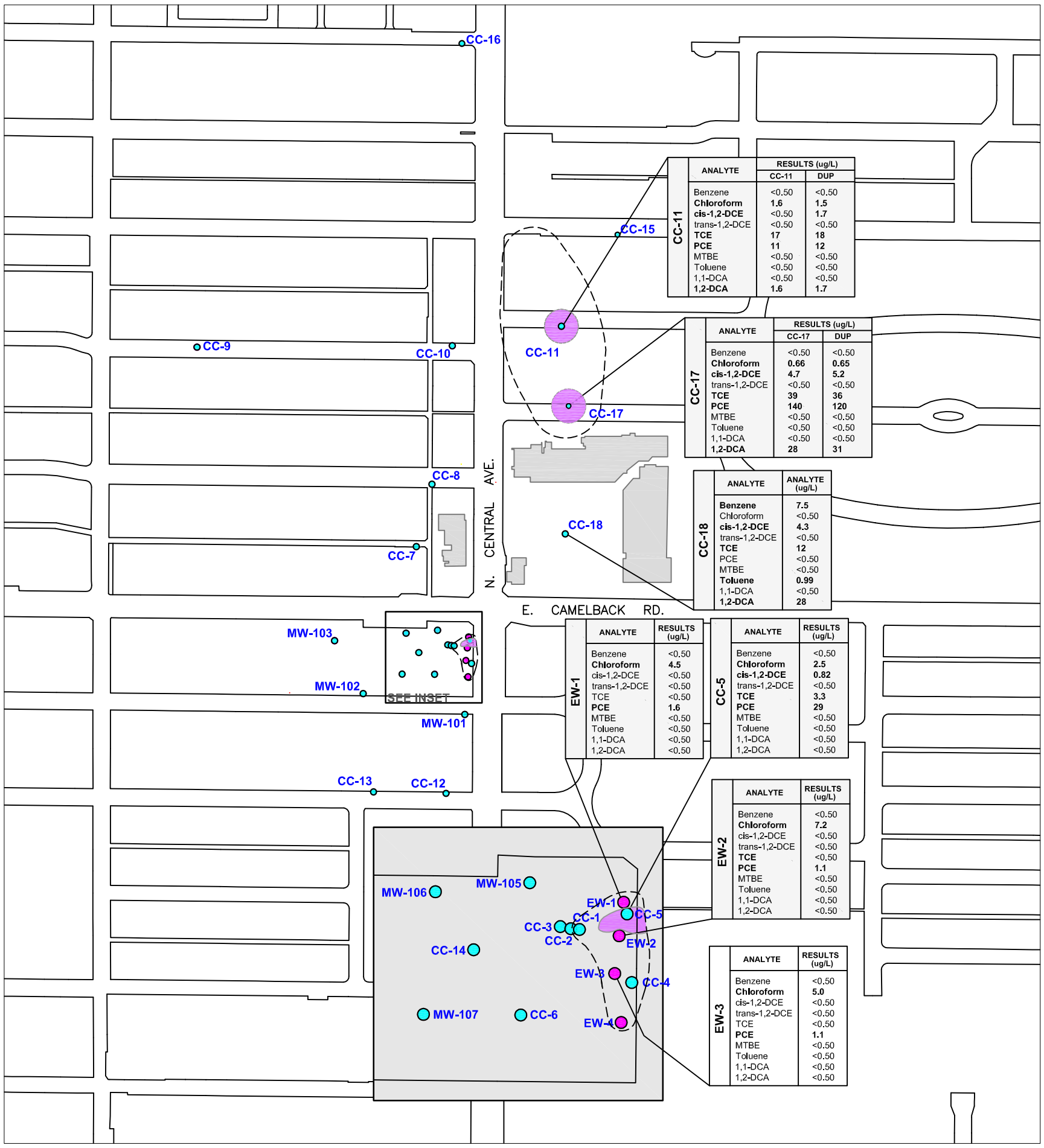

Well ID	Benzene	Toluene	MTBE	Chloroform	1,1-DCA	1,2-DCA	TCE	PCE	cis-1,2-DCE	trans-1,2-DCE
BROPHY	<0.50	<0.50	<0.50	**0.73**	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
CC-1	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	**0.54**	<0.50	<0.50
CC-2	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
CC-3	<0.50	<0.50	<0.50	**16**	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
CC-4	<0.50	<0.50	<0.50	**2.9**	<0.50	<0.50	<0.50	**1.2**	<0.50	<0.50
CC-6	<0.50	<0.50	<0.50	**6.9**	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
CC-7	<0.50	<0.50	<0.50	**3.8**	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
CC-8	<0.50	<0.50	<0.50	**2.5**	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
CC-9	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
CC-10	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
CC-12	<0.50	<0.50	<0.50	**1.6**	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
CC-13	<0.50	<0.50	<0.50	**1.4**	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
CC-14	<0.50	<0.50	<0.50	**12**	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
CC-15	<0.50	<0.50	<0.50	<0.50	<0.50	**5.4**	<0.50	<0.50	<0.50	<0.50
CC-16	<0.50	<0.50	<0.50	**0.66**	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
EW-4	<0.50	<0.50	<0.50	**5.3**	<0.50	<0.50	<0.50	**1.6**	<0.50	<0.50
MW-101	<0.50	<0.50	<0.50	**9.1**	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
MW-102	<0.50	<0.50	<0.50	**4.6**	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
MW-103	<0.50	<0.50	<0.50	**8.5**	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
MW-105	<0.50	<0.50	<0.50	**2.3**	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
MW-106	<0.50	<0.50	<0.50	**9.6**	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
MW-107	<0.50	<0.50	<0.50	**7.5**	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
MCL	**5**	**1,000**	**NE**	**80**	**5**	**5**	**5**	**5**	**70**	**100**

MCL = Maximum Contaminant Level
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Legend

- CC-4 — **Identification and Approximate Location of Monitor Well**
- EW-1 — **Identification and Approximate Location of Groundwater Extraction Well**
- **Area where PCE concentration is greater than MCL of 5**
- **Area where PCE concentration is less than MCL of 5**

Results presented in micrograms per Liter (ug/L)

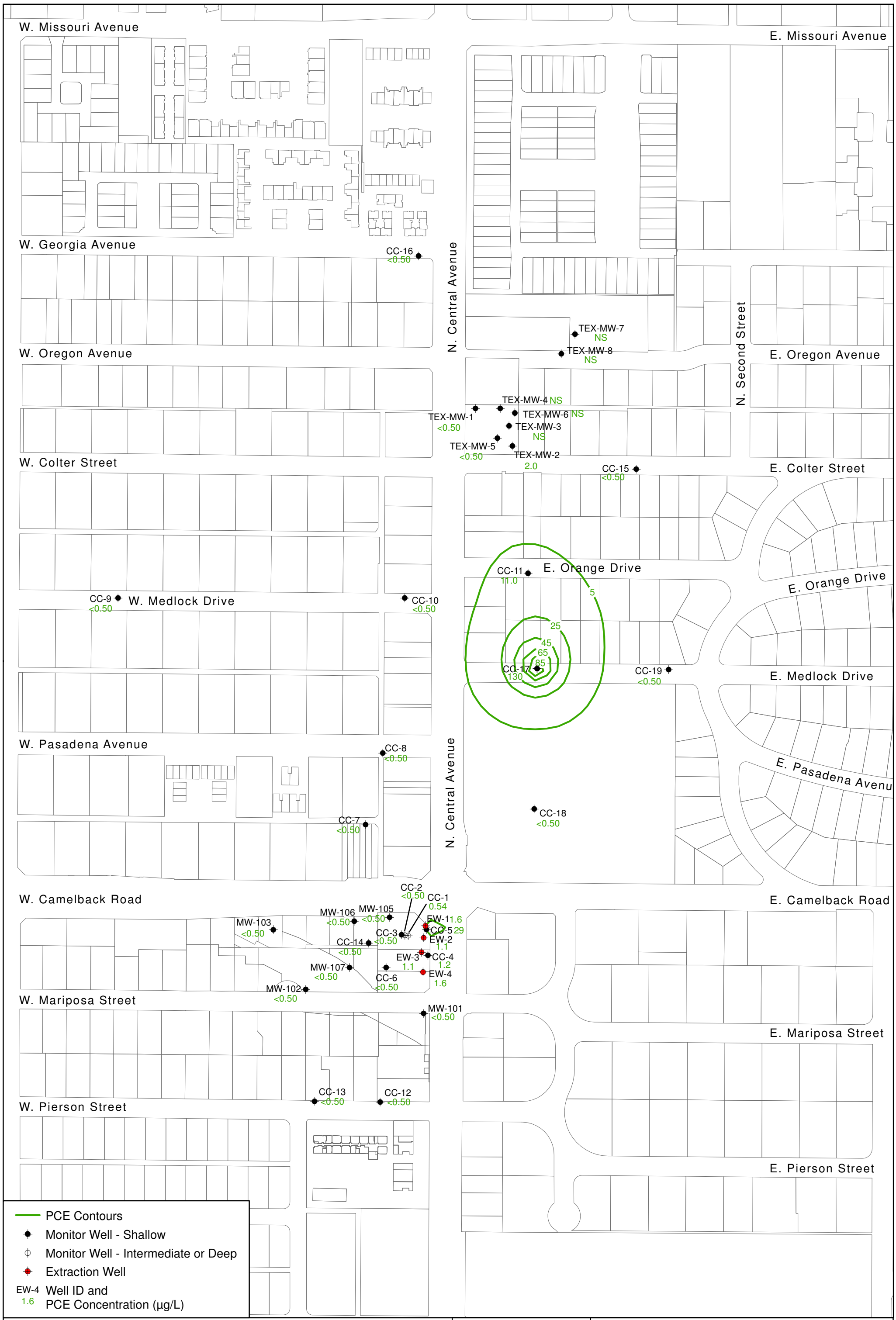
N

0 200 400
APPROXIMATE SCALE IN FEET

HYDRO GEO CHEM, INC.

GROUNDWATER SAMPLING RESULTS
FOURTH QUARTER 2013

Approved	Date	Author	Date	File Name	Figure
FJS	12/31/13	JAA	12/31/13	2010032071A	F.18



PCE CONTOURS
CENTRAL AND CAMELBACK WQARF SITE

Approved	Date	File	Figure
	03/03/14	2010032015G.mxd	F.19

APPENDIX G

BEACON ENVIRONMENTAL SERVICES SOIL GAS ANALYTICAL REPORT
PASSIVE SOIL GAS SURVEY IN SCSA

Hydro Geo Chem, Inc.
6370 E. Thomas Road, Suite 200
Scottsdale, AZ 85251
Attn: Mr. Chris Jacquemin

Passive Soil Gas Survey – Analytical Report
Date: June 30, 2011
Beacon Project No. 2427

Project Reference:	Central and Camelback WQARF Site, Phoenix, AZ
Samplers Installed:	June 2 and 3, 2011
Samplers Retrieved:	June 16, 2011
Samples Received:	June 17, 2011
Analyses Completed:	June 18, 2011
Laboratory Data Issued:	June 23, 2011

EPA Method 8260C (Modified)
All samples were successfully analyzed using thermal desorption-gas chromatography/mass spectrometry (TD-GC/MS) instrumentation to target a custom compound list following EPA Method 8260C. Laboratory results are reported in nanograms (ng) of specific compound per sample.

Laboratory QA/QC procedures included internal standards, surrogates, and blanks based on EPA Method 8260C. Analyses and reporting were done in accordance with BEACON's Quality Assurance Project Plan.

Reporting limits
The contract required quantification limit (CRQL) is 25 nanograms (ng) for individual compounds and 2,500 ng for Total Petroleum Hydrocarbons (TPH). **Table 1** provides survey results in nanograms per sampler by sample-point number and compound name. The quantification limits (<25 and <2,500 ng) represent a baseline above which results exceed laboratory-determined limits of precision and accuracy. Field sample measurements above the upper calibration standard are estimated; however, these values are reported without qualifiers because all reported measurements are relative to each other and are appropriate to meet the survey objectives of locating source areas and vapor intrusion pathways and defining the lateral extent of contamination.

Calibration Verification
The continuing calibration verification (CCV) values for the system check compounds were all within ±20% of the true values as defined by the initial five-point calibration and met the requirements specified in Beacon Environmental's Quality Assurance Project Plan.

Method Blanks/Trip Blanks
Laboratory method blanks are run with each sample batch to identify contamination present in the laboratory. If contamination is detected on a method blank, measurements of identical compounds in that sample batch are flagged in the laboratory report. The laboratory method blank analyzed in connection with the present samples revealed no contamination.

The trip blank is a sampler prepared, transported, and analyzed with other samples but intentionally not exposed. Any target compounds identified on the trip blanks are reported in the laboratory data. The analysis of the trip blank (labeled Trip-1 in **Table 1**) reported none of the targeted compounds.

Passive Soil-Gas Survey Notes

When sample locations are covered with or near the edge of an artificial surface (*e.g.*, asphalt or concrete), the concentrations of compounds in soil gas are often significantly higher than the concentrations would be if the surfacing were not present. Thus, a reading taken below or near an impermeable surface is much higher than it would be in the absence of such a cap. Therefore, the sample location conditions should be evaluated when comparing results between locations.

Survey findings are exclusive to this project and when the spatial relationships are compared with results of other BEACON Surveys it is necessary to incorporate survey and site information from both investigations (*e.g.*, depth to sources, soil types, porosity, soil moisture, presence of impervious surfacing, sample collection times). BEACON recommends the guidelines stated in **Attachment 1** to establish a relationship between reported soil-gas measurements and actual subsurface contaminant concentrations, which will indicate those measurements representing significant subsurface contamination.

BEACON's passive soil-gas samplers are prepared with two sets of cartridges for subsequent duplicate or confirmatory sample analysis. At HGC's request, duplicate analysis was performed for PSG-10, designated PSG-10-D. When comparing quantitative results, a duplicate correspondence should be considered when the relative percent difference (RPD) between the two samples is less than or equal to 100%. For the purpose of calculating correspondences, all non-detections should be assigned, as a baseline value, the CRQL for the specific contaminant. Based on these assumptions, a 100% correlation was found between the duplicate sample and its base sample.

Project Details

Samplers were deployed on June 2 and 3, 2011, and were retrieved on June 16, 2011. **Attachment 2** describes the field procedures used. Individual deployment and retrieval times will be found in the Field Deployment Report (**Attachment 3**).

Twenty-five (25) field samples, one (1) duplicate, and one (1) trip blank were received by BEACON on June 17, 2011. Adsorbent cartridges from the passive samplers were thermally desorbed, then analyzed using gas chromatography/mass spectrometry (GC/MS) equipment, in accordance with EPA Method 8260C (Modified), as described in **Attachment 4**. BEACON's laboratory analyzed each sample for the targeted compounds; analyses were completed on June 18, 2011. Following a laboratory review, results were provided to HGC on June 23, 2011. The Chain-of-Custody form, which was shipped with the samples for this survey, is supplied as **Attachment 5**.

Sample locations are shown on **Figure 1**. The following table lists frequency of detections based on the number of field samples analyzed, the reporting limit, and the maximum value for each mapped compound. The table also includes the transformation and interpolation method for the compound distribution maps provided.

Figure No.	**2**	**3**
Compound	Trichloroethene	Tetrachloroethene
Frequency	18	23
Reporting Limit (nanograms)	25	25
Max Value (nanograms)	3,107	12,087
Transformation Method	Log	Log
Interpolation Method	Kriging	Kriging

Attachments:

-1- Applying Results From Passive Soil-Gas Surveys
-2- Field Procedures
-3- Field Deployment Report
-4- Laboratory Procedures
-5- Chain-of-Custody Form

ALL DATA MEET REQUIREMENTS AS SPECIFIED IN THE BEACON ENVIRONMENTAL SERVICES, INC. QUALITY ASSURANCE PROJECT PLAN. RELEASE OF THE DATA CONTAINED IN THIS DATA PACKAGE HAS BEEN AUTHORIZED BY THE LABORATORY DIRECTOR OR HIS SIGNEE, AS VERIFIED BY THE FOLLOWING SIGNATURE:

Steven C. Thornley
Laboratory Director

Table 1

Beacon Environmental Services, Inc.
323 Williams Street
Bel Air, MD 21014

Analysis by EPA Method 8260C (Modified)

Client Sample ID:	mb110617a	Trip-1	PSG-1	PSG-2	PSG-3	PSG-4
Project Number:		2427	2427	2427	2427	2427
Lab File ID:	A11061703	A11061705	A11061706	A11061707	A11061708	A11061709
Received Date:		6/17/2011	6/17/2011	6/17/2011	6/17/2011	6/17/2011
Analysis Date:	6/17/2011	6/17/2011	6/17/2011	6/17/2011	6/17/2011	6/17/2011
Analysis Time:	15:41	16:30	16:53	17:16	17:39	18:02
Units:	ng	ng	ng	ng	ng	ng
COMPOUNDS						
Vinyl Chloride	<25	<25	<25	<25	<25	<25
Trichlorofluoromethane (Freon 11)	<25	<25	<25	<25	<25	<25
1,1-Dichloroethene	<25	<25	<25	<25	<25	<25
Methylene Chloride	<25	<25	<25	<25	<25	**31**
1,1,2-Trichlorotrifluoroethane (Fr.113)	<25	<25	<25	<25	<25	<25
trans-1,2-Dichloroethene	<25	<25	<25	<25	<25	<25
Methyl-t-butyl ether	<25	<25	<25	<25	<25	<25
1,1-Dichloroethane	<25	<25	<25	<25	<25	<25
cis-1,2-Dichloroethene	<25	<25	<25	<25	<25	<25
Chloroform	<25	<25	<25	<25	<25	<25
1,2-Dichloroethane	<25	<25	<25	<25	<25	<25
1,1,1-Trichloroethane	<25	<25	<25	<25	<25	<25
Carbon Tetrachloride	<25	<25	<25	<25	<25	<25
Benzene	<25	<25	<25	<25	<25	<25
Trichloroethene	<25	<25	<25	<25	<25	<25
1,4-Dioxane	<25	<25	<25	<25	<25	<25
1,1,2-Trichloroethane	<25	<25	<25	<25	<25	<25
Toluene	<25	<25	<25	<25	**469**	**89**
1,2-Dibromoethane (EDB)	<25	<25	<25	<25	<25	<25
Tetrachloroethene	<25	<25	<25	**51**	**35**	**26**
1,1,1,2-Tetrachloroethane	<25	<25	<25	<25	<25	<25
Chlorobenzene	<25	<25	<25	<25	<25	<25
Ethylbenzene	<25	<25	<25	<25	<25	<25
p & m-Xylene	<25	<25	<25	<25	<25	<25
1,1,2,2-Tetrachloroethane	<25	<25	<25	<25	<25	<25
o-Xylene	<25	<25	<25	<25	<25	<25
1,2,3-Trichloropropane	<25	<25	<25	<25	<25	<25
Isopropylbenzene	<25	<25	<25	<25	<25	<25
1,3,5-Trimethylbenzene	<25	<25	<25	<25	<25	<25
1,2,4-Trimethylbenzene	<25	<25	<25	<25	<25	<25
1,3-Dichlorobenzene	<25	<25	<25	<25	<25	<25
1,4-Dichlorobenzene	<25	<25	<25	<25	<25	<25
1,2-Dichlorobenzene	<25	<25	<25	<25	<25	<25
1,2,4-Trichlorobenzene	<25	<25	<25	<25	<25	<25
Naphthalene	<25	<25	<25	<25	<25	<25
1,2,3-Trichlorobenzene	<25	<25	<25	<25	<25	<25
2-Methylnaphthalene	<25	<25	<25	<25	<25	<25
TPH C_5-C_9	<2,500	<2,500	<2,500	<2,500	<2,500	<2,500
TPH C_{10}-C_{15}	<2,500	<2,500	**3,623**	**2,717**	**3,971**	**3,780**

Results in nanograms (ng). B = Detected in method blank.

Table 1

Beacon Environmental Services, Inc.
323 Williams Street
Bel Air, MD 21014

Analysis by EPA Method 8260C (Modified)

Client Sample ID:	PSG-5	PSG-6	PSG-7	PSG-8	PSG-9	PSG-10
Project Number:	2427	2427	2427	2427	2427	2427
Lab File ID:	A11061710	A11061711	A11061712	A11061713	A11061714	A11061715
Received Date:	6/17/2011	6/17/2011	6/17/2011	6/17/2011	6/17/2011	6/17/2011
Analysis Date:	6/17/2011	6/17/2011	6/17/2011	6/17/2011	6/17/2011	6/17/2011
Analysis Time:	18:25	18:48	19:11	19:33	19:56	20:19
Units:	ng	ng	ng	ng	ng	ng
COMPOUNDS						
Vinyl Chloride	<25	<25	<25	<25	<25	<25
Trichlorofluoromethane (Freon 11)	<25	<25	<25	<25	<25	<25
1,1-Dichloroethene	<25	<25	<25	<25	<25	<25
Methylene Chloride	<25	**41**	**27**	<25	<25	<25
1,1,2-Trichlorotrifluoroethane (Fr.113)	<25	<25	<25	<25	<25	<25
trans-1,2-Dichloroethene	<25	<25	<25	<25	<25	<25
Methyl-t-butyl ether	<25	<25	<25	<25	<25	<25
1,1-Dichloroethane	<25	<25	<25	<25	<25	<25
cis-1,2-Dichloroethene	<25	<25	<25	<25	<25	<25
Chloroform	<25	<25	<25	<25	<25	<25
1,2-Dichloroethane	<25	<25	<25	<25	<25	<25
1,1,1-Trichloroethane	<25	<25	<25	<25	<25	<25
Carbon Tetrachloride	<25	<25	<25	<25	<25	<25
Benzene	<25	<25	<25	<25	<25	<25
Trichloroethene	**72**	<25	**107**	**138**	<25	**31**
1,4-Dioxane	<25	<25	<25	<25	<25	<25
1,1,2-Trichloroethane	<25	<25	<25	<25	<25	<25
Toluene	**60**	**1,032**	**229**	<25	<25	**1,126**
1,2-Dibromoethane (EDB)	<25	<25	<25	<25	<25	<25
Tetrachloroethene	**429**	**57**	**978**	**754**	**103**	**477**
1,1,1,2-Tetrachloroethane	<25	<25	<25	<25	<25	<25
Chlorobenzene	<25	<25	<25	<25	<25	<25
Ethylbenzene	<25	**39**	<25	<25	<25	**135**
p & m-Xylene	<25	**119**	**34**	<25	<25	**357**
1,1,2,2-Tetrachloroethane	<25	<25	<25	<25	<25	<25
o-Xylene	<25	**63**	<25	<25	<25	**217**
1,2,3-Trichloropropane	<25	<25	<25	<25	<25	<25
Isopropylbenzene	<25	<25	<25	<25	<25	<25
1,3,5-Trimethylbenzene	<25	<25	<25	<25	<25	<25
1,2,4-Trimethylbenzene	<25	<25	<25	<25	<25	**46**
1,3-Dichlorobenzene	<25	<25	<25	<25	<25	<25
1,4-Dichlorobenzene	<25	<25	<25	<25	<25	<25
1,2-Dichlorobenzene	<25	<25	<25	<25	<25	<25
1,2,4-Trichlorobenzene	<25	<25	<25	<25	<25	<25
Naphthalene	<25	<25	<25	<25	<25	<25
1,2,3-Trichlorobenzene	<25	<25	<25	<25	<25	<25
2-Methylnaphthalene	<25	<25	<25	<25	<25	<25
TPH C_5-C_9	<2,500	**2,666**	**5,225**	<2,500	<2,500	**5,119**
TPH C_{10}-C_{15}	**4,609**	**5,523**	**5,753**	**5,750**	**3,813**	**7,978**

Results in nanograms (ng). B = Detected in method blank.

Table 1

Beacon Environmental Services, Inc.
323 Williams Street
Bel Air, MD 21014

Analysis by EPA Method 8260C (Modified)

Client Sample ID:	PSG-10-D	PSG-11	PSG-12	PSG-13	PSG-14	PSG-15
Project Number:	2427	2427	2427	2427	2427	2427
Lab File ID:	A11061716	A11061717	A11061718	A11061719	A11061720	A11061721
Received Date:	6/17/2011	6/17/2011	6/17/2011	6/17/2011	6/17/2011	6/17/2011
Analysis Date:	6/17/2011	6/17/2011	6/17/2011	6/17/2011	6/17/2011	6/17/2011
Analysis Time:	20:41	21:04	21:27	21:50	22:13	22:36
Units:	ng	ng	ng	ng	ng	ng
COMPOUNDS						
Vinyl Chloride	<25	<25	<25	<25	<25	<25
Trichlorofluoromethane (Freon 11)	<25	<25	<25	<25	<25	<25
1,1-Dichloroethene	<25	<25	<25	<25	<25	<25
Methylene Chloride	<25	<25	<25	<25	<25	<25
1,1,2-Trichlorotrifluoroethane (Fr.113)	<25	<25	<25	<25	<25	<25
trans-1,2-Dichloroethene	<25	<25	<25	<25	<25	<25
Methyl-t-butyl ether	<25	<25	<25	<25	<25	<25
1,1-Dichloroethane	<25	<25	<25	<25	<25	<25
cis-1,2-Dichloroethene	<25	<25	<25	<25	<25	<25
Chloroform	<25	<25	<25	<25	<25	<25
1,2-Dichloroethane	<25	<25	<25	<25	<25	<25
1,1,1-Trichloroethane	<25	<25	<25	<25	<25	<25
Carbon Tetrachloride	<25	<25	<25	<25	<25	<25
Benzene	<25	<25	<25	<25	<25	<25
Trichloroethene	<25	**52**	**29**	<25	**26**	**28**
1,4-Dioxane	<25	<25	<25	<25	<25	<25
1,1,2-Trichloroethane	<25	<25	<25	<25	<25	<25
Toluene	**636**	**62**	<25	<25	<25	<25
1,2-Dibromoethane (EDB)	<25	<25	<25	<25	<25	<25
Tetrachloroethene	**228**	**593**	**85**	<25	**256**	**254**
1,1,1,2-Tetrachloroethane	<25	<25	<25	<25	<25	<25
Chlorobenzene	<25	<25	<25	<25	<25	<25
Ethylbenzene	**96**	<25	<25	<25	<25	<25
p & m-Xylene	**287**	**29**	<25	<25	<25	<25
1,1,2,2-Tetrachloroethane	<25	<25	<25	<25	<25	<25
o-Xylene	**166**	<25	<25	<25	<25	<25
1,2,3-Trichloropropane	<25	<25	<25	<25	<25	<25
Isopropylbenzene	<25	<25	<25	<25	<25	<25
1,3,5-Trimethylbenzene	<25	<25	<25	<25	<25	<25
1,2,4-Trimethylbenzene	**32**	<25	<25	<25	<25	<25
1,3-Dichlorobenzene	<25	<25	<25	<25	<25	<25
1,4-Dichlorobenzene	<25	<25	<25	<25	<25	<25
1,2-Dichlorobenzene	<25	<25	<25	<25	<25	<25
1,2,4-Trichlorobenzene	<25	<25	<25	<25	<25	<25
Naphthalene	<25	<25	<25	<25	<25	<25
1,2,3-Trichlorobenzene	<25	<25	<25	<25	<25	<25
2-Methylnaphthalene	<25	<25	<25	<25	<25	<25
TPH C_5-C_9	**3,800**	<2,500	<2,500	<2,500	<2,500	<2,500
TPH C_{10}-C_{15}	**7,611**	**5,182**	**7,326**	**4,648**	**4,784**	**3,983**

Results in nanograms (ng). B = Detected in method blank.

Table 1

Beacon Environmental Services, Inc.
323 Williams Street
Bel Air, MD 21014

Analysis by EPA Method 8260C (Modified)

Client Sample ID:	PSG-16	PSG-17	PSG-18	PSG-19	PSG-20	PSG-21
Project Number:	2427	2427	2427	2427	2427	2427
Lab File ID:	A11061722	A11061723	A11061724	A11061725	A11061726	A11061727
Received Date:	6/17/2011	6/17/2011	6/17/2011	6/17/2011	6/17/2011	6/17/2011
Analysis Date:	6/17/2011	6/17/2011	6/17/2011	6/18/2011	6/18/2011	6/18/2011
Analysis Time:	22:58	23:21	23:44	0:07	0:30	0:52
Units:	ng	ng	ng	ng	ng	ng
COMPOUNDS						
Vinyl Chloride	<25	<25	<25	<25	<25	<25
Trichlorofluoromethane (Freon 11)	<25	<25	<25	<25	<25	<25
1,1-Dichloroethene	<25	<25	<25	<25	<25	**34**
Methylene Chloride	**46**	<25	<25	**49**	<25	**72**
1,1,2-Trichlorotrifluoroethane (Fr.113)	<25	<25	<25	<25	<25	<25
trans-1,2-Dichloroethene	<25	<25	<25	<25	<25	**56**
Methyl-t-butyl ether	<25	<25	<25	<25	<25	<25
1,1-Dichloroethane	<25	<25	<25	<25	<25	<25
cis-1,2-Dichloroethene	<25	<25	<25	<25	<25	**132**
Chloroform	<25	<25	<25	<25	<25	<25
1,2-Dichloroethane	<25	<25	<25	<25	<25	<25
1,1,1-Trichloroethane	<25	<25	<25	<25	<25	<25
Carbon Tetrachloride	<25	<25	<25	<25	<25	<25
Benzene	<25	<25	<25	<25	<25	<25
Trichloroethene	**114**	**25**	**61**	**123**	**90**	**3,107**
1,4-Dioxane	<25	<25	<25	<25	<25	<25
1,1,2-Trichloroethane	<25	<25	<25	<25	<25	<25
Toluene	**44**	<25	<25	**31**	<25	**75**
1,2-Dibromoethane (EDB)	<25	<25	<25	<25	<25	<25
Tetrachloroethene	**346**	**69**	**339**	**459**	**292**	**9,350**
1,1,1,2-Tetrachloroethane	<25	<25	<25	<25	<25	<25
Chlorobenzene	<25	<25	<25	<25	<25	<25
Ethylbenzene	<25	<25	<25	<25	<25	<25
p & m-Xylene	<25	<25	<25	<25	<25	**53**
1,1,2,2-Tetrachloroethane	<25	<25	<25	<25	<25	<25
o-Xylene	<25	<25	<25	<25	<25	**31**
1,2,3-Trichloropropane	<25	<25	<25	<25	<25	<25
Isopropylbenzene	<25	<25	<25	<25	<25	<25
1,3,5-Trimethylbenzene	<25	<25	<25	<25	<25	<25
1,2,4-Trimethylbenzene	<25	<25	<25	<25	<25	<25
1,3-Dichlorobenzene	<25	<25	<25	<25	<25	<25
1,4-Dichlorobenzene	<25	<25	<25	<25	<25	<25
1,2-Dichlorobenzene	<25	<25	<25	<25	<25	<25
1,2,4-Trichlorobenzene	<25	<25	<25	<25	<25	<25
Naphthalene	<25	<25	<25	<25	<25	<25
1,2,3-Trichlorobenzene	<25	<25	<25	<25	<25	<25
2-Methylnaphthalene	<25	<25	<25	<25	<25	<25
TPH C_5-C_9	<2,500	<2,500	<2,500	<2,500	<2,500	<2,500
TPH C_{10}-C_{15}	**4,811**	**4,936**	**4,787**	**5,800**	**4,651**	**3,955**

Results in nanograms (ng). B = Detected in method blank.

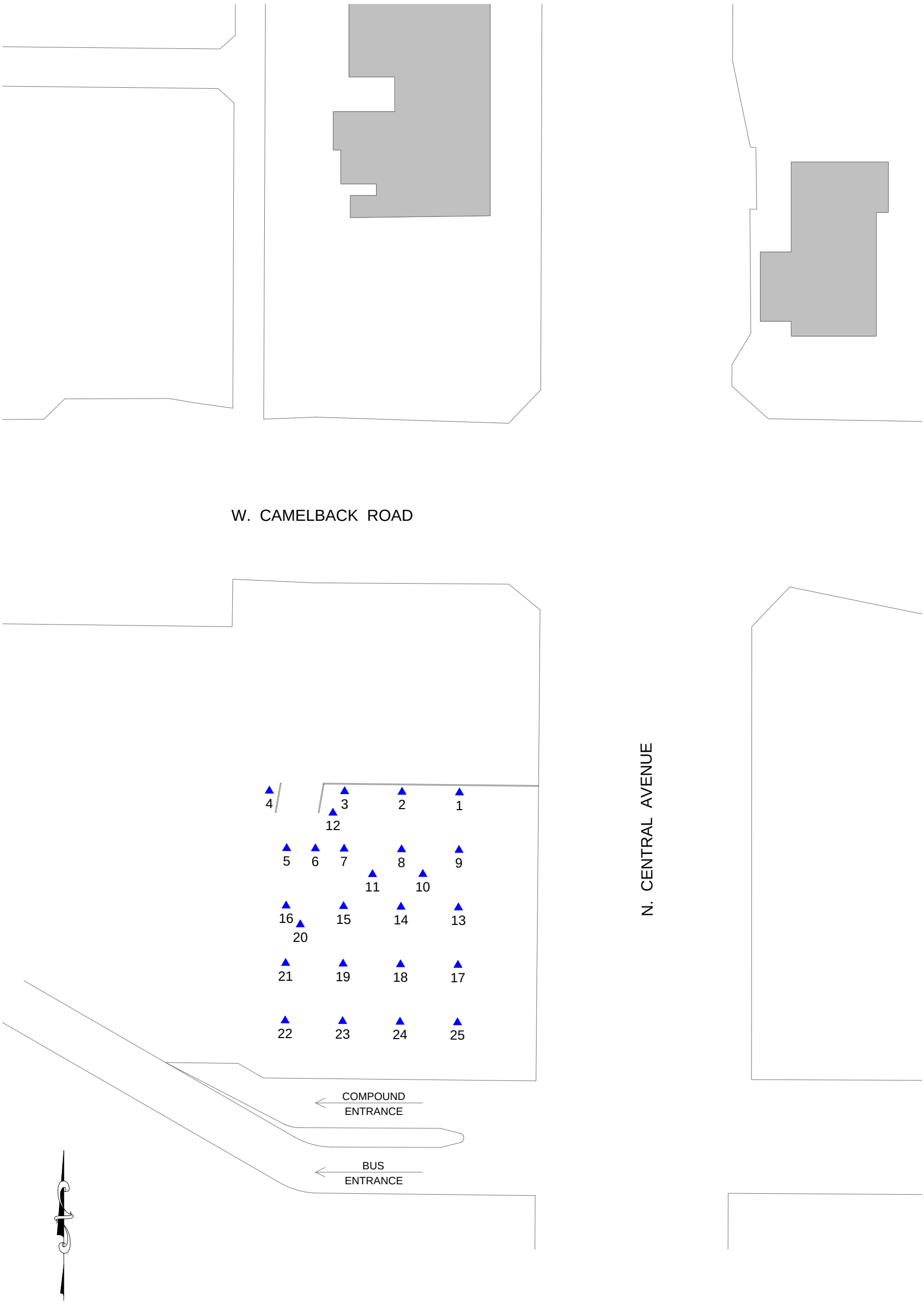
Table 1

Beacon Environmental Services, Inc.
323 Williams Street
Bel Air, MD 21014

Analysis by EPA Method 8260C (Modified)

Client Sample ID:	PSG-22	PSG-23	PSG-24	PSG-25
Project Number:	2427	2427	2427	2427
Lab File ID:	A11061728	A11061729	A11061730	A11061731
Received Date:	6/17/2011	6/17/2011	6/17/2011	6/17/2011
Analysis Date:	6/18/2011	6/18/2011	6/18/2011	6/18/2011
Analysis Time:	1:15	1:38	2:00	2:23
Units:	ng	ng	ng	ng
COMPOUNDS				
Vinyl Chloride	<25	<25	<25	<25
Trichlorofluoromethane (Freon 11)	<25	<25	<25	<25
1,1-Dichloroethene	<25	<25	<25	<25
Methylene Chloride	<25	**43**	<25	<25
1,1,2-Trichlorotrifluoroethane (Fr.113)	<25	<25	<25	<25
trans-1,2-Dichloroethene	<25	<25	<25	<25
Methyl-t-butyl ether	<25	<25	<25	<25
1,1-Dichloroethane	<25	<25	<25	<25
cis-1,2-Dichloroethene	**47**	<25	<25	<25
Chloroform	<25	<25	<25	<25
1,2-Dichloroethane	<25	<25	<25	<25
1,1,1-Trichloroethane	<25	<25	<25	<25
Carbon Tetrachloride	<25	<25	<25	<25
Benzene	<25	<25	<25	<25
Trichloroethene	**1,377**	**39**	**87**	**83**
1,4-Dioxane	<25	<25	<25	<25
1,1,2-Trichloroethane	<25	<25	<25	<25
Toluene	<25	**219**	**153**	**182**
1,2-Dibromoethane (EDB)	<25	<25	<25	<25
Tetrachloroethene	**12,087**	**502**	**642**	**362**
1,1,1,2-Tetrachloroethane	<25	<25	<25	<25
Chlorobenzene	<25	<25	<25	<25
Ethylbenzene	<25	<25	<25	<25
p & m-Xylene	<25	**35**	<25	**30**
1,1,2,2-Tetrachloroethane	<25	<25	<25	<25
o-Xylene	<25	<25	<25	<25
1,2,3-Trichloropropane	<25	<25	<25	<25
Isopropylbenzene	<25	<25	<25	<25
1,3,5-Trimethylbenzene	<25	<25	<25	<25
1,2,4-Trimethylbenzene	<25	<25	<25	<25
1,3-Dichlorobenzene	<25	<25	<25	<25
1,4-Dichlorobenzene	<25	<25	<25	<25
1,2-Dichlorobenzene	<25	<25	<25	<25
1,2,4-Trichlorobenzene	<25	<25	<25	<25
Naphthalene	<25	<25	<25	<25
1,2,3-Trichlorobenzene	<25	<25	<25	<25
2-Methylnaphthalene	<25	<25	<25	<25
TPH C_5-C_9	<2,500	**2,542**	<2,500	<2,500
TPH C_{10}-C_{15}	**5,967**	**5,639**	**5,989**	**5,245**

Results in nanograms (ng). B = Detected in method blank.



LEGEND

8 PASSIVE SOIL-GAS SAMPLE LOCATION

Scale in Feet

0 50 100

Note:
Sample location ID's have been abbreviated; the prefix "PSG-" is not shown.

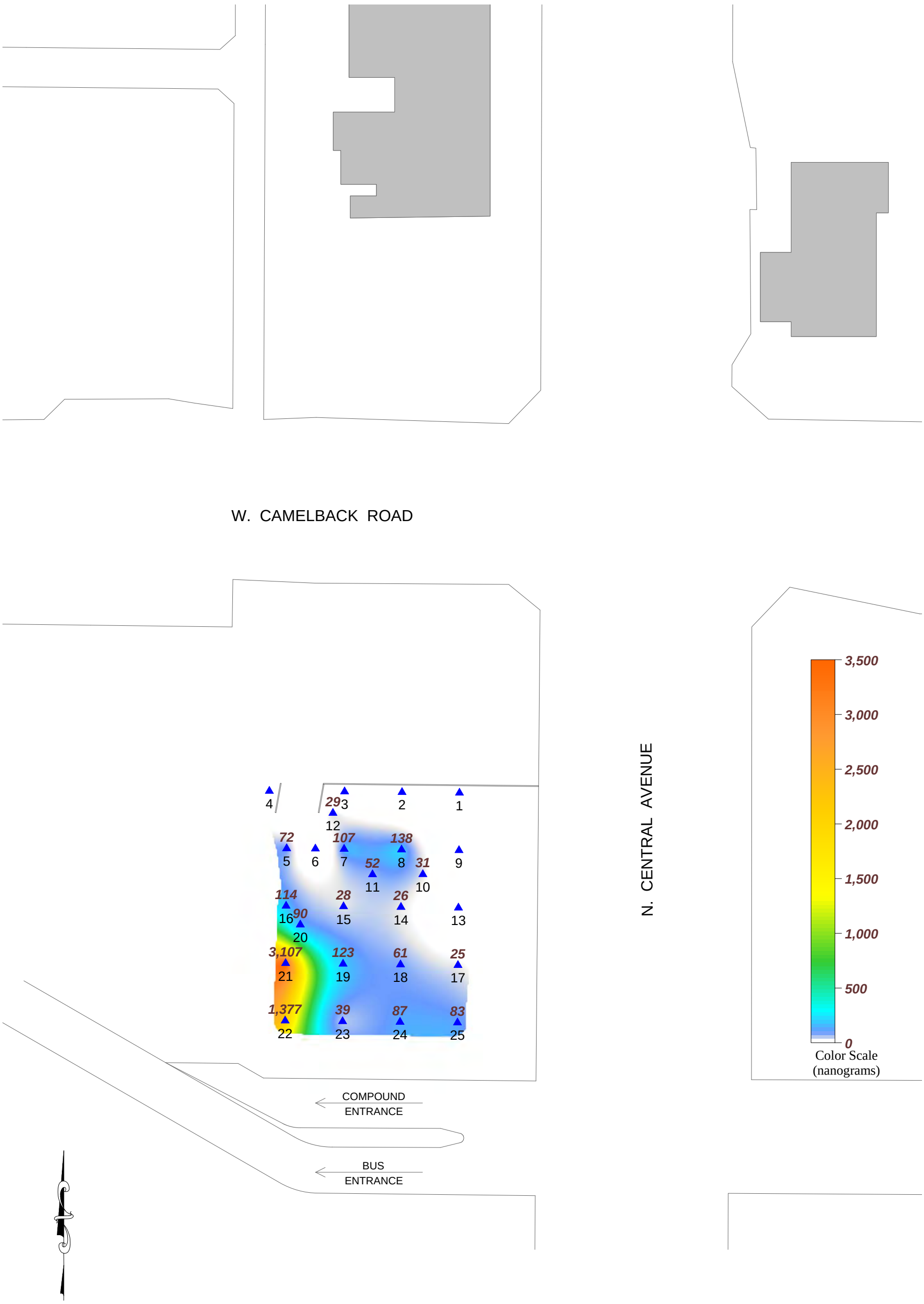
BEACON ENVIRONMENTAL SERVICES, INC.

323 Williams Street, Bel Air, MD, 800-878-5510

Beacon Project No. 2427, June 2011

Figure 1
Passive Soil-Gas Survey
Sample Locations

Central and Camelback WQARF Site
Phoenix, AZ



LEGEND

1,000 NANOGRAMS/SAMPLER

8 PASSIVE SOIL-GAS SAMPLE LOCATION

Scale in Feet

0 50 100

Note:
Sample location ID's have been abbreviated; the prefix "PSG-" is not shown.

BEACON ENVIRONMENTAL SERVICES, INC.

323 Williams Street, Bel Air, MD, 800-878-5510

Beacon Project No. 2427, June 2011

Figure 2
Passive Soil-Gas Survey
Trichloroethene

Central and Camelback WQARF Site
Phoenix, AZ

LEGEND

1,000 NANOGRAMS/SAMPLER

▲ 8 PASSIVE SOIL-GAS SAMPLE LOCATION

Scale in Feet

0 50 100

Note:
Sample location ID's have been abbreviated; the prefix "PSG-" is not shown.

BEACON ENVIRONMENTAL SERVICES, INC.

323 Williams Street, Bel Air, MD, 800-878-5510

Beacon Project No. 2427, June 2011

Figure 3
Passive Soil-Gas Survey
Tetrachloroethene

Central and Camelback WQARF Site
Phoenix, AZ

Attachments

Attachment 1

APPLYING RESULTS FROM PASSIVE SOIL-GAS SURVEYS

The utility of soil-gas surveys is directly proportional to their accuracy in reflecting and representing changes in the subsurface concentrations of source compounds. Passive soil-gas survey results are the mass collected from the vapor-phase emanating from the source(s). The vapor-phase is merely a fractional trace of the source(s) and, as a matter of convenience, the units used in reporting detection values from passive soil-gas surveys are smaller than those employed for source-compound concentrations.

Whatever the relative concentrations of source and associated soil gas, best results are realized when the ratio of soil-gas measurements to actual subsurface concentrations remains as close to constant as the real world permits. It is the reliability and consistency of this ratio, not the particular units of mass (*e.g.*, nanograms) that determine usefulness. Thus, BEACON emphasizes the necessity of conducting — at minimum — follow-on intrusive sampling in areas that show relatively high soil-gas measurements to obtain corresponding concentrations of soil and groundwater contaminants. These correspondent values furnish the basis for approximating a relationship. For extrapolating passive soil gas results to vapor intrusion evaluations, we recommend a minimum of three passive soil gas locations be converted to a shallow vapor well then sampled using an active soil gas method. Once a relationship is established, it can be used in conjunction with the remaining soil-gas measurements to estimate subsurface contaminant concentrations across the survey field. (See www.beacon-usa.com/passivesoilgas.html, Publication 1: *Mass to Concentration Tie-In for PSG Surveys* and Publication 4: *Groundwater and PSG Correlation*.) It is important to keep in mind, however, that specific conditions at individual sample points, including soil porosity and permeability, depth to contamination, and perched ground water, can have an impact on soil-gas measurements at those locations.

When passive soil-gas surveys are utilized as described above, the data provide information that can yield substantial savings in drilling costs and in time. They furnish, among other things, a checklist of compounds expected at each survey location and help to determine how and where drilling budgets can most effectively be spent. Passive soil-gas surveys can also be used as a remediation or general site monitoring tool that can be implemented on a quarterly, semi-annual or annual basis.

Attachment 2

FIELD PROCEDURES FOR PASSIVE SOIL-GAS SURVEYS

The following field procedures are routinely used during a BEACON Passive Soil-Gas Survey. Modifications can be and are incorporated from time to time in response to individual project requirements. In all instances, BEACON adheres to EPA-approved Quality Assurance and Quality Control practices.

A. Field personnel carry a BESURE Sample Collection Kit™ and support equipment to the site and deploy the passive samplers in a prearranged survey pattern. A passive sampler consists of a borosilicate glass vial containing hydrophobic adsorbent cartridges with a length of wire attached to the vial for retrieval. Although samplers require only one person for emplacement and retrieval, the specific number of field personnel required depends upon the scope and schedule of the project. Each Sampler emplacement generally takes less than two minutes.

B. At each survey point a field technician clears vegetation as needed and, using a hammer drill with a 1″- to 1½″-diameter bit, creates a hole 12 to 14 inches deep. [Note: For locations covered with asphalt, concrete, or gravel surfacing, the field technician drills a 1″- to 1½″-diameter hole through the surfacing to the soils beneath]. The hole is then sleeved with a 1″-diameter metal sleeve.

C. The technician then removes the solid plastic cap from a sampler and replaces it with a Sampling Cap (a plastic cap with a hole covered by screen meshing). The technician inserts the sampler, with the Sampling Cap end facing down, into the hole (**see attached figure**). The sampler is then covered with an aluminum foil plug and soils for uncapped locations or, for capped locations, an aluminum foil plug and a concrete patch. The sampler's location, time and date of emplacement, and other relevant information are recorded on the Field Deployment Form

D. One or more trip blanks are included as part of the quality-control procedures.

E. Once all the passive samplers have been deployed, field personnel schedule sampler recovery and depart, taking all other equipment and materials with them.

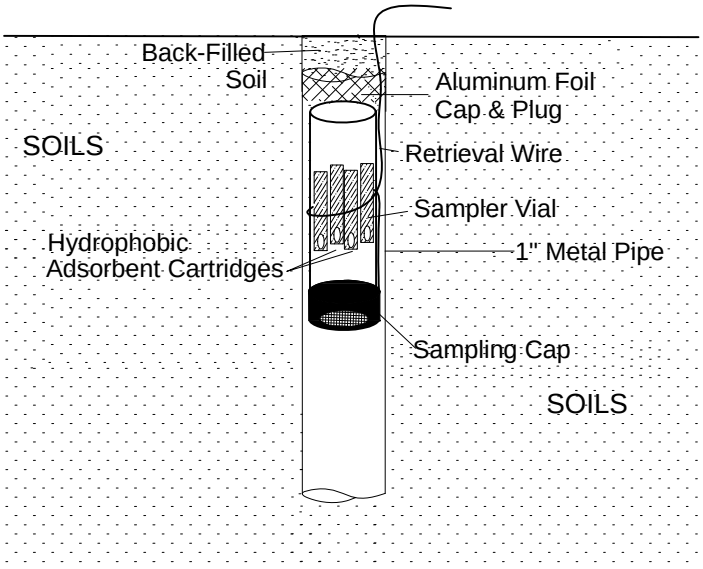
F. Field personnel retrieve the samplers at the end of the exposure period. At each location, a field technician withdraws the sampler from its hole, removes the retrieval wire, and wipes the outside of the vial clean using gauze cloth; following removal of the Sampling Cap, the threads of the vial are also cleaned. A solid plastic cap is screwed onto the vial and the sample location number is written on the label. The technician then records sample-point location, date, time, etc. on the Field Deployment Form.

G. Sampling holes are refilled with soil, sand, or other suitable material. If Samplers have been installed through asphalt or concrete, the hole is filled to grade with a plug of cold patch or cement.

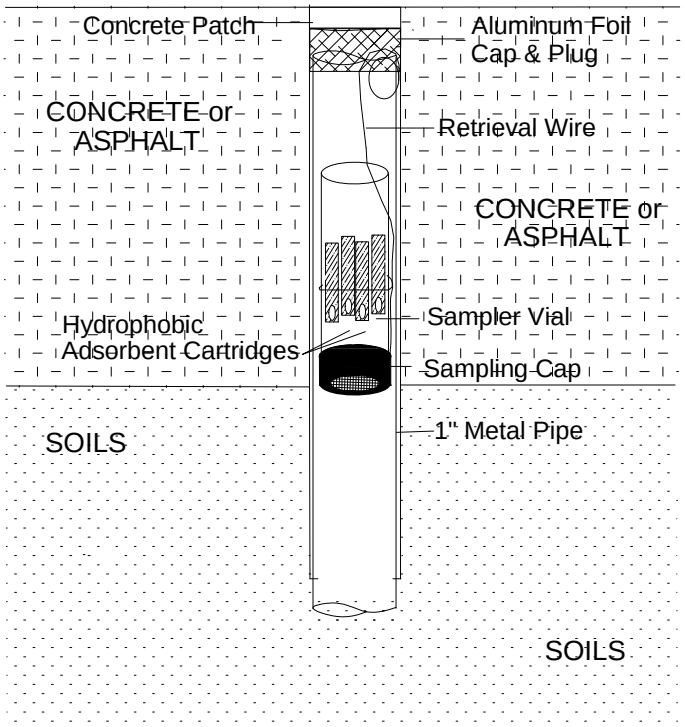
H. Following retrieval, field personnel ship or transport the passive samplers to BEACON's laboratory.

BEACON PASSIVE SAMPLER

DEPLOYMENT THROUGH SOILS



DEPLOYMENT THROUGH AN ASPHALT/CONCRETE CAP



Attachment 3

Field Deployment Report

PASSIVE SOIL-GAS SURVEY
FIELD DEPLOYMENT REPORT

Project Information	
Beacon Project No.:	2427
Site Name:	Central and Camelback WQARF Site
Site Location:	Phoenix, AZ

BEACON ENVIRONMENTAL SERVICES, INC.
323 Williams Street Suite D, Bel Air MD 21014 (800) 876-5510

Client Information	
Company Name:	Hydro Geo Chem, Inc.
Office Location:	Scottsdale, AZ
Samples Collected By:	

FIELD SAMPLE ID	Date Emplaced / Time Emplaced	Date Retrieved / Time Retrieved	Sampling Hole Depth (inches)	FIELD NOTES (*e.g.*, asphalt/concrete/gravel, description of sample location, PID/FID readings)
~~PSG-1~~	6/2/11			SW w/ some gravel, brown; R1A adj. 3' West
PSG-1	1200		12-13"	; PID = 0.0
	6/2/11			SW w/ some gravel, brown; R2A; PID = 0.0
PSG-2	1155		12-13"	
	6/2/11			SW w/ some gravel, brown; R3A adj. 3' South;
PSG-3	1150		12-13"	PID = 0.0
	6/2/11			SW w/ some gravel, brown; R4A adj. 5'W + 3'S;
PSG-4	1145		12-13"	PID = 0.0
	6/2/11			SW w/ trace gravel, brown; R4B
PSG-5	1140		12-13"	PID = 1.0

PASSIVE SOIL-GAS SURVEY
FIELD DEPLOYMENT REPORT

Project Information	
Beacon Project No.:	2427
Site Name:	Central and Camelback WQARF Site
Site Location:	Phoenix, AZ

BEACON ENVIRONMENTAL SERVICES, INC.
323 Williams Street, Suite D, Bel Air, MD 21014 (800) 878-5510

Client Information	
Company Name:	Hydro Geo Chem, Inc.
Office Location:	Scottsdale, AZ
Samples Collected By:	

FIELD SAMPLE ID	Date Emplaced / Time Emplaced	Date Retrieved / Time Retrieved	Sampling Hole Depth (inches)	FIELD NOTES (e.g., asphalt/concrete/gravel, description of sample location, PID/FID readings)
	6/2/11			SW w/ some gravel; ~~R3B~~; PID = 14.5;
PSG-6	1135 am		12-13"	Additional Pt. 1, 18' East of R4B
	6/2/11			4" Concrete, ABC subgrade ~4-5", SW w/
PSG-7	1355		12-13"	trace gravel, brown; R3B; PID = 0.9
	6/2/11			
PSG-8	1400		13"	3" Concrete, ABC subgrade ~ 2-7", SW w/ trace
				gravel; R2B, PID = 1.1
	6/2/11			SW w/ some gravel, brown; R1B adj 1.5' east;
PSG-9	1405		12-13"	PID = 0.6
	6/2/11			SM w/ ~~some~~ trace gravel, wet, brown, Additional pt. 2; PID = 22.5;
PSG-10	1410		13-14"	East side of trench, 13' S + 12' E of R2B
PSG10-D				Field Duplicate

PASSIVE SOIL-GAS SURVEY
FIELD DEPLOYMENT REPORT

Project Information	
Beacon Project No.:	2427
Site Name:	Central and Camelback WQARF Site
Site Location:	Phoenix, AZ

BEACON ENVIRONMENTAL SERVICES, INC.
323 Williams Street, Suite D, Bel Air, MD 21014 (800) 878-5510

Client Information	
Company Name:	Hydro Geo Chem, Inc.
Office Location:	Scottsdale, AZ
Samples Collected By:	

FIELD SAMPLE ID	Date Emplaced / Time Emplaced	Date Retrieved / Time Retrieved	Sampling Hole Depth (inches)	FIELD NOTES (e.g., asphalt/concrete/gravel, description of sample location, PID/FID readings)
	6/2/11			SW w/ trace gravel, brown, moist; Additional pt. 3;
PSG-11	1415		12-13"	PID = 12.5; West side of trench, 13' S +
				11.5' E of R3B
	6/2/11			4" Concrete, minimal soil retrieved, possible void,
PSG-12	1535		13-14"	drilled to 16", backfill 3"; Additional pt. 4; PID = 0.5;
				11' S + 5' W of R3A (not adj.).
	6/2/11			SW w/ trace gravel, brown, sl. moist; R1C adj. @ 2.0'
PSG-13	1555		12-13"	East; PID = 0.9
	6/2/11			4" Concrete, ABC ~ 2-3", SW w/ some gravel;
PSG-14	1540		12-13"	R2C; PID = 1.7
	6/2/11			3" Concrete, ABC ~3-4", SW w/ some gravel,
PSG-15	1545		12-13"	brown, sl. moist; R3C; PID = 2.2

PASSIVE SOIL-GAS SURVEY
FIELD DEPLOYMENT REPORT

Project Information	
Beacon Project No.:	2427
Site Name:	Central and Camelback WQARF Site
Site Location:	Phoenix, AZ

BEACON ENVIRONMENTAL SERVICES, INC.
523 Williams Street, Suite D, Bel Air, MD 21014 (800) 878-5510

Client Information	
Company Name:	Hydro Geo Chem, Inc.
Office Location:	Scottsdale, AZ
Samples Collected By:	

FIELD SAMPLE ID	Date Emplaced / Time Emplaced	Date Retrieved / Time Retrieved	Sampling Hole Depth (inches)	FIELD NOTES (e.g., asphalt/concrete/gravel, description of sample location, PID/FID readings)
	6/2/11			1" Concrete, SM w/ gravel, brown; PID = 0.8;
PSG-16	1600		12-13"	R4C
	6/3/11			3" Asphalt Pavement, overlyin by 1" Gravel SW w/ trace gravel, brown
PSG-17	910		12-13"	R1D; PID = 1.3
	6/3/11			3-4" Concrete, SW w/ some gravel, brown;
PSG-18	925		12"-13"	R2D; PID = 0.3
	6/3/11			3-4" Concrete, SW w/ some gravel, brown;
PSG-19	1305		12"	R3D; ~~= 0.0~~; PID = 0.0
	6/3/11			top of tube @ 14" below slab; in apparent trench;
PSG-20	1250		12"	Additional pt. 5; 14' S + 4' East of ~~R4C~~; R4C
				PID = NA (tube drilled, set + seal quickly to prevent collapse of surrounding soils); 4"-6" Concrete, SW w/ trace gravel, brown

PASSIVE SOIL-GAS SURVEY
FIELD DEPLOYMENT REPORT

Project Information	
Beacon Project No.:	2427
Site Name:	Central and Camelback WQARF Site
Site Location:	Phoenix, AZ

BEACON ENVIRONMENTAL SERVICES, INC.
323 Williams Street, Suite D, Del Air, MD 21014 (800) 675-5510

Client Information	
Company Name:	Hydro Geo Chem, Inc.
Office Location:	Scottsdale, AZ
Samples Collected By:	

FIELD SAMPLE ID	Date Emplaced / Time Emplaced	Date Retrieved / Time Retrieved	Sampling Hole Depth (inches)	FIELD NOTES (e.g., asphalt/concrete/gravel, description of sample location, PID/FID readings)
	6/3/11			2-3" Concrete; SW w/ trace gravel, brown
PSG-21	1315		12"	R4D; PID = ~~5.1~~ = 5.1
	6/3/11			4" Concrete, SW w/ trace gravel, brown.
PSG-22	1005		12-13"	R4E; PID = 12.2
	6/3/11			3-4" Concrete; SW w/ trace gravel, brown, loose;
PSG-23	955		12-13"	R3E; PID = 0.0
	6/3/11			~~1" of gravel, 2-3" of Asphalt pavement, SW w/ some gravel~~
PSG-24	~~910~~ 940		12-13"	R2E; ~~PID = 1.3~~; 3-4" Concrete, SW, brown, ~~brown~~
				loose, tube tamped to 13" in hole; PID = 0.0
	6/3/11			2" Asphalt Pavement, SW w/ trace gravel, moist, brown;
PSG-25	855		12-13"	R1E ~~; 1.5' West~~; PID = 1.6
				Pavement overlyn by 1" of gravel

Attachment 4

LABORATORY PROCEDURES FOR PASSIVE SOIL-GAS SAMPLES

Following are laboratory procedures used with BEACON Passive Soil-Gas Surveys, a screening technology for expedited site investigation. After exposure, adsorbent cartridges from the passive samplers are analyzed using U.S. EPA Method 8260C as described in the Solid Waste Manual (SW-846), a capillary gas chromatographic/mass spectrometric method, modified to accommodate high temperature thermal desorption of the adsorbent cartridges and to meet the objecitves of reporting semi-quantitative data. This procedure is summarized as follows:

A. The adsorbent cartridges are loaded with internal standards and surrogates prior to loading the autosampler with the cartridges. The loaded cartridges are purged in a helium flow. Then the cartridges are thermally desorbed in a helium flow onto a focusing trap. Any analytes in the helium stream are adsorbed onto a focusing trap.

B. Following trap focusing, the trap is thermally desorbed onto a Rxi-624Sil MS 20m, 0.18 mm ID, 1.00 micron filament thickness capillary column.

C. The GC/MS is scanned between 35 and 270 Atomic Mass Units (AMU) at 3.12 scans per second.

D. BFB tuning criteria and the initial five-point calibration procedures are those stated in method SW846-8260C. System performance and calibration check criteria are met prior to analysis of samples. A laboratory method blank is analyzed after the daily standard to determine that the system is contaminant-free.

E. The instrumentation used for these analyses includes:

- Agilent 6890-5973a Gas Chromatograph/Mass Spectrometer;
- Markes Unity thermal desorber;
- Markes UltrA autosampler; and
- Markes Mass Flow Controller Modules

Attachment 5

Chain-of-Custody Form

CHAIN-OF-CUSTODY
PASSIVE SOIL-GAS SAMPLES

Project Information	
Beacon Project No.:	2427
Site Name:	Central and Camelback WQARF Site
Site Location:	Phoenix, AZ
Analytical Method:	EPA Method 8260C
Target Compounds:	Beacon Project Number 2427 Target Compound List

BEACON ENVIRONMENTAL SERVICES, INC.
323 Williams Street Suite D, Bel Air, MD 21014 (800) 878-5810

Client Information	
Company Name:	Hydro Geo Chem, Inc.
Office Location:	Scottsdale, AZ
Samples Submitted By:	Neil J. Babb
Contact Phone No.:	480-297-2589

Field Sample ID	Lab Sample ID (for lab use only)	Comments (only necessary if problem or discrepancy) Condition of sample or vial	Date	Time	Initial
Trip-1	2427 Trip1	#2427	6-16-11	8:00A	NJB
PSG-1	2427 PSG-1			10:55	
PSG-2	2427 PSG-2			11:10	
PSG-3	2427 PSG-3			11:20	
PSG-4	2427 PSG-4			11:30	
PSG-5	2427 PSG-5			11:43	
PSG-6	2427 PSG-6			11:50	
PSG-7	2427 PSG-7			12:02	
PSG-8	2427 PSG-8			12:18	
PSG-9	2427 PSG-9			12:27	
PSG-10	2427 PSG-10			12:36	
PSG-10D	2427 PSG-10-D	Field duplicate @ PSG-10 locale		12:36	
PSG-11	2427 PSG-11			12:44	
PSG-12	2427 PSG-12			12:55	
PSG-13	2427 PSG-13			13:04	
PSG-14	2427 PSG-14			13:12	
PSG-15	2427 PSG-15			13:20	
PSG-16	2427 PSG-16			13:28	
PSG-17	2427 PSG-17			14:13	
PSG-18	2427 PSG-18		✓	14:47	✓

Shipment of Field Kit to Site — Custody Seal # 17350352 **Intact?** (Y) N

Relinquished by:	Date/Time	Courier	Received by:	Date/Time
Ryan Schol	05-31-2011 / 1700 Hours	FedEx	Neil Babb	6-1-11 / 13:30

Shipment of Field Kit to Laboratory — Custody Seal # 17350353 **Intact?** (Y) N

Relinquished by:	Date/Time	Courier	Received by:	Date/Time
Neil J. Babb	6-16-11 / 16:40	Fed Ex tracking No: 8741 6895 9249	Kenny Ipracho	06-17-11 / 1230 hrs

CHAIN-OF-CUSTODY
PASSIVE SOIL-GAS SAMPLES

Project Information	
Beacon Project No.:	2427
Site Name:	Central and Camelback WQARF Site
Site Location:	Phoenix, AZ
Analytical Method:	EPA Method 8260C
Target Compounds:	Beacon Project Number 2427 Target Compound List

BEACON ENVIRONMENTAL SERVICES, INC.
323 Williams Street, Suite D, Bel Air, MD 21014 (800) 876-5510

Client Information	
Company Name:	Hydro Geo Chem, Inc.
Office Location:	Scottsdale, AZ
Samples Submitted By:	Neil J. Babb
Contact Phone No.:	480-421 x 1501 x 152

Field Sample ID	Lab Sample ID (for lab use only)	Comments (only necessary if problem or discrepancy) Condition of sample or vial	Date	Time	Initial
PSG-19	2427 PSG-19		6-16-11	14:00	NJB
PSG-20	2427 PSG-20		↓	13:38	↓
PSG-21	2427 PSG-21			13:44	
PSG-22	2427 PSG-22			15:10	
PSG-23	2427 PSG-23			15:02	
PSG-24	2427 PSG-24			14:35	
PSG-25	2427 PSG-25			14:23	

Shipment of Field Kit to Site — Custody Seal # 17350352 Intact? (Y) N

Relinquished by:	Date/Time	Courier	Received by:	Date/Time
Ryan Schiel	05-31-2011 / 1700 Hours	FedEx	Neil J. Babb	6-1-11 / 13:30

Shipment of Field Kit to Laboratory — Custody Seal # 17350352 Intact? (Y) N

Relinquished by:	Date/Time	Courier	Received by:	Date/Time
Neil J. Babb	6-16-11 / 16:40	Fed Ex: Tracking No: 8741 6895 9249	Kenny Apache	6-17-11 / 1230 hrs

APPENDIX H

BEACON ENVIRONMENTAL SERVICES SOIL GAS ANALYTICAL REPORT
PASSIVE SOIL GAS SURVEY NORTH OF SCSA

Hydro Geo Chem, Inc.
6340 E. Thomas Road, Suite 228
Scottsdale, AZ 85251
Attn: Mr. Chris Jacquemin

Passive Soil Gas Survey – Analytical Report

Date: June 21, 2013
Beacon Project No. 2627

Project Reference:	Central Avenue WQARF Site, Phoenix, AZ
Samplers Installed:	May 6 through 9, and May 14 and 15, 2013
Samplers Retrieved:	May 22, 23, and 30, 2013
Samples Received:	May 29 and June 4, 2013
Analyses Completed:	June 11, 2013
Laboratory Data Issued:	June 13, 2013

EPA Method 8260C
All samples were successfully analyzed using thermal desorption-gas chromatography/mass spectrometry (TD-GC/MS) instrumentation to target a custom compound list following EPA Method 8260C. Laboratory results are reported in nanograms (ng) of specific compound per sample.

Laboratory QA/QC procedures included internal standards, surrogates, and blanks based on EPA Method 8260C. Analyses and reporting were in accordance with BEACON's Quality Assurance Project Plan.

Reporting limits
The reporting limit (RL) is 10 nanograms (ng) for vinyl chloride, 1,1-dichloroethene, trans-1,2-dichloroethene, cis-1,2-dichloroethene, trichloroethene, and tetrachloroethene; 25 ng for the remaining individual compounds; and 5,000 ng for Total Petroleum Hydrocarbons (TPH). **Table 1** provides survey results in nanograms per sampler by sample-point number and compound name. For the six (6) compounds listed above, measurements below the limit of quantitation (10 ng) but above the limit of detection (5 ng) are flagged with a "J." The RLs represent a baseline above which results exceed laboratory-determined limits of precision and accuracy. Any field sample measurements above the upper calibration standard are estimated; however, these values are reported without qualifiers because all reported measurements are relative to each other and are appropriate to meet the survey objectives of locating source areas and vapor intrusion pathways and defining the lateral extent of contamination.

Calibration Verification
The continuing calibration verification (CCV) values for the calibration check compounds were all within ±20% of the true values as defined by the initial five-point calibration and met the requirements specified in Beacon Environmental's Quality Assurance Project Plan.

Method Blanks/Trip Blanks
Laboratory method blanks are run with each sample batch to identify contamination present in the laboratory. If contamination is detected on a method blank, measurements of identical compounds in that sample batch are flagged in the laboratory report. The laboratory method blanks analyzed in connection with the present samples revealed no contamination.

The trip blank is a sampler prepared, transported, and analyzed with other samples but intentionally not exposed. Any target compounds identified on the trip blanks are reported in the laboratory data. The analyses of the trip blanks (labeled Trip-1 through Trip-5 in **Table 1**) reported none of the targeted compounds.

Passive Soil-Gas Survey Notes

When sample locations are covered with or near the edge of an artificial surface (*e.g.*, asphalt or concrete), the concentrations of compounds in soil gas are often significantly higher than the concentrations would be if the surfacing were not present. Thus, a reading taken below or near an impermeable surface is much higher than it would be in the absence of such a cap. Therefore, the sample location conditions should be evaluated when comparing results between locations.

Survey findings are exclusive to this project and when the spatial relationships are compared with results of other BEACON Surveys it is necessary to incorporate survey and site information from both investigations (*e.g.*, depth to sources, soil types, porosity, soil moisture, presence of impervious surfacing, sample collection times). BEACON recommends the guidelines stated in **Attachment 1** to establish a relationship between reported soil-gas measurements and actual subsurface contaminant concentrations, which will indicate those measurements representing significant subsurface contamination.

BEACON's passive soil-gas samplers are prepared with two sets of adsorbent cartridges for subsequent duplicate or confirmatory sample analysis. At Hydro Geo Chem's request, duplicate analysis was performed for two (2) field samples. The field sample duplicates were designated with a "D" following the sample number. When comparing quantitative results, a duplicate correspondence should be considered when the relative percent difference (RPD) between the two samples is less than or equal to 100%. For the purpose of calculating correspondences, all non-detections should be assigned, as a baseline value, the CRQL for the specific contaminant. Based on these assumptions, a 100% correlation was found between the field sample duplicates and their base samples.

Project Details

Samplers were deployed on May 6 through 9, and May 14 and 15, 2013, and were retrieved on May 22, 23, and 30, 2013. **Attachment 2** describes standard field procedures. Individual deployment and retrieval times will be found in the Field Deployment Report (**Attachment 3**).

Overall, one-hundred forty-two (142) field samples, two (2) field sample duplicates, and five (5) trip blanks were received by BEACON on May 29 and June 4, 2013. Adsorbent cartridges from the passive samplers were thermally desorbed, then analyzed using gas chromatography/mass spectrometry (GC/MS) equipment, in accordance with EPA Method 8260C, as described in **Attachment 4**. BEACON's laboratory analyzed each sample for the targeted compounds; analyses were completed on June 11, 2013. Following a laboratory review, results were provided to Hydro Geo Chem on June 13, 2013. The Chain-of-Custody form, which was shipped with the samples for this survey, is supplied as **Attachment 5**.

Sample locations are shown on **Figure 1**. The following table lists frequency of detections based on the number of field samples analyzed, the reporting limit, and the maximum value for each mapped compound. The table also includes the transformation and interpolation method for the compound distribution maps provided.

Figure No.	**2**	**3**	**4**
Compound	Trichloroethene	Tetrachloroethene	Total Petroleum Hydrocarbons
Frequency	4	48	53
Reporting Limit (nanograms)	10	10	5,000
Max Value (nanograms)	27	5,994	396,714
Transformation Method	Log	Log	Log
Interpolation Method	Kriging	Kriging	Kriging

Attachments:

- **-1-** Applying Results From Passive Soil-Gas Surveys
- **-2-** Field Procedures
- **-3-** Field Deployment Report
- **-4-** Laboratory Procedures
- **-5-** Chain-of-Custody Form

ALL DATA MEET REQUIREMENTS AS SPECIFIED IN THE BEACON ENVIRONMENTAL SERVICES, INC. QUALITY ASSURANCE PROJECT PLAN AND THE RESULTS RELATE ONLY TO THE SAMPLES REPORTED. BEACON ENVIRONMENTAL SERVICES IS ACCREDITED TO ISO 17025:2005, AND THE WORK PERFORMED WAS IN ACCORDANCE WITH ISO 17025 REQUIREMENTS, WITH THE EXCEPTION THAT SAMPLES WERE ANALYZED WITHIN A 24-HOUR TUNE WINDOW AND FREON 113, 1,4-DIOXANE, 2-METHYLNAPHTHALENE, TPH C_5-C_9 AND TPH C_{10}-C_{15} ARE NOT INCLUDED IN BEACON'S SCOPE OF ACCREDITATION. THIS REPORT SHALL NOT BE REPRODUCED EXCEPT IN FULL, WITHOUT THE WRITTEN APPROVAL OF THE LABORATORY. RELEASE OF THE DATA CONTAINED IN THIS HARDCOPY DATA PACKAGE HAS BEEN AUTHORIZED BY THE LABORATORY DIRECTOR OR HIS SIGNEE, AS VERIFIED BY THE FOLLOWING SIGNATURES:

Steven C. Thornley
Laboratory Director

Patti J. Riggs
Quality Manager

Table 1

Beacon Environmental Services, Inc.
2203A Commerce Road, Suite 1
Forest Hill, MD 21050 USA

Analysis by EPA Method 8260C

Client Sample ID:	mb130530c	Trip-1	Trip-2	Trip-3	Sect 1-1	Sect 1-2
Project Number:		2627	2627	2627	2627	2627
Lab File ID:	C13053003	C13053005	C13053006	C13053007	C13053008	C13053009
Received Date:		5/29/2013	5/29/2013	5/29/2013	5/29/2013	5/29/2013
Analysis Date:	5/30/2013	5/30/2013	5/30/2013	5/30/2013	5/30/2013	5/30/2013
Analysis Time:	11:42	12:38	13:00	13:21	13:42	14:03
Matrix:					Soil Gas	Soil Gas
Units:	ng	ng	ng	ng	ng	ng
COMPOUNDS						
Vinyl Chloride	<10	<10	<10	<10	<10	<10
Trichlorofluoromethane (Freon 11)	<25	<25	<25	<25	<25	<25
1,1-Dichloroethene	<10	<10	<10	<10	<10	<10
1,1,2-Trichlorotrifluoroethane (Fr.113)	<25	<25	<25	<25	<25	<25
trans-1,2-Dichloroethene	<10	<10	<10	<10	<10	<10
Methyl-t-butyl ether	<25	<25	<25	<25	<25	<25
1,1-Dichloroethane	<25	<25	<25	<25	<25	<25
cis-1,2-Dichloroethene	<10	<10	<10	<10	<10	<10
Chloroform	<25	<25	<25	<25	**1,518**	**28**
1,2-Dichloroethane	<25	<25	<25	<25	<25	<25
1,1,1-Trichloroethane	<25	<25	<25	<25	<25	<25
Carbon Tetrachloride	<25	<25	<25	<25	<25	<25
Benzene	<25	<25	<25	<25	<25	<25
Trichloroethene	<10	<10	<10	<10	<10	<10
1,4-Dioxane	<25	<25	<25	<25	<25	<25
1,1,2-Trichloroethane	<25	<25	<25	<25	<25	<25
Toluene	<25	<25	<25	<25	<25	<25
1,2-Dibromoethane (EDB)	<25	<25	<25	<25	<25	<25
Tetrachloroethene	<10	<10	<10	<10	<10	<10
1,1,1,2-Tetrachloroethane	<25	<25	<25	<25	<25	<25
Chlorobenzene	<25	<25	<25	<25	<25	<25
Ethylbenzene	<25	<25	<25	<25	<25	<25
p & m-Xylene	<25	<25	<25	<25	<25	<25
1,1,2,2-Tetrachloroethane	<25	<25	<25	<25	<25	<25
o-Xylene	<25	<25	<25	<25	<25	<25
1,2,3-Trichloropropane	<25	<25	<25	<25	<25	<25
Isopropylbenzene	<25	<25	<25	<25	<25	<25
1,3,5-Trimethylbenzene	<25	<25	<25	<25	<25	<25
1,2,4-Trimethylbenzene	<25	<25	<25	<25	<25	<25
1,3-Dichlorobenzene	<25	<25	<25	<25	<25	<25
1,4-Dichlorobenzene	<25	<25	<25	<25	<25	<25
1,2-Dichlorobenzene	<25	<25	<25	<25	<25	<25
1,2,4-Trichlorobenzene	<25	<25	<25	<25	<25	<25
Naphthalene	<25	<25	<25	<25	<25	<25
1,2,3-Trichlorobenzene	<25	<25	<25	<25	<25	<25
2-Methylnaphthalene	<25	<25	<25	<25	<25	<25
TPH C_5-C_9	<5,000	<5,000	<5,000	<5,000	<5,000	<5,000
TPH C_{10}-C_{15}	<5,000	<5,000	<5,000	<5,000	<5,000	<5,000

Results in nanograms (ng). J = Values below limit of quantitation (LOQ) but above limit of detection (LOD). B = Detected in method blank.

Table 1

Beacon Environmental Services, Inc.
2203A Commerce Road, Suite 1
Forest Hill, MD 21050 USA

Analysis by EPA Method 8260C

Client Sample ID:	Sect 1-3	Sect 1-4	Sect 1-5	Sect 1-6	Sect 1-7	Sect 1-8
Project Number:	2627	2627	2627	2627	2627	2627
Lab File ID:	C13053010	C13053011	C13053012	C13053013	C13053014	C13053015
Received Date:	5/29/2013	5/29/2013	5/29/2013	5/29/2013	5/29/2013	5/29/2013
Analysis Date:	5/30/2013	5/30/2013	5/30/2013	5/30/2013	5/30/2013	5/30/2013
Analysis Time:	14:25	14:46	15:07	15:28	15:49	16:11
Matrix:	Soil Gas	Soil Gas	Soil Gas	Soil Gas	Soil Gas	Soil Gas
Units:	ng	ng	ng	ng	ng	ng
COMPOUNDS						
Vinyl Chloride	<10	<10	<10	<10	<10	<10
Trichlorofluoromethane (Freon 11)	<25	<25	<25	<25	<25	<25
1,1-Dichloroethene	<10	<10	<10	<10	<10	<10
1,1,2-Trichlorotrifluoroethane (Fr.113)	<25	<25	<25	<25	<25	<25
trans-1,2-Dichloroethene	<10	<10	<10	<10	<10	<10
Methyl-t-butyl ether	<25	<25	<25	<25	<25	<25
1,1-Dichloroethane	<25	<25	<25	<25	<25	<25
cis-1,2-Dichloroethene	<10	<10	<10	<10	<10	<10
Chloroform	**38**	<25	<25	<25	<25	<25
1,2-Dichloroethane	<25	<25	<25	<25	<25	<25
1,1,1-Trichloroethane	<25	<25	<25	<25	<25	<25
Carbon Tetrachloride	<25	<25	<25	<25	<25	<25
Benzene	<25	<25	<25	<25	<25	<25
Trichloroethene	<10	<10	<10	<10	<10	<10
1,4-Dioxane	<25	<25	<25	<25	<25	<25
1,1,2-Trichloroethane	<25	<25	<25	<25	<25	<25
Toluene	<25	<25	<25	<25	<25	<25
1,2-Dibromoethane (EDB)	<25	<25	<25	<25	<25	<25
Tetrachloroethene	<10	<10	<10	<10	<10	<10
1,1,1,2-Tetrachloroethane	<25	<25	<25	<25	<25	<25
Chlorobenzene	<25	<25	<25	<25	<25	<25
Ethylbenzene	<25	<25	<25	<25	<25	<25
p & m-Xylene	<25	<25	<25	<25	<25	<25
1,1,2,2-Tetrachloroethane	<25	<25	<25	<25	<25	<25
o-Xylene	<25	<25	<25	<25	<25	<25
1,2,3-Trichloropropane	<25	<25	<25	<25	<25	<25
Isopropylbenzene	<25	<25	<25	<25	<25	<25
1,3,5-Trimethylbenzene	<25	<25	<25	<25	<25	<25
1,2,4-Trimethylbenzene	<25	<25	<25	<25	<25	<25
1,3-Dichlorobenzene	<25	<25	<25	<25	<25	<25
1,4-Dichlorobenzene	<25	<25	<25	<25	<25	<25
1,2-Dichlorobenzene	<25	<25	<25	<25	<25	<25
1,2,4-Trichlorobenzene	<25	<25	<25	<25	<25	<25
Naphthalene	<25	<25	<25	**116**	<25	<25
1,2,3-Trichlorobenzene	<25	<25	<25	<25	<25	<25
2-Methylnaphthalene	<25	<25	<25	**38**	<25	<25
TPH C_5-C_9	<5,000	<5,000	<5,000	<5,000	<5,000	<5,000
TPH C_{10}-C_{15}	<5,000	<5,000	<5,000	**5,072**	**6,802**	**11,470**

Results in nanograms (ng). J = Values below limit of quantitation (LOQ) but above limit of detection (LOD). B = Detected in method blank.

Table 1

Beacon Environmental Services, Inc.
2203A Commerce Road, Suite 1
Forest Hill, MD 21050 USA

Analysis by EPA Method 8260C

Client Sample ID:	Sect 1-9	Sect 1-10	Sect 1-11	Sect 1-12	Sect 1-13	Sect 1-14
Project Number:	2627	2627	2627	2627	2627	2627
Lab File ID:	C13053016	C13053017	C13053018	C13053019	C13053020	C13053021
Received Date:	5/29/2013	5/29/2013	5/29/2013	5/29/2013	5/29/2013	5/29/2013
Analysis Date:	5/30/2013	5/30/2013	5/30/2013	5/30/2013	5/30/2013	5/30/2013
Analysis Time:	16:32	16:53	17:15	17:36	17:58	18:20
Matrix:	Soil Gas	Soil Gas	Soil Gas	Soil Gas	Soil Gas	Soil Gas
Units:	ng	ng	ng	ng	ng	ng
COMPOUNDS						
Vinyl Chloride	<10	<10	<10	<10	<10	<10
Trichlorofluoromethane (Freon 11)	<25	<25	<25	<25	<25	<25
1,1-Dichloroethene	<10	<10	<10	<10	<10	<10
1,1,2-Trichlorotrifluoroethane (Fr.113)	<25	<25	<25	<25	<25	<25
trans-1,2-Dichloroethene	<10	<10	<10	<10	<10	<10
Methyl-t-butyl ether	<25	<25	<25	<25	<25	<25
1,1-Dichloroethane	<25	<25	<25	<25	<25	<25
cis-1,2-Dichloroethene	<10	<10	<10	<10	<10	<10
Chloroform	<25	<25	<25	<25	**39**	**116**
1,2-Dichloroethane	<25	<25	<25	<25	<25	<25
1,1,1-Trichloroethane	<25	<25	<25	<25	<25	<25
Carbon Tetrachloride	<25	<25	<25	<25	<25	<25
Benzene	<25	<25	<25	<25	<25	<25
Trichloroethene	<10	<10	<10	<10	<10	<10
1,4-Dioxane	<25	<25	<25	<25	<25	<25
1,1,2-Trichloroethane	<25	<25	<25	<25	<25	<25
Toluene	<25	<25	<25	<25	<25	<25
1,2-Dibromoethane (EDB)	<25	<25	<25	<25	<25	<25
Tetrachloroethene	<10	<10	<10	<10	<10	<10
1,1,1,2-Tetrachloroethane	<25	<25	<25	<25	<25	<25
Chlorobenzene	<25	<25	<25	<25	<25	<25
Ethylbenzene	<25	<25	<25	<25	<25	<25
p & m-Xylene	<25	<25	<25	<25	<25	<25
1,1,2,2-Tetrachloroethane	<25	<25	<25	<25	<25	<25
o-Xylene	<25	<25	<25	<25	<25	<25
1,2,3-Trichloropropane	<25	<25	<25	<25	<25	<25
Isopropylbenzene	<25	<25	<25	<25	<25	<25
1,3,5-Trimethylbenzene	<25	<25	<25	<25	<25	<25
1,2,4-Trimethylbenzene	<25	<25	<25	<25	<25	<25
1,3-Dichlorobenzene	<25	<25	<25	<25	<25	<25
1,4-Dichlorobenzene	<25	<25	<25	<25	<25	<25
1,2-Dichlorobenzene	<25	<25	<25	<25	<25	<25
1,2,4-Trichlorobenzene	<25	<25	<25	<25	<25	<25
Naphthalene	<25	<25	<25	<25	<25	<25
1,2,3-Trichlorobenzene	<25	<25	<25	<25	<25	<25
2-Methylnaphthalene	<25	<25	<25	<25	<25	<25
TPH C_5-C_9	<5,000	<5,000	<5,000	<5,000	<5,000	<5,000
TPH C_{10}-C_{15}	**7,788**	**5,368**	<5,000	<5,000	<5,000	<5,000

Results in nanograms (ng). J = Values below limit of quantitation (LOQ) but above limit of detection (LOD). B = Detected in method blank.

Table 1

Beacon Environmental Services, Inc.
2203A Commerce Road, Suite 1
Forest Hill, MD 21050 USA

Analysis by EPA Method 8260C

Client Sample ID:	Sect 1-15	Sect 1-16	Sect 1-17	Sect 1-18	Sect 2-1	Sect 2-2
Project Number:	2627	2627	2627	2627	2627	2627
Lab File ID:	C13053022	C13053023	C13053024	C13053025	C13053026	C13053027
Received Date:	5/29/2013	5/29/2013	5/29/2013	5/29/2013	5/29/2013	5/29/2013
Analysis Date:	5/30/2013	5/30/2013	5/30/2013	5/30/2013	5/30/2013	5/30/2013
Analysis Time:	18:41	19:02	19:24	19:46	20:07	20:28
Matrix:	Soil Gas	Soil Gas	Soil Gas	Soil Gas	Soil Gas	Soil Gas
Units:	ng	ng	ng	ng	ng	ng
COMPOUNDS						
Vinyl Chloride	<10	<10	<10	<10	<10	<10
Trichlorofluoromethane (Freon 11)	<25	<25	<25	<25	<25	<25
1,1-Dichloroethene	<10	<10	<10	<10	<10	<10
1,1,2-Trichlorotrifluoroethane (Fr.113)	<25	<25	<25	<25	<25	<25
trans-1,2-Dichloroethene	<10	<10	<10	<10	<10	<10
Methyl-t-butyl ether	<25	<25	<25	<25	<25	<25
1,1-Dichloroethane	<25	<25	<25	<25	<25	<25
cis-1,2-Dichloroethene	<10	<10	<10	<10	<10	<10
Chloroform	**155**	**31**	**50**	**66**	**45**	**30**
1,2-Dichloroethane	<25	<25	<25	<25	<25	<25
1,1,1-Trichloroethane	<25	<25	<25	<25	<25	<25
Carbon Tetrachloride	<25	<25	<25	<25	<25	<25
Benzene	<25	<25	<25	<25	<25	<25
Trichloroethene	<10	<10	<10	<10	<10	<10
1,4-Dioxane	<25	<25	<25	<25	<25	<25
1,1,2-Trichloroethane	<25	<25	<25	<25	<25	<25
Toluene	<25	<25	<25	<25	<25	<25
1,2-Dibromoethane (EDB)	<25	<25	<25	<25	<25	<25
Tetrachloroethene	<10	<10	<10	<10	<10	<10
1,1,1,2-Tetrachloroethane	<25	<25	<25	<25	<25	<25
Chlorobenzene	<25	<25	<25	<25	<25	<25
Ethylbenzene	<25	<25	<25	<25	<25	<25
p & m-Xylene	<25	<25	<25	<25	<25	<25
1,1,2,2-Tetrachloroethane	<25	<25	<25	<25	<25	<25
o-Xylene	<25	<25	<25	<25	<25	<25
1,2,3-Trichloropropane	<25	<25	<25	<25	<25	<25
Isopropylbenzene	<25	<25	<25	<25	<25	<25
1,3,5-Trimethylbenzene	<25	<25	<25	<25	<25	<25
1,2,4-Trimethylbenzene	<25	<25	<25	<25	<25	<25
1,3-Dichlorobenzene	<25	<25	<25	<25	<25	<25
1,4-Dichlorobenzene	<25	<25	<25	<25	<25	<25
1,2-Dichlorobenzene	<25	<25	<25	<25	<25	<25
1,2,4-Trichlorobenzene	<25	<25	<25	<25	<25	<25
Naphthalene	<25	<25	<25	<25	<25	<25
1,2,3-Trichlorobenzene	<25	<25	<25	<25	<25	<25
2-Methylnaphthalene	<25	<25	<25	<25	<25	<25
TPH C_5-C_9	<5,000	<5,000	<5,000	<5,000	<5,000	<5,000
TPH C_{10}-C_{15}	<5,000	<5,000	**6,467**	<5,000	**8,134**	**5,632**

Results in nanograms (ng). J = Values below limit of quantitation (LOQ) but above limit of detection (LOD). B = Detected in method blank.

Table 1

Beacon Environmental Services, Inc.
2203A Commerce Road, Suite 1
Forest Hill, MD 21050 USA

Analysis by EPA Method 8260C

Client Sample ID:	Sect 2-3	Sect 2-4	Sect 2-5	Sect 2-6	Sect 2-7	Sect 2-8
Project Number:	2627	2627	2627	2627	2627	2627
Lab File ID:	C13053028	C13053029	C13053030	C13053031	C13053032	C13053033
Received Date:	5/29/2013	5/29/2013	5/29/2013	5/29/2013	5/29/2013	5/29/2013
Analysis Date:	5/30/2013	5/30/2013	5/30/2013	5/30/2013	5/30/2013	5/30/2013
Analysis Time:	20:50	21:11	21:33	21:54	22:16	22:37
Matrix:	Soil Gas	Soil Gas	Soil Gas	Soil Gas	Soil Gas	Soil Gas
Units:	ng	ng	ng	ng	ng	ng
COMPOUNDS						
Vinyl Chloride	<10	<10	<10	<10	<10	<10
Trichlorofluoromethane (Freon 11)	<25	<25	<25	<25	<25	<25
1,1-Dichloroethene	<10	<10	<10	<10	<10	<10
1,1,2-Trichlorotrifluoroethane (Fr.113)	<25	<25	<25	<25	<25	<25
trans-1,2-Dichloroethene	<10	<10	<10	<10	<10	<10
Methyl-t-butyl ether	<25	<25	<25	<25	<25	<25
1,1-Dichloroethane	<25	<25	<25	<25	<25	<25
cis-1,2-Dichloroethene	<10	<10	<10	<10	<10	<10
Chloroform	<25	**362**	**359**	**53**	**31**	**71**
1,2-Dichloroethane	<25	<25	<25	<25	<25	<25
1,1,1-Trichloroethane	<25	<25	<25	<25	<25	<25
Carbon Tetrachloride	<25	<25	<25	<25	<25	<25
Benzene	<25	<25	<25	<25	<25	<25
Trichloroethene	<10	<10	<10	<10	<10	<10
1,4-Dioxane	<25	<25	<25	<25	<25	<25
1,1,2-Trichloroethane	<25	<25	<25	<25	<25	<25
Toluene	<25	<25	<25	<25	<25	<25
1,2-Dibromoethane (EDB)	<25	<25	<25	<25	<25	<25
Tetrachloroethene	<10	<10	<10	<10	**5 J**	**12**
1,1,1,2-Tetrachloroethane	<25	<25	<25	<25	<25	<25
Chlorobenzene	<25	<25	<25	<25	<25	<25
Ethylbenzene	<25	<25	<25	<25	<25	<25
p & m-Xylene	<25	<25	<25	<25	<25	<25
1,1,2,2-Tetrachloroethane	<25	<25	<25	<25	<25	<25
o-Xylene	<25	<25	<25	<25	<25	<25
1,2,3-Trichloropropane	<25	<25	<25	<25	<25	<25
Isopropylbenzene	<25	<25	<25	<25	<25	<25
1,3,5-Trimethylbenzene	<25	<25	<25	<25	<25	<25
1,2,4-Trimethylbenzene	<25	<25	<25	<25	<25	<25
1,3-Dichlorobenzene	<25	<25	<25	<25	<25	<25
1,4-Dichlorobenzene	<25	<25	<25	<25	<25	<25
1,2-Dichlorobenzene	<25	<25	<25	<25	<25	<25
1,2,4-Trichlorobenzene	<25	<25	<25	<25	<25	<25
Naphthalene	<25	<25	<25	<25	<25	<25
1,2,3-Trichlorobenzene	<25	<25	<25	<25	<25	<25
2-Methylnaphthalene	<25	<25	<25	<25	<25	<25
TPH C_5-C_9	<5,000	<5,000	<5,000	<5,000	<5,000	<5,000
TPH C_{10}-C_{15}	**6,368**	**6,433**	**7,746**	**8,468**	<5,000	<5,000

Results in nanograms (ng). J = Values below limit of quantitation (LOQ) but above limit of detection (LOD). B = Detected in method blank.

