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2023 ANNUAL GROUNDWATER MONITORING REPORT

VALENCIA POWER PLANT
NOGALES, ARIZONA

by Haley & Aldrich, Inc.
Tucson, Arizona

for UNS Electric, Inc.
Nogales, Arizona

April 2023
File No. 128494-007

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1. Introduction

Haley & Aldrich, Inc. (Haley & Aldrich) prepared this Groundwater Monitoring Report for UNS Electric, Inc. (UNSE) for work performed at the Valencia Power Plant (VPP or Site) located at 1741 North Grand Avenue in Nogales, Arizona (Figure 1). The VPP has operated as a natural gas and diesel-fueled power generation facility since the late 1940s.

This report discusses the results of groundwater monitoring and sampling activities conducted at the Site during July 2022 and January 2023. The groundwater monitoring activities described in this report were conducted in general accordance with the 2003 Sampling and Analysis Plan, Revision 2 (SAP; Brown and Caldwell [BC], 2003a); a letter to the Arizona Department of Environmental Quality (ADEQ) dated 17 June 2011 justifying the use of the HydraSleeve™ sampling device for collecting groundwater samples at this stage of the project; the 2003 Quality Assurance Project Plan, Revision 3 (QAPP; BC, 2003b); and the 2015 Addendum to Work Plan to Implement Recommended Remedial Alternatives for Impacted Groundwater.

2. Background

2.1 SITE DESCRIPTION

The VPP is an approximately 5-acre site located on the west side of U.S. Highway 89/Grand Avenue in Nogales, Arizona (Figure 1). The Site lies within Section 5 of Township 24 South, Range 14 East, approximately 250 feet west of the Nogales Wash. The VPP is bounded by Mastick Way to the west, U.S. Highway 89/North Grand Avenue to the east, White Park Drive to the south, and the Horne Ford automobile dealership to the north. The Site and surrounding areas are generally composed of light industry and retail sales facilities.

The VPP was constructed in 1949 to provide electric power to the Nogales area. The Site currently operates as a peak demand power generating facility. The western portion of the Site is used for equipment storage and is situated, topographically, higher than the rest of the plant. The eastern 3 acres of the Site include a former maintenance building (formerly housing diesel-powered electric generators), an office and parts warehouse, a storage building, self-contained turbine generators, an electric substation, aboveground fuel storage tanks, and associated structures (Figure 2). Three auto fuel underground storage tanks, formerly located at the Site, were permanently closed in December 2006. The septic system associated with the maintenance building was permanently closed in June 2014. Closure activities included removal of sewage from the facility, disconnection and removal of electrical and mechanical components, removal of the top of the tank, punching a hole in the bottom of the tank, and filling the tank with sand.

Currently, the eastern part of the VPP property is relatively flat, with surface runoff flowing generally to the west and north. Prior to the late 1980s, the ground surface of the eastern part of the Site was approximately 3 feet lower than its present elevation. The Site sloped to the west toward the office and parts warehouse building. During 1989, in response to repeated flooding, the Site was filled and graded to raise the ground surface approximately 3 feet, while maintaining a slope toward the unnamed drainage channel located west of the office and parts warehouse (Bill Cox, personal communication, 2002).

A topographic ridge is present along the western boundary of the Site. This ridge is approximately 20 to 30 feet high and extends north along the western edge of the two automobile dealership properties. The elevation of the ridge decreases to the north. The eastern slope of the ridge has been cut and filled to create a succession of terraces to accommodate development.

2.2 HISTORICAL SITE ASSESSMENTS AND RESULTS

Between 1993 and 2003, Citizens Utilities Company (Citizens), the former owner of the VPP, conducted soil and groundwater investigations, source control, and free product removal activities to address releases of petroleum hydrocarbons, volatile organic compounds (VOC), and hexavalent chromium at the Site. The historical corrective action activities conducted by Citizens are described in the following reports which were previously submitted to the ADEQ:

- “Valencia Power Plant Soil Characterization Report,” prepared for Citizens Communications Company (BC, 2003c); and
- “Valencia Power Plant Groundwater Characterization Report,” prepared for Citizens Communications Company (BC, 2003d).

From 2005 through 2011, monitoring was conducted on a semi-annual basis during January and July. However, monitoring was reduced to an annual basis in 2012. In July 2015, mid-year monitoring resumed. In 2021, with approval from ADEQ, groundwater monitoring network optimization was implemented at the Site, which removed six wells from the monitoring network for dissolved chromium (MW-5, MW-6, MW-14, MW-15, MW-23, and MW-24) and seven wells from the monitoring network for VOCs (MW-1, MW-3, MW-5, MW-6, MW-18, MW-20, and MW-21).

In 2022, Haley & Aldrich prepared the *"2022 Project Update Report"* (Haley & Aldrich, 2022) to provide UNSE and ADEQ Voluntary Remediation Program (VRP) with a summary of work completed to further evaluate groundwater conditions and remedial options at the VPP for dissolved chromium and tetrachloroethylene (PCE). The evaluation included trend analyses and a microbiological conditions review. Monitored natural attenuation (MNA) continues to be the recommend remedy for the dissolved chromium and PCE given the very low concentrations, Site challenges (i.e., hydrogeologic conditions, site access, etc.), and the cost.

A detailed summary of the Site history, including Site assessments, monitoring, and analytical results, is provided in Appendix A.

2.3 REGIONAL AND SITE GEOLOGY AND HYDROGEOLOGY

Geologically, the VPP is located within the Basin and Range Geomorphic Province of Southern Arizona (Arizona Geological Survey, 1995). Nogales lies in the southern Santa Cruz River Valley, which comprises a large part of the Santa Cruz Active Management Area, with regional groundwater flow is to the north (Arizona Department of Water Resources [ADWR], 1999). Locally, the Site is situated in an area that is characterized by Quaternary alluvial deposits (referred to as the Younger Alluvium) that directly overlie the Tertiary Nogales Formation (Halpenny, 1964). Groundwater flow within the Tertiary Nogales Formation is reported to occur primarily in fracture zones and unconsolidated layers within the formation.

The Nogales Formation forms the topographic ridge along the western boundary of the Site. In areas where it exists, the Younger Alluvium ranges from a few feet to approximately 40 feet in thickness. Structural contour maps indicate the presence of a paleo-channel, or ancient drainage, on the Nogales Formation that enters the Site from the south and is constrained by Nogales Formation hills or ridges and their extension in the subsurface along the southern and eastern portion of the Site. Groundwater elevation contour maps depict two distinct flow directions in the southern part of the Site. Near the southeast corner, the groundwater flow direction is toward the northwest, and generally moves downgradient within the Nogales Formation. In contrast, groundwater flow from the southwest corner of the Site is toward the northeast and also moves downgradient within the Nogales Formation. The two distinct flow paths converge near the center of the Site, resulting in a relatively flat northward flow direction at the northern boundary of the Site that correlates to the regional groundwater system, which generally follows the Nogales Wash and the Santa Cruz River (ADWR, 1999). Beyond the northern Site boundary, groundwater locally flows to the east and northeast towards the Nogales Wash.

A detailed summary of the regional and site geology and hydrogeology is provided in Appendix B.

3. Groundwater Monitoring Program

The overall objectives of the monitoring program are to:

- Monitor hydrogeologic characteristics;
- Monitor plume migration, expansion, or reduction;
- Monitor trends in contaminants of concern;
- Monitor the progress of MNA; and
- Document conditions for the ADEQ VRP.

3.1 MONITORING NETWORK

A total of 23 monitoring wells have been installed on the VPP property, three wells have been installed on the Horne Ford dealership property, and one well has been installed on the Cropper's Chevrolet dealership property (Figure 2). All wells monitor the uppermost unconfined aquifer.

During October 2005, two monitoring wells (MW-12 and MW-13), located in the former radiator area, were abandoned due to construction of a turbine in the area (BC, 2007).

Monitoring well MW-5 was covered with fill material and damaged as a result of construction activities of power generation equipment at the Site in 2006. The well was reconstructed prior to the January 2009 sampling event (BC, 2009).

Two wells (MW-25 and MW-26) were installed in May 2008 (Table 1). Well MW-25 was installed north of the Site in the Horne Ford parking area to monitor for the potential downgradient migration of hexavalent chromium contaminated groundwater. Well MW-26 was installed to the west of MW-17, MW-19, and MW-4 to monitor upgradient of the area impacted by VOC-contaminated groundwater. The installation of MW-25 and MW-26 is documented in the July 2008 Groundwater Monitoring Report (BC, 2008).

In October 2010, one monitoring well (MW-27) was installed in the southwestern portion of the Site, to delineate potential upgradient VOC groundwater contamination that may be migrating onto the Site from the south or southwest. The method of installation for MW-27 was described in Section 1.4.1 of the July 2010 Groundwater Monitoring Report (BC, 2010).

Screened intervals for monitoring wells MW-1 through MW-27 were compared with groundwater levels, and the top of the Nogales Formation, in order to classify each well according to the hydrostratigraphic unit of which they are representative. Classifications for each of the monitoring wells are presented in Figure 2 and Table 1. This classification allows the interpretation of hydrogeologic data for specific hydrostratigraphic units.

During groundwater monitoring activities conducted on 8 January 2019, it was observed that the top of the polyvinyl chloride well casing of MW-7 had been crushed. The monitoring well was unable to be repaired, and was abandoned in July 2020.

3.2 GROUNDWATER MONITORING PLANS

The July 2022 and January 2023 sample collection plans were based on a review of historical groundwater data and provides information to delineate and monitor changes in distribution and transport of the constituents of concern at the Site. In general, the selection of wells for proposed sampling and analysis were based on the following criteria:

- The presence of an analyte of concern at concentrations exceeding its Aquifer Water Quality Standard (AWQS) during the last two rounds of sampling;
- A well is located within a known source area of contamination;
- A well is located along a groundwater flow path which intersects a known source area; and
- Water quality data from the well could assist with upgradient or downgradient plume delineation.

Haley & Aldrich collected samples on 20 July 2022 and 17 and 18 January 2023. A HydraSleeve sampling device was used to collect samples. Water quality parameters including pH, electrical conductivity, temperature, dissolved oxygen, and the oxidation reduction potential were measured during sample collection and presented in Table 2 for the sampling completed in July 2022 and January 2023. Field logs for the July 2022 and January 2023 sampling events are provided in Appendix C.

Following collection, the groundwater samples were labeled, packaged on ice, and transported to Pace Analytical in Phoenix, Arizona certification number: AZ-0014, according to the procedures described in the SAP (BC, 2003a).

In accordance with the January 2023 Sampling Plan, the samples were analyzed for the following constituents:

- Dissolved chromium using U.S. Environmental Protection Agency (USEPA) Test Method 200.8; or
- Target VOCs (tetrachloroethylene [PCE], trichloroethylene [TCE], cis-1,2–dichloroethane [cis-1,2-DCE], and vinyl chloride [VC]) using USEPA Test Method 8260D.

A summary of the July 2022 and January 2023 groundwater sampling plans are provided below.

Well ID	Parameters Monitored	
	July 2022	**January 2023**
MW-1	Not monitored	Water level only
MW-2	Water level only	Water level **Dissolved chromium**
MW-3	Not monitored	Water level only
MW-4	Not monitored	Water Level **Target VOCs**
MW-5	Not monitored	Water level only
MW-6	Not monitored	Water level only
MW-8	Water level only	Water level **Dissolved chromium**

Well ID	Parameters Monitored	
	July 2022	January 2023
MW-9	Not monitored	Water level **Target VOCs**
MW-10	Water level only	Water level **Target VOCs**
MW-11	Not monitored	Water level **Target VOCs**
MW-14	Water level only	Water level only
MW-15	Water level only	Water level only
MW-16	Not monitored	Water level only **Target VOCs**
MW-17	Not monitored	Water level **Target VOCs**
MW-18	Water level only	Water level **Dissolved chromium**
MW-19	Not monitored	Water level **Target VOCs**
MW-20	Water level **Dissolved chromium**	Water level **Dissolved chromium**
MW-21	Not monitored	Water level only
MW-22	Water level **Dissolved chromium**	Water level **Dissolved chromium**
MW-23	Water level only	Water level only
MW-24	Not monitored	Water level only
MW-25	Water level **Dissolved chromium**	Water level **Dissolved chromium**
MW-26	Not monitored	Water level **Target VOCs**
MW-27	Not monitored	Water level **Target VOCs**

Notes:

Bold *text = Groundwater sample is collected for either dissolved chromium or target volatile organic compounds (VOC)*

Target VOCs = tetrachloroethylene, trichloroethene, cis-1,2-dichloroethene, and vinyl chloride

3.3 QUALITY ASSURANCE / QUALITY CONTROL

The quality assurance/quality control (QA/QC) procedures for sample collection and analyses are utilized as part of the process that evaluates data quality indicators (DQI), including precision, accuracy, representativeness, completeness, and comparability. The DQIs are, in turn, used to ensure that established data quality objectives (DQO) are achieved. The establishment of DQOs is dependent on the intended uses of the data and is based on the premise that the ultimate use(s) of a particular data set should dictate the quantity and quality of the data as described in “Guidance on Systematic Planning

Using the Data Quality Objectives Process" (USEPA, 2006). The QA/QC procedures used by Haley & Aldrich during the collection and analysis of groundwater samples at the Site are described in the QAPP (BC, 2003b).

The results presented in the analytical reports for July 2022 and January 2023 were found to comply with the DQOs for the project with overall completeness considered acceptable if at least 90 percent of the data are determined to be valid. Based on the data validation findings described above, all the sample analytical results are acceptable for use in meeting the project objectives.

A detailed summary of the QA/QC protocols and evaluation of the July 2022 and January 2023 data is provided in Appendix D.

4. Groundwater Elevations

Depths to groundwater have been measured in monitoring wells at the Site since 1994. This section presents groundwater level measurements from a limited number of monitoring wells collected in July 2022 from the area associated with the dissolved chromium plume and the Site-wide round of measurements collected in January 2023. Groundwater measurements were collected using the procedures described in the SAP (BC, 2003a). Depths to groundwater and product, if any, were measured in the wells using an electronic oil/water interface sounder.

Based on measured depth to water during the January 2023 event, groundwater is present at approximately 11.23 to 26.93 feet below grade. The depth to water measurements and calculated groundwater elevations are presented in Table 3.

A groundwater elevation contour map prepared using this data is presented in Figure 3. A cumulative record of groundwater elevations measured in each of the wells since 1994, including the limited number of measurements collected in July 2022, are provided in Appendix E. Well hydrographs depicting seasonal and cumulative changes in groundwater surface elevations from the well installation dated through January 2023, are provided in Appendix F.

The general trend of groundwater elevation beneath the Site was relatively flat up until January 2012, followed by a generally increasing trend in elevation in most wells until January 2015. The general groundwater elevation trend decreased from January 2015 to January 2021 an average of 4.49 feet but has since increased an average of 4.30 feet from January 2021 to January 2023.

A seasonal pattern has been observed in the hydrographs where groundwater elevations increase during the winter months, and decrease during the summer months, indicating the local aquifer is sensitive to the amount of local precipitation.

In January 2021, unlike previous monitoring events, water levels did not increase following the July 2020 monitoring event, which does not conform to the observed cyclical groundwater elevations observed at the Site. Instead, a decrease in groundwater elevations averaging 3.61 feet was observed at the Site between January 2020 and January 2021, with the decrease between January 2015 and January 2021 averaging 4.49 feet. The groundwater elevations observed in January 2021 generally relate to elevations noted in July 2011, prior to the general increasing groundwater elevation trend at the Site. Data obtained from the National Oceanic and Atmospheric Administrations (NOAA) weather stations located near the Site also presented annual rainfall totals in 2020 that were comparable to rainfall observed in 2011 (NOAA, 2021). This lack of rainfall in the region documented by NOAA supports the absence of the seasonally fluctuating water levels normally observed at the Site.

The seasonal pattern of groundwater elevation fluctuations returned in January 2022 and was confirmed by measurements collected in July 2022 and January 2023 from monitoring wells located at the Site, as shown in the Appendix F hydrographs. An increase in precipitation since 2021 has also resulted in an increase in groundwater elevations averaging 4.30 feet from January 2021 to January 2023.

The horizontal hydraulic gradients measured during this reporting period ranged from a minimum of 0.0218 feet per foot (ft/ft) from MW-14 to MW-22 in the north-central part of the Site, to a maximum of 0.0831 ft/ft from MW-10 to MW-5 in the southeast corner of the Site. The vertical hydraulic gradient in the southwest part of the Site was approximately 0.0449 ft/ft measured from MW-26 to MW-16. As shown on Figure 3, groundwater from the southeast corner of the Site flows toward the northwest into the deeper alluvium in the central part of the Site. This pattern is indicative of groundwater flowing from the upper portions of saturated bedrock into portions of the paleo-channel where more conductive alluvium is present. As discussed previously, the groundwater flow in the southwestern portion of the Site flows northeast along the general alignment of the surface drainage. Once in the alluvium, and in areas with less topographic slope, the groundwater gradient shallows and continues a trend to the north-northeast across the Site, following the paleo-channel and modern drainage towards the Nogales Wash.

The pattern of fluctuations in MW-18 has differed from other wells at the Site during many historical monitoring events, with relatively minor fluctuations in water level elevation (Appendix F). A possible reason for the pattern of fluctuations is the proximity to the Nogales Wash east of the Site, which may hydraulically influence water levels in alluvium at MW-18 more than other wells at the Site. The water levels in MW-18 appear to be experiencing fluctuations similar to other wells on the Site since February 2014; however, the fluctuations tend to be less dramatic than other wells at the Site.

5. Groundwater Monitoring Results

A summary of the analytes detected in groundwater samples is provided in Tables 4 and 5 and illustrated in Figures 4 and 5. Cumulative records of arsenic, chromium, and VOCs detected in groundwater samples collected at the Site since 1994 are provided in Appendix G (arsenic and chromium) and Appendix H (VOCs). Copies of the laboratory report and chain-of-custody records for the July 2022 and January 2023 monitoring event are provided in Appendix I.

5.1 CHROMIUM MONITORING

5.1.1 Chromium Results

During the July 2022 limited monitoring event, groundwater samples collected from MW-20, MW-22, and MW-25 were analyzed for dissolved chromium (Table 4). Groundwater collected from wells MW-20 and MW-22 contained dissolved chromium at concentrations of 0.055 milligrams per liter (mg/L) and 0.10 mg/L, respectively, below the AWQS of 0.1 mg/L. Groundwater collected from MW-25 contained dissolved chromium at a concentration of 0.11 mg/L ,slightly above the AWQS.

During the January 2023 monitoring event, groundwater samples were collected from six wells for dissolved chromium analysis (Table 5 and Figure 4). Dissolved chromium was not detected in groundwater collected from well MW-02 and was detected in groundwater collected from wells MW-8, MW-18, MW-20, and MW-22 at concentrations below the AWQS of 0.1 mg/L. Chromium was detected in MW-25 at a concentration of 0.12 mg/L, slightly above the AWQS. Dissolved chromium was detected in both the primary and duplicate samples at MW-25 at a concentration of 0.12 mg/L.

5.1.2 Chromium Trends

Historically, chromium has been detected at concentrations exceeding the AWQS of 0.1 mg/L in one or more samples from the following wells: MW-2, MW-7, MW-8, MW-12, MW-14, MW-15, MW-22, MW-25, and the Northwest Production Well. Currently, concentrations of dissolved chromium have decreased to below the AWQS for all wells except MW-25. Chromium concentrations in MW-20 appear to be stable and have remained below the AWQS. Chromium concentrations in MW-22 remained below the AWQS until January 2022 but has decreased back below the AWQS in January 2023. Concentrations of dissolved chromium in MW-25 fluctuate slightly with groundwater elevations with an overall decreasing trend since 2014. A graph of historical chromium concentrations in MW-20, MW-22, and MW-25 since 2007 is provided as Appendix J.

The estimated mass of hexavalent chromium in groundwater has been calculated estimating that the plume exists entirely within the saturated portion of the Nogales Formation and is approximately 110 feet long and 50 feet wide (5,500 square feet). Using the information in the table below, the estimated total mass of hexavalent chromium in groundwater is approximately 0.25 pounds. To reach the AWQS, a reduction of approximately 17 percent in hexavalent chromium in groundwater is required. In comparison, the estimated mass of hexavalent chromium was evaluated in 2012 at approximately 1.1 pounds (BC, 2012), indicating a nearly 77 percent decrease is the mass of hexavalent chromium in groundwater at the Site within a period of approximately 11 years.

Estimated Mass of Hexavalent Chromium				
Sample Date	**Concentration[1] (µg/L)**	**Mass[2] (pounds)**	**Mass AWQS[3] (pounds)**	**Reduction[4] Mass (pounds)**
1/8/2020	177	0.36	0.21	0.16
1/13/2021	156	0.32		0.12
1/19/2022	140	0.29		0.08
1/18/2023	120	0.25		0.04

Notes:

[1] Concentrations of Cr^{+6} in the groundwater sample collected from MW-25. For the purpose of this report, Haley & Aldrich assumes that the concentration of Cr^{+6} in the impacted volume of groundwater is equal to the concentration of dissolved Cr^{+6} in the groundwater samples collected from MW-25.

[2] Conversion of dissolved Cr^{+6} concentration in µg/L to mass of Cr^{+6} in pounds for the plume is calculated using the following equation and assumption:

- Cr^{+6} Mass (pounds) = Cr+6 Concentration (µg/L) x CF

- CF = 1 pounds x 33,000 feet^3 x 28.32 Liter / 4.54 x 10^8 µg/L

- The conversion factor assumes there is one plume that has a saturated thickness of 20 feet and is 5,500 feet^2. The porosity is assumed to be 30 percent.

[3] Total mass of dissolved Cr+6 in the impacted volume of groundwater, if the dissolved Cr+6 concentration was equal to its AWQS of 100 µg/L.

[4] Total Mass of dissolved Cr+6 requiring cleanup in order to achieve AWQS for dissolved Cr+6.

AWQS = Arizona Water Quality Standard

CF = conversion factor

µg/L = micrograms per liter

5.1.2.1 Trend Analysis

For wells MW-22 and MW-25, the monitoring data for dissolved chromium were limited from the highest detected concentration to the most current analytical result to determine if a monotonic trend of the dissolved chromium concentration exists in each of the three wells. The datasets were further refined to consolidate primary and duplicate results by using only the higher detected concentration of the two for a conservative estimate.

The Mann-Kendall test was conducted on each data set using ProUCL version 5.1.002 (USEPA, 2016) to determine significant trends for chromium at monitoring wells MW-22 and MW-25. The Mann-Kendall test is a non-parametric test that can provide an indication of whether a trend exists and whether the trend is positive or negative.

The ProUCL output demonstrated statistically significant evidence of a decreasing trend of dissolved chromium concentrations in groundwater collected from well MW-25 at the significance level of 0.05, while there is statistically significant evidence of an increasing trend in dissolved chromium concentrations in groundwater collected from well MW-22 at the significance level of 0.05 as summarized in the table below.

Additionally, attenuation of chromium concentrations in groundwater collected at each well was estimated using Ordinary Least Squares (OLS) regression trend lines. The trend lines were plotted in ProUCL with the detected chromium concentrations, and their intercepts and slopes were used, from

the start of the downward trend, to calculate the estimated date of compliance with ADEQ water quality standard, as summarized below.

Location	Mann-Kendall Trend Analysis Conclusion	OLS Regression		Estimated Date of Compliance with ADEQ AWQS (OLS Regression)
		Intercept	Slope	
MW-22	Statistically significant evidence of an increasing trend at the specified level of significance	NA	NA	NA
MW-25	Statistically significant evidence of a decreasing trend at the specified level of significance	0.2358	-2.0E-05	9/9/2028

Notes:
ADEQ = Arizona Department of Environmental Quality
AWQS = Aquifer Water Quality Standard
NA = not applicable
OLS = Ordinary Least Squares

These analyses and trends indicate that MW-25 may achieve compliance with the AWQS in as few as 5 years, while the concentration of chromium at MW-22 is expected to increase slightly before peaking and slowly decreasing over a period of years. An analysis of chromium compliance with the AWQS at MW-22 will be completed once concentrations have peaked and a downward trend has been observed.

In summary, the residual dissolved chromium remaining in groundwater downgradient of the Site boundary exceeds the AWQS of 0.1 mg/L by 0.02 mg/L and is slowly decreasing in mass and moving downgradient to the northeast as indicated by the decreasing trend in MW-25 and increasing trend in MW-22. There is no ongoing upgradient source contributing mass to the plume. There are also no sensitive downgradient receptors that will be impacted by the residual dissolved chromium plume.

5.1.3 Chromium Plume Assessment

The exact location of the original source of hexavalent chromium in groundwater at the Site was never documented. Historically, facilities that operated cooling towers used chromium containing products to inhibit the growth of algae on surfaces within the towers. A review of historical chromium concentrations in groundwater at the Site indicates elevated concentrations of chromium were initially detected in the area of MW-2, MW-7, and MW-14, near the central portion of the Site where cooling towers had been located.

Based on the temporal distribution of dissolved chromium in groundwater over the last two decades, the only portion of the plume that currently exceeds the AWQS has moved from the north-central portion of the Site and is currently located in the area of MW-25 and MW-22. As summarized in Section 5.1.2, MW-22 is directly downgradient of MW-25 and chromium concentrations in all other wells located on-Site are currently below the AWQS, indicating that the limited chromium plume exceeding the AWQS is slowly moving off-Site and downgradient over time and is not being fed with an ongoing source. Average groundwater velocities suggest the chromium plume will travel approximately 30 feet downgradient over the next 10 years, remaining west of North Grand Avenue, beneath the Ford Dealership parking lot.

An evaluation of the Site status and accumulated data through January 2023 indicates that the water quality in most wells is below the AWQS, except for selected wells in specific locations. MNA remains the recommended remedy for the dissolved chromium plume.

5.2 VOC MONITORING

5.2.1 VOC Results

Groundwater samples collected from nine wells during the January 2023 monitoring event were analyzed for target VOCs: PCE, TCE, cis-1,2–DCE, and VC. The analytical results are presented in Table 5 and Figure 5. None of the groundwater samples collected in July 2022 were analyzed for VOCs.

VOCs were not detected above the laboratory method detection limit (MDL) in groundwater samples collected from wells MW-11, MW-16, or MW-26. One or more target VOCs were detected in groundwater collected from wells MW-9, MW-10, MW-19 and MW-27 at concentrations below the respective AWQS.

PCE was detected at concentrations that exceeded the AWQS of 5 micrograms per liter (µg/L) in groundwater collected from the following wells:

- Well MW-17 (16.9 µg/L); and
- Well MW-4 (10.0 µg/L primary and 10.0 µg/L duplicate)

TCE was detected in groundwater collected at MW-17 at a concentration of 1.5 µg/L, below the AWQS of 5 µg/L. TCE has not been detected at concentrations above the AWQS in groundwater collected at MW-17 since July 2010.

The compound cis-1,2-DCE was detected in groundwater collected from MW-9 at a concentration of 0.82 µg/L, below the AWQS of 70 µg/L.

VC was not detected in groundwater at concentrations above the laboratory MDL of 0.20 µg/L in January 2023 at any location. VC has not been detected in groundwater at concentrations above the laboratory MDL since January 2015 at any locations with the exception of MW-9, where VC has been detected intermittently below the AWQS since 1996.

5.2.2 VOC Trends

The concentrations and horizontal extent of historical VOCs concentrations, as compared to the January 2023 results, are discussed below:

- The concentration of PCE in groundwater collected from monitoring well MW-4 peaked in February 2014, at a concentration of 148 µg/L. PCE concentrations have been steadily decreasing since 2014 and is currently 10 µg/L at this well.
- Historical concentrations of PCE in groundwater collected from monitoring well MW-17 consistently increased from 2 µg/L in January 2005, to a maximum of 87 µg/L detected in July 2011. Since the July 2011 event, PCE concentrations have generally decreased, with the lowest concentration recorded at 16.9 µg/L in January 2023. PCE concentrations in groundwater

collected at MW-17 continue to be much lower than the peak concentration of July 2011 and appear to be on an overall decreasing trend.

- Since first detected in 2009, PCE concentrations in groundwater collected from MW-19 have fluctuated. Since July 2011, PCE concentrations at MW-19 have ranged from a high of 27.8 µg/L to a low of 2.6 µg/L in January 2016. Since January 2016, PCE concentrations have been below the AWQS with a concentration of 3.6 µg/L reported in January 2023.
- PCE was not detected above the laboratory MDL in groundwater collected from downgradient wells MW-16 and MW-11 in January 2023 indicating the PCE plume is not migrating downgradient of MW-17.
- Detections of TCE exceeding the AWQS were historically confined to MW-21, with the exception of the primary and duplicate groundwater samples collected from MW-17 in January and July 2010. For the January 2023 monitoring event, TCE concentrations were below the AWQS or below the reporting limit at each of the wells sampled. Monitoring for TCE will continue at the Site to provide additional information regarding trends.

A graph of historical PCE concentrations in MW-4, MW-17, and MW-19 since 2007 is provided as Appendix K. A cumulative record of PCE and TCE detected in groundwater at historically impacted wells at the Site (MW-1, MW-4, MW-8. MW-9, MW-10, MW-11, MW-15, MW-17, MW-19) since 1996 are provided in Appendix L.

5.2.2.1 Trend Analysis

For wells MW-04 and MW-17, the monitoring well data for PCE were limited from the highest detected concentration to the most current analytical data to determine if a monotonic trend of the PCE concentration exists in each of the two wells. The datasets were further refined to consolidate primary and duplicate results by using only the higher detected concentration of the two for a conservative estimate.

The Mann-Kendall test was conducted on each data set using ProUCL to determine significant trends. The Mann-Kendall test is a non-parametric test that can provide an indication of whether a trend exists and whether the trend is positive or negative. The ProUCL output demonstrated statistically significant evidence of a decreasing trend of PCE concentrations in groundwater collected from wells MW-4 and MW-17 at the significance level of 0.05.

Additionally, attenuation in the wells was estimated using OLS regression and trend lines. The trend lines were plotted in ProUCL version 5.1.002 with the detected PCE concentrations, and their intercepts and slopes were used, from the start of the downward trend, to calculate the estimated date of compliance with ADEQ's water quality standard as summarized below.

Location	Mann-Kendall Trend Analysis Conclusion	OLS Regression		Estimated Date of Compliance with ADEQ AWQS (OLS Regression)
		Intercept	Slope	
MW-04	Statistically significant evidence of a decreasing trend at the specified level of significance	120.3567	-0.0372	8/24/2022
MW-17	Statistically significant evidence of a decreasing trend at the specified level of significance	69.4025	-0.0136	7/6/2024

Notes:
ADEQ = Arizona Department of Environmental Quality
AWQS = Aquifer Water Quality Standard
OLS = Ordinary Least Squares

These trend lines indicate that PCE at the Site may achieve compliance with the AWQS by 2024. These trend analyses are completed using linear regression, and as such, the straight trend line for PCE at MW-4 currently drops below observed concentrations, which results in an estimated compliance date in the past. The estimated date of compliance with the AWQS will be updated each year following the January sampling event.

In summary, the residual PCE remaining in groundwater exceeding the AWQS continues to be centered around MW-4 and MW-17 and is remaining spatially stable, and the concentration trends are decreasing in both wells. The trend analysis indicates the concentrations of PCE in both wells may reach compliance with the AWQS in the near future and annual monitoring will continue to verify the trend and update the analysis periodically.

5.2.3 VOC Plume Assessment

- The extensive direct-push soil boring data collected in June 2010, and remediation well installation data collected in September 2011 near MW-4 and MW-17, did not locate an on-Site source of PCE.
- The distribution and concentrations of chlorinated degradation products indicate degradation of PCE and TCE occurs at a relatively slow rate at the Site. Historical detections of cis-1,2-DCE were recorded in seven wells, and were most persistent in MW-9 and MW-21 (Appendix H). Recently, low concentrations have also been detected in wells MW-9 and MW-17. In January 2023, cis-1,2-DCE was only detected in well MW-9 at a concentration of 0.82 µg/L, which is significantly below the established AWQS of 70 µg/L. The longest record of degradation products is generally associated with wells that had corresponding detections of PCE or TCE dating to 2002. This association suggests that dechlorination is occurring, but at a relatively slow rate.
- The occurrence of higher groundwater elevations in MW-4 and MW-17 during January 2023 coincided with decreasing concentration trends of PCE in both wells and confirms the findings of the 2010 direct-push investigation. If a source existed in the vadose zone, the PCE concentrations in groundwater may be fluctuating in response to the saturated soils. Despite the seasonal fluctuations in PCE concentrations, the overall trend of PCE in groundwater is decreasing and the plume extent has remained stable.

- The inferred groundwater flow direction in the turbine area is not compatible to a potential source area near MW-4 or MW-9, with transport towards MW-17. The localized movement of groundwater through bedrock may be complicated and not directly coincident with the groundwater flow pattern. In addition, the elevations of groundwater have been higher with a greater fluctuation during 2006 through 2014 compared with preceding years.
- It should be noted that PCE has historically migrated onto the Site from off-site, upgradient sources in the area of MW-3, MW-10, and MW-27, and that detectable concentrations of PCE were present in the sample collected from MW-27 in January 2023 at a concentration of 0.78 µg/L. However, these sources are not expected to contribute to the PCE exceedances observed at the Site.
- The incorporation of MW-27 into the monitoring program in 2011, and the continued monitoring of MW-26 for PCE, provides additional information regarding a potential upgradient source(s). PCE concentrations at MW-26 and MW-27 have been detected intermittently above the laboratory MDL, but have not exceeded the AWQS.

An evaluation of the Site status and accumulated data through January 2023 indicates that the water quality in most wells is below the AWQS, except for selected wells in specific locations. MNA remains the recommended remedy for the PCE plume.

6. Recommendations

Groundwater monitoring activities will continue at the Site on a semi-annual schedule. The timing of the monitoring events has been selected to correlate with the seasonal highs and lows of groundwater levels. The seasonal high generally occurs between October and January, and the seasonal low generally occurs between May and July. The next limited Semi-Annual Groundwater Monitoring event has been scheduled for July 2023, and the comprehensive Annual Groundwater Monitoring event has been scheduled for January 2024. Groundwater sampling and analysis will be conducted on a subset of wells selected to provide information to delineate and monitor changes in the fate and transport of the constituents of concern in groundwater.

During sampling events, groundwater levels will continue to be monitored in wells at the Site in accordance with the sampling plans provided in Section 3.2.

There are no proposed changes for the July 2023 and January 2024 sampling plans; therefore, the well network and parameters to be monitored will be the same as the July 2022 and January 2023 plans, as presented in Section 3.2.

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TABLES

TABLE 1
GROUNDWATER MONITORING WELL CONSTRUCTION INFORMATION
VALENCIA POWER PLANT
NOGALES, ARIZONA

Well No.	ADWR Registration No.	Cadastral Location	Date Installed	Total Depth (feet)	Casing Diameter (inches)	Screened Interval (feet)	Screened Formation	Casing Elevation (feet)
MW-1[a]	55-540057	D(24-14)5dca	8/12/1993	35	2	13 to 33	Nogales	3,750.46
MW-2	55-540058	D(24-14)5dca	8/12/1993	38	2	20 to 35	Nogales	3,751.48
MW-3[a]	55-540059	D(24-14)5dca	8/12/1993	39	2	24 to 39	Nogales	3,752.25
MW-4[b]	55-542842	D(24-14)5dcd	4/13/1994	38	2	19.5 to 34.5	Nogales	3,751.53
MW-5[1] [c]	55-542843	D(24-14)5dcd	4/13/1994	36	2	19.5 to 34.5	Nogales & Alluvium	3,751.02
MW-5[1] [c]	55-542843	D(24-14)5dcd	1/14/2009	35	2	15 to 35	Nogales & Alluvium	3,754.26
MW-6[b]	55-542844	D(24-14)5dcd	4/13/1994	36	2	19.5 to 34.5	Nogales	3,751.71
MW-7[d][f]	55-542845	D(24-14)5dcd	4/22/1994	36	2	19.5 to 34.5	Nogales & Alluvium	3,751.28
MW-8[d]	55-542845	D(24-14)5dcd	4/22/1994	36	2	19.5 to 34.5	Nogales & Alluvium	3,751.13
MW-9	55-557427	D(24-14)5dcd	6/14/1996	35	4	20 to 35	Nogales & Alluvium	3,750.91
MW-10	55-569357	D(24-14)5dcd	8/7/1998	40	2	20 to 40	Nogales	3,755.75
MW-11[e]	55-569356	D(24-14)5dcd	8/6/1998	35	2	20 to 35	Alluvium	3,750.92
MW-12[2]	55-569354	D(24-14)5dcd	8/4/1998	35	2	20 to 35	Nogales	3,748.55
MW-13[2]	55-569352	D(24-14)5dcd	8/3/1998	35	2	20 to 35	Nogales	3,748.35
MW-14	55-569353	D(24-14)5dcd	8/3/1998	35	2	20 to 35	Nogales	3,751.69
MW-15[e]	55-569355	D(24-14)5dcd	8/5/1998	35	2	20 to 35	Alluvium	3,751.57
MW-16	55-588286	D(24-14)5dcd	9/24/2001	35	2	20 to 35	Alluvium	3,750.69
MW-17[f]	55-588287	D(24-14)5dcd	9/25/2001	35	2	20 to 35	Nogales	3,750.52
MW-18	55-588285	D(24-14)5dcd	9/25/2001	35	2	20 to 35	Alluvium	3,752.54
MW-19	55-590746	D(24-14)5dcd	3/27/2002	35	2	20 to 35	Nogales	3,751.26
MW-20	55-590745	D(24-14)5dcd	3/27/2002	35	2	20 to 35	Alluvium	3,751.33
MW-21	55-590744	D(24-14)5dcd	3/28/2002	35	5	20 to 35	Alluvium	3,749.49
MW-22	55-595807	D(24-14)5dcd	3/31/2003	50	2	19.5 to 49.5	Nogales	3,750.94
MW-23	55-595850	D(24-14)5dcd	3/31/2003	45	2	14.5 to 44.5	Nogales	3,750.51
MW-24	55-596973	D(24-14)5dcd	5/5/2003	55	2	20 to 55	Nogales	3,751.12
MW-25	55-217226	D(24-14)5dcd	5/21/2008	50	2	20 to 50	Nogales	3,750.95
MW-26	55-217700	D(24-14)5dcd	5/22/2008	50	2	20 to 50	Nogales	3,752.64
MW-27	55-912640	D(24-14)5dcd	10/26/2010	50	2	19.5 to 49.5	Nogales	3,751.40

Notes:

[1] = Well modified in 2009.

[2] = Wells abandoned in October 2005.

[a] = 55-540059 & 55-540057 (MW-1 & MW-3) Well ID not included in ADWR record.

[b] = 55-542842 and 55-542844 (MW-4 and MW-6) Well ID not included in ADWR record.

[c] = 55-542843 (MW-5) the replacement well and abandonment report is included in same record.

[d] = 55-542845 MW-7 and MW-8 were combined under one registration number. Well ID not included in ADWR record.

[e] = 55-569355 and 55-569356 (MW-11 and MW-15) Drillers reports are identical. Well ID not included in ADWR record.

[f] = In January 2019 the well head of MW-7 was discovered to be damaged, and material from the surface had entered the well casing. Well MW-7 was removed from the monitoring program as of July 2019, and abandoned in July 2020.

ADWR = Arizona Department of Water Resources

TABLE 2
WATER QUALITY PARAMETERS - JULY 2022 and JANUARY 2023
VALENCIA POWER PLANT
NOGALES, ARIZONA

Well No.	Sample Date	pH	Temperature (°C)	Specific Conductivity (µS/cm)	Dissolved Oxygen (mg/L)	Oxidation Reduction Potential (mv)	Notes
MW-02	01/18/2023	6.29	20.30	2,461	1.27	129.5	Clear
MW-04	01/18/2023	6.40	18.00	979	2.53	148.1	Clear
MW-08	01/18/2023	6.51	17.83	524	3.07	131.2	Clear
MW-09	01/17/2023	6.44	20.01	540	1.30	9.1	Clear
MW-10	01/17/2023	6.56	19.52	493	4.27	247.9	Clear
MW-11	01/18/2023	6.36	21.08	150	1.56	134.2	Slight yellow tint
MW-16	01/18/2023	6.34	19.10	540	1.67	-6.2	Clear, some suspended solids
MW-17	01/18/2023	6.41	18.68	512	1.55	100.6	Clear, some suspended solids
MW-18	01/18/2023	6.52	19.27	1,188	5.02	133.7	Clear
MW-19	01/18/2023	6.43	20.01	1,119	3.20	133.2	Clear
MW-20	01/18/2023	6.70	14.71	552	5.06	226.1	Clear
MW-20	07/20/2022	6.99	24.79	532	6.82	238.5	Clear
MW-22	01/18/2023	6.39	21.71	1,255	2.52	122.9	Clear
MW-22	07/20/2022	6.75	26.00	966	5.65	242.3	Clear
MW-25	01/18/2023	6.42	20.64	1,230	1.48	118.3	Clear
MW-25	07/20/2022	6.90	25.15	990	5.75	213.5	Clear
MW-26	01/18/2023	6.42	20.48	1,276	3.44	130.7	Clear
MW-27	01/18/2023	6.40	19.18	737	2.02	147.0	Clear

Notes:
°C = degrees Celsius
µS/cm = microSiemens per centimeter
mg/L = milligrams per liter
mv = megavolt
Results from July 2022 shown in ***BOLD.***

TABLE 3
GROUNDWATER ELEVATIONS - JANUARY 2023
VALENCIA POWER PLANT
NOGALES, ARIZONA

Well No.	Screened Information	Casing Elevation (feet amsl)	Depth to Water (feet)	Groundwater Elevation (feet amsl)	Notes
MW-1	Nogales	3,750.46	18.53	3,731.93	
MW-2	Nogales	3,751.48	20.02	3,731.46	
MW-3	Nogales	3,752.25	19.37	3,732.88	
MW-4	Nogales	3,751.53	16.50	3,735.03	
MW-5	Nogales & Alluvium	3,754.26	20.88	3,733.38	
MW-6	Nogales	3,751.71	18.79	3,732.92	
MW-7[(2)]	Nogales & Alluvium	3,751.28	NA	NA	Abandoned
MW-8	Nogales & Alluvium	3,751.13	20.66	3,730.47	
MW-9	Nogales & Alluvium	3,750.91	17.17	3,733.74	
MW-10	Nogales	3,755.75	11.23	3,744.52	
MW-11	Alluvium	3,750.92	18.22	3,732.70	
MW-12[(1)]	Nogales	3,748.55	NA	NA	Abandoned
MW-13[(1)]	Nogales	3,748.35	NA	NA	Abandoned
MW-14	Nogales	3,751.69	19.29	3,732.40	
MW-15	Alluvium	3,751.57	19.83	3,731.74	
MW-16	Alluvium	3,750.69	19.86	3,730.83	
MW-17	Nogales	3,750.52	16.72	3,733.80	
MW-18	Alluvium	3,752.54	19.54	3,733.00	
MW-19	Nogales	3,751.26	18.15	3,733.11	
MW-20	Alluvium	3,751.33	21.37	3,729.96	
MW-21	Alluvium	3,749.49	19.43	3,730.06	
MW-22	Nogales	3,750.94	23.07	3,727.87	
MW-23	Nogales	3,750.51	19.15	3,731.36	
MW-24	Nogales	3,751.12	26.93	3,724.19	
MW-25	Nogales	3,750.95	21.93	3,729.02	
MW-26	Nogales	3,752.64	14.19	3,738.45	
MW-27	Nogales	3,751.40	14.40	3,737.00	

Notes:

[(1)] Well abandoned in 2005.

[(2)] Well abandoned in 2020.

amsl = above mean sea level

NA = not applicable

TABLE 4
ANALYTICAL RESULTS OF GROUNDWATER SAMPLES - JULY 2022
VALENCIA POWER PLANT
NOGALES, ARIZONA

Well No.	Sample ID	Sample Date	Chromium, Dissolved (mg/L)
MW-20	MW-20-072022-D	07/20/2022	0.055
MW-22	MW-22-072022-D	07/20/2022	0.10
	DUP-01-072022-D	07/20/2022	**0.11**
MW-25	MW-25-072022-D	07/20/2022	**0.11**
		USEPA TEST METHOD	**E200.8**
		AWQS	**0.1**
		PACE LABORATORIES RL	**0.002**

Notes:
Bold *indicates detected concentrations exceeded the applicable AWQS.*
AWQS = Aquifer Water Quality Standard
mg/L = milligrams per liter
RL = reporting limit
USEPA = U.S. Environmental Protection Agency
Reference: http://www.azsos.gov/public_services/Title_18/18-11.htm

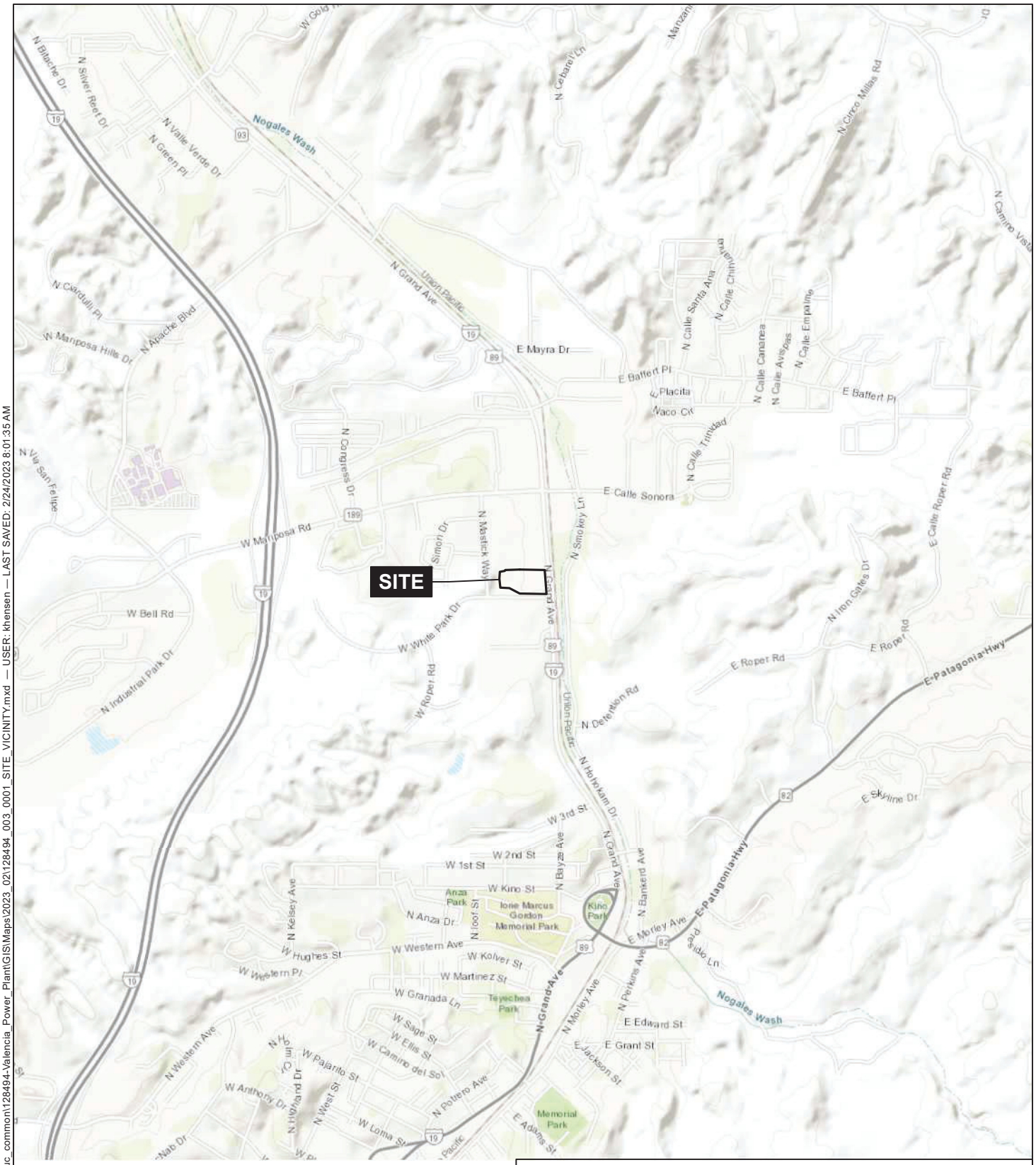
TABLE 5
ANALYTICAL RESULTS OF GROUNDWATER SAMPLES - JANUARY 2023
VALENCIA POWER PLANT
NOGALES, ARIZONA

Well No.	Sample ID	Sample Date	Chromium, Dissolved (mg/L)	PCE (µg/L)	TCE (µg/L)	cis-1,2-DCE (µg/L)	Vinyl Chloride (µg/L)
MW-02	MW-2-011823	01/18/2023	< 0.010	--	--	--	--
MW-04	MW-4-011823	01/18/2023	--	**10.0**	< 0.20	< 0.50	< 0.20
	DUP-01-011823	01/18/2023	--	**10.0**	< 0.20	< 0.50	< 0.20
MW-08	MW-8-011823	01/18/2023	0.032	--	--	--	--
MW-09	MW-9-011723	01/17/2023	--	< 0.50	< 0.20	0.82	< 0.20
MW-10	MW-10-011723	01/17/2023	--	0.52	< 0.20	< 0.50	< 0.20
MW-11	MW-11-011823	01/18/2023	--	< 0.50	< 0.20	< 0.50	< 0.20
MW-16	MW-16-011823	01/18/2023	--	< 0.50	< 0.20	< 0.50	< 0.20
MW-17	MW-17-011823	01/18/2023	--	**16.9**	1.5	< 0.50	< 0.20
MW-18	MW-18-011823	01/18/2023	0.015	--	--	--	--
MW-19	MW-19-011823	01/18/2023	--	3.6	< 0.20	< 0.50	< 0.20
MW-20	MW-20-011823	01/18/2023	0.050	--	--	--	--
MW-22	MW-22-011823	01/18/2023	0.097	--	--	--	--
MW-25	MW-25-011823	01/18/2023	**0.12**	--	--	--	--
	DUP-02-011823	01/18/2023	**0.12**	--	--	--	--
MW-26	MW-26-011823	01/18/2023	--	< 0.50	< 0.20	< 0.50	< 0.20
MW-27	MW-27-011823	01/18/2023	--	0.78	< 0.20	< 0.50	< 0.20
USEPA TEST METHOD			**E200.8**	**8260B**	**8260B**	**8260B**	**8260B**
AWQS (mg/L)			**0.1**	**5**	**5**	**70**	**2**
PACE LABORATORIES RL (mg/L)			**0.0005**	**0.50**	**0.40**	**0.50**	**0.20**

Notes:

Bold *indicates detected concentrations exceeded the applicable AWQS.*
< = Not detected at or above the laboratory reporting detection limit.
-- = not sampled
µg/L = micrograms per liter
AWQS = Aquifer Water Quality Standard
DCE = dichloroethene
DUP = duplicate sample
mg/L = milligrams per liter
PCE = tetrachloroethene
RL = reporting limit
TCE = trichloroethene
USEPA = U.S. Environmental Protection Agency
Reference: http://www.azsos.gov/public_services/Title_18/18-11.htm

FIGURES



MAP SOURCE: ESRI
SITE COORDINATES: 31°21'49"N, 110°55'51"W

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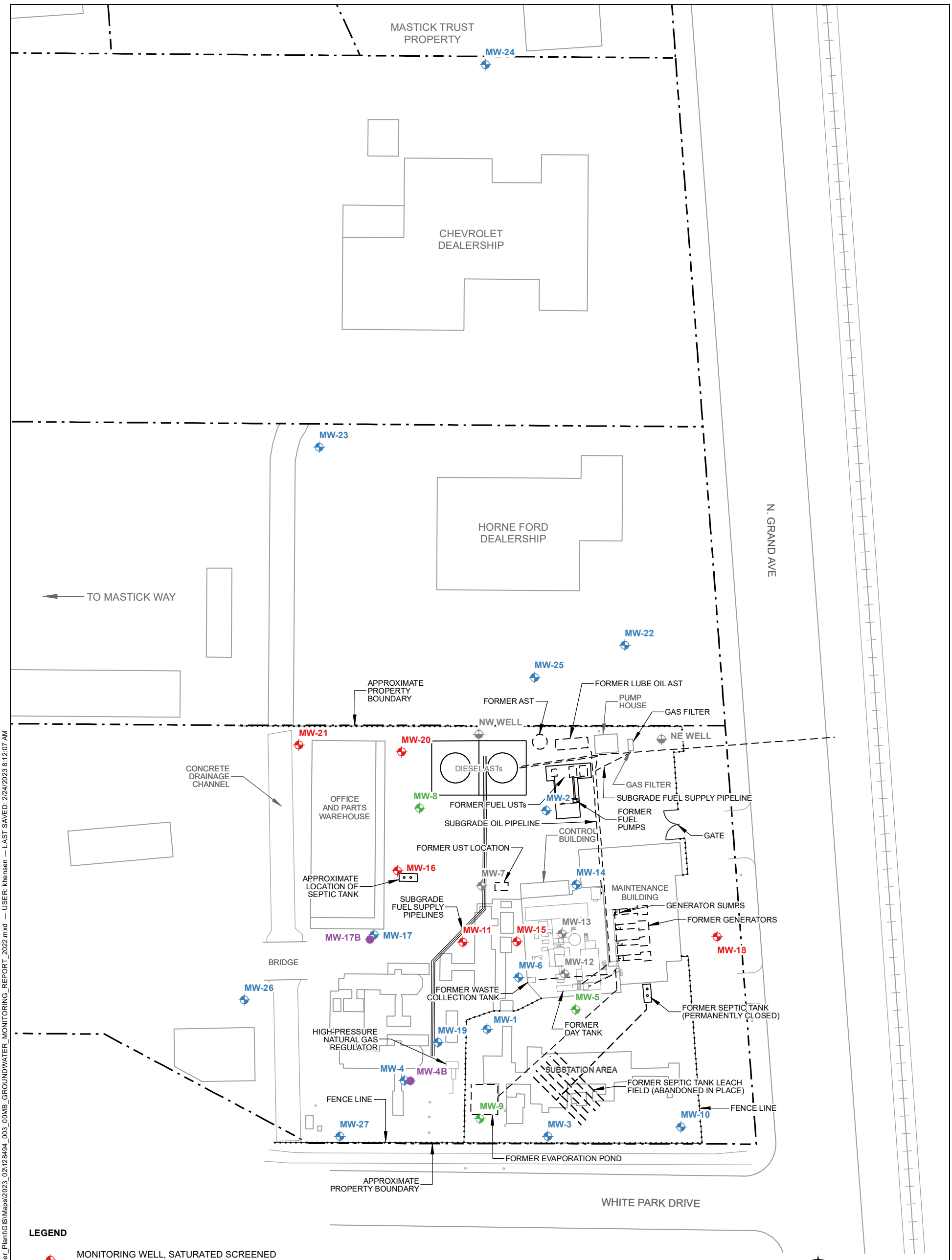
VALENCIA POWER PLANT
1741 NORTH GRAND AVENUE
NOGALES, ARIZONA

SITE VICINITY

APPROXIMATE SCALE: 1 IN = 2000 FT
APRIL 2023

FIGURE 1

GIS FILE PATH: \\haleyaldrich.com\share\tuc_common\128494-Valencia_Power_Plant\GIS\Maps\2023_02\128494_003_0001_SITE_VICINITY.mxd — USER: khensen — LAST SAVED: 2/24/2023 8:01:35 AM



LEGEND

- MONITORING WELL, SATURATED SCREENED INTERVAL WITHIN ALLUVIUM
- MONITORING WELL, SATURATED SCREENED INTERVAL WITHIN NOGALES FORMATION
- MONITORING WELL, SATURATED SCREENED INTERVAL WITHIN BOTH ALLUVIUM AND NOGALES FORMATION
- ABANDONED MONITORING WELL, SATURATED SCREENED INTERVAL WAS WITHIN NOGALES FORMATION
- PILOT STUDY WELL, 4-INCH DIAMETER, INSTALLED SEPTEMBER 2011
- FORMER PRODUCTION WELL
- PROPERTY BOUNDARY

