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November 15, 2018

Wayne Praskins
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Subject: Annual Performance Evaluation Report,
Interim Groundwater Containment Remedy,
Omega Chemical Superfund Site, Whittier, California

Dear Mr. Praskins:

Enclosed for your review is the Annual Performance Evaluation Report for the Operable Unit 1 (OU-1) Interim Groundwater Containment Remedy (GCR), Omega Chemical Superfund Site, Whittier, California. The purpose for this report is to provide the USEPA with data associated with the operations of the OU-1 Groundwater Containment Remedy during the third quarter 2018, and annual updates as required.

This report complies with the requirements in the April 2007 Performance Standards Verification Plan, and the Operations, Maintenance, and Monitoring Manual for the operation of the GCR. Overall, this report is being provided to satisfy the data reporting requirements defined under Section IX of the February 2001 Consent Decree No. 00-12471 between the USEPA and OPOG by presenting data collected during the period and providing evidence that the GCR is compliant with the OU-1 Groundwater Removal Acton Objectives.

Should you have any questions, regarding the above, please contact me.

Sincerely,

Omega Chemical Site PRP Organized Group

Edward Modiano
Project Coordinator

Jaime Dinello, PE
Project Manager

cc: Don Indermill, DTSC

de maximis, inc.

NOVEMBER 15, 2018

INTERIM GROUNDWATER CONTAINMENT REMEDY ANNUAL PERFORMANCE EVALUATION REPORT THIRD QUARTER 2018 OMEGA CHEMICAL SUPERFUND SITE, OU-1

Prepared for:

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INTERIM GROUNDWATER CONTAINMENT REMEDY
OPERABLE UNIT 1 OMEGA CHEMICAL SUPERFUND SITE

Annual Performance Evaluation Report
Third Quarter 2018

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ACRONYMS AND ABBREVIATIONS

bgs	Below ground surface
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act*
CD	Consent Decree
DPE	Dual Phase Extraction
EE/CA	Engineering Evaluation/Cost Analysis
EW	Extraction well
GCR	Groundwater Containment Remedy
GWTP	Groundwater Treatment Plant
gpm	Gallons per minute
HRA	Health Risk Assessment
OM&M	Operation, Maintenance, and Monitoring
OPOG	Omega Chemical Site PRP Organized Group*
OU-1	Operable Unit 1
OU-2	Operable Unit 2*
PSVP	Performance Standards Verification Plan
RAOs	Removal Action Objectives
RAP/PDR	Removal Action Plan and Preliminary Design Report
SCAQMD	South Coast Air Quality Management District
SDLAC	Sanitation Districts of Los Angeles County
USEPA	United States Environmental Protection Agency*
VOC	Volatile Organic Compound
VGAC	Vapor Phase Granular Activated Carbon

*These acronyms are assumed to be known to the reader and are not spelled out in the report.

INTERIM GROUNDWATER CONTAINMENT REMEDY
OPERABLE UNIT 1 OMEGA CHEMICAL SUPERFUND SITE

Annual Performance Evaluation Report

Third Quarter 2018

1. INTRODUCTION

Operable Unit 1 (OU-1) of the Omega Chemical Superfund Site is defined as the area of soil and groundwater contamination at the former Omega Chemical property located at 12504 and 12512 Whittier Blvd, Whittier, California, and extending in a downgradient direction to approximately 100 feet southwest of Putnam Street, Whittier, California (Figure 1). This annual performance evaluation report has been prepared on behalf of OPOG to comply with the February 2001 Consent Decree (CD) No. 00-12471 between the USEPA and OPOG (USEPA, 2001). The CD required OPOG to conduct an Engineering Evaluation/Cost Analysis (EE/CA) to identify and recommend a groundwater containment remedy (CDM, 2005). USEPA selected the remedy recommended in the EE/CA via the September 2005 Action Memorandum (USEPA, 2005). As stated in this action memorandum, the primary goal of the selected remedy is to contain the highest levels of contamination dissolved in groundwater within OU-1, so that the contamination does not migrate and contribute to the downgradient regional groundwater plume. To achieve this goal, the OU-1 Groundwater Containment Remedy (GCR) was installed and began operating in 2009. A brief operational history is provided in the table below.

Brief Operational Summary of GCR

February, 2001	Partial Consent Decree No. 00-12471 entered into the US District Court on February 28, 2001.
July 2005	EE/CA submitted with recommended interim groundwater containment remedy.
September 2005	EPA issued an Action Memorandum to construct and operate an interim groundwater containment system for the OU-1 area.
July 2009	Construction of the groundwater containment system was completed. The system began operation.

June 2014 – January 2015	Operations ceased due to vandalism.
January 2015	Operations resumed.
February 2015	Conveyance of extracted groundwater from the OU-1 On-Site Soil Remedy dual phase extraction wells to the GCR for treatment was initiated (see Section 4.2).
July 2016	Volume of extracted groundwater conveyed from the OU-1 On-Site Soil Remedy was increased; two additional dual phase extraction wells were brought on line (see Section 4.2).

2. REPORT PURPOSE AND ORGANIZATION

This report complies with the requirements in the Performance Standards Verification Plan (PSVP), Operations, Maintenance, and Monitoring (OM&M) Manual, and Section IX of the CD by presenting data collected during the quarter and providing evidence that the GCR is compliant with the OU-1 Groundwater Removal Acton Objectives (RAOs). This report contains the following general content:

- Description of the OU-1 Groundwater RAOs (Section 3);
- Description of the OU-1 GCR (Section 4);
- A discussion of groundwater containment monitoring data and compliance with the containment RAO (Section 5);
- Summary of GCR system operational monitoring (Section 6);
- Overall summary assessment of system operations and recommended changes or modification to the system (Section 7); and
- Planned activities for the next quarter (Section 8).

3. OU-1 GROUNDWATER REMOVAL ACTION OBJECTIVES

The OU-1 Groundwater RAOs established as performance standards in the 2001 CD are as follows:

- Achieve vertical and lateral hydraulic containment of groundwater contamination within OU-1 (primary documentation of such is via piezometric monitoring), and

- Meet specified air emissions standards and groundwater treatment standards appropriate to the treated water end use.

4. DESCRIPTION OF THE OU-1 GROUNDWATER CONTAINMENT REMEDY AND ROLE OF MORE RECENTLY INSTALLED OU-1 MULTIPURPOSE EXTRACTION WELLS

As stated in the 2005 Action Memorandum (USEPA, 2005):

- "*The primary goal of the proposed interim removal action is to contain the highest levels of contamination dissolved in groundwater within OU-1, so they do not migrate and contribute to the OU-2 plume.*"

AND

- *"To achieve this goal, five groundwater extraction wells would be installed within the Putnam Street right of way to form a hydraulic barrier along the primary flow pathway for downgradient contaminant migration."*

Construction of the GCR was completed in 2009 and the remedy became operational in July 2009.

4.1. COMPONENTS OF THE GCR

The primary components of the 2009 installed GCR include the following (see Figure 1):

- Five hydraulic containment extraction wells (EW-1, EW-2, EW-3, EW-4, and EW-5) that are designed to form a barrier to groundwater flow from the former Omega property, past the south-western boundary of OU-1;

- The Groundwater Treatment Plant (GWTP), including an air stripper, two vapor phase granular carbon (VGAC) vessels, and conveyance piping that are used to convey and treat extracted groundwater and air stripper vapor emissions for discharge; and,

- A network of eleven groundwater monitoring wells and 4 piezometers that are used for

data collection points to assess the performance of the GCR.

The GCR operates 24 hours per day, 365 days per year, except for periods of routine or required maintenance. In accordance with the approved Removal Action Plan and Preliminary Design Report (RAP/PDR), the groundwater extraction wells target the water table aquifer, which extends to approximately 90 feet below ground surface (bgs) (CDM, 2005a). This is the target extraction zone for containment.

The air stripper treats extracted groundwater by transferring VOCs from the groundwater into the vapor phase, creating a VOC-laden vapor stream which is treated by the two VGAC vessels in series (a primary vessel and a secondary vessel), prior to emission to the atmosphere. Treated groundwater is discharged into the Sanitation Districts of Los Angeles County (SDLAC) sewer system, and is monitored in accordance with a SDLAC industrial waste permit (renewed on a five year basis with the most recent renewal issued in August 2017).

Treated vapor is monitored in accordance with requirements established with the South Coast Air Quality Management District (SCAQMD) Health Risk Assessment (HRA) (CDM Smith, 2015)[1]. Additional details regarding the GWTP equipment and documentation are available in the OM&M Manual (CDM, 2010)[1].

Monitoring wells and piezometers specified in the PSVP are used to collect piezometric and water quality data to demonstrate compliance with the OU-1 containment RAO (Figure 1) (CDM, 2007). The performance of the GCR to hydraulically contain groundwater within OU-1 has been assessed and reported since operations began in July 2009. The success of the EW-series wells installed along Putnam Street to provide a barrier to groundwater flow from the former Omega property has been documented in annual performance monitoring reports starting in 2009. Extraction well EW-2 was the primary producer of groundwater prior to the regional drought, generating the majority of groundwater extracted each year from 2009 through 2013 and thus forming the point of flow convergence within OU-1, demonstrating capture (CDM Smith, 2013).

4.2. ROLE OF MORE RECENTLY INSTALLED OU-1 MULTIPURPOSE EXTRACTION WELLS

[1] These documents are undergoing modification consistent with recent discussions with USEPA, and the 2010 CD.

In addition to operation of the GCR hydraulic containment extraction wells, other groundwater extraction is occurring within OU-1. Seven dual-phase extraction (DPE) wells are also operating and extracting groundwater within OU-1. These DPE wells were constructed in June through December 2014 as part of the Full Scale On-Site (OU-1) Soil Remedy under the 2010 Consent Decree between the USEPA and OPOG. These soil remedy DPE wells are DPE-3, DPE-4, DPE-5, DPE-8, and DPE-9 which became operational in February 2015; and VE-7D and VE-10D which became operational in July 2016. These Full Scale On-Site (OU-1) Soil Remedy DPE wells are also shown on Figure 1. Although installed as part of the Full Scale On-Site (OU-1) Soil Remedy to increase subsurface vapor removal, the DPE wells are currently extracting the majority of the water treated by the GWTP because they are screened deeper than the GCR hydraulic containment extraction wells. The declining regional water levels and groundwater extraction at OU-1 have effectively dewatered the aquifer.

5. CONTAINMENT RAO COMPLIANCE MONITORING AND ANALYSIS

Groundwater data are collected and evaluated to demonstrate compliance with the containment RAO as described below.

- Quarterly piezometric data from the PSVP-specified monitoring locations are plotted to illustrate that groundwater flow is toward the pumping wells (CDM, 2005a). According to the CD, these data provide the primary documentation of containment (USEPA, 2001).
- Semi-annual water quality data from PSVP-specified monitoring locations are plotted on time-series charts to show concentration trends (CDM, 2007).
- Annually, concentration trends at downgradient wells OW-9 and OW-10 are evaluated using the Mann-Kendall test on cumulative historical PCE, TCE, and 1.4-dixoane concentrations, and over the most current three-year period (OPOG, 2016).
- Annually, a particle tracking figure that simulates the hydraulic capture zone within the OU-1 boundary is prepared from the updated analytical model (CDM, 2007). The simulated capture zone is used to support the piezometric capture analysis.

This report provides the annual summary and evaluation to support the containment RAO. The results are presented below.

5.1. QUARTERLY PIEZOMETRIC MONITORING

Quarterly piezometric data were collected and subjected to analysis as stated above. Attachment A (CDM Smith, 2018)provides an analysis of the piezometric conditions observed during the third quarter 2018. As discussed therein, and as demonstrated by Figure A-1, horizontal containment of OU1 groundwater continues to be achieved. It is also noted that the regional drought conditions and the pumping from OU-1 DPE wells upgradient of Putnam Street have reduced water levels locally to below the pump intake of some GCR extraction wells.[2] The combination of all these factors has essentially dewatered the aquifer within the OU-1 boundary, and thus is providing horizontal containment. The third quarter PSVP-piezometric data are provided in Attachment B, Table B-1.[3] Historical PSVP-piezometric data are presented in time series charts in Attachment B, Figures B-1 through B-20.

Vertical gradients are examined at a well triplet and two well pairs (Figure A-2). There is minimal hydraulic connection between the shallow extraction zone (A-Zone) and the deeper B-Zone due to the presence of a confining layer which prevents significant downward vertical transport (Figure A-4). The significant head differential between the A-Zone and B-Zone is further evidence of poor hydraulic connection between the zones. See Attachment A for a more detailed discussion.

5.2. SEMI-ANNUAL WATER QUALITY DATA AND ANNUAL MANN-KENDALL ANALYSIS

Concentrations of PCE, TCE, and 1,4-dioxane in samples collected during the third quarter from PSVP-specified wells are presented in Attachment B, Table B-2. Historical data from these locations are presented in time series charts in Figures B-21 through B-36.

The results of the annual Mann-Kendall analysis conducted on data from observations wells

[2] Dual phase extraction wells were installed as of part the Full Scale On-Site (OU-1) Soil Vapor Remedy, and are designed to address soil contamination by reducing the water level in vapor extraction wells, exposing more soil to vapor extraction. A secondary benefit of these wells is that they remove groundwater from within OU-1, contributing to groundwater mass removal.

[3] The 2007 PSVP also listed wells OW-4a and OW-4b (located approximately 500 feet down gradient of the OU-1 boundary) as monitoring locations to determine flow direction and gradients outside the capture zone. As discussed with USEPA, these wells were transferred out of the OU-1 program in 2017 and are now monitored by OPOG and other Settling Work Defendants as part of OU-2 in accordance with the Consent Decree approved by the court in March 2017. These wells are no longer used by OPOG to generate information for assessing performance of the OU-1 GCR.

OW-9 and OW-10 are presented in Attachment C. This analysis shows statistically significant declining trends in concentrations over the historical data collection period for PCE and TCE. The 1,4-dioxane concentrations at both locations over the historical period show a weak downward trend or stable (no trend), with low statistical significance. The concentrations of 1,4-dioxane at OW-10 are difficult to evaluate statistically due to multiple non-detect results and variable method reporting limits (see Figure B-35)

The concentrations of PCE, TCE, and 1, 4-Dioxane at both locations over the most recent three-year period are shown to have weak downward trends to stable (no trend), with low statistical significance.

Field forms for the semi-annual monitoring are included in Attachment D. Analytical laboratory reports and data validation reports are included in Attachment E.

5.3. GROUNDWATER MODEL UPDATE AND FLOW TRACKING FIGURE

The annual groundwater model update was completed this quarter, and a simulated flow tracking figure was prepared for each quarter of the annual reporting cycle. A memorandum summarizing the model update and presenting the simulated flow figures is included in Attachment F. The simulated flow tracking figures confirm the piezometric contours that demonstrate hydraulic capture of OU-1 groundwater.

6. GCR SYSTEM OPERATIONS MONITORING

GCR operational data are collected to support the determination of compliance with the second RAO (treated vapor emissions and treated groundwater discharge) as well as to conform to the requirements of the PSVP and OM&M Manual.

The following paragraphs provide a summary of key operational parameters and compliance with both vapor phase emissions and aqueous phase discharge requirements.

Key Operational Parameters

All GCR extraction wells (EW-1, EW-2, EW-3, EW-4, and EW-5) were mechanically functional during this quarter. The measured pump run-time, calculated extracted volume, average flow rates per well, and calculated mass removed per well are provided in Attachment G, Table G-1.

The GCR had an operational run time of approximately 98 percent during the quarter, and approximately 99 percent over the previous 12 months (Table 1). Performance summaries for the Air Stripper and VGAC units are provided below.

Air stripper performance:

- 3.2 pounds of VOC mass were removed from treated groundwater by the air stripper during the third quarter, approximately 14.5 pounds over the previous 12 months, and approximately 967 pounds since project inception in 2009 (Table 1, Figure 2);
- VOC concentrations in groundwater prior to and after treatment by the air stripper are summarized in Table 2 for the previous 12 months. These data show continued effectiveness in transferring VOCs from the aqueous phase to the vapor phase for treatment by the VGAC; and,
- Air stripper influent concentrations over time are shown on Figure 3.

VGAC performance:

- VOC concentrations in vapor at the VGAC influent, intermediate point, and effluent are summarized in Table 3 for the previous 12 months. These data show that the VGAC removed VOCs from the VOC-laden vapor flow, transferring it to the activated carbon by adsorption; and,
- VGAC operational conditions during the previous 12 months are summarized in Attachment G, Table G-2. These data demonstrate that the VGAC and related processes were functioning efficiently and that no carbon changeout was required.[4] No carbon changeout occurred during the third quarter, nor during the previous 12 months. The last carbon changeout occurred on March 23, 2015.

[4] The SCAQMD Health Risk Assessment (CDM Smith, 2015) requires that a carbon changeout occur when the efficiency of the primary absorber drops below 90% and the intermediate VOC concentration exceeds 12 parts per million by volume as hexane. OPOG typically elects to preemptively changeout the carbon prior to triggering the SCAQMD HRA changeout criteria. OPOG's changeout decision is based on the level of VOC desorption observed at the intermediate point between the VGAC vessels. Analytical results from monthly VGAC monitoring are reviewed when received from the laboratory, and each month a determination is made whether to change or retain the current carbon load (see Attachment G).

Compliance with Emissions and Discharge Requirements

Although a permit to operate is not required from SCAQMD per CERCLA Section 121, the VGAC is monitored to verify that emissions limits identified in the SCAQMD HRA (CDM Smith, 2015) are being met. There are two types of SCAQMD emissions limits: chemical-specific concentrations in VGAC effluent and VGAC operational conditions. Based on sample results, the VGAC effluent satisfied the SCAQMD HRA chemical-specific limits as well as the SCAQMD operational requirements for flow rate, temperature, and total VOC emissions as indicated by a photo-ionization detector (Table 3, Table G-2). Laboratory analytical reports are provided in Attachment E.

SDLAC issued an Industrial Waste Discharge Permit (No. 20039) in September 2007 for the discharge of treated water from the GWTS to sewer manhole No. MH 18-0271 at Crowndale Street. As required, the permit is renewed on a five-year basis. The first permit renewal was received in 2012 and the second permit renewal was granted on August 8, 2017.

Compliance samples are collected on a quarterly basis from the designated sample collection point, identified as 20039A, and analyzed by a third party representative, currently Test America, as required by the permit. Test America is located in Irvine, California.

The results for quarterly effluent samples collected on August 17, 2018 were provided to SDLAC in the self-monitoring report submitted on October 9, 2018 (Attachment H). The analytical results reported by Test America show that all analytes were within SDLAC permit limits or were non-detectable above reporting limits.

Other groundwater data collected during the quarter, including data from groundwater pumped from the Full Scale On-Site (OU-1) Soil Remedy DPE wells, are summarized in Attachment I. This includes operational information such as volume of groundwater extracted this quarter and calculations of mass removed per pumping well.

7. SUMMARY OF MONITORING AND RECOMMENDATIONS

The OU-1 GCR continues to be compliant with the CD RAOs.

Horizontal containment continues to be achieved via pumping within the OU-1 boundary.

Pumping from the GCR extraction wells was limited during this quarter due the restricted saturated thickness of the aquifer resulting from drought conditions and other ongoing remedial pumping within the OU-1 boundary. Vertical containment is provided by the confining layer between the shallow and deep zones.

GCR operational data collected this quarter in accordance with the OM&M Manual provide evidence that the treated vapor emissions met SCAQMD HRA requirements, and the treated water discharged met SDLAC permit requirements.

No modifications to the GCR operations are required at this time. No modifications to the GCR operations were implemented during the quarter. It is recommended that the GCR continue to be implemented as currently configured.

8. PLANNED ACTIVITIES

Planned activities for the next quarter include the following:

- Routine bi-monthly status calls with USEPA;
- Weekly, monthly, and quarterly OM&M activities;
- Monthly assessment of VGAC effectiveness and need for carbon changeout;
- Quarterly piezometric monitoring and assessment of capture for compliance with RAOs;
- Monthly and quarterly assessment of data to determine if system adjustments are appropriate;
- Quarterly performance reporting; and
- Continued communication with property owners, tenants, and the city of Whittier regarding access for monitoring and other GCR activities.

9. REFERENCES

CDM. (2005). *Engineering Evaluation and Cost Analysis, July 29.*

CDM. (2005a). *Removal Action Plan and Preliminary Design Report, December 16.*

CDM. (2007). *Performance Standards Verification Plan for Phase 1a Area Groundwater Treatment System, April 19.*

CDM. (2010). *Final Operations, Maintenance, and Monitoring Manual, February 19.*

CDM Smith. (2015). *Memorandum: Treatment of Effluent from Groundwater Treatment System and Soil VaporExtraction, Omega Chemical Superfund Site, Whittier, California 90602, February 26.*

CDM Smith. (2018). *Quarterly Groundwater Containment review, October.*

OPOG. (2016). OPOG Responses to EPA Comments dated March 10 and 21, 2016, Draft 2015 Annual PSVP Report, Omega Chemical Superfund Site, Whittier, California, August.

USEPA. (2001). *Consent Decree No. 00-12471, February 28.*

USEPA. (2005). *Action Memorandum, September 27.*

Table 1
GWTP Operational Summary and Mass Removed Totals
OU-1 Groundwater Containment Remedy, Omega Chemical Superfund Site
October 2017 - September 2018

Month	GWTP Runtime Percent[1] (%)	GWTP Runtime Hours (hrs)	Operational Flow Rate[2] (gpm)	Average Flow Rate[3] (gpm)	Total Gallons Processed[4] (gal)	Mass Removed[5] (lbs)
October 2017	93	691	5.4	5.0	224,520	1.2
November 2017	100	719	5.5	5.5	235,620	1.1
December 2017	100	742	6.5	6.5	288,440	1.2
January 2018	100	743	6.8	6.8	301,370	1.7
February 2018	99	668	6.5	6.5	262,320	1.3
March 2018	99	740	6.8	6.8	305,750	1.3
April 2018	97	697	6.6	6.3	274,190	1.2
May 2018	100	743	6.4	6.4	283,940	1.3
June 2018	100	719	5.8	5.8	251,350	1.0
July 2018	99	735	5.5	5.4	239,210	1.2
August 2018	99	737	5.3	5.2	232,430	1.1
September 2018	97	695	4.7	4.6	199,300	0.9
Annual	**Average = 99**	**Average = 719**	**Average = 6.0**	**Average = 5.9**	**Total = 3,098,440**	**Total = 14.5**
				Cumulative Total[6]	**41,766,115**	**967**

Notes:

1. GWTP Runtime Percent is the percentage of total hours in the month that the GWTP actually operated.
2. Operational flow rate calculated from total gallons processed in the month and hours the GWTP actually operated in the month.
3. Average flow rate is calculated from total gallons processed in the month and total hours in the month, regardless of GWTP uptime.
4. Total gallons processed includes groundwater pumped to the GWTP from the Full Scale On-Site (OU-1) Soil Remedy DPE wells.
5. Mass removed is calculated from the average VOC concentration in the air stripper influent and discharge, and the total gallons processed. See Table 3.
6. The GWTP has to date treated 41,766,115 gallons of water and removed a cumulative total of 967 pounds of contaminant. See Figure 2.

gpm = gallons per minute
hrs = hours
gal = gallons
lbs = pounds

Table 2
Air Stripper Influent and Effluent Concentrations Demonstrating Proper System Function
OU-1 Groundwater Containment Remedy, Omega Chemical Superfund Site
October 2017 - September 2018

Sample ID	Sample Date	PCE	TCE	MeCL	1,2-DCA	Freon 11	Freon 113
OC_SP210_INF_101117	10/11/2017	420	33	25 U	4 J	23	130
OC_SP220B_EFF_101117	10/11/2017	1 U	1 U	5 U	1 U	1 U	5 U
OC_SP210_INF_112117	11/21/2017	330	32	5 U	3.8	17	97
OC_SP220B_EFF_112117	11/21/2017	1 U	1 U	5 U	1 U	1 U	5 U
OC_SP210_INF_122017	12/20/2017	300	31	5 U	3.4	18	88
OC_SP220B_EFF_122017	12/20/2017	1 U	1 U	5 U	1 U	1 U	5 U
OC_SP210_INF_011718	1/17/2018	430	40	5 U	3.6	24	96
OC_SP220B_EFF_011718	1/17/2018	1 U	1 U	5 U	1 U	1 U	5 U
OC_SP210_INF_020718	2/7/2018	400	36	25 U	5 U	24	89
OC_SP220B_EFF_020718	2/7/2018	1 U	1 U	5 U	1 U	1 U	5 U
OC_SP210_INF_030618	3/6/2018	340	30	5 U	2.8	20	79
OC_SP220B_EFF_030618	3/6/2018	1 U	1 U	5 U	1 U	1 U	5 U

Table 2
Air Stripper Influent and Effluent Concentrations Demonstrating Proper System Function
OU-1 Groundwater Containment Remedy, Omega Chemical Superfund Site
October 2017 - September 2018

Sample ID	Sample Date	PCE	TCE	MeCL	1,2-DCA	Freon 11	Freon 113
OC_SP210_INF_041118	4/11/2018	320	38	13 U	3	25	88
OC_SP220B_EFF_041118	4/11/2018	1 U	1 U	5 U	1 U	1 U	5 U
OC_SP210_INF_050918	5/9/2018	340	31	25 U	5 U	26	93
OC_SP220B_EFF_050918	5/9/2018	1 U	1 U	5 U	1 U	1 U	5 U
OC_SP210_INF_060518	6/5/2018	220	38	5 U	3.6	31	120
OC_SP220B_EFF_060518	6/5/2018	1 U	1 U	5 U	1 U	1 U	5 U
OC_SP210_INF_070518	7/5/2018	360	36	5 U	3.8	32 J	110 J
OC_SP220B_EFF_070518	7/5/2018	1 U	1 U	5 U	1 U	1 UJ	5 UJ
OC_SP210_INF_080718	8/7/2018	300	35	5 U	3	22 J	100 J
OC_SP220B_EFF_080718	8/7/2018	1 U	1 U	5 U	1 U	1 UJ	5 UJ
OC_SP210_INF_090418	9/4/2018	300	38	5 U	3.4	26 J	120 J
OC_SP220B_EFF_090418	9/4/2018	1 U	1 U	5 U	1 U	1 UJ	5 UJ

Notes:
INF = Air stripper influent water. Untreated water sample collected downstream of bag filters.
EFF = Air stripper effluent water. Treated water sample collected in discharge header upstream of SDLAC sample box.
SDLAC = Sanitation District of Los Angeles County
All results are in micrograms per liter (ug/L)
U = not detected above reporting limit listed
UJ = analyte was was not detected. The reported quantitation limit is approximate and may be inaccurate or imprecise.
J = quantitatively estimated
PCE = Tetrachloroethene; TCE = Trichloroethene; MeCL = Methylene chloride; DCA = Dichloroethane

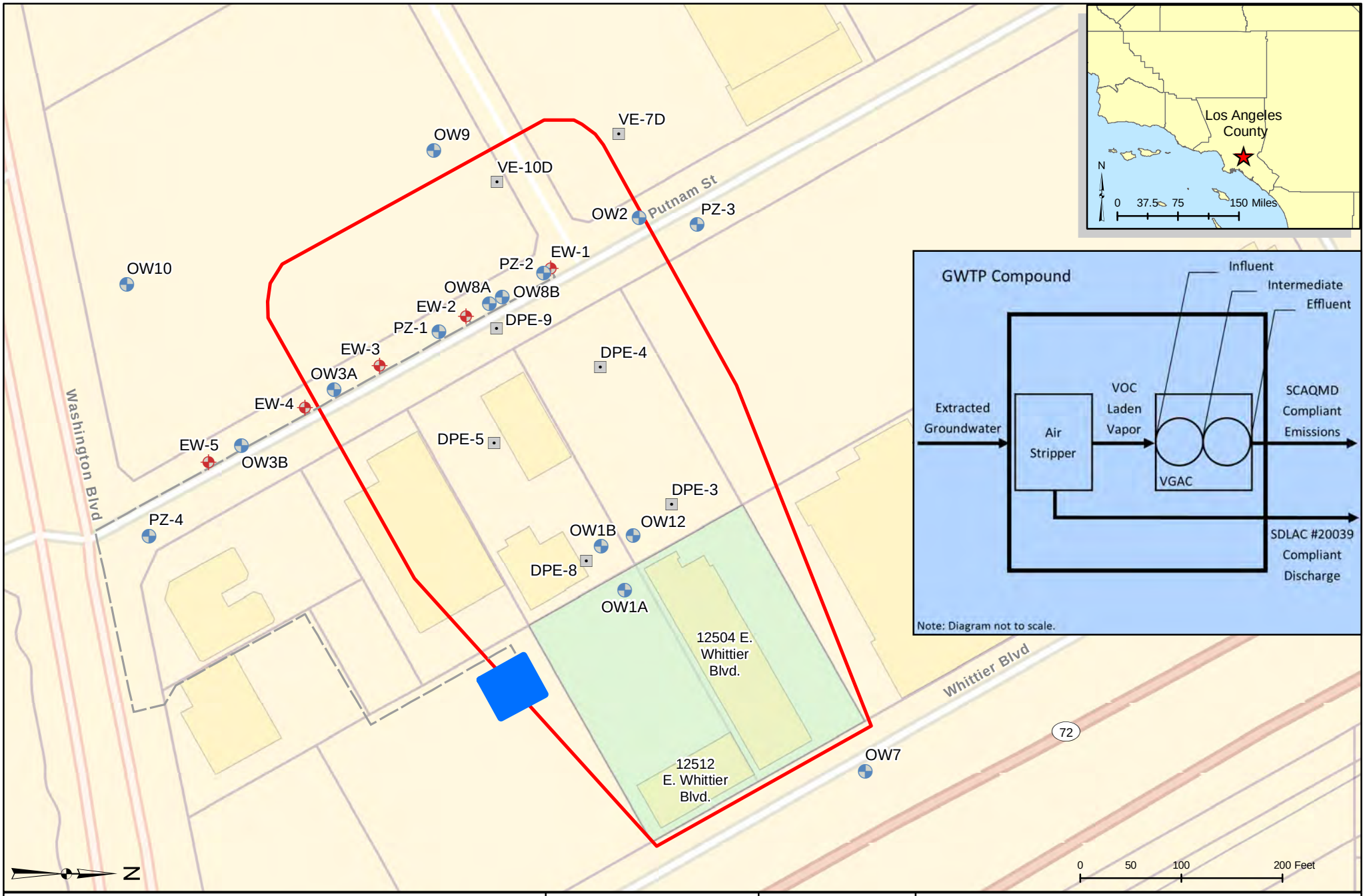
Table 3
Vapor Phase GAC Concentrations Demonstrating Substantive Compliance with SCAQMD Regulations
OU-1 Groundwater Containment Remedy, Omega Chemical Superfund Site
October 2017 - September 2018

SCAQMD Chemical-Specific Effluent Limit[1]			268.6	13.4	60	4.6	20	31.2	20	13
Sample ID	**Sample Date**	**Units**	**PCE**	**TCE**	**1,1-DCA**	**1,2-DCA**	**BZ**	**MeCL**	**VC**	**CFM**
OC_VGAC_INF_SP241_101117	10/11/2017	ppbv	76	9.8	1.1 U	1.7	1.1 U	11 U	1.1 U	4.5
OC_VGAC_INT_SP245_101117	10/11/2017	ppbv	1.2 U	1.2 U	1.2 U	1.5	1.2 U	12 U	1.2 U	6.7
OC_VGAC_EFF_SP242_101117[2]	10/11/2017	ppbv	**1.2 U**	**1.2 U**	**1.2 U**	**1.2 U**	**1.2 U**	**12 U**	**1.2 U**	**4.3**
OC_VGAC_INF_SP241_112117	11/21/2017	ppbv	84	11	1.2 U	1.6	1.2 U	12 U	1.2 U	4
OC_VGAC_INT_SP245_112117	11/21/2017	ppbv	1.2 U	1.2 U	1.2 U	1.4	1.2 U	12 U	1.2 U	5.6
OC_VGAC_EFF_SP242_112117	11/21/2017	ppbv	**1.2 U**	**1.2 U**	**1.2 U**	**1.2 U**	**1.2 U**	**12 U**	**1.2 U**	**4.8**
OC_VGAC_INF_SP241_122017	12/20/2017	ppbv	85	10	1.1 U	1.5	1.1 U	11 U	1.1 U	5
OC_VGAC_INT_SP245_122017	12/20/2017	ppbv	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	11 U	1.1 U	4.2
OC_VGAC_EFF_SP242_122017	12/20/2017	ppbv	**1.2 U**	**1.2 U**	**1.2 U**	**1.2 U**	**1.2 U**	**12 U**	**1.2 U**	**2.9**
OC_VGAC_INF_SP241_013118	1/31/2018	ppbv	96	13	1.2 U	1.6	1.2 U	12 U	1.2 U	6.3
OC_VGAC_INT_SP245_013118	1/31/2018	ppbv	1.2 U	1.2 U	1.2 U	1.2	1.2 U	12 U	1.2 U	5.7
OC_VGAC_EFF_SP242_013118	1/31/2018	ppbv	**1.2 U**	**1.2 U**	**1.2 U**	**1.2 U**	**1.2 U**	**12 U**	**1.2 U**	**4.2**
OC_VGAC_INF_SP241_020718	2/7/2018	ppbv	89	13	1.1 U	1.6	1.1 U	11 U	1.1 U	5.8
OC_VGAC_INT_SP245_020718	2/7/2018	ppbv	1.1 U	1.1 U	1.1 U	1.2	1.1 U	11 U	1.1 U	4.6
OC_VGAC_EFF_SP242_020718	2/7/2018	ppbv	**1.1 U**	**1.1 U**	**1.1 U**	**1.1 U**	**1.1 U**	**11 U**	**1.1 U**	**3.4**
OC_VGAC_INF_SP241_030618	3/6/2018	ppbv	110	17	1.2 U	2.3	1.2 U	12 U	1.2 U	7.2
OC_VGAC_INT_SP245_030618	3/6/2018	ppbv	1.2 U	1.2 U	1.2 U	1.8	1.2 U	12 U	1.2 U	6.6
OC_VGAC_EFF_SP242_030618	3/6/2018	ppbv	**1.2 U**	**1.2 U**	**1.2 U**	**1.2 U**	**1.2**	**12 U**	**1.2 U**	**5.8**

Table 3
Vapor Phase GAC Concentrations Demonstrating Substantive Compliance with SCAQMD Regulations
OU-1 Groundwater Containment Remedy, Omega Chemical Superfund Site
October 2017 - September 2018

SCAQMD Chemical-Specific Effluent Limit[1]			268.6	13.4	60	4.6	20	31.2	20	13
Sample ID	**Sample Date**	**Units**	**PCE**	**TCE**	**1,1-DCA**	**1,2-DCA**	**BZ**	**MeCL**	**VC**	**CFM**
OC_VGAC_INF_SP241_041118	4/11/2018	ppbv	90	13	1.1 U	1.7	1.1 U	11 U	1.1 U	6.7
OC_VGAC_INT_SP245_041118	4/11/2018	ppbv	1.2 U	1.2 U	1.2 U	1.5	1.2 U	12 U	1.2 U	6.4
OC_VGAC_EFF_SP242_041118	4/11/2018	ppbv	**1.2 U**	**1.2 U**	**1.2 U**	**1.2 U**	**1.2 U**	**12 U**	**1.2 U**	**5**
OC_VGAC_INF_SP241_050918	5/9/2018	ppbv	88	12	1.2 U	1.4	1.2 U	12 U	1.2 U	5.8
OC_VGAC_INT_SP245_050918	5/9/2018	ppbv	1.1 U	1.1 U	1.1 U	1.3	1.1 U	11 U	1.1 U	6
OC_VGAC_EFF_SP242_050918	5/9/2018	ppbv	**1.1 U**	**1.1 U**	**1.1 U**	**1.1 U**	**1.1 U**	**11 U**	**1.1 U**	**4.5**
OC_VGAC_INF_SP241_060518	6/5/2018	ppbv	86	11	1.2 U	1.5	1.2 U	12 U	1.2 U	5.6
OC_VGAC_INT_SP245_060518	6/5/2018	ppbv	1.1 U	1.1 U	1.1 U	1.6	1.1 U	11 U	1.1 U	6.5
OC_VGAC_EFF_SP242_060518	6/5/2018	ppbv	**1.1 U**	**1.1 U**	**1.1 U**	**1.1 U**	**1.1 U**	**11 U**	**1.1 U**	**4.4**
OC_VGAC_INF_SP241_070318	7/3/2018	ppbv	81	12	1.2 U	1.4	1.2 U	12 U	1.2 U	5.6
OC_VGAC_INT_SP245_070318	7/3/2018	ppbv	1.2 U	1.2 U	1.2 U	1.9	1.2 U	12 U	1.2 U	7
OC_VGAC_EFF_SP242_070318	7/3/2018	ppbv	**1.2 U**	**1.2 U**	**1.2 U**	**1.2 U**	**1.2 U**	**12 U**	**1.2 U**	**5.1**
OC_VGAC_INF_SP241_080718	8/7/2018	ppbv	73	10	1.2 U	1.2 U	1.2 U	12 U	1.2 U	5.2
OC_VGAC_INT_SP245_080718	8/7/2018	ppbv	1.1 U	1.1 U	1.1 U	1.9	1.1 U	11 U	1.1 U	7.7
OC_VGAC_EFF_SP242_080718	8/7/2018	ppbv	**1.2 U**	**1.2 U**	**1.2 U**	**1.2 U**	**3.1**	**12 U**	**1.2 U**	**5.1**
OC_VGAC_INF_SP241_090418	9/4/2018	ppbv	68	11	1.2 U	1.4	1.2 U	12 U	1.2 U	5.3
OC_VGAC_INT_SP245_090418	9/4/2018	ppbv	1.2 U	1.2 U	1.2 U	2.3	1.2 U	12 U	1.2 U	7.4
OC_VGAC_EFF_SP242_090418	9/4/2018	ppbv	**1.2 U**	**1.2 U**	**1.2 U**	**1.2 U**	**1.2 U**	**12 U**	**1.2 U**	**5.3**
Compliance with Effluent Limits?			**YES**	**YES**	**YES**	**YES**	**YES**	**YES**	**YES**	**YES**

1. SCAQMD effluent limits are in parts per billion volume (ppbv)
2. Bold text indicates vapor effluent results from the VGAC effluent required to meet SCAQMD HRA chemical specific limits shown in the table.
INF = Vapor phase GAC influent. VOC-laden vapor sample collected at the influent to the lead vapor GAC unit.
INT = Vapor phase GAC intermediate. Partially treated vapor sample collected between the lead and lag vapor GAC units.
EFF = Vapor phase GAC effluent. Fully treated vapor sample collected at the effluent from lag (polishing) vapor GAC unit.
VGAC = vapor phase granular activated carbon; GAC = granular activated carbon
SCAQMD HRA Limit = South Coast Air Quality Management District Health Risk Assessment permitted concentration limit in ppbv
U = not detected above reporting limit listed
PCE = Tetrachloroethene; TCE = Trichloroethene; 1,1-DCA = 1,1-Dichloroethane; 1,2-DCA = 1,2-Dichloroethane; BZ = Benzene; MeCL = Methylene chloride; VC = Vinyl chloride; CFM = Chloroform



GCR Extraction Well

Observation Well / Piezometer

OU-1 On-Site Soil Remedy Dual Phase Extraction Well

GCR Conveyance Piping

GWTP Compound Location

Former Omega Chemical Property Boundary

OU-1 Boundary

Only piezometric data are collected from PZ-3 for GCR performance monitoring.

ddms

de maximis, inc.

Reviewed By: MH
Drawn By: LEM
Date: 8/2/2018

Figure 1
OU-1 Location Map and Groundwater Containment Remedy Location
OU-1 Groundwater Containment Remedy, Omega Chemical Superfund Site
12504/12512 East Whittier Boulevard
Whittier, California

Figure 2
GCR GWTP Cumulative Gallons Treated and Mass Removed
OU-1 Groundwater Containment Remedy, Omega Chemical Superfund Site
Third Quarter 2018

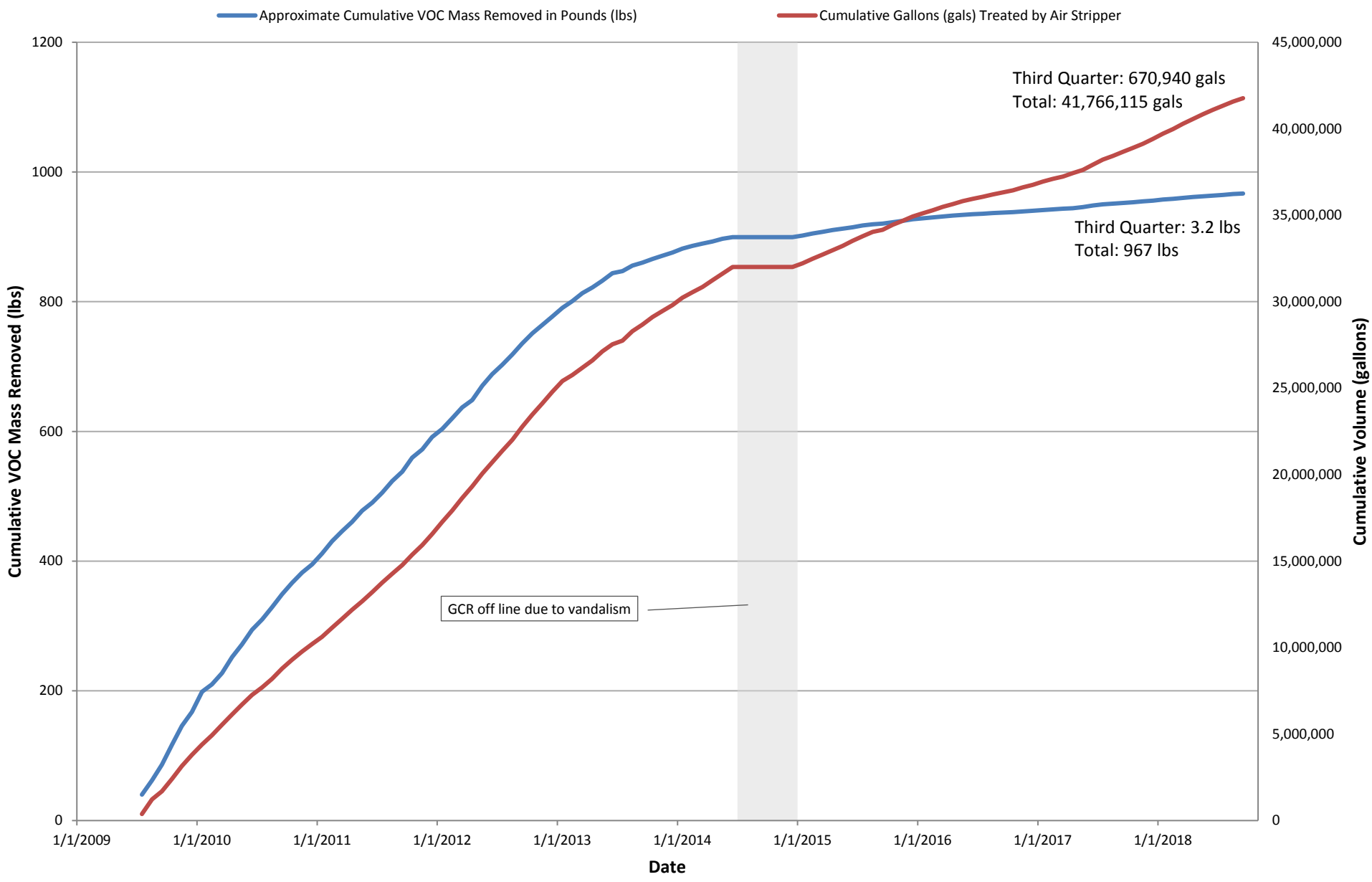
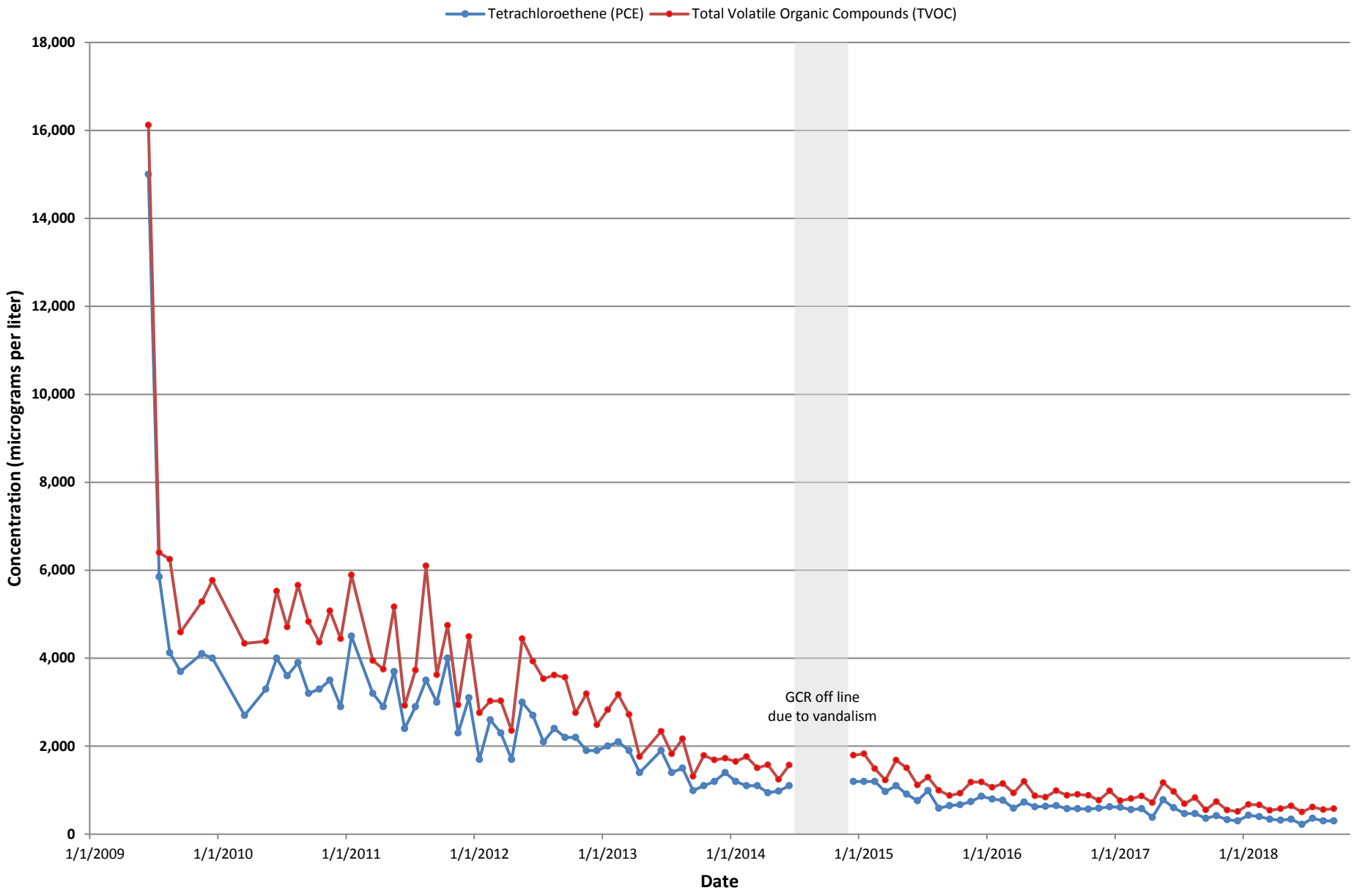


Figure 3
GCR Air Stripper Influent Concentrations
OU-1 Groundwater Containment Remedy, Omega Chemical Superfund Site
Third Quarter 2018



Attachment A

Quarterly Groundwater Containment Review

Memorandum

To: *Jaime Dinello, de maximis, inc.*

From: *Matt Gamache, CDM Smith*

Date: *September 25, 2018*

Subject: *Omega Operable Unit 1 EE/CA Remedy*
Quarterly Groundwater Containment Review – August 21-24, 2018

This memorandum provides and discusses the third quarter 2018 (3Q2018) groundwater elevation contours based on the August 21-24, 2018 groundwater monitoring gauging activities, and the response of the local groundwater table to the Omega Operable Unit (OU)-1 Groundwater Containment Remedy (GCR) operation. The purpose of the GCR is to hydraulically contain the highest levels of contamination dissolved in groundwater within OU-1. Extraction wells (EWs) located along Putman Street are designed to provide a hydraulic barrier at the down-gradient boundary of OU-1 (Figure A-1). In addition to operation of the GCR hydraulic containment extraction wells, other groundwater extraction is occurring within OU-1. Seven dual-phase extraction (DPE) wells are also operating and extracting groundwater within OU-1. These DPE wells were constructed in June through December 2014 as part of the Full Scale On-Site (OU-1) Soil Remedy under the 2010 Consent Decree between the USEPA and OPOG. These soil remedy wells are DPE-3, DPE-4, DPE-5, DPE-8, DPE-9, VE-7D, and VE-10D, and are also shown on Figure A-1. Although installed as part of the OU-1 soil remedy to increase subsurface vapor removal, the DPE wells are currently extracting the majority of the water treated by the GCR groundwater treatment plant.