Table 1

Beacon Environmental Services, Inc.
2203A Commerce Road, Suite 1
Forest Hill, MD 21050 USA

Analysis by EPA Method 8260C

Client Sample ID:	Sect 2-9	Sect 2-10	Sect 2-11	Sect 2-12	Sect 2-13	Sect 2-14
Project Number:	2627	2627	2627	2627	2627	2627
Lab File ID:	C13053034	C13053035	C13053036	C13053037	C13053038	C13053039
Received Date:	5/29/2013	5/29/2013	5/29/2013	5/29/2013	5/29/2013	5/29/2013
Analysis Date:	5/30/2013	5/30/2013	5/30/2013	5/31/2013	5/31/2013	5/31/2013
Analysis Time:	22:58	23:20	23:42	0:03	0:24	0:45
Matrix:	Soil Gas	Soil Gas	Soil Gas	Soil Gas	Soil Gas	Soil Gas
Units:	ng	ng	ng	ng	ng	ng
COMPOUNDS						
Vinyl Chloride	<10	<10	<10	<10	<10	<10
Trichlorofluoromethane (Freon 11)	<25	<25	<25	<25	<25	<25
1,1-Dichloroethene	<10	<10	<10	<10	<10	<10
1,1,2-Trichlorotrifluoroethane (Fr.113)	<25	<25	<25	<25	<25	<25
trans-1,2-Dichloroethene	<10	<10	<10	<10	<10	<10
Methyl-t-butyl ether	<25	<25	<25	<25	<25	<25
1,1-Dichloroethane	<25	<25	<25	<25	<25	<25
cis-1,2-Dichloroethene	<10	<10	<10	<10	<10	<10
Chloroform	**289**	**1,687**	**88**	<25	**346**	**196**
1,2-Dichloroethane	<25	<25	<25	<25	<25	<25
1,1,1-Trichloroethane	<25	<25	<25	<25	<25	<25
Carbon Tetrachloride	<25	<25	<25	<25	<25	<25
Benzene	<25	<25	<25	<25	<25	<25
Trichloroethene	<10	<10	<10	<10	<10	<10
1,4-Dioxane	<25	<25	<25	<25	<25	<25
1,1,2-Trichloroethane	<25	<25	<25	<25	<25	<25
Toluene	<25	<25	<25	<25	<25	<25
1,2-Dibromoethane (EDB)	<25	<25	<25	<25	<25	<25
Tetrachloroethene	<10	<10	<10	<10	<10	<10
1,1,1,2-Tetrachloroethane	<25	<25	<25	<25	<25	<25
Chlorobenzene	<25	<25	<25	<25	<25	<25
Ethylbenzene	<25	<25	<25	<25	<25	<25
p & m-Xylene	<25	<25	<25	<25	<25	<25
1,1,2,2-Tetrachloroethane	<25	<25	<25	<25	<25	<25
o-Xylene	<25	<25	<25	<25	<25	<25
1,2,3-Trichloropropane	<25	<25	<25	<25	<25	<25
Isopropylbenzene	<25	<25	<25	<25	<25	<25
1,3,5-Trimethylbenzene	<25	<25	<25	<25	<25	<25
1,2,4-Trimethylbenzene	<25	<25	<25	<25	<25	<25
1,3-Dichlorobenzene	<25	<25	<25	<25	<25	<25
1,4-Dichlorobenzene	<25	<25	<25	<25	<25	<25
1,2-Dichlorobenzene	<25	<25	<25	<25	<25	<25
1,2,4-Trichlorobenzene	<25	<25	<25	<25	<25	<25
Naphthalene	<25	<25	<25	<25	<25	<25
1,2,3-Trichlorobenzene	<25	<25	<25	<25	<25	<25
2-Methylnaphthalene	<25	<25	<25	<25	<25	<25
TPH C_5-C_9	<5,000	<5,000	<5,000	<5,000	<5,000	<5,000
TPH C_{10}-C_{15}	<5,000	<5,000	<5,000	**6,355**	<5,000	<5,000

Results in nanograms (ng). J = Values below limit of quantitation (LOQ) but above limit of detection (LOD). B = Detected in method blank.

Table 1

Beacon Environmental Services, Inc.
2203A Commerce Road, Suite 1
Forest Hill, MD 21050 USA

Analysis by EPA Method 8260C

Client Sample ID:	Sect 2-15	Sect 2-16	Sect 2-17	Sect 2-18	Sect 2-19	Sect 2-20
Project Number:	2627	2627	2627	2627	2627	2627
Lab File ID:	C13053040	C13053041	C13053042	C13053043	C13053044	C13053045
Received Date:	5/29/2013	5/29/2013	5/29/2013	5/29/2013	5/29/2013	5/29/2013
Analysis Date:	5/31/2013	5/31/2013	5/31/2013	5/31/2013	5/31/2013	5/31/2013
Analysis Time:	1:07	1:28	1:49	2:11	2:32	2:54
Matrix:	Soil Gas	Soil Gas	Soil Gas	Soil Gas	Soil Gas	Soil Gas
Units:	ng	ng	ng	ng	ng	ng
COMPOUNDS						
Vinyl Chloride	<10	<10	<10	<10	<10	<10
Trichlorofluoromethane (Freon 11)	<25	<25	<25	<25	<25	<25
1,1-Dichloroethene	<10	<10	<10	<10	<10	<10
1,1,2-Trichlorotrifluoroethane (Fr.113)	<25	<25	<25	<25	<25	<25
trans-1,2-Dichloroethene	<10	<10	<10	<10	<10	<10
Methyl-t-butyl ether	<25	<25	<25	<25	<25	<25
1,1-Dichloroethane	<25	<25	<25	<25	<25	<25
cis-1,2-Dichloroethene	<10	<10	<10	<10	<10	<10
Chloroform	**359**	**515**	**510**	**136**	**213**	**666**
1,2-Dichloroethane	<25	<25	<25	<25	<25	<25
1,1,1-Trichloroethane	<25	<25	<25	<25	<25	<25
Carbon Tetrachloride	<25	<25	<25	<25	<25	<25
Benzene	<25	<25	<25	<25	<25	<25
Trichloroethene	<10	<10	<10	<10	<10	<10
1,4-Dioxane	<25	<25	<25	<25	<25	<25
1,1,2-Trichloroethane	<25	<25	<25	<25	<25	<25
Toluene	<25	<25	<25	<25	<25	<25
1,2-Dibromoethane (EDB)	<25	<25	<25	<25	<25	<25
Tetrachloroethene	<10	<10	<10	<10	<10	<10
1,1,1,2-Tetrachloroethane	<25	<25	<25	<25	<25	<25
Chlorobenzene	<25	<25	<25	<25	<25	<25
Ethylbenzene	<25	<25	<25	<25	<25	<25
p & m-Xylene	<25	<25	<25	<25	<25	<25
1,1,2,2-Tetrachloroethane	<25	<25	<25	<25	<25	<25
o-Xylene	<25	<25	<25	<25	<25	<25
1,2,3-Trichloropropane	<25	<25	<25	<25	<25	<25
Isopropylbenzene	<25	<25	<25	<25	<25	<25
1,3,5-Trimethylbenzene	<25	<25	<25	<25	<25	<25
1,2,4-Trimethylbenzene	<25	<25	<25	<25	<25	<25
1,3-Dichlorobenzene	<25	<25	<25	<25	<25	<25
1,4-Dichlorobenzene	<25	<25	<25	<25	<25	<25
1,2-Dichlorobenzene	<25	<25	<25	<25	<25	<25
1,2,4-Trichlorobenzene	<25	<25	<25	<25	<25	<25
Naphthalene	<25	<25	<25	<25	<25	<25
1,2,3-Trichlorobenzene	<25	<25	<25	<25	<25	<25
2-Methylnaphthalene	<25	<25	<25	<25	<25	<25
TPH C_5-C_9	<5,000	<5,000	<5,000	<5,000	<5,000	<5,000
TPH C_{10}-C_{15}	<5,000	<5,000	<5,000	<5,000	<5,000	<5,000

Results in nanograms (ng). J = Values below limit of quantitation (LOQ) but above limit of detection (LOD). B = Detected in method blank.

Table 1

Beacon Environmental Services, Inc.
2203A Commerce Road, Suite 1
Forest Hill, MD 21050 USA

Analysis by EPA Method 8260C

Client Sample ID:	Sect 2-21	Sect 2-22	Sect 2-23	Sect 2-24	Sect 2-25	Sect 2-26
Project Number:	2627	2627	2627	2627	2627	2627
Lab File ID:	C13053046	C13053047	C13053048	C13053049	C13053050	C13053051
Received Date:	5/29/2013	5/29/2013	5/29/2013	5/29/2013	5/29/2013	5/29/2013
Analysis Date:	5/31/2013	5/31/2013	5/31/2013	5/31/2013	5/31/2013	5/31/2013
Analysis Time:	3:15	3:37	3:58	4:19	4:40	5:02
Matrix:	Soil Gas	Soil Gas	Soil Gas	Soil Gas	Soil Gas	Soil Gas
Units:	ng	ng	ng	ng	ng	ng
COMPOUNDS						
Vinyl Chloride	<10	<10	<10	<10	<10	<10
Trichlorofluoromethane (Freon 11)	<25	<25	<25	<25	<25	<25
1,1-Dichloroethene	<10	<10	<10	<10	<10	<10
1,1,2-Trichlorotrifluoroethane (Fr.113)	<25	<25	<25	<25	<25	<25
trans-1,2-Dichloroethene	<10	<10	<10	<10	<10	<10
Methyl-t-butyl ether	<25	<25	<25	<25	<25	<25
1,1-Dichloroethane	<25	<25	<25	<25	<25	<25
cis-1,2-Dichloroethene	<10	<10	<10	<10	<10	<10
Chloroform	**71**	**78**	**255**	**174**	**894**	<25
1,2-Dichloroethane	<25	<25	<25	<25	<25	<25
1,1,1-Trichloroethane	<25	<25	<25	<25	<25	<25
Carbon Tetrachloride	<25	<25	<25	<25	<25	<25
Benzene	<25	<25	<25	<25	<25	<25
Trichloroethene	<10	<10	<10	<10	<10	<10
1,4-Dioxane	<25	<25	<25	<25	<25	<25
1,1,2-Trichloroethane	<25	<25	<25	<25	<25	<25
Toluene	<25	<25	<25	<25	<25	<25
1,2-Dibromoethane (EDB)	<25	<25	<25	<25	<25	<25
Tetrachloroethene	<10	<10	<10	<10	<10	<10
1,1,1,2-Tetrachloroethane	<25	<25	<25	<25	<25	<25
Chlorobenzene	<25	<25	<25	<25	<25	<25
Ethylbenzene	<25	<25	<25	<25	<25	<25
p & m-Xylene	<25	<25	<25	<25	<25	<25
1,1,2,2-Tetrachloroethane	<25	<25	<25	<25	<25	<25
o-Xylene	<25	<25	<25	<25	<25	<25
1,2,3-Trichloropropane	<25	<25	<25	<25	<25	<25
Isopropylbenzene	<25	<25	<25	<25	<25	<25
1,3,5-Trimethylbenzene	<25	<25	<25	<25	<25	<25
1,2,4-Trimethylbenzene	<25	<25	<25	<25	<25	<25
1,3-Dichlorobenzene	<25	<25	<25	<25	<25	<25
1,4-Dichlorobenzene	<25	<25	<25	<25	<25	<25
1,2-Dichlorobenzene	<25	<25	<25	<25	<25	<25
1,2,4-Trichlorobenzene	<25	<25	<25	<25	<25	<25
Naphthalene	<25	<25	<25	<25	<25	<25
1,2,3-Trichlorobenzene	<25	<25	<25	<25	<25	<25
2-Methylnaphthalene	<25	<25	<25	<25	<25	<25
TPH C_5-C_9	<5,000	<5,000	<5,000	<5,000	<5,000	<5,000
TPH C_{10}-C_{15}	<5,000	<5,000	<5,000	<5,000	<5,000	**6,997**

Results in nanograms (ng). J = Values below limit of quantitation (LOQ) but above limit of detection (LOD). B = Detected in method blank.

Table 1

Beacon Environmental Services, Inc.
2203A Commerce Road, Suite 1
Forest Hill, MD 21050 USA

Analysis by EPA Method 8260C

Client Sample ID:	Sect 3-1	Sect 3-2	Sect 3-3	Sect 3-4	Sect 3-5	Sect 3-6
Project Number:	2627	2627	2627	2627	2627	2627
Lab File ID:	C13053052	C13053053	C13053054	C13053055	C13053056	C13053057
Received Date:	5/29/2013	5/29/2013	5/29/2013	5/29/2013	5/29/2013	5/29/2013
Analysis Date:	5/31/2013	5/31/2013	5/31/2013	5/31/2013	5/31/2013	5/31/2013
Analysis Time:	5:23	5:44	6:06	6:28	6:49	7:10
Matrix:	Soil Gas	Soil Gas	Soil Gas	Soil Gas	Soil Gas	Soil Gas
Units:	ng	ng	ng	ng	ng	ng
COMPOUNDS						
Vinyl Chloride	<10	<10	<10	<10	<10	<10
Trichlorofluoromethane (Freon 11)	<25	<25	<25	<25	<25	<25
1,1-Dichloroethene	<10	<10	<10	<10	<10	<10
1,1,2-Trichlorotrifluoroethane (Fr.113)	<25	<25	<25	<25	<25	<25
trans-1,2-Dichloroethene	<10	<10	<10	<10	<10	<10
Methyl-t-butyl ether	<25	<25	<25	<25	<25	<25
1,1-Dichloroethane	<25	<25	<25	<25	<25	<25
cis-1,2-Dichloroethene	<10	<10	<10	<10	<10	<10
Chloroform	**29**	<25	<25	**30**	**56**	<25
1,2-Dichloroethane	<25	<25	<25	<25	<25	<25
1,1,1-Trichloroethane	<25	<25	<25	<25	<25	<25
Carbon Tetrachloride	<25	<25	<25	<25	<25	<25
Benzene	<25	<25	<25	<25	<25	<25
Trichloroethene	<10	<10	<10	<10	<10	<10
1,4-Dioxane	<25	<25	<25	<25	<25	<25
1,1,2-Trichloroethane	<25	<25	<25	<25	<25	<25
Toluene	<25	<25	<25	<25	<25	<25
1,2-Dibromoethane (EDB)	<25	<25	<25	<25	<25	<25
Tetrachloroethene	<10	<10	<10	<10	<10	<10
1,1,1,2-Tetrachloroethane	<25	<25	<25	<25	<25	<25
Chlorobenzene	<25	<25	<25	<25	<25	<25
Ethylbenzene	<25	<25	<25	<25	<25	<25
p & m-Xylene	<25	<25	<25	<25	<25	<25
1,1,2,2-Tetrachloroethane	<25	<25	<25	<25	<25	<25
o-Xylene	<25	<25	<25	<25	<25	<25
1,2,3-Trichloropropane	<25	<25	<25	<25	<25	<25
Isopropylbenzene	<25	<25	<25	<25	<25	<25
1,3,5-Trimethylbenzene	<25	<25	<25	<25	<25	<25
1,2,4-Trimethylbenzene	<25	<25	<25	<25	<25	<25
1,3-Dichlorobenzene	<25	<25	<25	<25	<25	<25
1,4-Dichlorobenzene	<25	<25	<25	<25	<25	<25
1,2-Dichlorobenzene	<25	<25	<25	<25	<25	<25
1,2,4-Trichlorobenzene	<25	<25	<25	<25	<25	<25
Naphthalene	<25	<25	<25	<25	<25	<25
1,2,3-Trichlorobenzene	<25	<25	<25	<25	<25	<25
2-Methylnaphthalene	<25	<25	<25	<25	<25	<25
TPH C_5-C_9	<5,000	<5,000	<5,000	<5,000	<5,000	<5,000
TPH C_{10}-C_{15}	**5,659**	<5,000	**5,287**	<5,000	**5,910**	**7,725**

Results in nanograms (ng). J = Values below limit of quantitation (LOQ) but above limit of detection (LOD). B = Detected in method blank.

Table 1

Beacon Environmental Services, Inc.
2203A Commerce Road, Suite 1
Forest Hill, MD 21050 USA

Analysis by EPA Method 8260C

Client Sample ID:	Sect 3-7	Sect 3-8	Sect 3-9	Sect 3-10	Sect 3-11	mb130531c
Project Number:	2627	2627	2627	2627	2627	
Lab File ID:	C13053058	C13053059	C13053060	C13053061	C13053062	C13053103
Received Date:	5/29/2013	5/29/2013	5/29/2013	5/29/2013	5/29/2013	
Analysis Date:	5/31/2013	5/31/2013	5/31/2013	5/31/2013	5/31/2013	5/31/2013
Analysis Time:	7:32	7:53	8:15	8:36	8:57	11:18
Matrix:	Soil Gas	Soil Gas	Soil Gas	Soil Gas	Soil Gas	
Units:	ng	ng	ng	ng	ng	ng
COMPOUNDS						
Vinyl Chloride	<10	<10	<10	<10	<10	<10
Trichlorofluoromethane (Freon 11)	<25	<25	<25	<25	<25	<25
1,1-Dichloroethene	<10	<10	<10	<10	<10	<10
1,1,2-Trichlorotrifluoroethane (Fr.113)	<25	<25	<25	<25	<25	<25
trans-1,2-Dichloroethene	<10	<10	<10	<10	<10	<10
Methyl-t-butyl ether	<25	<25	<25	<25	<25	<25
1,1-Dichloroethane	<25	<25	<25	<25	<25	<25
cis-1,2-Dichloroethene	<10	<10	<10	<10	<10	<10
Chloroform	**577**	**405**	**200**	**410**	**112**	<25
1,2-Dichloroethane	<25	<25	<25	<25	<25	<25
1,1,1-Trichloroethane	<25	<25	<25	<25	<25	<25
Carbon Tetrachloride	<25	<25	<25	<25	<25	<25
Benzene	<25	<25	<25	<25	<25	<25
Trichloroethene	<10	<10	<10	<10	<10	<10
1,4-Dioxane	<25	<25	<25	<25	<25	<25
1,1,2-Trichloroethane	<25	<25	<25	<25	<25	<25
Toluene	<25	<25	<25	<25	<25	<25
1,2-Dibromoethane (EDB)	<25	<25	<25	<25	<25	<25
Tetrachloroethene	<10	<10	<10	<10	**5 J**	<10
1,1,1,2-Tetrachloroethane	<25	<25	<25	<25	<25	<25
Chlorobenzene	<25	<25	<25	<25	<25	<25
Ethylbenzene	<25	<25	<25	<25	<25	<25
p & m-Xylene	<25	<25	<25	<25	<25	<25
1,1,2,2-Tetrachloroethane	<25	<25	<25	<25	<25	<25
o-Xylene	<25	<25	<25	<25	<25	<25
1,2,3-Trichloropropane	<25	<25	<25	<25	<25	<25
Isopropylbenzene	<25	<25	<25	<25	<25	<25
1,3,5-Trimethylbenzene	<25	<25	<25	<25	<25	<25
1,2,4-Trimethylbenzene	<25	<25	<25	<25	<25	<25
1,3-Dichlorobenzene	<25	<25	<25	<25	<25	<25
1,4-Dichlorobenzene	<25	<25	<25	<25	<25	<25
1,2-Dichlorobenzene	<25	<25	<25	<25	<25	<25
1,2,4-Trichlorobenzene	<25	<25	<25	<25	<25	<25
Naphthalene	<25	<25	<25	<25	<25	<25
1,2,3-Trichlorobenzene	<25	<25	<25	<25	<25	<25
2-Methylnaphthalene	<25	<25	<25	<25	<25	<25
TPH C_5-C_9	<5,000	<5,000	<5,000	<5,000	<5,000	<5,000
TPH C_{10}-C_{15}	<5,000	<5,000	<5,000	<5,000	**5,621**	<5,000

Results in nanograms (ng). J = Values below limit of quantitation (LOQ) but above limit of detection (LOD). B = Detected in method blank.

Table 1

Beacon Environmental Services, Inc.
2203A Commerce Road, Suite 1
Forest Hill, MD 21050 USA

Analysis by EPA Method 8260C

Client Sample ID:	Sect 3-12	Sect 3-13	Sect 3-14	Sect 3-15	Sect 3-16	Sect 3-17
Project Number:	2627	2627	2627	2627	2627	2627
Lab File ID:	C13053105	C13053106	C13053107	C13053108	C13053109	C13053110
Received Date:	5/29/2013	5/29/2013	5/29/2013	5/29/2013	5/29/2013	5/29/2013
Analysis Date:	5/31/2013	5/31/2013	5/31/2013	5/31/2013	5/31/2013	5/31/2013
Analysis Time:	12:01	12:22	12:44	13:05	13:26	13:47
Matrix:	Soil Gas	Soil Gas	Soil Gas	Soil Gas	Soil Gas	Soil Gas
Units:	ng	ng	ng	ng	ng	ng
COMPOUNDS						
Vinyl Chloride	<10	<10	<10	<10	<10	<10
Trichlorofluoromethane (Freon 11)	<25	<25	<25	<25	<25	<25
1,1-Dichloroethene	<10	<10	<10	<10	<10	<10
1,1,2-Trichlorotrifluoroethane (Fr.113)	<25	<25	<25	<25	<25	<25
trans-1,2-Dichloroethene	<10	<10	<10	<10	<10	<10
Methyl-t-butyl ether	<25	<25	<25	<25	<25	<25
1,1-Dichloroethane	<25	<25	<25	<25	<25	<25
cis-1,2-Dichloroethene	<10	<10	<10	<10	<10	<10
Chloroform	<25	**386**	**25**	<25	<25	<25
1,2-Dichloroethane	<25	<25	<25	<25	<25	<25
1,1,1-Trichloroethane	<25	<25	<25	<25	<25	<25
Carbon Tetrachloride	<25	<25	<25	<25	<25	<25
Benzene	<25	<25	<25	<25	<25	<25
Trichloroethene	<10	<10	<10	<10	<10	<10
1,4-Dioxane	<25	<25	<25	<25	<25	<25
1,1,2-Trichloroethane	<25	<25	<25	<25	<25	<25
Toluene	<25	<25	<25	<25	<25	<25
1,2-Dibromoethane (EDB)	<25	<25	<25	<25	<25	<25
Tetrachloroethene	<10	<10	<10	<10	**7 J**	**22**
1,1,1,2-Tetrachloroethane	<25	<25	<25	<25	<25	<25
Chlorobenzene	<25	<25	<25	<25	<25	<25
Ethylbenzene	<25	<25	<25	<25	<25	<25
p & m-Xylene	<25	<25	<25	<25	<25	<25
1,1,2,2-Tetrachloroethane	<25	<25	<25	<25	<25	<25
o-Xylene	<25	<25	<25	<25	<25	<25
1,2,3-Trichloropropane	<25	<25	<25	<25	<25	<25
Isopropylbenzene	<25	<25	<25	<25	<25	<25
1,3,5-Trimethylbenzene	<25	<25	<25	<25	<25	<25
1,2,4-Trimethylbenzene	<25	<25	<25	<25	<25	<25
1,3-Dichlorobenzene	<25	<25	<25	<25	<25	<25
1,4-Dichlorobenzene	<25	<25	<25	<25	<25	<25
1,2-Dichlorobenzene	<25	<25	<25	<25	<25	<25
1,2,4-Trichlorobenzene	<25	<25	<25	<25	<25	<25
Naphthalene	<25	<25	<25	<25	<25	<25
1,2,3-Trichlorobenzene	<25	<25	<25	<25	<25	<25
2-Methylnaphthalene	<25	<25	<25	<25	<25	<25
TPH C_5-C_9	<5,000	<5,000	<5,000	<5,000	<5,000	<5,000
TPH C_{10}-C_{15}	<5,000	<5,000	**5,347**	**6,147**	**7,345**	<5,000

Results in nanograms (ng). J = Values below limit of quantitation (LOQ) but above limit of detection (LOD). B = Detected in method blank.

Table 1

Beacon Environmental Services, Inc.
2203A Commerce Road, Suite 1
Forest Hill, MD 21050 USA

Analysis by EPA Method 8260C

Client Sample ID:	Sect 3-18	Sect 3-19	Sect 4-1	Sect 4-2	Sect 4-3	Sect 4-4
Project Number:	2627	2627	2627	2627	2627	2627
Lab File ID:	C13053111	C13053112	C13053113	C13053114	C13053115	C13053116
Received Date:	5/29/2013	5/29/2013	5/29/2013	5/29/2013	5/29/2013	5/29/2013
Analysis Date:	5/31/2013	5/31/2013	5/31/2013	5/31/2013	5/31/2013	5/31/2013
Analysis Time:	14:09	14:30	14:51	15:13	15:35	15:56
Matrix:	Soil Gas	Soil Gas	Soil Gas	Soil Gas	Soil Gas	Soil Gas
Units:	ng	ng	ng	ng	ng	ng
COMPOUNDS						
Vinyl Chloride	<10	<10	<10	<10	<10	<10
Trichlorofluoromethane (Freon 11)	<25	<25	<25	<25	<25	<25
1,1-Dichloroethene	<10	<10	<10	<10	<10	<10
1,1,2-Trichlorotrifluoroethane (Fr.113)	<25	<25	<25	<25	<25	<25
trans-1,2-Dichloroethene	<10	<10	<10	<10	<10	<10
Methyl-t-butyl ether	<25	<25	<25	<25	<25	<25
1,1-Dichloroethane	<25	<25	<25	<25	<25	<25
cis-1,2-Dichloroethene	<10	<10	<10	<10	<10	<10
Chloroform	<25	<25	<25	<25	<25	<25
1,2-Dichloroethane	<25	<25	<25	<25	<25	<25
1,1,1-Trichloroethane	<25	<25	<25	<25	<25	<25
Carbon Tetrachloride	<25	<25	<25	<25	<25	<25
Benzene	<25	<25	<25	<25	<25	<25
Trichloroethene	<10	<10	<10	<10	**6 J**	**10 J**
1,4-Dioxane	<25	<25	<25	<25	<25	<25
1,1,2-Trichloroethane	<25	<25	<25	<25	<25	<25
Toluene	<25	<25	<25	<25	<25	<25
1,2-Dibromoethane (EDB)	<25	<25	<25	<25	<25	<25
Tetrachloroethene	**25**	**9 J**	**13**	**127**	**609**	**553**
1,1,1,2-Tetrachloroethane	<25	<25	<25	<25	<25	<25
Chlorobenzene	<25	<25	<25	<25	<25	<25
Ethylbenzene	<25	<25	<25	<25	<25	<25
p & m-Xylene	<25	<25	<25	<25	<25	<25
1,1,2,2-Tetrachloroethane	<25	<25	<25	<25	<25	<25
o-Xylene	<25	<25	<25	<25	<25	<25
1,2,3-Trichloropropane	<25	<25	<25	<25	<25	<25
Isopropylbenzene	<25	<25	<25	<25	<25	<25
1,3,5-Trimethylbenzene	<25	<25	<25	<25	<25	<25
1,2,4-Trimethylbenzene	<25	<25	<25	<25	<25	<25
1,3-Dichlorobenzene	<25	<25	<25	<25	<25	<25
1,4-Dichlorobenzene	<25	<25	<25	<25	<25	<25
1,2-Dichlorobenzene	<25	<25	<25	<25	<25	<25
1,2,4-Trichlorobenzene	<25	<25	<25	<25	<25	<25
Naphthalene	<25	<25	**42**	<25	<25	<25
1,2,3-Trichlorobenzene	<25	<25	<25	<25	<25	<25
2-Methylnaphthalene	<25	<25	<25	<25	<25	<25
TPH C_5-C_9	<5,000	<5,000	<5,000	<5,000	<5,000	<5,000
TPH C_{10}-C_{15}	**6,536**	**5,393**	**6,503**	**6,410**	**5,932**	<5,000

Results in nanograms (ng). J = Values below limit of quantitation (LOQ) but above limit of detection (LOD). B = Detected in method blank.

Table 1

Beacon Environmental Services, Inc.
2203A Commerce Road, Suite 1
Forest Hill, MD 21050 USA

Analysis by EPA Method 8260C

Client Sample ID:	Sect 4-5	Sect 4-6	Sect 4-6 D	Sect 4-7	Sect 4-8	Sect 4-9
Project Number:	2627	2627	2627	2627	2627	2627
Lab File ID:	C13053117	C13053118	C13053119	C13053120	C13053121	C13053122
Received Date:	5/29/2013	5/29/2013	5/29/2013	5/29/2013	5/29/2013	5/29/2013
Analysis Date:	5/31/2013	5/31/2013	5/31/2013	5/31/2013	5/31/2013	5/31/2013
Analysis Time:	16:17	16:38	16:59	17:21	17:42	18:03
Matrix:	Soil Gas	Soil Gas	Soil Gas	Soil Gas	Soil Gas	Soil Gas
Units:	ng	ng	ng	ng	ng	ng
COMPOUNDS						
Vinyl Chloride	<10	<10	<10	<10	<10	<10
Trichlorofluoromethane (Freon 11)	<25	<25	<25	<25	<25	<25
1,1-Dichloroethene	<10	<10	<10	<10	<10	<10
1,1,2-Trichlorotrifluoroethane (Fr.113)	<25	<25	<25	<25	<25	<25
trans-1,2-Dichloroethene	<10	<10	<10	<10	<10	<10
Methyl-t-butyl ether	<25	<25	<25	<25	<25	<25
1,1-Dichloroethane	<25	<25	<25	<25	<25	<25
cis-1,2-Dichloroethene	<10	<10	<10	<10	<10	<10
Chloroform	<25	**79**	**61**	**43**	**85**	<25
1,2-Dichloroethane	<25	<25	<25	<25	<25	<25
1,1,1-Trichloroethane	<25	<25	<25	<25	<25	<25
Carbon Tetrachloride	<25	<25	<25	<25	<25	<25
Benzene	<25	<25	<25	<25	<25	<25
Trichloroethene	**27**	<10	**8 J**	<10	**10**	<10
1,4-Dioxane	<25	<25	<25	<25	<25	<25
1,1,2-Trichloroethane	<25	<25	<25	<25	<25	<25
Toluene	<25	<25	<25	<25	<25	<25
1,2-Dibromoethane (EDB)	<25	<25	<25	<25	<25	<25
Tetrachloroethene	**1,643**	**96**	**209**	**672**	**5,994**	**204**
1,1,1,2-Tetrachloroethane	<25	<25	<25	<25	<25	<25
Chlorobenzene	<25	<25	<25	<25	<25	<25
Ethylbenzene	<25	<25	<25	<25	<25	<25
p & m-Xylene	<25	<25	<25	<25	<25	<25
1,1,2,2-Tetrachloroethane	<25	<25	<25	<25	<25	<25
o-Xylene	<25	<25	<25	<25	<25	<25
1,2,3-Trichloropropane	<25	<25	<25	<25	<25	<25
Isopropylbenzene	<25	<25	<25	<25	<25	<25
1,3,5-Trimethylbenzene	<25	<25	<25	<25	<25	<25
1,2,4-Trimethylbenzene	<25	<25	<25	<25	<25	<25
1,3-Dichlorobenzene	<25	<25	<25	<25	<25	<25
1,4-Dichlorobenzene	<25	<25	<25	<25	<25	<25
1,2-Dichlorobenzene	<25	<25	<25	<25	<25	<25
1,2,4-Trichlorobenzene	<25	<25	<25	<25	<25	<25
Naphthalene	<25	<25	<25	<25	<25	<25
1,2,3-Trichlorobenzene	<25	<25	<25	<25	<25	<25
2-Methylnaphthalene	<25	<25	<25	<25	<25	<25
TPH C_5-C_9	<5,000	<5,000	<5,000	<5,000	<5,000	<5,000
TPH C_{10}-C_{15}	<5,000	<5,000	<5,000	<5,000	<5,000	**7,706**

Results in nanograms (ng). J = Values below limit of quantitation (LOQ) but above limit of detection (LOD). B = Detected in method blank.

Table 1

Beacon Environmental Services, Inc.
2203A Commerce Road, Suite 1
Forest Hill, MD 21050 USA

Analysis by EPA Method 8260C

Client Sample ID:	Sect 4-10	Sect 4-11	Sect 4-12	Sect 5-1	Sect 5-2	Sect 5-3
Project Number:	2627	2627	2627	2627	2627	2627
Lab File ID:	C13053123	C13053124	C13053125	C13053126	C13053127	C13053128
Received Date:	5/29/2013	5/29/2013	5/29/2013	5/29/2013	5/29/2013	5/29/2013
Analysis Date:	5/31/2013	5/31/2013	5/31/2013	5/31/2013	5/31/2013	5/31/2013
Analysis Time:	18:24	18:46	19:07	19:29	19:50	20:11
Matrix:	Soil Gas	Soil Gas	Soil Gas	Soil Gas	Soil Gas	Soil Gas
Units:	ng	ng	ng	ng	ng	ng
COMPOUNDS						
Vinyl Chloride	<10	<10	<10	<10	<10	<10
Trichlorofluoromethane (Freon 11)	<25	<25	<25	<25	<25	<25
1,1-Dichloroethene	<10	<10	<10	<10	<10	<10
1,1,2-Trichlorotrifluoroethane (Fr.113)	<25	<25	<25	<25	<25	<25
trans-1,2-Dichloroethene	<10	<10	<10	<10	<10	<10
Methyl-t-butyl ether	<25	<25	<25	<25	<25	<25
1,1-Dichloroethane	<25	<25	<25	<25	<25	<25
cis-1,2-Dichloroethene	<10	<10	<10	<10	<10	<10
Chloroform	<25	<25	<25	<25	<25	<25
1,2-Dichloroethane	<25	<25	<25	<25	<25	<25
1,1,1-Trichloroethane	<25	<25	<25	<25	<25	<25
Carbon Tetrachloride	<25	<25	<25	<25	<25	<25
Benzene	<25	<25	<25	<25	<25	<25
Trichloroethene	<10	<10	<10	<10	<10	<10
1,4-Dioxane	<25	<25	<25	<25	<25	<25
1,1,2-Trichloroethane	<25	<25	<25	<25	<25	<25
Toluene	<25	<25	<25	<25	<25	<25
1,2-Dibromoethane (EDB)	<25	<25	<25	<25	<25	<25
Tetrachloroethene	**45**	**63**	**16**	**52**	**54**	**35**
1,1,1,2-Tetrachloroethane	<25	<25	<25	<25	<25	<25
Chlorobenzene	<25	<25	<25	<25	<25	<25
Ethylbenzene	<25	<25	<25	<25	<25	<25
p & m-Xylene	<25	<25	<25	<25	<25	<25
1,1,2,2-Tetrachloroethane	<25	<25	<25	<25	<25	<25
o-Xylene	<25	<25	<25	<25	<25	<25
1,2,3-Trichloropropane	<25	<25	<25	<25	<25	<25
Isopropylbenzene	<25	<25	<25	<25	<25	<25
1,3,5-Trimethylbenzene	<25	<25	<25	<25	<25	<25
1,2,4-Trimethylbenzene	<25	<25	<25	<25	<25	<25
1,3-Dichlorobenzene	<25	<25	<25	<25	<25	<25
1,4-Dichlorobenzene	<25	<25	<25	<25	<25	<25
1,2-Dichlorobenzene	<25	<25	<25	<25	<25	<25
1,2,4-Trichlorobenzene	<25	<25	<25	<25	<25	<25
Naphthalene	<25	<25	**36**	<25	<25	<25
1,2,3-Trichlorobenzene	<25	<25	<25	<25	<25	<25
2-Methylnaphthalene	<25	<25	<25	<25	<25	<25
TPH C_5-C_9	<5,000	<5,000	<5,000	<5,000	<5,000	<5,000
TPH C_{10}-C_{15}	**7,365**	**5,759**	<5,000	**7,989**	<5,000	**5,665**

Results in nanograms (ng). J = Values below limit of quantitation (LOQ) but above limit of detection (LOD). B = Detected in method blank.

Table 1

Beacon Environmental Services, Inc.
2203A Commerce Road, Suite 1
Forest Hill, MD 21050 USA

Analysis by EPA Method 8260C

Client Sample ID:	Sect 5-4	Sect 5-5	Sect 5-6	Sect 5-7	Sect 5-8	Sect 5-9
Project Number:	2627	2627	2627	2627	2627	2627
Lab File ID:	C13053129	C13053130	C13053131	C13053132	C13053133	C13053134
Received Date:	5/29/2013	5/29/2013	5/29/2013	5/29/2013	5/29/2013	5/29/2013
Analysis Date:	5/31/2013	5/31/2013	5/31/2013	5/31/2013	5/31/2013	5/31/2013
Analysis Time:	20:32	20:54	21:15	21:37	21:58	22:19
Matrix:	Soil Gas	Soil Gas	Soil Gas	Soil Gas	Soil Gas	Soil Gas
Units:	ng	ng	ng	ng	ng	ng
COMPOUNDS						
Vinyl Chloride	<10	<10	<10	<10	<10	<10
Trichlorofluoromethane (Freon 11)	<25	<25	<25	<25	<25	<25
1,1-Dichloroethene	<10	<10	<10	<10	<10	<10
1,1,2-Trichlorotrifluoroethane (Fr.113)	<25	<25	<25	<25	<25	<25
trans-1,2-Dichloroethene	<10	<10	<10	<10	<10	<10
Methyl-t-butyl ether	<25	<25	<25	<25	<25	<25
1,1-Dichloroethane	<25	<25	<25	<25	<25	<25
cis-1,2-Dichloroethene	<10	<10	<10	<10	<10	<10
Chloroform	<25	<25	**344**	**233**	**1,268**	<25
1,2-Dichloroethane	<25	<25	<25	<25	<25	<25
1,1,1-Trichloroethane	<25	<25	<25	<25	<25	<25
Carbon Tetrachloride	<25	<25	<25	<25	<25	<25
Benzene	<25	<25	**158**	<25	<25	<25
Trichloroethene	<10	<10	<10	<10	<10	<10
1,4-Dioxane	<25	<25	<25	<25	<25	<25
1,1,2-Trichloroethane	<25	<25	<25	<25	<25	<25
Toluene	<25	<25	**180**	<25	<25	<25
1,2-Dibromoethane (EDB)	<25	<25	<25	<25	<25	<25
Tetrachloroethene	**81**	**69**	**38**	**34**	**11**	**34**
1,1,1,2-Tetrachloroethane	<25	<25	<25	<25	<25	<25
Chlorobenzene	<25	<25	<25	<25	<25	<25
Ethylbenzene	<25	<25	<25	<25	<25	<25
p & m-Xylene	<25	<25	<25	<25	<25	<25
1,1,2,2-Tetrachloroethane	<25	<25	<25	<25	<25	<25
o-Xylene	<25	<25	<25	<25	<25	<25
1,2,3-Trichloropropane	<25	<25	<25	<25	<25	<25
Isopropylbenzene	<25	<25	<25	<25	<25	<25
1,3,5-Trimethylbenzene	<25	<25	<25	<25	<25	<25
1,2,4-Trimethylbenzene	<25	<25	**28**	<25	<25	<25
1,3-Dichlorobenzene	<25	<25	<25	<25	<25	<25
1,4-Dichlorobenzene	<25	<25	<25	<25	<25	<25
1,2-Dichlorobenzene	<25	<25	<25	<25	<25	<25
1,2,4-Trichlorobenzene	<25	<25	<25	<25	<25	<25
Naphthalene	<25	<25	<25	<25	<25	<25
1,2,3-Trichlorobenzene	<25	<25	<25	<25	<25	<25
2-Methylnaphthalene	<25	<25	<25	<25	<25	<25
TPH C_5-C_9	<5,000	<5,000	**396,714**	<5,000	<5,000	<5,000
TPH C_{10}-C_{15}	**6,712**	**5,680**	<5,000	<5,000	**5,145**	**6,153**

Results in nanograms (ng). J = Values below limit of quantitation (LOQ) but above limit of detection (LOD). B = Detected in method blank.

Table 1

Beacon Environmental Services, Inc.
2203A Commerce Road, Suite 1
Forest Hill, MD 21050 USA

Analysis by EPA Method 8260C

Client Sample ID:	mb130607c	Trip-4	Trip-5	Sect 6-1	Sect 6-2	Sect 6-3
Project Number:		2627	2627	2627	2627	2627
Lab File ID:	C13060703	C13060705	C13060706	C13060707	C13060708	C13060709
Received Date:		6/4/2013	6/4/2013	6/4/2013	6/4/2013	6/4/2013
Analysis Date:	6/7/2013	6/7/2013	6/7/2013	6/7/2013	6/7/2013	6/7/2013
Analysis Time:	15:44	16:25	16:46	17:07	17:29	17:50
Matrix:				Soil Gas	Soil Gas	Soil Gas
Units:	ng	ng	ng	ng	ng	ng
COMPOUNDS						
Vinyl Chloride	<10	<10	<10	<10	<10	<10
Trichlorofluoromethane (Freon 11)	<25	<25	<25	<25	<25	<25
1,1-Dichloroethene	<10	<10	<10	<10	<10	<10
1,1,2-Trichlorotrifluoroethane (Fr.113)	<25	<25	<25	<25	<25	<25
trans-1,2-Dichloroethene	<10	<10	<10	<10	<10	<10
Methyl-t-butyl ether	<25	<25	<25	<25	<25	<25
1,1-Dichloroethane	<25	<25	<25	<25	<25	<25
cis-1,2-Dichloroethene	<10	<10	<10	<10	<10	<10
Chloroform	<25	<25	<25	**675**	<25	**41**
1,2-Dichloroethane	<25	<25	<25	<25	<25	<25
1,1,1-Trichloroethane	<25	<25	<25	<25	<25	<25
Carbon Tetrachloride	<25	<25	<25	<25	<25	<25
Benzene	<25	<25	<25	<25	<25	<25
Trichloroethene	<10	<10	<10	<10	<10	<10
1,4-Dioxane	<25	<25	<25	<25	<25	<25
1,1,2-Trichloroethane	<25	<25	<25	<25	<25	<25
Toluene	<25	<25	<25	<25	<25	<25
1,2-Dibromoethane (EDB)	<25	<25	<25	<25	<25	<25
Tetrachloroethene	<10	<10	<10	<10	**8 J**	**7 J**
1,1,1,2-Tetrachloroethane	<25	<25	<25	<25	<25	<25
Chlorobenzene	<25	<25	<25	<25	<25	<25
Ethylbenzene	<25	<25	<25	<25	<25	<25
p & m-Xylene	<25	<25	<25	<25	<25	<25
1,1,2,2-Tetrachloroethane	<25	<25	<25	<25	<25	<25
o-Xylene	<25	<25	<25	<25	<25	<25
1,2,3-Trichloropropane	<25	<25	<25	<25	<25	<25
Isopropylbenzene	<25	<25	<25	<25	<25	<25
1,3,5-Trimethylbenzene	<25	<25	<25	<25	<25	<25
1,2,4-Trimethylbenzene	<25	<25	<25	<25	<25	<25
1,3-Dichlorobenzene	<25	<25	<25	<25	<25	<25
1,4-Dichlorobenzene	<25	<25	<25	<25	<25	<25
1,2-Dichlorobenzene	<25	<25	<25	<25	<25	<25
1,2,4-Trichlorobenzene	<25	<25	<25	<25	<25	<25
Naphthalene	<25	<25	<25	<25	<25	<25
1,2,3-Trichlorobenzene	<25	<25	<25	<25	<25	<25
2-Methylnaphthalene	<25	<25	<25	<25	<25	<25
TPH C_5-C_9	<5,000	<5,000	<5,000	<5,000	<5,000	<5,000
TPH C_{10}-C_{15}	<5,000	<5,000	<5,000	<5,000	<5,000	<5,000

Results in nanograms (ng). J = Values below limit of quantitation (LOQ) but above limit of detection (LOD). B = Detected in method blank.

Table 1

Beacon Environmental Services, Inc.
2203A Commerce Road, Suite 1
Forest Hill, MD 21050 USA

Analysis by EPA Method 8260C

Client Sample ID:	Sect 6-4	Sect 6-5	Sect 6-6	Sect 6-7	Sect 6-8	Sect 6-9
Project Number:	2627	2627	2627	2627	2627	2627
Lab File ID:	C13060710	C13060711	C13060712	C13060713	C13060714	C13060715
Received Date:	6/4/2013	6/4/2013	6/4/2013	6/4/2013	6/4/2013	6/4/2013
Analysis Date:	6/7/2013	6/7/2013	6/7/2013	6/7/2013	6/7/2013	6/7/2013
Analysis Time:	18:11	18:32	18:54	19:15	19:36	19:58
Matrix:	Soil Gas	Soil Gas	Soil Gas	Soil Gas	Soil Gas	Soil Gas
Units:	ng	ng	ng	ng	ng	ng
COMPOUNDS						
Vinyl Chloride	<10	<10	<10	<10	<10	<10
Trichlorofluoromethane (Freon 11)	<25	<25	<25	<25	<25	<25
1,1-Dichloroethene	<10	<10	<10	<10	<10	<10
1,1,2-Trichlorotrifluoroethane (Fr.113)	<25	<25	<25	<25	<25	<25
trans-1,2-Dichloroethene	<10	<10	<10	<10	<10	<10
Methyl-t-butyl ether	<25	<25	<25	<25	<25	<25
1,1-Dichloroethane	<25	<25	<25	<25	<25	<25
cis-1,2-Dichloroethene	<10	<10	<10	<10	<10	<10
Chloroform	<25	<25	<25	**28**	<25	**38**
1,2-Dichloroethane	<25	<25	<25	<25	<25	<25
1,1,1-Trichloroethane	<25	<25	<25	<25	<25	<25
Carbon Tetrachloride	<25	<25	<25	<25	<25	<25
Benzene	<25	<25	<25	<25	<25	<25
Trichloroethene	<10	<10	<10	<10	<10	<10
1,4-Dioxane	<25	<25	<25	<25	<25	<25
1,1,2-Trichloroethane	<25	<25	<25	<25	<25	<25
Toluene	<25	<25	<25	<25	<25	<25
1,2-Dibromoethane (EDB)	<25	<25	<25	<25	<25	<25
Tetrachloroethene	**25**	**8 J**	**38**	**83**	**185**	**104**
1,1,1,2-Tetrachloroethane	<25	<25	<25	<25	<25	<25
Chlorobenzene	<25	<25	<25	<25	<25	<25
Ethylbenzene	<25	<25	<25	<25	<25	<25
p & m-Xylene	<25	<25	<25	<25	<25	<25
1,1,2,2-Tetrachloroethane	<25	<25	<25	<25	<25	<25
o-Xylene	<25	<25	<25	<25	<25	<25
1,2,3-Trichloropropane	<25	<25	<25	<25	<25	<25
Isopropylbenzene	<25	<25	<25	<25	<25	<25
1,3,5-Trimethylbenzene	<25	<25	<25	<25	<25	<25
1,2,4-Trimethylbenzene	<25	<25	<25	<25	<25	<25
1,3-Dichlorobenzene	<25	<25	<25	<25	<25	<25
1,4-Dichlorobenzene	<25	<25	<25	<25	<25	<25
1,2-Dichlorobenzene	<25	<25	<25	<25	<25	<25
1,2,4-Trichlorobenzene	<25	<25	<25	<25	<25	<25
Naphthalene	<25	<25	<25	<25	<25	<25
1,2,3-Trichlorobenzene	<25	<25	<25	<25	<25	<25
2-Methylnaphthalene	<25	<25	<25	<25	<25	<25
TPH C_5-C_9	<5,000	<5,000	<5,000	<5,000	<5,000	<5,000
TPH C_{10}-C_{15}	<5,000	<5,000	<5,000	**5,338**	<5,000	<5,000

Results in nanograms (ng). J = Values below limit of quantitation (LOQ) but above limit of detection (LOD). B = Detected in method blank.

Table 1

Beacon Environmental Services, Inc.
2203A Commerce Road, Suite 1
Forest Hill, MD 21050 USA

Analysis by EPA Method 8260C

Client Sample ID:	Sect 6-9 DUP	Sect 6-10	Sect 6-11	Sect 6-12	Sect 6-13	Sect 6-14
Project Number:	2627	2627	2627	2627	2627	2627
Lab File ID:	C13060716	C13060717	C13060718	C13060719	C13060720	C13060721
Received Date:	6/4/2013	6/4/2013	6/4/2013	6/4/2013	6/4/2013	6/4/2013
Analysis Date:	6/7/2013	6/7/2013	6/7/2013	6/7/2013	6/7/2013	6/7/2013
Analysis Time:	20:19	20:40	21:02	21:23	21:44	22:05
Matrix:	Soil Gas	Soil Gas	Soil Gas	Soil Gas	Soil Gas	Soil Gas
Units:	ng	ng	ng	ng	ng	ng
COMPOUNDS						
Vinyl Chloride	<10	<10	<10	<10	<10	<10
Trichlorofluoromethane (Freon 11)	<25	<25	<25	<25	<25	<25
1,1-Dichloroethene	<10	<10	<10	<10	<10	<10
1,1,2-Trichlorotrifluoroethane (Fr.113)	<25	<25	<25	<25	<25	<25
trans-1,2-Dichloroethene	<10	<10	<10	<10	<10	<10
Methyl-t-butyl ether	<25	<25	<25	<25	<25	<25
1,1-Dichloroethane	<25	<25	<25	<25	<25	<25
cis-1,2-Dichloroethene	<10	<10	<10	<10	<10	<10
Chloroform	**25**	<25	**81**	<25	<25	<25
1,2-Dichloroethane	<25	<25	<25	<25	<25	<25
1,1,1-Trichloroethane	<25	<25	<25	<25	<25	<25
Carbon Tetrachloride	<25	<25	<25	<25	<25	<25
Benzene	<25	<25	<25	<25	<25	<25
Trichloroethene	<10	<10	<10	<10	<10	<10
1,4-Dioxane	<25	<25	<25	<25	<25	<25
1,1,2-Trichloroethane	<25	<25	<25	<25	<25	<25
Toluene	<25	<25	<25	<25	<25	<25
1,2-Dibromoethane (EDB)	<25	<25	<25	<25	<25	<25
Tetrachloroethene	**152**	**380**	**168**	**153**	**27**	**12**
1,1,1,2-Tetrachloroethane	<25	<25	<25	<25	<25	<25
Chlorobenzene	<25	<25	<25	<25	<25	<25
Ethylbenzene	<25	<25	<25	<25	<25	<25
p & m-Xylene	<25	<25	<25	<25	<25	<25
1,1,2,2-Tetrachloroethane	<25	<25	<25	<25	<25	<25
o-Xylene	<25	<25	<25	<25	<25	<25
1,2,3-Trichloropropane	<25	<25	<25	<25	<25	<25
Isopropylbenzene	<25	<25	<25	<25	<25	<25
1,3,5-Trimethylbenzene	<25	<25	<25	<25	<25	<25
1,2,4-Trimethylbenzene	<25	<25	<25	<25	<25	<25
1,3-Dichlorobenzene	<25	<25	<25	<25	<25	<25
1,4-Dichlorobenzene	<25	<25	<25	<25	<25	<25
1,2-Dichlorobenzene	<25	<25	<25	<25	<25	<25
1,2,4-Trichlorobenzene	<25	<25	<25	<25	<25	<25
Naphthalene	<25	<25	<25	<25	<25	<25
1,2,3-Trichlorobenzene	<25	<25	<25	<25	<25	<25
2-Methylnaphthalene	<25	<25	<25	<25	<25	<25
TPH C_5-C_9	<5,000	<5,000	<5,000	<5,000	<5,000	<5,000
TPH C_{10}-C_{15}	<5,000	<5,000	<5,000	<5,000	<5,000	<5,000

Results in nanograms (ng). J = Values below limit of quantitation (LOQ) but above limit of detection (LOD). B = Detected in method blank.

Table 1

Beacon Environmental Services, Inc.
2203A Commerce Road, Suite 1
Forest Hill, MD 21050 USA

Analysis by EPA Method 8260C

Client Sample ID:	Sect 6-15	Sect 6-16	Sect 6-17	Sect 6-18	Sect 6-19	Sect 6-20
Project Number:	2627	2627	2627	2627	2627	2627
Lab File ID:	C13060722	C13060723	C13060724	C13060725	C13060726	C13060727
Received Date:	6/4/2013	6/4/2013	6/4/2013	6/4/2013	6/4/2013	6/4/2013
Analysis Date:	6/7/2013	6/7/2013	6/7/2013	6/7/2013	6/7/2013	6/8/2013
Analysis Time:	22:27	22:48	23:09	23:31	23:56	0:18
Matrix:	Soil Gas	Soil Gas	Soil Gas	Soil Gas	Soil Gas	Soil Gas
Units:	ng	ng	ng	ng	ng	ng
COMPOUNDS						
Vinyl Chloride	<10	<10	<10	<10	<10	<10
Trichlorofluoromethane (Freon 11)	<25	<25	<25	<25	<25	<25
1,1-Dichloroethene	<10	<10	<10	<10	<10	<10
1,1,2-Trichlorotrifluoroethane (Fr.113)	<25	<25	<25	<25	<25	<25
trans-1,2-Dichloroethene	<10	<10	<10	<10	<10	<10
Methyl-t-butyl ether	<25	<25	<25	<25	<25	<25
1,1-Dichloroethane	<25	<25	<25	<25	<25	<25
cis-1,2-Dichloroethene	<10	<10	<10	<10	<10	<10
Chloroform	**26**	<25	<25	<25	<25	<25
1,2-Dichloroethane	<25	<25	<25	<25	<25	<25
1,1,1-Trichloroethane	<25	<25	<25	<25	<25	<25
Carbon Tetrachloride	<25	<25	<25	<25	<25	<25
Benzene	<25	<25	<25	<25	<25	<25
Trichloroethene	<10	<10	<10	<10	<10	<10
1,4-Dioxane	<25	<25	<25	<25	<25	<25
1,1,2-Trichloroethane	<25	<25	<25	<25	<25	<25
Toluene	<25	<25	<25	<25	<25	<25
1,2-Dibromoethane (EDB)	<25	<25	<25	<25	<25	<25
Tetrachloroethene	**14**	**8 J**	<10	**5 J**	<10	<10
1,1,1,2-Tetrachloroethane	<25	<25	<25	<25	<25	<25
Chlorobenzene	<25	<25	<25	<25	<25	<25
Ethylbenzene	<25	<25	<25	<25	<25	<25
p & m-Xylene	<25	<25	<25	<25	<25	<25
1,1,2,2-Tetrachloroethane	<25	<25	<25	<25	<25	<25
o-Xylene	<25	<25	<25	<25	<25	<25
1,2,3-Trichloropropane	<25	<25	<25	<25	<25	<25
Isopropylbenzene	<25	<25	<25	<25	<25	<25
1,3,5-Trimethylbenzene	<25	<25	<25	<25	<25	<25
1,2,4-Trimethylbenzene	<25	<25	<25	<25	<25	<25
1,3-Dichlorobenzene	<25	<25	<25	<25	<25	<25
1,4-Dichlorobenzene	<25	<25	<25	<25	<25	<25
1,2-Dichlorobenzene	<25	<25	<25	<25	<25	<25
1,2,4-Trichlorobenzene	<25	<25	<25	<25	<25	<25
Naphthalene	<25	<25	<25	<25	<25	<25
1,2,3-Trichlorobenzene	<25	<25	<25	<25	<25	<25
2-Methylnaphthalene	<25	<25	<25	<25	<25	<25
TPH C_5-C_9	<5,000	<5,000	<5,000	<5,000	<5,000	<5,000
TPH C_{10}-C_{15}	<5,000	<5,000	<5,000	<5,000	<5,000	<5,000

Results in nanograms (ng). J = Values below limit of quantitation (LOQ) but above limit of detection (LOD). B = Detected in method blank.

Table 1

Beacon Environmental Services, Inc.
2203A Commerce Road, Suite 1
Forest Hill, MD 21050 USA

Analysis by EPA Method 8260C

Client Sample ID:	Sect 6-21	Sect 6-22	Sect 6-23	Sect 6-24	Sect 6-25	Sect 7-1
Project Number:	2627	2627	2627	2627	2627	2627
Lab File ID:	C13060728	C13060729	C13060730	C13060731	C13060732	C13060733
Received Date:	6/4/2013	6/4/2013	6/4/2013	6/4/2013	6/4/2013	6/4/2013
Analysis Date:	6/8/2013	6/8/2013	6/8/2013	6/8/2013	6/8/2013	6/8/2013
Analysis Time:	0:39	1:00	1:21	1:43	2:04	2:25
Matrix:	Soil Gas	Soil Gas	Soil Gas	Soil Gas	Soil Gas	Soil Gas
Units:	ng	ng	ng	ng	ng	ng
COMPOUNDS						
Vinyl Chloride	<10	<10	<10	<10	<10	<10
Trichlorofluoromethane (Freon 11)	<25	<25	<25	<25	<25	<25
1,1-Dichloroethene	<10	<10	<10	<10	<10	<10
1,1,2-Trichlorotrifluoroethane (Fr.113)	<25	<25	<25	<25	<25	<25
trans-1,2-Dichloroethene	<10	<10	<10	<10	<10	<10
Methyl-t-butyl ether	<25	<25	<25	<25	<25	<25
1,1-Dichloroethane	<25	<25	<25	<25	<25	<25
cis-1,2-Dichloroethene	<10	<10	<10	<10	<10	<10
Chloroform	<25	<25	<25	<25	<25	<25
1,2-Dichloroethane	<25	<25	<25	<25	<25	<25
1,1,1-Trichloroethane	<25	<25	<25	<25	<25	<25
Carbon Tetrachloride	<25	<25	<25	<25	<25	<25
Benzene	<25	<25	<25	<25	<25	<25
Trichloroethene	<10	<10	<10	<10	<10	<10
1,4-Dioxane	<25	<25	<25	<25	<25	<25
1,1,2-Trichloroethane	<25	<25	<25	<25	<25	<25
Toluene	<25	<25	<25	<25	<25	<25
1,2-Dibromoethane (EDB)	<25	<25	<25	<25	<25	<25
Tetrachloroethene	<10	<10	**7 J**	<10	<10	**7 J**
1,1,1,2-Tetrachloroethane	<25	<25	<25	<25	<25	<25
Chlorobenzene	<25	<25	<25	<25	<25	<25
Ethylbenzene	<25	<25	<25	<25	<25	<25
p & m-Xylene	<25	<25	<25	<25	<25	<25
1,1,2,2-Tetrachloroethane	<25	<25	<25	<25	<25	<25
o-Xylene	<25	<25	<25	<25	<25	<25
1,2,3-Trichloropropane	<25	<25	<25	<25	<25	<25
Isopropylbenzene	<25	<25	<25	<25	<25	<25
1,3,5-Trimethylbenzene	<25	<25	<25	<25	<25	<25
1,2,4-Trimethylbenzene	<25	<25	<25	<25	<25	<25
1,3-Dichlorobenzene	<25	<25	<25	<25	<25	<25
1,4-Dichlorobenzene	<25	<25	<25	<25	<25	<25
1,2-Dichlorobenzene	<25	<25	<25	<25	<25	<25
1,2,4-Trichlorobenzene	<25	<25	<25	<25	<25	<25
Naphthalene	<25	<25	<25	<25	<25	<25
1,2,3-Trichlorobenzene	<25	<25	<25	<25	<25	<25
2-Methylnaphthalene	<25	<25	<25	<25	<25	<25
TPH C_5-C_9	<5,000	<5,000	<5,000	<5,000	<5,000	<5,000
TPH C_{10}-C_{15}	<5,000	**5,453**	**5,262**	<5,000	<5,000	<5,000

Results in nanograms (ng). J = Values below limit of quantitation (LOQ) but above limit of detection (LOD). B = Detected in method blank.

Table 1

Beacon Environmental Services, Inc.
2203A Commerce Road, Suite 1
Forest Hill, MD 21050 USA

Analysis by EPA Method 8260C

Client Sample ID:	Sect 7-2	Sect 7-3	Sect 7-4	Sect 7-5	Sect 7-6	Sect 7-7
Project Number:	2627	2627	2627	2627	2627	2627
Lab File ID:	C13060734	C13060735	C13060736	C13060737	C13060738	C13060739
Received Date:	6/4/2013	6/4/2013	6/4/2013	6/4/2013	6/4/2013	6/4/2013
Analysis Date:	6/8/2013	6/8/2013	6/8/2013	6/8/2013	6/8/2013	6/8/2013
Analysis Time:	2:49	3:11	3:32	3:54	4:15	4:36
Matrix:	Soil Gas	Soil Gas	Soil Gas	Soil Gas	Soil Gas	Soil Gas
Units:	ng	ng	ng	ng	ng	ng
COMPOUNDS						
Vinyl Chloride	<10	<10	<10	<10	<10	<10
Trichlorofluoromethane (Freon 11)	<25	<25	<25	<25	<25	<25
1,1-Dichloroethene	<10	<10	<10	<10	<10	<10
1,1,2-Trichlorotrifluoroethane (Fr.113)	<25	<25	<25	<25	<25	<25
trans-1,2-Dichloroethene	<10	<10	<10	<10	<10	<10
Methyl-t-butyl ether	<25	<25	<25	<25	<25	<25
1,1-Dichloroethane	<25	<25	<25	<25	<25	<25
cis-1,2-Dichloroethene	<10	<10	<10	<10	<10	<10
Chloroform	**46**	<25	**73**	<25	**151**	**199**
1,2-Dichloroethane	<25	<25	<25	<25	<25	<25
1,1,1-Trichloroethane	<25	<25	<25	<25	<25	<25
Carbon Tetrachloride	<25	<25	<25	<25	<25	<25
Benzene	<25	<25	<25	<25	<25	<25
Trichloroethene	<10	<10	<10	<10	<10	<10
1,4-Dioxane	<25	<25	<25	<25	<25	<25
1,1,2-Trichloroethane	<25	<25	<25	<25	<25	<25
Toluene	<25	<25	<25	<25	<25	<25
1,2-Dibromoethane (EDB)	<25	<25	<25	<25	<25	<25
Tetrachloroethene	<10	<10	<10	<10	<10	<10
1,1,1,2-Tetrachloroethane	<25	<25	<25	<25	<25	<25
Chlorobenzene	<25	<25	<25	<25	<25	<25
Ethylbenzene	<25	<25	<25	<25	<25	<25
p & m-Xylene	<25	<25	<25	<25	<25	<25
1,1,2,2-Tetrachloroethane	<25	<25	<25	<25	<25	<25
o-Xylene	<25	<25	<25	<25	<25	<25
1,2,3-Trichloropropane	<25	<25	<25	<25	<25	<25
Isopropylbenzene	<25	<25	<25	<25	<25	<25
1,3,5-Trimethylbenzene	<25	<25	<25	<25	<25	<25
1,2,4-Trimethylbenzene	<25	<25	<25	<25	<25	<25
1,3-Dichlorobenzene	<25	<25	<25	<25	<25	<25
1,4-Dichlorobenzene	<25	<25	<25	<25	<25	<25
1,2-Dichlorobenzene	<25	<25	<25	<25	<25	<25
1,2,4-Trichlorobenzene	<25	<25	<25	<25	<25	<25
Naphthalene	<25	<25	<25	<25	<25	<25
1,2,3-Trichlorobenzene	<25	<25	<25	<25	<25	<25
2-Methylnaphthalene	<25	<25	<25	<25	<25	<25
TPH C_5-C_9	<5,000	<5,000	<5,000	<5,000	<5,000	<5,000
TPH C_{10}-C_{15}	<5,000	<5,000	<5,000	<5,000	<5,000	<5,000

Results in nanograms (ng). J = Values below limit of quantitation (LOQ) but above limit of detection (LOD). B = Detected in method blank.

Table 1

Beacon Environmental Services, Inc.
2203A Commerce Road, Suite 1
Forest Hill, MD 21050 USA

Analysis by EPA Method 8260C

Client Sample ID:	Sect 7-8	Sect 7-9	Sect 7-10	Sect 7-11	Sect 7-12	Sect 8-1
Project Number:	2627	2627	2627	2627	2627	2627
Lab File ID:	C13060740	C13060741	C13060742	C13060743	C13060744	C13060745
Received Date:	6/4/2013	6/4/2013	6/4/2013	6/4/2013	6/4/2013	6/4/2013
Analysis Date:	6/8/2013	6/8/2013	6/8/2013	6/8/2013	6/8/2013	6/8/2013
Analysis Time:	4:58	5:19	5:40	6:02	6:23	6:45
Matrix:	Soil Gas	Soil Gas	Soil Gas	Soil Gas	Soil Gas	Soil Gas
Units:	ng	ng	ng	ng	ng	ng
COMPOUNDS						
Vinyl Chloride	<10	<10	<10	<10	<10	<10
Trichlorofluoromethane (Freon 11)	<25	<25	<25	<25	<25	<25
1,1-Dichloroethene	<10	<10	<10	<10	<10	<10
1,1,2-Trichlorotrifluoroethane (Fr.113)	<25	<25	<25	<25	<25	<25
trans-1,2-Dichloroethene	<10	<10	<10	<10	<10	<10
Methyl-t-butyl ether	<25	<25	<25	<25	<25	<25
1,1-Dichloroethane	<25	<25	<25	<25	<25	<25
cis-1,2-Dichloroethene	<10	<10	<10	<10	<10	<10
Chloroform	**382**	**192**	**58**	<25	<25	<25
1,2-Dichloroethane	<25	<25	<25	<25	<25	<25
1,1,1-Trichloroethane	<25	<25	<25	<25	<25	<25
Carbon Tetrachloride	<25	<25	<25	<25	<25	<25
Benzene	<25	<25	<25	<25	<25	<25
Trichloroethene	<10	<10	<10	<10	<10	<10
1,4-Dioxane	<25	<25	<25	<25	<25	<25
1,1,2-Trichloroethane	<25	<25	<25	<25	<25	<25
Toluene	<25	<25	<25	<25	<25	<25
1,2-Dibromoethane (EDB)	<25	<25	<25	<25	<25	<25
Tetrachloroethene	<10	<10	<10	**10 J**	**18**	<10
1,1,1,2-Tetrachloroethane	<25	<25	<25	<25	<25	<25
Chlorobenzene	<25	<25	<25	<25	<25	<25
Ethylbenzene	<25	<25	<25	<25	<25	<25
p & m-Xylene	<25	<25	<25	<25	<25	<25
1,1,2,2-Tetrachloroethane	<25	<25	<25	<25	<25	<25
o-Xylene	<25	<25	<25	<25	<25	<25
1,2,3-Trichloropropane	<25	<25	<25	<25	<25	<25
Isopropylbenzene	<25	<25	<25	<25	<25	<25
1,3,5-Trimethylbenzene	<25	<25	<25	<25	<25	<25
1,2,4-Trimethylbenzene	<25	<25	<25	<25	<25	<25
1,3-Dichlorobenzene	<25	<25	<25	<25	<25	<25
1,4-Dichlorobenzene	<25	<25	<25	<25	<25	<25
1,2-Dichlorobenzene	<25	<25	<25	<25	<25	<25
1,2,4-Trichlorobenzene	<25	<25	<25	<25	<25	<25
Naphthalene	<25	<25	<25	<25	<25	**29**
1,2,3-Trichlorobenzene	<25	<25	<25	<25	<25	<25
2-Methylnaphthalene	<25	<25	<25	<25	<25	<25
TPH C_5-C_9	<5,000	<5,000	<5,000	<5,000	<5,000	<5,000
TPH C_{10}-C_{15}	<5,000	**5,320**	<5,000	**8,014**	**8,273**	**7,389**

Results in nanograms (ng). J = Values below limit of quantitation (LOQ) but above limit of detection (LOD). B = Detected in method blank.

Table 1

Beacon Environmental Services, Inc.
2203A Commerce Road, Suite 1
Forest Hill, MD 21050 USA

Analysis by EPA Method 8260C

Client Sample ID:	Sect 8-2	Sect 8-3	Sect 8-4	Sect 8-5	Sect 8-6	Sect 8-7
Project Number:	2627	2627	2627	2627	2627	2627
Lab File ID:	C13060746	C13060747	C13060748	C13060749	C13060750	C13060751
Received Date:	6/4/2013	6/4/2013	6/4/2013	6/4/2013	6/4/2013	6/4/2013
Analysis Date:	6/8/2013	6/8/2013	6/8/2013	6/8/2013	6/8/2013	6/8/2013
Analysis Time:	7:06	7:27	7:47	8:09	8:30	8:53
Matrix:	Soil Gas	Soil Gas	Soil Gas	Soil Gas	Soil Gas	Soil Gas
Units:	ng	ng	ng	ng	ng	ng
COMPOUNDS						
Vinyl Chloride	<10	<10	<10	<10	<10	<10
Trichlorofluoromethane (Freon 11)	<25	<25	<25	<25	<25	<25
1,1-Dichloroethene	<10	<10	<10	<10	<10	<10
1,1,2-Trichlorotrifluoroethane (Fr.113)	<25	<25	<25	<25	<25	<25
trans-1,2-Dichloroethene	<10	<10	<10	<10	<10	<10
Methyl-t-butyl ether	<25	<25	<25	<25	<25	<25
1,1-Dichloroethane	<25	<25	<25	<25	<25	<25
cis-1,2-Dichloroethene	<10	<10	<10	<10	<10	<10
Chloroform	<25	<25	<25	<25	**245**	**80**
1,2-Dichloroethane	<25	<25	<25	<25	<25	<25
1,1,1-Trichloroethane	<25	<25	<25	<25	<25	<25
Carbon Tetrachloride	<25	<25	<25	<25	<25	<25
Benzene	<25	<25	<25	<25	<25	<25
Trichloroethene	<10	<10	<10	<10	<10	<10
1,4-Dioxane	<25	<25	<25	<25	<25	<25
1,1,2-Trichloroethane	<25	<25	<25	<25	<25	<25
Toluene	<25	<25	<25	<25	<25	<25
1,2-Dibromoethane (EDB)	<25	<25	<25	<25	<25	<25
Tetrachloroethene	<10	<10	<10	<10	<10	<10
1,1,1,2-Tetrachloroethane	<25	<25	<25	<25	<25	<25
Chlorobenzene	<25	<25	<25	<25	<25	<25
Ethylbenzene	<25	<25	<25	<25	<25	<25
p & m-Xylene	<25	<25	<25	<25	<25	<25
1,1,2,2-Tetrachloroethane	<25	<25	<25	<25	<25	<25
o-Xylene	<25	<25	<25	<25	<25	<25
1,2,3-Trichloropropane	<25	<25	<25	<25	<25	<25
Isopropylbenzene	<25	<25	<25	<25	<25	<25
1,3,5-Trimethylbenzene	<25	<25	<25	<25	<25	<25
1,2,4-Trimethylbenzene	<25	<25	<25	<25	<25	<25
1,3-Dichlorobenzene	<25	<25	<25	<25	<25	<25
1,4-Dichlorobenzene	<25	<25	<25	<25	<25	<25
1,2-Dichlorobenzene	<25	<25	<25	<25	<25	<25
1,2,4-Trichlorobenzene	<25	<25	<25	<25	<25	<25
Naphthalene	<25	<25	<25	<25	<25	<25
1,2,3-Trichlorobenzene	<25	<25	<25	<25	<25	<25
2-Methylnaphthalene	<25	<25	<25	<25	<25	<25
TPH C_5-C_9	<5,000	<5,000	<5,000	<5,000	<5,000	<5,000
TPH C_{10}-C_{15}	**6,030**	**6,656**	<5,000	**5,949**	<5,000	**5,463**

Results in nanograms (ng). J = Values below limit of quantitation (LOQ) but above limit of detection (LOD). B = Detected in method blank.

Table 1

Beacon Environmental Services, Inc.
2203A Commerce Road, Suite 1
Forest Hill, MD 21050 USA

Analysis by EPA Method 8260C

Client Sample ID:	Sect 8-8	Sect 8-9	Sect 8-10	Sect 8-11	Sect 8-12	Sect 8-13
Project Number:	2627	2627	2627	2627	2627	2627
Lab File ID:	C13060752	C13060753	C13060754	C13060755	C13060756	C13060757
Received Date:	6/4/2013	6/4/2013	6/4/2013	6/4/2013	6/4/2013	6/4/2013
Analysis Date:	6/8/2013	6/8/2013	6/8/2013	6/8/2013	6/8/2013	6/8/2013
Analysis Time:	9:15	9:36	9:57	10:19	10:40	11:01
Matrix:	Soil Gas	Soil Gas	Soil Gas	Soil Gas	Soil Gas	Soil Gas
Units:	ng	ng	ng	ng	ng	ng
COMPOUNDS						
Vinyl Chloride	<10	<10	<10	<10	<10	<10
Trichlorofluoromethane (Freon 11)	<25	<25	<25	<25	<25	<25
1,1-Dichloroethene	<10	<10	<10	<10	<10	<10
1,1,2-Trichlorotrifluoroethane (Fr.113)	<25	<25	<25	<25	<25	<25
trans-1,2-Dichloroethene	<10	<10	<10	<10	<10	<10
Methyl-t-butyl ether	<25	<25	<25	<25	<25	<25
1,1-Dichloroethane	<25	<25	<25	<25	<25	<25
cis-1,2-Dichloroethene	<10	<10	<10	<10	<10	<10
Chloroform	<25	<25	**240**	**154**	**82**	**98**
1,2-Dichloroethane	<25	<25	<25	<25	<25	<25
1,1,1-Trichloroethane	<25	<25	<25	<25	<25	<25
Carbon Tetrachloride	<25	<25	<25	<25	<25	<25
Benzene	<25	<25	<25	<25	<25	<25
Trichloroethene	<10	<10	<10	<10	<10	<10
1,4-Dioxane	<25	<25	<25	<25	<25	<25
1,1,2-Trichloroethane	<25	<25	<25	<25	<25	<25
Toluene	<25	<25	<25	<25	<25	<25
1,2-Dibromoethane (EDB)	<25	<25	<25	<25	<25	<25
Tetrachloroethene	<10	<10	<10	<10	<10	<10
1,1,1,2-Tetrachloroethane	<25	<25	<25	<25	<25	<25
Chlorobenzene	<25	<25	<25	<25	<25	<25
Ethylbenzene	<25	<25	<25	<25	<25	<25
p & m-Xylene	<25	<25	<25	<25	<25	<25
1,1,2,2-Tetrachloroethane	<25	<25	<25	<25	<25	<25
o-Xylene	<25	<25	<25	<25	<25	<25
1,2,3-Trichloropropane	<25	<25	<25	<25	<25	<25
Isopropylbenzene	<25	<25	<25	<25	<25	<25
1,3,5-Trimethylbenzene	<25	<25	<25	<25	<25	<25
1,2,4-Trimethylbenzene	<25	<25	<25	<25	<25	<25
1,3-Dichlorobenzene	<25	<25	<25	<25	<25	<25
1,4-Dichlorobenzene	<25	<25	<25	<25	<25	<25
1,2-Dichlorobenzene	<25	<25	<25	<25	<25	<25
1,2,4-Trichlorobenzene	<25	<25	<25	<25	<25	<25
Naphthalene	<25	<25	<25	<25	<25	<25
1,2,3-Trichlorobenzene	<25	<25	<25	<25	<25	<25
2-Methylnaphthalene	<25	<25	<25	<25	<25	<25
TPH C_5-C_9	<5,000	<5,000	<5,000	<5,000	<5,000	<5,000
TPH C_{10}-C_{15}	<5,000	<5,000	<5,000	<5,000	<5,000	<5,000

Results in nanograms (ng). J = Values below limit of quantitation (LOQ) but above limit of detection (LOD). B = Detected in method blank.

Table 1

Beacon Environmental Services, Inc.
2203A Commerce Road, Suite 1
Forest Hill, MD 21050 USA

Analysis by EPA Method 8260C

Client Sample ID:	Sect 8-14	Sect 8-15	Sect 9-1	Sect 9-2	Sect 9-3	mb130611c
Project Number:	2627	2627	2627	2627	2627	
Lab File ID:	C13060758	C13060759	C13060760	C13060761	C13060762	C13061103
Received Date:	6/4/2013	6/4/2013	6/4/2013	6/4/2013	6/4/2013	
Analysis Date:	6/8/2013	6/8/2013	6/8/2013	6/8/2013	6/8/2013	6/11/2013
Analysis Time:	11:23	11:44	12:05	12:26	12:48	10:49
Matrix:	Soil Gas	Soil Gas	Soil Gas	Soil Gas	Soil Gas	
Units:	ng	ng	ng	ng	ng	ng
COMPOUNDS						
Vinyl Chloride	<10	<10	<10	<10	<10	<10
Trichlorofluoromethane (Freon 11)	<25	<25	<25	<25	<25	<25
1,1-Dichloroethene	<10	<10	<10	<10	<10	<10
1,1,2-Trichlorotrifluoroethane (Fr.113)	<25	<25	<25	<25	<25	<25
trans-1,2-Dichloroethene	<10	<10	<10	<10	<10	<10
Methyl-t-butyl ether	<25	<25	<25	<25	<25	<25
1,1-Dichloroethane	<25	<25	<25	<25	<25	<25
cis-1,2-Dichloroethene	<10	<10	<10	<10	<10	<10
Chloroform	**757**	<25	<25	<25	<25	<25
1,2-Dichloroethane	<25	<25	<25	<25	<25	<25
1,1,1-Trichloroethane	<25	<25	<25	<25	<25	<25
Carbon Tetrachloride	<25	<25	<25	<25	<25	<25
Benzene	<25	<25	<25	<25	<25	<25
Trichloroethene	<10	<10	<10	<10	<10	<10
1,4-Dioxane	<25	<25	<25	<25	<25	<25
1,1,2-Trichloroethane	<25	<25	<25	<25	<25	<25
Toluene	<25	<25	<25	<25	<25	<25
1,2-Dibromoethane (EDB)	<25	<25	<25	<25	<25	<25
Tetrachloroethene	<10	<10	<10	<10	<10	<10
1,1,1,2-Tetrachloroethane	<25	<25	<25	<25	<25	<25
Chlorobenzene	<25	<25	<25	<25	<25	<25
Ethylbenzene	<25	<25	<25	<25	<25	<25
p & m-Xylene	<25	<25	<25	<25	<25	<25
1,1,2,2-Tetrachloroethane	<25	<25	<25	<25	<25	<25
o-Xylene	<25	<25	<25	<25	<25	<25
1,2,3-Trichloropropane	<25	<25	<25	<25	<25	<25
Isopropylbenzene	<25	<25	<25	<25	<25	<25
1,3,5-Trimethylbenzene	<25	<25	<25	<25	<25	<25
1,2,4-Trimethylbenzene	<25	<25	<25	<25	<25	<25
1,3-Dichlorobenzene	<25	<25	<25	<25	<25	<25
1,4-Dichlorobenzene	<25	<25	<25	<25	<25	<25
1,2-Dichlorobenzene	<25	<25	<25	<25	<25	<25
1,2,4-Trichlorobenzene	<25	<25	<25	<25	<25	<25
Naphthalene	<25	<25	<25	**50**	<25	<25
1,2,3-Trichlorobenzene	<25	<25	<25	<25	<25	<25
2-Methylnaphthalene	<25	<25	<25	<25	<25	<25
TPH C_5-C_9	<5,000	<5,000	<5,000	<5,000	<5,000	<5,000
TPH C_{10}-C_{15}	<5,000	<5,000	**5,881**	**8,026**	**6,373**	<5,000

Results in nanograms (ng). J = Values below limit of quantitation (LOQ) but above limit of detection (LOD). B = Detected in method blank.

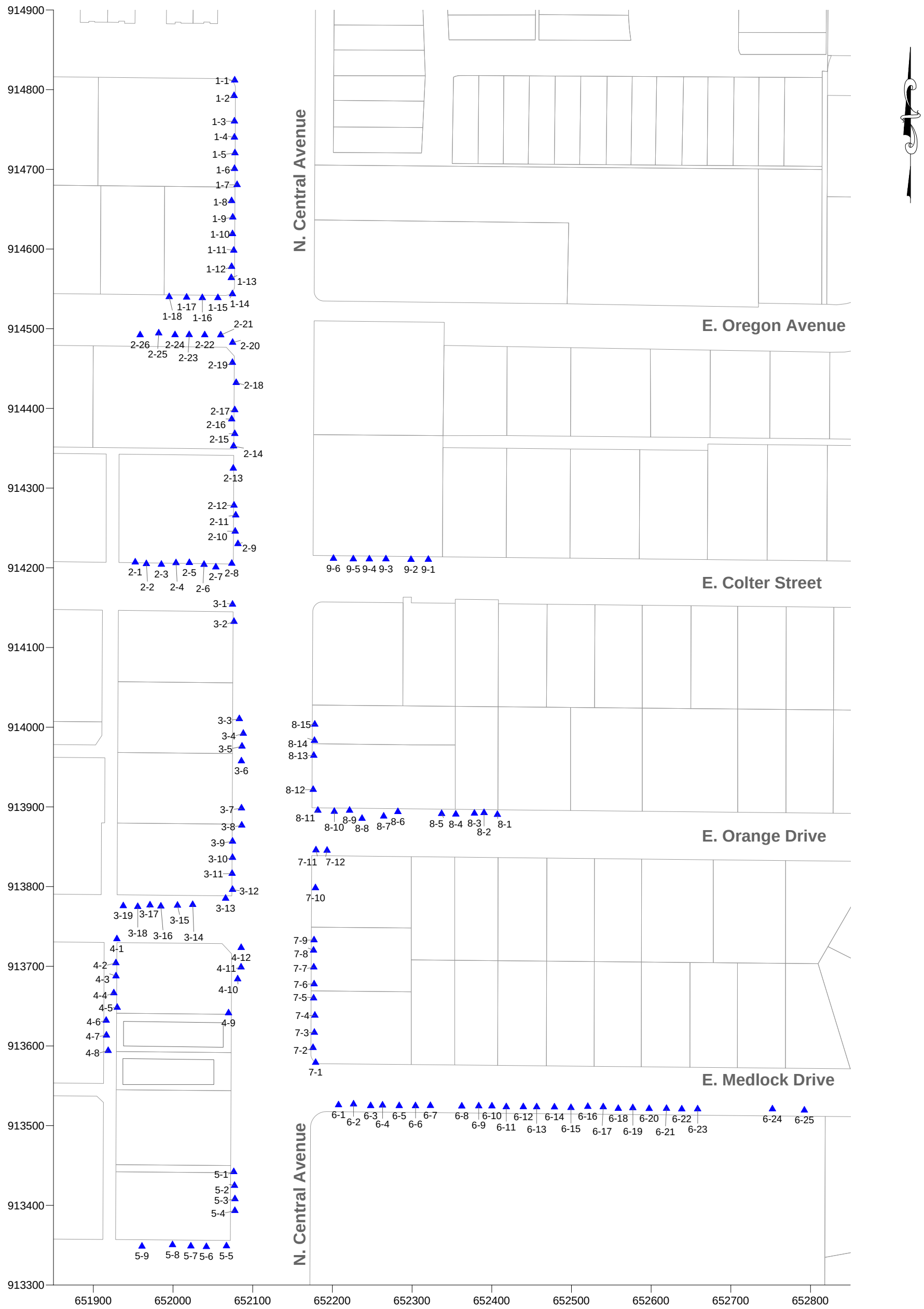
Table 1

Beacon Environmental Services, Inc.
2203A Commerce Road, Suite 1
Forest Hill, MD 21050 USA

Analysis by EPA Method 8260C

Client Sample ID:	Sect 9-4	Sect 9-5	Sect 9-6
Project Number:	2627	2627	2627
Lab File ID:	C13061105	C13061106	C13061107
Received Date:	6/4/2013	6/4/2013	6/4/2013
Analysis Date:	6/11/2013	6/11/2013	6/11/2013
Analysis Time:	11:31	11:53	12:14
Matrix:	Soil Gas	Soil Gas	Soil Gas
Units:	ng	ng	ng
COMPOUNDS			
Vinyl Chloride	<10	<10	<10
Trichlorofluoromethane (Freon 11)	<25	<25	<25
1,1-Dichloroethene	<10	<10	<10
1,1,2-Trichlorotrifluoroethane (Fr.113)	<25	<25	<25
trans-1,2-Dichloroethene	<10	<10	<10
Methyl-t-butyl ether	<25	<25	<25
1,1-Dichloroethane	<25	<25	<25
cis-1,2-Dichloroethene	<10	<10	<10
Chloroform	<25	<25	<25
1,2-Dichloroethane	<25	<25	<25
1,1,1-Trichloroethane	<25	<25	<25
Carbon Tetrachloride	<25	<25	<25
Benzene	<25	<25	<25
Trichloroethene	<10	<10	<10
1,4-Dioxane	<25	<25	<25
1,1,2-Trichloroethane	<25	<25	<25
Toluene	<25	<25	<25
1,2-Dibromoethane (EDB)	<25	<25	<25
Tetrachloroethene	<10	<10	<10
1,1,1,2-Tetrachloroethane	<25	<25	<25
Chlorobenzene	<25	<25	<25
Ethylbenzene	<25	<25	<25
p & m-Xylene	<25	<25	<25
1,1,2,2-Tetrachloroethane	<25	<25	<25
o-Xylene	<25	<25	<25
1,2,3-Trichloropropane	<25	<25	<25
Isopropylbenzene	<25	<25	<25
1,3,5-Trimethylbenzene	<25	<25	<25
1,2,4-Trimethylbenzene	<25	<25	<25
1,3-Dichlorobenzene	<25	<25	<25
1,4-Dichlorobenzene	<25	<25	<25
1,2-Dichlorobenzene	<25	<25	<25
1,2,4-Trichlorobenzene	<25	<25	<25
Naphthalene	<25	<25	<25
1,2,3-Trichlorobenzene	<25	<25	<25
2-Methylnaphthalene	<25	<25	<25
TPH C_5-C_9	<5,000	<5,000	<5,000
TPH C_{10}-C_{15}	**6,834**	**5,497**	<5,000

Results in nanograms (ng). J = Values below limit of quantitation (LOQ) but above limit of detection (LOD). B = Detected in method blank.



System: US State Plane 1983
Zone: Arizona Central FIPS 0202
Datum: NAD 1983 (HARN)
Coordinate Units: Feet

LEGEND

▲ 6-4 PASSIVE SOIL-GAS SAMPLE LOCATION

Note: Sample ID's have been abbreviated; the prefix "Sect" is not shown.

Scale in Feet

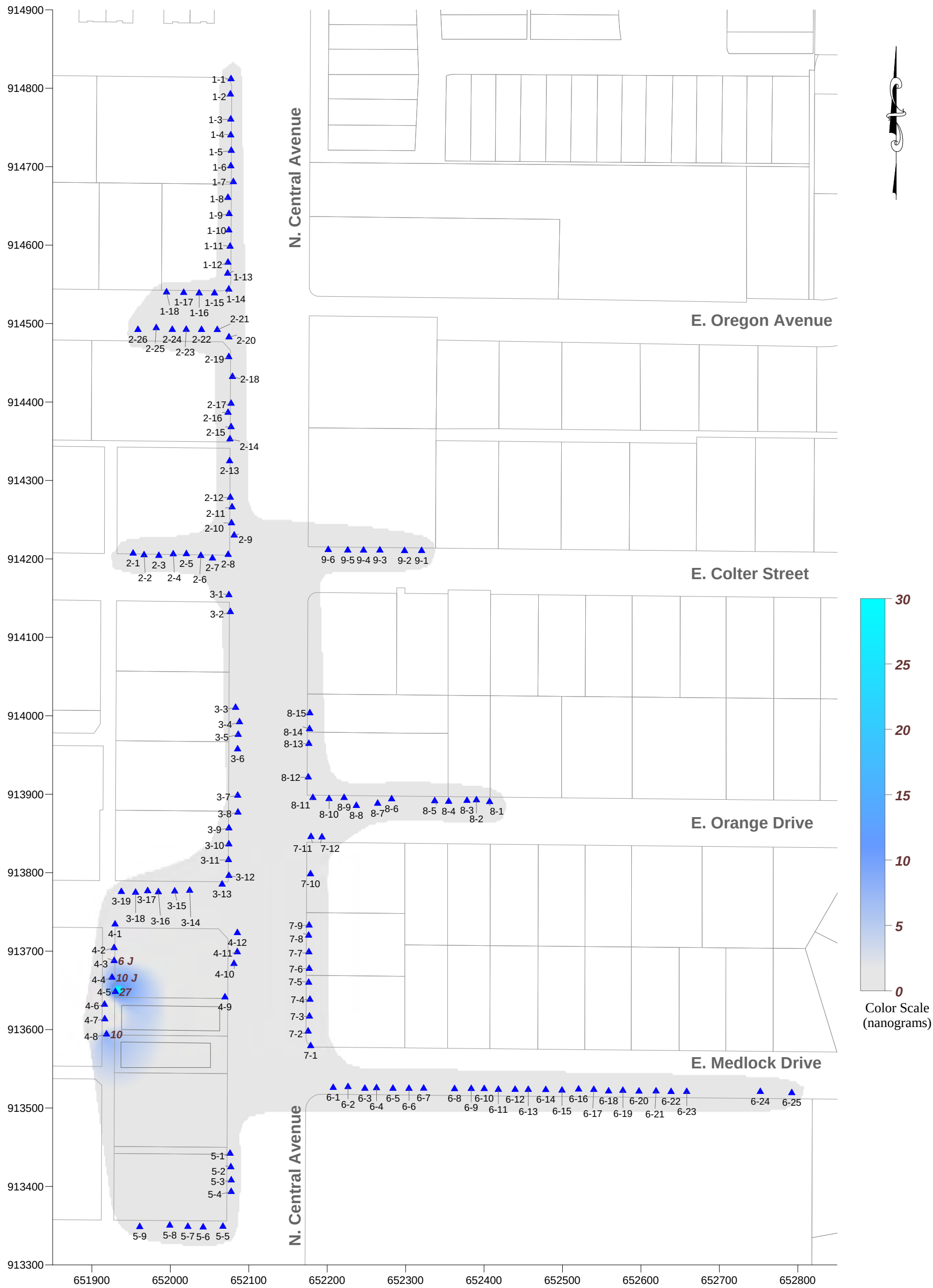
0 125 250

BEACON ENVIRONMENTAL SERVICES, INC.

2203A Commerce Road, Suite 1, Forest Hill, MD 21050 USA
www.Beacon-USA.com 1-410-838-8780
Beacon Project No. 2627, June 2013

Figure 1
Passive Soil-Gas Survey Sample Locations

Central Avenue WQARF Site
Phoenix, AZ



System: US State Plane 1983
Zone: Arizona Central FIPS 0202
Datum: NAD 1983 (HARN)
Coordinate Units: Feet

LEGEND

1,000 NANOGRAMS/SAMPLER

▲ 6-4 PASSIVE SOIL-GAS SAMPLE LOCATION

Note: Sample ID's have been abbreviated; the prefix "Sect" is not shown.