NOTES

1. BASEMAP DATA SOURCE: CITIZENS UTILITIES AS-BUILT STRUCTURE LOCATION PLAN (30 NOVEMBER 1948)

2. ADDITIONAL BASEMAP DATA SOURCE: 1968, 1977, 1980, 1987, 1993, AND 1998 AERIAL PHOTOGRAPHS

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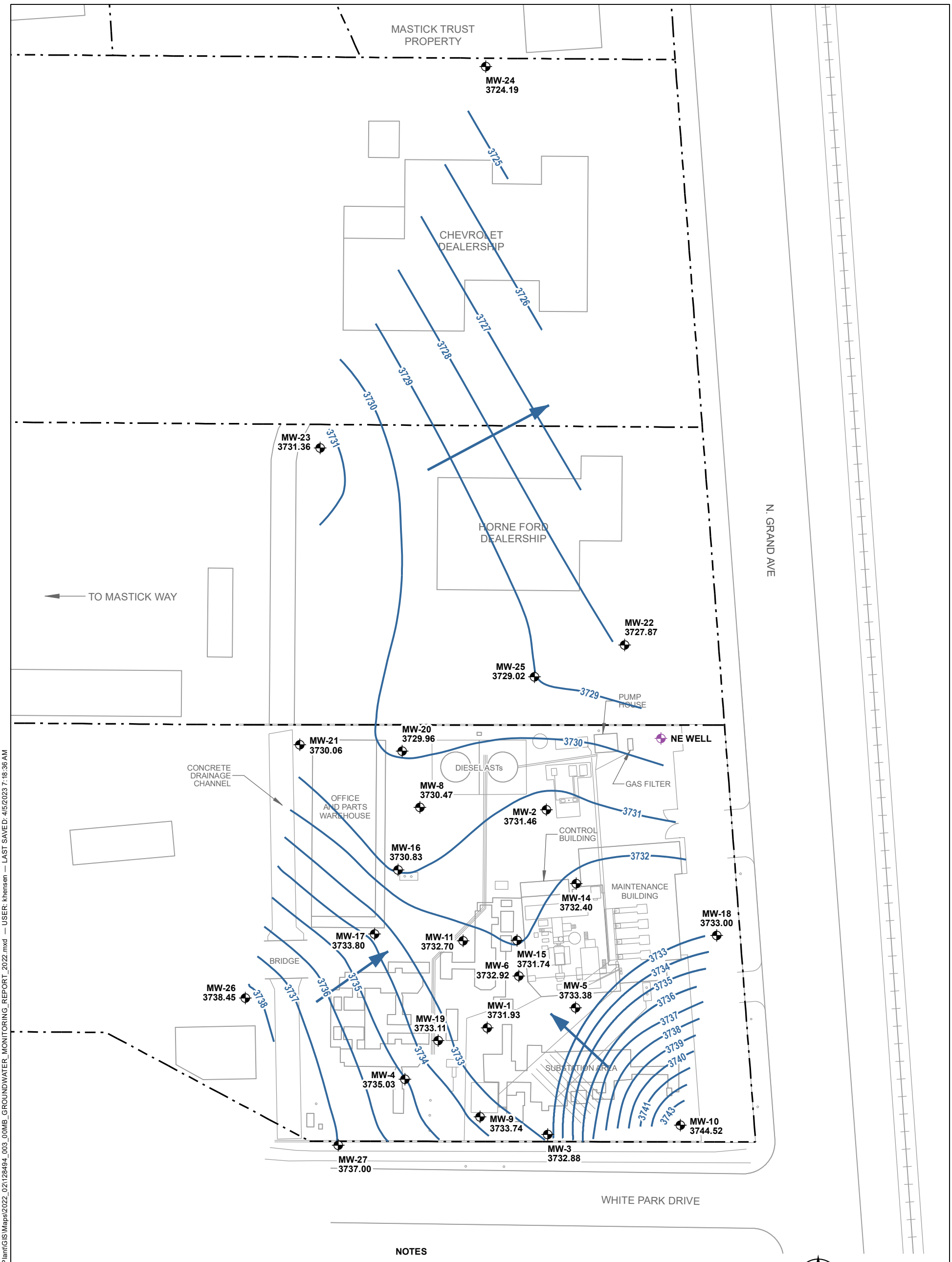
VALENCIA POWER PLANT
1741 NORTH GRAND AVENUE
NOGALES, ARIZONA

GENERAL SITE MAP

APRIL 2023

FIGURE 2

GIS FILE PATH: \\haleyaldrich.com\share\tuc_common\128494-Valencia_Power_Plant\GIS\Maps\2023_02\128494_003_00MB_GROUNDWATER_MONITORING_REPORT_2022.mxd — USER: khensen — LAST SAVED: 2/24/2023 8:12:07 AM



NOTES

1. ALL LOCATIONS AND DIMENSIONS ARE APPROXIMATE.

2. BASEMAP DATA SOURCE: CITIZENS UTILITIES AS-BUILT STRUCTURE LOCATION PLAN (30 NOVEMBER 1948)

3. ADDITIONAL BASEMAP DATA SOURCE: 1968, 1977, 1980, 1987, 1993, AND 1998 AERIAL PHOTOGRAPHS

4. GROUNDWATER ELEVATION DATA INDICATED IN FEET.

5. AMSL = ABOVE MEAN SEA LEVEL

LEGEND

- MONITORING WELL ID WITH GROUNDWATER ELEVATION
- UNUSED PRODUCTION WELL
- GROUNDWATER ELEVATION CONTOUR , 1-FT INTERVAL (FEET AMSL) 5-FT INDEX
- INFERRED GROUNDWATER FLOW DIRECTION
- PROPERTY BOUNDARY

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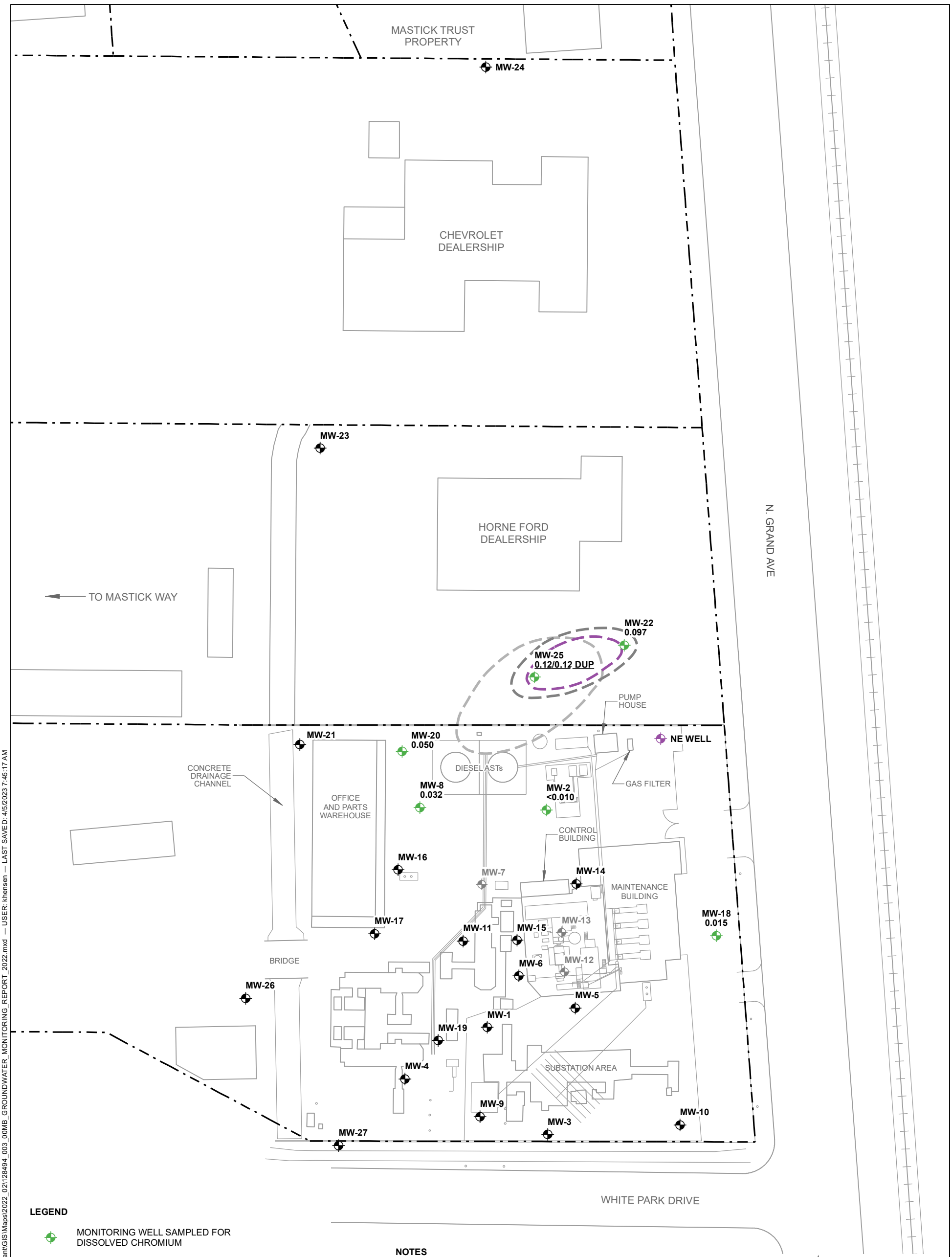
VALENCIA POWER PLANT
1741 NORTH GRAND AVENUE
NOGALES, ARIZONA

GROUNDWATER ELEVATION CONTOUR MAP - JANUARY 2023

APRIL 2023

FIGURE 3

GIS FILE PATH: \\haleyaldrich\share\tuc_common\128494-Valencia_Power_Plant\GIS\Maps\2022_02\128494_003_00MB_GROUNDWATER_MONITORING_REPORT_2022.mxd — USER: khensen — LAST SAVED: 4/5/2023 7:18:36 AM



LEGEND

- MONITORING WELL SAMPLED FOR DISSOLVED CHROMIUM
- MONITORING WELL NOT SAMPLED
- UNUSED PRODUCTION WELL
- ABANDONED MONITORING WELL
- 0.050 CHROMIUM CONCENTRATION IN mg/L

CHROMIUM PLUME (0.1 mg/L), BY YEAR

- 2021
- 2022
- 2023
- PROPERTY BOUNDARY

NOTES

1. ALL LOCATIONS AND DIMENSIONS ARE APPROXIMATE.
2. BASEMAP DATA SOURCE: CITIZENS UTILITIES AS-BUILT STRUCTURE LOCATION PLAN (30 NOVEMBER 1948)
3. ADDITIONAL BASEMAP DATA SOURCE: 1968, 1977, 1980, 1987, 1993, AND 1998 AERIAL PHOTOGRAPHS
4. CHROMIUM AWQS IS 0.1 mg/L
5. DUP = DUPLICATE SAMPLE
6. UNDERLINE INDICATES DETECTED CONCENTRATIONS EXCEEDED THE APPLICABLE AWQS

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VALENCIA POWER PLANT
1741 NORTH GRAND AVENUE
NOGALES, ARIZONA

CHROMIUM IN GROUNDWATER
JANUARY 2023

APRIL 2023

FIGURE 4

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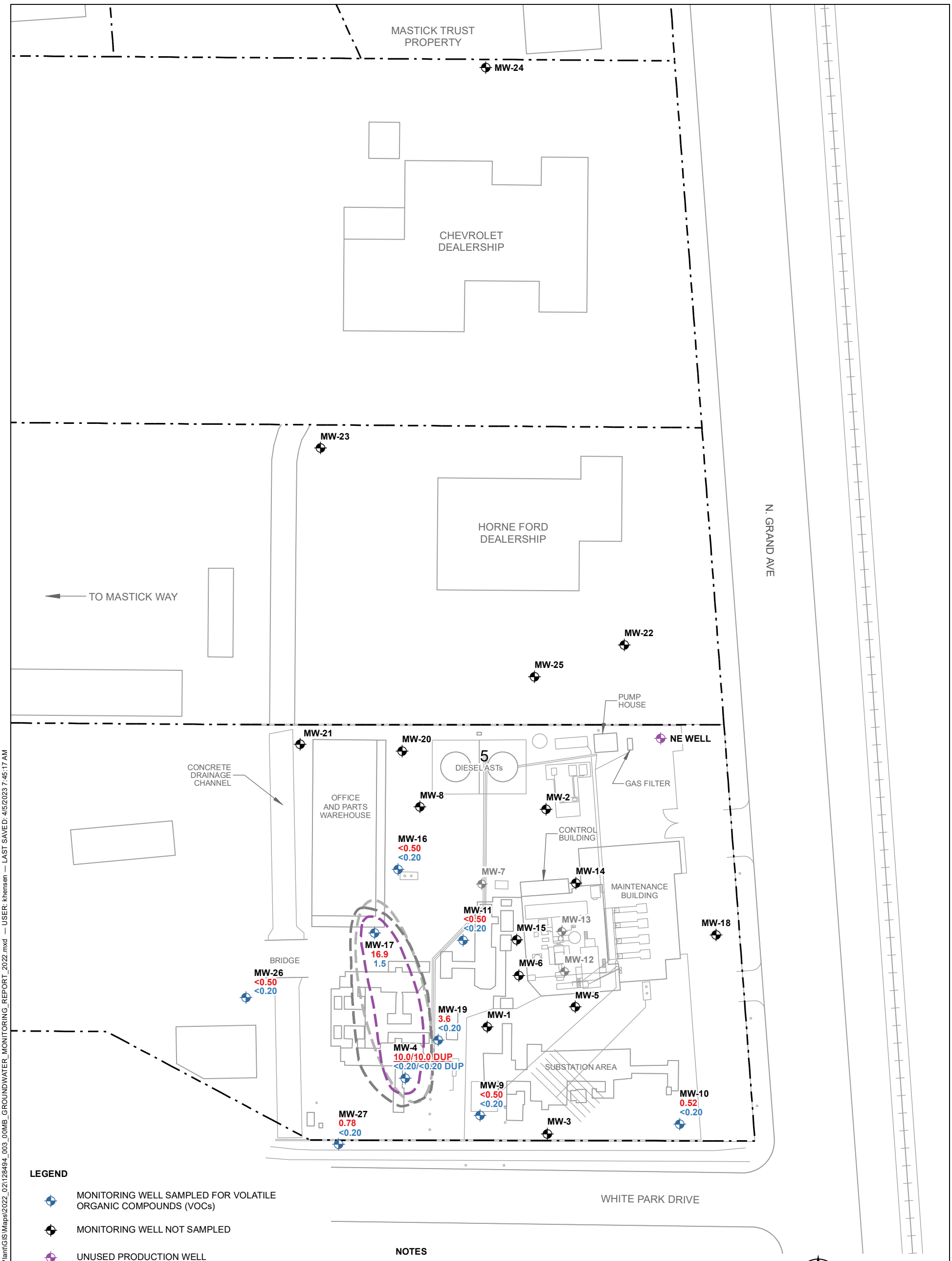

LEGEND

- MONITORING WELL SAMPLED FOR VOLATILE ORGANIC COMPOUNDS (VOCs)
- MONITORING WELL NOT SAMPLED
- UNUSED PRODUCTION WELL
- ABANDONED MONITORING WELL
- <0.50 TETRACHLOROETHENE (PCE) CONCENTRATION IN µg/L
- <0.20 TRICHLOROETHENE (TCE) CONCENTRATION IN µg/L

PCE PLUME (5 µg/L), BY YEAR

- 2021
- 2022
- 2023
- PROPERTY BOUNDARY

NOTES

1. ALL LOCATIONS AND DIMENSIONS ARE APPROXIMATE.
2. BASEMAP DATA SOURCE: CITIZENS UTILITIES AS-BUILT STRUCTURE LOCATION PLAN (30 NOVEMBER 1948)
3. ADDITIONAL BASEMAP DATA SOURCE: 1968, 1977, 1980, 1987, 1993, AND 1998 AERIAL PHOTOGRAPHS
4. AWQS = AQUIFER WATER QUALITY STANDARD
5. UNDERLINE INDICATES DETECTED CONCENTRATIONS EXCEEDED THE APPLICABLE AWQS.
6. AWQS FOR PCE AND TCE IS 5 µg/L

HALEY ALDRICH

VALENCIA POWER PLANT
1741 NORTH GRAND AVENUE
NOGALES, ARIZONA

SELECTED VOCS IN GROUNDWATER
JANUARY 2023

APRIL 2023

FIGURE 5

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APPENDIX A
Historical Site Summary

APPENDIX A
HISTORICAL SITE SUMMARY
VALENCIA POWER PLANT
NOGALES, ARIZONA

HISTORICAL SITE ASSESSMENTS

Between 1993 and 2003, Citizens Utilities Company (Citizens), the former owner of the Valencia Power Plant (VPP or Site), conducted soil and groundwater investigations, source control, and free product removal activities to address releases of petroleum hydrocarbons, volatile organic compounds (VOC), and hexavalent chromium at the Site. The VPP was purchased by UNS Electric, Inc. (UNSE) in August 2003. The historical corrective action activities conducted by Citizens are described in the following reports which were previously submitted to the Arizona Department of Environmental Quality (ADEQ):

- "Valencia Power Plant Soil Characterization Report," prepared for Citizens Communications Company (Brown and Caldwell [BC], 2003a); and
- "Valencia Power Plant Groundwater Characterization Report," prepared for Citizens Communications Company (BC, 2003b).

From 2005 through 2011, monitoring was conducted on a semi-annual basis during January and July. However, monitoring was reduced to an annual basis in 2012, as recommended by BC in a letter report entitled "Supplemental Remedial Alternative Analysis for Impacted Groundwater at the Valencia Power Plant Located at 1741 North Grand Avenue in Nogales, Arizona" (BC, 2012) to ADEQ. ADEQ approved the recommendations, and monitoring activities have been conducted annually since January 2012.

In 2014, the "Work Plan to Implement Recommended Remedial Alternatives for Impacted Groundwater at the Valencia Power Plant Located at 1741 North Grand Avenue in Nogales, Arizona" (Haley & Aldrich, Inc. [Haley & Aldrich], 2014) was submitted to ADEQ. The workplan presented procedures to extract up to 10,000 gallons of groundwater per day from the Northeast Production Well and batch treat using an existing reverse osmosis (RO) system. The goal of extracting groundwater from that location was to capture the off-Site portion of the dissolved chromium plume and draw it back to the Site boundary. The treated water would be used as turbine cooling water and the RO concentrate would be discharged to the City of Nogales sewer system. Monitored natural attenuation (MNA) would also be implemented for both the dissolved chromium and VOC plumes.

The "Addendum to Work Plan to Implement Recommended Remedial Alternatives for Impacted Groundwater," (Haley & Aldrich, 2015), was submitted to and approved by ADEQ. This addendum eliminated pump and treat as a remedial option for dissolved chromium at the Site and proposed additional mid-year performance monitoring of wells MW-20, MW-22, and MW-25 in support of MNA as the sole remedy for remediation. Prior to ADEQ approval, additional mid-year monitoring of select wells began in July 2015, as described in the addendum.

On 20 November 2020, a memorandum entitled "Groundwater Monitoring Network Optimization, Valencia Power Plant, 1741 North Grand Avenue, Nogales, Arizona" (Haley & Aldrich, 2020) was submitted to ADEQ. The memorandum presented the results of a groundwater monitoring network optimization study that was completed for the VPP. The study evaluated the historical analytical results for each well and the current extent of both the VOC and dissolved chromium plumes at the Site. This resulted in a recommendation to reduce the monitoring well network based on the historical data, the location of each well and proximity to both plumes, and the needs of future monitoring activities.

Specifically, Haley & Aldrich recommended optimizing the monitoring well network by reducing the number of monitoring wells used for VOC monitoring to eight wells and for dissolved chromium to six wells. No wells were recommended to monitor both VOCs and dissolved chromium, and arsenic analysis was removed from the monitoring program. ADEQ approved the recommendations in a letter dated 4 December 2020, with one requested modification to add MW-11 back into the program for VOC monitoring. The changes to the monitoring network were utilized during the January 2021 monitoring event. A total of six wells were removed from the monitoring network for dissolved chromium at the Site (MW-5, MW-6, MW-14, MW-15, MW-23, and MW-24). Seven wells were also removed from the monitoring network for VOCs at the Site (MW-1, MW-3, MW-5, MW-6, MW-18, MW-20, and MW-21) due to location at the Site or low concentrations of VOCs.

PROJECT UPDATE REPORT

In 2022, Haley & Aldrich, Inc. (Haley & Aldrich) prepared the *"2022 Project Update Report"* (Haley & Aldrich, 2022) to provide UNSE and ADEQ Voluntary Remediation Program (VRP) with a summary of work completed to further evaluate groundwater conditions and remedial options at the VPP. The evaluations and recommendations had been presented to ADEQ in November 2021.

The following tasks and evaluations were performed in 2021 to affirm the use of MNA as the selected remedial option for the Site.:

- Conducted routine semi-annual groundwater monitoring;
- Collected groundwater samples from selected wells and analyzed for a suite of inorganic parameters to assess whether natural attenuation of organic compounds and metals was occurring in groundwater beneath the Site;
- Calculated trends for selected wells associated with the dissolved chromium and tetrachloroethene (PCE) plumes;
- Prepared an off-Site receptor survey to verify no sensitive receptors were present within 1 mile downgradient, ½ mile side gradient, and ¼ mile upgradient from the Site;
- Evaluated the need to install an additional downgradient groundwater monitoring well in accordance with the Work Plan (Haley & Aldrich, 2015); and
- Evaluated potential alternatives that could be used to speed remediation.

Trend analyses were conducted using chromium and target VOC (PCE and trichloroethene) data to test for significant temporal trends. The concentration trends were also analyzed to estimate when the concentration in each well would be in compliance with the Aquifer Water Quality Standard (AWQS).

The chromium analyses and trend lines indicated a decreasing trend at MW-25, which may achieve compliance with the AWQS in as few as 6 years, while the concentration of chromium at MW-22 is expected to increase slightly before peaking and slowly decreasing over a period of years, and likely not reach AWQS compliance until sometime after 2028.

The VOC analyses and trend lines indicate that MW-4 and MW-17 may achieve compliance with the AWQS for PCE in the 2022 to 2024 timeframe.

MNA continues to be the recommend remedy for the dissolved chromium and VOC plumes as other methods evaluated will likely provide little benefit given the very low concentrations, Site challenges (i.e., hydrogeologic conditions, site access, etc.), and the cost.

HISTORICAL SITE MONITORING AND PRODUCTION WELLS

Two production wells (the Northwest and Northeast production wells) are located on the VPP property along the northern boundary of the Site (NW Well and NE Well). Both of these production wells have blank casing near the surface and open (uncased) boreholes within the Nogales Formation. The production wells were not utilized as part of the monitoring network and were taken out of service by Citizens prior to UNSE's purchase of the VPP. UNSE has utilized the NW Well for groundwater remedial pilot test monitoring activities at the Site, as outlined in the "Voluntary Remediation Program (VRP)-approved In-Situ Biodegradation Pilot Test Work Area" plan (BC, 2007). Currently, there is a blockage in the NW Well that prevents the well from being sampled. An attempt to remove the blockage, conducted on 13 October 2010, was not successful. On 13 January 2016, Haley & Aldrich and a representative from a licensed well services company evaluated the feasibility of abandoning the NW Well. It was determined that due to equipment access issues, close proximity to existing fixed infrastructure, and the unavoidable disturbance of a neighboring business, the well would not be abandoned. A locking well plug was installed at the top of the casing to secure the well. Furthermore, discussions with the Arizona Department of Water Resources (ADWR), and a review of the pertinent regulations, indicated there is no regulatory requirement to abandon the well.

An investigation was performed in September 2011 to eliminate data gaps in the conceptual site model. As described in the letter to ADEQ (BC, 2011), the investigation included the installation of two 4-inch diameter Pilot Study wells; one near MW-4 and the other near MW-17. A previous investigation (BC, 2010) was conducted between ground surface and the top of the Nogales Formation in the area of known PCE contamination in groundwater at the Site in an attempt to locate a residual PCE source in unsaturated soils. While the results of the investigation indicated that no detectible concentrations of PCE existed in the soils, the potential for the presence of residual PCE in the zone between the top of the bedrock Nogales Formation and the water table could exist. During drilling, multiple samples of the bedrock Nogales Formation above to just below the water table were collected and analyzed for the presence of PCE. Detailed information regarding this investigation was presented in a supplemental remedial alternative analysis report (BC, 2012).

Additional information regarding the older monitoring and production wells is provided in the Groundwater Characterization Report (BC, 2003b).

Monitoring Well MW-7

During groundwater monitoring activities conducted on 8 January 2019, it was observed that the top of the polyvinyl chloride well casing of MW-7 had been crushed. Upon attempting to collect a water level from this well, it was discovered that material had entered the well to a depth of approximately 10 feet. Records indicate MW-7 is screened from 19.5 to 34.5 feet below top of casing (btoc); however, during the January 2019 monitoring event the bottom of the casing was measured at 26.25 feet btoc. UNSE believes that the damage took place during regrading and repaving activities at the Site, and that the material in the well is soil and asphalt from these activities. This damage, along with recommendations, was reported to ADEQ in a letter dated 19 February 2019.

As discussed in the letter to ADEQ, UNSE considered several options for attempting to rehabilitate the well; however, due to the small diameter of the well casing UNSE believed rehabilitation activities would be unsuccessful. UNSE also decided the installation of a replacement well was not necessary at this time given the following reasons:

- The well is no longer necessary for its original intended purpose;
- Concentrations of dissolved chromium and arsenic have not been detected in samples collected from MW-7 in over 10 years;
- There are several other wells in the area that are screened at the same interval and within the same formation that allow delineation of water levels and plume concentrations; and
- This is an active electric generating facility: the presence of buried infrastructure, including live electrical conduits and sensitive grounding grids, could pose an exposure risk.

A groundwater sample was collected and analyzed from MW-7 during the January 2019 event, and the analytical results are included in Appendix G. UNSE considers this data to be unrepresentative of aquifer conditions; however, nothing unusual was detected in the January 2019 metals analytical results. Well MW-7 was subsequently removed from the monitoring program as of July 2019. Laboratory analysis and visual observation of samples collected from nearby wells in January 2020 showed no impact to groundwater from any debris in MW-7. Well MW-7 was abandoned in July 2020.

HISTORICAL ARSENIC RESULTS AND DISCUSSION

Effective as of the January 2021 monitoring event, dissolved arsenic was removed from the analyte list at the Site. The AWQS for arsenic of 0.05 milligrams per liter (mg/L) has not been exceeded in any well at the Site since 2014, and the low concentrations of arsenic that are detected are thought to be naturally occurring. ADEQ approved the removal of arsenic from the analyte list in December 2020. However, the following discussion regarding detections of dissolved arsenic in groundwater at the Site has been provided for the historical record.

Data from 2008 to 2020 indicated that there was not a downgradient extent of arsenic in wells north of the NW Well above the existing or proposed AWQS. The installation of MW-25 in 2008 helped better delineate the extent of arsenic in groundwater downgradient of the Site. Recent analysis of samples

using lower detection limits (U.S. Environmental Protection Agency Test Method 200.8) indicated that there is widespread presence of low concentrations of arsenic in groundwater beneath the Site.

In January 2015, an arsenic concentration of 0.0361 mg/L was detected at MW-14. This arsenic result was the highest dissolved arsenic concentration historically recorded at the Site, with the exception of one total arsenic result of 0.059 mg/L detected in MW-22 during the April 2003 event, and in samples collected from the Northwest Production Well between 2002 and 2008 that ranged from a high concentration of 0.3 mg/L (total arsenic) to a low of 0.1 mg/L (dissolved arsenic). Since January 2015, arsenic concentrations have been relatively stable across the Site, with very low concentrations detected in most wells that are sampled for arsenic, suggesting low concentrations of dissolved arsenic in groundwater could be naturally occurring across the Site, and not released from historical activities.

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APPENDIX B
Regional and Site Geology and Hydrogeology

APPENDIX B
REGIONAL AND SITE GEOLOGY AND HYDROGEOLOGY
VALENCIA POWER PLANT
NOGALES, ARIZONA

REGIONAL GEOLOGY AND HYDROGEOLOGY

Geologically, the Valencia Power Plant (VPP or Site) is located within the Basin and Range Geomorphic Province of Southern Arizona (Arizona Geological Survey, 1995). The province is characterized by steep, rugged, fault-block mountain ranges that are separated by deep alluvial valleys. The mountain ranges are composed of various ages of volcanic and sedimentary rocks that have been subjected to extensive deformation. The alluvial valleys (basins) are tectonically-induced troughs filled with sediment eroded from the surrounding mountain ranges.

Nogales lies in the southern Santa Cruz River Valley, which comprises a large part of the Santa Cruz Active Management Area. The basin consists of alluvial deposits ranging in age from Tertiary through Quaternary that are more than 5,000 feet thick in its deepest portions. The principal aquifers for the region are situated within the basin fill deposits. Regional groundwater flow is to the north (Arizona Department of Water Resources [ADWR], 1999).

Locally, the Site is situated in an area that is characterized by Quaternary alluvial deposits (referred to as the Younger Alluvium) that directly overlie the Tertiary Nogales Formation (Halpenny, 1964). The Younger Alluvium consists of unconsolidated sand and gravel, ranging in thickness from 40 to 150 feet. Generally, the thickness and lateral extent of the Younger Alluvium increases to the north, following the path of the Santa Cruz River.

The Nogales Formation is composed of well-consolidated light gray to light brown conglomerate with lenses of consolidated tuff and tuffaceous sandstone (Simons, 1974). This unit is reported to be more than 5,000 feet thick throughout the area. In surrounding areas, a middle lithologic unit referred to as the Older Alluvium is present above the lower Nogales Formation. The Older Alluvium consists of stratified lenses of gravel, sand, silt, and clays with localized cemented zones. This middle unit is reportedly absent within the Nogales Wash geomorphic area (Halpenny, 1964). Groundwater in the southern Santa Cruz River basin fill aquifer is considered unconfined or partly confined (Halpenny and Halpenny, 1988). Water levels are generally less than 30 feet below ground surface (bgs) in the vicinity of the Santa Cruz River and Nogales Wash, but may be as deep as 300 feet bgs near the base of the surrounding mountain ranges. Groundwater movement generally is from the mountain front areas toward the valley floors, and then northward along the flow direction of the Santa Cruz River (Murphy and Hedley, 1984). In the Santa Cruz River basin, the majority of water withdrawn from wells originates from the Younger Alluvium (ADWR, 1999).

Groundwater flow within the Tertiary Nogales Formation is reported to occur primarily in fracture zones and unconsolidated layers within the formation. The Nogales Formation may be considered “hydrologic bedrock”. In most areas, average yields from wells screened in the Nogales Formation are less than 30 gallons per minute (gpm).

SITE GEOLOGY AND HYDROGEOLOGY

The lithology at the VPP consists of a thin veneer of Younger Alluvium overlying the Nogales Formation. There are historical exposures (outcrops) of the Nogales Formation near the southern and western boundaries of the Site. The Nogales Formation forms the topographic ridge along the western boundary of the Site. Commercial development has erased visible historical exposures to the south of the Site. In areas where it exists, the Younger Alluvium ranges from a few feet to approximately 40 feet in thickness.

The structural contour map presented in Figure 1 depicts the approximate elevation of the contact between the Nogales Formation and the Younger Alluvium, based on interpretation of lithologic data from boring logs. Additional data collected during the soil sampling activities described in the report titled "Soil Sampling Summary" (Brown and Caldwell [BC], 2010a), have allowed a revision to the previous depictions of the bedrock elevation in the southwestern portion of the Site. The structural contour map indicates the presence of a paleo-channel, or ancient drainage, on the Nogales Formation that enters the Site from the south. After the channel enters the Site from the south, it trends approximately north-northwest through the Site. North of the Site boundary, the paleo-channel flattens and appears to shift and trend north-northeast, likely continuing in this direction towards the Nogales Wash. The paleo-channel and modern drainages are constrained by Nogales Formation hills or ridges and their extension in the subsurface along the southern and eastern portion of the Site. The additional subsurface data collected from soil borings indicates that an extension of shallow bedrock is present southeast of the exposed Nogales Formation, including the area where wells MW-4, MW-17, MW-19, MW-26, and MW-27 are located. Shallow extensions of bedrock are also present in isolated areas near wells MW-23 and MW-24 (Figure 2).

A groundwater elevation contour map depicting aquifer conditions beneath the Site during the January 2023 monitoring event is presented in Figure 3. Two distinct flow directions are observed in the southern part of the Site. Near the southeast corner, the groundwater flow direction is toward the northwest, and generally moves downgradient within the Nogales Formation. In contrast, groundwater flow from the southwest corner of the Site is toward the northeast and also moves downgradient within the Nogales Formation. The two distinct flow paths converge near the center of the Site, resulting in a relatively flat northward flow direction at the northern boundary of the Site that correlates to the regional groundwater system, which generally follows the Nogales Wash and the Santa Cruz River (ADWR, 1999). Beyond the northern Site boundary, groundwater locally flows to the east and northeast towards the Nogales Wash. The water level contours from January 2023 are generally consistent with contours generated from previous groundwater monitoring events, as shown in the hydrographs presented in Appendix F.

Analysis of contour maps also suggests decreased hydraulic conductivity in the aquifer along the southeastern and western parts of the Site, as evidenced by increased groundwater gradients. The higher gradients in the south-southeastern portion of the Site are related to saturation, primarily in the Nogales Formation. In addition, the topographic gradient of the modern drainage is relatively steep southwest of the office and parts warehouse, which is inferred to influence the gradient of the shallow groundwater. The groundwater gradient flattens in the northern parts of the Site. The decrease in gradient reflects both an increase in hydraulic conductivity in the aquifer, correlative with saturated

alluvial material, and a shallower topographic gradient along the modern drainage. The gradient north of the Site remains generally shallow, but water level elevations between MW-23 and MW-24 reflect a steepened gradient, possibly due to saturation confined to the Nogales Formation and associated lower hydraulic conductivity.

Comparison of the well classifications in Figure 1 with the groundwater contours in Figure 3 demonstrate that water levels for some adjacent wells, screened in different units, tend to be similar. These similarities in water levels suggest that there is a degree of interconnection between the two units. A depiction of the areas where alluvium or Nogales Formation is saturated, based upon data in Figures 1 and 3, are presented in Figure 2. Revisions to the bedrock elevation map (BC, 2003b) also resulted in reclassification of several wells (MW-8, MW-17, MW-19, and MW-26) since their screened intervals are now considered to be in the Nogales Formation or within both the alluvium and Nogales Formation rather than solely alluvium (Table 1). In addition, the extent of the saturated alluvium is believed to extend further northeast beneath the Horne Ford Dealership, eventually combining with the Nogales Wash drainage.

The direction of groundwater flow away from zones of the Nogales Formation wells, towards areas of alluvial wells, implies that groundwater from upper portions of the saturated bedrock may seep into the more conductive Younger Alluvium. This condition is most evident in the eastern half and southwestern portion of the Site, and localized areas to the northwest, including wells MW-23 and MW-24. Groundwater flow in the central portions of the Site appears to be primarily in the alluvium, possibly merging with flow through the Younger Alluvium of the Nogales Wash.

Fluctuations in groundwater elevations that are generally cyclical have been recorded since monitoring activities at the Site began in 1994. The range of fluctuations was relatively stable, within 3 feet, until 2006 when the elevations began fluctuating up to 5 feet, dependent upon the time of year. The highest recorded groundwater elevations generally occurred from October through December, whereas minimum elevations occurred from May through July. These fluctuations are likely attributable to groundwater recharge associated with seasonal changes in precipitation and surface runoff. The greatest increases appear to occur in the months following summer convective storms and during winter months when precipitation is also high. The cause of increased fluctuations and overall groundwater elevations since 2006 is inferred to be related to the development of surrounding properties to the south and southwest. Extensive paving, grading, and control of storm water into the drainage to the southwest were associated with development of the properties. Those actions focus water along the drainage and result in an increased recharge to the subsurface upgradient of the VPP.

A constant-rate pumping test was conducted at the Site on 30 April and 1 May 2003 (BC, 2003d). The Northeast Production Well, which is open entirely in the saturated Nogales Formation from 80 to 376 feet bgs, was used as the pumping well. The pump was placed at approximately 84 feet below the top of the casing and the well was pumped at an average rate of 15.4 gpm for 24 hours. Water levels were monitored in the pumping well and in 14 nearby monitoring wells during the 24 hours of pumping and the subsequent 8 hours of recovery. The maximum drawdown in the pumping well was 50.24 feet.

Transmissivity and hydraulic conductivity were calculated using the Cooper-Jacob method (Cooper and Jacob, 1946) for analyzing non-equilibrium flow for both the early time and late time data from the pumping test. Given that the lower 296 feet of the Northeast Production Well is open to the saturated Nogales Formation, the average transmissivity was estimated to be approximately 33 square feet per day (ft^2/day) or 250 gallons per day per foot (gpd/ft). These values correspond to a hydraulic conductivity for the Nogales Formation of approximately 0.11 foot per day. The water level recovery test data was analyzed using the Theis recovery method (Theis, 1935). The estimated transmissivity, based on recovery monitoring, was 35 ft^2/day or 260 gpd/ft, which corresponds well with the hydraulic parameters estimated from the drawdown data.

The estimated hydraulic conductivity from the pumping test supports the assertion that the Nogales Formation has poor water-bearing characteristics (ADWR, 1999). The elevated water levels and groundwater gradients observed at the Site within the Nogales Formation, relative to the alluvial unit, indicate that a substantial potentiometric gradient is required for groundwater to flow through the low conductivity system. Drawdown was observed in only a subset of the wells screened in the Nogales Formation and located near the pumping well. There appears to be a hydraulic connection between the Nogales Formation and the alluvium; however, the low pumping rate during the test and lack of saturated alluvium adjacent to the pumping well prevented a more quantitative estimate of the degree of interaction between the two hydrostratigraphic units.

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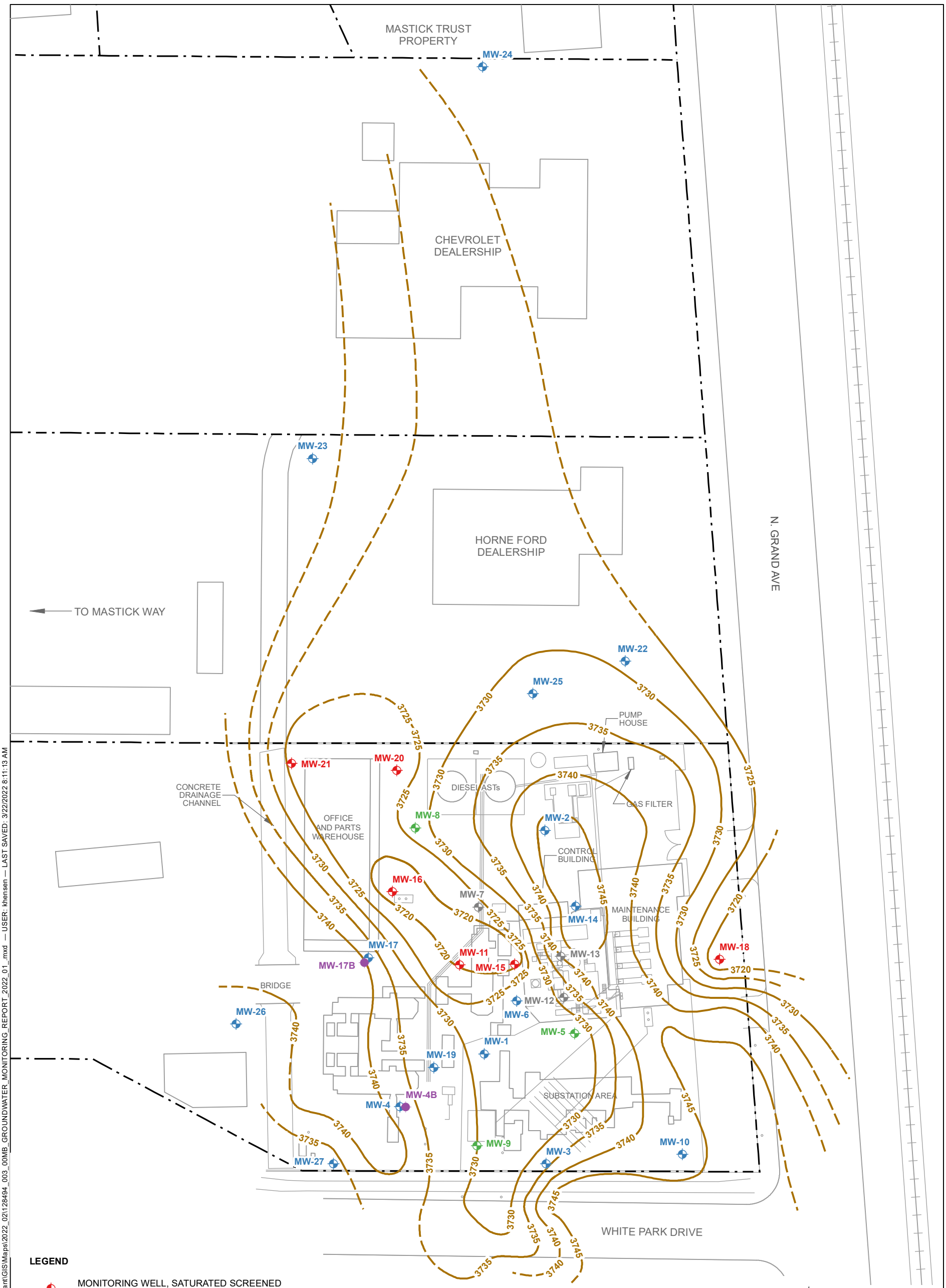

LEGEND

- MONITORING WELL, SATURATED SCREENED INTERVAL WITHIN ALLUVIUM
- MONITORING WELL, SATURATED SCREENED INTERVAL WITHIN NOGALES FORMATION
- MONITORING WELL, SATURATED SCREENED INTERVAL WITHIN BOTH ALLUVIUM AND NOGALES FORMATION
- ABANDONED MONITORING WELL, SATURATED SCREENED INTERVAL WAS WITHIN NOGALES FORMATION
- PILOT STUDY WELL, 4-INCH DIAMETER, INSTALLED SEPTEMBER 2011
- BEDROCK ELEVATION CONTOUR (FEET AMSL), DASHED WHERE INFERRED
- PROPERTY BOUNDARY

NOTES

1. BASEMAP DATA SOURCE: CITIZENS UTILITIES AS-BUILT STRUCTURE LOCATION PLAN (30 NOVEMBER 1948)

2. ADDITIONAL BASEMAP DATA SOURCE: 1968, 1977, 1980, 1987, 1993, AND 1998 AERIAL PHOTOGRAPHS

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HALEY ALDRICH

VALENCIA POWER PLANT
1741 NORTH GRAND AVENUE
NOGALES, ARIZONA

TERTIARY NOGALES FORMATION STRUCTURAL CONTOUR MAP

APRIL 2023

FIGURE 1

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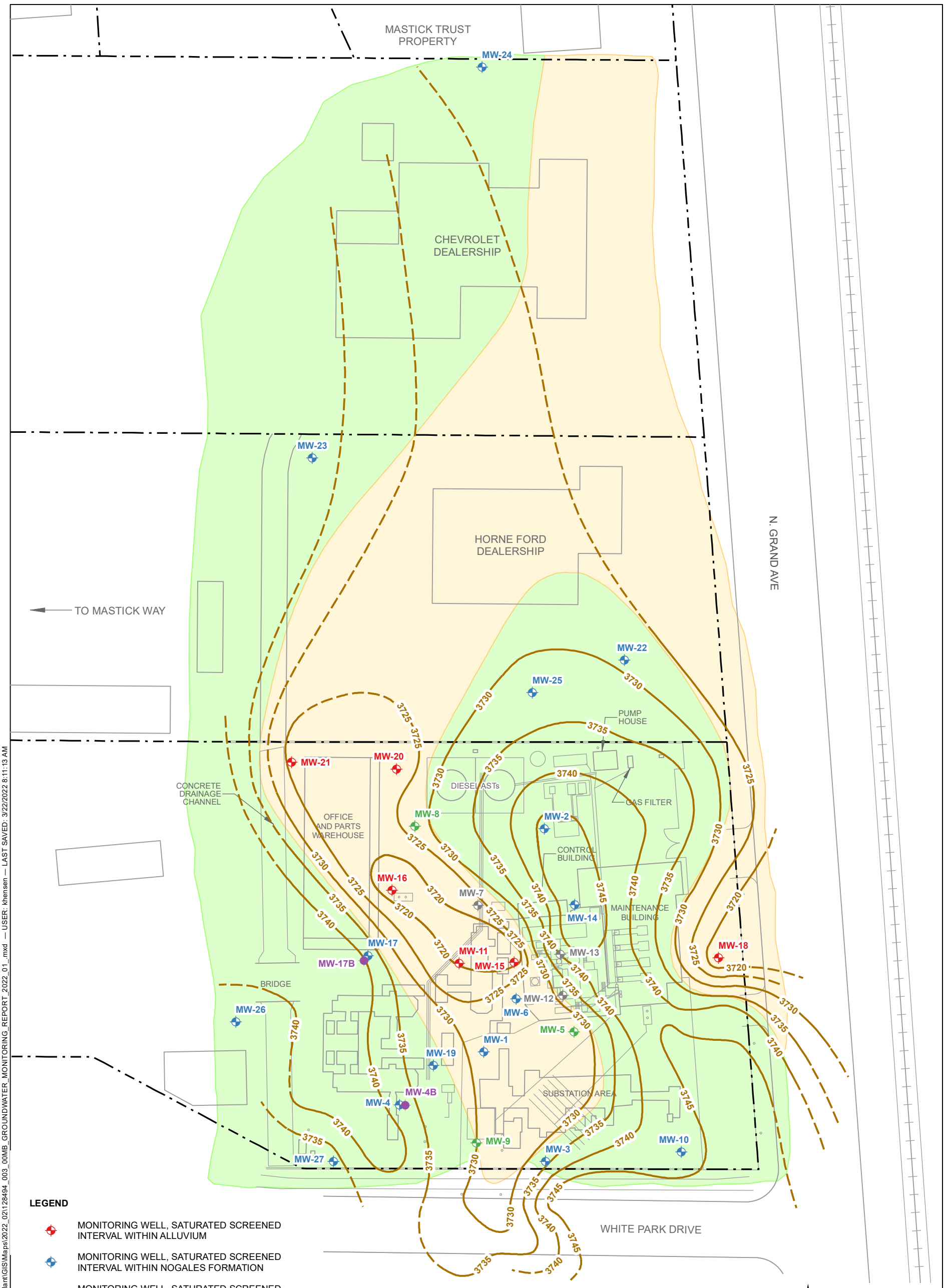

LEGEND

- MONITORING WELL, SATURATED SCREENED INTERVAL WITHIN ALLUVIUM
- MONITORING WELL, SATURATED SCREENED INTERVAL WITHIN NOGALES FORMATION
- MONITORING WELL, SATURATED SCREENED INTERVAL WITHIN BOTH ALLUVIUM AND NOGALES FORMATION
- ABANDONED MONITORING WELL, SATURATED SCREENED INTERVAL WAS WITHIN NOGALES FORMATION
- PILOT STUDY WELL, 4-INCH DIAMETER, INSTALLED SEPTEMBER 2011
- BEDROCK ELEVATION CONTOUR (FEET AMSL), DASHED WHERE INFERRED
- SATURATED ALLUVIUM
- SATURATED NOGALES FORMATION
- PROPERTY BOUNDARY

NOTES

1. BASEMAP DATA SOURCE: CITIZENS UTILITIES AS-BUILT STRUCTURE LOCATION PLAN (30 NOVEMBER 1948)

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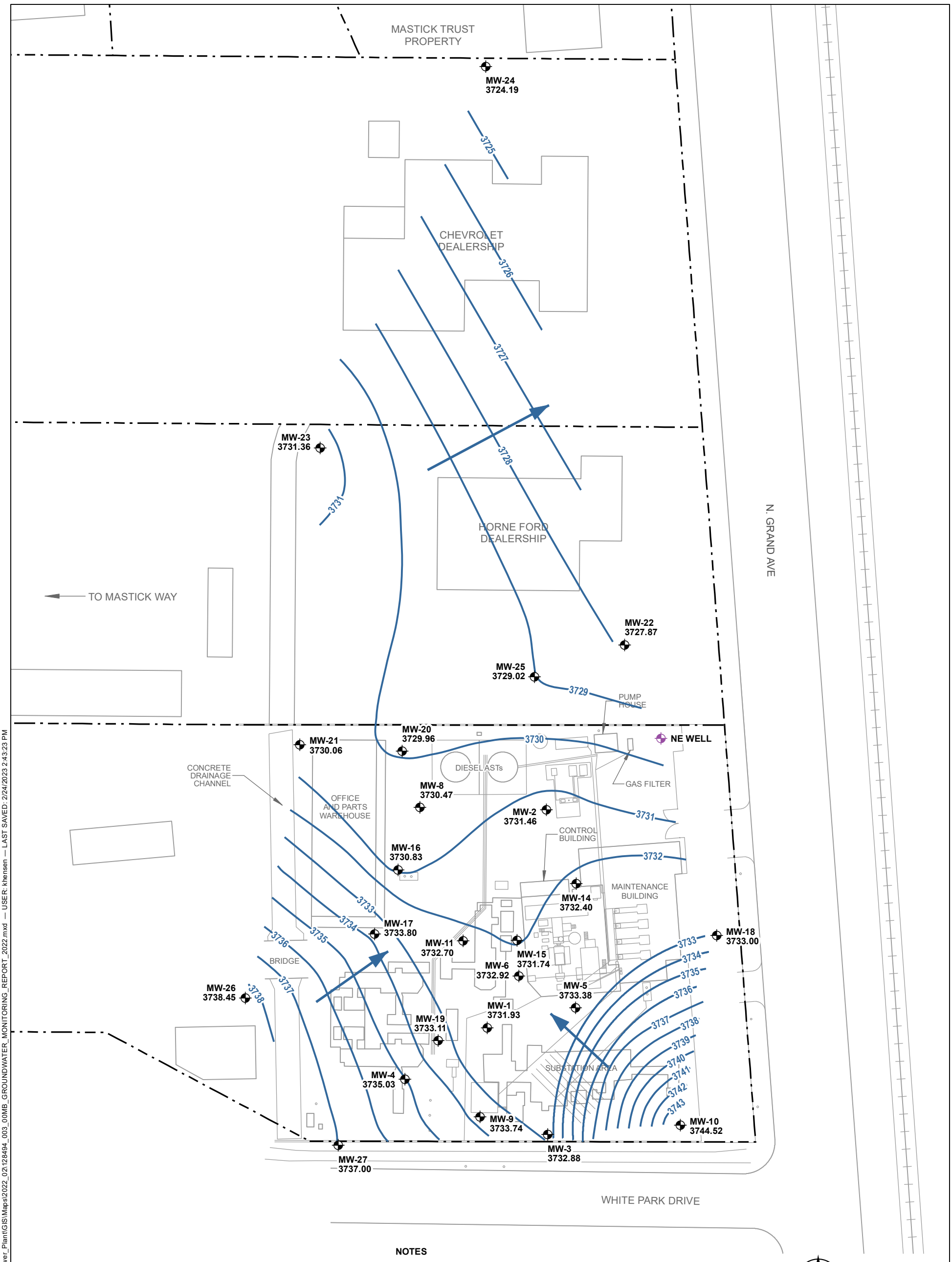
1741 NORTH GRAND AVENUE
NOGALES, ARIZONA

EXTENT OF SATURATED BEDROCK AND ALLUVIUM

APRIL 2023

FIGURE 2

GIS FILE PATH: \\haleyaldrich\share\tuc_common\128494-Valencia_Power_Plant\GIS\Maps\2022_02\128494_003_00MB_GROUNDWATER_MONITORING_REPORT_2022_01_mxd — USER: khensen — LAST SAVED: 3/22/2022 8:11:13 AM



NOTES

1. ALL LOCATIONS AND DIMENSIONS ARE APPROXIMATE.

2. BASEMAP DATA SOURCE: CITIZENS UTILITIES AS-BUILT STRUCTURE LOCATION PLAN (30 NOVEMBER 1948)

3. ADDITIONAL BASEMAP DATA SOURCE: 1968, 1977, 1980, 1987, 1993, AND 1998 AERIAL PHOTOGRAPHS

4. GROUNDWATER ELEVATION DATA INDICATED IN FEET.

5. AMSL = ABOVE MEAN SEA LEVEL

LEGEND

- MONITORING WELL ID WITH GROUNDWATER ELEVATION
- UNUSED PRODUCTION WELL
- GROUNDWATER ELEVATION CONTOUR , 1-FT INTERVAL (FEET AMSL) 5-FT INDEX
- INFERRED GROUNDWATER FLOW DIRECTION
- PROPERTY BOUNDARY

HALEY ALDRICH

VALENCIA POWER PLANT
1741 NORTH GRAND AVENUE
NOGALES, ARIZONA

GROUNDWATER ELEVATION CONTOUR MAP - JANUARY 2023

APRIL 2023

FIGURE 3

GIS FILE PATH: \\haleyaldrich.com\share\tuc_common\128494-Valencia_Power_Plant\GIS\Maps\2022_02\128494_003_00MB_GROUNDWATER_MONITORING_REPORT_2022.mxd — USER: khensen — LAST SAVED: 2/24/2023 2:43:23 PM

APPENDIX C
Field Logs

HALEY ALDRICH

Instrument Calibration Log

Project	VPP January 2021 Groundwater Sampling	File No.	128494
Location	Nogales, Arizona	Date	7/20/2022
Contractor	—	Field Rep.	S. Haney
Weather	partly sunny, humid	Outdoor Temp	95

Equipment ID YSI MPS 556 S/N: 14J100156

Time Calibration Started: 0938 **Time Calibration Completed:** 0951

Dissolved Oxygen (100%)

Reading Before Calibration: 79.2
Barometric Pressure: 669.8
Temperature (C°) 31.25
Reading after calibration: 86.4

Probe Type (Check One)

Membrane ☐ Optical ☐

Specific Conductance/ Conductivity

Reading Before Calibration: 1249
Calibration Value: 1413
Temperature (C°) 30.33
Lot/Expiration: 10/25/2022 KCT-211025
Reading After Calibration: 1413

pH 7

Reading Before Calibration: 7.26
Calibration Value: 7.0
Temperature (C°) 32.43
Lot/Expiration: 2/1/2022 / 4003F24
Reading After Calibration: 7.17

ORP Standard (mv) at 25°C

Reading Before Calibration: 244.3
Calibration Value: 240
Temperature (C°) 33.10
Lot/Expiration: 09/2023 / 3336
Reading After Calibration: 240.0

pH 10

Reading Before Calibration: 9.86
Calibration Value: 10.0
Temperature (C°) 33.22
Lot/Expiration: 10/12/2022 / CF1321285210
Reading After Calibration: 9.99

Dissolved Oxygen (0 mg/L)

Reading
Temperature (C°)
Lot/Expiration:
Reading less than 0.20 mg/L?

PM Calibration Check

Time Start: Time End: Temp:

DO 100 %
pH 7
Specific Conductivity
ORP (mv)

pH 4

Reading Before Calibration: 3.88
Calibration Value: 4.01
Temperature (C°) 33.16
Lot/Expiration: 5/1/2023 / 1106941
Reading After Calibration: 4.01

Notes:

HALEY ALDRICH

JULY 2022 WATER LEVELS

PROJECT	Valencia Power Plant	H&A FILE NO.	128494
LOCATION	Nogales, Arizona	PROJECT MGR.	Mark Groseclose
CLIENT	Unisource Energy Corporation	FIELD REP.	S. Kanney
WEATHER	Partly Sunny, humid	TEMPERATURE	95°

Well ID	Well Elevation Data (ft)	DTW July 2021 (ft BTOC)	DTW January 2022 (ft BTOC)	Initial DTW (ft)	Initial DTW Date	DTW During Sampling (ft)	Sample Date	Notes
MW-1	3750.46		20.37					
MW-2	3751.48	24.32	21.8	23.88	7/20/22	–	–	
MW-3	3,752.25		18.93					
MW-4	3,751.53	22.22	18.43					
MW-5	3,754.26		22.73					
MW-6	3,751.71		20.61					
MW-7	3,751.28							
MW-8	3,751.13	24.91	22.43	24.46	7/20/22	–	–	
MW-9	3,750.91		18.9					
MW-10	3,755.75	15.65	12.97	15.22	7/20/22	–	–	
MW-11	3,750.92	24.57	21.1					
MW-12	3,748.55							
MW-13	3,748.35							
MW-14	3751.69	24.50	21.04	23.90	7/20/22	–	–	
MW-15	3751.57	24.50	21.75	24.56	7/20/22	–	–	
MW-16	3750.69	24.60	21.79					
MW-17	3750.52	21.75	18.39					
MW-18	3752.54	22.15	21.18	21.42	7/20/22	–	–	
MW-19	3751.26		19.34					
MW-20	3751.33	25.40	23.17	24.97	7/20/22	24.97	7/20/22	
MW-21	3749.49		21.29					
MW-22	3750.94	25.65	24.68	25.23	7/20/22	25.23	7/20/22	
MW-23	3750.51	23.35	20.36	22.65	7/20/22	–	–	
MW-24	3751.12		28.39					
MW-25	3750.95	25.25	23.57	24.82	7/20/22	24.82	7/20/22	
MW-26	3752.64		16.26					
MW-27	3751.4		16.09					

Notes/Comments

655	704	744
+ 35	35	30
690	739	774

Form 2021

HALEY ALDRICH

JULY 2022 Hydrasleeve™ Sampling Info

PROJECT	Valencia Power Plant	SAMPLING DEVICE	Hydrasleeve™	H&A FILE NO.	128494
LOCATION	Nogales, Arizona	SOUNDER MODEL&S/N	YSI MMP556	PROJECT MGI	Mark Groseclose
CLIENT	Unisource Energy Corporation	WATER QUALITY METER	Solinst	FIELD REP.	S. Haney
WEATHER	partly sunny, humid	WATER QUALITY S/N	238580	TEMPERATUR	98°

GROUNDWATER FIELD PARAMETER INFORMATION

Well ID	DTW during sampling (ft)	EPA Test Method (200.8)	Sample Date / Time	pH	Temp (°C)	Specific Conductivity (µS/cm²)	Dissolved Oxygen (mg/L)	ORP (mV)	Color/Odor
MW-1									
MW-2									
MW-3									
MW-4									
MW-5									
MW-6									
MW-7									
MW-8									
MW-9									
MW-10									
MW-11									
MW-14									
MW-15									
MW-16									
MW-17									
MW-18									
MW-19									
MW-20	24.97	EPA200.8	7/20/22 0955	6.99	24.79 ~~5.32~~ SK	532	6.82	238.5	clear
MW-21									
MW-22	25.23	EPA200.8	7/20/22 1040	6.75	26.00	966	5.65	242.3	slightly cloudy brown
MW-23									
MW-24									
MW-25	24.82	EPA200.8	7/20/22 1100	6.90	25.15	990	5.75	213.5	clear
MW-26									
MW-27									
*DUP	—	EPA200.8	7/20/22 1130	—	—	—	—	—	—
**DUP									
***MSMSD									

Notes:

VOCs 8260B= Volatile Organic Compounds abbreviated list (cis-1,2-DCE, PCE, TCE, VC)

Dissolved Metals = Chromium EPA 200.7 & Arsenic EPA 200.8

Met = Metagenomics

Geochem = Total Organic Carbon (TOC), Total Iron, Dissolved Iron, Nitrate, and Sulfate

DUP-01-072022-D = MW22-072022-D
1130

HALEY ALDRICH

Instrument Calibration Log

Project	VPP January 2023 Groundwater Sampling	File No.	128494
Location	Nogales, Arizona	Date	1/17/23
Contractor		Field Rep.	A. Nutson
Weather	Cloudy	Outdoor Temp	48°F

Equipment ID: YSI

Time Calibration Started: 1218 Time Calibration Completed: 1240

Dissolved Oxygen (100%)

Reading Before Calibration:
Barometric Pressure:
Temperature (C°):
Reading after calibration:

Probe Type (Check One)

Membrane ☐ Optical ☐

Specific Conductance/Conductivity

Reading Before Calibration: 1172
Calibration Value: 1413 uS/cm
Temperature (C°): 17.35
Lot/Expiration: 12/12/23 KCT221212
Reading After Calibration: 1414

pH 7

Reading Before Calibration: 7.22, 7.14
Calibration Value: 7.0
Temperature (C°): 17.73
Lot/Expiration: 5/1/24 2206821
Reading After Calibration: 7.14, 7.00

ORP Standard 240 (mv) at 25°C

Reading Before Calibration: 248.8
Calibration Value: 240
Temperature (C°): 17.48
Lot/Expiration: 7519 03/27
Reading After Calibration: 240.0

pH 10

Reading Before Calibration: 9.75
Calibration Value: 10.0
Temperature (C°): 17.34
Lot/Expiration: 11/9/24 P10053152201
Reading After Calibration: 10.00

Dissolved Oxygen (0 mg/L)

Reading:
Temperature (C°):
Lot/Expiration:
Reading less than 0.20 mg/L?