Between August 21-24, 2018, in accordance with the approved Performance Standards Verification Plan (PSVP; CDM, 2007) for the GCR, water level elevations were measured for the purposes of demonstrating hydraulic containment of groundwater within OU-1. The majority of the monitoring points used in this evaluation lie within the boundaries of OU-1. However, selected monitoring points immediately adjacent to OU-1 (e.g. PZ-3, OW-9, and OW-11) are also used to assess the performance of the OU-1 groundwater remedy. All PSVP-required locations were measured during 3Q2018. These data are plotted along with interpreted water level elevation contours (1-foot interval) on Figure A-1 and demonstrate that OU-1 groundwater is contained.

The water-level contour map (Figure A-1) demonstrates that flow from the former Omega Chemical property located at 12504 and 12515 Whittier Blvd. Whittier, California (property) is primarily converging east of the Putnam Street GCR boundary wells EW-1, EW-2, and EW-3, around the OU-1 Soil

Remedy wells DPE-9, DPE-5 and DPE-4 and west of Putnam Street around the OU-1 Soil Remedy wells VE-7D and VE-10D. The total average extraction rate associated with the August 21-24, 2018 water level data is 4.65 gpm, resulting in a similar capture zone to 1Q2018 and 2Q2018.

Horizontal gradients within OU-1 are variable, at approximately 0.03 ft/ft from the property toward Putnam Street, consistent with 2Q2018 results. The horizontal gradients between EW-3 and DPE-9 and between OW-9 and VE-10D (along and to the west of Putnam Street) were 0.02 ft/ft and 0.11 ft/ft, respectively on August 21-24, 2018, which are also consistent with those recorded in 2Q2018.

Vertical gradients are examined at one well triplet and two well pairs: OW-1A/OW-12/OW-1B, OW-3A/OW-3B, and OW-8A/OW-8B, the locations of which are shown on Figure A-2. For each set of wells, the 'A' well is screened in the A-zone and the 'B' well is screened in the B-zone. OW-12 is also screened in the A-zone in-between OW-1A and OW-1B. The A-zone, essentially the water table aquifer, is currently being pumped by the GCR EWs and the OU-1 Soil Remedy DPE wells. The A-zone is the principal zone impacted by VOCs at the site.

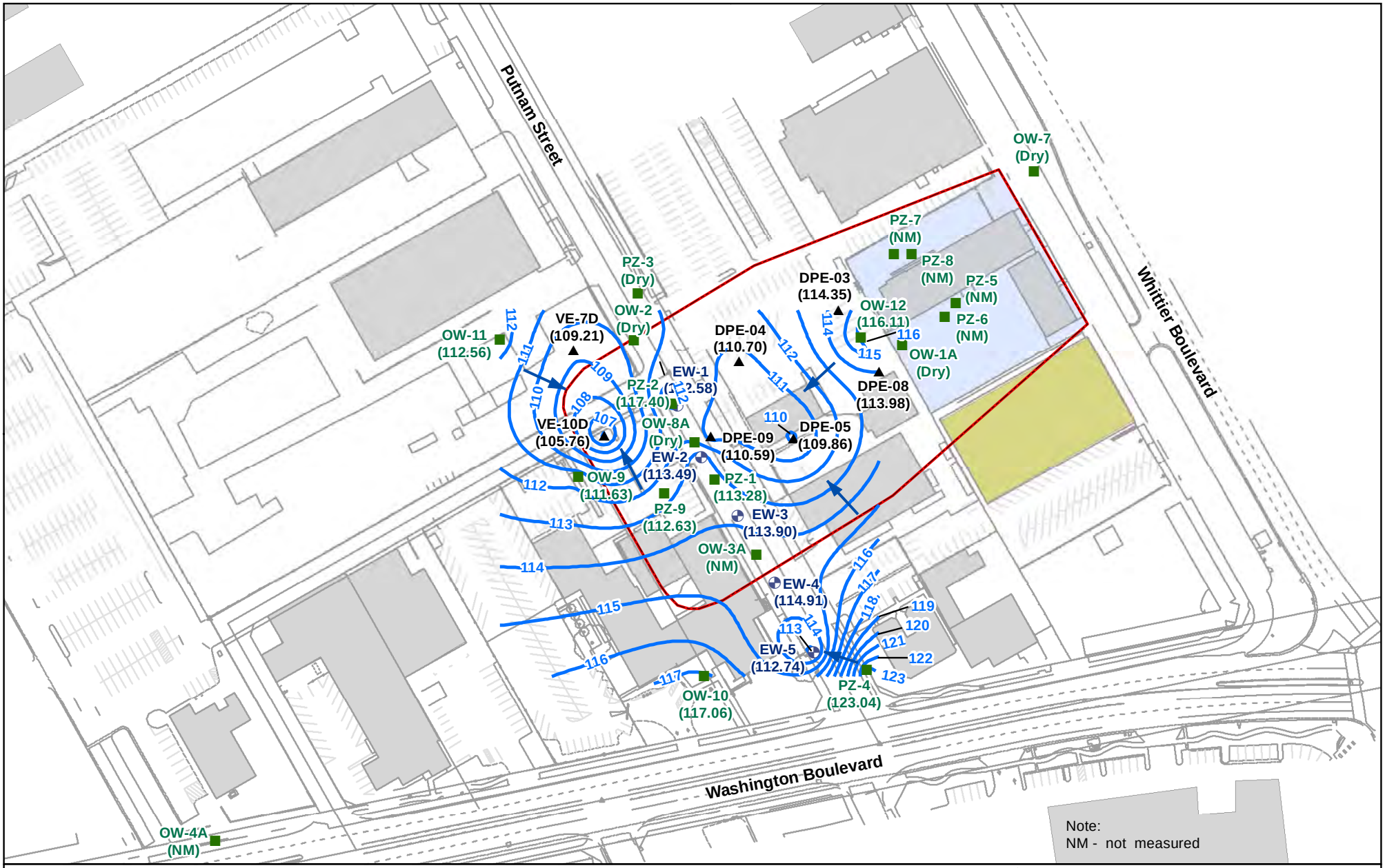
The A and B-zones show minimal hydraulic connection as evidenced by the significant difference in head between them. The lithologic data demonstrate the presence of 30-foot thick layer of clayey silt or silty clay that underlies the A-zone and acts as a confining unit between these zones, as shown on cross sections A-A' and B-B', further illustrating this hydraulic and physical vertical separation. The locations of both sections are shown in Figure A-3 and the cross sections themselves are shown in Figures A-4 (A-A') and A-5 (B-B'). In Figure A-4, the well screens of OW-3B and OW-8B are shown to be below the confining unit that underlies the A-zone. In Figure A-5, the lithology around OW-1A, OW-12, and OW-1B varies from what is observed at the other well pairs. In this instance, OW-1A is partially screened within a sand layer, but the area around the OW-12 and OW-1B well screens has been classified as clayey silt or silty clay. Since there are no lithological markers differentiating the two lower-screened wells (OW-12 and OW-1B), the groundwater elevations must be used to infer the degree of hydraulic connection/separation. Hydrographs of the water levels over time at these three wells are shown in Figure A-6. Although OW-1A has been dry for most of the OW-12 data collection period, vertical (downward) gradients can be seen between these two wells in the few instances where water was found at OW-1A since 2013. Vertical (downward) gradients between OW-12 and OW-1B are also present for all synoptic rounds of data except for August 2017, when groundwater elevations are approximately 117 feet MSL at both wells. Despite these similar elevations in August 2017 and February 2018, the units screened by these two wells are still considered to be hydraulically separated. This is similar to what has been observed at OW-3A/OW-3B (Figure A-7) and OW-8A/OW-8B (Figure A-8).

The area covered by the cone of depression in 3Q2018 is similar to what was observed and documented in 2Q2018 (CDM Smith, 2018) due to relatively consistent pumping. The combination of GCR extraction, OU-1 Soil Remedy extraction, and the regional drought conditions has essentially dewatered the A-Zone aquifer. As demonstrated on Figure A-1, containment of the OU-1 groundwater is attained.

References

CDM, 2007. *Performance Standards Verification Plan for Phase 1a Area Groundwater Treatment System*. April 19, 2007.

CDM Smith, 2018. *Omega Operable Unit 1 EE/CA Remedy Quarterly Groundwater Containment Review – June 6, 2018*. August 13, 2018.



Legend

- Phase Ia Area
- Former Omega Chemical Property
- Groundwater Elevation Contour - Dashed where Inferred (Feet above mean sea level)
- Groundwater Flow Direction
- Extraction Well
- Shallow Observation Well / Piezometer
- Dual Phase Extraction Well Location

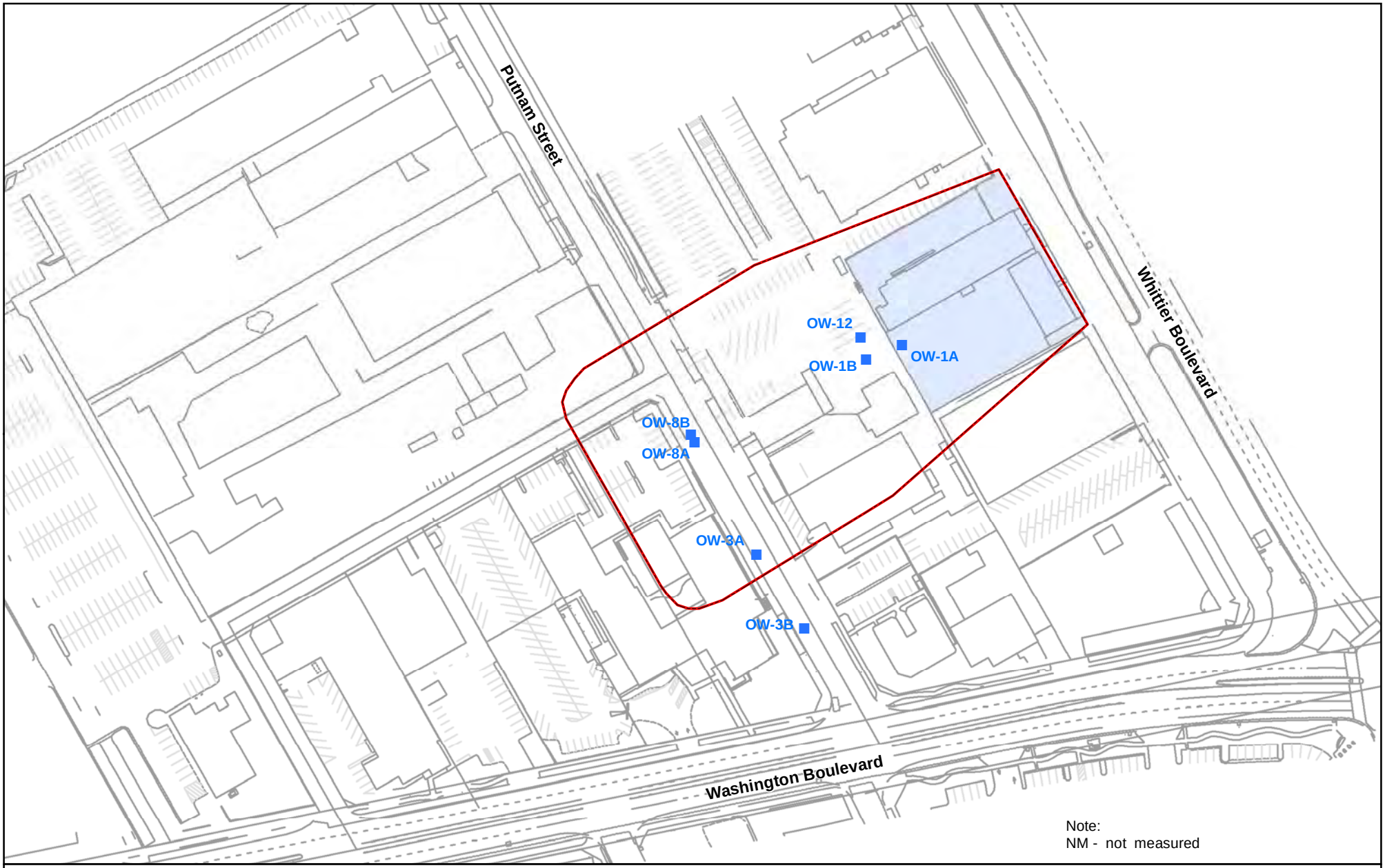
N

75 0 75
Feet

CDM Smith

Omega Chemical
Shallow Zone
Groundwater Contour Map
August 21 - 24, 2018

Figure A-1



Note:
NM - not measured

Legend

- Phase Ia Area
- Former Omega Chemical Property
- Observation Well Pair (A-zone/B-zone)

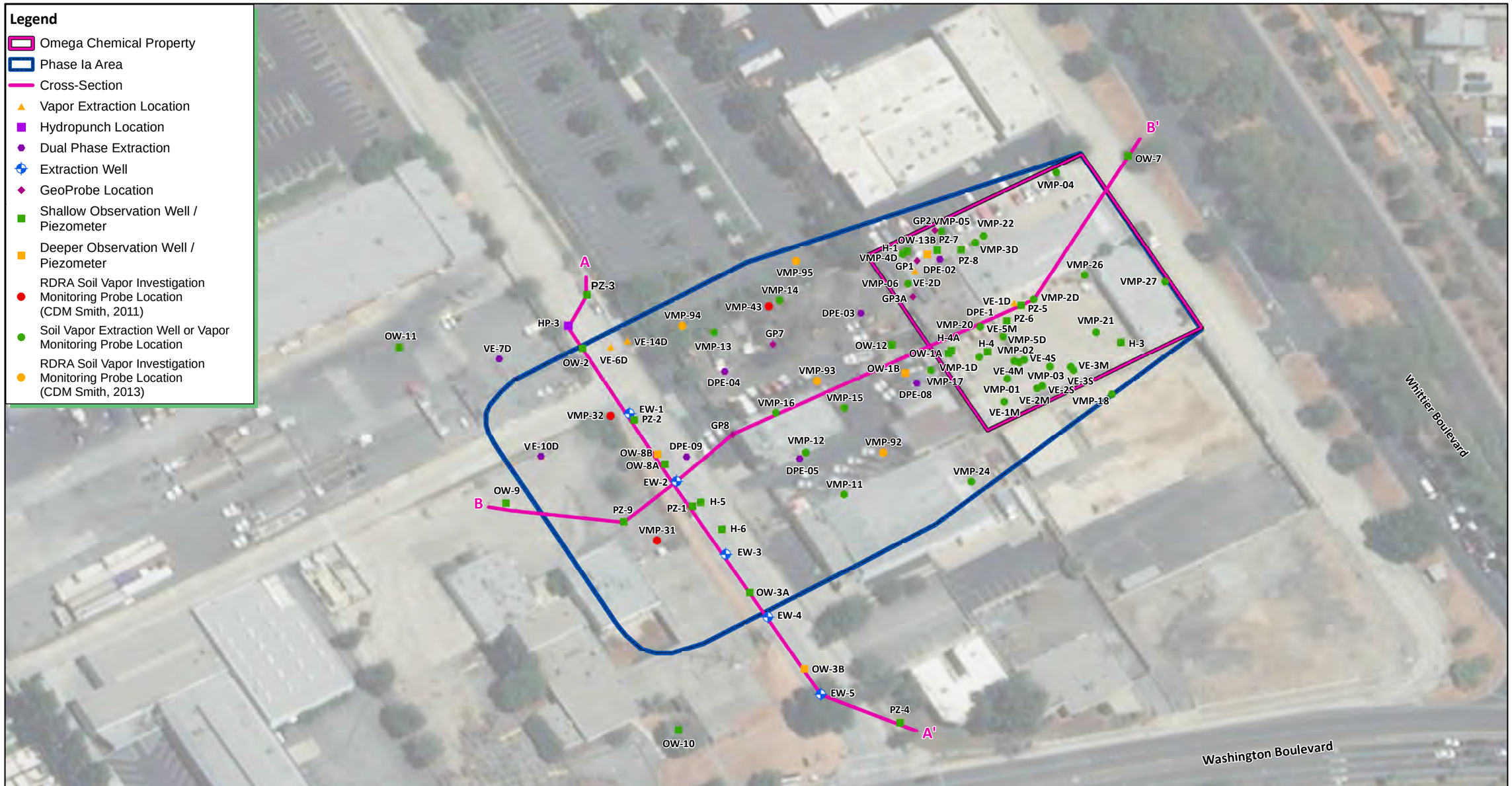
N

75 0 75
Feet

Omega Chemical
A-zone/B-zone Well Pairs

Figure A-2

CDM Smith



N

125 0 125

Feet

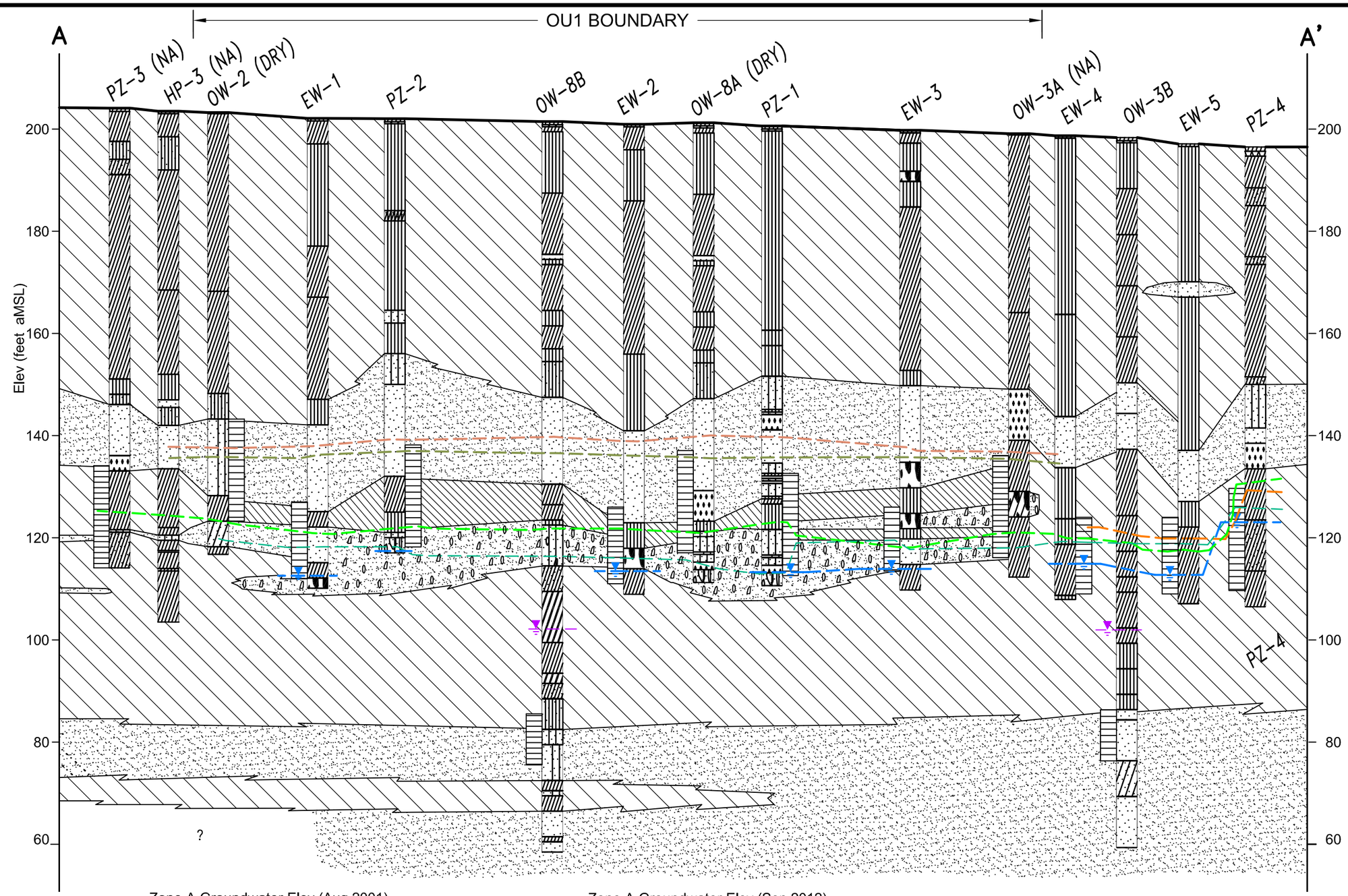
Omega Chemical

Cross-Section Plan View

Figure A-3

CDM Smith

Schellerka G:\GIS\10500_Omega\2018\ASSIST\Miscellaneous\FigureA-3_Cross-SectionPlanView.mxd 5/3/2018



1" = 20'

10 0 20

Zone A Groundwater Elev (Aug 2001)
Zone A Groundwater Elev (Aug 2005)
Zone A Groundwater Elev (Sep 2009)
Zone A Groundwater Elev (Sep 2012)
Zone A Groundwater Elev (Aug 2016)
Zone A Groundwater Elev (Jun 2018)

aMSL - above Mean Sea Level
NA - Not analyzed

CDM Smith
46 Discovery, Suite 250
Irvine, California 92618
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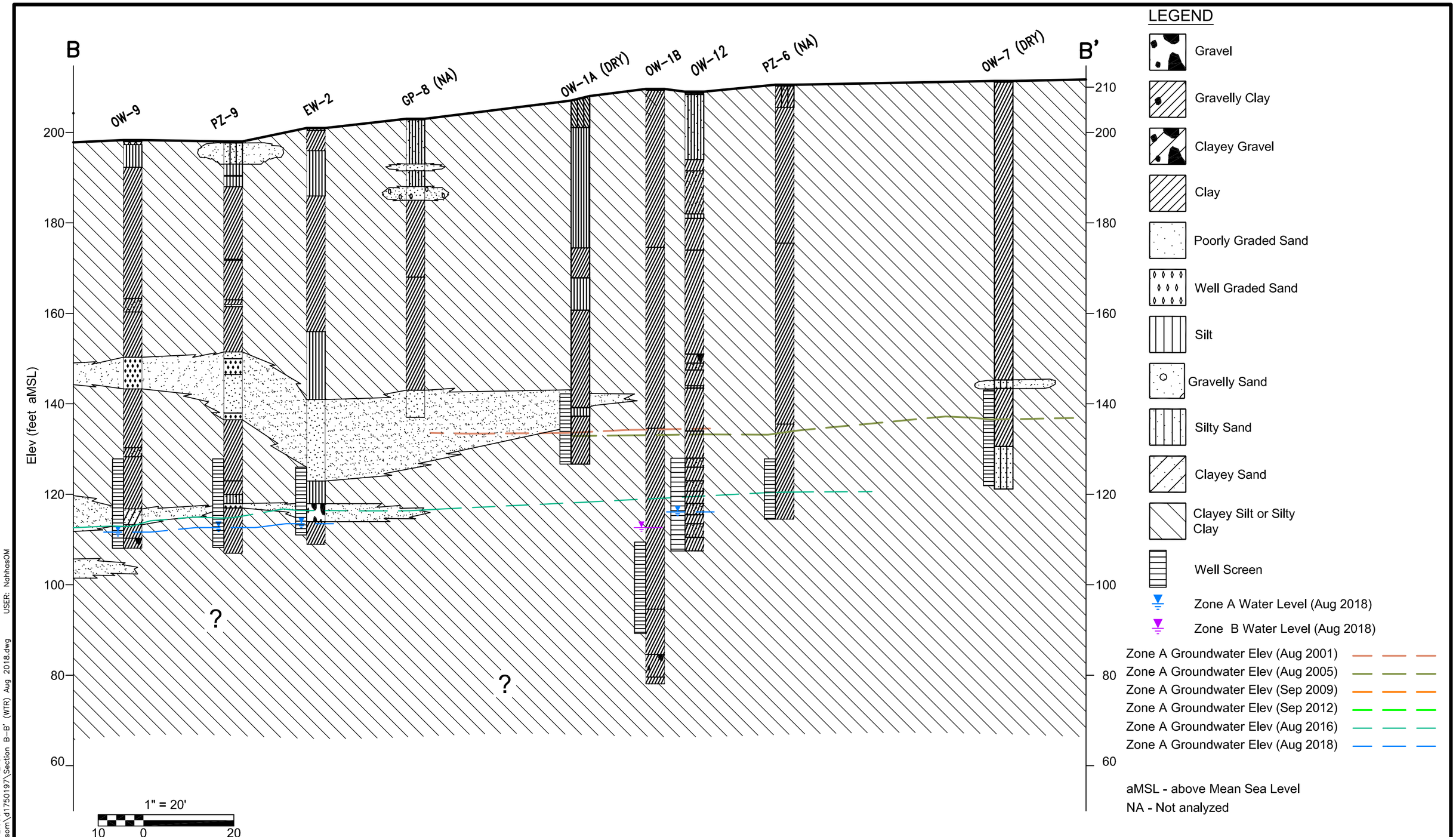
LEGEND

Gravel
Clayey Gravel
Poorly Graded Sand
Silt
Silty Sand
Clayey Silt or Silty Clay
Zone A Water Level (Aug 2018)
Zone B Water Level (Aug 2018)
Gravelly Clay
Clay
Well Graded Sand
Gravelly Sand
Clayey Sand
Well Screen

OMEGA
LITHOLOGIC CROSS-SECTION
A TO A'
Figure A-4

DATE: Sep 25, 2018 8:40am
DWG: C:\cdmxm\nahhasom\d175019\Section A-A' (WTR) Aug 2018.dwg
XREFS:
USER: NahhasOM



DATE: Sep 24, 2018 12:09am XREFS:
DWG: C:\cdmxm\nahhasom\d1750197\Section B-B' (WTR) Aug 2018.dwg USER: NahhasOM

CDM Smith
46 Discovery, Suite 250
Irvine, California 92618
Tel (949) 752-5452
Fax (949) 725-3790

OMEGA

LITHOLOGIC CROSS-SECTION
B TO B'

Figure A-5

Figure A-6
Omega Chemical Superfund Site
OW-1A, OW-1B, and OW-12 Well Hydrographs
2004 to 2018

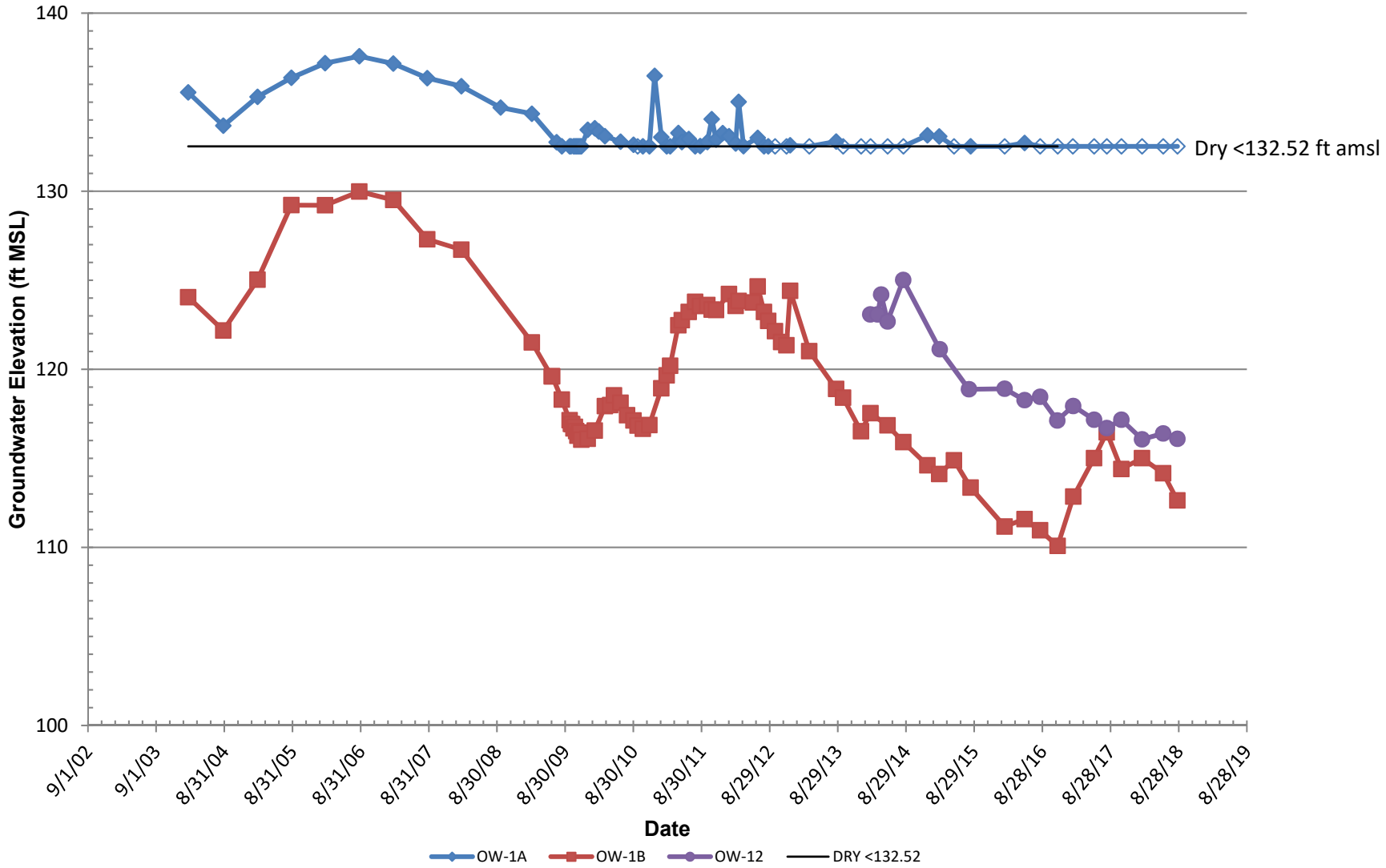


Figure A-7
Omega Chemical Superfund Site
OW-3A and OW-3B Well Hydrographs
2004 to 2018

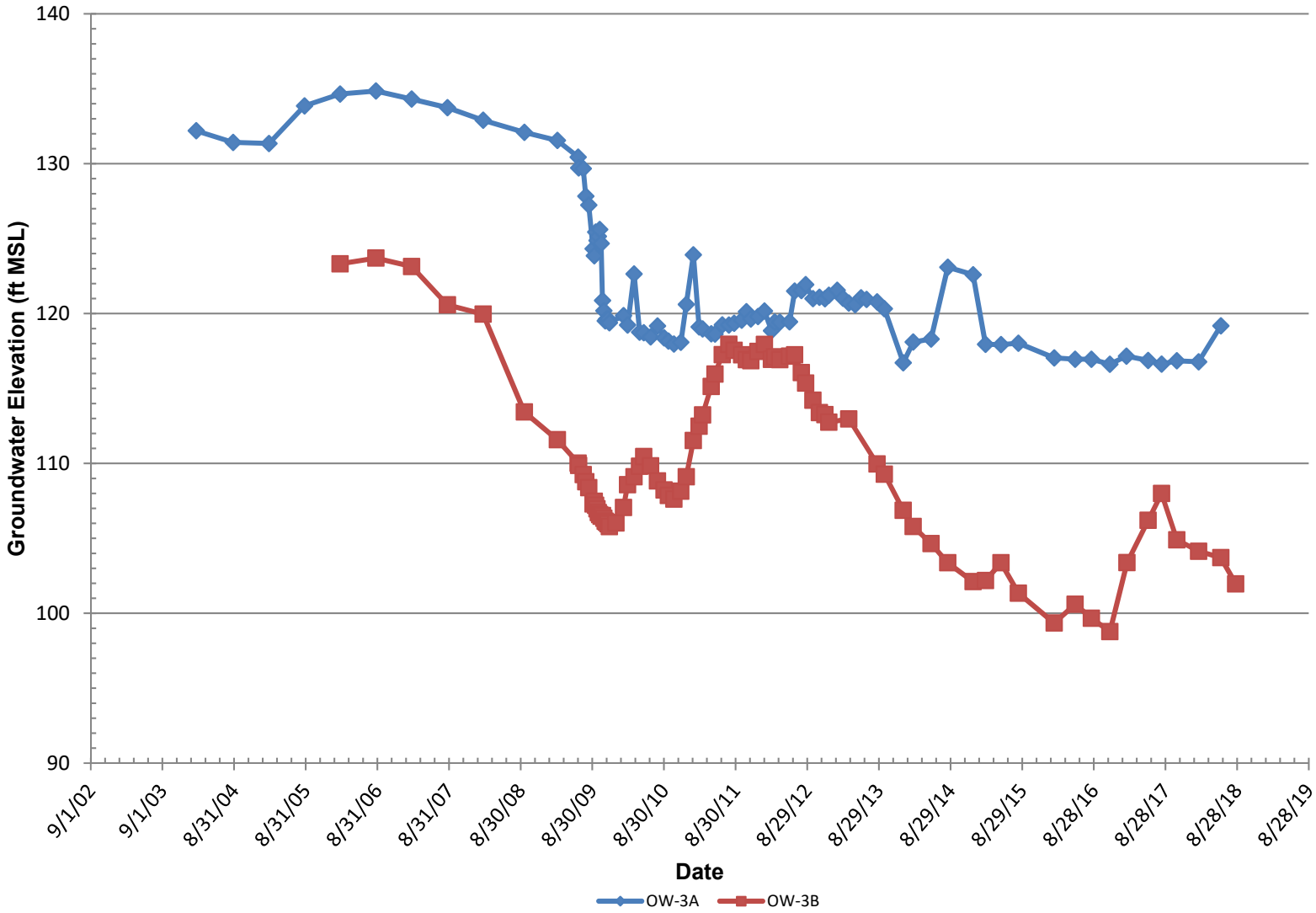
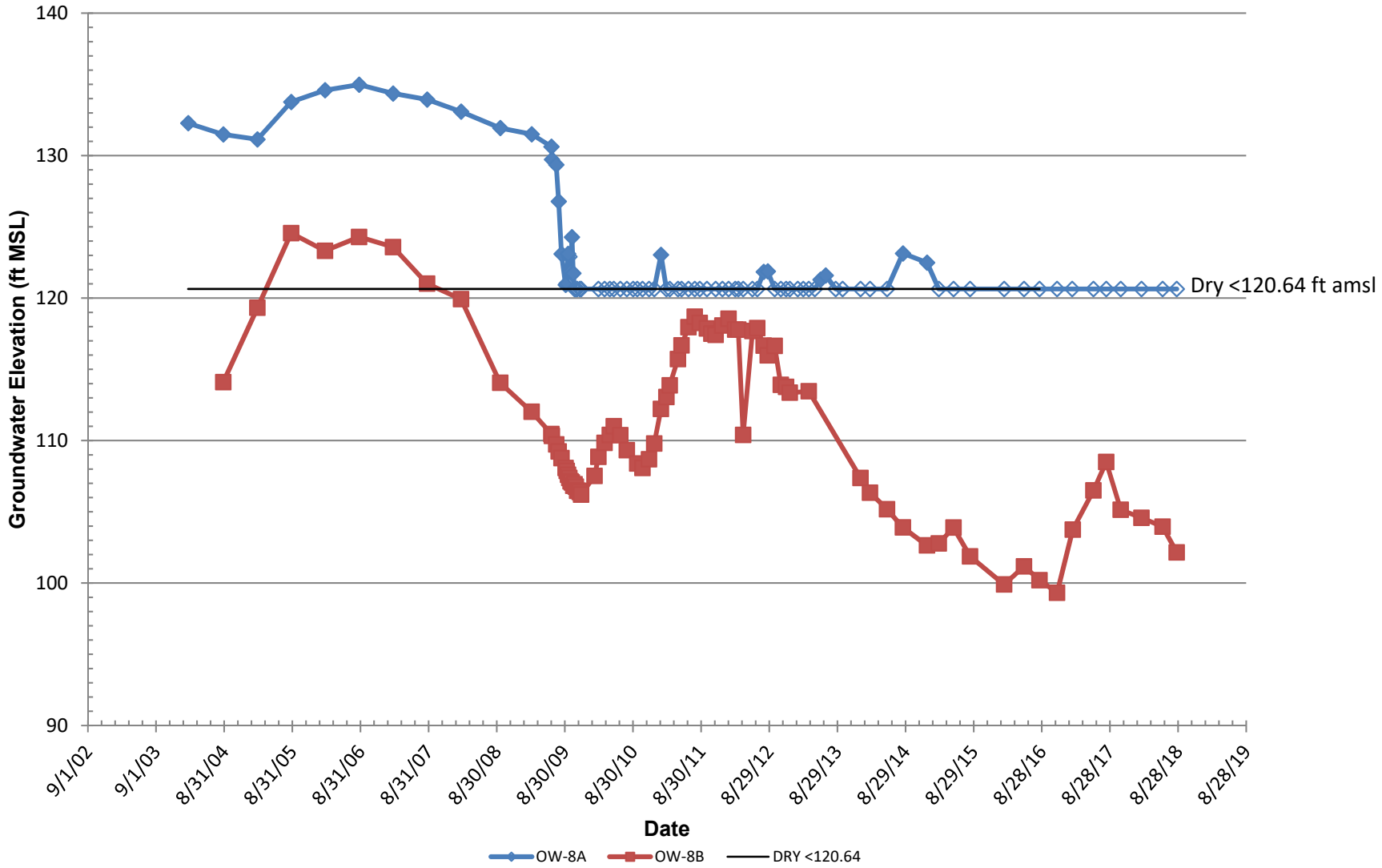


Figure A-8
Omega Chemical Superfund Site
OW-8A and OW-8B Well Hydrographs
2004 to 2018



Attachment B

PSVP Piezometric and Water Quality Data

Attachment B, Table B-1
Piezometric Monitoring Data
OU-1 Groundwater Containment Remedy, Omega Chemical Superfund Site
Third Quarter 2018

Well No.	Top of Casing Elevation (feet MSL)	Screen Interval (feet MSL)	Date	Depth To Water (feet btoc)	Groundwater Elevation (feet MSL)
EW-1	198.96	114.94 - 129.94	8/21/2018	86.38	112.58
EW-2	197.87	113.77 - 128.77	8/21/2018	84.38	113.49
EW-3	196.78	114.59 - 129.59	8/21/2018	82.88	113.90
EW-4	195.79	112.73 - 127.73	8/21/2018	80.88	114.91
EW-5	194.19	111.96 - 126.96	8/21/2018	81.45	112.74
PZ-1	200.26	112.65 - 132.65	8/23/2018	86.98	113.28
PZ-2	201.48	118.02 - 138.02	8/23/2018	Dry	Dry
PZ-3	203.72	114.40 - 134.40	8/23/2018	Dry	Dry
PZ-4	196.26	106.66 - 126.66	8/23/2018	73.32	122.94
OW1A	212.53	132.47 - 147.47	8/23/2018	Dry	Dry
OW1B	207.22	87.42 - 97.42	8/22/2018	94.58	112.64
OW2	202.33	123.23 - 143.23	8/23/2018	Dry	Dry
OW3A	198.58	116.13 - 136.13	8/22/2018	Dry	Dry
OW3B	197.38	75.79 - 85.79	8/22/2018	95.42	101.96
OW7	214.29	124.69 - 144.69	8/23/2018	Dry	Dry
OW8A	200.66	121.33 - 140.93	8/22/2018	Dry	Dry
OW8B	200.84	75.39 - 85.39	8/22/2018	98.69	102.15
OW9	198.07	108.42 - 128.42	8/23/2018	86.44	111.63
OW10	195.54	106.46 - 126.46	8/23/2018	78.48	117.06
OW12	208.42	108.97 - 128.97	8/21/2018	92.31	116.11

Notes:
Elevation data per California Coordinate System NADV88
btoc = below top of casing
Dry = No water detected, water detected below the screen interval, or water detected at or near total depth of well
MSL = mean sea level

Attachment B, Table B-2
PSVP Groundwater Analytical Summary
OU-1 Groundwater Containment Remedy, Omega Chemical Superfund Site
Third Quarter 2018

Well ID / Screen Interval[1]	Sample Date	Sample Type	PCE	TCE	1,4DIOX	1,1,1-TCA	1,1-DCE	1,2-DCA	Freon 113	Freon 11	Freon 12
EW-1 (72 - 87)	Dry - NS	Dry - NS	Dry - NS	Dry - NS	Dry - NS	Dry - NS	Dry - NS	Dry - NS	Dry - NS	Dry - NS	Dry - NS
EW-2 (72 - 87)	Dry - NS	Dry - NS	Dry - NS	Dry - NS	Dry - NS	Dry - NS	Dry - NS	Dry - NS	Dry - NS	Dry - NS	Dry - NS
EW-3 (70 - 85)	8/21/2018	ORIG	21	1.5	0.73 J-	1.0 U	2.4	1.0 U	3.6 J	0.93 J	1.0 U
EW-4 (71 - 86)	8/21/2018	ORIG	23	2.8	0.35 J-	1.0 U	23	1.0 U	14	8.9	1.0 U
EW-5 (70 - 85)	8/21/2018	ORIG	21	2.6	0.13 J-	1.0 U	19	1.0 U	74	47	1.0 U
OW1A (62.5 - 77.5)	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry
OW1B (110 - 120)	8/23/2018	ORIG	8.0	1.0 U	0.53 J,N	1.0 U	1.0 U	1.0 U	4.6 J	1.6	1.0 UJ
OW2 (60 - 80)	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry
OW3A (63 - 83)	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry
OW3B (112 - 122)	8/22/2018	ORIG	9.2	1.0 U	0.49 UJ	1.0 U	1.0 U	1.0 U	5.0 U	1.0 U	1.0 U
OW7 (70.9 - 90.9)	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry
OW8A (60.4 - 80)	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry
OW8B (116 - 126)	8/22/2018	ORIG	23	1.0 U	0.49 UJ	1.0 U	1.0 U	1.0 U	0.60 J	1.0 U	1.0 U
OW9 (70 - 90)	8/23/2018	ORIG	4000	200	780 J-	5.0 U	310	78	130	57	5.0 UJ
	8/23/2018	DUP	4100	180	700 J-	5.0 U	270	72	100	48	5.0 UJ
OW10 (69.5 - 89.5)	8/23/2018	ORIG	19	1.4	0.12 J-	1.0 U	11	1.0 U	1.6 J	1.4	1.0 UJ
OW12 (80 - 100)	8/21/2018	ORIG	2400	540	6.4 J-	93	210	11	1900	120	5.0 U

Notes:

1. The screen interval units are feet below top of casing.

All results are in micrograms per liter (ug/L)

U = not detected above reporting limit listed

UJ = analyte was not detected. The reported quantitation limit is approximate and may be inaccurate or imprecise.

J = results are qualified as estimated

J- = result is an estimated quantity, but the result may be biased low.

J,N = quantitatively estimated and presumptively present

See data validation report in Attachment E.