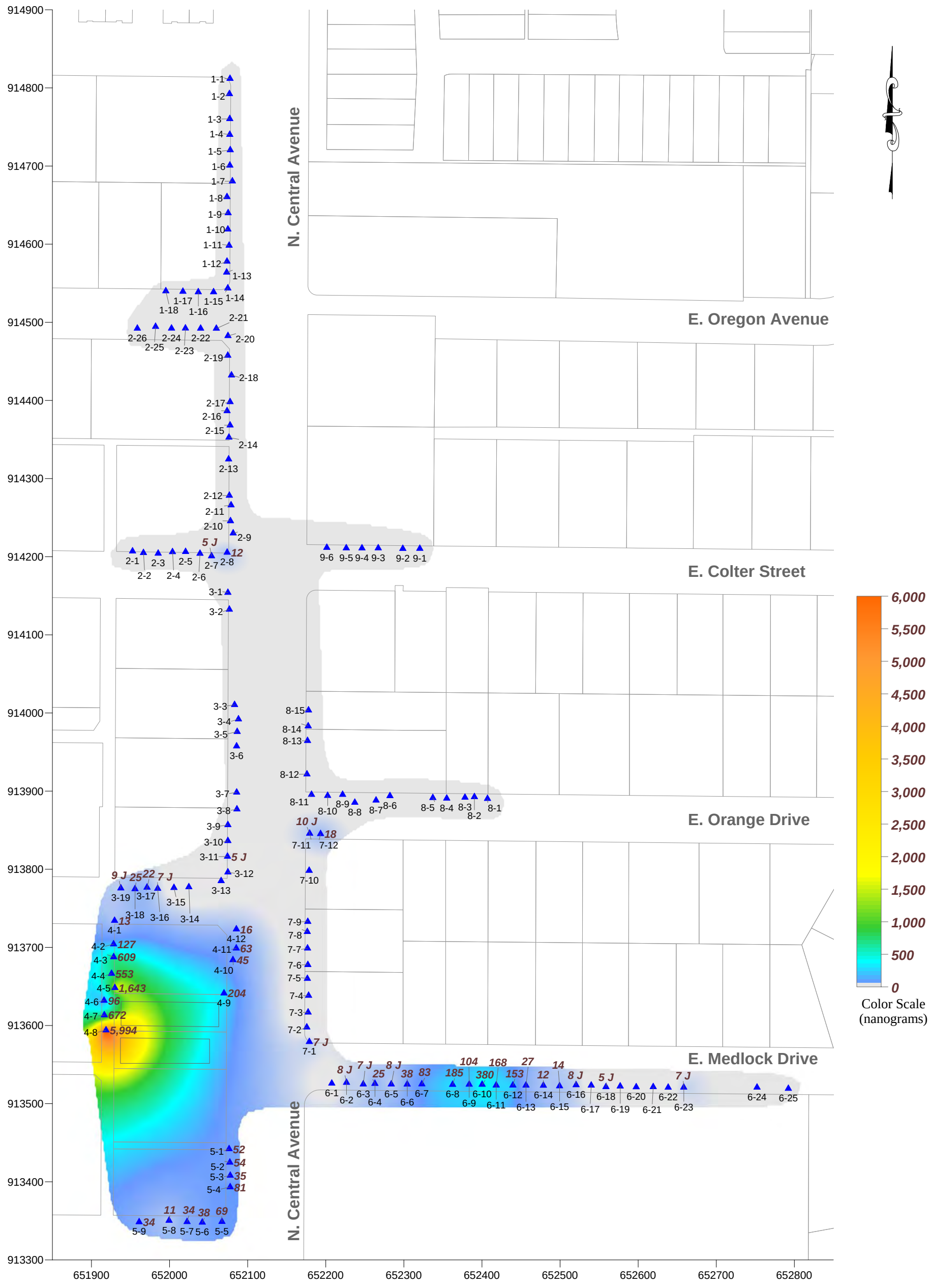
Scale in Feet

0 125 250

BEACON ENVIRONMENTAL SERVICES, INC.
2203A Commerce Road, Suite 1, Forest Hill, MD 21050 USA
www.Beacon-USA.com 1-410-838-8780
Beacon Project No. 2627, June 2013

Figure 2
Passive Soil-Gas Survey
Trichloroethene

Central Avenue WQARF Site
Phoenix, AZ



System: US State Plane 1983
Zone: Arizona Central FIPS 0202
Datum: NAD 1983 (HARN)
Coordinate Units: Feet

LEGEND

1,000 NANOGRAMS/SAMPLER

▲ 6-4 PASSIVE SOIL-GAS SAMPLE LOCATION

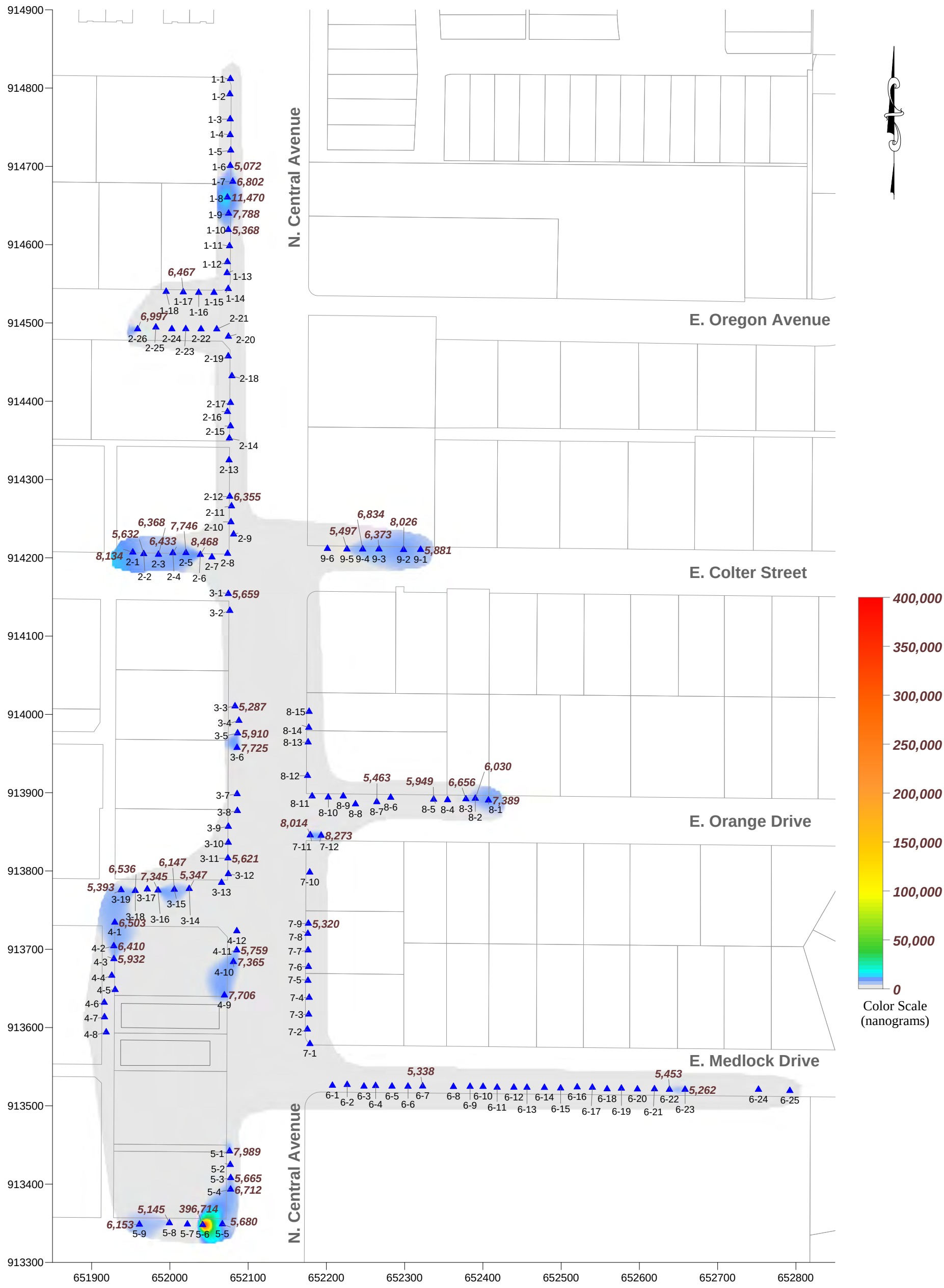
Note: Sample ID's have been abbreviated; the prefix "Sect" is not shown.

Scale in Feet
0 125 250

BEACON ENVIRONMENTAL SERVICES, INC.
2203A Commerce Road, Suite 1, Forest Hill, MD 21050 USA
www.Beacon-USA.com 1-410-838-8780
Beacon Project No. 2627, June 2013

Figure 3
Passive Soil-Gas Survey
Tetrachloroethene

Central Avenue WQARF Site
Phoenix, AZ



System: US State Plane 1983
Zone: Arizona Central FIPS 0202
Datum: NAD 1983 (HARN)
Coordinate Units: Feet

LEGEND

1,000 NANOGRAMS/SAMPLER

6-4 PASSIVE SOIL-GAS SAMPLE LOCATION

Note: Sample ID's have been abbreviated; the prefix "Sect" is not shown.

Scale in Feet

0 125 250

BEACON ENVIRONMENTAL SERVICES, INC.
2203A Commerce Road, Suite 1, Forest Hill, MD 21050 USA
www.Beacon-USA.com 1-410-838-8780
Beacon Project No. 2627, June 2013

Figure 4
Passive Soil-Gas Survey
Total Petroleum Hydrocarbons

Central Avenue WQARF Site
Phoenix, AZ

Attachments

Attachment 1

APPLYING RESULTS FROM PASSIVE SOIL-GAS SURVEYS

The utility of soil-gas surveys is directly proportional to their accuracy in reflecting and representing changes in the subsurface concentrations of source compounds. Passive soil-gas survey results are the mass collected from the vapor-phase emanating from the source(s). The vapor-phase is merely a fractional trace of the source(s) and, as a matter of convenience, the units used in reporting detection values from passive soil-gas surveys are smaller than those employed for source-compound concentrations.

Passive soil gas data are reported in mass of compounds identified per sample location (e.g., nanograms (ng) or micrograms (µg) per sampler). Results from a passive soil gas survey typically are then used to guide where follow-on intrusive samples should be collected to obtain corresponding concentrations of the contaminants in soil, soil gas, and/or groundwater, as well as eliminate those areas where intrusive samples are not required. It is not practical to report passive soil gas data as concentration because the sampler's uptake rates of the compounds are often greater than the replenishment rates of the compounds around the sampler, which results in low bias measurements, and the replenishment rates will be dependent on several factors that include, at a minimum, soil gas concentrations, soil porosity and permeability, and soil moisture level.

Whatever the relative concentrations of source and associated soil gas, best results are realized when the ratio of soil-gas measurements to actual subsurface concentrations remains as close to constant as the real world permits. It is the reliability and consistency of this ratio, not the particular units of mass (*e.g.*, nanograms) that determine usefulness. Thus, BEACON emphasizes the necessity of conducting — at minimum — follow-on intrusive sampling in areas that show relatively high soil-gas measurements to obtain corresponding concentrations of soil and groundwater contaminants. These correspondent values furnish the basis for approximating a relationship. For extrapolating passive soil gas results to vapor intrusion evaluations, we recommend a minimum of three passive soil gas locations be converted to a shallow vapor well then sampled using an active soil gas method. Once a relationship is established, it can be used in conjunction with the remaining soil-gas measurements to estimate subsurface contaminant concentrations across the survey field. (See www.beacon-usa.com/passivesoilgas.html, Publication 1: *Mass to Concentration Tie-In for PSG Surveys* and Publication 4: *Groundwater and PSG Correlation*.) It is important to keep in mind, however, that specific conditions at individual sample points, including soil porosity and permeability, depth to contamination, and perched ground water, can have an impact on soil-gas measurements at those locations.

When passive soil-gas surveys are utilized as described above, the data provide information that can yield substantial savings in drilling costs and in time. They furnish, among other things, a checklist of compounds expected at each survey location and help to determine how and where drilling budgets can most effectively be spent. Passive soil-gas surveys can also be used as a remediation or general site monitoring tool that can be implemented on a quarterly, semi-annual or annual basis.

Attachment 2

FIELD PROCEDURES FOR PASSIVE SOIL-GAS SURVEYS

The following field procedures are routinely used during a BEACON Passive Soil-Gas Survey. Modifications can be and are incorporated from time to time in response to individual project requirements. In all instances, BEACON adheres to EPA-approved Quality Assurance and Quality Control practices.

A. Field personnel carry a BESURE Sample Collection Kit™ and support equipment to the site and deploy the passive samplers in a prearranged survey pattern. A passive sampler consists of a borosilicate glass vial containing hydrophobic adsorbent cartridges with a length of wire attached to the vial for retrieval. Although samplers require only one person for emplacement and retrieval, the specific number of field personnel required depends upon the scope and schedule of the project. Each Sampler emplacement generally takes less than two minutes.

B. At each survey point a field technician clears vegetation as needed and, using a hammer drill with a 1″- to 1½″-diameter bit, creates a hole 12 to 14 inches deep. [Note: For locations covered with asphalt, concrete, or gravel surfacing, the field technician drills a 1″- to 1½″-diameter hole through the surfacing to the soils beneath]. The technician then, using a hammer drill with a ½″ diameter bit, creates a hole three-feet deep. The hole is then sleeved with a 1″-diameter metal sleeve.

C. The technician then removes the solid plastic cap from a sampler and replaces it with a Sampling Cap (a plastic cap with a hole covered by screen meshing). The technician inserts the sampler, with the Sampling Cap end facing down, into the hole (**see attached figure**). The sampler is then covered with an aluminum foil plug and soils for uncapped locations or, for capped locations, an aluminum foil plug and a concrete patch. The sampler's location, time and date of emplacement, and other relevant information are recorded on the Field Deployment Form.

D. One or more trip blanks are included as part of the quality-control procedures.

E. Once all the samplers have been deployed, field personnel schedule sampler recovery and depart, taking all other equipment and materials with them.

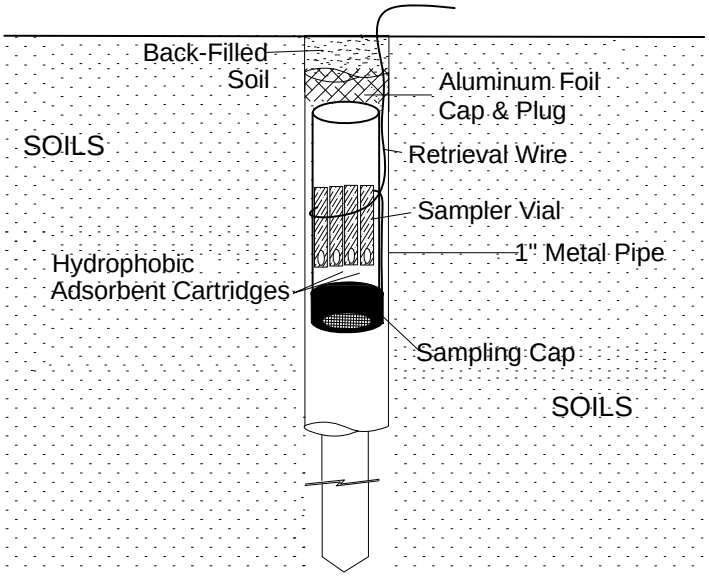
F. Field personnel retrieve the samplers at the end of the exposure period. At each location, a field technician withdraws the sampler from its hole, removes the retrieval wire, and wipes the outside of the vial clean using gauze cloth; following removal of the Sampling Cap, the threads of the vial are also cleaned. A solid plastic cap is screwed onto the vial and the sample location number is written on the label. The technician then records sample-point location, date, time, etc. on the Field Deployment Form.

G. Sampling holes are refilled with soil, sand, or other suitable material. If samplers have been installed through asphalt or concrete, the hole is filled to grade with a plug of cold patch or cement.

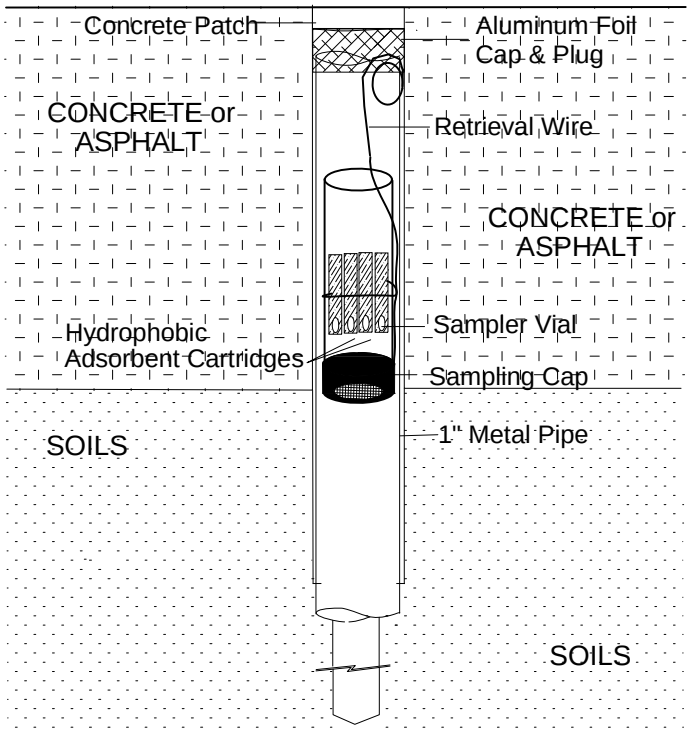
H. Following retrieval, field personnel ship or transport the passive samplers to BEACON's laboratory.

BEACON'S PASSIVE SOIL-GAS SAMPLER

DEPLOYMENT THROUGH SOILS



DEPLOYMENT THROUGH AN ASPHALT/CONCRETE CAP



Attachment 3

Field Deployment Report

PASSIVE SOIL-GAS SURVEY
FIELD DEPLOYMENT REPORT

Project Information	
Beacon Project No.:	2627
Site Name:	Central Avenue WQARF W. Side
Site Location:	Phoenix, AZ

BEACON ENVIRONMENTAL SERVICES, INC.
2203A Commerce Road | Suite 1
Forest Hill, MD 21050 USA
800-878-5510 | 1-410-838-8780

Client Information	
Company Name:	Hydro Geo Chem, Inc.
Office Location:	Phoenix, AZ
Samples Collected By:	N.J. Babb & B. Vernon

FIELD SAMPLE ID	Date Emplaced / Time Emplaced	Date Retrieved / Time Retrieved	Sampling Hole Depth (inches)	FIELD NOTES (e.g., asphalt/concrete/gravel, description of sample location, PID/FID readings)
	5-6-13	5-22-13		
Sect 1-1	18:25	14:17	31"	grass landscaping; 26.5" S. of marking on yellow fire hydrant @ SWC of Gloria & Central Ave
Sect 1-2	18:30	14:21	31"	grass landscaping; 10.5" N of N. driveway curb
Sect 1-3	19:25	14:25	32"	grass landscaping; 8" S. of S. driveway curb, 44" W. of W. edge of sidewalk
Sect 1-4	19:30	14:28	35"	gravel landscaping; 7.5" S. of S. edge of entrance sidewalk, 44.5" W. of W. edge main sidewalk
Sect 1-5	19:33	14:31	35"	gravel landscaping; 20' S. of (Sect 1-4) 47.5" W. of W. edge of main sidewalk marking on edge
Sect 1-6	19:36	14:35	35"	gravel landscaping; 20' S. of (Sect 1-5), 44.5" W. of W. edge of sidewalk
Sect 1-7	19:39	14:38	35"	20' S. of (Sect 1-6), 3" W. of W. edge brick bus stop pavers gravel landscaping, 30" N. of N. bus stop-post
Sect 1-8	19:42	14:42	35"	gravel landscaping; 20' S. of (Sect 1-7); 46.5" W. of W. edge of bus stop pavers

PASSIVE SOIL-GAS SURVEY
FIELD DEPLOYMENT REPORT

Project Information	
Beacon Project No.:	2627
Site Name:	Central Avenue WQARF w.side
Site Location:	Phoenix, AZ

BEACON ENVIRONMENTAL SERVICES, INC.
2203A Commerce Road | Suite 1
Forest Hill, MD 21050 USA
800-878-5510 | 1-410-838-8780

Client Information	
Company Name:	Hydro Geo Chem, Inc.
Office Location:	Phoenix, AZ
Samples Collected By:	NJ. Babb & B. Vernon

FIELD SAMPLE ID	Date Emplaced / Time Emplaced	Date Retrieved / Time Retrieved	Sampling Hole Depth (inches)	FIELD NOTES (e.g., asphalt/concrete/gravel, description of sample location, PID/FID readings)
	5-7-13	5-22-13		
Sect 1-9	8:40	14:46	35"	gravel landscaping; 20'ft S. of (Sect 1-8); 61" W. of W. edge of sidewalk
Sect 1-10	8:45	14:48	35"	gravel landscaping; 20' S. of (Sect 1-9); 68" W. of W. edge of sidewalk
Sect 1-11	8:53	14:52	35"	gravel landscaping; 20' S. of (Sect 1-10); ~~74.5"~~ 53" W. of W. edge of sidewalk
Sect 1-12	8:57	14:56	~~26~~ 35"	gravel landscaping; 20' S. of (Sect 1-11); 75" W. of W. edge of sidewalk ~~& 4" N. of markings on brick edging~~
~~Sect 1-13~~	~~9:04~~	—	~~35"~~	~~grass landscaping; 20' S. of (Sect 1-12); 26.5" E. of markings on vault; locale area is NWC of Oregon + Central Ave~~
Sect 1-13	9:04	14:59	26"	gravel landscaping; 13'ft S. of (Sect 1-12); 79" W. of W. edge of sidewalk, 4" N. of markings on Brick paver edging
Sect 1-14	9:08	15:03	35"	grass landscaping; 20' S. of Sect 1-13, 26" E of markings on vault; locale is NWC of Oregon & central Ave.
Sect 1-15	9:50	15:06	35"	20'ft W. of (Sect 1-14), 9" N. of sidewalk grass landscaping
Sect 1-16	9:54	15:09	35"	grass landscaping; 20 ft W. of (Sect 1-15); 7.5" N. of sidewalk 31.5" E. of ent. sidewalk
Sect 1-17	9:58	15:11	35"	grass landscaping; ~~20'~~ W. of ent. sidewalk, W. edge, 14" N. of sidewalk N. edge
Sect 1-18	10:02	15:14	35"	grass landscaping; 22' W. of (Sect 1-17); 11' E. of Brick Melrose Pl. post, 15" N. of N. edge of sidewalk
Sect 2-1	15:35	15:57	35"	Dirt landscaping @ W. most edge 30' E. of Block wall, Adj to N. edge sidewalk
Sect 2-2	15:38	16:00	35"	Dirt landscaping; ~~20'~~ E of (Sect 2-1), Adj to N. edge sidewalk
Sect 2-3	15:43	16:04	35"	Dirt landscaping; ~~20'~~ 16.5' E of (Sect 2-2), 6" N. of N. edge sidewalk
Sect 2-4	15:47	16:07	35"	Dirt landscaping; 20' E of (Sect 2-3), 3" N. of N. edge of sidewalk

PASSIVE SOIL-GAS SURVEY
FIELD DEPLOYMENT REPORT

Project Information	
Beacon Project No.:	2627
Site Name:	Central Avenue WQARF W. Side
Site Location:	Phoenix, AZ

BEACON ENVIRONMENTAL SERVICES, INC.
2203A Commerce Road | Suite 1
Forest Hill, MD 21050 USA
800-878-5510 | 1-410-838-8780

Client Information	
Company Name:	Hydro Geo Chem, Inc.
Office Location:	Phoenix, AZ
Samples Collected By:	N.J. Robb & Ben Vernon

FIELD SAMPLE ID	Date Emplaced / Time Emplaced	Date Retrieved / Time Retrieved	Sampling Hole Depth (inches)	FIELD NOTES (e.g., asphalt/concrete/gravel, description of sample location, PID/FID readings)
	5-7-13	5-22-13		
Sect 2-5	15:51	16:10	35"	Dirt landscaping; 17' E of (Sect 2-4); 8" N. of N. edge sidewalk
Sect 2-6	15:56	16:13	35"	Dirt landscaping, 17' E of (Sect 2-5); 4" N. of N. edge of sidewalk
Sect 2-7	16:00	16:15	35"	Dirt landscaping, 15' E of (Sect 2-6); 11" N. of N. edge sidewalk
Sect 2-8	16:04	16:18	30"	grass landscaping, 19' E of (Sect 2-7); E NWC of Colter & Central, 3" off Brick-pavers

Page 3 of 7

PASSIVE SOIL-GAS SURVEY
FIELD DEPLOYMENT REPORT

Project Information	
Beacon Project No.:	2627
Site Name:	Central Avenue WQARF w. side
Site Location:	Phoenix, AZ

BEACON ENVIRONMENTAL SERVICES, INC.
2203A Commerce Road | Suite 1
Forest Hill, MD 21050 USA
800-878-5510 | 1-410-838-8780

Client Information	
Company Name:	Hydro Geo Chem, Inc.
Office Location:	Phoenix, AZ
Samples Collected By:	N J. Babb & B. Vernon

FIELD SAMPLE ID	Date Emplaced 5-8-13 / Time Emplaced	Date Retrieved 5-22-13 / Time Retrieved	Sampling Hole Depth (inches)	FIELD NOTES (e.g., asphalt/concrete/gravel, description of sample location, PID/FID readings)
Sect 2-9	8:05	16:21	35"	grass landscaping; 20' N. of (Sect 2-8); 3" w. of w. edge of sidewalk
Sect 2-10	8:10	16:24	30"	grass landscaping; 20' N. of (Sect 2-9); 6" w. of w. edge of sidewalk
Sect 2-11	8:14	16:27	32"	grass landscaping; 20' N of Sect 2-10, 4" w. of w. edge of sidewalk
Sect 2-12	8:18	16:30	28"	Dirt landscaping w/ lrg bush @ corner of 90° edges of sidewalks; 15' N of (Sect 2-11); 3" w of w. edge of sidewalk
Sect 2-13	8:21	16:51	35"	N. edge of asphalt entrance driveway of bldg @ NWC of of Colter & Central; 3" w. of w. edge of sidewalk
Sect 2-14	8:26	16:54	32"	gravel landscaping, 20' N. of (Sect 2-13); 3" E. of concrete landscaping curb; ~4' S. of concrete ent. driveway on S. side of Federal pizza
Sect 2-15	10:20	17:00	35"	gravel landscaping, 2 ft N. of Fed pizza exit driveway along S. side of bldg, 1 ft w. of w. edge of sidewalk
Sect 2-16	10:25	17:04	35"	gravel landscaping; 20' N. of (Sect 2-15); 1 ft w. of w. edge of sidewalk
Sect 2-17	10:30	17:08	30"	gravel landscaping; 14.5' N. of (Sect 2-16); 1 ft w. of w. edge of sidewalk
Sect 2-18	10:35	17:12	35"	gravel landscaping; 31' N. of (Sect 2-17), 6' ft N. of N. edge of entrance steps; 1.5' w. of w. edge of sidewalk
Sect 2-19	10:40	17:18	35"	gravel landscaping; 19.5' N. of (Sect 2-18); 15" w. of w edge of sidewalk;
Sect 2-20	10:45	17:23	26"	gravel landscaping @ SWC of Oregon & Central; 31' N. of (Sect 2-19), 10" w. of w. edge of brick-pavers
Sect 2-21	14:18	17:26	35"	grass landscaping; 17.5' w. of (Sect 2-20); 8" S. of S. edge sidewalk
Sect 2-22	14:22	17:30	35"	grass landscaping; 20' w of (Sect 2-21); 8" S. of S. edge of sidewalk
Sect 2-23	14:25	17:33	35"	grass landscaping; 20' w of (Sect 2-22); 8" S. of S. edge of sidewalk

PASSIVE SOIL-GAS SURVEY
FIELD DEPLOYMENT REPORT

Project Information	
Beacon Project No.:	2627
Site Name:	Central Avenue WQARF W. side
Site Location:	Phoenix, AZ

BEACON ENVIRONMENTAL SERVICES, INC.
2203A Commerce Road | Suite 1
Forest Hill, MD 21050 USA
800-878-5510 | 1-410-838-8780

Client Information	
Company Name:	Hydro Geo Chem, Inc.
Office Location:	Phoenix, AZ
Samples Collected By:	NJ. Babb & Ben Vernon

FIELD SAMPLE ID	Date Emplaced 5-8-13 / Time Emplaced	Date Retrieved 5/22 & 23/13 / Time Retrieved	Sampling Hole Depth (inches)	FIELD NOTES (e.g., asphalt/concrete/gravel, description of sample location, PID/FID readings)
Sect 2-24	14:28	5-22-13 @ 17:36	35"	grass landscaping; ~~20' S~~ 17.5' W of (Sect 2-23); 8" S. of S. edge sidewalk
Sect 2-25	14:31	5-22-13 17:38	35"	grass landscaping; 20' W of (Sect 2-24); 8" E of entrance sidewalk; 8" S. of S. edge of landscaping
Sect 2-26	14:34	5-22-13 17:41	35"	gravel landscaping; 23' W of (Sect 2-25); 20" S. of S. edge of sidewalk END 5-22-13 removals
Sect 3-1	15:12	5-23-13 14:20	35"	gravel landscaping @ SWC of Colter & Central Ave, 3" W of W. edge brick-pavers Begin 5-23-13 removals
Sect 3-2	15:15	14:24	35"	gravel landscaping; S. of (Sect 3-1); 3" ins W. of W. edge of sidewalk, & 4" N. of Brick pavers
Sect 3-3	18:40	14:27	35"	mulch-dirt landscaping, 1 ft S. of concrete driveway ~~se~~ S. of Postinos & 3154 Bldg & 1.5' W. of edge of street curb
Sect 3-4	18:45	14:30	35"	mulch-dirt landscaping; 20' S. of (Sect 3-3); ~~[illegible]~~ 1 ft W. of edge of street curb
Sect 3-5	16:48	14:33	35"	mulch-dirt landscaping 17' S. of (Sect 3-4), 15" W. of edge of street curb
Sect 3-6	16:53	14:36	35"	mulch-dirt landscaping; 20 ft S. of (Sect 3-5); 2' W. of edge of street curb; 5" N. of BRG N. side concrete driveway
Sect 3-7	17:53	14:39	35"	mulch-dirt landscaping, 8.5' ft S. of BRG S. edge concrete driveway; 8" W. of edge street curb
Sect 3-8	17:57	14:42	35"	gravel landscaping, 21.5' S. of (Sect 3-7); 8" W of edge street curb
Sect 3-9	18:02	14:45	28"	gravel landscaping, 21' S. of (Sect 3-8); 3" W of W. edge of sidewalk
Sect 3-10	18:05	14:48	35"	gravel landscaping, 21' S. of (Sect 3-9), 3" W. of W. edge of sidewalk
Sect 3-11	18:08	14:51	35"	gravel landscaping; 20.5' S. of (Sect 3-10); 8" W. of W. edge of sidewalk
Sect 3-12	18:11	14:53	35"	gravel landscaping; 20' S. of (Sect 3-11); 8" W. of W edge brick paver sidewalk

PASSIVE SOIL-GAS SURVEY
FIELD DEPLOYMENT REPORT

Project Information	
Beacon Project No.:	2627
Site Name:	Central Avenue WQARF W. side
Site Location:	Phoenix, AZ

BEACON ENVIRONMENTAL SERVICES, INC.
2203A Commerce Road | Suite 1
Forest Hill, MD 21050 USA
800-878-5510 | 1-410-838-8780

Client Information	
Company Name:	Hydro Geo Chem, Inc.
Office Location:	Phoenix, AZ
Samples Collected By:	NJ. Babb + Ben Vernon

FIELD SAMPLE ID	Date Emplaced 5-9-13 / Time Emplaced	Date Retrieved 5-23-13 / Time Retrieved	Sampling Hole Depth (inches)	FIELD NOTES (e.g., asphalt/concrete/gravel, description of sample location, PID/FID readings)
Sect 3-13	8:05	14:55	35"	grass landscaping; ~7' W. of steel fence post @ NWC of medlock + central; 10" N. of N. edge of sidewalk
Sect 3-14	8:08	14:58	35"	rock landscaping; 2' ft W of sidewalk termination @ gravel landscaping, just W. of driveway to Jeweler store; ~6" N of asphalt (marking on land-scape curb to North
Sect 3-15	8:11	15:00	35"	rock landscaping; 20' ft W of (Sect 3-14), 10' ft E of CC-10; ~6" N. of Asphalt street
Sect 3-16	8:14	15:05	35"	rock landscaping; 20' ft W. of (Sect 3-15); 10' ft W. of CC-10; 8" N. of Asphalt street
Sect 3-17	8:16	15:09	35"	rock landscaping; 16' ft W. of (Sect 3-16); 6" N. of asphalt street
Sect 3-18	8:19	16:00	35"	rock landscaping; 16' ft W. of (Sect 3-17); 6" N. of asphalt street
Sect 3-19	8:22	15:13	35"	rock landscaping; 20' ft W. of (Sect 3-18), ~5' E of Asphalt Alley way, 8" N. of Asphalt street
Sect 4-1	12:00	16:20	35"	gravel-dirt easement @ NEC of Alley; 46" S. of S. edge of sidewalk, 1 ft W. of wood landscaping edging
Sect 4-2	12:04	16:24	35"	gravel-dirt easement; @ 27.5' S. of (Sect 4-1); 3" E of Asphalt, 2' ft W. of Bldg wall
Sect 4-3	12:07	16:28	35"	gravel-dirt easement; 21' S. of (Sect 4-2); 20" W. of mark on Bldg wall
Sect 4-4	12:10	16:31	35"	gravel-dirt easement; 20' S. of (Sect 4-3); 20" W. of mark on Bldg wall
Sect 4-5	12:13	16:34	35"	gravel-dirt easment; 16' S. of (Sect 4-4); 20' W. of mark on Bldg; 7.5' N. of SWC of lrg bldg N. adj to Dry cleaners
W. side duplicate ~~Sect 4-6~~	14:25	16:37	35"	grass embankment W. side of Alley; 17.5' S. of (Sect 4-5), 8" E of chain-link fence @ unduplicate
Sect 4-7	14:29	16:39	35"	grass ~~landscaping~~ embankment W. side of Alley; 19.5' S. of (Sect 4-6), 8" E. of chain-link fence
Sect 4-8	14:33	16:42	35"	grass embankment W. side of Alley; 18' S. of (Sect 4-7); 18" E. of chain link fence, 23" N of old broken elec. pole

PASSIVE SOIL-GAS SURVEY
FIELD DEPLOYMENT REPORT

Project Information	
Beacon Project No.:	2627
Site Name:	Central Avenue WQARF W. Side
Site Location:	Phoenix, AZ

BEACON ENVIRONMENTAL SERVICES, INC.
2203A Commerce Road | Suite 1
Forest Hill, MD 21050 USA
800-878-5510 | 1-410-838-8780

Client Information	
Company Name:	Hydro Geo Chem, Inc.
Office Location:	Phoenix, AZ
Samples Collected By:	N.S. Babb & Ben Vernon

FIELD SAMPLE ID	Date Emplaced / Time Emplaced	Date Retrieved / Time Retrieved	Sampling Hole Depth (inches)	FIELD NOTES (e.g., asphalt/concrete/gravel, description of sample location, PID/FID readings)
	5-9-13	5-23-13		
Sect 4-9	16:47	16:46	35"	grass landscaping, ~ 9.0' N. of priv. irrigation vault, w. of sidewalk in-line w/ N. end of dry cleaners, 6" E. of landscaping brick
Sect 4-10	16:50	16:49	28"	gravel-dirt landscaping b/t sidewalk & street, 38' ft N of (Sect 4-9); 19" W. of street curb
Sect 4-11	16:53	16:52	28"	gravel-dirt landscaping, 20' ft N. of (Sect 4-10); 16" W. of street curb
Sect 4-12	16:56	16:56	28"	gravel-dirt landscaping, 22 ft N. of (Sect 4-11); 6" W. of street curb & 33" S. of brick pavers S. edge @ SWC of Medlock & Central
Sect 5-1	18:42	17:48	35"	gravel-dirt landscaping, 3" S. of concrete driveway S. edge to Comic Book store, 3" E. of E. edge of sidewalk
Sect 5-2	18:45	17:52	35"	gravel landscaping; 18 ft S. of (Sect 5-1), 3" E. of E. edge sidewalk
Sect 5-3	18:48	17:56	35"	gravel landscaping; 17.5 ft. S. of (Sect 5-2); 3" E. of E. edge sidewalk
Sect 5-4	18:51	18:00	35"	gravel landscaping; 15' ft. S. of (Sect 5-3); 8" N. of N. edge concrete driveway to Skin Doc bldg; 6" E of E. edge of sidewalk
Sect 5-5	19:25	18:03	35"	gravel landscaping, 1 ft W of W. edge Brick pavers @ NWC of Pasadena & Central, 8" N of N. edge sidewalk
Sect 5-6	19:28	18:07	35"	gravel landscaping, 25' ft W. of (Sect 5-5); 19" N. of N. edge of sidewalk
Sect 5-7	19:31	18:10	35"	gravel landscaping, 20.5 ft W. of (Sect 5-6); 16" N. of N. edge of sidewalk
Sect 5-8	19:50	18:12	35"	gravel landscape, 22' W. of (Sect 5-7); 20" N. of N edge sidewalk
Sect 5-9	19:53	18:15	35"	gravel landscaping, 38' W. of (Sect 5-8); 8' E. of speed bump sign; 13" N. of N. edge sidewalk

PASSIVE SOIL-GAS SURVEY
FIELD DEPLOYMENT REPORT

Project Information	
Beacon Project No.:	2627
Site Name:	Central Avenue WQARF
Site Location:	Phoenix, AZ

BEACON ENVIRONMENTAL SERVICES, INC.
2203A Commerce Road | Suite 1
Forest Hill, MD 21050 USA
800-878-5510 | 1-410-838-8780

Client Information	
Company Name:	Hydro Geo Chem, Inc.
Office Location:	Phoenix, AZ
Samples Collected By:	NJ. Babb + Ben Vernon

FIELD SAMPLE ID	Date Emplaced / Time Emplaced	Date Retrieved / Time Retrieved	Sampling Hole Depth (inches)	FIELD NOTES (e.g., asphalt/concrete/gravel, description of sample location, PID/FID readings)
	5-14-13	5-30-13		
Sect6-1	17:23	12:25	35"	gravel landscaping; 15' ft E. of yellow fire hydrant near SWC of E. Madlock & central Ave., ~3" S. of S. edge of sidewalk
Sect6-2	17:26	12:28	35"	gravel landscaping; 20' ft. E. of sect6-1; 2" S. of S. edge of sidewalk
Sect6-3	17:29	12:30	35"	gravel landscaping; 20.5' ft. E. of sect6-2; 2" S. of S. edge of sidewalk
Sect6-4	17:32	12:32	35"	gravel landscaping; 15.5' ft. E. of sect6-3; 3" S. of S. edge of sidewalk
Sect6-5	17:34	12:35	35"	gravel landscaping; 20' ft. E of sect6-4; 2" S. of S. edge of sidewalk
Sect6-6	17:37	12:37	35"	gravel landscaping; 20' ft. E. of sect6-5; 2" S. of S. edge of sidewalk
Sect6-7	17:54	12:40	35"	gravel landscaping; 19' ft. E. of sect6-6; 2" S. of S. edge of sidewalk
Sect6-8	17:56	12:42	35"	gravel landscaping; 40' ft E. of sect6-7; 2" S. of S. edge of sidewalk
Sect6-9	17:58	12:44	35"	gravel landscaping; 23' ft. E. of sect6-8; 2" S. of S. edge of sidewalk; Field duplicate locale
Sect6-10	18:00	12:45	35"	gravel landscaping; 17' ft. E. of sect6-9; 2" S. of S. edge of sidewalk
Sect6-11	18:02	12:46	35"	gravel landscaping; 19' ft. E. of sect6-10; 2" S. of S. edge of landscaping
Sect6-12	18:04	12:48	35"	gravel landscaping; 20.5' ft. E. of sect6-11; 2" S. of S. edge of sidewalk
Sect6-13	18:16	12:50	35"	gravel landscaping; 19' ft E. of sect6-12; 2" S. of S. edge of sidewalk
Sect6-14	18:18	12:52	35"	gravel landscaping; 21.5' ft. E. of sect6-13; 2" S. of S. edge of sidewalk
Sect6-15	18:20	12:54	35"	gravel landscaping; 20' ft. E. of sect6-14; 2" S. of S. edge of sidewalk

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PASSIVE SOIL-GAS SURVEY
FIELD DEPLOYMENT REPORT

Project Information	
Beacon Project No.:	2627
Site Name:	Central Avenue WQARF
Site Location:	Phoenix, AZ

BEACON ENVIRONMENTAL SERVICES, INC.
2203A Commerce Road | Suite 1
Forest Hill, MD 21050 USA
800-878-5510 | 1-410-838-8780

Client Information	
Company Name:	Hydro Geo Chem, Inc.
Office Location:	Phoenix, AZ
Samples Collected By:	N.J. Babb & B. Vernon

FIELD SAMPLE ID	Date Emplaced / Time Emplaced	Date Retrieved / Time Retrieved	Sampling Hole Depth (inches)	FIELD NOTES (e.g., asphalt/concrete/gravel, description of sample location, PID/FID readings)
	5-14-13	5-30-13		
Sect 6-16	18:20	12:57	35"	gravel landscaping; 20' ft. E. of sect 6-15; 2" S. of S. edge of sidewalk
Sect 6-17	18:23	13:00	35"	gravel landscaping; 20.5 ft. E. of sect 6-16; 2" S. of S. edge of sidewalk
Sect 6-18	18:26	13:03	35"	gravel landscaping; 19.5 ft. E. of sect 6-17; 2" S. of S. edge of sidewalk
Sect 6-19	18:38	13:05	35"	gravel landscaping; 20.5 ft E. of sect 6-18; 2" S. of S. edge of sidewalk
Sect 6-20	18:41	13:07	35"	gravel landscaping; 19' ft E. of sect 6-19; 2" S. of S. edge of sidewalk
Sect 6-21	18:44	13:10	35"	gravel landscaping; 21.5 ft E. of sect 6-20; 2" S. of S. edge of sidewalk
Sect 6-22	18:46	13:12	32"	gravel landscaping; 20' ft. E. of sect 6-21; 2" S. of S. edge of sidewalk
Sect 6-23	18:48	13:14	35"	gravel landscaping; 20' ft. E. of sect 6-22; 2" S. of S. edge of sidewalk
Sect 6-24	18:50	13:17	32"	gravel landscaping; 92.5 ft. E. of sect 6-23; 2" S. of S. edge of sidewalk & 2" W. of red entrance curb
Sect 6-25	18:52	13:20	35"	gravel landscaping; 43.5 ft. E. of sect 6-24; 2" S. of S. edge of sidewalk & 2" E. of red ent. curb

PASSIVE SOIL-GAS SURVEY
FIELD DEPLOYMENT REPORT

Project Information	
Beacon Project No.:	2627
Site Name:	Central Avenue WQARF
Site Location:	Phoenix, AZ

BEACON ENVIRONMENTAL SERVICES, INC.
2203A Commerce Road | Suite 1
Forest Hill, MD 21050 USA
800-878-5510 | 1-410-838-8780

Client Information	
Company Name:	Hydro Geo Chem, Inc.
Office Location:	Phoenix, AZ
Samples Collected By:	NJ. Babb & B. Vernon

FIELD SAMPLE ID	Date Emplaced / Time Emplaced	Date Retrieved / Time Retrieved	Sampling Hole Depth (inches)	FIELD NOTES (e.g., asphalt/concrete/gravel, description of sample location, PID/FID readings)
	5-15-13	5-30-13		
Sect 7-1	9:40	14:00	35"	grass easement, 5' ft E. of E. edge Brick pavers @ NEC of E. Medlock & Central Ave.
Sect 7-2	9:42	14:03	35"	grass landscaping, 19.5' ft N. of Sect 7-1, 51" E. of E. edge of sidewalk
Sect 7-3	9:44	14:06	35"	grass landscaping, 20' ft. N. of Sect 7-2; 49" E. of E. edge of sidewalk
Sect 7-4	9:46	14:09	35"	grass landscaping, 20.5' ft. N. of Sect 7-3; 52" E. of E. edge of sidewalk
Sect 7-5	9:49	14:12	35"	rock landscaping Island, 19' ft. N. of Sect 7-4; 45" E. of E. edge of sidewalk
Sect 7-6	9:51	14:15	35"	grass landscaping, 20' ft. N. of Sect 7-5; 55" E. of E. edge of sidewalk 29" W. of lrg bldg sign post
Sect 7-7	9:53	14:17	24"	grass landscaping, 20' ft. N. of Sect 7-6; 50" E. of E. edge of sidewalk
Sect 7-8	9:56	14:19	35"	grass landscaping, 21.5' ft. N. of Sect 7-7; 40" E. of E. edge of sidewalk, 6" S of lrg rock
Sect 7-9	10:55	14:21	35"	grass landscaping, 13.5' ft N. of Sect 7-8; 50" E. of E. edge of sidewalk
Sect 7-10	10:58	14:23	26"	grass-dirt landscaping; 66' ft. N. of Sect 7-9; E. of E. edge of sidewalk
Sect 7-11	11:00	14:25	32"	gravel landscaping; 48.5' ft. N. of Sect 7-10; 60" NE of fire-hydrant, 4" S. of Brick-paver edge
Sect 7-12	11:02	14:27	35"	gravel landscaping; 14' ft. E. of Sect 7-11; 5" S. of S. edge sidewalk
Sect 8-1	14:07	14:55	33"	gravel-dirt landscaping, 14" W. of concrete driveway curb, 3' ft N. of N. landscape curb
Sect 8-2	14:10	14:59	34"	gravel-dirt landscaping; 14.5' ft. W. of Sect 8-1; 5' ft N. of N. landscape curb
Sect 8-3	14:13	15:03	34"	gravel-dirt landscaping; 16' ft. W. of Sect 8-2; 3' ft. N. of N. landscape curb, behind prickly-pear

PASSIVE SOIL-GAS SURVEY
FIELD DEPLOYMENT REPORT

Project Information	
Beacon Project No.:	2627
Site Name:	Central Avenue WQARF
Site Location:	Phoenix, AZ

BEACON ENVIRONMENTAL SERVICES, INC.
2203A Commerce Road | Suite 1
Forest Hill, MD 21050 USA
800-878-5510 | 1-410-838-8780

Client Information	
Company Name:	Hydro Geo Chem, Inc.
Office Location:	Phoenix, AZ
Samples Collected By:	NJ. Babb & Ben Vernon

FIELD SAMPLE ID	Date Emplaced / Time Emplaced	Date Retrieved / Time Retrieved	Sampling Hole Depth (inches)	FIELD NOTES (e.g., asphalt/concrete/gravel, description of sample location, PID/FID readings)
	5-15-13	5-30-13		
Sect 8-4	14:15	15:07	35"	gravel-dirt landscaping; 20.5ft W. of (Sect 8-3); 1ft N. of N. landscape curb
Sect 8-5	14:18	15:10	35"	gravel landscaping; 19' ft. W. of (Sect 8-4); 5" N. of N. landscaping curb; 5" E. of E. entrance concrete curb
Sect 8-6	14:52	15:12	35"	grass landscaping; 16.5ft W. of back ent. sidewalk W. edge; 4'ft N. of N. edge of sidewalk (~54' ft W. of sect 8-5)
Sect 8-7	14:54	15:14	35"	grass landscaping; 20' ft W. of (Sect 8-6); 4'ft. N. of N. edge of sidewalk
Sect 8-8	14:56	15:16	35"	grass landscaping; 20.5 ft. W. of (Sect 8-7); 4'ft N. of N. edge of sidewalk
Sect 8-9	14:58	15:18	35"	grass landscaping; 20.5 ft. W. of (Sect 8-8); 50" N. of N. edge of sidewalk
Sect 8-10	15:00	15:20	35"	grass landscaping; 20' ft. W. of (Sect 8-9); 4'ft N. of N. edge of sidewalk
Sect 8-11	15:03	15:22	35"	grass landscaping; 20' ft. W. of (Sect 8-10); 4'ft N. of N. edge of sidewalk @ NEC of E. orange & Central Ave.
Sect 8-12	15:55	15:24	35"	grass landscaping; 27.5'ft N. of (Sect 8-11); 4'ft E. of E. edge of sidewalk
Sect 8-13	16:00	15:26	32"	grass landscaping; 43' ft. N. of (Sect 8-12); 52" E. of E. edge of sidewalk
Sect 8-14	16:03	15:28	35"	grass landscaping; 19.5'ft. N. of (Sect 8-13); 28" ~~E. edge of~~ E. of E. edge Brick-pavers
Sect 8-15	16:05	15:30	20"	grass landscaping; (20') ft. N. of (Sect 8-14); 3'ft E. of E. edge Brick-pavers
Sect 9-1	18:20	16:05	40"	gravel-dirt landscaping; 9.5' W of Dont enter sign, 52" N. of N. edge sidewalk, ~ 1 ft E. of TOX MW-2 + 10 ft south
Sect 9-2	18:23	16:08	35"	gravel-dirt easement; 22' ft W. of (Sect 9-1); 51" N. of N. edge of sidewalk
Sect 9-3	18:25	16:12	37"	gravel-dirt landscape; 22' ft W. of (Sect 9-2); 52" N. of N. edge of sidewalk

PASSIVE SOIL-GAS SURVEY
FIELD DEPLOYMENT REPORT

Project Information	
Beacon Project No.:	2627
Site Name:	Central Avenue WQARF
Site Location:	Phoenix, AZ

BEACON ENVIRONMENTAL SERVICES, INC.
2203A Commerce Road | Suite 1
Forest Hill, MD 21050 USA
800-878-5510 | 1-410-838-8780

Client Information	
Company Name:	Hydro Geo Chem, Inc.
Office Location:	Phoenix, AZ
Samples Collected By:	N.J. Babb & Ben Vernon

FIELD SAMPLE ID	Date Emplaced / Time Emplaced	Date Retrieved / Time Retrieved	Sampling Hole Depth (inches)	FIELD NOTES (e.g., asphalt/concrete/gravel, description of sample location, PID/FID readings)
	5-15-13	5-30-13		
Sect 9-4	18:30	16:15	41"	gravel-dirt easement; 22' ft w. of (Sect 9-3); 54" N. of N. edge sidewalk
Sect 9-5	18:33	16:17	39"	gravel-dirt easement; 20.5' ft w. of (Sect 9-4); 50" N. of N. edge sidewalk
Sect 9-6	18:36	16:20	39"	gravel-dirt easement; 24' ft. w. of (Sect 9-5); 52" N. of N. edge of sidewalk Near NEC E. Colter & Central ~19.5' E. of stop sign

Page 5 of 5

Attachment 4

LABORATORY PROCEDURES FOR PASSIVE SOIL-GAS SAMPLES

Following are laboratory procedures used with BEACON Passive Soil-Gas Surveys, a screening technology for expedited site investigation. After exposure, adsorbent cartridges from the passive samplers are analyzed using U.S. EPA Method 8260C as a guidance document, a capillary gas chromatographic/mass spectrometric method, modified to accommodate high temperature thermal desorption of the adsorbent cartridges and to meet the objecitves of reporting semi-quantitative data. This procedure is summarized as follows:

A. The adsorbent cartridges are loaded with internal standards and surrogates prior to loading the autosampler with the cartridges. The loaded cartridges are purged in a helium flow. Then the cartridges are thermally desorbed in a helium flow onto a focusing trap. Any analytes in the helium stream are adsorbed onto a focusing trap.

B. Following trap focusing, the trap is thermally desorbed onto a Rxi-624Sil MS 20m, 0.18 mm ID, 1.00 micron filament thickness capillary column.

C. The GC/MS is scanned between 35 and 270 Atomic Mass Units (AMU) at 3.12 scans per second.

D. BFB tuning criteria and the initial five-point calibration procedures are those stated in method SW846-8260C. System performance and calibration check criteria are met prior to analysis of samples. A laboratory method blank is analyzed after the daily standard to determine that the system is contaminant-free.

E. The instrumentation used for these analyses includes:

- Agilent 7890-5975c Gas Chromatograph/Mass Spectrometer;
- Markes Unity2 thermal desorber;
- Markes UltrA2 autosampler; and
- Markes Mass Flow Controller Modules.

Attachment 5

Chain-of-Custody Form

CHAIN-OF-CUSTODY
PASSIVE SOIL-GAS SAMPLES

Project Information	
Beacon Project No.:	2627
Site Name:	Central Avenue WQARF w. side
Site Location:	Phoenix, AZ
Analytical Method:	EPA Method 8260C
Target Compounds:	Beacon Project Number 2627 Target Compound List

BEACON ENVIRONMENTAL SERVICES, INC.
2203A Commerce Road | Suite 1
Forest Hill, MD 21050 USA
800-878-5510 | 1-410-838-8780

Client Information	
Company Name:	Hydro Geo Chem, Inc.
Office Location:	Phoenix, AZ
Samples Submitted By:	N.J. Babb
Contact Phone No.:	480-421-1501 x152

Field Sample ID	Comments (only necessary if problem or discrepancy) Notes	Date	Time	Initial
Sect 1-1		5-22-13	14:17	NJB/BV
Sect 1-2			14:21	
Sect 1-3			14:25	
Sect 1-4			14:28	
Sect 1-5			14:31	
Sect 1-6			14:35	
Sect 1-7			14:38	
Sect 1-8			14:42	
Sect 1-9			14:46	
Sect 1-10			14:48	
Sect 1-11			14:52	
Sect 1-12			14:56	
Sect 1-13			14:59	
Sect 1-14			15:03	
Sect 1-15			15:06	
Sect 1-16			15:09	
Sect 1-17			15:11	
Sect 1-18			15:14	
Sect 2-1			15:57	
Sect 2-2			16:00	

Shipment of Field Kit to Site — Custody Seal # 3014014 **Intact?** (Y) N

Relinquished by:	Date/Time	Courier	Received by:	Date/Time
Kenny Peacho	05-01-2013 / 1700 Hours	FedEx	[signature]	5-3-13 / 17:00

Shipment of Field Kit to Laboratory — Custody Seal # N/A To be returned w/ East side samples **Intact?** Y N

Relinquished by:	Date/Time	Courier	Received by:	Date/Time
[signature]	5/28/13 / 12:30	Fed EX	Steven Thornley	5.29.2013 / 1400

CHAIN-OF-CUSTODY
PASSIVE SOIL-GAS SAMPLES

Project Information	
Beacon Project No.:	2627
Site Name:	Central Avenue WQARF W. Side
Site Location:	Phoenix, AZ
Analytical Method:	EPA Method 8260C
Target Compounds:	Beacon Project Number 2627 Target Compound List

BEACON ENVIRONMENTAL SERVICES, INC.
2203A Commerce Road | Suite 1
Forest Hill, MD 21050 USA
800-878-5510 | 1-410-838-8780

Client Information	
Company Name:	Hydro Geo Chem, Inc.
Office Location:	Phoenix, AZ
Samples Submitted By:	N.J. Ball
Contact Phone No.:	480-921-1501 x152

Field Sample ID	Comments (only necessary if problem or discrepancy) Notes	Date	Time	Initial
Sect 2-3		5-22-13	16:04	NJ.B/BN
Sect 2-4			16:07	
Sect 2-5			16:10	
Sect 2-6			16:13	
Sect 2-7			16:15	
Sect 2-8			16:18	
Sect 2-9			16:21	
Sect 2-10			16:24	
Sect 2-11			16:27	
Sect 2-12			16:30	
Sect 2-13			16:51	
Sect 2-14			16:54	
Sect 2-15			17:00	
Sect 2-16			17:08	
Sect 2-17			17:12	
Sect 2-18			17:18	
Sect 2-19			17:23	
Sect 2-20			17:26	
Sect 2-21			17:30	
Sect 2-22			17:33	

Shipment of Field Kit to Site — Custody Seal # 3014014 **Intact?** Y N

Relinquished by:	Date/Time	Courier	Received by:	Date/Time
Kenny Tjeacho	05-01-2013 / 1700 Hours	FedEx	Neil J. Ball	5-3-13 / 17:00

Shipment of Field Kit to Laboratory — Custody Seal # N/A To be returned w/ east side samples **Intact?** Y N

Relinquished by:	Date/Time	Courier	Received by:	Date/Time
Neil J. Ball	5-28-13 / 12:30	Fed Ex	Steven Thornley	5.29.2013 / 1400

CHAIN-OF-CUSTODY
PASSIVE SOIL-GAS SAMPLES

Project Information	
Beacon Project No.:	2627
Site Name:	Central Avenue WQARF w. side
Site Location:	Phoenix, AZ
Analytical Method:	EPA Method 8260C
Target Compounds:	Beacon Project Number 2627 Target Compound List

BEACON ENVIRONMENTAL SERVICES, INC.
2203A Commerce Road | Suite 1
Forest Hill, MD 21050 USA
800-878-5510 | 1-410-838-8780

Client Information	
Company Name:	Hydro Geo Chem, Inc.
Office Location:	Phoenix, AZ
Samples Submitted By:	N.J. Babb
Contact Phone No.:	480-421-1501 x152

Field Sample ID	Comments (only necessary if problem or discrepancy) Notes	Date	Time	Initial
Sect 2-23		5-22-13	17:33	NJB/B.V
Sect 2-24			17:36	
Sect 2-25			17:38	
Sect 2-26			17:41	
Sect 3-1		5-23-13	14:20	
Sect 3-2			14:24	
Sect 3-3			14:27	
Sect 3-4			14:30	
Sect 3-5			14:33	
Sect 3-6			14:36	
Sect 3-7			14:39	
Sect 3-8			14:42	
Sect 3-9			14:45	
Sect 3-10			14:48	
Sect 3-11			14:51	
Sect 3-12			14:53	
Sect 3-13			14:55	
Sect 3-14			14:58	
Sect 3-15			15:00	
Sect 3-16			15:05	

Shipment of Field Kit to Site — Custody Seal # 3014014 **Intact?** (Y) N

Relinquished by:	Date/Time	Courier	Received by:	Date/Time
Kenny Ifeacho	05-01-2013 / 1700 Hours	FedEx	[signature]	5-3-13 / 17:00

Shipment of Field Kit to Laboratory — Custody Seal # N/A To be returned w/ East side samples **Intact?** Y N

Relinquished by:	Date/Time	Courier	Received by:	Date/Time
[signature]	5-28-13 / 12:30	Fed EX	Steven Thomley	5.29.2013 / 1400

CHAIN-OF-CUSTODY
PASSIVE SOIL-GAS SAMPLES

Project Information	
Beacon Project No.:	2627
Site Name:	Central Avenue WQARF W. side
Site Location:	Phoenix, AZ
Analytical Method:	EPA Method 8260C
Target Compounds:	Beacon Project Number 2627 Target Compound List

BEACON ENVIRONMENTAL SERVICES, INC.
2203A Commerce Road | Suite 1
Forest Hill, MD 21050 USA
800-878-5510 | 1-410-838-8780

Client Information	
Company Name:	Hydro Geo Chem, Inc.
Office Location:	Phoenix, AZ
Samples Submitted By:	NJ. Babb
Contact Phone No.:	480-421-1501 x 152

Field Sample ID	Comments (only necessary if problem or discrepancy) Notes	Date	Time	Initial
Sect 3-17		5-23-13	15:09	NJ.B/B.
Sect 3-18			16:00	
Sect 3-19			15:13	
Sect 4-1			16:20	
Sect 4-2			16:24	
Sect 4-3			16:28	
Sect 4-4			16:31	
Sect 4-5			16:34	
Sect 4-6, 6D	This is a duplicate sample		16:37	
Sect 4-7			16:39	
Sect 4-8			16:42	
Sect 4-9			16:46	
Sect 4-10			16:49	
Sect 4-11			16:52	
Sect 4-12			16:56	
Sect 5-1			17:48	
Sect 5-2			17:52	
Sect 5-3			17:56	
Sect 5-4			18:00	
Sect 5-5			18:03	

Shipment of Field Kit to Site — Custody Seal # 3014014 Intact? (Y) N

Relinquished by:	Date/Time	Courier	Received by:	Date/Time
Kenny Peacho	05-01-2013 / 1700 Hours	FedEx	[signature]	5-3-13 / 17:00

Shipment of Field Kit to Laboratory — Custody Seal # N/A To be returned w/ East side Samples Intact? Y N

Relinquished by:	Date/Time	Courier	Received by:	Date/Time
[signature]	5-28-13 / 12:30	Fed Ex	Steven Thornley	5.29.2013 / 1400

Page 4 of 5

CHAIN-OF-CUSTODY
PASSIVE SOIL-GAS SAMPLES

Project Information	
Beacon Project No.:	2627
Site Name:	Central Avenue WQARF w.side
Site Location:	Phoenix, AZ
Analytical Method:	EPA Method 8260C
Target Compounds:	Beacon Project Number 2627 Target Compound List

BEACON ENVIRONMENTAL SERVICES, INC.
2203A Commerce Road | Suite 1
Forest Hill, MD 21050 USA
800-878-5510 | 1-410-838-8780

Client Information	
Company Name:	Hydro Geo Chem, Inc.
Office Location:	Phoenix, AZ
Samples Submitted By:	NJ. Babb
Contact Phone No.:	480-421-1501 x152

Field Sample ID	Comments (only necessary if problem or discrepancy) Notes	Date	Time	Initial
Sect 5-6		5-23-13	18:07	NJ.B/B.
Sect 5-7		↓	18:10	↓
Sect 5-8			18:12	
Sect 5-9			18:15	
Trip Blank 1	w/ shipment return box w/ sect 1-1 to 18 & Sect 2-1 to 12	5-22-13	14:15	
Trip Blank 2	" " " " w/ sect 2-13 to 26 & Sect 3-1 to 17	5-22-13	16:45	
Trip Blank 3	" " " " w/ Sect 3-18 & 19, Sect 4-1 to 12, & Sect 5-1 to 9	5-23-13	15:30	

Shipment of Field Kit to Site — Custody Seal # 3014014 **Intact?** Y N

Relinquished by:	Date/Time	Courier	Received by:	Date/Time
Kenny Ipeacha	05-01-2013 / 1700 Hours	FedEx	Neil J. Babb	5-3-13 / 17:00

Shipment of Field Kit to Laboratory — Custody Seal # N/A To Be returned w/ East Side samplers **Intact?** Y N

Relinquished by:	Date/Time	Courier	Received by:	Date/Time
Neil J. Babb	5-28-13 / 12:30	Fed EX	Steven Thornley	5.29.2013 / 1400

CHAIN-OF-CUSTODY
PASSIVE SOIL-GAS SAMPLES

Project Information	
Beacon Project No.:	2627
Site Name:	Central Avenue WQARF
Site Location:	Phoenix, AZ
Analytical Method:	EPA Method 8260C
Target Compounds:	Beacon Project Number 2627 Target Compound List

BEACON ENVIRONMENTAL SERVICES, INC.
2203A Commerce Road | Suite 1
Forest Hill, MD 21050 USA
800-878-5510 | 1-410-838-8780

Client Information	
Company Name:	Hydro Geo Chem, Inc.
Office Location:	Phoenix, AZ
Samples Submitted By:	Neil J. Babb
Contact Phone No.:	480-421-1501 x152

Field Sample ID	Comments (only necessary if problem or discrepancy) Notes	Date	Time	Initial
Sect 6-1		5-30-13	12:25	NJB
Sect 6-2			12:28	
Sect 6-3			12:30	
Sect 6-4			12:32	
Sect 6-5			12:35	
Sect 6-6			12:37	
Sect 6-7			12:40	
Sect 6-8			12:42	
Sect 6-9, 90	This is a duplicate sample		12:44	
Sect 6-10			12:45	
Sect 6-11			12:46	
Sect 6-12			12:48	
Sect 6-13			12:50	
Sect 6-14			12:52	
Sect 6-15			12:54	
Sect 6-16			12:57	
Sect 6-17			13:00	
Sect 6-18			13:03	
Sect 6-19			13:05	
Sect 6-20			13:07	

Shipment of Field Kit to Site — Custody Seal # 3014014 **Intact?** (Y) N

Relinquished by:	Date/Time	Courier	Received by:	Date/Time
Kenny Ipeacho	05-01-2013 / 1700 Hours	FedEx	Neil J. Babb	5-3-13 / 17:00

Shipment of Field Kit to Laboratory — Custody Seal # 3014050 **Intact?** (Y) N

Relinquished by:	Date/Time	Courier	Received by:	Date/Time
Neil J. Babb	5-31-13 / 11:30	Fed Ex	Kenny Ipeacho	06-04-13 / 1100 hrs

CHAIN-OF-CUSTODY
PASSIVE SOIL-GAS SAMPLES

Project Information	
Beacon Project No.:	2627
Site Name:	Central Avenue WQARF
Site Location:	Phoenix, AZ
Analytical Method:	EPA Method 8260C
Target Compounds:	Beacon Project Number 2627 Target Compound List

BEACON ENVIRONMENTAL SERVICES, INC.
2203A Commerce Road | Suite 1
Forest Hill, MD 21050 USA
800-878-5510 | 1-410-838-8780

Client Information	
Company Name:	Hydro Geo Chem, Inc.
Office Location:	Phoenix, AZ
Samples Submitted By:	N.J. Babb
Contact Phone No.:	480-421-1501 x152

Field Sample ID	Comments (only necessary if problem or discrepancy) Notes	Date	Time	Initial
Sect 6-21		5-30-13	13:10	NJB
Sect 6-22			13:12	
Sect 6-23			13:14	
Sect 6-24			13:17	
Sect 6-25			13:20	
Sect 7-1			14:00	
Sect 7-2			14:03	
Sect 7-3			14:06	
Sect 7-4			14:09	
Sect 7-5			14:12	
Sect 7-6			14:15	
Sect 7-7			14:17	
Sect 7-8			14:19	
Sect 7-9			14:21	
Sect 7-10			14:23	
Sect 7-11			14:25	
Sect 7-12			14:27	
Sect 8-1			14:55	
Sect 8-2			14:59	
Sect 8-3			15:03	

Shipment of Field Kit to Site — Custody Seal # 3014014 **Intact?** (Y) N

Relinquished by:	Date/Time	Courier	Received by:	Date/Time
Kenny Ipeacho	05-01-2013 / 1700 Hours	FedEx	Neil J. Babb	5-3-13 / 17:00

Shipment of Field Kit to Laboratory — Custody Seal # 3014050 **Intact?** (Y) N

Relinquished by:	Date/Time	Courier	Received by:	Date/Time
Neil J. Babb	5-31-13 / 11:30	FED EX	Kenny Ipeacho	06-04-13 / 1100 hrs

CHAIN-OF-CUSTODY
PASSIVE SOIL-GAS SAMPLES

Project Information	
Beacon Project No.:	2627
Site Name:	Central Avenue WQARF
Site Location:	Phoenix, AZ
Analytical Method:	EPA Method 8260C
Target Compounds:	Beacon Project Number 2627 Target Compound List

BEACON ENVIRONMENTAL SERVICES, INC.
2203A Commerce Road | Suite 1
Forest Hill, MD 21050 USA
800-878-5510 | 1-410-838-8780

Client Information	
Company Name:	Hydro Geo Chem, Inc.
Office Location:	Phoenix, AZ
Samples Submitted By:	N.J. Babb
Contact Phone No.:	480-421-1501 x152

Field Sample ID	Comments (only necessary if problem or discrepancy) Notes	Date	Time	Initial
Sect 8-4		5-30-13	15:07	[illegible]
Sect 8-5			15:10	
Sect 8-6			15:12	
Sect 8-7			15:14	
Sect 8-8			15:16	
Sect 8-9			15:18	
Sect 8-10			15:20	
Sect 8-11			15:22	
Sect 8-12			15:24	
Sect 8-13			15:26	
Sect 8-14			15:28	
Sect 8-15			15:30	
Sect 9-1			16:05	
Sect 9-2			16:08	
Sect 9-3			16:12	
Sect 9-4			16:15	
Sect 9-5			16:17	
Sect 9-6			16:20	
Trip Blank 4	w/ shipment return Bag w/ Sect 6-1 to 25 + Sect 7-1 to 4		12:00	
Trip Blank 5	w/ " " " " w/ Sect 7-5 to 12, Sect 8-1 to 15, Sect 9-1 to 6		14:10	

Shipment of Field Kit to Site — Custody Seal # 3014014 **Intact?** (Y) N

Relinquished by:	Date/Time	Courier	Received by:	Date/Time
Kenny Tpacho	05-01-2013 / 1700 Hours	FedEx	[illegible]	5-3-13/17:00

Shipment of Field Kit to Laboratory — Custody Seal # 3014050 **Intact?** (Y) N

Relinquished by:	Date/Time	Courier	Received by:	Date/Time
[illegible]	5-31-13/11:30	FED EX	Kenny Tpacho	06-04-13/1100 hrs

Table 1

Beacon Environmental Services, Inc.
2203A Commerce Road, Suite 1
Forest Hill, MD 21050 USA

Analysis by EPA Method 8260C

Client Sample ID:	mb130530c	Trip-1	Trip-2	Trip-3	Sect 1-1	Sect 1-2
Project Number:		2627	2627	2627	2627	2627
Lab File ID:	C13053003	C13053005	C13053006	C13053007	C13053008	C13053009
Received Date:		5/29/2013	5/29/2013	5/29/2013	5/29/2013	5/29/2013
Analysis Date:	5/30/2013	5/30/2013	5/30/2013	5/30/2013	5/30/2013	5/30/2013
Analysis Time:	11:42	12:38	13:00	13:21	13:42	14:03
Matrix:					Soil Gas	Soil Gas
Units:	ng	ng	ng	ng	ng	ng
COMPOUNDS						
Vinyl Chloride	<10	<10	<10	<10	<10	<10
Trichlorofluoromethane (Freon 11)	<25	<25	<25	<25	<25	<25
1,1-Dichloroethene	<10	<10	<10	<10	<10	<10
1,1,2-Trichlorotrifluoroethane (Fr.113)	<25	<25	<25	<25	<25	<25
trans-1,2-Dichloroethene	<10	<10	<10	<10	<10	<10
Methyl-t-butyl ether	<25	<25	<25	<25	<25	<25
1,1-Dichloroethane	<25	<25	<25	<25	<25	<25
cis-1,2-Dichloroethene	<10	<10	<10	<10	<10	<10
Chloroform	<25	<25	<25	<25	**1,518**	**28**
1,2-Dichloroethane	<25	<25	<25	<25	<25	<25
1,1,1-Trichloroethane	<25	<25	<25	<25	<25	<25
Carbon Tetrachloride	<25	<25	<25	<25	<25	<25
Benzene	<25	<25	<25	<25	<25	<25
Trichloroethene	<10	<10	<10	<10	<10	<10
1,4-Dioxane	<25	<25	<25	<25	<25	<25
1,1,2-Trichloroethane	<25	<25	<25	<25	<25	<25
Toluene	<25	<25	<25	<25	<25	<25
1,2-Dibromoethane (EDB)	<25	<25	<25	<25	<25	<25
Tetrachloroethene	<10	<10	<10	<10	<10	<10
1,1,1,2-Tetrachloroethane	<25	<25	<25	<25	<25	<25
Chlorobenzene	<25	<25	<25	<25	<25	<25
Ethylbenzene	<25	<25	<25	<25	<25	<25
p & m-Xylene	<25	<25	<25	<25	<25	<25
1,1,2,2-Tetrachloroethane	<25	<25	<25	<25	<25	<25
o-Xylene	<25	<25	<25	<25	<25	<25
1,2,3-Trichloropropane	<25	<25	<25	<25	<25	<25
Isopropylbenzene	<25	<25	<25	<25	<25	<25
1,3,5-Trimethylbenzene	<25	<25	<25	<25	<25	<25
1,2,4-Trimethylbenzene	<25	<25	<25	<25	<25	<25
1,3-Dichlorobenzene	<25	<25	<25	<25	<25	<25
1,4-Dichlorobenzene	<25	<25	<25	<25	<25	<25
1,2-Dichlorobenzene	<25	<25	<25	<25	<25	<25
1,2,4-Trichlorobenzene	<25	<25	<25	<25	<25	<25
Naphthalene	<25	<25	<25	<25	<25	<25
1,2,3-Trichlorobenzene	<25	<25	<25	<25	<25	<25
2-Methylnaphthalene	<25	<25	<25	<25	<25	<25
TPH C_5-C_9	<5,000	<5,000	<5,000	<5,000	<5,000	<5,000
TPH C_{10}-C_{15}	<5,000	<5,000	<5,000	<5,000	<5,000	<5,000

Results in nanograms (ng). J = Values below limit of quantitation (LOQ) but above limit of detection (LOD). B = Detected in method blank.

Table 1

Beacon Environmental Services, Inc.
2203A Commerce Road, Suite 1
Forest Hill, MD 21050 USA

Analysis by EPA Method 8260C

Client Sample ID:	Sect 1-3	Sect 1-4	Sect 1-5	Sect 1-6	Sect 1-7	Sect 1-8
Project Number:	2627	2627	2627	2627	2627	2627
Lab File ID:	C13053010	C13053011	C13053012	C13053013	C13053014	C13053015
Received Date:	5/29/2013	5/29/2013	5/29/2013	5/29/2013	5/29/2013	5/29/2013
Analysis Date:	5/30/2013	5/30/2013	5/30/2013	5/30/2013	5/30/2013	5/30/2013
Analysis Time:	14:25	14:46	15:07	15:28	15:49	16:11
Matrix:	Soil Gas	Soil Gas	Soil Gas	Soil Gas	Soil Gas	Soil Gas
Units:	ng	ng	ng	ng	ng	ng
COMPOUNDS						
Vinyl Chloride	<10	<10	<10	<10	<10	<10
Trichlorofluoromethane (Freon 11)	<25	<25	<25	<25	<25	<25
1,1-Dichloroethene	<10	<10	<10	<10	<10	<10
1,1,2-Trichlorotrifluoroethane (Fr.113)	<25	<25	<25	<25	<25	<25
trans-1,2-Dichloroethene	<10	<10	<10	<10	<10	<10
Methyl-t-butyl ether	<25	<25	<25	<25	<25	<25
1,1-Dichloroethane	<25	<25	<25	<25	<25	<25
cis-1,2-Dichloroethene	<10	<10	<10	<10	<10	<10
Chloroform	**38**	<25	<25	<25	<25	<25
1,2-Dichloroethane	<25	<25	<25	<25	<25	<25
1,1,1-Trichloroethane	<25	<25	<25	<25	<25	<25
Carbon Tetrachloride	<25	<25	<25	<25	<25	<25
Benzene	<25	<25	<25	<25	<25	<25
Trichloroethene	<10	<10	<10	<10	<10	<10
1,4-Dioxane	<25	<25	<25	<25	<25	<25
1,1,2-Trichloroethane	<25	<25	<25	<25	<25	<25
Toluene	<25	<25	<25	<25	<25	<25
1,2-Dibromoethane (EDB)	<25	<25	<25	<25	<25	<25
Tetrachloroethene	<10	<10	<10	<10	<10	<10
1,1,1,2-Tetrachloroethane	<25	<25	<25	<25	<25	<25
Chlorobenzene	<25	<25	<25	<25	<25	<25
Ethylbenzene	<25	<25	<25	<25	<25	<25
p & m-Xylene	<25	<25	<25	<25	<25	<25
1,1,2,2-Tetrachloroethane	<25	<25	<25	<25	<25	<25
o-Xylene	<25	<25	<25	<25	<25	<25
1,2,3-Trichloropropane	<25	<25	<25	<25	<25	<25
Isopropylbenzene	<25	<25	<25	<25	<25	<25
1,3,5-Trimethylbenzene	<25	<25	<25	<25	<25	<25
1,2,4-Trimethylbenzene	<25	<25	<25	<25	<25	<25
1,3-Dichlorobenzene	<25	<25	<25	<25	<25	<25
1,4-Dichlorobenzene	<25	<25	<25	<25	<25	<25
1,2-Dichlorobenzene	<25	<25	<25	<25	<25	<25
1,2,4-Trichlorobenzene	<25	<25	<25	<25	<25	<25
Naphthalene	<25	<25	<25	**116**	<25	<25
1,2,3-Trichlorobenzene	<25	<25	<25	<25	<25	<25
2-Methylnaphthalene	<25	<25	<25	**38**	<25	<25
TPH C_5-C_9	<5,000	<5,000	<5,000	<5,000	<5,000	<5,000
TPH C_{10}-C_{15}	<5,000	<5,000	<5,000	**5,072**	**6,802**	**11,470**

Results in nanograms (ng). J = Values below limit of quantitation (LOQ) but above limit of detection (LOD). B = Detected in method blank.

Table 1

Beacon Environmental Services, Inc.
2203A Commerce Road, Suite 1
Forest Hill, MD 21050 USA

Analysis by EPA Method 8260C

Client Sample ID:	Sect 1-9	Sect 1-10	Sect 1-11	Sect 1-12	Sect 1-13	Sect 1-14
Project Number:	2627	2627	2627	2627	2627	2627
Lab File ID:	C13053016	C13053017	C13053018	C13053019	C13053020	C13053021
Received Date:	5/29/2013	5/29/2013	5/29/2013	5/29/2013	5/29/2013	5/29/2013
Analysis Date:	5/30/2013	5/30/2013	5/30/2013	5/30/2013	5/30/2013	5/30/2013
Analysis Time:	16:32	16:53	17:15	17:36	17:58	18:20
Matrix:	Soil Gas	Soil Gas	Soil Gas	Soil Gas	Soil Gas	Soil Gas
Units:	ng	ng	ng	ng	ng	ng
COMPOUNDS						
Vinyl Chloride	<10	<10	<10	<10	<10	<10
Trichlorofluoromethane (Freon 11)	<25	<25	<25	<25	<25	<25
1,1-Dichloroethene	<10	<10	<10	<10	<10	<10
1,1,2-Trichlorotrifluoroethane (Fr.113)	<25	<25	<25	<25	<25	<25
trans-1,2-Dichloroethene	<10	<10	<10	<10	<10	<10
Methyl-t-butyl ether	<25	<25	<25	<25	<25	<25
1,1-Dichloroethane	<25	<25	<25	<25	<25	<25
cis-1,2-Dichloroethene	<10	<10	<10	<10	<10	<10
Chloroform	<25	<25	<25	<25	**39**	**116**
1,2-Dichloroethane	<25	<25	<25	<25	<25	<25
1,1,1-Trichloroethane	<25	<25	<25	<25	<25	<25
Carbon Tetrachloride	<25	<25	<25	<25	<25	<25
Benzene	<25	<25	<25	<25	<25	<25
Trichloroethene	<10	<10	<10	<10	<10	<10
1,4-Dioxane	<25	<25	<25	<25	<25	<25
1,1,2-Trichloroethane	<25	<25	<25	<25	<25	<25
Toluene	<25	<25	<25	<25	<25	<25
1,2-Dibromoethane (EDB)	<25	<25	<25	<25	<25	<25
Tetrachloroethene	<10	<10	<10	<10	<10	<10
1,1,1,2-Tetrachloroethane	<25	<25	<25	<25	<25	<25
Chlorobenzene	<25	<25	<25	<25	<25	<25
Ethylbenzene	<25	<25	<25	<25	<25	<25
p & m-Xylene	<25	<25	<25	<25	<25	<25
1,1,2,2-Tetrachloroethane	<25	<25	<25	<25	<25	<25
o-Xylene	<25	<25	<25	<25	<25	<25
1,2,3-Trichloropropane	<25	<25	<25	<25	<25	<25
Isopropylbenzene	<25	<25	<25	<25	<25	<25
1,3,5-Trimethylbenzene	<25	<25	<25	<25	<25	<25
1,2,4-Trimethylbenzene	<25	<25	<25	<25	<25	<25
1,3-Dichlorobenzene	<25	<25	<25	<25	<25	<25
1,4-Dichlorobenzene	<25	<25	<25	<25	<25	<25
1,2-Dichlorobenzene	<25	<25	<25	<25	<25	<25
1,2,4-Trichlorobenzene	<25	<25	<25	<25	<25	<25
Naphthalene	<25	<25	<25	<25	<25	<25
1,2,3-Trichlorobenzene	<25	<25	<25	<25	<25	<25
2-Methylnaphthalene	<25	<25	<25	<25	<25	<25
TPH C_5-C_9	<5,000	<5,000	<5,000	<5,000	<5,000	<5,000
TPH C_{10}-C_{15}	**7,788**	**5,368**	<5,000	<5,000	<5,000	<5,000

Results in nanograms (ng). J = Values below limit of quantitation (LOQ) but above limit of detection (LOD). B = Detected in method blank.

Table 1

Beacon Environmental Services, Inc.
2203A Commerce Road, Suite 1
Forest Hill, MD 21050 USA

Analysis by EPA Method 8260C

Client Sample ID:	Sect 1-15	Sect 1-16	Sect 1-17	Sect 1-18	Sect 2-1	Sect 2-2
Project Number:	2627	2627	2627	2627	2627	2627
Lab File ID:	C13053022	C13053023	C13053024	C13053025	C13053026	C13053027
Received Date:	5/29/2013	5/29/2013	5/29/2013	5/29/2013	5/29/2013	5/29/2013
Analysis Date:	5/30/2013	5/30/2013	5/30/2013	5/30/2013	5/30/2013	5/30/2013
Analysis Time:	18:41	19:02	19:24	19:46	20:07	20:28
Matrix:	Soil Gas	Soil Gas	Soil Gas	Soil Gas	Soil Gas	Soil Gas
Units:	ng	ng	ng	ng	ng	ng
COMPOUNDS						
Vinyl Chloride	<10	<10	<10	<10	<10	<10
Trichlorofluoromethane (Freon 11)	<25	<25	<25	<25	<25	<25
1,1-Dichloroethene	<10	<10	<10	<10	<10	<10
1,1,2-Trichlorotrifluoroethane (Fr.113)	<25	<25	<25	<25	<25	<25
trans-1,2-Dichloroethene	<10	<10	<10	<10	<10	<10
Methyl-t-butyl ether	<25	<25	<25	<25	<25	<25
1,1-Dichloroethane	<25	<25	<25	<25	<25	<25
cis-1,2-Dichloroethene	<10	<10	<10	<10	<10	<10
Chloroform	**155**	**31**	**50**	**66**	**45**	**30**
1,2-Dichloroethane	<25	<25	<25	<25	<25	<25
1,1,1-Trichloroethane	<25	<25	<25	<25	<25	<25
Carbon Tetrachloride	<25	<25	<25	<25	<25	<25
Benzene	<25	<25	<25	<25	<25	<25
Trichloroethene	<10	<10	<10	<10	<10	<10
1,4-Dioxane	<25	<25	<25	<25	<25	<25
1,1,2-Trichloroethane	<25	<25	<25	<25	<25	<25
Toluene	<25	<25	<25	<25	<25	<25
1,2-Dibromoethane (EDB)	<25	<25	<25	<25	<25	<25
Tetrachloroethene	<10	<10	<10	<10	<10	<10
1,1,1,2-Tetrachloroethane	<25	<25	<25	<25	<25	<25
Chlorobenzene	<25	<25	<25	<25	<25	<25
Ethylbenzene	<25	<25	<25	<25	<25	<25
p & m-Xylene	<25	<25	<25	<25	<25	<25
1,1,2,2-Tetrachloroethane	<25	<25	<25	<25	<25	<25
o-Xylene	<25	<25	<25	<25	<25	<25
1,2,3-Trichloropropane	<25	<25	<25	<25	<25	<25
Isopropylbenzene	<25	<25	<25	<25	<25	<25
1,3,5-Trimethylbenzene	<25	<25	<25	<25	<25	<25
1,2,4-Trimethylbenzene	<25	<25	<25	<25	<25	<25
1,3-Dichlorobenzene	<25	<25	<25	<25	<25	<25
1,4-Dichlorobenzene	<25	<25	<25	<25	<25	<25
1,2-Dichlorobenzene	<25	<25	<25	<25	<25	<25
1,2,4-Trichlorobenzene	<25	<25	<25	<25	<25	<25
Naphthalene	<25	<25	<25	<25	<25	<25
1,2,3-Trichlorobenzene	<25	<25	<25	<25	<25	<25
2-Methylnaphthalene	<25	<25	<25	<25	<25	<25
TPH C_5-C_9	<5,000	<5,000	<5,000	<5,000	<5,000	<5,000
TPH C_{10}-C_{15}	<5,000	<5,000	**6,467**	<5,000	**8,134**	**5,632**

Results in nanograms (ng). J = Values below limit of quantitation (LOQ) but above limit of detection (LOD). B = Detected in method blank.

Table 1

Beacon Environmental Services, Inc.
2203A Commerce Road, Suite 1
Forest Hill, MD 21050 USA

Analysis by EPA Method 8260C

Client Sample ID:	Sect 2-3	Sect 2-4	Sect 2-5	Sect 2-6	Sect 2-7	Sect 2-8
Project Number:	2627	2627	2627	2627	2627	2627
Lab File ID:	C13053028	C13053029	C13053030	C13053031	C13053032	C13053033
Received Date:	5/29/2013	5/29/2013	5/29/2013	5/29/2013	5/29/2013	5/29/2013
Analysis Date:	5/30/2013	5/30/2013	5/30/2013	5/30/2013	5/30/2013	5/30/2013
Analysis Time:	20:50	21:11	21:33	21:54	22:16	22:37
Matrix:	Soil Gas	Soil Gas	Soil Gas	Soil Gas	Soil Gas	Soil Gas
Units:	ng	ng	ng	ng	ng	ng
COMPOUNDS						
Vinyl Chloride	<10	<10	<10	<10	<10	<10
Trichlorofluoromethane (Freon 11)	<25	<25	<25	<25	<25	<25
1,1-Dichloroethene	<10	<10	<10	<10	<10	<10
1,1,2-Trichlorotrifluoroethane (Fr.113)	<25	<25	<25	<25	<25	<25
trans-1,2-Dichloroethene	<10	<10	<10	<10	<10	<10
Methyl-t-butyl ether	<25	<25	<25	<25	<25	<25
1,1-Dichloroethane	<25	<25	<25	<25	<25	<25
cis-1,2-Dichloroethene	<10	<10	<10	<10	<10	<10
Chloroform	<25	**362**	**359**	**53**	**31**	**71**
1,2-Dichloroethane	<25	<25	<25	<25	<25	<25
1,1,1-Trichloroethane	<25	<25	<25	<25	<25	<25
Carbon Tetrachloride	<25	<25	<25	<25	<25	<25
Benzene	<25	<25	<25	<25	<25	<25
Trichloroethene	<10	<10	<10	<10	<10	<10
1,4-Dioxane	<25	<25	<25	<25	<25	<25
1,1,2-Trichloroethane	<25	<25	<25	<25	<25	<25
Toluene	<25	<25	<25	<25	<25	<25
1,2-Dibromoethane (EDB)	<25	<25	<25	<25	<25	<25
Tetrachloroethene	<10	<10	<10	<10	**5 J**	**12**
1,1,1,2-Tetrachloroethane	<25	<25	<25	<25	<25	<25
Chlorobenzene	<25	<25	<25	<25	<25	<25
Ethylbenzene	<25	<25	<25	<25	<25	<25
p & m-Xylene	<25	<25	<25	<25	<25	<25
1,1,2,2-Tetrachloroethane	<25	<25	<25	<25	<25	<25
o-Xylene	<25	<25	<25	<25	<25	<25
1,2,3-Trichloropropane	<25	<25	<25	<25	<25	<25
Isopropylbenzene	<25	<25	<25	<25	<25	<25
1,3,5-Trimethylbenzene	<25	<25	<25	<25	<25	<25
1,2,4-Trimethylbenzene	<25	<25	<25	<25	<25	<25
1,3-Dichlorobenzene	<25	<25	<25	<25	<25	<25
1,4-Dichlorobenzene	<25	<25	<25	<25	<25	<25
1,2-Dichlorobenzene	<25	<25	<25	<25	<25	<25
1,2,4-Trichlorobenzene	<25	<25	<25	<25	<25	<25
Naphthalene	<25	<25	<25	<25	<25	<25
1,2,3-Trichlorobenzene	<25	<25	<25	<25	<25	<25
2-Methylnaphthalene	<25	<25	<25	<25	<25	<25
TPH C_5-C_9	<5,000	<5,000	<5,000	<5,000	<5,000	<5,000
TPH C_{10}-C_{15}	**6,368**	**6,433**	**7,746**	**8,468**	<5,000	<5,000

Results in nanograms (ng). J = Values below limit of quantitation (LOQ) but above limit of detection (LOD). B = Detected in method blank.

Table 1

Beacon Environmental Services, Inc.
2203A Commerce Road, Suite 1
Forest Hill, MD 21050 USA

Analysis by EPA Method 8260C

Client Sample ID:	Sect 2-9	Sect 2-10	Sect 2-11	Sect 2-12	Sect 2-13	Sect 2-14
Project Number:	2627	2627	2627	2627	2627	2627
Lab File ID:	C13053034	C13053035	C13053036	C13053037	C13053038	C13053039
Received Date:	5/29/2013	5/29/2013	5/29/2013	5/29/2013	5/29/2013	5/29/2013
Analysis Date:	5/30/2013	5/30/2013	5/30/2013	5/31/2013	5/31/2013	5/31/2013
Analysis Time:	22:58	23:20	23:42	0:03	0:24	0:45
Matrix:	Soil Gas	Soil Gas	Soil Gas	Soil Gas	Soil Gas	Soil Gas
Units:	ng	ng	ng	ng	ng	ng
COMPOUNDS						
Vinyl Chloride	<10	<10	<10	<10	<10	<10
Trichlorofluoromethane (Freon 11)	<25	<25	<25	<25	<25	<25
1,1-Dichloroethene	<10	<10	<10	<10	<10	<10
1,1,2-Trichlorotrifluoroethane (Fr.113)	<25	<25	<25	<25	<25	<25
trans-1,2-Dichloroethene	<10	<10	<10	<10	<10	<10
Methyl-t-butyl ether	<25	<25	<25	<25	<25	<25
1,1-Dichloroethane	<25	<25	<25	<25	<25	<25
cis-1,2-Dichloroethene	<10	<10	<10	<10	<10	<10
Chloroform	**289**	**1,687**	**88**	<25	**346**	**196**
1,2-Dichloroethane	<25	<25	<25	<25	<25	<25
1,1,1-Trichloroethane	<25	<25	<25	<25	<25	<25
Carbon Tetrachloride	<25	<25	<25	<25	<25	<25
Benzene	<25	<25	<25	<25	<25	<25
Trichloroethene	<10	<10	<10	<10	<10	<10
1,4-Dioxane	<25	<25	<25	<25	<25	<25
1,1,2-Trichloroethane	<25	<25	<25	<25	<25	<25
Toluene	<25	<25	<25	<25	<25	<25
1,2-Dibromoethane (EDB)	<25	<25	<25	<25	<25	<25
Tetrachloroethene	<10	<10	<10	<10	<10	<10
1,1,1,2-Tetrachloroethane	<25	<25	<25	<25	<25	<25
Chlorobenzene	<25	<25	<25	<25	<25	<25
Ethylbenzene	<25	<25	<25	<25	<25	<25
p & m-Xylene	<25	<25	<25	<25	<25	<25
1,1,2,2-Tetrachloroethane	<25	<25	<25	<25	<25	<25
o-Xylene	<25	<25	<25	<25	<25	<25
1,2,3-Trichloropropane	<25	<25	<25	<25	<25	<25
Isopropylbenzene	<25	<25	<25	<25	<25	<25
1,3,5-Trimethylbenzene	<25	<25	<25	<25	<25	<25
1,2,4-Trimethylbenzene	<25	<25	<25	<25	<25	<25
1,3-Dichlorobenzene	<25	<25	<25	<25	<25	<25
1,4-Dichlorobenzene	<25	<25	<25	<25	<25	<25
1,2-Dichlorobenzene	<25	<25	<25	<25	<25	<25
1,2,4-Trichlorobenzene	<25	<25	<25	<25	<25	<25
Naphthalene	<25	<25	<25	<25	<25	<25
1,2,3-Trichlorobenzene	<25	<25	<25	<25	<25	<25
2-Methylnaphthalene	<25	<25	<25	<25	<25	<25
TPH C_5-C_9	<5,000	<5,000	<5,000	<5,000	<5,000	<5,000
TPH C_{10}-C_{15}	<5,000	<5,000	<5,000	**6,355**	<5,000	<5,000

Results in nanograms (ng). J = Values below limit of quantitation (LOQ) but above limit of detection (LOD). B = Detected in method blank.

Table 1

Beacon Environmental Services, Inc.
2203A Commerce Road, Suite 1
Forest Hill, MD 21050 USA

Analysis by EPA Method 8260C

Client Sample ID:	Sect 2-15	Sect 2-16	Sect 2-17	Sect 2-18	Sect 2-19	Sect 2-20
Project Number:	2627	2627	2627	2627	2627	2627
Lab File ID:	C13053040	C13053041	C13053042	C13053043	C13053044	C13053045
Received Date:	5/29/2013	5/29/2013	5/29/2013	5/29/2013	5/29/2013	5/29/2013
Analysis Date:	5/31/2013	5/31/2013	5/31/2013	5/31/2013	5/31/2013	5/31/2013
Analysis Time:	1:07	1:28	1:49	2:11	2:32	2:54
Matrix:	Soil Gas	Soil Gas	Soil Gas	Soil Gas	Soil Gas	Soil Gas
Units:	ng	ng	ng	ng	ng	ng
COMPOUNDS						
Vinyl Chloride	<10	<10	<10	<10	<10	<10
Trichlorofluoromethane (Freon 11)	<25	<25	<25	<25	<25	<25
1,1-Dichloroethene	<10	<10	<10	<10	<10	<10
1,1,2-Trichlorotrifluoroethane (Fr.113)	<25	<25	<25	<25	<25	<25
trans-1,2-Dichloroethene	<10	<10	<10	<10	<10	<10
Methyl-t-butyl ether	<25	<25	<25	<25	<25	<25
1,1-Dichloroethane	<25	<25	<25	<25	<25	<25
cis-1,2-Dichloroethene	<10	<10	<10	<10	<10	<10
Chloroform	**359**	**515**	**510**	**136**	**213**	**666**
1,2-Dichloroethane	<25	<25	<25	<25	<25	<25
1,1,1-Trichloroethane	<25	<25	<25	<25	<25	<25
Carbon Tetrachloride	<25	<25	<25	<25	<25	<25
Benzene	<25	<25	<25	<25	<25	<25
Trichloroethene	<10	<10	<10	<10	<10	<10
1,4-Dioxane	<25	<25	<25	<25	<25	<25
1,1,2-Trichloroethane	<25	<25	<25	<25	<25	<25
Toluene	<25	<25	<25	<25	<25	<25
1,2-Dibromoethane (EDB)	<25	<25	<25	<25	<25	<25
Tetrachloroethene	<10	<10	<10	<10	<10	<10
1,1,1,2-Tetrachloroethane	<25	<25	<25	<25	<25	<25
Chlorobenzene	<25	<25	<25	<25	<25	<25
Ethylbenzene	<25	<25	<25	<25	<25	<25
p & m-Xylene	<25	<25	<25	<25	<25	<25
1,1,2,2-Tetrachloroethane	<25	<25	<25	<25	<25	<25
o-Xylene	<25	<25	<25	<25	<25	<25
1,2,3-Trichloropropane	<25	<25	<25	<25	<25	<25
Isopropylbenzene	<25	<25	<25	<25	<25	<25
1,3,5-Trimethylbenzene	<25	<25	<25	<25	<25	<25
1,2,4-Trimethylbenzene	<25	<25	<25	<25	<25	<25
1,3-Dichlorobenzene	<25	<25	<25	<25	<25	<25
1,4-Dichlorobenzene	<25	<25	<25	<25	<25	<25
1,2-Dichlorobenzene	<25	<25	<25	<25	<25	<25
1,2,4-Trichlorobenzene	<25	<25	<25	<25	<25	<25
Naphthalene	<25	<25	<25	<25	<25	<25
1,2,3-Trichlorobenzene	<25	<25	<25	<25	<25	<25
2-Methylnaphthalene	<25	<25	<25	<25	<25	<25
TPH C_5-C_9	<5,000	<5,000	<5,000	<5,000	<5,000	<5,000
TPH C_{10}-C_{15}	<5,000	<5,000	<5,000	<5,000	<5,000	<5,000

Results in nanograms (ng). J = Values below limit of quantitation (LOQ) but above limit of detection (LOD). B = Detected in method blank.