PM Calibration Check

Time Start: Time End: Temp:

DO 100 %:
pH 7:
Specific Conductivity:
ORP (mv):

pH 4

Reading Before Calibration: 3.80
Calibration Value: 4.01
Temperature (C°): 17.44
Lot/Expiration: 5/1/23 1106941
Reading After Calibration: 4.01

Notes:

HALEY ALDRICH

Instrument Calibration Log

Project	VPP January 2023 Groundwater Sampling	File No.	128494
Location	Nogales, Arizona	Date	1/18/23
Contractor		Field Rep.	M. Devitt
Weather	34-50°F, Partly Cloudy	Outdoor Temp	

Equipment ID

Time Calibration Started: 0805 Time Calibration Completed: 0825

Dissolved Oxygen (100%)

Reading Before Calibration:

Barometric Pressure:

Temperature (C°)

Reading after calibration

Probe Type (Check One)

Membrane ☐ Optical ☐

Specific Conductance/ Conductivity

Reading Before Calibration: 1212

Calibration Value: 1413 uS/cm

Temperature (C°) 10.89

Lot/Expiration: KCT221212 exp. 12/12/23

Reading After Calibration: 1413

pH 7

Reading Before Calibration: ~~[illegible]~~ 7.24, 7.14

Calibration Value: 7.0

Temperature (C°) 10.13

Lot/Expiration: 2206821 exp. 5/1/24

Reading After Calibration: 7.15, 7.00

ORP Standard (mv) at 25°C

Reading Before Calibration: 243.3

Calibration Value: 240 mV

Temperature (C°) 10.15

Lot/Expiration: 7519 exp. 03/27

Reading After Calibration: 240.0

pH 10

Reading Before Calibration: 10.06

Calibration Value: 10.0

Temperature (C°) 10.83

Lot/Expiration: P100531322 exp. 11/9/24

Reading After Calibration: 10.00

Dissolved Oxygen (0 mg/L)

Reading

Temperature (C°)

Lot/Expiration

Reading less than 0.20 mg/L?

PM Calibration Check

Time Start: Time End: Temp:

DO 100 %

pH 7

Specific Conductivity

ORP (mv)

pH 4

Reading Before Calibration: 3.94

Calibration Value: 4.01

Temperature (C°) 10.59

Lot/Expiration: 1106941 exp. 5/1/23

Reading After Calibration: 4.01

Notes:

HALEY ALDRICH

JANUARY 2023 WATER LEVELS

PROJECT	Valencia Power Plant	H&A FILE NO.	128494-004
LOCATION	Nogales, Arizona	PROJECT MGR.	Mark Groseclose
CLIENT	Unisource Energy Corporation	FIELD REP.	A. Watson / M. Devitt
WEATHER		TEMPERATURE	

Well ID	Well Elevation Data (ft)	DTW Jan 2022 (ft BTOC)	DTW July 2022 (ft BTOC)	Initial DTW (ft)	Initial DTW Date	DTW During Sampling (ft)	Sample Date	Notes
MW-1	3750.46	20.37		18.53	1/17/23			
MW-2	3751.48	21.80	23.88	20.02	1/17/23			
MW-3	3,752.25	18.93		19.37	1/17/23			water in vault
MW-4	3,751.53	18.43		16.50	1/17/23			
MW-5	3,754.26	22.73		20.88	1/17/23			
MW-6	3,751.71	20.61		18.79	1/17/23			
MW-7	3,751.28							
MW-8	3,751.13	22.43	24.46	20.66	1/17/23			
MW-9	3,750.91	18.90		17.17	1/17/23			
MW-10	3,755.75	12.97	15.22	11.23	1/17/23			
MW-11	3,750.92	21.10		18.22	1/17/23			water in vault
MW-12	3,748.55							
MW-13	3,748.35							
MW-14	3751.69	21.04	23.90	19.79	1/17/23			
MW-15	3751.57	21.75	24.56	19.83	1/17/23			
MW-16	3750.69	21.79		19.86	1/17/23			water in vault
MW-17	3750.52	18.39		16.72	01/17/23			
MW-18	3752.54	21.18	21.42	19.54	1/17/23			
MW-19	3751.26	19.34		18.15	1/17/23			Water in vault - needs new J-Plug
MW-20	3751.33	23.17	24.97	21.37	1/17/23			water in vault
MW-21	3749.49	21.29		19.43	1/17/23			
MW-22	3750.94	24.68	25.23	23.07	1/17/23			water in vault
MW-23	3750.51	20.36	22.65	19.15	1/17/23			water in vault
MW-24	3751.12	28.39		26.93	1/17/23			No J plug
MW-25	3750.95	23.57	24.82	21.93	1/17/23			
MW-26	3752.64	16.26		14.19	1/17/23			
MW-27	3751.4	16.09		14.40	1/17/23			

Notes/Comments

JANUARY 2023 Hydrasleeve™ Sampling Info

HALEY ALDRICH

PROJECT	Valencia Power Plant	SAMPLING DEVICE	Hydrasleeve™	H&A FILE NO.	128494
LOCATION	Nogales, Arizona	SOUNDER MODEL&S/N		PROJECT MGI	Mark Groseclose
CLIENT	Unisource Energy Corporation	WATER QUALITY METER	YSI 556MPS	FIELD REP.	A. Watson / M Devitt
WEATHER		WATER QUALITY S/N		TEMPERATURE	

GROUNDWATER FIELD PARAMETER INFORMATION

Well ID	DTW during sampling (ft)	EPA Test Method (8260D/6010B)	Sample Date / Time	pH	Temp (°C)	Specific Conductivity (µS/cm²)	Dissolved Oxygen (mg/L)	ORP (mV)	Color/Odor
MW-1									
MW-2	20.15	200.8-D. Chromium	1/18/23 0940	6.29	20.30	2461	1.27	129.5	Clear, some SS, odorless
MW-3									
DUP-01 @0800 *MW-4	16.55	8260B-VOCs	1/18/23 1025	6.40	18.00	979	2.53	148.1	Clear odorless
MW-5									
MW-6									
MW-7									
MW-8	20.68	200.8-D. Chromium	1/18/23 0855	6.51	17.83	524	3.07	131.2	Clear odorless
* MW-9	—	8260B-VOCs	1/17/23 1420	6.44	20.81	540	1.30	9.1	Slight yellow color odor
* MW-10	—	8260B-VOCs	1/17/23 1410	6.56	14.52	493	4.27	147.9	Clear Odorless
MW-11	19.38	8260B-VOCs	1/18/23 1055	6.36	21.08	150	1.56	134.2	Clear odorless
***MW-14									
MW-15									
MW-16	19.81	8260B-VOCs	1/18/23 0925	6.34	19.10	540	1.67	-6.2	Clear slight odor
MS/MSD ***MW-17	16.86	8260B-VOCs	1/18/23 0925	6.41	18.68	512	1.55	100.6	mostly clear, some SS
MS/MSD ***MW-18	19.83	200.8-D. Chromium	1/18/23 1110	6.52	19.27	1188	5.02	133.7	Clear no odor
MW-19	17.49	8260B-VOCs	1/18/23 1040	6.43	20.01	1119	3.20	133.2	Clear odorless
MW-20	21.39	200.8-D. Chromium	1/18/23 0840	6.70	14.71	552	5.06	226.1	Clear odorless * new 3 pump
MW-21									
MW-22	23.08	200.8-D. Chromium	1/18/23 1140	6.39	21.71	1255	2.52	122.9	Clear no odor
MW-23									
MW-24									
DUP-02 @0805 **MW-25	21.97	200.8-D. Chromium	1/18/23 1200	6.42	20.64	1230	1.48	118.3	Clear no odor
MW-26	14.49	8260B-VOCs	1/18/23 1000	6.42	20.48	1276	3.44	130.7	Clear odorless
MW-27	14.40	8260B-VOCs	1/18/23 1010	6.40	19.18	737	2.02	147.0	Clear odorless
*DUP		8260B-VOCs							
**DUP		200.8-D. Chromium							
~~***MSMSD~~									

Notes:

VOCs 8260D= Volatile Organic Compounds abbreviated list (cis-1,2-DCE, PCE, TCE, VC)

Dissolved Metals = Chromium EPA 200.7 & Arsenic EPA 200.8

APPENDIX D
Quality Assurance / Quality Control

APPENDIX D
QUALITY ASSURANCE / QUALITY CONTROL PROCEDURES
VALENCIA POWER PLANT
NOGALES, ARIZONA

The quality assurance/quality control (QA/QC) procedures for sample collection and analyses are utilized as part of the process that evaluates data quality indicators (DQI), including precision, accuracy, representativeness, completeness, and comparability. The DQIs are, in turn, used to ensure that established data quality objectives (DQO) are achieved. The establishment of DQOs is dependent on the intended uses of the data and is based on the premise that the ultimate use(s) of a particular data set should dictate the quantity and quality of the data as described in "Guidance on Systematic Planning Using the Data Quality Objectives Process" (U.S. Environmental Protection Agency [USEPA], 2006). The QA/QC procedures used by Haley & Aldrich, Inc. (Haley & Aldrich) during the collection and analysis of groundwater samples at the Site are described in the Quality Assurance Project Plan (QAPP; BC, 2003b).

Quality control procedures also incorporate the evaluation of data validity by analysis of additional samples based on the analytical method and number of field samples collected during a particular sampling event. The QC samples are generally divided into those collected as part of field groundwater sampling activities and others that are processed internally by the analytical laboratory. The type and number of QC samples for the January 2023 monitoring event were stipulated in the Sampling and Analysis Plan (SAP; Table 3). A description of the field and laboratory QC samples collected and analyzed as part of this sampling event, and Haley & Aldrich's evaluation of the QC data, is provided in the following subsections.

FIELD QUALITY CONTROL SAMPLES

To assess laboratory precision, QC samples collected during the July 2022 monitoring event included one blind field duplicate sample for dissolved chromium analysis, while the January 2023 monitoring event included two blind field duplicate samples (one for dissolved chromium analysis and one for volatile organic compounds [VOC]) and one travel blank sample analyzed for VOCs only. These samples were collected following the procedures described in the SAP (BC, 2003a) and QAPP (BC, 2003b). The field QC samples were submitted to Pace Analytical Laboratories and analyzed following the same procedures as the primary samples. For the January 2023 event, travel blanks were analyzed for the abbreviated list of VOCs only. A review of the chain-of-custody documents and analytical reports by Haley & Aldrich indicates that the appropriate type and number of QC samples for each event were submitted based upon the requirements of the SAP.

Duplicate samples were collected during the January 2023 monitoring event from MW-4 and MW-25 and labeled DUP-01 and DUP-02, respectively. The duplicate samples were collected using the same procedures as the field groundwater samples and were analyzed using one or more of the same analytical methods as their corresponding groundwater samples. Specifically, DUP-01, the duplicate sample for MW-4, was analyzed for VOCs only, while DUP-02, the duplicate sample for MW-25, was analyzed for dissolved chromium only. Both duplicate comparisons resulted in relative percent differences well below the groundwater limit of 35 percent.

One travel blank sample accompanied the cooler during the January 2023 event, from the laboratory to the field and back to the laboratory, to assess the quality of sample handling and transport. The travel blank sample was provided by the laboratory and consisted of one 40-milliliter volatile organic analysis vial filled with water that did not contain organic compounds. The travel blank sample was analyzed for

VOCs and had no detects, indicating that sample handling and transport did not introduce contamination.

LABORATORY QUALITY CONTROL SAMPLES

The laboratory utilized internal QC samples to assess the validity of the analytical results for the field samples. The laboratory QC procedures included method blank analysis, surrogate spike analysis, matrix spike/matrix spike duplicate (MS/MSD) analysis, internal standards analyses, laboratory duplicate sample analysis, and check standard analysis. The objectives of the laboratory QC samples are defined in the QAPP (BC, 2003b).

DATA VALIDATION

The laboratory supplied a standard QA/QC data package to Haley & Aldrich as part of the laboratory report (Appendix I). This data package included results of daily method blanks, MS/MSD, laboratory control samples (LCS), initial calibration verification (ICV), and continuing calibration verification (CCV data, and surrogate recoveries for all VOC samples. A data quality review of the laboratory results and associated QA/QC data was performed by Haley & Aldrich. The focus of QC review is to examine the data to validate the degree to which the DQIs established in the QAPP have been achieved. The measurement data were validated in general accordance with USEPA's Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (USEPA, 2017b) and Contract Laboratory Program National Functional Guidelines for Inorganic Superfund Data Review (USEPA, 2017a). The data quality criteria that were evaluated by QC personnel included:

- Laboratory report/documentation;
- Chain-of-custody;
- Timeliness and errors;
- Preservation and holding times;
- Method accuracy;
- Blanks and contamination;
- Surrogate recovery/system monitoring compound recoveries;
- MS/MSD evaluation;
- LCS/laboratory control sample duplicate (LCSD) results;
- ICV;
- CCV;
- Quantitation and reported detection limits;
- Field duplicate evaluation; and
- Data use and overall quality assessment.

RESULTS OF FIELD QUALITY CONTROL SAMPLES

The data quality review conducted by Haley & Aldrich for the July 2022 and January 2023 monitoring events indicated the analyses were performed in general accordance with the requirements of the referenced methods and the QAPP. VOCs were not detected in the trip blank sample analyzed by the laboratory for the January 2023 event. No VOC samples were collected in July 2022; therefore, no trip blank was included in the cooler for that sample.

Precision and accuracy, as measured by the relative percent difference calculated for analytes detected in samples and associated field duplicates, were within the acceptable limit of 35 percent.

RESULTS OF LABORATORY QUALITY CONTROL SAMPLES

Laboratory QC analyses of method blank, LCS and MS/MSD samples were within the limits established by the laboratory.

Holding times are measured from the date/time of sample collection to the date/time of sample analysis at the laboratory. Holding times were all within the limits established for the associated methods.

The results presented in this report were found to comply with the DQOs for the project with overall completeness considered acceptable if at least 90 percent of the data are determined to be valid. Based on the data validation findings described above, all the sample analytical results are acceptable for use in meeting the project objectives.

REFERENCES

1. Brown and Caldwell (BC), 2003a. *Sampling and Analysis Plan, Revision 2, Valencia Power Plant, Citizens Communications Co.* 27 February.
2. BC, 2003b. *Quality Assurance Project Plan, Revision 3, Valencia Power Plant, Citizens Communications Co.* 27 February.
3. U.S. Environmental Protection Agency (USEPA), 2006. *Guidance on Systematic Planning Using the Data Quality Objectives Process.* February.
4. USEPA, 2017a. *Contract Laboratory Program National Functional Guidelines for Inorganic Superfund Data Review.* January.
5. USEPA, 2017b. *Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review*. June.

APPENDIX E
Cumulative Record of Groundwater Elevations

APPENDIX E
CUMULATIVE RECORD OF GROUNDWATER ELEVATIONS
VALENCIA POWER PLANT
NOGALES, ARIZONA

Sample Date	MW-1	MW-2	MW-3	MW-4	MW-5	MW-6	MW-7	MW-8	MW-9	MW-10	MW-11	MW-12	MW-13	MW-14	MW-15	MW-16	MW-17	MW-18	MW-19	MW-20	MW-21	MW-22	MW-23	MW-24	MW-25	MW-26	MW-27
6/14/1994	3726.39	3725.83	3727.49	3727.88	3727.41	3726.24	3725.94	3725.71	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
6/14/1996	3725.48	3725.27	3726.11	3726.84	3726.83	3725.73	3725.52	3725.50	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1/17/1997	3727.48	3726.46	3728.27	3729.42	3728.88	3727.30	3726.64	3726.25	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3/20/1997	3727.73	3727.06	3729.20	3728.93	3729.05	3727.59	3727.11	3726.78	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
7/25/1997	3725.94	3725.66	3726.82	3727.18	3727.97	-	3725.54	3725.35	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10/30/1997	3727.13	3726.39	3728.44	3728.28	3727.96	3726.90	3726.46	3726.18	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2/9/1998	3727.11	3726.54	3728.64	3728.54	3728.34	3726.84	3726.47	3726.21	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4/24/1998	3726.49	3726.24	3727.88	3728.11	3728.17	3726.25	3725.95	3725.7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10/8/1998	3727.81	3727.81	3729.25	3729.48	3728.83	3727.49	3727.23	3727.03	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
12/15/1998	3727.76	3727.78	3729.34	3729.41	3728.91	3727.45	3727.18	3726.93	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
5/5/1999	3726.19	3726.39	3726.84	3727.44	3727.42	-	3725.89	3725.87	3726.68	3738.70	3725.89	3724.88	3726.31	3726.61	3725.94	-	-	-	-	-	-	-	-	-	-	-	-
8/4/1999	3727.69	3727.90	-	3728.28	3728.35	3727.00	3727.22	3727.05	-	-	3727.49	3726.9	3728.02	3728.04	3727.31	-	-	-	-	-	-	-	-	-	-	-	-
10/15/1999	3728.70	3729.03	3729.88	3729.79	3729.32	3728.40	3728.25	3727.94	3729.42	3742.94	3728.20	3728.62	3729.03	3729.77	3728.26	-	-	-	-	-	-	-	-	-	-	-	-
12/29/1999	3727.40	3727.64	3728.22	3728.94	-	3726.99	3727.06	3726.91	3727.99	3740.04	3727.31	3726.83	3727.53	3728.08	3727.06	-	-	-	-	-	-	-	-	-	-	-	-
3/30/2000	3726.32	3727.57	3728.11	3728.77	-	3727.10	3727.00	3726.91	3727.89	3739.20	3727.01	3727.23	3727.46	3727.87	3727.05	-	-	-	-	-	-	-	-	-	-	-	-
8/1/2000	3725.43	3726.59	3727.57	3727.52	-	3726.40	3726.09	3725.97	3727.24	3740.09	3726.08	3727.04	3726.77	3727.52	3726.11	-	-	-	-	-	-	-	-	-	-	-	-
10/25/2000	3727.66	3728.23	3729.19	3729.23	-	3727.93	3727.30	3726.98	3728.97	3742.12	3727.31	3728.89	3728.29	3728.07	3727.45	-	-	-	-	-	-	-	-	-	-	-	-
12/20/2000	3726.29	3728.64	3729.63	3728.88	-	3727.00	3726.79	3726.65	3728.03	3743.19	3726.71	3727.19	3727.50	3728.74	3726.79	-	-	-	-	-	-	-	-	-	-	-	-
5/18/2001	3726.88	3728.07	3728.82	3729.27	-	3727.73	3727.50	3727.28	3728.44	3742.13	3727.44	3727.97	3727.99	3728.45	3727.49	-	-	-	-	-	-	-	-	-	-	-	-
11/6/2001	3726.62	3728.03	3728.80	3729.38	3728.08	3727.46	3727.19	3726.90	3728.30	3742.44	3726.11	3727.74	3727.84	3728.60	3727.23	3726.87	3728.93	3733.68	-	-	-	-	-	-	-	-	-
2/25/2002	3725.69	3727.07	3727.78	3728.45	3727.20	3726.45	3726.27	3726.11	3727.39	3740.24	3726.20	3726.54	3726.84	3727.44	3726.32	3725.97	3727.78	3732.61	-	-	-	-	-	-	-	-	-
8/28/2002	3725.47	3726.88	3726.71	3727.58	3726.41	3726.32	3726.47	3726.13	3727.01	3739.24	3726.11	3726.22	3726.53	3726.96	3726.18	3725.98	3727.52	3734.81	3727.30	3725.94	3725.81	-	-	-	-	-	-
10/9/2002	3725.82	3727.23	3727.87	3728.00	3726.67	3726.63	3726.47	3726.35	3726.49	3741.44	3726.39	3727.25	3726.95	3727.49	3726.45	3726.20	3727.91	3734.94	3727.65	3726.12	3726.00	-	-	-	-	-	-
4/2/2003	3724.96	3726.37	3727.02	3727.81	3726.05	3725.42	3725.51	3725.39	3725.80	3740.43	3725.43	3726.10	3726.02	3726.57	3725.52	3725.19	3727.15	3733.66	3726.91	3725.13	3724.96	-	-	-	-	-	-
6/16/2003	3724.89	3725.95	3728.58	3727.84	3726.18	3725.40	3725.29	3725.19	3726.24	3740.35	3725.23	3725.67	3725.86	3726.36	3725.35	3724.86	3727.13	3733.44	3726.77	3724.69	3724.53	3723.74	3725.89	3720.73	-	-	-
1/6/2005	3726.39	3727.23	3729.25	3729.22	-	3727.23	3726.54	3726.16	3728.34	3741.32	3726.54	3727.62	3727.15	3727.29	3726.69	3726.05	3728.87	3733.10	3728.36	3725.75	3725.53	3724.39	3726.58	3720.93	-	-	-
7/28/2005	3726.39	3726.79	3729.54	3729.26	-	-	3726.37	3725.85	3728.58	3741.59	3726.36	-	3727.15	3727.44	3726.62	-	3728.44	3733.38	3728.32	3725.44	3725.26	3723.89	3726.79	3720.82	-	-	-
1/25/2006	3726.31	3727.01	3729.06	3729.53	-	-	3726.57	3726.19	3727.95	3741.17	3726.54	-	-	3727.67	3726.70	-	3728.41	3733.19	3728.21	3725.76	3725.68	3724.48	3727.06	3721.15	-	-	-
7/27/2006	3726.01	3725.99	3727.09	3727.74	-	-	3725.30	3726.23	3726.07	3739.46	3725.27	-	-	3726.25	3725.35	-	3727.25	3732.82	3726.87	3724.71	3724.54	3723.65	3725.90	3720.88	-	-	-
1/29/2007	3729.31	3728.58	3732.78	3732.46	-	3730.33	3728.78	3727.72	3731.84	3742.19	3728.42	-	-	3729.85	3729.11	3728.06	3730.57	3732.46	3730.98	3727.16	3725.32	3724.72	3728.01	3721.24	-	-	-
7/30/2007	3726.64	3726.62	3730.40	3729.16	-	3727.24	3726.12	3725.61	3728.18	3740.75	3726.11	-	-	3727.24	3726.34	3725.61	3728.03	3733.50	3728.33	3725.25	3725.08	3723.96	3726.60	3720.82	-	-	-
1/28/2008	3730.54	3729.83	3733.73	3733.48	-	3731.58	3730.04	3728.95	3732.83	3742.78	3730.12	-	-	3731.13	3730.39	3729.35	3731.60	3732.89	3732.21	3728.48	3728.49	3725.78	3730.98	3722.31	-	-	-
7/14/2008	3726.66	3727.53	3729.69	3730.10	-	3728.00	3726.81	3726.26	3728.59	3740.84	3730.12	-	-	3728.04	3727.06	3727.29	3729.17	3733.54	3729.26	3725.97	3725.69	3724.49	3727.11	3721.20	3739.40	3720.75	-
1/28/2009	3730.15	3729.18	3733.49	3733.14	3731.67	3731.17	3729.65	3728.62	3732.37	3741.81	3729.75	-	-	3730.75	3729.96	3728.96	3731.79	3732.12	3732.11	3728.03	3728.09	3725.43	3729.31	3721.72	3726.85	3735.94	-
7/14/2009	3725.56	3726.73	3727.95	3726.70	3727.38	3726.59	3725.87	3725.63	3726.88	3739.99	3725.83	-	-	3727.39	3725.96	3725.48	3728.38	3732.20	3727.61	3725.28	3725.12	3724.13	3726.99	3720.82	3724.80	3732.53	-
1/25/2010	3729.71	3729.03	3732.87	3732.89	3731.15	3730.63	3729.12	3728.14	3732.65	3740.13	3729.19	-	-	3730.01	3729.41	3728.45	3731.11	3732.87	3731.50	3727.77	3727.62	3725.49	3727.96	3721.58	3726.64	3735.10	-
7/6/2010	3728.32	3728.58	3731.21	3731.51	3729.78	3729.36	3728.15	3727.41	3729.91	3741.98	3728.11	-	-	3730.02	3728.27	3727.50	3730.35	3732.91	3730.15	3726.89	3726.81	-	3728.25	3721.41	-	3734.87	-
7/8/2010	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3724.76	-	-	3725.98	-	-
1/4/2011	3730.09	3729.38	3733.29	3733.02	3731.59	3731.05	3729.48	3728.52	3732.05	3742.39	3729.51	-	-	3730.60	3729.70	3728.77	3731.30	3733.04	3731.61	3727.88	3727.91	3725.48	3729.15	3721.75	3726.81	3736.01	3735.36
7/20/2011	3726.11	3727.28	3728.59	3729.05	3727.68	3727.08	3726.46	3726.18	3727.22	3739.88	3726.34	-	-	3728.10	3726.47	3725.99	3728.57	3732.62	3728.01	3725.80	3725.64	3724.64	3727.21	3721.19	3725.35	3732.64	3730.30
1/23/2012	3729.79	3729.00	3733.20	3732.48	3731.35	3730.79	3729.20	3728.10	3731.98	3741.26	3729.21	-	-	3730.75	3729.44	3728.37	3731.41	3732.15	3731.36	3727.45	3727.46	3724.89	3727.84	3721.03	3726.30	3735.46	3735.52
1/28/2013	3731.19	3728.75	3734.12	3734.08	3732.73	3732.16	3730.83	3729.92	3733.08	3742.97	3730.83	-	-	3731.76	3731.01	3730.24	3732.44	3731.95	3732.91	3729.51	3729.56	3727.60	3729.98	3723.88	3728.54	3736.82	3736.12
2/26/2014	3728.64	3728.42	3731.73	3731.68	3730.11	3729.65	3728.33	3727.51	3730.49	3740.68	3728.34	-	-	3731.57	3728.51	3727.71	3730.47	3731.28	3730.30	3727.02	3727.00	3725.21	3728.77	3721.68	3726.24	3735.07	3733.94
1/12/2015	3732.30	3731.71	3735.25	3735.07	3733.76	3731.85	3731.98	3731.11	3734.16	3742.71	3732.08	-	-	3732.65	3732.25	3731.43	3733.77	3732.29	3733.22	3730.65	3730.65	3728.66	3731.32	3725.25	3729.66	3737.34	3737.25
7/23/2015	-	3729.23	-	-	-	-	3728.92	-	-	-	-	-	-	3729.98	3728.98	3728.39	-	3731.54	-	3727.81	3727.84	3726.79	-	-	3727.38	-	-
8/14/2015	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3727.15	-	-	-	-	-

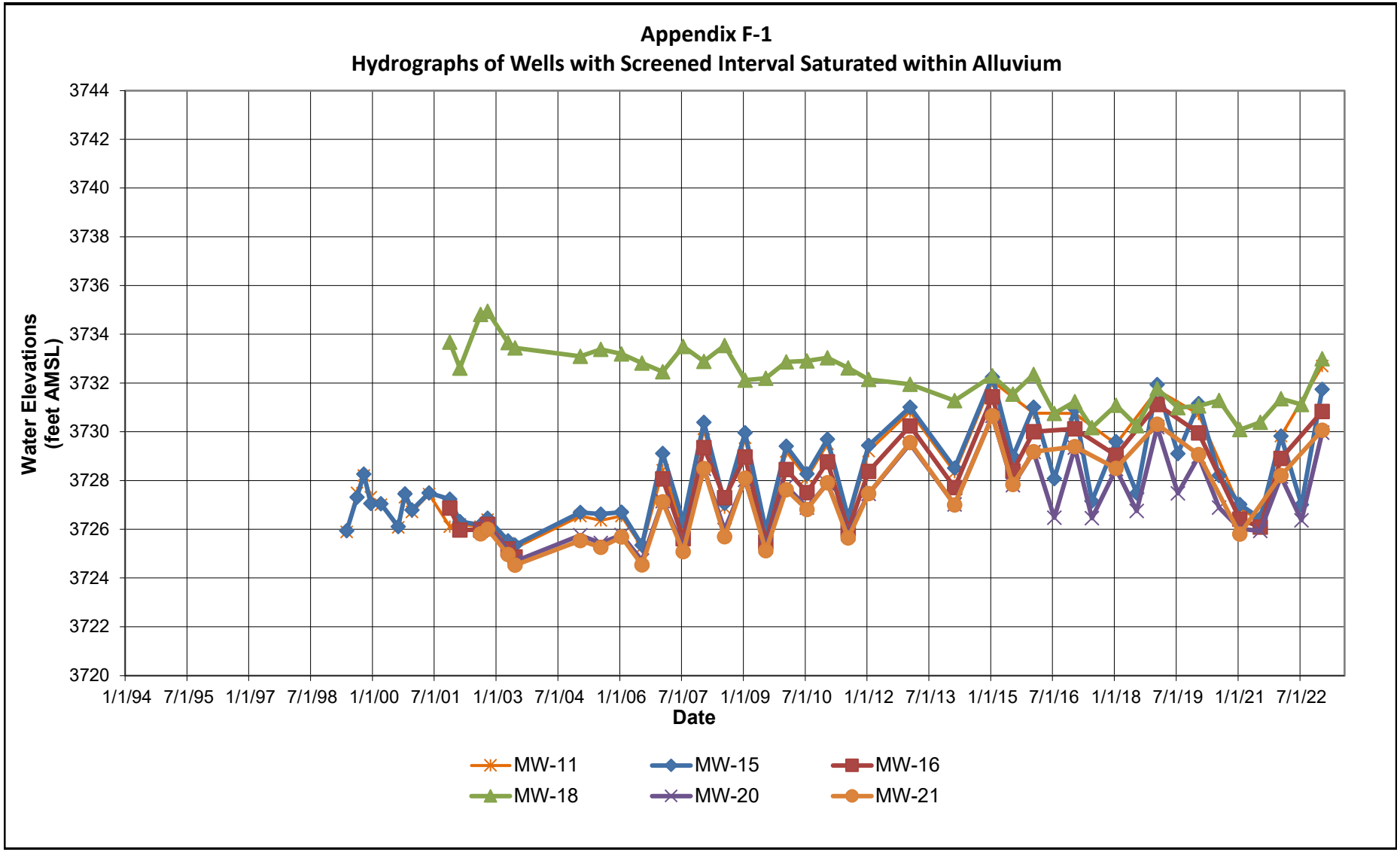
APPENDIX E
CUMULATIVE RECORD OF GROUNDWATER ELEVATIONS
VALENCIA POWER PLANT
NOGALES, ARIZONA

Sample Date	MW-1	MW-2	MW-3	MW-4	MW-5	MW-6	MW-7	MW-8	MW-9	MW-10	MW-11	MW-12	MW-13	MW-14	MW-15	MW-16	MW-17	MW-18	MW-19	MW-20	MW-21	MW-22	MW-23	MW-24	MW-25	MW-26	MW-27
1/16/2016	3731.25	3730.49	3734.45	3734.31	3732.84	3732.24	3730.73	3729.61	3733.22	3743.56	3730.76	-	-	3731.57	3731.01	3730.00	3732.53	3732.35	3733.44	3729.17	3729.18	3726.77	3730.26	3723.00	3728.02	3737.15	3736.58
7/14/2016	-	3728.09	-	-	-	-	3727.39	-	-	3742.07	-	-	-	3728.79	3728.07	-	-	3730.75	-	3726.47	-	3725.15	3728.50	-	3726.04	-	-
1/11/2017	3731.01	3730.60	3733.95	3734.05	3732.46	3732.00	3730.73	3729.82	3732.74	3742.29	3730.75	-	-	3731.50	3730.94	3730.12	3732.50	3731.24	3732.46	3729.35	3729.39	3727.46	3729.92	3723.60	3728.45	3736.76	3735.86
6/29/2017	-	3727.90	-	-	-	-	3727.16	-	-	3741.33	-	-	-	3728.42	3727.16	-	-	3730.17	-	3726.45	-	3725.48	3728.11	-	3726.13	-	-
1/15/2018	3729.56	3729.89	3732.38	3732.70	3730.76	3730.58	3729.52	3728.76	3731.14	3742.22	3729.50	-	-	3730.61	3729.60	3729.03	3731.30	3731.09	3731.37	3728.47	3728.50	3727.30	3730.13	3724.01	3727.97	3736.03	3733.99
7/2/2018	-	3728.13	-	-	-	-	3727.47	-	-	3741.48	-	-	-	3728.39	3727.48	-	-	3730.25	-	3726.75	-	3725.95	3728.05	-	3728.05	3733.72	-
1/9/2019	3732.11	3731.44	3735.19	3735.51	3733.46	3733.04	3731.68	3730.67	3733.90	3743.93	3731.71	-	-	3732.34	3731.94	3731.12	3733.90	3731.77	3733.35	3730.19	3730.31	3728.36	3730.68	3724.21	3724.29	3739.03	3737.28
7/11/2019	-	3729.27	-	-	-	-	-	3728.03	-	3743.03	-	-	-	3730.3	3729.1	-	-	3730.99	-	3727.47	-	3725.71	3728.98	-	3726.81	-	-
1/8/2020	3732.2	3730.69	3734.29	3734.58	3733.26	3732.15	-	3729.54	3733.16	3745	3730.72	-	-	3731.84	3731.16	3729.95	3732.62	3731.06	3733.17	3728.98	3729.06	3726.66	3730.2	3722.65	3727.95	3737.92	3736.49
7/22/2020	-	3728.51	-	-	-	-	3728.18	3727.32	-	3743.35	-	-	-	3729.39	3728.2	-	-	3731.29	-	3726.89	-	3725.38	3728.75	-	3726.35	-	-
1/12/2021	3726.86	3727.53	3729.8	3730.32	3728.53	3727.82	-	3726.39	3728.51	3740.31	3726.87	-	-	3728.39	3727.02	3726.41	3729.49	3730.09	3728.91	3726.02	3725.8	3724.33	3727.53	3720.73	3725.34	3733.91	3731.71
7/15/2021	-	3727.16	-	3729.31	-	-	-	3726.22	-	3740.1	3726.35	-	-	3727.19	3726.44	3726.09	3728.77	3730.39	-	3725.93	-	3725.29	3727.16	-	3725.7	-	-
1/18/2022	3730.09	3729.68	3733.32	3733.1	3731.53	3731.1	NA	3728.7	3732.01	3742.78	3729.82	-	-	3730.65	3729.82	3728.9	3732.13	3731.36	3731.92	3728.16	3728.2	3726.26	3730.15	3722.73	3727.38	3736.38	3735.31
7/20/2022	-	3727.6	-	-	-	-	-	3726.67	-	3740.53	-	-	-	3727.79	3727.01	-	-	3731.12	-	3726.36	-	3725.71	3727.86	-	3726.13	-	-
1/17/2023	3731.93	3731.46	3732.88	3735.03	3733.38	3732.92	-	3730.47	3733.74	3744.52	3732.70	-	-	3732.40	3731.74	3730.83	3733.80	3733.00	3733.11	3729.96	3730.06	3727.87	3731.36	3724.19	3729.02	3738.45	3737.00

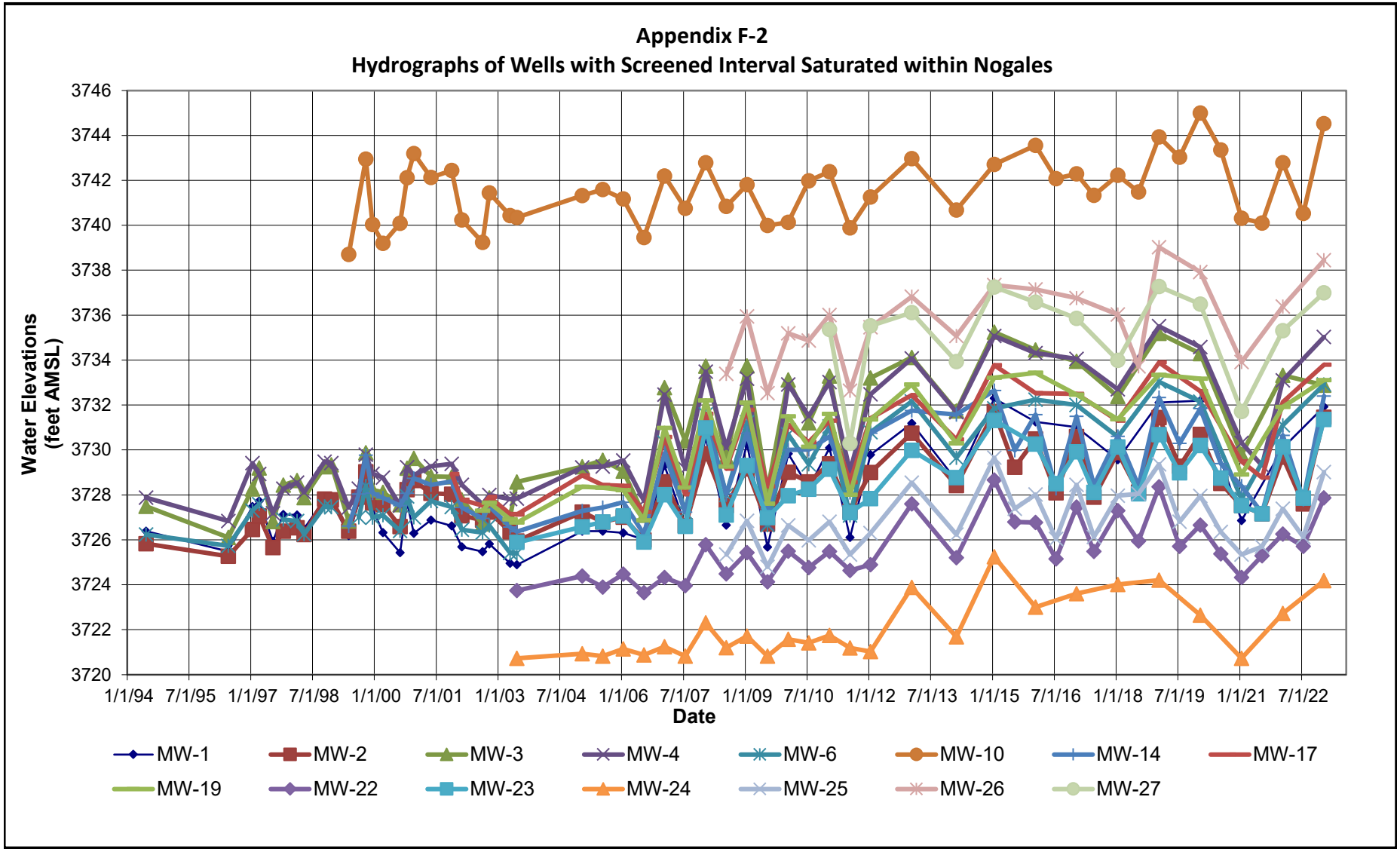
Notes:
Elevations are measured in feet above mean sea level.
'Dashes indicate wells not measured.
MW-12 and MW-13 were abandoned in 2005.
MW-7 was removed from the sampling program in July 2019.

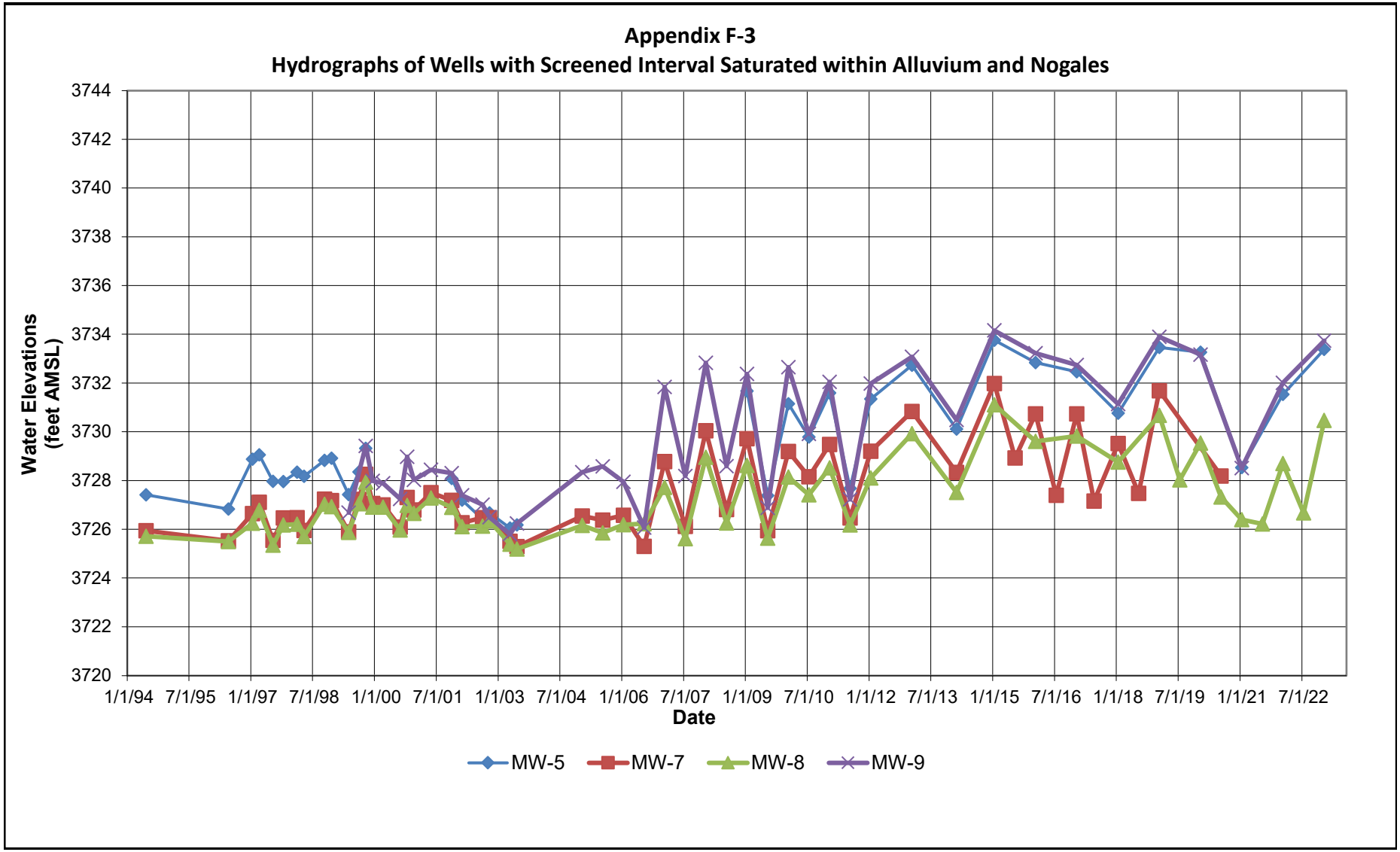
APPENDIX F
Cumulative Hydrographs of Wells

APPENDIX F
CUMULATIVE HYDROGRAPHS OF WELLS
VALENCIA POWER PLANT
NOGALES, ARIZONA

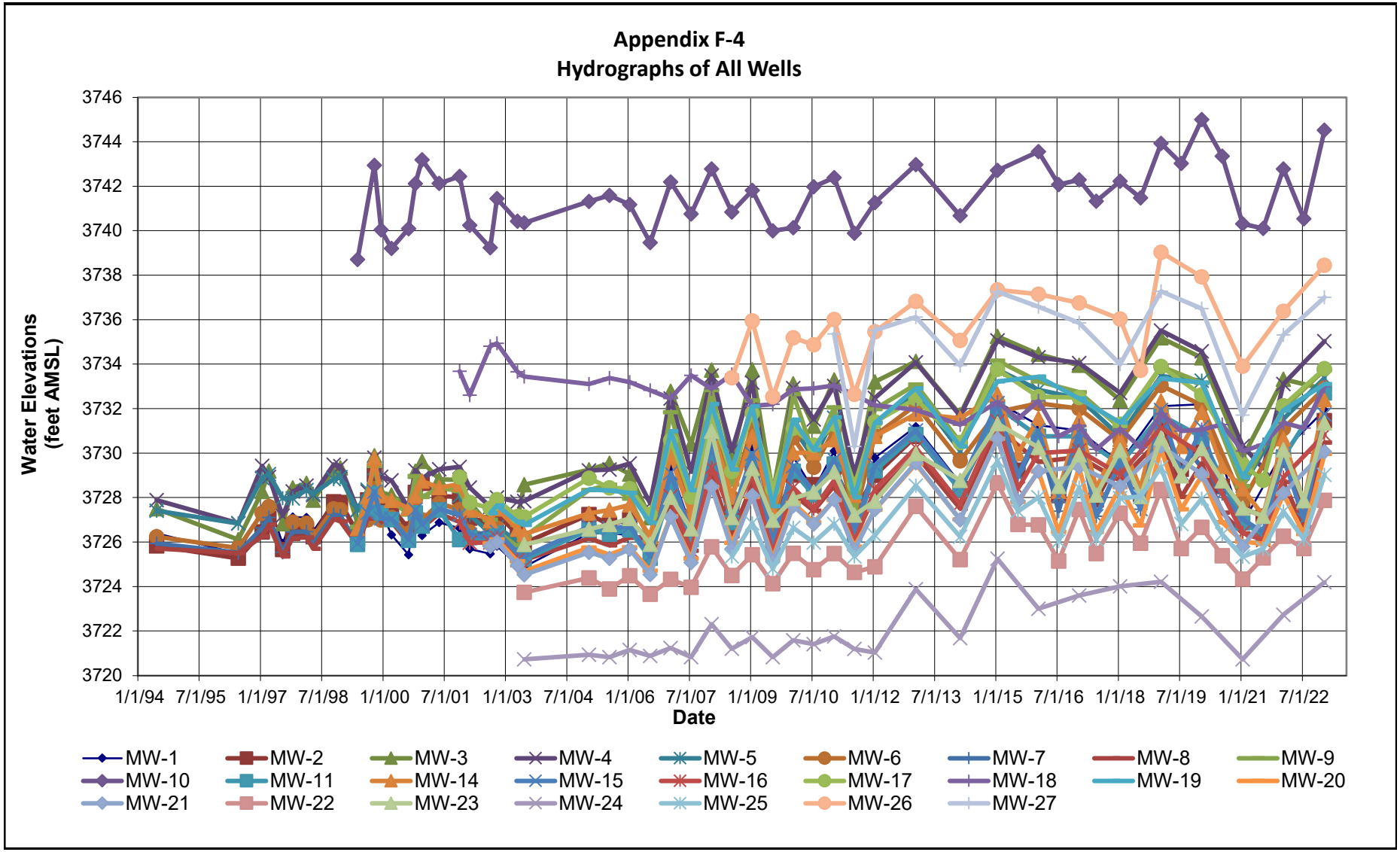


APPENDIX F
CUMULATIVE HYDROGRAPHS OF WELLS
VALENCIA POWER PLANT
NOGALES, ARIZONA




Appendix F-3
Hydrographs of Wells with Screened Interval Saturated within Alluvium and Nogales
Water Elevations (feet AMSL)
3744
3742
3740
3738
3736
3734
3732
3730
3728
3726
3724
3722
3720
1/1/94
7/1/95
1/1/97
7/1/98
1/1/00
7/1/01
1/1/03
7/1/04
1/1/06
7/1/07
1/1/09
7/1/10
1/1/12
7/1/13
1/1/15
7/1/16
1/1/18
7/1/19
1/1/21
7/1/22
Date
MW-5
MW-7
MW-8
MW-9

APPENDIX F
CUMULATIVE HYDROGRAPHS OF WELLS
VALENCIA POWER PLANT
NOGALES, ARIZONA



APPENDIX G
Cumulative Record of Arsenic and Chromium Detected in Groundwater

APPENDIX G

CUMULATIVE RECORD OF ARSENIC AND CHROMIUM DETECTED IN GROUNDWATER

VALENCIA POWER PLANT

NOGALES, ARIZONA

Well No. Date	Arsenic, Dissolved mg/L	Arsenic, Total mg/L	Chromium, Dissolved mg/L	Chromium, Total mg/L
AWQS	**0.05**	**0.05**	**0.1**	**0.1**
MW-1				
10/25/2000	-	-	-	< 0.01 U
05/17/2001	-	-	-	< 0.01 U
07/24/2001	-	-	-	< 0.01 U
11/07/2001	-	-	-	< 0.01 U
02/25/2002	-	-	-	< 0.03 U
04/24/2002	-	-	-	< 0.03 U
08/29/2002	< 0.005 U	-	< 0.01 U	-
06/17/2003	-	0.007	-	< 0.01 U
01/06/2005	-	0.0064	-	0.002
07/28/2006	-	0.0089	-	0.0015
01/30/2007	0.01	-	< 0.01 U	-
08/01/2007	0.012	-	< 0.01 U	-
01/29/2008	< 0.01 U	-	< 0.01 U	-
07/15/2008	< 0.01 U	-	-	-
01/28/2009	< 0.01 U	-	-	-
MW-2				
10/25/2000	-	-	-	**1.4**
02/25/2002	-	-	-	**1.2**
08/29/2002	< 0.005 U	< 0.005 U	**1.2**	**1.2**
Duplicate 08/29/2002	< 0.005 U	-	**1.2**	-
06/17/2003	-	< 0.005 U	-	**1.23**
Duplicate 06/17/2003	-	< 0.005 U	-	**1.24**
01/06/2005	-	0.0019	-	0.001
07/29/2005	-	-	-	< 0.01 U
Duplicate 07/29/2005	-	-	-	< 0.01 U
01/25/2006	-	-	-	< 0.01 U
07/28/2006	-	0.0041	-	< 0.001 U
01/30/2007	< 0.01 U	-	< 0.01 U	-
08/01/2007	< 0.01 U	-	< 0.01 U	-
01/29/2009	< 0.01 U	-	0.026	-
07/16/2009	0.0071	-	0.012	-
01/27/2010	0.0062	-	0.076	-
07/08/2010	-	< 0.01 U	-	< 0.01 U
01/05/2011	-	0.006	-	< 0.005 U
07/20/2011	0.008	-	< 0.005 U	-
01/24/2012	0.008	-	< 0.005 U	-
01/29/2013	0.006	-	< 0.005 U	-
02/28/2014	0.0012	-	< 0.005 U	-
1/13/2015	0.0035	-	<0.004	-
1/15/2016	0.0016	-	< 0.0040	-
1/12/2017	0.0013	-	< 0.0005	-

CUMULATIVE RECORD OF ARSENIC AND CHROMIUM DETECTED IN GROUNDWATER
VALENCIA POWER PLANT
NOGALES, ARIZONA

Well No. Date	Arsenic, Dissolved mg/L	Arsenic, Total mg/L	Chromium, Dissolved mg/L	Chromium, Total mg/L
AWQS	**0.05**	**0.05**	**0.1**	**0.1**
MW-2 (cont)				
1/16/2018	0.0014	-	0.0031	-
01/09/2019	0.0015	-	0.0014	-
1/8/2020	0.0013	-	0.0036	-
1/13/2021	-	-	0.0050	-
1/19/2022	-	-	0.0017	-
1/18/2023	-	-	< 0.010	-
MW-3				
06/14/1994	-	-	-	**0.66**
10/25/2000	-	-	-	0.02
02/25/2002	-	-	-	< 0.03 U
08/29/2002	< 0.005 U	-	< 0.01 U	-
06/17/2003	-	< 0.005 U	-	< 0.01 U
01/06/2005	-	0.0022	-	0.007
MW-4				
10/25/2000	-	-	-	< 0.01 U
02/25/2002	-	-	-	< 0.03 U
08/29/2002	< 0.005 U	-	< 0.01 U	-
06/17/2003	-	< 0.005 U	-	< 0.01 U
01/06/2005	-	0.0008	-	0.003
MW-5				
11/07/2001	-	-	-	0.04
02/25/2002	-	-	-	< 0.03 U
04/24/2002	-	-	-	0.036
08/29/2002	0.005	-	< 0.01 U	-
06/17/2003	-	0.006	-	< 0.01 U
01/28/2009	< 0.01 U	-	< 0.01 U	-
07/08/2010	-	0.029	-	< 0.01 U
01/05/2011	-	0.004	-	< 0.005 U
07/21/2011	0.011	-	< 0.005 U	-
01/24/2012	-	0.003	-	< 0.005 U
01/29/2013	0.004	-	< 0.005 U	-
02/28/2014	0.0034	-	< 0.005 U	-
1/13/2014	0.0027	-	<0.004	-
1/13/2016	0.0073	-	< 0.0040	-
1/11/2017	0.0055	-	0.00052	-
1/15/2018	0.005	-	<0.00050	-
01/08/2019	0.0040	-	0.00085	-
1/7/2020	0.0126	-	0.0013	-

CUMULATIVE RECORD OF ARSENIC AND CHROMIUM DETECTED IN GROUNDWATER
VALENCIA POWER PLANT
NOGALES, ARIZONA

Well No. Date	Arsenic, Dissolved mg/L	Arsenic, Total mg/L	Chromium, Dissolved mg/L	Chromium, Total mg/L
AWQS	**0.05**	**0.05**	**0.1**	**0.1**
MW-6				
05/17/2001	-	-	-	< 0.01 U
07/24/2001	-	-	-	< 0.01 U
11/07/2001	-	-	-	< 0.01 U
10/09/2002	-	-	< 0.01 U	-
06/17/2003	-	0.008	-	< 0.01 U
01/29/2009	< 0.01 U		< 0.01 U	
07/16/2009	0.0026	-	< 0.01 U	-
01/27/2010	0.0056	-	< 0.01 U	-
07/08/2010	-	< 0.01 U	-	< 0.01 U
01/05/2011	-	0.002	-	< 0.005 U
07/21/2011	0.007	-	< 0.005 U	-
01/24/2012	0.002	-	< 0.005 U	-
01/29/2013	0.001	-	< 0.005 U	-
02/28/2014	0.0005	-	< 0.005 U	-
1/13/2015	0.0015	-	<0.004	-
1/14/2016	< 0.0010	-	< 0.0040	-
1/12/2017	< 0.00050	-	< 0.00050	-
1/16/2018	<0.00050	-	0.0013	-
01/09/2019	< 0.00050	-	< 0.00050	-
1/8/2020	< 0.00050	-	0.0011	-
MW-7				
10/25/2000	-	-	-	**0.68**
11/07/2001	-	-	-	**0.66**
02/25/2002	-	-	-	**0.62**
04/24/2002	-	-	-	**0.63**
08/29/2002	0.014	-	**0.64**	-
06/17/2003	-	0.012	-	**0.59**
01/06/2005	-	0.0112	-	**0.529**
07/29/2005	-	-	-	**0.501**
01/25/2006	-	-	-	**0.44**
07/28/2006	-	0.011	-	**0.47**
01/30/2007	0.02	-	**0.26**	-
08/03/2007	0.016	-	**0.45**	-
01/29/2008	0.012	-	**0.15**	-
07/16/2008	0.011	-	< 0.01 U	-
Duplicate 07/16/2008	< 0.01 U	-	< 0.01 U	-
01/28/2009	< 0.01 U	-	< 0.01 U	-
07/16/2009	0.0012	-	< 0.01 U	-
01/26/2010	0.008	-	< 0.01 U	-
07/08/2010	-	< 0.01 U	-	< 0.01 U
01/06/2011	-	0.002	-	< 0.005 U

CUMULATIVE RECORD OF ARSENIC AND CHROMIUM DETECTED IN GROUNDWATER
VALENCIA POWER PLANT
NOGALES, ARIZONA

Well No. Date	Arsenic, Dissolved mg/L	Arsenic, Total mg/L	Chromium, Dissolved mg/L	Chromium, Total mg/L
AWQS	**0.05**	**0.05**	**0.1**	**0.1**
MW-7 (cont)				
07/20/2011	0.002	-	< 0.005 U	-
01/24/2012	0.002	-	< 0.005 U	-
01/29/2013	0.005	-	< 0.005 U	-
02/28/2014	0.0066	-	< 0.005 U	-
1/13/2015	0.0087	-	<0.004	-
1/15/2016	0.0083	-	< 0.0040	-
1/12/2017	0.0062	-	< 0.00050	-
1/16/2018	0.0068	-	<0.00050	-
01/09/2019	0.0020	-	0.0011	-
MW-8				
10/25/2000	-	-	-	**0.12**
05/17/2001	-	-	-	0.1
07/24/2001	-	-	-	0.1
11/07/2001	-	-	-	**0.11**
02/25/2002	-	-	-	0.1
04/24/2002	-	-	-	**0.11**
08/29/2002	0.006	-	**0.11**	-
06/17/2003	-	0.006	-	**0.12**
01/06/2005	-	0.0047	-	**0.101**
07/29/2005	-	-	-	**0.108**
01/25/2006	-	-	-	0.094
07/28/2006	-	0.0069	-	0.094
Duplicate 07/28/2006	-	0.0068	-	0.091
01/30/2007	0.012	-	0.086	-
08/01/2007	< 0.01 U	-	0.089	-
01/29/2008	< 0.01 U	-	0.063	-
07/15/2008	0.01	-	0.081	-
01/28/2009	< 0.01 U	-	0.047	-
07/16/2009	0.0074	-	0.072	-
01/26/2010	0.0076	-	0.057	-
07/07/2010	-	< 0.01 U	-	0.059
01/06/2011	-	0.009	-	0.049
07/20/2011	0.009	-	0.065	-
01/24/2012	0.01	-	0.055	-
01/29/2013	0.009	-	0.045	-
02/27/2014	0.0087	-	0.0502	-
1/13/2015	0.0093	-	0.0368	-
1/14/2016	0.0081	-	0.0385	-
1/12/2017	0.0081	-	0.0360	-
1/16/2018	0.0083	-	0.0430	-
01/09/2019	0.0084	-	0.0311	-
1/8/2020	0.0086	-	0.0400	-