PCE = Tetrachloroethene; TCE = Trichloroethene; TCA = Trichloroethane; DCE = Dichloroethene;

Freon 113 = 1,1,2-Trichloro-1,2,2-trifluoroethane; Freon 11 = Trichlorofluoromethane;

Freon 12 = Dichlorodifluoromethane; DCA = Dichloroethane; 1,4DIOX = 1,4-dioxane

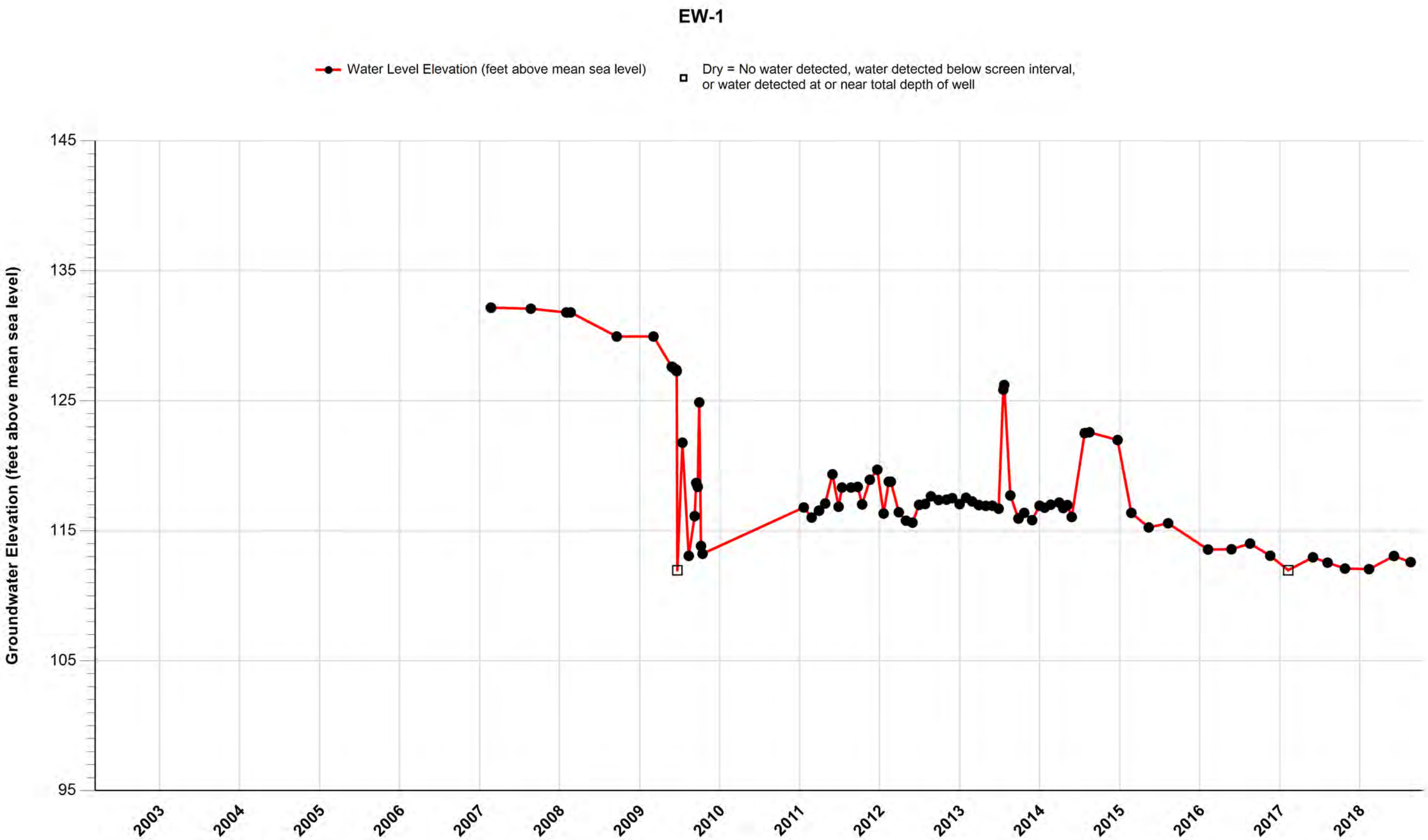
Dry = No water detected, water detected below the screen interval, or water detected at or near total depth of well

Dry - NS = insufficient water to sample

ORIG = primary sample

DUP = duplicate sample

Attachment B, Figure B-1
OU-1 Groundwater Containment Remedy, Omega Chemical Superfund Site
PSVP Piezometric Data



Attachment B, Figure B-2
OU-1 Groundwater Containment Remedy, Omega Chemical Superfund Site
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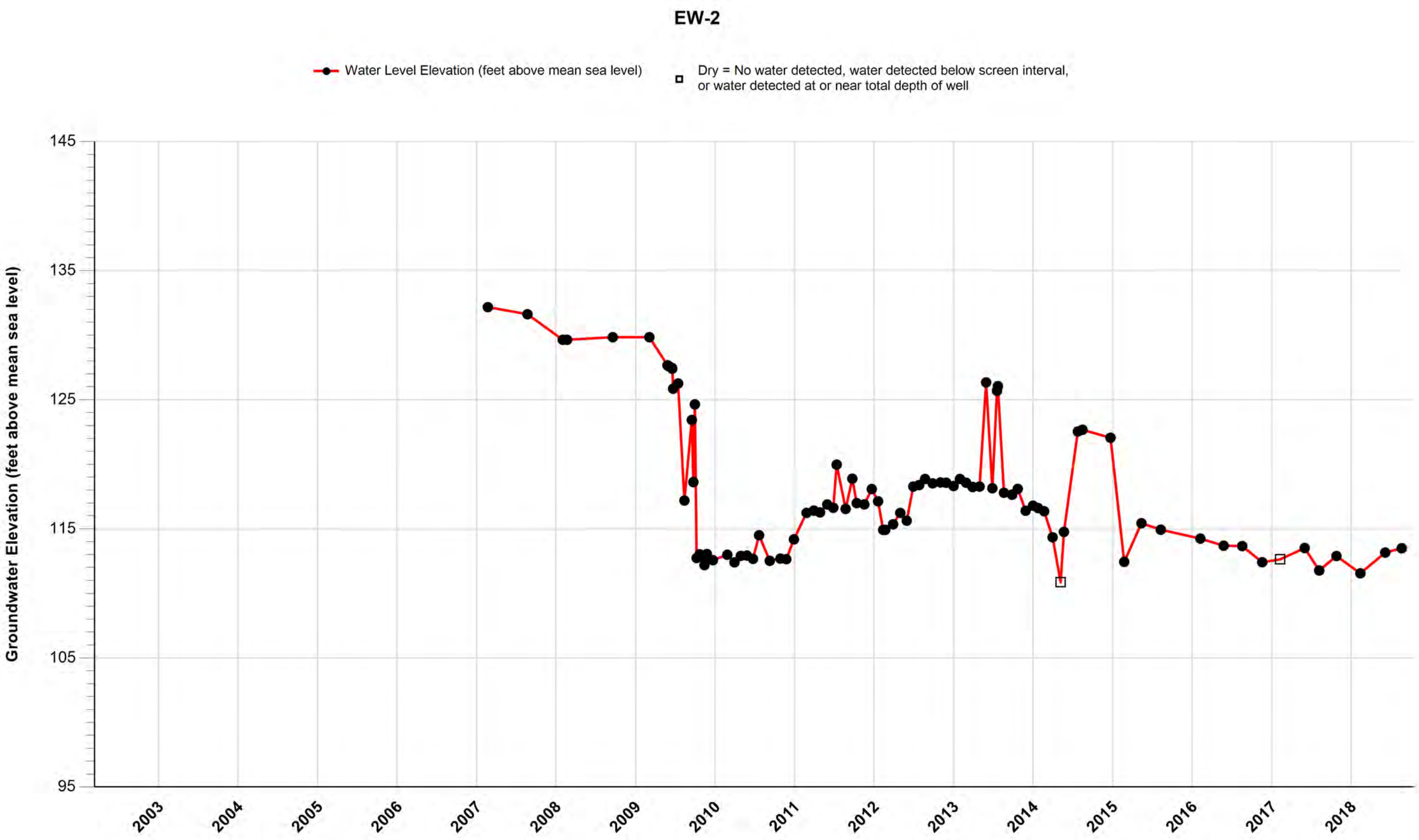

Attachment B, Figure B-3
OU-1 Groundwater Containment Remedy, Omega Chemical Superfund Site
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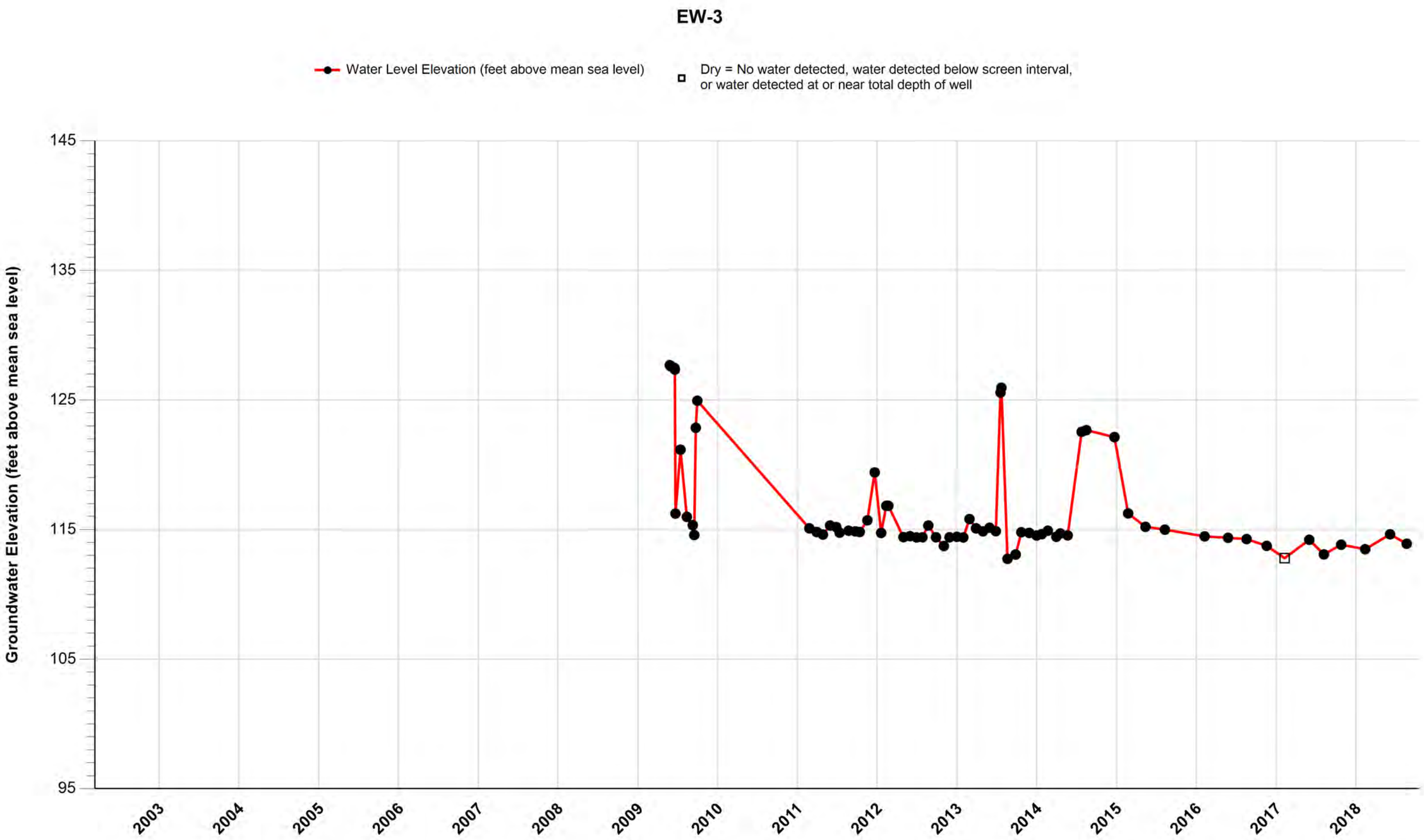

Attachment B, Figure B-4
OU-1 Groundwater Containment Remedy, Omega Chemical Superfund Site
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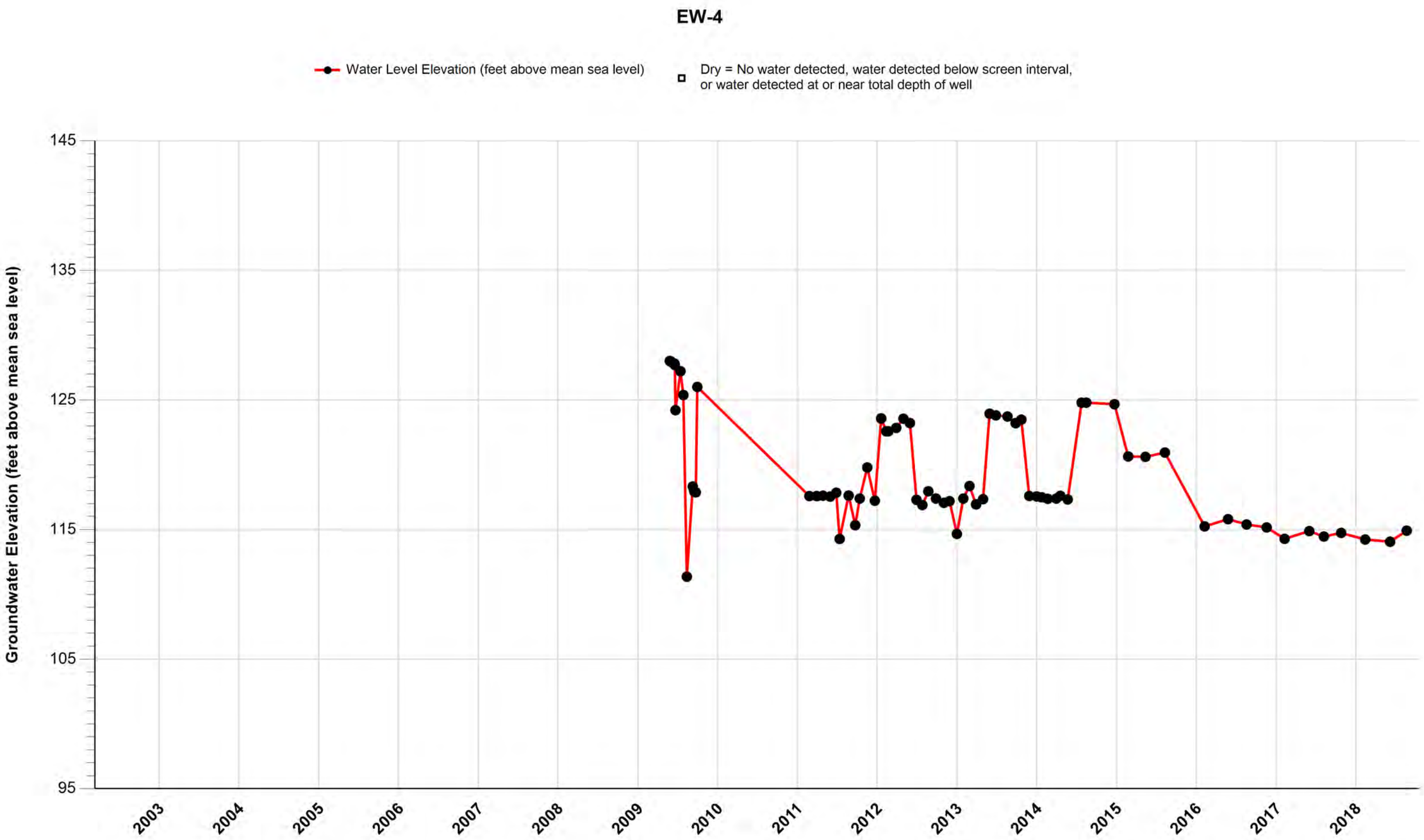

Attachment B, Figure B-5
OU-1 Groundwater Containment Remedy, Omega Chemical Superfund Site
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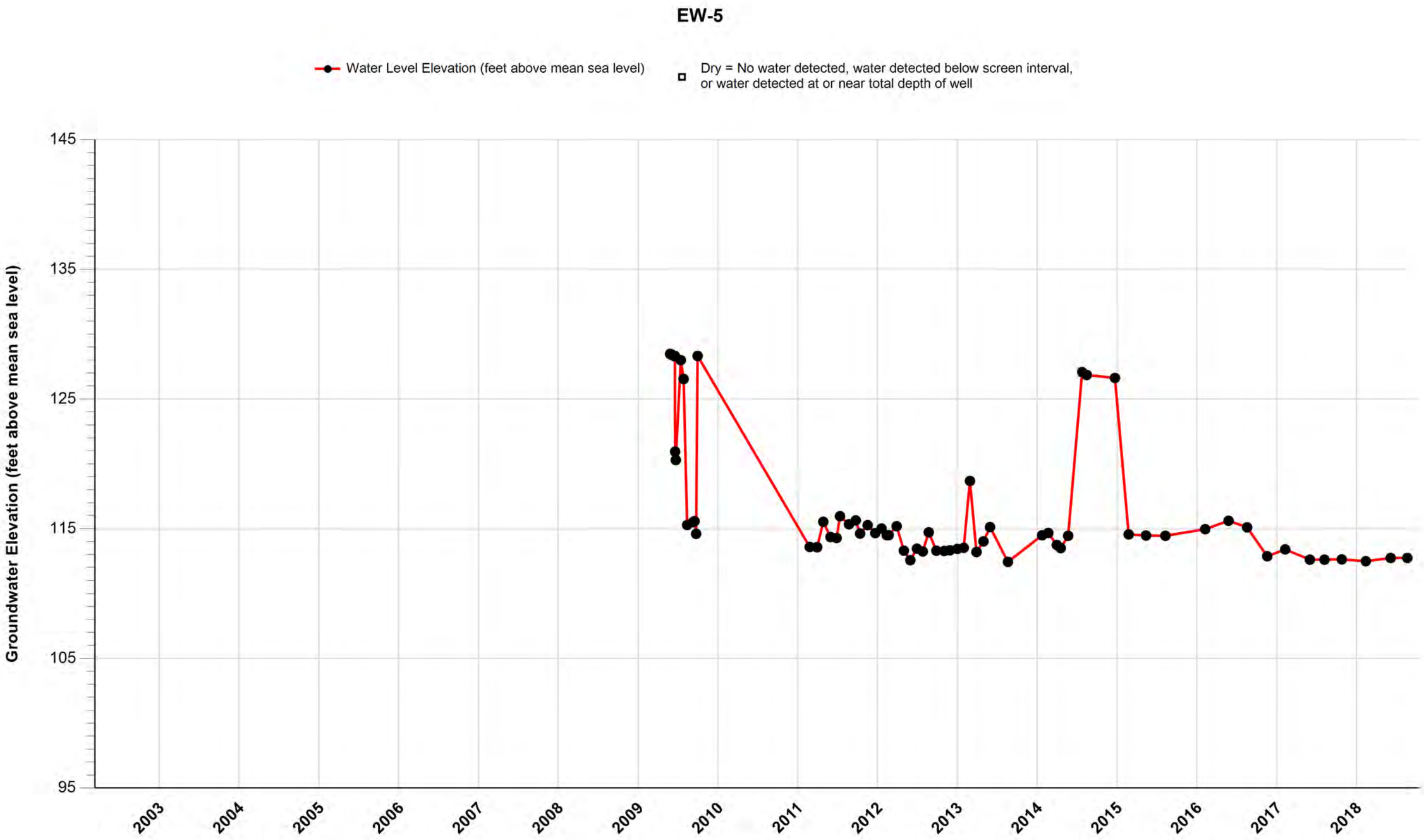
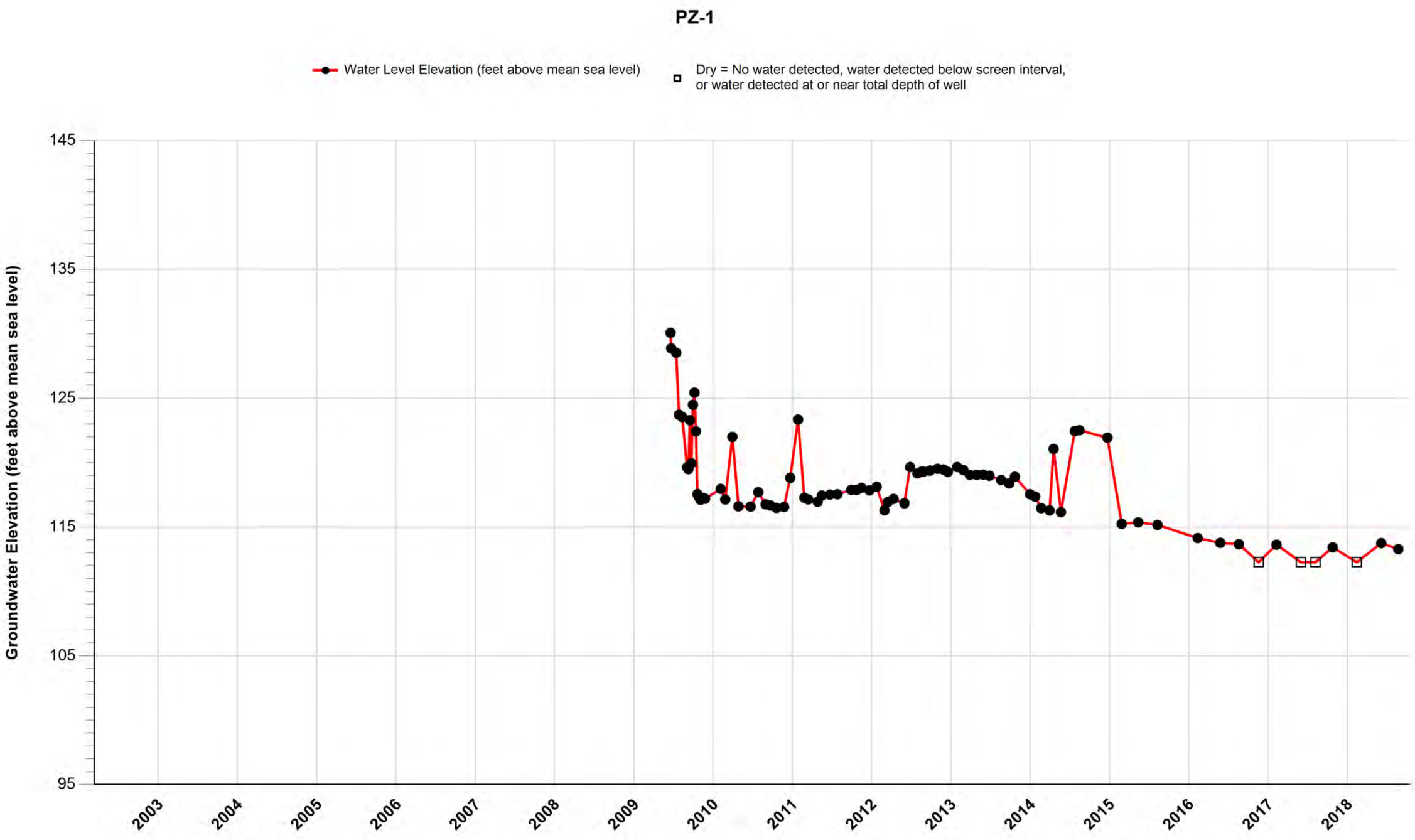


Attachment B, Figure B-6
OU-1 Groundwater Containment Remedy, Omega Chemical Superfund Site
PSVP Piezometric Data



Attachment B, Figure B-7
OU-1 Groundwater Containment Remedy, Omega Chemical Superfund Site
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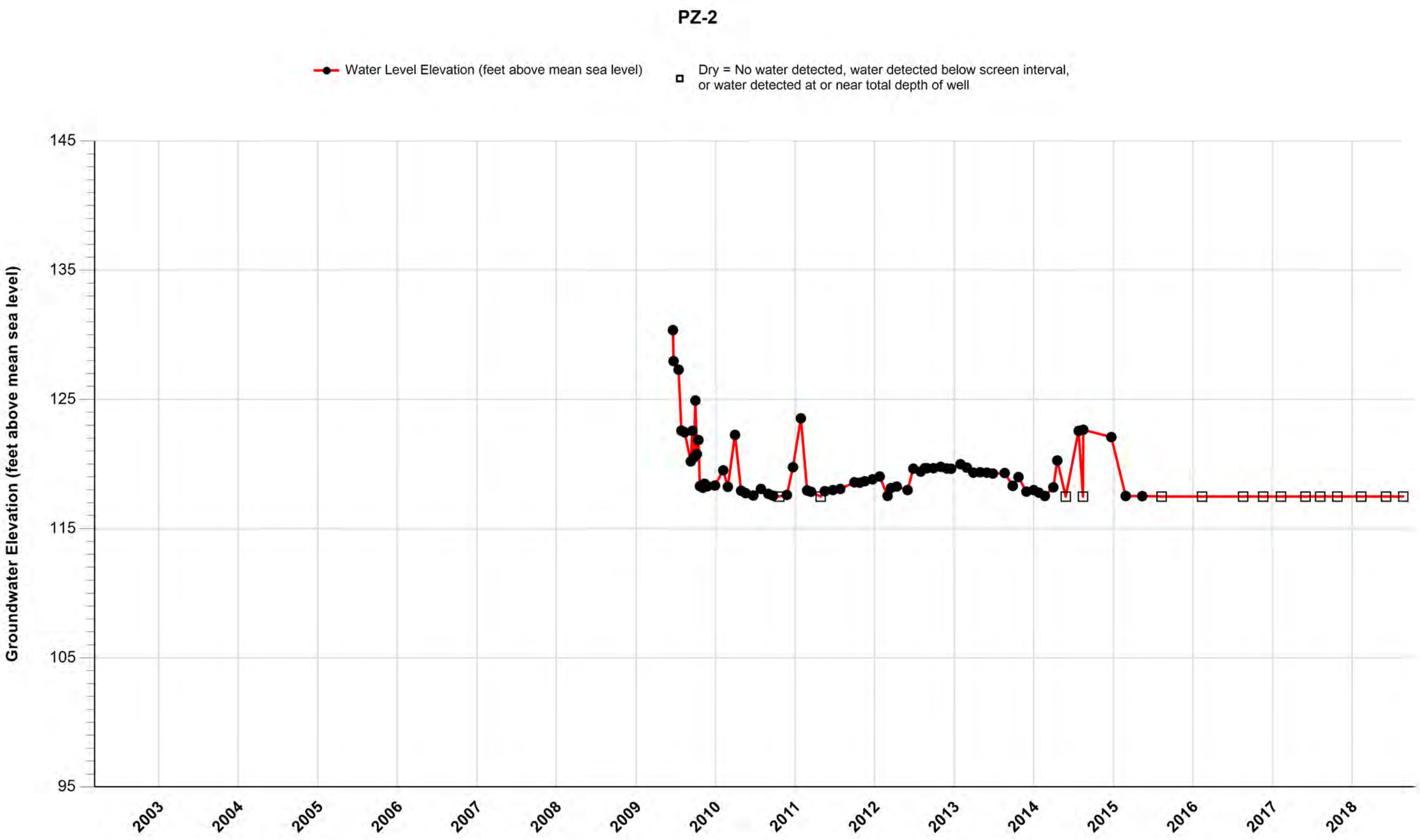
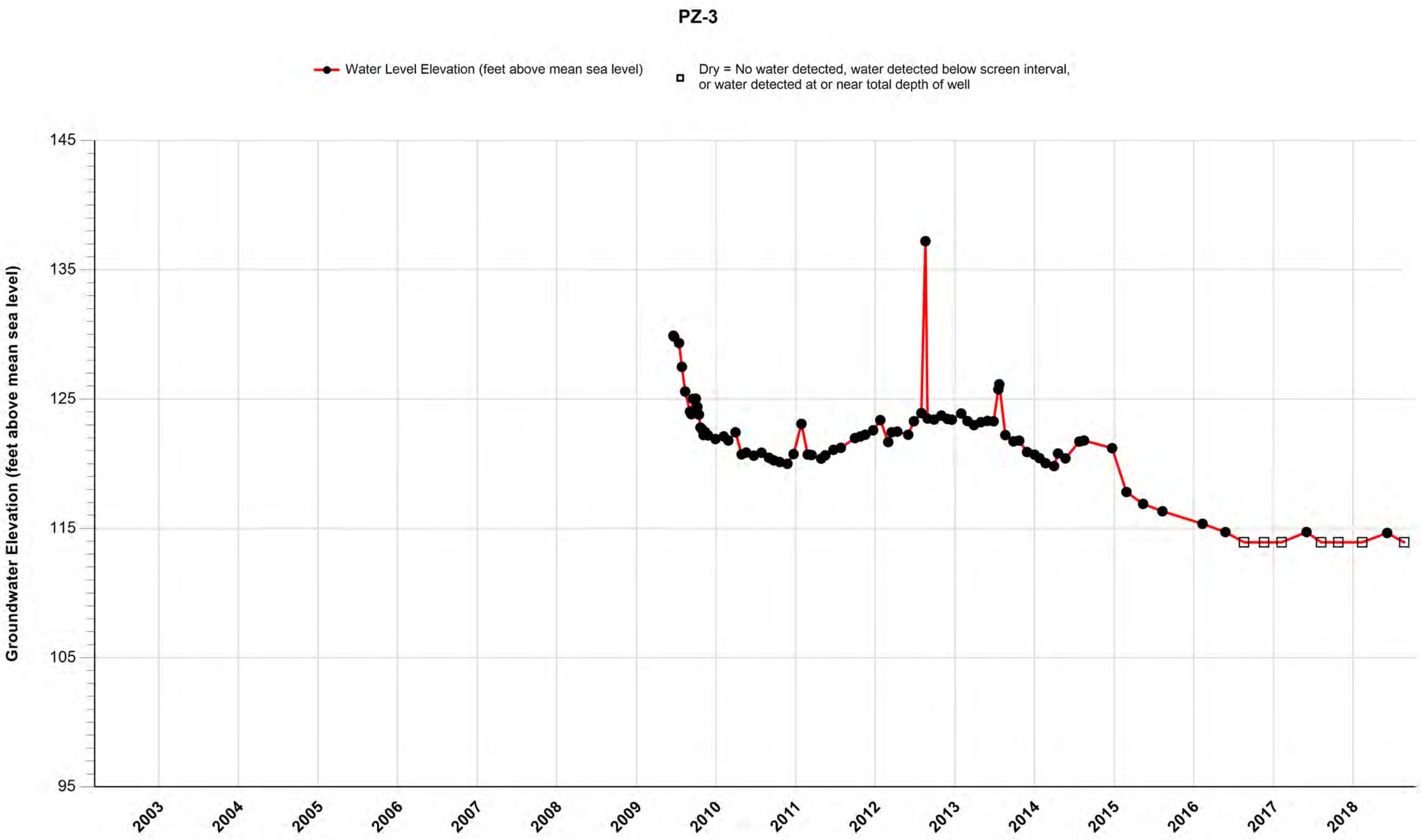


Attachment B, Figure B-8
OU-1 Groundwater Containment Remedy, Omega Chemical Superfund Site
PSVP Piezometric Data



Attachment B, Figure B-9
OU-1 Groundwater Containment Remedy, Omega Chemical Superfund Site
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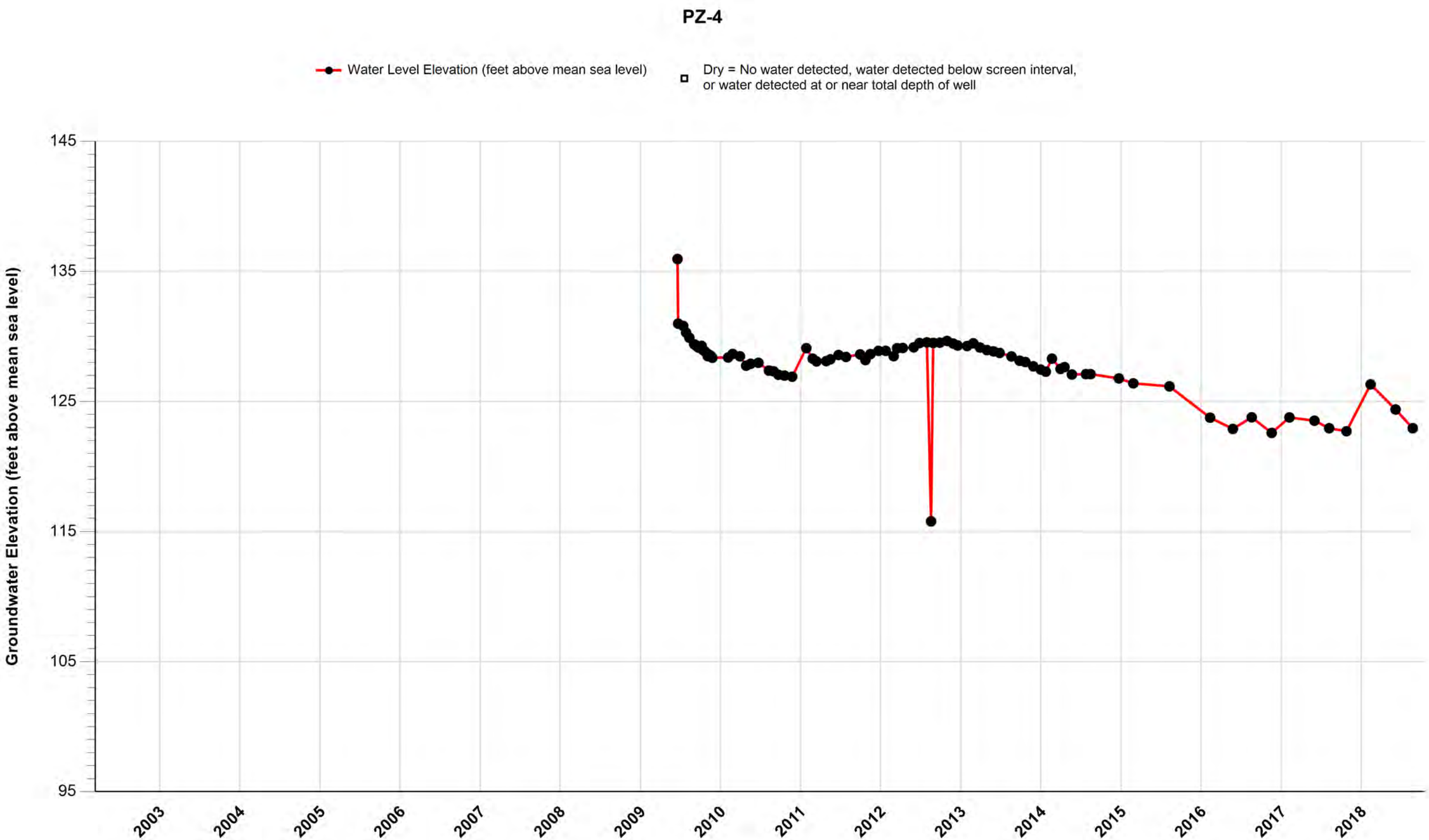

Attachment B, Figure B-10
OU-1 Groundwater Containment Remedy, Omega Chemical Superfund Site
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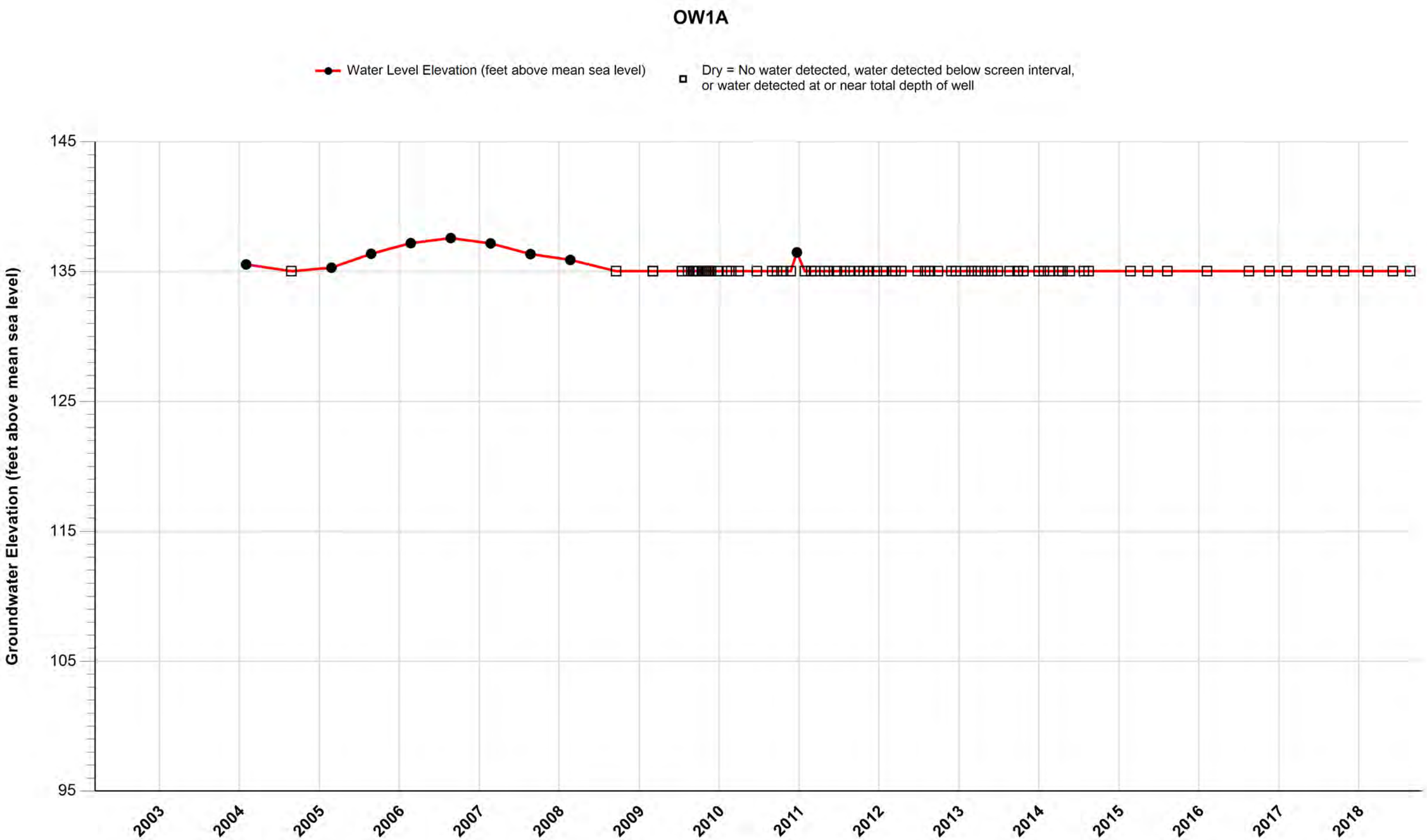
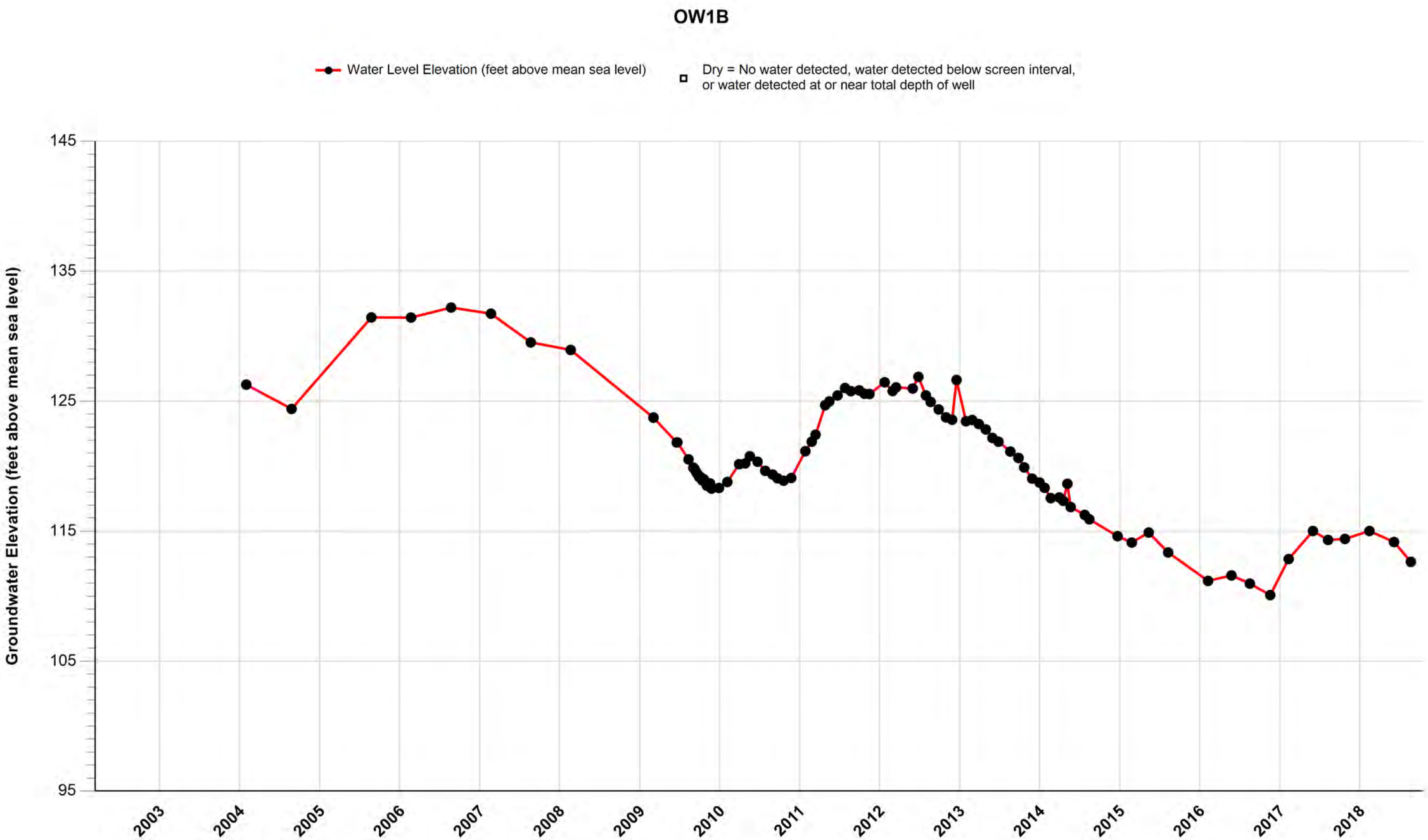
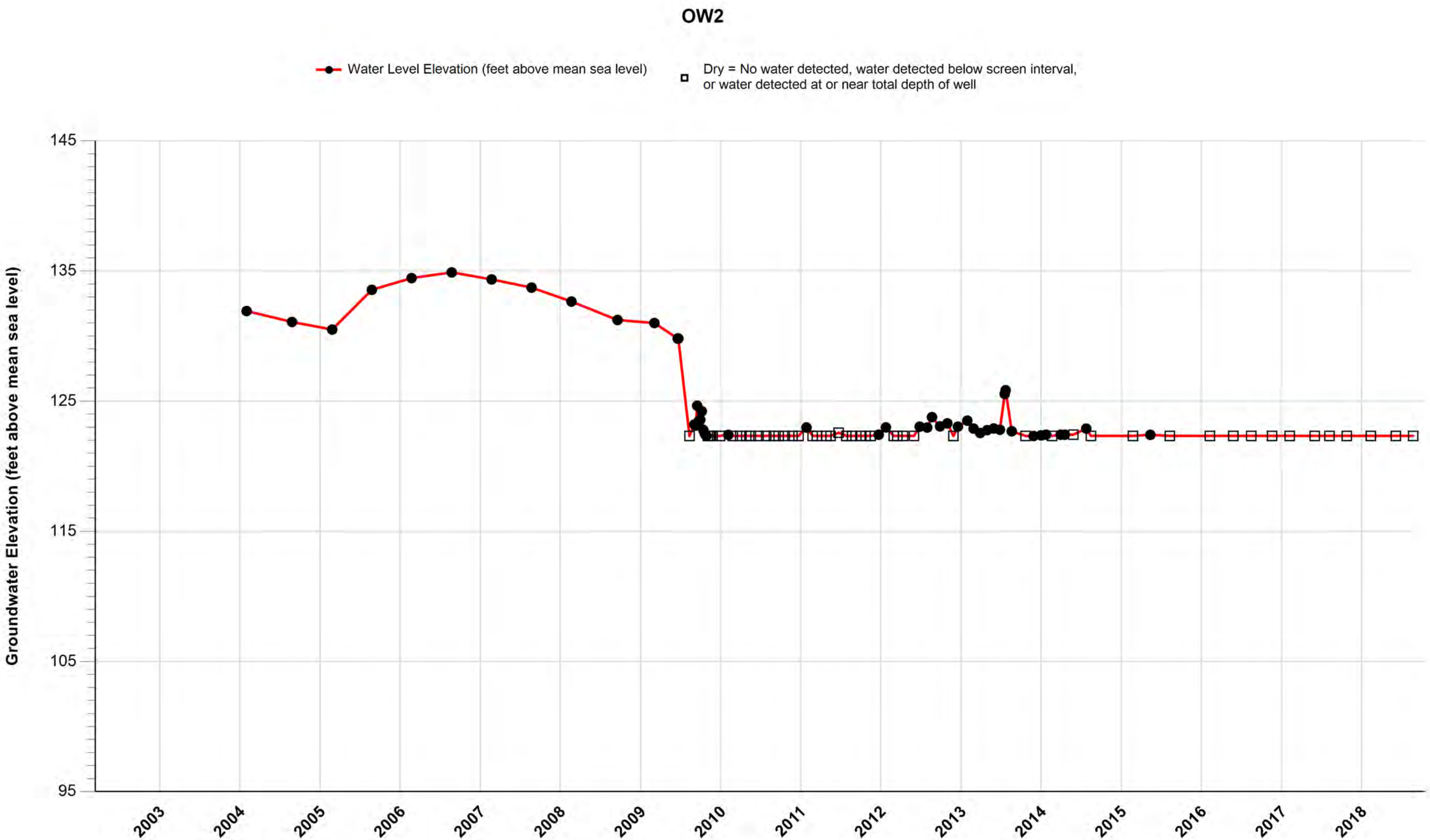


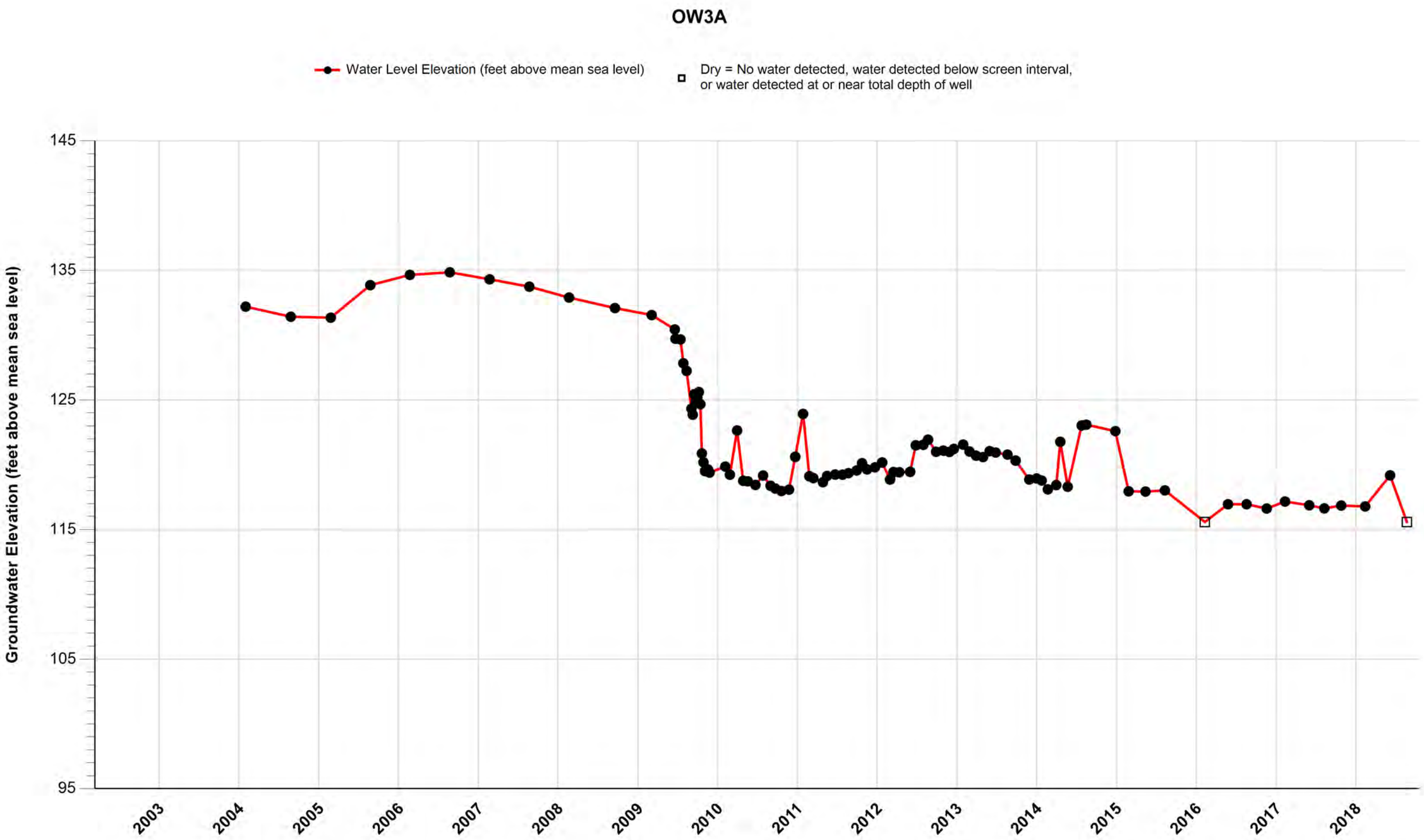
Attachment B, Figure B-11
OU-1 Groundwater Containment Remedy, Omega Chemical Superfund Site
PSVP Piezometric Data