Table 1

Beacon Environmental Services, Inc.
2203A Commerce Road, Suite 1
Forest Hill, MD 21050 USA

Analysis by EPA Method 8260C

Client Sample ID:	Sect 2-21	Sect 2-22	Sect 2-23	Sect 2-24	Sect 2-25	Sect 2-26
Project Number:	2627	2627	2627	2627	2627	2627
Lab File ID:	C13053046	C13053047	C13053048	C13053049	C13053050	C13053051
Received Date:	5/29/2013	5/29/2013	5/29/2013	5/29/2013	5/29/2013	5/29/2013
Analysis Date:	5/31/2013	5/31/2013	5/31/2013	5/31/2013	5/31/2013	5/31/2013
Analysis Time:	3:15	3:37	3:58	4:19	4:40	5:02
Matrix:	Soil Gas	Soil Gas	Soil Gas	Soil Gas	Soil Gas	Soil Gas
Units:	ng	ng	ng	ng	ng	ng
COMPOUNDS						
Vinyl Chloride	<10	<10	<10	<10	<10	<10
Trichlorofluoromethane (Freon 11)	<25	<25	<25	<25	<25	<25
1,1-Dichloroethene	<10	<10	<10	<10	<10	<10
1,1,2-Trichlorotrifluoroethane (Fr.113)	<25	<25	<25	<25	<25	<25
trans-1,2-Dichloroethene	<10	<10	<10	<10	<10	<10
Methyl-t-butyl ether	<25	<25	<25	<25	<25	<25
1,1-Dichloroethane	<25	<25	<25	<25	<25	<25
cis-1,2-Dichloroethene	<10	<10	<10	<10	<10	<10
Chloroform	**71**	**78**	**255**	**174**	**894**	<25
1,2-Dichloroethane	<25	<25	<25	<25	<25	<25
1,1,1-Trichloroethane	<25	<25	<25	<25	<25	<25
Carbon Tetrachloride	<25	<25	<25	<25	<25	<25
Benzene	<25	<25	<25	<25	<25	<25
Trichloroethene	<10	<10	<10	<10	<10	<10
1,4-Dioxane	<25	<25	<25	<25	<25	<25
1,1,2-Trichloroethane	<25	<25	<25	<25	<25	<25
Toluene	<25	<25	<25	<25	<25	<25
1,2-Dibromoethane (EDB)	<25	<25	<25	<25	<25	<25
Tetrachloroethene	<10	<10	<10	<10	<10	<10
1,1,1,2-Tetrachloroethane	<25	<25	<25	<25	<25	<25
Chlorobenzene	<25	<25	<25	<25	<25	<25
Ethylbenzene	<25	<25	<25	<25	<25	<25
p & m-Xylene	<25	<25	<25	<25	<25	<25
1,1,2,2-Tetrachloroethane	<25	<25	<25	<25	<25	<25
o-Xylene	<25	<25	<25	<25	<25	<25
1,2,3-Trichloropropane	<25	<25	<25	<25	<25	<25
Isopropylbenzene	<25	<25	<25	<25	<25	<25
1,3,5-Trimethylbenzene	<25	<25	<25	<25	<25	<25
1,2,4-Trimethylbenzene	<25	<25	<25	<25	<25	<25
1,3-Dichlorobenzene	<25	<25	<25	<25	<25	<25
1,4-Dichlorobenzene	<25	<25	<25	<25	<25	<25
1,2-Dichlorobenzene	<25	<25	<25	<25	<25	<25
1,2,4-Trichlorobenzene	<25	<25	<25	<25	<25	<25
Naphthalene	<25	<25	<25	<25	<25	<25
1,2,3-Trichlorobenzene	<25	<25	<25	<25	<25	<25
2-Methylnaphthalene	<25	<25	<25	<25	<25	<25
TPH C_5-C_9	<5,000	<5,000	<5,000	<5,000	<5,000	<5,000
TPH C_{10}-C_{15}	<5,000	<5,000	<5,000	<5,000	<5,000	**6,997**

Results in nanograms (ng). J = Values below limit of quantitation (LOQ) but above limit of detection (LOD). B = Detected in method blank.

Table 1

Beacon Environmental Services, Inc.
2203A Commerce Road, Suite 1
Forest Hill, MD 21050 USA

Analysis by EPA Method 8260C

Client Sample ID:	Sect 3-1	Sect 3-2	Sect 3-3	Sect 3-4	Sect 3-5	Sect 3-6
Project Number:	2627	2627	2627	2627	2627	2627
Lab File ID:	C13053052	C13053053	C13053054	C13053055	C13053056	C13053057
Received Date:	5/29/2013	5/29/2013	5/29/2013	5/29/2013	5/29/2013	5/29/2013
Analysis Date:	5/31/2013	5/31/2013	5/31/2013	5/31/2013	5/31/2013	5/31/2013
Analysis Time:	5:23	5:44	6:06	6:28	6:49	7:10
Matrix:	Soil Gas	Soil Gas	Soil Gas	Soil Gas	Soil Gas	Soil Gas
Units:	ng	ng	ng	ng	ng	ng
COMPOUNDS						
Vinyl Chloride	<10	<10	<10	<10	<10	<10
Trichlorofluoromethane (Freon 11)	<25	<25	<25	<25	<25	<25
1,1-Dichloroethene	<10	<10	<10	<10	<10	<10
1,1,2-Trichlorotrifluoroethane (Fr.113)	<25	<25	<25	<25	<25	<25
trans-1,2-Dichloroethene	<10	<10	<10	<10	<10	<10
Methyl-t-butyl ether	<25	<25	<25	<25	<25	<25
1,1-Dichloroethane	<25	<25	<25	<25	<25	<25
cis-1,2-Dichloroethene	<10	<10	<10	<10	<10	<10
Chloroform	**29**	<25	<25	**30**	**56**	<25
1,2-Dichloroethane	<25	<25	<25	<25	<25	<25
1,1,1-Trichloroethane	<25	<25	<25	<25	<25	<25
Carbon Tetrachloride	<25	<25	<25	<25	<25	<25
Benzene	<25	<25	<25	<25	<25	<25
Trichloroethene	<10	<10	<10	<10	<10	<10
1,4-Dioxane	<25	<25	<25	<25	<25	<25
1,1,2-Trichloroethane	<25	<25	<25	<25	<25	<25
Toluene	<25	<25	<25	<25	<25	<25
1,2-Dibromoethane (EDB)	<25	<25	<25	<25	<25	<25
Tetrachloroethene	<10	<10	<10	<10	<10	<10
1,1,1,2-Tetrachloroethane	<25	<25	<25	<25	<25	<25
Chlorobenzene	<25	<25	<25	<25	<25	<25
Ethylbenzene	<25	<25	<25	<25	<25	<25
p & m-Xylene	<25	<25	<25	<25	<25	<25
1,1,2,2-Tetrachloroethane	<25	<25	<25	<25	<25	<25
o-Xylene	<25	<25	<25	<25	<25	<25
1,2,3-Trichloropropane	<25	<25	<25	<25	<25	<25
Isopropylbenzene	<25	<25	<25	<25	<25	<25
1,3,5-Trimethylbenzene	<25	<25	<25	<25	<25	<25
1,2,4-Trimethylbenzene	<25	<25	<25	<25	<25	<25
1,3-Dichlorobenzene	<25	<25	<25	<25	<25	<25
1,4-Dichlorobenzene	<25	<25	<25	<25	<25	<25
1,2-Dichlorobenzene	<25	<25	<25	<25	<25	<25
1,2,4-Trichlorobenzene	<25	<25	<25	<25	<25	<25
Naphthalene	<25	<25	<25	<25	<25	<25
1,2,3-Trichlorobenzene	<25	<25	<25	<25	<25	<25
2-Methylnaphthalene	<25	<25	<25	<25	<25	<25
TPH C_5-C_9	<5,000	<5,000	<5,000	<5,000	<5,000	<5,000
TPH C_{10}-C_{15}	**5,659**	<5,000	**5,287**	<5,000	**5,910**	**7,725**

Results in nanograms (ng). J = Values below limit of quantitation (LOQ) but above limit of detection (LOD). B = Detected in method blank.

Table 1

Beacon Environmental Services, Inc.
2203A Commerce Road, Suite 1
Forest Hill, MD 21050 USA

Analysis by EPA Method 8260C

Client Sample ID:	Sect 3-7	Sect 3-8	Sect 3-9	Sect 3-10	Sect 3-11	mb130531c
Project Number:	2627	2627	2627	2627	2627	
Lab File ID:	C13053058	C13053059	C13053060	C13053061	C13053062	C13053103
Received Date:	5/29/2013	5/29/2013	5/29/2013	5/29/2013	5/29/2013	
Analysis Date:	5/31/2013	5/31/2013	5/31/2013	5/31/2013	5/31/2013	5/31/2013
Analysis Time:	7:32	7:53	8:15	8:36	8:57	11:18
Matrix:	Soil Gas	Soil Gas	Soil Gas	Soil Gas	Soil Gas	
Units:	ng	ng	ng	ng	ng	ng
COMPOUNDS						
Vinyl Chloride	<10	<10	<10	<10	<10	<10
Trichlorofluoromethane (Freon 11)	<25	<25	<25	<25	<25	<25
1,1-Dichloroethene	<10	<10	<10	<10	<10	<10
1,1,2-Trichlorotrifluoroethane (Fr.113)	<25	<25	<25	<25	<25	<25
trans-1,2-Dichloroethene	<10	<10	<10	<10	<10	<10
Methyl-t-butyl ether	<25	<25	<25	<25	<25	<25
1,1-Dichloroethane	<25	<25	<25	<25	<25	<25
cis-1,2-Dichloroethene	<10	<10	<10	<10	<10	<10
Chloroform	**577**	**405**	**200**	**410**	**112**	<25
1,2-Dichloroethane	<25	<25	<25	<25	<25	<25
1,1,1-Trichloroethane	<25	<25	<25	<25	<25	<25
Carbon Tetrachloride	<25	<25	<25	<25	<25	<25
Benzene	<25	<25	<25	<25	<25	<25
Trichloroethene	<10	<10	<10	<10	<10	<10
1,4-Dioxane	<25	<25	<25	<25	<25	<25
1,1,2-Trichloroethane	<25	<25	<25	<25	<25	<25
Toluene	<25	<25	<25	<25	<25	<25
1,2-Dibromoethane (EDB)	<25	<25	<25	<25	<25	<25
Tetrachloroethene	<10	<10	<10	<10	**5 J**	<10
1,1,1,2-Tetrachloroethane	<25	<25	<25	<25	<25	<25
Chlorobenzene	<25	<25	<25	<25	<25	<25
Ethylbenzene	<25	<25	<25	<25	<25	<25
p & m-Xylene	<25	<25	<25	<25	<25	<25
1,1,2,2-Tetrachloroethane	<25	<25	<25	<25	<25	<25
o-Xylene	<25	<25	<25	<25	<25	<25
1,2,3-Trichloropropane	<25	<25	<25	<25	<25	<25
Isopropylbenzene	<25	<25	<25	<25	<25	<25
1,3,5-Trimethylbenzene	<25	<25	<25	<25	<25	<25
1,2,4-Trimethylbenzene	<25	<25	<25	<25	<25	<25
1,3-Dichlorobenzene	<25	<25	<25	<25	<25	<25
1,4-Dichlorobenzene	<25	<25	<25	<25	<25	<25
1,2-Dichlorobenzene	<25	<25	<25	<25	<25	<25
1,2,4-Trichlorobenzene	<25	<25	<25	<25	<25	<25
Naphthalene	<25	<25	<25	<25	<25	<25
1,2,3-Trichlorobenzene	<25	<25	<25	<25	<25	<25
2-Methylnaphthalene	<25	<25	<25	<25	<25	<25
TPH C_5-C_9	<5,000	<5,000	<5,000	<5,000	<5,000	<5,000
TPH C_{10}-C_{15}	<5,000	<5,000	<5,000	<5,000	**5,621**	<5,000

Results in nanograms (ng). J = Values below limit of quantitation (LOQ) but above limit of detection (LOD). B = Detected in method blank.

Table 1

Beacon Environmental Services, Inc.
2203A Commerce Road, Suite 1
Forest Hill, MD 21050 USA

Analysis by EPA Method 8260C

Client Sample ID:	Sect 3-12	Sect 3-13	Sect 3-14	Sect 3-15	Sect 3-16	Sect 3-17
Project Number:	2627	2627	2627	2627	2627	2627
Lab File ID:	C13053105	C13053106	C13053107	C13053108	C13053109	C13053110
Received Date:	5/29/2013	5/29/2013	5/29/2013	5/29/2013	5/29/2013	5/29/2013
Analysis Date:	5/31/2013	5/31/2013	5/31/2013	5/31/2013	5/31/2013	5/31/2013
Analysis Time:	12:01	12:22	12:44	13:05	13:26	13:47
Matrix:	Soil Gas	Soil Gas	Soil Gas	Soil Gas	Soil Gas	Soil Gas
Units:	ng	ng	ng	ng	ng	ng
COMPOUNDS						
Vinyl Chloride	<10	<10	<10	<10	<10	<10
Trichlorofluoromethane (Freon 11)	<25	<25	<25	<25	<25	<25
1,1-Dichloroethene	<10	<10	<10	<10	<10	<10
1,1,2-Trichlorotrifluoroethane (Fr.113)	<25	<25	<25	<25	<25	<25
trans-1,2-Dichloroethene	<10	<10	<10	<10	<10	<10
Methyl-t-butyl ether	<25	<25	<25	<25	<25	<25
1,1-Dichloroethane	<25	<25	<25	<25	<25	<25
cis-1,2-Dichloroethene	<10	<10	<10	<10	<10	<10
Chloroform	<25	**386**	**25**	<25	<25	<25
1,2-Dichloroethane	<25	<25	<25	<25	<25	<25
1,1,1-Trichloroethane	<25	<25	<25	<25	<25	<25
Carbon Tetrachloride	<25	<25	<25	<25	<25	<25
Benzene	<25	<25	<25	<25	<25	<25
Trichloroethene	<10	<10	<10	<10	<10	<10
1,4-Dioxane	<25	<25	<25	<25	<25	<25
1,1,2-Trichloroethane	<25	<25	<25	<25	<25	<25
Toluene	<25	<25	<25	<25	<25	<25
1,2-Dibromoethane (EDB)	<25	<25	<25	<25	<25	<25
Tetrachloroethene	<10	<10	<10	<10	**7 J**	**22**
1,1,1,2-Tetrachloroethane	<25	<25	<25	<25	<25	<25
Chlorobenzene	<25	<25	<25	<25	<25	<25
Ethylbenzene	<25	<25	<25	<25	<25	<25
p & m-Xylene	<25	<25	<25	<25	<25	<25
1,1,2,2-Tetrachloroethane	<25	<25	<25	<25	<25	<25
o-Xylene	<25	<25	<25	<25	<25	<25
1,2,3-Trichloropropane	<25	<25	<25	<25	<25	<25
Isopropylbenzene	<25	<25	<25	<25	<25	<25
1,3,5-Trimethylbenzene	<25	<25	<25	<25	<25	<25
1,2,4-Trimethylbenzene	<25	<25	<25	<25	<25	<25
1,3-Dichlorobenzene	<25	<25	<25	<25	<25	<25
1,4-Dichlorobenzene	<25	<25	<25	<25	<25	<25
1,2-Dichlorobenzene	<25	<25	<25	<25	<25	<25
1,2,4-Trichlorobenzene	<25	<25	<25	<25	<25	<25
Naphthalene	<25	<25	<25	<25	<25	<25
1,2,3-Trichlorobenzene	<25	<25	<25	<25	<25	<25
2-Methylnaphthalene	<25	<25	<25	<25	<25	<25
TPH C_5-C_9	<5,000	<5,000	<5,000	<5,000	<5,000	<5,000
TPH C_{10}-C_{15}	<5,000	<5,000	**5,347**	**6,147**	**7,345**	<5,000

Results in nanograms (ng). J = Values below limit of quantitation (LOQ) but above limit of detection (LOD). B = Detected in method blank.

Table 1

Beacon Environmental Services, Inc.
2203A Commerce Road, Suite 1
Forest Hill, MD 21050 USA

Analysis by EPA Method 8260C

Client Sample ID:	Sect 3-18	Sect 3-19	Sect 4-1	Sect 4-2	Sect 4-3	Sect 4-4
Project Number:	2627	2627	2627	2627	2627	2627
Lab File ID:	C13053111	C13053112	C13053113	C13053114	C13053115	C13053116
Received Date:	5/29/2013	5/29/2013	5/29/2013	5/29/2013	5/29/2013	5/29/2013
Analysis Date:	5/31/2013	5/31/2013	5/31/2013	5/31/2013	5/31/2013	5/31/2013
Analysis Time:	14:09	14:30	14:51	15:13	15:35	15:56
Matrix:	Soil Gas	Soil Gas	Soil Gas	Soil Gas	Soil Gas	Soil Gas
Units:	ng	ng	ng	ng	ng	ng
COMPOUNDS						
Vinyl Chloride	<10	<10	<10	<10	<10	<10
Trichlorofluoromethane (Freon 11)	<25	<25	<25	<25	<25	<25
1,1-Dichloroethene	<10	<10	<10	<10	<10	<10
1,1,2-Trichlorotrifluoroethane (Fr.113)	<25	<25	<25	<25	<25	<25
trans-1,2-Dichloroethene	<10	<10	<10	<10	<10	<10
Methyl-t-butyl ether	<25	<25	<25	<25	<25	<25
1,1-Dichloroethane	<25	<25	<25	<25	<25	<25
cis-1,2-Dichloroethene	<10	<10	<10	<10	<10	<10
Chloroform	<25	<25	<25	<25	<25	<25
1,2-Dichloroethane	<25	<25	<25	<25	<25	<25
1,1,1-Trichloroethane	<25	<25	<25	<25	<25	<25
Carbon Tetrachloride	<25	<25	<25	<25	<25	<25
Benzene	<25	<25	<25	<25	<25	<25
Trichloroethene	<10	<10	<10	<10	**6 J**	**10 J**
1,4-Dioxane	<25	<25	<25	<25	<25	<25
1,1,2-Trichloroethane	<25	<25	<25	<25	<25	<25
Toluene	<25	<25	<25	<25	<25	<25
1,2-Dibromoethane (EDB)	<25	<25	<25	<25	<25	<25
Tetrachloroethene	**25**	**9 J**	**13**	**127**	**609**	**553**
1,1,1,2-Tetrachloroethane	<25	<25	<25	<25	<25	<25
Chlorobenzene	<25	<25	<25	<25	<25	<25
Ethylbenzene	<25	<25	<25	<25	<25	<25
p & m-Xylene	<25	<25	<25	<25	<25	<25
1,1,2,2-Tetrachloroethane	<25	<25	<25	<25	<25	<25
o-Xylene	<25	<25	<25	<25	<25	<25
1,2,3-Trichloropropane	<25	<25	<25	<25	<25	<25
Isopropylbenzene	<25	<25	<25	<25	<25	<25
1,3,5-Trimethylbenzene	<25	<25	<25	<25	<25	<25
1,2,4-Trimethylbenzene	<25	<25	<25	<25	<25	<25
1,3-Dichlorobenzene	<25	<25	<25	<25	<25	<25
1,4-Dichlorobenzene	<25	<25	<25	<25	<25	<25
1,2-Dichlorobenzene	<25	<25	<25	<25	<25	<25
1,2,4-Trichlorobenzene	<25	<25	<25	<25	<25	<25
Naphthalene	<25	<25	**42**	<25	<25	<25
1,2,3-Trichlorobenzene	<25	<25	<25	<25	<25	<25
2-Methylnaphthalene	<25	<25	<25	<25	<25	<25
TPH C_5-C_9	<5,000	<5,000	<5,000	<5,000	<5,000	<5,000
TPH C_{10}-C_{15}	**6,536**	**5,393**	**6,503**	**6,410**	**5,932**	<5,000

Results in nanograms (ng). J = Values below limit of quantitation (LOQ) but above limit of detection (LOD). B = Detected in method blank.

Table 1

Beacon Environmental Services, Inc.
2203A Commerce Road, Suite 1
Forest Hill, MD 21050 USA

Analysis by EPA Method 8260C

Client Sample ID:	Sect 4-5	Sect 4-6	Sect 4-6 D	Sect 4-7	Sect 4-8	Sect 4-9
Project Number:	2627	2627	2627	2627	2627	2627
Lab File ID:	C13053117	C13053118	C13053119	C13053120	C13053121	C13053122
Received Date:	5/29/2013	5/29/2013	5/29/2013	5/29/2013	5/29/2013	5/29/2013
Analysis Date:	5/31/2013	5/31/2013	5/31/2013	5/31/2013	5/31/2013	5/31/2013
Analysis Time:	16:17	16:38	16:59	17:21	17:42	18:03
Matrix:	Soil Gas	Soil Gas	Soil Gas	Soil Gas	Soil Gas	Soil Gas
Units:	ng	ng	ng	ng	ng	ng
COMPOUNDS						
Vinyl Chloride	<10	<10	<10	<10	<10	<10
Trichlorofluoromethane (Freon 11)	<25	<25	<25	<25	<25	<25
1,1-Dichloroethene	<10	<10	<10	<10	<10	<10
1,1,2-Trichlorotrifluoroethane (Fr.113)	<25	<25	<25	<25	<25	<25
trans-1,2-Dichloroethene	<10	<10	<10	<10	<10	<10
Methyl-t-butyl ether	<25	<25	<25	<25	<25	<25
1,1-Dichloroethane	<25	<25	<25	<25	<25	<25
cis-1,2-Dichloroethene	<10	<10	<10	<10	<10	<10
Chloroform	<25	**79**	**61**	**43**	**85**	<25
1,2-Dichloroethane	<25	<25	<25	<25	<25	<25
1,1,1-Trichloroethane	<25	<25	<25	<25	<25	<25
Carbon Tetrachloride	<25	<25	<25	<25	<25	<25
Benzene	<25	<25	<25	<25	<25	<25
Trichloroethene	**27**	<10	**8 J**	<10	**10**	<10
1,4-Dioxane	<25	<25	<25	<25	<25	<25
1,1,2-Trichloroethane	<25	<25	<25	<25	<25	<25
Toluene	<25	<25	<25	<25	<25	<25
1,2-Dibromoethane (EDB)	<25	<25	<25	<25	<25	<25
Tetrachloroethene	**1,643**	**96**	**209**	**672**	**5,994**	**204**
1,1,1,2-Tetrachloroethane	<25	<25	<25	<25	<25	<25
Chlorobenzene	<25	<25	<25	<25	<25	<25
Ethylbenzene	<25	<25	<25	<25	<25	<25
p & m-Xylene	<25	<25	<25	<25	<25	<25
1,1,2,2-Tetrachloroethane	<25	<25	<25	<25	<25	<25
o-Xylene	<25	<25	<25	<25	<25	<25
1,2,3-Trichloropropane	<25	<25	<25	<25	<25	<25
Isopropylbenzene	<25	<25	<25	<25	<25	<25
1,3,5-Trimethylbenzene	<25	<25	<25	<25	<25	<25
1,2,4-Trimethylbenzene	<25	<25	<25	<25	<25	<25
1,3-Dichlorobenzene	<25	<25	<25	<25	<25	<25
1,4-Dichlorobenzene	<25	<25	<25	<25	<25	<25
1,2-Dichlorobenzene	<25	<25	<25	<25	<25	<25
1,2,4-Trichlorobenzene	<25	<25	<25	<25	<25	<25
Naphthalene	<25	<25	<25	<25	<25	<25
1,2,3-Trichlorobenzene	<25	<25	<25	<25	<25	<25
2-Methylnaphthalene	<25	<25	<25	<25	<25	<25
TPH C_5-C_9	<5,000	<5,000	<5,000	<5,000	<5,000	<5,000
TPH C_{10}-C_{15}	<5,000	<5,000	<5,000	<5,000	<5,000	**7,706**

Results in nanograms (ng). J = Values below limit of quantitation (LOQ) but above limit of detection (LOD). B = Detected in method blank.

Table 1

Beacon Environmental Services, Inc.
2203A Commerce Road, Suite 1
Forest Hill, MD 21050 USA

Analysis by EPA Method 8260C

Client Sample ID:	Sect 4-10	Sect 4-11	Sect 4-12	Sect 5-1	Sect 5-2	Sect 5-3
Project Number:	2627	2627	2627	2627	2627	2627
Lab File ID:	C13053123	C13053124	C13053125	C13053126	C13053127	C13053128
Received Date:	5/29/2013	5/29/2013	5/29/2013	5/29/2013	5/29/2013	5/29/2013
Analysis Date:	5/31/2013	5/31/2013	5/31/2013	5/31/2013	5/31/2013	5/31/2013
Analysis Time:	18:24	18:46	19:07	19:29	19:50	20:11
Matrix:	Soil Gas	Soil Gas	Soil Gas	Soil Gas	Soil Gas	Soil Gas
Units:	ng	ng	ng	ng	ng	ng
COMPOUNDS						
Vinyl Chloride	<10	<10	<10	<10	<10	<10
Trichlorofluoromethane (Freon 11)	<25	<25	<25	<25	<25	<25
1,1-Dichloroethene	<10	<10	<10	<10	<10	<10
1,1,2-Trichlorotrifluoroethane (Fr.113)	<25	<25	<25	<25	<25	<25
trans-1,2-Dichloroethene	<10	<10	<10	<10	<10	<10
Methyl-t-butyl ether	<25	<25	<25	<25	<25	<25
1,1-Dichloroethane	<25	<25	<25	<25	<25	<25
cis-1,2-Dichloroethene	<10	<10	<10	<10	<10	<10
Chloroform	<25	<25	<25	<25	<25	<25
1,2-Dichloroethane	<25	<25	<25	<25	<25	<25
1,1,1-Trichloroethane	<25	<25	<25	<25	<25	<25
Carbon Tetrachloride	<25	<25	<25	<25	<25	<25
Benzene	<25	<25	<25	<25	<25	<25
Trichloroethene	<10	<10	<10	<10	<10	<10
1,4-Dioxane	<25	<25	<25	<25	<25	<25
1,1,2-Trichloroethane	<25	<25	<25	<25	<25	<25
Toluene	<25	<25	<25	<25	<25	<25
1,2-Dibromoethane (EDB)	<25	<25	<25	<25	<25	<25
Tetrachloroethene	**45**	**63**	**16**	**52**	**54**	**35**
1,1,1,2-Tetrachloroethane	<25	<25	<25	<25	<25	<25
Chlorobenzene	<25	<25	<25	<25	<25	<25
Ethylbenzene	<25	<25	<25	<25	<25	<25
p & m-Xylene	<25	<25	<25	<25	<25	<25
1,1,2,2-Tetrachloroethane	<25	<25	<25	<25	<25	<25
o-Xylene	<25	<25	<25	<25	<25	<25
1,2,3-Trichloropropane	<25	<25	<25	<25	<25	<25
Isopropylbenzene	<25	<25	<25	<25	<25	<25
1,3,5-Trimethylbenzene	<25	<25	<25	<25	<25	<25
1,2,4-Trimethylbenzene	<25	<25	<25	<25	<25	<25
1,3-Dichlorobenzene	<25	<25	<25	<25	<25	<25
1,4-Dichlorobenzene	<25	<25	<25	<25	<25	<25
1,2-Dichlorobenzene	<25	<25	<25	<25	<25	<25
1,2,4-Trichlorobenzene	<25	<25	<25	<25	<25	<25
Naphthalene	<25	<25	**36**	<25	<25	<25
1,2,3-Trichlorobenzene	<25	<25	<25	<25	<25	<25
2-Methylnaphthalene	<25	<25	<25	<25	<25	<25
TPH C_5-C_9	<5,000	<5,000	<5,000	<5,000	<5,000	<5,000
TPH C_{10}-C_{15}	**7,365**	**5,759**	<5,000	**7,989**	<5,000	**5,665**

Results in nanograms (ng). J = Values below limit of quantitation (LOQ) but above limit of detection (LOD). B = Detected in method blank.

Table 1

Beacon Environmental Services, Inc.
2203A Commerce Road, Suite 1
Forest Hill, MD 21050 USA

Analysis by EPA Method 8260C

Client Sample ID:	Sect 5-4	Sect 5-5	Sect 5-6	Sect 5-7	Sect 5-8	Sect 5-9
Project Number:	2627	2627	2627	2627	2627	2627
Lab File ID:	C13053129	C13053130	C13053131	C13053132	C13053133	C13053134
Received Date:	5/29/2013	5/29/2013	5/29/2013	5/29/2013	5/29/2013	5/29/2013
Analysis Date:	5/31/2013	5/31/2013	5/31/2013	5/31/2013	5/31/2013	5/31/2013
Analysis Time:	20:32	20:54	21:15	21:37	21:58	22:19
Matrix:	Soil Gas	Soil Gas	Soil Gas	Soil Gas	Soil Gas	Soil Gas
Units:	ng	ng	ng	ng	ng	ng
COMPOUNDS						
Vinyl Chloride	<10	<10	<10	<10	<10	<10
Trichlorofluoromethane (Freon 11)	<25	<25	<25	<25	<25	<25
1,1-Dichloroethene	<10	<10	<10	<10	<10	<10
1,1,2-Trichlorotrifluoroethane (Fr.113)	<25	<25	<25	<25	<25	<25
trans-1,2-Dichloroethene	<10	<10	<10	<10	<10	<10
Methyl-t-butyl ether	<25	<25	<25	<25	<25	<25
1,1-Dichloroethane	<25	<25	<25	<25	<25	<25
cis-1,2-Dichloroethene	<10	<10	<10	<10	<10	<10
Chloroform	<25	<25	**344**	**233**	**1,268**	<25
1,2-Dichloroethane	<25	<25	<25	<25	<25	<25
1,1,1-Trichloroethane	<25	<25	<25	<25	<25	<25
Carbon Tetrachloride	<25	<25	<25	<25	<25	<25
Benzene	<25	<25	**158**	<25	<25	<25
Trichloroethene	<10	<10	<10	<10	<10	<10
1,4-Dioxane	<25	<25	<25	<25	<25	<25
1,1,2-Trichloroethane	<25	<25	<25	<25	<25	<25
Toluene	<25	<25	**180**	<25	<25	<25
1,2-Dibromoethane (EDB)	<25	<25	<25	<25	<25	<25
Tetrachloroethene	**81**	**69**	**38**	**34**	**11**	**34**
1,1,1,2-Tetrachloroethane	<25	<25	<25	<25	<25	<25
Chlorobenzene	<25	<25	<25	<25	<25	<25
Ethylbenzene	<25	<25	<25	<25	<25	<25
p & m-Xylene	<25	<25	<25	<25	<25	<25
1,1,2,2-Tetrachloroethane	<25	<25	<25	<25	<25	<25
o-Xylene	<25	<25	<25	<25	<25	<25
1,2,3-Trichloropropane	<25	<25	<25	<25	<25	<25
Isopropylbenzene	<25	<25	<25	<25	<25	<25
1,3,5-Trimethylbenzene	<25	<25	<25	<25	<25	<25
1,2,4-Trimethylbenzene	<25	<25	**28**	<25	<25	<25
1,3-Dichlorobenzene	<25	<25	<25	<25	<25	<25
1,4-Dichlorobenzene	<25	<25	<25	<25	<25	<25
1,2-Dichlorobenzene	<25	<25	<25	<25	<25	<25
1,2,4-Trichlorobenzene	<25	<25	<25	<25	<25	<25
Naphthalene	<25	<25	<25	<25	<25	<25
1,2,3-Trichlorobenzene	<25	<25	<25	<25	<25	<25
2-Methylnaphthalene	<25	<25	<25	<25	<25	<25
TPH C_5-C_9	<5,000	<5,000	**396,714**	<5,000	<5,000	<5,000
TPH C_{10}-C_{15}	**6,712**	**5,680**	<5,000	<5,000	**5,145**	**6,153**

Results in nanograms (ng). J = Values below limit of quantitation (LOQ) but above limit of detection (LOD). B = Detected in method blank.

Table 1

Beacon Environmental Services, Inc.
2203A Commerce Road, Suite 1
Forest Hill, MD 21050 USA

Analysis by EPA Method 8260C

Client Sample ID:	mb130607c	Trip-4	Trip-5	Sect 6-1	Sect 6-2	Sect 6-3
Project Number:		2627	2627	2627	2627	2627
Lab File ID:	C13060703	C13060705	C13060706	C13060707	C13060708	C13060709
Received Date:		6/4/2013	6/4/2013	6/4/2013	6/4/2013	6/4/2013
Analysis Date:	6/7/2013	6/7/2013	6/7/2013	6/7/2013	6/7/2013	6/7/2013
Analysis Time:	15:44	16:25	16:46	17:07	17:29	17:50
Matrix:				Soil Gas	Soil Gas	Soil Gas
Units:	ng	ng	ng	ng	ng	ng
COMPOUNDS						
Vinyl Chloride	<10	<10	<10	<10	<10	<10
Trichlorofluoromethane (Freon 11)	<25	<25	<25	<25	<25	<25
1,1-Dichloroethene	<10	<10	<10	<10	<10	<10
1,1,2-Trichlorotrifluoroethane (Fr.113)	<25	<25	<25	<25	<25	<25
trans-1,2-Dichloroethene	<10	<10	<10	<10	<10	<10
Methyl-t-butyl ether	<25	<25	<25	<25	<25	<25
1,1-Dichloroethane	<25	<25	<25	<25	<25	<25
cis-1,2-Dichloroethene	<10	<10	<10	<10	<10	<10
Chloroform	<25	<25	<25	**675**	<25	**41**
1,2-Dichloroethane	<25	<25	<25	<25	<25	<25
1,1,1-Trichloroethane	<25	<25	<25	<25	<25	<25
Carbon Tetrachloride	<25	<25	<25	<25	<25	<25
Benzene	<25	<25	<25	<25	<25	<25
Trichloroethene	<10	<10	<10	<10	<10	<10
1,4-Dioxane	<25	<25	<25	<25	<25	<25
1,1,2-Trichloroethane	<25	<25	<25	<25	<25	<25
Toluene	<25	<25	<25	<25	<25	<25
1,2-Dibromoethane (EDB)	<25	<25	<25	<25	<25	<25
Tetrachloroethene	<10	<10	<10	<10	**8 J**	**7 J**
1,1,1,2-Tetrachloroethane	<25	<25	<25	<25	<25	<25
Chlorobenzene	<25	<25	<25	<25	<25	<25
Ethylbenzene	<25	<25	<25	<25	<25	<25
p & m-Xylene	<25	<25	<25	<25	<25	<25
1,1,2,2-Tetrachloroethane	<25	<25	<25	<25	<25	<25
o-Xylene	<25	<25	<25	<25	<25	<25
1,2,3-Trichloropropane	<25	<25	<25	<25	<25	<25
Isopropylbenzene	<25	<25	<25	<25	<25	<25
1,3,5-Trimethylbenzene	<25	<25	<25	<25	<25	<25
1,2,4-Trimethylbenzene	<25	<25	<25	<25	<25	<25
1,3-Dichlorobenzene	<25	<25	<25	<25	<25	<25
1,4-Dichlorobenzene	<25	<25	<25	<25	<25	<25
1,2-Dichlorobenzene	<25	<25	<25	<25	<25	<25
1,2,4-Trichlorobenzene	<25	<25	<25	<25	<25	<25
Naphthalene	<25	<25	<25	<25	<25	<25
1,2,3-Trichlorobenzene	<25	<25	<25	<25	<25	<25
2-Methylnaphthalene	<25	<25	<25	<25	<25	<25
TPH C_5-C_9	<5,000	<5,000	<5,000	<5,000	<5,000	<5,000
TPH C_{10}-C_{15}	<5,000	<5,000	<5,000	<5,000	<5,000	<5,000

Results in nanograms (ng). J = Values below limit of quantitation (LOQ) but above limit of detection (LOD). B = Detected in method blank.

Table 1

Beacon Environmental Services, Inc.
2203A Commerce Road, Suite 1
Forest Hill, MD 21050 USA

Analysis by EPA Method 8260C

Client Sample ID:	Sect 6-4	Sect 6-5	Sect 6-6	Sect 6-7	Sect 6-8	Sect 6-9
Project Number:	2627	2627	2627	2627	2627	2627
Lab File ID:	C13060710	C13060711	C13060712	C13060713	C13060714	C13060715
Received Date:	6/4/2013	6/4/2013	6/4/2013	6/4/2013	6/4/2013	6/4/2013
Analysis Date:	6/7/2013	6/7/2013	6/7/2013	6/7/2013	6/7/2013	6/7/2013
Analysis Time:	18:11	18:32	18:54	19:15	19:36	19:58
Matrix:	Soil Gas	Soil Gas	Soil Gas	Soil Gas	Soil Gas	Soil Gas
Units:	ng	ng	ng	ng	ng	ng
COMPOUNDS						
Vinyl Chloride	<10	<10	<10	<10	<10	<10
Trichlorofluoromethane (Freon 11)	<25	<25	<25	<25	<25	<25
1,1-Dichloroethene	<10	<10	<10	<10	<10	<10
1,1,2-Trichlorotrifluoroethane (Fr.113)	<25	<25	<25	<25	<25	<25
trans-1,2-Dichloroethene	<10	<10	<10	<10	<10	<10
Methyl-t-butyl ether	<25	<25	<25	<25	<25	<25
1,1-Dichloroethane	<25	<25	<25	<25	<25	<25
cis-1,2-Dichloroethene	<10	<10	<10	<10	<10	<10
Chloroform	<25	<25	<25	**28**	<25	**38**
1,2-Dichloroethane	<25	<25	<25	<25	<25	<25
1,1,1-Trichloroethane	<25	<25	<25	<25	<25	<25
Carbon Tetrachloride	<25	<25	<25	<25	<25	<25
Benzene	<25	<25	<25	<25	<25	<25
Trichloroethene	<10	<10	<10	<10	<10	<10
1,4-Dioxane	<25	<25	<25	<25	<25	<25
1,1,2-Trichloroethane	<25	<25	<25	<25	<25	<25
Toluene	<25	<25	<25	<25	<25	<25
1,2-Dibromoethane (EDB)	<25	<25	<25	<25	<25	<25
Tetrachloroethene	**25**	**8 J**	**38**	**83**	**185**	**104**
1,1,1,2-Tetrachloroethane	<25	<25	<25	<25	<25	<25
Chlorobenzene	<25	<25	<25	<25	<25	<25
Ethylbenzene	<25	<25	<25	<25	<25	<25
p & m-Xylene	<25	<25	<25	<25	<25	<25
1,1,2,2-Tetrachloroethane	<25	<25	<25	<25	<25	<25
o-Xylene	<25	<25	<25	<25	<25	<25
1,2,3-Trichloropropane	<25	<25	<25	<25	<25	<25
Isopropylbenzene	<25	<25	<25	<25	<25	<25
1,3,5-Trimethylbenzene	<25	<25	<25	<25	<25	<25
1,2,4-Trimethylbenzene	<25	<25	<25	<25	<25	<25
1,3-Dichlorobenzene	<25	<25	<25	<25	<25	<25
1,4-Dichlorobenzene	<25	<25	<25	<25	<25	<25
1,2-Dichlorobenzene	<25	<25	<25	<25	<25	<25
1,2,4-Trichlorobenzene	<25	<25	<25	<25	<25	<25
Naphthalene	<25	<25	<25	<25	<25	<25
1,2,3-Trichlorobenzene	<25	<25	<25	<25	<25	<25
2-Methylnaphthalene	<25	<25	<25	<25	<25	<25
TPH C_5-C_9	<5,000	<5,000	<5,000	<5,000	<5,000	<5,000
TPH C_{10}-C_{15}	<5,000	<5,000	<5,000	**5,338**	<5,000	<5,000

Results in nanograms (ng). J = Values below limit of quantitation (LOQ) but above limit of detection (LOD). B = Detected in method blank.

Table 1

Beacon Environmental Services, Inc.
2203A Commerce Road, Suite 1
Forest Hill, MD 21050 USA

Analysis by EPA Method 8260C

Client Sample ID:	Sect 6-9 DUP	Sect 6-10	Sect 6-11	Sect 6-12	Sect 6-13	Sect 6-14
Project Number:	2627	2627	2627	2627	2627	2627
Lab File ID:	C13060716	C13060717	C13060718	C13060719	C13060720	C13060721
Received Date:	6/4/2013	6/4/2013	6/4/2013	6/4/2013	6/4/2013	6/4/2013
Analysis Date:	6/7/2013	6/7/2013	6/7/2013	6/7/2013	6/7/2013	6/7/2013
Analysis Time:	20:19	20:40	21:02	21:23	21:44	22:05
Matrix:	Soil Gas	Soil Gas	Soil Gas	Soil Gas	Soil Gas	Soil Gas
Units:	ng	ng	ng	ng	ng	ng
COMPOUNDS						
Vinyl Chloride	<10	<10	<10	<10	<10	<10
Trichlorofluoromethane (Freon 11)	<25	<25	<25	<25	<25	<25
1,1-Dichloroethene	<10	<10	<10	<10	<10	<10
1,1,2-Trichlorotrifluoroethane (Fr.113)	<25	<25	<25	<25	<25	<25
trans-1,2-Dichloroethene	<10	<10	<10	<10	<10	<10
Methyl-t-butyl ether	<25	<25	<25	<25	<25	<25
1,1-Dichloroethane	<25	<25	<25	<25	<25	<25
cis-1,2-Dichloroethene	<10	<10	<10	<10	<10	<10
Chloroform	**25**	<25	**81**	<25	<25	<25
1,2-Dichloroethane	<25	<25	<25	<25	<25	<25
1,1,1-Trichloroethane	<25	<25	<25	<25	<25	<25
Carbon Tetrachloride	<25	<25	<25	<25	<25	<25
Benzene	<25	<25	<25	<25	<25	<25
Trichloroethene	<10	<10	<10	<10	<10	<10
1,4-Dioxane	<25	<25	<25	<25	<25	<25
1,1,2-Trichloroethane	<25	<25	<25	<25	<25	<25
Toluene	<25	<25	<25	<25	<25	<25
1,2-Dibromoethane (EDB)	<25	<25	<25	<25	<25	<25
Tetrachloroethene	**152**	**380**	**168**	**153**	**27**	**12**
1,1,1,2-Tetrachloroethane	<25	<25	<25	<25	<25	<25
Chlorobenzene	<25	<25	<25	<25	<25	<25
Ethylbenzene	<25	<25	<25	<25	<25	<25
p & m-Xylene	<25	<25	<25	<25	<25	<25
1,1,2,2-Tetrachloroethane	<25	<25	<25	<25	<25	<25
o-Xylene	<25	<25	<25	<25	<25	<25
1,2,3-Trichloropropane	<25	<25	<25	<25	<25	<25
Isopropylbenzene	<25	<25	<25	<25	<25	<25
1,3,5-Trimethylbenzene	<25	<25	<25	<25	<25	<25
1,2,4-Trimethylbenzene	<25	<25	<25	<25	<25	<25
1,3-Dichlorobenzene	<25	<25	<25	<25	<25	<25
1,4-Dichlorobenzene	<25	<25	<25	<25	<25	<25
1,2-Dichlorobenzene	<25	<25	<25	<25	<25	<25
1,2,4-Trichlorobenzene	<25	<25	<25	<25	<25	<25
Naphthalene	<25	<25	<25	<25	<25	<25
1,2,3-Trichlorobenzene	<25	<25	<25	<25	<25	<25
2-Methylnaphthalene	<25	<25	<25	<25	<25	<25
TPH C_5-C_9	<5,000	<5,000	<5,000	<5,000	<5,000	<5,000
TPH C_{10}-C_{15}	<5,000	<5,000	<5,000	<5,000	<5,000	<5,000

Results in nanograms (ng). J = Values below limit of quantitation (LOQ) but above limit of detection (LOD). B = Detected in method blank.

Table 1

Beacon Environmental Services, Inc.
2203A Commerce Road, Suite 1
Forest Hill, MD 21050 USA

Analysis by EPA Method 8260C

Client Sample ID:	Sect 6-15	Sect 6-16	Sect 6-17	Sect 6-18	Sect 6-19	Sect 6-20
Project Number:	2627	2627	2627	2627	2627	2627
Lab File ID:	C13060722	C13060723	C13060724	C13060725	C13060726	C13060727
Received Date:	6/4/2013	6/4/2013	6/4/2013	6/4/2013	6/4/2013	6/4/2013
Analysis Date:	6/7/2013	6/7/2013	6/7/2013	6/7/2013	6/7/2013	6/8/2013
Analysis Time:	22:27	22:48	23:09	23:31	23:56	0:18
Matrix:	Soil Gas	Soil Gas	Soil Gas	Soil Gas	Soil Gas	Soil Gas
Units:	ng	ng	ng	ng	ng	ng
COMPOUNDS						
Vinyl Chloride	<10	<10	<10	<10	<10	<10
Trichlorofluoromethane (Freon 11)	<25	<25	<25	<25	<25	<25
1,1-Dichloroethene	<10	<10	<10	<10	<10	<10
1,1,2-Trichlorotrifluoroethane (Fr.113)	<25	<25	<25	<25	<25	<25
trans-1,2-Dichloroethene	<10	<10	<10	<10	<10	<10
Methyl-t-butyl ether	<25	<25	<25	<25	<25	<25
1,1-Dichloroethane	<25	<25	<25	<25	<25	<25
cis-1,2-Dichloroethene	<10	<10	<10	<10	<10	<10
Chloroform	**26**	<25	<25	<25	<25	<25
1,2-Dichloroethane	<25	<25	<25	<25	<25	<25
1,1,1-Trichloroethane	<25	<25	<25	<25	<25	<25
Carbon Tetrachloride	<25	<25	<25	<25	<25	<25
Benzene	<25	<25	<25	<25	<25	<25
Trichloroethene	<10	<10	<10	<10	<10	<10
1,4-Dioxane	<25	<25	<25	<25	<25	<25
1,1,2-Trichloroethane	<25	<25	<25	<25	<25	<25
Toluene	<25	<25	<25	<25	<25	<25
1,2-Dibromoethane (EDB)	<25	<25	<25	<25	<25	<25
Tetrachloroethene	**14**	**8 J**	<10	**5 J**	<10	<10
1,1,1,2-Tetrachloroethane	<25	<25	<25	<25	<25	<25
Chlorobenzene	<25	<25	<25	<25	<25	<25
Ethylbenzene	<25	<25	<25	<25	<25	<25
p & m-Xylene	<25	<25	<25	<25	<25	<25
1,1,2,2-Tetrachloroethane	<25	<25	<25	<25	<25	<25
o-Xylene	<25	<25	<25	<25	<25	<25
1,2,3-Trichloropropane	<25	<25	<25	<25	<25	<25
Isopropylbenzene	<25	<25	<25	<25	<25	<25
1,3,5-Trimethylbenzene	<25	<25	<25	<25	<25	<25
1,2,4-Trimethylbenzene	<25	<25	<25	<25	<25	<25
1,3-Dichlorobenzene	<25	<25	<25	<25	<25	<25
1,4-Dichlorobenzene	<25	<25	<25	<25	<25	<25
1,2-Dichlorobenzene	<25	<25	<25	<25	<25	<25
1,2,4-Trichlorobenzene	<25	<25	<25	<25	<25	<25
Naphthalene	<25	<25	<25	<25	<25	<25
1,2,3-Trichlorobenzene	<25	<25	<25	<25	<25	<25
2-Methylnaphthalene	<25	<25	<25	<25	<25	<25
TPH C_5-C_9	<5,000	<5,000	<5,000	<5,000	<5,000	<5,000
TPH C_{10}-C_{15}	<5,000	<5,000	<5,000	<5,000	<5,000	<5,000

Results in nanograms (ng). J = Values below limit of quantitation (LOQ) but above limit of detection (LOD). B = Detected in method blank.

Table 1

Beacon Environmental Services, Inc.
2203A Commerce Road, Suite 1
Forest Hill, MD 21050 USA

Analysis by EPA Method 8260C

Client Sample ID:	Sect 6-21	Sect 6-22	Sect 6-23	Sect 6-24	Sect 6-25	Sect 7-1
Project Number:	2627	2627	2627	2627	2627	2627
Lab File ID:	C13060728	C13060729	C13060730	C13060731	C13060732	C13060733
Received Date:	6/4/2013	6/4/2013	6/4/2013	6/4/2013	6/4/2013	6/4/2013
Analysis Date:	6/8/2013	6/8/2013	6/8/2013	6/8/2013	6/8/2013	6/8/2013
Analysis Time:	0:39	1:00	1:21	1:43	2:04	2:25
Matrix:	Soil Gas	Soil Gas	Soil Gas	Soil Gas	Soil Gas	Soil Gas
Units:	ng	ng	ng	ng	ng	ng
COMPOUNDS						
Vinyl Chloride	<10	<10	<10	<10	<10	<10
Trichlorofluoromethane (Freon 11)	<25	<25	<25	<25	<25	<25
1,1-Dichloroethene	<10	<10	<10	<10	<10	<10
1,1,2-Trichlorotrifluoroethane (Fr.113)	<25	<25	<25	<25	<25	<25
trans-1,2-Dichloroethene	<10	<10	<10	<10	<10	<10
Methyl-t-butyl ether	<25	<25	<25	<25	<25	<25
1,1-Dichloroethane	<25	<25	<25	<25	<25	<25
cis-1,2-Dichloroethene	<10	<10	<10	<10	<10	<10
Chloroform	<25	<25	<25	<25	<25	<25
1,2-Dichloroethane	<25	<25	<25	<25	<25	<25
1,1,1-Trichloroethane	<25	<25	<25	<25	<25	<25
Carbon Tetrachloride	<25	<25	<25	<25	<25	<25
Benzene	<25	<25	<25	<25	<25	<25
Trichloroethene	<10	<10	<10	<10	<10	<10
1,4-Dioxane	<25	<25	<25	<25	<25	<25
1,1,2-Trichloroethane	<25	<25	<25	<25	<25	<25
Toluene	<25	<25	<25	<25	<25	<25
1,2-Dibromoethane (EDB)	<25	<25	<25	<25	<25	<25
Tetrachloroethene	<10	<10	**7 J**	<10	<10	**7 J**
1,1,1,2-Tetrachloroethane	<25	<25	<25	<25	<25	<25
Chlorobenzene	<25	<25	<25	<25	<25	<25
Ethylbenzene	<25	<25	<25	<25	<25	<25
p & m-Xylene	<25	<25	<25	<25	<25	<25
1,1,2,2-Tetrachloroethane	<25	<25	<25	<25	<25	<25
o-Xylene	<25	<25	<25	<25	<25	<25
1,2,3-Trichloropropane	<25	<25	<25	<25	<25	<25
Isopropylbenzene	<25	<25	<25	<25	<25	<25
1,3,5-Trimethylbenzene	<25	<25	<25	<25	<25	<25
1,2,4-Trimethylbenzene	<25	<25	<25	<25	<25	<25
1,3-Dichlorobenzene	<25	<25	<25	<25	<25	<25
1,4-Dichlorobenzene	<25	<25	<25	<25	<25	<25
1,2-Dichlorobenzene	<25	<25	<25	<25	<25	<25
1,2,4-Trichlorobenzene	<25	<25	<25	<25	<25	<25
Naphthalene	<25	<25	<25	<25	<25	<25
1,2,3-Trichlorobenzene	<25	<25	<25	<25	<25	<25
2-Methylnaphthalene	<25	<25	<25	<25	<25	<25
TPH C_5-C_9	<5,000	<5,000	<5,000	<5,000	<5,000	<5,000
TPH C_{10}-C_{15}	<5,000	**5,453**	**5,262**	<5,000	<5,000	<5,000

Results in nanograms (ng). J = Values below limit of quantitation (LOQ) but above limit of detection (LOD). B = Detected in method blank.

Table 1

Beacon Environmental Services, Inc.
2203A Commerce Road, Suite 1
Forest Hill, MD 21050 USA

Analysis by EPA Method 8260C

Client Sample ID:	Sect 7-2	Sect 7-3	Sect 7-4	Sect 7-5	Sect 7-6	Sect 7-7
Project Number:	2627	2627	2627	2627	2627	2627
Lab File ID:	C13060734	C13060735	C13060736	C13060737	C13060738	C13060739
Received Date:	6/4/2013	6/4/2013	6/4/2013	6/4/2013	6/4/2013	6/4/2013
Analysis Date:	6/8/2013	6/8/2013	6/8/2013	6/8/2013	6/8/2013	6/8/2013
Analysis Time:	2:49	3:11	3:32	3:54	4:15	4:36
Matrix:	Soil Gas	Soil Gas	Soil Gas	Soil Gas	Soil Gas	Soil Gas
Units:	ng	ng	ng	ng	ng	ng
COMPOUNDS						
Vinyl Chloride	<10	<10	<10	<10	<10	<10
Trichlorofluoromethane (Freon 11)	<25	<25	<25	<25	<25	<25
1,1-Dichloroethene	<10	<10	<10	<10	<10	<10
1,1,2-Trichlorotrifluoroethane (Fr.113)	<25	<25	<25	<25	<25	<25
trans-1,2-Dichloroethene	<10	<10	<10	<10	<10	<10
Methyl-t-butyl ether	<25	<25	<25	<25	<25	<25
1,1-Dichloroethane	<25	<25	<25	<25	<25	<25
cis-1,2-Dichloroethene	<10	<10	<10	<10	<10	<10
Chloroform	**46**	<25	**73**	<25	**151**	**199**
1,2-Dichloroethane	<25	<25	<25	<25	<25	<25
1,1,1-Trichloroethane	<25	<25	<25	<25	<25	<25
Carbon Tetrachloride	<25	<25	<25	<25	<25	<25
Benzene	<25	<25	<25	<25	<25	<25
Trichloroethene	<10	<10	<10	<10	<10	<10
1,4-Dioxane	<25	<25	<25	<25	<25	<25
1,1,2-Trichloroethane	<25	<25	<25	<25	<25	<25
Toluene	<25	<25	<25	<25	<25	<25
1,2-Dibromoethane (EDB)	<25	<25	<25	<25	<25	<25
Tetrachloroethene	<10	<10	<10	<10	<10	<10
1,1,1,2-Tetrachloroethane	<25	<25	<25	<25	<25	<25
Chlorobenzene	<25	<25	<25	<25	<25	<25
Ethylbenzene	<25	<25	<25	<25	<25	<25
p & m-Xylene	<25	<25	<25	<25	<25	<25
1,1,2,2-Tetrachloroethane	<25	<25	<25	<25	<25	<25
o-Xylene	<25	<25	<25	<25	<25	<25
1,2,3-Trichloropropane	<25	<25	<25	<25	<25	<25
Isopropylbenzene	<25	<25	<25	<25	<25	<25
1,3,5-Trimethylbenzene	<25	<25	<25	<25	<25	<25
1,2,4-Trimethylbenzene	<25	<25	<25	<25	<25	<25
1,3-Dichlorobenzene	<25	<25	<25	<25	<25	<25
1,4-Dichlorobenzene	<25	<25	<25	<25	<25	<25
1,2-Dichlorobenzene	<25	<25	<25	<25	<25	<25
1,2,4-Trichlorobenzene	<25	<25	<25	<25	<25	<25
Naphthalene	<25	<25	<25	<25	<25	<25
1,2,3-Trichlorobenzene	<25	<25	<25	<25	<25	<25
2-Methylnaphthalene	<25	<25	<25	<25	<25	<25
TPH C_5-C_9	<5,000	<5,000	<5,000	<5,000	<5,000	<5,000
TPH C_{10}-C_{15}	<5,000	<5,000	<5,000	<5,000	<5,000	<5,000

Results in nanograms (ng). J = Values below limit of quantitation (LOQ) but above limit of detection (LOD). B = Detected in method blank.

Table 1

Beacon Environmental Services, Inc.
2203A Commerce Road, Suite 1
Forest Hill, MD 21050 USA

Analysis by EPA Method 8260C

Client Sample ID:	Sect 7-8	Sect 7-9	Sect 7-10	Sect 7-11	Sect 7-12	Sect 8-1
Project Number:	2627	2627	2627	2627	2627	2627
Lab File ID:	C13060740	C13060741	C13060742	C13060743	C13060744	C13060745
Received Date:	6/4/2013	6/4/2013	6/4/2013	6/4/2013	6/4/2013	6/4/2013
Analysis Date:	6/8/2013	6/8/2013	6/8/2013	6/8/2013	6/8/2013	6/8/2013
Analysis Time:	4:58	5:19	5:40	6:02	6:23	6:45
Matrix:	Soil Gas	Soil Gas	Soil Gas	Soil Gas	Soil Gas	Soil Gas
Units:	ng	ng	ng	ng	ng	ng
COMPOUNDS						
Vinyl Chloride	<10	<10	<10	<10	<10	<10
Trichlorofluoromethane (Freon 11)	<25	<25	<25	<25	<25	<25
1,1-Dichloroethene	<10	<10	<10	<10	<10	<10
1,1,2-Trichlorotrifluoroethane (Fr.113)	<25	<25	<25	<25	<25	<25
trans-1,2-Dichloroethene	<10	<10	<10	<10	<10	<10
Methyl-t-butyl ether	<25	<25	<25	<25	<25	<25
1,1-Dichloroethane	<25	<25	<25	<25	<25	<25
cis-1,2-Dichloroethene	<10	<10	<10	<10	<10	<10
Chloroform	**382**	**192**	**58**	<25	<25	<25
1,2-Dichloroethane	<25	<25	<25	<25	<25	<25
1,1,1-Trichloroethane	<25	<25	<25	<25	<25	<25
Carbon Tetrachloride	<25	<25	<25	<25	<25	<25
Benzene	<25	<25	<25	<25	<25	<25
Trichloroethene	<10	<10	<10	<10	<10	<10
1,4-Dioxane	<25	<25	<25	<25	<25	<25
1,1,2-Trichloroethane	<25	<25	<25	<25	<25	<25
Toluene	<25	<25	<25	<25	<25	<25
1,2-Dibromoethane (EDB)	<25	<25	<25	<25	<25	<25
Tetrachloroethene	<10	<10	<10	**10 J**	**18**	<10
1,1,1,2-Tetrachloroethane	<25	<25	<25	<25	<25	<25
Chlorobenzene	<25	<25	<25	<25	<25	<25
Ethylbenzene	<25	<25	<25	<25	<25	<25
p & m-Xylene	<25	<25	<25	<25	<25	<25
1,1,2,2-Tetrachloroethane	<25	<25	<25	<25	<25	<25
o-Xylene	<25	<25	<25	<25	<25	<25
1,2,3-Trichloropropane	<25	<25	<25	<25	<25	<25
Isopropylbenzene	<25	<25	<25	<25	<25	<25
1,3,5-Trimethylbenzene	<25	<25	<25	<25	<25	<25
1,2,4-Trimethylbenzene	<25	<25	<25	<25	<25	<25
1,3-Dichlorobenzene	<25	<25	<25	<25	<25	<25
1,4-Dichlorobenzene	<25	<25	<25	<25	<25	<25
1,2-Dichlorobenzene	<25	<25	<25	<25	<25	<25
1,2,4-Trichlorobenzene	<25	<25	<25	<25	<25	<25
Naphthalene	<25	<25	<25	<25	<25	**29**
1,2,3-Trichlorobenzene	<25	<25	<25	<25	<25	<25
2-Methylnaphthalene	<25	<25	<25	<25	<25	<25
TPH C_5-C_9	<5,000	<5,000	<5,000	<5,000	<5,000	<5,000
TPH C_{10}-C_{15}	<5,000	**5,320**	<5,000	**8,014**	**8,273**	**7,389**

Results in nanograms (ng). J = Values below limit of quantitation (LOQ) but above limit of detection (LOD). B = Detected in method blank.

Table 1

Beacon Environmental Services, Inc.
2203A Commerce Road, Suite 1
Forest Hill, MD 21050 USA

Analysis by EPA Method 8260C

Client Sample ID:	Sect 8-2	Sect 8-3	Sect 8-4	Sect 8-5	Sect 8-6	Sect 8-7
Project Number:	2627	2627	2627	2627	2627	2627
Lab File ID:	C13060746	C13060747	C13060748	C13060749	C13060750	C13060751
Received Date:	6/4/2013	6/4/2013	6/4/2013	6/4/2013	6/4/2013	6/4/2013
Analysis Date:	6/8/2013	6/8/2013	6/8/2013	6/8/2013	6/8/2013	6/8/2013
Analysis Time:	7:06	7:27	7:47	8:09	8:30	8:53
Matrix:	Soil Gas	Soil Gas	Soil Gas	Soil Gas	Soil Gas	Soil Gas
Units:	ng	ng	ng	ng	ng	ng
COMPOUNDS						
Vinyl Chloride	<10	<10	<10	<10	<10	<10
Trichlorofluoromethane (Freon 11)	<25	<25	<25	<25	<25	<25
1,1-Dichloroethene	<10	<10	<10	<10	<10	<10
1,1,2-Trichlorotrifluoroethane (Fr.113)	<25	<25	<25	<25	<25	<25
trans-1,2-Dichloroethene	<10	<10	<10	<10	<10	<10
Methyl-t-butyl ether	<25	<25	<25	<25	<25	<25
1,1-Dichloroethane	<25	<25	<25	<25	<25	<25
cis-1,2-Dichloroethene	<10	<10	<10	<10	<10	<10
Chloroform	<25	<25	<25	<25	**245**	**80**
1,2-Dichloroethane	<25	<25	<25	<25	<25	<25
1,1,1-Trichloroethane	<25	<25	<25	<25	<25	<25
Carbon Tetrachloride	<25	<25	<25	<25	<25	<25
Benzene	<25	<25	<25	<25	<25	<25
Trichloroethene	<10	<10	<10	<10	<10	<10
1,4-Dioxane	<25	<25	<25	<25	<25	<25
1,1,2-Trichloroethane	<25	<25	<25	<25	<25	<25
Toluene	<25	<25	<25	<25	<25	<25
1,2-Dibromoethane (EDB)	<25	<25	<25	<25	<25	<25
Tetrachloroethene	<10	<10	<10	<10	<10	<10
1,1,1,2-Tetrachloroethane	<25	<25	<25	<25	<25	<25
Chlorobenzene	<25	<25	<25	<25	<25	<25
Ethylbenzene	<25	<25	<25	<25	<25	<25
p & m-Xylene	<25	<25	<25	<25	<25	<25
1,1,2,2-Tetrachloroethane	<25	<25	<25	<25	<25	<25
o-Xylene	<25	<25	<25	<25	<25	<25
1,2,3-Trichloropropane	<25	<25	<25	<25	<25	<25
Isopropylbenzene	<25	<25	<25	<25	<25	<25
1,3,5-Trimethylbenzene	<25	<25	<25	<25	<25	<25
1,2,4-Trimethylbenzene	<25	<25	<25	<25	<25	<25
1,3-Dichlorobenzene	<25	<25	<25	<25	<25	<25
1,4-Dichlorobenzene	<25	<25	<25	<25	<25	<25
1,2-Dichlorobenzene	<25	<25	<25	<25	<25	<25
1,2,4-Trichlorobenzene	<25	<25	<25	<25	<25	<25
Naphthalene	<25	<25	<25	<25	<25	<25
1,2,3-Trichlorobenzene	<25	<25	<25	<25	<25	<25
2-Methylnaphthalene	<25	<25	<25	<25	<25	<25
TPH C_5-C_9	<5,000	<5,000	<5,000	<5,000	<5,000	<5,000
TPH C_{10}-C_{15}	**6,030**	**6,656**	<5,000	**5,949**	<5,000	**5,463**

Results in nanograms (ng). J = Values below limit of quantitation (LOQ) but above limit of detection (LOD). B = Detected in method blank.

Table 1

Beacon Environmental Services, Inc.
2203A Commerce Road, Suite 1
Forest Hill, MD 21050 USA

Analysis by EPA Method 8260C

Client Sample ID:	Sect 8-8	Sect 8-9	Sect 8-10	Sect 8-11	Sect 8-12	Sect 8-13
Project Number:	2627	2627	2627	2627	2627	2627
Lab File ID:	C13060752	C13060753	C13060754	C13060755	C13060756	C13060757
Received Date:	6/4/2013	6/4/2013	6/4/2013	6/4/2013	6/4/2013	6/4/2013
Analysis Date:	6/8/2013	6/8/2013	6/8/2013	6/8/2013	6/8/2013	6/8/2013
Analysis Time:	9:15	9:36	9:57	10:19	10:40	11:01
Matrix:	Soil Gas	Soil Gas	Soil Gas	Soil Gas	Soil Gas	Soil Gas
Units:	ng	ng	ng	ng	ng	ng
COMPOUNDS						
Vinyl Chloride	<10	<10	<10	<10	<10	<10
Trichlorofluoromethane (Freon 11)	<25	<25	<25	<25	<25	<25
1,1-Dichloroethene	<10	<10	<10	<10	<10	<10
1,1,2-Trichlorotrifluoroethane (Fr.113)	<25	<25	<25	<25	<25	<25
trans-1,2-Dichloroethene	<10	<10	<10	<10	<10	<10
Methyl-t-butyl ether	<25	<25	<25	<25	<25	<25
1,1-Dichloroethane	<25	<25	<25	<25	<25	<25
cis-1,2-Dichloroethene	<10	<10	<10	<10	<10	<10
Chloroform	<25	<25	**240**	**154**	**82**	**98**
1,2-Dichloroethane	<25	<25	<25	<25	<25	<25
1,1,1-Trichloroethane	<25	<25	<25	<25	<25	<25
Carbon Tetrachloride	<25	<25	<25	<25	<25	<25
Benzene	<25	<25	<25	<25	<25	<25
Trichloroethene	<10	<10	<10	<10	<10	<10
1,4-Dioxane	<25	<25	<25	<25	<25	<25
1,1,2-Trichloroethane	<25	<25	<25	<25	<25	<25
Toluene	<25	<25	<25	<25	<25	<25
1,2-Dibromoethane (EDB)	<25	<25	<25	<25	<25	<25
Tetrachloroethene	<10	<10	<10	<10	<10	<10
1,1,1,2-Tetrachloroethane	<25	<25	<25	<25	<25	<25
Chlorobenzene	<25	<25	<25	<25	<25	<25
Ethylbenzene	<25	<25	<25	<25	<25	<25
p & m-Xylene	<25	<25	<25	<25	<25	<25
1,1,2,2-Tetrachloroethane	<25	<25	<25	<25	<25	<25
o-Xylene	<25	<25	<25	<25	<25	<25
1,2,3-Trichloropropane	<25	<25	<25	<25	<25	<25
Isopropylbenzene	<25	<25	<25	<25	<25	<25
1,3,5-Trimethylbenzene	<25	<25	<25	<25	<25	<25
1,2,4-Trimethylbenzene	<25	<25	<25	<25	<25	<25
1,3-Dichlorobenzene	<25	<25	<25	<25	<25	<25
1,4-Dichlorobenzene	<25	<25	<25	<25	<25	<25
1,2-Dichlorobenzene	<25	<25	<25	<25	<25	<25
1,2,4-Trichlorobenzene	<25	<25	<25	<25	<25	<25
Naphthalene	<25	<25	<25	<25	<25	<25
1,2,3-Trichlorobenzene	<25	<25	<25	<25	<25	<25
2-Methylnaphthalene	<25	<25	<25	<25	<25	<25
TPH C_5-C_9	<5,000	<5,000	<5,000	<5,000	<5,000	<5,000
TPH C_{10}-C_{15}	<5,000	<5,000	<5,000	<5,000	<5,000	<5,000

Results in nanograms (ng). J = Values below limit of quantitation (LOQ) but above limit of detection (LOD). B = Detected in method blank.

Table 1

Beacon Environmental Services, Inc.
2203A Commerce Road, Suite 1
Forest Hill, MD 21050 USA

Analysis by EPA Method 8260C

Client Sample ID:	Sect 8-14	Sect 8-15	Sect 9-1	Sect 9-2	Sect 9-3	mb130611c
Project Number:	2627	2627	2627	2627	2627	
Lab File ID:	C13060758	C13060759	C13060760	C13060761	C13060762	C13061103
Received Date:	6/4/2013	6/4/2013	6/4/2013	6/4/2013	6/4/2013	
Analysis Date:	6/8/2013	6/8/2013	6/8/2013	6/8/2013	6/8/2013	6/11/2013
Analysis Time:	11:23	11:44	12:05	12:26	12:48	10:49
Matrix:	Soil Gas	Soil Gas	Soil Gas	Soil Gas	Soil Gas	
Units:	ng	ng	ng	ng	ng	ng
COMPOUNDS						
Vinyl Chloride	<10	<10	<10	<10	<10	<10
Trichlorofluoromethane (Freon 11)	<25	<25	<25	<25	<25	<25
1,1-Dichloroethene	<10	<10	<10	<10	<10	<10
1,1,2-Trichlorotrifluoroethane (Fr.113)	<25	<25	<25	<25	<25	<25
trans-1,2-Dichloroethene	<10	<10	<10	<10	<10	<10
Methyl-t-butyl ether	<25	<25	<25	<25	<25	<25
1,1-Dichloroethane	<25	<25	<25	<25	<25	<25
cis-1,2-Dichloroethene	<10	<10	<10	<10	<10	<10
Chloroform	**757**	<25	<25	<25	<25	<25
1,2-Dichloroethane	<25	<25	<25	<25	<25	<25
1,1,1-Trichloroethane	<25	<25	<25	<25	<25	<25
Carbon Tetrachloride	<25	<25	<25	<25	<25	<25
Benzene	<25	<25	<25	<25	<25	<25
Trichloroethene	<10	<10	<10	<10	<10	<10
1,4-Dioxane	<25	<25	<25	<25	<25	<25
1,1,2-Trichloroethane	<25	<25	<25	<25	<25	<25
Toluene	<25	<25	<25	<25	<25	<25
1,2-Dibromoethane (EDB)	<25	<25	<25	<25	<25	<25
Tetrachloroethene	<10	<10	<10	<10	<10	<10
1,1,1,2-Tetrachloroethane	<25	<25	<25	<25	<25	<25
Chlorobenzene	<25	<25	<25	<25	<25	<25
Ethylbenzene	<25	<25	<25	<25	<25	<25
p & m-Xylene	<25	<25	<25	<25	<25	<25
1,1,2,2-Tetrachloroethane	<25	<25	<25	<25	<25	<25
o-Xylene	<25	<25	<25	<25	<25	<25
1,2,3-Trichloropropane	<25	<25	<25	<25	<25	<25
Isopropylbenzene	<25	<25	<25	<25	<25	<25
1,3,5-Trimethylbenzene	<25	<25	<25	<25	<25	<25
1,2,4-Trimethylbenzene	<25	<25	<25	<25	<25	<25
1,3-Dichlorobenzene	<25	<25	<25	<25	<25	<25
1,4-Dichlorobenzene	<25	<25	<25	<25	<25	<25
1,2-Dichlorobenzene	<25	<25	<25	<25	<25	<25
1,2,4-Trichlorobenzene	<25	<25	<25	<25	<25	<25
Naphthalene	<25	<25	<25	**50**	<25	<25
1,2,3-Trichlorobenzene	<25	<25	<25	<25	<25	<25
2-Methylnaphthalene	<25	<25	<25	<25	<25	<25
TPH C_5-C_9	<5,000	<5,000	<5,000	<5,000	<5,000	<5,000
TPH C_{10}-C_{15}	<5,000	<5,000	**5,881**	**8,026**	**6,373**	<5,000

Results in nanograms (ng). J = Values below limit of quantitation (LOQ) but above limit of detection (LOD). B = Detected in method blank.

Table 1

Beacon Environmental Services, Inc.
2203A Commerce Road, Suite 1
Forest Hill, MD 21050 USA

Analysis by EPA Method 8260C

Client Sample ID:	Sect 9-4	Sect 9-5	Sect 9-6
Project Number:	2627	2627	2627
Lab File ID:	C13061105	C13061106	C13061107
Received Date:	6/4/2013	6/4/2013	6/4/2013
Analysis Date:	6/11/2013	6/11/2013	6/11/2013
Analysis Time:	11:31	11:53	12:14
Matrix:	Soil Gas	Soil Gas	Soil Gas
Units:	ng	ng	ng
COMPOUNDS			
Vinyl Chloride	<10	<10	<10
Trichlorofluoromethane (Freon 11)	<25	<25	<25
1,1-Dichloroethene	<10	<10	<10
1,1,2-Trichlorotrifluoroethane (Fr.113)	<25	<25	<25
trans-1,2-Dichloroethene	<10	<10	<10
Methyl-t-butyl ether	<25	<25	<25
1,1-Dichloroethane	<25	<25	<25
cis-1,2-Dichloroethene	<10	<10	<10
Chloroform	<25	<25	<25
1,2-Dichloroethane	<25	<25	<25
1,1,1-Trichloroethane	<25	<25	<25
Carbon Tetrachloride	<25	<25	<25
Benzene	<25	<25	<25
Trichloroethene	<10	<10	<10
1,4-Dioxane	<25	<25	<25
1,1,2-Trichloroethane	<25	<25	<25
Toluene	<25	<25	<25
1,2-Dibromoethane (EDB)	<25	<25	<25
Tetrachloroethene	<10	<10	<10
1,1,1,2-Tetrachloroethane	<25	<25	<25
Chlorobenzene	<25	<25	<25
Ethylbenzene	<25	<25	<25
p & m-Xylene	<25	<25	<25
1,1,2,2-Tetrachloroethane	<25	<25	<25
o-Xylene	<25	<25	<25
1,2,3-Trichloropropane	<25	<25	<25
Isopropylbenzene	<25	<25	<25
1,3,5-Trimethylbenzene	<25	<25	<25
1,2,4-Trimethylbenzene	<25	<25	<25
1,3-Dichlorobenzene	<25	<25	<25
1,4-Dichlorobenzene	<25	<25	<25
1,2-Dichlorobenzene	<25	<25	<25
1,2,4-Trichlorobenzene	<25	<25	<25
Naphthalene	<25	<25	<25
1,2,3-Trichlorobenzene	<25	<25	<25
2-Methylnaphthalene	<25	<25	<25
TPH C_5-C_9	<5,000	<5,000	<5,000
TPH C_{10}-C_{15}	**6,834**	**5,497**	<5,000

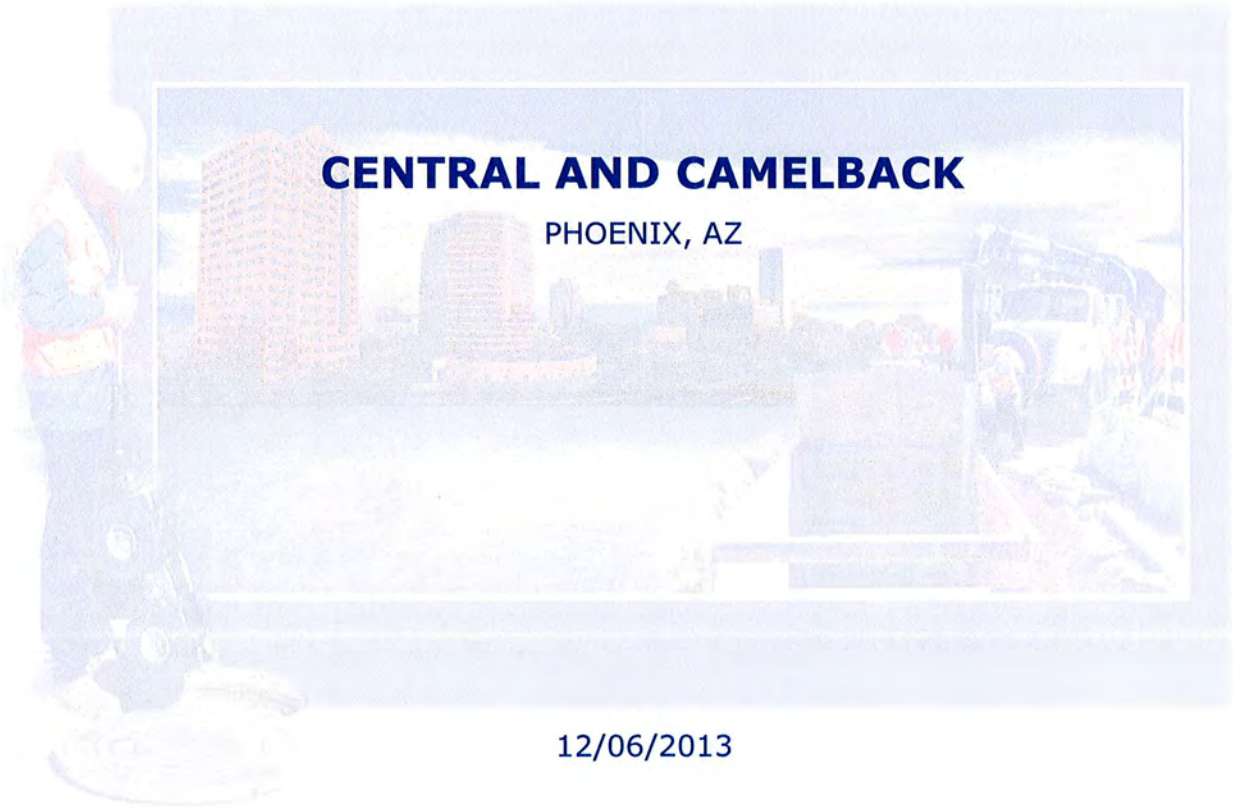
Results in nanograms (ng). J = Values below limit of quantitation (LOQ) but above limit of detection (LOD). B = Detected in method blank.