CUMULATIVE RECORD OF ARSENIC AND CHROMIUM DETECTED IN GROUNDWATER
VALENCIA POWER PLANT
NOGALES, ARIZONA

Well No. Date	Arsenic, Dissolved mg/L	Arsenic, Total mg/L	Chromium, Dissolved mg/L	Chromium, Total mg/L
AWQS	**0.05**	**0.05**	**0.1**	**0.1**
MW-8 (cont)				
1/13/2021	-	-	0.0396	-
1/19/2022	-	-	0.040	-
1/18/2023	-	-	0.032	-
MW-9				
10/25/2000	-	-	-	< 0.01 U
Duplicate 10/25/2000	-	-	-	< 0.01 U
05/17/2001	-	-	-	< 0.01 U
07/24/2001	-	-	-	< 0.01 U
11/07/2001	-	-	-	< 0.01 U
02/25/2002	-	-	-	< 0.03 U
04/24/2002	-	-	-	< 0.03 U
08/29/2002	0.02	-	< 0.01 U	-
06/17/2003	-	0.027	-	< 0.01 U
01/06/2005	-	0.0065	-	< 0.001 U
MW-10				
10/25/2000	-	-	-	0.04
05/17/2001	-	-	-	< 0.01 U
07/24/2001	-	-	-	< 0.01 U
11/07/2001	-	-	-	< 0.01 U
02/25/2002	-	-	-	< 0.03 U
04/24/2002	-	-	-	< 0.03 U
08/29/2002	< 0.005 U	-	< 0.01 U	-
06/17/2003	-	< 0.005 U	-	< 0.01 U
01/06/2005	-	0.0015	-	0.004
07/20/2011	-	-	< 0.005 U	-
MW-11				
10/25/2000	-	-	-	0.05
05/17/2001	-	-	-	< 0.01 U
07/24/2001	-	-	-	< 0.01 U
11/07/2001	-	-	-	< 0.01 U
02/25/2002	-	-	-	< 0.03 U
04/24/2002	-	-	-	< 0.03 U
08/29/2002	< 0.005 U	-	< 0.01 U	-
06/17/2003	-	0.007	-	< 0.01 U
01/06/2005	-	0.014	-	< 0.001 U
07/28/2006	-	0.011	-	0.0033
01/30/2007	< 0.01 U	-	< 0.01 U	-
08/01/2007	< 0.01 U	-	< 0.01 U	-
01/29/2008	0.023	-	< 0.01 U	-
07/15/2008	< 0.01 U	-	< 0.01 U	-

CUMULATIVE RECORD OF ARSENIC AND CHROMIUM DETECTED IN GROUNDWATER
VALENCIA POWER PLANT
NOGALES, ARIZONA

Well No. Date	Arsenic, Dissolved mg/L	Arsenic, Total mg/L	Chromium, Dissolved mg/L	Chromium, Total mg/L
AWQS	**0.05**	**0.05**	**0.1**	**0.1**
MW-12				
05/17/2001	-	-	-	0.05
07/24/2001	-	-	-	0.05
11/07/2001	-	-	-	**0.33**
10/09/2002	-	-	**0.58**	-
06/17/2003	-	0.014	-	0.035
MW-13				
10/25/2000	-	-	-	< 0.01 U
05/17/2001	-	-	-	< 0.01 U
07/24/2001	-	-	-	< 0.01 U
11/07/2001	-	-	-	< 0.01 U
02/25/2002	-	-	-	< 0.03 U
04/24/2002	-	-	-	0.041
08/29/2002	0.007	-	< 0.01 U	-
06/17/2003	-	0.007	-	< 0.01 U
01/06/2005	-	0.0068	-	< 0.001 U
MW-14				
10/25/2000	-	-	-	0.09
02/25/2002	-	-	-	0.064
08/29/2002	< 0.005 U	-	0.08	-
06/17/2003	-	< 0.005 U	-	**0.12**
01/06/2005	-	0.0023	-	0.097
07/29/2005	-	-	-	**0.102**
01/25/2006	-	-	-	**0.11**
07/28/2006	-	0.0044	-	**0.12**
01/30/2007	< 0.01 U	-	**0.16**	-
08/01/2007	< 0.01 U	-	**0.13**	-
01/29/2008	< 0.01 U	-	**0.14**	-
07/15/2008	< 0.01 U	-	**0.17**	-
01/28/2009	< 0.01 U	-	**0.15**	-
Duplicate 01/28/2009	0.012	-	**0.16**	-
07/16/2009	0.0082	-	**0.16**	-
Duplicate 07/16/2009	0.0081	-	**0.16**	-
01/27/2010	0.0073	-	**0.17**	-
Duplicate 01/27/2010	0.0072	-	**0.17**	-
07/07/2010	-	< 0.01 U	-	**0.16**
Duplicate 07/07/2010	-	< 0.01 U	-	**0.16**
01/06/2011	-	0.009	-	**0.157**
Duplicate 01/06/2011	-	0.009	-	**0.158**
07/20/2011	0.01	-	**0.138**	-
Duplicate 07/20/2011	0.011	-	**0.142**	-
01/24/2012	0.014	-	**0.11**	-
Duplicate 01/24/2012	0.015	-	**0.105**	-

CUMULATIVE RECORD OF ARSENIC AND CHROMIUM DETECTED IN GROUNDWATER

VALENCIA POWER PLANT

NOGALES, ARIZONA

Well No. Date	Arsenic, Dissolved mg/L	Arsenic, Total mg/L	Chromium, Dissolved mg/L	Chromium, Total mg/L
AWQS	**0.05**	**0.05**	**0.1**	**0.1**
MW-14 (cont)				
01/29/2013	0.012	-	0.087	-
Duplicate 01/29/2013	0.012	-	0.084	-
02/26/2014	0.0061	-	**0.125**	-
Duplicate 02/26/2014	0.0062	-	**0.124**	-
1/13/2015	0.0361	-	0.0572	-
Duplicate 1/13/2015	0.0354	-	0.0569	-
1/14/2016	0.009	-	0.0763	-
1/12/2017	0.0169	-	**0.107**	-
1/16/2018	0.0080	-	0.0792	-
01/09/2019	0.0125	-	0.0887	-
1/8/2020	0.0041	-	0.0494	-
MW-15				
10/25/2000	-	-	-	**0.19**
05/17/2001	-	-	-	**0.12**
07/24/2001	-	-	-	**0.12**
11/07/2001	-	-	-	**0.57**
02/25/2002	-	-	-	**0.28**
04/24/2002	-	-	-	**0.35**
08/29/2002	0.009	-	< 0.01 U	-
10/09/2002	-	-	0.04	-
Duplicate 10/09/2002	-	-	0.07	-
06/17/2003	-	0.007	-	0.032
01/06/2005	-	0.008	-	0.0025
08/01/2007	0.012	-	0.012	-
01/29/2008	< 0.01 U	-	< 0.01 U	-
07/15/2008	0.012	-	< 0.01 U	-
01/29/2009	0.011	-	< 0.01 U	-
07/15/2009	0.0024	-	< 0.01 U	-
01/26/2010	0.021	-	**0.16**	-
07/07/2010	-	0.012	-	0.023
01/05/2011	-	0.016	-	0.066
07/21/2011	0.029	-	0.032	-
01/24/2012	0.013	-	0.063	-
01/29/2013	0.013	-	0.021	-
02/28/2014	0.0113	-	0.0096 J	-
1/13/2015	0.0055	-	<0.004	-
1/14/2016	0.0094	-	0.0135	-
1/12/2017	0.0099	-	0.0173	-
1/16/2018	0.0107	-	0.0173	-
01/09/2019	0.0082	-	0.0126	-
1/8/2020	0.0133	-	0.0349	-

CUMULATIVE RECORD OF ARSENIC AND CHROMIUM DETECTED IN GROUNDWATER
VALENCIA POWER PLANT
NOGALES, ARIZONA

Well No. Date	Arsenic, Dissolved mg/L	Arsenic, Total mg/L	Chromium, Dissolved mg/L	Chromium, Total mg/L
AWQS	**0.05**	**0.05**	**0.1**	**0.1**
MW-16				
11/07/2001	-	-	-	**0.56**
04/24/2002	-	-	-	**1**
10/09/2002	-	-	< 0.01 U	-
06/17/2003	-	< 0.005 U	-	< 0.01 U
01/29/2008	< 0.01 U	-	< 0.01 U	-
MW-17				
11/07/2001	-	-	-	< 0.01 U
02/25/2002	-	-	-	< 0.03 U
04/24/2002	-	-	-	< 0.03 U
08/29/2002	< 0.005 U	-	< 0.01 U	-
06/17/2003	-	< 0.005 U	-	0.01
01/06/2005	-	0.00098	-	0.006
Duplicate 01/06/2005	-	0.001	-	0.006
07/29/2005	-	-	-	< 0.01 U
01/25/2006	-	-	-	< 0.01 U
07/28/2006	-	0.0022	-	0.0068
01/30/2007	< 0.01 U	-	-	-
08/01/2007	< 0.01 U	-	-	-
Duplicate 01/29/2008	< 0.01 U	-	-	-
MW-18				
11/07/2001	-	-	-	0.08
02/25/2002	-	-	-	0.037
04/24/2002	-	-	-	< 0.03 U
08/29/2002	< 0.005 U	-	< 0.01 U	-
06/17/2003	-	< 0.005 U	-	< 0.01 U
01/06/2005	-	0.0012	-	0.002
07/21/2011	-	-	< 0.005 U	-
02/28/2014	0.0014	-	< 0.005 U	-
1/14/2015	0.003	-	<0.004	-
1/15/2016	0.0012	-	< 0.0040	-
1/12/2017	0.0010	-	0.0056	-
1/16/2018	0.0011	-	0.0078	-
01/09/2019	0.0011	-	0.0031	-
1/8/2020	0.0014	-	0.0051	-
1/13/2021	-	-	0.0134	-
1/19/2022	-	-	0.014	-
1/18/2023	-	-	0.015	-

CUMULATIVE RECORD OF ARSENIC AND CHROMIUM DETECTED IN GROUNDWATER
VALENCIA POWER PLANT
NOGALES, ARIZONA

Well No. Date	Arsenic, Dissolved mg/L	Arsenic, Total mg/L	Chromium, Dissolved mg/L	Chromium, Total mg/L
AWQS	**0.05**	**0.05**	**0.1**	**0.1**
MW-19				
04/24/2002	-	-	-	< 0.03 U
08/29/2002	< 0.005 U	-	< 0.01 U	-
06/17/2003	-	< 0.005 U	-	< 0.01 U
01/06/2005	-	0.0009	-	0.001
Duplicate 01/06/2005	-	0.0006	-	< 0.001 U
MW-20				
04/24/2002	-	-	-	0.055
08/29/2002	< 0.005 U	-	0.06	-
Duplicate 08/29/2002	< 0.005 U	-	0.06	-
06/17/2003	-	< 0.005 U	-	0.092
01/06/2005	-	0.0034	-	0.094
07/29/2005	-	-	-	**0.102**
01/25/2006	-	-	-	0.09
07/28/2006	-	0.0047	-	0.1
01/30/2007	< 0.01 U	-	0.089	-
08/01/2007	< 0.01 U	-	0.084	-
01/29/2008	< 0.01 U	-	0.072	-
07/15/2008	< 0.01 U	-	0.089	-
01/28/2009	< 0.01 U	-	0.071	-
07/15/2009	0.0044	-	0.08	-
01/27/2010	0.0047	-	0.087	-
07/07/2010	-	< 0.01 U	-	0.076
01/05/2011	-	0.005	-	0.074
07/20/2011	0.005	-	0.075	-
01/24/2012	0.005	-	0.082	-
01/29/2013	0.006	-	0.066	-
02/28/2014	0.0049	-	0.075	-
1/13/2015	0.0066	-	0.0544	-
7/23/2015	-	-	0.0617	-
1/14/2016	0.0056	-	0.0501	-
7/14/2016	-	-	0.0615	-
1/12/2017	0.0054	-	0.0537	-
6/29/2017	-	-	0.0574	-
1/16/2018	0.0055	-	0.0579	-
7/2/2018	-	-	0.0541	-
01/09/2019	0.0060	-	0.0502	-
7/11/2019	-	-	0.0519	-
1/8/2020	0.0057	-	0.0458	-
7/22/2020	-	-	0.0491	-
1/13/2021	-	-	0.0472	-
7/15/2021	-	-	0.060	-
Duplicate 7/15/2021	-	-	0.062	-
1/19/2022	-	-	0.058	-

CUMULATIVE RECORD OF ARSENIC AND CHROMIUM DETECTED IN GROUNDWATER
VALENCIA POWER PLANT
NOGALES, ARIZONA

Well No. Date	Arsenic, Dissolved mg/L	Arsenic, Total mg/L	Chromium, Dissolved mg/L	Chromium, Total mg/L
AWQS	**0.05**	**0.05**	**0.1**	**0.1**
MW-20 (cont)				
7/20/2022	-	-	0.055	-
1/18/2023	-	-	0.050	-
MW-21				
04/24/2002	-	-	-	0.031
08/29/2002	0.005	-	< 0.01 U	-
06/17/2003	-	0.01	-	0.049
01/06/2005	-	0.0038	-	0.021
07/28/2006	-	0.0045	-	0.027
MW-21 (cont)				
01/30/2007	-	-	< 0.01 U	-
08/01/2007	-	-	0.024	-
01/29/2008	-	-	< 0.01 U	-
07/15/2008	< 0.01 U	-	< 0.01 U	-
MW-22				
04/02/2003	-	**0.059**	-	**0.18**
06/17/2003	-	< 0.005 U	-	< 0.01 U
01/10/2005	-	0.0024	-	0.007
07/29/2005	-	0.0023	-	0.014
01/25/2006	< 0.075 U	-	-	< 0.01 U
07/28/2006	-	0.0031	-	0.011
01/30/2007	< 0.01 U	-	0.016	-
08/01/2007	< 0.01 U	-	0.022	-
01/29/2008	< 0.01 U	-	0.021	-
07/15/2008	< 0.01 U	-	0.025	-
01/28/2009	< 0.01 U	-	0.02	-
07/15/2009	0.0042	-	0.022	-
01/26/2010	0.012	-	0.052	-
07/08/2010	-	< 0.01 U	-	0.044
01/05/2011	-	0.004	-	0.045
07/20/2011	0.004	-	0.056	-
01/24/2012	0.004	-	0.058	-
01/30/2013	0.004	-	0.042	-
02/26/2014	0.0027	-	0.071	-
1/13/2015	0.0041	-	0.0584	-
7/23/2015	-	-	0.0681	-
Duplicate 07/23/2015	-	-	**0.155 J**	-
8/14/2015	-	-	0.0681	-
1/15/2016	0.0024	-	0.062	-
7/14/2016	-	-	0.0686	-
Duplicate 7/14/2016	-	-	0.0703	-
1/12/2017	0.0026	-	0.0648	-

CUMULATIVE RECORD OF ARSENIC AND CHROMIUM DETECTED IN GROUNDWATER

VALENCIA POWER PLANT

NOGALES, ARIZONA

Well No. Date	Arsenic, Dissolved mg/L	Arsenic, Total mg/L	Chromium, Dissolved mg/L	Chromium, Total mg/L
AWQS	**0.05**	**0.05**	**0.1**	**0.1**
MW-22 (cont)				
6/29/2017	-	-	0.0741	-
Duplicate 06/29/2017	-	-	0.0694	-
1/16/2018	0.0032	-	0.0782	-
7/2/2018	-	-	0.0784	-
Duplicate 7/2/2018	-	-	0.0778	-
01/09/2019	0.0028	-	0.0742	-
7/11/2019	-	-	0.0772	
Duplicate 7/11/2019	-	-	0.0745	
1/9/2020	0.0031	-	0.0766	-
7/22/2020	-	-	0.0876	-
Duplicate 7/22/2020	-	-	0.0864	-
1/13/2021	-	-	0.0877	-
7/15/2021	-	-	0.097	-
1/19/2022	-	-	**0.11**	-
7/20/2022	-	-	0.10	-
Duplicate 7/20/2022	-	-	**0.11**	-
1/18/2023	-	-	0.097	-
MW-23				
04/02/2003	-	0.018	-	0.08
Duplicate 04/02/2003	-	0.027	-	**0.14**
06/17/2003	-	< 0.005 U	-	< 0.01 U
01/06/2005	-	0.0052	-	0.012
07/29/2005	-	-	-	< 0.01 U
01/25/2006	-	-	-	< 0.01 U
07/28/2006	-	0.003	-	< 0.001 U
01/30/2007	< 0.01 U	-	< 0.01 U	-
08/01/2007	< 0.01 U	-	< 0.01 U	-
01/29/2008	< 0.01 U	-	< 0.01 U	-
07/15/2008	< 0.01 U	-	0.013	-
01/28/2009	< 0.01 U	-	< 0.01 U	-
07/14/2009	0.0041	-	< 0.01 U	-
01/25/2010	0.014	-	0.031	-
07/08/2010	-	< 0.01 U	-	< 0.01 U
01/06/2011	-	0.003	-	< 0.005 U
07/21/2011	0.003	-	< 0.005 U	-
01/24/2012	0.003	-	< 0.005 U	-
01/30/2013	0.004	-	< 0.005 U	-
02/26/2014	0.002	-	< 0.005 U	-
1/14/2015	0.0031	-	<0.004	-
1/15/2016	0.0018	-	< 0.0040	-
1/12/2017	0.002	-	< 0.00050	-

CUMULATIVE RECORD OF ARSENIC AND CHROMIUM DETECTED IN GROUNDWATER

VALENCIA POWER PLANT

NOGALES, ARIZONA

Well No. Date	Arsenic, Dissolved mg/L	Arsenic, Total mg/L	Chromium, Dissolved mg/L	Chromium, Total mg/L
AWQS	**0.05**	**0.05**	**0.1**	**0.1**
MW-23 (cont)				
1/16/2018	0.0021	-	<0.00050	-
01/09/2019	0.0019	-	< 0.00050	-
1/8/2020	0.0022	-	0.0015	-
MW-24				
05/05/2003	-	< 0.005 U	-	0.012
06/17/2003	-	< 0.005 U	-	0.013
Duplicate 06/17/2003	-	< 0.005 U	-	0.014
01/06/2005	-	0.0015	-	0.012
01/06/2011	-	0.003	-	0.009
02/26/2014	0.0015	-	0.0113	-
1/14/2015	0.0032	-	0.0077	-
1/15/2016	0.0015	-	0.0079	-
1/12/2017	0.0012	-	0.0089	-
1/16/2018	0.0016	-	0.0095	-
MW-24 (cont)				
01/09/2019	0.0015	-	0.0087	-
1/9/2020	0.0015	-	0.0093	-
MW-25				
07/15/2008	< 0.01 U	-	0.091	-
01/28/2009	< 0.01 U	-	**0.18**	-
07/15/2009	0.0027	-	**0.11**	-
01/26/2010	0.0088	-	**0.26**	-
07/08/2010	-	< 0.01 U	-	**0.16**
01/05/2011	-	0.003	-	**0.209**
07/20/2011	0.003	-	**0.181**	-
01/24/2012	0.003	-	**0.22**	-
01/30/2013	0.003	-	**0.154**	-
02/26/2014	0.0021	-	**0.232**	-
Low Flow 02/26/2014	0.0018	-	**0.175**	-
1/14/2015	0.0031	-	**0.216**	-
7/23/2015	-	-	**0.216**	-
1/15/2016	0.002	-	**0.202**	-
Duplicate 1/15/2016	0.002	-	**0.202**	-
7/14/2016	-	-	**0.212**	-
1/12/2017	0.0020	-	**0.202**	-
Duplicate 1/12/2017	0.0020	-	**0.197**	-
6/29/2017	-	-	**0.207**	-
1/16/2018	0.0023	-	**0.191**	-
Duplicate 1/16/2018	0.022	-	**0.194**	-
7/2/2018	-	-	**0.163**	-
1/9/2019	0.0026	-	**0.191**	-
Duplicate 1/09/2019	0.0025	-	**0.185**	-

CUMULATIVE RECORD OF ARSENIC AND CHROMIUM DETECTED IN GROUNDWATER
VALENCIA POWER PLANT
NOGALES, ARIZONA

Well No. Date	Arsenic, Dissolved mg/L	Arsenic, Total mg/L	Chromium, Dissolved mg/L	Chromium, Total mg/L
AWQS	**0.05**	**0.05**	**0.1**	**0.1**
MW-25 (cont)				
7/11/2019	-		**0.172**	
1/8/2020	0.0025	-	**0.177**	-
Duplicate 1/8/2020	0.0025	-	**0.179**	-
7/22/2020	-		**0.152**	-
1/13/2021	-	-	**0.156**	-
Duplicate 1/13/2021	-	-	**0.136**	-
7/15/2021	-	-	**0.13**	-
1/19/2022	-	-	**0.14**	-
Duplicate 1/19/2022	-	-	**0.14**	-
7/20/2022	-	-	**0.11**	-
1/18/2023	-	-	**0.12**	-
1/18/2023	-	-	**0.12**	-
NW PROD WELL-47				
10/15/2002	-	**0.2**	-	0.1
NW PROD WELL-100				
10/15/2002	-	**0.15**	-	0.07
NW PROD WELL-140				
10/15/2002	-	**0.3**	-	0.07
NW PROD WELL				
09/22/2005	-	**0.08**	-	**0.279**
01/25/2006	-	**0.17**	-	**0.32**
07/28/2006	-	**0.15**	-	**0.58**
01/30/2007	**0.1**	-	**0.4**	-
Duplicate 01/30/2007	**0.11**	-	**0.44**	-
08/01/2007	**0.14**	-	**0.55**	-
Duplicate 08/01/2007	**0.15**	-	**0.55**	-
01/29/2008	**0.11**	-	**0.49**	-
Duplicate 01/29/2008	**0.12**	-	**0.51**	-
NE PROD WELL				
06/14/1994	-	0.005	-	**0.256**
10/25/2000	-	-	-	**0.37**
NE PROD WELL-85				
10/15/2002	-	< 0.005 U	-	0.02
NE PROD WELL-140				
10/15/2002	-	< 0.005 U	-	0.02
NE PROD WELL-250				
10/15/2002	-	< 0.005 U	-	0.02

CUMULATIVE RECORD OF ARSENIC AND CHROMIUM DETECTED IN GROUNDWATER
VALENCIA POWER PLANT
NOGALES, ARIZONA

Well No. Date	Arsenic, Dissolved mg/L	Arsenic, Total mg/L	Chromium, Dissolved mg/L	Chromium, Total mg/L
AWQS	**0.05**	**0.05**	**0.1**	**0.1**
NE PROD WELL-350				
10/15/2002	-	< 0.005 U	-	0.03
Duplicate 10/15/2002	-	< 0.005 U	-	0.02
SSPW				
06/17/2003	-	< 0.005 U	-	< 0.01 U

Notes:

< = less than
AWQS = Aquifer Water Quality Standards
mg/L = milligrams per liter
U = Indicates the compound was analyzed for, but not detected.

APPENDIX H
Cumulative Record of Volatile Organic Compounds Detected in Groundwater

APPENDIX H-1
CUMULATIVE RECORD OF VOLATILE ORGANIC COMPOUNDS DETECTED IN GROUNDWATER
VALENCIA POWER PLANT
NOGALES, ARIZONA

ANALYTE	SAMPLE DATE	MW-1	MW-2	MW-2*	MW-3	MW-3*	MW-4	MW-4*	MW-5	MW-6	MW-7	MW-8	MW-9	MW-9*	MW-10	MW-11	MW-12	MW-13	MW-14	MW-15	MW-15*	AWQS
Acetone	6/24/1996	-	-	-	-	-	-	-	-	NS	-	-	<10	-	-	-	NS	-	-	-	-	NE
	8/29/2002	-	-	-	-	-	-	-	-	NS	-	-	<10	<10	-	-	NS	-	-	-	-	
	10/9/2002	<10	<10	-	<10	-	<10	-	<10	NS	<10	<10	-	-	<10	<10	NS	<10	<10	<10	<10	
	4/2/2003	-	-	-	-	-	-	-	-	NS	-	-	-	-	-	-	NS	-	-	-	-	
	6/17/2003	<10	<10	<10	<10	-	<10	-	<10	NS	<10	<10	<10	-	<10	<10	NS	<10	<10	<10	-	
	1/6/2005	<20	<20	-	<20	-	<20	-	-	NS	<20	<20	<20	-	<20	<20	NS	<20	<20	<20	-	
	7/29/2005	-	-	-	-	-	-	-	-	NS	-	<20	<20	-	<20	<20	NS	<20	-	<20	<20	
	1/25/2006	-	-	-	-	-	-	-	-	NS	-	<20	<20	-	<20	<20	NS	-	-	<20	-	
	7/28/2006	-	<20	-	-	-	-	-	-	NS	<20	<20	<20	-	<20	<20	NS	-	-	<20	-	
	1/30/2007	-	-	-	-	-	-	-	-	NS	<20	<20	<20	-	<20	-	NS	-	-	<20	-	
	8/1/2007	-	-	-	-	-	-	-	-	NS	<20	<20	<20	-	<20	<20	NS	-	-	<20	-	
	1/29/2008	-	-	-	-	-	-	-	-	NS	<20	<20	<20	-	<20	-	NS	-	-	<20	-	
	7/15/2008	-	-	-	-	-	-	-	-	NS	-	<10	<10	-	<10	-	NS	-	-	<10	-	
	1/28/2009	-	<20	-	-	-	<20	-	<20	<20**	-	-	<20	-	<20	-	NS	-	-	-	-	
	2/10/2009	<20	-	-	<20	<20	-	-	-	NS	-	-	-	-	-	<20	NS	-	-	-	-	
	7/14/2009	<50	-	-	<50	-	<50	-	-	NS	-	-	<50	-	<50	<50	NS	-	-	-	-	
	1/25/2010	<50	-	-	<50	-	58	-	-	NS	-	-	<50	-	<50	<50	NS	-	-	-	-	
Benzene	6/24/1996	-	-	-	-	-	-	-	-	NS	-	-	<2	-	-	-	NS	-	-	-	-	5
	8/29/2002	-	-	-	-	-	-	-	-	NS	-	-	0.5	0.65	-	-	NS	-	-	-	-	
	10/9/2002	<0.5	<0.5	-	<0.5	-	<0.5	-	<0.5	NS	<0.5	<0.5	-	-	<0.5	<0.5	NS	0.83	<0.5	<0.5	<0.5	
	4/2/2003	-	-	-	-	-	-	-	-	NS	-	-	-	-	-	-	NS	-	-	-	-	
	6/17/2003	<0.5	<0.5	<0.5	<0.5	-	<0.5	-	<0.5	NS	<0.5	<0.5	1.2	-	<0.5	<0.5	NS	0.6	<0.5	<0.5	-	
	1/6/2005	<0.5	<0.5	-	<0.5	-	<0.5	-	-	NS	<0.5	<0.5	0.9	-	<0.5	<0.5	NS	0.83	<0.5	<0.5	-	
	7/29/2005	-	-	-	-	-	-	-	-	NS	-	<0.5	<0.5	-	<0.5	<0.5	NS	0.91	-	<0.5	<0.5	
	1/25/2006	-	-	-	-	-	-	-	-	NS	-	<1	<1	-	<1	<1	NS	-	-	<1	-	
	7/28/2006	-	<1	-	-	-	-	-	-	NS	<1	<1	<1	-	<1	<1	NS	-	-	<1	-	
	1/30/2007	-	-	-	-	-	-	-	-	NS	<0.5	<0.5	<0.5	-	<0.5	-	NS	-	-	<0.5	-	
	8/1/2007	-	-	-	-	-	-	-	-	NS	<0.5	<0.5	<0.5	-	<0.5	<0.5	NS	-	-	<0.5	-	
	1/29/2008	-	-	-	-	-	-	-	-	NS	<0.5	<0.5	<0.5	-	<0.5	-	NS	-	-	<0.5	-	
	7/15/2008	-	-	-	-	-	-	-	-	NS	-	<0.5	<0.5	-	<0.5	-	NS	-	-	<0.5	-	
	1/28/2009	-	<0.5	-	-	-	<0.5	-	<0.5	<0.5**	-	-	<0.5	-	<0.5	-	NS	-	-	-	-	
	2/10/2009	<0.5	-	-	<0.5	<0.5	-	-	-	NS	-	-	-	-	-	<0.5	NS	-	-	-	-	
	7/14/2009	<1	-	-	<1	-	<1	-	-	NS	-	-	<1	-	<1	<1	NS	-	-	-	-	
	1/25/2010	<1	-	-	<1	-	<1	-	-	NS	-	-	<1	-	<1	<1	NS	-	-	-	-	

APPENDIX H-1
CUMULATIVE RECORD OF VOLATILE ORGANIC COMPOUNDS DETECTED IN GROUNDWATER
VALENCIA POWER PLANT
NOGALES, ARIZONA

ANALYTE	SAMPLE DATE	MW-1	MW-2	MW-2*	MW-3	MW-3*	MW-4	MW-4*	MW-5	MW-6	MW-7	MW-8	MW-9	MW-9*	MW-10	MW-11	MW-12	MW-13	MW-14	MW-15	MW-15*	AWQS
Carbon Disulfide	8/29/2002	-	-	-	-	-	-	-	-	NS	-	-	<2	<2	-	-	NS	-	-	-	-	NE
	10/9/2002	<2	<2	-	<2	-	<2	-	<2	NS	<2	<2	-	-	<2	<2	NS	<2	<2	<2	<2	
	4/2/2003	-	-	-	-	-	-	-	-	NS	-	-	-	-	-	-	NS	-	-	-	-	
	6/17/2003	<2	<2	<2	<2	-	<2	-	<2	NS	<2	<2	<2	-	<2	5.1	NS	<2	<2	<2	-	
	1/6/2005	<2	<2	-	<2	-	<2	-	-	NS	<2	<2	<2	-	<2	<2	NS	<2	<2	<2	-	
	7/29/2005	-	-	-	-	-	-	-	-	NS	-	<4	<4	-	<4	<4	NS	<4	-	<4	<4	
	7/28/2006	-	<1	-	-	-	-	-	-	NS	<1	<1	<1	-	<1	<1	NS	-	-	<1	-	
	1/30/2007	-	-	-	-	-	-	-	-	NS	<0.5	<0.5	<0.5	-	<0.5	-	NS	-	-	<0.5	-	
	8/1/2007	-	-	-	-	-	-	-	-	NS	<0.5	<0.5	<0.5	-	<0.5	<0.5	NS	-	-	<0.5	-	
	1/29/2008	-	-	-	-	-	-	-	-	NS	<0.5	<0.5	<0.5	-	<0.5	-	NS	-	-	<0.5	-	
	7/15/2008	-	-	-	-	-	-	-	-	NS	-	<2	<2	-	<2	-	NS	-	-	<2	-	
	1/28/2009	-	<0.5	-	-	-	<0.5	-	<0.5	<0.5**	-	-	<0.5	-	<0.5	-	NS	-	-	-	-	
	2/10/2009	<0.5	-	-	<0.5	<0.5	-	-	-	NS	-	-	-	-	-	<0.5	NS	-	-	-	-	
Chloroethane	6/24/1996	-	-	-	-	-	-	-	-	NS	-	-	<5	-	-	-	NS	-	-	-	-	NE
	8/29/2002	-	-	-	-	-	-	-	-	NS	-	-	1.7	2.5	-	-	NS	-	-	-	-	
	10/9/2002	<1	<1	-	<1	-	<1	-	<1	NS	<1	<1	-	-	<1	<1	NS	<1	<1	<1	<1	
	4/2/2003	-	-	-	-	-	-	-	-	NS	-	-	-	-	-	-	NS	-	-	-	-	
	6/17/2003	<1	<1	<1	<1	-	<1	-	<1	NS	<1	<1	4.9	-	<1	<1	NS	<1	<1	<1	-	
	1/6/2005	<2	<2	-	<2	-	<2	-	-	NS	<2	<2	2.2	-	<2	<2	NS	<2	<2	<2	-	
	7/29/2005	-	-	-	-	-	-	-	-	NS	-	<2	<2	-	<2	<2	NS	<2	-	<2	<2	
	1/25/2006	-	-	-	-	-	-	-	-	NS	-	<1	<1	-	<1	<1	NS	-	-	<1	-	
	7/28/2006	-	<1	-	-	-	-	-	-	NS	<1	<1	<1	-	<1	<1	NS	-	-	<1	-	
	1/30/2007	-	-	-	-	-	-	-	-	NS	<5	<5	<5	-	<5	-	NS	-	-	<5	-	
	8/1/2007	-	-	-	-	-	-	-	-	NS	<5	<5	<5	-	<5	<5	NS	-	-	<5	-	
	1/29/2008	-	-	-	-	-	-	-	-	NS	<5	<5	<5	-	<5	-	NS	-	-	<5	-	
	7/15/2008	-	-	-	-	-	-	-	-	NS	-	<1	<1	-	<1	-	NS	-	-	<1	-	
	1/28/2009	-	<4	-	-	-	<4	-	<4	<4**	-	-	<4	-	<4	-	NS	-	-	-	-	
	2/10/2009	<4	-	-	<4	<4	-	-	-	NS	-	-	-	-	-	<4	NS	-	-	-	-	
	7/14/2009	<5	-	-	<5	-	<5	-	-	NS	-	-	<5	-	<5	<5	NS	-	-	-	-	
	1/25/2010	<5	-	-	<5	-	<5	-	-	NS	-	-	<5	-	<5	<5	NS	-	-	-	-	
Chloroform	6/24/1996	-	-	-	-	-	-	-	-	NS	-	-	<2	-	-	-	NS	-	-	-	-	100
	8/29/2002	-	-	-	-	-	-	-	-	NS	-	-	<1	<1	-	-	NS	-	-	-	-	
	10/9/2002	<1	<1	-	<1	-	<1	-	<1	NS	<1	<1	-	-	<1	<1	NS	<1	<1	<1	<1	
	4/2/2003	-	-	-	-	-	-	-	-	NS	-	-	-	-	-	-	NS	-	-	-	-	
	6/17/2003	<1	<1	<1	<1	-	<1	-	<1	NS	<1	<1	<1	-	<1	<1	NS	<1	<1	<1	-	
	1/6/2005	<1	<1	-	<1	-	<1	-	-	NS	<1	<1	<1	-	<1	<1	NS	<1	<1	<1	-	
	7/29/2005	-	-	-	-	-	-	-	-	NS	-	<1	<1	-	<1	<1	NS	<1	-	<1	<1	
	1/25/2006	-	-	-	-	-	-	-	-	NS	-	<1	<1	-	<1	<1	NS	-	-	<1	-	
	7/28/2006	-	<1	-	-	-	-	-	-	NS	<1	<1	<1	-	<1	<1	NS	-	-	<1	-	
	1/30/2007	-	-	-	-	-	-	-	-	NS	<0.5	<0.5	<0.5	-	<0.5	-	NS	-	-	<0.5	-	
	8/1/2007	-	-	-	-	-	-	-	-	NS	<0.5	<0.5	<0.5	-	<0.5	<0.5	NS	-	-	<0.5	-	
	1/29/2008	-	-	-	-	-	-	-	-	NS	<0.5	<0.5	<0.5	-	<0.5	-	NS	-	-	<0.5	-	
	7/15/2008	-	-	-	-	-	-	-	-	NS	-	<0.5	<0.5	-	<0.5	-	NS	-	-	<0.5	-	
	1/28/2009	-	<0.5	-	-	-	<0.5	-	<0.5	<0.5**	-	-	<0.5	-	<0.5	-	NS	-	-	-	-	
	2/10/2009	<0.5	-	-	<0.5	<0.5	-	-	-	NS	-	-	-	-	-	<0.5	NS	-	-	-	-	
	7/14/2009	<5	-	-	<5	-	<5	-	-	NS	-	-	<5	-	<5	<5	NS	-	-	-	-	
	1/25/2010	<5	-	-	<5	-	<5	-	-	NS	-	-	<5	-	<5	<5	NS	-	-	-	-	

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ANALYTE	SAMPLE DATE	MW-1	MW-2	MW-2*	MW-3	MW-3*	MW-4	MW-4*	MW-5	MW-6	MW-7	MW-8	MW-9	MW-9*	MW-10	MW-11	MW-12	MW-13	MW-14	MW-15	MW-15*	AWQS
1,2-Dichlorobenzene	6/24/1996	-	-	-	-	-	-	-	-	NS	-	-	<2	-	-	-	NS	-	-	-	-	600
	8/29/2002	-	-	-	-	-	-	-	-	NS	-	-	<0.5	<0.5	-	-	NS	-	-	-	-	
	10/9/2002	<0.5	<0.5	-	<0.5	-	<0.5	-	1.1	NS	<0.5	<0.5	-	-	<0.5	<0.5	NS	<0.5	<0.5	<0.5	<0.5	
	4/2/2003	-	-	-	-	-	-	-	-	NS	-	-	-	-	-	-	NS	-	-	-	-	
	6/17/2003	<0.5	<0.5	<0.5	<0.5	-	<0.5	-	1.1	NS	<0.5	<0.5	<0.5	-	<0.5	<0.5	NS	<0.5	<0.5	<0.5	-	
	1/6/2005	<0.5	<0.5	-	<0.5	-	<0.5	-	-	NS	<0.5	<0.5	<0.5	-	<0.5	<0.5	NS	<0.5	<0.5	<0.5	-	
	7/29/2005	-	-	-	-	-	-	-	-	NS	-	<0.5	<0.5	-	<0.5	<0.5	NS	<0.5	-	<0.5	<0.5	
	1/25/2006	-	-	-	-	-	-	-	-	NS	-	<1	<1	-	<1	<1	NS	-	-	<1	-	
	7/28/2006	-	<1	-	-	-	-	-	-	NS	<1	<1	<1	-	<1	<1	NS	-	-	<1	-	
	1/30/2007	-	-	-	-	-	-	-	-	NS	<1.5	<1.5	<1.5	-	<1.5	-	NS	-	-	<1.5	-	
	8/1/2007	-	-	-	-	-	-	-	-	NS	<1.5	<1.5	<1.5	-	<1.5	<1.5	NS	-	-	<1.5	-	
	1/29/2008	-	-	-	-	-	-	-	-	NS	<1.5	<1.5	<1.5	-	<1.5	-	NS	-	-	<1.5	-	
	7/15/2008	-	-	-	-	-	-	-	-	NS	-	<0.5	<0.5	-	<0.5	-	NS	-	-	<0.5	-	
	1/28/2009	-	<1.5	-	-	-	<1.5	-	<1.5	<1.5**	-	-	<1.5	-	<1.5	-	NS	-	-	-	-	
	2/10/2009	<1.5	-	-	<1.5	<1.5	-	-	-	NS	-	-	-	-	-	<1.5	NS	-	-	-	-	
	7/14/2009	<1	-	-	<1	-	<1	-	-	NS	-	-	<1	-	<1	<1	NS	-	-	-	-	
	1/25/2010	<1	-	-	<1	-	<1	-	-	NS	-	-	<1	-	<1	<1	NS	-	-	-	-	
1,4-Dichlorobenzene	6/24/1996	-	-	-	-	-	-	-	-	NS	-	-	<2	-	-	-	NS	-	-	-	-	75
	8/29/2002	-	-	-	-	-	-	-	-	NS	-	-	<0.5	<0.5	-	-	NS	-	-	-	-	
	10/9/2002	<0.5	<0.5	-	<0.5	-	<0.5	-	<0.5	NS	<0.5	<0.5	-	-	<0.5	<0.5	NS	<0.5	<0.5	<0.5	<0.5	
	4/2/2003	-	-	-	-	-	-	-	-	NS	-	-	-	-	-	-	NS	-	-	-	-	
	6/17/2003	<0.5	<0.5	<0.5	<0.5	-	<0.5	-	<0.5	NS	<0.5	<0.5	<0.5	-	<0.5	<0.5	NS	<0.5	<0.5	<0.5	-	
	1/6/2005	<0.5	<0.5	-	<0.5	-	<0.5	-	-	NS	<0.5	<0.5	<0.5	-	<0.5	<0.5	NS	<0.5	<0.5	<0.5	-	
	7/29/2005	-	-	-	-	-	-	-	-	NS	-	<0.5	<0.5	-	<0.5	<0.5	NS	<0.5	-	<0.5	<0.5	
	1/25/2006	-	-	-	-	-	-	-	-	NS	-	<1	<1	-	<1	<1	NS	-	-	<1	-	
	7/28/2006	-	<1	-	-	-	-	-	-	NS	<1	<1	<1	-	<1	<1	NS	-	-	<1	-	
	1/30/2007	-	-	-	-	-	-	-	-	NS	<1.5	<1.5	<1.5	-	<1.5	-	NS	-	-	<1.5	-	
	8/1/2007	-	-	-	-	-	-	-	-	NS	<1.5	<1.5	<1.5	-	<1.5	<1.5	NS	-	-	<1.5	-	
	1/29/2008	-	-	-	-	-	-	-	-	NS	<1.5	<1.5	<1.5	-	<1.5	-	NS	-	-	<1.5	-	
	7/15/2008	-	-	-	-	-	-	-	-	NS	-	<0.5	<0.5	-	<0.5	-	NS	-	-	<0.5	-	
	1/28/2009	-	<1.5	-	-	-	<1.5	-	<1.5	<1.5**	-	-	<1.5	-	<1.5	-	NS	-	-	-	-	
	2/10/2009	<1.5	-	-	<1.5	<1.5	-	-	-	NS	-	-	-	-	-	<1.5	NS	-	-	-	-	
	7/14/2009	<1	-	-	<1	-	<1	-	-	NS	-	-	<1	-	<1	<1	NS	-	-	-	-	
	1/25/2010	<1	-	-	<1	-	<1	-	-	NS	-	-	<1	-	<1	<1	NS	-	-	-	-	
1,1-Dichloroethane	6/24/1996	-	-	-	-	-	-	-	-	NS	-	-	23.5	-	-	-	NS	-	-	-	-	NE
	8/29/2002	-	-	-	-	-	-	-	-	NS	-	-	37	45	-	-	NS	-	-	-	-	
	10/9/2002	2.5	<0.5	-	<0.5	-	<0.5	-	6.8	NS	<0.5	<0.5	-	-	<0.5	<0.5	NS	4.6	2.7	1.5	1.4	
	4/2/2003	-	-	-	-	-	-	-	-	NS	-	-	-	-	-	-	NS	-	-	-	-	
	6/17/2003	3.9	<0.5	<0.5	<0.5	-	<0.5	-	4.4	NS	<0.5	<0.5	75	-	<0.5	<0.5	NS	5.3	4	1	-	
	1/6/2005	1.1	<0.5	-	<0.5	-	<0.5	-	-	NS	<0.5	<0.5	19	-	<0.5	<0.5	NS	5.4	2.4	<0.5	-	
	7/29/2005	-	-	-	-	-	-	-	-	NS	-	<0.5	6.9	-	<0.5	<0.5	NS	5.1	-	<0.5	<0.5	
	1/25/2006	-	-	-	-	-	-	-	-	NS	-	<1	2.6	-	<1	<1	NS	-	-	<1	-	
	7/28/2006	-	<1	-	-	-	-	-	-	NS	<1	<1	6.8	-	<1	<1	NS	-	-	<1	-	
	1/30/2007	-	-	-	-	-	-	-	-	NS	<1	<1	2.2	-	<1	-	NS	-	-	<1	-	
	8/1/2007	-	-	-	-	-	-	-	-	NS	<1	<1	2.9	-	<1	<1	NS	-	-	<1	-	
	1/29/2008	-	-	-	-	-	-	-	-	NS	<1	<1	1.9	-	<1	-	NS	-	-	<1	-	

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VALENCIA POWER PLANT
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ANALYTE	SAMPLE DATE	MW-1	MW-2	MW-2*	MW-3	MW-3*	MW-4	MW-4*	MW-5	MW-6	MW-7	MW-8	MW-9	MW-9*	MW-10	MW-11	MW-12	MW-13	MW-14	MW-15	MW-15*	AWQS
1,1-Dichloroethane (cont.)	7/15/2008	-	-	-	-	-	-	-	-	NS	-	<0.5	2.5	-	<0.5	-	NS	-	-	<0.5	-	NE
	1/28/2009	-	<1	-	-	-	<1	-	<1	<1**	-	-	2.2	-	<1	-	NS	-	-	-	-	
	2/10/2009	1.7	-	-	<1	<1	-	-	-	NS	-	-	-	-	-	<1	NS	-	-	-	-	
	7/14/2009	1.2	-	-	<1	-	<1	-	-	NS	-	-	4.3	-	<1	<1	NS	-	-	-	-	
	1/25/2010	<1	-	-	<1	-	<1	-	-	NS	-	-	<1	-	<1	<1	NS	-	-	-	-	
1,2-Dichloroethane	6/24/1996	-	-	-	-	-	-	-	-	NS	-	-	<2	-	-	-	NS	-	-	-	-	5
	8/29/2002	-	-	-	-	-	-	-	-	NS	-	-	<0.5	<0.5	-	-	NS	-	-	-	-	
	10/9/2002	<0.5	<0.5	-	<0.5	-	<0.5	-	<0.5	NS	<0.5	<0.5	-	-	<0.5	<0.5	NS	<0.5	<0.5	<0.5	<0.5	
	4/2/2003	-	-	-	-	-	-	-	-	NS	-	-	-	-	-	-	NS	-	-	-	-	
	6/17/2003	<0.5	<0.5	<0.5	<0.5	-	<0.5	-	<0.5	NS	<0.5	<0.5	0.8	-	<0.5	<0.5	NS	<0.5	<0.5	<0.5	-	
	1/6/2005	<0.5	<0.5	-	<0.5	-	<0.5	-	-	NS	<0.5	<0.5	<0.5	-	<0.5	<0.5	NS	<0.5	<0.5	<0.5	-	
	7/29/2005	-	-	-	-	-	-	-	-	NS	-	<0.5	<0.5	-	<0.5	<0.5	NS	<0.5	-	<0.5	<0.5	
	1/25/2006	-	-	-	-	-	-	-	-	NS	-	<1	<1	-	<1	<1	NS	-	-	<1	-	
	7/28/2006	-	<1	-	-	-	-	-	-	NS	<1	<1	<1	-	<1	<1	NS	-	-	<1	-	
	1/30/2007	-	-	-	-	-	-	-	-	NS	<1	<1	<1	-	<1	-	NS	-	-	<1	-	
	8/1/2007	-	-	-	-	-	-	-	-	NS	<1	<1	<1	-	<1	<1	NS	-	-	<1	-	
	1/29/2008	-	-	-	-	-	-	-	-	NS	<1	<1	<1	-	<1	-	NS	-	-	<1	-	
	1/28/2009	-	<1	-	-	-	<1	-	<1	<1**	-	-	<1	-	<1	-	NS	-	-	-	-	
	2/10/2009	<1	-	-	<1	<1	-	-	-	NS	-	-	-	-	-	<1	NS	-	-	-	-	
	7/14/2009	<1	-	-	<1	-	<1	-	-	NS	-	-	<1	-	<1	<1	NS	-	-	-	-	
	1/25/2010	<1	-	-	<1	-	<1	-	-	NS	-	-	<1	-	<1	<1	NS	-	-	-	-	
1,1-Dichloroethene	6/24/1996	-	-	-	-	-	-	-	-	NS	-	-	<2	-	-	-	NS	-	-	-	-	7
	8/29/2002	-	-	-	-	-	-	-	-	NS	-	-	2.6	3.6	-	-	NS	-	-	-	-	
	10/9/2002	<1	<1	-	<1	-	<1	-	2.1	NS	<1	<1	-	-	<1	<1	NS	<1	<1	<1	<1	
	4/2/2003	-	-	-	-	-	-	-	-	NS	-	-	-	-	-	-	NS	-	-	-	-	
	6/17/2003	<1	<1	<1	<1	-	<1	-	2.7	NS	<1	<1	3.9	-	1.6	<1	NS	<1	<1	<1	-	
	1/6/2005	<1	<1	-	<1	-	<1	-	-	NS	<1	<1	<1	-	<1	<1	NS	<1	<1	<1	-	
	7/29/2005	-	-	-	-	-	-	-	-	NS	-	<1	<1	-	<1	<1	NS	<1	-	<1	<1	
	1/25/2006	-	-	-	-	-	-	-	-	NS	-	<1	<1	-	<1	<1	NS	-	-	<1	-	
	7/28/2006	-	<1	-	-	-	-	-	-	NS	<1	<1	<1	-	<1	<1	NS	-	-	<1	-	
	1/30/2007	-	-	-	-	-	-	-	-	NS	<0.5	<0.5	<0.5	-	<0.5	-	NS	-	-	<0.5	-	
	8/1/2007	-	-	-	-	-	-	-	-	NS	<0.5	<0.5	<0.5	-	<0.5	<0.5	NS	-	-	<0.5	-	
	1/29/2008	-	-	-	-	-	-	-	-	NS	<0.5	<0.5	<0.5	-	<0.5	-	NS	-	-	<0.5	-	
	7/15/2008	-	-	-	-	-	-	-	-	NS	-	<0.5	<0.5	-	<0.5	-	NS	-	-	<0.5	-	
	1/28/2009	-	<0.5	-	-	-	<0.5	-	<0.5	<0.5**	-	-	<0.5	-	<0.5	-	NS	-	-	-	-	
	2/10/2009	<0.5	-	-	<0.5	<0.5	-	-	-	NS	-	-	-	-	-	<0.5	NS	-	-	-	-	
	7/14/2009	<1	-	-	<1	-	<1	-	-	NS	-	-	<1	-	<1	<1	NS	-	-	-	-	
	1/25/2010	<1	-	-	<1	-	<1	-	-	NS	-	-	<1	-	<1	<1	NS	-	-	-	-	
cis-1,2-Dichloroethene	6/24/1996	-	-	-	-	-	-	-	-	NS	-	-	7.2	-	-	-	NS	-	-	-	-	70
	8/29/2002	-	-	-	-	-	-	-	-	NS	-	-	1.2	1.5	-	-	NS	-	-	-	-	
	10/9/2002	<0.5	<0.5	-	<0.5	-	<0.5	-	0.67	NS	<0.5	<0.5	-	-	<0.5	2	NS	0.54	1.9	1.2	1.3	
	4/2/2003	-	-	-	-	-	-	-	-	NS	-	-	-	-	-	-	NS	-	-	-	-	
	6/17/2003	<0.5	<0.5	<0.5	<0.5	-	<0.5	-	0.62	NS	<0.5	<0.5	4.8	-	<0.5	1.8	NS	0.63	2.2	1.1	-	
	1/6/2005	<0.5	<0.5	-	<0.5	-	<0.5	-	-	NS	<0.5	<0.5	5.6	-	<0.5	1.2	NS	0.62	1	<0.5	-	
	7/29/2005	-	-	-	-	-	-	-	-	NS	-	<0.5	0.9	-	<0.5	0.58	NS	0.68	-	<0.5	<0.5	
	1/25/2006	-	-	-	-	-	-	-	-	NS	-	<1	<1	-	<1	<1	NS	-	-	<1	-	
	7/28/2006	-	<1	-	-	-	-	-	-	NS	<1	<1	<1	-	<1	<1	NS	-	-	<1	-	
	1/30/2007	-	-	-	-	-	-	-	-	NS	<0.5	<0.5	4	-	<0.5	-	NS	-	-	<0.5	-	

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ANALYTE	SAMPLE DATE	MW-1	MW-2	MW-2*	MW-3	MW-3*	MW-4	MW-4*	MW-5	MW-6	MW-7	MW-8	MW-9	MW-9*	MW-10	MW-11	MW-12	MW-13	MW-14	MW-15	MW-15*	AWQS
cis-1,2-Dichloroethene (cont)	8/1/2007	-	-	-	-	-	-	-	-	NS	<0.5	<0.5	1.9	-	<0.5	<0.5	NS	-	-	<0.5	-	70
	1/29/2008	-	-	-	-	-	-	-	-	NS	<0.5	<0.5	6.1	-	<0.5	-	NS	-	-	<0.5	-	
	7/15/2008	-	-	-	-	-	-	-	-	NS	-	<0.5	2.5	-	<0.5	-	NS	-	-	<0.5	-	
	1/28/2009	-	<0.5	-	-	-	<0.5	-	0.91	<0.5**	-	-	4.9	-	<0.5	-	NS	-	-	-	-	
	2/10/2009	<0.5	-	-	<0.5	<0.5	-	-	-	NS	-	-	-	-	-	<0.5	NS	-	-	-	-	
	7/14/2009	<1	-	-	<1	-	<1	-	-	NS	-	-	2.1	-	<1	<1	NS	-	-	-	-	
	1/25/2010	<1	-	-	<1	-	<1	-	-	NS	-	-	1.9	-	<1	<1	NS	-	-	-	-	
	7/7/2010	<0.5	-	-	<0.5	-	<0.5	-	-	NS	-	-	1.7	-	<0.5	<0.5	NS	-	-	-	-	
	1/5/2011	<2	-	-	<2	-	<2	-	<4	<4	-	-	<2	-	<2	<2	NS	-	-	-	-	
	7/20/2011	-	-	-	<0.5	-	-	-	-	NS	-	-	1.76	-	<0.5	<0.5	NS	-	-	-	-	
	7/21/2011	<0.5	-	-	-	-	<0.5	-	-	NS	-	-	-	-	-	-	NS	-	-	-	-	
	1/24/2012	<0.5	-	-	-	-	<0.5	-	-	NS	-	-	2.05	-	<0.5	<0.5	NS	-	-	-	-	
	1/29/2013	<0.5	-	-	-	-	<0.5	-	-	NS	-	-	4.1	-	<0.5	<0.5	NS	-	-	-	-	
	2/28/2014	<0.23	-	-	<0.23	-	<0.23	-	0.28 J	<0.23	-	-	2.1	-	<0.23	<0.23	NS	NS	-	-	-	
	1/13/2015	< 0.20	-	-	< 0.20	-	< 0.20	< 0.20	< 0.20	< 0.20	-	-	2.0	-	< 0.20	< 0.20	NS	NS	-	-	-	
	1/14/2016	< 0.20	-	-	< 0.20	-	< 0.20	< 0.20	< 0.20	< 0.20	-	-	1.4	-	< 0.20	< 0.20	NS	NS	-	-	-	
	1/12/2017	<0.50	-	-	<0.50	-	<0.50	<0.50	<0.50	<0.50	-	-	1.2	-	<0.50	<0.50	NS	NS	-	-	-	
	1/16/2018	<0.50	-	-	<0.50	-	<0.50	<0.50	<0.50	<0.50	-	-	1.7	-	<0.50	<0.50	NS	NS	-	-	-	
	1/9/2019	< 0.50	-	-	< 0.50	-	< 0.50	< 0.50	< 0.50	< 0.50	-	-	1.4	-	< 0.50	< 0.50	NS	NS	-	-	-	
	1/8/2020	< 0.50	< 0.50	-	< 0.50	-	< 0.50	< 0.50	< 0.50	< 0.50	NS	-	1.7	-	< 0.50	< 0.50	NS	NS	-	-	-	
	1/13/2021	-	-	-	-	-	< 0.50	< 0.50	-	-	NS	-	0.74	-	< 0.50	< 0.50	NS	NS	-	-	-	
	7/15/2021	-	-	-	-	-	< 0.50	-	-	-	-	-	-	-	-	-	NS	NS	-	-	-	
	1/19/2022	-	-	-	-	-	< 0.50	< 0.50	-	-	NS	-	0.95	-	< 0.50	< 0.50	NS	NS	-	-	-	
	1/18/2023	-	-	-	-	-	< 0.50	< 0.50	-	-	NS	-	0.82	-	< 0.50	< 0.50	NS	NS	-	-	-	
trans-1,2-Dichloroethene	6/24/1996	-	-	-	-	-	-	-	-	NS	-	-	<2	-	-	-	NS	-	-	-	-	100
	8/29/2002	-	-	-	-	-	-	-	-	NS	-	-	<0.5	<0.5	-	-	NS	-	-	-	-	
	10/9/2002	<0.5	<0.5	-	<0.5	-	<0.5	-	<0.5	NS	<0.5	<0.5	-	-	<0.5	<0.5	NS	<0.5	<0.5	<0.5	<0.5	
	4/2/2003	-	-	-	-	-	-	-	-	NS	-	-	-	-	-	-	NS	-	-	-	-	
	6/17/2003	<0.5	<0.5	<0.5	<0.5	-	<0.5	-	<0.5	NS	<0.5	<0.5	<0.5	-	<0.5	<0.5	NS	<0.5	<0.5	<0.5	-	
	1/6/2005	<0.5	<0.5	-	<0.5	-	<0.5	-	-	NS	<0.5	<0.5	<0.5	-	<0.5	<0.5	NS	<0.5	<0.5	<0.5	-	
	7/29/2005	-	-	-	-	-	-	-	-	NS	-	<0.5	<0.5	-	<0.5	<0.5	NS	<0.5	-	<0.5	<0.5	
	1/25/2006	-	-	-	-	-	-	-	-	NS	-	<1	<1	-	<1	<1	NS	-	-	<1	-	
	7/28/2006	-	<1	-	-	-	-	-	-	NS	<1	<1	<1	-	<1	<1	NS	-	-	<1	-	
	1/30/2007	-	-	-	-	-	-	-	-	NS	<0.5	<0.5	<0.5	-	<0.5	-	NS	-	-	<0.5	-	
	8/1/2007	-	-	-	-	-	-	-	-	NS	<0.5	<0.5	<0.5	-	<0.5	<0.5	NS	-	-	<0.5	-	
	1/29/2008	-	-	-	-	-	-	-	-	NS	<0.5	<0.5	<0.5	-	<0.5	-	NS	-	-	<0.5	-	
	7/15/2008	-	-	-	-	-	-	-	-	NS	-	<0.5	<0.5	-	<0.5	-	NS	-	-	<0.5	-	
	1/28/2009	-	<0.5	-	-	-	<0.5	-	<0.5	<0.5**	-	-	<0.5	-	<0.5	-	NS	-	-	-	-	
	2/10/2009	<0.5	-	-	<0.5	<0.5	-	-	-	NS	-	-	-	-	-	<0.5	NS	-	-	-	-	
	7/14/2009	<1	-	-	<1	-	<1	-	-	NS	-	-	<1	-	<1	<1	NS	-	-	-	-	
	1/25/2010	<1	-	-	<1	-	<1	-	-	NS	-	-	<1	-	<1	<1	NS	-	-	-	-	
	2/27/2014	<0.24	-	-	<0.24	-	<0.24	-	<0.24	<0.24	-	-	<0.24	-	<0.24	<0.24	NS	NS	-	-	-	
Ethylbenzene	6/24/1996	-	-	-	-	-	-	-	-	NS	-	-	3.6	-	-	-	NS	-	-	-	-	700
	8/29/2002	-	-	-	-	-	-	-	-	NS	-	-	0.8	1.3	-	-	NS	-	-	-	-	
	10/9/2002	<0.5	<0.5	-	<0.5	-	<0.5	-	<0.5	NS	<0.5	<0.5	-	-	<0.5	<0.5	NS	<0.5	<0.5	<0.5	<0.5	
	4/2/2003	-	-	-	-	-	-	-	-	NS	-	-	-	-	-	-	NS	-	-	-	-	
	6/17/2003	<0.5	<0.5	<0.5	<0.5	-	<0.5	-	<0.5	NS	<0.5	<0.5	5.9	-	<0.5	<0.5	NS	<0.5	<0.5	<0.5	-	
	1/6/2005	<0.5	<0.5	-	<0.5	-	<0.5	-	-	NS	<0.5	<0.5	0.98	-	<0.5	<0.5	NS	<0.5	<0.5	<0.5	-	
	7/29/2005	-	-	-	-	-	-	-	-	NS	-	<0.5	<0.5	-	<0.5	<0.5	NS	<0.5	-	<0.5	<0.5	
	1/25/2006	-	-	-	-	-	-	-	-	NS	-	<1	<1	-	<1	<1	NS	-	-	<1	-	