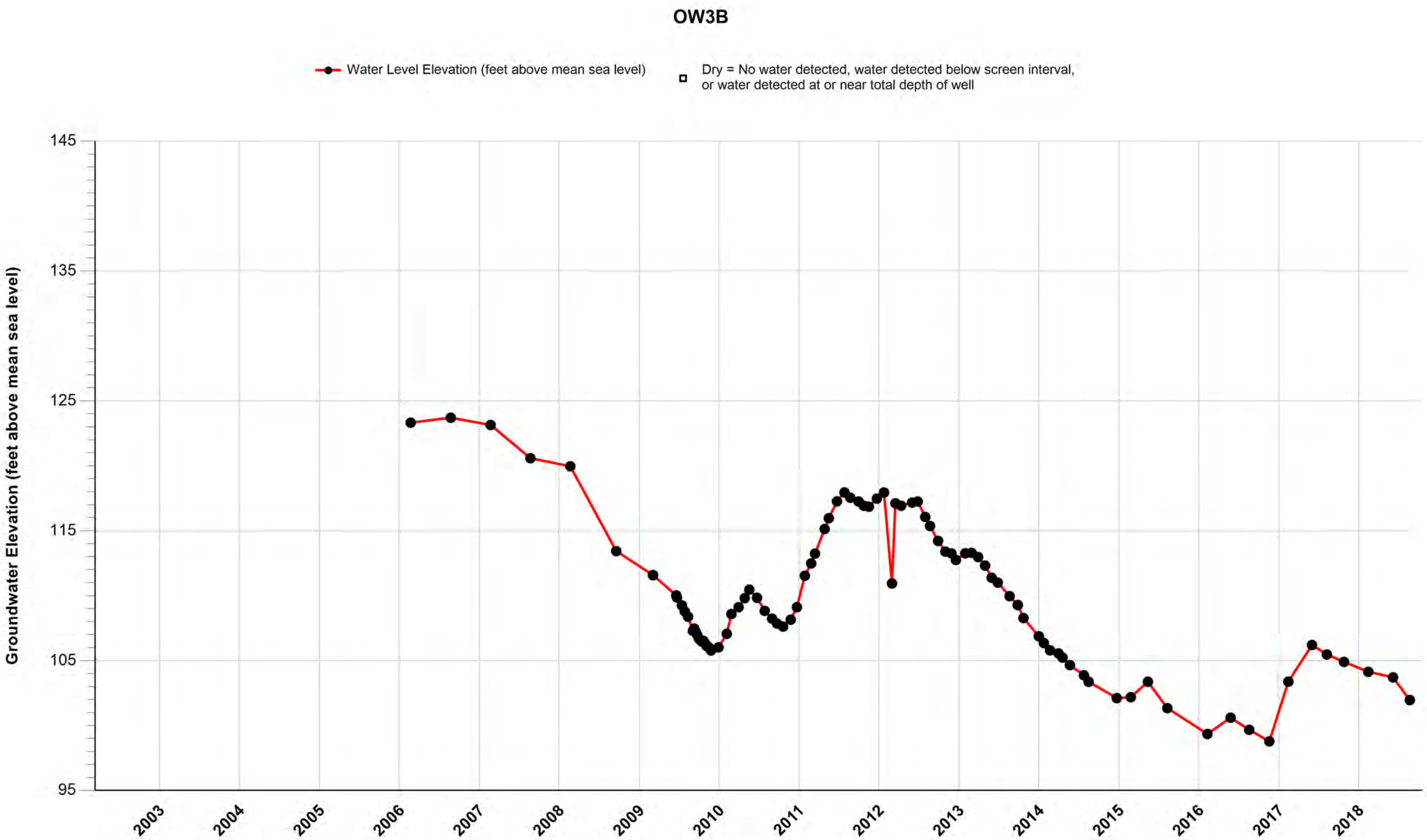
Attachment B, Figure B-12
OU-1 Groundwater Containment Remedy, Omega Chemical Superfund Site
PSVP Piezometric Data



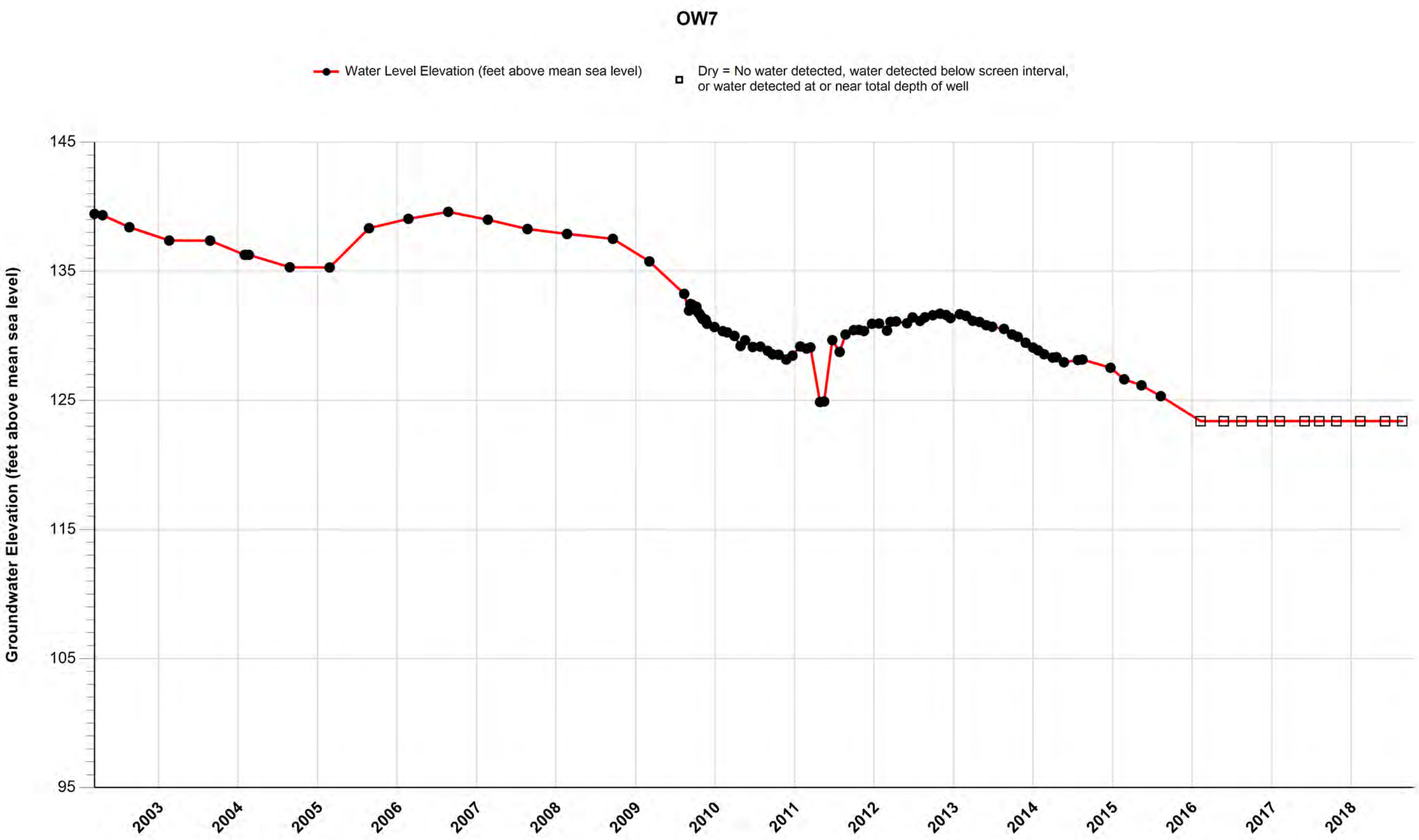
Attachment B, Figure B-13
OU-1 Groundwater Containment Remedy, Omega Chemical Superfund Site
PSVP Piezometric Data



Attachment B, Figure B-14
OU-1 Groundwater Containment Remedy, Omega Chemical Superfund Site
PSVP Piezometric Data



Attachment B, Figure B-15
OU-1 Groundwater Containment Remedy, Omega Chemical Superfund Site
PSVP Piezometric Data



Attachment B, Figure B-16
OU-1 Groundwater Containment Remedy, Omega Chemical Superfund Site
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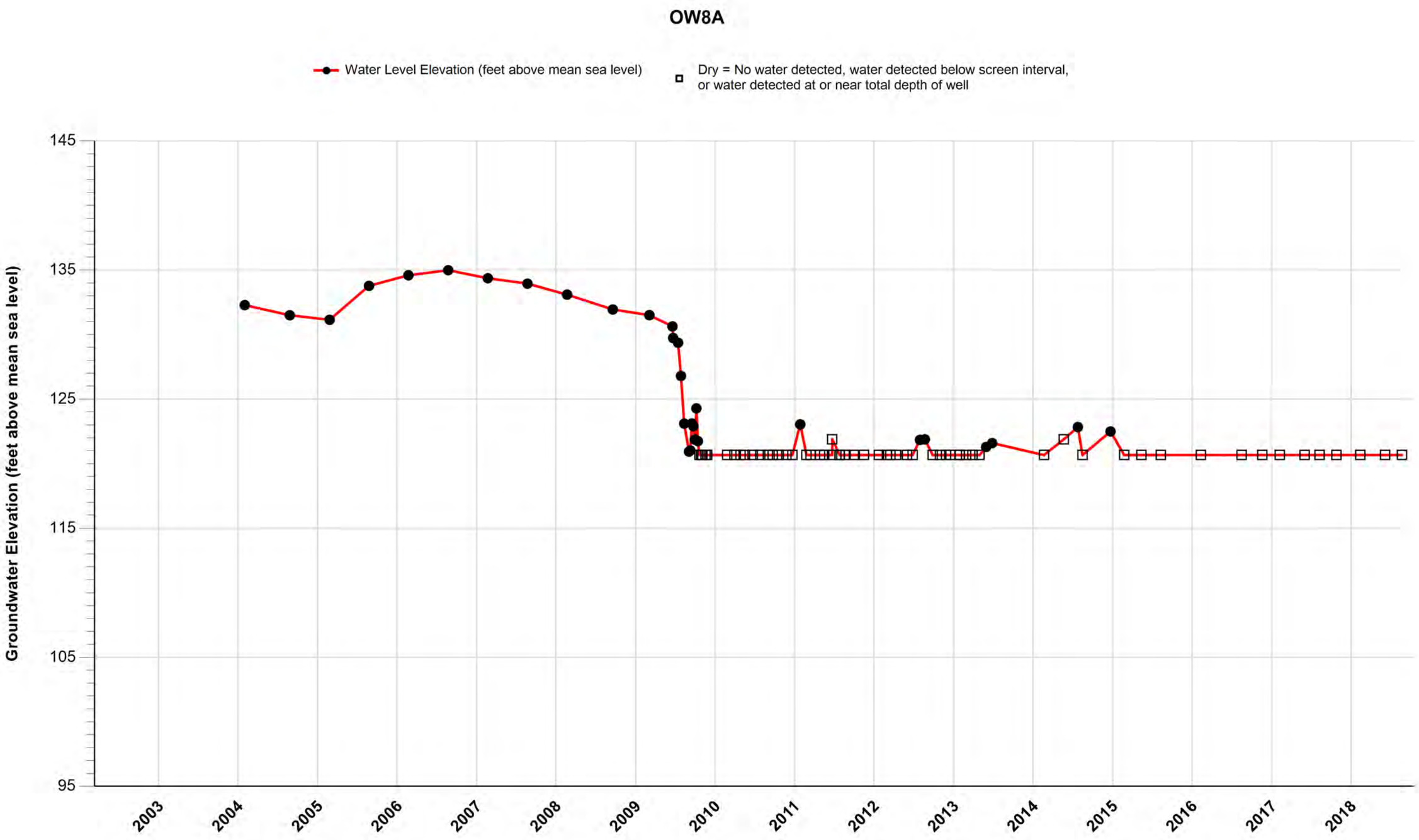
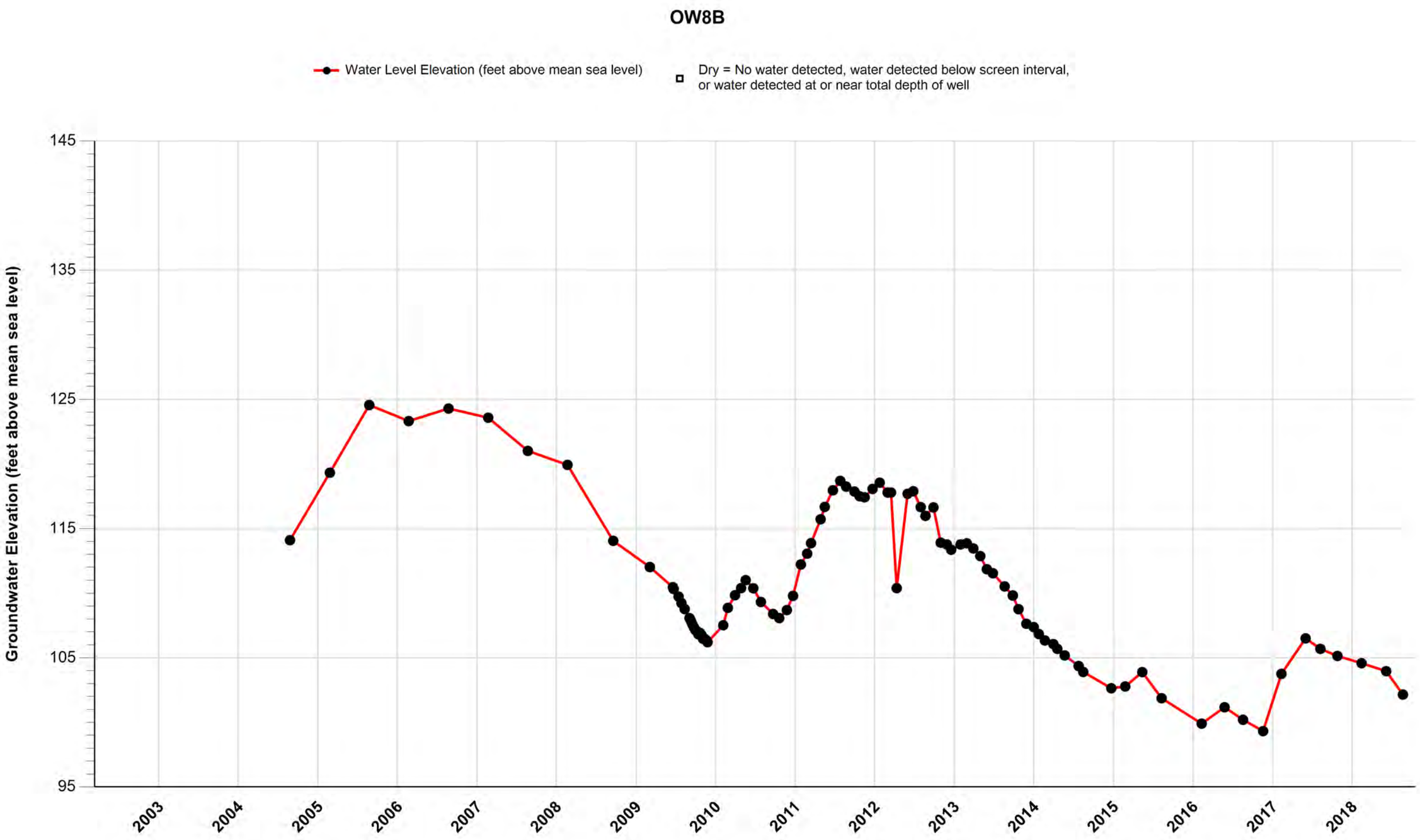


Attachment B, Figure B-17
OU-1 Groundwater Containment Remedy, Omega Chemical Superfund Site
PSVP Piezometric Data



Attachment B, Figure B-18
OU-1 Groundwater Containment Remedy, Omega Chemical Superfund Site
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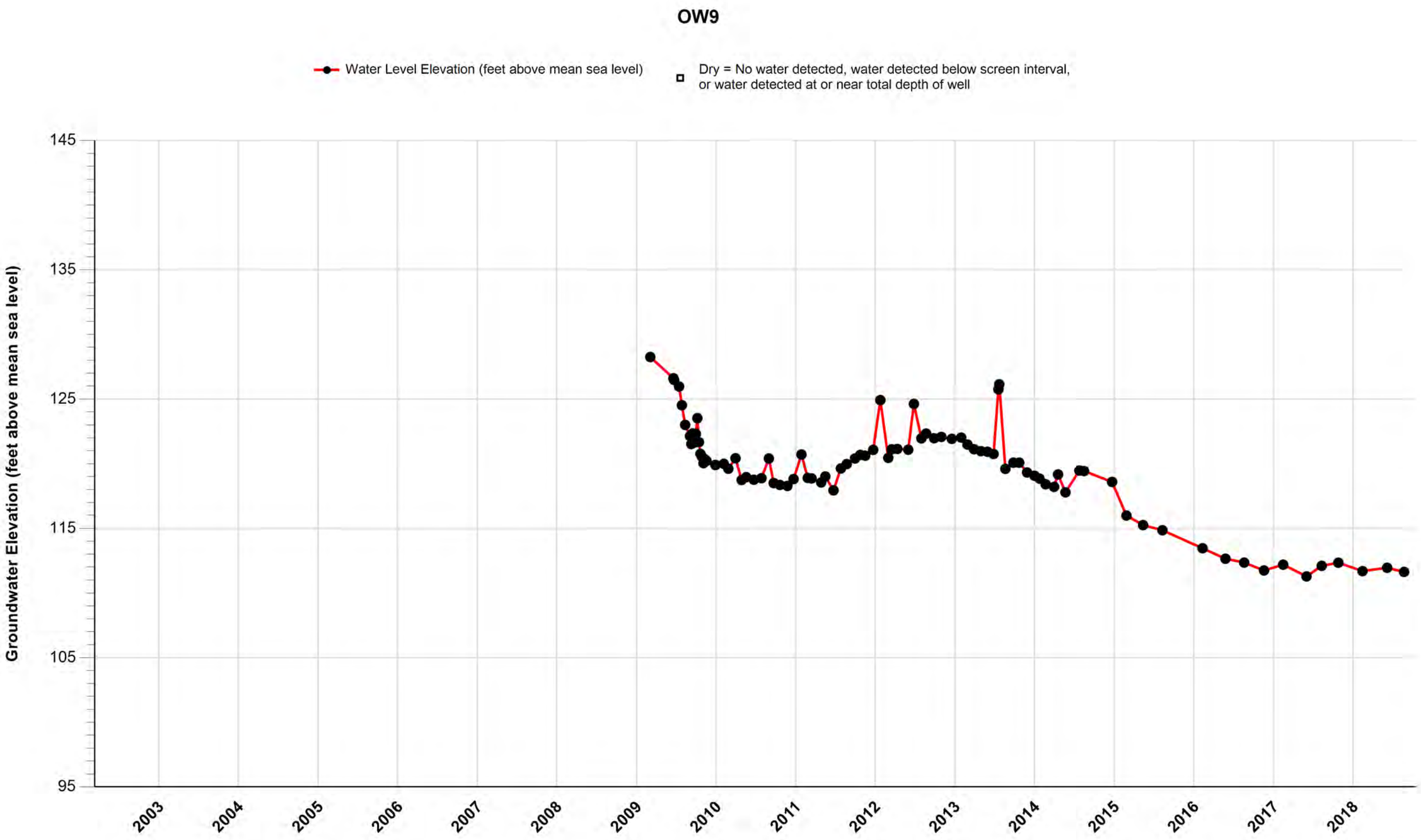

Attachment B, Figure B-19
OU-1 Groundwater Containment Remedy, Omega Chemical Superfund Site
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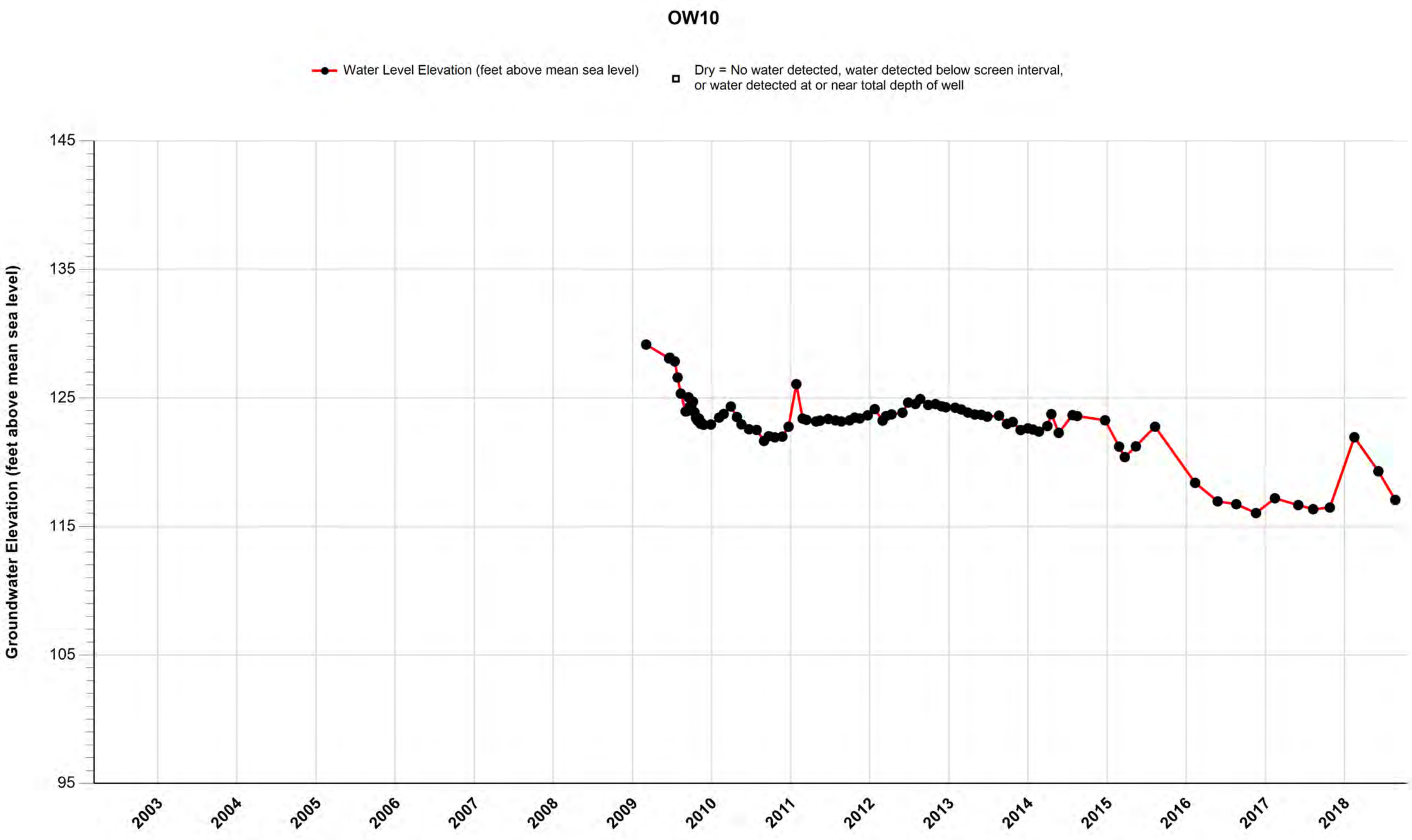
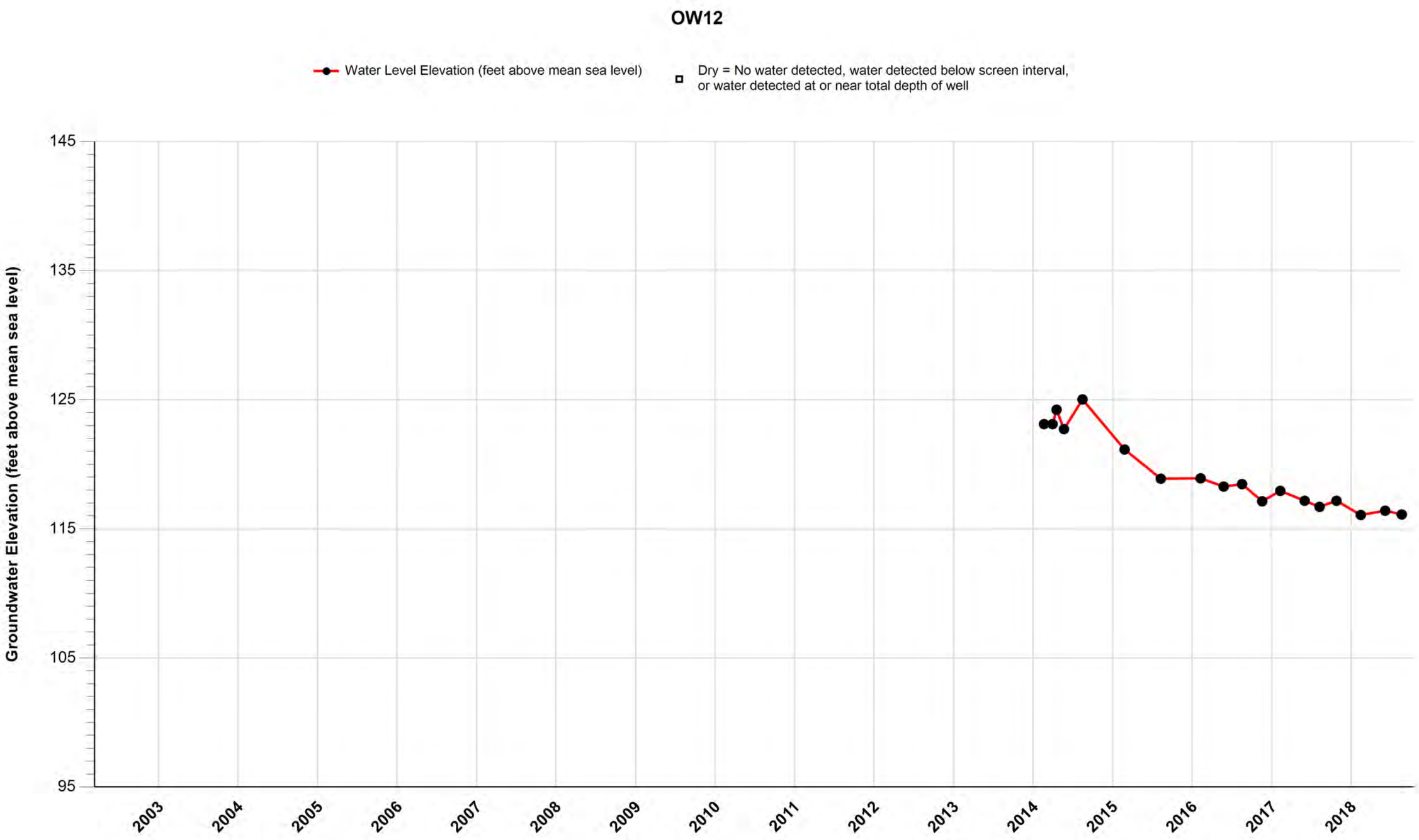
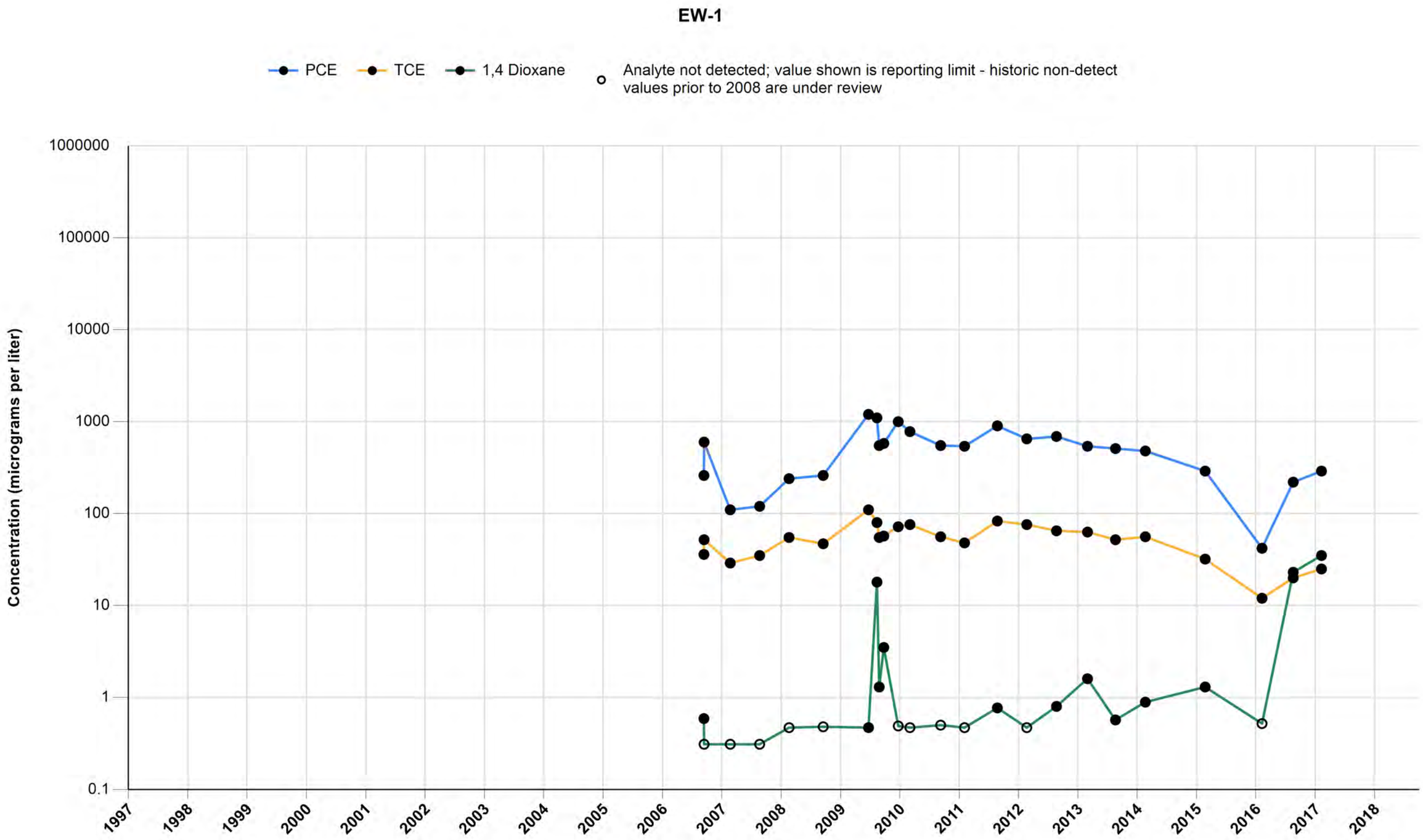


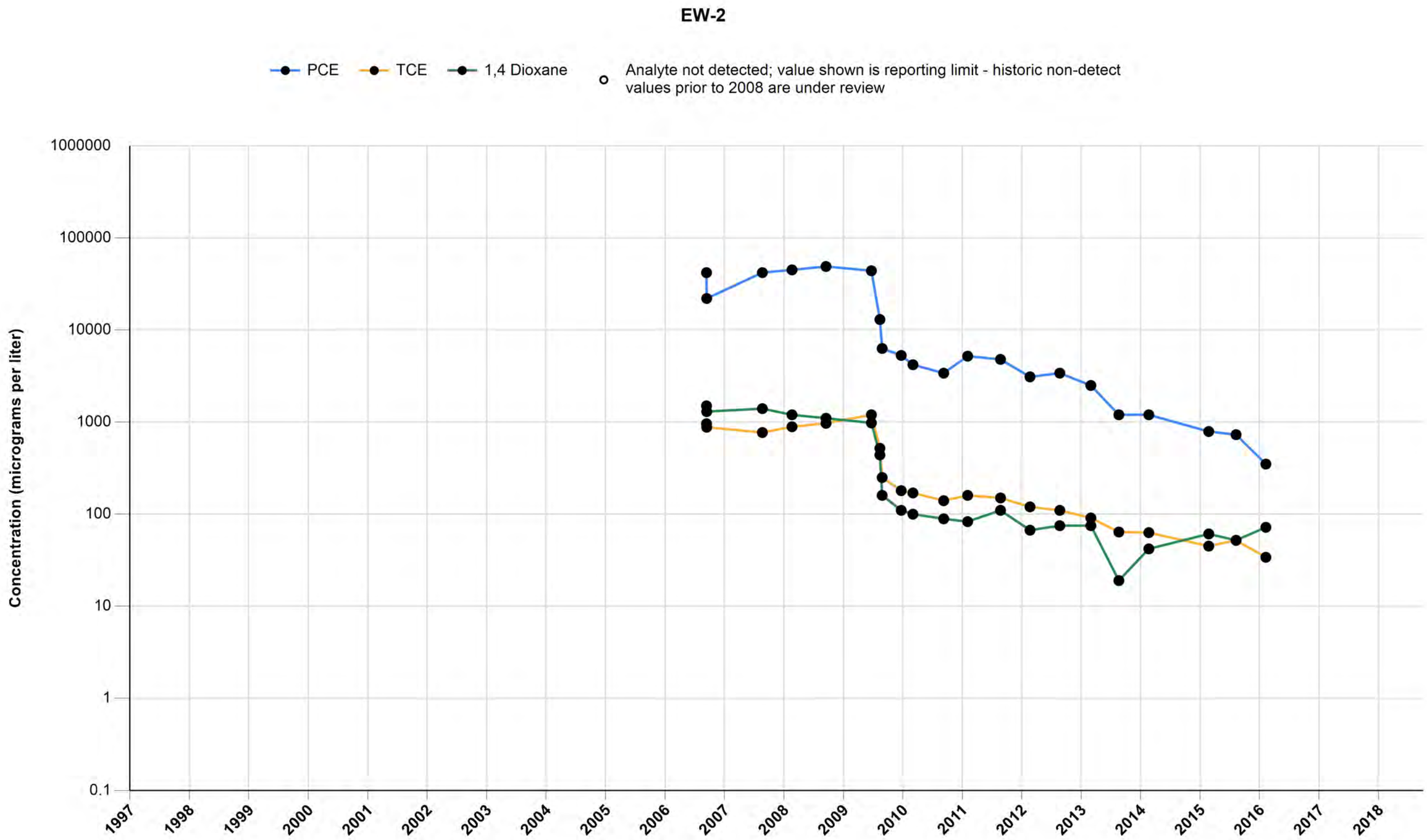
Attachment B, Figure B-20
OU-1 Groundwater Containment Remedy, Omega Chemical Superfund Site
PSVP Piezometric Data



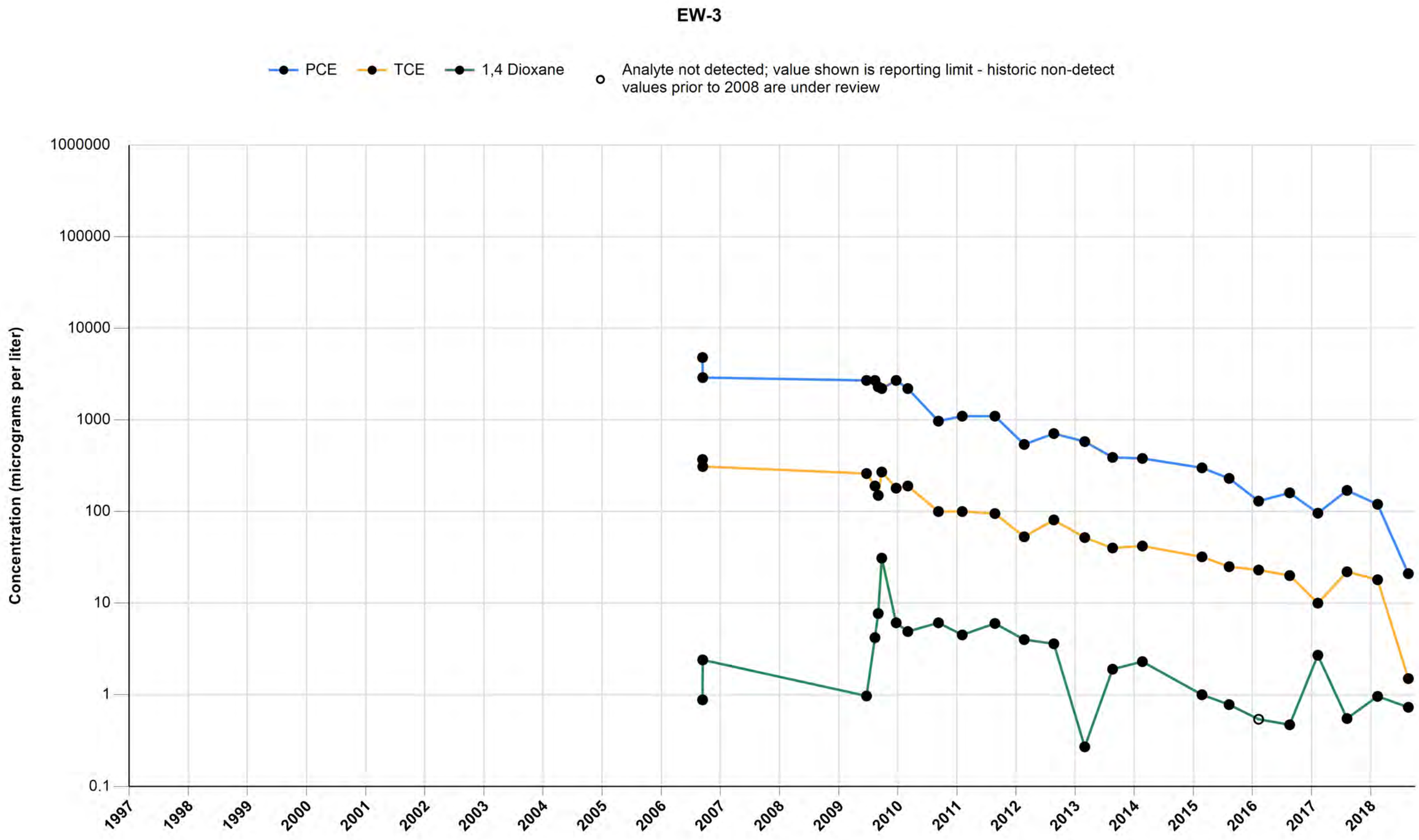
Attachment B, Figure B-21
OU-1 Groundwater Containment Remedy, Omega Chemical Superfund Site
Groundwater Analytical (PCE, TCE and 1,4-Dioxane)



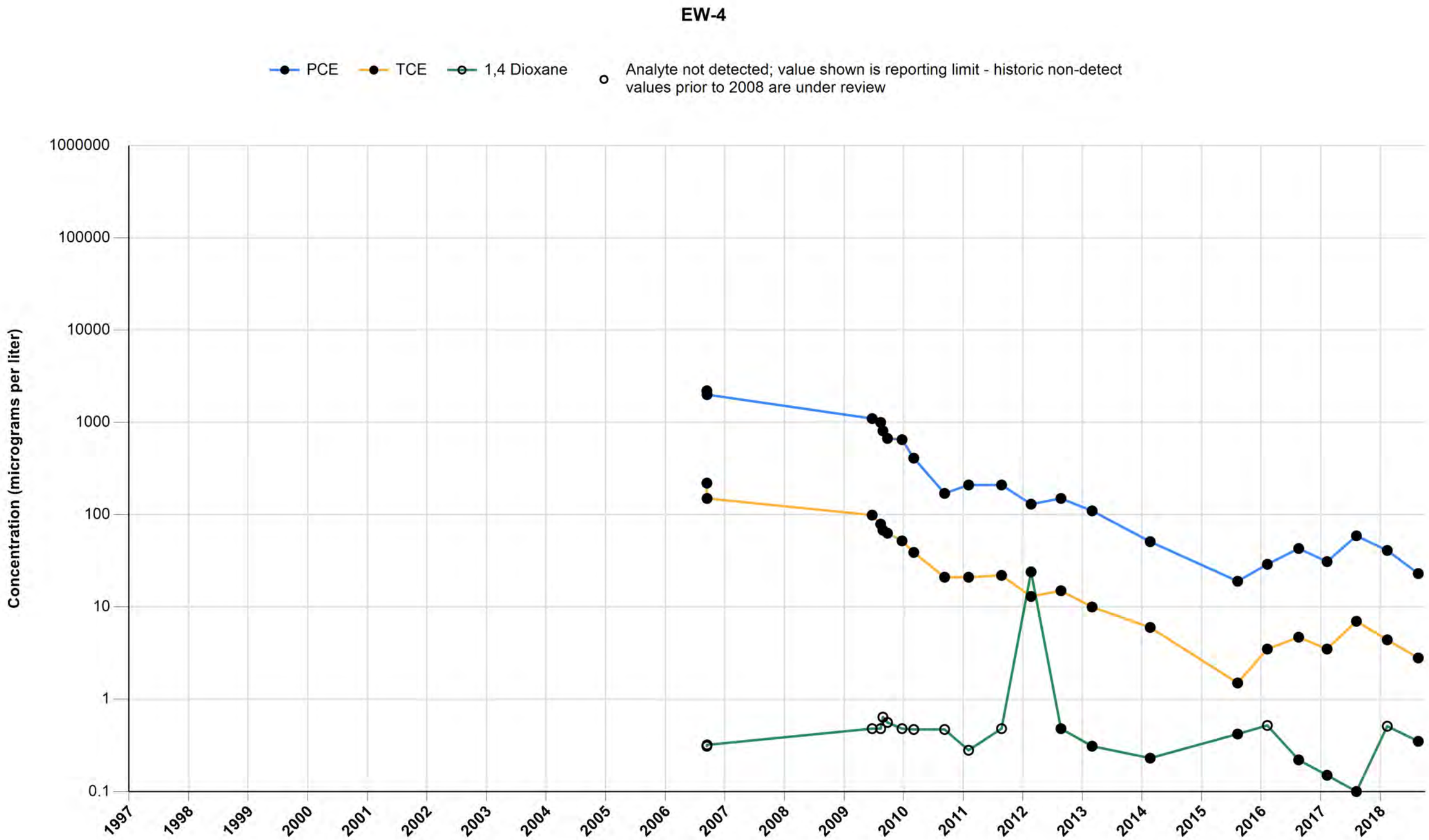
Attachment B, Figure B-22
OU-1 Groundwater Containment Remedy, Omega Chemical Superfund Site
Groundwater Analytical (PCE, TCE and 1,4-Dioxane)



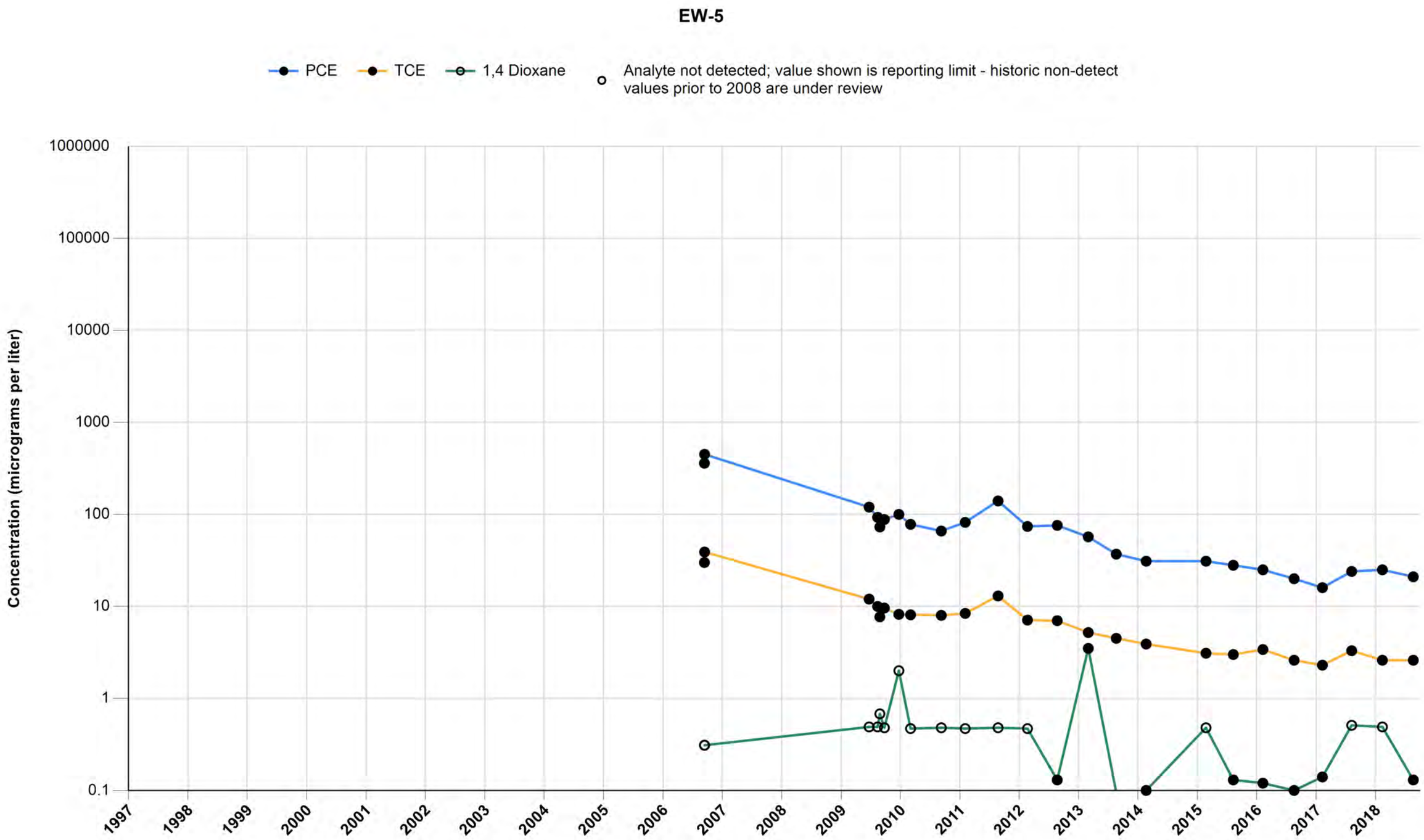
Attachment B, Figure B-23
OU-1 Groundwater Containment Remedy, Omega Chemical Superfund Site
Groundwater Analytical (PCE, TCE and 1,4-Dioxane)



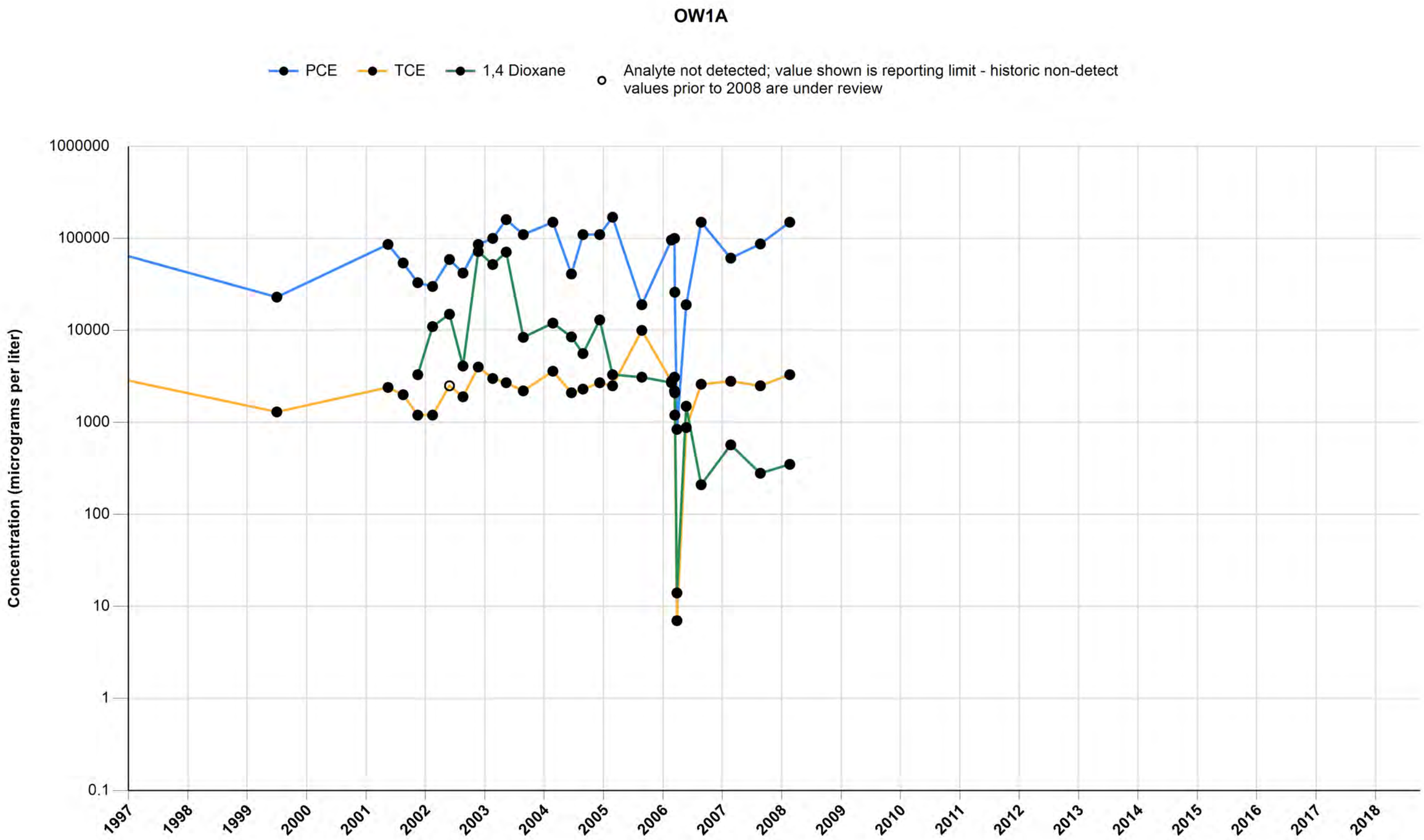
Attachment B, Figure B-24
OU-1 Groundwater Containment Remedy, Omega Chemical Superfund Site
Groundwater Analytical (PCE, TCE and 1,4-Dioxane)