APPENDIX I

PRO-PIPE SEWER SURVEY REPORT

HYDRO GEO CHEM

FRANK SKOCYPEC



CENTRAL AND CAMELBACK

PHOENIX, AZ

12/06/2013

4940 W Watkins St., Phoenix, AZ 85043

T (602) 861-3944 / F (602) 861-1423

www.pro-pipe.com

PRO-PIPE OF ARIZONA
4940 WEST WATKINS STREET
PHOENIX, AZ 85043
Phone: 602-861-3944
Fax: 602-861-1423

Project Summary

CENTRAL AND CAMELBACK

Main ID	Date	Address	Start MH	Finish MH	Pipe	Asset length	Surveyed Length
C/O403_409	12/6/2013	CENTRAL AND CAMELBACK	409	C/O_403	VCP	165.8	165.8
C/O404_409	12/6/2013	CENTRAL AND CAMELBACK	409	C/O_404	VCP	165.1	165.1
409_410	12/6/2013	CENTRAL AND CAMELBACK	409	410	VCP	20.2	20.2
NWC_UPTOWN_PLAZA_EAST	12/6/2013	CENTRAL AND CAMELBACK	NWC UPTOWN PLAZA	EAST	CP	18.0	18.0
206_205	12/6/2013	CENTRAL AND CAMELBACK	205	206	VCP	186.4	186.4
205_301	12/6/2013	CENTRAL AND CAMELBACK	205	301	VCP	2.6	2.6
N/O_205	12/6/2013	CENTRAL AND CAMELBACK	N/O_OREGON_AVE	205	VCP	356.2	356.2
Number of inspections:	7				**Subtotal**	**914.3 ft**	**914.3 ft**
					Total	**914.3 ft**	**914.3 ft**

PRO-PIPE OF ARIZONA
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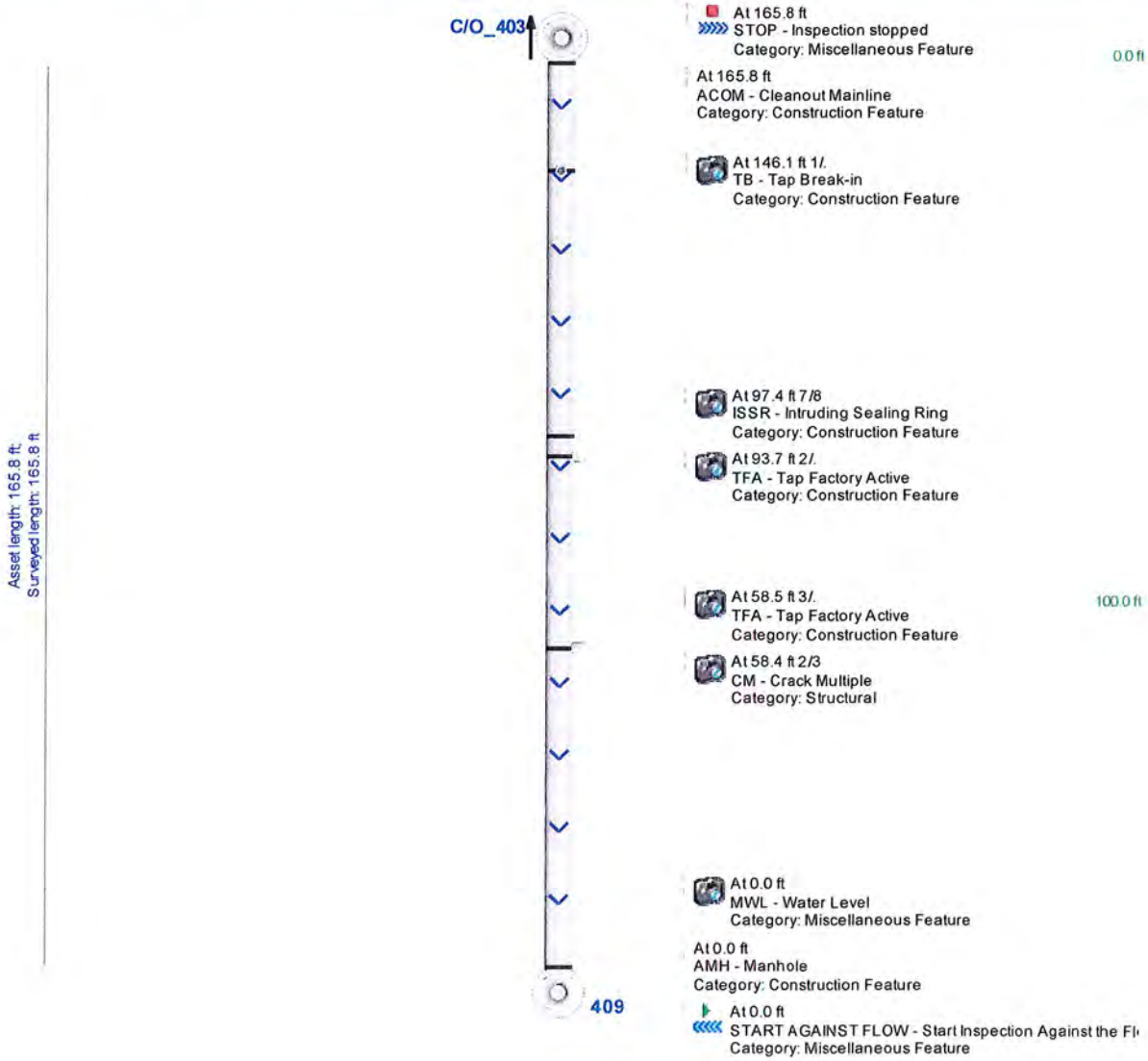
Phone: 602-861-3944
Fax: 602-861-1423

Main Inspection with Pipe-Run Graph

Project Name:	Mainline ID:	City:	Address:
CENTRAL AND CAMELBACK	C/O403_409	PHOENIX	CENTRAL AND CAMELBACK

Start date/time:	Pipe width:	Pipe height:	Pipe type:	Surface condition:
12/6/2013		8	VCP	H

Direction:	Surveyed footage:	Weather:	MEDIA_LABEL
UPSTREAM	165.8	1	1



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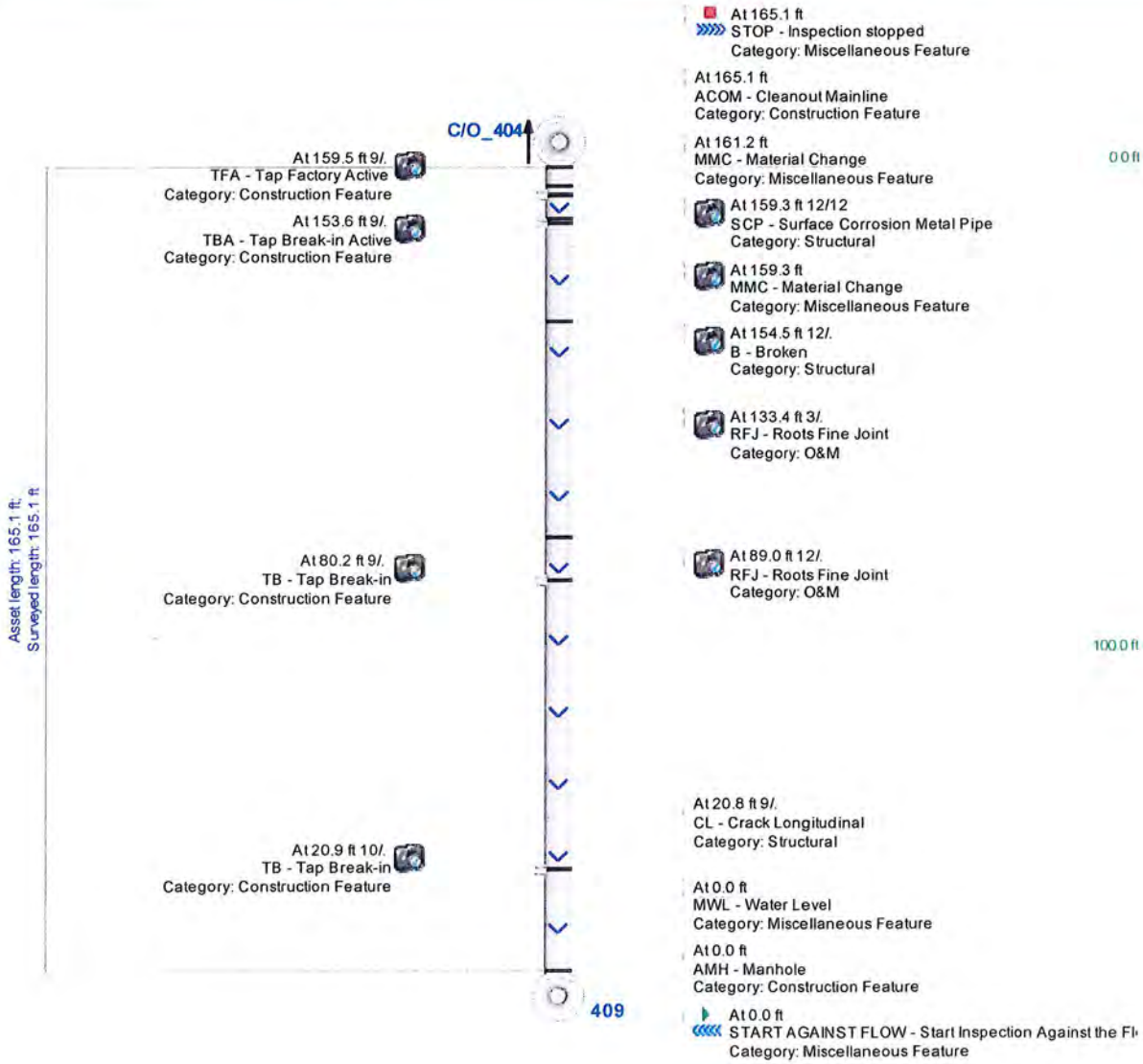
PHOENIX, AZ 85043
Phone: 602-861-3944
Fax: 602-861-1423

Main Inspection with Pipe-Run Graph

Project Name:	Mainline ID:	City:	Address:
CENTRAL AND CAMELBACK	C/O404_409	PHOENIX	CENTRAL AND CAMELBACK

Start date/time:	Pipe width:	Pipe height:	Pipe type:	Surface condition:
12/6/2013		8	VCP	H

Direction:	Surveyed footage:	Weather:	MEDIA_LABEL
UPSTREAM	165.1	1	1



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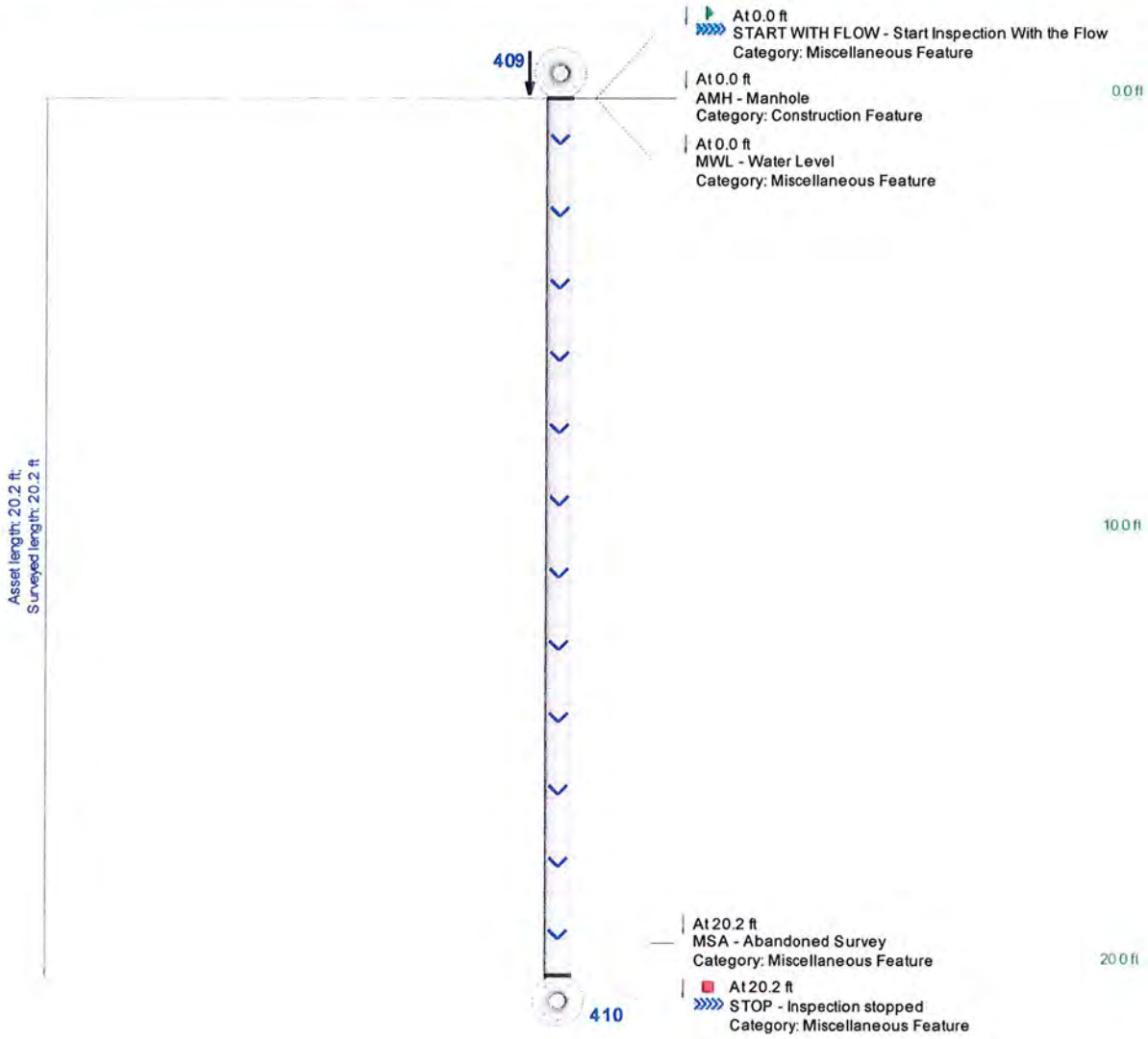
Main Inspection with Pipe-Run Graph

Project Name:	Mainline ID:	City:	Address:
CENTRAL AND CAMELBACK	409_410	PHOENIX	CENTRAL AND CAMELBACK

Start date/time:	Pipe width:	Pipe height:	Pipe type:	Surface condition:
12/6/2013		8	VCP	H

Direction:	Surveyed footage:	Weather:	MEDIA_LABEL
Downstream	20.2	1	1



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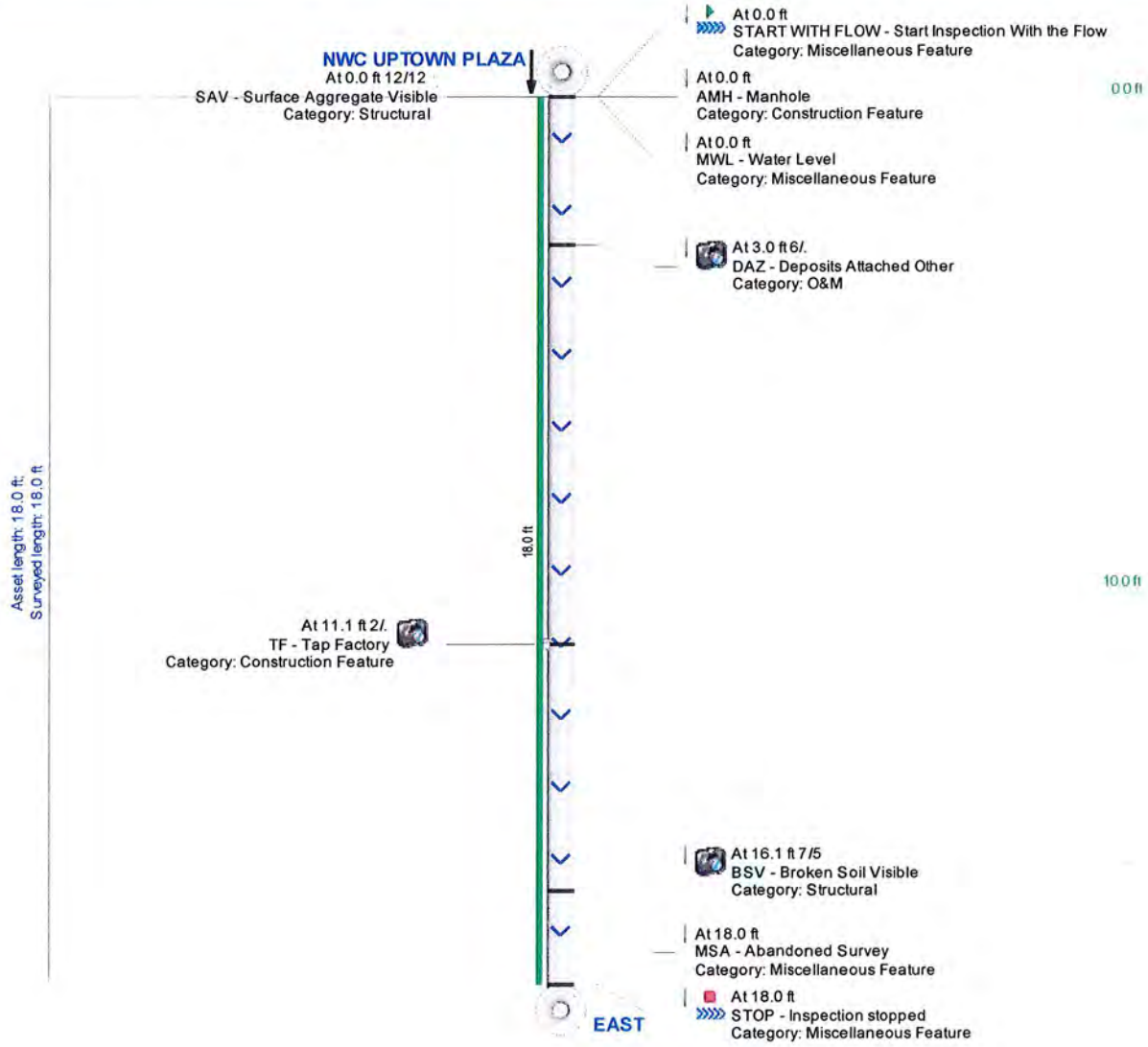
Fax: 602-861-1423

Main Inspection with Pipe-Run Graph

Project Name:	Mainline ID:	City:	Address:
CENTRAL AND CAMELBACK	NWC_UPTOWN_PLAZA_EAST	PHOENIX	CENTRAL AND CAMELBACK

Start date/time:	Pipe width:	Pipe height:	Pipe type:	Surface condition:
12/6/2013		6	CP	G

Direction:	Surveyed footage:	Weather:	MEDIA_LABEL
Downstream	18.0	1	1



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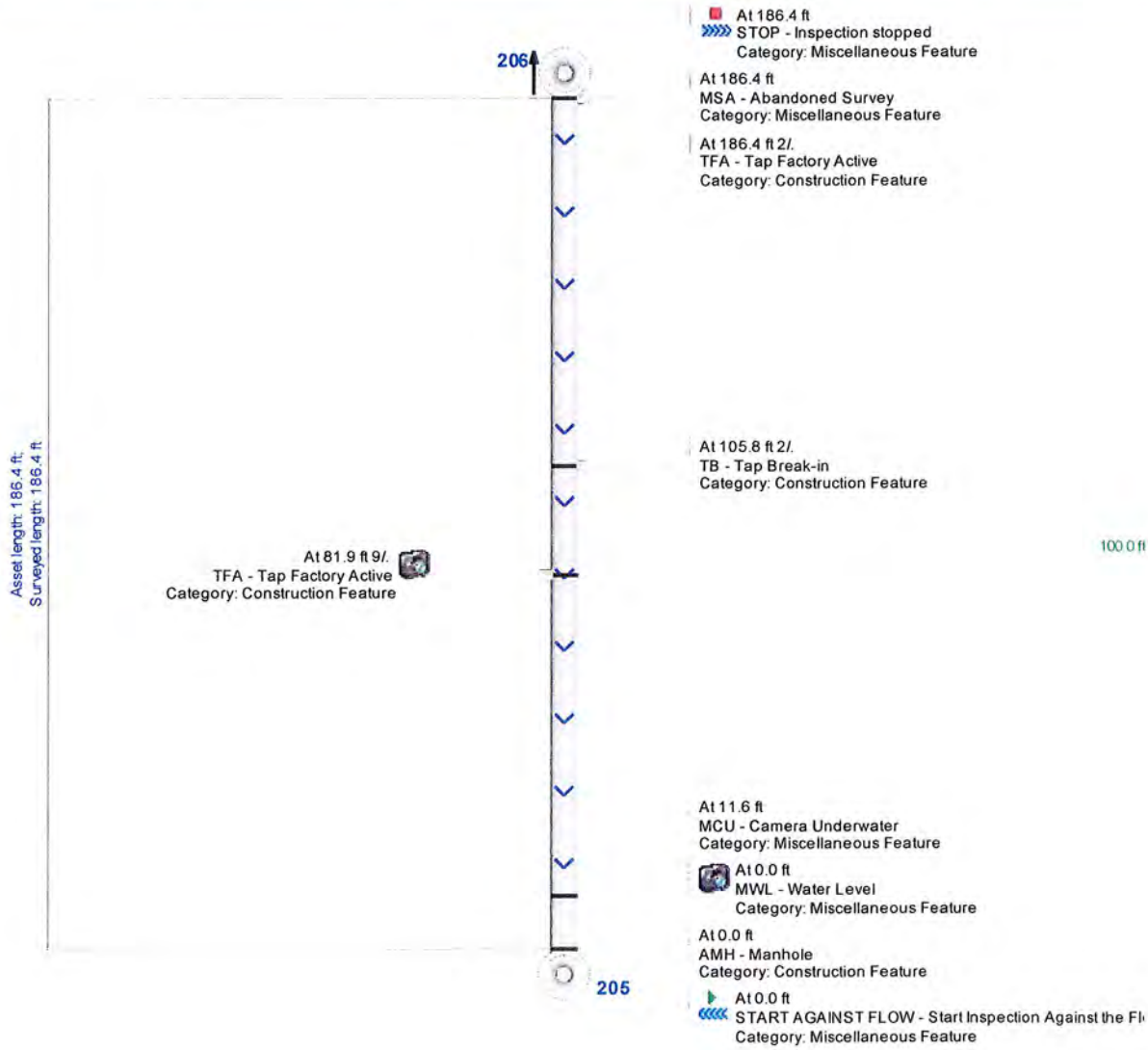
4940 WEST WATKINS STREET
PHOENIX, AZ 85043
Phone: 602-861-3944
Fax: 602-861-1423

Main Inspection with Pipe-Run Graph

Project Name:	Mainline ID:	City:	Address:
CENTRAL AND CAMELBACK	206_205	PHOENIX	CENTRAL AND CAMELBACK

Start date/time:	Pipe width:	Pipe height:	Pipe type:	Surface condition:
12/6/2013		8	VCP	D

Direction:	Surveyed footage:	Weather:	MEDIA_LABEL
UPSTREAM	186.4	1	1



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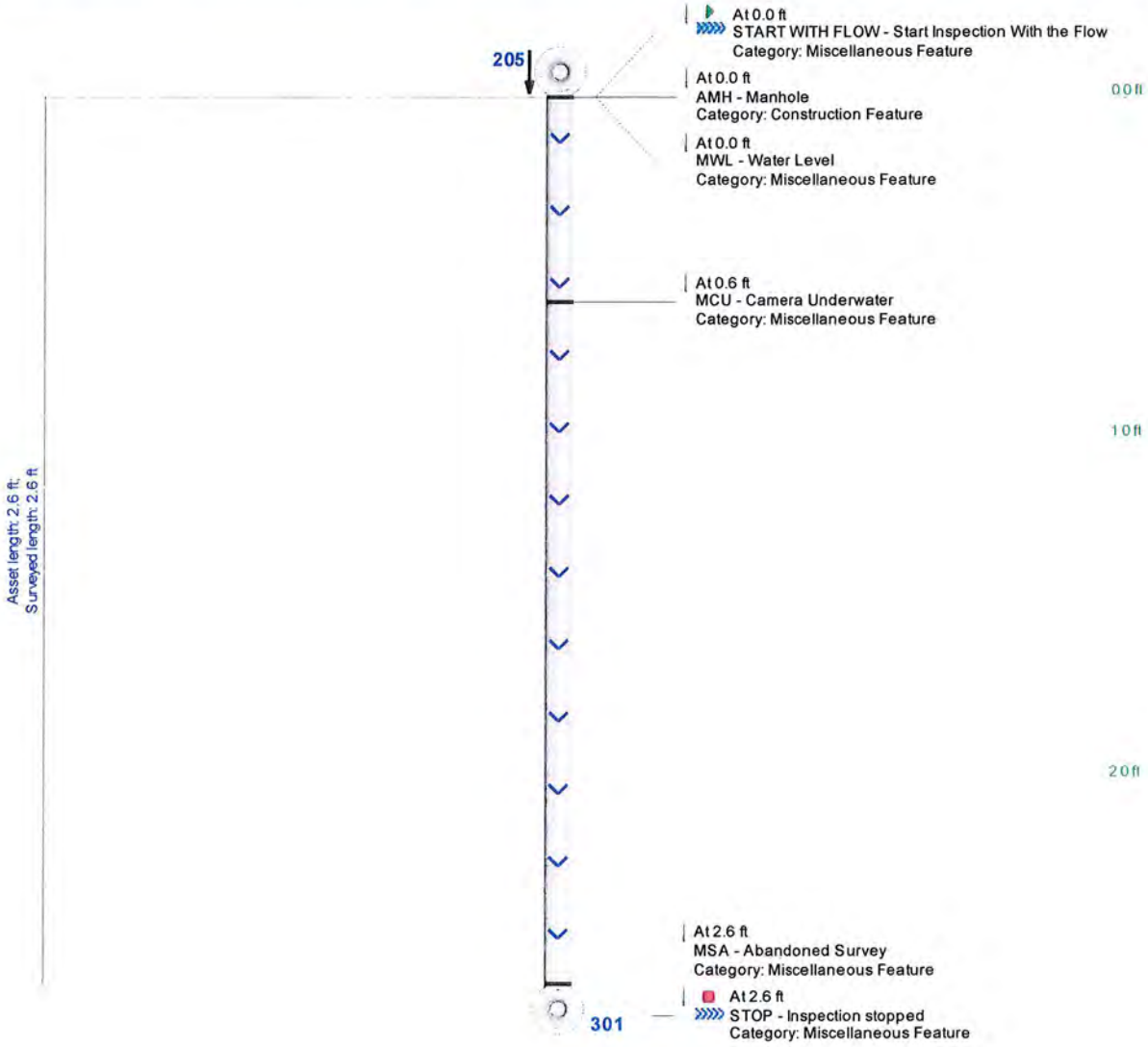
Main Inspection with Pipe-Run Graph

Project Name:	Mainline ID:	City:	Address:
CENTRAL AND CAMELBACK	205_301	PHOENIX	CENTRAL AND CAMELBACK

Start date/time:	Pipe width:	Pipe height:	Pipe type:	Surface condition:
12/6/2013		8	VCP	B

Direction:	Surveyed footage:	Weather:	MEDIA_LABEL
Downstream	2.6	1	1



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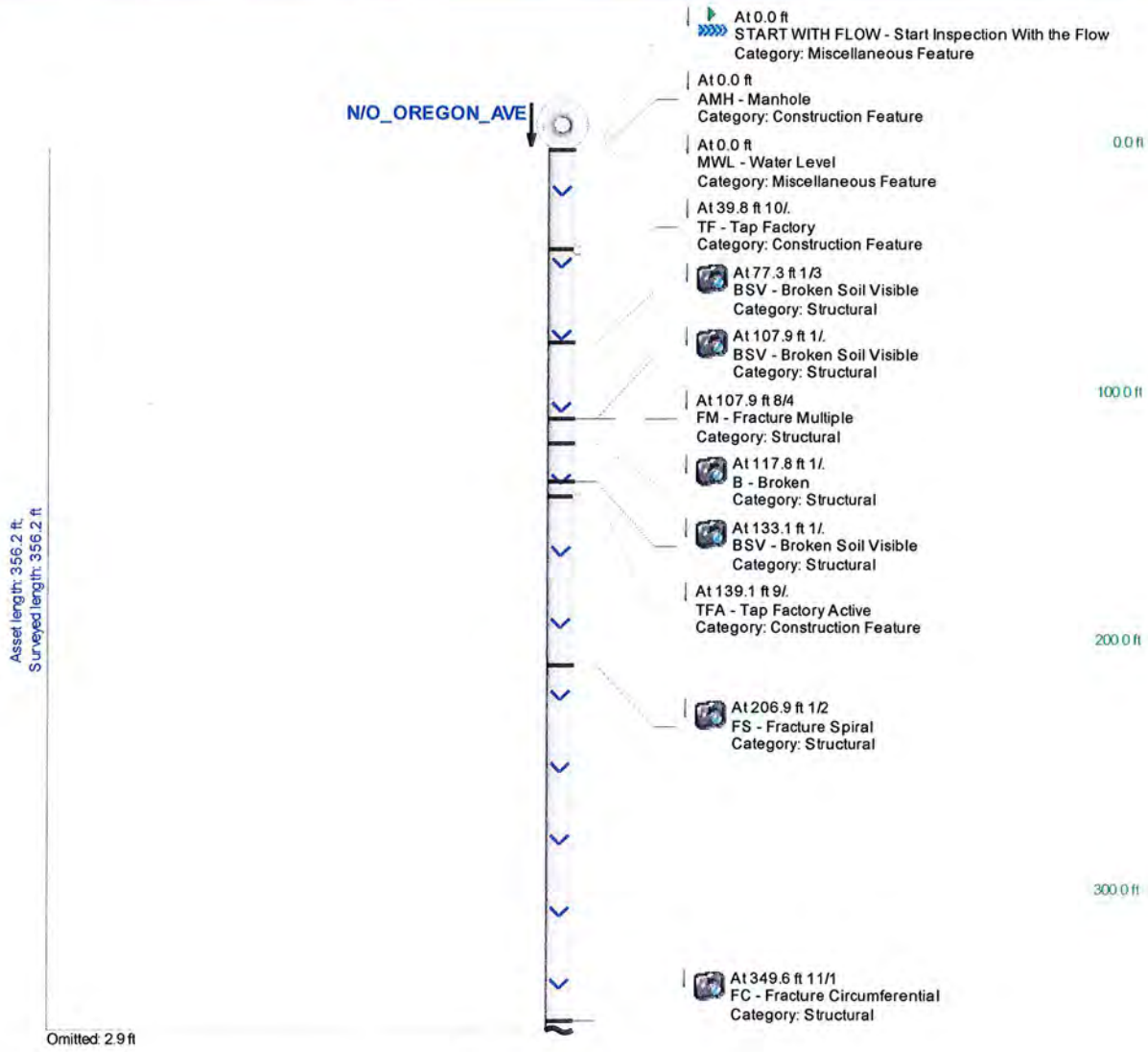
Fax: 602-861-1423

Main Inspection with Pipe-Run Graph

Project Name:	Mainline ID:	City:	Address:
CENTRAL AND CAMELBACK	N/O_205	PHOENIX	CENTRAL AND CAMELBACK

Start date/time:	Pipe width:	Pipe height:	Pipe type:	Surface condition:
12/6/2013		8	VCP	F

Direction:	Surveyed footage:	Weather:	MEDIA_LABEL
Downstream	356.2	1	1



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Project Name:	Mainline ID:	City:	Address:
CENTRAL AND CAMELBACK	N/O_205	PHOENIX	CENTRAL AND CAMELBACK

Start date/time:	Pipe width:	Pipe height:	Pipe type:	Surface condition:
12/6/2013		8	VCP	F

Direction:	Surveyed footage:	Weather:	MEDIA_LABEL
Downstream	356.2	1	1

Asset length: 356.2
Surveyed length: 356
Omitted: 349.4 ft

At 356.2 ft
AMH - Manhole
Category: Construction Feature

At 356.2 ft
STOP - Inspection stopped
Category: Miscellaneous Feature

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4940 WEST WATKINS STREET
PHOENIX, AZ 85043
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Observation Report with Still Images

Mainline ID:	Project Name:	Start date/time:	Weather:	Operator:
C/O403_409	CENTRAL AND CAMELBACK	12/6/2013 8:27:18 AM	1	DANIEL S

Upstream node:	Depth US:	Downstream node:	Depth DS:	Asset length:	Extra:
C/O_403		409		165.8	

Comments

Observations

Distance	Length	Code	Reversed	Clock Pos.	Severity	Comment
0.0		START AGAINST FLOW	Yes	/		
0.0		AMH	Yes	/		409 START SURVEY
0.0		MWL	Yes	/		

58.4		CM	Yes	2 / 3		

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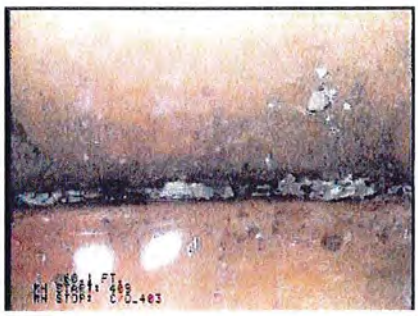
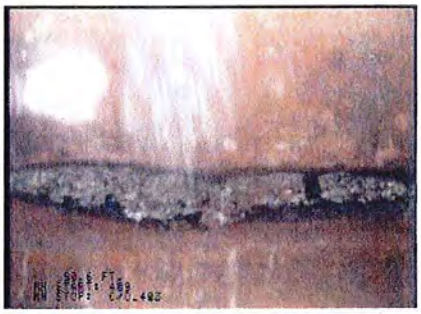
Observations

Distance	Length	Code	Reversed	Clock Pos.	Severity	Comment
58.5		TFA	Yes	3 /		





93.7		TFA	Yes	2 /		

97.4		ISSR	Yes	7 / 8		

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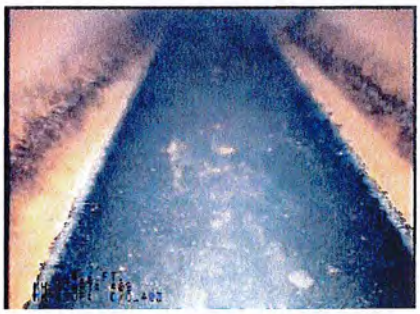
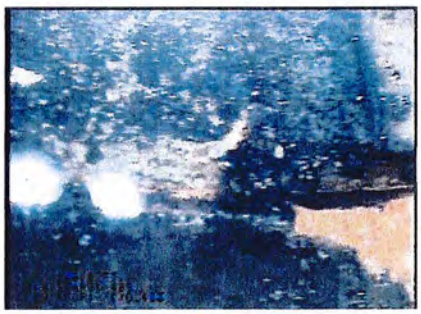
Observations

Distance	Length	Code	Reversed	Clock Pos.	Severity	Comment



146.1	TB		Yes	1 /		



165.8	ACOM		Yes	/		C/O 403 END SURVEY
165.8	STOP		Yes	/		

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4940 WEST WATKINS STREET
PHOENIX, AZ 85043
Phone: 602-861-3944
Fax: 602-861-1423

Observation Report with Still Images

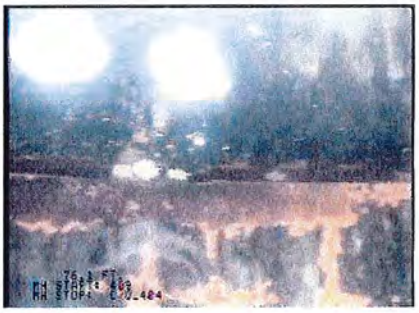
Mainline ID:	Project Name:	Start date/time:	Weather:	Operator:
C/O404_409	CENTRAL AND CAMELBACK	12/6/2013 8:51:58 AM	1	DANIEL S

Upstream node:	Depth US:	Downstream node:	Depth DS:	Asset length:	Extra:
C/O_404	409			165.1	

Comments

Observations

Distance	Length	Code	Reversed	Clock Pos.	Severity	Comment
0.0		START AGAINST FLOW	Yes	/		
0.0		AMH	Yes	/		409 START SURVEY
0.0		MWL	Yes	/		
20.8		CL	Yes	9 /		
20.9		TB	Yes	10 /		



80.2		TB	Yes	9 /		

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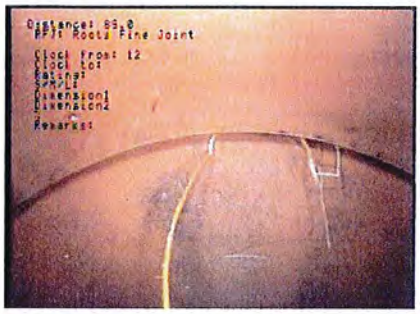
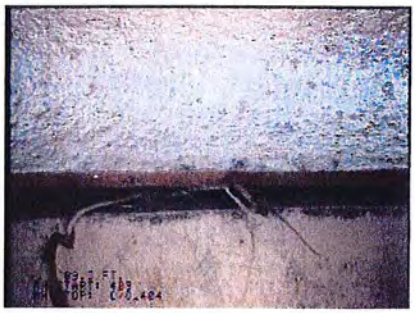
Observations

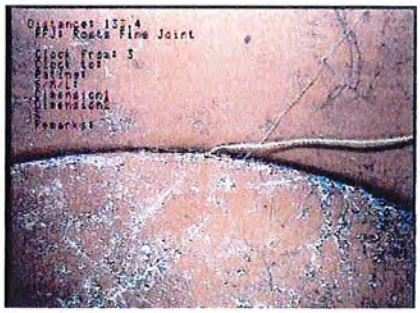
Distance	Length	Code	Reversed	Clock Pos.	Severity	Comment

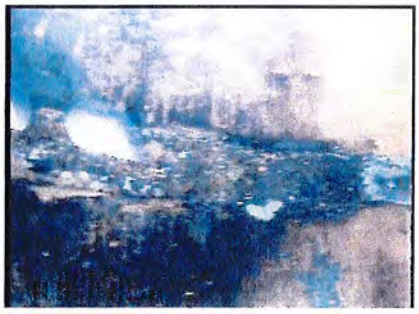
89.0		RFJ	Yes	12 /		





133.4		RFJ	Yes	3 /		





153.6		TBA	Yes	9 /		

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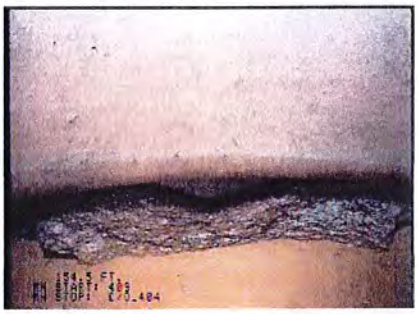
Observations

Distance	Length	Code	Reversed	Clock Pos.	Severity	Comment

154.5		B	Yes	12 /	



159.3		MMC	Yes	/	CAS-CAST IRON

159.3		SCP	Yes	12 / 12

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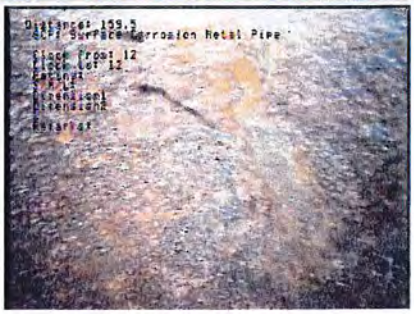
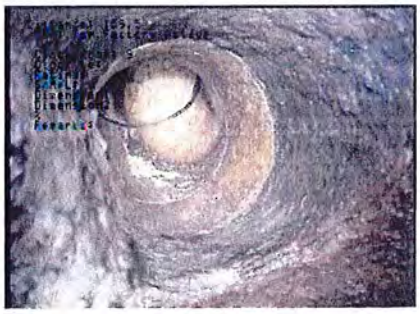
Observations

Distance	Length	Code	Reversed	Clock Pos.	Severity	Comment



159.5	TFA	Yes	9 /	



161.2	MMC	Yes	/	VCP
165.1	ACOM	Yes	/	C/O 404 END SURVEY
165.1	STOP	Yes	/	

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Observation Report with Still Images

Mainline ID:	Project Name:	Start date/time:	Weather:	Operator:
409_410	CENTRAL AND CAMELBACK	12/6/2013 9:18:30 AM	1	DANIEL S

Upstream node:	Depth US:	Downstream node:	Depth DS:	Asset length:	Extra:
409		410		20.2	

Comments

Observations

Distance	Length	Code	Reversed	Clock Pos.	Severity	Comment
0.0		START WITH FLOW	No	/		
0.0		AMH	No	/		409 START SURVEY
0.0		MWL	No	/		
20.2		MSA	No	/		END OF SURVEY
20.2		STOP	No	/		

PRO-PIPE OF ARIZONA
4940 WEST WATKINS STREET
PHOENIX, AZ 85043
Phone: 602-861-3944
Fax: 602-861-1423

Observation Report with Still Images

Mainline ID:	Project Name:	Start date/time:	Weather:	Operator:
NWC_UPTOWN_PLAZA_EAST	CENTRAL AND CAMELBACK	12/6/2013 10:15:32 AM	1	DANIEL S

Upstream node:	Depth US:	Downstream node:	Depth DS:	Asset length:	Extra:
NWC UPTOWN PLAZA		EAST		18.0	

Comments

Observations

Distance	Length	Code	Reversed	Clock Pos.	Severity	Comment
0.0		START WITH FLOW	No	/		
0.0		AMH	No	/		NWC UPTOWN PL.AZA START SURVEY
0.0		MWL	No	/		
0.0	18.0	SAV	No	12 / 12		
3.0		DAZ	No	6 /		REBAR STUCK TO PIPE

11.1		TF	No	2 /		

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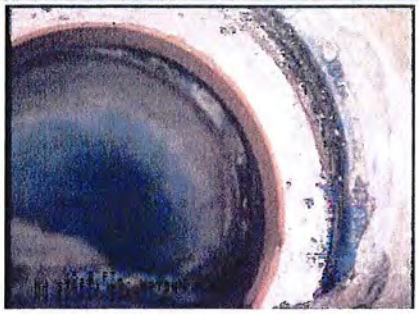
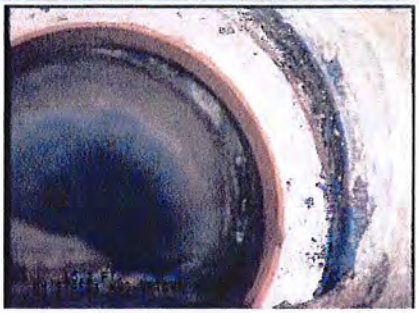
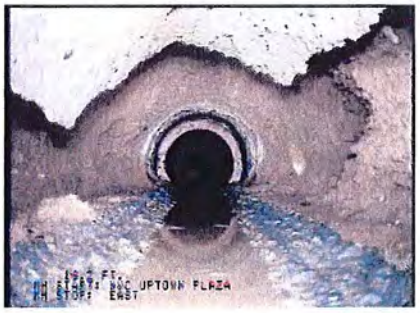
Observations

Distance	Length	Code	Reversed	Clock Pos.	Severity	Comment
						
16.1		BSV	No	7 / 5		
						
18.0		MSA	No	/		UNABLE TO CONTINUE DUE TO BROKEN PIPE
18.0		STOP	No	/		

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4940 WEST WATKINS STREET
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Observation Report with Still Images

Mainline ID:	Project Name:	Start date/time:	Weather:	Operator:
206_205	CENTRAL AND CAMELBACK	12/6/2013 12:38:39 PM	1	DANIEL S

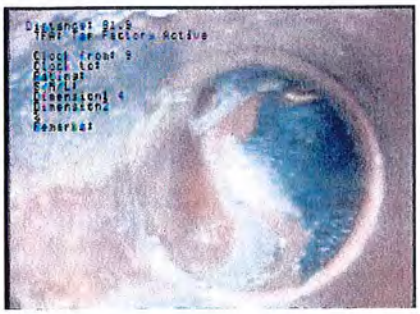
Upstream node:	Depth US:	Downstream node:	Depth DS:	Asset length:	Extra:
206		205		186.4	

Comments

Observations

Distance	Length	Code	Reversed	Clock Pos.	Severity	Comment
0.0		START AGAINST FLOW	Yes	/		
0.0		AMH	Yes	/		205 START SURVEY
0.0		MWL	Yes	/		

11.6		MCU	Yes	/		
81.9		TFA	Yes	9 /		



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4940 WEST WATKINS STREET
PHOENIX, AZ 85043
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Observations

Distance	Length	Code	Reversed	Clock Pos.	Severity	Comment
105.8		TB	Yes	2 /		
186.4		TFA	Yes	2 /		
186.4		MSA	Yes	/		PASSED SURVEY POINT
186.4		STOP	Yes	/		

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Observation Report with Still Images

Mainline ID:	Project Name:	Start date/time:	Weather:	Operator:
205_301	CENTRAL AND CAMELBACK	12/6/2013 12:57:18 PM	1	DANIEL S

Upstream node:	Depth US:	Downstream node:	Depth DS:	Asset length:	Extra:
205	301			2.6	

Comments

Observations

Distance	Length	Code	Reversed	Clock Pos.	Severity	Comment
0.0		START WITH FLOW	No	/		
0.0		AMH	No	/		205 START SRUVEY
0.0		MWL	No	/		
0.6		MCU	No	/		
2.6		MSA	No	/		UNABLE TO CONTINUE
2.6		STOP	No	/		

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Observation Report with Still Images

Mainline ID:	Project Name:	Start date/time:	Weather:	Operator:
N/O_205	CENTRAL AND CAMELBACK	12/6/2013 1:14:51 PM	1	DANIEL S

Upstream node:	Depth US:	Downstream node:	Depth DS:	Asset length:	Extra:
N/O_OREGON_AVE	205			356.2	

Comments

Observations

Distance	Length	Code	Reversed	Clock Pos.	Severity	Comment
0.0		START WITH FLOW	No	/		
0.0		AMH	No	/		N/O OREGON AVE
0.0		MWL	No	/		
39.8		TF	No	10 /		
77.3		BSV	No	1 / 3		

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Observations

Distance	Length	Code	Reversed	Clock Pos.	Severity	Comment
107.9		BSV	No	1 /		

107.9		FM	No	8 / 4		
117.8		B	No	1 /		

133.1		BSV	No	1 /		

139.1		TFA	No	9 /		
206.9		FS	No	1 / 2		

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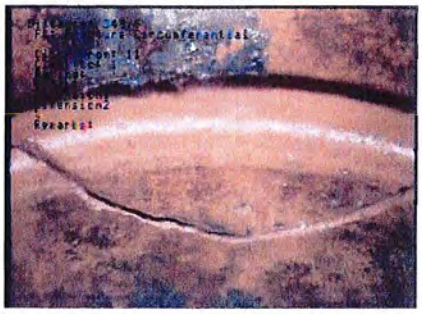
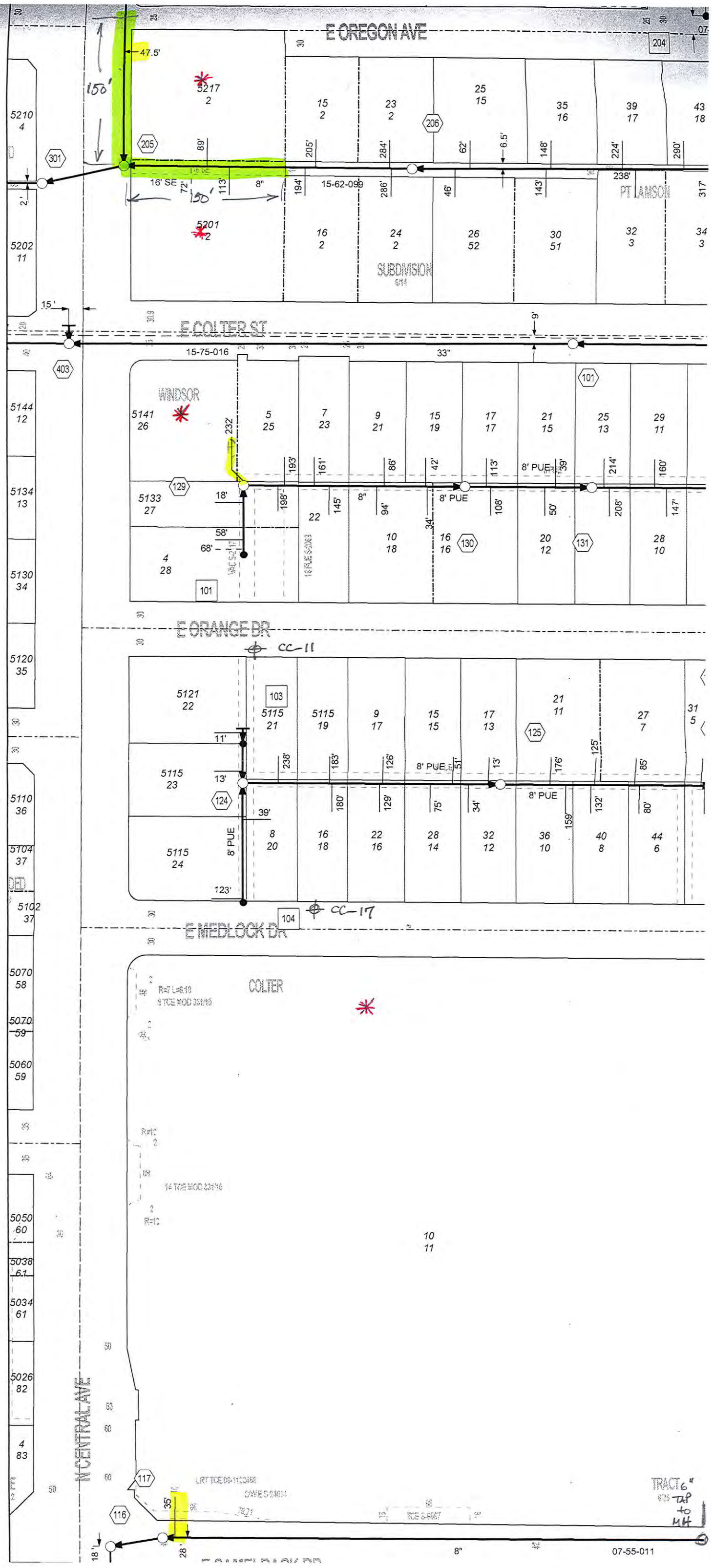
Observations

Distance	Length	Code	Reversed	Clock Pos.	Severity	Comment
349.6		FC	No	11 / 1		
						
356.2		AMH	No	/		205 END SURVEY
356.2		STOP	No	/		



** Quadrant 1 Manholes **						
#	Depth	Stat	Rim El	Inv El		
101	14.17	538	1136.40	1122.23	E	W
102	13.89	540	1137.40	1123.51	E	W
103	7.47	88	1137.00	1129.53	E	W
104	6.68	109	1136.00	1129.32	E	Sw
105	7.07	86	1136.00	1128.93	Ne	S
106	6.40	263	1135.00	1128.60	Sw	N
107	5.49	169	1135.00	1129.51	W	E
108	5.69	160	1135.00	1129.31	W	E
109	6.22	145	1135.00	1128.78	S	E
110	5.81	122	1133.40	1127.59	W	S
				1127.59		N
111	5.10	87	1133.00	1127.90	E	N
112	4.53	152	1133.00	1128.47	E	W
113	5.18	138	1134.00	1128.82	E	W
114	6.94	162	1132.00	1125.06	E	Nw
115	7.38	129	1132.00	1124.62	Se	W
116	10.62	682	1130.00	1119.38	E	S
117	10.30	56	1130.00	1119.70	E	W
118	8.71	591	1130.00	1121.29	E	W
119	8.42	324	1131.00	1122.58	Nw	W
120	7.31	294	1131.21	1123.90	E	N
				1123.90	Se	
121	7.61	227	1132.92	1125.31	N	S
122	7.58	148	1133.37	1125.79	E	N
				1125.79	S	
123	8.05	208	1135.00	1126.95	S	Nw
				1126.95	Ne	
124	5.47	276	1134.00	1128.53	S	N
				1128.53	E	
125	6.07	229	1134.00	1127.93	W	E
126	6.54	108	1134.00	1127.46	W	Ne
127	7.77	116	1135.00	1127.23	Se	Sw
				1127.23	N	
128	7.39	103	1135.00	1127.61	S	N
129	5.43	237	1135.00	1129.57	E	S
130	6.74	136	1136.00	1129.26	E	W
131	7.11	222	1136.00	1128.89	E	W
132	8.01	133	1136.00	1127.99	E	W
				1127.99	S	
133	5.35	39	1136.00	1130.65	Ne	W

** Quadrant 1 Cleanouts **				
#	Depth	Stat	Rim El	Inv El
101	6.24	74	1136.00	1129.76
102	4.44	89	1136.00	1131.56
103	5.37	44	1134.33	1128.96 S N
104	4.24	127	1133.00	1128.76

N1

#	Depth	Stat	
401	15.69	516	1134
402	15.07	516	1134
403	15.04	517	11
404	6.82	367	1135
405	7.06	376	1134
406	7.19	371	1133
407	8.75	421	1133
408	8.47	70	1133
409	6.56	236	1133
410	6.35	440	1132
411	7.60	438	1132
412	8.33	456	1131
413	5.67	365	1130
414	6.62	374	1130
415	6.59	375	1129
416	9.34	176	1130
417	8.92	128	11

#	Depth	Stat	
401	5.53	163	
402	5.37	138	
403	0.00	165	
404	4.90	160	
405	5.67	191	
406	5.13	110	

N1

* All sewer main material is VCP unless otherwise noted
* All sewer tap are 4"ø unless noted

GENERAL	SEWER INFRASTRUCTURE				RECLAIMED INFRASTRUCTURE	
Alley ROW	Sewer Detail Areas	Unaccepted Sewer Mains	Reclaimed Treatment Plant	As Built Tic	Reclaimed Detail Areas	Standard Vlv - Closed
Canal Centerline	Diversion Chamber	Sewer Encasement	Wastewater Treatment Plant	Cap	Forced Main	Standard Vlv - Open
Canal ROW	Diversion Point	Reclaimed Encasement	Cleanout	Reducer	Private Main	Blow-Off Vlv - Closed
GLO Lot	Junction Chamber	Forced Main		Split Manhole	SideOutlet	Blow-Off Vlv - Open
Lot Line / Tract Line	Pump Station	Private Main		Discharge Structure	Standard Main	
Lot Split	Split Manhole	Standard Main		Drop Manhole	Tap Sleeve	
Private ROW	Storage Basin	Auto Flusher			Reclaimed Chlorine Line	
Public ROW	Treatment Plant	As-Built			Reclaimed Dipped Main	

O Stand. Manhole (SM)

APPENDIX J

MCAQD AIR PERMIT

Maricopa County
Air Quality Department

AIR QUALITY DEPARTMENT
1001 North Central Avenue
Phoenix, AZ 85004

AIR QUALITY PERMIT

MAR 2012
RECEIVED
Remedial
Projects Unit

Arizona Department of Environmental Quality
ATTN: Jennifer Edwards
1110 W. Washington Street
Phoenix, AZ 85007

Permit Number:	070045	Issue Date:	7/20/2007
Revision:	1.0.0.0	Expiration Date:	7/20/2017
Revision Date:	02/22/2012	Application ID:	390157

Owner Name:	Arizona Department of Environmental Quality
Owner Address:	1110 W. Washington, Phoenix, AZ 85007
Business Name:	Arizona Department of Environmental Quality
Business Type:	Soil Remediation
Site Address:	Portable #1

The purpose of the letter is to inform you that the application for a permit renewal has been approved and will be incorporated into Air Quality Permit 070045. The applicable Permit Conditions are enclosed with this letter.

If you need assistance with the permit, please contact the SBA/Ombudsman office at 602.506.5102 or contact the undersigned at 602.506.7248. Email communications may be sent to AQPermits@mail.maricopa.gov.

Sincerely,

Todd Martin
Non-Title V Unit Supervisor

Maricopa County
Air Quality Department

AIR QUALITY DEPARTMENT
1001 North Central Avenue
Phoenix, AZ 85004

COMMON ABBREVIATIONS

Act.....Federal Clean Air Act
AAAC .....Acute Ambient Air Concentration
AAC .....Arizona Administrative Code
ADEQ .....Arizona Department of Environmental Quality
AIRS .....Aerometric Information Retrieval System
ARS.....Arizona Revised Statutes
AZMACT.....Arizona Maximum Achievable Control Technology
ASTM .....American Society of Testing and Materials
BACT.....Best Available Control Technology
Btu.....British thermal unit
CAA .....Clean Air Act
CAAC .....Chronic Ambient Air Concentration
CAS.....Chemical Abstract Service
CEMS.....Continuous emissions monitoring system
CFR.....Code of Federal Regulations
CO.....Carbon Monoxide
dscf.....Dry standard cubic feet
ECS .....Emission Control System
EPA.....US Environmental Protection Agency
HAP.....Hazardous Air Pollutant
ID .....Identification number
MACT.....Maximum Achievable Control Technology
MCAQD.....Maricopa County Air Quality Department
NA.....Not applicable
NAAQS.....National Ambient Air Quality Standards
NESHAP.....National Emission Standards for Hazardous Air Pollutants
NMHC.....Non-methane hydrocarbon
NO_x .....Nitrogen oxides
NSPS.....New Source Performance Standards
O_2 .....Oxygen
O&M.....Operation and maintenance
Pb .....Lead
PM.....Particulate matter
$PM_{2.5}$.....Particulate matter less than 2.5 microns in size
PM_{10} .....Particulate matter less than 10 microns in size
ppm .....Parts per million
psia.....pounds per square inch, actual
RACT.....Reasonably Available Control Technology
RVP.....Reid Vapor Pressure
SIP.....State Implementation Plan
SO_2 .....Sulfur dioxide
VE .....Visible Emissions
VOC.....Volatile Organic Compounds

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Date Issued: 07/20/2007
Revision: 1.0.0.0
Revision Date: 02/22/2012
Expiration Date: 7/31/2017

Any cited regulatory paragraphs or section numbers refer to the version of the rules and regulations that were in effect on the first date of public notice of the applicable Permit Condition unless specified otherwise. However, in the event the rules and regulations are amended during the term of this Permit, the amended rules and regulations shall apply to this Permit. Whenever the term, Control Officer, is used in this Permit it shall be interpreted to mean, Control Officer or designated representative. Where the term "Rule" appears, it shall be construed to mean "Maricopa County Air Pollution Control Regulations" unless otherwise noted.

SPECIFIC CONDITIONS

SOIL REMEDIATION USING GRANULAR ACTIVATED CARBON CANISTERS

1. Allowable Emissions:

The Permittee shall not allow emissions into the atmosphere to exceed any of the following limits:

	Twelve Month Rolling Total Emission Limits (tons/year)
Volatile Organic Compounds (VOC)	0.02
Total Hazardous Air Pollutants (HAPs)	1.6
Any Single HAP	1.5

Upon the request of the Department, the Permittee shall calculate a daily emission rate by dividing the monthly emissions by the number of days of operation for that month.

The 12-month rolling total emissions shall be calculated monthly within 30 days following the end of each calendar month by summing the emissions over the most recent 12 calendar months. The Permittee shall keep this emission report on-site for inspection or submittal upon request.

[County Rule 220 §302.2]

2. Opacity:

No person shall discharge into the ambient air from any single source of emissions any air contaminant, other than uncombined water, in excess of 20% opacity for a period aggregating more than three minutes in any 60-minute period.

a. If any non-compliant visible emissions (excluding water vapor) are detected or reported, the Permittee shall determine the cause and/or the source of emissions. The Permittee shall then take immediate corrective action(s) and if necessary, shut down the applicable equipment. If visible emissions (excluding water vapor) exceed the above opacity standards subsequent to implementing corrective action(s), the Permittee shall shut down the applicable equipment and institute repairs or changes necessary to ensure compliance prior to resuming operations.

b. Opacity shall be determined by observations of visible emissions conducted in accordance with EPA Reference Method 9 as modified by EPA Reference Method 203B.

[County Rule 300 §§301, 501]

3. Odor:

a. No person shall emit gaseous or odorous air contaminants for equipment, operations or premises under his control in such quantities or concentrations as to cause air pollution.

b. Reasonable Stack Height Required: Where a st ack, vent or other outlet is at such a level that air contaminants are discharged to adjoining property, the Control Officer may require the installation of abatement equipment or the alteration of such stack, vent, or other outlet to a degree that will adequately dilute, reduce or eliminate the discharge of air contaminants to adjoining property.

[County Rule 320 §§300, 303]

4. Volatile Organic Compounds:

a. No person shall store, discard, or dispose of VOC or VOC containing material in a way intended to cause or allow the evaporation of VOC to the atmosphere.

b. Except as provided in Condition 5.f, the Permittee shall not directly discharge Volatile Organic Compounds (VOCs) into the atmosphere at any time without passing through the Granulated Activated Carbon (GAC) Canisters.

[County Rule 330 §306, County Rule 220 §302.2]

5. Granular Activated Carbon Canister Operational Requirements:

a. Exhaust from the Soil Vapor Extraction Unit (SVEU) system shall be vented to a Soil Vapor Control Unit (SVCU) consisting of a minimum of two (2) granulated activated carbon canisters arranged in series.

b. The SVCU shall achieve at least a 90% VOC and HAP removal efficiency or a VOC and HAP outlet concentration of less than or equal to 100 ppmv measured using an organic vapor meter calibrated with hexane. If another calibration gas is used the measurement shall be correlated and expressed as hexane.

c. The flow rate through the SVCU shall not exceed 200 standard cubic feet per minute (scfm). The SVEU system shall not contain a valve or any other device which will either dilute or restrict the flow of the soil gasses unless the position of the device can be measured and controlled. If a device is installed, its position must be measured and recorded any time a test sample is taken which will be used to calculate either the mass flow rate of VOCs and HAPs into the atmosphere or the removal efficiency of the control device.

d. The Permittee shall determine breakthrough by either testing or calculation. Whenever breakthrough is determined either by testing or calculation at the outlet of the first stage carbon adsorber, the soil vapor extraction and treatment system shall be immediately shut down and the first stage adsorber removed from service. The SVEU shall not be restarted until the second stage adsorber has been relocated to the first stage adsorber position. Likewise, if there are more than 2 adsorbers, each adsorber shall be moved down one position (towards the SVEU unit), and the final stage adsorber shall be replaced with a new adsorber with fresh granular activated carbon. For the purposes of these permit conditions, breakthrough shall be defined as less than a 90% VOC and HAP removal efficiency.

e. The Permittee shall replace the carbon canisters before the calculated breakthrough time for the first stage canister is reached as well as anytime breakthrough is discovered. Before the carbon canister replacement schedule can be extended, a new breakthrough time period must be established through testing. This replacement schedule does not relieve the Permittee from the requirements of assuring a VOC and HAP removal efficiency of at least 90% as measured using EPA Reference method 8260B or a VOC and HAP outlet concentration of less than or equal to 100 ppmv measured using an organic vapor meter calibrated with hexane. If another calibration gas is used the measurement shall be correlated and expressed as hexane.

f. The SVCU system shall not be bypassed unless the total of all VOCs and HAPs released into the atmosphere is less than three pounds per day.

g. The Permittee shall store spent carbon removed from the system in closed containers prior to removal from the site.

[County Rule 220 §302.2]

6. Operations and Maintenance Plans:

a. Unless an Operation and Maintenance (O&M) Plan has previously been submitted and approved, the Permittee shall submit an approvable O&M Plan for the following device to the Department, Attn: Compliance Manager, within 45 days of the initial issuance of this permit, or within 45 days of the equipment receiving exhaust, in accordance with the Department guidelines. The Permittee shall revise the O&M Plan upon the request of the Department and whenever substantive changes are made to the equipment or plan, in accordance with the Department guidelines. The following control device is

subject to the O&M Plan:

Granular activated Carbon Canister System

b. The Operation and Maintenance (O&M) Plan shall specify key system operating parameters, such as temperatures, pressures and/or flow rates, necessary to determine compliance and describe in detail procedures to maintain the approved emission control system. The Permittee shall monitor, operate and maintain the equipment in accordance with the device's approved O&M Plan.

c. Changes to an existing O&M Plan shall be made by submitting a complete, revised O&M Plan along with a cover letter identifying all changes and the reason for such changes. The Permittee may implement the changes addressed in the revised O&M plan after it submits the revision to the Department. Unless disapproved in writing by the Department, the Permittee shall continue to operate in accordance with the revised O&M plan.

d. If any control device is found to be operating outside a specified range, the Permittee shall immediately take corrective action to bring the device back into the specified operating range or shut down the device and the associated equipment vented to it.

e. If a pattern of excursions, as determined by the Department or the Permittee, of operation outside the specified operating range develops, the Permittee shall submit for Department approval a Corrective Action Plan to bring the devices back into the specified operating range. The Plan shall be submitted to the Department, Attn: Applied Science Manager, within 30 days of the determination of the existence of excursions.

[County Rule 220 §302.4]

7. Testing:

a. Testing Requirements: The Permittee shall conduct performance tests on the following equipment.

Granular activated Carbon Canisters

i. At each location at which the SVCU is operated, the Permittee shall take representative grab samples of the gases entering and exiting the SVCU upon startup at each new location, and then once every two weeks for the first six weeks, then monthly for the following six months, then quarterly thereafter and anytime the system flow rate is changed more than 25% of the existing flow rate.

ii. The Permittee shall determine from the representative grab samples the concentration of VOCs and HAPs at the inlet of the SVCU, the concentration of the VOCs and HAPs exiting the SVCU, and the percent VOC and HAP removal. The Permittee shall test the samples using EPA Reference Method 8260B or equivalent methods approved by the Control Officer.

iii. Prior to start-up or moving to a new site, the Permittee shall conduct a complete vapor analysis including VOCs and HAPs. The performance test shall be conducted and data reduced in accordance with test method: EPA Reference Method 8260B or equivalent method as approved by the Control Officer shall be used to determine the concentration of halogenated compounds.

iv. The Permittee shall determine the volumetric flow rate of the gas streams into the control device to perform the necessary calculations and demonstrate compliance with these permit conditions.

v. If a dilution or flow control device is present in the system, the Permittee shall measure and record its position.

[County Rule 200 §309] [County Rule 270 §401] [SIP Rule 27 §A]

b. Operating Conditions: Performance tests shall be conducted under representative operating conditions and all equipment shall be operated during testing in accordance with the most recently approved O&M Plan. The Permittee shall make available to the Control Officer any records necessary to determine appropriate conditions for performance tests. Operations during periods of startup, shutdown, and equipment malfunction shall not constitute representative conditions for performance tests unless otherwise specified in the applicable standard or permit conditions.

[County Rule 270 §403]

c. Notice of Testing: The Permittee shall notify the Department in writing at least two weeks in advance of the actual date and time of each performance test unless otherwise specified in the applicable standard or in this permit so that the Department may have a representative attend.

[County Rule 270 §404]

d. Test Report Submittal: The Permittee shall complete and submit a separate test report for each performance test to the Department within 30 days after the completion of testing unless otherwise specified in the applicable standard or in this permit. The test report shall be prepared in accordance with the most recent version of the Department's "Air Quality Performance Test Guidelines for Compliance Determination in Maricopa County." A completed copy of the Department's "Test Report Submittal Form" shall accompany each test report.

[County Rule 270 §401][SIP Rule 27 §B]

e. Compliance with allowable emission limits and standards shall be determined by the performance tests specified in this permit. If test results do not demonstrate compliance with the requirements of these permit conditions, the Permittee shall make the necessary repairs and/or adjustments to the equipment and demonstrate compliance through retesting. In lieu of retesting, the Permittee may be able to submit an application for a permit revision to establish operational limitations or allowable emission limits based on the equipment's actual performance. Neither option will nullify the fact that test results did not demonstrate compliance with the requirements of the permit conditions or nullify any violations that may result from this noncompliance. In addition to compliance demonstrations, test results shall be used for annual emissions inventory purposes if the Permittee is required to complete an emissions inventory survey.

[County Rule 270 §407] [County Rule 220 §302]

f. Correspondence: All test notices, extension requests, test protocols, test date notifications, and test reports required by this permit shall be submitted to the Department and addressed to the attention of the Compliance Division Manager.

[County Rule 270 §401][SIP Rule 27 §B]

g. Authority: The above testing requirements represent the minimum level of testing to monitor for compliance with the emission limits in this permit. Nothing in this section shall prevent the Control Officer from requiring additional performance testing as deemed necessary to ensure permit compliance and protection of the public health and welfare.

[County Rule 200 §309][County Rule 270 §402.5]

8. Monitoring:

a. The Permittee shall install and maintain a flow measurement device on the inlet streams to the vapor control system to indicate the total air flow rate in actual cubic feet per minute (acfm).

[County Rule 220 §302.2]

9. Recordkeeping:

The Permittee shall maintain the following records for a period of at least five years from the date of the records and make them available to the Control Officer upon request:

a. VOC and HAP emissions shall be calculated monthly within 30 days following the end of each calendar month by summing the emissions over the most recent 12 calendar months using the representative gas samples exiting the SVCU in accordance with the following:

i. The first sampling results shall be used to calculate the emissions until the second sampling date;

ii. The second sampling results shall be used to calculate emissions that occur after the second sampling date until the third sampling date;

iii. The Permittee shall continue the methodology in Subpart (a.i) and (a.ii) of this Condition until the SVCU changes location at which time the sampling sequence starts over. VOC emissions from the previous location must still be accounted for in the 12-month rolling total.

b. The following information shall be recorded for each grab sample:

   i. Date of sampling, type of air pollution control in use, and the name of the company performing the laboratory analyses;

   ii. Site elevation (ft Above Mean Sea Level –AMSL);

   iii. The concentration of VOCs and HAPs at the inlet and outlet of the SVCU (ppmv);

   iv. The emission rate of VOCs and HAPs exiting the SVCU (lb/hr);

   v. The VOC and HAP removal efficiency for the SVCU;

   vi. The actual volumetric flow rate of the gases exiting the stack;

   vii. The process temperature of the SVCU, (°F).

c. The Permittee shall record monthly, the total operating hours of the SVCU device on a 12-month rolling total.

d. The Permittee shall maintain records of the serial number of each canister of activated carbon, the date each is installed, the position in the series (first, second, or third stage position, etc...), and the date removed from service.

e. The Permittee shall maintain copies of the manufacturer's specifications for the SVCU on site.

f. Monitoring and maintenance records specified in the O&M Plan:

   i. Monitoring Records shall consist of an operations log sheet to be completed in accordance with the most recently approved O&M Plan, while the process and/or control device is in operation. Operations log sheets shall, at a minimum, contain the following information: equipment identification; date and time of readings; identification of the individual recording the data; operating parameters to be monitored including units of measure, operating limits (upper and lower limits), and locations for recording measurements; measurement frequency; and if applicable, corrective action taken. Account for any periods of operation when the control device was not operating.

   ii. Maintenance Records shall, at a minimum, contain the following information: equipment identification; date; identification of the individual performing the maintenance check; procedures to be performed including frequency of occurrence; results of inspection (acceptable, nozzle plugged, belt cracked, etc.); and corrective action taken (none, cleaned nozzle, replace belt, etc.)

g. Whenever the O&M Plan requires that maintenance be performed, a record shall be made of the maintenance actions taken within 24 hours of maintenance completion.

h. An explanation shall be recorded for any scheduled maintenance that is not performed during the period designated in the O&M Plan.

i. The Permittee shall notify the Department in writing within seven (7) days after termination of soil remediation activities at the site.

[County Rule 220 §§302 and 501]

10. Portable Sources:

a. The Permittee shall obtain a permit from the Maricopa County Air Quality Department Control Officer (Control Officer) for a portable source which will operate for the duration of its permit solely in Maricopa County and is subject to Sections 410.2, 410.3, and 410.4 of Rule 200. A portable source with a current State of Arizona permit need not obtain a Maricopa County permit but is subject to Sections 410.3, 410.4, and 410.5 of Rule 200. Any permit for a portable source shall contain conditions that will assure compliance with all applicable requirements at all authorized locations.

b. An owner or operator of a portable source which has a Maricopa County permit but proposes to operate outside of Maricopa County shall obtain a permit from the Arizona Department of Environmental Quality Director (Director). Upon issuance of a permit by the Director, the Control Officer shall terminate the Maricopa County permit for that source. If the owner or operator relocates the portable source in Maricopa County, the owner or operator shall notify the Control Officer, as required by Section 410.4 of Rule 200, of the relocation of the portable source. Whenever the owner or operator of a portable source operates a portable source in Maricopa County, such owner or operator shall comply with all regulatory requirements.

c. An owner of a portable source which requires a permit under Rule 200 shall obtain the permit prior to renting or leasing said portable source. This permit shall be provided by the owner to the renter or lessee, and the renter or lessee shall be bound by the permit provisions. In the event a copy of the permit is not provided to the renter or lessee, both the owner and the renter or lessee shall be responsible for the operation of the portable source in compliance with these permit conditions and any violations thereof.

d. A portable source may be transported from one location to another within or across Maricopa County boundaries provided the owner or operator of such portable source notifies the Director and any Control Officer who has jurisdiction over the geographic area that includes the new location of the portable source by certified mail at least ten working days before the portable source is transported to the new location. The notification required under this rule shall include:

   i. A description of the portable source to be transported including the Maricopa County permit number or the State of Arizona permit number for such portable source;

   ii. A description of the present location;

   iii. A description of the location to which the portable source is to be transported, including the availability of all utilities, such as water and electricity, necessary for the proper operation of all control equipment;

   iv. The date on which the portable source is to be moved;

   v. The date on which operation of the portable source will begin at the new location; and

   vi. The duration of operation at the new location.

e. An owner or operator of a portable source with a current State of Arizona permit that moves such portable source into Maricopa County shall notify the Control Officer that such portable source is being transported to a new location and shall include in such notification a copy of the State of Arizona permit and a copy of any conditions imposed by the State of Arizona permit. The source shall be subject to all regulatory requirements of these rules.

[Rule 200 §410]

<u>GENERAL CONDITIONS:</u>

11. Permits:

a. POSTING AND TERM OF PERMIT:

i. This Permit shall be valid on the issue date, shall remain in effect for no more than five years from the issue date and shall supersede all such prior permits issued to the Permittee. This Permit shall be posted in a clearly visible and accessible location on the site where the equipment is installed.
[Rule 220 §§302.1 and 402; Rule 200 §312] [SIP Rule 220 §406.3]

ii. Any approved Dust Control Plan or Dust Control Permit required by Rule 310 shall be posted in a conspicuous location at the work site, within on-site equipment, or in an on-site vehicle, or shall otherwise be kept available on site at all times.
[Rule 310 §409] [SIP Rule 310 §401]

iii. The Permittee shall post all notices pursuant to Rule 220 §407.5. The posting shall be prominently placed at a location under the applicant's legal control, adjacent to the nearest public roadway, and visible to the public using the public roadway.
[Rule 220 §407.5][Locally Enforceable Only]

b. BASIC: This Permit may be revised, reopened, revoked and reissued, or terminated for cause. The filing of a request by the Permittee for a permit revision, revocation and reissuance, or termination, or of a notification of planned changes or anticipated noncompliance does not stay any Permit Condition.
[Rule 220 §302.11] [Locally Enforceable Only]

c. PERMITS AND PERMIT CHANGES, AMENDMENTS AND REVISIONS:

i. The Permittee shall comply with the Administrative Requirements of Section 400 of Rule 220 for all changes, amendments and revisions at the facility for any source subject to regulation under Rule 200, shall comply with all required time frames, and shall obtain any required preapproval from the Control Officer before making changes. All applications shall be filed in the manner and form prescribed by the Control Officer. The application shall contain all the information necessary to enable the Control Officer to make the determination to grant or to deny a permit or permit revision including information listed in Rule 200 §309 and Rule 220 §302.
[Rule 200 §§301 & 309] [Rule 220 §§301 and 400] [SIP Rule 220]

ii. While processing an application, the Control Officer may require the applicant to provide additional information and may set a deadline for a response.
[Rule 220 §301.4(e)] [SIP Rule 220]

d. PROHIBITION ON PERMIT MODIFICATION: The Permittee shall not willfully deface, alter, forge, counterfeit, or falsify this permit.
[Rule 200 §311][Locally Enforceable Only]

e. RENEWAL:

i. The Permittee shall submit an application for the renewal of this Permit in a timely and complete manner. The Permittee shall file all permit applications in the manner and form prescribed by the Control Officer. For purposes of permit renewal, a timely application is one that is submitted at least six months, but not more than 18 months, prior to the date of permit expiration. A complete application shall contain all of the information required by the Rules including Rule 200 §309 and Rule 220 §§301 & 302.
[Rule 200 §309][Rule 220 §§301 and 302][Locally Enforceable Only]

ii. If the Permittee submits a timely and complete application for a permit renewal, but the Control Officer has failed to issue or deny the renewal permit before the end of the term of the previous permit, then the permit shall not expire until the renewal permit has been issued or denied. This protection shall cease to apply if, subsequent to the completeness determination, the Permittee fails to submit, by the deadline specified in writing by the Control Officer, any additional information identified as being needed to process the application.
[Rule 200 §403.2] [Rule 220 §301] [Locally Enforceable Only]

f. REVISION / REOPENING / REVOCATION: This permit shall be reopened and revised under any of the following circumstances:

i. The Control Officer or the Administrator determines that the permit contains a material mistake or that inaccurate statements were made in establishing the emissions standards or other terms or conditions of the permit.

ii. The Control Officer or the Administrator determines that the permit must be revised or revoked to assure compliance with the applicable requirements.

[Rule 200 §402][Locally Enforceable Only]

g. REQUIREMENTS FOR A PERMIT:

i. No source may operate after the time that it is required to submit a timely and complete application except as noted in Sections 403 and 405 of Rule 220. Permit expiration terminates the Permittee's right to operate. However, if a source submits a timely and complete application, as defined in Rule 220 §301.3, for permit issuance or renewal, the source's failure to have a permit is not a violation of the County Rules until the Control Officer takes final action on the application. The Source's ability to operate without a permit as set forth in this paragraph shall be in effect from the date the application is determined to be complete until the final permit is issued. This protection shall cease to apply if, subsequent to the completeness determination, the applicant fails to submit, by the deadline specified in writing by the Control Officer, any additional information identified as being needed to process the application.

[Rule 220 §301.7] [SIP Rule 220]

ii. If the Permittee engages in or allows any routine dust generating activities at the facility, the Permittee shall apply to have the routine dust generating activity covered as part of this Permit. Nonroutine activities, such as construction and revegetation, require a separate Dust Control Permit that must be obtained from the Control Officer before the activity may begin.

1) The Permittee shall not commence any routine dust-generating operation that disturbs a surface area of 0.10 acre or greater without first submitting a Dust Control Plan to the Control Officer.

[Rule 310 §§302.3 & 402.1] [SIP Rule 310 §303.1]

2) The Permittee shall request a Dust Control Plan revision with a submittal in the manner and form prescribed by the Control Officer if:

a) The acreage of a project changes;

b) The permit holder changes;

c) The name(s), address(es), or phone numbers of person(s) responsible for the submittal and implementation of the Dust Control Plan and responsible for the dust-generating operation change; and

d) If the activities related to the purposes for which the Dust Control permit was obtained change.

[Rule 310 §403.2] [SIP Rule 310 §305]

3) A subcontractor who is engaged in dust-generating operations at a site that is subject to a Dust Control Permit shall register with the Control Officer and follow those registration requirements in Rule 200.

[Rule 200 §306] [SIP Rule 310 §302]

iii. Burn Permit: The Permittee shall obtain a Permit To Burn from the Control Officer before conducting any open outdoor fire listed in Rule 314 §§302.1, and 302.2.

[Rule 314] [Rule 200 §307] [SIP Rule 314]

h. RIGHTS AND PRIVILEGES: This Permit does not convey any property rights nor exclusive privilege of any sort.

[Rule 220 §302.12] [Locally Enforceable Only]

i. SEVERABILITY: The rules, paragraphs, clauses, provisions, and/or sections of this Permit are

severable, and, if any rule, paragraph, clause, provision, and/or section of this Permit is held invalid, the remainder of this Permit shall not be affected thereby.

[Rule 220 §302.9] [SIP Rule 80]

j. SCOPE: The issuance of any permit or permit revision shall not relieve the Permittee from compliance with any Federal laws, Arizona laws, or the County or SIP Rules, nor does any other law, regulation or permit relieve the Permittee from obtaining a permit or permit revision required under the County Rules.

[Rule 200 §309][Rule 220 §406.3] [Locally Enforceable Only]

k. TRANSFER: Except as provided in ARS §49-429 and Rule 200 §404.2, this permit may be transferred to another person if the Permittee complies with the permit transfer requirements of Rule 200 §404 and the administrative permit amendment procedures pursuant to Rule 220 §405.1. The new permit holder (Permittee) shall abide by all requirements of the Permit at all times.

[Rule 200 §404] [Locally enforceable only]

12. Best Available Control Technology (BACT) / Reasonably Available Control Technology (RACT):

a. Best Available Control Technology (BACT) Required:
The Permittee shall apply BACT for each pollutant emitted which exceeds any of the threshold limits set forth in any one of the following criteria:

i. Any new stationary source which emits more than 150 lbs/day or 25 tons/year of volatile organic compounds, nitrogen oxides, sulfur dioxide, or particulate matter, more than 85 lbs/day or 15 tons/year of PM10; or more than 550 lbs/day or 100 tons/year of carbon monoxide.

ii. Any modified stationary source if the modification causes an increase in emissions on any single day of more than 150 lbs/day or 25 tons/year of volatile organic compounds, nitrogen oxides, sulfur dioxide, or particulate matter, more than 85 lbs/day or 15 tons/year of PM10; or more than 550 lbs/day or 100 tons/year of carbon monoxide. BACT is only required for the sources or group of sources being modified.

b. Reasonably Available Control Technology (RACT) Required:
The Permittee shall apply RACT for each pollutant emitted from any new or modified stationary source which emits or causes an increase in emissions of up to 150 lbs/day or 25 tons/yr of volatile organic compounds or particulate matter; up to 85 lbs/day or 15 tons/yr of PM10; or up to 550 lbs/day or 100 tons/yr of carbon monoxide.

[Rule 241 §301, §302] [Locally enforceable only]

13. Certification of Truth, Accuracy and Completeness:
Any application form, report, or compliance certification submitted under County or Federal Rules or these Permit Conditions shall contain certification by a responsible official of truth, accuracy, and completeness of the application form or report as of the time of submittal. This certification and any other certification required under County or Federal Rules or these Permit Conditions shall state that, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate, and complete.

[Rule 100 §§200.97 and 401; Rule 220 §§302.14] [Locally enforceable only]

14. Duty to Supplement or Correct Application:
If the Permittee fails to submit any relevant facts or has submitted incorrect information in a permit application, the Permittee shall, upon becoming aware of such failure or incorrect submittal, promptly submit such supplementary facts or corrected information. In addition, the Permittee shall provide additional information as necessary to address any requirements that become applicable to the source after the date it filed a complete application but prior to release of a proposed permit. Willful misrepresentation of facts in a permit application is cause for revocation or denial of a permit.

[Rule 220 §§301.5, 301.6] [Locally enforceable only]

15. Air Pollution Prohibited:

a. The Permittee shall not discharge from any source whatever into the atmosphere regulated air pollutants

which exceed in quantity or concentration that specified and allowed in the County or SIP Rules, the Arizona Administrative Code (AAC) or the Arizona Revised Statutes (ARS), or which cause damage to property or unreasonably interfere with the comfortable enjoyment of life or property of a substantial part of a community, or obscure visibility, or which in any way degrade the quality of the ambient air below the standards established by the Maricopa County Board of Supervisors or the Director of the Arizona Department of Environmental Quality (ADEQ).

b. No person shall discharge from any source whatever into the atmosphere regulated air pollutants so as to create or maintain a nuisance.

[Rule 100 §301; SIP Rule 3; A.R.S. §49-141]

16. Circumvention:

The Permittee shall not build, erect, install, or use any article, machine, equipment, condition, or any contrivance, the use of which, without resulting in a reduction in the total release of regulated air pollutants to the atmosphere, conceals or dilutes an emission which would otherwise constitute a violation of this Permit or any Rule or any emission limitation or standard. The Permittee shall not circumvent the requirements concerning dilution of regulated air pollutants by using more emission openings than is considered normal practice by the industry or activity in question.

[Rule 100 §104] [Locally enforceable only]

17. Compliance:

a. The Permittee shall comply with all conditions of this Permit including all applicable requirements of Federal laws, Arizona laws, and Maricopa County Air Pollution Control Rules and Regulations now in effect and as amended in the future.

b. Any permit noncompliance constitutes a violation of the Maricopa County Statutes and is grounds for enforcement action, permit termination or revocation, or for denial of a renewal application. In addition, non-compliance with any federally enforceable requirements constitutes a violation of the Clean Air Act.

c. It shall not be a defense for the Permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with these Permit Conditions.
[Rule 220 §302.10, 11] [A.A.C. R18-2-306.A.8.a; A.A.C. R18-2-306.A.8.b]] [Locally enforceable only]

18. Monitoring and Testing:

a. MONITORING REQUIRED: The Permittee shall monitor, sample, or perform other studies to quantify emissions of regulated air pollutants or levels of air pollution that may reasonably be attributable to the facility if required to do so by the Control Officer, either by Permit or by order in accordance with Rule 200 §310.

[Rule 200 §310] [SIP Rule 41]

b. TESTING REQUIRED: Except as otherwise specified in these Permit Conditions or by the Control Officer, the Permittee shall conduct required testing used to determine compliance with standards or permit conditions established pursuant to the County or SIP Rules or these Permit Conditions in accordance with Rule 270 and the applicable testing procedures contained in the Arizona Testing Manual for Air Pollutant Emissions or other approved USEPA test methods.

[Rule 200 §408; Rule 220 §302.6; Rule 270 §§300 and 400] [SIP Rule 27]

c. TESTING FACILITIES: The Permittee shall provide, or cause to be provided, performance testing facilities as follows:

i. Sampling ports adequate for test methods applicable to such source.

ii. Safe sampling platform(s).

iii. Safe access to sampling platforms(s).

iv. Utilities for sampling and testing equipment.

[Rule 270 §405] [SIP Rule 42]

19. Recordkeeping:

a. RECORDS REQUIRED: The Permittee shall maintain records of all emissions testing and monitoring, records detailing all malfunctions which may cause any applicable emission limitation to be exceeded, records detailing the implementation of approved control plans and compliance schedules, records required as a condition of any permit, records of materials used or produced and any other records relating to the emission of air contaminants which may be requested by the Control Officer.

[Rule 100 §501] [SIP Rule 40.A]

b. RETENTION OF RECORDS: Unless a longer time frame is specified by the Rules or these Permit Conditions, the Permittee shall retain information and records required by either the Control Officer or these Permit Conditions as well as copies of summarizing reports recorded by the Permittee and submitted to the Control Officer for 5 years after the date on which the pertinent report is submitted.

[Rule 100 §504] [SIP Rule 40.C]

c. MONITORING RECORDS: The Permittee shall retain records of all required monitoring data and support information for a period of at least five years from the date of the monitoring sample, measurement, report, or application. Support information includes all calibration and maintenance records and all original strip-chart recordings or physical records for continuous monitoring instrumentation, and copies of all reports required by the permit. Records of any monitoring required by this Permit shall include the following:

i. The date, place as defined in the permit, and time of sampling or measurements;

ii. The date(s) analyses were performed;

iii. The company or entity that performed the analyses;

iv. The analytical techniques or methods used;

v. The results of such analyses; and

vi. The operating conditions as existing at the time of sampling or measurement.

[Rule 220 §§302.5 and 302.7] [Locally Enforceable Only]

20. Reporting:

a. ANNUAL EMISSION REPORT: Upon request of the Control Officer and as directed by the Control Officer, the Permittee shall complete and shall submit to the Control Officer an annual emissions inventory report. The report is due by April 30 or 90 days after the Control Officer makes the inventory forms available, whichever occurs later. The annual emissions inventory report shall be in the format provided by the Control Officer. The Control Officer may require submittal of supplemental emissions inventory information forms for air contaminants under ARS §49-476.01, and ARS §49-480.03.

[Rule 100 §505] [SIP Rule 40]

b. The Permittee shall submit any monitoring reports as required by this permit at least annually. Upon request, such reporting requirements shall require prompt reporting of deviations from permit requirements, including those deviations attributable to upset conditions. Reports of deviations shall include the probable cause of the deviations and any corrective actions or preventative measures taken. For the purposes of this condition, reporting shall be considered prompt when such reporting is made in accordance with Rule 130.

[Rule 220 §302.8] [Locally Enforceable Only]

c. OTHER REPORTING: The Permittee shall furnish information that the Control Officer may request in writing to determine whether cause exists for revising, revoking and reissuing this permit, or terminating this permit, or to determine compliance with this permit. The information shall be provided in a timeframe specified by the Control Officer. Upon request, the Permittee shall also furnish to the Control Officer copies of records required to be kept by this Permit. For information claimed to be confidential, the Permittee shall furnish a copy of such records directly to the Administrator along with a claim of confidentiality.

[Rule 220 §302.13] [SIP Rule 40]

d. GREENHOUSE GAS REPORTING: The Permittee shall comply with 40 CFR Part 98, Mandatory Greenhouse Gas Reporting, and all subparts as applicable.

[40 CFR §98]

21. Malfunctions, Emergency Upsets, and Excess Emissions:

a. Emergencies, malfunctions, and other excess emissions shall be reported as required by Rule 100 §500 and Rule 140 §500.

b. An affirmative defense of an emergency, excess emission, and/or during startup and shutdown shall be demonstrated through properly signed, contemporaneous operating logs, or other relevant evidence as outlined in Rule 130 for emergencies and Rule 140 for excess emissions.

[Rule 100 §§400, 500; Rule 130 §§201, 400; Rule 140 §§400, 500] [SIP Rule 140]

22. Emergency Episodes:

If an air pollution alert, warning, or emergency has been declared, the Permittee shall comply with any applicable requirements of Rule 600 §302.

[Rule 600 §302] [SIP Rule 600 §302]

23. Right to Entry:

The Control Officer during reasonable hours, for the purpose of enforcing and administering County or SIP Rules or the Clean Air Act, or any provision of the Arizona Revised Statutes relating to the emission or control prescribed pursuant thereto, may enter every building, premises, or other place, except the interior of structures used as private residences. Every person is guilty of a petty offense under ARS 49-488 who in any way denies, obstructs or hampers such entrance or inspection that is lawfully authorized by warrant.

a. The Permittee shall allow the Control Officer or his designated representatives, upon presentation of proper credentials (e.g., Maricopa County Air Quality Department identification) and other documents as may be required by law, to:

i. Enter upon the Permittee's premises where a source is located or emissions-related activity is conducted, or where records are required to be kept pursuant to the conditions of the permit;

ii. Have access to and copy, at reasonable times, any records that are required to be kept pursuant to the conditions of the permit;

iii. Inspect, at reasonable times, any sources, equipment (including monitoring and air pollution control equipment), practices, or operations regulated or required pursuant to this permit;

iv. Sample or monitor, at reasonable times, substances or parameters for the purpose of assuring compliance with the permit or other applicable requirements; and

v. To record any inspection by use of written, electronic, magnetic, and photographic media.

[Rule 100 §105] [Rule 220 §302.17-21] [SIP Rule 43]

24. Confidentiality Claims:

Any records, reports or information obtained from the Permittee under the County Rules or this Permit shall be available to the public, unless the Permittee files a claim of confidentiality in accordance with ARS 49-487(c) that:

a. Precisely identifies the information in the permit(s), records, or reports that is considered confidential, and

b. Provides sufficient supporting information to allow the Control Officer to evaluate whether such information satisfies the requirements related to trade secrets.

A claim of confidentiality shall not excuse the Permittee from providing any and all information required or requested by the Control Officer and shall not be a defense for failure to provide such information.

[Rule 100 §§200.110 and 402; Rule 200 §411] [40 CFR 2.203]

25. Fees:

The Permittee shall pay an annual fee for this Permit as determined by the Control Officer in accordance

with Rule 280. Permit Fees: A fee shall be charged for each facility. Upon full payment and receipt of permit fees, the Control Officer shall issue the final permit. No permit is valid until the applicable permit fee has been received and until the permit is issued by the Control Officer.

[Rule 200 §409; Rule 280 §302] [SIP Rule 28] [ARS 49-480(D)]

Equipment List

ARIZONA DEPT OF ENVIRONMENTAL QUALITY
Permit Number 070045

Date Issued: 07/20/07
Revision: 1.0.0.1

Equipment Description	Rated Capacity	Quantity Exist/Future
1. SOIL VAPOR EXTRACTION SYSTEM - CARBON ADSORPTION, 2 CANISTERS IN SERIES	200.00 CFM	1 /

APPENDIX K

ADEQ LAND AND WATER USE REPORT

LAND AND WATER USE REPORT

CENTRAL & CAMELBACK

WATER QUALITY ASSURANCE REVOLVING FUND

REGISTRY SITE

Phoenix, Arizona

Prepared By:

Arizona Department of
Environmental Quality
1110 West Washington
Phoenix, Arizona 85007

April 2014

LAND AND WATER USE REPORT

CENTRAL & CAMELBACK

WATER QUALITY ASSURANCE REVOLVING FUND

REGISTRY SITE

Phoenix, Arizona

Prepared by

REGISTERED GEOLOGIST
CERTIFICATE NO. 35032
KEVIN C. SNYDER
Date Signed 4/29/14
ARIZONA, U.S.A.
Expires 6/30/15

Kevin Snyder, R.G.

Project Hydrologist

Reviewed by

Ana I. Vargas

Division Deputy Director

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APPENDIX

Land and Water Use Study Questionnaires

EXECUTIVE SUMMARY

The Central and Camelback (C&C) Water Quality Assurance Revolving Fund (WQARF) Registry Site (the Site) is the areal projection of two plumes of contaminated groundwater in the area of Central Avenue and Camelback Road in Phoenix, Arizona. The plumes are bounded by Georgia Avenue to the north, Second Street to the east, Mariposa Street to the south and First Avenue to the west. The Site is bounded by Missouri Avenue to the north, Second Street to the east, Pierson Street to the south and Third Avenue to the west (Figure 1). The source of the plumes is the former dry cleaning facility at the southwest corner of Central Avenue and Camelback Road. The initial primary contaminants of concern (COC) for the Site include the following volatile organic compounds (VOCs); tetrachloroethene (PCE), trichloroethene (TCE), and cis-1,2-dichloroethene (cis-1,2-DCE). Benzene, toluene, ethyl benzene, and xylenes (BTEX) were part of the original COC list because of detections at various locations throughout the plume. BTEX was eventually dropped from the COC list because the contaminants were limited to leaking underground storage tank (LUST) facilities regulated by Arizona Department of Environmental Quality (ADEQ) Underground Storage Tank (UST) Program and limited in extent.

The land and water use study (use study) is required in accordance with Arizona Administrative Code (A.A.C.) R18-16-406(A)(3), which states that the remedial investigation (RI) shall identify current and reasonably foreseeable uses of land and waters of the state. As specified in A.A.C. R18-16-406(D), reasonably foreseeable uses of water are those likely to occur within 100 years.

In order to obtain consistent land and water use information from specified stakeholders, a standardized land and water use study questionnaire was prepared and mailed by ADEQ's consultant Hydro Geo Chem, Inc. (HGC) to property owners, municipalities, and utilities in the Site. A total of 36 were completed and returned to ADEQ. The questionnaires requested specific information in the following areas:

- Property information
- On-site wells
- Water use
- Waste streams

Based on the land and water use study questionnaires returned to ADEQ, little significant change to respondent properties is expected to occur.

The entire Site is located within the City of Phoenix (COP). Arizona State law requires each city to have a General Plan that establishes policy for the city's physical development (Arizona Revised Statutes [A.R.S.] 9-461.05). The COP General Plan includes goals, policies, and recommendations to guide land use and neighborhood development for the next 10 to 20 years and beyond. Thus, most of the discussion of land use centers on the COP General Plan, most recently amended in January 2013.

The COP is comprised of 15 "urban villages". The Site is located in the Alhambra Urban Village. The village core or special planning district within the Alhambra Urban Village is located between Bethany Home Road and Camelback Roads and 19th and 15th Avenues. The primary land use within the Alhambra Urban Village and the Site is single family residential followed by multiple family residential and commercial.

The COP Water Services Department issued a water resources plan (Plan) in 2011. The plan includes water development and water use policies. Plans for specific groundwater development within the C&C are not addressed in the Plan.

Since 1985, groundwater use by the COP steadily declined due to the availability of Central Arizona Project (CAP) water, the development of SRP-based surface water supplies, and provisions in the State's Water Code (1919), updated by A.R.S. 9-461.05, which mandates groundwater use limitations. In effect, the Water Code and COP corresponding policy rely on groundwater as an essential supply to mitigate future water shortages. The COP currently meets over 95 percent of its demand with surface water sources that could be curtailed due to long-term drought in source watersheds. The COP also relies on groundwater to accommodate water system maintenance and as a back-up during temporary outages. Current groundwater use in normal supply years is approximately 6,000 to 9,000 acre-feet per year (AFY) in the Plan, but could be greater during surface water shortages.

In 2010, the Arizona Department of Water Resources (ADWR) approved the COP's application for a designation of assured water supply. This designation, a re-validation of the original approval by ADWR in 1998, signifies that the COP has sufficient renewable water supplies to

support projected demand levels for the year 2025, and can maintain these supplies through the year 2110. A portion of these water supplies includes groundwater.

The COP has 20 active wells currently in production that can generate up to 28 million gallons of water per day. Due to water quality degradation (and the establishment of more stringent maximum contaminant levels - MCLs), other wells were placed on inactive status.

Degraded groundwater constitutes a vast reserve of water for use in meeting the COP's future water needs. The COP maintains several wells within or adjacent to WQARF sites for emergency use and future use in meeting service area water needs; these wells could be placed back in service with the addition of wellhead treatment systems or approved blending programs. Also, the COP holds "Special Pump Rights" with Salt River Project (SRP), which are rights to groundwater well capacity developed by SRP. In order for the COP to maintain and use these rights in the future, it may be necessary to connect SRP wells directly to the COP water distribution system; this may require the addition of wellhead treatment systems. The COP does not have any wells within one mile of the Site contaminant plumes.

SRP generally uses groundwater to supplement its surface water supply. Thus, annual use of groundwater will fluctuate depending upon the availability of surface water. SRP currently has one well within the site and four groundwater supply wells within one mile of the Site contaminant plumes. As the area becomes more urbanized, wells with suitable water quality may be shifted to municipal use. SRP indicated in their Land and Water Use Questionnaire response that they will be providing drink water with their wells in the reasonably foreseeable future.

1.0 INTRODUCTION

The Arizona Department of Environmental Quality (ADEQ) has prepared this Land and Water Use report for the Central and Camelback (C&C) Water Quality Assurance Revolving Fund (WQARF) Registry Site (the Site) to meet the requirements established under Arizona Administrative Code (A.A.C.) R18-16-406(D). The purpose of the report is to gather information regarding current and foreseeable uses of land or waters that have been or are threatened to be impacted by a contaminant release.

1.1 Process Overview

The process to complete the remedial investigation (RI) and select remedial objectives (ROs) begins with the completion of the Draft RI Report. Following the completion of the Draft RI Report, which includes the Land and Water Use Report, a public meeting is held to discuss the reports and solicit input for the selection of ROs. Typically, the public will be given 30 to 60 days to comment on the reports. Following the public meeting and comment period, ADEQ issues the Proposed RO Report. The ROs chosen for a site may be based on none, some, or all of the uses identified in the Land and Water Use Report. If there is significant public interest or additional information has been discovered, an additional public meeting to discuss the ROs is held. The Final RO Report is then prepared and included in the Final RI Report.

1.2 Land and Water Use Report

The purpose of the Land and Water Use Report is to gather information regarding current and "foreseeable" uses of land or waters that have been or are threatened to be impacted by a contaminant release, and to project time frames for future changes in those uses. Information gathered from discussions with property owners, water providers, municipalities, and well owners are to be included in the report.

In general, this Land and Water Use Report identifies various current and potential future uses of land and water in the vicinity of the Site. However, the report does not evaluate the uses, nor does it classify the use as "reasonably foreseeable". The evaluation of uses will take place during public comment periods, and public meetings and will be presented in the Proposed RO Report.

1.3 Site Background

The Site is generally bounded by Missouri Avenue to the north, Second Street to the east, Pierson Street to the south, and Third Avenue as the western boundary, as shown on Figure 1. However, the contaminant plumes are bounded by Georgia Avenue to the north, Second Street to the east, Mariposa Street to the south and First Avenue to the west (Figure 1). The south contaminant source area (SCSA) is at a former dry cleaning facility that was located on the southwest corner of Central Avenue and Camelback Road, where contamination was initially detected in 1993. The contaminants of concern (COCs) associated with releases from this facility include tetrachloroethene (PCE), trichloroethene (TCE), and cis-1,2-dichloroethene (cis-1,2-DCE). Other contaminants detected in groundwater beneath the Site are from historical leaking underground storage tank (LUST) releases in the area and include benzene, toluene, ethylbenzene, total xylenes (BTEX); methyl tertiary butyl ether (MTBE); and 1,2-dichloroethane (1,2-DCA). PCE has been detected in groundwater samples collected from Salt River Project (SRP) irrigation well 13.5E-9.4N, located at West Georgia Street and Central Avenue, and in samples collected from monitoring wells for the LUST sites in the Site. ADEQ subsequently designated the area of groundwater contamination as the C&C WQARF area and recommended further study under the WQARF program. The Site was placed on the WQARF Registry in 2000 pursuant to A.R.S. 49-287.01.

An Early Response Action (ERA) has been initiated by ADEQ and includes a groundwater pump-and-treat remedial system and a soil vapor extraction (SVE) system. Both remedial systems are currently operating at the Site. The groundwater extraction wells, SVE wells, soil vapor extraction compound and groundwater treatment compound are shown on Figure 1. The central purpose of the ERA is to acquire and maintain hydraulic control of PCE-contaminated groundwater associated with the SCSA of the Site while at the same time reducing contaminant concentrations in the groundwater and underlying soil.

The aquifer underlying the site is known as the Upper Alluvial Unit (UAU) Aquifer. The UAU extends to depths of approximately 400 feet (Brown and Pool, 1989). It consists of basin fill sediments of sand and gravel proximal to the Salt and Gila Rivers and at the basin margins. In areas distal to the basin margins, which include the Site, the UAU is silt and sand. Typically, the

UAU is considered an unconfined aquifer. At the Site, semiconfined conditions are present in the upper 200-feet of the UAU.

Shallow groundwater beneath the Site and surrounding vicinity has historically flowed northward and has a shallow gradient under non-pumping conditions. The hydraulic gradient in the upper portion of the aquifer appeared to have been influenced by recharge caused by leakage from the Grand Canal, which is located approximately ¼-mile south of the site and SRP well 13.5E-9.4N. The Grand Canal was lined in 1998. Recent pumping data for SRP well 13.5E-9.4N show that the well is not pumped steadily (Elliott, 2013)

A high-rise building east of the SCSA (known as One East Camelback [OEC]) was built in 1983 – 1984 and has an underground parking structure which penetrates the water table. A series of dewatering wells were installed to prevent groundwater from entering the below-grade portions of the building. The OEC extraction wells began operating in 1993. These occurrences, coupled with groundwater extraction at the SCSA, have caused groundwater in the Site to flow in a southeasterly direction.

1.4 General Groundwater Quality

Groundwater in the Site and the surrounding area generally contain concentrations of total dissolved solids (TDS) ranging from 500 milligrams per liter (mg/L) to slightly greater than 1,000 mg/L (Brown and Pool, 1989) (Thiros, S.A. et. al., 2010). Analytical data for TDS in a groundwater sample collected in 2012 from SRP well 13.5E-9.4N for TDS was 1,070 mg/L (Elliott, 2013). The EPA has not set an MCL for TDS, however, there is a secondary standard of 500 mg/L TDS for drinking water. The secondary standards are non-enforceable guidelines regulating contaminants that may cause aesthetic effects in drinking water. The principal ions present within local groundwater include chloride, magnesium, sodium, and calcium (Reeter and Remick, 1986).

Based on analytical data collected by the SRP from their well located in the Site, other general groundwater quality parameters such as nitrate and arsenic are within current regulatory guidelines for drinking water uses (SRP, 2013). Nitrate analyses in 2013 for four SRP wells within 1 mile of the Site were below the MCL of 10 mg/L in two of the wells and greater than the Aquifer Water Quality Standard (AWQS) of 10 mg/L in the other two wells. Arsenic was

less than the AWQS of 0.05 mg/L and 1,2-dibromo-3-chloropropane (DBCP) was less than the AWQS of 0.0002 mg/L in samples collected from all for neighboring SRP wells.

As mentioned above, PCE, TCE, and cis-1,2-DCE are the COCs that have been detected in groundwater samples collected from the Site wells at concentrations greater than their respective AWQS of 5 micrograms per liter (µg/L), 5 µg/L, and 70 µg/L. Contaminant groundwater concentrations have dropped significantly since startup of the ERA with only PCE and TCE exceeding their AWQS. However, PCE was detected at a concentration of 6.8 µg/L in a groundwater sample collected from SRP well 13.5E-9.4N in 2012. The decline in COC concentrations at the SCSA is attributed to the C&C ERA.