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ANALYTE	SAMPLE DATE	MW-1	MW-2	MW-2*	MW-3	MW-3*	MW-4	MW-4*	MW-5	MW-6	MW-7	MW-8	MW-9	MW-9*	MW-10	MW-11	MW-12	MW-13	MW-14	MW-15	MW-15*	AWQS
Ethylbenzene (cont)	7/28/2006	-	<1	-	-	-	-	-	-	NS	<1	<1	<1	-	<1	<1	NS	-	-	<1	-	700
	1/30/2007	-	-	-	-	-	-	-	-	NS	<2	<2	<2	-	<2	-	NS	-	-	<2	-	
	8/1/2007	-	-	-	-	-	-	-	-	NS	<2	<2	<2	-	<2	<2	NS	-	-	<2	-	
	1/29/2008	-	-	-	-	-	-	-	-	NS	<2	<2	<2	-	<2	-	NS	-	-	<2	-	
	7/15/2008	-	-	-	-	-	-	-	-	NS	-	<0.5	<0.5	-	<0.5	-	NS	-	-	<0.5	-	
	1/28/2009	-	<2	-	-	-	<2	-	<2	<2**	-	-	<2	-	<2	-	NS	-	-	-	-	
	2/10/2009	<2	-	-	<2	<2	-	-	-	NS	-	-	-	-	-	<2	NS	-	-	-	-	
	7/14/2009	<1	-	-	<1	-	<1	-	-	NS	-	-	<1	-	<1	<1	NS	-	-	-	-	
	1/25/2010	<1	-	-	<1	-	<1	-	-	NS	-	-	<1	-	<1	<1	NS	-	-	-	-	
Isopropylbenzene	6/24/1996	-	-	-	-	-	-	-	-	NS	-	-	<2	-	-	-	NS	-	-	-	-	NE
	8/29/2002	-	-	-	-	-	-	-	-	NS	-	-	<0.5	0.71	-	-	NS	-	-	-	-	
	10/9/2002	<0.5	<0.5	-	<0.5	-	<0.5	-	5.4	NS	<0.5	<0.5	-	-	<0.5	<0.5	NS	<0.5	<0.5	<0.5	<0.5	
	4/2/2003	-	-	-	-	-	-	-	-	NS	-	-	-	-	-	-	NS	-	-	-	-	
	6/17/2003	<0.5	<0.5	<0.5	<0.5	-	<0.5	-	5.9	NS	<0.5	<0.5	2.3	-	<0.5	1.4	NS	1.2	<0.5	<0.5	-	
	1/6/2005	<0.5	<0.5	-	<0.5	-	<0.5	-	-	NS	<0.5	<0.5	0.85	-	<0.5	<0.5	NS	<0.5	<0.5	<0.5	-	
	7/29/2005	-	-	-	-	-	-	-	-	NS	-	<0.5	0.61	-	<0.5	<0.5	NS	<0.5	-	<0.5	<0.5	
	7/28/2006	-	<1	-	-	-	-	-	-	NS	<1	<1	<1	-	<1	<1	NS	-	-	<1	-	
	1/30/2007	-	-	-	-	-	-	-	-	NS	<2	<2	<2	-	<2	-	NS	-	-	<2	-	
	8/1/2007	-	-	-	-	-	-	-	-	NS	<2.5	<2.5	<2.5	-	<2.5	<2.5	NS	-	-	<2.5	-	
	1/29/2008	-	-	-	-	-	-	-	-	NS	<2.5	<2.5	<2.5	-	<2.5	-	NS	-	-	<2.5	-	
	7/15/2008	-	-	-	-	-	-	-	-	NS	-	<1	<1	-	<1	-	NS	-	-	<1	-	
	1/28/2009	-	<2.5	-	-	-	<2.5	-	<2.5	3.2**	-	-	<2.5	-	<2.5	-	NS	-	-	-	-	
	2/10/2009	<2.5	-	-	<2.5	<2.5	-	-	-	NS	-	-	-	-	-	<2.5	NS	-	-	-	-	
	7/14/2009	<1	-	-	<1	-	<1	-	-	NS	-	-	<1	-	<1	<1	NS	-	-	-	-	
	1/25/2010	<1	-	-	<1	-	<1	-	-	NS	-	-	<1	-	<1	<1	NS	-	-	-	-	
m- and p-Xylene Isomers	8/29/2002	-	-	-	-	-	-	-	-	NS	-	-	3.1	4.9	-	-	NS	-	-	-	-	NE
	10/9/2002	<1	<1	-	<1	-	<1	-	<1	NS	<1	<1	-	-	<1	<1	NS	<1	<1	<1	<1	
	4/2/2003	-	-	-	-	-	-	-	-	NS	-	-	-	-	-	-	NS	-	-	-	-	
	6/17/2003	<1	<1	<1	<1	-	<1	-	6.5	NS	<1	<1	17	-	<1	<1	NS	<1	<1	<1	-	
	1/6/2005	<1	<1	-	<1	-	<1	-	-	NS	<1	<1	2.2	-	<1	<1	NS	<1	<1	<1	-	
	7/29/2005	-	-	-	-	-	-	-	-	NS	-	<1	<1	-	<1	<1	NS	<1	-	<1	<1	
	1/25/2006	-	-	-	-	-	-	-	-	NS	-	<2	<2	-	<2	<2	NS	-	-	<2	-	
	7/28/2006	-	<2	-	-	-	-	-	-	NS	<2	<2	<2	-	<2	<2	NS	-	-	<2	-	
Methyl ethyl ketone	6/24/1996	-	-	-	-	-	-	-	-	NS	-	-	<10	-	-	-	NS	-	-	-	-	NE
	8/29/2002	-	-	-	-	-	-	-	-	NS	-	-	<5	<5	-	-	NS	-	-	-	-	
	10/9/2002	<5	<5	-	<5	-	<5	-	<5	NS	<5	<5	-	-	<5	<5	NS	<5	<5	<5	<5	
	4/2/2003	-	-	-	-	-	-	-	-	NS	-	-	-	-	-	-	NS	-	-	-	-	
	6/17/2003	<8	<8	<8	<8	-	<8	-	<8	NS	<8	<8	<8	-	<8	<8	NS	<8	<8	<8	-	
	1/6/2005	<8	<8	-	<8	-	<8	-	-	NS	<8	<8	<8	-	<8	<8	NS	<8	<8	<8	-	
	7/29/2005	-	-	-	-	-	-	-	-	NS	-	<8	<8	-	<8	<8	NS	<8	-	<8	<8	
	1/25/2006	-	-	-	-	-	-	-	-	NS	-	<5	<5	-	<5	<5	NS	-	-	<5	-	
	7/28/2006	-	<5	-	-	-	-	-	-	NS	<5	<5	<5	-	<5	<5	NS	-	-	<5	-	
	1/30/2007	-	-	-	-	-	-	-	-	NS	<5	<5	<5	-	<5	-	NS	-	-	<5	-	
	8/1/2007	-	-	-	-	-	-	-	-	NS	<5	<5	<5	-	<5	<5	NS	-	-	<5	-	
	1/29/2008	-	-	-	-	-	-	-	-	NS	<5	<5	<5	-	<5	-	NS	-	-	<5	-	
	7/15/2008	-	-	-	-	-	-	-	-	NS	-	<10	<10	-	<10	-	NS	-	-	<10	-	

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ANALYTE	SAMPLE DATE	MW-1	MW-2	MW-2*	MW-3	MW-3*	MW-4	MW-4*	MW-5	MW-6	MW-7	MW-8	MW-9	MW-9*	MW-10	MW-11	MW-12	MW-13	MW-14	MW-15	MW-15*	AWQS
Methyl ethyl ketone (cont)	1/28/2009	-	<5	-	-	-	<5	-	<5	<5**	-	-	<5	-	<5	-	NS	-	-	-	-	NE
	2/10/2009	<5	-	-	<5	<5	-	-	-	NS	-	-	-	-	-	<5	NS	-	-	-	-	
	7/14/2009	<10	-	-	<10	-	<10	-	-	NS	-	-	<10	-	<10	<10	NS	-	-	-	-	
	1/25/2010	<10	-	-	<10	-	<10	-	-	NS	-	-	<10	-	<10	<10	NS	-	-	-	-	
Methylene chloride	6/24/1996	-	-	-	-	-	-	-	-	NS	-	-	<5	-	-	-	NS	-	-	-	-	5
	8/29/2002	-	-	-	-	-	-	-	-	NS	-	-	<1	<1	-	-	NS	-	-	-	-	
	10/9/2002	<1	<1	-	<1	-	<1	-	<1	NS	<1	<1	-	-	<1	<1	NS	<1	<1	<1	<1	
	4/2/2003	-	-	-	-	-	-	-	-	NS	-	-	-	-	-	-	NS	-	-	-	-	
	6/17/2003	<1	<1	<1	<1	-	<1	-	<1	NS	<1	<1	<1	-	<1	<1	NS	<1	<1	<1	-	
	1/6/2005	<2	<2	-	<2	-	<2	-	-	NS	<2	<2	<2	-	<2	<2	NS	<2	<2	<2	-	
	7/29/2005	-	-	-	-	-	-	-	-	NS	-	<2	<2	-	<2	<2	NS	<2	-	<2	<2	
	1/25/2006	-	-	-	-	-	-	-	-	NS	-	<2	<2	-	<2	<2	NS	-	-	<2	-	
	7/28/2006	-	<2	-	-	-	-	-	-	NS	<2	<2	<2	-	<2	<2	NS	-	-	<2	-	
	1/30/2007	-	-	-	-	-	-	-	-	NS	<3	<3	<3	-	<3	-	NS	-	-	<3	-	
	8/1/2007	-	-	-	-	-	-	-	-	NS	<3	<3	<3	-	<3	<3	NS	-	-	<3	-	
	1/29/2008	-	-	-	-	-	-	-	-	NS	<3	<3	<3	-	<3	-	NS	-	-	<3	-	
	7/15/2008	-	-	-	-	-	-	-	-	NS	-	<2	<2	-	<2	-	NS	-	-	<2	-	
	1/28/2009	-	<3	-	-	-	<3	-	<3	<3**	-	-	<3	-	<3	-	NS	-	-	-	-	
	2/10/2009	<3	-	-	<3	<3	-	-	-	NS	-	-	-	-	-	<3	NS	-	-	-	-	
	7/14/2009	<5	-	-	<5	-	<5	-	-	NS	-	-	<5	-	<5	<5	NS	-	-	-	-	
	1/25/2010	<5	-	-	<5	-	<5	-	-	NS	-	-	<5	-	<5	<5	NS	-	-	-	-	
Naphthalene	6/24/1996	-	-	-	-	-	-	-	-	NS	-	-	11.3	-	-	-	NS	-	-	-	-	NE
	8/29/2002	-	-	-	-	-	-	-	-	NS	-	-	28	39	-	-	NS	-	-	-	-	
	10/9/2002	<3	<3	-	<3	-	<3	-	<3	NS	<3	<3	-	-	<3	<3	NS	<3	<3	<3	<3	
	4/2/2003	-	-	-	-	-	-	-	-	NS	-	-	-	-	-	-	NS	-	-	-	-	
	6/17/2003	<3	<3	<3	<3	-	<3	-	7.6	NS	<3	<3	98	-	<3	<3	NS	<3	<3	<3	-	
	1/6/2005	<3	<3	-	<3	-	<3	-	-	NS	<3	<3	13	-	<3	<3	NS	<3	<3	<3	-	
	7/29/2005	-	-	-	-	-	-	-	-	NS	-	<3	<3	-	<3	<3	NS	<3	-	<3	<3	
	7/28/2006	-	<5	-	-	-	-	-	-	NS	<5	<5	<5	-	<5	<5	NS	-	-	<5	-	
	1/30/2007	-	-	-	-	-	-	-	-	NS	<5	<5	<5	-	<5	-	NS	-	-	<5	-	
	8/1/2007	-	-	-	-	-	-	-	-	NS	<5	<5	<5	-	<5	<5	NS	-	-	<5	-	
	1/29/2008	-	-	-	-	-	-	-	-	NS	<5	<5	<5	-	<5	-	NS	-	-	<5	-	
	7/15/2008	-	-	-	-	-	-	-	-	NS	-	<1	<1	-	<1	-	NS	-	-	<1	-	
	1/28/2009	-	<5	-	-	-	<5	-	<5	<5**	-	-	<5	-	<5	-	NS	-	-	-	-	
	2/10/2009	<5	-	-	<5	<5	-	-	-	NS	-	-	-	-	-	<5	NS	-	-	-	-	
	7/14/2009	<5	-	-	<5	-	<5	-	-	NS	-	-	<5	-	<5	<5	NS	-	-	-	-	
	1/25/2010	<5	-	-	<5	-	<5	-	-	NS	-	-	<5	-	<5	<5	NS	-	-	-	-	
N-Butylbenzene	6/24/1996	-	-	-	-	-	-	-	-	NS	-	-	<2	-	-	-	NS	-	-	-	-	NE
	8/29/2002	-	-	-	-	-	-	-	-	NS	-	-	0.76	1.1	-	-	NS	-	-	-	-	
	10/9/2002	<0.5	<0.5	-	<0.5	-	<0.5	-	6.3	NS	<0.5	<0.5	-	-	<0.5	0.63	NS	<0.5	<0.5	<0.5	<0.5	
	4/2/2003	-	-	-	-	-	-	-	-	NS	-	-	-	-	-	-	NS	-	-	-	-	
	6/17/2003	<0.5	<0.5	<0.5	<0.5	-	<0.5	-	8.1	NS	<0.5	<0.5	1.8	-	<0.5	0.99	NS	<0.5	<0.5	<0.5	-	
	1/6/2005	<0.5	<0.5	-	<0.5	-	<0.5	-	-	NS	<0.5	<0.5	0.76	-	<0.5	<0.5	NS	<0.5	<0.5	<0.5	-	
	7/29/2005	-	-	-	-	-	-	-	-	NS	-	<0.5	0.71	-	<0.5	<0.5	NS	<0.5	-	<0.5	<0.5	
	1/25/2006	-	-	-	-	-	-	-	-	NS	-	<1	<1	-	<1	<1	NS	-	-	<1	-	
	7/28/2006	-	<1	-	-	-	-	-	-	NS	<1	<1	<1	-	<1	<1	NS	-	-	<1	-	

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ANALYTE	SAMPLE DATE	MW-1	MW-2	MW-2*	MW-3	MW-3*	MW-4	MW-4*	MW-5	MW-6	MW-7	MW-8	MW-9	MW-9*	MW-10	MW-11	MW-12	MW-13	MW-14	MW-15	MW-15*	AWQS
N-Butylbenzene (cont)	1/30/2007	-	-	-	-	-	-	-	-	NS	<2.5	<2.5	<2.5	-	<2.5	-	NS	-	-	<2.5	-	NE
	8/1/2007	-	-	-	-	-	-	-	-	NS	<2.5	<2.5	<2.5	-	<2.5	<2.5	NS	-	-	<2.5	-	
	1/29/2008	-	-	-	-	-	-	-	-	NS	<2.5	<2.5	<2.5	-	<2.5	-	NS	-	-	<2.5	-	
	7/15/2008	-	-	-	-	-	-	-	-	NS	-	<1	<1	-	<1	-	NS	-	-	<1	-	
	1/28/2009	-	<2.5	-	-	-	<2.5	-	2.9	8.8**	-	-	<2.5	-	<2.5	-	NS	-	-	-	-	
N-Propylbenzene	2/10/2009	<2.5	-	-	<2.5	<2.5	-	-	-	NS	-	-	-	-	-	<2.5	NS	-	-	-	-	NE
	7/14/2009	<1	-	-	<1	-	<1	-	-	NS	-	-	<1	-	<1	<1	NS	-	-	-	-	
	1/25/2010	<1	-	-	<1	-	<1	-	-	NS	-	-	<1	-	<1	<1	NS	-	-	-	-	
	6/24/1996	-	-	-	-	-	-	-	-	NS	-	-	2.6	-	-	-	NS	-	-	-	-	
	8/29/2002	-	-	-	-	-	-	-	-	NS	-	-	0.74	1.2	-	-	NS	-	-	-	-	
	10/9/2002	<0.5	<0.5	-	<0.5	-	<0.5	-	7.8	NS	<0.5	<0.5	-	-	<0.5	<0.5	NS	<0.5	<0.5	<0.5	<0.5	
	4/2/2003	-	-	-	-	-	-	-	-	NS	-	-	-	-	-	-	NS	-	-	-	-	
	6/17/2003	<0.5	<0.5	<0.5	<0.5	-	<0.5	-	8.8	NS	<0.5	<0.5	3	-	<0.5	1.2	NS	<0.5	<0.5	<0.5	-	
	1/6/2005	<0.5	<0.5	-	<0.5	-	<0.5	-	-	NS	<0.5	<0.5	1.4	-	<0.5	<0.5	NS	<0.5	<0.5	<0.5	-	
	7/29/2005	-	-	-	-	-	-	-	-	NS	-	<0.5	0.94	-	<0.5	<0.5	NS	<0.5	-	<0.5	<0.5	
	1/25/2006	-	-	-	-	-	-	-	-	NS	-	<1	<1	-	<1	<1	NS	-	-	<1	-	
	7/28/2006	-	<1	-	-	-	-	-	-	NS	<1	<1	<1	-	<1	<1	NS	-	-	<1	-	
	1/30/2007	-	-	-	-	-	-	-	-	NS	<2	<2	<2	-	<2	-	NS	-	-	<2	-	
	8/1/2007	-	-	-	-	-	-	-	-	NS	<2	<2	<2	-	<2	<2	NS	-	-	<2	-	
	1/29/2008	-	-	-	-	-	-	-	-	NS	<2	<2	<2	-	<2	-	NS	-	-	<2	-	
	7/15/2008	-	-	-	-	-	-	-	-	NS	-	<1	<1	-	<1	-	NS	-	-	<1	-	
	1/28/2009	-	<2	-	-	-	<2	-	3.1	4.6**	-	-	<2	-	<2	-	NS	-	-	-	-	
	2/10/2009	<2	-	-	<2	<2	-	-	-	NS	-	-	-	-	-	<2	NS	-	-	-	-	
	7/14/2009	<1	-	-	<1	-	<1	-	-	NS	-	-	<1	-	<1	<1	NS	-	-	-	-	
	1/25/2010	<1	-	-	<1	-	<1	-	-	NS	-	-	<1	-	<1	<1	NS	-	-	-	-	
o-Xylene	8/29/2002	-	-	-	-	-	-	-	-	NS	-	-	1.4	2.1	-	-	NS	-	-	-	-	NE
	10/9/2002	<0.5	<0.5	-	<0.5	-	<0.5	-	<0.5	NS	<0.5	<0.5	-	-	<0.5	<0.5	NS	<0.5	<0.5	<0.5	<0.5	
	4/2/2003	-	-	-	-	-	-	-	-	NS	-	-	-	-	-	-	NS	-	-	-	-	
	6/17/2003	<0.5	<0.5	<0.5	<0.5	-	<0.5	-	<0.5	NS	<0.5	<0.5	5.7	-	<0.5	<0.5	NS	<0.5	<0.5	<0.5	-	
	1/6/2005	<0.5	<0.5	-	<0.5	-	<0.5	-	-	NS	<0.5	<0.5	<0.5	-	<0.5	<0.5	NS	<0.5	<0.5	<0.5	-	
	7/29/2005	-	-	-	-	-	-	-	-	NS	-	<0.5	<0.5	-	<0.5	<0.5	NS	<0.5	-	<0.5	<0.5	
	1/25/2006	-	-	-	-	-	-	-	-	NS	-	<1	<1	-	<1	<1	NS	-	-	<1	-	
	7/28/2006	-	<1	-	-	-	-	-	-	NS	<1	<1	<1	-	<1	<1	NS	-	-	<1	-	
p-Isopropyltoluene	6/24/1996	-	-	-	-	-	-	-	-	NS	-	-	5.1	-	-	-	NS	-	-	-	-	NE
	8/29/2002	-	-	-	-	-	-	-	-	NS	-	-	<0.5	<0.5	-	-	NS	-	-	-	-	
	10/9/2002	<0.5	<0.5	-	<0.5	-	<0.5	-	1.4	NS	<0.5	<0.5	-	-	<0.5	<0.5	NS	<0.5	<0.5	<0.5	<0.5	
	4/2/2003	-	-	-	-	-	-	-	-	NS	-	-	-	-	-	-	NS	-	-	-	-	
	6/17/2003	<0.5	<0.5	<0.5	<0.5	-	<0.5	-	7.4	NS	<0.5	<0.5	2	-	<0.5	<0.5	NS	<0.5	<0.5	<0.5	-	
	1/6/2005	<0.5	<0.5	-	<0.5	-	<0.5	-	-	NS	<0.5	<0.5	<0.5	-	<0.5	<0.5	NS	<0.5	<0.5	<0.5	-	
	7/29/2005	-	-	-	-	-	-	-	-	NS	-	<0.5	<0.5	-	<0.5	<0.5	NS	<0.5	-	<0.5	<0.5	
	1/25/2006	-	-	-	-	-	-	-	-	NS	-	<1	<1	-	<1	<1	NS	-	-	<1	-	
	7/28/2006	-	<1	-	-	-	-	-	-	NS	<1	<1	<1	-	<1	<1	NS	-	-	<1	-	
	1/30/2007	-	-	-	-	-	-	-	-	NS	<1.5	<1.5	<1.5	-	<1.5	-	NS	-	-	<1.5	-	
	8/1/2007	-	-	-	-	-	-	-	-	NS	<1.5	<1.5	<1.5	-	<1.5	<1.5	NS	-	-	<1.5	-	
	1/29/2008	-	-	-	-	-	-	-	-	NS	<1.5	<1.5	<1.5	-	<1.5	-	NS	-	-	<1.5	-	
	7/15/2008	-	-	-	-	-	-	-	-	NS	-	<1	<1	-	<1	-	NS	-	-	<1	-	

APPENDIX H-1
CUMULATIVE RECORD OF VOLATILE ORGANIC COMPOUNDS DETECTED IN GROUNDWATER
VALENCIA POWER PLANT
NOGALES, ARIZONA

ANALYTE	SAMPLE DATE	MW-1	MW-2	MW-2*	MW-3	MW-3*	MW-4	MW-4*	MW-5	MW-6	MW-7	MW-8	MW-9	MW-9*	MW-10	MW-11	MW-12	MW-13	MW-14	MW-15	MW-15*	AWQS
p-Isopropyltoluene (cont)	1/28/2009	-	<1.5	-	-	-	<1.5	-	<1.5	<1.5**	-	-	<1.5	-	<1.5	-	NS	-	-	-	-	NE
	2/10/2009	<1.5	-	-	<1.5	<1.5	-	-	-	NS	-	-	-	-	-	<1.5	NS	-	-	-	-	
	7/14/2009	<1	-	-	<1	-	<1	-	-	NS	-	-	<1	-	<1	<1	NS	-	-	-	-	
	1/25/2010	<1	-	-	<1	-	<1	-	-	NS	-	-	<1	-	<1	<1	NS	-	-	-	-	
sec-Butylbenzene	6/24/1996	-	-	-	-	-	-	-	-	NS	-	-	<2	-	-	-	NS	-	-	-	-	NE
	8/29/2002	-	-	-	-	-	-	-	-	NS	-	-	<0.5	<0.5	-	-	NS	-	-	-	-	
	10/9/2002	<0.5	<0.5	-	<0.5	-	<0.5	-	6.4	NS	<0.5	<0.5	-	-	<0.5	0.77	NS	0.81	<0.5	<0.5	<0.5	
	4/2/2003	-	-	-	-	-	-	-	-	NS	-	-	-	-	-	-	NS	-	-	-	-	
	6/17/2003	<0.5	<0.5	<0.5	<0.5	-	<0.5	-	7.1	NS	<0.5	<0.5	2	-	<0.5	1.9	NS	1.6	<0.5	1.6	-	
	1/6/2005	<0.5	<0.5	-	<0.5	-	<0.5	-	-	NS	<0.5	<0.5	0.94	-	<0.5	0.81	NS	0.74	<0.5	<0.5	-	
	7/29/2005	-	-	-	-	-	-	-	-	NS	-	<0.5	0.97	-	<0.5	0.94	NS	0.96	-	<0.5	<0.5	
	1/25/2006	-	-	-	-	-	-	-	-	NS	-	<1	<1	-	<1	<1	NS	-	-	<1	-	
	7/28/2006	-	<1	-	-	-	-	-	-	NS	<1	<1	<1	-	<1	<1	NS	-	-	<1	-	
	1/30/2007	-	-	-	-	-	-	-	-	NS	<1.5	<1.5	<1.5	-	<1.5	-	NS	-	-	<1.5	-	
	8/1/2007	-	-	-	-	-	-	-	-	NS	<1.5	<1.5	<1.5	-	<1.5	<1.5	NS	-	-	<1.5	-	
	1/29/2008	-	-	-	-	-	-	-	-	NS	<1.5	<1.5	<1.5	-	<1.5	-	NS	-	-	<1.5	-	
	7/15/2008	-	-	-	-	-	-	-	-	NS	-	<1	<1	-	<1	-	NS	-	-	<1	-	
	1/28/2009	-	<1.5	-	-	-	<1.5	-	4.3	11**	-	-	<1.5	-	<1.5	-	NS	-	-	-	-	
	2/10/2009	<1.5	-	-	<1.5	<1.5	-	-	-	NS	-	-	-	-	-	<1.5	NS	-	-	-	-	
	7/14/2009	<1	-	-	<1	-	<1	-	-	NS	-	-	<1	-	<1	<1	NS	-	-	-	-	
	1/25/2010	<1	-	-	<1	-	<1	-	-	NS	-	-	<1	-	<1	<1	NS	-	-	-	-	
tert-Butylbenzene	6/24/1996	-	-	-	-	-	-	-	-	NS	-	-	<2	-	-	-	NS	-	-	-	-	NE
	8/29/2002	-	-	-	-	-	-	-	-	NS	-	-	<0.5	<0.5	-	-	NS	-	-	-	-	
	10/9/2002	<0.5	<0.5	-	<0.5	-	<0.5	-	0.63	NS	<0.5	<0.5	-	-	<0.5	<0.5	NS	<0.5	<0.5	<0.5	<0.5	
	4/2/2003	-	-	-	-	-	-	-	-	NS	-	-	-	-	-	-	NS	-	-	-	-	
	6/17/2003	<0.5	<0.5	<0.5	<0.5	-	<0.5	-	2	NS	<0.5	<0.5	1.3	-	<0.5	<0.5	NS	<0.5	<0.5	<0.5	-	
	1/6/2005	<0.5	<0.5	-	<0.5	-	<0.5	-	-	NS	<0.5	<0.5	<0.5	-	<0.5	<0.5	NS	<0.5	<0.5	<0.5	-	
	7/29/2005	-	-	-	-	-	-	-	-	NS	-	<0.5	<0.5	-	<0.5	<0.5	NS	<0.5	-	<0.5	<0.5	
	1/25/2006	-	-	-	-	-	-	-	-	NS	-	<1	<1	-	<1	<1	NS	-	-	<1	-	
	7/28/2006	-	<1	-	-	-	-	-	-	NS	<1	<1	<1	-	<1	<1	NS	-	-	<1	-	
	1/30/2007	-	-	-	-	-	-	-	-	NS	<2.5	<2.5	<2.5	-	<2.5	-	NS	-	-	<2.5	-	
	8/1/2007	-	-	-	-	-	-	-	-	NS	<2.5	<2.5	<2.5	-	<2.5	<2.5	NS	-	-	<2.5	-	
	1/29/2008	-	-	-	-	-	-	-	-	NS	<2.5	<2.5	<2.5	-	<2.5	-	NS	-	-	<2.5	-	
	7/15/2008	-	-	-	-	-	-	-	-	NS	-	<1	<1	-	<1	-	NS	-	-	<1	-	
	1/28/2009	-	<2.5	-	-	-	<2.5	-	<2.5	<2.5**	-	-	<2.5	-	<2.5	-	NS	-	-	-	-	
	2/10/2009	<2.5	-	-	<2.5	<2.5	-	-	-	NS	-	-	-	-	-	<2.5	NS	-	-	-	-	
	7/14/2009	<1	-	-	<1	-	<1	-	-	NS	-	-	<1	-	<1	<1	NS	-	-	-	-	
	1/25/2010	<1	-	-	<1	-	<1	-	-	NS	-	-	<1	-	<1	<1	NS	-	-	-	-	
Tetrachloroethene	6/24/1996	-	-	-	-	-	-	-	-	NS	-	-	2.6	-	-	-	NS	-	-	-	-	5
	8/29/2002	-	-	-	-	-	-	-	-	NS	-	-	<0.5	<0.5	-	-	NS	-	-	-	-	
	10/9/2002	3.9	<0.5	-	<0.5	-	<0.5	-	<0.5	NS	<0.5	1.9	-	-	4.6	**10**	NS	<0.5	0.64	**8.8**	9.2	
	4/2/2003	-	-	-	-	-	-	-	-	NS	-	-	-	-	-	-	NS	-	-	-	-	
	6/17/2003	3.1	2	2	3.2	-	<0.5	-	<0.5	NS	<0.5	2.9	1.9	-	4.9	**8.4**	NS	<0.5	2.3	**9.1**	-	
	1/6/2005	3.5	<0.5	-	<0.5	-	3	-	-	NS	<0.5	0.89	<0.5	-	3.1	<0.5	NS	<0.5	<0.5	1	-	
	7/29/2005	-	-	-	-	-	-	-	-	NS	-	0.84	1.9	-	3.5	<0.5	NS	<0.5	-	0.92	0.83	
	1/25/2006	-	-	-	-	-	-	-	-	NS	-	<1	1.7	-	2.6	<1	NS	-	-	<1	-	
	7/28/2006	-	<1	-	-	-	-	-	-	NS	<1	<1	1.5	-	2.7	<1	NS	-	-	<1	-	
	1/30/2007	-	-	-	-	-	-	-	-	NS	<0.5	0.55	**5.5**	-	3.2	-	NS	-	-	0.53	-	

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CUMULATIVE RECORD OF VOLATILE ORGANIC COMPOUNDS DETECTED IN GROUNDWATER
VALENCIA POWER PLANT
NOGALES, ARIZONA

ANALYTE	SAMPLE DATE	MW-1	MW-2	MW-2*	MW-3	MW-3*	MW-4	MW-4*	MW-5	MW-6	MW-7	MW-8	MW-9	MW-9*	MW-10	MW-11	MW-12	MW-13	MW-14	MW-15	MW-15*	AWQS
Tetrachloroethene (cont)	8/1/2007	-	-	-	-	-	-	-	-	NS	<0.5	0.66	2	-	2.8	<0.5	NS	-	-	<0.5	-	5
	1/29/2008	-	-	-	-	-	-	-	-	NS	<0.5	<0.5	2.5	-	3.5	-	NS	-	-	<0.5	-	
	7/15/2008	-	-	-	-	-	-	-	-	NS	-	<0.5	1.3	-	5	-	NS	-	-	<0.5	-	
	1/28/2009	-	<0.5	-	-	-	**94**	-	1	<0.5**	-	-	1.2	-	4.1	-	NS	-	-	-	-	
	2/10/2009	4.7	-	-	<0.5	<0.5	-	-	-	NS	-	-	-	-	-	<0.5	NS	-	-	-	-	
	7/14/2009	3.1	-	-	<1	-	**94**	-	-	NS	-	-	<1	-	3.3	<1	NS	-	-	-	-	
	1/25/2010	1.4	-	-	<1	-	**88**	-	-	NS	-	-	1.7	-	2.7	<1	NS	-	-	-	-	
	7/7/2010	0.77	-	-	<0.5	-	**78**	-	-	NS	-	-	<0.5	-	1.7	<0.5	NS	-	-	-	-	
	1/5/2011	<2	-	-	<2	-	**128**	-	<4	<4	-	-	<2	-	<2	<2	NS	-	-	-	-	
	7/20/2011	-	-	-	<0.5	-	-	-	-	NS	-	-	<1	-	1.23	<0.5	NS	-	-	-	-	
	7/21/2011	0.99	-	-	-	-	**90.3**	-	-	NS	-	-	-	-	-	-	NS	-	-	-	-	
	1/24/2012	1.08	-	-	-	-	**122**	-	-	NS	-	-	<0.5	-	<0.5	<0.5	NS	-	-	-	-	
	1/29/2013	1.12	-	-	-	-	**137**	-	-	NS	-	-	<0.5	-	0.94	<0.5	NS	-	-	-	-	
	2/28/2014	0.62 J	-	-	<0.29	-	**148**	-	<0.29	<0.29	-	-	<0.29	-	0.67	<0.29	NS	NS	-	-	-	
	1/13/2015	0.44	-	-	< 0.30	-	**78.6**	**84.8**	< 0.30	< 0.30	-	-	< 0.30	-	0.32	< 0.30	NS	NS	-	-	-	
	1/14/2016	0.32 J	-	-	< 0.30	-	**94.5**	**97.6**	< 0.30	< 0.30	-	-	< 0.30	-	< 0.30	< 0.30	NS	NS	-	-	-	
	1/12/2017	<0.50	-	-	<0.50	-	**63.1**	**64.6**	<0.50	<0.50	-	-	<0.50	-	0.59	<0.50	NS	NS	-	-	-	
	1/16/2018	<0.50	-	-	<0.50	-	**92.8**	**86.6**	<0.50	<0.50	-	-	<0.50	-	0.67	<0.50	NS	NS	-	-	-	
	01/09/2019	< 0.50	-	-	< 0.50	-	**36.0**	**37.5**	< 0.50	< 0.50	-	-	<0.50	-	0.63	<0.50	NS	NS	-	-	-	
	1/8/2020	< 0.50	-	-	< 0.50	-	**27.3**	**25.7**	< 0.50	< 0.50	NS	-	< 0.50	-	< 0.50	< 0.50	NS	NS	-	-	-	
	1/13/2021	-	-	-	NS	-	**35.6**	**32.5**	-	-	-	-	< 0.50	-	< 0.50	< 0.50	NS	NS	NS	NS	NS	
	7/15/2021	-	-	-	-	-	**7.6**	-	-	-	-	-	-	-	-	-	NS	NS	NS	NS	NS	
	1/19/2022	-	-	-	NS	-	**21.5**	**20.8**	-	-	-	-	< 0.50	-	< 0.50	< 0.50	NS	NS	NS	NS	NS	
	1/18/2023	-	-	-	NS	-	**10.0**	**10.0**	-	-	-	-	< 0.50	-	0.52	< 0.50	NS	NS	NS	NS	NS	
Toluene	6/24/1996	-	-	-	-	-	-	-	-	NS	-	-	3.9	-	-	-	NS	-	-	-	-	1000
	8/29/2002	-	-	-	-	-	-	-	-	NS	-	-	<0.5	0.53	-	-	NS	-	-	-	-	
	10/9/2002	<0.5	<0.5	-	<0.5	-	<0.5	-	<0.5	NS	<0.5	<0.5	-	-	<0.5	<0.5	NS	<0.5	<0.5	<0.5	<0.5	
	4/2/2003	-	-	-	-	-	-	-	-	NS	-	-	-	-	-	-	NS	-	-	-	-	
	6/17/2003	<0.5	<0.5	<0.5	<0.5	-	<0.5	-	<0.5	NS	<0.5	<0.5	1.7	-	<0.5	<0.5	NS	<0.5	<0.5	<0.5	-	
	1/6/2005	<0.5	<0.5	-	<0.5	-	<0.5	-	-	NS	<0.5	<0.5	<0.5	-	<0.5	<0.5	NS	<0.5	<0.5	<0.5	-	
	7/29/2005	-	-	-	-	-	-	-	-	NS	-	<0.5	<0.5	-	<0.5	<0.5	NS	<0.5	-	<0.5	<0.5	
	1/25/2006	-	-	-	-	-	-	-	-	NS	-	<1	<1	-	<1	<1	NS	-	-	<1	-	
	7/28/2006	-	<1	-	-	-	-	-	-	NS	<1	<1	<1	-	<1	<1	NS	-	-	<1	-	
	1/30/2007	-	-	-	-	-	-	-	-	NS	<3	<3	<3	-	<3	-	NS	-	-	<3	-	
	8/1/2007	-	-	-	-	-	-	-	-	NS	<3	<3	<3	-	<3	<3	NS	-	-	<3	-	
	1/29/2008	-	-	-	-	-	-	-	-	NS	<3	<3	<3	-	<3	-	NS	-	-	<3	-	
	7/15/2008	-	-	-	-	-	-	-	-	NS	-	<0.5	<0.5	-	<0.5	-	NS	-	-	<0.5	-	
	1/28/2009	-	<2	-	-	-	<2	-	<2	<2**	-	-	<2	-	<2	-	NS	-	-	-	-	
	2/10/2009	<2	-	-	<2	<2	-	-	-	NS	-	-	-	-	-	<2	NS	-	-	-	-	
	7/14/2009	<5	-	-	<5	-	<5	-	-	NS	-	-	<5	-	<5	<5	NS	-	-	-	-	
	1/25/2010	<5	-	-	<5	-	<5	-	-	NS	-	-	<5	-	<5	<5	NS	-	-	-	-	
1,1,1-Trichloroethane	6/24/1996	-	-	-	-	-	-	-	-	NS	-	-	12.1	-	-	-	NS	-	-	-	-	200
	8/29/2002	-	-	-	-	-	-	-	-	NS	-	-	1.5	2.1	-	-	NS	-	-	-	-	
	10/9/2002	<0.5	<0.5	-	<0.5	-	<0.5	-	<0.5	NS	<0.5	<0.5	-	-	<0.5	<0.5	NS	<0.5	<0.5	<0.5	<0.5	
	4/2/2003	-	-	-	-	-	-	-	-	NS	-	-	-	-	-	-	NS	-	-	-	-	
	6/17/2003	<0.5	<0.5	<0.5	<0.5	-	<0.5	-	<0.5	NS	<0.5	<0.5	5.4	-	<0.5	<0.5	NS	<0.5	<0.5	<0.5	-	
	1/6/2005	<0.5	<0.5	-	<0.5	-	<0.5	-	-	NS	<0.5	<0.5	<0.5	-	<0.5	<0.5	NS	<0.5	<0.5	<0.5	-	
	7/29/2005	-	-	-	-	-	-	-	-	NS	-	<0.5	<0.5	-	<0.5	<0.5	NS	<0.5	-	<0.5	<0.5	
	1/25/2006	-	-	-	-	-	-	-	-	NS	-	<1	<1	-	<1	<1	NS	-	-	<1	-	
	7/28/2006	-	<1	-	-	-	-	-	-	NS	<1	<1	<1	-	<1	<1	NS	-	-	<1	-	

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ANALYTE	SAMPLE DATE	MW-1	MW-2	MW-2*	MW-3	MW-3*	MW-4	MW-4*	MW-5	MW-6	MW-7	MW-8	MW-9	MW-9*	MW-10	MW-11	MW-12	MW-13	MW-14	MW-15	MW-15*	AWQS
1,1,1-Trichloroethane (cont)	1/30/2007	-	-	-	-	-	-	-	-	NS	<0.5	<0.5	<0.5	-	<0.5	-	NS	-	-	<0.5	-	200
	8/1/2007	-	-	-	-	-	-	-	-	NS	<0.5	<0.5	<0.5	-	<0.5	<0.5	NS	-	-	<0.5	-	
	1/29/2008	-	-	-	-	-	-	-	-	NS	<0.5	<0.5	<0.5	-	<0.5	-	NS	-	-	<0.5	-	
	7/15/2008	-	-	-	-	-	-	-	-	NS	-	<0.5	<0.5	-	<0.5	-	NS	-	-	<0.5	-	
	1/28/2009	-	<0.5	-	-	-	<0.5	-	<0.5	<0.5**	-	-	<0.5	-	<0.5	-	NS	-	-	-	-	
	2/10/2009	<0.5	-	-	<0.5	<0.5	-	-	-	NS	-	-	-	-	-	<0.5	NS	-	-	-	-	
	7/14/2009	<1	-	-	<1	-	<1	-	-	NS	-	-	<1	-	<1	<1	NS	-	-	-	-	
	1/25/2010	<1	-	-	<1	-	<1	-	-	NS	-	-	<1	-	<1	<1	NS	-	-	-	-	
Trichloroethene	6/24/1996	-	-	-	-	-	-	-	-	NS	-	-	4.4	-	-	-	NS	-	-	-	-	5
	8/29/2002	-	-	-	-	-	-	-	-	NS	-	-	<0.5	<0.5	-	-	NS	-	-	-	-	
	10/9/2002	<0.5	<0.5	-	<0.5	-	<0.5	-	<0.5	NS	<0.5	<0.5	-	-	<0.5	2.5	NS	<0.5	<0.5	2.2	2.3	
	4/2/2003	-	-	-	-	-	-	-	-	NS	-	-	-	-	-	-	NS	-	-	-	-	
	6/17/2003	<0.5	<0.5	<0.5	<0.5	-	<0.5	-	<0.5	NS	<0.5	<0.5	<0.5	-	<0.5	1.2	NS	<0.5	<0.5	1.8	-	
	1/6/2005	<0.5	<0.5	-	<0.5	-	<0.5	-	-	NS	<0.5	<0.5	<0.5	-	<0.5	<0.5	NS	<0.5	<0.5	<0.5	-	
	7/29/2005	-	-	-	-	-	-	-	-	NS	-	<0.5	1	-	<0.5	<0.5	NS	<0.5	-	<0.5	<0.5	
	1/25/2006	-	-	-	-	-	-	-	-	NS	-	<1	1.3	-	<1	<1	NS	-	-	<1	-	
	7/28/2006	-	<1	-	-	-	-	-	-	NS	<1	<1	1.2	-	<1	<1	NS	-	-	<1	-	
	1/30/2007	-	-	-	-	-	-	-	-	NS	<0.5	<0.5	2.7	-	<0.5	-	NS	-	-	<0.5	-	
	8/1/2007	-	-	-	-	-	-	-	-	NS	<0.5	<0.5	1.5	-	<0.5	<0.5	NS	-	-	<0.5	-	
	1/29/2008	-	-	-	-	-	-	-	-	NS	<0.5	<0.5	1.9	-	<0.5	-	NS	-	-	<0.5	-	
	7/15/2008	-	-	-	-	-	-	-	-	NS	-	<0.5	1.1	-	<0.5	-	NS	-	-	<0.5	-	
	1/28/2009	-	<0.5	-	-	-	<0.5	-	0.77	<0.5**	-	-	1.6	-	<0.5	-	NS	-	-	-	-	
	2/10/2009	0.68	-	-	<0.5	<0.5	-	-	-	NS	-	-	-	-	-	<0.5	NS	-	-	-	-	
	7/14/2009	<1	-	-	<1	-	<1	-	-	NS	-	-	<1	-	<1	<1	NS	-	-	-	-	
	1/25/2010	<1	-	-	<1	-	<1	-	-	NS	-	-	2.3	-	<1	<1	NS	-	-	-	-	
	7/7/2010	<0.5	-	-	<0.5	-	<0.5	-	-	NS	-	-	0.52	-	<0.5	<0.5	NS	-	-	-	-	
	1/5/2011	<2	-	-	<2	-	<2	-	<4	<4	-	-	<2	-	<2	<2	NS	-	-	-	-	
	7/20/2011	-	-	-	<0.5	-	-	-	-	NS	-	-	<1	-	<0.5	<0.5	NS	-	-	-	-	
	7/21/2011	<0.5	-	-	-	-	<0.5	-	-	NS	-	-	-	-	-	-	NS	-	-	-	-	
	1/24/2012	<0.5	-	-	-	-	<0.5	-	-	NS	-	-	<0.5	-	<0.5	<0.5	NS	-	-	-	-	
	1/29/2013	<0.5	-	-	-	-	<0.5	-	-	NS	-	-	0.51	-	<0.5	<0.5	NS	-	-	-	-	
	2/27/2014	<0.13	-	-	<0.13	-	<0.13	-	0.30 J	<0.13	-	-	0.20 J	-	<0.13	<0.13	NS	NS	-	-	-	
	1/13/2015	< 0.20	-	-	< 0.20	-	< 0.20	< 0.20	0.23	< 0.20	-	-	0.60	-	< 0.20	< 0.20	NS	NS	-	-	-	
	1/14/2016	< 0.20	-	-	< 0.20	-	< 0.20	< 0.20	0.24 J	< 0.20	-	-	< 0.20	-	< 0.20	< 0.20	NS	NS	-	-	-	
	1/12/2017	<0.40	-	-	<0.40	-	<0.40	<0.40	<0.40	<0.40	-	-	<0.40	-	<0.40	<0.40	NS	NS	-	-	-	
	1/16/2018	<0.40	-	-	<0.40	-	<0.40	<0.40	<0.40	<0.40	-	-	<0.40	-	<0.40	<0.40	NS	NS	-	-	-	
	1/9/2019	< 0.40	-	-	< 0.40	-	< 0.40	< 0.40	< 0.40	< 0.40	-	-	< 0.40	-	< 0.40	< 0.40	NS	NS	-	-	-	
	1/8/2020	< 0.40	-	-	< 0.40	-	0.42	< 0.40	< 0.40	< 0.40	-	-	< 0.40	-	< 0.40	< 0.40	NS	NS	-	-	-	
	1/13/2021	< 0.40	-	-	-	-	< 0.40	< 0.40	-	-	-	-	< 0.40	-	< 0.40	< 0.40	NS	NS	-	-	-	
	7/15/2021	-	-	-	-	-	< 0.40	-	-	-	-	-	-	-	-	-	NS	NS	-	-	-	
	1/19/2022	-	-	-	-	-	0.24	0.23	-	-	-	-	0.72	-	<0.20	<0.20	NS	NS	NS	NS	NS	
	1/18/2023	-	-	-	-	-	< 0.20	< 0.20	-	-	-	-	< 0.20	-	< 0.20	< 0.20	NS	NS	NS	NS	NS	
1,2,4-Trimethylbenzene	6/24/1996	-	-	-	-	-	-	-	-	NS	-	-	55	-	-	-	NS	-	-	-	-	NE
	8/29/2002	-	-	-	-	-	-	-	-	NS	-	-	4.8	8.3	-	-	NS	-	-	-	-	
	10/9/2002	<0.5	<0.5	-	<0.5	-	<0.5	-	3.6	NS	<0.5	<0.5	-	-	<0.5	<0.5	NS	<0.5	<0.5	<0.5	<0.5	
	4/2/2003	-	-	-	-	-	-	-	-	NS	-	-	-	-	-	-	NS	-	-	-	-	
	6/17/2003	<0.5	<0.5	<0.5	<0.5	-	<0.5	-	140	NS	<0.5	<0.5	20	-	<0.5	<0.5	NS	<0.5	<0.5	<0.5	-	
	1/6/2005	<0.5	<0.5	-	<0.5	-	<0.5	-	-	NS	<0.5	<0.5	3.4	-	<0.5	<0.5	NS	<0.5	<0.5	<0.5	-	
	7/29/2005	-	-	-	-	-	-	-	-	NS	-	<0.5	<0.5	-	<0.5	<0.5	NS	<0.5	-	<0.5	<0.5	

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VALENCIA POWER PLANT
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ANALYTE	SAMPLE DATE	MW-1	MW-2	MW-2*	MW-3	MW-3*	MW-4	MW-4*	MW-5	MW-6	MW-7	MW-8	MW-9	MW-9*	MW-10	MW-11	MW-12	MW-13	MW-14	MW-15	MW-15*	AWQS
1,2,4-Trimethylbenzene (cont)	1/25/2006	-	-	-	-	-	-	-	-	NS	-	<1	<1	-	<1	<1	NS	-	-	<1	-	NE
	7/28/2006	-	<1	-	-	-	-	-	-	NS	<1	<1	2.2	-	<1	<1	NS	-	-	<1	-	
	1/30/2007	-	-	-	-	-	-	-	-	NS	<2	<2	<2	-	<2	-	NS	-	-	<2	-	
	8/1/2007	-	-	-	-	-	-	-	-	NS	<2	<2	<2	-	<2	<2	NS	-	-	<2	-	
	1/29/2008	-	-	-	-	-	-	-	-	NS	<2	<2	<2	-	<2	-	NS	-	-	<2	-	
	7/15/2008	-	-	-	-	-	-	-	-	NS	-	<1	<1	-	<1	-	NS	-	-	<1	-	
	1/28/2009	-	<2	-	-	-	<2	-	3.1	<2**	-	-	<2	-	<2	-	NS	-	-	-	-	
	2/10/2009	<2	-	-	<2	<2	-	-	-	NS	-	-	-	-	-	<2	NS	-	-	-	-	
	7/14/2009	<1	-	-	<1	-	<1	-	-	NS	-	-	<1	-	<1	<1	NS	-	-	-	-	
	1/25/2010	<1	-	-	<1	-	<1	-	-	NS	-	-	<1	-	<1	<1	NS	-	-	-	-	
1,3,5-Trimethylbenzene	6/24/1996	-	-	-	-	-	-	-	-	NS	-	-	16.5	-	-	-	NS	-	-	-	-	NE
	8/29/2002	-	-	-	-	-	-	-	-	NS	-	-	0.59	1.2	-	-	NS	-	-	-	-	
	10/9/2002	<0.5	<0.5	-	<0.5	-	<0.5	-	0.69	NS	<0.5	<0.5	-	-	<0.5	<0.5	NS	<0.5	<0.5	<0.5	<0.5	
	4/2/2003	-	-	-	-	-	-	-	-	NS	-	-	-	-	-	-	NS	-	-	-	-	
	6/17/2003	<0.5	<0.5	<0.5	<0.5	-	<0.5	-	27	NS	<0.5	<0.5	3.8	-	<0.5	<0.5	NS	<0.5	<0.5	<0.5	-	
	1/6/2005	<0.5	<0.5	-	<0.5	-	<0.5	-	-	NS	<0.5	<0.5	1.1	-	<0.5	<0.5	NS	<0.5	<0.5	<0.5	-	
	7/29/2005	-	-	-	-	-	-	-	-	NS	-	<0.5	<0.5	-	<0.5	<0.5	NS	<0.5	-	<0.5	<0.5	
	1/25/2006	-	-	-	-	-	-	-	-	NS	-	<1	<1	-	<1	<1	NS	-	-	<1	-	
	7/28/2006	-	<1	-	-	-	-	-	-	NS	<1	<1	<1	-	<1	<1	NS	-	-	<1	-	
	1/30/2007	-	-	-	-	-	-	-	-	NS	<1.5	<1.5	<1.5	-	<1.5	-	NS	-	-	<1.5	-	
	8/1/2007	-	-	-	-	-	-	-	-	NS	<1.5	<1.5	<1.5	-	<1.5	<1.5	NS	-	-	<1.5	-	
	1/29/2008	-	-	-	-	-	-	-	-	NS	<1.5	<1.5	<1.5	-	<1.5	-	NS	-	-	<1.5	-	
	7/15/2008	-	-	-	-	-	-	-	-	NS	-	<1	<1	-	<1	-	NS	-	-	<1	-	
	1/28/2009	-	<1.5	-	-	-	<1.5	-	<1.5	<1.5**	-	-	<1.5	-	<1.5	-	NS	-	-	-	-	
	2/10/2009	<1.5	-	-	<1.5	<1.5	-	-	-	NS	-	-	-	-	-	<1.5	NS	-	-	-	-	
	7/14/2009	<1	-	-	<1	-	<1	-	-	NS	-	-	<1	-	<1	<1	NS	-	-	-	-	
	1/25/2010	<1	-	-	<1	-	<1	-	-	NS	-	-	<1	-	<1	<1	NS	-	-	-	-	
Vinyl chloride	6/24/1996	-	-	-	-	-	-	-	-	NS	-	-	<2	-	-	-	NS	-	-	-	-	2
	8/29/2002	-	-	-	-	-	-	-	-	NS	-	-	<1	<1	-	-	NS	-	-	-	-	
	10/9/2002	<1	<1	-	<1	-	<1	-	<1	NS	<1	<1	-	-	<1	<1	NS	1.8	<1	<1	<1	
	4/2/2003	-	-	-	-	-	-	-	-	NS	-	-	-	-	-	-	NS	-	-	-	-	
	6/17/2003	<1	<1	<1	<1	-	<1	-	1.4	NS	<1	<1	**3.8**	-	<1	1.4	NS	**2.1**	<1	<1	-	
	1/6/2005	<1	<1	-	<1	-	<1	-	-	NS	<1	<1	1.4	-	<1	<1	NS	1.4	<1	<1	-	
	7/29/2005	-	-	-	-	-	-	-	-	NS	-	<1	1.5	-	<1	<1	NS	**2.5**	-	<1	<1	
	1/25/2006	-	-	-	-	-	-	-	-	NS	-	<1	<1	-	<1	<1	NS	-	-	<1	-	
	7/28/2006	-	<1	-	-	-	-	-	-	NS	<1	<1	<1	-	<1	<1	NS	-	-	<1	-	
	1/30/2007	-	-	-	-	-	-	-	-	NS	<0.5	<0.5	<0.5	-	<0.5	-	NS	-	-	<0.5	-	
	8/1/2007	-	-	-	-	-	-	-	-	NS	<0.5	<0.5	<0.5	-	<0.5	<0.5	NS	-	-	<0.5	-	
	1/29/2008	-	-	-	-	-	-	-	-	NS	<0.5	<0.5	<0.5	-	<0.5	-	NS	-	-	<0.5	-	
	7/15/2008	-	-	-	-	-	-	-	-	NS	-	<0.5	<0.5	-	<0.5	-	NS	-	-	<0.5	-	
	1/28/2009	-	<0.5	-	-	-	<0.5	-	<0.5	<0.5**	-	-	<0.5	-	<0.5	-	NS	-	-	-	-	
	2/10/2009	<0.5	-	-	<0.5	<0.5	-	-	-	NS	-	-	-	-	-	<0.5	NS	-	-	-	-	
	7/14/2009	<1	-	-	<1	-	<1	-	-	NS	-	-	<1	-	<1	<1	NS	-	-	-	-	
	1/25/2010	<1	-	-	<1	-	<1	-	-	NS	-	-	<1	-	<1	<1	NS	-	-	-	-	
	7/7/2010	<0.5	-	-	<0.5	-	<0.5	-	-	NS	-	-	<0.5	-	<0.5	<0.5	NS	-	-	-	-	
	1/5/2011	<0.5	-	-	<0.5	-	<0.5	-	<1	<1	-	-	<0.5	-	<0.5	<0.5	NS	-	-	-	-	
	7/20/2011	-	-	-	<0.5	-	-	-	-	NS	-	-	<1	-	<0.5	<0.5	NS	-	-	-	-	
	7/21/2011	<0.5	-	-	-	-	<0.5	-	-	NS	-	-	-	-	-	-	NS	-	-	-	-	