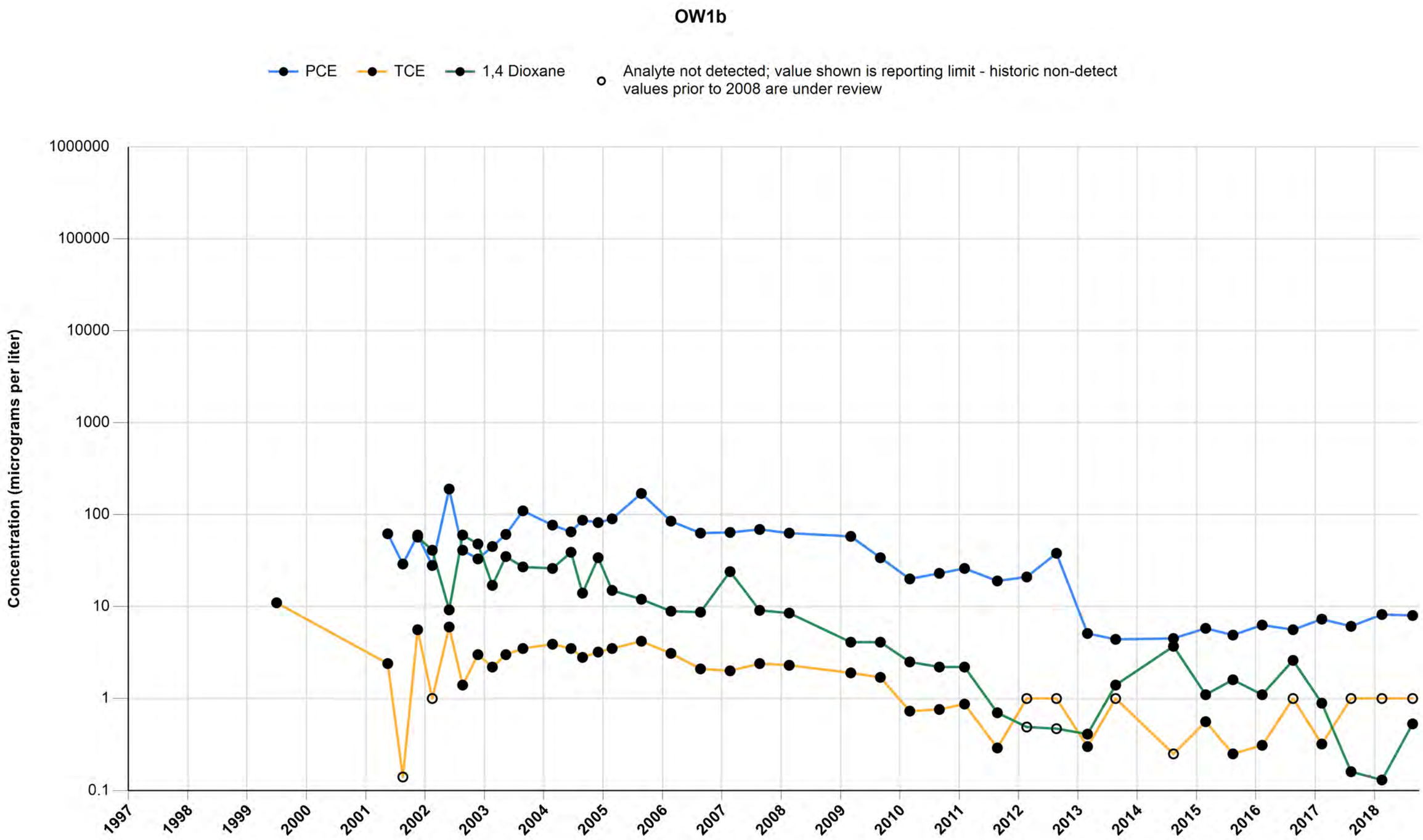
Attachment B, Figure B-25
OU-1 Groundwater Containment Remedy, Omega Chemical Superfund Site
Groundwater Analytical (PCE, TCE and 1,4-Dioxane)



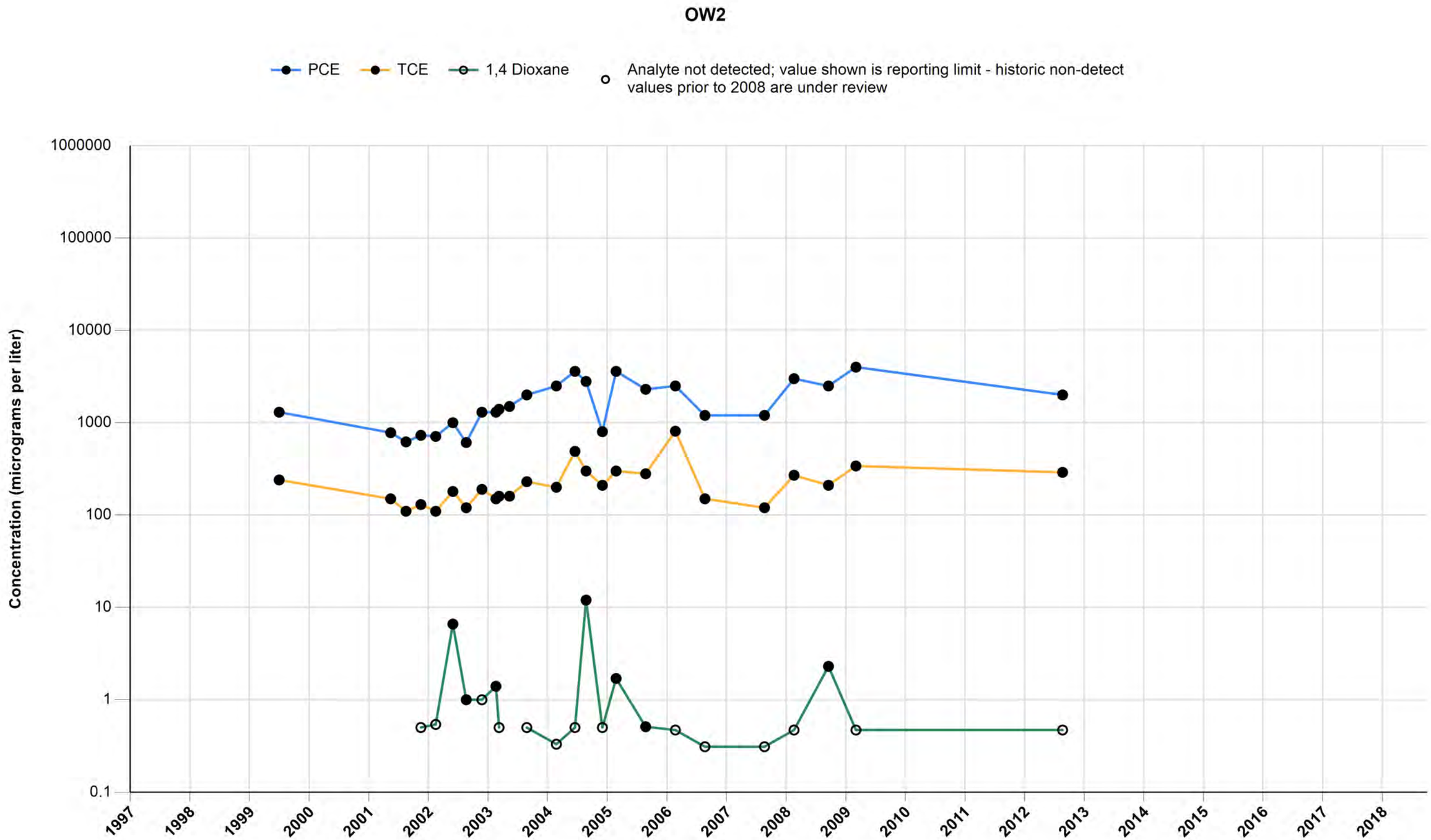
Attachment B, Figure B-26
OU-1 Groundwater Containment Remedy, Omega Chemical Superfund Site
Groundwater Analytical (PCE, TCE and 1,4-Dioxane)



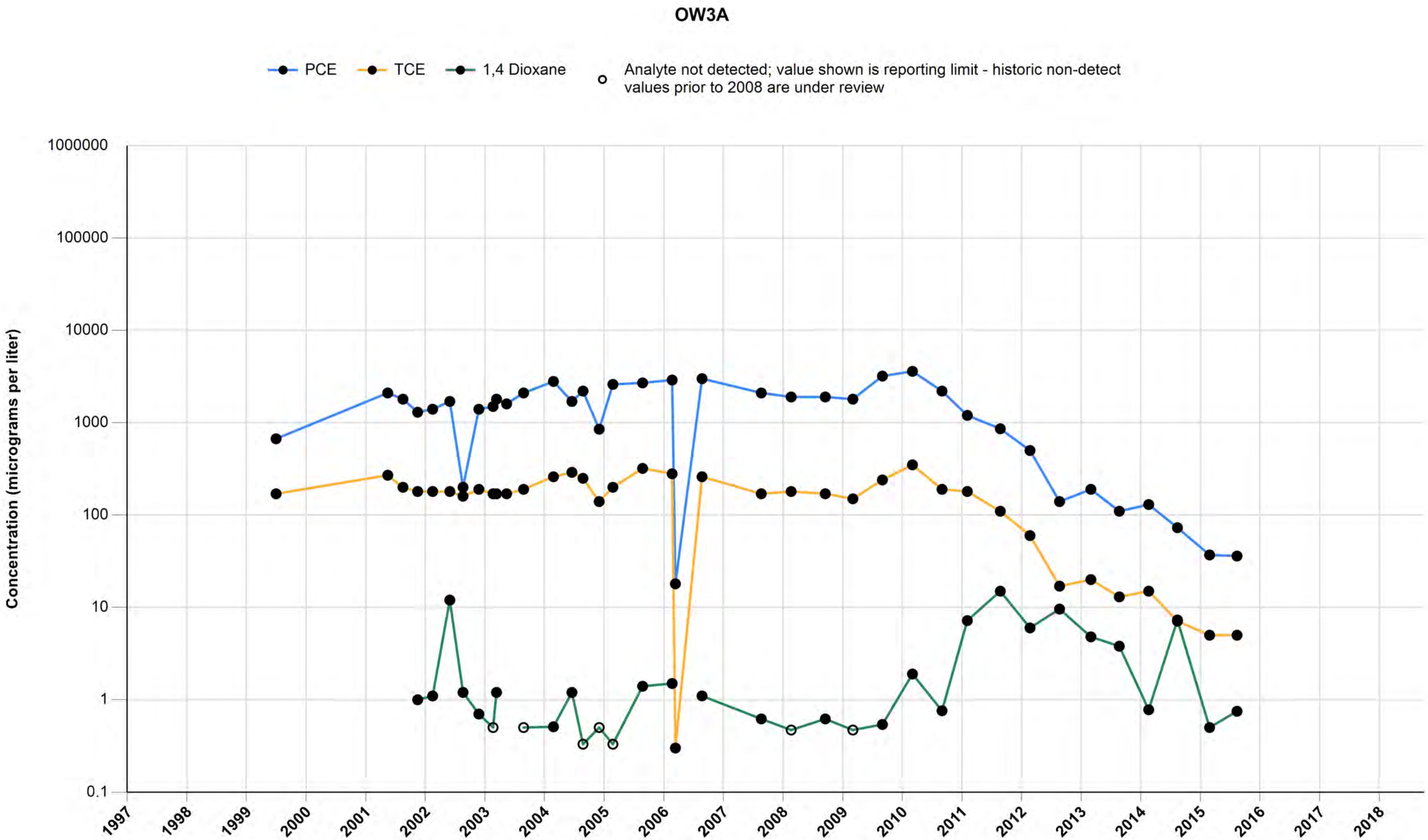
Attachment B, Figure B-27
OU-1 Groundwater Containment Remedy, Omega Chemical Superfund Site
Groundwater Analytical (PCE, TCE and 1,4-Dioxane)



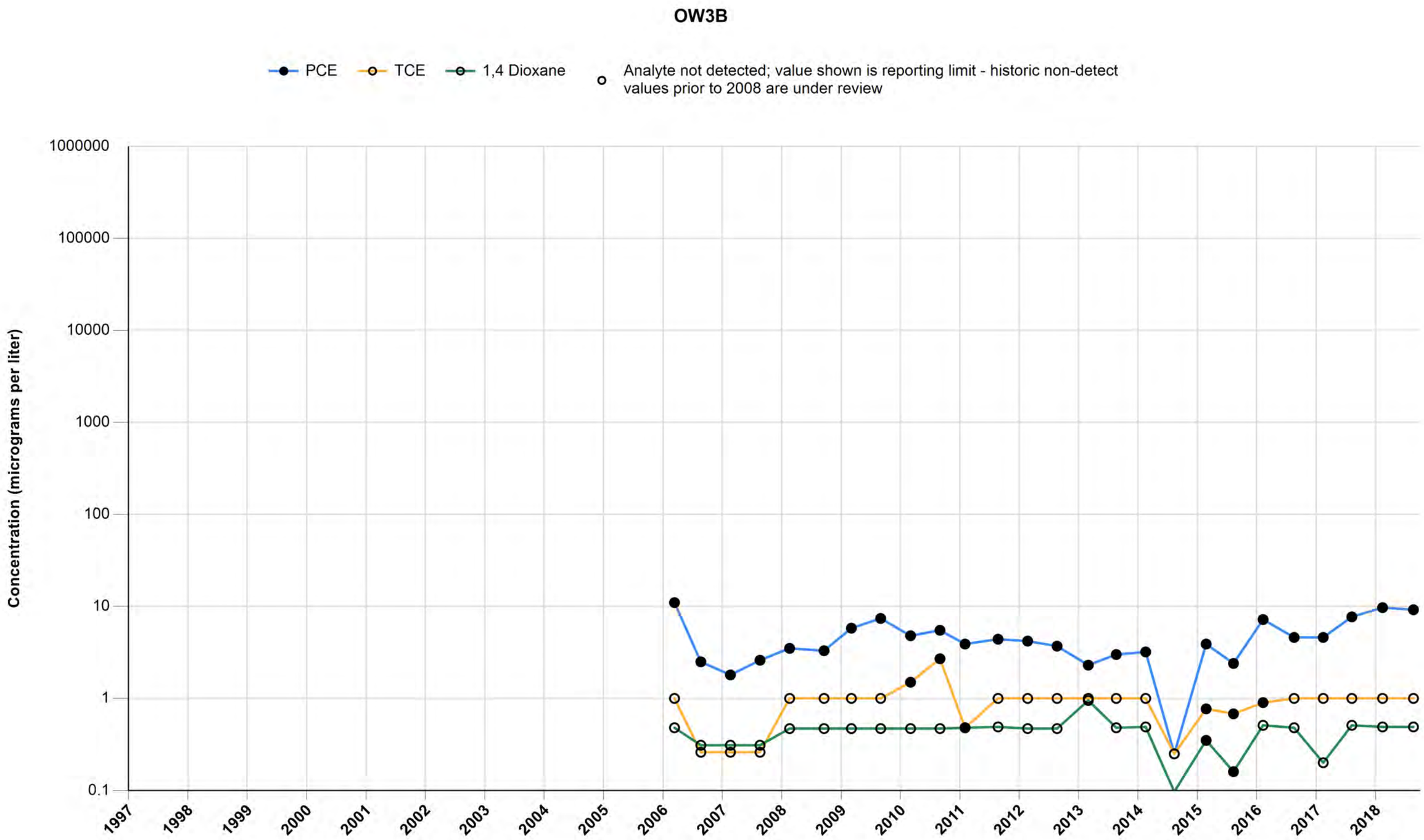
Attachment B, Figure B-28
OU-1 Groundwater Containment Remedy, Omega Chemical Superfund Site
Groundwater Analytical (PCE, TCE and 1,4-Dioxane)



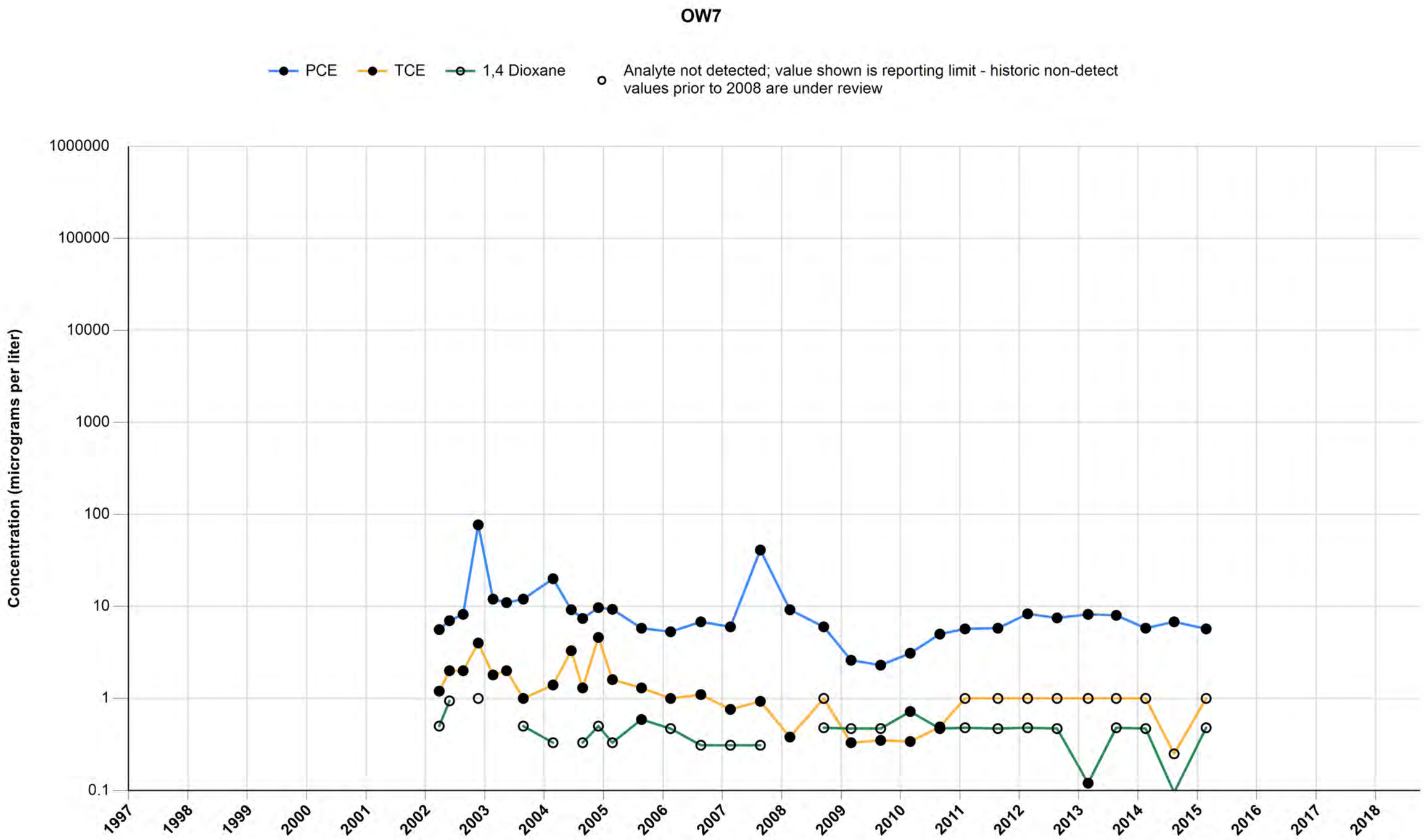
Attachment B, Figure B-29
OU-1 Groundwater Containment Remedy, Omega Chemical Superfund Site
Groundwater Analytical (PCE, TCE and 1,4-Dioxane)



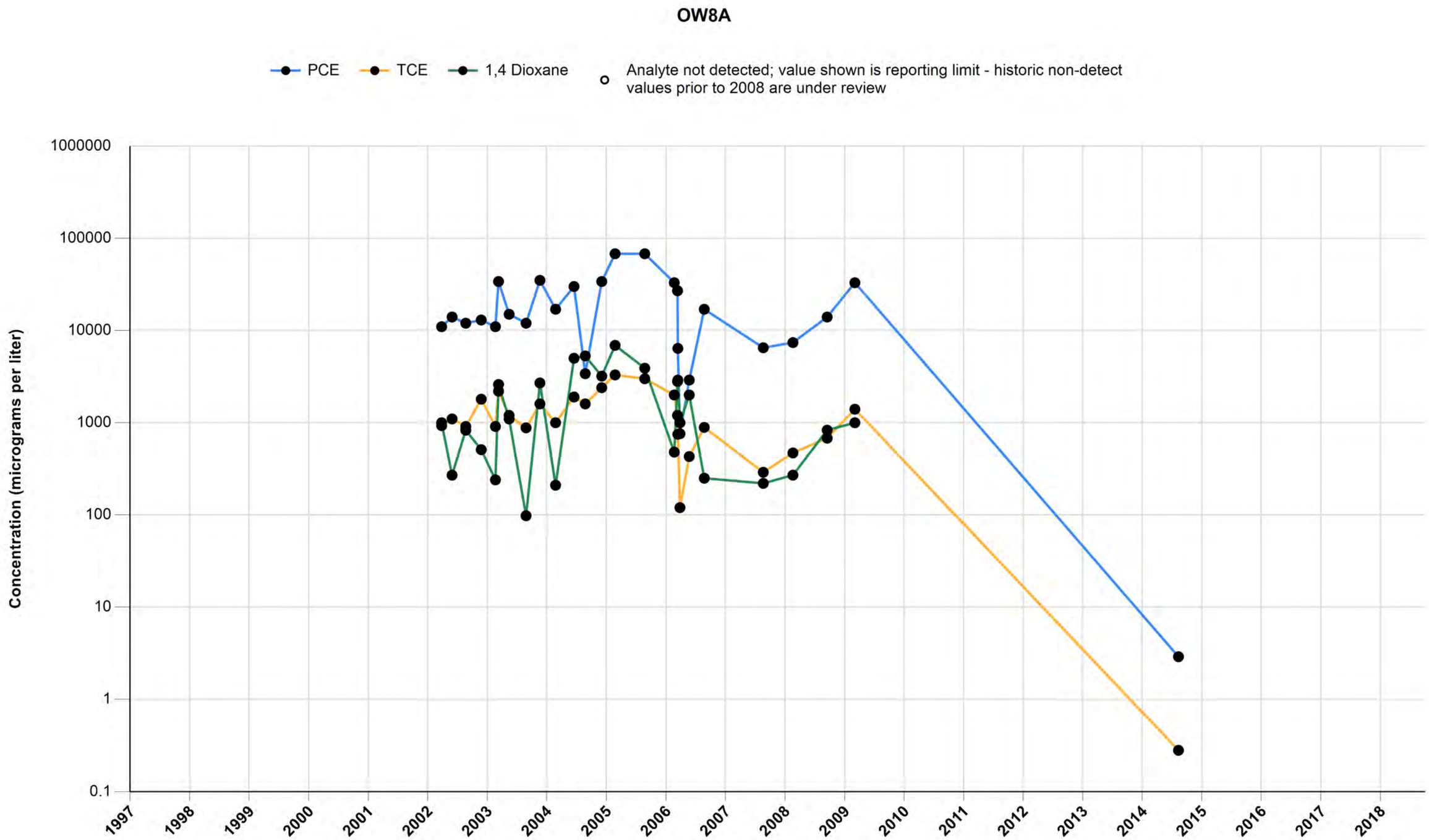
Attachment B, Figure B-30
OU-1 Groundwater Containment Remedy, Omega Chemical Superfund Site
Groundwater Analytical (PCE, TCE and 1,4-Dioxane)



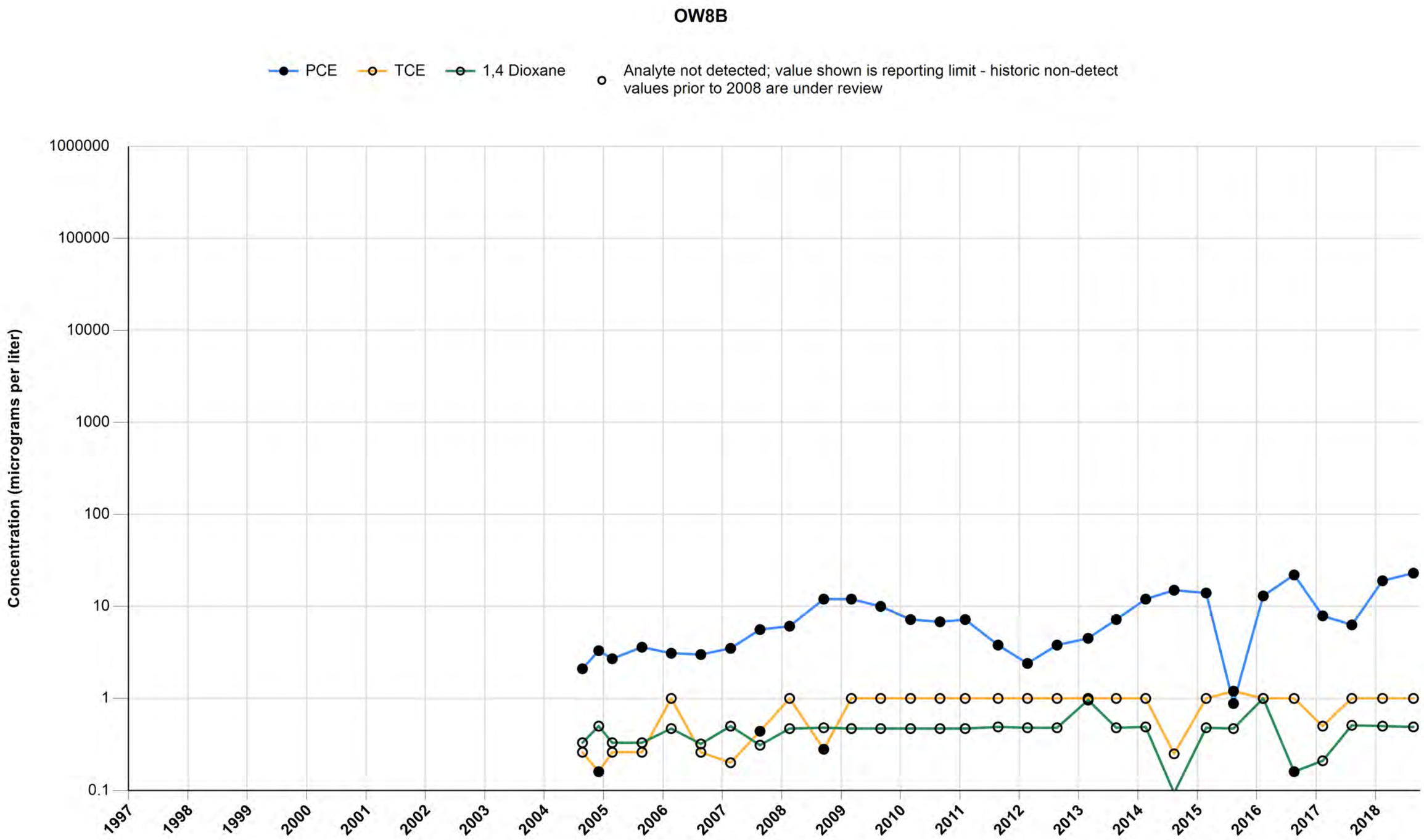
Attachment B, Figure B-31
OU-1 Groundwater Containment Remedy, Omega Chemical Superfund Site
Groundwater Analytical (PCE, TCE and 1,4-Dioxane)



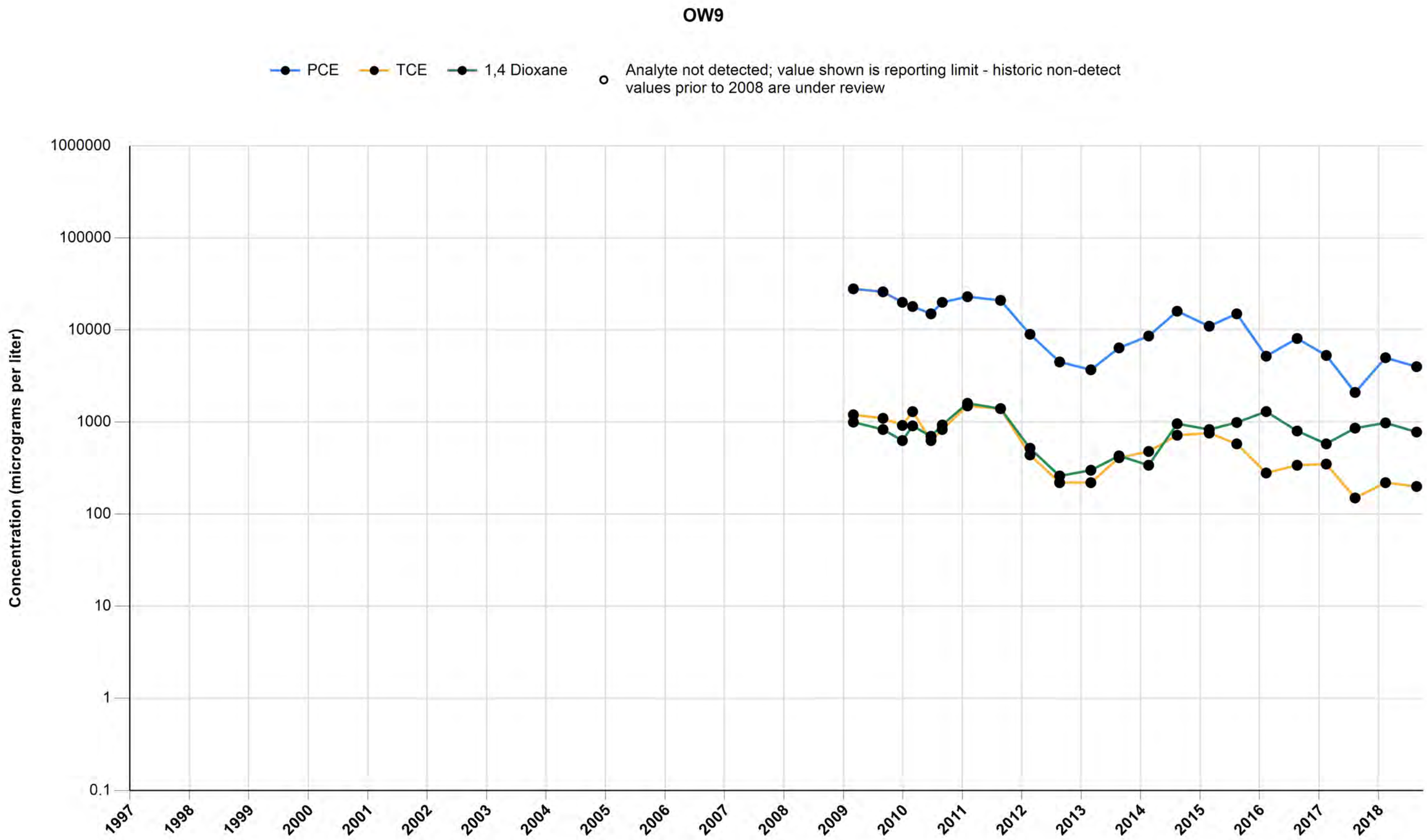
Attachment B, Figure B-32
OU-1 Groundwater Containment Remedy, Omega Chemical Superfund Site
Groundwater Analytical (PCE, TCE and 1,4-Dioxane)



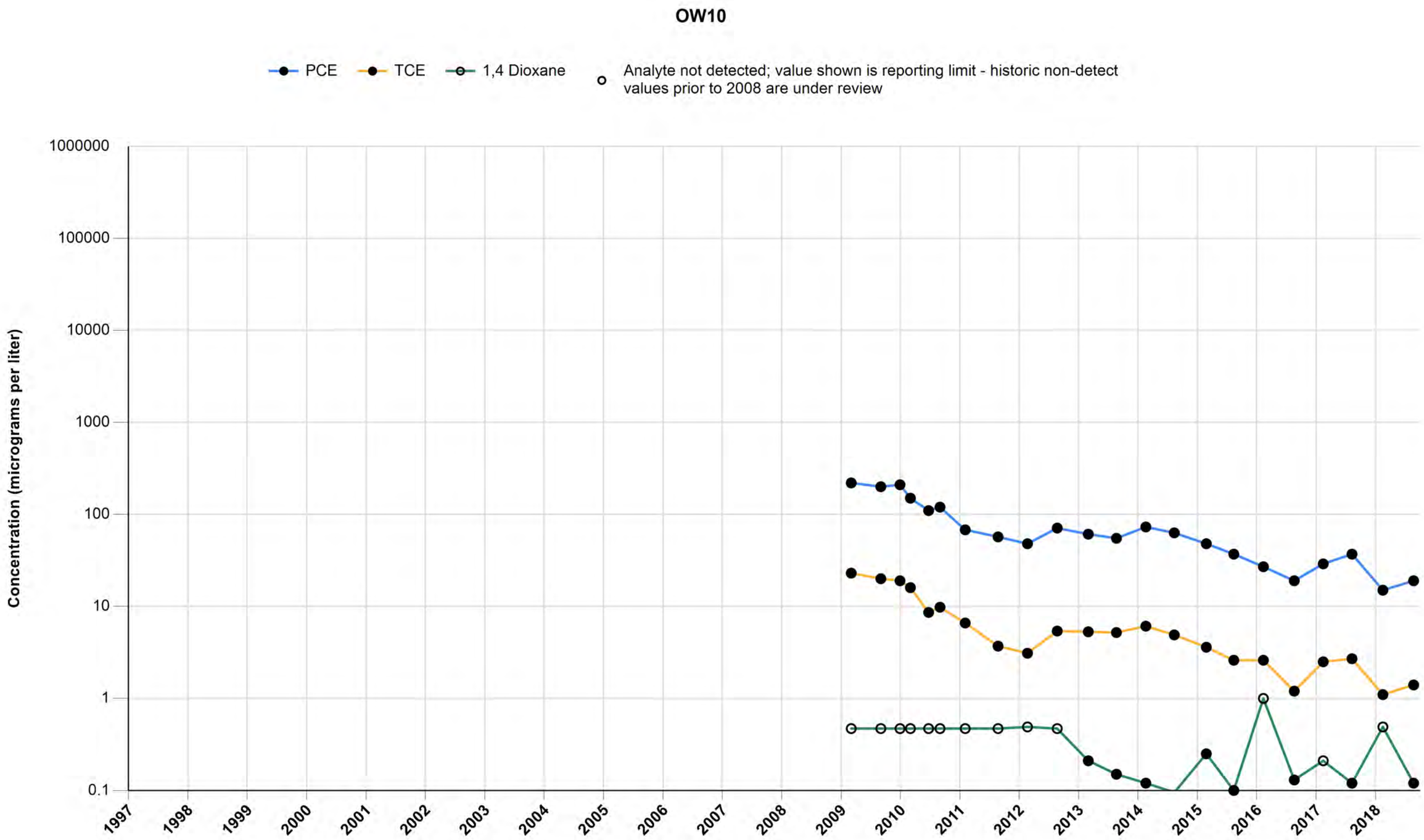
Attachment B, Figure B-33
OU-1 Groundwater Containment Remedy, Omega Chemical Superfund Site
Groundwater Analytical (PCE, TCE and 1,4-Dioxane)



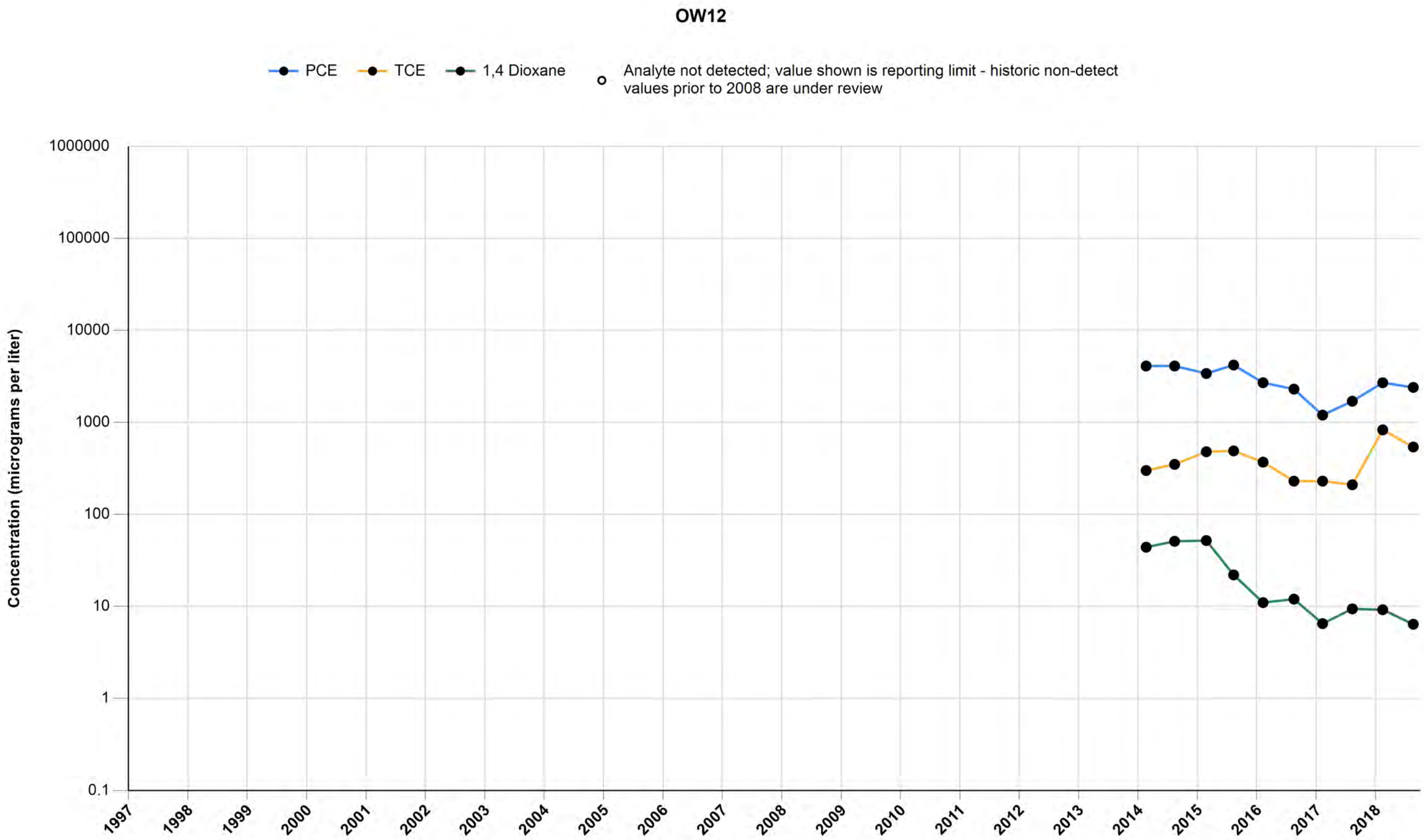
Attachment B, Figure B-34
OU-1 Groundwater Containment Remedy, Omega Chemical Superfund Site
Groundwater Analytical (PCE, TCE and 1,4-Dioxane)



Attachment B, Figure B-35
OU-1 Groundwater Containment Remedy, Omega Chemical Superfund Site
Groundwater Analytical (PCE, TCE and 1,4-Dioxane)



Attachment B, Figure B-36
OU-1 Groundwater Containment Remedy, Omega Chemical Superfund Site
Groundwater Analytical (PCE, TCE and 1,4-Dioxane)



Attachment C

Annual Mann-Kendall Analysis

Mann-Kendall Analysis
Omega Chemical Superfund Site
Third Quarter – 2018

Introduction

This memo summarizes the results from a Mann-Kendall test that was performed on groundwater data from two groundwater observation wells at the Omega Chemical Superfund Site, Whittier, California (the Site). In accordance with site-specific USEPA requirements, a groundwater containment remedy (GCR) was installed at the Site to prevent groundwater containing high concentrations of volatile organic compounds from migrating down-gradient of the Site. Groundwater concentrations are monitored twice per year in accordance with the USEPA approved Performance Standards Verification Plan for Phase 1a Area Groundwater Treatment System (PSVP) (CDM, 2007). This Mann-Kendall test was conducted on the concentrations of Tetrachloroethene (PCE), Trichloroethene (TCE) and 1,4-Dioxane (14DIOX) measured in OW9 and OW10 to determine if a trend in the data is present.

According to the Interstate Technology Regulatory Council (ITRC),

"The Mann Kendall statistic (S) is calculated through pair-wise comparisons of each data point with all preceding data points, and determining the number of increases, decreases, and ties. Pairs of non-detects below the reporting limit are "ties" that do not increase or decrease the value of S. A positive value for S implies an upward or increasing temporal trend, whereas a negative value implies a downward or decreasing trend. A value of S near zero suggests there is no significant upward or downward trend. The magnitude of S measures the "strength" of the trend. A statistically significant trend is reported if the absolute value of S is greater than the "critical value" of S (obtained from a table)" (ITRC, 2013).

Data

Two data sets are prepared for this assessment; a comprehensive historical data set[1], using data from 2009-2018 (sample size, n=22[1]) and the most recent three years of data, during which time samples were collected biannually (n=6).

The data sets used in this assessment are provided in Table 1. The data were assessed with regard to seasonality; no seasonal correlation was identified. Concentrations that were not detected above the analytical method detection limit are included in the test at the reporting limit value. These data points are indicated in Table 1 with the label "(U)". No field-duplicate data were included in the test.

Method

[1] Historical concentrations of 1,4-Dioxane at OW10 contained non-detect (ND) values at concentrations that exceeded more recent ND concentrations as a result of improved laboratory instrument precision over time. As these historical ND data did not reflect the true sample population, the values were removed from the data set prior to analysis. This only impacts ND samples collected at OW10 prior to August 22nd, 2012.

The test was conducted using the software package "R" which is an open source software package used for statistical interpretation. Statistical confidence is set by the user-defined "alpha" variable. After calculating the "S" value, the probability (p-value) is calculated and is compared to the confidence interval ("alpha") to determine whether to accept or reject the null hypothesis (the null hypothesis is that there is no trend). The p-value is a probabilistic function and in this test is acquired through calculation utilizing the before mentioned statistical software. If the p-value is less than the corresponding alpha, then the test is considered statistically significant.

Results

A summary of the results of this study are presented below. Supporting time series charts are also provided as Attachment A (pages 1-20) in which the data sets are fitted with a least squared regression line as well as separate summary that shows the Theil Sen slope estimate and corresponding confidence intervals (dotted lines) at the 95th percentile. Test statistics are provided in Table 2.

Historically Comprehensive Data Set

Compound	Location	Kendall Score (S)	Alpha Value	p-Value
PCE	OW10	-180	95% (0.05)	4.34E-07
PCE	OW9	-137	95% (0.05)	0.000124055
TCE	OW10	-186	95% (0.05)	1.80E-07
TCE	OW9	-126	95% (0.05)	0.000415731
14DIOX	OW10	-3	95% (0.05)	0.889969409
14DIOX	OW9	-4	95% (0.05)	0.932557583

Most Recent Three-Year Data Set

Compound	Location	Kendall Score (S)	Alpha Value	p-Value
PCE	OW10	-2	95% (0.05)	0.848311663
PCE	OW9	-7	95% (0.05)	0.25965631
TCE	OW10	-3	95% (0.05)	0.70711422
TCE	OW9	-5	95% (0.05)	0.452370346
14DIOX	OW10	-4	95% (0.05)	0.566090226
14DIOX	OW9	-3	95% (0.05)	0.70711422

Discussion

A discussion of analyzed data sets is provided below:

Historically Comprehensive Data Set

Both OW9 and OW10 exhibit negative Kendall Scores (S) for all assessed compounds, signifying decreasing concentration trends. The strength of the trend is determined by the magnitude of S. In this case, concentrations at OW9 and OW10 show strong to moderate decreasing trends for all modeled compounds, except for 1,4-Dioxane at OW9 and OW10 where the trend is considered weaker. The result is statistically significant when the p-value is less than the corresponding alpha value. In this case, under the user-defined conditions shown in the table above, all trends are considered statistically significant, with the exception of OW9 and OW10 – 1,4-Dioxane, which exhibit a weak downward trend with low confidence. For these instances, the p values are greater than our user defined alpha (the

user-defined confidence in the result is shown by the alpha number; the lower the alpha, and consequent higher confidence interval, the higher the confidence in the estimation), thus we fail to reject the null hypothesis at the 95% confidence interval and cannot accept the hypothesis that there is a statistically significant trend for 1,4-Dioxane at OW9 and OW10. However, the S value and the application of additional methodologies for robust fitting of linear trends (Theil-Sen Estimate – Table 2), both continue to recognize a weak downward trend for OW9 and OW10, therefore, the result is being considered low confidence, but exhibiting a weak downward trend to stable/no trend.

The lower confidence in the trend for 1,4-Dioxane at OW9 likely results from wide variability in the data at that location. The lower confidence at OW10 likely results from a) the reduced sample population (n=10 vs n=20) as well as, b) the proximity to the detectable instrument precision.

Most Recent Three-Year Data Set

Both OW9 and OW10 exhibit negative Kendall Scores (S) for all assessed compounds, signifying decreasing concentration trends. The strength of the trend is determined by the magnitude of S. In this case, concentrations at OW9 and OW10 show weak decreasing trends for all modeled compounds.

The result is statistically significant when the p-value is less than the corresponding alpha value. In this case, under the user-defined conditions shown in the table above, all trends are considered not statistically significant. In all cases, the p value is greater than our user defined alpha, thus we fail to reject the null hypothesis at the 95% confidence interval and cannot accept the hypothesis that there is a statistically significant trend for all compounds in the analysis. However, the S value and the Theis-Sen estimate (Table 2), both continue to recognize a weak downward trend for OW9 and OW10, therefore, the result is being considered low confidence, but exhibiting a weak downward trend to stable/no trend.