Other contaminants associated with LUST sites within the Site have been detected in groundwater at concentrations greater than their AWQSs. These included benzene, toluene, ethylbenzene, and 1,2-dichloroethane (1,2-DCA). Currently, only benzene has been detected at a concentration greater than the AWQS. The decline in LUST release contaminant concentrations is attributed to remedial activities conducted at the LUST sites.

2.0 USE EVALUATION

The following sections outline current and foreseeable land and water uses for the Site and the surrounding area. Reasonably foreseeable uses for land are those uses of land likely to occur at the Site within a reasonable time period. Reasonably foreseeable uses of water are those likely to occur within 100 years unless a longer time period is shown to be reasonable based on site-specific circumstances [A.A.C. R18-16-406(D)].

2.1 Land and Water Use Questionnaires

In order to obtain consistent land and water use information from specified stakeholders, a standardized land and water use study questionnaire was prepared and mailed by HGC to property owners, municipalities, and utilities in the Site. A total of 36 questionnaires were completed and returned to ADEQ and are identified by company/facility name or address below, and are included in Appendix A:

100 W Camelback Building
110 W Camelback Road
4800 North Central, L.L.C.
5102 N Central Avenue
The Beatitudes Campus
Bonneville Phoenix Studio Building
Brophy College Preparatory School
Central at Coulter LLC
Central Music
Charles Jones
Circle K Corporation
City of Phoenix
DPR Realty
Enterprise Car Rental
First United Methodist Church
Frances
Harleys Italian Bistro
Herro Medical Center

LECG-Lancaster Consulting
Louis XV Jewlers
Lynn Morrow
Melvin & Marian Martin
Medlock Properties
One Camelback Building
Omninet Central, LP
Omninet Highland, LLC
Omninet Phoenix, LP
Pardi Properties North Central, L.L.C.
Retail Shops at 4700 N Central
Sees Candies Quality Discount Store
Salt River Valley Water User's Association
Texaco
TI Buron, LP
Uptown Plaza
Uptowne Drycleaning, Inc.
VRAD Investments

The questionnaires requested specific information in the following areas:

Property information
On-site wells
Water use
Waste streams

The information provided in the questionnaires was used in conjunction with the references identified in this section.

2.2 Land Use

The entire Site is located within the City of Phoenix (COP). Arizona State law requires each city to have a General Plan that establishes policy for the city's physical development. The COP General Plan includes goals, policies, and recommendations to guide land use and neighborhood

development for the next 10 to 20 years and beyond. Thus, most of the discussion of land use centers on the COP General Plan, most recently amended in January 2013.

The COP is comprised of 15 "urban villages" (Figure 2) (COP, 2002). The Site is located in the southeast corner of the Alhambra Urban Village (Figure 3). The Site includes portions of three historic neighborhoods comprised of the Windsor Square Historic Neighborhood (NE corner of Central and Camelback), Medlock Place Historic Neighborhood (NW corner of Central and Camelback) and Pierson Place Historic Neighborhood (SW corner of Central and Camelback). Four schools are also in proximity to the Site comprised of St. Francis Elementary, Brophy College Preparatory, Xavier College Preparatory, and Central High School. The Site is also located along the Light Rail Transit Corridor which runs along Camelback Road from 19th Ave. to Central Ave. and from Central Ave. south to Washington Street.

Each village located within the COP has a Planning Coordinator and a Village Planning Committee who have input into planning decisions for that community and to the COP mayor and Planning Commission.

Development in the area occurs consistent with zoning laws and must go through a site-planning review and permit process. The primary land use within the Site is single family residential (56%) followed by multiple family residential (16%) and commercial (11%) (COP, 2013). Current zoning districts in the Site are identified below and are shown on Figure 4. A more detailed description of COP zoning designations can be found in Table 1.

2.2.1 Current Site-Specific Land Use

The former drycleaner facility at the SCSA first began operations at this location in 1951. The facility changed owners in 1955 and remained under operation by this owner until 2006. Operations included cleaning and dry cleaning clothes. The current zoning designation for the former dry cleaning property is C-2, Commercial – Intermediate Commercial (Figure 4) (COP, 2013).

2.2.2 Current Regional Land Use

The current land use in and surrounding the Site is as follows (Figure 4):

C-O Commercial Office – Restricted Commercial (CO prior to 1986);

C-1	Commercial – Neighborhood Retail;
C-2	Commercial – Intermediate Commercial;
C-2 HR	Commercial – Intermediate Commercial High-Rise and High Density (Combined with underlying zoning);
P-1	Passenger Automobile Parking, Limited (Surface Parking);
P-1 HP	Passenger Automobile Parking, Limited (Surface Parking) Historic Preservation Overlay (Combine with underlying zoning);
P-1 SP	Passenger Automobile Parking, Limited (Surface Parking) Special Permit (Combined with underlying zoning) (Allows a number of specific uses not otherwise permitted in the underlying zoning district);
PAD-10	Planned Area Development (No longer available for rezoning) (Density range of 3 to 3.5 or 4.5 with bonus);
R-3	Multiple Family Residence (Detached single family [SF] 5 to 6.5 or 12 with bonus) (Attached 14.5 to 15.23 or 17.4 with bonus);
R-3 HP	Multiple Family Residence (Detached SF 5 to 6.5 or 12 with bonus) (Attached 14.5 to 15.23 or 17.4 with bonus) Passenger Automobile Parking, Limited (Surface Parking) Historic Preservation Overlay (Combine with underlying zoning);
R-3 SP HP	Multiple Family Residence (Detached SF 5 to 6.5 or 12 with bonus) (Attached 14.5 to 15.23 or 17.4 with bonus) Passenger Automobile Parking, Limited (Surface Parking) Historic Preservation Overlay (Combine with underlying zoning);
R-5	Multiple Family Residence (Detached SF 5 to 6.5 or 12 with bonus) (Attached 43.5 to 45.68 or 52.5 with bonus);
R-5 HP	Multiple Family Residence (Detached SF 5 to 6.5 or 12 with bonus) (Attached 43.5 to 45.68 or 52.5 with bonus) Historic Preservation Overlay (Combine with underlying zoning);
R1-6	Single Family Residence (Density range of 5 to 5.5 or 6.5 with bonus);
R1-6 HP	Single Family Residence (Density range of 5 to 5.5 or 6.5 with bonus) Historic Preservation Overlay (Combine with underlying zoning);
R1-10	Single Family Residence (Density range of 3 to 3.5 or 4.5 with bonus); and
R1-10 PAD	Single Family Residence (Density range of 3 to 3.5 or 4.5 with bonus) Planned Area Development (No longer available for rezoning);

2.2.3 Future Land Use

The Alhambra Planning Coordinator and Alhambra Village Planning Committee meet regularly to accept and review requests for zoning changes within the Alhambra Urban Village. The COP

response to their questionnaire indicated that potential foreseeable plans to alter current zoning districts in the Site vicinity would most likely involve rezoning requests along the light rail corridor. In this area, rezoning requests will most likely involve requests for high-rise buildings as was requested for the southwest corner of Central Avenue and Camelback Road and south of the southeast corner of Central Avenue and Camelback Road. Property owners can file to change the zoning designation of their property. Requests for zoning changes must go through a public hearing and be approved by the City Council prior to finalization.

2.3 Groundwater Use

The Site lies within the Phoenix Active Management Area (AMA) (Figure 5) (ADWR, 2013). The Phoenix AMA was created by the Arizona Groundwater Management Code passed in 1980 and covers approximately 5,646 square miles in central Arizona. All groundwater withdrawn from any AMA must occur under a groundwater right or permit, unless groundwater is being withdrawn from an exempt well. An exempt well is a well with a maximum pump capacity of 35 gallons per minute. Exempt wells may be used to withdraw groundwater only for non-irrigation purposes and are generally used for domestic purposes. All exempt wells must be registered with the ADWR. Non-exempt wells have a pump capacity greater than 35 gallons per minute and are associated with one of the following types of rights or permits: Grandfathered rights, service area rights, and withdrawal permits.

According to ADWR records, there are 12 non-exempt withdrawal wells in the Site; one irrigation well and eleven dewatering wells (Table 2) (Figure 6) (ADWR, 2013). ADWR records indicate that there are no exempt withdrawal wells in the Site and there are no grandfathered rights in the Site (Christiana, 2013). The COP and SRP have service area rights in the Site, however, only SRP is currently pumping groundwater in the Site.

ADWR records indicate that there is one non-exempt withdrawal well within one mile of the Site contaminant plumes which is an irrigation well and two abandoned non-exempt withdrawal wells (Table 2) (Figure 6) (ADWR, 2013). Currently there are three exempt withdrawal wells within one mile of the Site contaminant plumes; a domestic/irrigation well, a stock well, and a domestic well and there is one abandoned exempt withdrawal well.

Groundwater under the Site generally flows to the southeast towards the groundwater remediation wells operated by ADEQ and the withdrawal wells operated by One Camelback, Inc. However, historically, groundwater flow direction was to the north. Figure 7 shows the groundwater elevation contours for the Site in December 1994 and Figure 8 shows the groundwater elevation contours for the Site in September 2013. Currently, depth to groundwater is approximately 60 to 65 feet below ground surface (bgs). Historic water levels were shallower at approximately 40 feet bgs.

2.3.1 Municipality and Utility Groundwater Use

The COP and SRP pump groundwater as needed when surface water supplies can not meet their customer needs. The following sections discuss the current and future groundwater uses of the COP and SRP.

2.3.1.1 Current City of Phoenix Needs

The COP receives water from four major sources: SRP, Central Arizona Project (CAP), groundwater pumped from COP wells, and reclaimed water (COP, 2011). During normal supply years, approximately 50 percent of the COP water supply comes from SRP; 44 percent is from CAP; and approximately 3 percent is from groundwater pumpage and reclaimed water each. When SRP and/or CAP water supplies are reduced, the COP supplements water supplies with groundwater pumped from COP wells.

Because of groundwater quality degradation due to the presence of industrial solvents such as PCE and TCE, the COP has abandoned or discontinued use of 20 wells (COP, 2011). This has resulted in a loss of approximately 23 million gallons per day of groundwater production. An additional 40 plus wells have been closed by the COP because of groundwater contamination by other pollutants such as pesticides, petroleum hydrocarbons, heavy metals, and nitrates reducing COP groundwater supplies by approximately 75 million gallons per day. Currently, there are no COP wells in the Site (Figure 6). There was a COP well located within one mile of the Site north contaminant plume but this well was abandoned on December 5, 2000. No other COP wells exist within one mile of the Site contaminant plumes.

2.3.1.2 Future City of Phoenix Needs

According to information provided by COP, since 2002, the population of COP has increased by approximately 8% but demand for water production declined by approximately 16% (COP, 2011). This is due to a 15 year decline in per-capita use by approximately 25%. Improved infrastructure, increased use of desert landscaping, fewer pools, rate increases, etc. have contributed to the per capita reduction. The COP expects less robust growth rates (compared to prior growth forecasts) and continued declines in per-capita demand that will likely result in minimal increases in overall system demand. Specifically, growth rate projections of 1.0% (high), 0.8% (base level), and 0.6% (low) are assumed to top out in the 2045-2055 period as the COP is largely built out within its current boundaries. Also, the COP estimates that a "base level" consumption growth will develop at today's efficiency levels and that current customers will remain stable. Possible "moderate efficiency" consumption gains are estimated at a 10% consumption reduction for existing customers and 5% reduction for post-2010 development by 2035. "High efficiency" consumption gains are estimated at a 20% reduction in consumption for existing customers and a 10% reduction for post-2010 customers by gain by 2035. However, there are numerous factors associated with growth and consumption that can not be fully predicted and the consequences of this possible leveling off or increasing of demand will continue to be addressed in the COP General Plan and Water Resource Plan.

Uncertainty also exists regarding water resources and the ability to meet current and future demands (COP, 2011). The SRP and CAP supplies are dependent on rainfall/snow pack and can be limited during extended drought periods as have been experienced recently. If Colorado River flow should decline, allotment of CAP water for the COP can be reduced. SRP allotment could also be reduced if reservoir levels drop substantially and groundwater pumping can not compensate the lack of surface water availability. As a buffer to potential surface water supply reductions, the COP has been recharging to underground storage or banking unused CAP allotments for future use (Figure 9). However, high increases in consumption coupled with severe reductions in surface water supplies could deplete these reserves by 2020 (Figure 10).

If extended drought conditions should create a substantial shortage of surface water and demand increases beyond estimates, a maximum deficit of 165,000 acre-feet of water could be experienced by the COP in the latter part of the 50 year planning horizon. This water deficit

creates deeper shortages than those observed in historic records but is considered reasonable. More extreme conditions are feasible and have been considered/modeled by the COP.

Managing water use can be accomplished by continuing to increase efficiency of water distribution, curtailing demand, and monetary incentives (COP, 2011). These can be addressed through infrastructure improvements, conservation programs, drought management plan, and water pricing strategies.

Alternate sources of water include expanded groundwater pumping, accessing water that has been stored for future use, and purchasing water from other water providers (COP, 2011).

Besides obtaining additional surface water supplies, local groundwater is the most accessible alternate water source (COP, 2011). The COP has access to more than 3.5 million acre-feet of groundwater in the Phoenix service area over a 100 year period. Currently, the COP can produce 28 million gallons per day (mgd) (15-20,000 acre-feet) per year, but only withdraws between 6,000 and 9,000 acre-feet per year. Pumping capacity has been lost in the past two decades due to aquifer contamination and aging well conditions.

Plans and funding to expand well capacity within the service area by rehabilitating older wells and developing new service area wells are underway (COP, 2011). The COP plans to develop 15 additional wells at a cost of $233 million. This will yield approximately 70,000 acre-feet per year. This increased yield would be allowable in any one year as long as the 100 year average usage does not exceed available groundwater and stored water credits. Recent well development has been in northeast Phoenix area. However, as indicated in the COP questionnaire response, the COP at that time had no plans to install wells in the Site but will consider the area for well development in the future. Therefore, the potential exists for the COP to install municipal wells within the Site or within one mile of the Site plumes.

2.3.1.3 Current Salt River Project Needs

As a water supplier, SRP delivers nearly a million acre-feet of water to the Phoenix area each year. In normal runoff years, most of the water is supplied from surface water on the Salt and Verde Watersheds. However, in more dry years, more groundwater must be pumped to

supplement the surface water supply. During extended periods of low run off, groundwater can account for almost one-third of the total SRP water supply. Typically, groundwater comprises approximately 15% of the total water supplied by SRP to municipal treatment plants. The groundwater contribution varies seasonally with the highest contribution occurring March through August. Historically, there has been enough surface water to meet demand in only one out of every three years.

SRP operates and maintains one irrigation well (13.5E-9.4N) within the Site (Figure 6). The last groundwater sample collected from SRP well 13.5E-9.4N contained PCE at a contamination slightly greater than the AWQS of 5 µg/L (Elliott, 2013). Four other SRP irrigation wells are within one mile of the Site plumes (Figure 6). These are 13E-8.6N, 13E-9.1N, 14E-8.5N, and 14E-9.6N. Groundwater quality data collected from these wells indicate that two of the wells, 13E-9.1N and 14E-9.6N, contain PCE at concentrations greater than the AWQS of 5 µg/L. The source of the PCE at these two wells is not attributed to the Site. Groundwater pumpage at these wells has been intermittent in the recent past.

2.3.1.4 Future Salt River Project Needs

Although recent use of the irrigation wells in and adjacent to the Site has been intermittent, SRP has no plans to eliminate any of these wells from their system. Based on demand analysis, SRP has indicated it will continue to need the wells in the area to remain operational, especially during dry years. Because of the recent drought conditions, SRP intends to increase pumping at all of their wells with a total annual groundwater pumpage of approximately 300,000 acre-feet.

SRP has indicated in their response to questionnaire that they intend to convert their irrigation wells in and adjacent to the Site to drinking water wells. The intent is to either discharge groundwater directly into the COP municipal water system or pipe groundwater to a canal that is accessible to a municipal water treatment plant. SRP also indicated that there may be future plans for the construction of a drinking water treatment plant at the end of the Grand Canal. Overall, water demand will likely increase if the treatment plant is constructed. Additionally, a drinking water treatment plant on the Grand Canal will require that water sources discharging to the canal comply with more stringent water quality criteria. According to the questionnaire response, SRP

does not plan on installing any new wells in the Site. However, this could change pending COP water needs.

2.3.2 Private Groundwater Use

According to ADWR records, there is no documented private groundwater use, or non-municipal groundwater use, in the Site (ADWR, 2013). Four private wells are located within one mile of the Site contaminant plumes (Table 2). Groundwater uses are irrigation, stock, and domestic.

2.4 Surface Water Use

The surface water in the Site is provided by the Medlock Homeowners Association canal system (Salvatierra, 2013). SRP provides water to the Medlock Homeowners Association canal system with a connection at Missouri and Central Avenues from SRP lateral canal 1 11.4 27. Water from the Medlock Homeowners Association is used for residential irrigation. SRP lateral canal 1 11.4 27 is also located within the Site but does not provide surface water to facilities/properties in the Site (Figure 11) (Salt River Valley Water Users' Association, 2013). SRP lateral 1 11.4 27 receives water from the Arizona Canal, SRP well 13.5E-9.4N, and discharge from the Site groundwater remediation and treatment system. Water from the lateral canal is used for irrigation and also discharges into the Grand Canal. The Grand Canal lies approximately 1,800 feet to the south of the Site. Water from the Grand Canal is also used for irrigation. Future plans for the Grand Canal include a drinking water treatment plant that may be constructed at the end of the Grand Canal. The construction of the treatment plant would change the end use of the canal water requiring that water discharged to the canal meet stricter water quality criteria than what is currently required.

SRP lateral canal 1 11.4 27 is completely covered from at least Missouri Avenue, the north boundary of the Site, south to the Grand Canal. In the area of the Site, the Grand Canal is fully lined but exposed to the surface. The Grand Canal was lined in the vicinity of the Site in 1998. This is believed to be partially responsible for the decline in groundwater elevations in the Site.

3.0 SUMMARY OF USES

The land and water uses described in Section 2.0 that are most likely to be relevant to the discussion of remedial objectives are presented below.

3.1 Land Use

The zoning pattern in the area has been long established and there are no foreseeable changes for the future. Land uses for the Site are expected to remain predominantly residential and commercial.

3.2 Groundwater Use

Current and future groundwater uses within the Site include the following:

- The COP anticipates the possible need for well expansion in and adjacent to the Site sometime in the future.
- The SRP owns five wells in and adjacent to the Site and will continue to need the wells to be operational to supplement surface water supplies. SRP has indicated that they may change water usage from irrigation to drinking water within the foreseeable future. Also, a water treatment plant may be built on the Grand Canal sometime in the future, which would change the use of the groundwater from irrigation to drinking water.

3.3 Surface Water Use

Currently, surface water uses within the Site are for residential irrigation.

4.0 REFERENCES

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TABLES

Table 1 - City of Phoenix Zoning Districts with Brief Descriptions

Zoning District	Description
S-1	Ranch or Farm
S-2	Ranch or Farm Commercial
RE-43	One Family Residence (43,560 sq. ft. min.)(No longer available for rezoning)
RE-24	One Family Residence (24,000 sq. ft. min.)(No longer available for rezoning)
R1-14	One Family Residence (14,000 sq. ft. min.)(No longer available for rezoning)
RE-35	Single Family Residence (density range of 1.1 to 1.15 or 1.32 w/ bonus)
R1-18	Single Family Residence (density range of 1.95 to 2.05 or 2.34 w/bonus)
R1-10	Single Family Residence (density range of 3 to 3.5 or 4.5 w/bonus)
R1-8	Single Family Residence (density range of 4 to 4.5 or 5.5 w/bonus)
R1-6	Single Family Residence (density range of 5 to 5.5 or 6.5 w/bonus)
R-2	Multiple Family Residence (Detached single family [SF] 5 to 6.5 or 12 w/bonus) (Attached 10 to 10.5 or 12 w/bonus)
R-3	Multiple Family Residence (Detached SF 5 to 6.5 or 12 w/bonus) (Attached 14.5 to 15.23 or 17.4 w/bonus)
R-3A	Multiple Family Residence (Detached SF 5 to 6.5 or 12 w/bonus) (Attached 22 to 23.1 or 26.4 w/bonus)
R-4	Multiple Family Residence (Detached SF 5 to 6.5 or 12 w/bonus) (Attached 29 to 30.45 or 34.8 w/bonus)
R-5	Multiple Family Residence (Detached SF 5 to 6.5 or 12 w/bonus) (Attached 43.5 to 45.68 or 52.2 w/bonus)
R-4A	Multiple Family Residence (Dependent on lot area and unit type)
R-O	Residential Office – Restricted Commercial
C-O	Commercial Office – Restricted Commercial (C-O prior to 1986)
C-O/G-O	Commercial Office – General Office Option (Minimum 1 gross acre)
C-O/M-O	Commercial Office – Major Office Option (Minimum 5 gross acres)
C-1	Commercial – Neighborhood Retail
C-2	Commercial – Intermediate Commercial
C-3	Commercial – General Commercial
CP/SU	Commerce Park – Single User Option
CP/RP	Commerce Park – Research Park Option
CP/BP	Commerce Park – Business Park Option
CP/GCP	Commerce Park – General Commerce Park Option
IP or Ind. Pk.	Industrial Park (See CP) (No longer available for rezoning)
A-1	Light Industrial
A-2	Industrial
RH	Resort
RI	Residential Infill (Combined w/underlying zoning)
HR	High-Rise and High Density (Combined w/underlying zoning)
HR1	High-Rise and High Density (Downtown Area) (Combined w/underlying zoning)
HRI	High-Rise Incentive – High-Rise and Mixed Use (Combined w/underlying zoning)
MR	Mid-Rise (Combined w/underlying zoning)
PAD	Planned Area Development (No longer available for rezoning)
PCD	Planned Community District (Combined w/underlying zoning or approved zoning)
PSC	Planned Shopping Center (No longer available for rezoning)
RSC	Regional Shopping Center (No longer available for rezoning)
P-1	Passenger Automobile Parking, Limited (Surface parking)
P-2	Parking (Surface parking and parking structures)

Table 1 - City of Phoenix Zoning Districts with Brief Descriptions

Zoning District	Description
GC	Golf Course
UR	Urban Residential (May apply between 7th Ave. to 7th St. & Lincoln St. to Grand Canal)
DC	Downtown Core (Underlying zoning for Fillmore to Harrison & 7th St. to 3rd Ave.)
W	Warehouse Overlay (Combined w/underlying zoning) (Applies to specific area near downtown)
Warehouse Parking	(Combined w/underlying zoning)
Capitol Mall Overlay	(Combined w/underlying zoning) (Applies to specific area near the Capitol)
SP	Special Permit (Combined w/underlying zoning) (Allows a number of specific uses not otherwise permitted in the underlying zoning district)
MUA	Mixed Use Agricultural (Should be designated as MUA on the General Plan)
HCRO	Historic Canal-Side Restaurant Overlay (Combined w/underlying zoning) (Applies to site at Central Ave. & The Arizona Canal)
Baseline Area Overlay	(Combined w/underlying zoning) (Applies between Central to 40th St. & Southern Ave. to South Mountain Park)
Arcadia Camelback Special Planning District Camelback Road Overlay	(Combined w/underlying zoning) (Applies along Camelback Rd. from 44th St. to the City limits to the east)
Desert Character Overlay	(Combined w/underlying zoning) (Applies to North Land Use Plan area)
NBCC	North Black Canyon Overlay (Combined w/underlying zoning) (Specific guidelines for applicability)
RSIO	Rio Salado Interim Overlay (Combined w/underlying zoning) (Applies between I-17/I-10 to Broadway Rd. & 19th Ave. to 32nd St.
HP	Historic Preservation Overlay (Combined w/underlying zoning)
CCSIO	Central City South Interim Overlay (Combined w/underlying zoning) (Applies to specific area)
Four Corners Overlay	(Applies to specific area near 24th St. & Broadway Rd.)
SPVTABDO	South Phoenix Village and Target Area B Design Overlay (Applies to specific areas and residential development of 1 and 2 dwelling units per lot)
PSC Overlay	Planned Shopping Center Overlay
SPD	Special Planning District (Combined w/underlying zoning) (Applies to specific neighborhoods)
EBRO	East Buckeye Road Overlay District (Combined w/underlying zoning) (Applies to specific area fronting on Buckeye Rd. from Central Ave. to 16th St.) Promote community identity and well managed growth of corridor between Sky Harbor and downtown
DVAO	Deer Valley Airport Overlay District (Combined w/underlying zoning) (Applies to properties around the Deer Valley Airport (DVA), generally bounded by Happy Valley Rd., 29th and 31st Aves., Rose Garden Ln., Cave Creek Rd. CAP Canal 16th and 20th Sts.) Protect adjacent property owners and the DVA's long-term viability as a general aviation facility
ACOD	Arts, Culture and Small Business Overlay District (Combined w/underlying zoning) (Applies to specific land bounded by on I-10 Inner Loop, 19th Ave., 20th St., and Buckeye Rd.) To provide greater flexibility in zoning for a vibrant downtown

Table 1 - City of Phoenix Zoning Districts with Brief Descriptions

Zoning District	Description
HRO	Hatcher Road Overlay (Combined w/underlying zoning) (Applies to specific area on both sides of Hatcher Rd. from 7th Avenue to 7th St.) Provide development standards to promote a mix of uses in a pedestrian accessible setting
Downtown Code	A code to implement the Downtown Phoenix Plan increased mix of land uses, and more comprehensive design guidelines to support downtown character
PUD	Planned Unit Development Individually tailored standards to create a built environment superior to that produced through conventional zoning and design guidelines
TOD-1	Interim Transit-Oriented District One, to encourage appropriate mixture/density of activity around transit stations to increase ridership and promote alternative modes of transportation (Combined w/underlying zoning)
TOD-2	Interim Transit-Oriented District Two, to encourage appropriate mixture/density of activity around transit stations to increase ridership and promote alternative modes of transportation (Combined w/underlying zoning)
SAUMSO	Seventh Avenue Urban Main Street Overlay District (Combined w/underlying zoning) (Applies to along 7th Ave. from Indian School Rd. to Pierson St.) Encourages economic development and utilization or small parcels to support a cohesive commercial corridor
NCASPD	North Central Avenue SPD Overlay District (Combined w/underlying zoning) Provide guidance to preserve North Central Avenue's residential character
AIO	Airport Noise Impact Overlay District (Combined w/underlying zoning) (Applies to specific area generally bounded by Southern Pacific Railroad, University Dr., 7th St. on the west and 16th or 24th St. on the east) To promote well managed growth and to protect adjacent residents in noise impacted areas of airport
FH	Flood Hazard and Erosion Management District (Combined w/underlying zoning) (establish regulations pertaining to the use and development of land within erosion control zones

Table 2 - Groundwater Withdrawal Wells Within One Mile of the Site Plumes

ADWR 55 ID Number	Cadastral ID	Well Type	Well Use	Water Use	Well Depth (feet bgs[1])	Casing Depth (feet bgs)	Casing Type	Water Level (feet bgs)	Pump Rate (gpm[2])	Company
Non-exempt Withdrawal Wells Within the Site										
608425	(A) 2N 3E 17ACC	Non-Exempt	Withdrawal	Irrigation	400	400	Steel	74.8	NA[3]	SRP
608424	(A) 2N 3E 17ADD	Non-Exempt	Withdrawal	Irrigation	203	193	Steel	69.69	1,567	SRP
608423	(A) 2N 3E 18DDD	Non-Exempt	Withdrawal	Irrigation	403	400	Steel	94	695	SRP
608379	(A) 2N 3E 20BCC	Non-Exempt	Withdrawal	Irrigation	405	400	Steel	77	1,000	SRP
608422	(A) 2N 3E 20ADD	Non-Exempt	Withdrawal	Irrigation	400	400	Steel	79	926	SRP
546895	(A) 2N 3E 20ABB	Non-Exempt	Withdrawal	Drainage	NA	NA	NA	NA	NA	One Camelback, Inc.
577694	(A) 2N 3E 20ABB	Non-Exempt	Withdrawal	Drainage	NA	NA	NA	NA	NA	One Camelback, Inc.
577695	(A) 2N 3E 20ABB	Non-Exempt	Withdrawal	Drainage	NA	100	NA	NA	NA	One Camelback, Inc.
577696	(A) 2N 3E 20ABB	Non-Exempt	Withdrawal	Drainage	NA	100	NA	NA	NA	One Camelback, Inc.
577697	(A) 2N 3E 20ABB	Non-Exempt	Withdrawal	Drainage	NA	100	NA	NA	NA	One Camelback, Inc.
579467	(A) 2N 3E 20ABB	Non-Exempt	Withdrawal	Drainage	NA	100	NA	NA	NA	One Camelback, Inc.
579468	(A) 2N 3E 20ABB	Non-Exempt	Withdrawal	Drainage	NA	100	NA	NA	NA	One Camelback, Inc.
579469	(A) 2N 3E 20ABB	Non-Exempt	Withdrawal	Drainage	NA	100	NA	NA	NA	One Camelback, Inc.
579470	(A) 2N 3E 20ABB	Non-Exempt	Withdrawal	Drainage	NA	98	NA	NA	NA	One Camelback, Inc.
579471	(A) 2N 3E 20ABB	Non-Exempt	Withdrawal	Drainage	NA	98	NA	NA	NA	One Camelback, Inc.
579472	(A) 2N 3E 20ABB	Non-Exempt	Withdrawal	Drainage	NA	98	NA	NA	NA	One Camelback, Inc.
Non-exempt Withdrawal Wells Within One Mile of the Site Plumes										
220153	(A) 2N 3E 20ACA	Non-Exempt	Withdrawal	Irrigation	415	415	Steel	75	140	Brophy
800731	(A) 2N 3E 20ACA	Non-Exempt	Abandoned	Abandoned	300	300	NA	45	75	Brophy
626547	(A) 2N 3E 08DDD2	Non-Exempt	Abandoned	Abandoned	620	620	Steel	105.7	1,015	COP
Exempt Withdrawal Wells Within One Mile of the Site Plumes										
803822	(A) 2N 3E 17ACC	Exempt	Withdrawal	Domestic/ Irrigation	200	NA	NA	180	NA	David Cheshire
595079	(A) 2N 3E 17DBA	Exempt	Withdrawal	Stock	123	123	PVC	66	30	Robert Walker
640379	(A) 2N 3E 20ABD	Exempt	Withdrawal	Domestic	300	NA	NA	NA	NA	G. Marshall
400367	(A) 2N 3E 08DCD	Exempt	Abandoned	Abandoned	NA	NA	NA	NA	NA	David Hunts

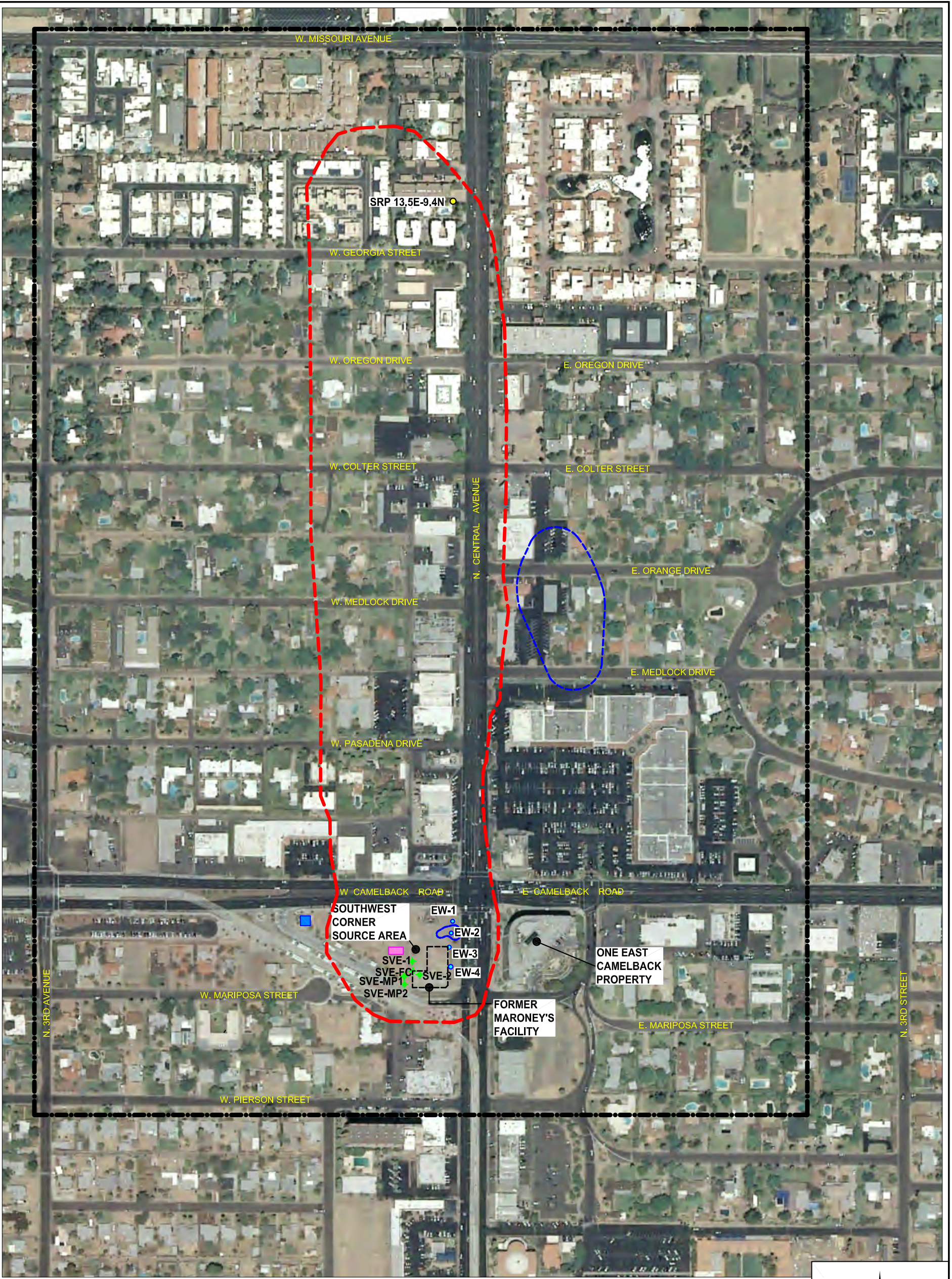
Notes:

1 bgs = Below Ground Surface

2 gpm = Gallons Per Minute

3 NA = Not Available

FIGURES



LEGEND

SVE-1	Identification and Approximate Location of Soil Vapor Extraction Well
EW-1	Identification and Approximate Location of Groundwater Extraction Well
SRP 13.5E-9.4N	Identification and Approximate Location of SRP Well
	Soil Vapor Extraction Compound
	Groundwater Treatment Compound
	WQARF Boundary, 2014
	Estimated Extent of PCE concentrations above 5 ug/L in 2005 (ADEQ-Defined WQARF Site Boundary, January 2005)
	Estimated area where reportable PCE concentration is greater than 5 ug/L as of 2013

N

0 150 300

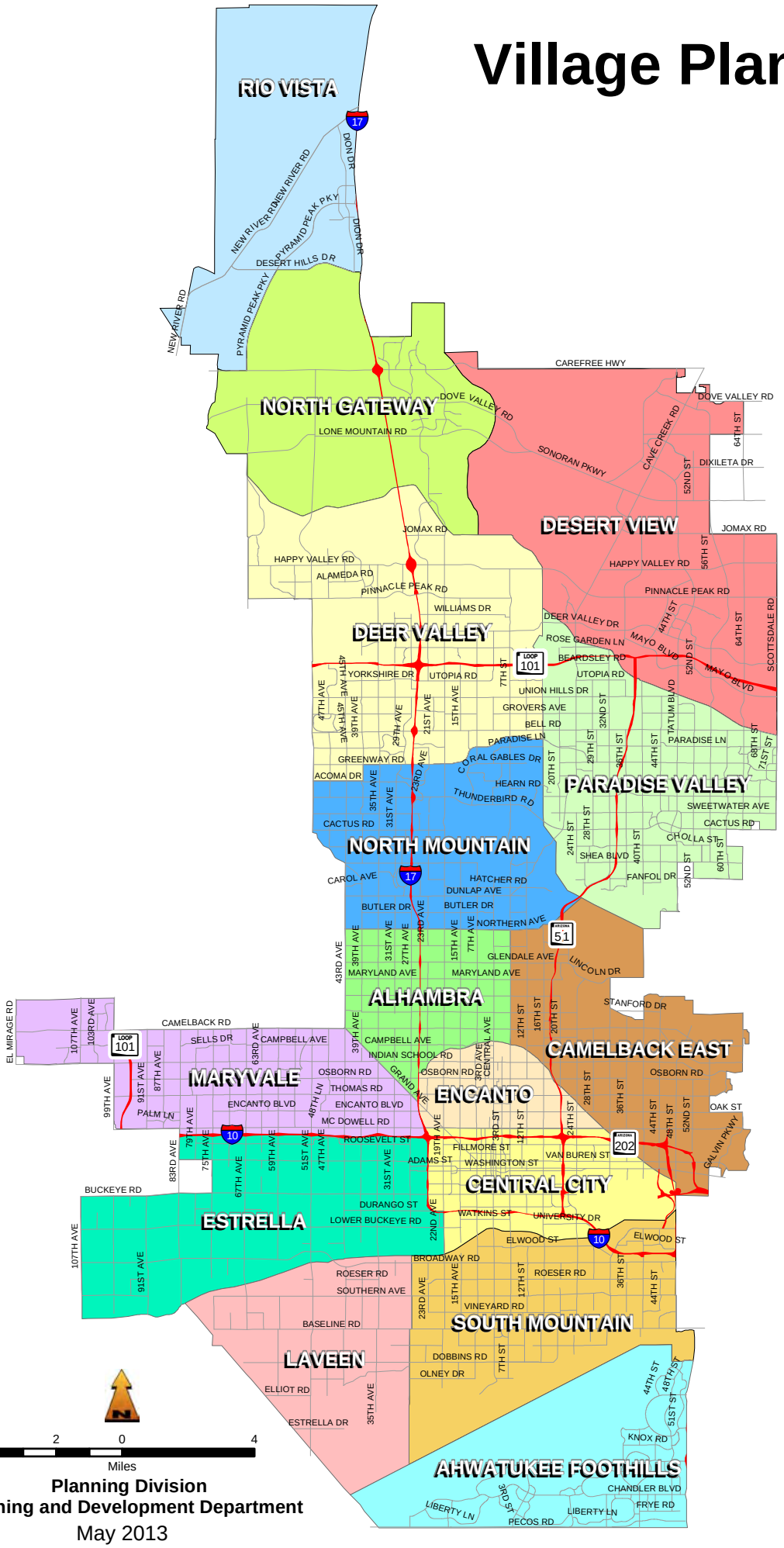
APPROXIMATE SCALE IN FEET

HYDRO GEO CHEM, INC.

SITE LOCATION MAP
CENTRAL AND CAMELBACK WQARF SITE

Approved	Date	Author	Revised	File Name	Figure
SPS	3/17/14	JAA	4/16/14	2010032091A	1

Village Planners



Ahwatukee Foothills
Xandon Keating
(602) 256-5618

Alhambra
Jacob Zonn
(602) 534-5829

Camelback East
Xandon Keating
(602) 256-5618

Central City
Katherine Coles
(602) 256-5648

Deer Valley
Craig Mavis
(602) 262-4072

Desert View
Tricia Gomes
(602) 262-6949

Encanto
Katherine Coles
(602) 256-5648

Estrella
Marc Thornton
(602) 261-8701

Laveen
Marc Thornton
(602) 261-8701

Maryvale
Jacob Zonn
(602) 534-5829

North Gateway
Kasandra Zobrist
(602) 262-6940

North Mountain
Craig Mavis
(602) 262-4072

Paradise Valley
Craig Mavis
(602) 262-4072

Rio Vista
Kasandra Zobrist
(602) 262-6940

South Mountain
Kasandra Zobrist
(602) 262-6940

Planning Division
Planning and Development Department
May 2013

Figure 2

N:\GIS_Team\Villages\vplanners.mxd
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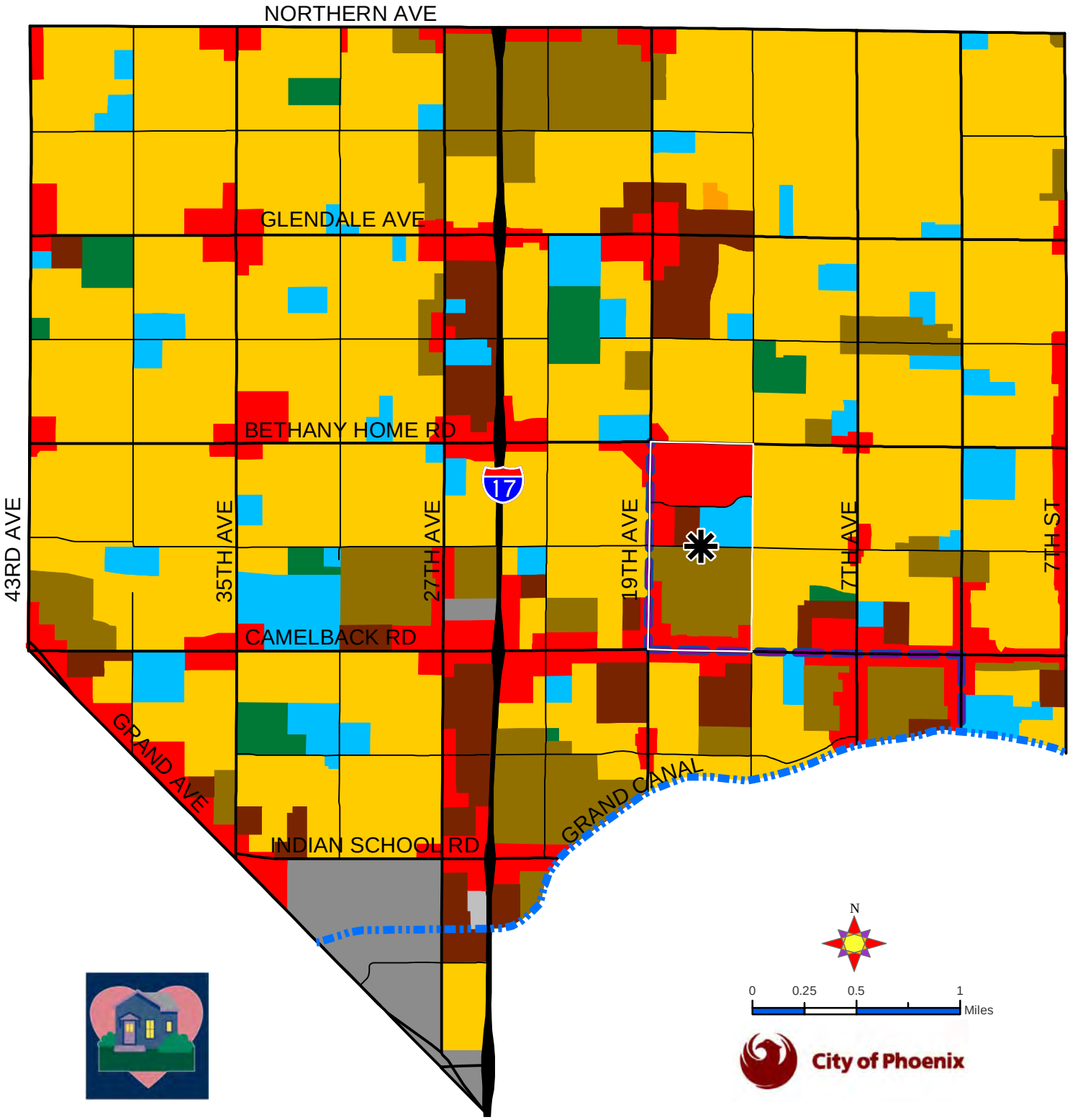
Alhambra Village



1 Mixed Use is an integrated variation of uses which may include residential, service, and basic commercial, general office, entertainment, and cultural functions, with a compatible relationship. This category would allow any or all of these uses within an area so categorized to be further determined by more specific plans, which would consider General Plan goals, existing zoning and uses, and site consideration.

2 As appropriate, and when in the best interests of the City to protect and preserve mountains and washes as open space, densities adjacent to mountains or washes may be greater than the General Plan category depicted on this plan.

3 Readers of this map are cautioned to refer to the adopted General Plan text and maps in the full document and other Adopted refinements - Special Planning Districts, Redevelopment Plans or Specific Plans for further guidance.

4 For special formats of this publication, call Theresa Damiani, 602-262-6368 or 602-534-5500 TDD.

5 For questions concerning this publication call the Phoenix Planning Department, 602-262-6882

General Plan Categories

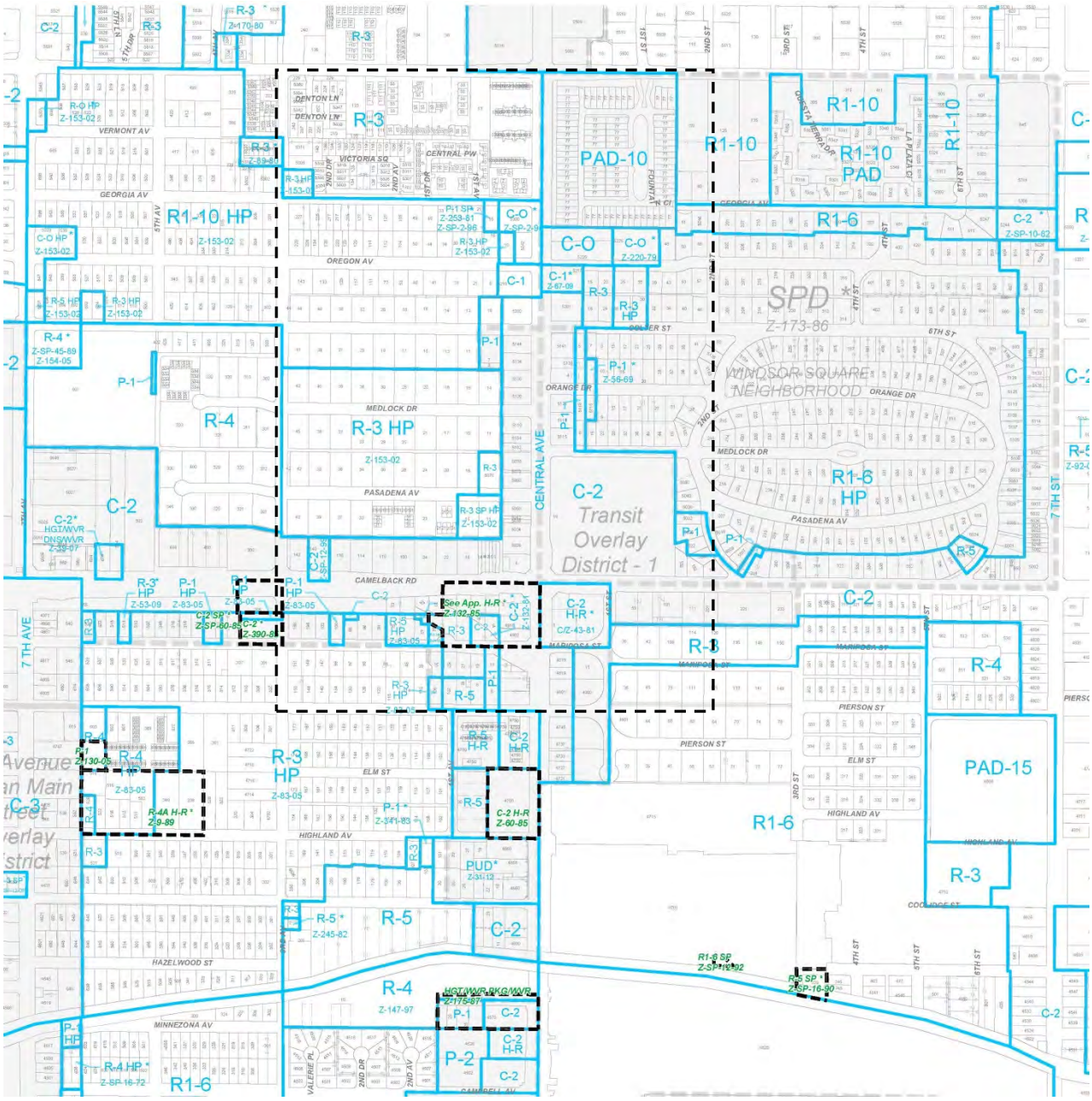
Hatched Mixed Use categories designate a mixture of uses corresponding to the colors shown.

- 3.5 to 5 du/acre
- 5 to 10 du/acre
- 10 to 15 du/acre - Higher density attached townhouses,condos, or apartments
- 15+ du/acre - Higher density attached townhouses, condos, or apartments
- Parks/Open Space - Publicly Owned
- Comercial
- Industrial
- Public/Quasi-Public
- Transportation

- Arterial Streets
- Collector Streets
- Light Rail
- Canals
- Primary Core

Figure 3

N:\GIS_Team\GeneralPlan\Village_GP_Maps\Alhambra8.5x11_8.3comp.mxd
N:\PDF_Maps\GenPlanMaps\villagemaps\Alhambra.pdf



Explanation

C&C WQARF Site Boundary

Zoning Boundary

Figure 4

TABLES

1 City of Phoenix Zoning Districts With Brief Descriptions

2 Groundwater Withdrawal Wells Located Within One Mile of C and C Site

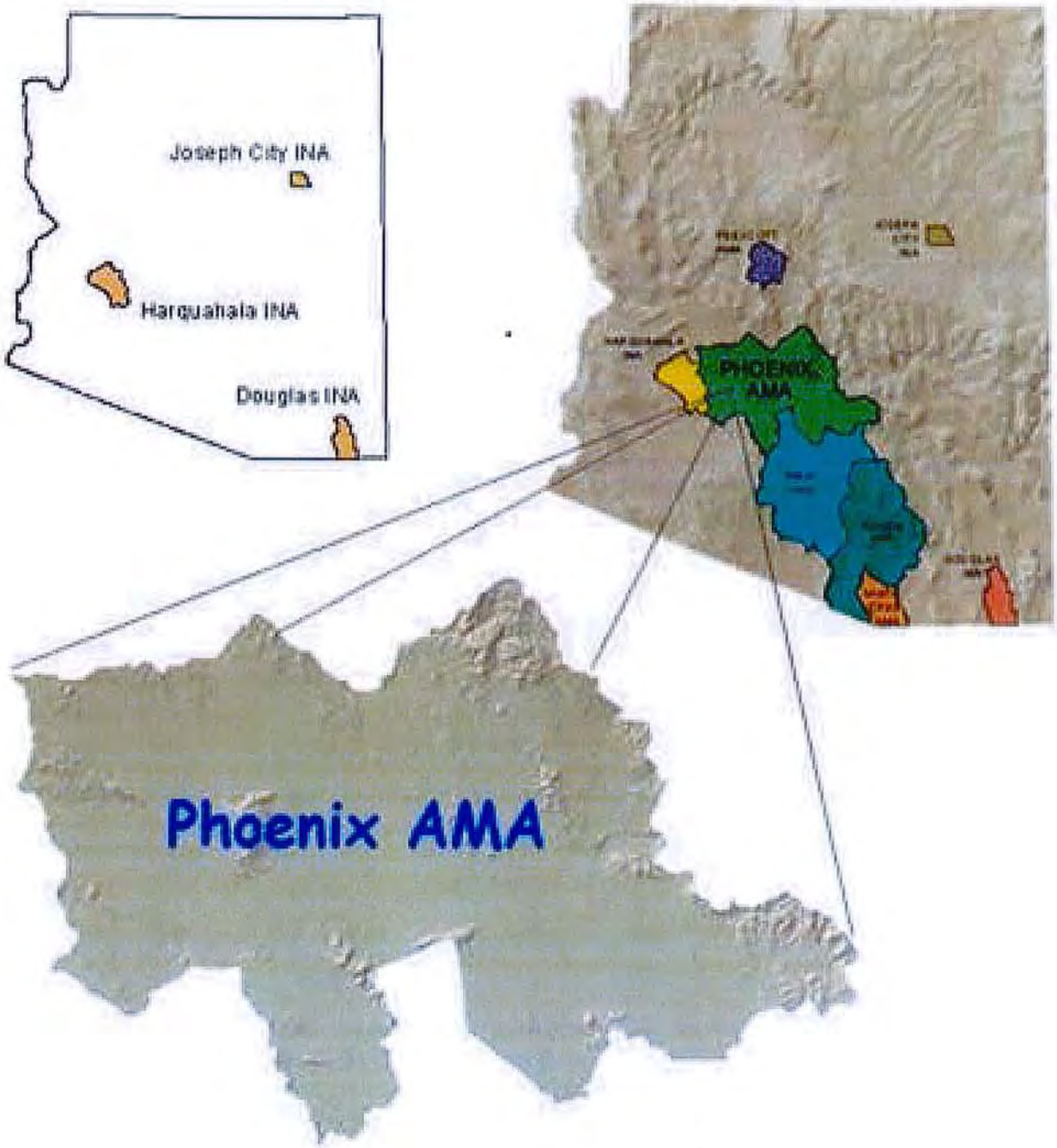
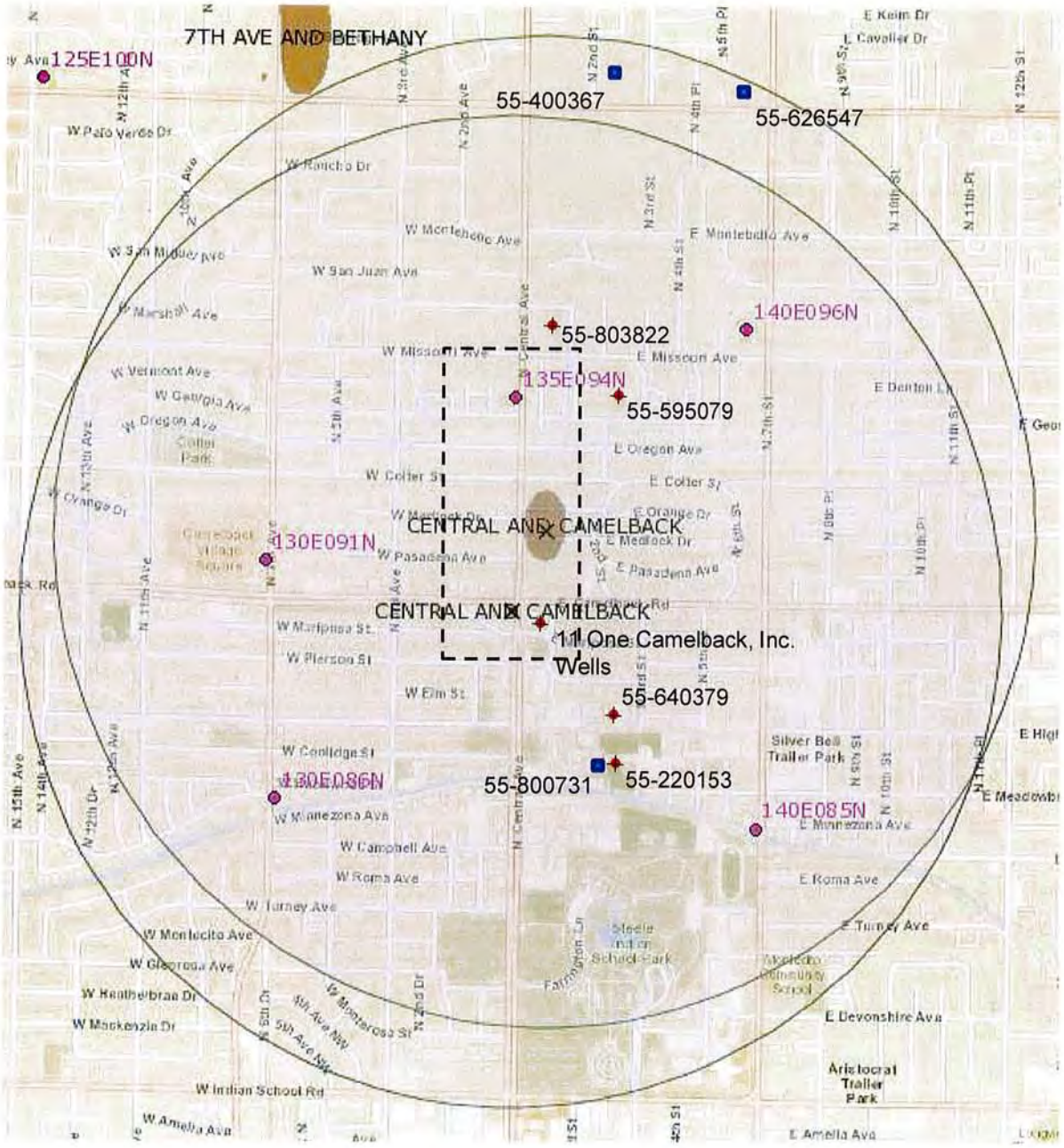


Figure 5



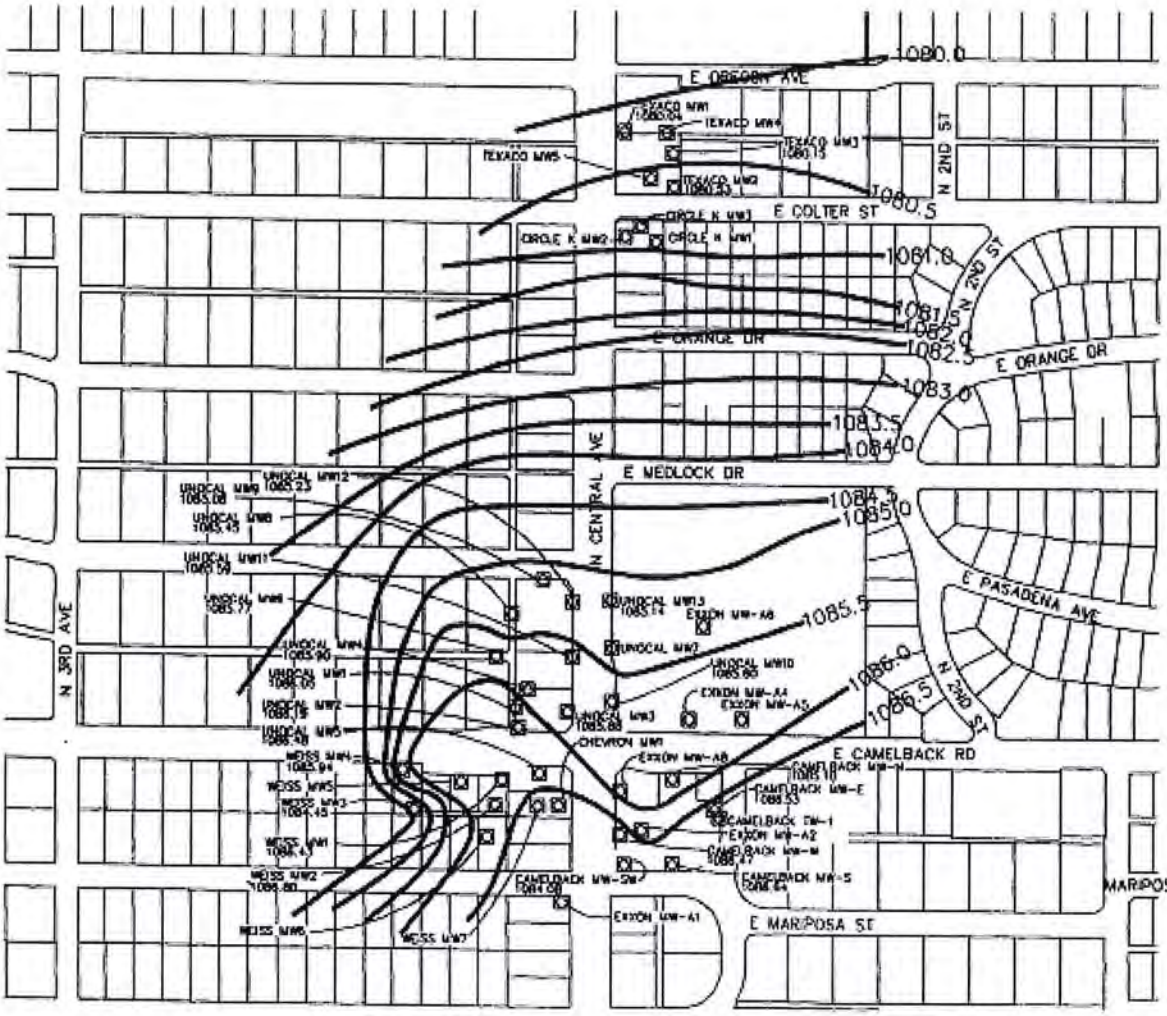
Explanation

- C&C Contaminant Plume
- C&C WQARF Site Boundary
- 1-Mile Distance from Center of Plume
- SRP Well & ID (130E8.6N)
- Registered Withdrawal Well & ID (55-546895)
- Abandoned Registered Withdrawal Well & ID (800731)

Figure 6

Water Table Elevations – December 1994, 3rd Quarter

Conceptual Site Model
Central & Camelback Area
Phoenix, Arizona
ADEQ



EXPLANATION

⊠ GROUNDWATER ELEVATION IN FEET
1085.90 ABOVE SEA LEVEL

CONTOUR INTERVAL = 0.5 FEET

N

1" = 290'

0 145 290 Feet

APPROX. SCALE

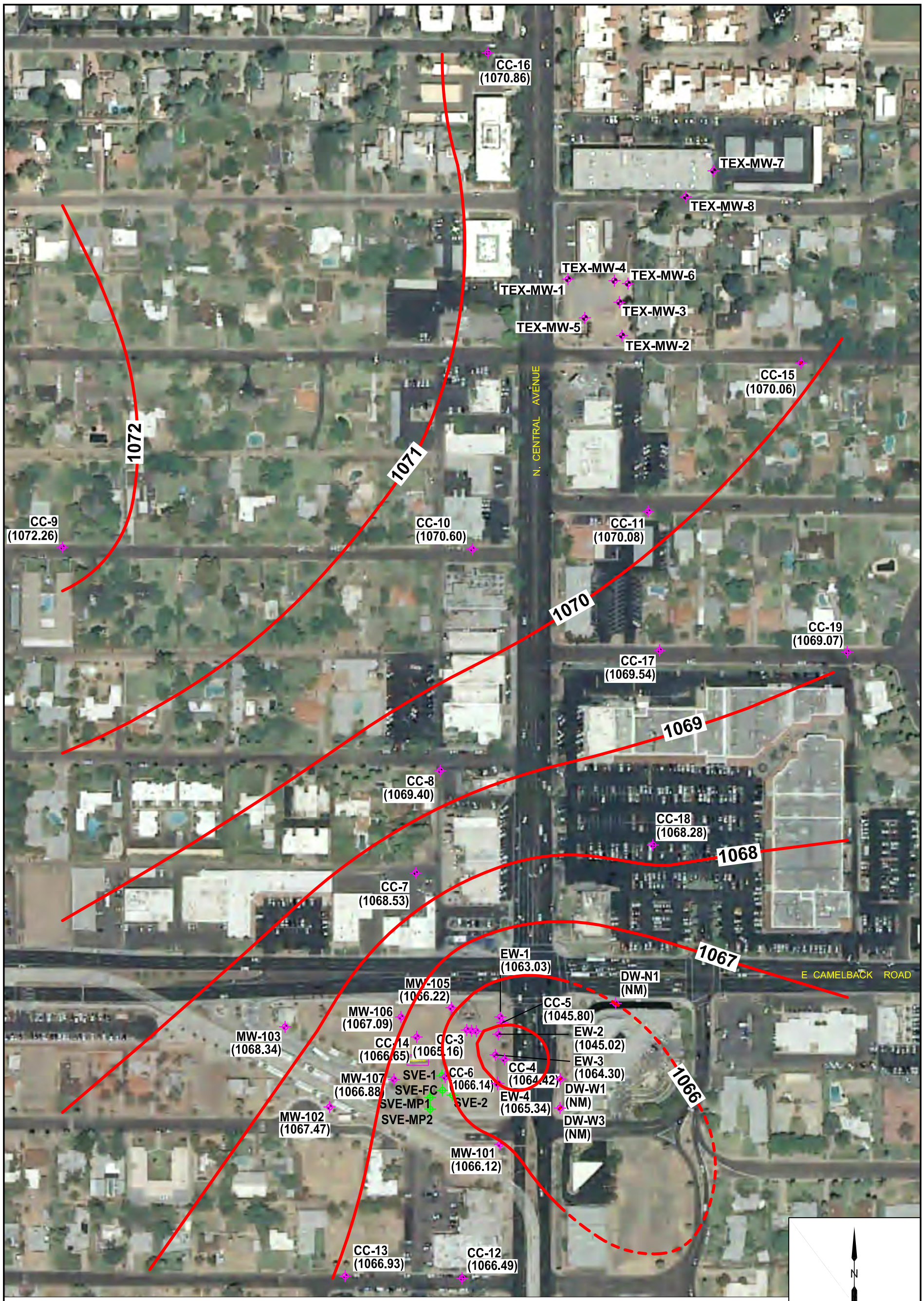
CENTRAL AND CAMELBACK AREA
CONCEPTUAL SITE MODEL
WATER TABLE ELEVATIONS
FEBRUARY 1999
PHOENIX, ARIZONA

Western Technologies Inc.

PREP: LCF
REV: DR

REV DATE: 02/08/99
FILE: 2189JF001

Figure 7



Note: CC-1, CC-2, CC-5, EW-1, EW-2, EW-3 and EW-4 were not used for contouring.

LEGEND

MW-101 (1066.12)	Identification and Approximate Location of Monitoring Well Groundwater Elevation in Feet Above Mean Sea Level (amsl)
SVE-1	Identification and Approximate Location of Soil Vapor Extraction Well
	Groundwater Contour in Feet (amsl)
(NM)	Not Measured

Well measurements taken February 22 and 23, 2014.
EW-2 and CC-5 pumping at time of well measurement.

HYDRO GEO CHEM, INC.

GROUNDWATER ELEVATIONS FOR FEBRUARY 2014
CENTRAL AND CAMELBACK WQARF SITE

Approved	Date	Author	Date	File Name	Figure
FJS	3/5/14	JAA	3/5/14	2010032077A	8

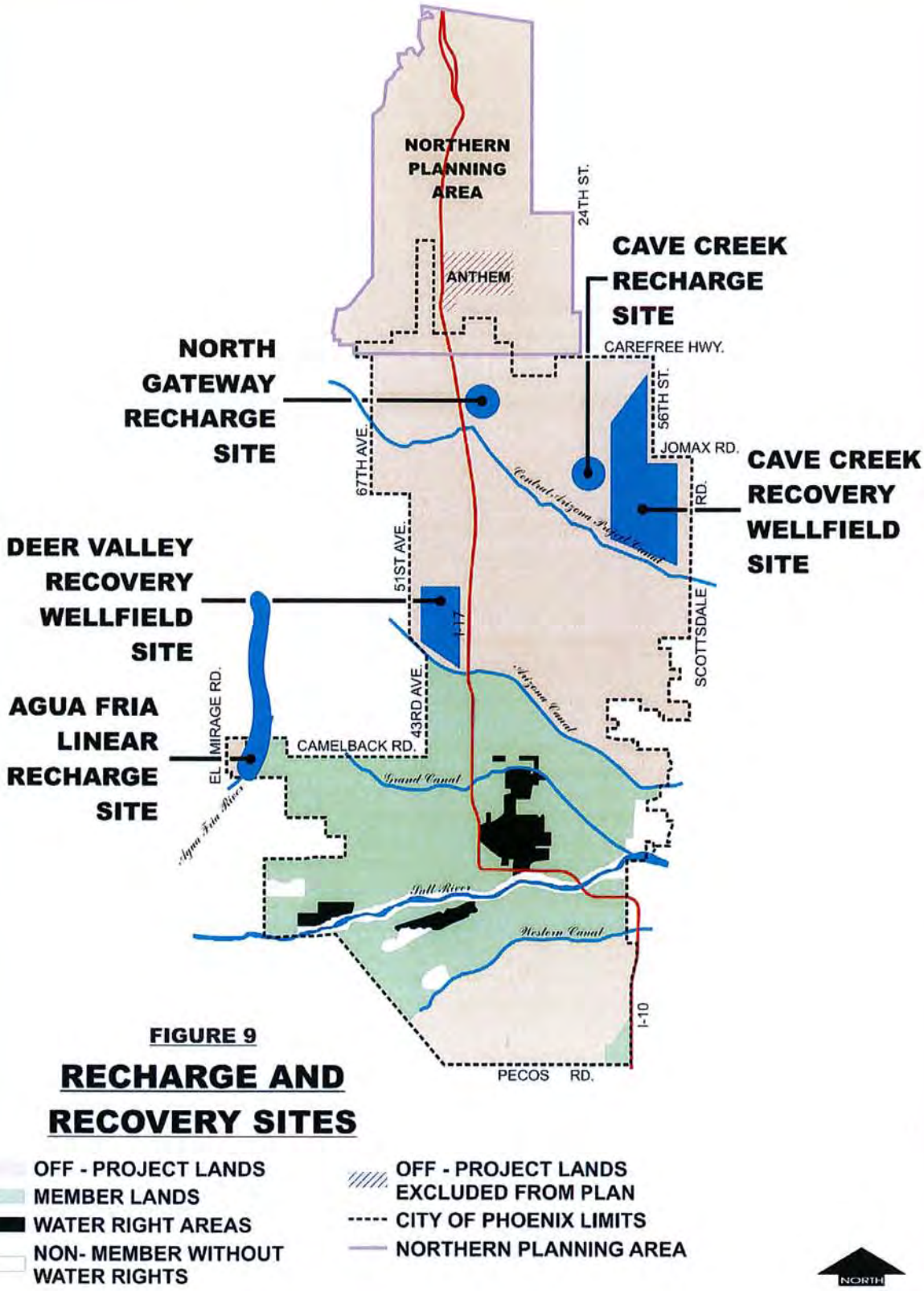
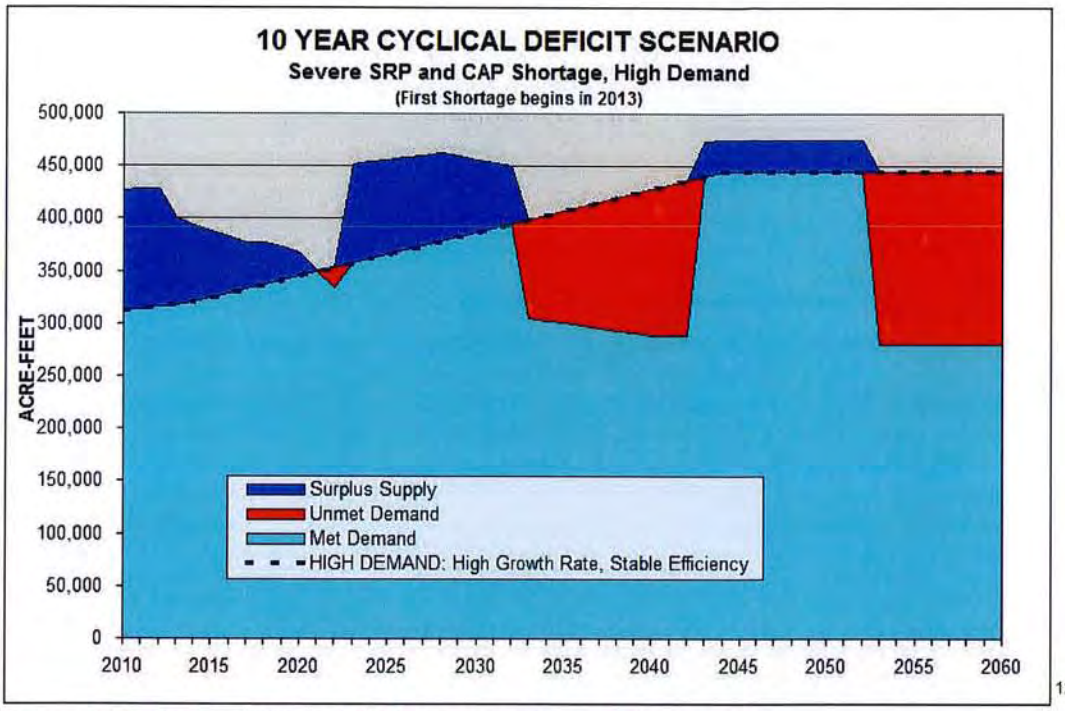


FIGURE 9

RECHARGE AND RECOVERY SITES

Figure 9



[12]

Figure 4-11. Severe SRP and CAP shortage 10 year deficit scenario

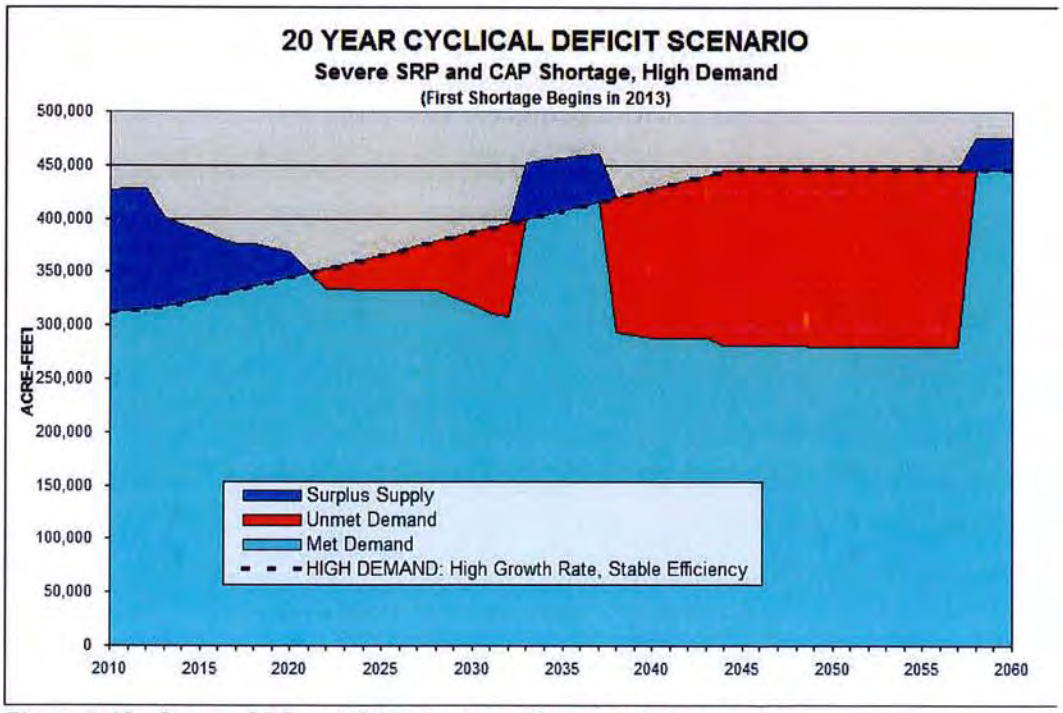
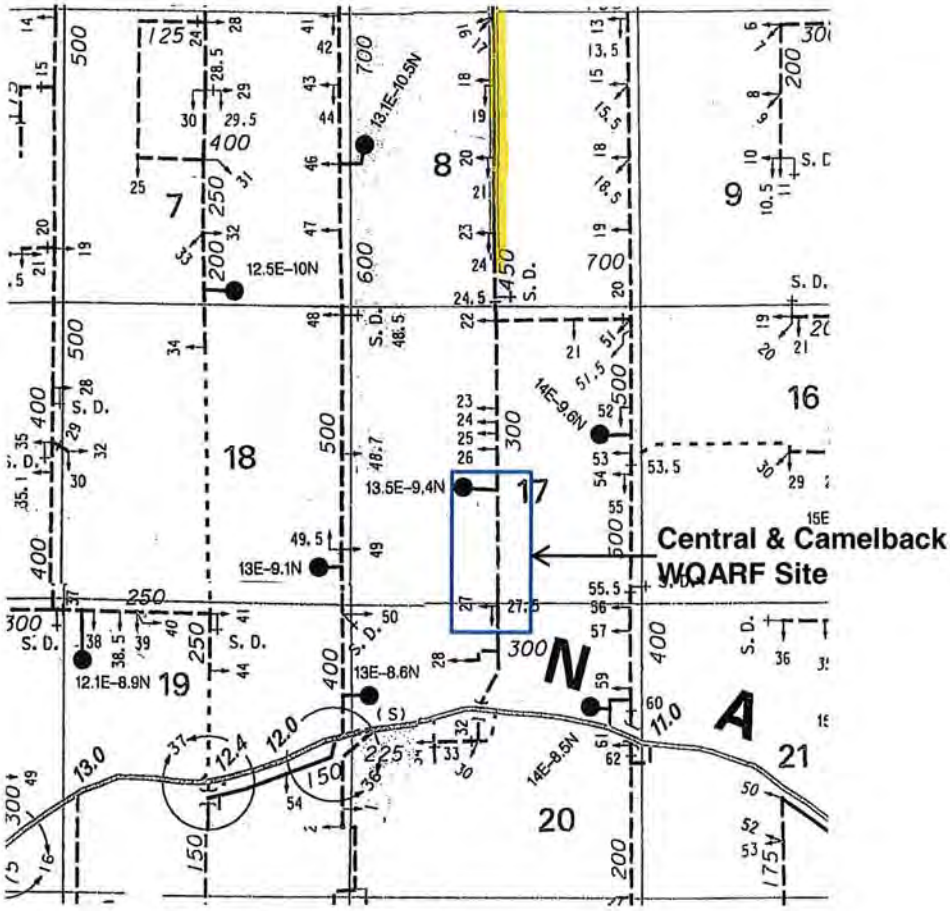


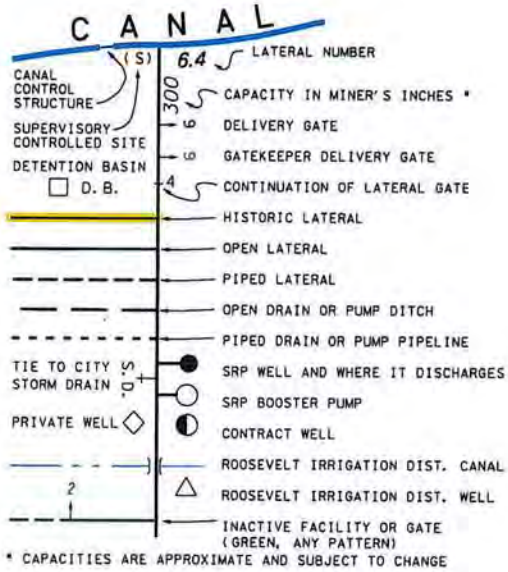
Figure 4-12. Severe SRP and CAP shortage 20 year deficit scenario

[12] First shortage to CAP occurs in 2010, but deficit to Phoenix would not materialize until 2020.

Figure 10



Explanation



From: Salt River Valley Water Users' Association, 2013. Salt River Valley Water Users' Association, Zanjero Area Maps. 2013.

Figure 11

APPENDIX

LAND AND WATER USE QUESTIONNAIRES

CTS: 169038
V: 11

LAND AND WATER USE STUDY QUESTIONNAIRE
FOR PROPERTIES OWNERS WITHIN THE
CENTRAL AND CAMELBACK WQARF REGISTRY SITE

Please answer all questions. Mark "NA" for questions that are not applicable. Mark "UNK" if the answer is unknown to you at the time of completion. Please attach any additional pages as needed.

Facility Name: 100 West Camelback Building

Date Questionnaire was completed: _____

Name of person completing Questionnaire: Richard J. Jutzi

Address: 100 W. Camelback Rd.
Phoenix, Az

Contact Name: Richard J. Jutzi

Address: 4531 N. 16th st, #103
Phoenix Az 85016-5344

Phone Number: (602) 263-9000 x101

A. Property Information

1. What is the current use of the property? Please include a detailed facility description.

Office Building

2. What are the foreseeable plans for the property (extension of buildings, increased production, etc.) as far into the future as they are known and up to 100 years, if possible?

   POSSIBLE High RISE.

3. Is the property owned or leased?

   Owned

4. Who is the owner of the property?
   Name: JUTZI PROPERTIES, LLC
   Address: c/o Richard JUTZI
   4531 N. 16th Street SUITE 103
   Phone Number: PHOENIX AZ 85016
   (602) 263-9000

5. If the property is leased, how long is the lease term?

   I AM presently negotiating a 5 year lease to A NEW TENANT

6. If the property is leased, are there plans to renew the lease and for how long?

   SEE ABOVE (5)

7. If the property is owned, do you plan on relocating and if so in what timeframe?

   N/A

B. Environmental information

1. Are there any groundwater wells on the property? If so, what is the current use of water in those wells? (e.g. – drinking water, water supply, monitoring, irrigation, remediation)

   NONE KNOWN

2. Are there any proposed changes to the current use of water in the wells from item #1 anticipated for the next 100 years?

UNKNOWN AT THIS TIME

3. Please list the company's waste streams?

2 Bathrooms into Sewer

4. Please list any spill of material or waste products that has occurred at the facility in the past 5 years.

NONE KNOWN. I Purchased the Building 2 years ago.

5. Is your company currently sampling any groundwater wells on the property? If so, how often is the sampling conducted? Are analytical results being submitted to ADEQ for the groundwater database?

NO, N/A, N/A

6. If there are any groundwater wells on the property that supply drinking water, how many people are served and what is the Public Water Supply (PWS) number?

   UNKNOWN

7. Do you anticipate that any groundwater wells will be drilled in the next 100 years at this property? If yes, what will the water be used for?

   UNKNOWN

8. Does your facility have an environmental manager or is environmental management outsourced to an environmental consulting firm? If so, please list the person's information: NO

   Name: _____
   Contact: _____
   Title: _____
   Address: _____
   Phone Number: _____

Thank you for your time. The Project Manager, Jennifer Edwards, or a representative from ADEQ's consultant, HydroGeoChem, Inc., may follow-up on answers provided.

ARIZONA DEPARTMENT OF ENVIRONMENTAL QUALITY

1110 West Washington Street • Phoenix, Arizona 85007
(602) 771-2300 • www.azdeq.gov

Janet Napolitano
Governor

Stephen A. Owens
Director

Certified Mail
Return Receipt

RPU07:470

Date: June 26, 2007

JUTZI PROPERITES LLC
4531 N 16TH STREET, SUITE 103
PHOENIX, AZ 85016-5344

Re: Land and Water Use Study Questionnaire
Central and Camelback Water Quality Assurance Revolving Fund (WQARF) Registry Site
Phoenix, Arizona

The Arizona Department of Environmental Quality (ADEQ) has prepared a Land and Water Use Study Questionnaire for specified stakeholders within the Central and Camelback WQARF Registry site (Site). The Site is currently undergoing evaluation for remedial actions to address tetrachloroethylene (PCE) and trichloroethylene (TCE) concentrations in groundwater.

The questionnaire will assist ADEQ in completing the Land and Water Use Study. This study is an important tool for ADEQ in development of the remedial objectives for this site. Please complete the enclosed questionnaire within 30 days of receipt. The information you provide is very important for continuation of the remedial process. Please return the questionnaires in the enclosed, self-addressed, stamped envelope to Ms. Jennifer Edwards Thies, Arizona Department of Environmental Quality, 1110 West Washington St., Phoenix, Arizona, 85007.

Please contact me at 602-771-4703 or jce@azdeq.gov with questions or comments.

Sincerely,

Jennifer Edwards Thies

Jennifer Edwards Thies, Project Manager
Central and Camelback WQARF Site
Remedial Projects Unit

RPU07:501

CTS: 168961
V:11

LAND AND WATER USE STUDY QUESTIONNAIRE
FOR PROPERTIES OWNERS WITHIN THE
CENTRAL AND CAMELBACK WQARF REGISTRY SITE

Please answer all questions. Mark "NA" for questions that are not applicable. Mark "UNK" if the answer is unknown to you at the time of completion. Please attach any additional pages as needed.

Facility Name: 110 W. Camelback Rd

Date Questionnaire was completed: 6/29/07

Name of person completing Questionnaire: STEVEN PRICE - CFO

Address: 110 W. Camelback Rd
Phoenix, AZ 85013

Contact Name: Steven PRICE

Address:

Phone Number: 602-230-2222 #311

A. Property Information

1. What is the current use of the property? Please include a detailed facility description.

OFFICE BUILDING - Rented to AZ Health Care

2. What are the foreseeable plans for the property (extension of buildings, increased production, etc.) as far into the future as they are known and up to 100 years, if possible?

   No changes forseen

3. Is the property owned or leased? Owned

4. Who is the owner of the property?
   Name: SILVERBACK HOLDINGS LLC
   Address: 110 W. Camelback Rd
   Phoenix, AZ 85013
   Phone Number: 602-230-2222

5. If the property is leased, how long is the lease term?

   Leased until 12/31/07

6. If the property is leased, are there plans to renew the lease and for how long?

   Plan to renew w AZ Health Care, indefinitely.

7. If the property is owned, do you plan on relocating and if so in what timeframe?

   No relocation planned.

B. Environmental information

1. Are there any groundwater wells on the property? If so, what is the current use of water in those wells? (e.g. – drinking water, water supply, monitoring, irrigation, remediation)

   No

2. Are there any proposed changes to the current use of water in the wells from item #1 anticipated for the next 100 years?

N/A

3. Please list the company's waste streams?

None

4. Please list any spill of material or waste products that has occurred at the facility in the past 5 years.

None

5. Is your company currently sampling any groundwater wells on the property? If so, how often is the sampling conducted? Are analytical results being submitted to ADEQ for the groundwater database?

No

6. If there are any groundwater wells on the property that supply drinking water, how many people are served and what is the Public Water Supply (PWS) number?

No

7. Do you anticipate that any groundwater wells will be drilled in the next 100 years at this property? If yes, what will the water be used for?

No

8. Does your facility have an environmental manager or is environmental management outsourced to an environmental consulting firm? If so, please list the person's information:

No

Name: _____
Contact: _____
Title: _____
Address: _____
Phone Number: _____

Thank you for your time. The Project Manager, Jennifer Edwards, or a representative from ADEQ's consultant, HydroGeoChem, Inc., may follow-up on answers provided.

RN 07:469

CTS: 168968
V: 11

LAND AND WATER USE STUDY QUESTIONNAIRE
FOR PROPERTIES OWNERS WITHIN THE
CENTRAL AND CAMELBACK WQARF REGISTRY SITE

Please answer all questions. Mark "NA" for questions that are not applicable. Mark "UNK" if the answer is unknown to you at the time of completion. Please attach any additional pages as needed.

Facility Name: UNK

Date Questionnaire was completed: 6-29-07

Name of person completing Questionnaire: ROBERT M SHOX-NIK

Address: 1750 E GLENDALE AVE
PHX AZ 85020

Contact Name: Same

Address: same.

Phone Number: 602-264-1234

A. Property Information

1. What is the current use of the property? Please include a detailed facility description.

I am the managing member of the LLC that owned and sold the block on Central Ave (West side) between Pierson and Mariposa Approx 112,000 sq ft. Part of the property has been demolished by the City for the light rail station at Central South of Camelback. Part has an office building and apartments. The new owner Omninet plans to redevelop all the property

2. What are the foreseeable plans for the property (extension of buildings, increased production, etc.) as far into the future as they are known and up to 100 years, if possible?
The property will adjoin the new light rail station and will likely be a new high rise The City and new owners are working on the project design

3. Is the property owned or leased?
owned

4. Who is the owner of the property?
Name: OMNINET CENTRAL LP
Address: 9420 WILSHIRE BLVD #400
BEVERLY HILLS CA 90212
Phone Number: 310-300-4114
Plus the City of Phx owns part of the property

5. If the property is leased, how long is the lease term?
Current tenants have leases that allows them to be terminated for redevelopment

6. If the property is leased, are there plans to renew the lease and for how long?
month-to-month

7. If the property is owned, do you plan on relocating and if so in what timeframe?
Current owned will build a large project here

B. Environmental information

1. Are there any groundwater wells on the property? If so, what is the current use of water in those wells? (e.g. – drinking water, water supply, monitoring, irrigation, remediation)
no wells SRP has irrigation control that runs under the property
The property has been tested by multiple parties and given a clean bill of health

2. Are there any proposed changes to the current use of water in the wells from item #1 anticipated for the next 100 years?

NA

3. Please list the company's waste streams?

NA

4. Please list any spill of material or waste products that has occurred at the facility in the past 5 years.

NONE

5. Is your company currently sampling any groundwater wells on the property? If so, how often is the sampling conducted? Are analytical results being submitted to ADEQ for the groundwater database?

This was done 3 or 4 years ago

6. If there are any groundwater wells on the property that supply drinking water, how many people are served and what is the Public Water Supply (PWS) number?

   none

7. Do you anticipate that any groundwater wells will be drilled in the next 100 years at this property? If yes, what will the water be used for?

   no

8. Does your facility have an environmental manager or is environmental management outsourced to an environmental consulting firm? If so, please list the person's information:

   Name: none
   Contact: _____
   Title: _____
   Address: _____
   Phone Number: _____

Thank you for your time. The Project Manager, Jennifer Edwards, or a representative from ADEQ's consultant, HydroGeoChem, Inc., may follow-up on answers provided.

4800 NORTH CENTRAL, L.L.C.

1750 E. Glendale Ave.
Phoenix, AZ 85020

Letter sent to Tenants March 2006

Effective March 9, 2006 4800 N Central Ave LLC sold its real estate to Omninet Central, LP. Please send your rent payments to Omninet Central, LP. Their mailing address is 9420 Wilshire Blvd. #400, Beverly Hills, CA 90212. Nick Scali will continue as property manager. His cell phone number is 602-531-0200. The responsible person at Omninet is Kevin Tanna. His phone number is 310-300-4114. I will continue to work with Kevin to assure a smooth transition.

Sincerely,

Robert Shcolnik, Managing Member

The S/W Corner of Central Ave & Mariposa was sold to the City of Phoenix in 2005 for the light rail project

Janet Napolitano
Governor

ARIZONA DEPARTMENT OF ENVIRONMENTAL QUALITY

1110 West Washington Street • Phoenix, Arizona 85007
(602) 771-2300 • www.azdeq.gov

Stephen A. Owens
Director

Certified Mail
Return Receipt

RPU07:464

Date: June 26, 2007

HARRIS-SHCOLNIK PROPERTIES II
1750 E GLENDALE AVE, SUITE 100
PHOENIX, AZ 85020-5505

Re: Land and Water Use Study Questionnaire
Central and Camelback Water Quality Assurance Revolving Fund (WQARF) Registry Site
Phoenix, Arizona

The Arizona Department of Environmental Quality (ADEQ) has prepared a Land and Water Use Study Questionnaire for specified stakeholders within the Central and Camelback WQARF Registry site (Site). The Site is currently undergoing evaluation for remedial actions to address tetrachloroethylene (PCE) and trichloroethylene (TCE) concentrations in groundwater.

The questionnaire will assist ADEQ in completing the Land and Water Use Study. This study is an important tool for ADEQ in development of the remedial objectives for this site. Please complete the enclosed questionnaire within 30 days of receipt. The information you provide is very important for continuation of the remedial process. Please return the questionnaires in the enclosed, self-addressed, stamped envelope to Ms. Jennifer Edwards Thies, Arizona Department of Environmental Quality, 1110 West Washington St., Phoenix, Arizona, 85007.

Please contact me at 602-771-4703 or jce@azdeq.gov with questions or comments.

Sincerely,

Jennifer Edwards Thies, Project Manager
Central and Camelback WQARF Site
Remedial Projects Unit

CTS: 168967
V: 11

LAND AND WATER USE STUDY QUESTIONNAIRE
FOR PROPERTIES OWNERS WITHIN THE
CENTRAL AND CAMELBACK WQARF REGISTRY SITE

Please answer all questions. Mark "NA" for questions that are not applicable. Mark "UNK" if the answer is unknown to you at the time of completion. Please attach any additional pages as needed.

Facility Name: _____

Date Questionnaire was completed: 7/1/07

Name of person completing Questionnaire: JAY S. LEFEVERS

Address: 5102 NORTH CENTRAL AVENUE
PHOENIX, AZ 85012

Contact Name: JAY LEFEVERS

Address: 5749 NORTH CANYON DRIVE
PHOENIX, AZ 85016

Phone Number: 602-955-5651

A. Property Information

1. What is the current use of the property? Please include a detailed facility description.

RETAIL USE - RESALE OF MID-CENTURY ANTIQUE FURNISHINGS + ACCESSORIES

2. What are the foreseeable plans for the property (extension of buildings, increased production, etc.) as far into the future as they are known and up to 100 years, if possible?