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NOGALES, ARIZONA

ANALYTE	SAMPLE DATE	MW-1	MW-2	MW-2*	MW-3	MW-3*	MW-4	MW-4*	MW-5	MW-6	MW-7	MW-8	MW-9	MW-9*	MW-10	MW-11	MW-12	MW-13	MW-14	MW-15	MW-15*	AWQS
Vinyl chloride (cont)	1/24/2012	<0.5	-	-	-	-	<0.5	-	-	NS	-	-	<0.5	-	<0.5	<0.5	NS	-	-	-	-	2
	1/29/2013	<0.5	-	-	-	-	<0.5	-	-	NS	-	-	1.43	-	<0.5	<0.5	NS	-	-	-	-	
	2/27/2014	<0.14	-	-	<0.14	-	<0.14	-	<0.14	NS	-	-	0.27 J	-	<0.14	<0.14	NS	NS	-	-	-	
	1/13/2015	< 0.20	-	-	< 0.20	-	< 0.20	< 0.20	< 0.20	< 0.20	-	-	0.48	-	< 0.20	< 0.20	NS	NS	-	-	-	
	1/14/2016	< 0.20	-	-	-	-	< 0.20	< 0.20	< 0.20	< 0.20	-	-	< 0.20	-	< 0.20	< 0.20	NS	NS	-	-	-	
	1/12/2017	<0.20	-	-	<0.20	-	<0.20	<0.20	<0.20	<0.20	-	-	<0.20	-	<0.20	<0.20	NS	NS	-	-	-	
	1/16/2018	<0.20	-	-	<0.20	-	<0.20	<0.20	<0.20	<0.20	-	-	0.27	-	<0.20	<0.20	NS	NS	-	-	-	
	1/9/2019	< 0.20	-	-	< 0.20	-	< 0.20	< 0.20	< 0.20	< 0.20	-	-	0.20	-	< 0.20	< 0.20	NS	NS	-	-	-	
	1/8/2020	< 0.20	-	-	< 0.20	-	< 0.20	< 0.20	< 0.20	< 0.20	-	-	< 0.20	-	< 0.20	< 0.20	NS	NS	-	-	-	
	1/13/2021	-	-	-	-	-	< 0.20	< 0.20	-	-	-	-	< 0.20	-	< 0.20	< 0.20	NS	NS	NS	NS	NS	
	7/15/2021	-	-	-	-	-	< 0.40	-	-	-	-	-	-	-	-	-	NS	NS	NS	NS	NS	
	1/19/2022	-	-	-	-	-	< 0.20	< 0.20	-	-	-	-	< 0.20	-	< 0.20	< 0.20	NS	NS	NS	NS	NS	
	1/18/2023	-	-	-	-	-	< 0.20	< 0.20	-	-	-	-	< 0.20	-	< 0.20	< 0.20	NS	NS	NS	NS	NS	
Xylenes, total	6/24/1996	-	-	-	-	-	-	-	-	NS	-	-	19.7	-	-	-	NS	-	-	-	-	10000
	1/30/2007	-	-	-	-	-	-	-	-	NS	<3	<3	<3	-	<3	-	NS	-	-	<3	-	
	8/1/2007	-	-	-	-	-	-	-	-	NS	<3	<3	<3	-	<3	<3	NS	-	-	<3	-	
	1/29/2008	-	-	-	-	-	-	-	-	NS	<3	<3	<3	-	<3	-	NS	-	-	<3	-	
	7/15/2008	-	-	-	-	-	-	-	-	NS	-	<1.5	<1.5	-	<1.5	-	NS	-	-	<1.5	-	
	1/28/2009	-	<3	-	-	-	<3	-	<3	<3**	-	-	<3	-	<3	-	NS	-	-	-	-	
	2/10/2009	<3	-	-	<3	<3	-	-	-	NS	-	-	-	-	-	<3	NS	-	-	-	-	
	7/14/2009	<3	-	-	<3	-	<3	-	-	NS	-	-	<3	-	<3	<3	NS	-	-	-	-	
	1/25/2010	<3	-	-	<3	-	<3	-	-	NS	-	-	<3	-	<3	<3	NS	-	-	-	-	

Notes:
< = less than
Bold text indicates the value exceeds the AWQS.
AWQS = Aquifer Water Quality Standard
NE = not established
NS = not sampled

APPENDIX H-2
CUMULATIVE RECORD OF VOLATILE ORGANIC COMPOUNDS DETECTED IN GROUNDWATER
VALENCIA POWER PLANT
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ANALYTE	SAMPLE DATE	MW-16	MW-17	MW-17*	MW-18	MW-19	MW-19*	MW-20	MW-21	MW-22	MW-23	MW-23*	MW-24	MW-26	MW-27	NW Prod Well-47	NW Prod Well-47*	NE Prod Well-85	NW Prod Well-140	NE Prod Well-350	AWQS
Acetone	6/24/1996	-	-	-	-	-	-	-	-	-	-	-	-	-	NS	-	-	-	-	-	NE
	8/29/2002	-	-	-	-	-	-	-	<10	-	-	-	-	-	NS	-	-	-	-	-	
	10/9/2002	-	<10	-	<10	<10	-	<10	<10	-	-	-	-	-	NS	<10	<10	<10	<10	<10	
	4/2/2003	-	-	-	-	-	-	-	-	<10	<10	<10	-	-	NS	-	-	-	-	-	
	6/17/2003	-	<10	-	<10	<10	-	<10	<10	<10	<10	-	<10	-	NS	-	-	-	-	-	
	1/6/2005	-	<20	<20	<20	<20	<20	<20	<20	<20	<20	-	<20	-	NS	-	-	-	-	-	
	7/29/2005	-	<20	-	-	-	-	<20	<20	-	-	-	-	-	NS	-	-	-	-	-	
	1/25/2006	-	<20	-	-	-	-	<20	<20	-	-	-	-	-	NS	-	-	-	-	-	
	7/28/2006	-	<20	-	-	-	-	<20	<20	-	-	-	-	-	NS	-	-	-	-	-	
	1/30/2007	-	<20	<20	-	-	-	<20	<20	-	-	-	-	-	NS	-	-	-	-	-	
	8/1/2007	-	<20	<20	-	-	-	<20	<20	-	-	-	-	-	NS	-	-	-	-	-	
	1/29/2008	32	<20	<20	-	-	-	<20	<20	-	-	-	-	-	NS	-	-	-	-	-	
	7/15/2008	<10	<10	<10	-	-	-	<10	<10	-	-	-	-	<10	NS	-	-	-	-	-	
	1/28/2009	<20	<20	<20	-	-	-	-	-	-	-	-	-	<20	NS	-	-	-	-	-	
	2/10/2009	-	-	-	-	<20	-	-	-	-	-	-	-	-	NS	-	-	-	-	-	
	7/14/2009	440	<50	<50	-	<50	-	-	<50	-	-	-	-	<50	NS	-	-	-	-	-	
	1/25/2010	<250	<50	<50	-	<50	-	-	<50	-	-	-	-	<50	NS	-	-	-	-	-	
Benzene	6/24/1996	-	-	-	-	-	-	-	-	-	-	-	-	-	NS	-	-	-	-	-	5
	8/29/2002	-	-	-	-	-	-	-	<0.5	-	-	-	-	-	NS	-	-	-	-	-	
	10/9/2002	-	<0.5	-	<0.5	<0.5	-	<0.5	<0.5	-	-	-	-	-	NS	<0.5	<0.5	<0.5	<0.5	<0.5	
	4/2/2003	-	-	-	-	-	-	-	-	<0.5	<0.5	<0.5	-	-	NS	-	-	-	-	-	
	6/17/2003	-	<0.5	-	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	-	<0.5	-	NS	-	-	-	-	-	
	1/6/2005	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	-	NS	-	-	-	-	-	
	7/29/2005	-	<0.5	-	-	-	-	<0.5	<0.5	-	-	-	-	-	NS	-	-	-	-	-	
	1/25/2006	-	<1	-	-	-	-	<1	<1	-	-	-	-	-	NS	-	-	-	-	-	
	7/28/2006	-	<1	-	-	-	-	<1	<1	-	-	-	-	-	NS	-	-	-	-	-	
	1/30/2007	-	<0.5	<0.5	-	-	-	<0.5	<0.5	-	-	-	-	-	NS	-	-	-	-	-	
	8/1/2007	-	<0.5	<0.5	-	-	-	<0.5	<0.5	-	-	-	-	-	NS	-	-	-	-	-	
	1/29/2008	<0.5	<0.5	<0.5	-	-	-	<0.5	<0.5	-	-	-	-	-	NS	-	-	-	-	-	
	7/15/2008	<0.5	<0.5	<0.5	-	-	-	<0.5	<0.5	-	-	-	-	<0.5	NS	-	-	-	-	-	
	1/28/2009	<0.5	<0.5	<0.5	-	-	-	-	-	-	-	-	-	<0.5	NS	-	-	-	-	-	
	2/10/2009	-	-	-	-	<0.5	-	-	-	-	-	-	-	-	NS	-	-	-	-	-	
	7/14/2009	<1	<1	<1	-	<1	-	-	<1	-	-	-	-	<1	NS	-	-	-	-	-	
	1/25/2010	<5	<1	<1	-	<1	-	-	<1	-	-	-	-	<1	NS	-	-	-	-	-	

APPENDIX H-2
CUMULATIVE RECORD OF VOLATILE ORGANIC COMPOUNDS DETECTED IN GROUNDWATER
VALENCIA POWER PLANT
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ANALYTE	SAMPLE DATE	MW-16	MW-17	MW-17*	MW-18	MW-19	MW-19*	MW-20	MW-21	MW-22	MW-23	MW-23*	MW-24	MW-26	MW-27	NW Prod Well-47	NW Prod Well-47*	NE Prod Well-85	NW Prod Well-140	NE Prod Well-350	AWQS
Carbon Disulfide	8/29/2002	-	-	-	-	-	-	-	<2	-	-	-	-	-	NS	-	-	-	-	-	NE
	10/9/2002	-	<2	-	<2	<2	-	<2	<2	-	-	-	-	-	NS	<2	<2	<2	<2	<2	
	4/2/2003	-	-	-	-	-	-	-	-	<2	<2	<2	-	-	NS	-	-	-	-	-	
	6/17/2003	-	<2	-	<2	<2	-	<2	<2	<2	<2	-	<2	-	NS	-	-	-	-	-	
	1/6/2005	-	<2	<2	<2	<2	<2	<2	<2	<2	<2	-	<2	-	NS	-	-	-	-	-	
	7/29/2005	-	<4	-	-	-	-	<4	<4	-	-	-	-	-	NS	-	-	-	-	-	
	7/28/2006	-	<1	-	-	-	-	<1	<1	-	-	-	-	-	NS	-	-	-	-	-	
	1/30/2007	-	<0.5	<0.5	-	-	-	<0.5	<0.5	-	-	-	-	-	NS	-	-	-	-	-	
	8/1/2007	-	<0.5	<0.5	-	-	-	<0.5	<0.5	-	-	-	-	-	NS	-	-	-	-	-	
	1/29/2008	<0.5	<0.5	<0.5	-	-	-	<0.5	<0.5	-	-	-	-	-	NS	-	-	-	-	-	
	7/15/2008	<2	<2	<2	-	-	-	<2	<2	-	-	-	-	<2	NS	-	-	-	-	-	
	1/28/2009	<0.5	<0.5	<0.5	-	-	-	-	-	-	-	-	-	<0.5	NS	-	-	-	-	-	
	2/10/2009	-	-	-	-	<0.5	-	-	-	-	-	-	-	-	NS	-	-	-	-	-	
Chloroethane	6/24/1996	-	-	-	-	-	-	-	-	-	-	-	-	-	NS	-	-	-	-	-	NE
	8/29/2002	-	-	-	-	-	-	-	<1	-	-	-	-	-	NS	-	-	-	-	-	
	10/9/2002	-	<1	-	<1	<1	-	<1	<1	-	-	-	-	-	NS	<1	<1	<1	<1	<1	
	4/2/2003	-	-	-	-	-	-	-	-	<1	<1	<1	-	-	NS	-	-	-	-	-	
	6/17/2003	-	<1	-	<1	<1	-	<1	<1	<1	<1	-	<1	-	NS	-	-	-	-	-	
	1/6/2005	-	<2	<2	<2	<2	<2	<2	<2	<2	<2	-	<2	-	NS	-	-	-	-	-	
	7/29/2005	-	<2	-	-	-	-	<2	<2	-	-	-	-	-	NS	-	-	-	-	-	
	1/25/2006	-	<1	-	-	-	-	<1	<1	-	-	-	-	-	NS	-	-	-	-	-	
	7/28/2006	-	<1	-	-	-	-	<1	<1	-	-	-	-	-	NS	-	-	-	-	-	
	1/30/2007	-	<5	<5	-	-	-	<5	<5	-	-	-	-	-	NS	-	-	-	-	-	
	8/1/2007	-	<5	<5	-	-	-	<5	<5	-	-	-	-	-	NS	-	-	-	-	-	
	1/29/2008	<5	<5	<5	-	-	-	<5	<5	-	-	-	-	-	NS	-	-	-	-	-	
	7/15/2008	<1	<1	<1	-	-	-	<1	<1	-	-	-	-	<1	NS	-	-	-	-	-	
	1/28/2009	<4	<4	<4	-	-	-	-	-	-	-	-	-	<4	NS	-	-	-	-	-	
	2/10/2009	-	-	-	-	<4	-	-	-	-	-	-	-	-	NS	-	-	-	-	-	
	7/14/2009	<5	<5	<5	-	<5	-	-	<5	-	-	-	-	<5	NS	-	-	-	-	-	
	1/25/2010	<25	<5	<5	-	<5	-	-	<5	-	-	-	-	<5	NS	-	-	-	-	-	
Chloroform	6/24/1996	-	-	-	-	-	-	-	-	-	-	-	-	-	NS	-	-	-	-	-	100
	8/29/2002	-	-	-	-	-	-	-	<1	-	-	-	-	-	NS	-	-	-	-	-	
	10/9/2002	-	<1	-	<1	<1	-	<1	<1	-	-	-	-	-	NS	<1	<1	<1	<1	<1	
	4/2/2003	-	-	-	-	-	-	-	-	1.6	<1	<1	-	-	NS	-	-	-	-	-	
	6/17/2003	-	<1	-	<1	<1	-	<1	<1	<1	<1	-	<1	-	NS	-	-	-	-	-	
	1/6/2005	-	<1	<1	<1	<1	<1	<1	<1	<1	<1	-	<1	-	NS	-	-	-	-	-	
	7/29/2005	-	<1	-	-	-	-	<1	<1	-	-	-	-	-	NS	-	-	-	-	-	
	1/25/2006	-	<1	-	-	-	-	<1	<1	-	-	-	-	-	NS	-	-	-	-	-	
	7/28/2006	-	<1	-	-	-	-	<1	<1	-	-	-	-	-	NS	-	-	-	-	-	
	1/30/2007	-	<0.5	<0.5	-	-	-	<0.5	<0.5	-	-	-	-	-	NS	-	-	-	-	-	
	8/1/2007	-	<0.5	<0.5	-	-	-	<0.5	<0.5	-	-	-	-	-	NS	-	-	-	-	-	
	1/29/2008	<0.5	<0.5	<0.5	-	-	-	<0.5	<0.5	-	-	-	-	-	NS	-	-	-	-	-	
	7/15/2008	<0.5	<0.5	<0.5	-	-	-	<0.5	<0.5	-	-	-	-	<0.5	NS	-	-	-	-	-	
	1/28/2009	<0.5	<0.5	<0.5	-	-	-	-	-	-	-	-	-	<0.5	NS	-	-	-	-	-	
	2/10/2009	-	-	-	-	<0.5	-	-	-	-	-	-	-	-	NS	-	-	-	-	-	
	7/14/2009	<5	<5	<5	-	<5	-	-	<5	-	-	-	-	<5	NS	-	-	-	-	-	
	1/25/2010	<25	<5	<5	-	<5	-	-	<5	-	-	-	-	<5	NS	-	-	-	-	-	

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CUMULATIVE RECORD OF VOLATILE ORGANIC COMPOUNDS DETECTED IN GROUNDWATER
VALENCIA POWER PLANT
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ANALYTE	SAMPLE DATE	MW-16	MW-17	MW-17*	MW-18	MW-19	MW-19*	MW-20	MW-21	MW-22	MW-23	MW-23*	MW-24	MW-26	MW-27	NW Prod Well-47	NW Prod Well-47*	NE Prod Well-85	NW Prod Well-140	NE Prod Well-350	AWQS
1,2-Dichlorobenzene	6/24/1996	-	-	-	-	-	-	-	-	-	-	-	-	-	NS	-	-	-	-	-	600
	8/29/2002	-	-	-	-	-	-	-	<0.5	-	-	-	-	-	NS	-	-	-	-	-	
	10/9/2002	-	<0.5	-	<0.5	<0.5	-	<0.5	<0.5	-	-	-	-	-	NS	<0.5	<0.5	<0.5	<0.5	<0.5	
	4/2/2003	-	-	-	-	-	-	-	-	<0.5	<0.5	<0.5	-	-	NS	-	-	-	-	-	
	6/17/2003	-	<0.5	-	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	-	<0.5	-	NS	-	-	-	-	-	
	1/6/2005	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	-	NS	-	-	-	-	-	
	7/29/2005	-	<0.5	-	-	-	-	<0.5	<0.5	-	-	-	-	-	NS	-	-	-	-	-	
	1/25/2006	-	<1	-	-	-	-	<1	<1	-	-	-	-	-	NS	-	-	-	-	-	
	7/28/2006	-	<1	-	-	-	-	<1	<1	-	-	-	-	-	NS	-	-	-	-	-	
	1/30/2007	-	<1.5	<1.5	-	-	-	<1.5	<1.5	-	-	-	-	-	NS	-	-	-	-	-	
	8/1/2007	-	<1.5	<1.5	-	-	-	<1.5	<1.5	-	-	-	-	-	NS	-	-	-	-	-	
	1/29/2008	<1.5	<1.5	<1.5	-	-	-	<1.5	<1.5	-	-	-	-	-	NS	-	-	-	-	-	
	7/15/2008	<0.5	<0.5	<0.5	-	-	-	<0.5	<0.5	-	-	-	-	<0.5	NS	-	-	-	-	-	
	1/28/2009	<1.5	<1.5	<1.5	-	-	-	-	-	-	-	-	-	<1.5	NS	-	-	-	-	-	
	2/10/2009	-	-	-	-	<1.5	-	-	-	-	-	-	-	-	NS	-	-	-	-	-	
	7/14/2009	<1	<1	<1	-	<1	-	-	<1	-	-	-	-	<1	NS	-	-	-	-	-	
	1/25/2010	<5	<1	<1	-	<1	-	-	<1	-	-	-	-	<1	NS	-	-	-	-	-	
1,4-Dichlorobenzene	6/24/1996	-	-	-	-	-	-	-	-	-	-	-	-	-	NS	-	-	-	-	-	75
	8/29/2002	-	-	-	-	-	-	-	<0.5	-	-	-	-	-	NS	-	-	-	-	-	
	10/9/2002	-	<0.5	-	<0.5	<0.5	-	<0.5	<0.5	-	-	-	-	-	NS	<0.5	<0.5	<0.5	<0.5	<0.5	
	4/2/2003	-	-	-	-	-	-	-	-	<0.5	<0.5	<0.5	-	-	NS	-	-	-	-	-	
	6/17/2003	-	<0.5	-	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	-	<0.5	-	NS	-	-	-	-	-	
	1/6/2005	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	-	NS	-	-	-	-	-	
	7/29/2005	-	<0.5	-	-	-	-	<0.5	<0.5	-	-	-	-	-	NS	-	-	-	-	-	
	1/25/2006	-	<1	-	-	-	-	<1	<1	-	-	-	-	-	NS	-	-	-	-	-	
	7/28/2006	-	<1	-	-	-	-	<1	<1	-	-	-	-	-	NS	-	-	-	-	-	
	1/30/2007	-	<1.5	<1.5	-	-	-	<1.5	<1.5	-	-	-	-	-	NS	-	-	-	-	-	
	8/1/2007	-	<1.5	<1.5	-	-	-	<1.5	<1.5	-	-	-	-	-	NS	-	-	-	-	-	
	1/29/2008	<1.5	<1.5	<1.5	-	-	-	<1.5	2	-	-	-	-	-	NS	-	-	-	-	-	
	7/15/2008	<0.5	<0.5	<0.5	-	-	-	<0.5	0.75	-	-	-	-	<0.5	NS	-	-	-	-	-	
	1/28/2009	<1.5	<1.5	<1.5	-	-	-	-	-	-	-	-	-	<1.5	NS	-	-	-	-	-	
	2/10/2009	-	-	-	-	<1.5	-	-	-	-	-	-	-	-	NS	-	-	-	-	-	
	7/14/2009	<1	<1	<1	-	<1	-	-	<1	-	-	-	-	<1	NS	-	-	-	-	-	
	1/25/2010	<5	<1	<1	-	<1	-	-	<1	-	-	-	-	<1	NS	-	-	-	-	-	
1,1-Dichloroethane	6/24/1996	-	-	-	-	-	-	-	-	-	-	-	-	-	NS	-	-	-	-	-	NE
	8/29/2002	-	-	-	-	-	-	-	<0.5	-	-	-	-	-	NS	-	-	-	-	-	
	10/9/2002	-	<0.5	-	<0.5	<0.5	-	<0.5	0.6	-	-	-	-	-	NS	<0.5	<0.5	<0.5	<0.5	<0.5	
	4/2/2003	-	-	-	-	-	-	-	-	<0.5	<0.5	<0.5	-	-	NS	-	-	-	-	-	
	6/17/2003	-	<0.5	-	<0.5	<0.5	-	<0.5	0.62	<0.5	<0.5	-	<0.5	-	NS	-	-	-	-	-	
	1/6/2005	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	-	NS	-	-	-	-	-	
	7/29/2005	-	<0.5	-	-	-	-	<0.5	<0.5	-	-	-	-	-	NS	-	-	-	-	-	
	1/25/2006	-	<1	-	-	-	-	<1	<1	-	-	-	-	-	NS	-	-	-	-	-	
	7/28/2006	-	<1	-	-	-	-	<1	<1	-	-	-	-	-	NS	-	-	-	-	-	
	1/30/2007	-	<1	<1	-	-	-	<1	<1	-	-	-	-	-	NS	-	-	-	-	-	
	8/1/2007	-	<1	<1	-	-	-	<1	<1	-	-	-	-	-	NS	-	-	-	-	-	
	1/29/2008	<1	<1	<1	-	-	-	<1	<1	-	-	-	-	-	NS	-	-	-	-	-	

APPENDIX H-2
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VALENCIA POWER PLANT
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ANALYTE	SAMPLE DATE	MW-16	MW-17	MW-17*	MW-18	MW-19	MW-19*	MW-20	MW-21	MW-22	MW-23	MW-23*	MW-24	MW-26	MW-27	NW Prod Well-47	NW Prod Well-47*	NE Prod Well-85	NW Prod Well-140	NE Prod Well-350	AWQS
1,1-Dichloroethane (cont.)	7/15/2008	<0.5	<0.5	<0.5	-	-	-	<0.5	<0.5	-	-	-	-	<0.5	NS	-	-	-	-	-	NE
	1/28/2009	<1	<1	<1	-	-	-	-	-	-	-	-	-	<1	NS	-	-	-	-	-	
	2/10/2009	-	-	-	-	<1	-	-	-	-	-	-	-	-	NS	-	-	-	-	-	
	7/14/2009	<1	<1	<1	-	<1	-	-	<1	-	-	-	-	<1	NS	-	-	-	-	-	
	1/25/2010	<5	<1	<1	-	<1	-	-	<1	-	-	-	-	<1	NS	-	-	-	-	-	
1,2-Dichloroethane	6/24/1996	-	-	-	-	-	-	-	-	-	-	-	-	-	NS	-	-	-	-	-	5
	8/29/2002	-	-	-	-	-	-	-	<0.5	-	-	-	-	-	NS	-	-	-	-	-	
	10/9/2002	-	<0.5	-	<0.5	<0.5	-	<0.5	<0.5	-	-	-	-	-	NS	<0.5	<0.5	<0.5	<0.5	<0.5	
	4/2/2003	-	-	-	-	-	-	-	-	<0.5	<0.5	<0.5	-	-	NS	-	-	-	-	-	
	6/17/2003	-	<0.5	-	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	-	<0.5	-	NS	-	-	-	-	-	
	1/6/2005	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	-	NS	-	-	-	-	-	
	7/29/2005	-	<0.5	-	-	-	-	<0.5	<0.5	-	-	-	-	-	NS	-	-	-	-	-	
	1/25/2006	-	<1	-	-	-	-	<1	<1	-	-	-	-	-	NS	-	-	-	-	-	
	7/28/2006	-	<1	-	-	-	-	<1	<1	-	-	-	-	-	NS	-	-	-	-	-	
	1/30/2007	-	<1	<1	-	-	-	<1	<1	-	-	-	-	-	NS	-	-	-	-	-	
	8/1/2007	-	<1	<1	-	-	-	<1	<1	-	-	-	-	-	NS	-	-	-	-	-	
	1/29/2008	<1	<1	<1	-	-	-	<1	<1	-	-	-	-	-	NS	-	-	-	-	-	
	1/28/2009	<1	<1	<1	-	-	-	-	-	-	-	-	-	<1	NS	-	-	-	-	-	
	2/10/2009	-	-	-	-	<1	-	-	-	-	-	-	-	-	NS	-	-	-	-	-	
	7/14/2009	<1	<1	<1	-	<1	-	-	<1	-	-	-	-	<1	NS	-	-	-	-	-	
	1/25/2010	<5	<1	<1	-	<1	-	-	<1	-	-	-	-	<1	NS	-	-	-	-	-	
1,1-Dichloroethene	6/24/1996	-	-	-	-	-	-	-	-	-	-	-	-	-	NS	-	-	-	-	-	7
	8/29/2002	-	-	-	-	-	-	-	<1	-	-	-	-	-	NS	-	-	-	-	-	
	10/9/2002	-	<1	-	<1	<1	-	<1	<1	-	-	-	-	-	NS	<1	<1	<1	<1	<1	
	4/2/2003	-	-	-	-	-	-	-	-	<1	<1	<1	-	-	NS	-	-	-	-	-	
	6/17/2003	-	<1	-	<1	<1	-	<1	<1	<1	<1	-	<1	-	NS	-	-	-	-	-	
	1/6/2005	-	<1	<1	<1	<1	<1	<1	<1	<1	<1	-	<1	-	NS	-	-	-	-	-	
	7/29/2005	-	<1	-	-	-	-	<1	<1	-	-	-	-	-	NS	-	-	-	-	-	
	1/25/2006	-	<1	-	-	-	-	<1	<1	-	-	-	-	-	NS	-	-	-	-	-	
	7/28/2006	-	<1	-	-	-	-	<1	<1	-	-	-	-	-	NS	-	-	-	-	-	
	1/30/2007	-	<0.5	<0.5	-	-	-	<0.5	<0.5	-	-	-	-	-	NS	-	-	-	-	-	
	8/1/2007	-	<0.5	<0.5	-	-	-	<0.5	<0.5	-	-	-	-	-	NS	-	-	-	-	-	
	1/29/2008	<0.5	<0.5	<0.5	-	-	-	<0.5	<0.5	-	-	-	-	-	NS	-	-	-	-	-	
	7/15/2008	<0.5	<0.5	<0.5	-	-	-	<0.5	<0.5	-	-	-	-	<0.5	NS	-	-	-	-	-	
	1/28/2009	<0.5	<0.5	<0.5	-	-	-	-	-	-	-	-	-	<0.5	NS	-	-	-	-	-	
	2/10/2009	-	-	-	-	<0.5	-	-	-	-	-	-	-	-	NS	-	-	-	-	-	
	7/14/2009	<1	<1	<1	-	<1	-	-	<1	-	-	-	-	<1	NS	-	-	-	-	-	
	1/25/2010	<5	<1	<1	-	<1	-	-	<1	-	-	-	-	<1	NS	-	-	-	-	-	
cis-1,2-Dichloroethene	6/24/1996	-	-	-	-	-	-	-	-	-	-	-	-	-	NS	-	-	-	-	-	70
	8/29/2002	-	-	-	-	-	-	-	<0.5	-	-	-	-	-	NS	-	-	-	-	-	
	10/9/2002	-	<0.5	-	<0.5	<0.5	-	<0.5	31	-	-	-	-	-	NS	<0.5	<0.5	<0.5	<0.5	<0.5	
	4/2/2003	-	-	-	-	-	-	-	-	<0.5	<0.5	<0.5	-	-	NS	-	-	-	-	-	
	6/17/2003	-	<0.5	-	<0.5	<0.5	-	<0.5	33	<0.5	<0.5	-	<0.5	-	NS	-	-	-	-	-	
	1/6/2005	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	-	NS	-	-	-	-	-	
	7/29/2005	-	<0.5	-	-	-	-	<0.5	<0.5	-	-	-	-	-	NS	-	-	-	-	-	
	1/25/2006	-	<1	-	-	-	-	<1	<1	-	-	-	-	-	NS	-	-	-	-	-	
	7/28/2006	-	<1	-	-	-	-	<1	1.5	-	-	-	-	-	NS	-	-	-	-	-	
	1/30/2007	-	<0.5	<0.5	-	-	-	<0.5	0.5	-	-	-	-	-	NS	-	-	-	-	-	
	8/1/2007	-	<0.5	<0.5	-	-	-	<0.5	<0.5	-	-	-	-	-	NS	-	-	-	-	-	
	1/29/2008	0.61	<0.5	<0.5	-	-	-	<0.5	22	-	-	-	-	-	NS	-	-	-	-	-	

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VALENCIA POWER PLANT
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ANALYTE	SAMPLE DATE	MW-16	MW-17	MW-17*	MW-18	MW-19	MW-19*	MW-20	MW-21	MW-22	MW-23	MW-23*	MW-24	MW-26	MW-27	NW Prod Well-47	NW Prod Well-47*	NE Prod Well-85	NW Prod Well-140	NE Prod Well-350	AWQS
cis-1,2-Dichloroethene (cont.)	7/15/2008	<0.5	0.53	<0.5	-	-	-	<0.5	1.5	-	-	-	-	<0.5	NS	-	-	-	-	-	70
	1/28/2009	<0.5	<0.5	<0.5	-	-	-	-	-	-	-	-	-	<0.5	NS	-	-	-	-	-	
	2/10/2009	-	-	-	-	<0.5	-	-	-	-	-	-	-	-	NS	-	-	-	-	-	
	7/14/2009	<1	<1	<1	-	<1	-	-	1.5	-	-	-	-	<1	NS	-	-	-	-	-	
	1/25/2010	<5	<1	<1	-	<1	-	-	3.2	-	-	-	-	<1	NS	-	-	-	-	-	
	7/7/2010	<0.5	1.7	0.98	-	<0.5	-	-	<0.5	-	-	-	-	<0.5	NS	-	-	-	-	-	
	1/5/2011	<2	<4	<4	-	<2	-	<2	<4	-	<2	-	<2	<2	<2	-	-	-	-	-	
	7/20/2011	-	1.28	2.33	-	-	-	-	<0.5	-	-	-	-	<0.5	<0.5	-	-	-	-	-	
	7/21/2011	<1	-	-	<0.5	<0.5	-	-	-	-	-	-	-	-	NS	-	-	-	-	-	
	1/24/2012	-	3.34	2.52	-	<0.5	-	-	-	-	-	-	-	<0.5	<0.5	-	-	-	-	-	
	1/29/2013	<0.5	6.36	6.25	-	<0.5	-	-	<0.5	-	-	-	-	<0.5	<0.5	-	-	-	-	-	
	2/28/2014	<0.23	3.10	2.90	<0.23	<0.23	-	<0.23	<0.23	-	-	-	-	<0.23	<0.23	NS	NS	NS	NS	NS	
	1/13/2015	< 0.20	1.9	-	< 0.20	< 0.20	-	< 0.20	< 0.20	-	-	-	-	< 0.20	< 0.20	NS	NS	NS	NS	NS	
	1/14/2016	< 0.20	1.3	-	< 0.20	< 0.20	-	< 0.20	< 0.20	-	-	-	-	< 0.20	< 0.20	NS	NS	NS	NS	NS	
	1/12/2017	<0.50	2.1	-	<0.50	<0.50	-	<0.50	<0.50	-	-	-	-	<0.50	<0.50	NS	NS	NS	NS	NS	
	1/16/2018	<0.50	1.8	-	<0.50	<0.50	-	<0.50	<0.50	-	-	-	-	<0.50	<0.50	NS	NS	NS	NS	NS	
	1/9/2019	< 0.50	1.1	-	< 0.50	< 0.50	-	< 0.50	< 0.50	-	-	-	-	< 0.50	< 0.50	NS	NS	NS	NS	NS	
	1/8/2020	< 0.50	0.75	-	< 0.50	< 0.50	-	< 0.50	< 0.50	-	-	-	-	< 0.50	< 0.50	NS	NS	NS	NS	NS	
	1/13/2021	< 0.50	0.60	-	-	< 0.50	-	-	-	-	-	-	-	< 0.50	< 0.50	NS	NS	NS	NS	NS	
	7/15/2021	-	0.71		-	-	-	-	-	-	-	-	-	-	-	NS	NS	NS	NS	NS	
	1/19/2022	< 0.50	0.74	-	-	< 0.50	-	-	-	-	-	-	-	< 0.50	< 0.50	NS	NS	NS	NS	NS	
	1/18/2023	< 0.50	< 0.50	-	-	< 0.50	-	-	-	-	-	-	-	< 0.50	< 0.50	NS	NS	NS	NS	NS	
trans-1,2-Dichloroethene	6/24/1996	-	-	-	-	-	-	-	-	-	-	-	-	-	NS	-	-	-	-	-	100
	8/29/2002	-	-	-	-	-	-	-	<0.5	-	-	-	-	-	NS	-	-	-	-	-	
	10/9/2002	-	<0.5	-	<0.5	<0.5	-	<0.5	1.6	-	-	-	-	-	NS	<0.5	<0.5	<0.5	<0.5	<0.5	
	4/2/2003	-	-	-	-	-	-	-	-	<0.5	<0.5	<0.5	-	-	NS	-	-	-	-	-	
	6/17/2003	-	<0.5	-	<0.5	<0.5	-	<0.5	1.1	<0.5	<0.5	-	<0.5	-	NS	-	-	-	-	-	
	1/6/2005	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	-	NS	-	-	-	-	-	
	7/29/2005	-	<0.5	-	-	-	-	<0.5	<0.5	-	-	-	-	-	NS	-	-	-	-	-	
	1/25/2006	-	<1	-	-	-	-	<1	<1	-	-	-	-	-	NS	-	-	-	-	-	
	7/28/2006	-	<1	-	-	-	-	<1	<1	-	-	-	-	-	NS	-	-	-	-	-	
	1/30/2007	-	<0.5	<0.5	-	-	-	<0.5	<0.5	-	-	-	-	-	NS	-	-	-	-	-	
	8/1/2007	-	<0.5	<0.5	-	-	-	<0.5	<0.5	-	-	-	-	-	NS	-	-	-	-	-	
	1/29/2008	<0.5	<0.5	<0.5	-	-	-	<0.5	0.74	-	-	-	-	-	NS	-	-	-	-	-	
	7/15/2008	<0.5	<0.5	<0.5	-	-	-	<0.5	<0.5	-	-	-	-	<0.5	NS	-	-	-	-	-	
	1/28/2009	<0.5	<0.5	<0.5	-	-	-	-	-	-	-	-	-	<0.5	NS	-	-	-	-	-	
	2/10/2009	-	-	-	-	<0.5	-	-	-	-	-	-	-	-	NS	-	-	-	-	-	
	7/14/2009	<1	<1	<1	-	<1	-	-	<1	-	-	-	-	<1	NS	-	-	-	-	-	
	1/25/2010	<5	<1	<1	-	<1	-	-	<1	-	-	-	-	<1	NS	-	-	-	-	-	
	2/27/2014	<0.24	0.78	0.69	<0.24	<0.24	-	<0.24	<0.24	-	-	-	-	<0.24	<0.24	NS	NS	NS	NS	NS	
Ethylbenzene	6/24/1996	-	-	-	-	-	-	-	-	-	-	-	-	-	NS	-	-	-	-	-	700
	8/29/2002	-	-	-	-	-	-	-	<0.5	-	-	-	-	-	NS	-	-	-	-	-	
	10/9/2002	-	<0.5	-	<0.5	<0.5	-	<0.5	<0.5	-	-	-	-	-	NS	<0.5	<0.5	<0.5	<0.5	<0.5	
	4/2/2003	-	-	-	-	-	-	-	-	<0.5	<0.5	<0.5	-	-	NS	-	-	-	-	-	
	6/17/2003	-	<0.5	-	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	-	<0.5	-	NS	-	-	-	-	-	
	1/6/2005	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	-	NS	-	-	-	-	-	
	7/29/2005	-	<0.5	-	-	-	-	<0.5	<0.5	-	-	-	-	-	NS	-	-	-	-	-	
	1/25/2006	-	<1	-	-	-	-	<1	<1	-	-	-	-	-	NS	-	-	-	-	-	
	7/28/2006	-	<1	-	-	-	-	<1	<1	-	-	-	-	-	NS	-	-	-	-	-	
	1/30/2007	-	<2	<2	-	-	-	<2	<2	-	-	-	-	-	NS	-	-	-	-	-	
	8/1/2007	-	<2	<2	-	-	-	<2	<2	-	-	-	-	-	NS	-	-	-	-	-	

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ANALYTE	SAMPLE DATE	MW-16	MW-17	MW-17*	MW-18	MW-19	MW-19*	MW-20	MW-21	MW-22	MW-23	MW-23*	MW-24	MW-26	MW-27	NW Prod Well-47	NW Prod Well-47*	NE Prod Well-85	NW Prod Well-140	NE Prod Well-350	AWQS
Ethylbenzene (cont)	1/29/2008	<2	<2	<2	-	-	-	<2	<2	-	-	-	-	-	NS	-	-	-	-	-	700
	7/15/2008	<0.5	<0.5	<0.5	-	-	-	<0.5	<0.5	-	-	-	-	<0.5	NS	-	-	-	-	-	
	1/28/2009	<2	<2	<2	-	-	-	-	-	-	-	-	-	<2	NS	-	-	-	-	-	
	2/10/2009	-	-	-	-	<2	-	-	-	-	-	-	-	-	NS	-	-	-	-	-	
	7/14/2009	<1	<1	<1	-	<1	-	-	<1	-	-	-	-	<1	NS	-	-	-	-	-	
	1/25/2010	<5	<1	<1	-	<1	-	-	<1	-	-	-	-	<1	NS	-	-	-	-	-	
Isopropylbenzene	6/24/1996	-	-	-	-	-	-	-	-	-	-	-	-	-	NS	-	-	-	-	-	NE
	8/29/2002	-	-	-	-	-	-	-	<0.5	-	-	-	-	-	NS	-	-	-	-	-	
	10/9/2002	-	<0.5	-	<0.5	<0.5	-	<0.5	<0.5	-	-	-	-	-	NS	<0.5	<0.5	<0.5	<0.5	<0.5	
	4/2/2003	-	-	-	-	-	-	-	-	<0.5	<0.5	<0.5	-	-	NS	-	-	-	-	-	
	6/17/2003	-	<0.5	-	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	-	<0.5	-	NS	-	-	-	-	-	
	1/6/2005	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	-	NS	-	-	-	-	-	
	7/29/2005	-	<0.5	-	-	-	-	<0.5	<0.5	-	-	-	-	-	NS	-	-	-	-	-	
	7/28/2006	-	<1	-	-	-	-	<1	<1	-	-	-	-	-	NS	-	-	-	-	-	
	1/30/2007	-	<2	<2	-	-	-	<2	<2	-	-	-	-	-	NS	-	-	-	-	-	
	8/1/2007	-	<2.5	<2.5	-	-	-	<2.5	<2.5	-	-	-	-	-	NS	-	-	-	-	-	
	1/29/2008	<2.5	<2.5	<2.5	-	-	-	<2.5	<2.5	-	-	-	-	-	NS	-	-	-	-	-	
	7/15/2008	1.4	<1	<1	-	-	-	<1	<1	-	-	-	-	<1	NS	-	-	-	-	-	
	1/28/2009	<2.5	<2.5	<2.5	-	-	-	-	-	-	-	-	-	<2.5	NS	-	-	-	-	-	
	2/10/2009	-	-	-	-	<2.5	-	-	-	-	-	-	-	-	NS	-	-	-	-	-	
	7/14/2009	1.2	<1	<1	-	<1	-	-	<1	-	-	-	-	<1	NS	-	-	-	-	-	
	1/25/2010	<5	<1	<1	-	<1	-	-	<1	-	-	-	-	<1	NS	-	-	-	-	-	
m- and p-Xylene Isomers	8/29/2002	-	-	-	-	-	-	-	<1	-	-	-	-	-	NS	-	-	-	-	-	NE
	10/9/2002	-	<1	-	<1	<1	-	<1	<1	-	-	-	-	-	NS	<1	<1	<1	<1	<1	
	4/2/2003	-	-	-	-	-	-	-	-	<1	<1	<1	-	-	NS	-	-	-	-	-	
	6/17/2003	-	<1	-	<1	<1	-	<1	<1	<1	<1	-	<1	-	NS	-	-	-	-	-	
	1/6/2005	-	<1	<1	<1	<1	<1	<1	<1	<1	<1	-	<1	-	NS	-	-	-	-	-	
	7/29/2005	-	<1	-	-	-	-	<1	<1	-	-	-	-	-	NS	-	-	-	-	-	
	1/25/2006	-	<2	-	-	-	-	<2	<2	-	-	-	-	-	NS	-	-	-	-	-	
	7/28/2006	-	<2	-	-	-	-	<2	<2	-	-	-	-	-	NS	-	-	-	-	-	
Methyl ethyl ketone	6/24/1996	-	-	-	-	-	-	-	-	-	-	-	-	-	NS	-	-	-	-	-	NE
	8/29/2002	-	-	-	-	-	-	-	<5	-	-	-	-	-	NS	-	-	-	-	-	
	10/9/2002	-	<5	-	<5	<5	-	<5	<5	-	-	-	-	-	NS	<5	<5	<5	<5	<5	
	4/2/2003	-	-	-	-	-	-	-	-	<8	<8	<8	-	-	NS	-	-	-	-	-	
	6/17/2003	-	<8	-	<8	<8	-	<8	<8	<8	<8	-	<8	-	NS	-	-	-	-	-	
	1/6/2005	-	<8	<8	<8	<8	<8	<8	<8	<8	<8	-	<8	-	NS	-	-	-	-	-	
	7/29/2005	-	<8	-	-	-	-	<8	<8	-	-	-	-	-	NS	-	-	-	-	-	
	1/25/2006	-	<5	-	-	-	-	<5	<5	-	-	-	-	-	NS	-	-	-	-	-	
	7/28/2006	-	<5	-	-	-	-	<5	<5	-	-	-	-	-	NS	-	-	-	-	-	
	1/30/2007	-	<5	<5	-	-	-	<5	<5	-	-	-	-	-	NS	-	-	-	-	-	
	8/1/2007	-	<5	<5	-	-	-	<5	<5	-	-	-	-	-	NS	-	-	-	-	-	
	1/29/2008	<5	<5	<5	-	-	-	<5	<5	-	-	-	-	-	NS	-	-	-	-	-	
	7/15/2008	<10	<10	<10	-	-	-	<10	<10	-	-	-	-	<10	NS	-	-	-	-	-	
	1/28/2009	<5	<5	<5	-	-	-	-	-	-	-	-	-	<5	NS	-	-	-	-	-	
	2/10/2009	-	-	-	-	<5	-	-	-	-	-	-	-	-	NS	-	-	-	-	-	
	7/14/2009	<10	<10	<10	-	<10	-	-	<10	-	-	-	-	<10	NS	-	-	-	-	-	
	1/25/2010	<50	<10	<10	-	<10	-	-	<10	-	-	-	-	<10	NS	-	-	-	-	-	

APPENDIX H-2
CUMULATIVE RECORD OF VOLATILE ORGANIC COMPOUNDS DETECTED IN GROUNDWATER
VALENCIA POWER PLANT
NOGALES, ARIZONA

ANALYTE	SAMPLE DATE	MW-16	MW-17	MW-17*	MW-18	MW-19	MW-19*	MW-20	MW-21	MW-22	MW-23	MW-23*	MW-24	MW-26	MW-27	NW Prod Well-47	NW Prod Well-47*	NE Prod Well-85	NW Prod Well-140	NE Prod Well-350	AWQS
Methylene chloride	6/24/1996	-	-	-	-	-	-	-	-	-	-	-	-	-	NS	-	-	-	-	-	5
	8/29/2002	-	-	-	-	-	-	-	<1	-	-	-	-	-	NS	-	-	-	-	-	
	10/9/2002	-	<1	-	<1	<1	-	<1	<1	-	-	-	-	-	NS	<1	<1	<1	<1	<1	
	4/2/2003	-	-	-	-	-	-	-	-	<1	<1	<1	-	-	NS	-	-	-	-	-	
	6/17/2003	-	<1	-	<1	<1	-	<1	<1	<1	<1	-	<1	-	NS	-	-	-	-	-	
	1/6/2005	-	<2	<2	<2	<2	<2	<2	<2	<2	<2	-	<2	-	NS	-	-	-	-	-	
	7/29/2005	-	<2	-	-	-	-	<2	<2	-	-	-	-	-	NS	-	-	-	-	-	
	1/25/2006	-	<2	-	-	-	-	<2	<2	-	-	-	-	-	NS	-	-	-	-	-	
	7/28/2006	-	<2	-	-	-	-	<2	<2	-	-	-	-	-	NS	-	-	-	-	-	
	1/30/2007	-	<3	<3	-	-	-	<3	<3	-	-	-	-	-	NS	-	-	-	-	-	
	8/1/2007	-	<3	<3	-	-	-	<3	<3	-	-	-	-	-	NS	-	-	-	-	-	
	1/29/2008	<3	<3	<3	-	-	-	<3	<3	-	-	-	-	-	NS	-	-	-	-	-	
	7/15/2008	<2	<2	<2	-	-	-	<2	<2	-	-	-	-	<2	NS	-	-	-	-	-	
	1/28/2009	<3	<3	<3	-	-	-	-	-	-	-	-	-	<3	NS	-	-	-	-	-	
	2/10/2009	-	-	-	-	<3	-	-	-	-	-	-	-	-	NS	-	-	-	-	-	
	7/14/2009	<5	<5	<5	-	<5	-	-	<5	-	-	-	-	<5	NS	-	-	-	-	-	
	1/25/2010	<25	<5	<5	-	<5	-	-	<5	-	-	-	-	<5	NS	-	-	-	-	-	
Naphthalene	6/24/1996	-	-	-	-	-	-	-	-	-	-	-	-	-	NS	-	-	-	-	-	NE
	8/29/2002	-	-	-	-	-	-	-	<3	-	-	-	-	-	NS	-	-	-	-	-	
	10/9/2002	-	<3	-	<3	<3	-	<3	<3	-	-	-	-	-	NS	<3	<3	<3	<3	<3	
	4/2/2003	-	-	-	-	-	-	-	-	<3	<3	<3	-	-	NS	-	-	-	-	-	
	6/17/2003	-	<3	-	<3	<3	-	<3	<3	<3	<3	-	<3	-	NS	-	-	-	-	-	
	1/6/2005	-	<3	<3	<3	<3	<3	<3	<3	<3	<3	-	<3	-	NS	-	-	-	-	-	
	7/29/2005	-	<3	-	-	-	-	<3	<3	-	-	-	-	-	NS	-	-	-	-	-	
	7/28/2006	-	<5	-	-	-	-	<5	<5	-	-	-	-	-	NS	-	-	-	-	-	
	1/30/2007	-	<5	<5	-	-	-	<5	<5	-	-	-	-	-	NS	-	-	-	-	-	
	8/1/2007	-	<5	<5	-	-	-	<5	<5	-	-	-	-	-	NS	-	-	-	-	-	
	1/29/2008	<5	<5	<5	-	-	-	<5	<5	-	-	-	-	-	NS	-	-	-	-	-	
	7/15/2008	<1	<1	<1	-	-	-	<1	<1	-	-	-	-	<1	NS	-	-	-	-	-	
	1/28/2009	<5	<5	<5	-	-	-	-	-	-	-	-	-	<5	NS	-	-	-	-	-	
	2/10/2009	-	-	-	-	<5	-	-	-	-	-	-	-	-	NS	-	-	-	-	-	
	7/14/2009	<5	<5	<5	-	<5	-	-	<5	-	-	-	-	<5	NS	-	-	-	-	-	
	1/25/2010	<25	<5	<5	-	<5	-	-	<5	-	-	-	-	<5	NS	-	-	-	-	-	
N-Butylbenzene	6/24/1996	-	-	-	-	-	-	-	-	-	-	-	-	-	NS	-	-	-	-	-	NE
	8/29/2002	-	-	-	-	-	-	-	<0.5	-	-	-	-	-	NS	-	-	-	-	-	
	10/9/2002	-	<0.5	-	<0.5	<0.5	-	<0.5	<0.5	-	-	-	-	-	NS	<0.5	<0.5	<0.5	<0.5	<0.5	
	4/2/2003	-	-	-	-	-	-	-	-	<0.5	<0.5	<0.5	-	-	NS	-	-	-	-	-	
	6/17/2003	-	<0.5	-	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	-	<0.5	-	NS	-	-	-	-	-	
	1/6/2005	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	-	NS	-	-	-	-	-	
	7/29/2005	-	<0.5	-	-	-	-	<0.5	<0.5	-	-	-	-	-	NS	-	-	-	-	-	
	1/25/2006	-	<1	-	-	-	-	<1	<1	-	-	-	-	-	NS	-	-	-	-	-	
	7/28/2006	-	<1	-	-	-	-	<1	<1	-	-	-	-	-	NS	-	-	-	-	-	
	1/30/2007	-	<2.5	<2.5	-	-	-	<2.5	<2.5	-	-	-	-	-	NS	-	-	-	-	-	
	8/1/2007	-	<2.5	<2.5	-	-	-	<2.5	<2.5	-	-	-	-	-	NS	-	-	-	-	-	
	1/29/2008	<2.5	<2.5	<2.5	-	-	-	<2.5	<2.5	-	-	-	-	-	NS	-	-	-	-	-	
	7/15/2008	<1	<1	<1	-	-	-	<1	<1	-	-	-	-	<1	NS	-	-	-	-	-	
	1/28/2009	<2.5	<2.5	<2.5	-	-	-	-	-	-	-	-	-	<2.5	NS	-	-	-	-	-	
	2/10/2009	-	-	-	-	<2.5	-	-	-	-	-	-	-	-	NS	-	-	-	-	-	
	7/14/2009	<1	<1	<1	-	<1	-	-	<1	-	-	-	-	<1	NS	-	-	-	-	-	
	1/25/2010	<5	<1	<1	-	<1	-	-	<1	-	-	-	-	<1	NS	-	-	-	-	-	

APPENDIX H-2
CUMULATIVE RECORD OF VOLATILE ORGANIC COMPOUNDS DETECTED IN GROUNDWATER
VALENCIA POWER PLANT
NOGALES, ARIZONA

ANALYTE	SAMPLE DATE	MW-16	MW-17	MW-17*	MW-18	MW-19	MW-19*	MW-20	MW-21	MW-22	MW-23	MW-23*	MW-24	MW-26	MW-27	NW Prod Well-47	NW Prod Well-47*	NE Prod Well-85	NW Prod Well-140	NE Prod Well-350	AWQS
N-Propylbenzene	6/24/1996	-	-	-	-	-	-	-	-	-	-	-	-	-	NS	-	-	-	-	-	NE
	8/29/2002	-	-	-	-	-	-	-	<0.5	-	-	-	-	-	NS	-	-	-	-	-	
	10/9/2002	-	<0.5	-	<0.5	<0.5	-	<0.5	<0.5	-	-	-	-	-	NS	<0.5	<0.5	<0.5	<0.5	<0.5	
	4/2/2003	-	-	-	-	-	-	-	-	<0.5	<0.5	<0.5	-	-	NS	-	-	-	-	-	
	6/17/2003	-	<0.5	-	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	-	<0.5	-	NS	-	-	-	-	-	
	1/6/2005	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	-	NS	-	-	-	-	-	
	7/29/2005	-	<0.5	-	-	-	-	<0.5	<0.5	-	-	-	-	-	NS	-	-	-	-	-	
	1/25/2006	-	<1	-	-	-	-	<1	<1	-	-	-	-	-	NS	-	-	-	-	-	
	7/28/2006	-	<1	-	-	-	-	<1	<1	-	-	-	-	-	NS	-	-	-	-	-	
	1/30/2007	-	<2	<2	-	-	-	<2	<2	-	-	-	-	-	NS	-	-	-	-	-	
	8/1/2007	-	<2	<2	-	-	-	<2	<2	-	-	-	-	-	NS	-	-	-	-	-	
	1/29/2008	<2	<2	<2	-	-	-	<2	<2	-	-	-	-	-	NS	-	-	-	-	-	
	7/15/2008	<1	<1	<1	-	-	-	<1	<1	-	-	-	-	<1	NS	-	-	-	-	-	
	1/28/2009	<2	<2	<2	-	-	-	-	-	-	-	-	-	<2	NS	-	-	-	-	-	
	2/10/2009	-	-	-	-	<2	-	-	-	-	-	-	-	-	NS	-	-	-	-	-	
	7/14/2009	<1	<1	<1	-	<1	-	-	<1	-	-	-	-	<1	NS	-	-	-	-	-	
	1/25/2010	<5	<1	<1	-	<1	-	-	<1	-	-	-	-	<1	NS	-	-	-	-	-	
o-Xylene	8/29/2002	-	-	-	-	-	-	-	<0.5	-	-	-	-	-	NS	-	-	-	-	-	NE
	10/9/2002	-	<0.5	-	<0.5	<0.5	-	<0.5	<0.5	-	-	-	-	-	NS	<0.5	<0.5	<0.5	<0.5	<0.5	
	4/2/2003	-	-	-	-	-	-	-	-	<0.5	<0.5	<0.5	-	-	NS	-	-	-	-	-	
	6/17/2003	-	<0.5	-	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	-	<0.5	-	NS	-	-	-	-	-	
	1/6/2005	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	-	NS	-	-	-	-	-	
	7/29/2005	-	<0.5	-	-	-	-	<0.5	<0.5	-	-	-	-	-	NS	-	-	-	-	-	
	1/25/2006	-	<1	-	-	-	-	<1	<1	-	-	-	-	-	NS	-	-	-	-	-	
	7/28/2006	-	<1	-	-	-	-	<1	<1	-	-	-	-	-	NS	-	-	-	-	-	
p-Isopropyltoluene	6/24/1996	-	-	-	-	-	-	-	-	-	-	-	-	-	NS	-	-	-	-	-	NE
	8/29/2002	-	-	-	-	-	-	-	<0.5	-	-	-	-	-	NS	-	-	-	-	-	
	10/9/2002	-	<0.5	-	<0.5	<0.5	-	<0.5	<0.5	-	-	-	-	-	NS	<0.5	<0.5	<0.5	<0.5	<0.5	
	4/2/2003	-	-	-	-	-	-	-	-	<0.5	<0.5	<0.5	-	-	NS	-	-	-	-	-	
	6/17/2003	-	<0.5	-	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	-	<0.5	-	NS	-	-	-	-	-	
	1/6/2005	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	-	NS	-	-	-	-	-	
	7/29/2005	-	<0.5	-	-	-	-	<0.5	<0.5	-	-	-	-	-	NS	-	-	-	-	-	
	1/25/2006	-	<1	-	-	-	-	<1	<1	-	-	-	-	-	NS	-	-	-	-	-	
	7/28/2006	-	<1	-	-	-	-	<1	<1	-	-	-	-	-	NS	-	-	-	-	-	
	1/30/2007	-	<1.5	<1.5	-	-	-	<1.5	<1.5	-	-	-	-	-	NS	-	-	-	-	-	
	8/1/2007	-	<1.5	<1.5	-	-	-	<1.5	<1.5	-	-	-	-	-	NS	-	-	-	-	-	
	1/29/2008	<1.5	<1.5	<1.5	-	-	-	<1.5	<1.5	-	-	-	-	-	NS	-	-	-	-	-	
	7/15/2008	<1	<1	<1	-	-	-	<1	<1	-	-	-	-	<1	NS	-	-	-	-	-	
	1/28/2009	<1.5	<1.5	<1.5	-	-	-	-	-	-	-	-	-	<1.5	NS	-	-	-	-	-	
	2/10/2009	-	-	-	-	<1.5	-	-	-	-	-	-	-	-	NS	-	-	-	-	-	
	7/14/2009	1.2	<1	<1	-	<1	-	-	<1	-	-	-	-	<1	NS	-	-	-	-	-	
	1/25/2010	<5	<1	<1	-	<1	-	-	<1	-	-	-	-	<1	NS	-	-	-	-	-	
sec-Butylbenzene	6/24/1996	-	-	-	-	-	-	-	-	-	-	-	-	-	NS	-	-	-	-	-	NE
	8/29/2002	-	-	-	-	-	-	-	<0.5	-	-	-	-	-	NS	-	-	-	-	-	
	10/9/2002	-	<0.5	-	<0.5	<0.5	-	<0.5	<0.5	-	-	-	-	-	NS	<0.5	<0.5	<0.5	<0.5	<0.5	
	4/2/2003	-	-	-	-	-	-	-	-	<0.5	<0.5	<0.5	-	-	NS	-	-	-	-	-	
	6/17/2003	-	<0.5	-	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	-	<0.5	-	NS	-	-	-	-	-	
	1/6/2005	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	-	NS	-	-	-	-	-	
	7/29/2005	-	<0.5	-	-	-	-	<0.5	<0.5	-	-	-	-	-	NS	-	-	-	-	-	
	1/25/2006	-	<1	-	-	-	-	<1	<1	-	-	-	-	-	NS	-	-	-	-	-	