The lack of statistical significance is likely derived from the small sample population (n=7) for both OW9 and OW10.

Observations

Summarizing the discussion above, the following are observed:

- Historical concentrations of PCE and TCE at OW10 display strong downward trends, with a high degree of confidence when assessed. Utilizing the most recent three-year data set, the trend is observed to be weakly downward with low confidence.

- Concentrations of 1,4-Dioxane at OW10 under the Historically Comprehensive Data Set are stable/no trend with a low degree of confidence. When utilizing the most recent three-year data set, concentrations show weak downward trend with low confidence.

- Historical concentrations of PCE and TCE are moderately to significantly trending downward at OW9, with a high degree of confidence. Utilizing the most recent three-year data set, the trend is observed to be weakly downward with low confidence.

- Historical concentrations of 1,4-Dioxane at OW9 display a weak downward trend with a low degree of confidence. Variability in the 1,4-Dioxane data at this location are likely resulting in the

weak downward trend. Utilizing the most recent three-year data set, the trend is observed to be weakly downward with low confidence.

Conclusions

The statistical significance of the Mann Kendall method increases with sample size. Results of the analysis indicate decreasing trends in concentration for both PCE and TCE using the full historical data record at the 95% confidence level. The 1,4-Dioxane data for both OW9 and OW10 is inconclusive of a trend at the 95% confidence level (stable/no trend) but suggests a slight decreasing trend. Results of the trend analysis for the most recent three years of data indicate a weak downward trend to stable/no trend. The lack of confidence associated with these analyses is largely attributable to the historically low concentrations and proximity of sample concentrations to lab instrument detection limits. All analysis for the most recent three-year data set fail to achieve a 95% confidence level. The conclusion for the most recent three years of data is that concentrations based on the Mann Kendall analysis are stable/no trend.

As concentrations for analytes approach far reduced concentrations from historical records, monitoring of trends largely reflects the natural variation in sample concentrations and not necessarily any consistent trend in the data set. It is therefore concluded that the trend for OW9 – OW10 for all compounds should be considered slightly downward to stable/no trend.

In accordance with the objective stated in the PSVP, decreasing to stable / no trending concentrations are observed at down-gradient wells OW9 and OW10 (CDM, 2007).

References

CDM. (2007). *Performance Standards Verification Plan for Phase 1a Area Groundwater Treatment System.*

ITRC. (2013). *Groundwater Statistics and Monitoring Compliance, Statistical Tools for the Project Life Cycle.* Washington D.C.: http://www.itrcweb.org/gsmc-1/.

US EPA (2016) *CADDIS Volume 4 – Data Analysis*: https://www3.epa.gov/caddis/da_software_rscript1.html

Table 1
Omega Chemical Superfund Site
Mann-Kendall Data Set - Third Quarter 2018

Historically Comprehensive Data Set

Sample Location	Date	TCE - ug/l
OW10	3/4/2009	23
OW10	9/2/2009	20
OW10	12/29/2009	19
OW10	3/3/2010	16
OW10	6/23/2010	8.6
OW10	9/1/2010	9.8
OW10	2/3/2011	6.6
OW10	8/24/2011	3.7
OW10	2/21/2012	3.1
OW10	8/22/2012	5.4
OW10	3/1/2013	5.3
OW10	8/21/2013	5.2
OW10	2/18/2014	6.1
OW10	8/12/2014	4.9
OW10	2/25/2015	3.6
OW10	8/13/2015	2.6
OW10	2/11/2016	2.6
OW10	8/19/2016	1.2
OW10	2/13/2017	2.5
OW10	8/9/2017	2.7
OW10	2/15/2018	1.1
OW10	8/23/2018	1.4

Sample Location	Date	TCE - ug/l
OW9	3/3/2009	1200
OW9	9/1/2009	1100
OW9	12/29/2009	920
OW9	3/2/2010	1300
OW9	6/23/2010	630
OW9	8/31/2010	830
OW9	2/2/2011	1500
OW9	8/24/2011	1400
OW9	2/21/2012	440
OW9	8/21/2012	220
OW9	3/1/2013	220
OW9	8/21/2013	410
OW9	2/19/2014	480
OW9	8/13/2014	720
OW9	2/26/2015	760
OW9	8/14/2015	580
OW9	2/11/2016	280
OW9	8/19/2016	340
OW9	2/14/2017	350
OW9	8/10/2017	150
OW9	2/13/2018	220
OW9	8/23/2018	200

Sample Location	Date	PCE - ug/l
OW10	3/4/2009	220
OW10	9/2/2009	200
OW10	12/29/2009	210
OW10	3/3/2010	150
OW10	6/23/2010	110
OW10	9/1/2010	120
OW10	2/3/2011	68
OW10	8/24/2011	57
OW10	2/21/2012	48
OW10	8/22/2012	71
OW10	3/1/2013	61
OW10	8/21/2013	55
OW10	2/18/2014	73
OW10	8/12/2014	63
OW10	2/25/2015	48
OW10	8/13/2015	37
OW10	2/11/2016	27
OW10	8/19/2016	19
OW10	2/13/2017	29
OW10	8/9/2017	37
OW10	2/15/2018	15
OW10	8/23/2018	19

Sample Loctation	Date	PCE - ug/l
OW9	3/3/2009	28000
OW9	9/1/2009	26000
OW9	12/29/2009	20000
OW9	3/2/2010	18000
OW9	6/23/2010	15000
OW9	8/31/2010	20000
OW9	2/2/2011	23000
OW9	8/24/2011	21000
OW9	2/21/2012	9000
OW9	8/21/2012	4500
OW9	3/1/2013	3700
OW9	8/21/2013	6400
OW9	2/19/2014	8600
OW9	8/13/2014	16000
OW9	2/26/2015	11000
OW9	8/14/2015	15000
OW9	2/11/2016	5200
OW9	8/19/2016	8100
OW9	2/14/2017	5300
OW9	8/10/2017	2100
OW9	2/13/2018	5000
OW9	8/23/2018	4000

Sample Location	Date	1,4-Dioxane - ug/l
OW10	3/1/2013	0.21
OW10	8/21/2013	0.15
OW10	2/18/2014	0.12
OW10	8/12/2014	0.095 U
OW10	2/25/2015	0.25
OW10	8/13/2015	0.1
OW10	2/11/2016	1 U
OW10	8/19/2016	0.13
OW10	2/13/2017	0.21 U
OW10	8/9/2017	0.12
OW10	2/15/2018	0.49 U
OW10	8/23/2018	0.12

Sample Location	Date	1,4-Dioxane - ug/l
OW9	3/3/2009	1000
OW9	9/1/2009	830
OW9	12/29/2009	630
OW9	3/2/2010	910
OW9	6/23/2010	700
OW9	8/31/2010	930
OW9	2/2/2011	1600
OW9	8/24/2011	1400
OW9	2/21/2012	520
OW9	8/21/2012	260
OW9	3/1/2013	300
OW9	8/21/2013	430
OW9	2/19/2014	340
OW9	8/13/2014	960
OW9	2/26/2015	830
OW9	8/14/2015	990
OW9	2/11/2016	1300
OW9	8/19/2016	800
OW9	2/14/2017	580
OW9	8/10/2017	860
OW9	2/13/2018	980
OW9	8/23/2018	780

Most Recent Three Year Data Set

Sample Location	Date	TCE - ug/l
OW10	2/11/2016	2.6
OW10	8/19/2016	1.2
OW10	2/13/2017	2.5
OW10	8/9/2017	2.7
OW10	2/15/2018	1.1
OW10	8/23/2018	1.4

Sample Location	Date	TCE - ug/l
OW9	2/11/2016	280
OW9	8/19/2016	340
OW9	2/14/2017	350
OW9	8/10/2017	150
OW9	2/13/2018	220
OW9	8/23/2018	200

Sample Location	Date	PCE - ug/l
OW10	2/11/2016	27
OW10	8/19/2016	19
OW10	2/13/2017	29
OW10	8/9/2017	37
OW10	2/15/2018	15
OW10	8/23/2018	19

Sample Loctation	Date	PCE - ug/l
OW9	2/11/2016	5200
OW9	8/19/2016	8100
OW9	2/14/2017	5300
OW9	8/10/2017	2100
OW9	2/13/2018	5000
OW9	8/23/2018	4000

Sample Location	Date	1,4-Dioxane - ug/l
OW10	2/11/2016	1 U
OW10	8/19/2016	0.13
OW10	2/13/2017	0.21 U
OW10	8/9/2017	0.12
OW10	2/15/2018	0.49 U
OW10	8/23/2018	0.12

Sample Location	Date	1,4-Dioxane - ug/l
OW9	2/11/2016	1300
OW9	8/19/2016	800
OW9	2/14/2017	580
OW9	8/10/2017	860
OW9	2/13/2018	980
OW9	8/23/2018	780

Table 2 - Mann-Kendall Summary - Omega Chemical Superfund Site -Third Quarter 2018

Historically Comprehensive

Summary Statistics

Parameter	Location	n	Mean	Standard Deviation	Median	Trimmed Mean	Median Absolute Deviation	Minimum	Maximum	Range	Skew	Kurtosis	Standard Error
PCE	OW10	22	78.955	62.935	59.0	70.722	38.548	15	220	205	1.110	-0.104	13.418
PCE	OW9	22	12495.5	7994.074	10000.0	11950.000	8524.950	2100	28000	25900	0.403	-1.289	1704.342
TCE	OW10	22	7.0	6.508	5.1	6.061	3.632	1	23	22	1.262	0.200	1.387
TCE	OW9	22	647.7	425.429	530.0	611.111	452.193	150	1500	1350	0.609	-1.039	90.702
14DIOX	OW10	12	0.2	0.119	0.1	0.155	0.037	0.0	1	0.5	1.570	1.810	0.034
14DIOX	OW9	22	815.0	342.939	830.0	798.333	244.629	260	1600	1340	0.340	-0.352	73.115

Mann Kendall Analysis

Parameter	Location	Kendall Score (S)	Denominator	Tau	Var(score)	2-sided p value	Theil Sen Estimate
PCE	OW10	-180	229.4951	-0.784330547	1256.6666	4.33876E-07	-14.72
PCE	OW9	-137	229.9978	-0.595657825	1254	0.000124055	-2060.48
TCE	OW10	-186	230.4995	-0.806943357	1254.6666	1.80191E-07	-1.21
TCE	OW9	-126	229.4951	-0.549031377	1255.6666	0.000415731	-100.75
14DIOX	OW10	-3	64.4826	-0.046524208	209	0.889969409	0
14DIOX	OW9	-4	230.4995	-0.01735362	1256.6666	0.932557583	-2.23

Most Recent Three Years

Summary Statistics

Parameter	Location	n	Mean	Standard Deviation	Median	Trimmed Mean	Median Absolute Deviation	Minimum	Maximum	Range	Skew	Kurtosis	Standard Error
PCE	OW10	6	24.333	8.165	23.0	24.333	7.413	15	37	22	0.317	-1.670	3.333
PCE	OW9	6	4950.0	1956.272	5100.0	4950.000	963.690	2100	8100	6000	0.163	-1.119	798.645
TCE	OW10	6	1.9	0.757	2.0	1.917	1.038	1	3	2	-0.020	-2.245	0.309
TCE	OW9	6	256.7	80.166	250.0	256.667	103.782	150	350	200	-0.013	-1.927	32.728
14DIOX	OW10	6	0.2	0.154	0.1	0.203	0.019	0	1	0	1.079	-0.643	0.063
14DIOX	OW9	6	883.3	242.129	830.0	883.333	148.260	580	1300	720	0.512	-1.116	98.849

Mann Kendall Analysis

Parameter	Location	Kendall Score (S)	Denominator	Tau	Var(score)	2-sided p value	Theil Sen Estimate
PCE	OW10	-2	14.4914	-0.138013095	27.333334	0.848311663	-2.66
PCE	OW9	-7	15.0000	-0.466666639	28.333334	0.25965631	-869.05
TCE	OW10	-3	15.0000	-0.199999988	28.333334	0.70711422	-0.1
TCE	OW9	-5	15.0000	-0.333333313	28.333334	0.452370346	-40.33
14DIOX	OW10	-4	14.4914	-0.276026189	27.333334	0.566090226	-0.01
14DIOX	OW9	-3	15.0000	-0.199999988	28.333334	0.70711422	-80

n = number of discrete samples in dataset.

Mean =A central value of a discrete set of numbers.

Standard Deviation = A measure of how spread out numbers are and is equal to square root of the variance.

Median = Is the value separating the higher half of a dataset.

Trimmed Mean = A method of averaging that removes a small designated percentage of the largest and smallest values before calculating the mean.

Median Absolute Deviation = A robust measure of the variability of a univariate sample of quantitative data.

Minimum = The minimum value in the dataset.

Maximum = The maximum value in the dataset.

Range = The difference between the lowest and highest values.

Skew = A measure of the asymmetry of the probability distribution of a real-valued random variable about its mean.

Kurtosis = A statistical measure that's used to describe the distribution, or skewness, of observed data around the mean.

Standard Error = The standard deviation of the sampling distribution of the mean.

Kendall Score - (S) = Kendall Score.

Denominator = The maximum possible value of S.

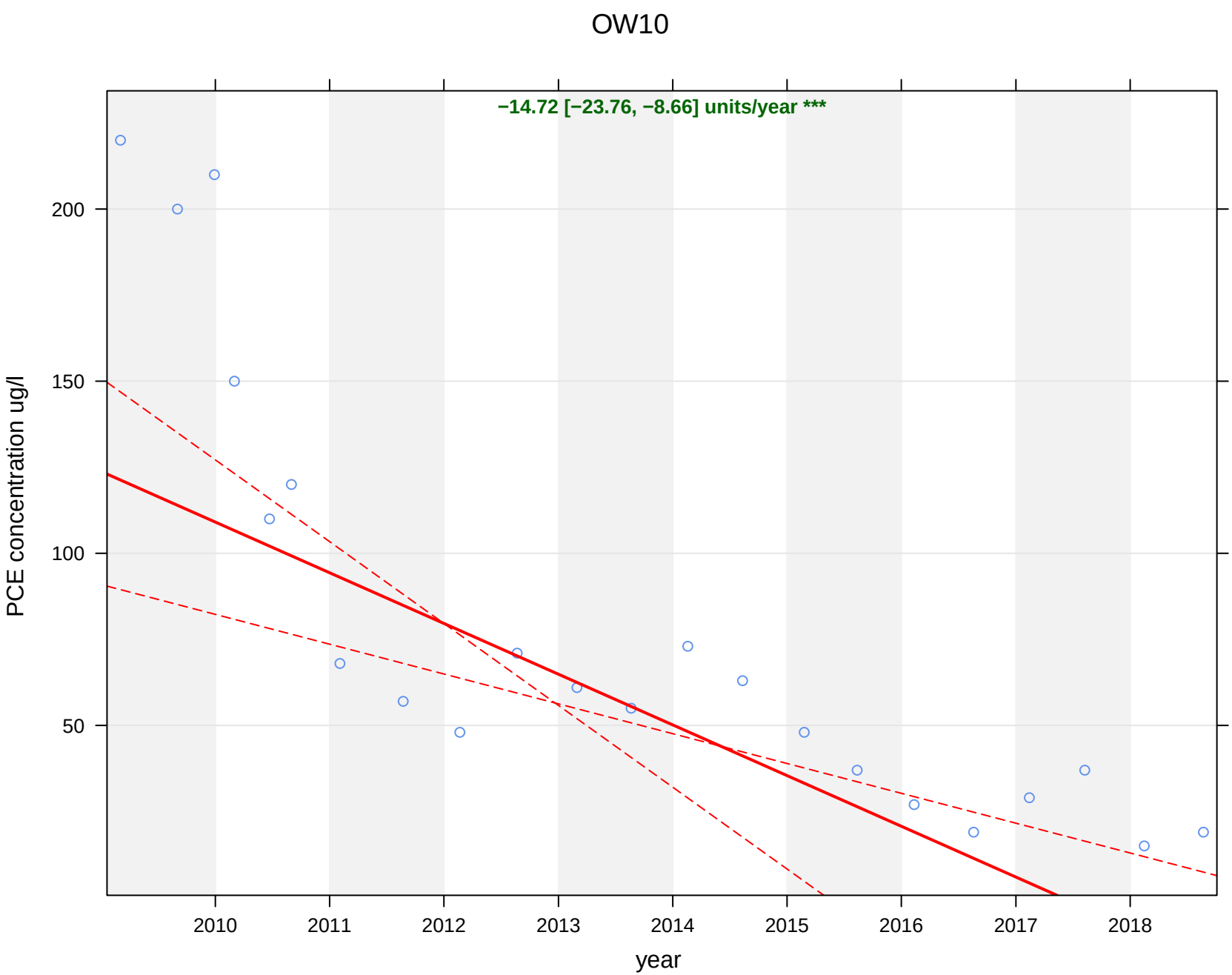
Tau = Kendall Tau Statistic (Kendall Score / Denominator).

Var(score) = Variance in Kendall Score (S).

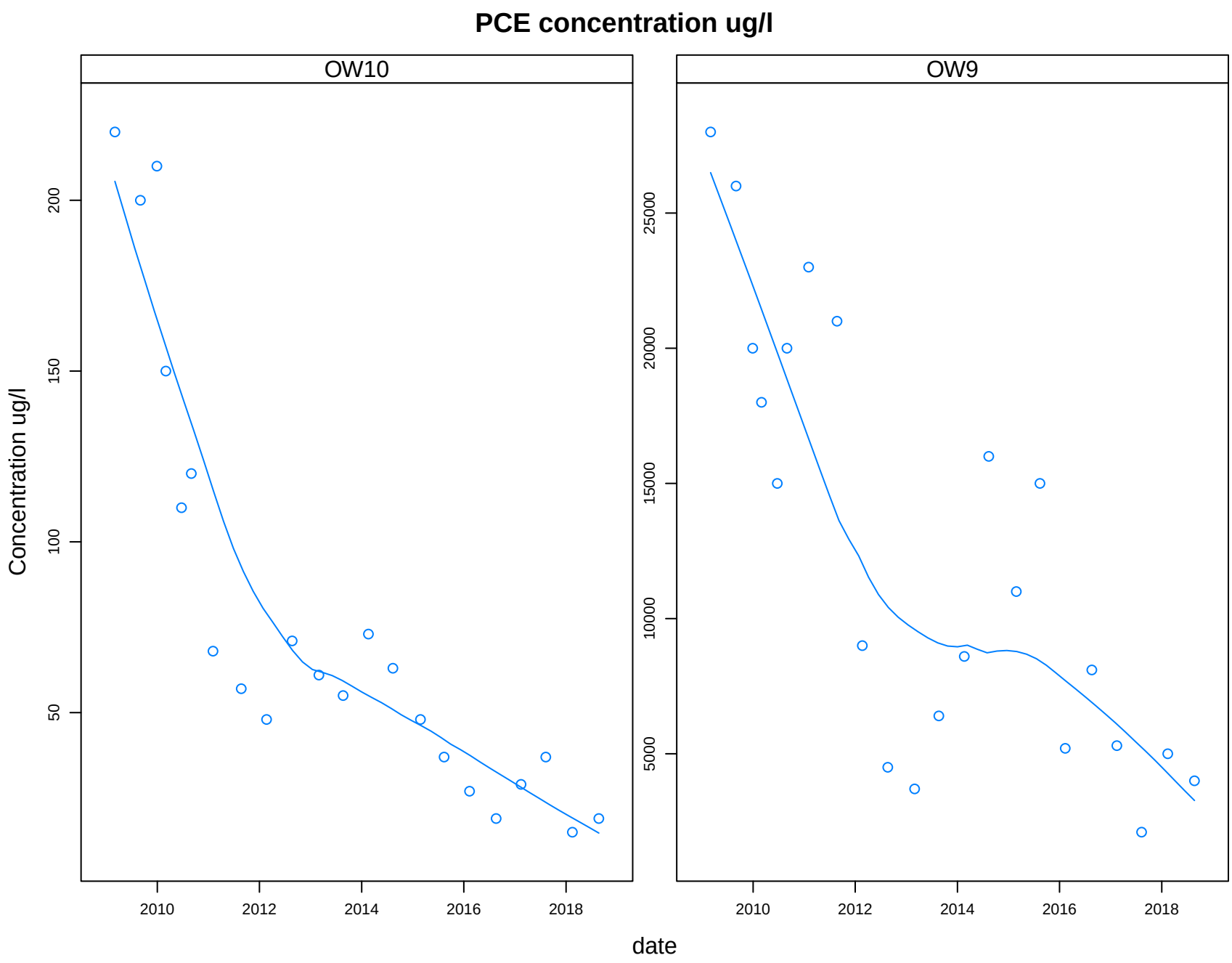
2-sided p-value = The probability of finding the observed, or more extreme, results when the null hypothesis (H 0) of a study question is true.

Theil Sen Estimate = A method for robustly fitting a line to a set of points (simple linear regression) that chooses the median of the slopes of all lines through pairs of two-dimensional sample points.

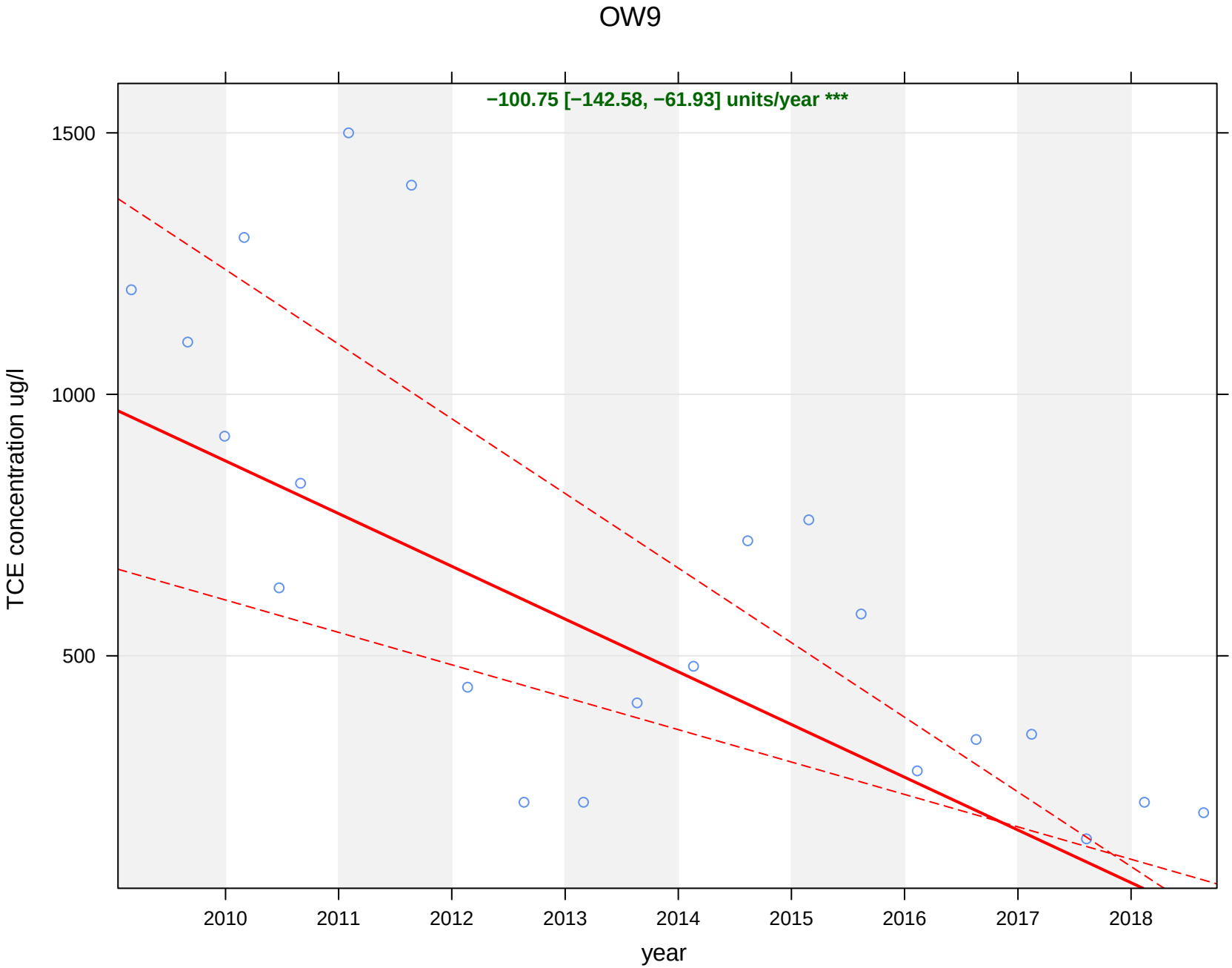
MANN KENDALL MEMO
ATTACHMENT A


OW10
−14.72 [−23.76, −8.66] units/year ***
PCE concentration ug/l
200
150
100
50
2010
2011
2012
2013
2014
2015
2016
2017
2018
year

OW9
−2060.48 [−2826.33, −1520.83] units/year ***
PCE concentration ug/l
25000
20000
15000
10000
5000
2010
2011
2012
2013
2014
2015
2016
2017
2018
year


PCE concentration ug/l
OW10
OW9
Concentration ug/l
200
150
100
50
25000
20000
15000
10000
5000
2010
2012
2014
2016
2018
date

OW10
−1.21 [−2.68, −0.73] units/year ***
TCE concentration ug/l
20
15
10
5
2010
2011
2012
2013
2014
2015
2016
2017
2018
year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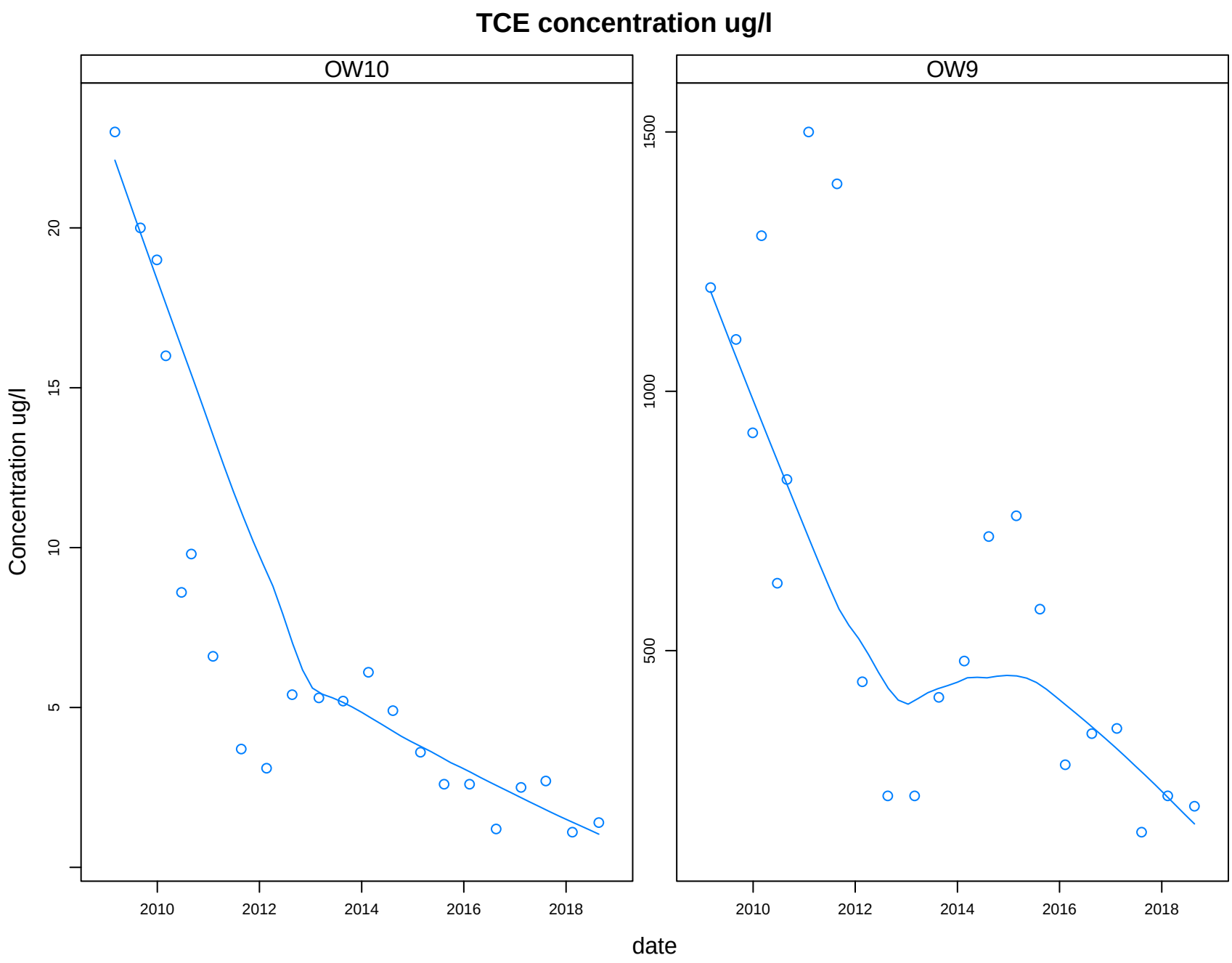
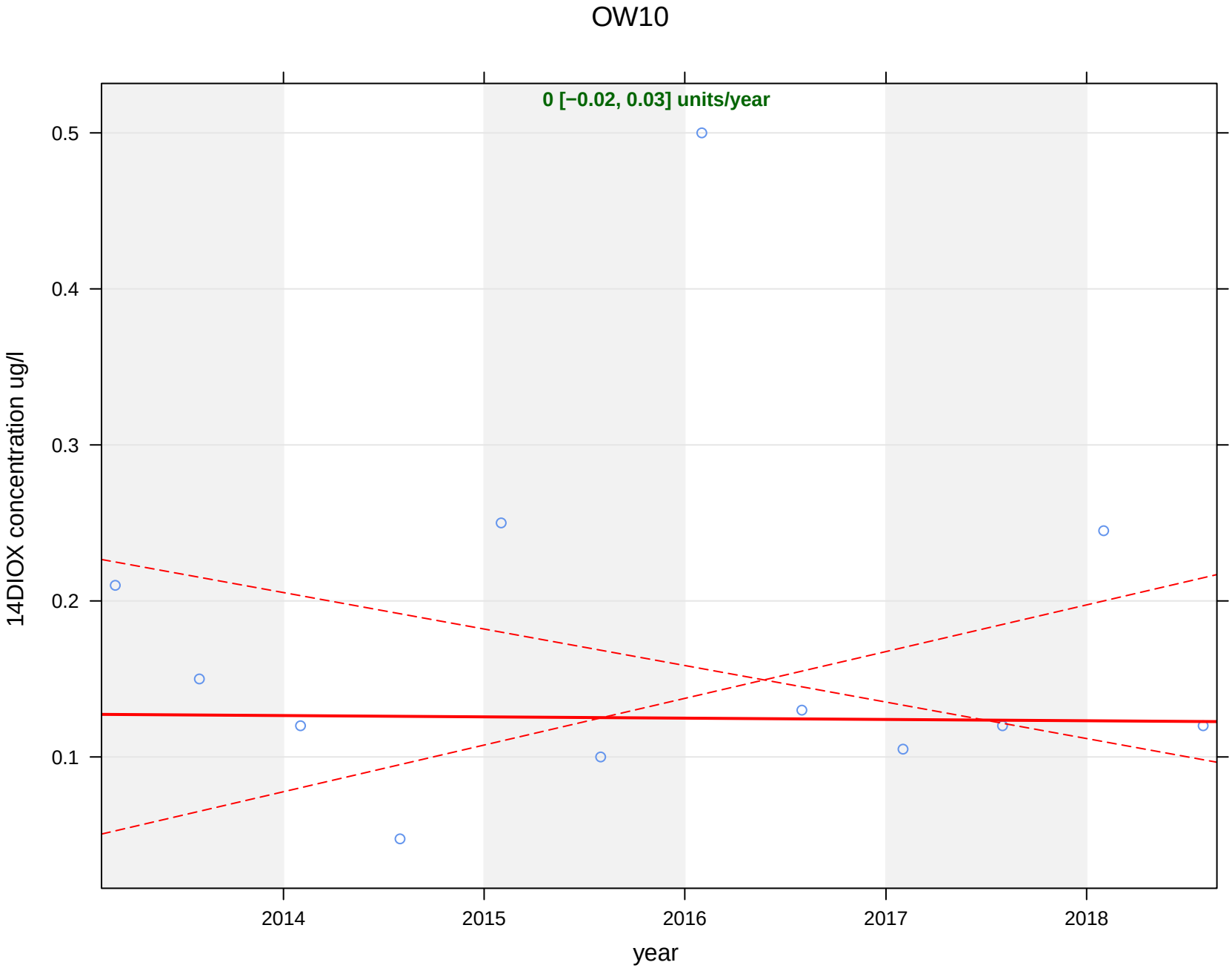
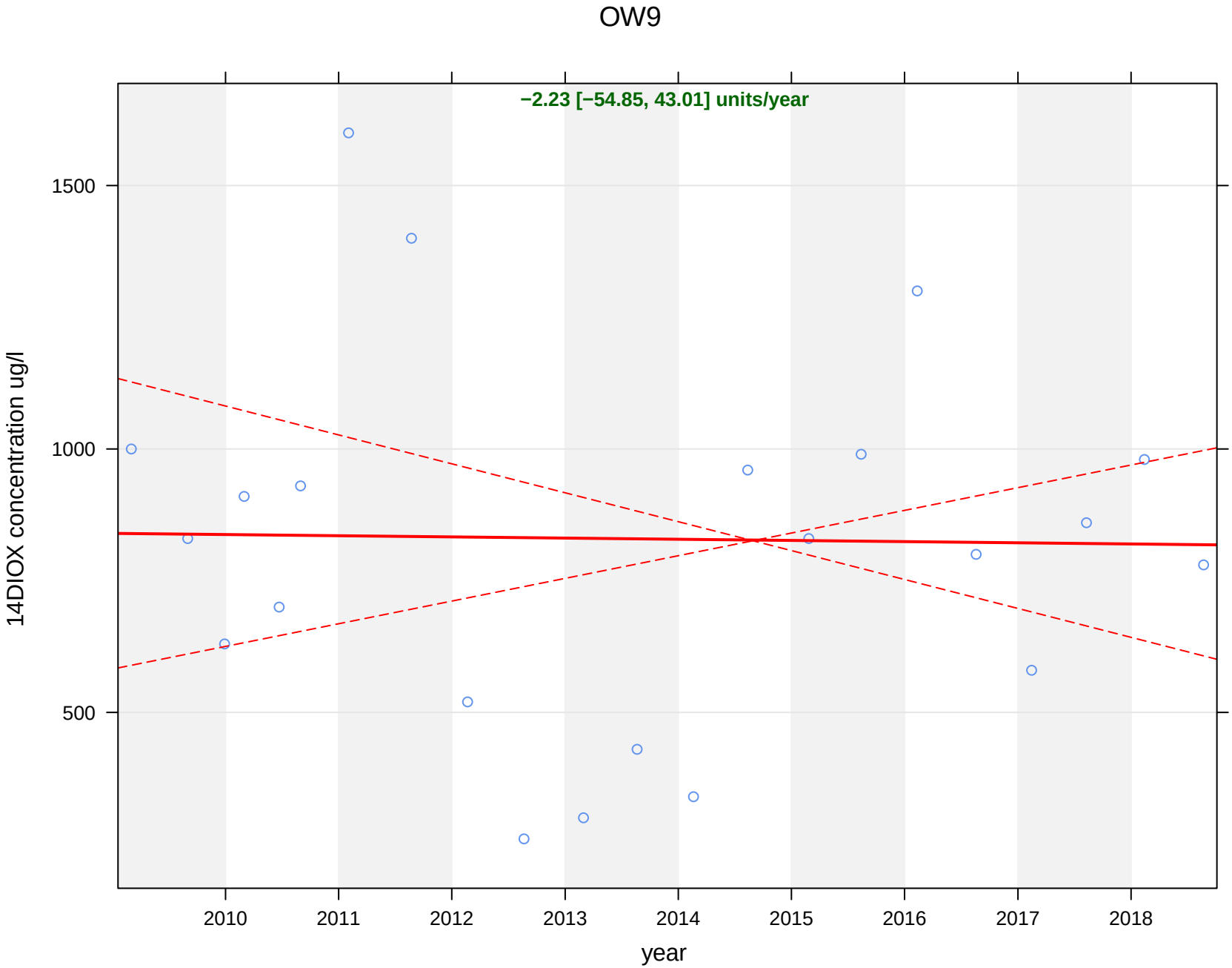
1500
1000
500
TCE concentration ug/l
2010
2011
2012
2013
2014
2015
2016
2017
2018
year


TCE concentration ug/l
OW10
OW9
Concentration ug/l
date
5
10
15
20
500
1000
1500
2010
2012
2014
2016
2018


OW10
0 [−0.02, 0.03] units/year
14DIOX concentration ug/l
0.5
0.4
0.3
0.2
0.1
2014
2015
2016
2017
2018
year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14DIOX concentration ug/l
1500
1000
500
2010
2011
2012
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2014
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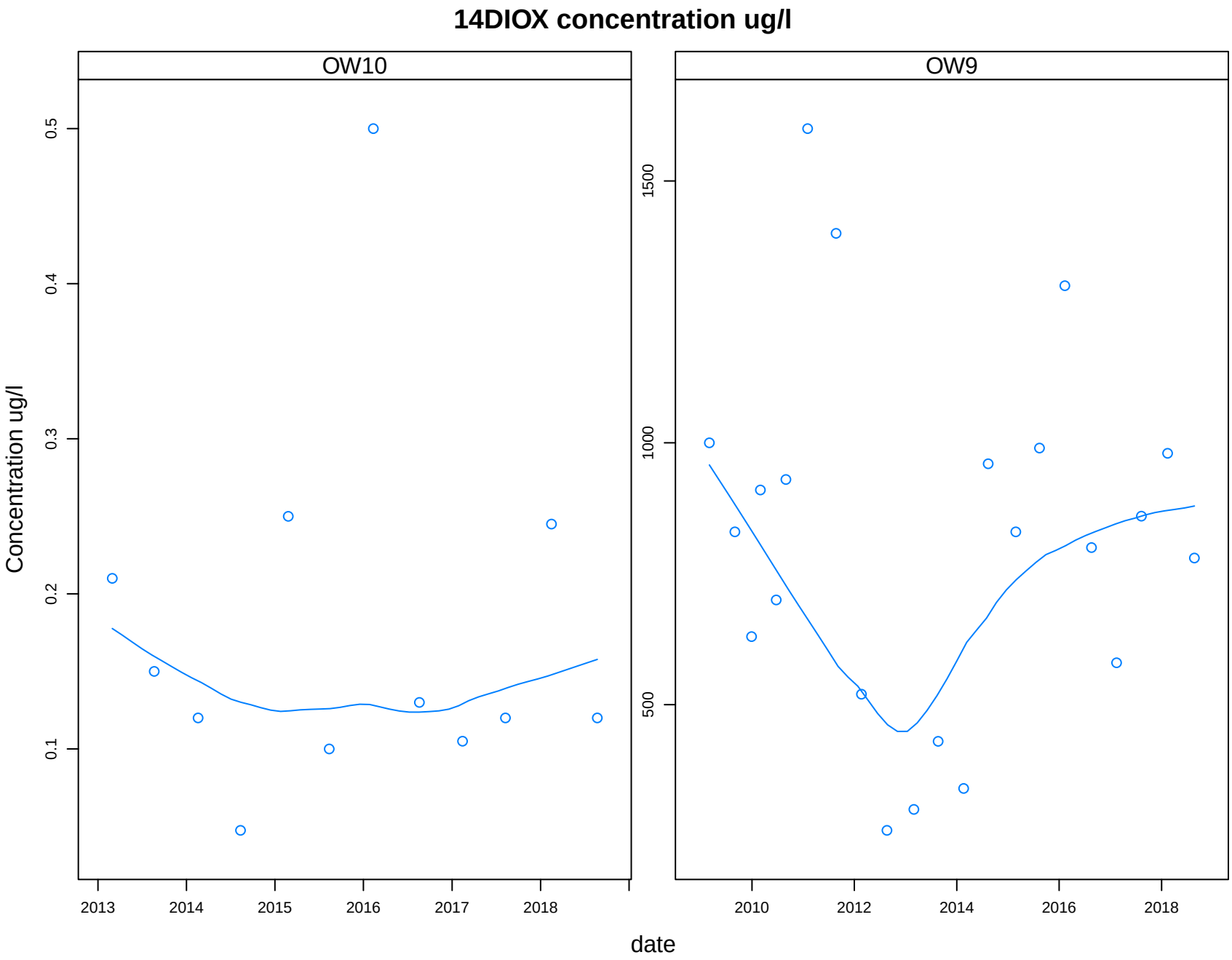
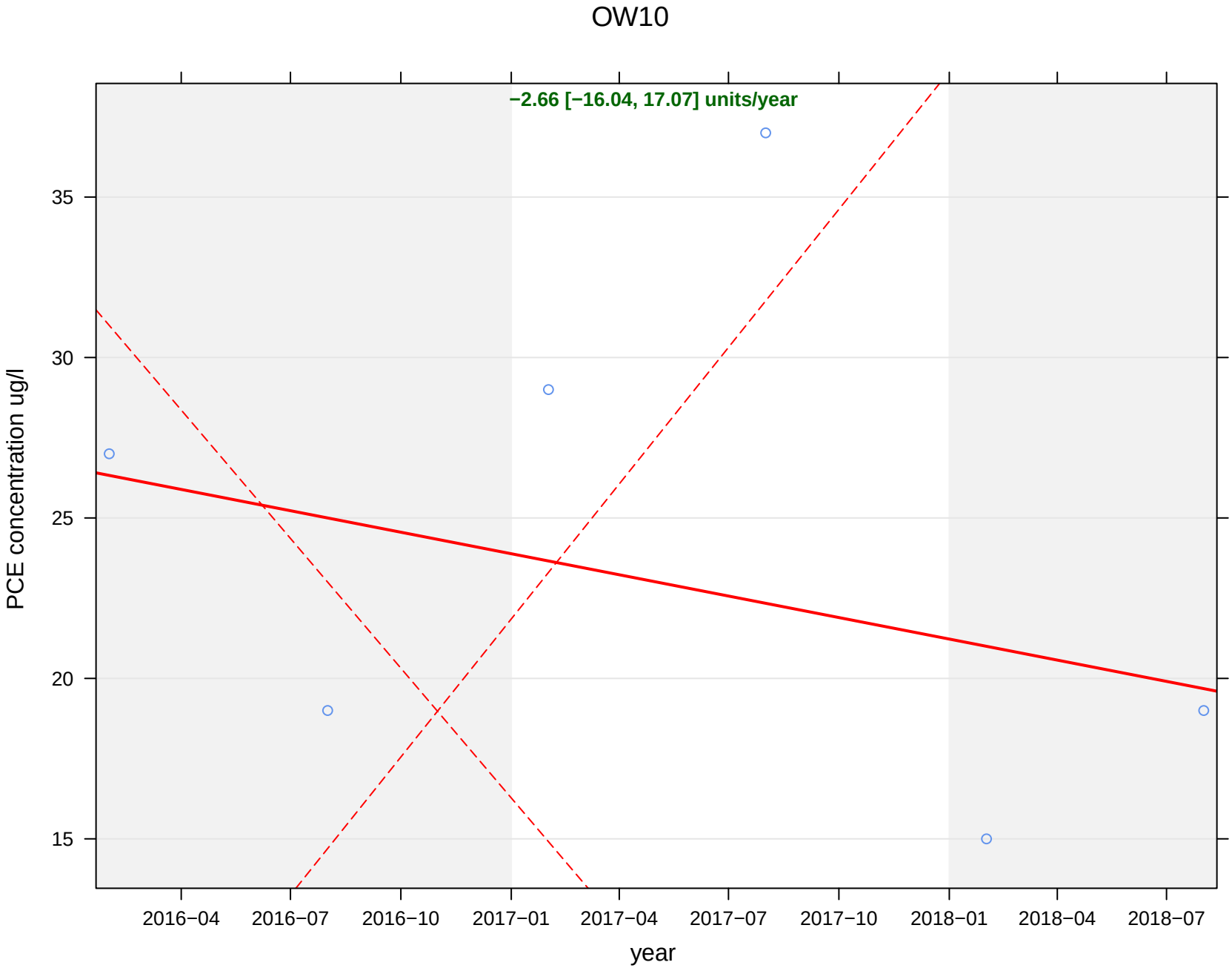
2016
2017
2018
year


14DIOX concentration ug/l
OW10
OW9
Concentration ug/l
0.1
0.2
0.3
0.4
0.5
500
1000
1500
2013
2014
2015
2016
2017
2018
2010
2012
2014
2016
2018
date