N/A

3. Is the property owned or leased?

LEASED TO PHOENIX METRO RETRO

4. Who is the owner of the property?
   Name: JAY LEFEVER
   Address: 5749 N. CANYON DRIVE
   PHX 85016
   Phone Number: 602-955-5651

5. If the property is leased, how long is the lease term?

2 YEARS

6. If the property is leased, are there plans to renew the lease and for how long?

YES - 2½ YRS.

7. If the property is owned, do you plan on relocating and if so in what timeframe?

N/A

B. Environmental information

1. Are there any groundwater wells on the property? If so, what is the current use of water in those wells? (e.g. – drinking water, water supply, monitoring, irrigation, remediation)

N/A

2. Are there any proposed changes to the current use of water in the wells from item #1 anticipated for the next 100 years?

N/A

3. Please list the company's waste streams?

SEWER

4. Please list any spill of material or waste products that has occurred at the facility in the past 5 years.

N/A

5. Is your company currently sampling any groundwater wells on the property? If so, how often is the sampling conducted? Are analytical results being submitted to ADEQ for the groundwater database?

N/A

6. If there are any groundwater wells on the property that supply drinking water, how many people are served and what is the Public Water Supply (PWS) number?

N/A

7. Do you anticipate that any groundwater wells will be drilled in the next 100 years at this property? If yes, what will the water be used for?

N/A

8. Does your facility have an environmental manager or is environmental management outsourced to an environmental consulting firm? If so, please list the person's information:

Name: N/A
Contact: _____
Title: _____
Address: _____
Phone Number: _____

Thank you for your time. The Project Manager, Jennifer Edwards, or a representative from ADEQ's consultant, HydroGeoChem, Inc., may follow-up on answers provided.

CTS: 169037
V: 11

LAND AND WATER USE STUDY QUESTIONNAIRE
FOR PROPERTIES OWNERS WITHIN THE
CENTRAL AND CAMELBACK WQARF REGISTRY SITE

Please answer all questions. Mark "NA" for questions that are not applicable. Mark "UNK" if the answer is unknown to you at the time of completion. Please attach any additional pages as needed.

Facility Name: THE BEATITUDES CAMPUS

Date Questionnaire was completed: 7-24-07

Name of person completing Questionnaire: SCOTT MARDIAN

Address: 1610 W. GLENDALE
PHO AZ 85021

Contact Name: SCOTT MARDIAN

Address:

Phone Number: 602 995-6138

A. Property Information

1. What is the current use of the property? Please include a detailed facility description.

SENIOR LIVING FACILITY

600 RESIDENTS

300 EMPLOYEES

408,000 SQFT. FACILITIES

23 ACRES

108
105
7
58
49
9
4
4
64
408

2. What are the foreseeable plans for the property (extension of buildings, increased production, etc.) as far into the future as they are known and up to 100 years, if possible?

ADDING 400,000 S.F. of DEVELOPMENT
400 RESIDENTS

3. Is the property owned or leased?

4. Who is the owner of the property?
   Name: THE BEATITUDES CAMPUS
   Address: _____
   Phone Number: 602 995 6138

5. If the property is leased, how long is the lease term?

N/A

6. If the property is leased, are there plans to renew the lease and for how long?

N/A

7. If the property is owned, do you plan on relocating and if so in what timeframe?

NO

B. Environmental information

1. Are there any groundwater wells on the property? If so, what is the current use of water in those wells? (e.g. – drinking water, water supply, monitoring, irrigation, remediation)

N/A

2. Are there any proposed changes to the current use of water in the wells from item #1 anticipated for the next 100 years?

N/A

3. Please list the company's waste streams?

4. Please list any spill of material or waste products that has occurred at the facility in the past 5 years.

UNKNOWN

5. Is your company currently sampling any groundwater wells on the property? If so, how often is the sampling conducted? Are analytical results being submitted to ADEQ for the groundwater database?

NO

6. If there are any groundwater wells on the property that supply drinking water, how many people are served and what is the Public Water Supply (PWS) number?

N/A

THERE IS A WELL ON ADJACENT PROPERTY ~~1645~~ 1611 W. MARTLE

7. Do you anticipate that any groundwater wells will be drilled in the next 100 years at this property? If yes, what will the water be used for?

NO

8. Does your facility have an environmental manager or is environmental management outsourced to an environmental consulting firm? If so, please list the person's information: NO

Name: _____
Contact: _____
Title: _____
Address: _____
Phone Number: _____

Thank you for your time. The Project Manager, Jennifer Edwards, or a representative from ADEQ's consultant, HydroGeoChem, Inc., may follow-up on answers provided.

ARIZONA DEPARTMENT OF ENVIRONMENTAL QUALITY

1110 West Washington Street • Phoenix, Arizona 85007
(602) 771-2300 • www.azdeq.gov

Janet Napolitano
Governor

Stephen A. Owens
Director

Certified Mail
Return Receipt

RPU07:484

Date: June 26, 2007

RECEIVED
Remedial Projects Unit

MICHELLE JUST
BEATITUDES CAMPUS
1610 W GLENDALE AVE
PHOENIX, AZ 85021

Re: Land and Water Use Study Questionnaire
Central and Camelback Water Quality Assurance Revolving Fund (WQARF) Registry Site
Phoenix, Arizona

The Arizona Department of Environmental Quality (ADEQ) has prepared a Land and Water Use Study Questionnaire for specified stakeholders within the Central and Camelback WQARF Registry site (Site). The Site is currently undergoing evaluation for remedial actions to address tetrachloroethylene (PCE) and trichloroethylene (TCE) concentrations in groundwater.

The questionnaire will assist ADEQ in completing the Land and Water Use Study. This study is an important tool for ADEQ in development of the remedial objectives for this site. Please complete the enclosed questionnaire within 30 days of receipt. The information you provide is very important for continuation of the remedial process. Please return the questionnaires in the enclosed, self-addressed, stamped envelope to Ms. Jennifer Edwards Thies, Arizona Department of Environmental Quality, 1110 West Washington St., Phoenix, Arizona, 85007.

Please contact me at 602-771-4703 or jce@azdeq.gov with questions or comments.

Sincerely,

Jennifer Edwards Thies

Jennifer Edwards Thies, Project Manager
Central and Camelback WQARF Site
Remedial Projects Unit

RPV 07:4)4

CTS: 168217
V:11

LAND AND WATER USE STUDY QUESTIONNAIRE
FOR PROPERTIES OWNERS WITHIN THE
CENTRAL AND CAMELBACK WQARF REGISTRY SITE

Please answer all questions. Mark "NA" for questions that are not applicable. Mark "UNK" if the answer is unknown to you at the time of completion. Please attach any additional pages as needed.

Facility Name: Bonneville Phoenix Studio Building KTAR/KPKX

Date Questionnaire was completed: July 17, 2007

Name of person completing Questionnaire: Gary A. Smith

Address: 5300 N. Central Ave
Phoenix, AZ 85012

Contact Name: Gary A. Smith

Address: Same

Phone Number: 602 200-2611

A. Property Information

1. What is the current use of the property? Please include a detailed facility description.

Office & Studio facility for commercial AM/FM Broadcast Stations.

2. What are the foreseeable plans for the property (extension of buildings, increased production, etc.) as far into the future as they are known and up to 100 years, if possible?

3. Is the property owned or leased?

4. Who is the owner of the property?
   Name: _____
   Address: _____
   _____
   Phone Number: _____

5. If the property is leased, how long is the lease term?

6. If the property is leased, are there plans to renew the lease and for how long?

7. If the property is owned, do you plan on relocating and if so in what timeframe?

B. <u>Environmental information</u>

1. Are there any groundwater wells on the property? If so, what is the current use of water in those wells? (e.g. – drinking water, water supply, monitoring, irrigation, remediation)

2. Are there any proposed changes to the current use of water in the wells from item #1 anticipated for the next 100 years?

N/A

3. Please list the company's waste streams?

N/A

4. Please list any spill of material or waste products that has occurred at the facility in the past 5 years.

N/A

5. Is your company currently sampling any groundwater wells on the property? If so, how often is the sampling conducted? Are analytical results being submitted to ADEQ for the groundwater database?

N/A

6. If there are any groundwater wells on the property that supply drinking water, how many people are served and what is the Public Water Supply (PWS) number?

7. Do you anticipate that any groundwater wells will be drilled in the next 100 years at this property? If yes, what will the water be used for?

8. Does your facility have an environmental manager or is environmental management outsourced to an environmental consulting firm? If so, please list the person's information:

   Name: _____
   Contact: _____
   Title: _____
   Address: _____
   Phone Number: _____

Thank you for your time. The Project Manager, Jennifer Edwards, or a representative from ADEQ's consultant, HydroGeoChem, Inc., may follow-up on answers provided.

CTS: 169040
V: 11

LAND AND WATER USE STUDY QUESTIONNAIRE
FOR PROPERTIES OWNERS WITHIN THE
CENTRAL AND CAMELBACK WQARF REGISTRY SITE

Please answer all questions. Mark "NA" for questions that are not applicable. Mark "UNK" if the answer is unknown to you at the time of completion. Please attach any additional pages as needed.

Facility Name: Brophy College Preparatory

Date Questionnaire was completed: 7-13-07

Name of person completing Questionnaire: JOE Helm

Address: 4701 N. Central Avenue
Phoenix, AZ 85012

Contact Name: JOE Helm

Address: 4701 N. Central Avenue
Phoenix, AZ 85012

Phone Number: 602-264-5291 Ext 6351

A. Property Information

1. What is the current use of the property? Please include a detailed facility description.

The Property is a private secondary high school, and is used for that purpose 12 months out of the year

2. What are the foreseeable plans for the property (extension of buildings, increased production, etc.) as far into the future as they are known and up to 100 years, if possible?
The property is in use at 100% capacity, and at this time there are no foreseeable changes in the plans. No other space to build

3. Is the property owned or leased?
Owned

4. Who is the owner of the property?
Name: Brophy College Preparatory
Address: 4701 N. Central Avenue
Phoenix, AZ 85012
Phone Number: 602-264-5291

5. If the property is leased, how long is the lease term? Not Applicable

6. If the property is leased, are there plans to renew the lease and for how long?
Not Applicable

7. If the property is owned, do you plan on relocating and if so in what timeframe?
No plans for relocating

B. Environmental information

1. Are there any groundwater wells on the property? If so, what is the current use of water in those wells? (e.g. – drinking water, water supply, monitoring, irrigation, remediation) There is one well + it provides all water supply to school including drinking, dish washing + food preparation, + irrigation.

6. If there are any groundwater wells on the property that supply drinking water, how many people are served and what is the Public Water Supply (PWS) number? Approximately 1300 students + staff

7. Do you anticipate that any groundwater wells will be drilled in the next 100 years at this property? If yes, what will the water be used for?

No

8. Does your facility have an environmental manager or is environmental management outsourced to an environmental consulting firm? If so, please list the person's information:

Name: Vito Gaglardi
Contact: Veolia Water
Title:
Address: P.O. Box 1190
Phone Number: Chino Valley, AZ 86323

Thank you for your time. The Project Manager, Jennifer Edwards, or a representative from ADEQ's consultant, HydroGeoChem, Inc., may follow-up on answers provided.

2. Are there any proposed changes to the current use of water in the wells from item #1 anticipated for the next 100 years?

No

3. Please list the company's waste streams?

City of Phoenix sewer system

4. Please list any spill of material or waste products that has occurred at the facility in the past 5 years.

Do not know of any

5. Is your company currently sampling any groundwater wells on the property? If so, how often is the sampling conducted? Are analytical results being submitted to ADEQ for the groundwater database?

The water system is currently inspected + the water tested by independent firm

ARIZONA DEPARTMENT OF ENVIRONMENTAL QUALITY

1110 West Washington Street • Phoenix, Arizona 85007
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Janet Napolitano
Governor

Stephen A. Owens
Director

RECEIVED
JUL 2007
Remedial Projects Unit

RPU07:445

Certified Mail
Return Receipt

Date: June 26, 2007

BROPHY COLLEGE PREPARATORY
4701 N CENTRAL AVENUE
PHOENIX, AZ 85012

Re: Land and Water Use Study Questionnaire
Central and Camelback Water Quality Assurance Revolving Fund (WQARF) Registry Site
Phoenix, Arizona

The Arizona Department of Environmental Quality (ADEQ) has prepared a Land and Water Use Study Questionnaire for specified stakeholders within the Central and Camelback WQARF Registry site (Site). The Site is currently undergoing evaluation for remedial actions to address tetrachloroethylene (PCE) and trichloroethylene (TCE) concentrations in groundwater.

The questionnaire will assist ADEQ in completing the Land and Water Use Study. This study is an important tool for ADEQ in development of the remedial objectives for this site. Please complete the enclosed questionnaire within 30 days of receipt. The information you provide is very important for continuation of the remedial process. Please return the questionnaires in the enclosed, self-addressed, stamped envelope to Ms. Jennifer Edwards Thies, Arizona Department of Environmental Quality, 1110 West Washington St., Phoenix, Arizona, 85007.

Please contact me at 602-771-4703 or jce@azdeq.gov with questions or comments.

Sincerely,

Jennifer Edwards Thies

Jennifer Edwards Thies, Project Manager
Central and Camelback WQARF Site
Remedial Projects Unit

RPU 07:458

CTS: 168238
V: 11

LAND AND WATER USE STUDY QUESTIONNAIRE
FOR PROPERTIES OWNERS WITHIN THE
CENTRAL AND CAMELBACK WQARF REGISTRY SITE

Please answer all questions. Mark "NA" for questions that are not applicable. Mark "UNK" if the answer is unknown to you at the time of completion. Please attach any additional pages as needed.

Facility Name: CENTRAL AT COULTER LLC ~~COULTER & CENTRAL~~

Date Questionnaire was completed: OCT - 2 - 07

Name of person completing Questionnaire: CHARLES SPENCER

Address: MY OFFICE 307 W. THOMAS PHX ARIZ 85013

SUBJ PROPERTY IS AT 5201 N CENTRAL PHX AZ

Contact Name: CHARLES SPENCER

Address: SAME

Phone Number: (602) 7087500 CELL

A. Property Information

1. What is the current use of the property? Please include a detailed facility description.

VACANT

25,000 SQ FT - LOT -

EX - TEXACO STATION -

ADEQ INSPECTED CLEAN-UP

IN PROGRESS -

2. What are the foreseeable plans for the property (extension of buildings, increased production, etc.) as far into the future as they are known and up to 100 years, if possible?

HOPE TO BUILD ON CLEAN LOT BY SEP-08 —

3. Is the property owned or leased?

4. Who is the owner of the property?
Name: FRONT
Address: CENTRAL COULTER LLC
Phone Number: (602) 7087500

5. If the property is leased, how long is the lease term?

NOT

6. If the property is leased, are there plans to renew the lease and for how long?

NA

7. If the property is owned, do you plan on relocating and if so in what timeframe?

B. Environmental information

1. Are there any groundwater wells on the property? If so, what is the current use of water in those wells? (e.g. – drinking water, water supply, monitoring, irrigation, remediation)

NO

RECEIVED
Remedial Projects Unit

Jennifer C. Edwards

From: karen.a.wisdom@shell.com
Sent: Tuesday, July 10, 2007 12:44 PM
To: Jennifer C. Edwards
Cc: keithr@hgcinc.com
Subject: RE: RPU07:458
Attachments: oledata.mso

Ms. Thies,
Shell no longer owns this property. We sold it to:

CENTRAL AVENUE AT COLTER LLC
Attn.: Charles Spencer
307 W.Thomas
Phoenix, Arizona 85013
Phone: (602) 277-3420
Fax: (602) 277-8786
E-mail: bubbas136@hotmail.com
("Purchaser")

The sale was effective 5/24/07.

I am sending my copy of the letter to the Shell Environmental Engineer. Please send a copy of everything to the above new land owner.

Karen A. Wisdom
Real Estate Consultant
West Region
12700 Northborough 169
Houston, TX 77067
281-874-7749 (Office)
281-775-5021 (FAX)
Hours: 8:00 to 6:30 Central Time

-----Original Message-----
From: Jennifer C. Edwards [mailto:Edwards.Jennifer@azdeq.gov]
Sent: Tuesday, July 10, 2007 2:31 PM
To: Wisdom, Karen A SOPUS-DRN/272
Cc: Keith Ross
Subject: RE: RPU07:458

Ms. Wisdom,
The site in question is the Former Texaco Station at 5201 N Central Ave., Phoenix, Arizona.

Please call or email with comments or questions.
Thank you,

Jennifer Edwards Thies
602-320-5546

From: karen.a.wisdom@shell.com [mailto:karen.a.wisdom@shell.com]
Sent: Tuesday, July 10, 2007 10:27 AM
To: Jennifer C. Edwards
Subject: RPU07:458

I have received a Land and Water Use Study Questionnaire. I have no idea which site/property this references. Please supply me with more information. Without more info I cannot reply.

The request was sent to EQUILON ENTERPRISES LLC

Karen A. Wisdom

Real Estate Consultant

West Region

12700 Northborough 169

Houston, TX 77067

281-874-7749 (Office)

281-775-5021 (FAX)

Hours: 8:00 to 6:30 Central Time

NOTICE: This e-mail (and any attachments) may contain PRIVILEGED OR CONFIDENTIAL information and is intended only for the use of the specific individual(s) to whom it is addressed. It may contain information that is privileged and confidential under state and federal law. This information may be used or disclosed only in accordance with law, and you may be subject to penalties under law for improper use or further disclosure of the information in this e-mail and its attachments. If you have received this e-mail in error, please immediately notify the person named above by reply e-mail, and then delete the original e-mail. Thank you.

RPU 07.496

CTS: 168293
V:11

LAND AND WATER USE STUDY QUESTIONNAIRE
FOR PROPERTIES OWNERS WITHIN THE
CENTRAL AND CAMELBACK WQARF REGISTRY SITE

Please answer all questions. Mark "NA" for questions that are not applicable. Mark "UNK" if the answer is unknown to you at the time of completion. Please attach any additional pages as needed.

Facility Name: CENTRAL MUSIC

Date Questionnaire was completed: 7-16-7

Name of person completing Questionnaire: Roy HAMASAKI

Address: 5038 N Central
Phx Az 85012

Contact Name: SAME

Address:

Phone Number: 602 274-6532

A. Property Information

1. What is the current use of the property? Please include a detailed facility description.

Retail space —

2. What are the foreseeable plans for the property (extension of buildings, increased production, etc.) as far into the future as they are known and up to 100 years, if possible? Due to size limitation - no plans for expansion

3. Is the property owned or leased?

4. Who is the owner of the property?
   Name: M. R. BURG
   Address: 5038 N. Central PX AZ
   Phone Number: 602 277-0034

5. If the property is leased, how long is the lease term?

   N/A

6. If the property is leased, are there plans to renew the lease and for how long?

   N/A

7. If the property is owned, do you plan on relocating and if so in what timeframe?

   too old to Relocate

B. Environmental information

1. Are there any groundwater wells on the property? If so, what is the current use of water in those wells? (e.g. – drinking water, water supply, monitoring, irrigation, remediation) No

2. Are there any proposed changes to the current use of water in the wells from item #1 anticipated for the next 100 years?

N/A

3. Please list the company's waste streams?

?

4. Please list any spill of material or waste products that has occurred at the facility in the past 5 years.

No

5. Is your company currently sampling any groundwater wells on the property? If so, how often is the sampling conducted? Are analytical results being submitted to ADEQ for the groundwater database?

No

6. If there are any groundwater wells on the property that supply drinking water, how many people are served and what is the Public Water Supply (PWS) number?

N/A

7. Do you anticipate that any groundwater wells will be drilled in the next 100 years at this property? If yes, what will the water be used for?

N/A

8. Does your facility have an environmental manager or is environmental management outsourced to an environmental consulting firm? If so, please list the person's information:

N/A

Name: _____
Contact: _____
Title: _____
Address: _____
Phone Number: _____

Thank you for your time. The Project Manager, Jennifer Edwards, or a representative from ADEQ's consultant, HydroGeoChem, Inc., may follow-up on answers provided.

ARIZONA DEPARTMENT OF ENVIRONMENTAL QUALITY

1110 West Washington Street • Phoenix, Arizona 85007
(602) 771-2300 • www.azdeq.gov

Janet Napolitano
Governor

Stephen A. Owens
Director

Certified Mail
Return Receipt

RPU07:496

Date: June 26, 2007

RECEIVED
JUL 2007
Remedial Projects Unit

RICHARD BURG
5038 N CENTRAL
PHOENIX, AZ 85012

Re: Land and Water Use Study Questionnaire
Central and Camelback Water Quality Assurance Revolving Fund (WQARF) Registry Site
Phoenix, Arizona

The Arizona Department of Environmental Quality (ADEQ) has prepared a Land and Water Use Study Questionnaire for specified stakeholders within the Central and Camelback WQARF Registry site (Site). The Site is currently undergoing evaluation for remedial actions to address tetrachloroethylene (PCE) and trichloroethylene (TCE) concentrations in groundwater.

The questionnaire will assist ADEQ in completing the Land and Water Use Study. This study is an important tool for ADEQ in development of the remedial objectives for this site. Please complete the enclosed questionnaire within 30 days of receipt. The information you provide is very important for continuation of the remedial process. Please return the questionnaires in the enclosed, self-addressed, stamped envelope to Ms. Jennifer Edwards Thies, Arizona Department of Environmental Quality, 1110 West Washington St., Phoenix, Arizona, 85007.

Please contact me at 602-771-4703 or jce@azdeq.gov with questions or comments.

Sincerely,

Jennifer Edwards Thies, Project Manager
Central and Camelback WQARF Site
Remedial Projects Unit

CTS: 168225
V: 11

RPU: 07:450

PROPERTY OWNER

LAND AND WATER USE STUDY QUESTIONNAIRE
FOR ~~MUNICIPALITIES/UTILITIES~~ WITHIN THE
CENTRAL AND CAMELBACK WQARF REGISTRY SITE

Please answer all questions. Mark "NA" for questions that are not applicable. Mark "UNK" if the answer is unknown to you at the time of completion. Please attach any additional pages as needed.

Water user municipality/utility name: CITY OF MAX WATER

Date Questionnaire was completed: 7-11-07

Name of person completing Questionnaire: CHARLES JONES

Contact Name: CHARLES JONES

Title: OWNER

Division:

Address: 198 W. MARIPOSA, #7
MAX, AZ 85013

Phone Number: 602-359-5095

1. What is the current use of your ~~municipality's/utility's~~ property within the limits of the Central and Camelback (C&C) WQARF site (Boundaries are Missouri Avenue to the north, Central Avenue to the east, Pierson Street to the south, and approximate 1600 feet west of Central Avenue as the western boundary)

   RESIDENTIAL APARTMENTS

2. Please list the ~~municipality's/utility's~~ properties of concern/boundaries (neighborhood planning committees, zoning, canals, wells) within the C&C WQARF site boundary.

   198 W. MARIPOSA, MAX, AZ

3. What are the foreseeable plans for the ~~municipality/utility~~ property within the C&C WQARF site boundary as far into the future as they are known and up to 100 years, if possible.

SAME USE - APARTMENTS

4. Does the ~~municipality/utility~~ have a published general plan for the property within the C&C WQARF site boundary?

NO

5. Are parcel, zoning, or land maps available through the municipality/utility? Where are they located?

NO

6. Please list any specific neighborhood concern the municipality/utility is aware of within the C&C WQARF site boundaries? Please list future concerns (e.g. - freeway expansion, water use, water availability, etc.)

NONE

7. Please list any future zoning plans or area plans for the municipality/utility within the C&C WQARF site boundary:

NONE

8. Please list any "special projects" projected or anticipated within the C&C WQARF site boundaries:

NONE

9. If any property is leased (~~the municipality/utility is the lessor~~), how long is the lease term?

APARTMENT LEASES - 1 YR

10. If the property is leased, are there plans to renew the lease and is so, for how long?

YES - 1 YR

11. Please list any environmental spill of material or waste products that has occurred within the municipality/utility within the C&C WQARF site boundary in the past 5 years?

NONE

12 Is the municipality/utility currently sampling groundwater wells within the C&C WQARF site? If so, how often is the sampling conducted? Are analytical results being submitted to ADEQ for the groundwater database?

NO

13. Does your municipality/utility have an environmental manager or do you outsource environmental management to an environmental consulting firm? If so, please provide the following information:

Name: N/A
Contact: _____
Title: _____
Address: _____
Phone Number: _____

14. Please indicate anticipated groundwater development by the municipality/utility within the C&C WQARF site boundary.

NONE

15. Are there any groundwater wells owned by the water provider that have been affected by the C&C WQARF site? If so, please list the ADWR well identification numbers. What is the current status of these wells (e.g. – shut down, still pumping)?

No

16. What is the future use (up to 100 years) for any wells that have been impacted by the C&C WQARF site?

N/A

Thank you for your time. The Project Manager, Jennifer Edwards, or a representative from ADEQ's consultant, HydroGeoChem Inc., may follow-up on answers provided.

RPU07:460

CTS: 168969
V: 11

LAND AND WATER USE STUDY QUESTIONNAIRE
FOR PROPERTIES OWNERS WITHIN THE
CENTRAL AND CAMELBACK WQARF REGISTRY SITE

Please answer all questions. Mark "NA" for questions that are not applicable. Mark "UNK" if the answer is unknown to you at the time of completion. Please attach any additional pages as needed.

Facility Name: _____

Date Questionnaire was completed: _____

Name of person completing Questionnaire: FRANKLIN YEE

Address: _____

Franklin Yee
5222 Heavenly Ridge Ln
El Sobrante CA 94803-2625

Contact Name: SAME

Address: _____

Phone Number: 510 223-0971

A. Property Information

1. What is the current use of the property? Please include a detailed facility description.

Circle K STORE

2. What are the foreseeable plans for the property (extension of buildings, increased production, etc.) as far into the future as they are known and up to 100 years, if possible?

   UNK

3. Is the property owned or leased?

   LEASED TO Circle K Corp

4. Who is the owner of the property?
   Name: Franklin Yee
   Address: 5222 Heavenly Ridge Ln
   El Sobrante CA 94803-2625
   Phone Number: 510 223-0971

5. If the property is leased, how long is the lease term?

   30 yr+

6. If the property is leased, are there plans to renew the lease and for how long?

   UNK

7. If the property is owned, do you plan on relocating and if so in what timeframe?

   UNK

B. Environmental information

1. Are there any groundwater wells on the property? If so, what is the current use of water in those wells? (e.g. – drinking water, water supply, monitoring, irrigation, remediation)

   UNK

2. Are there any proposed changes to the current use of water in the wells from item #1 anticipated for the next 100 years?

UNK

3. Please list the company's waste streams?

UNK

4. Please list any spill of material or waste products that has occurred at the facility in the past 5 years.

UNK

5. Is your company currently sampling any groundwater wells on the property? If so, how often is the sampling conducted? Are analytical results being submitted to ADEQ for the groundwater database?

UNK

6. If there are any groundwater wells on the property that supply drinking water, how many people are served and what is the Public Water Supply (PWS) number?

UNK

7. Do you anticipate that any groundwater wells will be drilled in the next 100 years at this property? If yes, what will the water be used for?

UNK

8. Does your facility have an environmental manager or is environmental management outsourced to an environmental consulting firm? If so, please list the person's information:

Name: NA
Contact: _____
Title: _____
Address: _____
Phone Number: _____

Thank you for your time. The Project Manager, Jennifer Edwards, or a representative from ADEQ's consultant, HydroGeoChem, Inc., may follow-up on answers provided.

Janet Napolitano
Governor

ARIZONA DEPARTMENT OF ENVIRONMENTAL QUALITY

1110 West Washington Street • Phoenix, Arizona 85007
(602) 771-2300 • www.azdeq.gov

Stephen A. Owens
Director

Certified Mail
Return Receipt

RPU07:460

Date: June 26, 2007

FRANK AND MAY YEE
5222 HEAVENLY RIDGE LN
EL SOBRANTE, CA 94803

Re: Land and Water Use Study Questionnaire
Central and Camelback Water Quality Assurance Revolving Fund (WQARF) Registry Site
Phoenix, Arizona

The Arizona Department of Environmental Quality (ADEQ) has prepared a Land and Water Use Study Questionnaire for specified stakeholders within the Central and Camelback WQARF Registry site (Site). The Site is currently undergoing evaluation for remedial actions to address tetrachloroethylene (PCE) and trichloroethylene (TCE) concentrations in groundwater.

The questionnaire will assist ADEQ in completing the Land and Water Use Study. This study is an important tool for ADEQ in development of the remedial objectives for this site. Please complete the enclosed questionnaire within 30 days of receipt. The information you provide is very important for continuation of the remedial process. Please return the questionnaires in the enclosed, self-addressed, stamped envelope to Ms. Jennifer Edwards Thies, Arizona Department of Environmental Quality, 1110 West Washington St., Phoenix, Arizona, 85007.

Please contact me at 602-771-4703 or jce@azdeq.gov with questions or comments.

Sincerely,

Jennifer Edwards Thies

Jennifer Edwards Thies, Project Manager
Central and Camelback WQARF Site
Remedial Projects Unit

CTS: 168298
VIII

LAND AND WATER USE STUDY QUESTIONNAIRE FOR MUNICIPALITIES/UTILITIES WITHIN THE CENTRAL AND CAMELBACK WQARF REGISTRY SITE

City of Phoenix
Questionnaire completed September 21, 2007
Completed by Donn M. Stoltzfus with information from several Phoenix staff

Contact: Donn M. Stoltzfus
Environmental Programs Specialist
Office of Environmental Programs
200 W. Washington Street, 14th Floor
Phoenix AZ 85003
602-256-5681
donn.stoltzfus@phoenix.gov

1. **What is the current use of your municipality's/utility's property within the limits of the Central and Camelback (C & C) WQARF site (Boundaries are Missouri Avenue to the north, Central Avenue to the east, Pierson Street to the south, and approximately 1600 feet west of Central Avenue as the western boundary)?**

   There are a variety of commercial, office, and multi-family uses along Camelback Road and Central Avenue. The remainder of the area is single-family residential with some small multi-family properties and relatively few undeveloped lots.

2. **Please list the municipality's/utility's properties of concern/boundaries (neighborhood planning committees, zoning, canals, wells) within the C&C WQARF site boundary.**

   The study area centered on Central and Camelback Roads is within the boundaries of the Alhambra Village in the City of Phoenix. The site is located adjacent to three historic neighborhoods comprised of the Windsor Square Historic Neighborhood (NE corner of Central and Camelback), Medlock Place Historic Neighborhood (NW corner of Central and Camelback) and Pierson Place Historic Neighborhood (SW corner of Central and Camelback). Four schools are also in proximity to the site comprised of St. Francis Elementary, Brophy College Preparatory, Xavier College Preparatory and Central High School. The site is also located along the Light Rail Transit Corridor which runs along Camelback Road from 19th Ave. to Central Ave. and from Central Ave. south to Washington Street.

The Village is represented to the Mayor and Planning Commission by a Village Planning Committee. This committee provides recommendations on zoning, special permit, General Plan Amendment, and Planning Hearing Officer cases. They also participate in the process to produce a village plan, or smaller area plan(s) in the village. Committee Chairpersons may also meet with members of the development community at the time developments are proposed in the village. Some of the development impacts usually discussed in those meetings involve, traffic, compatibility with adjacent land uses, pedestrian amenities, and landscaping.

The Draft Alhambra Village Plan does not specifically address issues of hazardous waste facilities. The committee supports the Phoenix General Plan Map that shows much of the study area as residential and commercial.

3. **What are the foreseeable plans for the municipality/utility property within the C&C WQARF site boundary as far into the future as they are known and up to 100 years, if possible?**

See response to question 6 below. While it is difficult to forecast future real estate development trends, the area is likely to experience a greater density of commercial development including mid-rise and high-rise buildings along Central Avenue and Camelback Road. Some additional retail and multi-family housing is also expected.

4. **Does the municipality/utility have a published general plan for the property within the C&C) WQARF site boundary?**

The city of Phoenix does have a published General Plan adopted by the City Council in December 2001 for the area in question. This plan addresses land uses throughout the city. According to the General Plan much of the study area is designated residential, commercial and public/quasi public.

5. **Are parcel, zoning, or land maps available through the municipality/utility? Where are they located?**

Maps are available online through the City of Phoenix website www.phoenix.gov.

6. **Please list any specific neighborhood concerns the municipality/utility is aware of within the C&C WQARF site boundaries? Please list future concerns (e.g. freeway expansion, water use, water availability, etc.**

The Alhambra Village will experience impacts from the Light Rail Line. The transit corridor is currently under construction and runs from 19th Ave. to

Central Ave. and from Central Ave. south to Washington Street. At the SW corner of Central and Camelback zoning permits a high-rise building up to 250' in height. There is also a high-rise application for 250' in height located south of the SE corner of Central Avenue and Camelback Road that the City Council will consider this October. Future developments at these locations may not include high-rise buildings depending on market conditions. Residents have concerns of possible traffic impacts the high-rise applications and future applications may have on their neighborhoods.

7. **Please list any future zoning plans or area plans for the municipality/utility within the C&C WQARF site boundary?**

The City of Phoenix is working in conjunction with Arizona State University to study the Camelback Corridor from 7th Street to 19th Avenue. The study is currently in progress and will last until next summer. A document may be created from this study.

8. **Please list any "special projects" projected or anticipated within the C&C WQARF site boundaries?**

The light rail project is underway and projected to be completed in about 15 months. Multiple high-rise rezoning applications are anticipated from Camelback Road to the Grand Canal along Central Avenue. This in turn may require that new water and sewer mains and other associated facilities will be built in the area.

9. **If any property is leased (the municipality/utility is the lessor) how long is the lease term?**

City records indicate three leases in this area., a lease at 531. W. Camelback Road, a lease to ADEQ at 21 W. Camelback Road that expires in 2012 with two 5-year options to renew, and a lease at 165 W. Camelback Road.

10. **If the property is leased, are there plans to renew the lease and if so, for how long?**

The City anticipates that ADEQ will request a lease renewal for 21 W. Camelback, but no specific plans exist for these leases.

11. **Please list any environmental spill or material or waste products that has occurred within the municipality/utility within the C&C WQARF site boundary in the past 5 years?**

This information could be accessed by reviewing ADEQ records. The City of Phoenix Fire Department may have some records of hazardous materials

responses, but Phoenix has not compiled this information. ADEQ could access its own databases and records at the Phoenix Fire Department for specific properties within the C&C WQARF site to obtain this information.

12. **Is the municipality/utility currently sampling groundwater wells on the property? If so, how often is the sampling conducted? Are analytical results being submitted to ADEQ for the groundwater database?**

To the best of our knowledge, Phoenix is not sampling groundwater within the C&C WQARF site. Phoenix does own some monitoring wells within the site, and they are available for ADEQ to access for sampling purposes upon notice to Phoenix.

13. **Does your municipality/utility have an environmental manager?**

~~Karen O'Regan~~ Philip McNeely per comment dated 7/24/2014
Environmental Programs Manager
Office of Environmental Programs
200 West Washington Street, 14th Floor
Phoenix, Arizona 85003

14. **Please indicate anticipated groundwater development by the municipality/utility within the C&C WQARF site boundary.**

Based on its Groundwater Management Plan, Phoenix does not intend to develop water supply wells within the Central and Camelback site. The City of Phoenix 2005 Water Resources Plan identifies groundwater in the Salt River Project member lands located in central Phoenix as an increasingly necessary addition to the City's available water resources in order to meet potable water system demand due to projected population growth. Access to groundwater will also become of greater importance in times of drought-related water shortages, higher demand during peak use periods and water emergencies, and for certain specific operations requirements. Wells in the central Phoenix area can be desirable and cost-effective because of the water delivery infrastructure that already exists. Phoenix is currently planning a significant expansion of its network of water supply and it is possible that the City could develop new water supply wells in the immediate vicinity of the site that could be impacted should the current groundwater plume be allowed to migrate.

15. **Are there any groundwater wells owned by the water provider that have been affected by the C&C WQARF site? If so, please list the well identification numbers. What is the current status of these wells (e.g. – shut down, still pumping)?**

To the best of our knowledge, the City of Phoenix has identified 2 wells proximal to the Central and Camelback site boundary. See table below.

Well #	Address	ADWR #	Point Of Entry Status
54	5839 N. 15th Ave	Unknown	Abandoned (1986)
110	4530 N. 17th Ave	55-626565	Sold to ADEQ (2002)- capped

16. What is the future use (up to 100 years) for any wells that have been impacted by the C&C WQARF site?

At the current time Phoenix does not have any active supply wells that have been impacted by the contaminants from this site. However, as noted above there is the possibility that Phoenix may need to install new wells in the areas adjacent to the site so it is important that the current groundwater plume be controlled and contained while remediation efforts are ongoing.

R:\Personal Files\DonnS\WQARF\C&CWQARFQUESTIONNAIRE.doc

RPU 07-142

CTS: 168215
V: 11

LAND AND WATER USE STUDY QUESTIONNAIRE
FOR PROPERTIES OWNERS WITHIN THE
CENTRAL AND CAMELBACK WQARF REGISTRY SITE

Please answer all questions. Mark "NA" for questions that are not applicable. Mark "UNK" if the answer is unknown to you at the time of completion. Please attach any additional pages as needed.

Facility Name: DPR REALTY

Date Questionnaire was completed: 7-17-07

Name of person completing Questionnaire: Tom Parrella

Address: 16 W. CAMELBACK RD
PHX AZ 85013

Contact Name: Tom PARRELLA

Address: 16 W. Camelback Rd
PHX AZ 85013

Phone Number: 480-797-0802

A. Property Information

1. What is the current use of the property? Please include a detailed facility description. OFFICE

2. What are the foreseeable plans for the property (extension of buildings, increased production, etc.) as far into the future as they are known and up to 100 years, if possible?

UNK

3. Is the property owned or leased?

OWNED

4. Who is the owner of the property?
   Name: Armed Partners
   Address: 8341 E Gelding Dr, Scottsdale AZ 85260
   Phone Number: 480-797-0802

5. If the property is leased, how long is the lease term?

UNK

6. If the property is leased, are there plans to renew the lease and for how long?

UNK

7. If the property is owned, do you plan on relocating and if so in what timeframe?

UNK

B. Environmental information

1. Are there any groundwater wells on the property? If so, what is the current use of water in those wells? (e.g. – drinking water, water supply, monitoring, irrigation, remediation)

N/A

2. Are there any proposed changes to the current use of water in the wells from item #1 anticipated for the next 100 years?

UNK

3. Please list the company's waste streams?

? 2 Bathrooms ? N/A

4. Please list any spill of material or waste products that has occurred at the facility in the past 5 years.

N/A

5. Is your company currently sampling any groundwater wells on the property? If so, how often is the sampling conducted? Are analytical results being submitted to ADEQ for the groundwater database?

N/A

6. If there are any groundwater wells on the property that supply drinking water, how many people are served and what is the Public Water Supply (PWS) number?

NO

7. Do you anticipate that any groundwater wells will be drilled in the next 100 years at this property? If yes, what will the water be used for?

UNK

8. Does your facility have an environmental manager or is environmental management outsourced to an environmental consulting firm? If so, please list the person's information:

N/A

Name: _____
Contact: _____
Title: _____
Address: _____
Phone Number: _____

Thank you for your time. The Project Manager, Jennifer Edwards, or a representative from ADEQ's consultant, HydroGeoChem, Inc., may follow-up on answers provided.

ARIZONA DEPARTMENT OF ENVIRONMENTAL QUALITY

1110 West Washington Street • Phoenix, Arizona 85007
(602) 771-2300 • www.azdeq.gov

Janet Napolitano
Governor

Stephen A. Owens
Director

Certified Mail
Return Receipt

RPU07:442

Date: June 26, 2007

RECEIVED
JUN
Remedial Projects Unit

ARMED PARTNERS LLC
7300 E CAMELBACK ROAD
SCOTTSDALE, AZ 85251

Re: Land and Water Use Study Questionnaire
Central and Camelback Water Quality Assurance Revolving Fund (WQARF) Registry Site
Phoenix, Arizona

The Arizona Department of Environmental Quality (ADEQ) has prepared a Land and Water Use Study Questionnaire for specified stakeholders within the Central and Camelback WQARF Registry site (Site). The Site is currently undergoing evaluation for remedial actions to address tetrachloroethylene (PCE) and trichloroethylene (TCE) concentrations in groundwater.

The questionnaire will assist ADEQ in completing the Land and Water Use Study. This study is an important tool for ADEQ in development of the remedial objectives for this site. Please complete the enclosed questionnaire within 30 days of receipt. The information you provide is very important for continuation of the remedial process. Please return the questionnaires in the enclosed, self-addressed, stamped envelope to Ms. Jennifer Edwards Thies, Arizona Department of Environmental Quality, 1110 West Washington St., Phoenix, Arizona, 85007.

Please contact me at 602-771-4703 or jce@azdeq.gov with questions or comments.

Sincerely,

Jennifer Edwards Thies, Project Manager
Central and Camelback WQARF Site
Remedial Projects Unit

RN 07:491

CTS: 168289
V: 11

LAND AND WATER USE STUDY QUESTIONNAIRE
FOR PROPERTIES OWNERS WITHIN THE
CENTRAL AND CAMELBACK WQARF REGISTRY SITE

Please answer all questions. Mark "NA" for questions that are not applicable. Mark "UNK" if the answer is unknown to you at the time of completion. Please attach any additional pages as needed.

Facility Name: Enterprise Car Rental

Date Questionnaire was completed: 7-13-07

Name of person completing Questionnaire: C. P. Desgit

Address: 222 W. Thomas #114
Phx, AZ 85013

Contact Name: Drane

Address: SAA

Phone Number: 602 279 5444

A. Property Information

1. What is the current use of the property? Please include a detailed facility description.

Rental property - occupied by Enterprise Car Rental

2. What are the foreseeable plans for the property (extension of buildings, increased production, etc.) as far into the future as they are known and up to 100 years, if possible?

Hopefully, once light rail open - will be able to develop property.

3. Is the property owned or leased?

owned

4. Who is the owner of the property?
   Name: Myself + wife
   Address: SAB
   Phone Number: SAB

5. If the property is leased, how long is the lease term?

~~[illegible]~~

6. If the property is leased, are there plans to renew the lease and for how long?

7. If the property is owned, do you plan on relocating and if so in what timeframe?

Unknown - See #2 above

B. Environmental information

1. Are there any groundwater wells on the property? If so, what is the current use of water in those wells? (e.g. – drinking water, water supply, monitoring, irrigation, remediation)

No

2. Are there any proposed changes to the current use of water in the wells from item #1 anticipated for the next 100 years?

3. Please list the company's waste streams?

4. Please list any spill of material or waste products that has occurred at the facility in the past 5 years.

   Unknown

5. Is your company currently sampling any groundwater wells on the property? If so, how often is the sampling conducted? Are analytical results being submitted to ADEQ for the groundwater database?

   No

6. If there are any groundwater wells on the property that supply drinking water, how many people are served and what is the Public Water Supply (PWS) number?

7. Do you anticipate that any groundwater wells will be drilled in the next 100 years at this property? If yes, what will the water be used for?

No

8. Does your facility have an environmental manager or is environmental management outsourced to an environmental consulting firm? If so, please list the person's information: No

   Name: _____
   Contact: _____
   Title: _____
   Address: _____
   Phone Number: _____

Thank you for your time. The Project Manager, Jennifer Edwards, or a representative from ADEQ's consultant, HydroGeoChem, Inc., may follow-up on answers provided.

RPU 07:438
CTS: 168955
V: 11

LAND AND WATER USE STUDY QUESTIONNAIRE
FOR PROPERTIES OWNERS WITHIN THE
CENTRAL AND CAMELBACK WQARF REGISTRY SITE

Please answer all questions. Mark "NA" for questions that are not applicable. Mark "UNK" if the answer is unknown to you at the time of completion. Please attach any additional pages as needed.

Facility Name: First United Methodist Church

Date Questionnaire was completed: 7/10/07

Name of person completing Questionnaire: Russ Morrow, Business Administrator

Address: 5510 N. CENTRAL Ave
Phoenix, Az 85012

Contact Name: Russ Morrow

Address: Same

Phone Number: 602-263-5013

A. Property Information

1. What is the current use of the property? Please include a detailed facility description.

Church

2. What are the foreseeable plans for the property (extension of buildings, increased production, etc.) as far into the future as they are known and up to 100 years, if possible?

   Church

3. Is the property owned or leased? Owned

4. Who is the owner of the property?
   Name: First United Methodist Church
   Address: 5510 N. Central Ave
   Phoenix, Az 85012
   Phone Number: 602-263-5013

5. If the property is leased, how long is the lease term?

   —

6. If the property is leased, are there plans to renew the lease and for how long?

   —

7. If the property is owned, do you plan on relocating and if so in what timeframe?

   No

B. Environmental information

1. Are there any groundwater wells on the property? If so, what is the current use of water in those wells? (e.g. – drinking water, water supply, monitoring, irrigation, remediation)

   Unknown

2. Are there any proposed changes to the current use of water in the wells from item #1 anticipated for the next 100 years?

No

3. Please list the company's waste streams?

Unknown

4. Please list any spill of material or waste products that has occurred at the facility in the past 5 years.

None known

5. Is your company currently sampling any groundwater wells on the property? If so, how often is the sampling conducted? Are analytical results being submitted to ADEQ for the groundwater database?

No

6. If there are any groundwater wells on the property that supply drinking water, how many people are served and what is the Public Water Supply (PWS) number?

7. Do you anticipate that any groundwater wells will be drilled in the next 100 years at this property? If yes, what will the water be used for?

Nb

8. Does your facility have an environmental manager or is environmental management outsourced to an environmental consulting firm? If so, please list the person's information: No

Name: _____
Contact: _____
Title: _____
Address: _____
Phone Number: _____

Thank you for your time. The Project Manager, Jennifer Edwards, or a representative from ADEQ's consultant, HydroGeoChem, Inc., may follow-up on answers provided.

RPV 07:002

CTS: 168962
V: 11

LAND AND WATER USE STUDY QUESTIONNAIRE
FOR PROPERTIES OWNERS WITHIN THE
CENTRAL AND CAMELBACK WQARF REGISTRY SITE

Please answer all questions. Mark "NA" for questions that are not applicable. Mark "UNK" if the answer is unknown to you at the time of completion. Please attach any additional pages as needed.

Facility Name: Frances

Date Questionnaire was completed: 6-29-07

Name of person completing Questionnaire: Tom Bryant

Address: 10A W. CAMELBACK RD
PHOENIX, AZ 85013

Contact Name: TOM & LEURGANNE BRYANT

Address: 10A W. CAMELBACK RD
PHOENIX, AZ 85013

Phone Number: 602-279-5467

A. Property Information

1. What is the current use of the property? Please include a detailed facility description.

2000 # RETAIL STORE

2. What are the foreseeable plans for the property (extension of buildings, increased production, etc.) as far into the future as they are known and up to 100 years, if possible?

   NONE AT THIS TIME

3. Is the property owned or leased? OWNED (OWNER/USER)

4. Who is the owner of the property?
   Name: TOM + GEORGANNE BRYANT (BRYANT LLC)
   Address: 7107 N. 6TH AVE
   PHOENIX, AZ 85021
   Phone Number: 602-331-5070

5. If the property is leased, how long is the lease term?

   N/A

6. If the property is leased, are there plans to renew the lease and for how long?

   N/A

7. If the property is owned, do you plan on relocating and if so in what timeframe?

   NO RELOCATION PLANS

B. Environmental information

1. Are there any groundwater wells on the property? If so, what is the current use of water in those wells? (e.g. – drinking water, water supply, monitoring, irrigation, remediation)

   NO WELLS

2. Are there any proposed changes to the current use of water in the wells from item #1 anticipated for the next 100 years?

N/A

3. Please list the company's waste streams?

N/A

4. Please list any spill of material or waste products that has occurred at the facility in the past 5 years.

NONE KNOWN

5. Is your company currently sampling any groundwater wells on the property? If so, how often is the sampling conducted? Are analytical results being submitted to ADEQ for the groundwater database?

NONE OF THE ABOVE

6. If there are any groundwater wells on the property that supply drinking water, how many people are served and what is the Public Water Supply (PWS) number?

N/A

7. Do you anticipate that any groundwater wells will be drilled in the next 100 years at this property? If yes, what will the water be used for?

NO

8. Does your facility have an environmental manager or is environmental management outsourced to an environmental consulting firm? If so, please list the person's information:

Name: N/A
Contact: _____
Title: _____
Address: _____
Phone Number: _____

Thank you for your time. The Project Manager, Jennifer Edwards, or a representative from ADEQ's consultant, HydroGeoChem, Inc., may follow-up on answers provided.

REALTY EXECUTIVES

HISTORIC HOMES
NORTH CENTRAL PHOENIX

TOM BRYANT, G.R.I.
President's Roundtable
Lifetime Award
historiccentral.com
email: tombryantaz@cox.net

7600 N. 16th St., Suite 100
Phoenix, AZ 85020
Office: (602) 861-3300
VM: (602) 331-6062
FAX: (602) 331-6099

frances

10a w. camelback rd.
phoenix, arizona 85013

georganne bryant
602.279.5467
www.francesvintage.com

RFV 07:47

CTS: 168278
V: 11

LAND AND WATER USE STUDY QUESTIONNAIRE
FOR PROPERTIES OWNERS WITHIN THE
CENTRAL AND CAMELBACK WQARF REGISTRY SITE

Please answer all questions. Mark "NA" for questions that are not applicable. Mark "UNK" if the answer is unknown to you at the time of completion. Please attach any additional pages as needed.

Facility Name: Harley's Italian Bistro

Date Questionnaire was completed: 7/17/07

Name of person completing Questionnaire: Lynn McCeamy

Address: 4221 N. 7th Ave

Contact Name: Same

Address:

Phone Number: (602) 234 0333

A. Property Information

1. What is the current use of the property? Please include a detailed facility description.

Restaurant

2. What are the foreseeable plans for the property (extension of buildings, increased production, etc.) as far into the future as they are known and up to 100 years, if possible?

UNK

3. Is the property owned or leased?

Owned

4. Who is the owner of the property?
   Name: L.A Johnson Comm. Prop
   Address: 710 W. El Camino Dr
   Phx 85021
   Phone Number: (602) 234-0333

5. If the property is leased, how long is the lease term?

N/A

6. If the property is leased, are there plans to renew the lease and for how long?

7. If the property is owned, do you plan on relocating and if so in what timeframe?

UNK

B. Environmental information

1. Are there any groundwater wells on the property? If so, what is the current use of water in those wells? (e.g. – drinking water, water supply, monitoring, irrigation, remediation)

UNK -

2. Are there any proposed changes to the current use of water in the wells from item #1 anticipated for the next 100 years?

   No

3. Please list the company's waste streams?

   C.O.P

4. Please list any spill of material or waste products that has occurred at the facility in the past 5 years.

   Ø

5. Is your company currently sampling any groundwater wells on the property? If so, how often is the sampling conducted? Are analytical results being submitted to ADEQ for the groundwater database?

   UNK

6. If there are any groundwater wells on the property that supply drinking water, how many people are served and what is the Public Water Supply (PWS) number?

UNK

7. Do you anticipate that any groundwater wells will be drilled in the next 100 years at this property? If yes, what will the water be used for?

No

8. Does your facility have an environmental manager or is environmental management outsourced to an environmental consulting firm? If so, please list the person's information:

Name: No
Contact: _____
Title: _____
Address: _____
Phone Number: _____

Thank you for your time. The Project Manager, Jennifer Edwards, or a representative from ADEQ's consultant, HydroGeoChem, Inc., may follow-up on answers provided.

CTS: 168966
V 11

LAND AND WATER USE STUDY QUESTIONNAIRE
FOR PROPERTIES OWNERS WITHIN THE
CENTRAL AND CAMELBACK WQARF REGISTRY SITE

Please answer all questions. Mark "NA" for questions that are not applicable. Mark "UNK" if the answer is unknown to you at the time of completion. Please attach any additional pages as needed.

Facility Name: Herro Medical Center

Date Questionnaire was completed: July 3, 2007

Name of person completing Questionnaire: Joanne Herro

Address: 5121 N. Central Ave.
Phoenix, AZ 85012

Contact Name: Joanne Herro

Address:

Phone Number: 602-790-3578

A. Property Information

1. What is the current use of the property? Please include a detailed facility description.

Suite 1 - Hearing Aid Company - hearing testing

Suite 2 - Plastic Surgery Physician
minor skin procedures - surgery
facials
lasers procedures

2. What are the foreseeable plans for the property (extension of buildings, increased production, etc.) as far into the future as they are known and up to 100 years, if possible? I plan to continue to lease the premises.

3. Is the property owned or leased?
   owned

4. Who is the owner of the property?
   Name: Joanne Herro
   Address: 6014 N. La Colina Dr.
   Paradise Valley, AZ 85253
   Phone Number: 602-790-3578

5. If the property is leased, how long is the lease term?
   5 years

6. If the property is leased, are there plans to renew the lease and for how long?
   Yes – hopefully for 5 more years.

7. If the property is owned, do you plan on relocating and if so in what timeframe?
   NO

B. Environmental information

1. Are there any groundwater wells on the property? If so, what is the current use of water in those wells? (e.g. – drinking water, water supply, monitoring, irrigation, remediation)
   UNK

2. Are there any proposed changes to the current use of water in the wells from item #1 anticipated for the next 100 years?

   UNK

3. Please list the company's waste streams?

   UNK

4. Please list any spill of material or waste products that has occurred at the facility in the past 5 years.

   NONE

5. Is your company currently sampling any groundwater wells on the property? If so, how often is the sampling conducted? Are analytical results being submitted to ADEQ for the groundwater database?

   NO

6. If there are any groundwater wells on the property that supply drinking water, how many people are served and what is the Public Water Supply (PWS) number?

   UNK

7. Do you anticipate that any groundwater wells will be drilled in the next 100 years at this property? If yes, what will the water be used for?

   UNK

8. Does your facility have an environmental manager or is environmental management outsourced to an environmental consulting firm? If so, please list the person's information: No environmental manager

   Name: _____
   Contact: _____
   Title: _____
   Address: _____
   Phone Number: _____

Thank you for your time. The Project Manager, Jennifer Edwards, or a representative from ADEQ's consultant, HydroGeoChem, Inc., may follow-up on answers provided.

RIV 07.475

CTS: 168960
V: 11

LAND AND WATER USE STUDY QUESTIONNAIRE
FOR PROPERTIES OWNERS WITHIN THE
CENTRAL AND CAMELBACK WQARF REGISTRY SITE

Please answer all questions. Mark "NA" for questions that are not applicable. Mark "UNK" if the answer is unknown to you at the time of completion. Please attach any additional pages as needed.

Facility Name: LECG / LANCASTER CONSULTING LLC

Date Questionnaire was completed: 6/29/07

Name of person completing Questionnaire: STEPHEN K. CLARKE

Address: 5130 NORTH CENTRAL AVE
PHX 85012

Contact Name: same

Address: same

Phone Number: 602 241 3300

A. Property Information

1. What is the current use of the property? Please include a detailed facility description.

Office for professional use - accountants.

4300 sq. feet.

2. What are the foreseeable plans for the property (extension of buildings, increased production, etc.) as far into the future as they are known and up to 100 years, if possible?

No change

3. Is the property owned or leased?

Owned.

4. Who is the owner of the property?
   Name: Lancaster Consulting LLC
   Address: 723 WEST MOON VALLEY DR
   PHOENIX AZ 85023
   Phone Number: 602 241 3300

5. If the property is leased, how long is the lease term?

Lancaster leases the property to LECG, LLC on a 5 year lease.

6. If the property is leased, are there plans to renew the lease and for how long?

Yes - one 5 year period

7. If the property is owned, do you plan on relocating and if so in what timeframe?

Lancaster owns the property.

B. Environmental information

1. Are there any groundwater wells on the property? If so, what is the current use of water in those wells? (e.g. – drinking water, water supply, monitoring, irrigation, remediation)

No

2. Are there any proposed changes to the current use of water in the wells from item #1 anticipated for the next 100 years?

NO

3. Please list the company's waste streams?

Office effluent from sinks and toilets into the city sewer.

4. Please list any spill of material or waste products that has occurred at the facility in the past 5 years.

NO

5. Is your company currently sampling any groundwater wells on the property? If so, how often is the sampling conducted? Are analytical results being submitted to ADEQ for the groundwater database?

NO

6. If there are any groundwater wells on the property that supply drinking water, how many people are served and what is the Public Water Supply (PWS) number?

none

7. Do you anticipate that any groundwater wells will be drilled in the next 100 years at this property? If yes, what will the water be used for?

no

8. Does your facility have an environmental manager or is environmental management outsourced to an environmental consulting firm? If so, please list the person's information:

Name: no
Contact: ~~_____~~
Title: _____
Address: _____
Phone Number: _____

Thank you for your time. The Project Manager, Jennifer Edwards, or a representative from ADEQ's consultant, HydroGeoChem, Inc., may follow-up on answers provided.

CTS: 168954
V:11

LAND AND WATER USE STUDY QUESTIONNAIRE
FOR PROPERTIES OWNERS WITHIN THE
CENTRAL AND CAMELBACK WQARF REGISTRY SITE

Please answer all questions. Mark "NA" for questions that are not applicable. Mark "UNK" if the answer is unknown to you at the time of completion. Please attach any additional pages as needed.

Facility Name: Louis XV Jewelers

Date Questionnaire was completed: 7-7-07

Name of person completing Questionnaire: David Fidler

Address: 5120 N 24th Ave
Phoenix AZ

Contact Name: David Fidler

Address:

Phone Number: 4806995529

A. Property Information

1. What is the current use of the property? Please include a detailed facility description. Vacant

2. What are the foreseeable plans for the property (extension of buildings, increased production, etc.) as far into the future as they are known and up to 100 years, if possible?

3. Is the property owned or leased?

4. Who is the owner of the property?
   Name: _____
   Address: _____
   _____
   Phone Number: _____

5. If the property is leased, how long is the lease term?

6. If the property is leased, are there plans to renew the lease and for how long?

7. If the property is owned, do you plan on relocating and if so in what timeframe?

B. Environmental information

1. Are there any groundwater wells on the property? If so, what is the current use of water in those wells? (e.g. – drinking water, water supply, monitoring, irrigation, remediation)

2. Are there any proposed changes to the current use of water in the wells from item #1 anticipated for the next 100 years?

Retail Jewler

3. Please list the company's waste streams?

None

4. Please list any spill of material or waste products that has occurred at the facility in the past 5 years.

None

5. Is your company currently sampling any groundwater wells on the property? If so, how often is the sampling conducted? Are analytical results being submitted to ADEQ for the groundwater database?

No

6. If there are any groundwater wells on the property that supply drinking water, how many people are served and what is the Public Water Supply (PWS) number?

7. Do you anticipate that any groundwater wells will be drilled in the next 100 years at this property? If yes, what will the water be used for?

8. Does your facility have an environmental manager or is environmental management outsourced to an environmental consulting firm? If so, please list the person's information:

   Name: _____
   Contact: _____
   Title: _____
   Address: _____
   Phone Number: _____

Thank you for your time. The Project Manager, Jennifer Edwards, or a representative from ADEQ's consultant, HydroGeoChem, Inc., may follow-up on answers provided.

RPU 07:47

CTS: 168275
V: 11

LAND AND WATER USE STUDY QUESTIONNAIRE
FOR MUNICIPALITIES/UTILITIES WITHIN THE
CENTRAL AND CAMELBACK WQARF REGISTRY SITE

Please answer all questions. Mark "NA" for questions that are not applicable. Mark "UNK" if the answer is unknown to you at the time of completion. Please attach any additional pages as needed.

Water user municipality/utility name: N/A

Date Questionnaire was completed: 7/13/07

Name of person completing Questionnaire: LYNN MORROW

Contact Name: LYNN MORROW

Title: CO-CHAIR CENTRAL &

Division: CAMELBACK WQARF

Address: 21 W. GLORIA
PHX, AZ 85013

Phone Number: 602 277 7445

1. What is the current use of your municipality's/utility's property within the limits of the Central and Camelback (C&C) WQARF site (Boundaries are Missouri Avenue to the north, Central Avenue to the east, Pierson Street to the south, and approximate 1600 feet west of Central Avenue as the western boundary)

N/A

2. Please list the municipality's/utility's properties of concern/boundaries (neighborhood planning committees, zoning, canals, wells) within the C&C WQARF site boundary.

N/A

3. What are the foreseeable plans for the municipality/utility property within the C&C WQARF site boundary as far into the future as they are known and up to 100 years, if possible.

4. Does the municipality/utility have a published general plan for the property within the C&C WQARF site boundary?

5. Are parcel, zoning, or land maps available through the municipality/utility? Where are they located?

6. Please list any specific neighborhood concern the municipality/utility is aware of within the C&C WQARF site boundaries? Please list future concerns (e.g. - freeway expansion, water use, water availability, etc.)

7. Please list any future zoning plans or area plans for the municipality/utility within the C&C WQARF site boundary:

N/A

8. Please list any "special projects" projected or anticipated within the C&C WQARF site boundaries:

N/A

9. If any property is leased (the municipality/utility is the lessor), how long is the lease term?

N/A

10. If the property is leased, are there plans to renew the lease and is so, for how long?

N/A

11. Please list any environmental spill of material or waste products that has occurred within the municipality/utility within the C&C WQARF site boundary in the past 5 years?

12 Is the municipality/utility currently sampling groundwater wells within the C&C WQARF site? If so, how often is the sampling conducted? Are analytical results being submitted to ADEQ for the groundwater database?

13. Does your municipality/utility have an environmental manager or do you outsource environmental management to an environmental consulting firm? If so, please provide the following information:

Name: _____
Contact: _____
Title: _____
Address: _____
Phone Number: _____

14. Please indicate anticipated groundwater development by the municipality/utility within the C&C WQARF site boundary.

15. Are there any groundwater wells owned by the water provider that have been affected by the C&C WQARF site? If so, please list the ADWR well identification numbers. What is the current status of these wells (e.g. – shut down, still pumping)?

N/A

16. What is the future use (up to 100 years) for any wells that have been impacted by the C&C WQARF site?

N/A

Thank you for your time. The Project Manager, Jennifer Edwards, or a representative from ADEQ's consultant, HydroGeoChem Inc., may follow-up on answers provided.

ARIZONA DEPARTMENT OF ENVIRONMENTAL QUALITY

1110 West Washington Street • Phoenix, Arizona 85007
(602) 771-2300 www.azdeq.gov

Janet Napolitano
Governor

Stephen A. Owens
Director

RECEIVED
Remedial Projects Unit

Certified Mail
Return Receipt

RPU07:472

Date: June 26, 2007

KERRY MOSS
MEDLOCK PLACE NEIGHBORHOOD ASSOCIATION
520 W OREGON
PHOENIX, AZ 85013

Re: Land and Water Use Study Questionnaire
Central and Camelback Water Quality Assurance Revolving Fund (WQARF) Registry Site
Phoenix, Arizona

The Arizona Department of Environmental Quality (ADEQ) has prepared a Land and Water Use Study Questionnaire for specified stakeholders within the Central and Camelback WQARF Registry site (Site). The Site is currently undergoing evaluation for remedial actions to address tetrachloroethylene (PCE) and trichloroethylene (TCE) concentrations in groundwater.

The questionnaire will assist ADEQ in completing the Land and Water Use Study. This study is an important tool for ADEQ in development of the remedial objectives for this site. Please complete the enclosed questionnaire within 30 days of receipt. The information you provide is very important for continuation of the remedial process. Please return the questionnaires in the enclosed, self-addressed, stamped envelope to Ms. Jennifer Edwards Thies, Arizona Department of Environmental Quality, 1110 West Washington St., Phoenix, Arizona, 85007.

Please contact me at 602-771-4703 or jce@azdeq.gov with questions or comments.

Sincerely,

Jennifer Edwards Thies

Jennifer Edwards Thies, Project Manager
Central and Camelback WQARF Site
Remedial Projects Unit

CTS: 168937
V: 11

ARIZONA DEPARTMENT OF ENVIRONMENTAL QUALITY

1110 West Washington Street • Phoenix, Arizona 85007
(602) 771-2300 • www.azdeq.gov

Janet Napolitano
Governor

Stephen A. Owens
Director

RECEIVED
Remedial Projects Unit

Certified Mail
Return Receipt

RPU07:510

Date: June 26, 2007

MELVIN AND MARIAN MARTIN
14639 N 14TH DRIVE
PHOENIX, AZ 85023

Re: Land and Water Use Study Questionnaire
Central and Camelback Water Quality Assurance Revolving Fund (WQARF) Registry Site
Phoenix, Arizona

The Arizona Department of Environmental Quality (ADEQ) has prepared a Land and Water Use Study Questionnaire for specified stakeholders within the Central and Camelback WQARF Registry site (Site). The Site is currently undergoing evaluation for remedial actions to address tetrachloroethylene (PCE) and trichloroethylene (TCE) concentrations in groundwater.

The questionnaire will assist ADEQ in completing the Land and Water Use Study. This study is an important tool for ADEQ in development of the remedial objectives for this site. Please complete the enclosed questionnaire within 30 days of receipt. The information you provide is very important for continuation of the remedial process. Please return the questionnaires in the enclosed, self-addressed, stamped envelope to Ms. Jennifer Edwards Thies, Arizona Department of Environmental Quality, 1110 West Washington St., Phoenix, Arizona, 85007.

Please contact me at 602-771-4703 or jce@azdeq.gov with questions or comments.

Sincerely,

Jennifer Edwards Thies

Jennifer Edwards Thies, Project Manager
Central and Camelback WQARF Site
Remedial Projects Unit

WE DO NOT OWN ANY PROPERTY IN THIS AREA

CTS: 168326
V: 11

CPU 07:506

LAND AND WATER USE STUDY QUESTIONNAIRE
FOR PROPERTIES OWNERS WITHIN THE
CENTRAL AND CAMELBACK WQARF REGISTRY SITE

Please answer all questions. Mark "NA" for questions that are not applicable. Mark "UNK" if the answer is unknown to you at the time of completion. Please attach any additional pages as needed.

Facility Name: Medlock Properties (4 W. Camelback)

Date Questionnaire was completed: 7.16.07

Name of person completing Questionnaire: W.D. Sewell

Address: 29 W. Orchid Ln.
Phoenix AZ 85021

Contact Name: W D Sewell (Trustee)

Address: same

Phone Number: 602-943-7723

A. Property Information

1. What is the current use of the property? Please include a detailed facility description.

Vacant now. Have new conditional lease. Hope to have fast food tenant. later this year. in operation.

W.D. Sewell

2. What are the foreseeable plans for the property (extension of buildings, increased production, etc.) as far into the future as they are known and up to 100 years, if possible?
Leases to small businesses.

3. Is the property owned or leased? Will be leased ASAP. Have new tenant on conditional lease.

4. Who is the owner of the property?
Name: NATALIE MEDLOCK LIVING TRUST
Address: 29 W. ORCHID LN
PHOENIX AZ 85021
Phone Number: 602-943-7723

5. If the property is leased, how long is the lease term?
10 extendable to 20 yrs.

6. If the property is leased, are there plans to renew the lease and for how long?
yes - indefinitely

7. If the property is owned, do you plan on relocating and if so in what timeframe?
No, NOT IN FORESEEABLE FUTURE.

B. Environmental information

1. Are there any groundwater wells on the property? If so, what is the current use of water in those wells? (e.g. – drinking water, water supply, monitoring, irrigation, remediation)
NONE

2. Are there any proposed changes to the current use of water in the wells from item #1 anticipated for the next 100 years?

No

3. Please list the company's waste streams?

Unknown

4. Please list any spill of material or waste products that has occurred at the facility in the past 5 years.

None

5. Is your company currently sampling any groundwater wells on the property? If so, how often is the sampling conducted? Are analytical results being submitted to ADEQ for the groundwater database?

No

6. If there are any groundwater wells on the property that supply drinking water, how many people are served and what is the Public Water Supply (PWS) number? UNK.

None

7. Do you anticipate that any groundwater wells will be drilled in the next 100 years at this property? If yes, what will the water be used for?

No

8. Does your facility have an environmental manager or is environmental management outsourced to an environmental consulting firm? If so, please list the person's information:

Name: See Attached note
Contact: _____
Title: _____
Address: _____
Phone Number: _____

None at this time.

Thank you for your time. The Project Manager, Jennifer Edwards, or a representative from ADEQ's consultant, HydroGeoChem, Inc., may follow-up on answers provided.

To whom it may concern:

The property at 4 W. Camelback was leased and operated by Unocal Corp. until they closed the station and began lengthy remediation efforts. They were finally released from further obligations by ADEQ and ended their lease in late 2005.

The letter from ADEQ said: "nothing in this letter prevents the property owner from developing the referenced property. Any future groundwater corrective action activities that may be necessary can be located in appropriate areas based on future property constraints."

The company retained by Unocal to supervise the remediation was:

Basin and Range Hydrologists
2800 N. 24th St,
Phoenix AZ 85008

602-840-3333
Eric J. Zugay

At Unocal you may contact Cheryl Cameron
805-784-0490.

W.D. Sewell
602-943-7723

W.D. Sewell

CTS: 169334
V: 11

LAND AND WATER USE STUDY QUESTIONNAIRE
FOR PROPERTIES OWNERS WITHIN THE
CENTRAL AND CAMELBACK WQARF REGISTRY SITE

Please answer all questions. Mark "NA" for questions that are not applicable. Mark "UNK" if the answer is unknown to you at the time of completion. Please attach any additional pages as needed.

Facility Name: ONE CAMELBACK BUILDING

Date Questionnaire was completed: SEPTEMBER 19, 2007

Name of person completing Questionnaire: S.E. SPEYER

Address: 1 EAST CAMELBACK ROAD,
PHOENIX, ARIZONA 85012

Contact Name: JERRY MANNING, PROPERTY MANAGER

Address: 1 E. CAMELBACK ROAD, SUITE 200

Phone Number: 602/265-0411

A. Property Information

1. What is the current use of the property? Please include a detailed facility description.

CLASS A, HIGH-RISE OFFICE BUILDING WITH 11 STORIES AND AN UNDERGROUND PARKING GARAGE. THE GARAGE CONSISTS OF 5 LEVELS TO A DEPTH OF APPROXIMATELY 50 FEET BELOW GROUND SURFACE.

BUILDING TENANTS INCLUDE BANK OFFICE AND BRANCH, LAW FIRMS, AND SIMILAR WHITE-COLLAR OPERATIONS.

THERE ARE NO COMMERCIAL OR INDUSTRIAL OPERATIONS AT THE LOCATION.

2. What are the foreseeable plans for the property (extension of buildings, increased production, etc.) as far into the future as they are known and up to 100 years, if possible?

NO ANTICIPATED, SIGNIFICANT CHANGES TO GENERAL OPERATIONS.

3. Is the property owned or leased?

OWNED.

4. Who is the owner of the property?
Name: OLD CAMELBACK INC.
Address: 1 EAST CAMELBACK ROAD, SUITE 2020
PHOENIX, ARIZONA 85012
Phone Number: 602/265-0411

5. If the property is leased, how long is the lease term?

N/A

6. If the property is leased, are there plans to renew the lease and for how long?

N/A

7. If the property is owned, do you plan on relocating and if so in what timeframe?

N/A

B. Environmental information

1. Are there any groundwater wells on the property? If so, what is the current use of water in those wells? (e.g. – drinking water, water supply, monitoring, irrigation, remediation)

THERE ARE TEN (10) DEWATERING WELLS LOCATED ON THE PROPERTY. EACH WELL IS APPROPRIATELY REGISTERED WITH THE ADWR.

2. Are there any proposed changes to the current use of water in the wells from item #1 anticipated for the next 100 years?

NO.

3. Please list the company's waste streams?

1. OFFICE - RELATED WASTE AND CARD BOARD.
2. WASTE FROM ROUTINE BUILDING MAINTENANCE ACTIVITIES.
3. LANDSCAPING WASTE.
4. TREATED DEWATERING EFFLUENT AND ASSOCIATED RESIDUES WHICH ARE REMOVED FROM THE SITE.

4. Please list any spill of material or waste products that has occurred at the facility in the past 5 years.

NONE.

5. Is your company currently sampling any groundwater wells on the property? If so, how often is the sampling conducted? Are analytical results being submitted to ADEQ for the groundwater database?

DEWATERING WELLS ARE SAMPLED ON A QUARTERLY BASIS.

RESULTS FROM THESE WELLS ARE NOT PROVIDED TO THE ADEQ.

6. If there are any groundwater wells on the property that supply drinking water, how many people are served and what is the Public Water Supply (PWS) number?

No.

7. Do you anticipate that any groundwater wells will be drilled in the next 100 years at this property? If yes, what will the water be used for?

No.

8. Does your facility have an environmental manager or is environmental management outsourced to an environmental consulting firm? If so, please list the person's information:

Name: Speyer & Associates, P.C.
Contact: Steve Speyer
Title: President / Senior Geologist
Address: 3567 E. Hanwood Court, Gilbert, AZ 85234
Phone Number: 602/432-3525

Thank you for your time. The Project Manager, Jennifer Edwards, or a representative from ADEQ's consultant, HydroGeoChem, Inc., may follow-up on answers provided.

RN 07:486

CTS: 168281
V: 11

LAND AND WATER USE STUDY QUESTIONNAIRE FOR PROPERTIES OWNERS WITHIN THE CENTRAL AND CAMELBACK WQARF REGISTRY SITE

Please answer all questions. Mark "NA" for questions that are not applicable. Mark "UNK" if the answer is unknown to you at the time of completion. Please attach any additional pages as needed.

Facility Name: Omninet Central, LP

Date Questionnaire was completed: August 20, 2007

Name of person completing Questionnaire: Kevin Tanna

Address: 4800 - 4808 N. Central Ave, Phoenix AZ 85012
15 W. Mariposa & 8 W. Pierson St, Phoenix, AZ 85013

Contact Name: Kevin Tanna

Address: 9420 Wilshire Blvd, #400
Beverly Hills, CA 90212

Phone Number: 310-300-4100

A. Property Information

1. What is the current use of the property? Please include a detailed facility description.

One office building, two apartment buildings and vacant land. The owner rents the units in these buildings to tenants.

2. What are the foreseeable plans for the property (extension of buildings, increased production, etc.) as far into the future as they are known and up to 100 years, if possible?

May redevelop property to a use better suited to the changing character of the area constant with the City's transit oriented development guidelines.

3. Is the property owned or leased?

The property is owned.

4. Who is the owner of the property?

Name: Omninet Central, LP
Address: 9420 Wilshire Blvd, #400
Beverly Hills, CA 90212
Phone Number: 310-300-4100

5. If the property is leased, how long is the lease term?

Not applicable.

6. If the property is leased, are there plans to renew the lease and for how long?

Not applicable.

7. If the property is owned, do you plan on relocating and if so in what timeframe?

No.

B. Environmental information

1. Are there any groundwater wells on the property? If so, what is the current use of water in those wells? (e.g. – drinking water, water supply, monitoring, irrigation, remediation)

No.

2. Are there any proposed changes to the current use of water in the wells from item #1 anticipated for the next 100 years?

Not applicable.

3. Please list the company's waste streams?

None / Not applicabe.

4. Please list any spill of material or waste products that has occurred at the facility in the past 5 years.

None.

5. Is your company currently sampling any groundwater wells on the property? If so, how often is the sampling conducted? Are analytical results being submitted to ADEQ for the groundwater database?

No.

6. If there are any groundwater wells on the property that supply drinking water, how many people are served and what is the Public Water Supply (PWS) number?

No.

7. Do you anticipate that any groundwater wells will be drilled in the next 100 years at this property? If yes, what will the water be used for?

No.

8. Does your facility have an environmental manager or is environmental management outsourced to an environmental consulting firm? If so, please list the person's information: No.

   Name: _____
   Contact: _____
   Title: _____
   Address: _____
   Phone Number: _____

Thank you for your time. The Project Manager, Jennifer Edwards, or a representative from ADEQ's consultant, HydroGeoChem, Inc., may follow-up on answers provided.

Janet Napolitano
Governor

ARIZONA DEPARTMENT OF ENVIRONMENTAL QUALITY

1110 West Washington Street • Phoenix, Arizona 85007
(602) 771-2300 • www.azdeq.gov

Stephen A. Owens
Director

Certified Mail
Return Receipt

RPU07:486

Date: June 26, 2007

OMNINET CENTRAL LP
9420 WILSHIRE BLVD, SUITE 400
BEVERLY HILLS, CA 90212

Re: Land and Water Use Study Questionnaire
Central and Camelback Water Quality Assurance Revolving Fund (WQARF) Registry Site
Phoenix, Arizona

The Arizona Department of Environmental Quality (ADEQ) has prepared a Land and Water Use Study Questionnaire for specified stakeholders within the Central and Camelback WQARF Registry site (Site). The Site is currently undergoing evaluation for remedial actions to address tetrachloroethylene (PCE) and trichloroethylene (TCE) concentrations in groundwater.

The questionnaire will assist ADEQ in completing the Land and Water Use Study. This study is an important tool for ADEQ in development of the remedial objectives for this site. Please complete the enclosed questionnaire within 30 days of receipt. The information you provide is very important for continuation of the remedial process. Please return the questionnaires in the enclosed, self-addressed, stamped envelope to Ms. Jennifer Edwards Thies, Arizona Department of Environmental Quality, 1110 West Washington St., Phoenix, Arizona, 85007.

Please contact me at 602-771-4703 or jce@azdeq.gov with questions or comments.

Sincerely,

Jennifer Edwards Thies, Project Manager
Central and Camelback WQARF Site
Remedial Projects Unit

RPU 07:487

CTS: 168284
V:11

LAND AND WATER USE STUDY QUESTIONNAIRE
FOR PROPERTIES OWNERS WITHIN THE
CENTRAL AND CAMELBACK WQARF REGISTRY SITE

Please answer all questions. Mark "NA" for questions that are not applicable. Mark "UNK" if the answer is unknown to you at the time of completion. Please attach any additional pages as needed.

Facility Name: Omninet Highland, LLC

Date Questionnaire was completed: August 20, 2007

Name of person completing Questionnaire: Kevin Tanna

Address: 30 W. Highland Ave.
Phoenix, AZ 85013

Contact Name: Kevin Tanna

Address: 9420 Wilshire Blvd, #400
Beverly Hills, CA 90212

Phone Number: 310-300-4100

A. Property Information

1. What is the current use of the property? Please include a detailed facility description.

Vacant land.

2. What are the foreseeable plans for the property (extension of buildings, increased production, etc.) as far into the future as they are known and up to 100 years, if possible?

May redevelop property to a use better suited to the changing character of the area constant with the City's transit oriented development guidelines.

3. Is the property owned or leased?

The property is owned.

4. Who is the owner of the property?

Name: Omninet Highland, LLC
Address: 9420 Wilshire Blvd, #400
Beverly Hills, CA 90212
Phone Number: 310-300-4100

5. If the property is leased, how long is the lease term?

Not applicable.

6. If the property is leased, are there plans to renew the lease and for how long?

Not applicable.

7. If the property is owned, do you plan on relocating and if so in what timeframe?

No.

B. Environmental information

1. Are there any groundwater wells on the property? If so, what is the current use of water in those wells? (e.g. – drinking water, water supply, monitoring, irrigation, remediation)

No.

2. Are there any proposed changes to the current use of water in the wells from item #1 anticipated for the next 100 years?

Not applicable.

3. Please list the company's waste streams?

None / Not

4. Please list any spill of material or waste products that has occurred at the facility in the past 5 years.

None.

5. Is your company currently sampling any groundwater wells on the property? If so, how often is the sampling conducted? Are analytical results being submitted to ADEQ for the groundwater database?

No.

6. If there are any groundwater wells on the property that supply drinking water, how many people are served and what is the Public Water Supply (PWS) number?

No.

7. Do you anticipate that any groundwater wells will be drilled in the next 100 years at this property? If yes, what will the water be used for?

No.

8. Does your facility have an environmental manager or is environmental management outsourced to an environmental consulting firm? If so, please list the person's information: No.

Name: _____
Contact: _____
Title: _____
Address: _____
Phone Number: _____

Thank you for your time. The Project Manager, Jennifer Edwards, or a representative from ADEQ's consultant, HydroGeoChem, Inc., may follow-up on answers provided.

ARIZONA DEPARTMENT OF ENVIRONMENTAL QUALITY

1110 West Washington Street • Phoenix, Arizona 85007
(602) 771-2300 • www.azdeq.gov

Janet Napolitano
Governor

Stephen A. Owens
Director

Certified Mail
Return Receipt

RPU07:487

Date: June 26, 2007

OMNINET HIGHLAND LLC
920 WILSHIRE BLVD, SUITE 400
BEVERLY HILLS, CA 90212

Re: Land and Water Use Study Questionnaire
Central and Camelback Water Quality Assurance Revolving Fund (WQARF) Registry Site
Phoenix, Arizona

The Arizona Department of Environmental Quality (ADEQ) has prepared a Land and Water Use Study Questionnaire for specified stakeholders within the Central and Camelback WQARF Registry site (Site). The Site is currently undergoing evaluation for remedial actions to address tetrachloroethylene (PCE) and trichloroethylene (TCE) concentrations in groundwater.

The questionnaire will assist ADEQ in completing the Land and Water Use Study. This study is an important tool for ADEQ in development of the remedial objectives for this site. Please complete the enclosed questionnaire within 30 days of receipt. The information you provide is very important for continuation of the remedial process. Please return the questionnaires in the enclosed, self-addressed, stamped envelope to Ms. Jennifer Edwards Thies, Arizona Department of Environmental Quality, 1110 West Washington St., Phoenix, Arizona, 85007.

Please contact me at 602-771-4703 or jce@azdeq.gov with questions or comments.

Sincerely,

Jennifer Edwards Thies, Project Manager
Central and Camelback WQARF Site
Remedial Projects Unit

CTS: 168328
V: 11

LAND AND WATER USE STUDY QUESTIONNAIRE FOR PROPERTIES OWNERS WITHIN THE CENTRAL AND CAMELBACK WQARF REGISTRY SITE

Please answer all questions. Mark "NA" for questions that are not applicable. Mark "UNK" if the answer is unknown to you at the time of completion. Please attach any additional pages as needed.

Facility Name: Omninet Phoenix, LP

Date Questionnaire was completed: August 20, 2007

Name of person completing Questionnaire: Kevin Tanna

Address: 4801 - 4809 N. Central Ave,
Phoenix, AZ 85012

Contact Name: Kevin Tanna

Address: 9420 Wilshire Blvd, #400
Beverly Hills, CA 90212

Phone Number: 310-300-4100

A. Property Information

1. What is the current use of the property? Please include a detailed facility description.

Five continuous retail stores which are

2. What are the foreseeable plans for the property (extension of buildings, increased production, etc.) as far into the future as they are known and up to 100 years, if possible?

May redevelop property to a use better suited to the changing character of the area constant with the City's transit oriented development guidelines.

3. Is the property owned or leased?

The property is owned.

4. Who is the owner of the property?

Name: Omninet Phoenix, LP
Address: 9420 Wilshire Blvd, #400
Beverly Hills, CA 90212
Phone Number: 310-300-4100

5. If the property is leased, how long is the lease term?

Not applicable.

6. If the property is leased, are there plans to renew the lease and for how long?

Not applicable.

7. If the property is owned, do you plan on relocating and if so in what timeframe?

No.

B. Environmental information

1. Are there any groundwater wells on the property? If so, what is the current use of water in those wells? (e.g. – drinking water, water supply, monitoring, irrigation, remediation)

No.

2. Are there any proposed changes to the current use of water in the wells from item #1 anticipated for the next 100 years?

Not applicable.

3. Please list the company's waste streams?

None / Not applicabe.

4. Please list any spill of material or waste products that has occurred at the facility in the past 5 years.

None.

5. Is your company currently sampling any groundwater wells on the property? If so, how often is the sampling conducted? Are analytical results being submitted to ADEQ for the groundwater database?

No.

6. If there are any groundwater wells on the property that supply drinking water, how many people are served and what is the Public Water Supply (PWS) number?

No.

7. Do you anticipate that any groundwater wells will be drilled in the next 100 years at this property? If yes, what will the water be used for?

No.

8. Does your facility have an environmental manager or is environmental management outsourced to an environmental consulting firm? If so, please list the person's information: No.

   Name: _____
   Contact: _____
   Title: _____
   Address: _____
   Phone Number: _____

Thank you for your time. The Project Manager, Jennifer Edwards, or a representative from ADEQ's consultant, HydroGeoChem, Inc., may follow-up on answers provided.

CTS: 169039
V:11

LAND AND WATER USE STUDY QUESTIONNAIRE
FOR PROPERTIES OWNERS WITHIN THE
CENTRAL AND CAMELBACK WQARF REGISTRY SITE

Please answer all questions. Mark "NA" for questions that are not applicable. Mark "UNK" if the answer is unknown to you at the time of completion. Please attach any additional pages as needed.

Facility Name: Pardi Properties North Central, LLC

Date Questionnaire was completed: 7/23/07

Name of person completing Questionnaire: Wendy Winokur

Address: 4414 N Civic Center #100
Scottsdale, AZ 85251

Contact Name: Wendy Winokur

Address: Same as above

Phone Number: 480-947-0600 x18

A. Property Information

1. What is the current use of the property? Please include a detailed facility description.

Commercial office building

2. What are the foreseeable plans for the property (extension of buildings, increased production, etc.) as far into the future as they are known and up to 100 years, if possible? N/A

3. Is the property owned or leased? Owned

4. Who is the owner of the property?
   Name: Rural Properties North Central, LLC
   Address: Same as front page
   Phone Number:

5. If the property is leased, how long is the lease term? N/A

6. If the property is leased, are there plans to renew the lease and for how long?
   N/A

7. If the property is owned, do you plan on relocating and if so in what timeframe?
   NO

B. Environmental information

1. Are there any groundwater wells on the property? If so, what is the current use of water in those wells? (e.g. – drinking water, water supply, monitoring, irrigation, remediation)
   N/A

2. Are there any proposed changes to the current use of water in the wells from item #1 anticipated for the next 100 years? NO

3. Please list the company's waste streams? N/A

4. Please list any spill of material or waste products that has occurred at the facility in the past 5 years. N/A

5. Is your company currently sampling any groundwater wells on the property? If so, how often is the sampling conducted? Are analytical results being submitted to ADEQ for the groundwater database? N/A

6. If there are any groundwater wells on the property that supply drinking water, how many people are served and what is the Public Water Supply (PWS) number? N/A

7. Do you anticipate that any groundwater wells will be drilled in the next 100 years at this property? If yes, what will the water be used for? NO

8. Does your facility have an environmental manager or is environmental management outsourced to an environmental consulting firm? If so, please list the person's information: NO

   Name: _____
   Contact: _____
   Title: _____
   Address: _____
   Phone Number: _____

Thank you for your time. The Project Manager, Jennifer Edwards, or a representative from ADEQ's consultant, HydroGeoChem, Inc., may follow-up on answers provided.

CTS: 1689965
V:11

LAND AND WATER USE STUDY QUESTIONNAIRE
FOR PROPERTIES OWNERS WITHIN THE
CENTRAL AND CAMELBACK WQARF REGISTRY SITE

Please answer all questions. Mark "NA" for questions that are not applicable. Mark "UNK" if the answer is unknown to you at the time of completion. Please attach any additional pages as needed.

Facility Name: Retail Shops at 4700 N. Central

Date Questionnaire was completed: 7-5-2007

Name of person completing Questionnaire: Nick Davis

Address: 4700 N. Central Ste. 201
Phoenix, AZ 85012

Contact Name: Nick Davis

Address: " " "

Phone Number: 602-275-1000 Ex: 102

A. Property Information

1. What is the current use of the property? Please include a detailed facility description.

Retail Shops:

1. Movie Rental
2. Tanning Salon
3. Hair Salon
4. Clothing/Card Shop
5. Restaurant
6. Office Space.

} 25,000 sq. ft.

2. What are the foreseeable plans for the property (extension of buildings, increased production, etc.) as far into the future as they are known and up to 100 years, if possible?

3. Is the property owned or leased?

4. Who is the owner of the property?
   Name: _____
   Address: _____
   _____
   Phone Number: _____

5. If the property is leased, how long is the lease term?

6. If the property is leased, are there plans to renew the lease and for how long?

7. If the property is owned, do you plan on relocating and if so in what timeframe?

B. <u>Environmental information</u>

1. Are there any groundwater wells on the property? If so, what is the current use of water in those wells? (e.g. – drinking water, water supply, monitoring, irrigation, remediation)

2. Are there any proposed changes to the current use of water in the wells from item #1 anticipated for the next 100 years?

   Maybe - We don't know the future of this space yet.

3. Please list the company's waste streams?

   None that we know of yet.

4. Please list any spill of material or waste products that has occurred at the facility in the past 5 years.

   None that we know of.

5. Is your company currently sampling any groundwater wells on the property? If so, how often is the sampling conducted? Are analytical results being submitted to ADEQ for the groundwater database?

   No.

6. If there are any groundwater wells on the property that supply drinking water, how many people are served and what is the Public Water Supply (PWS) number?

7. Do you anticipate that any groundwater wells will be drilled in the next 100 years at this property? If yes, what will the water be used for?

8. Does your facility have an environmental manager or is environmental management outsourced to an environmental consulting firm? If so, please list the person's information:

   Name: _____
   Contact: _____
   Title: _____
   Address: _____
   Phone Number: _____

Thank you for your time. The Project Manager, Jennifer Edwards, or a representative from ADEQ's consultant, HydroGeoChem, Inc., may follow-up on answers provided.

RPU07:499

CTS: 168295
V: 11

LAND AND WATER USE STUDY QUESTIONNAIRE
FOR PROPERTIES OWNERS WITHIN THE
CENTRAL AND CAMELBACK WQARF REGISTRY SITE

Please answer all questions. Mark "NA" for questions that are not applicable. Mark "UNK" if the answer is unknown to you at the time of completion. Please attach any additional pages as needed.

Facility Name: See's Candies Quantity Discount Store

Date Questionnaire was completed: 7-12-07

Name of person completing Questionnaire: Mary C. Diamond

Address: 3423 S. La Cienega Blvd.
Los Angeles, CA 90016

Contact Name: Mary C. Diamond

Address: same as above

Phone Number: (310) 287-4609

A. Property Information

1. What is the current use of the property? Please include a detailed facility description.

Candy store with sales area in front portion and warehouse storage and offices in back portion.

2. What are the foreseeable plans for the property (extension of buildings, increased production, etc.) as far into the future as they are known and up to 100 years, if possible?

   No changes to use or configuration of the premises are planned.

3. Is the property owned or leased?

   Owned

4. Who is the owner of the property?

   Name: See's Candies, Inc.
   Address: 210 El Camino Real
   South San Francisco, CA 94080
   Phone Number: (650) 583-7307

5. If the property is leased, how long is the lease term?

   N/A

6. If the property is leased, are there plans to renew the lease and for how long?

   N/A

7. If the property is owned, do you plan on relocating and if so in what timeframe?

   No

B. Environmental information

1. Are there any groundwater wells on the property? If so, what is the current use of water in those wells? (e.g. – drinking water, water supply, monitoring, irrigation, remediation)

   No

6. If there are any groundwater wells on the property that supply drinking water, how many people are served and what is the Public Water Supply (PWS) number?

N/A

7. Do you anticipate that any groundwater wells will be drilled in the next 100 years at this property? If yes, what will the water be used for?

N/A — No

8. Does your facility have an environmental manager or is environmental management outsourced to an environmental consulting firm? If so, please list the person's information: No

Name: _____
Contact: _____
Title: _____
Address: N/A
Phone Number: _____

Thank you for your time. The Project Manager, Jennifer Edwards, or a representative from ADEQ's consultant, HydroGeoChem, Inc., may follow-up on answers provided.

2. Are there any proposed changes to the current use of water in the wells from item #1 anticipated for the next 100 years?

N/A

3. Please list the company's waste streams?

N/A

4. Please list any spill of material or waste products that has occurred at the facility in the past 5 years.

N/A

5. Is your company currently sampling any groundwater wells on the property? If so, how often is the sampling conducted? Are analytical results being submitted to ADEQ for the groundwater database?