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CUMULATIVE RECORD OF VOLATILE ORGANIC COMPOUNDS DETECTED IN GROUNDWATER
VALENCIA POWER PLANT
NOGALES, ARIZONA

ANALYTE	SAMPLE DATE	MW-16	MW-17	MW-17*	MW-18	MW-19	MW-19*	MW-20	MW-21	MW-22	MW-23	MW-23*	MW-24	MW-26	MW-27	NW Prod Well-47	NW Prod Well-47*	NE Prod Well-85	NW Prod Well-140	NE Prod Well-350	AWQS
sec-Butylbenzene (cont)	7/28/2006	-	<1	-	-	-	-	<1	<1	-	-	-	-	-	NS	-	-	-	-	-	NE
	1/30/2007	-	<1.5	<1.5	-	-	-	<1.5	<1.5	-	-	-	-	-	NS	-	-	-	-	-	
	8/1/2007	-	<1.5	<1.5	-	-	-	<1.5	<1.5	-	-	-	-	-	NS	-	-	-	-	-	
	1/29/2008	<1.5	<1.5	<1.5	-	-	-	<1.5	<1.5	-	-	-	-	-	NS	-	-	-	-	-	
	7/15/2008	1.5	<1	<1	-	-	-	<1	<1	-	-	-	-	<1	NS	-	-	-	-	-	
	1/28/2009	1.6	<1.5	<1.5	-	-	-	-	-	-	-	-	-	<1.5	NS	-	-	-	-	-	
	2/10/2009	-	-	-	-	<1.5	-	-	-	-	-	-	-	-	NS	-	-	-	-	-	
	7/14/2009	1.7	<1	<1	-	<1	-	-	<1	-	-	-	-	<1	NS	-	-	-	-	-	
	1/25/2010	<5	<1	<1	-	<1	-	-	<1	-	-	-	-	<1	NS	-	-	-	-	-	
tert-Butylbenzene	6/24/1996	-	-	-	-	-	-	-	-	-	-	-	-	-	NS	-	-	-	-	-	NE
	8/29/2002	-	-	-	-	-	-	-	<0.5	-	-	-	-	-	NS	-	-	-	-	-	
	10/9/2002	-	<0.5	-	<0.5	<0.5	-	<0.5	<0.5	-	-	-	-	-	NS	<0.5	<0.5	<0.5	<0.5	<0.5	
	4/2/2003	-	-	-	-	-	-	-	-	<0.5	<0.5	<0.5	-	-	NS	-	-	-	-	-	
	6/17/2003	-	<0.5	-	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	-	<0.5	-	NS	-	-	-	-	-	
	1/6/2005	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	-	NS	-	-	-	-	-	
	7/29/2005	-	<0.5	-	-	-	-	<0.5	<0.5	-	-	-	-	-	NS	-	-	-	-	-	
	1/25/2006	-	<1	-	-	-	-	<1	<1	-	-	-	-	-	NS	-	-	-	-	-	
	7/28/2006	-	<1	-	-	-	-	<1	<1	-	-	-	-	-	NS	-	-	-	-	-	
	1/30/2007	-	<2.5	<2.5	-	-	-	<2.5	<2.5	-	-	-	-	-	NS	-	-	-	-	-	
	8/1/2007	-	<2.5	<2.5	-	-	-	<2.5	<2.5	-	-	-	-	-	NS	-	-	-	-	-	
	1/29/2008	<2.5	<2.5	<2.5	-	-	-	<2.5	<2.5	-	-	-	-	-	NS	-	-	-	-	-	
	7/15/2008	<1	<1	<1	-	-	-	<1	<1	-	-	-	-	<1	NS	-	-	-	-	-	
	1/28/2009	<2.5	<2.5	<2.5	-	-	-	-	-	-	-	-	-	<2.5	NS	-	-	-	-	-	
	2/10/2009	-	-	-	-	<2.5	-	-	-	-	-	-	-	-	NS	-	-	-	-	-	
	7/14/2009	<1	<1	<1	-	<1	-	-	<1	-	-	-	-	<1	NS	-	-	-	-	-	
	1/25/2010	<5	<1	<1	-	<1	-	-	<1	-	-	-	-	<1	NS	-	-	-	-	-	
Tetrachloroethene	6/24/1996	-	-	-	-	-	-	-	-	-	-	-	-	-	NS	-	-	-	-	-	5
	8/29/2002	-	-	-	-	-	-	-	<0.5	-	-	-	-	-	NS	-	-	-	-	-	
	10/9/2002	-	<0.5	-	<0.5	<0.5	-	<0.5	<0.5	-	-	-	-	-	NS	<0.5	<0.5	<0.5	<0.5	<0.5	
	4/2/2003	-	-	-	-	-	-	-	-	<0.5	<0.5	<0.5	-	-	NS	-	-	-	-	-	
	6/17/2003	-	2.1	-	<0.5	<0.5	-	2	<0.5	2.1	<0.5	-	<0.5	-	NS	-	-	-	-	-	
	1/6/2005	-	2	2.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	-	NS	-	-	-	-	-	
	7/29/2005	-	**6.6**	-	-	-	-	<0.5	<0.5	-	-	-	-	-	NS	-	-	-	-	-	
	1/25/2006	-	**11**	-	-	-	-	<1	<1	-	-	-	-	-	NS	-	-	-	-	-	
	7/28/2006	-	**17**	-	-	-	-	<1	<1	-	-	-	-	-	NS	-	-	-	-	-	
	1/30/2007	-	**35**	**35**	-	-	-	<0.5	<0.5	-	-	-	-	-	NS	-	-	-	-	-	
	8/1/2007	-	**44**	**45**	-	-	-	<0.5	<0.5	-	-	-	-	-	NS	-	-	-	-	-	
	1/29/2008	<0.5	**52**	**55**	-	-	-	<0.5	<0.5	-	-	-	-	-	NS	-	-	-	-	-	
	7/15/2008	<0.5	**49**	**49**	-	-	-	<0.5	<0.5	-	-	-	-	<0.5	NS	-	-	-	-	-	
	1/28/2009	<0.5	**69**	**76**	-	-	-	-	-	-	-	-	-	<0.5	NS	-	-	-	-	-	
	2/10/2009	-	-	-	-	**9.9**	-	-	-	-	-	-	-	-	NS	-	-	-	-	-	
	7/14/2009	<1	**76**	**72**	-	**23**	-	-	<1	-	-	-	-	<1	NS	-	-	-	-	-	
	1/25/2010	<1.5	**62**	**60**	-	**17**	-	-	<1	-	-	-	-	<1	NS	-	-	-	-	-	
	7/7/2010	<0.5	**72**	**64**	-	**9.7**	-	-	<0.5	-	-	-	-	0.5	NS	-	-	-	-	-	
	1/5/2011	<2	**75.9**	**76.8**	-	2.83	-	<2	<4	-	<2	-	<2	<2	2.58	-	-	-	-	-	
	7/20/2011	-	**87**	**82.2**	-	-	-	-	<0.5	-	-	-	-	0.73	1.82	-	-	-	-	-	
	7/21/2011	<1	-	-	<0.5	**27.8**	-	-	-	-	-	-	-	-	NS	-	-	-	-	-	
	1/24/2012	<0.5	**65.6**	**64**	-	**11.2**	-	-	-	-	-	-	-	0.58	3.35	-	-	-	-	-	
	1/29/2013	<0.5	**61.1**	**64.5**	-	**6**	-	-	<0.5	-	-	-	-	<0.5	2.9	-	-	-	-	-	

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ANALYTE	SAMPLE DATE	MW-16	MW-17	MW-17*	MW-18	MW-19	MW-19*	MW-20	MW-21	MW-22	MW-23	MW-23*	MW-24	MW-26	MW-27	NW Prod Well-47	NW Prod Well-47*	NE Prod Well-85	NW Prod Well-140	NE Prod Well-350	AWQS
Tetrachloroethene (cont)	2/28/2014	<0.29	**58.4**	**52.2**	<0.29	**14**	-	<0.29	<0.29	-	-	-	-	0.89 J	1.9	NS	NS	NS	NS	NS	5
	1/13/2015	< 0.30	**38.7**	-	< 0.30	**5.3**	-	< 0.30	< 0.30	-	-	-	-	0.79	1.1	NS	NS	NS	NS	NS	
	1/14/2016	< 0.30	**35.8**	-	< 0.30	3.6	-	< 0.30	< 0.30	-	-	-	-	< 0.30	0.99 J	NS	NS	NS	NS	NS	
	1/12/2017	<0.50	**40.1**	-	<0.50	4.2	-	<0.50	<0.50	-	-	-	-	0.72	1.4	NS	NS	NS	NS	NS	
	1/16/2018	<0.50	**28.7**	-	<0.50	4.2	-	<0.50	<0.50	-	-	-	-	<0.50	2.2	NS	NS	NS	NS	NS	
	1/9/2019	< 0.50	**34.4**	-	<0.50	3.7	-	< 0.50	< 0.50	-	-	-	-	< 0.50	1.6	NS	NS	NS	NS	NS	
	1/8/2020	< 0.50	**24.4**	-	< 0.50	4.1	-	< 0.50	< 0.50	-	-	-	-	0.51	1.5	NS	NS	NS	NS	NS	
	1/13/2021	< 0.50	**18.1**	-	-	4.3	-	-	-	-	-	-	-	0.61	1.3	NS	NS	NS	NS	NS	
	7/15/2021	-	**20.7**	-	-	-	-	-	-	-	-	-	-	-	-	NS	NS	NS	NS	NS	
	1/19/2022	< 0.50	**30.0**	-	-	3.7	-	-	-	-	-	-	-	< 0.50	0.94	NS	NS	NS	NS	NS	
	1/18/2023	< 0.50	**16.9**	-	-	3.6	-	-	-	-	-	-	-	< 0.50	0.78	NS	NS	NS	NS	NS	
Toluene	6/24/1996	-	-	-	-	-	-	-	-	-	-	-	-	-	NS	-	-	-	-	-	1000
	8/29/2002	-	-	-	-	-	-	-	<0.5	-	-	-	-	-	NS	-	-	-	-	-	
	10/9/2002	-	<0.5	-	<0.5	<0.5	-	<0.5	<0.5	-	-	-	-	-	NS	<0.5	<0.5	<0.5	<0.5	<0.5	
	4/2/2003	-	-	-	-	-	-	-	-	<0.5	<0.5	<0.5	-	-	NS	-	-	-	-	-	
	6/17/2003	-	<0.5	-	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	-	<0.5	-	NS	-	-	-	-	-	
	1/6/2005	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	-	NS	-	-	-	-	-	
	7/29/2005	-	<0.5	-	-	-	-	<0.5	<0.5	-	-	-	-	-	NS	-	-	-	-	-	
	1/25/2006	-	<1	-	-	-	-	<1	<1	-	-	-	-	-	NS	-	-	-	-	-	
	7/28/2006	-	<1	-	-	-	-	<1	<1	-	-	-	-	-	NS	-	-	-	-	-	
	1/30/2007	-	<3	<3	-	-	-	<3	<3	-	-	-	-	-	NS	-	-	-	-	-	
	8/1/2007	-	<3	<3	-	-	-	<3	<3	-	-	-	-	-	NS	-	-	-	-	-	
	1/29/2008	<3	<3	<3	-	-	-	<3	<3	-	-	-	-	-	NS	-	-	-	-	-	
	7/15/2008	<0.5	<0.5	<0.5	-	-	-	<0.5	<0.5	-	-	-	-	<0.5	NS	-	-	-	-	-	
	1/28/2009	<2	<2	<2	-	-	-	-	-	-	-	-	-	<2	NS	-	-	-	-	-	
	2/10/2009	-	-	-	-	<2	-	-	-	-	-	-	-	-	NS	-	-	-	-	-	
	7/14/2009	<5	<5	<5	-	<5	-	-	<5	-	-	-	-	<5	NS	-	-	-	-	-	
	1/25/2010	<25	<5	<5	-	<5	-	-	<5	-	-	-	-	<5	NS	-	-	-	-	-	
1,1,1-Trichloroethane	6/24/1996	-	-	-	-	-	-	-	-	-	-	-	-	-	NS	-	-	-	-	-	200
	8/29/2002	-	-	-	-	-	-	-	0.58	-	-	-	-	-	NS	-	-	-	-	-	
	10/9/2002	-	<0.5	-	<0.5	<0.5	-	<0.5	<0.5	-	-	-	-	-	NS	<0.5	<0.5	<0.5	<0.5	<0.5	
	4/2/2003	-	-	-	-	-	-	-	-	<0.5	<0.5	<0.5	-	-	NS	-	-	-	-	-	
	6/17/2003	-	<0.5	-	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	-	<0.5	-	NS	-	-	-	-	-	
	1/6/2005	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	-	NS	-	-	-	-	-	
	7/29/2005	-	<0.5	-	-	-	-	<0.5	<0.5	-	-	-	-	-	NS	-	-	-	-	-	
	1/25/2006	-	<1	-	-	-	-	<1	<1	-	-	-	-	-	NS	-	-	-	-	-	
	7/28/2006	-	<1	-	-	-	-	<1	<1	-	-	-	-	-	NS	-	-	-	-	-	
	1/30/2007	-	<0.5	<0.5	-	-	-	<0.5	<0.5	-	-	-	-	-	NS	-	-	-	-	-	
	8/1/2007	-	<0.5	<0.5	-	-	-	<0.5	<0.5	-	-	-	-	-	NS	-	-	-	-	-	
	1/29/2008	<0.5	<0.5	<0.5	-	-	-	<0.5	<0.5	-	-	-	-	-	NS	-	-	-	-	-	
	7/15/2008	<0.5	<0.5	<0.5	-	-	-	<0.5	<0.5	-	-	-	-	<0.5	NS	-	-	-	-	-	
	1/28/2009	<0.5	<0.5	<0.5	-	-	-	-	-	-	-	-	-	<0.5	NS	-	-	-	-	-	
	2/10/2009	-	-	-	-	<0.5	-	-	-	-	-	-	-	-	NS	-	-	-	-	-	
	7/14/2009	<1	<1	<1	-	<1	-	-	<1	-	-	-	-	<1	NS	-	-	-	-	-	
	1/25/2010	<5	<1	<1	-	<1	-	-	<1	-	-	-	-	<1	NS	-	-	-	-	-	
Trichloroethene	6/24/1996	-	-	-	-	-	-	-	-	-	-	-	-	-	NS	-	-	-	-	-	5
	8/29/2002	-	-	-	-	-	-	-	**5.5**	-	-	-	-	-	NS	-	-	-	-	-	

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VALENCIA POWER PLANT
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ANALYTE	SAMPLE DATE	MW-16	MW-17	MW-17*	MW-18	MW-19	MW-19*	MW-20	MW-21	MW-22	MW-23	MW-23*	MW-24	MW-26	MW-27	NW Prod Well-47	NW Prod Well-47*	NE Prod Well-85	NW Prod Well-140	NE Prod Well-350	AWQS
Trichloroethene (cont)	10/9/2002	-	<0.5	-	<0.5	<0.5	-	<0.5	**6.5**	-	-	-	-	-	NS	<0.5	<0.5	<0.5	<0.5	<0.5	5
	4/2/2003	-	-	-	-	-	-	-	-	<0.5	<0.5	<0.5	-	-	NS	-	-	-	-	-	
	6/17/2003	-	<0.5	-	<0.5	<0.5	-	<0.5	3.5	<0.5	<0.5	-	<0.5	-	NS	-	-	-	-	-	
	1/6/2005	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	1	<0.5	<0.5	-	<0.5	-	NS	-	-	-	-	-	
	7/29/2005	-	<0.5	-	-	-	-	<0.5	0.51	-	-	-	-	-	NS	-	-	-	-	-	
	1/25/2006	-	<1	-	-	-	-	<1	<1	-	-	-	-	-	NS	-	-	-	-	-	
	7/28/2006	-	<1	-	-	-	-	<1	<1	-	-	-	-	-	NS	-	-	-	-	-	
	1/30/2007	-	<0.5	<0.5	-	-	-	<0.5	<0.5	-	-	-	-	-	NS	-	-	-	-	-	
	8/1/2007	-	<0.5	<0.5	-	-	-	<0.5	<0.5	-	-	-	-	-	NS	-	-	-	-	-	
	1/29/2008	<0.5	<0.5	<0.5	-	-	-	<0.5	<0.5	-	-	-	-	-	NS	-	-	-	-	-	
	7/15/2008	<0.5	<0.5	<0.5	-	-	-	<0.5	<0.5	-	-	-	-	<0.5	NS	-	-	-	-	-	
	1/28/2009	<0.5	0.61	0.69	-	-	-	-	-	-	-	-	-	<0.5	NS	-	-	-	-	-	
	2/10/2009	-	-	-	-	<0.5	-	-	-	-	-	-	-	-	NS	-	-	-	-	-	
	7/14/2009	<1	1	<1	-	<1	-	-	<1	-	-	-	-	<1	NS	-	-	-	-	-	
	1/25/2010	<1.9	**5.5**	**5.2**	-	<1	-	-	<1	-	-	-	-	<1	NS	-	-	-	-	-	
	7/7/2010	<0.5	**9.2**	**6**	-	<0.5	-	-	<0.5	-	-	-	-	<0.5	NS	-	-	-	-	-	
	1/5/2011	<2	<4	<4	-	<2	-	<2	<4	-	<2	-	<2	<2	<2	-	-	-	-	-	
	7/20/2011	-	1.72	2.86	-	-	-	-	<0.5	-	-	-	-	<0.5	<0.5	-	-	-	-	-	
	7/21/2011	<1	-	-	<0.5	0.83	-	-	-	-	-	-	-	-	NS	-	-	-	-	-	
	1/24/2012	<0.5	2.74	2.75	-	<0.5	-	-	-	-	-	-	-	<0.5	<0.5	-	-	-	-	-	
	1/29/2013	<0.5	3.19	2.96	-	<0.5	-	-	<0.5	-	-	-	-	<0.5	<0.5	-	-	-	-	-	
	2/27/2014	<0.13	4.90	4.70	<0.13	<0.13	-	<0.13	<0.13	-	-	-	-	<0.13	<0.13	NS	NS	NS	NS	NS	
	1/13/2015	< 0.20	4.7	-	< 0.20	< 0.20	-	< 0.20	< 0.20	-	-	-	-	< 0.20	< 0.20	NS	NS	NS	NS	NS	
	1/14/2016	< 0.20	2.7	-	< 0.20	< 0.20	-	< 0.20	< 0.20	-	-	-	-	< 0.20	< 0.20	NS	NS	NS	NS	NS	
	1/12/2017	<0.40	4.5	-	<0.40	<0.40	-	<0.40	<0.40	-	-	-	-	<0.40	<0.40	NS	NS	NS	NS	NS	
	1/16/2018	<0.40	3.4	-	<0.40	<0.40	-	<0.40	<0.40	-	-	-	-	<0.40	<0.40	NS	NS	NS	NS	NS	
	1/9/2019	< 0.40	3.8	-	<0.40	< 0.40	-	< 0.40	< 0.40	-	-	-	-	< 0.40	< 0.40	NS	NS	NS	NS	NS	
	1/8/2020	< 0.40	2.4	-	< 0.40	< 0.40	-	< 0.40	< 0.40	-	-	-	-	< 0.40	< 0.40	NS	NS	NS	NS	NS	
	1/13/2021	< 0.40	2.8	-	-	< 0.40	-	-	-	-	-	-	-	< 0.40	< 0.40	NS	NS	NS	NS	NS	
	7/15/2021	-	2.5	-	-	-	-	-	-	-	-	-	-	-	-	NS	NS	NS	NS	NS	
	1/19/2022	<0.20	3.4	-	-	<0.20	-	-	-	-	-	-	-	<0.20	<0.20	NS	NS	NS	NS	NS	
	1/18/2023	< 0.20	1.5	-	-	< 0.20	-	-	-	-	-	-	-	< 0.20	< 0.20	NS	NS	NS	NS	NS	
1,2,4-Trimethylbenzene	6/24/1996	-	-	-	-	-	-	-	-	-	-	-	-	-	NS	-	-	-	-	-	NE
	8/29/2002	-	-	-	-	-	-	-	<0.5	-	-	-	-	-	NS	-	-	-	-	-	
	10/9/2002	-	<0.5	-	<0.5	<0.5	-	<0.5	<0.5	-	-	-	-	-	NS	<0.5	<0.5	<0.5	<0.5	<0.5	
	4/2/2003	-	-	-	-	-	-	-	-	<0.5	<0.5	<0.5	-	-	NS	-	-	-	-	-	
	6/17/2003	-	<0.5	-	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	-	<0.5	-	NS	-	-	-	-	-	
	1/6/2005	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	-	NS	-	-	-	-	-	
	7/29/2005	-	<0.5	-	-	-	-	<0.5	<0.5	-	-	-	-	-	NS	-	-	-	-	-	
	1/25/2006	-	<1	-	-	-	-	<1	<1	-	-	-	-	-	NS	-	-	-	-	-	
	7/28/2006	-	<1	-	-	-	-	<1	<1	-	-	-	-	-	NS	-	-	-	-	-	
	1/30/2007	-	<2	<2	-	-	-	<2	<2	-	-	-	-	-	NS	-	-	-	-	-	
	8/1/2007	-	<2	<2	-	-	-	<2	<2	-	-	-	-	-	NS	-	-	-	-	-	
	1/29/2008	<2	<2	<2	-	-	-	<2	<2	-	-	-	-	-	NS	-	-	-	-	-	
	7/15/2008	<1	<1	<1	-	-	-	<1	<1	-	-	-	-	<1	NS	-	-	-	-	-	
	1/28/2009	<2	<2	<2	-	-	-	-	-	-	-	-	-	<2	NS	-	-	-	-	-	
	2/10/2009	-	-	-	-	<2	-	-	-	-	-	-	-	-	NS	-	-	-	-	-	
	7/14/2009	1.1	<1	<1	-	<1	-	-	<1	-	-	-	-	<1	NS	-	-	-	-	-	
	1/25/2010	<5	<1	<1	-	<1	-	-	<1	-	-	-	-	<1	NS	-	-	-	-	-	

APPENDIX H-2
CUMULATIVE RECORD OF VOLATILE ORGANIC COMPOUNDS DETECTED IN GROUNDWATER
VALENCIA POWER PLANT
NOGALES, ARIZONA

ANALYTE	SAMPLE DATE	MW-16	MW-17	MW-17*	MW-18	MW-19	MW-19*	MW-20	MW-21	MW-22	MW-23	MW-23*	MW-24	MW-26	MW-27	NW Prod Well-47	NW Prod Well-47*	NE Prod Well-85	NW Prod Well-140	NE Prod Well-350	AWQS
1,3,5-Trimethylbenzene	6/24/1996	-	-	-	-	-	-	-	-	-	-	-	-	-	NS	-	-	-	-	-	NE
	8/29/2002	-	-	-	-	-	-	-	<0.5	-	-	-	-	-	NS	-	-	-	-	-	
	10/9/2002	-	<0.5	-	<0.5	<0.5	-	<0.5	<0.5	-	-	-	-	-	NS	<0.5	<0.5	<0.5	<0.5	<0.5	
	4/2/2003	-	-	-	-	-	-	-	-	<0.5	<0.5	<0.5	-	-	NS	-	-	-	-	-	
	6/17/2003	-	<0.5	-	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	-	<0.5	-	NS	-	-	-	-	-	
	1/6/2005	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	-	NS	-	-	-	-	-	
	7/29/2005	-	<0.5	-	-	-	-	<0.5	<0.5	-	-	-	-	-	NS	-	-	-	-	-	
	1/25/2006	-	<1	-	-	-	-	<1	<1	-	-	-	-	-	NS	-	-	-	-	-	
	7/28/2006	-	<1	-	-	-	-	<1	<1	-	-	-	-	-	NS	-	-	-	-	-	
	1/30/2007	-	<1.5	<1.5	-	-	-	<1.5	<1.5	-	-	-	-	-	NS	-	-	-	-	-	
	8/1/2007	-	<1.5	<1.5	-	-	-	<1.5	<1.5	-	-	-	-	-	NS	-	-	-	-	-	
	1/29/2008	<1.5	<1.5	<1.5	-	-	-	<1.5	<1.5	-	-	-	-	-	NS	-	-	-	-	-	
	7/15/2008	<1	<1	<1	-	-	-	<1	<1	-	-	-	-	<1	NS	-	-	-	-	-	
	1/28/2009	<1.5	<1.5	<1.5	-	-	-	-	-	-	-	-	-	<1.5	NS	-	-	-	-	-	
	2/10/2009	-	-	-	-	<1.5	-	-	-	-	-	-	-	-	NS	-	-	-	-	-	
	7/14/2009	<1	<1	<1	-	<1	-	-	<1	-	-	-	-	<1	NS	-	-	-	-	-	
	1/25/2010	<5	<1	<1	-	<1	-	-	<1	-	-	-	-	<1	NS	-	-	-	-	-	
Vinyl chloride	6/24/1996	-	-	-	-	-	-	-	-	-	-	-	-	-	NS	-	-	-	-	-	2
	8/29/2002	-	-	-	-	-	-	-	<1	-	-	-	-	-	NS	-	-	-	-	-	
	10/9/2002	-	<1	-	<1	<1	-	<1	**2.5**	-	-	-	-	-	NS	<1	<1	<1	<1	<1	
	4/2/2003	-	-	-	-	-	-	-	-	<1	<1	<1	-	-	NS	-	-	-	-	-	
	6/17/2003	-	<1	-	<1	<1	-	<1	**4.7**	<1	<1	-	<1	-	NS	-	-	-	-	-	
	1/6/2005	-	<1	<1	<1	<1	<1	<1	<1	<1	<1	-	<1	-	NS	-	-	-	-	-	
	7/29/2005	-	<1	-	-	-	-	<1	<1	-	-	-	-	-	NS	-	-	-	-	-	
	1/25/2006	-	<1	-	-	-	-	<1	<1	-	-	-	-	-	NS	-	-	-	-	-	
	7/28/2006	-	<1	-	-	-	-	<1	<1	-	-	-	-	-	NS	-	-	-	-	-	
	1/30/2007	-	<0.5	<0.5	-	-	-	<0.5	<0.5	-	-	-	-	-	NS	-	-	-	-	-	
	8/1/2007	-	<0.5	<0.5	-	-	-	<0.5	<0.5	-	-	-	-	-	NS	-	-	-	-	-	
	1/29/2008	<0.5	<0.5	<0.5	-	-	-	<0.5	1	-	-	-	-	-	NS	-	-	-	-	-	
	7/15/2008	<0.5	<0.5	<0.5	-	-	-	<0.5	<0.5	-	-	-	-	<0.5	NS	-	-	-	-	-	
	1/28/2009	<0.5	<0.5	<0.5	-	-	-	-	-	-	-	-	-	<0.5	NS	-	-	-	-	-	
	2/10/2009	-	-	-	-	<0.5	-	-	-	-	-	-	-	-	NS	-	-	-	-	-	
	7/14/2009	<1	<1	<1	-	<1	-	-	<1	-	-	-	-	<1	NS	-	-	-	-	-	
	1/25/2010	<5	<1	<1	-	<1	-	-	<1	-	-	-	-	<1	NS	-	-	-	-	-	
	7/7/2010	<0.5	<0.5	<0.5	-	<0.5	-	-	<0.5	-	-	-	-	<0.5	NS	-	-	-	-	-	
	1/5/2011	<0.5	<1	<1	-	<0.5	-	<0.5	<1	-	<0.5	-	<0.5	<0.5	<0.5	-	-	-	-	-	
	7/20/2011	-	<1	<0.5	-	-	-	-	<0.5	-	-	-	-	<0.5	<0.5	-	-	-	-	-	
	7/21/2011	<1	-	-	<0.5	<0.5	-	-	-	-	-	-	-	-	NS	-	-	-	-	-	
	1/24/2012	<0.5	<0.5	<0.5	-	<0.5	-	-	-	-	-	-	-	<0.5	<0.5	-	-	-	-	-	
	1/29/2013	<0.5	<0.5	<0.5	-	<0.5	-	-	<0.5	-	-	-	-	<0.5	<0.5	-	-	-	-	-	
	2/27/2014	<0.14	<0.14	<0.14	<0.14	<0.14	-	<0.14	<0.14	-	-	-	-	<0.14	<0.14	NS	NS	NS	NS	NS	
	1/13/2015	< 0.20	< 0.20	-	< 0.20	< 0.20	-	< 0.20	< 0.20	-	-	-	-	< 0.20	< 0.20	NS	NS	NS	NS	NS	
	1/14/2016	< 0.20	< 0.20	-	< 0.20	< 0.20	-	< 0.20	< 0.20	-	-	-	-	< 0.20	< 0.20	NS	NS	NS	NS	NS	
	1/12/2017	<0.20	<0.20	-	<0.20	<0.20	-	<0.20	-	-	-	-	-	<0.20	<0.20	NS	NS	NS	NS	NS	
	1/16/2018	<0.20	<0.20	-	<0.20	<0.20	-	<0.20	<0.20	-	-	-	-	<0.20	<0.20	NS	NS	NS	NS	NS	
	01/09/2019	< 0.20	< 0.20	-	< 0.20	< 0.20	-	< 0.20	< 0.20	-	-	-	-	< 0.20	< 0.20	NS	NS	NS	NS	NS	
	1/8/2020	< 0.20	< 0.20	-	< 0.20	< 0.20	-	< 0.20	< 0.20	-	-	-	-	< 0.20	< 0.20	NS	NS	NS	NS	NS	

APPENDIX H-2
CUMULATIVE RECORD OF VOLATILE ORGANIC COMPOUNDS DETECTED IN GROUNDWATER
VALENCIA POWER PLANT
NOGALES, ARIZONA

ANALYTE	SAMPLE DATE	MW-16	MW-17	MW-17*	MW-18	MW-19	MW-19*	MW-20	MW-21	MW-22	MW-23	MW-23*	MW-24	MW-26	MW-27	NW Prod Well-47	NW Prod Well-47*	NE Prod Well-85	NW Prod Well-140	NE Prod Well-350	AWQS
Vinyl chloride (cont)	1/13/2021	< 0.20	< 0.20	-	-	< 0.20	-	-	-	-	-	-	-	< 0.20	< 0.20	NS	NS	NS	NS	NS	
	7/15/2023	-	< 0.40	-	-	-	-	-	-	-	-	-	-	-	-	NS	NS	NS	NS	NS	2
	1/19/2022	< 0.20	< 0.20	-	-	< 0.20	-	-	-	-	-	-	-	< 0.20	< 0.20	NS	NS	NS	NS	NS	
	1/18/2023	< 0.20	< 0.20	-	-	< 0.20	-	-	-	-	-	-	-	< 0.20	< 0.20	NS	NS	NS	NS	NS	
Xylenes, total	6/24/1996	-	-	-	-	-	-	-	-	-	-	-	-	-	NS	-	-	-	-	-	10000
	1/30/2007	-	<3	<3	-	-	-	<3	<3	-	-	-	-	-	NS	-	-	-	-	-	
	8/1/2007	-	<3	<3	-	-	-	<3	<3	-	-	-	-	-	NS	-	-	-	-	-	
	1/29/2008	<3	<3	<3	-	-	-	<3	<3	-	-	-	-	-	NS	-	-	-	-	-	
	7/15/2008	<1.5	<1.5	<1.5	-	-	-	<1.5	<1.5	-	-	-	-	<1.5	NS	-	-	-	-	-	
	1/28/2009	<3	<3	<3	-	-	-	-	-	-	-	-	-	<3	NS	-	-	-	-	-	
	2/10/2009	-	-	-	-	<3	-	-	-	-	-	-	-	-	NS	-	-	-	-	-	
	7/14/2009	<3	<3	<3	-	<3	-	-	<3	-	-	-	-	<3	NS	-	-	-	-	-	
	1/25/2010	<15	<3	<3	-	<3	-	-	<3	-	-	-	-	<3	NS	-	-	-	-	-	

Notes:
> = less than
Bold text indicates the value exceeds the AWQS.
AWQS = Aquifer Water Quality Standards
NE = not established
NS = not sampled

APPENDIX I
Laboratory Reports

Pace Analytical Services, LLC
1700 Elm Street
Minneapolis, MN 55414
(612)607-1700

August 09, 2022

Samantha Kaney
Haley & Aldrich, Inc.
400 E. Van Buren St
Suite 545
Phoenix, AZ 85004

RE: Project: 128494-005 Valencia Power Plan
Pace Project No.: 10617884

Dear Samantha Kaney:

Enclosed are the analytical results for sample(s) received by the laboratory on July 21, 2022. The results relate only to the samples included in this report. Results reported herein conform to the applicable TNI/NELAC Standards and the laboratory's Quality Manual, where applicable, unless otherwise noted in the body of the report.

The test results provided in this final report were generated by each of the following laboratories within the Pace Network:

- Pace Analytical Services - Minneapolis

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Jennifer Gross
jennifer.gross@pacelabs.com
(612)607-1700
Project Manager

Enclosures

cc: Mark Groseclose, Haley & Aldrich

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1700 Elm Street
Minneapolis, MN 55414
(612)607-1700

CERTIFICATIONS

Project: 128494-005 Valencia Power Plan
Pace Project No.: 10617884

Pace Analytical Services, LLC - Minneapolis MN

1700 Elm Street SE, Minneapolis, MN 55414
A2LA Certification #: 2926.01*
1800 Elm Street SE, Minneapolis, MN 55414--Satellite Air Lab
Alabama Certification #: 40770
Alaska Contaminated Sites Certification #: 17-009*
Alaska DW Certification #: MN00064
Arizona Certification #: AZ0014*
Arkansas DW Certification #: MN00064
Arkansas WW Certification #: 88-0680
California Certification #: 2929
Colorado Certification #: MN00064
Connecticut Certification #: PH-0256
EPA Region 8 Tribal Water Systems+Wyoming DW Certification #: via MN 027-053-137
Florida Certification #: E87605*
Georgia Certification #: 959
Hawaii Certification #: MN00064
Idaho Certification #: MN00064
Illinois Certification #: 200011
Indiana Certification #: C-MN-01
Iowa Certification #: 368
Kansas Certification #: E-10167
Kentucky DW Certification #: 90062
Kentucky WW Certification #: 90062
Louisiana DEQ Certification #: AI-03086*
Louisiana DW Certification #: MN00064
Maine Certification #: MN00064*
Maryland Certification #: 322
Michigan Certification #: 9909
Minnesota Certification #: 027-053-137*
Minnesota Dept of Ag Approval: via MN 027-053-137
Minnesota Petrofund Registration #: 1240*
Mississippi Certification #: MN00064
Missouri Certification #: 10100
Montana Certification #: CERT0092
Nebraska Certification #: NE-OS-18-06
Nevada Certification #: MN00064
New Hampshire Certification #: 2081*
New Jersey Certification #: MN002
New York Certification #: 11647*
North Carolina DW Certification #: 27700
North Carolina WW Certification #: 530
North Dakota Certification (A2LA) #: R-036
North Dakota Certification (MN) #: R-036
Ohio DW Certification #: 41244
Ohio VAP Certification (1700) #: CL101
Ohio VAP Certification (1800) #: CL110*
Oklahoma Certification #: 9507*
Oregon Primary Certification #: MN300001
Oregon Secondary Certification #: MN200001*
Pennsylvania Certification #: 68-00563*
Puerto Rico Certification #: MN00064
South Carolina Certification #:74003001
Tennessee Certification #: TN02818
Texas Certification #: T104704192*
Utah Certification #: MN00064*
Vermont Certification #: VT-027053137
Virginia Certification #: 460163*
Washington Certification #: C486*
West Virginia DEP Certification #: 382
West Virginia DW Certification #: 9952 C
Wisconsin Certification #: 999407970
Wyoming UST Certification #: via A2LA 2926.01
USDA Permit #: P330-19-00208
*Please Note: Applicable air certifications are denoted with an asterisk (*).

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SAMPLE SUMMARY

Project: 128494-005 Valencia Power Plan
Pace Project No.: 10617884

Lab ID	Sample ID	Matrix	Date Collected	Date Received
10617884001	**MW-20-072022-D**	Water	07/20/22 09:55	07/21/22 08:50
10617884002	**MW-22-072022-D**	Water	07/20/22 10:40	07/21/22 08:50
10617884003	**MW-25-072022-D**	Water	07/20/22 11:00	07/21/22 08:50
10617884004	**DUP-01-072022-D**	Water	07/20/22 11:30	07/21/22 08:50

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SAMPLE ANALYTE COUNT

Project: 128494-005 Valencia Power Plan
Pace Project No.: 10617884

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
10617884001	**MW-20-072022-D**	EPA 200.8	NN2	1	PASI-M
10617884002	**MW-22-072022-D**	EPA 200.8	NN2	1	PASI-M
10617884003	**MW-25-072022-D**	EPA 200.8	NN2	1	PASI-M
10617884004	**DUP-01-072022-D**	EPA 200.8	NN2	1	PASI-M

PASI-M = Pace Analytical Services - Minneapolis

Pace Analytical Services, LLC
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Minneapolis, MN 55414
(612)607-1700

SUMMARY OF DETECTION

Project: 128494-005 Valencia Power Plan
Pace Project No.: 10617884

Lab Sample ID Method	Client Sample ID Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
10617884001	**MW-20-072022-D**					
EPA 200.8	Chromium, Dissolved	0.055	mg/L	0.0020	08/02/22 05:49	
10617884002	**MW-22-072022-D**					
EPA 200.8	Chromium, Dissolved	0.10	mg/L	0.0020	08/02/22 05:56	
10617884003	**MW-25-072022-D**					
EPA 200.8	Chromium, Dissolved	0.11	mg/L	0.0020	08/02/22 05:59	
10617884004	**DUP-01-072022-D**					
EPA 200.8	Chromium, Dissolved	0.11	mg/L	0.0020	08/02/22 06:03	

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PROJECT NARRATIVE

Project: 128494-005 Valencia Power Plan
Pace Project No.: 10617884

Method: **EPA 200.8**
Description: 200.8 MET ICPMS, Dissolved
Client: Haley & Aldrich, Inc.
Date: August 09, 2022

General Information:
4 samples were analyzed for EPA 200.8 by Pace Analytical Services Minneapolis. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:
The samples were analyzed within the method required hold times with any exceptions noted below.

Sample Preparation:
The samples were prepared in accordance with EPA 200.8 with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):
All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:
All criteria were within method requirements with any exceptions noted below.

Internal Standards:
All internal standards were within QC limits with any exceptions noted below.

Method Blank:
All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:
All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Additional Comments:

This data package has been reviewed for quality and completeness and is approved for release.

Pace Analytical Services, LLC
1700 Elm Street
Minneapolis, MN 55414
(612)607-1700

ANALYTICAL RESULTS

Project: 128494-005 Valencia Power Plan
Pace Project No.: 10617884

Sample: MW-20-072022-D **Lab ID: 10617884001** Collected: 07/20/22 09:55 Received: 07/21/22 08:50 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
200.8 MET ICPMS, Dissolved	Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 Pace Analytical Services - Minneapolis							
Chromium, Dissolved	**0.055**	mg/L	0.0020	1	07/25/22 05:32	08/02/22 05:49	7440-47-3	

Pace Analytical Services, LLC
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(612)607-1700

ANALYTICAL RESULTS

Project: 128494-005 Valencia Power Plan
Pace Project No.: 10617884

Sample: MW-22-072022-D **Lab ID: 10617884002** Collected: 07/20/22 10:40 Received: 07/21/22 08:50 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
200.8 MET ICPMS, Dissolved	Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 Pace Analytical Services - Minneapolis							
Chromium, Dissolved	**0.10**	mg/L	0.0020	1	07/25/22 05:32	08/02/22 05:56	7440-47-3	

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ANALYTICAL RESULTS

Project: 128494-005 Valencia Power Plan
Pace Project No.: 10617884

Sample: MW-25-072022-D **Lab ID: 10617884003** Collected: 07/20/22 11:00 Received: 07/21/22 08:50 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
200.8 MET ICPMS, Dissolved	Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 Pace Analytical Services - Minneapolis							
Chromium, Dissolved	**0.11**	mg/L	0.0020	1	07/25/22 05:32	08/02/22 05:59	7440-47-3	

Pace Analytical Services, LLC
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(612)607-1700

ANALYTICAL RESULTS

Project: 128494-005 Valencia Power Plan
Pace Project No.: 10617884

Sample: DUP-01-072022-D **Lab ID: 10617884004** Collected: 07/20/22 11:30 Received: 07/21/22 08:50 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
200.8 MET ICPMS, Dissolved	Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 Pace Analytical Services - Minneapolis							
Chromium, Dissolved	**0.11**	mg/L	0.0020	1	07/25/22 05:32	08/02/22 06:03	7440-47-3	

Pace Analytical Services, LLC
1700 Elm Street
Minneapolis, MN 55414
(612)607-1700

QUALITY CONTROL DATA

Project: 128494-005 Valencia Power Plan
Pace Project No.: 10617884

QC Batch: 829934
QC Batch Method: EPA 200.8
Analysis Method: EPA 200.8
Analysis Description: 200.8 MET Dissolved
Laboratory: Pace Analytical Services - Minneapolis
Associated Lab Samples: 10617884001, 10617884002, 10617884003, 10617884004

METHOD BLANK: 4398004 Matrix: Water
Associated Lab Samples: 10617884001, 10617884002, 10617884003, 10617884004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chromium, Dissolved	mg/L	ND	0.0020	08/01/22 19:38	

LABORATORY CONTROL SAMPLE: 4398005

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chromium, Dissolved	mg/L	0.1	0.099	99	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 4398006 4398007

Parameter	Units	10617532001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chromium, Dissolved	mg/L	<0.0020	0.1	0.1	0.098	0.095	97	94	70-130	3	20	

MATRIX SPIKE SAMPLE: 4398008

Parameter	Units	10617884001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chromium, Dissolved	mg/L	0.055	0.1	0.15	94	70-130	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1700 Elm Street
Minneapolis, MN 55414
(612)607-1700

QUALIFIERS

Project: 128494-005 Valencia Power Plan
Pace Project No.: 10617884

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit - The lowest concentration value that meets project requirements for quantitative data with known precision and bias for a specific analyte in a specific matrix.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Reported results are not rounded until the final step prior to reporting. Therefore, calculated parameters that are typically reported as "Total" may vary slightly from the sum of the reported component parameters.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

Pace Analytical Services, LLC
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Minneapolis, MN 55414
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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: 128494-005 Valencia Power Plan
Pace Project No.: 10617884

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
10617884001	**MW-20-072022-D**	EPA 200.8	829934	EPA 200.8	830325
10617884002	**MW-22-072022-D**	EPA 200.8	829934	EPA 200.8	830325
10617884003	**MW-25-072022-D**	EPA 200.8	829934	EPA 200.8	830325
10617884004	**DUP-01-072022-D**	EPA 200.8	829934	EPA 200.8	830325

Pace Analytical
www.pacelabs.com

HALEY ALDRICH

CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

Section A
Required Client Information:

Company: Haley & Aldrich
Address: 400 E. Van Buren St, Suite 545
Phoenix, AZ 85004
Email To: Skaney@haleyaldrich.com
Phone: 815-742-1363 Fax:
Requested Due Date/TAT: 10 Days (STD)

Section B
Required Project Information:

Report To: Skaney@haleyaldrich.com
Copy To: mgroseclose@haleyaldrich.com
BSA #: 2022-24-Pace
H&A Client Name: Valencia Power Plant
H&A Project #: 128494-005

Section C
Invoice Information:

Attention: ap@haleyaldrich.com
Company Name: Haley & Aldrich, Inc.
Address: 400 E. Van Buren St, Suite 545 Phoen
Pace Quote Reference:
Pace Project Manager: Jennifer Gross
Pace Profile #: 36692 / 1

X 1700 Elm Street SE - Minneapolis, MN 55414
7726 Moller Road - Indianapolis, IN 46268

REGULATORY AGENCY
☐ NPDES ☐ GROUND WATER ☐ DRINKING WATER
☐ UST ☐ RCRA ☐ OTHER

Site Location STATE: Nogales AZ

Pace's services under this Chain of Custody shall be performed in accordance with terms and conditions within Blanket Service Agreement #2015-18-Pace by and between Haley & Aldrich, Inc., its subsidiaries and affiliates and Pace Analytical Services, Inc.

Section D
Required Client Information

SAMPLE ID
(A-Z, 0-9 / ,-)
Sample IDs MUST BE UNIQUE

Matrix Codes
MATRIX / CODE
Drinking Water DW
Water WT
Waste Water WW
Product P
Soil/Solid SL
Oil OL
Wipe WP
Air AR
Tissue TS
Other OT

WO#: 10617884
10617884

ITEM #	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED Composite Start DATE	COLLECTED Composite Start TIME	COLLECTED Composite End/Grab DATE	COLLECTED Composite End/Grab TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Analysis Test (Y/N): 200.8 Diss. Cr (Field Filter)	Residual	Pace Project No./ Lab I.D.
1	MW-20-072022-D	WT	G	—	—	7/20/22	0955		1			X						X		001
2	MW-22-072022-D	WT	G	—	—	7/20/22	1040		1			X						X		002
3	MW-25-072022-D	WT	G	—	—	7/20/22	1100		1			X						X		003
4	~~DUP01-070222-SK~~																			
5	DUP-01-072022-D	WT	G	—	—	7/20/22	1130		1			X						X		004
6																				
7																				
8																				
9																				
10																				
11																				
12																				

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
	[signature] H&A	7/20/22	1510	[signature] / PACE	7-20-22	1510	Y	Y	Y	Y
	[signature] / PACE	7-20-22	1800	[signature]						
				[signature] / PACE	7/21/22	8:50	2.1	Y	Y	Y
							Temp in °C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)

SAMPLER NAME AND SIGNATURE
PRINT Name of SAMPLER: Samantha Kaney
SIGNATURE of SAMPLER: [signature]
DATE Signed (MM/DD/YY): 7/20/22

20-July-2015

Pace ANALYTICAL SERVICES	DC#_Title: ENV-FRM-MIN4-0150 v05_Sample Condition Upon Receipt (SCUR)
	Effective Date: 04/12/2022

Sample Condition Upon Receipt

Client Name: Haley and Aldrich

Project #:

WO#: 10617884
PM: JMG **Due Date: 08/04/22**
CLIENT: Haley-Aldric

Courier: ☒ Fed Ex ☐ UPS ☐ USPS ☐ Client ☐ Pace ☐ SpeeDee ☐ Commercial

See Exceptions ☐ ENV-FRM-MIN4-0142

Tracking Number: 5150 1600 9194

Custody Seal on Cooler/Box Present? ☒ Yes ☐ No **Seals Intact?** ☒ Yes ☐ No **Biological Tissue Frozen?** ☐ Yes ☐ No ☒ N/A

Packing Material: ☒ Bubble Wrap ☐ Bubble Bags ☐ None ☐ Other: _____ **Temp Blank?** ☒ Yes ☐ No

Thermometer: ☐ T1(0461) ☒ T2(1336) ☐ T3(0459) ☐ T4(0254) ☐ T5(0489) ☐ T6(0235) ☐ T7 (0042) ☐ 01339252/1710 ☐ 122639816 ☐ 140792808

Type of Ice: ☒ Wet ☐ Blue ☐ None ☐ Dry ☐ Melted

Did Samples Originate in West Virginia? ☐ Yes ☒ No **Were All Container Temps Taken?** ☐ Yes ☐ No ☒ N/A

Temp should be above freezing to 6°C **Cooler Temp Read w/temp blank:** 2.1 °C

Correction Factor: TRUE **Cooler Temp Corrected w/temp blank:** 2.1 °C

Average Corrected Temp (no temp blank only): _____ °C ☐ See Exceptions ENV-FRM-MIN4-0142 ☐ 1 Container

USDA Regulated Soil: (☒ N/A, ~~water sample/Other:~~ _____) **Date/Initials of Person Examining Contents:** JM 7/21/22

~~Did samples originate in a quarantine zone within the United States: AL, AR, CA, FL, GA, ID, LA,~~ MS, NC, NM, NY, OK, OR, SC, TN, TX or VA (check maps)? ☐ Yes ☐ No ~~Did samples originate from a foreign source (internationally, including~~ Hawaii and Puerto Rico)? ☐ Yes ☐ No

If Yes to either question, fill out a Regulated Soil Checklist ENV-FRM-MIN4-0154 and include with SCUR/COC paperwork.

Location (check one): ☐ Duluth ☒ Minneapolis ☐ Virginia

				COMMENTS:
Chain of Custody Present and Filled Out?	☒ Yes	☐ No		1.
Chain of Custody Relinquished?	☒ Yes	☐ No		2.
Sampler Name and/or Signature on COC?	☒ Yes	☐ No	☐ N/A	3.
Samples Arrived within Hold Time?	☒ Yes	☐ No		4. If Fecal: ☐ <8 hrs ☐ >8hr, <24 hrs, ☐ >24 hrs
Short Hold Time Analysis (<72 hr)?	☐ Yes	☒ No		5. ☐ Fecal Coliform ☐ HPC ☐ Total Coliform/E coli ☐ BOD/cBOD ☐ Hex Chrome ☐ Turbidity ☐ Nitrate ☐ Nitrite ☐ Orthophos ☐ Other
Rush Turn Around Time Requested?	☐ Yes	☒ No		6.
Sufficient Volume?	☒ Yes	☐ No		7.
Correct Containers Used?	☒ Yes	☐ No		8.
-Pace Containers Used?	☒ Yes	☐ No		
Containers Intact?	☒ Yes	☐ No		9.
Field Filtered Volume Received for Dissolved Tests?	☒ Yes	☐ No	~~☒ N/A~~	10. Is sediment visible in the dissolved container? ☐ Yes ☐ No
Is sufficient information available to reconcile the samples to the COC? JMG 7/21/22 Matrix: ☒ Water ☐ Soil ☐ Oil ☐ Other-	☒ Yes	☐ No		11. If no, write ID/ Date/Time on Container Below: See Exception ☐ ENV-FRM-MIN4-0142
All containers needing acid/base preservation have been checked?	☒ Yes	☐ No	☐ N/A	12. Sample # 001-004 1/1 ☐ NaOH ☒ HNO_3 ☐ H_2SO_4 ☐ Zinc Acetate
All containers needing preservation are found to be in compliance with EPA recommendation? (HNO_3, H_2SO_4, <2pH, NaOH >9 Sulfide, NaOH>10 Cyanide)	☒ Yes	☐ No	☐ N/A	
Exceptions: VOA, Coliform, TOC/DOC Oil and Grease, DRO/8015 (water) and Dioxin/PFAS	☐ Yes	☐ No	☒ N/A	Positive for Res. Chlorine? ☐ Yes ☐ No **pH Paper Lot#** See Exception ☐ ENV-FRM-MIN4-0142
				Res. Chlorine: 0-6 Roll 230320; 0-6 Strip: ; 0-14 Strip:
Headspace in Methyl Mercury Container?	☐ Yes	☐ No	☒ N/A	
Extra labels present on soil VOA or WIDRO containers?	☐ Yes	☐ No	☒ N/A	13. See Exception ☐ ENV-FRM-MIN4-0140
Headspace in VOA Vials (greater than 6mm)?	☐ Yes	☐ No	☒ N/A	
Trip Blank Present?	☐ Yes	☐ No	☒ N/A	14.
Trip Blank Custody Seals Present?	☐ Yes	☐ No	☒ N/A	Pace Trip Blank Lot # (if purchased): _____

CLIENT NOTIFICATION/RESOLUTION **Field Data Required?** ☐ Yes ☐ No

Person Contacted: _____ Date/Time: _____

Comments/Resolution: _____

Project Manager Review: Jenni Gross **Date:** 7/21/22

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e., out of hold, incorrect preservative, out of temp, incorrect containers).

Labeled by: JM

Pace Analytical Services, LLC
1700 Elm Street
Minneapolis, MN 55414
(612)607-1700

January 27, 2023

Samantha Kaney
Haley & Aldrich, Inc.
400 E. Van Buren St
Suite 545
Phoenix, AZ 85004

RE: Project: 0128494 Valencia Power Plant
Pace Project No.: 10640524

Dear Samantha Kaney:

Enclosed are the analytical results for sample(s) received by the laboratory on January 19, 2023. The results relate only to the samples included in this report. Results reported herein conform to the applicable TNI/NELAC Standards and the laboratory's Quality Manual, where applicable, unless otherwise noted in the body of the report.

The test results provided in this final report were generated by each of the following laboratories within the Pace Network:

- Pace Analytical Services - Minneapolis

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Jennifer Gross
jennifer.gross@pacelabs.com
(612)607-1700
Project Manager

Enclosures

cc: Mark Groseclose, Haley & Aldrich

Pace Analytical Services, LLC
1700 Elm Street
Minneapolis, MN 55414
(612)607-1700

CERTIFICATIONS

Project: 0128494 Valencia Power Plant
Pace Project No.: 10640524

Pace Analytical Services, LLC - Minneapolis MN

1700 Elm Street SE, Minneapolis, MN 55414
1800 Elm Street SE, Minneapolis, MN 55414--Satellite Air Lab
A2LA Certification #: 2926.01*
Alabama Certification #: 40770
Alaska Contaminated Sites Certification #: 17-009*
Alaska DW Certification #: MN00064
Arizona Certification #: AZ0014*
Arkansas DW Certification #: MN00064
Arkansas WW Certification #: 88-0680
California Certification #: 2929
Colorado Certification #: MN00064
Connecticut Certification #: PH-0256
EPA Region 8 Tribal Water Systems+Wyoming DW Certification #: via MN 027-053-137
Florida Certification #: E87605*
Georgia Certification #: 959
GMP+ Certification #: GMP050884
Hawaii Certification #: MN00064
Idaho Certification #: MN00064
Illinois Certification #: 200011
Indiana Certification #: C-MN-01
Iowa Certification #: 368
Kansas Certification #: E-10167
Kentucky DW Certification #: 90062
Kentucky WW Certification #: 90062
Louisiana DEQ Certification #: AI-03086*
Louisiana DW Certification #: MN00064
Maine Certification #: MN00064*
Maryland Certification #: 322
Michigan Certification #: 9909
Minnesota Certification #: 027-053-137*
Minnesota Dept of Ag Approval: via MN 027-053-137
Minnesota Petrofund Registration #: 1240*
Mississippi Certification #: MN00064
Missouri Certification #: 10100
Montana Certification #: CERT0092
Nebraska Certification #: NE-OS-18-06
Nevada Certification #: MN00064
New Hampshire Certification #: 2081*
New Jersey Certification #: MN002
New York Certification #: 11647*
North Carolina DW Certification #: 27700
North Carolina WW Certification #: 530
North Dakota Certification (A2LA) #: R-036
North Dakota Certification (MN) #: R-036
Ohio DW Certification #: 41244
Ohio VAP Certification (1700) #: CL101
Ohio VAP Certification (1800) #: CL110*
Oklahoma Certification #: 9507*
Oregon Primary Certification #: MN300001
Oregon Secondary Certification #: MN200001*
Pennsylvania Certification #: 68-00563
Puerto Rico Certification #: MN00064
South Carolina Certification #:74003001
Tennessee Certification #: TN02818
Texas Certification #: T104704192*
Utah Certification #: MN00064*
Vermont Certification #: VT-027053137
Virginia Certification #: 460163*
Washington Certification #: C486*
West Virginia DEP Certification #: 382
West Virginia DW Certification #: 9952 C
Wisconsin Certification #: 999407970
Wyoming UST Certification #: via A2LA 2926.01
USDA Permit #: P330-19-00208
*Please Note: Applicable air certifications are denoted with an asterisk (*).