Most Recent Three-Year Analysis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−2.66 [−16.04, 17.07] units/year
PCE concentration ug/l
35
30
25
20
15
2016−04
2016−07
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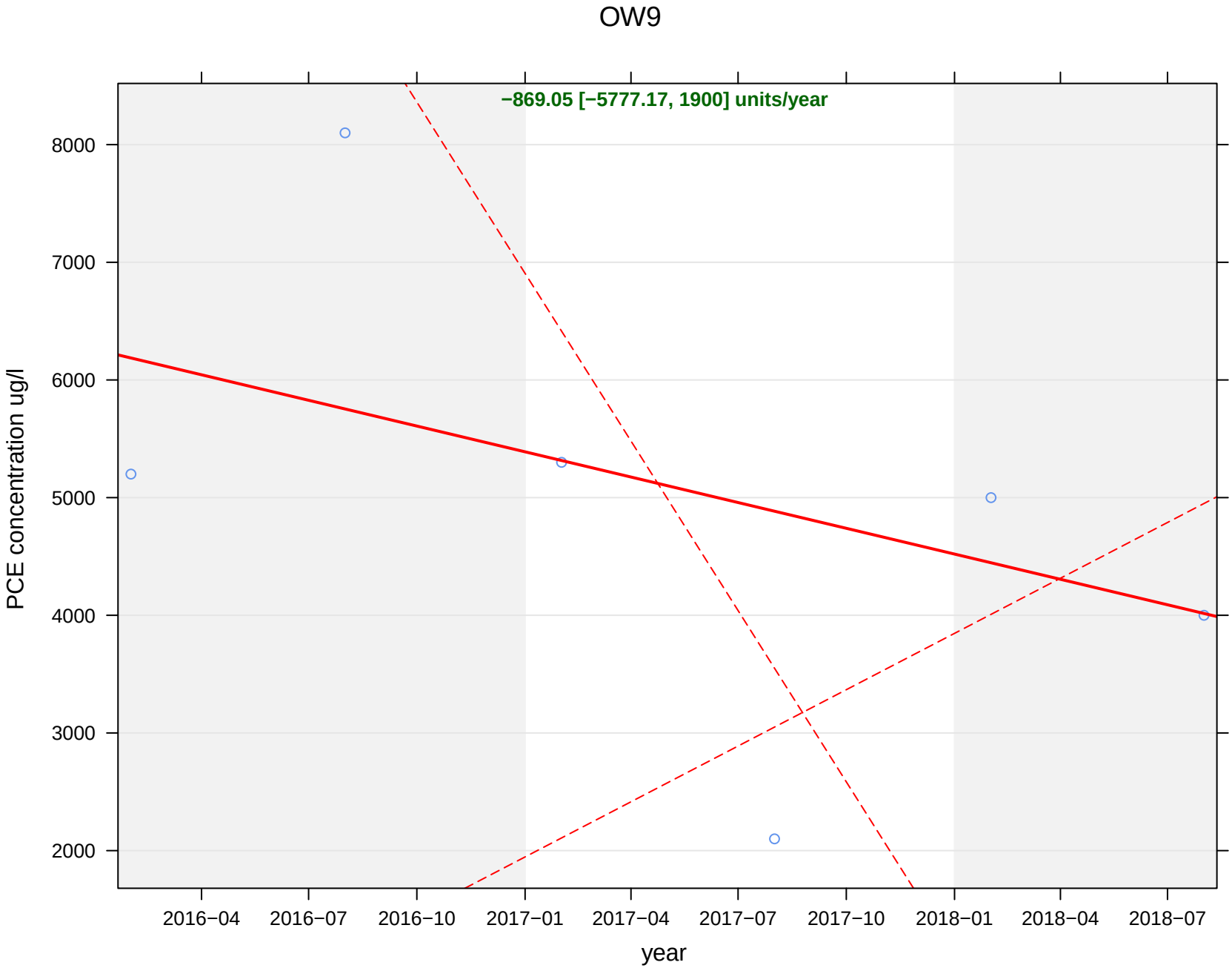
2018−01
2018−04
2018−07
year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PCE concentration ug/l
8000
7000
6000
5000
4000
3000
2000
2016−04
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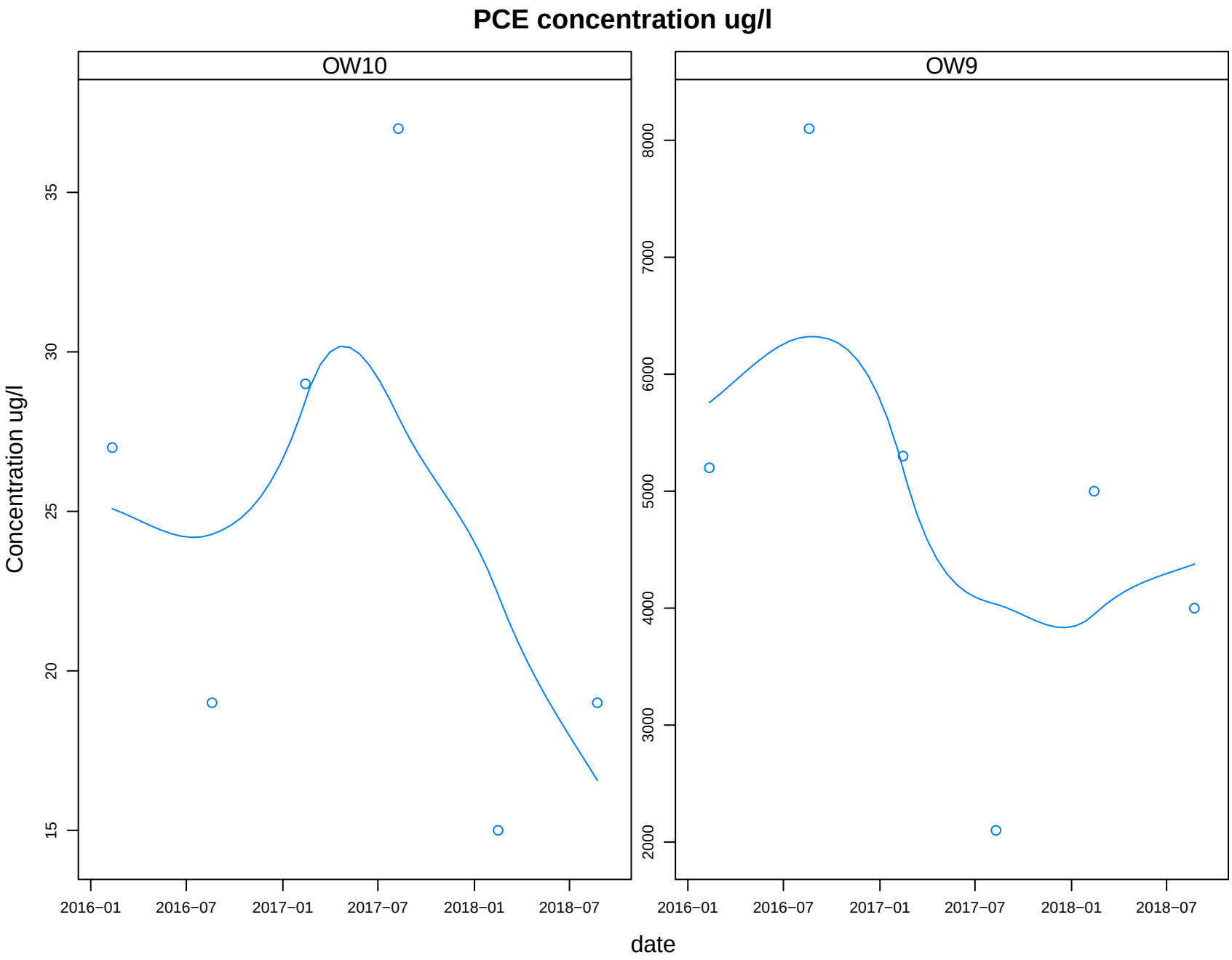
2018−01
2018−04
2018−07
year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OW10
OW9
Concentration ug/l
35
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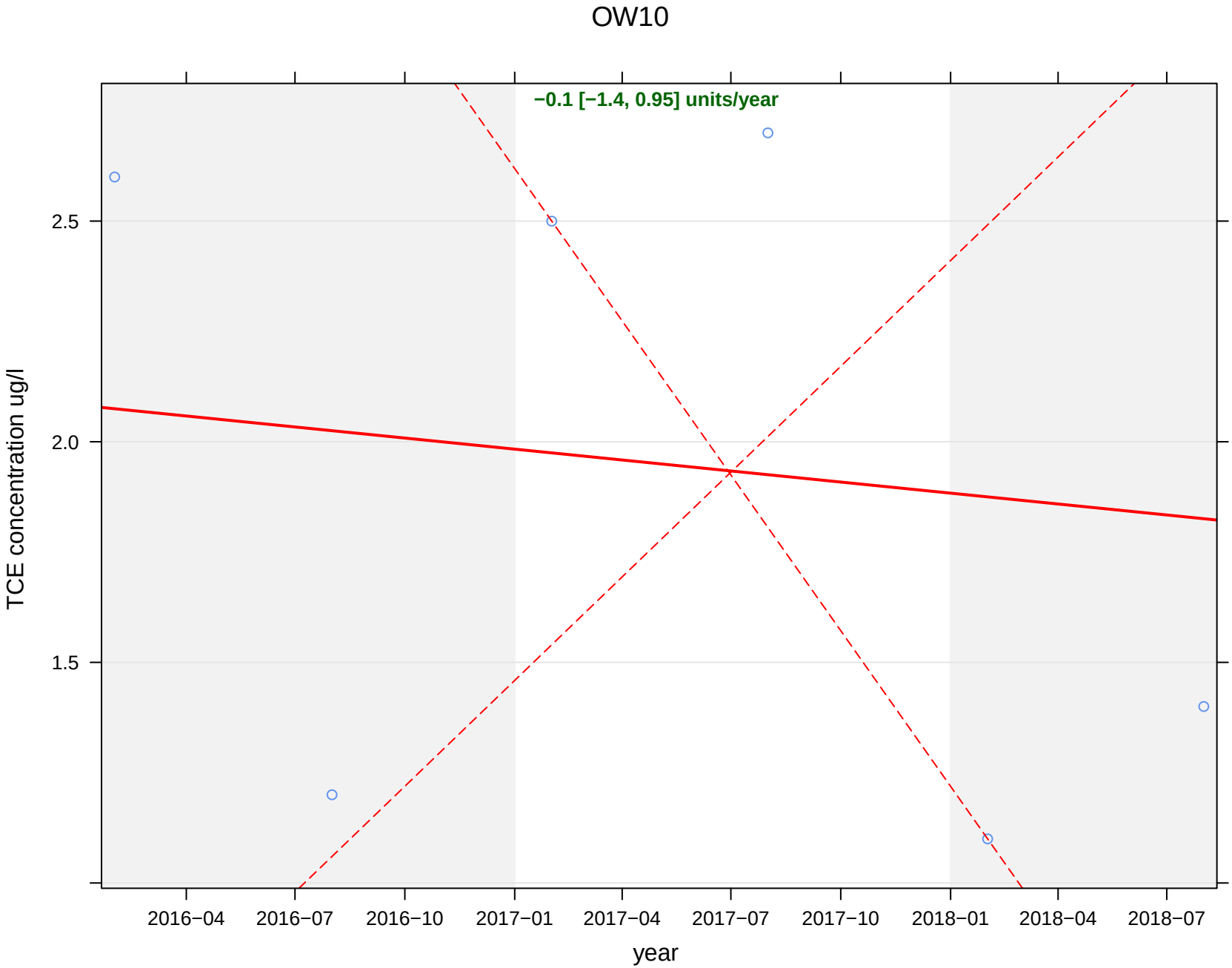
2017−07
2018−01
2018−07
date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TCE concentration ug/l
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2.0
1.5
2016−04
2016−07
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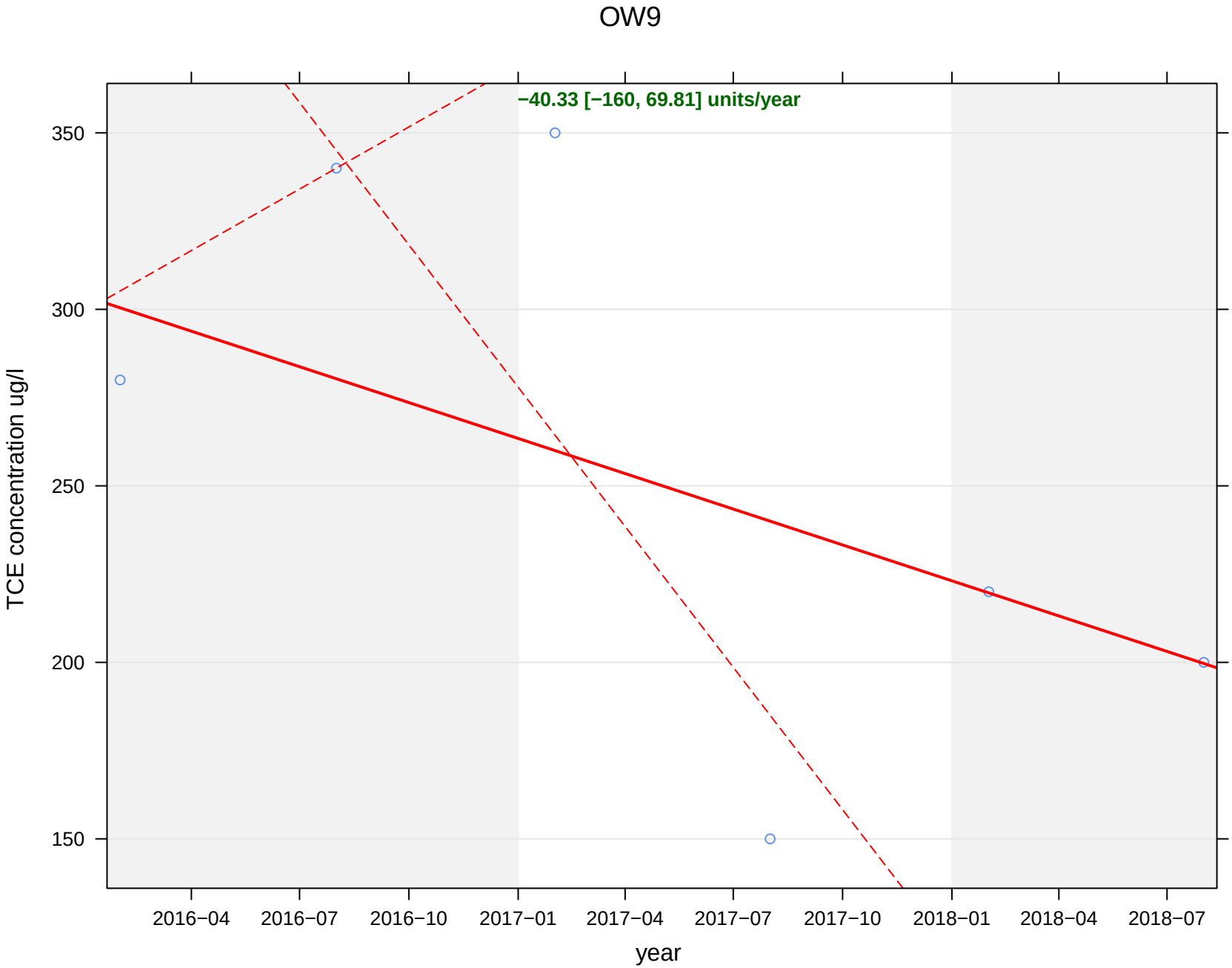
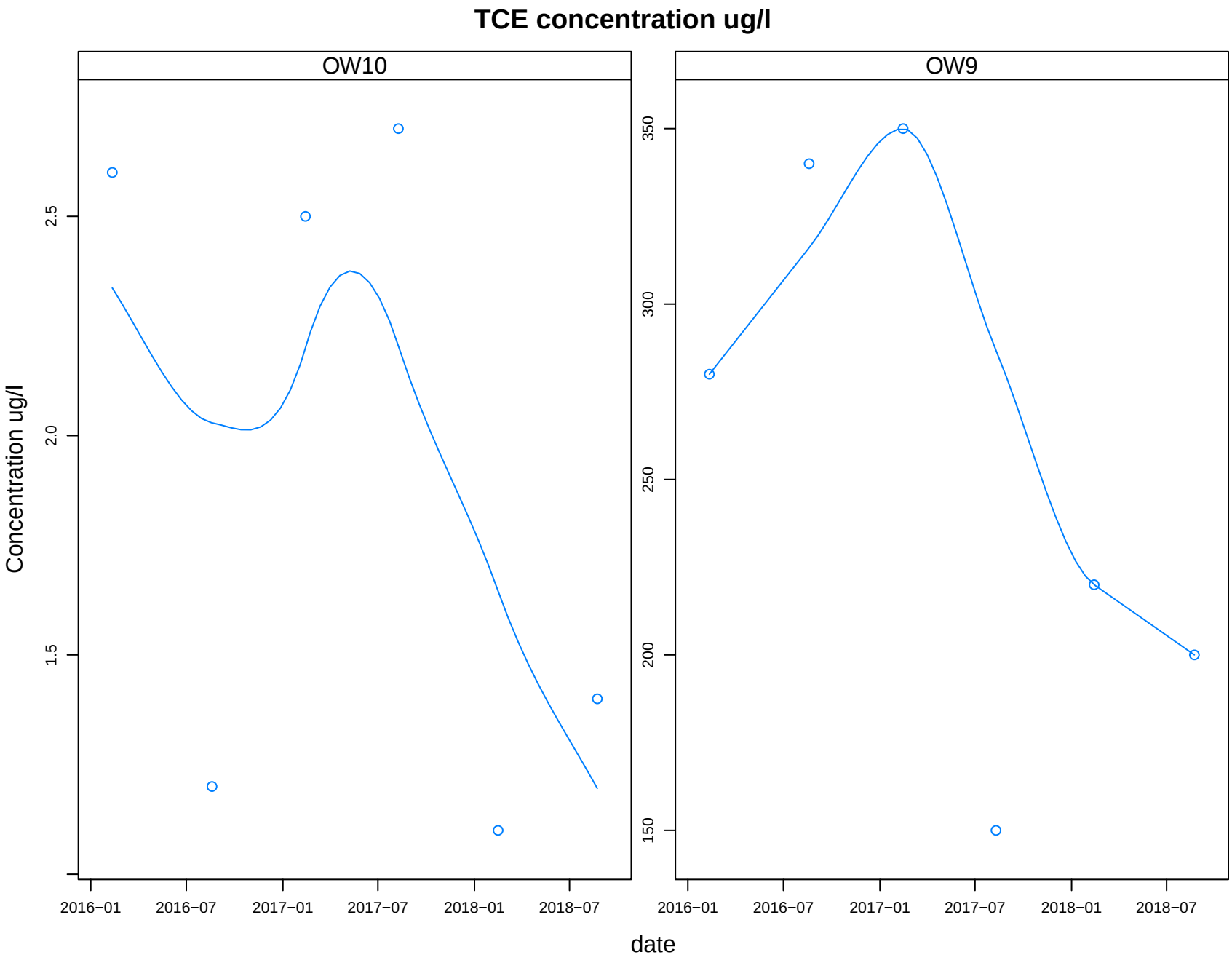
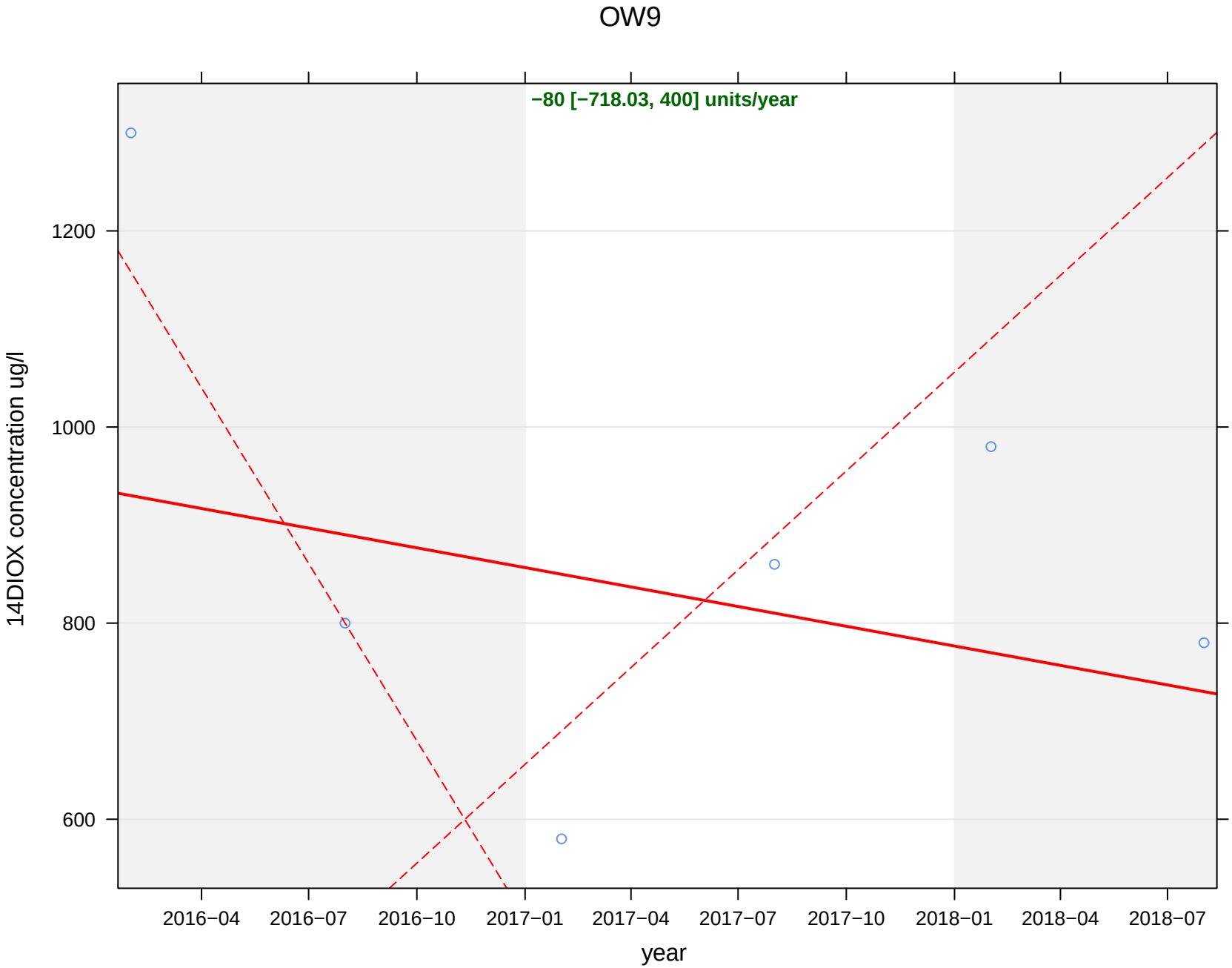
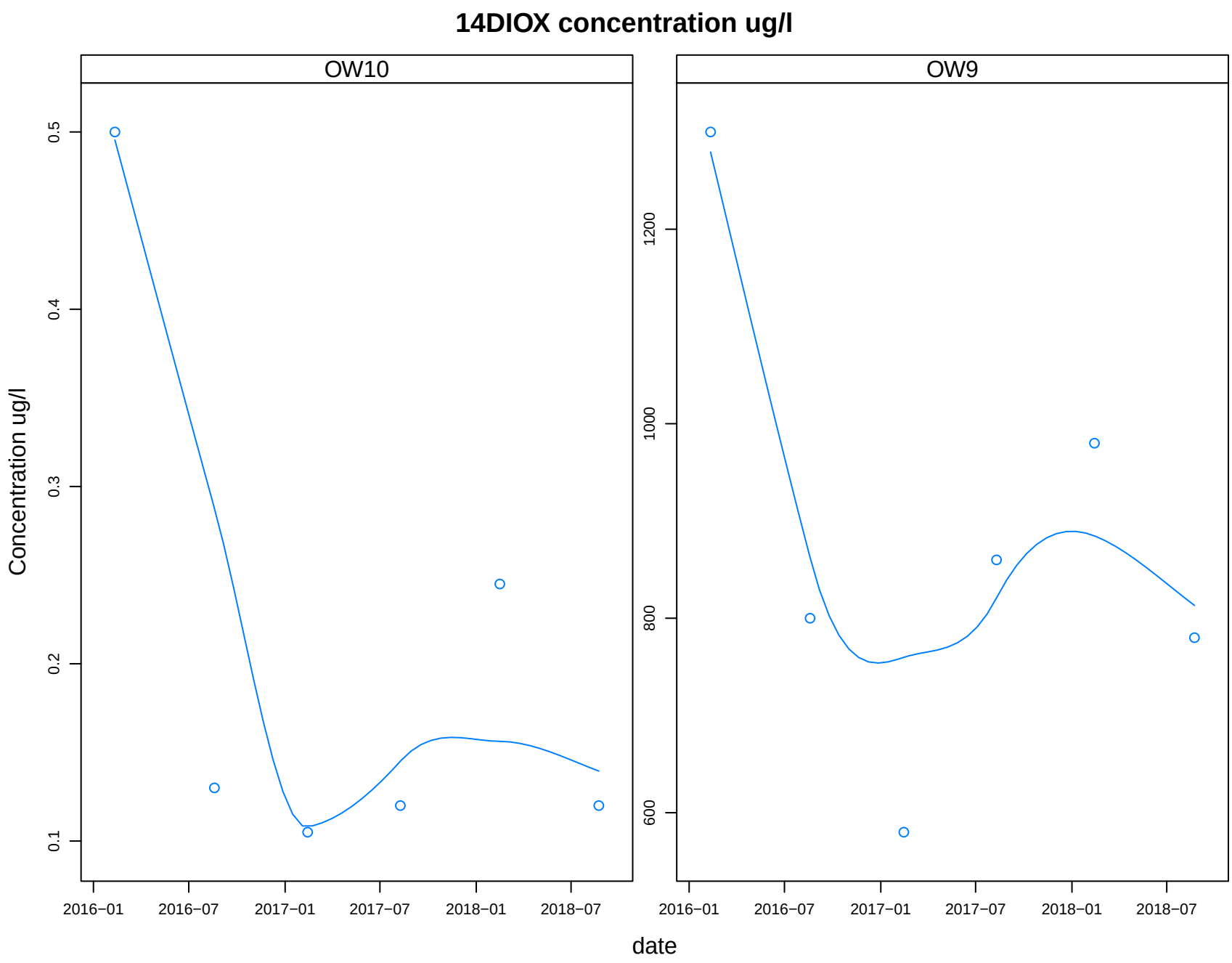
2018−01
2018−04
2018−07
year


OW9
−40.33 [−160, 69.81] units/year
TCE concentration ug/l
350
300
250
200
150
2016−04
2016−07
2016−10
2017−01
2017−04
2017−07
2017−10
2018−01
2018−04
2018−07
year


TCE concentration ug/l
OW10
OW9
Concentration ug/l
2.5
2.0
1.5
350
300
250
200
150
2016−01
2016−07
2017−01
2017−07
2018−01
2018−07
date

OW10
−0.01 [−0.39, 0.08] units/year
14DIOX concentration ug/l
0.5
0.4
0.3
0.2
0.1
2016−04
2016−07
2016−10
2017−01
2017−04
2017−07
2017−10
2018−01
2018−04
2018−07
year


OW9
−80 [−718.03, 400] units/year
14DIOX concentration ug/l
1200
1000
800
600
2016−04
2016−07
2016−10
2017−01
2017−04
2017−07
2017−10
2018−01
2018−04
2018−07
year


14DIOX concentration ug/l
OW10
OW9
Concentration ug/l
0.1
0.2
0.3
0.4
0.5
600
800
1000
1200
2016−01
2016−07
2017−01
2017−07
2018−01
2018−07
date

Attachment D

Third Quarter Field Forms

GROUNDWATER GAUGING FORM

OMEGA CHEMICAL SUPERFUND SITE
WHITTIER, CA

Date: 8/21-8/24/18

Technician(s): K. Azhar

Well ID	Well Diameter (in)	Screen Interval (ft bTOC)	Date/Time	PID (ppmv)	Depth to Water (ft bTOC)	Total Depth (ft bTOC)	Previous Depth to Water 2nd QTR 2018 (ft bTOC)	Previous Total Depth (ft bTOC)	Comments
EW-1	6	72 - 87	8/21/18 1007	Ø	86.38	–	85.91	-	
EW-2	6	72 - 87	8/21/18 1013	Ø	84.38	–	84.71	-	
EW-3	6	70 - 85	8/21/18 1020	Ø	82.88	–	82.15	-	
EW-4	6	71 - 86	8/21/18 1031	Ø	80.88	–	81.73	-	
EW-5	6	70 - 85	8/21/18 1050	Ø	81.45	–	81.45	-	
PZ-1	2	68 - 88	8/23/18 1315	0.487	86.98	87.25	86.51	87.28	
PZ-2	2	64 - 84	8/23/18 1249	0.682	84.08*	84.41	84.06*	84.55	*WL is below bottom of screen.
PZ-3	2	69.8 - 89.8	8/23/18 1253	0.394	DRY	89.05	89.08	89.15	
PZ-4	2	70 - 90	8/23/18 1303	1.287	73.32	89.15	71.88	89.1	
PZ-5	4	83 - 98					NM	NM	
PZ-6	4	83 - 98			NM		NM	NM	
PZ-7	4	86 - 101					NM	NM	
PZ-8	4	86 - 101					NM	NM	
PZ-9	2	70 - 90	8/23/18 0828	Ø	85.34	90.02	84.75	89.95	
OW-1a	4	62.5 - 77.5	8/23/18 1300	Ø	79.78*	82.58	79.51*	82.58	*WL is below bottom of screen.
OW-1b	4	110 - 120	8/22/18 1026	1.515	94.58	118.15	93.06	118.2	
OW-2	4	60 - 80	8/23/18 1251	0.617	DRY	79.52	DRY	79.57	
OW-3a	4	63 - 83	8/22/18 0855	Ø	87.00*	87.27	79.4	82.2	*WL is below bottom of screen.
OW-3b	4	112 - 122	8/22/18 0739	4.267	95.42	122.0	93.67	122	
OW-4a	4	49.8 - 69.8					NM	NM	
OW-4b	4	112 - 122			NM		NM	NM	
OW-5	4	30 - 50					NM	NM	

JHA Environmental

*WL is below the bottom screen interval

GROUNDWATER GAUGING FORM

OMEGA CHEMICAL SUPERFUND SITE
WHITTIER, CA

Date: 8/21-8/24/18

Technician(s): K. Azhar

Well ID	Well Diameter (in)	Screen Interval (ft bTOC)	Date/Time	PID (ppmv)	Depth to Water (ft bTOC)	Total Depth (ft bTOC)	Previous Depth to Water 2nd QTR 2018 (ft bTOC)	Previous Total Depth (ft bTOC)	Comments
OW-6	4	38 - 58	—	—	—	—	NM	NM	
OW-7	4	70.9 - 90.9	8/23/18 1321	0.286	DRY	89.07	DRY	89.09	
OW-8a	4	60.4 - 80	8/22/18 0900	0.147	DRY	79.03	DRY	79	
OW-8b	4	116 - 126	8/22/18 0905	0.273	98.69	126.0	96.88	126	
OW-9	4	70 - 90	8/23/18 0744	Ø	86.44	89.73	86.12	89.73	
OW-10	4	69.5 - 89.5	8/23/18 0928	0.016	78.48	89.23	76.25	89.2	
OW-11	4	80 - 100	8/24/18 0742	0.353	87.50	98.80	87.25	98.7	
OW-12	4	80 - 100	8/21/18 0903	1.103	92.31	100.0	92.02	100	
OW-13B	4	128.5-140	8/24/18 0900	476.0	98.06	140.05	96.71	140.05	
DPE-3	4	40 - 100	8/21/18 0738	NM	92.41	100.0	92.08	-	
DPE-4	4	40 - 100	8/21/18 0805	NM	92.27	100.0	92.21	-	
DPE-5	4	40 - 100	8/21/18 1340	NM	91.91	100.0	92.02	-	
DPE-8	4	40 - 100	8/21/18 0755	NM	90.89	100.0	90.54	-	
DPE-9	4	40 - 100	8/21/18 0943	NM	88.47	100.0	88.81	-	
VE-6D	4	40 - 100	—	—	—	—	NM	NM	
DPE-7D	4	40 - 100	8/21/18 1320	NM	90.90	100.0	90.81	-	
DPE-10D	4	40 - 70	8/21/18 1300	NM	93.04	100.0	92.32	-	
DPE-11D	4	40 - 70					NM	NM	
VE-12D	4	40 - 70			NM		NM	NM	
DPE-13D	4	40 - 70					NM	NM	
VE-14D	4	40 - 100					NM	NM	

JHA Environmental

*WL is below the bottom screen interval

JHA ENVIRONMENTAL

Groundwater Sampling Data Sheet

Project Name: Omega Chemical Superfund Site	**Date:** 8/21/18
Project No.: E742	**Prepared By:** K. Azhar
Well Identification: EW-1	**Weather:** Overcast, warm
Measurement Point Description: TOC -N	**Pump Intake:** / **Screen:** 72-87 / **Casing Material:** PVC or SS

A Depth to Static Water Level (ft-bmp)	B Well Total Depth (ft-bmp)	C Water Column Height (ft) (A – B = C)	E One (1) Casing Volume (gallons) (C XD=E)	Three (3) Casing Volumes (gallons) (E x 3)	½ Casing Volume (E /2)	Above Screen Volume (Top screen – DTW)x D	Screen Volume (Screen length x D)	½ Screen Volume
87.41/86.38 Manual, HMI	–	–	–	–	–	–	–	–

Well Diameter (in)	Gallons/Foot			
	0.75	2	4	6
D Gallons per foot of casing	0.02	0.16	0.65	1.47

Field Equipment: Horiba U-52
Purge Method: Grab
Pump Type: Dedicated Pump

Well Headspace: PID(ppm)= Ø; FID(ppm)= –

Time	Casing/ Screen	Volume Purged (gallons)	Flow Rate (gpm)	Water Level (ft-bmp)	Ph	Temperature (°C)	Turbidity (NTU)	Conductivity ( )	Dissolve Oxygen (mg/L)	ORP (mV)	TDS (g/L)	Observations
1007		NO WATER										

Purge Start Time	Purge End Time	Average Flow (gpm)	Total Gallons Purged	Volumes Purged	80% Recovery Water Level Depth B - (C x .80)	DTW - Sampling Time (ft-bmp)	Sample Time	Sample Identification
–	–	–	–	–	–	–	–	–

Notes
Drum No. : Purge Equipment decontaminated? **Yes** ☐ **No** ☐ Purge/decon water containerized? **Yes** ☐ **No** ☐ Container type: Drum to treatment system

ft-bmp = feet below measuring point

JHA ENVIRONMENTAL

Groundwater Sampling Data Sheet

Project Name: Omega Chemical Superfund Site	**Date:** 8/21/18
Project No.: E742	**Prepared By:** K. Azhar
Well Identification: EW-2	**Weather:** Overcast, warm
Measurement Point Description: TOC -N	**Pump Intake:** / **Screen:** 72-87 / **Casing Material:** PVC or SS

A Depth to Static Water Level (ft-bmp)	B Well Total Depth (ft-bmp)	C Water Column Height (ft) (A – B = C)	E One (1) Casing Volume (gallons) (C XD=E)	Three (3) Casing Volumes (gallons) (E x 3)	½ Casing Volume (E /2)	Above Screen Volume (Top screen – DTW)x D	Screen Volume (Screen length x D)	½ Screen Volume
85.18 / 84.38 Manu. HMI	–	–	–	–	–	–	–	–

Well Diameter (in)	Gallons/Foot			
	0.75	2	4	6
D Gallons per foot of casing	0.02	0.16	0.65	1.47

Field Equipment: Horiba U-52
Purge Method: Grab
Pump Type: Dedicated Pump

Well Headspace: PID(ppm)= Ø; FID(ppm)= –

Time	Casing/ Screen	Volume Purged (gallons)	Flow Rate (gpm)	Water Level (ft-bmp)	Ph	Temperature (°C)	Turbidity (NTU)	Conductivity ( )	Dissolve Oxygen (mg/L)	ORP (mV)	TDS (g/L)	Observations
1013		NO	WATER									

Purge Start Time	Purge End Time	Average Flow (gpm)	Total Gallons Purged	Volumes Purged	80% Recovery Water Level Depth B - (C x .80)	DTW - Sampling Time (ft-bmp)	Sample Time	Sample Identification
–	–	–	–	–	–	–	–	–

Notes
Drum No. : Purge Equipment decontaminated? **Yes** ☐ **No** ☐ Purge/decon water containerized? **Yes** ☐ **No** ☐ Container type: Drum to treatment system

ft-bmp = feet below measuring point

JHA ENVIRONMENTAL

Groundwater Sampling Data Sheet

Project Name: Omega Chemical Superfund Site	**Date:** 8/21/18
Project No.: E742	**Prepared By:** K. Azhar
Well Identification: EW-3	**Weather:** Overcast, warm
Measurement Point Description: TOC -N	**Pump Intake:** / **Screen:** 70-85 / **Casing Material:** PVC or SS

A Depth to Static Water Level (ft-bmp)	B Well Total Depth (ft-bmp)	C Water Column Height (ft) (A – B = C)	E One (1) Casing Volume (gallons) (C XD=E)	Three (3) Casing Volumes (gallons) (E x 3)	½ Casing Volume (E /2)	Above Screen Volume (Top screen – DTW)x D	Screen Volume (Screen length x D)	½ Screen Volume
82.57/82.88 Max. / HMI	–	–	–	–	–	–	–	–

Well Diameter (in)	Gallons/Foot			
	0.75	2	4	6
D Gallons per foot of casing	0.02	0.16	0.65	1.47

Field Equipment: Horiba U-52
Purge Method: Grab
Pump Type: Dedicated Pump

Well Headspace: PID(ppm)= Ø FID(ppm)= –

Time	Casing/ Screen	Volume Purged (gallons)	Flow Rate (gpm)	Water Level (ft-bmp)	Ph	Temperature (°C)	Turbidity (NTU)	Conductivity ( )	Dissolve Oxygen (mg/L)	ORP (mV)	TDS (g/L)	Observations
1020	–	<1.0	~1.0	82.88	7.65	33.10	21.6	0.793	0.98	-46	0.507	

Purge Start Time	Purge End Time	Average Flow (gpm)	Total Gallons Purged	Volumes Purged	80% Recovery Water Level Depth B - (C x .80)	DTW - Sampling Time (ft-bmp)	Sample Time	Sample Identification
1016	1023	1.0	< 1	–	–	82.88	1020	

Notes
Drum No. : Purge Equipment decontaminated? **Yes** ☐ **No** ☐ Purge/decon water containerized? **Yes** ☑ **No** ☐ Container type: Drum to treatment system

ft-bmp = feet below measuring point

JHA ENVIRONMENTAL

Groundwater Sampling Data Sheet

Project Name: Omega Chemical Superfund Site	**Date:** 8/21/18
Project No.: E742	**Prepared By:** K. Azhar
Well Identification: EW-4	**Weather:** Overcast, warm
Measurement Point Description: TOC -N	**Pump Intake:** / **Screen:** 71-86 / **Casing Material:** PVC or SS

A Depth to Static Water Level (ft-bmp)	B Well Total Depth (ft-bmp)	C Water Column Height (ft) (A – B = C)	E One (1) Casing Volume (gallons) (C XD=E)	Three (3) Casing Volumes (gallons) (E x 3)	½ Casing Volume (E /2)	Above Screen Volume (Top screen – DTW)x D	Screen Volume (Screen length x D)	½ Screen Volume
81.15 / 80.88 Man. HMI	–	–	–	–	–	–	–	–

Well Diameter (in)	Gallons/Foot			
	0.75	2	4	6
D Gallons per foot of casing	0.02	0.16	0.65	1.47

Field Equipment: Horiba U-52
Purge Method: Grab
Pump Type: Dedicated Pump

Well Headspace: PID(ppm)= Ø; FID(ppm)= –

Time	Casing/ Screen	Volume Purged (gallons)	Flow Rate (gpm)	Water Level (ft-bmp)	Ph	Temperature (°C)	Turbidity (NTU)	Conductivity (mS/cm)	Dissolve Oxygen (mg/L)	ORP (mV)	TDS (g/L)	Observations
1031	–	<1	~5.0	81.15	8.12	30.34	0.0	0.885	4.29	103	0.567	clear

Purge Start Time	Purge End Time	Average Flow (gpm)	Total Gallons Purged	Volumes Purged	80% Recovery Water Level Depth B - (C x .80)	DTW - Sampling Time (ft-bmp)	Sample Time	Sample Identification
1029	1038	5.0	<1	–	–	81.15	1035	OC-GW-EW-4-20180821

Notes
Drum No. :
Purge Equipment decontaminated? **Yes** ☐ **No** ☐ Purge/decon water containerized? **Yes** ☑ **No** ☐ Container type: Drum to treatment system

ft-bmp = feet below measuring point

JHA ENVIRONMENTAL

Groundwater Sampling Data Sheet

Project Name: Omega Chemical Superfund Site	**Date:** 8/21/18
Project No.: E742	**Prepared By:** K. Azhar
Well Identification: EW-5	**Weather:** Overcast, warm
Measurement Point Description: TOC -N	**Pump Intake:** / **Screen:** 70-85 / **Casing Material:** PVC or SS

A Depth to Static Water Level (ft-bmp)	B Well Total Depth (ft-bmp)	C Water Column Height (ft) (A – B = C)	E One (1) Casing Volume (gallons) (C XD=E)	Three (3) Casing Volumes (gallons) (E x 3)	½ Casing Volume (E /2)	Above Screen Volume (Top screen – DTW)x D	Screen Volume (Screen length x D)	½ Screen Volume
81.63/81.45 MAN. KMI	–	–	–	–	–	–	–	–

Well Diameter (in)	Gallons/Foot			
	0.75	2	4	6
D Gallons per foot of casing	0.02	0.16	0.65	1.47

Field Equipment: Horiba U-52
Purge Method: Grab
Pump Type: Dedicated pump

Well Headspace: PID(ppm)= Ø FID(ppm)= –

Time	Casing/ Screen	Volume Purged (gallons)	Flow Rate (gpm)	Water Level (ft-bmp)	Ph	Temperature (°C)	Turbidity (NTU)	Conductivity (mS/cm)	Dissolve Oxygen (mg/L)	ORP (mV)	TDS (g/L)	Observations
1050	–	–	~5.0	81.63	7.69	27.49	0.0	0.924	8.85	122	0.592	clear

Purge Start Time	Purge End Time	Average Flow (gpm)	Total Gallons Purged	Volumes Purged	80% Recovery Water Level Depth B - (C x .80)	DTW - Sampling Time (ft-bmp)	Sample Time	Sample Identification
1048	1053	5.0	<1	–	–	81.63	1045	OC-GW-EW-S-20180821

Notes
Drum No. :
Purge Equipment decontaminated? **Yes** ☐ **No** ☐ Purge/decon water containerized? **Yes** ☑ **No** ☐ Container type: Drum to treatment system

ft-bmp = feet below measuring point

JHA ENVIRONMENTAL

Groundwater Sampling Data Sheet

Project Name: Omega Chemical Superfund Site	**Date:** 8/23/18
Project No.: E742	**Prepared By:** K. Azhar
Well Identification: OW-1	**Weather:** Clear skies, hot
Measurement Point Description: TOC -N	**Pump Intake:** – **Screen:** 62.5 -77.5 **Casing Material:** PVC or SS

A Depth to Static Water Level (ft-bmp)	B Well Total Depth (ft-bmp)	C Water Column Height (ft) (A – B = C)	E One (1) Casing Volume (gallons) (C XD=E)	Three (3) Casing Volumes (gallons) (E x 3)	½ Casing Volume (E /2)	Above Screen Volume (Top screen – DTW)x D	Screen Volume (Screen length x D)	½ Screen Volume
79.78	82.58							

Well Diameter (in)	Gallons/Foot 0.75	2	4	6
D Gallons per foot of casing	0.02	0.16	0.65	1.47

Field Equipment: -
Purge Method: -
Pump Type: -

Well Headspace: PID(ppm)= Ø FID(ppm)= –

Time	Casing/ Screen	Volume Purged (gallons)	Flow Rate (gpm)	Water Level (ft-bmp)	Ph	Temperature (°C)	Turbidity (NTU)	Conductivity ( )	Dissolve Oxygen (mg/L)	ORP (mV)	TDS (g/L)	Observations
1300				WL	IS	BELOW	BOTTOM	of SCREEN				
						DEPTH						

Purge Start Time	Purge End Time	Average Flow (gpm)	Total Gallons Purged	Volumes Purged	80% Recovery Water Level Depth B - (C x .80)	DTW - Sampling Time (ft-bmp)	Sample Time	Sample Identification
–	–	–	–	–	–	–	–	–

Notes
Drum No. : Purge Equipment decontaminated? **Yes** ☐ **No** ☐ Purge/decon water containerized? **Yes** ☐ **No** ☐ Container type: Drum to treatment system

ft-bmp = feet below measuring point

JHA ENVIRONMENTAL

Groundwater Sampling Data Sheet

Project Name: Omega Chemical Superfund Site	**Date:** 8/22/18
Project No.: E742	**Prepared By:** K. Azner
Well Identification: OW-1B	**Weather:** ~~Cloudy~~, clear skies, warm
Measurement Point Description: TOC -N	**Pump Intake:** 119 **Screen:** 110-120 **Casing Material:** PVC or SS

A Depth to Static Water Level (ft-bmp)	B Well Total Depth (ft-bmp)	C Water Column Height (ft) (A – B = C)	E One (1) Casing Volume (gallons) (C XD=E)	Three (3) Casing Volumes (gallons) (E x 3)	½ Casing Volume (E /2)	Above Screen Volume (Top screen – DTW)x D	Screen Volume (Screen length x D)	½ Screen Volume
94.58	118.15	23.6	~~20.8~~ 30.7	92.1	15.35			

Well Diameter (in)	Gallons/Foot 0.75	2	4	6
D Gallons per foot of casing	0.02	0.16	0.65 1.3	1.47

Field Equipment: Horiba U-52
Purge Method: 3 Vol. Purge
Pump Type: 2" Grundfos Redi-flo 242 Hz

Well Headspace: PID(ppm)=1.515 FID(ppm)= -

Time	Casing/ Screen	Volume Purged (gallons)	Flow Rate (gpm)	Water Level (ft-bmp)	Ph	Temperature (°C)	Turbidity (NTU)	Conductivity (mS/cm)	Dissolve Oxygen (mg/L)	ORP (mV)	TDS (g/L)	Observations
1028				START PURGING								
1048	-	20	~1.0	107.10	8.50	28.69	13.5	0.323	11.39	-87	0.210	clear
1108	-	40		113.57	WELL WENT DRY							
		60										
		80										
		92.1										

Purge Start Time	Purge End Time	Average Flow (gpm)	Total Gallons Purged	Volumes Purged	80% Recovery Water Level Depth B - (C x .80)	DTW - Sampling Time (ft-bmp)	Sample Time	Sample Identification
1028					99.27	94.50	1045	OC_GW_OW-1B20180823

Notes 1050- Flow dropping off to ~0.5 gpm. Increase speed to 26 Hz, ~1.0 gpm 1100- Flow dropped to ~0.5 gpm.