N/A

ARIZONA DEPARTMENT OF ENVIRONMENTAL QUALITY

1110 West Washington Street • Phoenix, Arizona 85007
(602) 771-2300 • www.azdeq.gov

Janet Napolitano
Governor

Stephen A. Owens
Director

Certified Mail
Return Receipt

RPU07:499

Date: June 26, 2007

SEES CANDY SHOPS INC
210 EL CAMINO REAL
SOUTH SAN FRANCISCO, CA 94080

Re: Land and Water Use Study Questionnaire
Central and Camelback Water Quality Assurance Revolving Fund (WQARF) Registry Site
Phoenix, Arizona

The Arizona Department of Environmental Quality (ADEQ) has prepared a Land and Water Use Study Questionnaire for specified stakeholders within the Central and Camelback WQARF Registry site (Site). The Site is currently undergoing evaluation for remedial actions to address tetrachloroethylene (PCE) and trichloroethylene (TCE) concentrations in groundwater.

The questionnaire will assist ADEQ in completing the Land and Water Use Study. This study is an important tool for ADEQ in development of the remedial objectives for this site. Please complete the enclosed questionnaire within 30 days of receipt. The information you provide is very important for continuation of the remedial process. Please return the questionnaires in the enclosed, self-addressed, stamped envelope to Ms. Jennifer Edwards Thies, Arizona Department of Environmental Quality, 1110 West Washington St., Phoenix, Arizona, 85007.

Please contact me at 602-771-4703 or jce@azdeq.gov with questions or comments.

Sincerely,

Jennifer Edwards Thies, Project Manager
Central and Camelback WQARF Site
Remedial Projects Unit

RECEIVED
JUL 3 2007
R. VAN DOREN

CTS: 169052
V: 11

LAND AND WATER USE STUDY QUESTIONNAIRE
FOR MUNICIPALITIES/UTILITIES WITHIN THE
CENTRAL AND CAMELBACK WQARF REGISTRY SITE

Please answer all questions. Mark "NA" for questions that are not applicable. Mark "UNK" if the answer is unknown to you at the time of completion. Please attach any additional pages as needed.

Water user municipality/utility name: Salt River Valley Water User's Association

Date Questionnaire was completed: _August 3, 2007

Name of person completing Questionnaire: ___Dan Casiraro

Contact Name: ___Dan Casiraro_____

Title: ___Manager_____

Division: ___Environmental Compliance

Address: ___P.O. Box 52025, Phoenix, Arizona 85072

_____

Phone Number: ___602-236-2811_____

1. What is the current use of your municipality's/utility's property within the limits of the Central and Camelback (C&C) WQARF site (Boundaries are Missouri Avenue to the north, Central Avenue to the east, Pierson Street to the south, and approximatel600feet west of Central Avenue as the western boundary)

Well Site (1 ea.)

2. Please list the municipality's/utility's properties of concern/boundaries (neighborhood planning committees, zoning, canals, and wells) within the C&C WQARF site boundary.

Well Site, the South 40 feet of the East 35 feet of the North 142.5 feet of the east 218 feet of Lot Two (2), Bock Two (2), EVANS ADDITION TO ORANGEWOOD, according to the plat of record in the office of the Maricopa County Recorder, in Book 2 of Maps, Page 56 in the NE SE Section 17, T2N R3 E. Also listed as APN 162-25-061-B.

3. What are the foreseeable plans for the municipality/utility property within the C&C WQARF site boundary as far into the future as they are known and up to 100 years, if possible.

Well Site.

4. Does the municipality/utility have a published general plan for the property within the C&C WQARF site boundary?

SRP has no written plans for the well site.

5. Are parcel, zoning, or land maps available through the municipality/utility? Where are they located?

Location, zoning, and maps are available from the Maricopa County Assessor's Office or on line at www.maricopa.gov/Assessor/GIS.

6. Please list any specific neighborhood concern the municipality/utility is aware of within the C&C WQARF site boundaries? Please list future concerns (e.g. - freeway expansion, water use, water availability, etc.)

UNK

7. Please list any future zoning plans or area plans for the municipality/utility within the C&C WQARF site boundary:

SRP is not aware of any future zoning plans or area plans for the Well Site.

8. Please list any "special projects" projected or anticipated within the C&C WQARF site boundaries:

SRP does not have any projected or anticipated "special projects" within the C&C WQARF site boundaries.

9. If any property is leased (the municipality/utility is the leaser), how long is the lease term?

NA

10. If the property is leased, are there plans to renew the lease and is so, for how long?

NA

11. Please list any environmental spill of material or waste products that has occurred within the municipality/utility within the C&C WQARF site boundary in the past 5 years?

SRP is not aware of any environmental spill of material or waste product that has occurred within the well site boundary.

12 I s the municipality/utility currently sampling groundwater wells on the property? If so, how often is the sampling conducted? Are analytical results being submitted to ADEQ for the groundwater database?

Yes, the well is sampled annually. The data is submitted to ADEQ under AZPDES permit #0024341.

13. Does your municipality/utility have an environmental manager or do you outsource environmental management to an environmental consulting firm? If so, please provide the following information:

    Name: _Dan Casiraro_____
    Title: _Manager, Environmental Compliance
    Division_____
    Address: __P.O. Box 52025, Phoenix, Arizona 85072_____
    Phone Number:__602-236-2811_____

14. Please indicate anticipated groundwater development by the municipality/utility within the C&C WQARF site boundary.

At this time, SRP has no plans for new wells within the C&C WQARF Site boundary. That could change depending on the outcome of current water supply discussions with the City of Phoenix. The existing well located within the C&C WQARF site boundaries, 13.5E9.4N, is fully operational and will be retained as a source of groundwater supply.

15. Are their any groundwater wells owned by the water provider that have been effected by the C&C WQARF site? If so, please list the well identification numbers. What is the current status of these wells (e.g. – shut down, still pumping)?

Yes, sampling of several SRP wells in close proximity to the C&C WQARF site has shown the presence of volatile organic chemicals. Following is a list of the wells and their status.

SRP Coordinate	ADWR Reg #	Status
12.5E10N	55-608429	OPERATIONAL
13E9.1N	55-608423	OPERATIONAL
13.1E10.5N	55-608426	OPERATIONAL
13.5E9.4N	55-608425	OPERATIONAL
14E8.5N	55-608422	OPERATIONAL
14E9.6N	55-608424	OPERATIONAL

16. What is the future use (up to 100 years) for any wells that have been impacted by the C&C WQARF site?

SRP expects to retain and operate the above-listed wells to provide water supply for its shareholders. Currently, the wells provide water for irrigation but SRP anticipates that the wells will transition to drinking water supply as the area develops. SRP is in discussions with the City of Phoenix about providing additional groundwater to the City when surface water supplies are unavailable or insufficient and to give the City more operational flexibility. To achieve such a result, SRP would either direct connect wells to the City's municipal water distribution system or pipe pumped groundwater to a canal that serves a City water treatment plant. Some of the wells in which the City has expressed an interest are located in the Central and Camelback area. Additionally, SRP expects that a municipal water treatment plant will be built down-stream on the Grand Canal within the foreseeable future. At that time, all of the SRP wells in the Central and Camelback area will be required to comply with drinking water standards. Therefore, in the interest of retaining its ability to provide water for its shareholders and retain usage of its wells, SRP hopes ADEQ will aggressively pursue a cleanup action to address the groundwater contamination at the C&C WQARF Site and surrounding area.

Thank you for your time. The Project Manager, Jennifer Edwards, or a representative from ADEQ's consultant, HydroGeoChem Inc., may follow-up on answers provided.

CTS: 169052
V: 11

SRP®

P. O. Box 52025
Phoenix, AZ 85072-2025
(602) 236-5900
www.srpnet.com

Mail Station: PAB 352
Phone: (602) 236-2811
Fax: (602) 236-3407
Email: Dan.Casiraro@srpnet.com

RECEIVED
AUG 2007
Remedial Projects Unit

August 6, 2007

Jennifer Edwards
Arizona Department of Environmental Quality
1110 West. Washington Street
Phoenix, Arizona 85007

Subject: Land and Water Use Study Questionnaire, Central and Camelback WQARF Registry Site

Dear Ms. Edwards:

Attached please find SRP's responses to the aforementioned questionnaire.

Please contact me with any questions.

Sincerely,

Dan Casiraro

Dan Casiraro
Manager, Environmental Compliance

Bcc: Karilee Ramaley
Fritz Beeson

EC 13342.077

CTS: 169054
V: 11

LAND AND WATER USE STUDY QUESTIONNAIRE
FOR PROPERTIES OWNERS WITHIN THE
CENTRAL AND CAMELBACK WQARF REGISTRY SITE

Please answer all questions. Mark "NA" for questions that are not applicable. Mark "UNK" if the answer is unknown to you at the time of completion. Please attach any additional pages as needed.

Facility Name: Former Texaco Station; ADEQ #0-004929

Date Questionnaire was completed: 8/8/07

Name of person completing Questionnaire: Elizabeth Titus

Address: 3003 N. Central Avenue, Suite 1500
Phoenix, AZ 85012
On behalf of Shell Oil Products US (SOPUS)

Contact Name: Scott Burkey

Address: 7750 N. MacArthur, Suite 120, PMB 319
Irving, TX 75063

Phone Number: (214) 483-5460

A. Property Information

1. What is the current use of the property? Please include a detailed facility description.

   Currently, this property is a vacant commercial lot undergoing soil and groundwater remediation for a petroleum hydrocarbon release (ADEQ LUST #0154.02). See attached site plan for soil vapor extraction (SVE) and groundwater monitoring well locations.

2. What are the foreseeable plans for the property (extension of buildings, increased production, etc.) as far into the future as they are known and up to 100 years, if possible?

   The goal is to remediate the site's soil and groundwater to ADEQ LUST closure standards. The commercial use of the site has yet to be determined.

3. Is the property owned or leased?

   The property is owned by Spencer Development Corporation. SOPUS maintains the environmental liabilities.

4. Who is the owner of the property?

   Name: ~~Spencer Development Corporation~~
   Address: ~~307 W. Thomas~~
   ~~Phoenix, AZ 85013~~
   Phone Number: ~~(602) 277-3420 (Mr. Charles Spencer)~~

5. If the property is leased, how long is the lease term? N/A

6. If the property is leased, are there plans to renew the lease and for how long? N/A

7. If the property is owned, do you plan on relocating and if so in what timeframe?

   Use of the property has yet to be determined.

B. Environmental information

1. Are there any groundwater wells on the property? If so, what is the current use of water in those wells? (e.g. – drinking water, water supply, monitoring, irrigation, remediation)

   There are six on-site and two off-site groundwater monitoring wells associated with this site. There are several vapor extraction wells and four air-sparging wells. See attached site plan for location and details.

2. Are there any proposed changes to the current use of water in the wells from item #1 anticipated for the next 100 years?

   Once ADEQ has closed the LUST for this site, the groundwater monitoring, vapor extraction and air-sparging wells will be abandoned in accordance with ADWR guidelines.

3. Please list the company's waste streams?

   1) Petroleum-contaminated groundwater
   2) Emission following therm/cat treatmentfrom the SVE unit

4. Please list any spill of material or waste products that has occurred at the facility in the past 5 years.

   The petroleum release on site was documented prior to 2002.

5. Is your company currently sampling any groundwater wells on the property? If so, how often is the sampling conducted? Are analytical results being submitted to ADEQ for the groundwater database?

   Miller Brooks Environmental, Inc., on SOPUS' behalf, submits a quarterly groundwater monitoring and sampling report to ADEQ. Analytical data results are not submitted to the groundwater database.

6. If there are any groundwater wells on the property that supply drinking water, how many people are served and what is the Public Water Supply (PWS) number?

   N/A

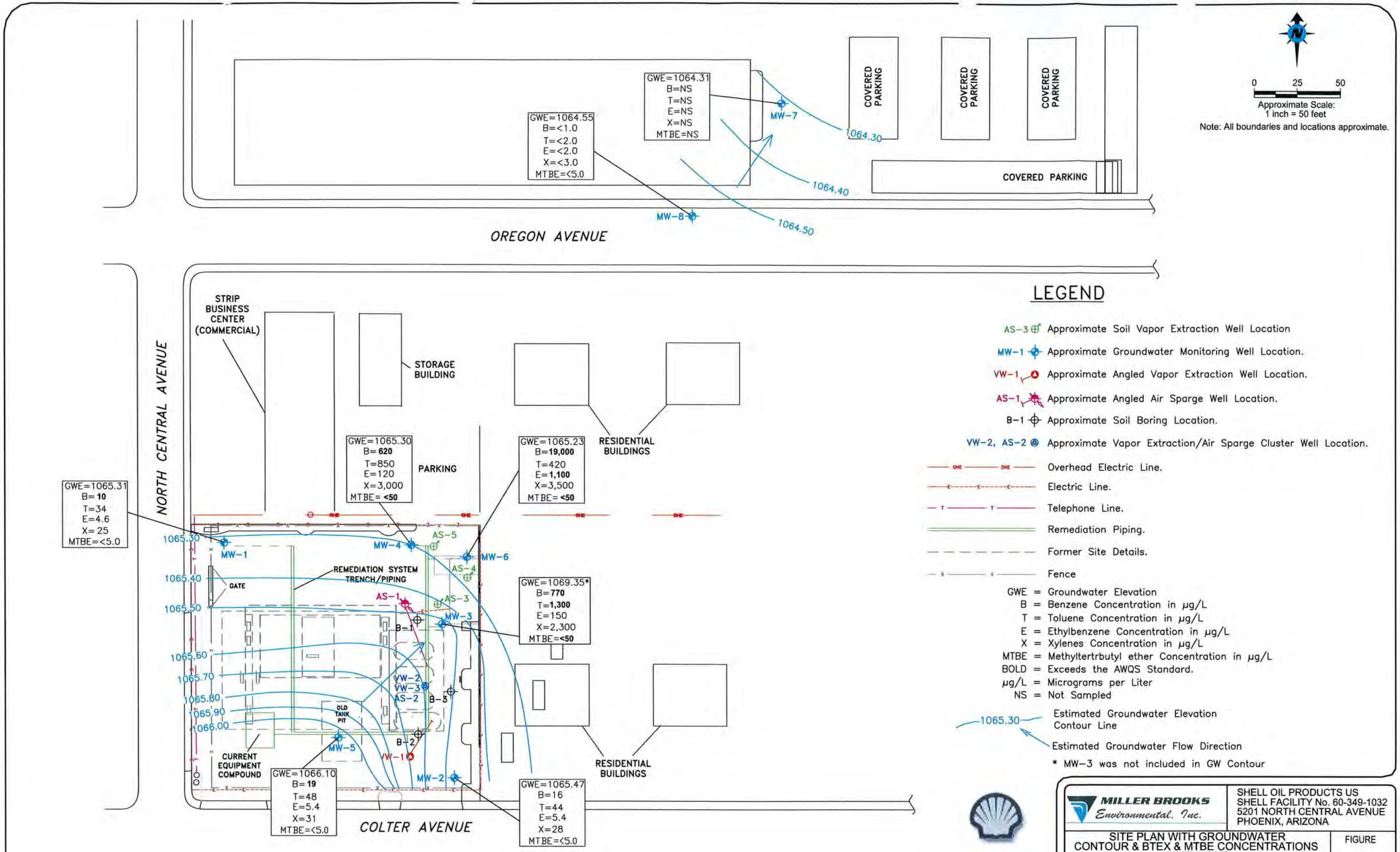
7. Do you anticipate that any groundwater wells will be drilled in the next 100 years at this property? If yes, what will the water be used for?

   It is possible that additional air-sparging wells may be installed on site to assist with current remediation.

8. Does your facility have an environmental manager or is environmental management outsourced to an environmental consulting firm? If so, please list the person's information:

   Name: Miller Brooks Environmental, Inc.
   Contact: Elizabeth Titus
   Title: Senior Project Scientist
   Address: 3003 N. Central Avenue, Suite 1500, Phoenix, AZ 85012
   Phone Number: (602) 728-0577

Thank you for your time. The Project Manager, Jennifer Edwards, or a representative from ADEQ's consultant, HydroGeoChem, Inc., may follow-up on answers provided.


OREGON AVENUE
NORTH CENTRAL AVENUE
COLTER AVENUE
COVERED PARKING
COVERED PARKING
COVERED PARKING
COVERED PARKING
GWE=1064.31
B=NS
T=NS
E=NS
X=NS
MTBE=NS
GWE=1064.55
B=<1.0
T=<2.0
E=<2.0
X=<3.0
MTBE=<5.0
MW-7
MW-8
1064.30
1064.40
1064.50
0 25 50
Approximate Scale:
1 inch = 50 feet
Note: All boundaries and locations approximate.
STRIP BUSINESS CENTER (COMMERCIAL)
STORAGE BUILDING
RESIDENTIAL BUILDINGS
PARKING
GWE=1065.30
B=620
T=850
E=120
X=3,000
MTBE=<50
GWE=1065.23
B=19,000
T=420
E=1,100
X=3,500
MTBE=<50
GWE=1065.31
B=10
T=34
E=4.6
X=25
MTBE=<5.0
1065.30
1065.40
1065.50
1065.60
1065.70
1065.80
1065.90
1066.00
MW-1
MW-4
MW-6
AS-5
AS-4
AS-3
AS-1
MW-3
B-1
GATE
REMEDIATION SYSTEM TRENCH/PIPING
GWE=1069.35*
B=770
T=1,300
E=150
X=2,300
MTBE=<50
VW-2
VW-3
AS-2
B-3
OLD TANK PIT
B-2
VW-1
MW-5
MW-2
CURRENT EQUIPMENT COMPOUND
GWE=1066.10
B=19
T=48
E=5.4
X=31
MTBE=<5.0
GWE=1065.47
B=16
T=44
E=5.4
X=28
MTBE=<5.0
RESIDENTIAL BUILDINGS
LEGEND
AS-3 Approximate Soil Vapor Extraction Well Location
MW-1 Approximate Groundwater Monitoring Well Location.
VW-1 Approximate Angled Vapor Extraction Well Location.
AS-1 Approximate Angled Air Sparge Well Location.
B-1 Approximate Soil Boring Location.
VW-2, AS-2 Approximate Vapor Extraction/Air Sparge Cluster Well Location.
Overhead Electric Line.
Electric Line.
Telephone Line.
Remediation Piping.
Former Site Details.
Fence
GWE = Groundwater Elevation
B = Benzene Concentration in µg/L
T = Toluene Concentration in µg/L
E = Ethylbenzene Concentration in µg/L
X = Xylenes Concentration in µg/L
MTBE = Methyltertrbutyl ether Concentration in µg/L
BOLD = Exceeds the AWQS Standard.
µg/L = Micrograms per Liter
NS = Not Sampled
1065.30 Estimated Groundwater Elevation Contour Line
Estimated Groundwater Flow Direction
* MW-3 was not included in GW Contour
SHELL
OIL PRODUCTS US
MILLER BROOKS Environmental, Inc.
SHELL OIL PRODUCTS US
SHELL FACILITY No. 60-349-1032
5201 NORTH CENTRAL AVENUE
PHOENIX, ARIZONA
SITE PLAN WITH GROUNDWATER CONTOUR & BTEX & MTBE CONCENTRATIONS
JUNE 6, 2007
FIGURE
2
PROJECT#: 0684-0155-0181
DWG FILE#: 0181gw0607
DATE DRAWN: 08/02/07
DRAWN BY: DCN

MILLER BROOKS
Environmental, Inc.

RECEIVED
AUG 2007
Remedial Projects Unit

LETTER OF TRANSMITTAL

TO: Ms. Jennifer Edwards Thies
Project Manager
ADEQ, Remedial Projects Unit
1110 W. Washington St.
Phoenix, AZ 85007

DATE: 8/10/07

SUBJECT: Questionnaire

PROJECT #: 0684-0155-0181

We are transmitting the following:

Land and Water Use Study Questionnaire for Properties Owners within the Central and Camelback WQARF Registry Site

If you have any questions or comments, please do not hesitate to call us at (602) 728-0577.

Sincerely,
Miller Brooks Environmental, Inc.

Connie Rogers

Signature of Receipt:

Date:

Admin/letteroftransmittal-adeq

3003 North Central Avenue, Suite 1500 • Phoenix, AZ 85012 • Telephone: (602) 728-0577 • Fax: (602) 728-0585

RPU 07:478

CTS: 168279
V: 11

LAND AND WATER USE STUDY QUESTIONNAIRE
FOR PROPERTIES OWNERS WITHIN THE
CENTRAL AND CAMELBACK WQARF REGISTRY SITE

Please answer all questions. Mark "NA" for questions that are not applicable. Mark "UNK" if the answer is unknown to you at the time of completion. Please attach any additional pages as needed.

Facility Name: _____

Date Questionnaire was completed: 7/10/2007

Name of person completing Questionnaire: Doug Taylor Abrams Realty, AGENT

Address: ~~[illegible]~~ 4721 - 4747 N. Central
Phoenix, AZ

Contact Name: Doug Taylor, Dan Abrams

Address: c/o Abrams Realty
444 W. Camelback Rd.
PHOENIX, AZ

Phone Number: (602) 264-6464

A. Property Information

1. What is the current use of the property? Please include a detailed facility description.

RETAIL STRIP CENTER

2. What are the foreseeable plans for the property (extension of buildings, increased production, etc.) as far into the future as they are known and up to 100 years, if possible?

SAME USE

3. Is the property owned or leased? OWNED, PREMISES RENTED OUT TO BUSINESSES

4. Who is the owner of the property?
   Name: TIBURON, LP
   Address: C/O Abrams Realty Agent
   444 W. Camelback Phx, AZ 85013
   Phone Number: 602 264-6464

5. If the property is leased, how long is the lease term?

N/A

6. If the property is leased, are there plans to renew the lease and for how long?

N/A

7. If the property is owned, do you plan on relocating and if so in what timeframe?

N/A

B. Environmental information

1. Are there any groundwater wells on the property? If so, what is the current use of water in those wells? (e.g. – drinking water, water supply, monitoring, irrigation, remediation)

NO

2. Are there any proposed changes to the current use of water in the wells from item #1 anticipated for the next 100 years?

NO

3. Please list the company's waste streams?

N/A

4. Please list any spill of material or waste products that has occurred at the facility in the past 5 years.

N/A

5. Is your company currently sampling any groundwater wells on the property? If so, how often is the sampling conducted? Are analytical results being submitted to ADEQ for the groundwater database?

N/A

6. If there are any groundwater wells on the property that supply drinking water, how many people are served and what is the Public Water Supply (PWS) number?

NO

7. Do you anticipate that any groundwater wells will be drilled in the next 100 years at this property? If yes, what will the water be used for?

N/A

8. Does your facility have an environmental manager or is environmental management outsourced to an environmental consulting firm? If so, please list the person's information:

Name: _____
Contact: _____
Title: _____
Address: _____
Phone Number: _____

Thank you for your time. The Project Manager, Jennifer Edwards, or a representative from ADEQ's consultant, HydroGeoChem, Inc., may follow-up on answers provided.

ARIZONA DEPARTMENT OF ENVIRONMENTAL QUALITY

1110 West Washington Street • Phoenix, Arizona 85007
(602) 771-2300 • www.azdeq.gov

Janet Napolitano
Governor

Stephen A. Owens
Director

Certified Mail
Return Receipt

RPU07:478

Date: June 26, 2007

RECEIVED
JUL 2007
Remedial Projects Unit

LP TIBURON
444 W CAMELBACK ROAD, SUITE 401
PHOENIX, AZ 85013

Re: Land and Water Use Study Questionnaire
Central and Camelback Water Quality Assurance Revolving Fund (WQARF) Registry Site
Phoenix, Arizona

The Arizona Department of Environmental Quality (ADEQ) has prepared a Land and Water Use Study Questionnaire for specified stakeholders within the Central and Camelback WQARF Registry site (Site). The Site is currently undergoing evaluation for remedial actions to address tetrachloroethylene (PCE) and trichloroethylene (TCE) concentrations in groundwater.

The questionnaire will assist ADEQ in completing the Land and Water Use Study. This study is an important tool for ADEQ in development of the remedial objectives for this site. Please complete the enclosed questionnaire within 30 days of receipt. The information you provide is very important for continuation of the remedial process. Please return the questionnaires in the enclosed, self-addressed, stamped envelope to Ms. Jennifer Edwards Thies, Arizona Department of Environmental Quality, 1110 West Washington St., Phoenix, Arizona, 85007.

Please contact me at 602-771-4703 or jce@azdeq.gov with questions or comments.

Sincerely,

Jennifer Edwards Thies, Project Manager
Central and Camelback WQARF Site
Remedial Projects Unit

CTS: 169335
V:11

LAND AND WATER USE STUDY QUESTIONNAIRE
FOR PROPERTIES OWNERS WITHIN THE
CENTRAL AND CAMELBACK WQARF REGISTRY SITE

Please answer all questions. Mark "NA" for questions that are not applicable. Mark "UNK" if the answer is unknown to you at the time of completion. Please attach any additional pages as needed.

Facility Name: UPTOWN PLAZA

Date Questionnaire was completed: SEPTEMBER 21, 2007

Name of person completing Questionnaire: S.E. SPEYER

Address: UPTOWN PLAZA
ONE E. CAMELBACK ROAD, SUITE 210
PHOENIX, ARIZONA 85012

Contact Name: TERRY MANNING

Address:

Phone Number: 602/265-0411

A. Property Information

1. What is the current use of the property? Please include a detailed facility description.

PROPERTY IS A PREMIER SHOPPING PLAZA WITH SPECIALTY RETAIL, COMMERCIAL, AND FOOD SERVICE TENANTS.

TENANTS INCLUDE:

+ A.J.'S FINE FOODS
+ APPLEBEE'S RESTAURANT
+ BIKRAM'S YOGA COLLEGE
+ BOSTON MARKET RESTAURANT
+ CACTUS FLOWER
+ CENTRAL EYE WORKS
+ DON'S CIGARS
+ THE EGGERY RESTAURANT
+ FRED ASTAIRE DANCE STUDIO
+ THE NATURAL FOOT
+ JOHNNY'S UPTOWN RESTAURANT
+ UPS STORE/MAIL BOXES ETC.
+ MARCO PICTURE FRAMES
+ QUIZNO'S RESTAURANT
+ RELAX THE BACK STORE
+ SALON ESTIQUE
+ BOOSTER JUICE
+ SOCIETY CLEANERS
+ SWEET TOMATOES RESTAURANT
+ UPTOWN PHARMACY
+ UPTOWN NAILS & SPA

2. What are the foreseeable plans for the property (extension of buildings, increased production, etc.) as far into the future as they are known and up to 100 years, if possible?

NO PLANS TO SUBSTANTIALLY MODIFY OR ADD TO PROPERTY PLAN.

3. Is the property owned or leased?

OWNED.

4. Who is the owner of the property?
Name: OPTIMUM PLAZA ASSOCIATES, L.L.C.
Address: 1 EAST CAMELBACK RD., SUITE 210
PHOENIX, ARIZONA 85012
Phone Number: 602/265-0411

5. If the property is leased, how long is the lease term?

N/A

6. If the property is leased, are there plans to renew the lease and for how long?

N/A

7. If the property is owned, do you plan on relocating and if so in what timeframe?

NO.

B. Environmental information

1. Are there any groundwater wells on the property? If so, what is the current use of water in those wells? (e.g. – drinking water, water supply, monitoring, irrigation, remediation)

THERE ARE THREE (3) MONITORING WELLS LOCATED ON THE PROPERTY. EACH OF THESE IS PROPERLY REGISTERED WITH THE ADWR.

2. Are there any proposed changes to the current use of water in the wells from item #1 anticipated for the next 100 years?

NO. IT IS REASONABLE TO PRESUME THAT THE 3 WELLS WILL BE PROPERLY ABANDONED SOME TIME BEFORE 2107.

3. Please list the company's waste streams?

1. OFFICE - RELATED WASTES & CARD BOARD.
2. MAINTENANCE - GENERATED SOLID WASTES.
3. LANDSCAPING WASTES.

4. Please list any spill of material or waste products that has occurred at the facility in the past 5 years.

NONE KNOWN.

5. Is your company currently sampling any groundwater wells on the property? If so, how often is the sampling conducted? Are analytical results being submitted to ADEQ for the groundwater database?

NO.

6. If there are any groundwater wells on the property that supply drinking water, how many people are served and what is the Public Water Supply (PWS) number?

No.

7. Do you anticipate that any groundwater wells will be drilled in the next 100 years at this property? If yes, what will the water be used for?

No.

8. Does your facility have an environmental manager or is environmental management outsourced to an environmental consulting firm? If so, please list the person's information:

Name: Speyer & Associates, P.C.
Contact: Steve Speyer
Title: Principal Geologist; President
Address: 3567 E. Harvard Ct., Gilbert, AZ 85234
Phone Number: 602/432-3525

Thank you for your time. The Project Manager, Jennifer Edwards, or a representative from ADEQ's consultant, HydroGeoChem, Inc., may follow-up on answers provided.

RPU07.485

CTS: 168963
V: 11

LAND AND WATER USE STUDY QUESTIONNAIRE
FOR PROPERTIES OWNERS WITHIN THE
CENTRAL AND CAMELBACK WQARF REGISTRY SITE

Please answer all questions. Mark "NA" for questions that are not applicable. Mark "UNK" if the answer is unknown to you at the time of completion. Please attach any additional pages as needed.

Facility Name: Uptowne Drycleaning, Inc.

Date Questionnaire was completed: 7/3/07

Name of person completing Questionnaire: Neil D. Silliman

Address: 11221 N. 31st Pl
Phoenix, AZ 85028

Contact Name: Neil D. Silliman

Address: 5104 N. Central Ave
Phoenix, AZ 85012

Phone Number: (602) 364-0701

A. Property Information

1. What is the current use of the property? Please include a detailed facility description.

Processing of Retail Laundry & Drycleaning

2. What are the foreseeable plans for the property (extension of buildings, increased production, etc.) as far into the future as they are known and up to 100 years, if possible?

None

3. Is the property owned or leased? Owned

4. Who is the owner of the property?
   Name: Neil D. Gillimon
   Address: 11931 N. 31st Pl
   Phoenix, AZ 85028
   Phone Number: (602) 992-8054

5. If the property is leased, how long is the lease term?

6. If the property is leased, are there plans to renew the lease and for how long?

7. If the property is owned, do you plan on relocating and if so in what timeframe?

No

B. Environmental information

1. Are there any groundwater wells on the property? If so, what is the current use of water in those wells? (e.g. – drinking water, water supply, monitoring, irrigation, remediation)

No

2. Are there any proposed changes to the current use of water in the wells from item #1 anticipated for the next 100 years?

no

3. Please list the company's waste streams?

city sewer

4. Please list any spill of material or waste products that has occurred at the facility in the past 5 years.

none

5. Is your company currently sampling any groundwater wells on the property? If so, how often is the sampling conducted? Are analytical results being submitted to ADEQ for the groundwater database?

no

6. If there are any groundwater wells on the property that supply drinking water, how many people are served and what is the Public Water Supply (PWS) number?

NA

7. Do you anticipate that any groundwater wells will be drilled in the next 100 years at this property? If yes, what will the water be used for?

No

8. Does your facility have an environmental manager or is environmental management outsourced to an environmental consulting firm? If so, please list the person's information: no

Name: _____
Contact: _____
Title: _____
Address: _____
Phone Number: _____

Thank you for your time. The Project Manager, Jennifer Edwards, or a representative from ADEQ's consultant, HydroGeoChem, Inc., may follow-up on answers provided.

CTS: 169035
V: 11

LAND AND WATER USE STUDY QUESTIONNAIRE
FOR PROPERTIES OWNERS WITHIN THE
CENTRAL AND CAMELBACK WQARF REGISTRY SITE

Please answer all questions. Mark "NA" for questions that are not applicable. Mark "UNK" if the answer is unknown to you at the time of completion. Please attach any additional pages as needed.

Facility Name: HRAD Investments

Date Questionnaire was completed: 7/19/07

Name of person completing Questionnaire: Armando Delgadillo

Address: 5110 N. Central Ave
Suite 200
Phoenix, AZ 85012

Contact Name: Courtney Dayo

Address: SAME

Phone Number: 602.393.9300

A. Property Information

1. What is the current use of the property? Please include a detailed facility description.

Office building

2. What are the foreseeable plans for the property (extension of buildings, increased production, etc.) as far into the future as they are known and up to 100 years, if possible?

Unk

3. Is the property owned or leased?

Owned

4. Who is the owner of the property?
   Name: Armando Delgadillo / PPAD Investments
   Address: 510 N. Central Ave #208
   Phoenix, AZ 85012
   Phone Number: 602 393-9200

5. If the property is leased, how long is the lease term?

N/A

6. If the property is leased, are there plans to renew the lease and for how long?

N/A

7. If the property is owned, do you plan on relocating and if so in what timeframe?

No

B. Environmental information

1. Are there any groundwater wells on the property? If so, what is the current use of water in those wells? (e.g. – drinking water, water supply, monitoring, irrigation, remediation)

N/A

2. Are there any proposed changes to the current use of water in the wells from item #1 anticipated for the next 100 years?

No

3. Please list the company's waste streams?

N/A

4. Please list any spill of material or waste products that has occurred at the facility in the past 5 years.

N/A

5. Is your company currently sampling any groundwater wells on the property? If so, how often is the sampling conducted? Are analytical results being submitted to ADEQ for the groundwater database?

N/A

6. If there are any groundwater wells on the property that supply drinking water, how many people are served and what is the Public Water Supply (PWS) number?

N/A

7. Do you anticipate that any groundwater wells will be drilled in the next 100 years at this property? If yes, what will the water be used for?

No

8. Does your facility have an environmental manager or is environmental management outsourced to an environmental consulting firm? If so, please list the person's information:

Name: N/A
Contact: _____
Title: _____
Address: _____
Phone Number: _____

Thank you for your time. The Project Manager, Jennifer Edwards, or a representative from ADEQ's consultant, HydroGeoChem, Inc., may follow-up on answers provided.

APPENDIX L

RISK CALCULATIONS FOR BASELINE HUMAN HEALTH RISK ASSESSMENT

Site-specific

Resident Equation Inputs for Tap Water

Variable	Value
TR (target cancer risk) unitless	1.0E-6
ED_r (exposure duration - resident) year	30
ED_c (exposure duration - child) year	6
ED_a (exposure duration - adult) year	24
ED_{0-2} (mutagenic exposure duration first phase) year	2
ED_{2-6} (mutagenic exposure duration second phase) year	4
ED_{6-16} (mutagenic exposure duration third phase) year	10
ED_{16-30} (mutagenic exposure duration fourth phase) year	14
THQ (target hazard quotient) unitless	1
LT (lifetime - resident) year	70
EF_r (exposure frequency) day/year	350
EF_{0-2} (mutagenic exposure frequency first phase) day/year	350
EF_{2-6} (mutagenic exposure frequency second phase) day/year	350
EF_{6-16} (mutagenic exposure frequency third phase) day/year	350
EF_{16-30} (mutagenic exposure frequency fourth phase) day/year	350
ET_{rw-adj} (age-adjusted exposure time) hour/day	0.664
$ET_{rw-madj}$ (mutagenic age-adjusted exposure time) hour/day	0.664
ET_{rwa} (adult tapwater exposure time) hour/day	0.58
ET_{rwc} (child tapwater exposure time) hour/day	1
ET_{rw} (exposure time - resident) hour/day	24
ET_{0-2} (mutagenic exposure time first phase) hour/event	1
ET_{2-6} (mutagenic exposure time second phase) hour/event	1
ET_{6-16} (mutagenic exposure time third phase) hour/event	0.58
ET_{16-30} (mutagenic exposure time fourth phase) hour/event	0.58
BW_a (body weight - adult) kg	70
BW_c (body weight - child) kg	15
IRW_a (water intake rate - adult) L/day	2
IRW_c (water intake rate - child) L/day	1
EV_{rwa} (adult events) per day	1
EV_{rwc} (child events) per day	1
EV_{0-2} (mutagenic events first phase) per day	1
EV_{2-6} (mutagenic events first phase) per day	1
EV_{6-16} (mutagenic events first phase) per day	1
EV_{16-30} (mutagenic events first phase) per day	1

Site-specific

Resident Equation Inputs for Tap Water

Variable	Value
K (volatilization factor of Andelman) L/m^3	0.5
IFW_{adj} (adjusted intake factor) L-year/kg-day	1.086
$IFWM_{adj}$ (mutagenic adjusted intake factor) L-year/kg-day	3.39
DFW_{adj} (age-adjusted dermal factor) cm^2-event/kg	8811.4
$DFWM_{adj}$ (mutagenic age-adjusted dermal factor) cm^2-event/kg	25394.29
SA_a (skin surface area - adult) cm^2	18000
SA_c (skin surface area - child) cm^2	6600
IRW_{0-2} (mutagenic water intake rate) L/day	1
IRW_{2-6} (mutagenic water intake rate) L/day	1
IRW_{6-16} (mutagenic water intake rate) L/day	2
IRW_{16-30} (mutagenic water intake rate) L/day	2
l_{sc} (apparent thickness of stratum corneum) cm	0.001

Site-specific

Resident Screening Levels (RSL) for Tap Water

ca=Cancer, nc=Noncancer, ca* (Where nc SL < 100 x ca SL),
ca** (Where nc SL < 10 x ca SL), max=SL exceeds ceiling limit (see User's Guide), sat=SL exceeds csat,
Smax=Soil SL exceeds ceiling limit and has been substituted with the max value (see User's Guide),
Ssat=Soil inhalation SL exceeds csat and has been substituted with the csat

Chemical	CAS Number	Mutagen?	VOC?	Chemical Type	Ingestion SF $(mg/kg\text{-}day)^{-1}$	SFO Ref	Inhalation Unit Risk $(ug/m^3)^{-1}$	IUR Ref	Chronic RfD (mg/kg-day)	RfD Ref	Chronic RfC (mg/m^3)	RfC Ref	VOC	GIABS	KP
Dichloroethane, 1,2-	107-06-2	No	Yes	Organics	9.10E-02	I	2.60E-05	I	6.00E-03	X	7.00E-03	P	1	1	0.0042
Tetrachloroethylene	127-18-4	No	Yes	Organics	2.10E-03	I	2.60E-07	I	6.00E-03	I	4.00E-02	I	1	1	0.0334
Trichloroethylene	79-01-6	Yes	Yes	Organics	4.60E-02	I	4.10E-06	I	5.00E-04	I	2.00E-03	I	1	1	0.0116

Chemical	MW	pi	logds	dsclc	dsc	Concentration (mg/kg)	littleb	B	tstar	tau_event	FA	In EPD?
Dichloroethane, 1,2-	98.96	3.1415927	-3.354176	0.0004424	4.4241E-7	24	0.3131135	0.0160696	0.9041406	0.3767253	1	Yes
Tetrachloroethylene	165.83	3.1415927	-3.728648	0.0001868	1.8679E-7	130	0.4132241	0.1654263	2.1414503	0.8922709	1	Yes
Trichloroethylene	131.39	3.1415927	-3.535784	0.0002912	2.9122E-7	51	0.3351426	0.0511406	1.3735485	0.5723119	1	Yes

Chemical	DAeventc	DAeventnc	DAeventna	MCL ug/L	Ingestion SL TR=1.0E-6 (ug/L)	Dermal SL TR=1.0E-6 (ug/L)	Inhalation SL TR=1.0E-6 (ug/L)	Carcinogenic SL TR=1.0E-6 (ug/L)	Ingestion SL Child HQ=1 (ug/L)	Dermal SL Child HQ=1 (ug/L)	Inhalation SL Child HQ=1 (ug/L)
Dichloroethane, 1,2-	0.000091	0.0142208	0.0243333	5.00E+00	7.39E-01	1.57E+01	1.87E-01	1.48E-01	9.39E+01	1.94E+03	1.46E+01
Tetrachloroethylene	0.0039451	0.0142208	0.0243333	5.00E+00	3.20E+01	5.55E+01	1.87E+01	9.74E+00	9.39E+01	1.63E+02	8.34E+01
Trichloroethylene	0.0000625	0.0011851	0.0020278	5.00E+00	4.68E-01	3.16E+00	4.69E-01	2.18E-01	7.82E+00	4.89E+01	4.17E+00

Chemical	Noncarcinogenic SL Child HI=1 (ug/L)	Ingestion SL Adult HQ=1 (ug/L)	Dermal SL Adult HQ=1 (ug/L)	Inhalation SL Adult HQ=1 (ug/L)	Noncarcinogenic SL Adult HI=1 (ug/L)	Screening Level (ug/L)
Dichloroethane, 1,2-	1.26E+01	2.19E+02	4.48E+03	1.46E+01	1.36E+01	1.48E-01 ca*
Tetrachloroethylene	3.48E+01	2.19E+02	3.66E+02	8.34E+01	5.19E+01	9.74E+00 ca**
Trichloroethylene	2.58E+00	1.83E+01	1.10E+02	4.17E+00	3.29E+00	2.18E-01 ca*

Site-specific

Resident Risk for Tap Water

Chemical	Chemical Type	Ingestion SF $(mg/kg\text{-}day)^{-1}$	SFO Ref	Inhalation Unit Risk $(ug/m^3)^{-1}$	IUR Ref	Chronic RfD (mg/kg-day)	RfD Ref	Chronic RfC (mg/m^3)	RfC Ref	VOC	KP	MW	pi	logds	dsclc
Dichloroethane, 1,2-	Organics	9.10E-02	I	2.60E-05	I	6.00E-03	X	7.00E-03	P	1	0.0042	98.96	3.1415927	-3.354176	0.0004424
Tetrachloroethylene	Organics	2.10E-03	I	2.60E-07	I	6.00E-03	I	4.00E-02	I	1	0.0334	165.83	3.1415927	-3.728648	0.0001868
Trichloroethylene	Organics	4.60E-02	I	4.10E-06	I	5.00E-04	I	2.00E-03	I	1	0.0116	131.39	3.1415927	-3.535784	0.0002912
*Total Risk		-		-		-		-		-	-	-	-	-	-

Chemical	dsc	Concentration (mg/kg)	littleb	B	tstar	tau_event	FA	In EPD?	MCL ug/L	Concentration (mg/kg)	Ingestion Risk TR=1.0E-6	Dermal Risk TR=1.0E-6
Dichloroethane, 1,2-	4.4241E-7	24	0.3131135	0.0160696	0.9041406	0.3767253	1	Yes	5.00E+00	24	3.25E-05	1.53E-06
Tetrachloroethylene	1.8679E-7	130	0.4132241	0.1654263	2.1414503	0.8922709	1	Yes	5.00E+00	130	4.06E-06	2.34E-06
Trichloroethylene	2.9122E-7	51	0.3351426	0.0511406	1.3735485	0.5723119	1	Yes	5.00E+00	51	1.09E-04	1.61E-05
*Total Risk	-	-	-	-	-	-	-		-	-	1.45E-04	2.00E-05

Chemical	Inhalation Risk TR=1.0E-6	Carcinogenic Risk TR=1.0E-6	Ingestion Risk Child HQ=1	Dermal Risk Child HQ=1	Inhalation Risk Child HQ=1	Noncarcinogenic Risk Child HI=1	Ingestion Risk Adult HQ=1	Dermal Risk Adult HQ=1	Inhalation Risk Adult HQ=1	Noncarcinogenic Risk Adult HI=1
Dichloroethane, 1,2-	1.28E-04	1.62E-04	2.56E-01	1.24E-02	1.64E+00	1.91E+00	1.10E-01	5.35E-03	1.64E+00	1.76E+00
Tetrachloroethylene	6.95E-06	1.33E-05	1.39E+00	7.97E-01	1.56E+00	3.74E+00	5.94E-01	3.55E-01	1.56E+00	2.51E+00
Trichloroethylene	1.09E-04	2.34E-04	6.52E+00	1.04E+00	1.22E+01	1.98E+01	2.79E+00	4.65E-01	1.22E+01	1.55E+01
*Total Risk	2.44E-04	4.10E-04	8.16E+00	1.85E+00	1.54E+01	2.54E+01	3.50E+00	8.25E-01	1.54E+01	1.98E+01

Site-specific

Resident Equation Inputs for Air

Variable	Value
TR (target cancer risk) unitless	1.0E-6
ED_r (exposure duration - resident) year	30
THQ (target hazard quotient) unitless	1
LT (lifetime - resident) year	70
EF_r (exposure frequency) day/year	350
ED_{0-2} (exposure duration first phase) year	2
ED_{2-6} (exposure duration second phase) year	4
ED_{6-16} (exposure duration third phase) year	10
ED_{16-30} (exposure duration fourth phase) year	14
ET_r (exposure time) hour/day	24

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Site-specific

Resident Screening Levels (RSL) for Air

ca=Cancer, nc=Noncancer, ca* (Where nc SL < 100 x ca SL),
ca** (Where nc SL < 10 x ca SL), max=SL exceeds ceiling limit (see User's Guide), sat=SL exceeds csat,
Smax=Soil SL exceeds ceiling limit and has been substituted with the max value (see User's Guide),
Ssat=Soil inhalation SL exceeds csat and has been substituted with the csat

Chemical	CAS Number	Mutagen?	VOC?	Inhalation Unit Risk $(ug/m^3)^{-1}$	IUR Ref	Chronic RfC (mg/m^3)	RfC Ref	Carcinogenic SL TR=1.0E-6 (ug/m^3)	Noncarcinogenic SL HI=1 (ug/m^3)	Screening Level (ug/m^3)
Tetrachloroethylene	127-18-4	No	Yes	2.60E-07	I	4.00E-02	I	9.36E+00	4.17E+01	9.36E+00 ca**

Site-specific

Resident Risk for Air

Chemical	Inhalation Unit Risk ($ug/m^3)^{-1}$	IUR Ref	Chronic RfC (mg/m^3)	RfC Ref	Concentration (µg/kg)	Carcinogenic Risk TR=1.0E-6	Noncarcinogenic Risk HI=1
Tetrachloroethylene	2.60E-07	I	4.00E-02	I	1.51	1.61E-07	3.62E-02
**Total Risk*	-		-		-	*1.61E-07*	*3.62E-02*

Site-specific

Resident Equation Inputs for Air

Variable	Value
TR (target cancer risk) unitless	1.0E-6
ED_r (exposure duration - resident) year	25
THQ (target hazard quotient) unitless	1
LT (lifetime - resident) year	70
EF_r (exposure frequency) day/year	250
ED_{0-2} (exposure duration first phase) year	2
ED_{2-6} (exposure duration second phase) year	4
ED_{6-16} (exposure duration third phase) year	10
ED_{16-30} (exposure duration fourth phase) year	14
ET_r (exposure time) hour/day	8

Site-specific

Resident Screening Levels (RSL) for Air

ca=Cancer, nc=Noncancer, ca* (Where nc SL < 100 x ca SL),
ca** (Where nc SL < 10 x ca SL), max=SL exceeds ceiling limit (see User's Guide), sat=SL exceeds csat,
Smax=Soil SL exceeds ceiling limit and has been substituted with the max value (see User's Guide),
Ssat=Soil inhalation SL exceeds csat and has been substituted with the csat

Chemical	CAS Number	Mutagen?	VOC?	Inhalation Unit Risk $(ug/m^3)^{-1}$	IUR Ref	Chronic RfC (mg/m^3)	RfC Ref	Carcinogenic SL TR=1.0E-6 (ug/m^3)	Noncarcinogenic SL HI=1 (ug/m^3)	Screening Level (ug/m^3)
Tetrachloroethylene	127-18-4	No	Yes	2.60E-07	I	4.00E-02	I	4.72E+01	1.75E+02	4.72E+01 ca**

Output generated 06MAR2014:19:50:59

Site-specific

Resident Risk for Air

Chemical	Inhalation Unit Risk ($ug/m^3)^{-1}$	IUR Ref	Chronic RfC (mg/m^3)	RfC Ref	Concentration (µg/kg)	Carcinogenic Risk TR=1.0E-6	Noncarcinogenic Risk HI=1
Tetrachloroethylene	2.60E-07	I	4.00E-02	I	9.66	2.05E-07	5.51E-02
**Total Risk*	-		-		-	*2.05E-07*	*5.51E-02*

APPENDIX M

PARTICLE TRACKING ANALYSIS

APPENDIX M
PARTICLE TRACKING ANALYSIS

The transport and fate of PCE originating from the former Maroney's facility was evaluated by a combination of particle tracking and consideration of site-specific natural attenuation processes. Particle tracks were calculated by hand, based on hydraulic and transport properties for the shallow groundwater zone and available water level contour maps for various times. The earliest that PCE could have originated from the Maroney's facility was 1951, the year the business was established. PCE entering shallow groundwater at the Maroney's facility is expected to have migrated at a rate dependent primarily on the hydraulic gradient, hydraulic conductivity, effective porosity, and a retardation factor related to sorption of PCE onto soil organic carbon.

Particle Tracking

Particle tracks were calculated for PCE originating from the location of the former Maroney's facility at various times as shown on Figure M.1. Track 1 covered the period from approximately 1951 to 1994; Track 2 covered the period from approximately 1965 to 2013; Track 3 covered the period from approximately 1974 to 2013; Track 4 covered the period from approximately 1975 to 2013; and Track 5 covered the period from approximately 1984 to 2013.

The particle tracking assumed negligible dilution and hydrodynamic dispersion, and no volatilization, degradation, or downward transport of PCE. Particle tracks were calculated using a conservative hydraulic conductivity of 15 feet per day (ft/day), a retardation factor of two, an effective porosity of 0.25, and hydraulic gradients based on water level contour maps from various sources between 1994 and 2013 (WTI, 1999, Appendix E). In particular, water level contour maps from December 1994, December 1996, October/December 2000, May 2008, February 2010, and June 2013 were used to estimate the magnitudes and directions of hydraulic gradients at various times as summarized on Figure M.2.

The hydraulic conductivity estimate of 15 ft/day was based on values reported in 1999 (WTI) and 2001 (Weston) which ranged from 15 ft/day to 75 ft/day. Weston used values of 15 ft/day and 30 ft/day in their groundwater flow model. To be conservative, a hydraulic conductivity of 15 ft/day was used for particle tracking. The effective porosity of 0.25 was based on the 1999 (WTI) data.

The retardation factor for PCE was calculated using a soil bulk density of 1.7 kilograms per liter, an organic carbon mass fraction of 0.001, an organic carbon/water distribution coefficient of 155 liters per kilogram, and an effective porosity of 0.25.

Particle 1 migrated during a time that the hydraulic gradient was assumed to be consistently to the north under the influence of seepage from the unlined Grand Canal to the south and pumping from SRP well 13.5E-9.4N (the SRP well) to the north. Particles 2, 3, and 4 migrated over time periods that include the transition from primarily northward flow to the more complex flow pattern established after 2000. The post-2000 flow pattern is influenced by pumping for remedial and dewatering purposes at the OEC property and SCSA, reduced pumping from the SRP well located to the north, and reduced seepage from the Grand Canal to the south due to lining of the canal.

As shown, Particle 1 tracks directly north from the Maroney's facility along Central Avenue, to the SRP Well by 1994. Particles 2, 3, and 4 track north from the Maroney's facility until about year 2000, when the particles begin to migrate eastward. Particle 2 then migrates east-northeast; Particle 3 tracks east; and Particle 4 tracks southeast. Particle 5, starting later than any of the other particles (in 1984) migrates north, then east, south, and southeast, where it is finally captured by the groundwater pumping system at Central and Camelback.

PCE Transport and Fate

Based on the date of operation at the Maroney's facility, the analysis of hydraulic gradients and particle tracks, and considering the impacts of natural attenuation, the following observations pertinent to PCE transport and fate are made:

1. PCE releases from the Maroney's facility could potentially have impacted groundwater as early as 1951.
2. Using a conservative hydraulic conductivity of 15 ft/day, PCE retardation factor of 2, and projecting the 1994 northerly hydraulic gradient back to 1951, PCE released from the Maroney's facility could have migrated parallel to Central Avenue as far north as the SRP eell by 1994.
3. The northerly hydraulic gradient began to flatten after 1994, and was nearly flat by 2000.
4. After 2000, the shallow groundwater flow pattern changed to something similar to today's pattern:
    - Northeasterly near Colter Street and Central Avenue;
    - Easterly near East Orange Drive and Central Avenue;

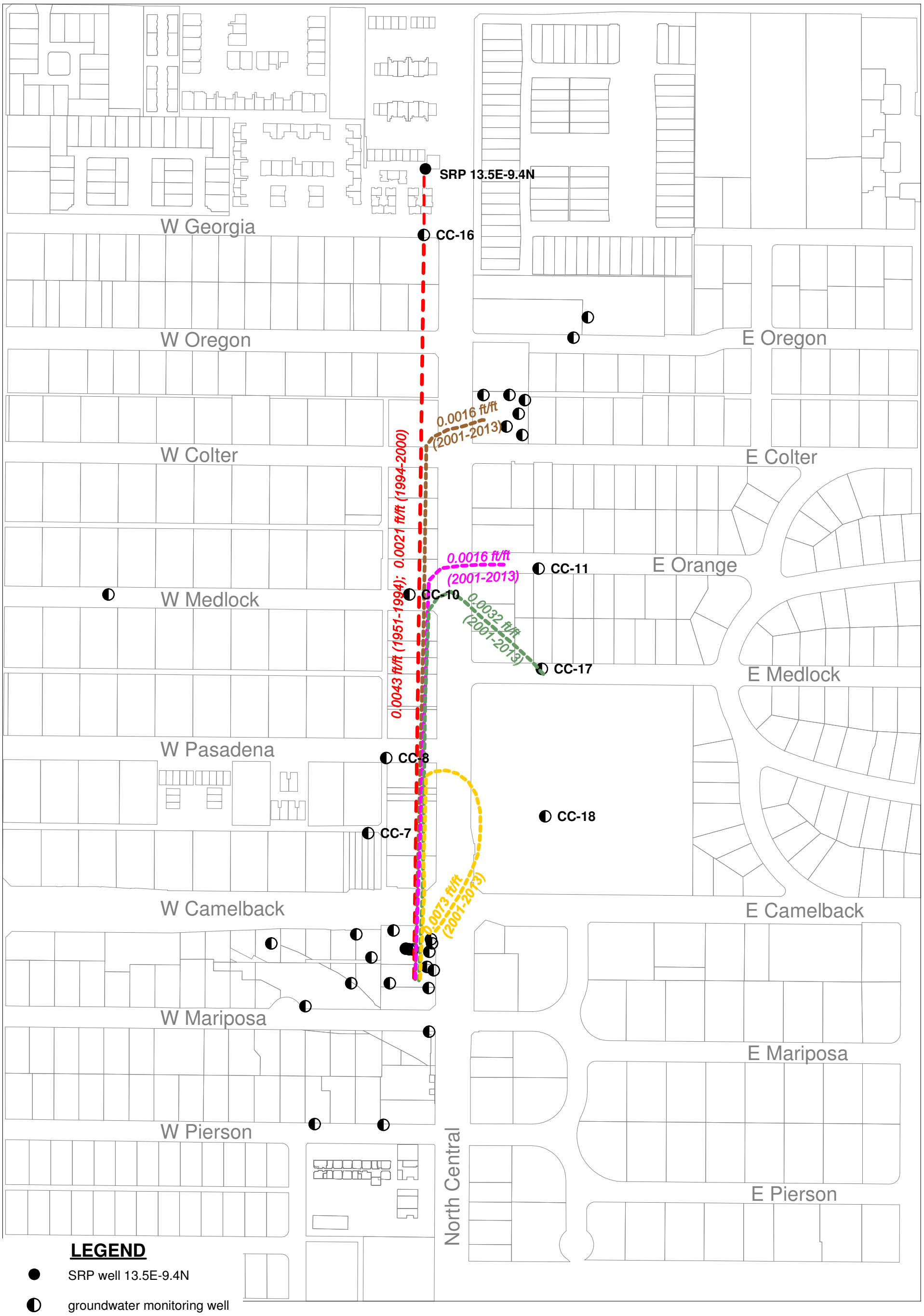
- Southeasterly near East Medlock and Central Avenue and near West Pasadena and Central Avenue;
- Southeasterly at CC-17, and south-southeasterly at CC-18; and
- South of Medlock in the vicinity of Central Avenue, flow clearly converges on the dewatering and SCSA groundwater treatment systems near Central Avenue and Camelback Road.

5. Although PCE originating from the Maroney's facility could have migrated as far north as the SRP well by 1994, data presented by WTI in 1999 suggested that concentrations in shallow groundwater dropped off substantially and the plume apparently narrowed between Camelback Road and West Pasadena Avenue. Likely reasons for this (in order of relative importance) are:
   - Commingling of PCE with petroleum hydrocarbons from the former Weiss Guys Car Wash (immediately northwest of the Maroney's facility) and former Unocal (north and directly downgradient of the Maroney's facility) enhanced the biodegradation of PCE and reduced concentrations;
   - Periodic changes in the pre-1994 northerly hydraulic gradient from north-northwest to north-northeast (due to changes in water supply pumping) increased effective dispersivity and reduced concentrations;
   - Volatilization into the vadose zone outside of source areas, enhanced by water table fluctuations, reduced shallow groundwater PCE concentrations; and
   - Potential downward migration of PCE due to water supply pumping from deep wells (such as the SRP well to the north) would be expected to reduce shallow groundwater PCE concentrations.
6. As shallow groundwater flow patterns changed after 2000, PCE north of the Maroney's facility would have begun to migrate as follows:
   - Northeast near Colter Street and Central Avenue;
   - East near East Orange Drive and Central Avenue; and
   - Southeast near East Medlock Drive and Central Avenue, and near West Pasadena and Central Avenues.
7. Based on the magnitude and direction of the hydraulic gradients north of the Maroney's facility after the groundwater flow patterns changed, shallow PCE extending north from the Maroney's facility prior to about 1994 could have migrated:
   - Southeast to CC-17 (by 2013);
   - To the east of CC-10 (by 2006); and
   - To the southeast of both CC-7 and CC-8 (by 2007).

   Reductions in concentration at CC-7, CC-8, and CC-10 likely also resulted from biodegradation.

Eastward movement could also explain the absence of shallow PCE at CC-16. It is also possible, but not as likely, based on the assumptions presented above, that PCE in the vicinity of CC-10 could have migrated east to CC-11 by 2007, because of the relatively small magnitude of the generally eastward-directed hydraulic gradient in that area after the flow pattern change. The likelihood increases if a higher hydraulic conductivity or smaller retardation factor exists in this area, or if the PCE plume had spread out laterally when the gradient was primarily northward, reducing the distance between the plume boundary and CC-11 prior to the flow pattern change. Furthermore, PCE migrating north along Central Avenue prior to 1994 (and later eastward) could have to some degree impacted the former Texaco facility both before and after the change in flow patterns, consistent with PCE detection initially in Tex-MW-1, later Tex-MW-5, and subsequently Tex-MW-2.

8. Based on the recent groundwater flow patterns, PCE and its degradation products (TCE and cis-1,2-DCE) located south of East Medlock Drive and within about 500 feet east of Central Avenue are likely to be eventually captured by the OEC dewatering system and SCSA groundwater treatment system. PCE detected at and in the vicinity of CC-17 could potentially reach the dewatering system located at the OEC property.



LEGEND

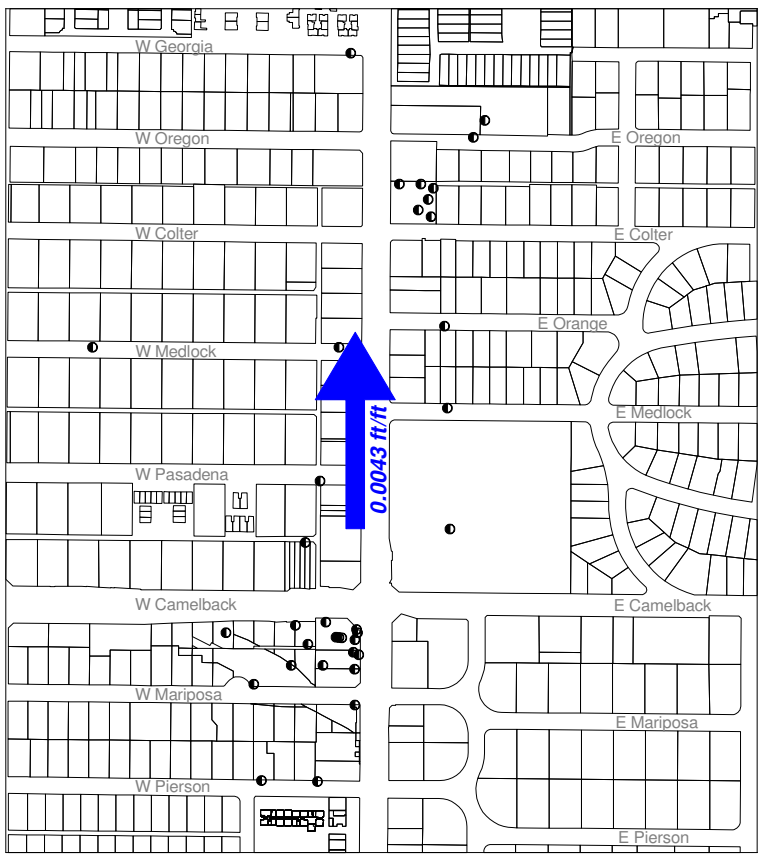
- SRP well 13.5E-9.4N
- groundwater monitoring well
- particle 1 (1951-1994)
- particle 2 (1965-2013)
- particle 3 (1974-2013)
- particle 4 (1975-2013)
- particle 5 (1984-2013)

Note: hydraulic gradients are averages over the indicated time periods

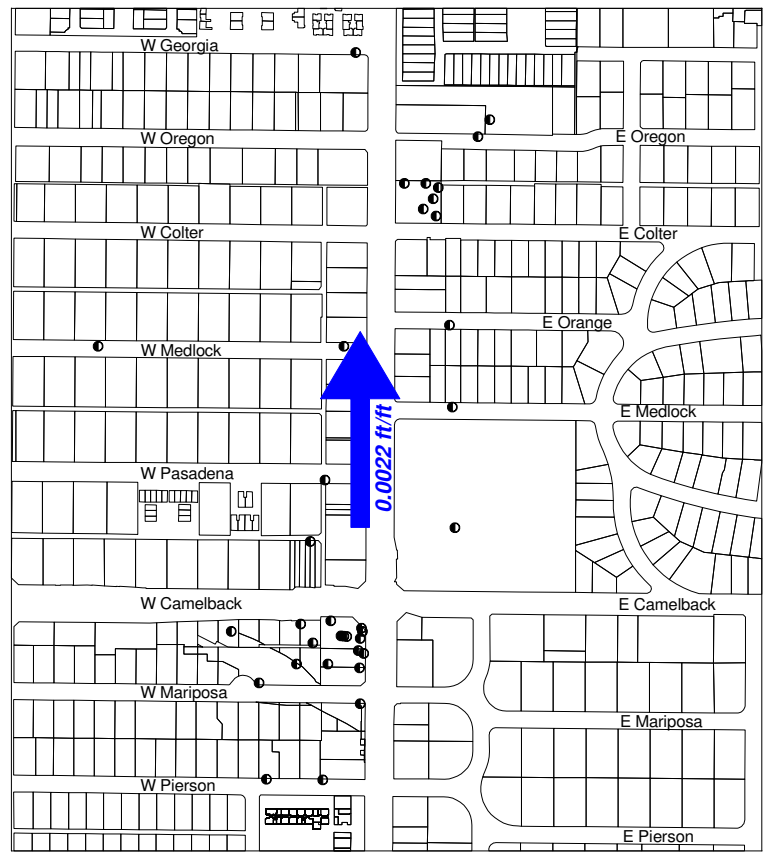
HYDRO GEO CHEM, INC.

Hand-Calculated PCE Particle Tracks Originating at Various Times From the Southwest Corner Source Area

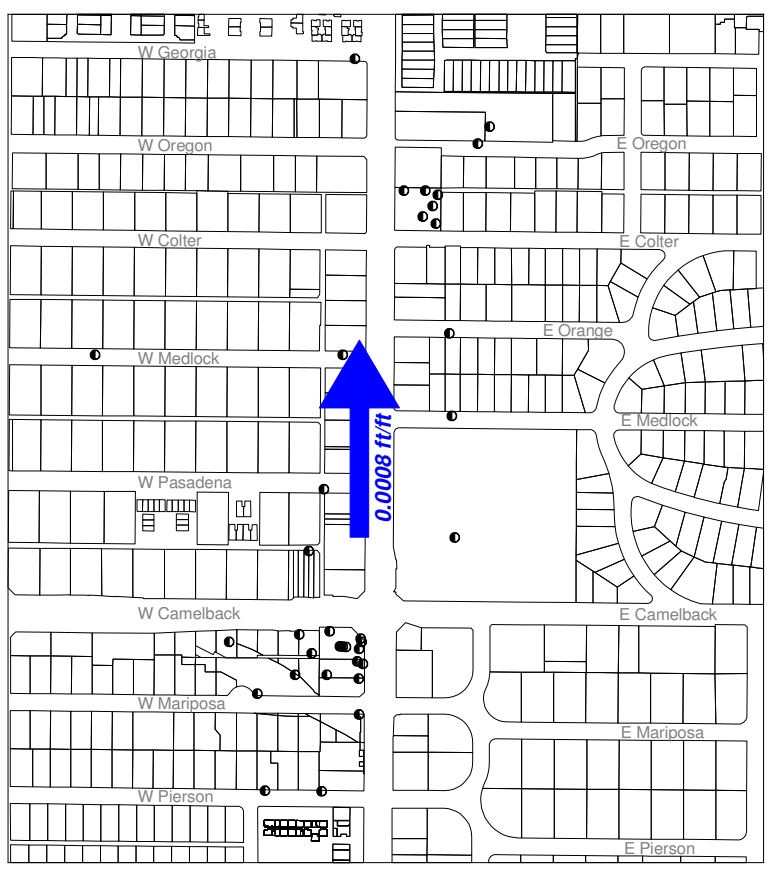
APPROVED	DATE	REFERENCE	FIGURE
SJS	5/23/14	H:/2010032/RI/modeling items for Stewart/analysis/CandC_particle.srf	M.1



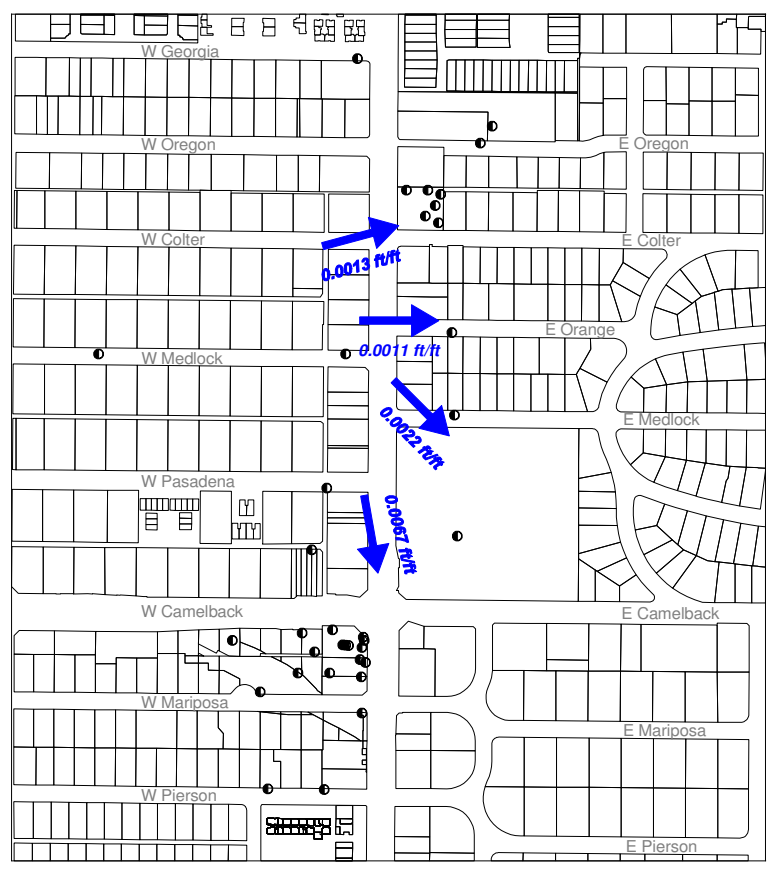
December 1994



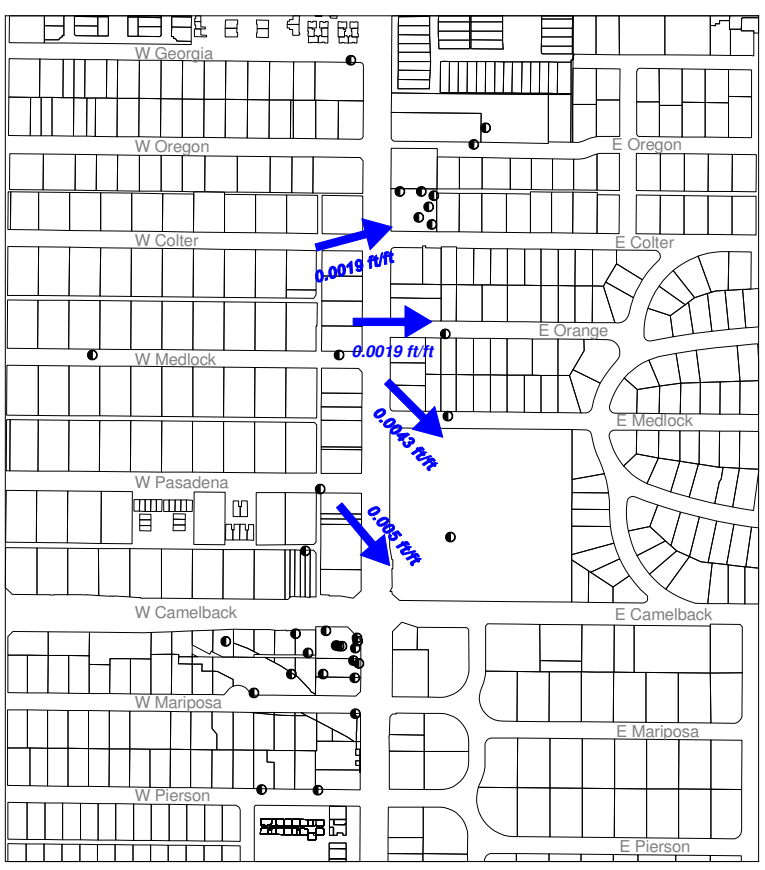
December 1996



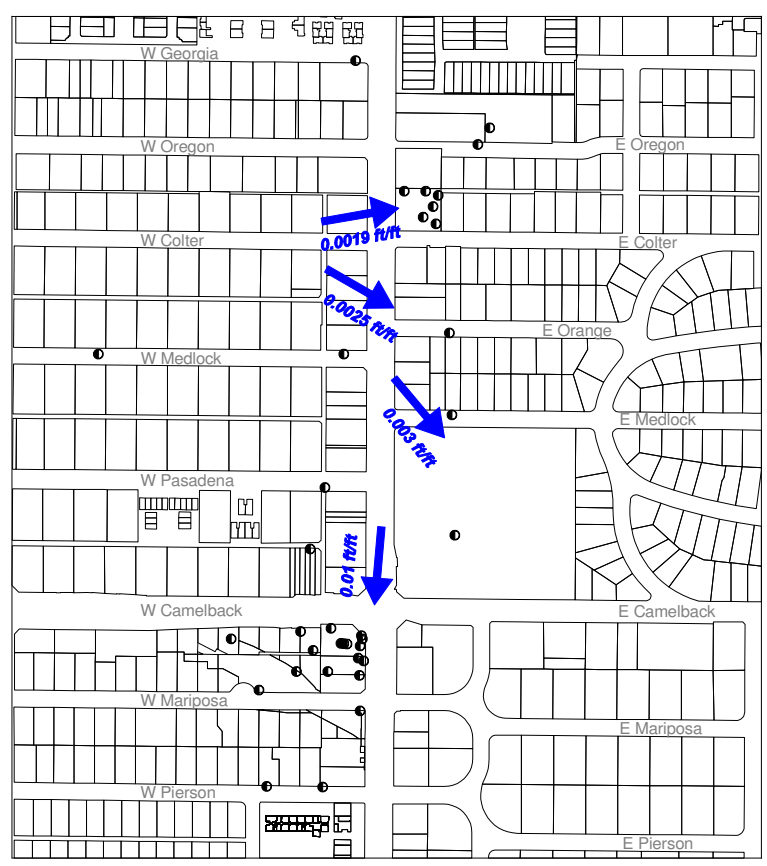
October/December 2000



May 2008



February 2010



June 2013

LEGEND

0.0043 ft/ft — approximate direction and magnitude of hydraulic gradient

◐ groundwater monitoring well

Note: arrow sizes are not proportional to the magnitudes of the gradients

HYDRO GEO CHEM, INC.

Approximate Hydraulic Gradients Based on Water Level Contours

APPROVED	DATE	REFERENCE	FIGURE
SJS	5/23/14	H:/2010032/RI/analysis/ CandC_grad.srf	M.2

APPENDIX N

RESPONSIVENESS SUMMARY

RESPONSIVENESS SUMMARY

REMEDIAL INVESTIGATION REPORT
CENTRAL AND CAMELBACK WQARF REGISTRY SITE
PHOENIX, ARIZONA

Arizona Department of Environmental Quality
Remedial Projects Unit
1110 West Washington
Phoenix, Arizona 85007

Prepared By:

Arizona Department of Environmental Quality
Remedial Projects Unit

December 3, 2014

RESPONSIVENESS SUMMARY

REMEDIAL INVESTIGATION REPORT

CENTRAL AND CAMELBACK WQARF REGISTRY SITE
PHOENIX, ARIZONA

INTRODUCTION

Pursuant to the requirements of the Arizona Administrative Code (ACC) R-18-16406(H) the Arizona Department of Environmental Quality (ADEQ) has prepared this comprehensive responsiveness summary for comments received on the *Draft Remedial Investigation Report, Central and Camelback WQARF Site, Phoenix, Arizona* dated May 28, 2014. The Draft RI Report was made available for public review and comment on May 28, 2014 for 60 days. A community advisory board (CAB) meeting was held at A.L. Moore-Grimshaw Mortuaries Bethany Chapel on July 23, 2014 during the 60-day public comment period. The purpose of the meeting was to receive oral and/or written comments on the Draft RI report and to solicit and consider proposed remedial objectives. ADEQ received one oral comment from CAB member Stan Watts. Subsequent to the CAB meeting ADEQ received written comments to the Draft Remedial Investigation report from the City of Phoenix. The following sections include the text of comments along with a response to address each comment. The written comments received are included in Attachment A.

Oral Comments

Stan Watts

1. Concerned that the RI does not address the soil exposure pathway for potential future workman onsite or potentially residential; it seems to discount the fact that there is a pathway but in my mind I see that there might be one and I guess I would be concerned that saying there's no pathway is too strong.

- ADEQ Response: There is currently a soil vapor extraction (SVE) system in operation at the southwest corner source area that is addressing the soil exposure pathway to protect human health and the environment. The system will be operated until contaminant concentrations are remediated to concentrations less than soil standards that will be protective of both residential and non-residential future land uses and that are protective of groundwater. The text has been edited to address the comment.

Written Comments

Philip McNeely with the City of Phoenix

Comments regarding the Draft RI report were received in an email from Philip McNeely with the City of Phoenix, to ADEQ dated July 24, 2014 (Attachment A) and are as follows:

1. On page 49 under section 5.2.1.2 Future City of Phoenix Needs - Phoenix sold the McMullen Valley Farm and will not be importing groundwater from this location in the future. Please delete that phrase from the last paragraph on page 49.

- ADEQ Response: The text has been edited to address the comment.

2. On the Land and Water Use Study submitted by the city in 2007, please change the contact information from Karen O'Regan to Philip McNeely.

- ADEQ Response: ADEQ has drawn a line through Karen O'Regan's name on the questionnaire response and added Philip McNeely's name with a notation stating that the edit was done as requested in the comment received July 24, 2014.

ATTACHMENT A

RESPONSIVENESS SUMMARY – WRITTEN COMMENTS

REMEDIAL INVESTIGATION REPORT
CENTRAL AND CAMELBACK WQARF REGISTRY SITE
PHOENIX, ARIZONA

The written comments are attached.

Kevin C. Snyder

From: phil.mcneely@phoenix.gov
Sent: Thursday, July 24, 2014 11:17 AM
To: Kevin C. Snyder
Subject: City of Phoenix comment on Draft RI Report for the Central and Camelback WQARF Site

Dear Mr. Snyder:

Thank you for the opportunity to comment on the Draft RI Report.

1) On page 49 under section 5.2.1.2 Future City of Phoenix Needs - Phoenix sold the McMullen Valley Farm and will not be importing groundwater from this location in the future. Please delete that phrase from the last paragraph on page 49.

2) On the Land and Water Use Study submitted by the city in 2007, please change the contact information from Karen O'Regan to Philip McNeely.

Sincerely,

Phil McNeely, Manager
Office of Environmental Programs
City of Phoenix
(602) 256-5654

APPENDIX O

REMEDIAL OBJECTIVES REPORT

REMEDIAL OBJECTIVES REPORT
CENTRAL AND CAMELBACK
WATER QUALITY ASSURANCE REVOLVING FUND
REGISTRY SITE
PHOENIX, ARIZONA

December 2, 2014

Arizona Department of Environmental Quality
Remedial Projects Unit
1110 West Washington
Phoenix, Arizona 85007

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LIST OF ABBREVIATIONS & ACRONYMS

A.A.C.	Arizona Administrative Code
ADEQ	Arizona Department of Environmental Quality
ADWR	Arizona Department of Water Resources
AMA	Active Management Area
A.R.S.	Arizona Revised Statutes
AWQS	Aquifer Water Quality Standard
C&C	Central and Camelback
COC	Chemicals of Concern
1,1-DCE	1,1-dichloroethene
ERA	Early Response Action
FS	Feasibility Study
HGC	Hydro Geo Chem, Inc.
PCE	Tetrachloroethene
RO	Remedial Objective
RI	Remedial Investigation
SCSA	Southwest Corner Source Area
SRL	Soil Remediation Level
SRP	Salt River Project
SVE	Soil Vapor Extraction
TCE	Trichloroethene
µg/L	Micrograms per liter
VOC	Volatile Organic Compound
WQARF	Water Quality Assurance Revolving Fund

1.0 INTRODUCTION

The Arizona Department of Environmental Quality (ADEQ) has prepared this Remedial Objectives (ROs) Report for the Central and Camelback (C&C) Water Quality Assurance Revolving Fund (WQARF) Registry Site (the Site) to meet requirements established under Arizona Administrative Code (A.A.C.) R18-16-406. This RO Report relies upon the Land and Water Use Study (LWUS) Report dated April 2014. The Land and Water Use Report (Use Report) is contained in Appendix K of the C&C Remedial Investigation (RI) Report prepared by Hydro Geo Chem, Inc. (HGC) for ADEQ.

ROs are established for the current and reasonably foreseeable uses of land and waters of the state that have been or are threatened to be affected by a release of a hazardous substance. Pursuant to A.A.C. R18-16-406(D), it is specified that reasonably foreseeable uses of land are those likely to occur at the site and the reasonably foreseeable uses of water are those likely to occur within one hundred years unless site-specific information suggests a longer time period is more appropriate.

Reasonably foreseeable uses are those likely to occur, based on information provided by water providers, well owners, land owners, government agencies, and others. Not every use identified in the LWUS Report will have a corresponding RO. Uses identified in the LWUS Report may or may not be addressed based on information gathered during the public involvement process, limitations of WQARF, and whether the use is reasonably foreseeable.

The ROs must be stated in the following terms: (1) protecting against the loss or impairment of each use; (2) restoring, replacing, or otherwise providing for each use; (3) when action is needed to protect or provide for the use; and (4) how long action is needed to protect or provide for the use.

The ROs chosen for the site will be evaluated in the feasibility study (FS) phase of the WQARF process. The FS will evaluate specific remedial measures and strategies required to meet ROs. A remedial strategy is one or a combination of six general strategies identified in Paragraph B.4 of Arizona Revised Statutes (A.R.S.) 49-282-06 (plume remediation, physical containment, controlled migration, source control, monitoring, and no action.) A remedial measure is a specific action taken in conjunction with remedial strategies to achieve one or more ROs (for example, well replacement, well modification, water treatment, water supply replacement, and engineering controls.)

The FS will propose at least three remedies, a reference remedy and generally two alternative remedies, capable of meeting ROs. A reference remedy is a combination of remedial strategies and measures capable of achieving ROs, and is compared with alternative remedies for purposes of selecting a proposed remedy. An alternative remedy is a combination of remedial strategies and measures different from the reference remedy; alternative remedies are compared with the reference remedy for purposes of selecting a proposed remedy. Proposed remedies will also be generally compatible with future land and water use specified by land owners and water providers.

Written comments on this RO Report were accepted for a period of 30 days following the release. No comments were received.

2.0 REMEDIAL OBJECTIVES FOR LAND USE

The Site is located in the City of Phoenix and is bounded approximately by Georgia Avenue to the north, Second Street to the east, Mariposa Street to the south and First Avenue to the west. Contaminants of concern (COCs) for the Site are tetrachloroethene (PCE), trichloroethene (TCE), and 1,1-dichloroethene (1,1-DCE). PCE was determined to be the primary contaminant, with TCE and 1,1-DCE believed to be present as breakdown byproducts of PCE. After several years of investigations, the source area of the COCs was determined to be at the former drycleaner facility at the southwest corner source area (SCSA).

Early Response Actions (ERAs) performed at the SCSA include groundwater pump and treat and soil vapor extraction (SVE). These ERAs reduced the COCs detected in the groundwater and vadose zone soil at the Site. The groundwater pump and treat system is still in operation and has removed approximately 330 pounds of volatile organic compounds (VOCs). The SVE system is also still in operation and has removed approximately 6,120 pounds of VOCs from the vadose zone soils.

Typically, ROs for land use are established for those properties known to be contaminated with hazardous substances above a Soil Remediation Level (SRL) or a risk-based level. At the SCSA, the vadose zone is currently contaminated above regulatory standards with PCE. The groundwater is currently contaminated with PCE and TCE.

2.1 Summary of Current and Reasonably Foreseeable Land Use

Generally, the Site is located in a mixed urban, commercial and residential area. Based on the current zoning maps provided by the City of Phoenix, the Site is zoned as residential (single and multiple family) and commercial (restricted, retail, intermediate, and high density). Based on future land use plans provided by the City of Phoenix, there are no immediate plans to change the land use or zoning for the areas of the City of Phoenix within and adjacent to the Site.

2.2 Soil Remedial Objective

Although the former drycleaner property is currently zoned for commercial use, reasonably foreseeable use may be residential as has been indicated by the current property owner. Therefore, residential SRLs apply and the ROs for land use at the former drycleaner property are:

> **To restore soil conditions to the remediation standards for residential use specified in A.A.C. R18-7-203 (specifically background remediation standards prescribed in R18-7-204, predetermined remediation standards prescribed in R18-7-205, or site specific remediation standards prescribed in R18-7-206) that are applicable to the hazardous substances identified (PCE) and to prevent exposure to contaminants either by direct exposure resulting from construction or industrial activities and from vapor intrusion into occupied structures which would create a health risk. This action is needed for the present time and for as long as the level of contamination in the soil threatens its use as a residential property.**

3.0 REMEDIAL OBJECTIVES FOR GROUNDWATER USE

The groundwater use portion of the Use Report is an inclusive summary of information gathered from the Arizona Department of Water Resources (ADWR), water providers, municipalities, and land owners. The water providers within the Site are the City of Phoenix and the Salt River Project (SRP).

3.1 Summary of Current and Reasonably Foreseeable Groundwater Use

The Site lies within the Phoenix Active Management Area (AMA). The Phoenix AMA was created by the Arizona Groundwater Management Code passed in 1980 and covers approximately 5,646 square miles in central Arizona. All groundwater withdrawn from any AMA must occur under a groundwater right or permit, unless groundwater is being withdrawn from an exempt well.

According to ADWR records, there are 11 non-exempt withdrawal wells in the Site; one irrigation well and ten dewatering wells. ADWR records indicate that there are no exempt withdrawal wells in the Site and there are no grandfathered rights in the Site. The City of Phoenix and SRP have service area rights in the Site, however, of the two, only SRP is currently pumping groundwater in the Site.

Questionnaires were mailed to the City of Phoenix, SRP, and land owners to obtain information regarding current and future uses of groundwater within the Site. The following paragraphs identify current and foreseeable groundwater uses within the Site and ROs.

The Site is in the City of Phoenix and the Phoenix AMA, an area where groundwater use is controlled and regulated. The City of Phoenix does not have groundwater wells within the Site but has indicated that it may install wells here in the future. Currently a portion of the groundwater within the Site is contaminated with COCs that would restrict use of the groundwater by the City of Phoenix if the city wanted to use the groundwater for municipal purposes.

SRP currently owns one well (13.5E-9.4N) adjacent to the Site boundaries. PCE was consistently detected above the Arizona Water Quality Standard (AWQS) of 5.0 micrograms per liter (µg/L) in the well. Currently the well provides water for irrigation, however, SRP anticipates that the well will transition to drinking water supply in the reasonably foreseeable future, either by directly connecting the well to municipal water distribution systems or piping to municipal water treatment plants located on the SRP canal system. Currently, the SRP well is not pumped on a regular basis and according to SRP; there are no anticipated changes in the pumping schedule.

One Camelback Inc., property owner of the southeast corner of Central Avenue and Camelback Road current has ten dewatering wells surrounding their building at the property. The dewatering wells are used to pump groundwater from the aquifer to lower the depth of groundwater to prevent groundwater from entering the building's underground garage. The pumped groundwater is treated because of the presence of petroleum hydrocarbons from an underground storage tank (UST) release in this area. The treated groundwater is released to the City of Phoenix storm water system.

3.2 Groundwater Remedial Objective

There is no current groundwater use in the Site, however, the regional aquifer is considered to be a drinking water source for the City of Phoenix and SRP. Therefore, the current and future use of the regional aquifer must be protected.

> **The remedial objective for regional groundwater at the site is to protect for the use as a groundwater supply by the City of Phoenix, and SRP. This action is currently needed and will be needed if/when groundwater use changes to municipal/drinking water. This action will be needed for as long as the level of contamination in the groundwater threatens the use of the regional groundwater for municipal/drinking water uses.**

4.0 REMEDIAL OBJECTIVES FOR SURFACE WATER USE

The surface water use portion of the Use Report indicates that surface water usage within the Site is for residential irrigation. The surface water source is outside the Site; SRP extracts groundwater for agricultural irrigation from sources outside the Site.

4.1 Summary of Current and Reasonably Foreseeable Surface Water Use

Surface water for use in the Site is provided/distributed by the Medlock Homeowners Association canal system. Water from the Medlock Homeowners Association is used for residential irrigation. This water is supplied by the SRP from sources outside the Site.

SRP does not extract groundwater from the Site. However, surface water is conveyed across the Site via lateral canal 1 11.4 27. SRP does not provide surface water to facilities/properties in the Site. Surface water from the SRP lateral canal discharges into the SRP Grand Canal south of the site which is subsequently used for agricultural irrigation outside of the site. Future SRP plans for the Grand Canal include a possible drinking water treatment plant that may be constructed at the end of the Grand Canal.

4.2 Surface Water Remedial Objective

Current surface water use in the Site is for irrigation and comes from groundwater sources outside the site; SRP's reasonably foreseeable plans are to use the surface water for drinking water purposes. However the source of this surface water is from groundwater outside the site and is discharged to concrete lined canals. Contaminated groundwater within the site does not discharge to these canals and therefore no RO is necessary. When SRP opts to construct their drinking water treatment plant, the water will be adequately protected for drinking water use.

APPENDIX A

A COMMENTS RECEIVED FROM ORAL SOLICITATIONS FOR PROPOSED REMEDIAL OBJECTIVES

As per Arizona Administrative Code (A.A.C.) R18-16-406(I), a community advisory board (CAB) meeting was held at A.L. Moore-Grimshaw Mortuaries Bethany Chapel on July 23, 2014 during the 45-day to 90-day public solicitation period for the Remedial Objectives (ROs). The purpose of the meeting was to solicit and consider proposed ROs for the Central and Camelback (C&C) Water Quality Assurance Revolving Fund (WQARF) Site. The meeting gave a public forum for oral and written comments to be submitted. Arizona Department of Environmental Quality (ADEQ) received oral proposed ROs from each of the CAB members in attendance during the meeting and none following the meeting. Oral comments received are as follows:

Mr. Lynn Morrow, Ms. Pam Perry, Mr. Stan Watts, Mr. Paul Barquinero, and Mr. Chad Johnson

1) Wanted to use the example of a groundwater RO that was presented in the Arizona Department of Environmental Quality (ADEQ) presentation, which stated: The remedial objective for regional groundwater at the site is to protect for the use of the groundwater supply by the City of Phoenix, and SRP. This action is currently needed and will be needed if/when groundwater use changes to municipal/drinking water uses. This action will be needed for as long as the level of contamination in the groundwater threatens the use of the regional groundwater for municipal/drinking water uses.

Ms. Pam Perry

2) Soil be handled properly per future development.

Mr. Stan Watts, Mr. Lynn Morrow, and Mr. Chad Johnson

3) Requested that Mr. Watts' draft RI comment with respect to soil be incorporated into the objectives for soil, which was: Concerned that the RI does not address the soil exposure pathway for potential future workman onsite or potentially residential; it seems to discount the fact that there is a pathway but in my mind I see that there might be one and I guess I would be concerned that saying there's no pathway is too strong.

Mr. Peter Zorba

4) Cleanup be conducted to a standard that allows for any and all possible future uses and result in water that is safe for people to drink.

APPENDIX B

B COMMENTS RECEIVED FROM WRITTEN SOLICITATIONS FOR PROPOSED REMEDIAL OBJECTIVES

As mentioned in Appendix A, per Arizona Administrative Code (A.A.C.) R18-16-406(I), a community advisory board meeting was held at A.L. Moore-Grimshaw Mortuaries Bethany Chapel on July 23, 2014 during the 45-day to 90-day public solicitation period for the Remedial Objectives (ROs). The purpose of the meeting was to solicit and consider proposed ROs for the Central and Camelback (C&C) Water Quality Assurance Revolving Fund (WQARF) Site. The meeting gave a public forum for written comments to be submitted. Arizona Department of Environmental Quality (ADEQ) did not receive any written proposed remedial objectives during the meeting but received one letter from the City of Phoenix with proposed ROs following the meeting.

The written comments are attached.

City of Phoenix
OFFICE OF ENVIRONMENTAL PROGRAMS

July 24, 2014

Mr. Kevin Snyder
ADEQ Project Manager
1110 West Washington Street
Phoenix, Arizona 85007

Re: Suggested Remedial Objectives for the Central and Camelback WQARF Site

Dear Mr. Snyder:

This letter is in response to ADEQ's solicitation of proposed remedial objectives for the Central and Camelback WQARF site. As you know, the city of Phoenix Water Services Department supplies potable water to approximately 1.4 million people. The sources for this water are surface water from the Salt, Verde, and Colorado rivers and groundwater from wells. Groundwater, as in the past, will continue to be a vital source to meet our future water demands. Groundwater is used to provide water on a continuous basis to isolated areas within our water service area, and for backup water supplies in the event of surface water supply cutbacks due to drought, water main breaks, or water treatment plant outages. Over the next 20 to 50 years, as service area demands increase with growing population, groundwater will be relied upon more heavily on a continuous basis to provide water supplies in our service area.

One remedial objective should be for the future long-term groundwater use. The city of Phoenix requests that the aquifer be available for drinking water use, and not cause damage or harm to our future wells, and associated recharge projects. Where groundwater treatment is necessary to protect future long-term groundwater use, the remedy should include measures to provide for the long-term operation and maintenance of reliable and cost-effective water treatment technologies.

As the entity that regulates land use for the area encompassed by this site, Phoenix requests that ADEQ select remedial objectives that are supportive of unrestricted use of the land. The Central and Camelback WQARF site includes residential, and commercial land uses. A remedial objective for the site should be to remediate soils that would allow continuation of the current land uses.

For the volatile contaminants of concern, the remediation of groundwater and soil contamination should be to levels adequate to avoid a health risk caused by soil vapor intrusion into occupied structures. The potential for vapor intrusion should be predicted through application of peer-reviewed models and validated with field data.

Thank you for consideration of these suggestions and we look forward to future discussions.

Sincerely,

Philip McNeely, Manager
Office of Environmental Programs

200 West Washington Street, 14th Floor • Phoenix, Arizona 85003 • 602-256-5669 • TTY: 602-534-5500
www.phoenix.gov