Pace Analytical Services, LLC
1700 Elm Street
Minneapolis, MN 55414
(612)607-1700

SAMPLE SUMMARY

Project: 0128494 Valencia Power Plant
Pace Project No.: 10640524

Lab ID	Sample ID	Matrix	Date Collected	Date Received
10640524001	**MW-2-011823**	Water	01/18/23 09:40	01/19/23 08:50
10640524002	**MW-4-011823**	Water	01/18/23 10:25	01/19/23 08:50
10640524003	**MW-8-011823**	Water	01/18/23 08:55	01/19/23 08:50
10640524004	**MW-9-011723**	Water	01/17/23 14:20	01/19/23 08:50
10640524005	**MW-10-011723**	Water	01/17/23 14:10	01/19/23 08:50
10640524006	**MW-11-011823**	Water	01/18/23 10:55	01/19/23 08:50
10640524007	**MW-16-011823**	Water	01/18/23 09:05	01/19/23 08:50
10640524008	**MW-17-011823**	Water	01/18/23 09:25	01/19/23 08:50
10640524009	**MW-18-011823**	Water	01/18/23 11:10	01/19/23 08:50
10640524010	**MW-19-011823**	Water	01/18/23 10:40	01/19/23 08:50
10640524011	**MW-20-011823**	Water	01/18/23 08:40	01/19/23 08:50
10640524012	**MW-22-011823**	Water	01/18/23 11:40	01/19/23 08:50
10640524013	**MW-25-011823**	Water	01/18/23 12:00	01/19/23 08:50
10640524014	**MW-26-011823**	Water	01/18/23 10:00	01/19/23 08:50
10640524015	**MW-27-011823**	Water	01/18/23 10:10	01/19/23 08:50
10640524016	**DUP-01-011823**	Water	01/18/23 08:00	01/19/23 08:50
10640524017	**DUP-02-011823**	Water	01/18/23 08:05	01/19/23 08:50
10640524018	**Trip Blank**	Water	01/17/23 00:00	01/19/23 08:50

Pace Analytical Services, LLC
1700 Elm Street
Minneapolis, MN 55414
(612)607-1700

SAMPLE ANALYTE COUNT

Project: 0128494 Valencia Power Plant
Pace Project No.: 10640524

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
10640524001	**MW-2-011823**	EPA 200.8	NN2	1	PASI-M
10640524002	**MW-4-011823**	EPA 8260D	JEM	7	PASI-M
10640524003	**MW-8-011823**	EPA 200.8	NN2	1	PASI-M
10640524004	**MW-9-011723**	EPA 8260D	JEM	7	PASI-M
10640524005	**MW-10-011723**	EPA 8260D	JEM	7	PASI-M
10640524006	**MW-11-011823**	EPA 8260D	JEM	7	PASI-M
10640524007	**MW-16-011823**	EPA 8260D	JEM	7	PASI-M
10640524008	**MW-17-011823**	EPA 8260D	JEM	7	PASI-M
10640524009	**MW-18-011823**	EPA 200.8	NN2	1	PASI-M
10640524010	**MW-19-011823**	EPA 8260D	JEM	7	PASI-M
10640524011	**MW-20-011823**	EPA 200.8	NN2	1	PASI-M
10640524012	**MW-22-011823**	EPA 200.8	NN2	1	PASI-M
10640524013	**MW-25-011823**	EPA 200.8	NN2	1	PASI-M
10640524014	**MW-26-011823**	EPA 8260D	JEM	7	PASI-M
10640524015	**MW-27-011823**	EPA 8260D	JEM	7	PASI-M
10640524016	**DUP-01-011823**	EPA 8260D	JEM	7	PASI-M
10640524017	**DUP-02-011823**	EPA 200.8	NN2	1	PASI-M
10640524018	**Trip Blank**	EPA 8260D	JEM	7	PASI-M

PASI-M = Pace Analytical Services - Minneapolis

Pace Analytical Services, LLC
1700 Elm Street
Minneapolis, MN 55414
(612)607-1700

SUMMARY OF DETECTION

Project: 0128494 Valencia Power Plant
Pace Project No.: 10640524

Lab Sample ID Method	Client Sample ID Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
10640524002	**MW-4-011823**					
EPA 8260D	Tetrachloroethene	10	ug/L	0.50	01/23/23 14:10	
10640524003	**MW-8-011823**					
EPA 200.8	Chromium, Dissolved	0.032	mg/L	0.010	01/24/23 18:35	
10640524004	**MW-9-011723**					
EPA 8260D	cis-1,2-Dichloroethene	0.82	ug/L	0.50	01/23/23 13:39	
10640524005	**MW-10-011723**					
EPA 8260D	Tetrachloroethene	0.52	ug/L	0.50	01/23/23 13:54	
10640524008	**MW-17-011823**					
EPA 8260D	Tetrachloroethene	16.9	ug/L	0.50	01/23/23 17:04	
EPA 8260D	Trichloroethene	1.5	ug/L	0.20	01/23/23 17:04	
10640524009	**MW-18-011823**					
EPA 200.8	Chromium, Dissolved	0.015	mg/L	0.010	01/24/23 18:38	
10640524010	**MW-19-011823**					
EPA 8260D	Tetrachloroethene	3.6	ug/L	0.50	01/23/23 14:58	
10640524011	**MW-20-011823**					
EPA 200.8	Chromium, Dissolved	0.050	mg/L	0.010	01/24/23 18:50	
10640524012	**MW-22-011823**					
EPA 200.8	Chromium, Dissolved	0.097	mg/L	0.010	01/24/23 18:53	
10640524013	**MW-25-011823**					
EPA 200.8	Chromium, Dissolved	0.12	mg/L	0.010	01/24/23 18:56	
10640524015	**MW-27-011823**					
EPA 8260D	Tetrachloroethene	0.78	ug/L	0.50	01/23/23 15:29	
10640524016	**DUP-01-011823**					
EPA 8260D	Tetrachloroethene	10.0	ug/L	0.50	01/23/23 15:45	
10640524017	**DUP-02-011823**					
EPA 200.8	Chromium, Dissolved	0.12	mg/L	0.010	01/24/23 19:06	

Pace Analytical Services, LLC
1700 Elm Street
Minneapolis, MN 55414
(612)607-1700

PROJECT NARRATIVE

Project: 0128494 Valencia Power Plant
Pace Project No.: 10640524

Method: **EPA 200.8**
Description: 200.8 MET ICPMS, Dissolved
Client: Haley & Aldrich, Inc.
Date: January 27, 2023

General Information:
7 samples were analyzed for EPA 200.8 by Pace Analytical Services Minneapolis. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:
The samples were analyzed within the method required hold times with any exceptions noted below.

Sample Preparation:
The samples were prepared in accordance with EPA 200.8 with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):
All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:
All criteria were within method requirements with any exceptions noted below.

Internal Standards:
All internal standards were within QC limits with any exceptions noted below.

Method Blank:
All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:
All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Additional Comments:

Pace Analytical Services, LLC
1700 Elm Street
Minneapolis, MN 55414
(612)607-1700

PROJECT NARRATIVE

Project: 0128494 Valencia Power Plant
Pace Project No.: 10640524

Method: **EPA 8260D**
Description: 8260D MSV Low Level
Client: Haley & Aldrich, Inc.
Date: January 27, 2023

General Information:
11 samples were analyzed for EPA 8260D by Pace Analytical Services Minneapolis. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:
The samples were analyzed within the method required hold times with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):
All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:
All criteria were within method requirements with any exceptions noted below.

Internal Standards:
All internal standards were within QC limits with any exceptions noted below.

Surrogates:
All surrogates were within QC limits with any exceptions noted below.

Method Blank:
All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:
All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Additional Comments:

Batch Comments:

1,4-dioxane (p-dioxane) did not meet the secondary source verification criteria for the initial calibration. The reported result should be considered an estimated value.
- QC Batch: 864086

The continuing calibration verification was above the method acceptance limit for 1,4-dioxane (p-dioxane). Any detection for the analyte in the associated samples may have a high bias.
- QC Batch: 864086

This data package has been reviewed for quality and completeness and is approved for release.

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ANALYTICAL RESULTS

Project: 0128494 Valencia Power Plant
Pace Project No.: 10640524

Sample: MW-2-011823 **Lab ID: 10640524001** Collected: 01/18/23 09:40 Received: 01/19/23 08:50 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
200.8 MET ICPMS, Dissolved	Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 Pace Analytical Services - Minneapolis							
Chromium, Dissolved	ND	mg/L	0.010	5	01/23/23 09:58	01/24/23 18:32	7440-47-3	

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ANALYTICAL RESULTS

Project: 0128494 Valencia Power Plant
Pace Project No.: 10640524

Sample: MW-4-011823 **Lab ID: 10640524002** Collected: 01/18/23 10:25 Received: 01/19/23 08:50 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260D MSV Low Level	Analytical Method: EPA 8260D							
	Pace Analytical Services - Minneapolis							
Tetrachloroethene	**10**	ug/L	0.50	1		01/23/23 14:10	127-18-4	
Trichloroethene	ND	ug/L	0.20	1		01/23/23 14:10	79-01-6	
Vinyl chloride	ND	ug/L	0.20	1		01/23/23 14:10	75-01-4	
cis-1,2-Dichloroethene	ND	ug/L	0.50	1		01/23/23 14:10	156-59-2	
Surrogates								
1,2-Dichlorobenzene-d4 (S)	100	%.	75-125	1		01/23/23 14:10	2199-69-1	
4-Bromofluorobenzene (S)	100	%.	75-125	1		01/23/23 14:10	460-00-4	
Toluene-d8 (S)	101	%.	75-125	1		01/23/23 14:10	2037-26-5	

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ANALYTICAL RESULTS

Project: 0128494 Valencia Power Plant
Pace Project No.: 10640524

Sample: MW-8-011823 **Lab ID: 10640524003** Collected: 01/18/23 08:55 Received: 01/19/23 08:50 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
200.8 MET ICPMS, Dissolved	Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 Pace Analytical Services - Minneapolis							
Chromium, Dissolved	**0.032**	mg/L	0.010	5	01/23/23 09:58	01/24/23 18:35	7440-47-3	

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ANALYTICAL RESULTS

Project: 0128494 Valencia Power Plant
Pace Project No.: 10640524

Sample: MW-9-011723 **Lab ID: 10640524004** Collected: 01/17/23 14:20 Received: 01/19/23 08:50 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260D MSV Low Level	Analytical Method: EPA 8260D Pace Analytical Services - Minneapolis							
Tetrachloroethene	ND	ug/L	0.50	1		01/23/23 13:39	127-18-4	
Trichloroethene	ND	ug/L	0.20	1		01/23/23 13:39	79-01-6	
Vinyl chloride	ND	ug/L	0.20	1		01/23/23 13:39	75-01-4	
cis-1,2-Dichloroethene	**0.82**	ug/L	0.50	1		01/23/23 13:39	156-59-2	
Surrogates								
1,2-Dichlorobenzene-d4 (S)	101	%.	75-125	1		01/23/23 13:39	2199-69-1	
4-Bromofluorobenzene (S)	101	%.	75-125	1		01/23/23 13:39	460-00-4	
Toluene-d8 (S)	100	%.	75-125	1		01/23/23 13:39	2037-26-5	

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ANALYTICAL RESULTS

Project: 0128494 Valencia Power Plant
Pace Project No.: 10640524

Sample: MW-10-011723 **Lab ID: 10640524005** Collected: 01/17/23 14:10 Received: 01/19/23 08:50 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260D MSV Low Level	Analytical Method: EPA 8260D							
	Pace Analytical Services - Minneapolis							
Tetrachloroethene	**0.52**	ug/L	0.50	1		01/23/23 13:54	127-18-4	
Trichloroethene	ND	ug/L	0.20	1		01/23/23 13:54	79-01-6	
Vinyl chloride	ND	ug/L	0.20	1		01/23/23 13:54	75-01-4	
cis-1,2-Dichloroethene	ND	ug/L	0.50	1		01/23/23 13:54	156-59-2	
Surrogates								
1,2-Dichlorobenzene-d4 (S)	99	%.	75-125	1		01/23/23 13:54	2199-69-1	
4-Bromofluorobenzene (S)	100	%.	75-125	1		01/23/23 13:54	460-00-4	
Toluene-d8 (S)	100	%.	75-125	1		01/23/23 13:54	2037-26-5	

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ANALYTICAL RESULTS

Project: 0128494 Valencia Power Plant
Pace Project No.: 10640524

Sample: MW-11-011823 **Lab ID: 10640524006** Collected: 01/18/23 10:55 Received: 01/19/23 08:50 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260D MSV Low Level	Analytical Method: EPA 8260D Pace Analytical Services - Minneapolis							
Tetrachloroethene	ND	ug/L	0.50	1		01/23/23 14:26	127-18-4	
Trichloroethene	ND	ug/L	0.20	1		01/23/23 14:26	79-01-6	
Vinyl chloride	ND	ug/L	0.20	1		01/23/23 14:26	75-01-4	
cis-1,2-Dichloroethene	ND	ug/L	0.50	1		01/23/23 14:26	156-59-2	
Surrogates								
1,2-Dichlorobenzene-d4 (S)	99	%.	75-125	1		01/23/23 14:26	2199-69-1	
4-Bromofluorobenzene (S)	99	%.	75-125	1		01/23/23 14:26	460-00-4	
Toluene-d8 (S)	101	%.	75-125	1		01/23/23 14:26	2037-26-5	

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ANALYTICAL RESULTS

Project: 0128494 Valencia Power Plant
Pace Project No.: 10640524

Sample: MW-16-011823 **Lab ID: 10640524007** Collected: 01/18/23 09:05 Received: 01/19/23 08:50 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260D MSV Low Level	Analytical Method: EPA 8260D Pace Analytical Services - Minneapolis							
Tetrachloroethene	ND	ug/L	0.50	1		01/23/23 14:42	127-18-4	
Trichloroethene	ND	ug/L	0.20	1		01/23/23 14:42	79-01-6	
Vinyl chloride	ND	ug/L	0.20	1		01/23/23 14:42	75-01-4	
cis-1,2-Dichloroethene	ND	ug/L	0.50	1		01/23/23 14:42	156-59-2	
Surrogates								
1,2-Dichlorobenzene-d4 (S)	99	%.	75-125	1		01/23/23 14:42	2199-69-1	
4-Bromofluorobenzene (S)	100	%.	75-125	1		01/23/23 14:42	460-00-4	
Toluene-d8 (S)	100	%.	75-125	1		01/23/23 14:42	2037-26-5	

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ANALYTICAL RESULTS

Project: 0128494 Valencia Power Plant
Pace Project No.: 10640524

Sample: MW-17-011823 **Lab ID: 10640524008** Collected: 01/18/23 09:25 Received: 01/19/23 08:50 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260D MSV Low Level	Analytical Method: EPA 8260D							
	Pace Analytical Services - Minneapolis							
Tetrachloroethene	**16.9**	ug/L	0.50	1		01/23/23 17:04	127-18-4	
Trichloroethene	**1.5**	ug/L	0.20	1		01/23/23 17:04	79-01-6	
Vinyl chloride	ND	ug/L	0.20	1		01/23/23 17:04	75-01-4	
cis-1,2-Dichloroethene	ND	ug/L	0.50	1		01/23/23 17:04	156-59-2	
Surrogates								
1,2-Dichlorobenzene-d4 (S)	97	%.	75-125	1		01/23/23 17:04	2199-69-1	
4-Bromofluorobenzene (S)	99	%.	75-125	1		01/23/23 17:04	460-00-4	
Toluene-d8 (S)	100	%.	75-125	1		01/23/23 17:04	2037-26-5	

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ANALYTICAL RESULTS

Project: 0128494 Valencia Power Plant
Pace Project No.: 10640524

Sample: MW-18-011823 **Lab ID: 10640524009** Collected: 01/18/23 11:10 Received: 01/19/23 08:50 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
200.8 MET ICPMS, Dissolved	Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 Pace Analytical Services - Minneapolis							
Chromium, Dissolved	**0.015**	mg/L	0.010	5	01/23/23 09:58	01/24/23 18:38	7440-47-3	

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ANALYTICAL RESULTS

Project: 0128494 Valencia Power Plant
Pace Project No.: 10640524

Sample: MW-19-011823 **Lab ID: 10640524010** Collected: 01/18/23 10:40 Received: 01/19/23 08:50 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260D MSV Low Level	Analytical Method: EPA 8260D							
	Pace Analytical Services - Minneapolis							
Tetrachloroethene	**3.6**	ug/L	0.50	1		01/23/23 14:58	127-18-4	
Trichloroethene	ND	ug/L	0.20	1		01/23/23 14:58	79-01-6	
Vinyl chloride	ND	ug/L	0.20	1		01/23/23 14:58	75-01-4	
cis-1,2-Dichloroethene	ND	ug/L	0.50	1		01/23/23 14:58	156-59-2	
Surrogates								
1,2-Dichlorobenzene-d4 (S)	100	%.	75-125	1		01/23/23 14:58	2199-69-1	
4-Bromofluorobenzene (S)	100	%.	75-125	1		01/23/23 14:58	460-00-4	
Toluene-d8 (S)	100	%.	75-125	1		01/23/23 14:58	2037-26-5	

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ANALYTICAL RESULTS

Project: 0128494 Valencia Power Plant
Pace Project No.: 10640524

Sample: MW-20-011823 **Lab ID: 10640524011** Collected: 01/18/23 08:40 Received: 01/19/23 08:50 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
200.8 MET ICPMS, Dissolved	Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 Pace Analytical Services - Minneapolis							
Chromium, Dissolved	**0.050**	mg/L	0.010	5	01/23/23 09:58	01/24/23 18:50	7440-47-3	

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ANALYTICAL RESULTS

Project: 0128494 Valencia Power Plant
Pace Project No.: 10640524

Sample: MW-22-011823 **Lab ID: 10640524012** Collected: 01/18/23 11:40 Received: 01/19/23 08:50 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
200.8 MET ICPMS, Dissolved	Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 Pace Analytical Services - Minneapolis							
Chromium, Dissolved	**0.097**	mg/L	0.010	5	01/23/23 09:58	01/24/23 18:53	7440-47-3	

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ANALYTICAL RESULTS

Project: 0128494 Valencia Power Plant
Pace Project No.: 10640524

Sample: MW-25-011823 **Lab ID: 10640524013** Collected: 01/18/23 12:00 Received: 01/19/23 08:50 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
200.8 MET ICPMS, Dissolved	Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 Pace Analytical Services - Minneapolis							
Chromium, Dissolved	**0.12**	mg/L	0.010	5	01/23/23 09:58	01/24/23 18:56	7440-47-3	

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ANALYTICAL RESULTS

Project: 0128494 Valencia Power Plant
Pace Project No.: 10640524

Sample: MW-26-011823 **Lab ID: 10640524014** Collected: 01/18/23 10:00 Received: 01/19/23 08:50 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260D MSV Low Level	Analytical Method: EPA 8260D Pace Analytical Services - Minneapolis							
Tetrachloroethene	ND	ug/L	0.50	1		01/23/23 15:13	127-18-4	
Trichloroethene	ND	ug/L	0.20	1		01/23/23 15:13	79-01-6	
Vinyl chloride	ND	ug/L	0.20	1		01/23/23 15:13	75-01-4	
cis-1,2-Dichloroethene	ND	ug/L	0.50	1		01/23/23 15:13	156-59-2	
Surrogates								
1,2-Dichlorobenzene-d4 (S)	101	%.	75-125	1		01/23/23 15:13	2199-69-1	
4-Bromofluorobenzene (S)	100	%.	75-125	1		01/23/23 15:13	460-00-4	
Toluene-d8 (S)	100	%.	75-125	1		01/23/23 15:13	2037-26-5	

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ANALYTICAL RESULTS

Project: 0128494 Valencia Power Plant
Pace Project No.: 10640524

Sample: MW-27-011823 **Lab ID: 10640524015** Collected: 01/18/23 10:10 Received: 01/19/23 08:50 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260D MSV Low Level	Analytical Method: EPA 8260D							
	Pace Analytical Services - Minneapolis							
Tetrachloroethene	**0.78**	ug/L	0.50	1		01/23/23 15:29	127-18-4	
Trichloroethene	ND	ug/L	0.20	1		01/23/23 15:29	79-01-6	
Vinyl chloride	ND	ug/L	0.20	1		01/23/23 15:29	75-01-4	
cis-1,2-Dichloroethene	ND	ug/L	0.50	1		01/23/23 15:29	156-59-2	
Surrogates								
1,2-Dichlorobenzene-d4 (S)	100	%.	75-125	1		01/23/23 15:29	2199-69-1	
4-Bromofluorobenzene (S)	100	%.	75-125	1		01/23/23 15:29	460-00-4	
Toluene-d8 (S)	101	%.	75-125	1		01/23/23 15:29	2037-26-5	

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ANALYTICAL RESULTS

Project: 0128494 Valencia Power Plant
Pace Project No.: 10640524

Sample: DUP-01-011823 **Lab ID: 10640524016** Collected: 01/18/23 08:00 Received: 01/19/23 08:50 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260D MSV Low Level	Analytical Method: EPA 8260D Pace Analytical Services - Minneapolis							
Tetrachloroethene	**10.0**	ug/L	0.50	1		01/23/23 15:45	127-18-4	
Trichloroethene	ND	ug/L	0.20	1		01/23/23 15:45	79-01-6	
Vinyl chloride	ND	ug/L	0.20	1		01/23/23 15:45	75-01-4	
cis-1,2-Dichloroethene	ND	ug/L	0.50	1		01/23/23 15:45	156-59-2	
Surrogates								
1,2-Dichlorobenzene-d4 (S)	100	%.	75-125	1		01/23/23 15:45	2199-69-1	
4-Bromofluorobenzene (S)	99	%.	75-125	1		01/23/23 15:45	460-00-4	
Toluene-d8 (S)	101	%.	75-125	1		01/23/23 15:45	2037-26-5	

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ANALYTICAL RESULTS

Project: 0128494 Valencia Power Plant
Pace Project No.: 10640524

Sample: DUP-02-011823 **Lab ID: 10640524017** Collected: 01/18/23 08:05 Received: 01/19/23 08:50 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
200.8 MET ICPMS, Dissolved	Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 Pace Analytical Services - Minneapolis							
Chromium, Dissolved	**0.12**	mg/L	0.010	5	01/23/23 09:58	01/24/23 19:06	7440-47-3	

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ANALYTICAL RESULTS

Project: 0128494 Valencia Power Plant
Pace Project No.: 10640524

Sample: Trip Blank **Lab ID: 10640524018** Collected: 01/17/23 00:00 Received: 01/19/23 08:50 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260D MSV Low Level	Analytical Method: EPA 8260D							
	Pace Analytical Services - Minneapolis							
Tetrachloroethene	ND	ug/L	0.50	1		01/23/23 13:07	127-18-4	
Trichloroethene	ND	ug/L	0.20	1		01/23/23 13:07	79-01-6	
Vinyl chloride	ND	ug/L	0.20	1		01/23/23 13:07	75-01-4	
cis-1,2-Dichloroethene	ND	ug/L	0.50	1		01/23/23 13:07	156-59-2	
Surrogates								
1,2-Dichlorobenzene-d4 (S)	101	%.	75-125	1		01/23/23 13:07	2199-69-1	
4-Bromofluorobenzene (S)	100	%.	75-125	1		01/23/23 13:07	460-00-4	
Toluene-d8 (S)	100	%.	75-125	1		01/23/23 13:07	2037-26-5	

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QUALITY CONTROL DATA

Project: 0128494 Valencia Power Plant
Pace Project No.: 10640524

QC Batch: 863984
QC Batch Method: EPA 200.8
Analysis Method: EPA 200.8
Analysis Description: 200.8 MET Dissolved
Laboratory: Pace Analytical Services - Minneapolis
Associated Lab Samples: 10640524001, 10640524003, 10640524009, 10640524011, 10640524012, 10640524013, 10640524017

METHOD BLANK: 4562449
Matrix: Water
Associated Lab Samples: 10640524001, 10640524003, 10640524009, 10640524011, 10640524012, 10640524013, 10640524017

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chromium, Dissolved	mg/L	ND	0.0020	01/24/23 18:26	

LABORATORY CONTROL SAMPLE: 4562450

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chromium, Dissolved	mg/L	0.1	0.11	111	85-115	

MATRIX SPIKE SAMPLE: 4562453

Parameter	Units	10640416004 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chromium, Dissolved	mg/L	ND	0.1	0.12	115	70-130	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 4563164 4563165

Parameter	Units	10640524009 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chromium, Dissolved	mg/L	0.015	0.1	0.1	0.12	0.12	101	105	70-130	3	20	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

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QUALITY CONTROL DATA

Project: 0128494 Valencia Power Plant
Pace Project No.: 10640524

QC Batch: 864086
QC Batch Method: EPA 8260D
Analysis Method: EPA 8260D
Analysis Description: 8260D MSV LL Water
Laboratory: Pace Analytical Services - Minneapolis
Associated Lab Samples: 10640524002, 10640524004, 10640524005, 10640524006, 10640524007, 10640524008, 10640524010, 10640524014, 10640524015, 10640524016, 10640524018

METHOD BLANK: 4562777
Matrix: Water
Associated Lab Samples: 10640524002, 10640524004, 10640524005, 10640524006, 10640524007, 10640524008, 10640524010, 10640524014, 10640524015, 10640524016, 10640524018

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
cis-1,2-Dichloroethene	ug/L	ND	0.50	01/23/23 12:44	
Tetrachloroethene	ug/L	ND	0.50	01/23/23 12:44	
Trichloroethene	ug/L	ND	0.20	01/23/23 12:44	
Vinyl chloride	ug/L	ND	0.20	01/23/23 12:44	
1,2-Dichlorobenzene-d4 (S)	%.	102	75-125	01/23/23 12:44	
4-Bromofluorobenzene (S)	%.	100	75-125	01/23/23 12:44	
Toluene-d8 (S)	%.	101	75-125	01/23/23 12:44	

LABORATORY CONTROL SAMPLE: 4562778

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
cis-1,2-Dichloroethene	ug/L	20	17.9	89	75-125	
Tetrachloroethene	ug/L	20	18.2	91	70-125	
Trichloroethene	ug/L	20	17.8	89	74-125	
Vinyl chloride	ug/L	20	19.4	97	66-125	
1,2-Dichlorobenzene-d4 (S)	%.			101	75-125	
4-Bromofluorobenzene (S)	%.			101	75-125	
Toluene-d8 (S)	%.			100	75-125	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 4562943 4562944

Parameter	Units	10640524008 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
cis-1,2-Dichloroethene	ug/L	ND	20	20	17.3	18.4	85	90	72-125	6	30	
Tetrachloroethene	ug/L	16.9	20	20	41.0	40.2	121	117	69-129	2	30	
Trichloroethene	ug/L	1.5	20	20	18.9	19.8	87	91	69-127	5	30	
Vinyl chloride	ug/L	ND	20	20	19.0	20.4	95	102	54-146	7	30	
1,2-Dichlorobenzene-d4 (S)	%.						99	99	75-125			
4-Bromofluorobenzene (S)	%.						99	100	75-125			
Toluene-d8 (S)	%.						100	99	75-125			

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

Pace Analytical Services, LLC
1700 Elm Street
Minneapolis, MN 55414
(612)607-1700

QUALIFIERS

Project: 0128494 Valencia Power Plant
Pace Project No.: 10640524

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit - The lowest concentration value that meets project requirements for quantitative data with known precision and bias for a specific analyte in a specific matrix.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Reported results are not rounded until the final step prior to reporting. Therefore, calculated parameters that are typically reported as "Total" may vary slightly from the sum of the reported component parameters.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

BATCH QUALIFIERS

Batch: 864086

[1] 1,4-dioxane (p-dioxane) did not meet the secondary source verification criteria for the initial calibration. The reported result should be considered an estimated value.

[2] The continuing calibration verification was above the method acceptance limit for 1,4-dioxane (p-dioxane). Any detection for the analyte in the associated samples may have a high bias.

Pace Analytical Services, LLC
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(612)607-1700

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: 0128494 Valencia Power Plant
Pace Project No.: 10640524

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
10640524001	**MW-2-011823**	EPA 200.8	863984	EPA 200.8	864280
10640524003	**MW-8-011823**	EPA 200.8	863984	EPA 200.8	864280
10640524009	**MW-18-011823**	EPA 200.8	863984	EPA 200.8	864280
10640524011	**MW-20-011823**	EPA 200.8	863984	EPA 200.8	864280
10640524012	**MW-22-011823**	EPA 200.8	863984	EPA 200.8	864280
10640524013	**MW-25-011823**	EPA 200.8	863984	EPA 200.8	864280
10640524017	**DUP-02-011823**	EPA 200.8	863984	EPA 200.8	864280
10640524002	**MW-4-011823**	EPA 8260D	864086		
10640524004	**MW-9-011723**	EPA 8260D	864086		
10640524005	**MW-10-011723**	EPA 8260D	864086		
10640524006	**MW-11-011823**	EPA 8260D	864086		
10640524007	**MW-16-011823**	EPA 8260D	864086		
10640524008	**MW-17-011823**	EPA 8260D	864086		
10640524010	**MW-19-011823**	EPA 8260D	864086		
10640524014	**MW-26-011823**	EPA 8260D	864086		
10640524015	**MW-27-011823**	EPA 8260D	864086		
10640524016	**DUP-01-011823**	EPA 8260D	864086		
10640524018	**Trip Blank**	EPA 8260D	864086		

Pace Analytical
www.pacelabs.com

HALEY ALDRICH

CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

Section A

Required Client Information:

Company: Haley & Aldrich

Address: 400 E. Van Buren St, Suite 545
Phoenix, AZ 85004

Email To: Mroseclose@haleyaldrich.com

Phone: Fax:

Requested Due Date/TAT: 10 Days (STD)

Section B

Required Project Information:

Report To: Mark Groseclose

Copy To: Sam Kavey

BSA #: 2022-24-Pace

H&A Client Name: Valencia Power Plant

H&A Project #: 0128494

Section C

Invoice Information:

Attention: ap@haleyaldrich.com

Company Name: Haley & Aldrich, Inc.

Address: 400 E. Van Buren St, Suite 545 Phoenix

Pace Quote Reference:

Pace Project Manager: Jennifer Gross

Pace Profile #: 36692 / 1

X 1700 Elm Street SE - Minneapolis, MN 55414
7726 Moller Road - Indianapolis, IN 46268

REGULATORY AGENCY

☐ NPDES ☐ GROUND WATER ☐ DRINKING WATER
☐ UST ☐ RCRA ☐ OTHER

Site Location STATE: Nogales AZ

Pace's services under this Chain of Custody shall be performed in accordance with terms and conditions within Blanket Service Agreement #2015-18-Pace by and between Haley & Aldrich, Inc., its subsidiaries and affiliates and Pace Analytical Services, Inc.

Section D Required Client Information

SAMPLE ID (A-Z, 0-9 / ,-) Sample IDs MUST BE UNIQUE

Matrix Codes — MATRIX / CODE: Drinking Water DW; Water WT; Waste Water WW; Product P; Soil/Solid SL; Oil OL; Wipe WP; Air AR; Tissue TS; Other OT

Requested Analysis Filtered (Y/N)

ITEM #	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED COMPOSITE START DATE	COLLECTED COMPOSITE START TIME	COLLECTED COMPOSITE END/GRAB DATE	COLLECTED COMPOSITE END/GRAB TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Analysis Test (Y/N): 200.8 Diss. Cr (Field Filter)	8260D VOCs	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
1	MW-2-011823	WT	G	1/18/23	0940	—	—		1			1						X			001
2	MW-4-011823			1/18/23	1025	—	—		3				3						X		002
3	MW-8-011823			1/18/23	0855	—	—		1			1						X			003
4	MW-9-011723			1/17/23	1420	—	—		3				3						X		004
5	MW-10-011723			1/17/23	1410	—	—		3				3						X		005
6	MW-11-011823			1/18/23	1055	—	—		3				3						X		006
7	MW-16-011823				0905	—	—		3				3						X		007
8	MW-17-011823				0925	—	—		9				3						X		MS/MSD 008
9	MW-18-011823				1110	—	—		3			3						X			MS/MSD 009
10	MW-19-011823				1040	—	—		3				3						X		010
11	MW-20-011823				0840	—	—		1			1						X			011
12	MW-22-011823				1140	—	—		1			1						X			012

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
8260D VOCs: Tetrachloroethene, Trichlorethene, cis-1,2-Dichloroethene and vinyl chloride	H&A	1/18/23	1603		1/18/23	1609				
		1/18/23	1800	Fed Ex						
				PACE	1/19/23	8:50	2.7	Y	Y	Y

Temp in °C | Received on Ice (Y/N) | Custody Sealed Cooler (Y/N) | Samples Intact (Y/N)

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: A. Watson

SIGNATURE of SAMPLER: [signature]

DATE Signed (MM/DD/YY): 01/18/23

WO#: 10640524

10640524

Pace Analytical™ www.pacelabs.com

HALEY ALDRICH

CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

Section A — Required Client Information:

Company: Haley & Aldrich
Address: 400 E. Van Buren St, Suite 545
Phoenix, AZ 85004
Email To:
Phone: Fax:
Requested Due Date/TAT: 10 Days (STD)

Section B — Required Project Information:

Report To:
Copy To:
BSA #: 2022-24-Pace
H&A Client Name: Valencia Power Plant
H&A Project #:

Section C — Invoice Information:

Attention: ap@haleyaldrich.com
Company Name: Haley & Aldrich, Inc.
Address: 400 E. Van Buren St, Suite 545 Phoen
Pace Quote Reference:
Pace Project Manager: Jennifer Gross
Pace Profile #: 36692 / 1

X 1700 Elm Street SE - Minneapolis, MN 55414
7726 Moller Road - Indianapolis, IN 46268

REGULATORY AGENCY

☐ NPDES ☐ GROUND WATER ☐ DRINKING WATER
☐ UST ☐ RCRA ☐ OTHER

Site Location STATE: Nogales AZ

Pace's services under this Chain of Custody shall be performed in accordance with terms and conditions within Blanket Service Agreement #2015-18-Pace by and between Haley & Aldrich, Inc., its subsidiaries and affiliates and Pace Analytical Services, Inc.

Section D Required Client Information

SAMPLE ID (A-Z, 0-9 / ,-) Sample IDs MUST BE UNIQUE

Matrix Codes (MATRIX / CODE): Drinking Water DW; Water WT; Waste Water WW; Product P; Soil/Solid SL; Oil OL; Wipe WP; Air AR; Tissue TS; Other OT

Requested Analysis Filtered (Y/N)

ITEM #	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED DATE	COLLECTED TIME	COMPOSITE START DATE	COMPOSITE START TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Analysis Test (Y/N)	200.8 Diss. Cr (Field Filter)	8260D VOCs	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
1	MW-25-011823	WT	G	1/18/23	1200	—	—		1			1							X			013
2	MW-26-011823	↓	↓	↓	1000	—	—		3				3							X		014
3	MW-27-011823	↓	↓	↓	1010	—	—		3				3							X		015
4	DUP-01-011823	↓	↓	↓	0800	—	—		3				3							X		016
5	DUP-02-011823	↓	↓	↓	0805	—	—		1			1							X			017
6	Trip Blank								3													018
7																						
8																						
9																						
10																						
11																						
12																						

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
8260D VOCs: Tetrachloroethene, Trichlorethene, cis-1,2-Dichloroethene and vinyl chloride	H&A	1/18/23	1603		1/18/23	1609				
		1/18/23	1800	Fed Ex						
				Pace	1/19/23	8:50	2.7	Y	Y	Y
							Temp in °C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: A. Watson

SIGNATURE of SAMPLER: [signature] DATE Signed (MM/DD/YY): 01/18/23

20-July-2015

DC#_Title: Excel Form Template
Effective Date:

Sample Condition Upon Receipt

Client Name: Haley + Aldrich

Project #: WO# : 10640524
PM: JMG Due Date: 02/02/23
CLIENT: Haley-Aldric

Courier: ☑ FedEx ☐ UPS ☐ USPS ☐ Client ☐ Pace ☐ SpeeDee ☐ Commercial

Tracking Number: 5923 7143 2105 ☐ See Exceptions ENV-FRM-MIN4-0142

Custody Seal on Cooler/Box Present? ☑ Yes ☐ No **Seals Intact?** ☑ Yes ☐ No **Biological Tissue Frozen?** ☐ Yes ☐ No ☑ N/A

Packing Material: ☑ Bubble Wrap ☑ Bubble Bags ☐ None ☐ Other **Temp Blank?** ☑ Yes ☐ No

Thermometer: ☐ T1 (0461) ☐ T2 (1336) ☐ T3 (0459) ☐ T4 (0254) ☐ T5 (0178) ☐ T6 (0235) ☑ T7 (0042) ☐ T8 (0775) ☐ T9(0727) ☐ 01339252/1710 **Type of Ice:** ☑ Wet ☐ Blue ☐ Dry ☐ None ☐ Melted

Did Samples Originate in West Virginia? ☐ Yes ☑ No **Were All Container Temps Taken?** ☐ Yes ☐ No ☑ N/A

Temp should be above freezing to 6 °C **Cooler temp Read w/Temp Blank:** 2.5 °C
Correction Factor: +0.2 **Cooler Temp Corrected w/temp blank:** 2.7 °C

Average Corrected Temp (no temp blank only): _____ °C
☐ See Exceptions ENV-FRM-MIN4-0142 ☐ 1 Container

USDA Regulated Soil: (☑ N/A, water sample/other: _____) **Date/Initials of Person Examining Contents:** BGZ 1/20/23

Did samples originate in a quarantine zone within the United States: AL, AR, AZ CA, FL, GA, ID, LA, MS, NC, NM, NY, OK, OR, SC, TN, TX, or VA (check maps)? ☐ Yes ☐ No

Did samples originate from a foreign source (internationally, including Hawaii and Puerto Rico)? ☐ Yes ☐ No

If Yes to either question, fill out a Regulated Soil Checklist (ENV-FRM-MIN4-0154) and include with SCUR/COC paperwork.

Location (Check one): ☐ Duluth ☑ Minneapolis ☐ Virginia		**COMMENTS**
Chain of Custody Present and Filled Out?	☑ Yes ☐ No	1.
Chain of Custody Relinquished?	☑ Yes ☐ No	2.
Sampler Name and/or Signature on COC?	☑ Yes ☐ No ☐ N/A	3.
Samples Arrived within Hold Time?	☑ Yes ☐ No	4. If fecal: ☐ <8 hrs ☐ >8 hr, <24 ☐ No
Short Hold Time Analysis (<72 hr)?	☐ Yes ☑ No	5. ☐ Fecal Coliform ☐ HPC ☐ Total Coliform/E.coli ☐ BOD/cBOD ☐ Hex Chrom ☐ Turbidity ☐ Nitrate ☐ Nitrite ☐ Orthophos ☐ Other _____
Rush Turn Around Time Requested?	☐ Yes ☑ No	6.
Sufficient Sample Volume?	☑ Yes ☐ No	7.
Correct Containers Used?	☑ Yes ☐ No ☐ N/A	8.
-Pace Containers Used?	☑ Yes ☐ No	
Containers Intact?	☑ Yes ☐ No	9.
Field Filtered Volume Received for Dissolved Tests?	☑ Yes ☐ No ☐ N/A	10. Is sediment visible in the dissolved container? ☐ Yes ☐ No
Is sufficient information available to reconcile the samples to the COC? Matrix: ☑ Water ☐ Soil ☐ Oil ☐ Other	☑ Yes ☐ No	11. **If no, write ID/Date/Time of container below:** ☐ See Exceptions ENV-FRM-MIN4-0142
All containers needing acid/base preservation have been checked?	☑ Yes ☐ No ☐ N/A	12. Sample # 002, 003, 009, 011, 012, 013, 017
All containers needing preservation are found to be in compliance with EPA recommendation? (HNO3, H2SO4, <2pH, NaOH >9 Sulfide, NaOH>10 Cyanide)	☑ Yes ☐ No ☐ N/A	☐ NaOH ☑ HNO3 9/9 ☐ H2SO4 ☐ Zinc Acetate
Exceptions: VOA, Coliform, TOC/DOC Oil and Grease, DRO/8015 (water) and Dioxins/PFAS (*If adding preservative to a container, it must be added to associated field and equipment blanks--verify with PM first.)	☒ Yes ☐ No ☑ N/A JMG 1/23/23	Positive for Residual Chlorine? ☐ Yes ☐ No ☐ See Exceptions ENV-FRM-MIN4-0142
		pH Paper Lot # Residual Chlorine: 0-6 Roll 208422; 0-6 Strip; 0-14 Strip
Headspace in Methyl Mercury Container?	☐ Yes ☐ No ☑ N/A	13.
Extra labels present on soil VOA or WIDRO containers?	☐ Yes ☐ No ☑ N/A	14. ☐ See Exceptions ENV-FRM-MIN4-0142
Headspace in VOA Vials (greater than 6mm)?	☐ Yes ☐ No ☑ N/A	
3 Trip Blanks Present?	☑ Yes ☐ No ☐ N/A	15. 3 trip blanks – NO Seals
Trip Blank Custody Seals Present?	☐ Yes ☑ No ☐ N/A	Pace Trip Blank Lot # (if purchased): _____

CLIENT NOTIFICATION/RESOLUTION **Field Data Required?** ☐ Yes ☐ No

Person Contacted: _____ Date/Time: _____

Comments/Resolution: _____

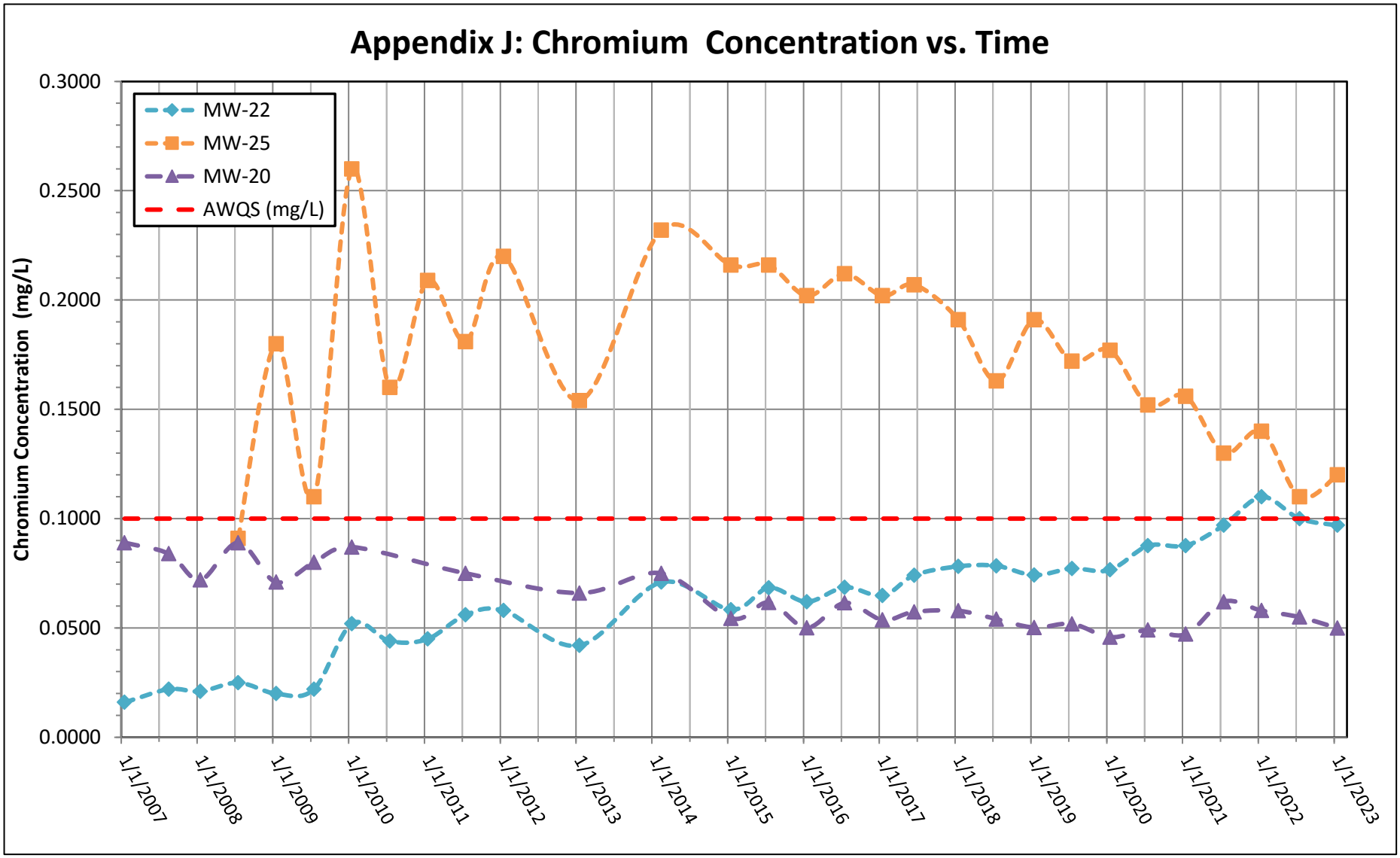
Project Manager Review: Jenni Gross **Date:** 1/23/23

NOTE: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e., out of hold, incorrect preservative, out of temp, incorrect containers).

Labeled By: BGZ **Line:** 3

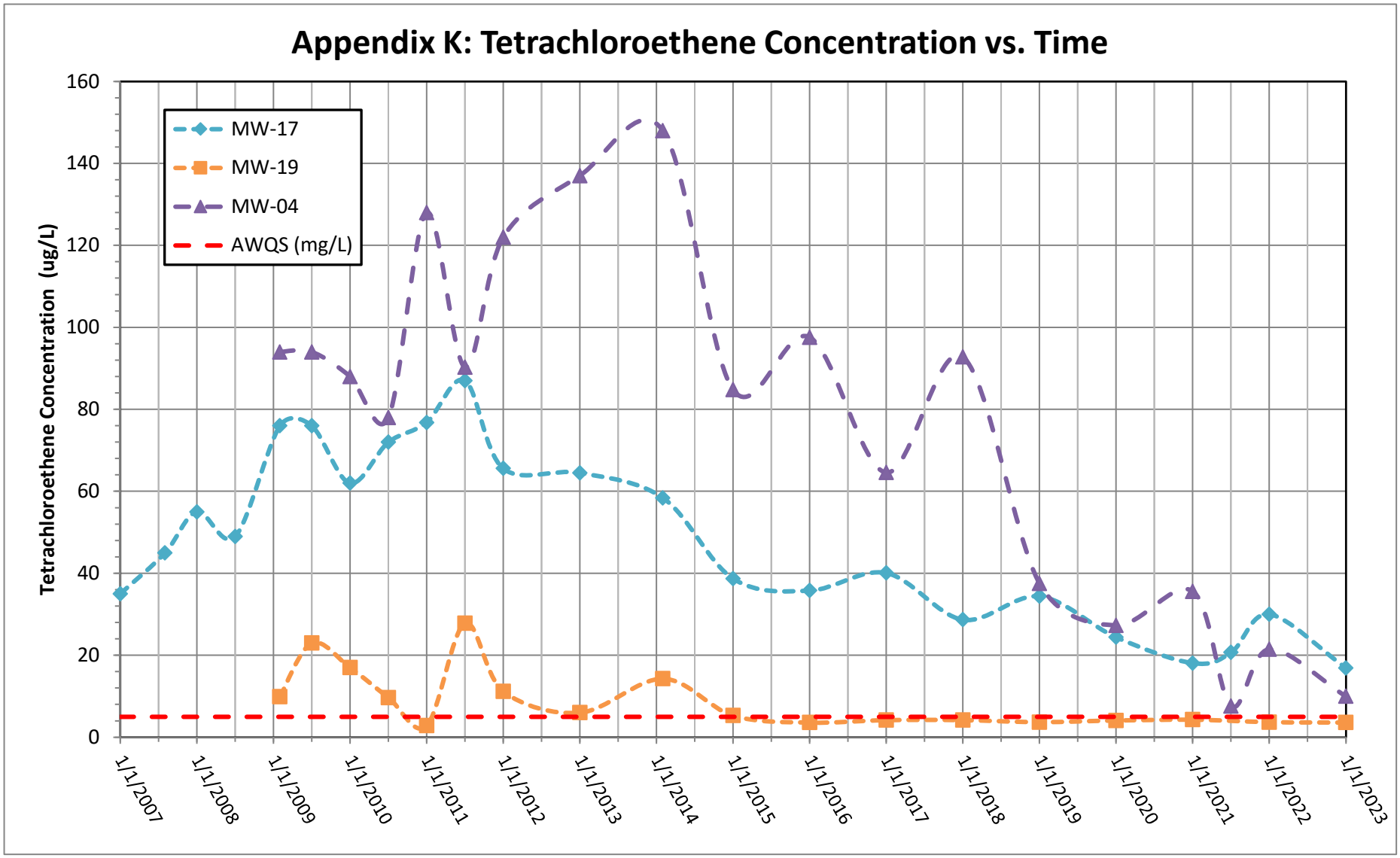
APPENDIX J
Chromium Concentration vs. Time: Wells MW-20, MW-22, and MW-25

APPENDIX J
CHROMIUM CONCENTRATION VS. TIME: MW-20, MW-22, AND MW-25
VALENCIA POWER PLANT
NOGALES, ARIZONA



APPENDIX K
PCE Concentration vs. Time:
Wells MW-4, MW-17, and MW-25

APPENDIX K
TETRACHLOROETHENE CONCENTRATION VS. TIME: MW-04, MW-17, AND MW-19
VALENCIA POWER PLANT
NOGALES, ARIZONA



APPENDIX L
Cumulative Record of PCE and TCE Detected in Groundwater at Impacted Wells

APPENDIX L
CUMULATIVE RECORD OF PCE AND TCE DETECTED IN GROUNDWATER AT IMPACTED WELLS
VALENCIA POWER PLANT
NOGALES, ARIZONA

ANALYTE	SAMPLE DATE	MW-1	MW-4	MW-4*	MW-8	MW-9	MW-9*	MW-10	MW-11	MW-15	MW-15*	MW-16	MW-17	MW-17*	MW-19	MW-19*	AWQS
Tetrachloroethene	6/24/1996	-	-	-	-	2.6	-	-	-	-	-	-	-	-	-	-	5
	8/29/2002	-	-	-	-	<0.5	<0.5	-	-	-	-	-	-	-	-	-	
	10/9/2002	3.9	<0.5	-	1.9	-	-	4.6	**10**	**8.8**	9.2	-	<0.5	-	<0.5	-	
	4/2/2003	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	6/17/2003	3.1	<0.5	-	2.9	1.9	-	4.9	**8.4**	**9.1**	-	-	2.1	-	<0.5	-	
	1/6/2005	3.5	3	-	0.89	<0.5	-	3.1	<0.5	1	-	-	2	2.2	<0.5	<0.5	
	7/29/2005	-	-	-	0.84	1.9	-	3.5	<0.5	0.92	0.83	-	**6.6**	-	-	-	
	1/25/2006	-	-	-	<1	1.7	-	2.6	<1	<1	-	-	**11**	-	-	-	
	7/28/2006	-	-	-	<1	1.5	-	2.7	<1	<1	-	-	**17**	-	-	-	
	1/30/2007	-	-	-	0.55	**5.5**	-	3.2	-	0.53	-	-	**35**	**35**	-	-	
	8/1/2007	-	-	-	0.66	2	-	2.8	<0.5	<0.5	-	-	**44**	**45**	-	-	
	1/29/2008	-	-	-	<0.5	2.5	-	3.5	-	<0.5	-	<0.5	**52**	**55**	-	-	
	7/15/2008	-	-	-	<0.5	1.3	-	5	-	<0.5	-	<0.5	**49**	**49**	-	-	
	1/28/2009	-	**94**	-	-	1.2	-	4.1	-	-	-	<0.5	**69**	**76**	-	-	
	2/10/2009	4.7	-	-	-	-	-	-	<0.5	-	-	-	-	-	**9.9**	-	
	7/14/2009	3.1	**94**	-	-	<1	-	3.3	<1	-	-	<1	**76**	**72**	**23**	-	
	1/25/2010	1.4	**88**	-	-	1.7	-	2.7	<1	-	-	<1.5	**62**	**60**	**17**	-	
	7/7/2010	0.77	**78**	-	-	<0.5	-	1.7	<0.5	-	-	<0.5	**72**	**64**	**9.7**	-	
	1/5/2011	<2	**128**	-	-	<2	-	<2	<2	-	-	<2	**75.9**	**76.8**	2.83	-	
	7/20/2011	-	-	-	-	<1	-	1.23	<0.5	-	-	-	**87**	**82.2**	-	-	
	7/21/2011	0.99	**90.3**	-	-	-	-	-	-	-	-	<1	-	-	**27.8**	-	
	1/24/2012	1.08	**122**	-	-	<0.5	-	<0.5	<0.5	-	-	<0.5	**65.6**	**64**	**11.2**	-	
	1/29/2013	1.12	**137**	-	-	<0.5	-	0.94	<0.5	-	-	<0.5	**61.1**	**64.5**	**6**	-	
	2/28/2014	0.62 J	**148**	-	-	<0.29	-	0.67	<0.29	-	-	<0.29	**58.4**	**52.2**	**14**	-	
	1/13/2015	0.44	**78.6**	**84.8**	-	< 0.30	-	0.32	< 0.30	-	-	< 0.30	**38.7**	-	**5.3**	-	
	1/14/2016	0.32 J	**94.5**	**97.6**	-	< 0.30	-	< 0.30	< 0.30	-	-	< 0.30	**35.8**	-	3.6	-	
	1/12/2017	<0.50	**63.1**	**64.6**	-	<0.50	-	0.59	<0.50	-	-	<0.50	**40.1**	-	4.2	-	
	1/16/2018	<0.50	**92.8**	**86.6**	-	<0.50	-	0.67	<0.50	-	-	<0.50	**28.7**	-	4.2	-	
	01/09/2019	< 0.50	**36.0**	**37.5**	-	<0.50	-	0.63	<0.50	-	-	< 0.50	**34.4**	-	3.7	-	
	1/8/2020	< 0.50	**27.3**	**25.7**	-	< 0.50	-	< 0.50	< 0.50	-	-	< 0.50	**24.4**	-	4.1	-	
	1/13/2021	-	**35.6**	**32.5**	-	< 0.50	-	< 0.50	< 0.50	-	-	< 0.50	**18.1**	-	4.3	-	
	7/15/2021	-	**7.6**	-	-	-	-	-	-	-	-	-	**20.7**	-	-	-	
	1/19/2022	-	**21.5**	**20.8**	-	< 0.50	-	< 0.50	< 0.50	-	-	< 0.50	**30.0**	-	3.7	-	
	1/18/2023	-	**10.0**	**10.0**	-	< 0.50	-	0.52	< 0.50	-	-	< 0.50	**16.9**	-	3.6	-	

APPENDIX L
CUMULATIVE RECORD OF PCE AND TCE DETECTED IN GROUNDWATER AT IMPACTED WELLS
VALENCIA POWER PLANT
NOGALES, ARIZONA

ANALYTE	SAMPLE DATE	MW-1	MW-4	MW-4*	MW-8	MW-9	MW-9*	MW-10	MW-11	MW-15	MW-15*	MW-16	MW-17	MW-17*	MW-19	MW-19*	AWQS
Trichloroethene	6/24/1996	-	-	-	-	4.4	-	-	-	-	-	-	-	-	-	-	5
	8/29/2002	-	-	-	-	<0.5	<0.5	-	-	-	-	-	-	-	-	-	
	10/9/2002	<0.5	<0.5	-	<0.5	-	-	<0.5	2.5	2.2	2.3	-	<0.5	-	<0.5	-	
	4/2/2003	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	6/17/2003	<0.5	<0.5	-	<0.5	<0.5	-	<0.5	1.2	1.8	-	-	<0.5	-	<0.5	-	
	1/6/2005	<0.5	<0.5	-	<0.5	<0.5	-	<0.5	<0.5	<0.5	-	-	<0.5	<0.5	<0.5	<0.5	
	7/29/2005	-	-	-	<0.5	1	-	<0.5	<0.5	<0.5	<0.5	-	<0.5	-	-	-	
	1/25/2006	-	-	-	<1	1.3	-	<1	<1	<1	-	-	<1	-	-	-	
	7/28/2006	-	-	-	<1	1.2	-	<1	<1	<1	-	-	<1	-	-	-	
	1/30/2007	-	-	-	<0.5	2.7	-	<0.5	-	<0.5	-	-	<0.5	<0.5	-	-	
	8/1/2007	-	-	-	<0.5	1.5	-	<0.5	<0.5	<0.5	-	-	<0.5	<0.5	-	-	
	1/29/2008	-	-	-	<0.5	1.9	-	<0.5	-	<0.5	-	<0.5	<0.5	<0.5	-	-	
	7/15/2008	-	-	-	<0.5	1.1	-	<0.5	-	<0.5	-	<0.5	<0.5	<0.5	-	-	
	1/28/2009	-	<0.5	-	-	1.6	-	<0.5	-	-	-	<0.5	0.61	0.69	-	-	
	2/10/2009	0.68	-	-	-	-	-	-	<0.5	-	-	-	-	-	<0.5	-	
	7/14/2009	<1	<1	-	-	<1	-	<1	<1	-	-	<1	1	<1	<1	-	
	1/25/2010	<1	<1	-	-	2.3	-	<1	<1	-	-	<1.9	**5.5**	**5.2**	<1	-	
	7/7/2010	<0.5	<0.5	-	-	0.52	-	<0.5	<0.5	-	-	<0.5	**9.2**	**6**	<0.5	-	
	1/5/2011	<2	<2	-	-	<2	-	<2	<2	-	-	<2	<4	<4	<2	-	
	7/20/2011	-	-	-	-	<1	-	<0.5	<0.5	-	-	-	1.72	2.86	-	-	
	7/21/2011	<0.5	<0.5	-	-	-	-	-	-	-	-	<1	-	-	0.83	-	
	1/24/2012	<0.5	<0.5	-	-	<0.5	-	<0.5	<0.5	-	-	<0.5	2.74	2.75	<0.5	-	
	1/29/2013	<0.5	<0.5	-	-	0.51	-	<0.5	<0.5	-	-	<0.5	3.19	2.96	<0.5	-	
	2/27/2014	<0.13	<0.13	-	-	0.20 J	-	<0.13	<0.13	-	-	<0.13	4.90	4.70	<0.13	-	
	1/13/2015	< 0.20	< 0.20	< 0.20	-	0.60	-	< 0.20	< 0.20	-	-	< 0.20	4.7	-	< 0.20	-	
	1/14/2016	< 0.20	< 0.20	< 0.20	-	< 0.20	-	< 0.20	< 0.20	-	-	< 0.20	2.7	-	< 0.20	-	
	1/12/2017	<0.40	<0.40	<0.40	-	<0.40	-	<0.40	<0.40	-	-	<0.40	4.5	-	<0.40	-	
	1/16/2018	<0.40	<0.40	<0.40	-	<0.40	-	<0.40	<0.40	-	-	<0.40	3.4	-	<0.40	-	
	1/9/2019	< 0.40	< 0.40	< 0.40	-	< 0.40	-	< 0.40	< 0.40	-	-	< 0.40	3.8	-	< 0.40	-	
	1/8/2020	< 0.40	0.42	< 0.40	-	< 0.40	-	< 0.40	< 0.40	-	-	< 0.40	2.4	-	< 0.40	-	
	1/13/2021	< 0.40	< 0.40	< 0.40	-	< 0.40	-	< 0.40	< 0.40	-	-	< 0.40	2.8	-	< 0.40	-	
	7/15/2021	-	< 0.40	-	-	-	-	-	-	-	-	-	2.5	-	-	-	
	1/19/2022	-	0.24	0.23	-	0.72	-	<0.20	<0.20	-	-	<0.20	3.4	-	<0.20	-	
	1/18/2023	-	< 0.20	< 0.20	-	< 0.20	-	< 0.20	< 0.20	-	-	< 0.20	1.5	-	< 0.20	-	

Notes:
< = less than
Bold text indicates the value exceeds the AWQS.
AWQS = Aquifer Water Quality Standard
NE = not established
NS = not sampled