Drum No. : Purge Equipment decontaminated? **Yes** ☑ **No** ☐ Purge/decon water containerized? **Yes** ☑ **No** ☐ Container type: Drum to treatment system

ft-bmp = feet below measuring point

JHA ENVIRONMENTAL

Groundwater Sampling Data Sheet

Project Name: Omega Chemical Superfund Site	**Date:** 8/23/18
Project No.: E742	**Prepared By:** K. Azhar
Well Identification: OW-2	**Weather:** Cloudy, cool
Measurement Point Description: TOC -N	**Pump Intake:** - **Screen:** 60-80 **Casing Material:** PVC or SS

A Depth to Static Water Level (ft-bmp)	B Well Total Depth (ft-bmp)	C Water Column Height (ft) (A – B = C)	E One (1) Casing Volume (gallons) (C XD=E)	Three (3) Casing Volumes (gallons) (E x 3)	½ Casing Volume (E /2)	Above Screen Volume (Top screen – DTW)x D	Screen Volume (Screen length x D)	½ Screen Volume
-	79.52	-	-	-	-	-	-	-

Well Diameter (in)	Gallons/Foot			
	0.75	2	4	6
D Gallons per foot of casing	0.02	0.16	0.65	1.47

Field Equipment: -
Purge Method: -
Pump Type: -

Well Headspace: PID(ppm)= 0.617 FID(ppm)= -

Time	Casing/ Screen	Volume Purged (gallons)	Flow Rate (gpm)	Water Level (ft-bmp)	Ph	Temperature (°C)	Turbidity (NTU)	Conductivity ( )	Dissolve Oxygen (mg/L)	ORP (mV)	TDS (g/L)	Observations
1251				WELL IS DRY								

Purge Start Time	Purge End Time	Average Flow (gpm)	Total Gallons Purged	Volumes Purged	80% Recovery Water Level Depth B - (C x .80)	DTW - Sampling Time (ft-bmp)	Sample Time	Sample Identification
-	-	-	-	-	-	-	-	-

Notes
Drum No. : Purge Equipment decontaminated? **Yes** ☐ **No** ☐ Purge/decon water containerized? **Yes** ☐ **No** ☐ Container type: Drum to treatment system

ft-bmp = feet below measuring point

JHA ENVIRONMENTAL

Groundwater Sampling Data Sheet

Project Name: Omega Chemical Superfund Site	**Date:** 8/22/18
Project No.: E742	**Prepared By:** K. Azhar.
Well Identification: OW-3A	**Weather:** Cloudy.
Measurement Point Description: TOC -N	**Pump Intake:** – **Screen:** 63-83 **Casing Material:** PVC or SS

A Depth to Static Water Level (ft-bmp)	B Well Total Depth (ft-bmp)	C Water Column Height (ft) (A – B = C)	E One (1) Casing Volume (gallons) (C XD=E)	Three (3) Casing Volumes (gallons) (E x 3)	½ Casing Volume (E /2)	Above Screen Volume (Top screen – DTW)x D	Screen Volume (Screen length x D)	½ Screen Volume
87.00	87.27	0.27	0.35	1.05	0.175	–	–	–

Well Diameter (in)	Gallons/Foot			
	0.75	2	4	6
D Gallons per foot of casing	0.02	0.16	0.65	1.47

Field Equipment: –
Purge Method: –
Pump Type: –

Well Headspace: PID(ppm)= Ø FID(ppm)= –

Time	Casing/ Screen	Volume Purged (gallons)	Flow Rate (gpm)	Water Level (ft-bmp)	Ph	Temperature (°C)	Turbidity (NTU)	Conductivity ( )	Dissolve Oxygen (mg/L)	ORP (mV)	TDS (g/L)	Observations
0855					NOT ABLE TO PULL UP ANY WATER							
					w/ BAILER. WL IS BELOW BOTTOM of SCREEN							

Purge Start Time	Purge End Time	Average Flow (gpm)	Total Gallons Purged	Volumes Purged	80% Recovery Water Level Depth B - (C x .80)	DTW - Sampling Time (ft-bmp)	Sample Time	Sample Identification
–	–	–	–	–	–	–	–	–

Notes
Drum No. : Purge Equipment decontaminated? **Yes** ☐ **No** ☐ Purge/decon water containerized? **Yes** ☐ **No** ☐ Container type: Drum to treatment system

ft-bmp = feet below measuring point

JHA ENVIRONMENTAL

Groundwater Sampling Data Sheet

Project Name: Omega Chemical Superfund Site	**Date:** 8/22/18
Project No.: E742	**Prepared By:** K. Azhar
Well Identification: OW-3B	**Weather:** Overcast, cool 70°F
Measurement Point Description: TOC -N	**Pump Intake:** 121 **Screen:** 112-122 **Casing Material:** PVC or SS

A Depth to Static Water Level (ft-bmp)	B Well Total Depth (ft-bmp)	C Water Column Height (ft) (A – B = C)	E One (1) Casing Volume (gallons) (C XD=E)	Three (3) Casing Volumes (gallons) (E x 3)	½ Casing Volume (E /2)	Above Screen Volume (Top screen – DTW)x D 0.65	Screen Volume (Screen length x D) 0.65	½ Screen Volume
95.42	122.0	26.58	34.6	103.8	17.3	10.8	6.5	3.25

Well Diameter (in)	Gallons/Foot 0.75	2	4	6
D Gallons per foot of casing	0.02	0.16	0.65 (1.5)	1.47

Field Equipment: Horiba U-52
Purge Method: 3 Vol. Purge
Pump Type: 2" Grundfos Redi flo 267 Hz

Well Headspace: PID(ppm)= 4.267 FID(ppm)= –

Time	Casing/ Screen	Volume Purged (gallons)	Flow Rate (gpm)	Water Level (ft-bmp)	Ph	Temperature (°C)	Turbidity (NTU)	Conductivity (mS/cm)	Dissolve Oxygen (mg/L)	ORP (mV)	TDS (g/L)	Observations
0741		START		PURGING								
0751	–	20	~2.0	100.47	6.75	24.84	7.8	0.878	9.71	200	0.562	clear
0801	–	40	~2.0	100.50	7.38	24.89	1.14	0.891	9.80	177	0.570	"
0811	–	60	~2.0	100.65	7.50	24.91	0.0	0.906	9.81	167	0.580	"
0821	–	80	~2.0	100.73	7.55	24.91	0.0	0.903	9.82	167	0.578	"
0833	–	103.8	~2.0	100.75	7.54	25.02	0.0	0.917	9.77	166	0.586	"

Purge Start Time	Purge End Time	Average Flow (gpm)	Total Gallons Purged	Volumes Purged	80% Recovery Water Level Depth B - (C x .80)	DTW - Sampling Time (ft-bmp)	Sample Time	Sample Identification
0741	0838	2.0	~105	3	–	100.75	0835	OC-GW-OW-3B-20180822

Notes
Drum No. :
Purge Equipment decontaminated? **Yes** ☑ **No** ☐ Purge/decon water containerized? **Yes** ☑ **No** ☐ Container type: Drum to treatment system

ft-bmp = feet below measuring point

JHA ENVIRONMENTAL

Groundwater Sampling Data Sheet

Project Name: Omega Chemical Superfund Site	**Date:** 8/23/18
Project No.: E742	**Prepared By:** K. Azhar
Well Identification: OW-7	**Weather:** Cloudy warm
Measurement Point Description: TOC -N	**Pump Intake:** – **Screen:** 70.9-90.9 **Casing Material:** PVC or SS

A Depth to Static Water Level (ft-bmp)	B Well Total Depth (ft-bmp)	C Water Column Height (ft) (A – B = C)	E One (1) Casing Volume (gallons) (C XD=E)	Three (3) Casing Volumes (gallons) (E x 3)	½ Casing Volume (E /2)	Above Screen Volume (Top screen – DTW)x D	Screen Volume (Screen length x D)	½ Screen Volume
DRY	89.07	–	–	–	–	–	–	–

Well Diameter (in)	Gallons/Foot 0.75	2	4	6
D Gallons per foot of casing	0.02	0.16	0.65	1.47

Field Equipment: –
Purge Method: –
Pump Type: –

Well Headspace: PID(ppm)=0.286 FID(ppm)= –

Time	Casing/ Screen	Volume Purged (gallons)	Flow Rate (gpm)	Water Level (ft-bmp)	Ph	Temperature (°C)	Turbidity (NTU)	Conductivity ( )	Dissolve Oxygen (mg/L)	ORP (mV)	TDS (g/L)	Observations
1321				WELL IS DRY								

Purge Start Time	Purge End Time	Average Flow (gpm)	Total Gallons Purged	Volumes Purged	80% Recovery Water Level Depth B - (C x .80)	DTW - Sampling Time (ft-bmp)	Sample Time	Sample Identification
–	–	–	–	–	–	–	–	–

Notes
Drum No. : Purge Equipment decontaminated? **Yes** ☐ **No** ☐ Purge/decon water containerized? **Yes** ☐ **No** ☐ Container type: Drum to treatment system

ft-bmp = feet below measuring point

JHA ENVIRONMENTAL

Groundwater Sampling Data Sheet

Project Name: Omega Chemical Superfund Site	**Date:** 8/22/18
Project No.: E742	**Prepared By:** K. Azhar
Well Identification: OW-8A	**Weather:** Cloudy
Measurement Point Description: TOC -N	**Pump Intake:** – **Screen:** 60.4-80 **Casing Material:** PVC or SS

A Depth to Static Water Level (ft-bmp)	B Well Total Depth (ft-bmp)	C Water Column Height (ft) (A – B = C)	E One (1) Casing Volume (gallons) (C XD=E)	Three (3) Casing Volumes (gallons) (E x 3)	½ Casing Volume (E /2)	Above Screen Volume (Top screen – DTW)x D	Screen Volume (Screen length x D)	½ Screen Volume
–	79.03	–	–	–	–	–	–	–

Well Diameter (in)	Gallons/Foot 0.75	2	4	6
D Gallons per foot of casing	0.02	0.16	0.65	1.47

Field Equipment: –
Purge Method: –
Pump Type: –

Well Headspace: PID(ppm)= 0.147 FID(ppm)= –

Time	Casing/ Screen	Volume Purged (gallons)	Flow Rate (gpm)	Water Level (ft-bmp)	Ph	Temperature (°C)	Turbidity (NTU)	Conductivity ( )	Dissolve Oxygen (mg/L)	ORP (mV)	TDS (g/L)	Observations
0900					well	is	Dry					

Purge Start Time	Purge End Time	Average Flow (gpm)	Total Gallons Purged	Volumes Purged	80% Recovery Water Level Depth B - (C x .80)	DTW - Sampling Time (ft-bmp)	Sample Time	Sample Identification
–	–	–	–	–	–	–	–	–

Notes
Drum No. : Purge Equipment decontaminated? **Yes** ☐ **No** ☐ Purge/decon water containerized? **Yes** ☐ **No** ☐ Container type: Drum to treatment system

ft-bmp = feet below measuring point

JHA ENVIRONMENTAL

Groundwater Sampling Data Sheet

Project Name: Omega Chemical Superfund Site	**Date:** 8/22/18
Project No.: E742	**Prepared By:** K. Azhar
Well Identification: OW-8B	**Weather:** Cloudy, warm
Measurement Point Description: TOC -N	**Pump Intake:** 124 **Screen:** 116-126 **Casing Material:** PVC or SS

A Depth to Static Water Level (ft-bmp)	B Well Total Depth (ft-bmp)	C Water Column Height (ft) (A – B = C)	E One (1) Casing Volume (gallons) (C XD=E)	Three (3) Casing Volumes (gallons) (E x 3)	½ Casing Volume (E /2)	Above Screen Volume (Top screen – DTW)x D 0.65	Screen Volume (Screen length x D)	½ Screen Volume
98.69	126.0	27.3	35.5	106.5	17.75	11.25	6.5	3.25

Well Diameter (in)	Gallons/Foot 0.75	2	4	6
D Gallons per foot of casing	0.02	0.16	~~0.65~~ 1.30	1.47

Field Equipment: Horiba U-52
Purge Method: 3 Vol. Purge
Pump Type: 2" Grundfos Redi flo 267 HZ

Well Headspace: PID(ppm)= 0.273 FID(ppm)= —

Time	Casing/ Screen	Volume Purged (gallons)	Flow Rate (gpm)	Water Level (ft-bmp)	Ph	Temperature (°C)	Turbidity (NTU)	Conductivity (mS/cm)	Dissolve Oxygen (mg/L)	ORP (mV)	TDS (g/L)	Observations
0907	–			START PURGING								
0917	–	20	~2.0	99.65	7.63	25.48	0.0	0.924	9.10	140	0.592	clear
0927	–	40	~2.0	99.68	7.50	25.92	0.0	0.881	9.03	96	0.564	"
0937	–	60	~2.0	99.69	7.51	25.84	0.0	0.880	9.34	96	0.563	"
0947	–	80	~2.0	99.70	7.53	25.72	0.0	0.880	9.73	103	0.563	"
0~~9~~1001	–	106.5	~2.00	99.70	7.51	26.04	0.0	0.896	9.70	108	0.573	"

Purge Start Time	Purge End Time	Average Flow (gpm)	Total Gallons Purged	Volumes Purged	80% Recovery Water Level Depth B - (C x .80)	DTW - Sampling Time (ft-bmp)	Sample Time	Sample Identification
0907	1005	2.0	~108	3	–	99.70	1003	OC_GW_OW-8B_20180822

Notes
Drum No. :
Purge Equipment decontaminated? **Yes** ☑ **No** ☐ Purge/decon water containerized? **Yes** ☑ **No** ☐ Container type: Drum to treatment system

ft-bmp = feet below measuring point

JHA ENVIRONMENTAL

Groundwater Sampling Data Sheet

Project Name: Omega Chemical Superfund Site	**Date:** 8/23/18
Project No.: E742	**Prepared By:** K. Archer
Well Identification: OW-9	**Weather:** Overcast, cool
Measurement Point Description: TOC -N	**Pump Intake:** – **Screen:** 70 – 90 **Casing Material:** PVC or SS

A Depth to Static Water Level (ft-bmp)	B Well Total Depth (ft-bmp)	C Water Column Height (ft) (A – B = C)	E One (1) Casing Volume (gallons) (C XD=E)	Three (3) Casing Volumes (gallons) (E x 3)	½ Casing Volume (E /2)	Above Screen Volume (Top screen – DTW)x D	Screen Volume (Screen length x D)	½ Screen Volume
86.44	89.73	3.29	4.3	12.9	2.15	Ø	13	6.5

Well Diameter (in)	Gallons/Foot 0.75	2	4	6
D Gallons per foot of casing	0.02	0.16	~~0.65~~ 1.3	1.47

Field Equipment: Horiba U-52
Purge Method: 3 Vol. Purge
Pump Type: (2) 2" Hand Bailer

Well Headspace: PID(ppm)= Ø FID(ppm)= –

Time	Casing/ Screen	Volume Purged (gallons)	Flow Rate (gpm)	Water Level (ft-bmp)	Ph	Temperature (°C)	Turbidity (NTU)	Conductivity (mS/cm)	Dissolve Oxygen (mg/L)	ORP (mV)	TDS (g/L)	Observations
0746					START PURGING							
0750	–	2	–	87.25	7.39	24.64	342	1.24	11.33	111	0.795	cloudy
0754	–	4	–	88.05	7.35	24.60	1000+	1.26	11.11	119	0.806	"
0758	–	6	–	88.30	7.33	24.50	OOR*	1.28	5.28	151	0.819	turbid
0806	–	8	–	88.46	7.35	24.47	OOR	1.29	5.83	154	0.826	"
0815	–	10	–	88.72	7.35	24.49	OOR	1.29	5.99	157	0.829	"
0824	–	13	–	89.05	7.49	24.48	OOR	1.30	6.87	157	0.829	"

Purge Start Time	Purge End Time	Average Flow (gpm)	Total Gallons Purged	Volumes Purged	80% Recovery Water Level Depth B - (C x .80)	DTW - Sampling Time (ft-bmp)	Sample Time	Sample Identification
0746	0824	–	~15	3	87.10	86.44	1225	OC_GW_OW-9_20180823
								OC_GW_OW-9E20180823

Notes * Out of range

Drum No. : Purge Equipment decontaminated? **Yes** ☑ **No** ☐ Purge/decon water containerized? **Yes** ☑ **No** ☐ Container type: Drum to treatment system

ft-bmp = feet below measuring point

JHA ENVIRONMENTAL

Groundwater Sampling Data Sheet

Project Name: Omega Chemical Superfund Site	**Date:** 8/23/18
Project No.: E742	**Prepared By:** K. Azhar.
Well Identification: OW-10	**Weather:** Clear skies, warm
Measurement Point Description: TOC -N	**Pump Intake:** 88' **Screen:** 69.5-89.5 **Casing Material:** PVC or SS

A Depth to Static Water Level (ft-bmp)	B Well Total Depth (ft-bmp)	C Water Column Height (ft) (A – B = C)	E One (1) Casing Volume (gallons) (C XD=E)	Three (3) Casing Volumes (gallons) (E x 3)	½ Casing Volume (E /2)	Above Screen Volume (Top screen – DTW)x D	Screen Volume (Screen length x D)	½ Screen Volume
78.48	89.23	10.75	14	42	7	Ø	13	6.5

Well Diameter (in)	Gallons/Foot 0.75	2	4	6
D Gallons per foot of casing	0.02	0.16	~~0.65~~ 1.3	1.47

Field Equipment: Horiba U-52
Purge Method: 3 Vol. Purge
Pump Type: 2" Grundfos Rediflo 211 Hz → 220 Hz

Well Headspace: PID(ppm)= 0.016 FID(ppm)= -

Time	Casing/ Screen	Volume Purged (gallons)	Flow Rate (gpm)	Water Level (ft-bmp)	Ph	Temperature (°C)	Turbidity (NTU)	Conductivity (mS/cm)	Dissolve Oxygen (mg/L)	ORP (mV)	TDS (g/L)	Observations
0930					START	PURGING						
0950	^	10	~0.5	82.09	7.63	25.45	948	1.17	8.10	120	0.748	cloudy
1010	^	20	~0.5	86.56	7.57	27.12	533	1.20	6.37	46	0.763	"
1027	^	30		WELL	WENT	DRY						
	^	42										

Purge Start Time	Purge End Time	Average Flow (gpm)	Total Gallons Purged	Volumes Purged	80% Recovery Water Level Depth B - (C x .80)	DTW - Sampling Time (ft-bmp)	Sample Time	Sample Identification
0930	1027	~0.5			80.63	80.60	1315	OC-GW-OW-10-20180823

Notes 1020 - Flow stopped. Increased pump speed to 220 Hz.

Drum No. : Purge Equipment decontaminated? **Yes** ☑ **No** ☐ Purge/decon water containerized? **Yes** ☑ **No** ☐ Container type: Drum to treatment system

ft-bmp = feet below measuring point

JHA ENVIRONMENTAL

Groundwater Sampling Data Sheet

Project Name: Omega Chemical Superfund Site	**Date:** 8-21-18
Project No.: E742	**Prepared By:** K Azhar
Well Identification: OW-12	**Weather:** Overcast
Measurement Point Description: TOC -N	**Pump Intake:** 99' **Screen:** 80 - 100 **Casing Material:** PVC or SS

A Depth to Static Water Level (ft-bmp)	B Well Total Depth (ft-bmp)	C Water Column Height (ft) (A – B = C)	E One (1) Casing Volume (gallons) (C XD=E)	Three (3) Casing Volumes (gallons) (E x 3)	½ Casing Volume (E /2)	Above Screen Volume (Top screen – DTW)x D 0.65	Screen Volume (Screen length x D)	½ Screen Volume
92.31	100.00	7.69	9.99	29.99	5.0	5.00	13	6.5

Well Diameter (in)	Gallons/Foot 0.75	2	4	6
D Gallons per foot of casing	0.02	0.16	~~0.65~~ 1.5	1.47

Field Equipment: Horiba U-52
Purge Method: 3 Vol. Purge
Pump Type: 2" Grundfos Redflo

Well Headspace: PID(ppm)= 1.103 FID(ppm)= -

Time	Casing/ Screen	Volume Purged (gallons)	Flow Rate (gpm)	Water Level (ft-bmp)	Ph	Temperature (°C)	Turbidity (NTU)	Conductivity ( )	Dissolve Oxygen (mg/L)	ORP (mV)	TDS (g/L)	Observations
0905	START	PURGING		92.31	–	–	–	–	–	–	–	
0917		6	0.5	97.45	7.59	26.20	0.0	1.12	3.12	166	0.719	clear
0929		12	0.5	99.01	7.62	27.28	0.0	0.921	0.98	161	0.589	"
		18		WELL	WENT	DRY						
		24										
		30										

Purge Start Time	Purge End Time	Average Flow (gpm)	Total Gallons Purged	Volumes Purged	80% Recovery Water Level Depth B - (C x .80)	DTW - Sampling Time (ft-bmp)	Sample Time	Sample Identification
0905	0929	0.5	~13	~1	93.85	~~93.85~~ 92.36	1240	OC-GW-OW-12-20180821

Notes
Drum No. : Purge Equipment decontaminated? **Yes** ☐ **No** ☐ Purge/decon water containerized? **Yes** ☐ **No** ☐ Container type: Drum to treatment system

ft-bmp = feet below measuring point

JHA ENVIRONMENTAL

Groundwater Sampling Data Sheet

Project Name: Omega Chemical Superfund Site	**Date:** 8/23/18
Project No.: E742	**Prepared By:** K. Azhar
Well Identification: PZ-3	**Weather:** cloudy, cool
Measurement Point Description: TOC -N	**Pump Intake:** – **Screen:** 69.8-89.8 **Casing Material:** PVC or SS

A Depth to Static Water Level (ft-bmp)	B Well Total Depth (ft-bmp)	C Water Column Height (ft) (A – B = C)	E One (1) Casing Volume (gallons) (C XD=E)	Three (3) Casing Volumes (gallons) (E x 3)	½ Casing Volume (E /2)	Above Screen Volume (Top screen – DTW)x D	Screen Volume (Screen length x D)	½ Screen Volume
–	89.05	–	–	–	–	–	–	–

Well Diameter (in)	Gallons/Foot 0.75	2	4	6
D Gallons per foot of casing	0.02	0.16	0.65	1.47

Field Equipment: –
Purge Method: –
Pump Type: –

Well Headspace: PID(ppm)= 0.394 FID(ppm)= –

Time	Casing/ Screen	Volume Purged (gallons)	Flow Rate (gpm)	Water Level (ft-bmp)	Ph	Temperature (°C)	Turbidity (NTU)	Conductivity ( )	Dissolve Oxygen (mg/L)	ORP (mV)	TDS (g/L)	Observations
1253				WELL IS DRY								

Purge Start Time	Purge End Time	Average Flow (gpm)	Total Gallons Purged	Volumes Purged	80% Recovery Water Level Depth B - (C x .80)	DTW - Sampling Time (ft-bmp)	Sample Time	Sample Identification

Notes
Drum No. : Purge Equipment decontaminated? **Yes** ☐ **No** ☐ Purge/decon water containerized? **Yes** ☐ **No** ☐ Container type: Drum to treatment system

ft-bmp = feet below measuring point

JHA ENVIRONMENTAL

Groundwater Sampling Data Sheet

Project Name: Omega Chemical Superfund Site	**Date:** 8/23/18
Project No.: E742	**Prepared By:** K. Azher
Well Identification: PZ-9	**Weather:** Cloudy, cool
Measurement Point Description: TOC -N	**Pump Intake:** – **Screen:** 70-90 **Casing Material:** PVC or SS

A Depth to Static Water Level (ft-bmp)	B Well Total Depth (ft-bmp)	C Water Column Height (ft) (A – B = C)	E One (1) Casing Volume (gallons) (C XD=E)	Three (3) Casing Volumes (gallons) (E x 3)	½ Casing Volume (E /2)	Above Screen Volume (Top screen – DTW)x D	Screen Volume (Screen length x D) 0.65	½ Screen Volume
85.34	90.02	4.68	1.5	4.5	0.75	Ø	13	6.5

Well Diameter (in)	Gallons/Foot			
	0.75	2	4	6
D Gallons per foot of casing	0.02	~~0.16~~ 0.32	0.65	1.47

Field Equipment: Horiba U-52
Purge Method: 3 Vol. Purge
Pump Type: 2" Hand bailer

Well Headspace: PID(ppm)= Ø FID(ppm)= –

Time	Casing/ Screen	Volume Purged (gallons)	Flow Rate (gpm)	Water Level (ft-bmp)	Ph	Temperature (°C)	Turbidity (NTU)	Conductivity (mS/cm)	Dissolve Oxygen (mg/L)	ORP (mV)	TDS (g/L)	Observations
0830					START PURGING							
0840	–	1	–	87.81	7.57	24.94	OOR*	1.13	11.59	140	0.724	Turbid
0850	–	2	–	88.15	7.53	24.82	OOR	1.16	10.27	148	0.744	"
0900	–	3	–	87.80	7.60	24.70	OOR	1.18	10.19	154	0.757	"
0917	–	4.5	–	87.50	7.57	24.69	OOR	1.18	10.13	156	0.757	"

Purge Start Time	Purge End Time	Average Flow (gpm)	Total Gallons Purged	Volumes Purged	80% Recovery Water Level Depth B - (C x .80)	DTW - Sampling Time (ft-bmp)	Sample Time	Sample Identification
0	0923	–	~5.5	3	–	87.50	0920	OC-GW-PZ-9-20180823

* Out of range

Notes
Drum No. :
Purge Equipment decontaminated? **Yes** ☑ **No** ☐ Purge/decon water containerized? **Yes** ☑ **No** ☐ Container type: Drum to treatment system

ft-bmp = feet below measuring point

JHA ENVIRONMENTAL

Groundwater Sampling Data Sheet

Project Name: Omega Chemical Superfund Site	**Date:** 8/24/18
Project No.: E742	**Prepared By:** K. Acha
Well Identification: OW-11	**Weather:** Overcast, cool
Measurement Point Description: TOC -N	**Pump Intake:** 97.80' **Screen:** 80-100 **Casing Material:** PVC or SS

A Depth to Static Water Level (ft-bmp)	B Well Total Depth (ft-bmp)	C Water Column Height (ft) (A – B = C)	E One (1) Casing Volume (gallons) (C XD=E)	Three (3) Casing Volumes (gallons) (E x 3)	½ Casing Volume (E /2)	Above Screen Volume (Top screen – DTW)x D	Screen Volume (Screen length x D) 0.65	½ Screen Volume
87.50	98.80	11.3	14.7	44.1	7.35	∅	13	6.5

Well Diameter (in)	0.75	2	4	6
D Gallons per foot of casing	0.02	0.16	~~0.65~~ 1.3	1.47

Gallons/Foot

Field Equipment: Horiba U-52

Purge Method: 3 vol. Purge

Pump Type: 2" Grundfos Rediflo 237 Hz

Well Headspace: PID(ppm)= 0.353 FID(ppm)= -

Time	Casing/ Screen	Volume Purged (gallons)	Flow Rate (gpm)	Water Level (ft-bmp)	Ph	Temperature (°C)	Turbidity (NTU)	Conductivity (mS/cm)	Dissolve Oxygen (mg/L)	ORP (mV)	TDS (g/L)	Observations
0744					START PURGING							
0754	-	10	~1.0	93.15	7.52	26.74	144	1.19	8.79	33	0.768	clear
0804	-	20	~1.0	94.78	7.66	25.48	80.1	1.09	9.28	9	0.702	"
0814	-	30	~1.0	95.45	7.49	25.60	51.0	1.13	9.37	30	0.723	"
0830	-	44.1	~1.0	95.61	7.45	25.68	25.9	1.14	9.37	46	0.731	"

Purge Start Time	Purge End Time	Average Flow (gpm)	Total Gallons Purged	Volumes Purged	80% Recovery Water Level Depth B - (C x .80)	DTW - Sampling Time (ft-bmp)	Sample Time	Sample Identification
0744	0833	1.0	~46	3	-	95.61	0831	OC-GW-OW-11-20180824

Notes

Drum No. :

Purge Equipment decontaminated? **Yes** ☑ **No** ☐ Purge/decon water containerized? **Yes** ☑ **No** ☐ Container type: Drum to treatment system

ft-bmp = feet below measuring point

JHA ENVIRONMENTAL

Groundwater Sampling Data Sheet

Project Name: Omega Chemical Superfund Site	**Date:** 8/24
Project No.: E742	**Prepared By:** K. Azhar
Well Identification: OW-13B	**Weather:** Overcast, cool
Measurement Point Description: TOC -N	**Pump Intake:** 138 **Screen:** 128.5 - 140 **Casing Material: PVC or SS**

A Depth to Static Water Level (ft-bmp)	B Well Total Depth (ft-bmp)	C Water Column Height (ft) (A – B = C)	E One (1) Casing Volume (gallons) (C XD=E)	Three (3) Casing Volumes (gallons) (E x 3)	½ Casing Volume (E /2)	Above Screen Volume (Top screen – DTW)x D	Screen Volume (Screen length x D)	½ Screen Volume
98.06	140.05	41.99	54.6	164				

Well Diameter (in)	0.75	2	4	6
D Gallons per foot of casing	0.02	0.16	~~0.65~~ 1.3	1.47

Field Equipment: Horiba U-52
Purge Method: 3 Vol. Purge
Pump Type: 2" Grundfos Redi-flo

Well Headspace: PID(ppm)= 476.0 FID(ppm)= –

Time	Casing/ Screen	Volume Purged (gallons)	Flow Rate (gpm)	Water Level (ft-bmp)	Ph	Temperature (°C)	Turbidity (NTU)	Conductivity (mS/cm)	Dissolve Oxygen (mg/L)	ORP (mV)	TDS (g/L)	Observations
0912					START PURGING							
0922	–	20	~2.0	117.71	8.07	25.17	422	1.01	5.99	43	0.654	lightly cloudy
0932	–	40	~2.0	124.95	7.56	25.02	141	0.851	2.55	7	0.544	" "
0942	–	60	~2.0	127.98	7.53	25.05	40.6	0.858	3.91	41	0.549	clear
0952	–	80	~2.0	129.83	7.52	25.11	31.4	0.858	3.71	47	0.549	"
1002	–	100	~2.0	130.37	7.57	25.17	17.8	0.862	6.94	63	0.552	"
1012	–	120	~2.0	130.50	7.51	25.31	2.22	0.860	2.95	55	0.550	"
1022	–	140	~2.0	130.48	7.51	25.32	1.70	0.861	3.06	57	0.551	"
1034	–	166	~2.0	130.40	7.52	25.29	0.0	0.865	4.32	59	0.553	"

Purge Start Time	Purge End Time	Average Flow (gpm)	Total Gallons Purged	Volumes Purged	80% Recovery Water Level Depth B - (C x .80)	DTW - Sampling Time (ft-bmp)	Sample Time	Sample Identification
0912	1038	2.0	~166	3	–	130.40	1036	OC_GW_OW-13B_20180824

Notes
Drum No. :
Purge Equipment decontaminated? **Yes** ☑ **No** ☐ Purge/decon water containerized? **Yes** ☑ **No** ☐ Container type: Drum to treatment system

ft-bmp = feet below measuring point

JHA ENVIRONMENTAL

Groundwater Sampling Data Sheet

Project Name: Omega Chemical Superfund Site	**Date:** 8/21/18
Project No.: E742	**Prepared By:** K. Azhar
Well Identification: DPE-3	**Weather:** Overcast, cool
Measurement Point Description: TOC -N	**Pump Intake:** 94.30 **Screen:** 40-100 **Casing Material:** PVC or SS

A Depth to Static Water Level (ft-bmp)	B Well Total Depth (ft-bmp)	C Water Column Height (ft) (A – B = C)	E One (1) Casing Volume (gallons) (C XD=E)	Three (3) Casing Volumes (gallons) (E x 3)	½ Casing Volume (E /2)	Above Screen Volume (Top screen – DTW)x D	Screen Volume (Screen length x D)	½ Screen Volume
92.41	100.0	7.59	–	–	–	–	–	–

Well Diameter (in)	Gallons/Foot 0.75	2	4	6
D Gallons per foot of casing	0.02	0.16	0.65	1.47

Field Equipment: Horiba U-52
Purge Method: Grab
Pump Type: Dedicated pump

Well Headspace: PID(ppm)= – FID(ppm)= –

Time	Casing/ Screen	Volume Purged (gallons)	Flow Rate (gpm)	Water Level (ft-bmp)	Ph	Temperature (°C)	Turbidity (NTU)	Conductivity (mS/cm)	Dissolve Oxygen (mg/L)	ORP (mV)	TDS (g/L)	Observations
0738	–	–	~3.0	92.41	7.00	24.83	0.0	0.959	7.46	224	0.614	clear

Purge Start Time	Purge End Time	Average Flow (gpm)	Total Gallons Purged	Volumes Purged	80% Recovery Water Level Depth B - (C x .80)	DTW - Sampling Time (ft-bmp)	Sample Time	Sample Identification
0736	0740	3.0	<1	–	–	92.41	0735	OC-GW-DPE-3-20180821

Notes
Drum No. : Purge Equipment decontaminated? **Yes** ☐ **No** ☐ Purge/decon water containerized? **Yes** ☑ **No** ☐ Container type: Drum to treatment system

ft-bmp = feet below measuring point

JHA ENVIRONMENTAL

Groundwater Sampling Data Sheet

Project Name: Omega Chemical Superfund Site	**Date:** 8-21-18
Project No.: E742	**Prepared By:** K Azhar
Well Identification: DPE4	**Weather:** Overcast
Measurement Point Description: TOC -N	**Pump Intake:** 94.26 **Screen:** 40-100 **Casing Material:** PVC or SS

A Depth to Static Water Level (ft-bmp)	B Well Total Depth (ft-bmp)	C Water Column Height (ft) (A – B = C)	E One (1) Casing Volume (gallons) (C XD=E)	Three (3) Casing Volumes (gallons) (E x 3)	½ Casing Volume (E /2)	Above Screen Volume (Top screen – DTW)x D	Screen Volume (Screen length x D)	½ Screen Volume
92.27	100.0	7.73	–	–	–	–	–	–

Well Diameter (in)	Gallons/Foot			
	0.75	2	4	6
D Gallons per foot of casing	0.02	0.16	0.65	1.47

Field Equipment: Horiba U-52
Purge Method: Grab
Pump Type: Horiba U-52

Well Headspace: PID(ppm)= – FID(ppm)= –

Time	Casing/ Screen	Volume Purged (gallons)	Flow Rate (gpm)	Water Level (ft-bmp)	Ph	Temperature (°C)	Turbidity (NTU)	Conductivity (mS/cm)	Dissolve Oxygen (mg/L)	ORP (mV)	TDS (g/L)	Observations
0805	–	–	~3.0	92.27	7.13	24.83	0.0	0.779	2.34	-17	0.499	clear

Purge Start Time	Purge End Time	Average Flow (gpm)	Total Gallons Purged	Volumes Purged	80% Recovery Water Level Depth B - (C x .80)	DTW - Sampling Time (ft-bmp)	Sample Time	Sample Identification
0803	0808	~3.0	<1	–	–	92.27	0805	OC_GW_DPE-420180821

Notes
Drum No. :
Purge Equipment decontaminated? **Yes** ☐ **No** ☐ Purge/decon water containerized? **Yes** ☒ **No** ☐ Container type: Drum to treatment system

ft-bmp = feet below measuring point

JHA ENVIRONMENTAL

Groundwater Sampling Data Sheet

Project Name: Omega Chemical Superfund Site	**Date:** 8/21/18
Project No.: E742	**Prepared By:** K Azhar
Well Identification: DPE-5	**Weather:** Sunny 84 °F
Measurement Point Description: TOC -N	**Pump Intake:** 94.02 **Screen:** 40-100 **Casing Material:** PVC or SS

A Depth to Static Water Level (ft-bmp)	B Well Total Depth (ft-bmp)	C Water Column Height (ft) (A – B = C)	E One (1) Casing Volume (gallons) (C XD=E)	Three (3) Casing Volumes (gallons) (E x 3)	½ Casing Volume (E /2)	Above Screen Volume (Top screen – DTW)x D	Screen Volume (Screen length x D)	½ Screen Volume
91.91	100.0	8.09	–	–	–	–	–	–

Well Diameter (in)	Gallons/Foot 0.75	2	4	6
D Gallons per foot of casing	0.02	0.16	0.65	1.47

Field Equipment: Horiba U-52
Purge Method: Grab
Pump Type: Dedicated Pump

Well Headspace: PID(ppm)= – FID(ppm)= –

Time	Casing/ Screen	Volume Purged (gallons)	Flow Rate (gpm)	Water Level (ft-bmp)	Ph	Temperature (°C)	Turbidity (NTU)	Conductivity (mS/cm)	Dissolve Oxygen (mg/L)	ORP (mV)	TDS (g/L)	Observations
1340	–	–	~3.0	91.91	7.61	35.93	0.0	1.03	2.51	152	0.661	clear

Purge Start Time	Purge End Time	Average Flow (gpm)	Total Gallons Purged	Volumes Purged	80% Recovery Water Level Depth B - (C x .80)	DTW - Sampling Time (ft-bmp)	Sample Time	Sample Identification
1338	1343	~3.0	<1	–	–	–	1340	OC_GW_DPE-5_20180821

Notes
Drum No. :
Purge Equipment decontaminated? **Yes** ☐ **No** ☐ Purge/decon water containerized? **Yes** ☑ **No** ☐ Container type: Drum to treatment system

ft-bmp = feet below measuring point

JHA ENVIRONMENTAL

Groundwater Sampling Data Sheet

Project Name: Omega Chemical Superfund Site	**Date:** 8-21-18
Project No.: E742	**Prepared By:** K Azher
Well Identification: DPE-8	**Weather:** Overcast
Measurement Point Description: TOC -N	**Pump Intake:** 92.41 **Screen:** 40 - 100 **Casing Material:** PVC or SS

A Depth to Static Water Level (ft-bmp)	B Well Total Depth (ft-bmp)	C Water Column Height (ft) (A – B = C)	E One (1) Casing Volume (gallons) (C XD=E)	Three (3) Casing Volumes (gallons) (E x 3)	½ Casing Volume (E /2)	Above Screen Volume (Top screen – DTW)x D	Screen Volume (Screen length x D)	½ Screen Volume
90.89	100.0	9.11	–	–	–	–	–	–

Well Diameter (in)	Gallons/Foot			
	0.75	2	4	6
D Gallons per foot of casing	0.02	0.16	0.65	1.47

Field Equipment: Horiba U-52
Purge Method: Grab
Pump Type: Dedicated Pump

Well Headspace: PID(ppm)= – FID(ppm)= –

Time	Casing/ Screen	Volume Purged (gallons)	Flow Rate (gpm)	Water Level (ft-bmp)	Ph	Temperature (°C)	Turbidity (NTU)	Conductivity (mS/cm)	Dissolve Oxygen (mg/L)	ORP (mV)	TDS (g/L)	Observations
0755	–	–	~3.0	90.89	7.24	25.04	0.0	0.876	3.35	-23	0.561	clear

Purge Start Time	Purge End Time	Average Flow (gpm)	Total Gallons Purged	Volumes Purged	80% Recovery Water Level Depth B - (C x .80)	DTW - Sampling Time (ft-bmp)	Sample Time	Sample Identification
0753	0758	~3.0	< 1	–	–	90.89	0755	DC-GW-DPE-8_20180821

Notes
Drum No. :
Purge Equipment decontaminated? **Yes** ☐ **No** ☐ Purge/decon water containerized? **Yes** ☑ **No** ☐ Container type: Drum to treatment system

ft-bmp = feet below measuring point

JHA ENVIRONMENTAL

Groundwater Sampling Data Sheet

Project Name: Omega Chemical Superfund Site	**Date:** 8/21/18
Project No.: E742	**Prepared By:** K. Azhar
Well Identification: DPE-9	**Weather:** Overcast, warm
Measurement Point Description: TOC -N	**Pump Intake:** 94.70 **Screen:** 40-100 **Casing Material:** PVC or SS

A Depth to Static Water Level (ft-bmp)	B Well Total Depth (ft-bmp)	C Water Column Height (ft) (A – B = C)	E One (1) Casing Volume (gallons) (C XD=E)	Three (3) Casing Volumes (gallons) (E x 3)	½ Casing Volume (E /2)	Above Screen Volume (Top screen – DTW)x D	Screen Volume (Screen length x D)	½ Screen Volume
88.47	100.0	11.53	–	–	–	–	–	–

Well Diameter (in)	Gallons/Foot				Field Equipment: Horiba U-52	Well Headspace:	PID(ppm)= –
	0.75	2	4	6	Purge Method: Grab		FID(ppm)= –
D Gallons per foot of casing	0.02	0.16	0.65	1.47	Pump Type: Dedicated Pump		

Time	Casing/ Screen	Volume Purged (gallons)	Flow Rate (gpm)	Water Level (ft-bmp)	Ph	Temperature (°C)	Turbidity (NTU)	Conductivity (mS/cm)	Dissolve Oxygen (mg/L)	ORP (mV)	TDS (g/L)	Observations
0945	–	–	0.7	88.47	7.67	26.80	0.0	1.02	8.15	159	0.651	clear

Purge Start Time	Purge End Time	Average Flow (gpm)	Total Gallons Purged	Volumes Purged	80% Recovery Water Level Depth B - (C x .80)	DTW - Sampling Time (ft-bmp)	Sample Time	Sample Identification
0943	0952	0.7	<1	–	–	88.47	0950	OC-GW-DPE-9-20180821

Notes

Drum No. : Purge Equipment decontaminated? **Yes** ☐ **No** ☐ Purge/decon water containerized? **Yes** ☑ **No** ☐ Container type: Drum to treatment system

ft-bmp = feet below measuring point

JHA ENVIRONMENTAL

Groundwater Sampling Data Sheet

Project Name: Omega Chemical Superfund Site	**Date:** 8/21/18
Project No.: E742	**Prepared By:** K. Azhar
Well Identification: DPE-7D	**Weather:** Overcast, warm
Measurement Point Description: TOC -N	**Pump Intake:** / **Screen:** 40-100 / **Casing Material:** PVC or SS

A Depth to Static Water Level (ft-bmp)	B Well Total Depth (ft-bmp)	C Water Column Height (ft) (A – B = C)	E One (1) Casing Volume (gallons) (C XD=E)	Three (3) Casing Volumes (gallons) (E x 3)	½ Casing Volume (E /2)	Above Screen Volume (Top screen – DTW)x D	Screen Volume (Screen length x D)	½ Screen Volume
90.90	100.0	9.10	–	–	–	–	–	–

Well Diameter (in)	Gallons/Foot 0.75	2	4	6
D Gallons per foot of casing	0.02	0.16	0.65	1.47

Field Equipment: Horiba U-52
Purge Method: Grab
Pump Type: Dedicated Pump

Well Headspace: PID(ppm)= – FID(ppm)= –

Time	Casing/ Screen	Volume Purged (gallons)	Flow Rate (gpm)	Water Level (ft-bmp)	Ph	Temperature (°C)	Turbidity (NTU)	Conductivity (mS/cm)	Dissolve Oxygen (mg/L)	ORP (mV)	TDS (g/L)	Observations
1320	–	–	2.5	90.90	7.66	32.48	0.0	1.13	3.42	142	0.725	Clear

Purge Start Time	Purge End Time	Average Flow (gpm)	Total Gallons Purged	Volumes Purged	80% Recovery Water Level Depth B - (C x .80)	DTW - Sampling Time (ft-bmp)	Sample Time	Sample Identification
1318	1328	2.5	<1	–	–	90.90	1325	

Notes
Drum No. : Purge Equipment decontaminated? **Yes** ☐ **No** ☐ Purge/decon water containerized? **Yes** ☑ **No** ☐ Container type: Drum to treatment system

ft-bmp = feet below measuring point

JHA ENVIRONMENTAL

Groundwater Sampling Data Sheet

Project Name: Omega Chemical Superfund Site	**Date:** 8-21-18
Project No.: E742	**Prepared By:** K. Azhar
Well Identification: DPE-10D	**Weather:** Sunny 82°F
Measurement Point Description: TOC -N	**Pump Intake:** / **Screen:** 40-100 / **Casing Material:** PVC or SS

A Depth to Static Water Level (ft-bmp)	B Well Total Depth (ft-bmp)	C Water Column Height (ft) (A – B = C)	E One (1) Casing Volume (gallons) (C XD=E)	Three (3) Casing Volumes (gallons) (E x 3)	½ Casing Volume (E /2)	Above Screen Volume (Top screen – DTW)x D	Screen Volume (Screen length x D)	½ Screen Volume
93.04	100.0	6.96	–	–	–	–	–	–

Well Diameter (in)	Gallons/Foot			
	0.75	2	4	6
D Gallons per foot of casing	0.02	0.16	0.65	1.47

Field Equipment: Horiba U-52
Purge Method: Grab
Pump Type: Dedicated Pump

Well Headspace: PID(ppm)= – / FID(ppm)= –

Time	Casing/ Screen	Volume Purged (gallons)	Flow Rate (gpm)	Water Level (ft-bmp)	Ph	Temperature (°C)	Turbidity (NTU)	Conductivity (mS/cm)	Dissolve Oxygen (mg/L)	ORP (mV)	TDS (g/L)	Observations
1300	–	<1	0.6	93.04	8.23	37.16	0.0	0.424	3.84	130	0.237	clear

Purge Start Time	Purge End Time	Average Flow (gpm)	Total Gallons Purged	Volumes Purged	80% Recovery Water Level Depth B - (C x .80)	DTW - Sampling Time (ft-bmp)	Sample Time	Sample Identification
1258	1303	0.6	<1	–	–	93.04	1300	OC-GW-DPE-10D-20180821

Notes
Drum No. :
Purge Equipment decontaminated? **Yes** ☐ **No** ☐ Purge/decon water containerized? **Yes** ☑ **No** ☐ Container type: Drum to treatment system

ft-bmp = feet below measuring point

Attachment E

Third Quarter Laboratory Analytical Results and Data Validation Packages

Data Quality Assessment
OU-1 Groundwater Containment Remedy, Omega Chemical Superfund Site
Third Quarter 2018

Sampling Event	Sampling Rationale	Frequency of Analysis	Matrix	Lab WO#	Sampling Date	Field Quality Control Samples	Data Review Level	Review of Laboratory QC Samples	Data Usability
SDLAC Quarterly Sampling									
Q3	Quarterly sampling of the treatment plant effluent is required per Los Angeles County Sanitation District Industrial Waste Discharge Permit Number 20039.	Quarterly	Water	218305	8/16-17/2018	Equipment blanks are not needed as sampling equipment is not used. Trip blanks and field duplicates are not needed for this compliance sampling.	Stage 2A	MB, LCS/LCSD, MS/MSD, surrogates	Results for pH and dissolved sulfide are qualified as estimated (J,UJ). These parameters are 'analyze immediately' parameters. Field measurements should be used. Results for 1,4-dioxane, 1,2,4-Trichlorobenzene, 1,2-Dichlorobenzene, 1,2-Diphenylhydrazine, 1,3-Dichlorobenzene, 1,4-Dichlorobenzene, 2,6-Dinitrotoluene, 2-Chloronaphthalene, 2-Methylnaphthalene, 2-Nitroaniline, 3,3-Dichlorobenzidine, 3-Nitroaniline, 4,6-Dinitro-2-Methylphenol, 4-Bromophenyl Phenyl Ether, 4-Chloroaniline, 4-Chlorophenyl Phenyl Ether,Acenaphthene, Acenaphthylene, Benzo(b)fluoranthene, Benzoic Acid, Benzyl Alcohol, Bis(2-Chloroethoxy)Methane, bis(2-Chloroethyl) ether, Bis(2-Chloroisopropyl)Ether, Dibenzofuran, Hexachlorobenzene, Hexachlorobutadiene, Hexachlorocyclopentadiene, Hexachloroethane, Indeno(1,2,3-cd)Pyrene, Isophorone, Naphthalene, Nitrobenzene, N-Nitrosodimethylamine, N-Nitrosodipropylamine, and all phenols in GRAB were qualified as estimated (J, UJ) due to unacceptable LCS/LCSD %Rs and/or surrogate recoveries.
GWTS Process Sampling									
SCAQMD Compliance									
Q3	Sampling of the influent, intermediate, and effluent sample ports of the VPGAC vessels is required monthly for the SCAQMD permit.	Monthly	Air	1807105	7/3/2018	Equipment blanks are not needed as sampling equipment is not used to collect the vapor samples. Trip blanks are not typically submitted with Summa canisters. Field duplicates are not needed for this compliance sampling.	Stage 2A	MB, LCS/LCSD, surrogates	The TNMOC value reported should not be used as TVOC as it is not the sum of the reported concentrations. No other qualification of sample results was warranted.
				1808201	8/7/2018				The TNMOC value reported should not be used as TVOC as it is not the sum of the reported concentrations. No other qualification of sample results was warranted.
				1809092	9/4/2018				The TNMOC value reported should not be used as TVOC as it is not the sum of the reported concentrations. No other qualification of sample results was warranted.

Data Quality Assessment
OU-1 Groundwater Containment Remedy, Omega Chemical Superfund Site
Third Quarter 2018

Sampling Event	Sampling Rationale	Frequency of Analysis	Matrix	Lab WO#	Sampling Date	Field Quality Control Samples	Data Review Level	Review of Laboratory QC Samples	Data Usability
Treatment System Process Sampling									
Q3	Analysis of the influent and effluent samples (before and after the air stripper) from the GWTS are needed to assess the performance of the treatment equipment.	Monthly (monthly for the first year of operation for the influent sample, frequency may change after 1st year); monthly for effluent sample.	Water	215179	7/5/2018	Equipment blanks are not needed as sampling equipment is not used to collect these samples from the sample ports. Field duplicates are not needed for this treatment assessment sampling. Trip blanks were analyzed with these samples and all trip blank results were nondetect.	Stage 2A	MB, LCS/LCSD, MS/MSD, surrogates	The result for 1,4-dioxane in OC_SP220B_EFF_07052018 was qualified estimated (UJ) due to unacceptable surrogate and LCS recoveries and may be a false negative. Results for Freon 11 and Freon 113 were qualified estimated (J, UJ) because they were not included in the LCS/LCSD and the laboratory's ability to accuractely detect these compounds could not be verified. No other data required qualification a result of the review effort.
				217616	8/7/2018				Results for chloromethane and vinyl chloride in all samples and for 1,4-dioxane in OC_SP220B_EFF_080718 were qualified estimated (J-, UJ) due to unacceptable surrogate and/or LCS recoveries. The results may be biased low. Results for Freon 11 and Freon 113 were qualified estimated (J, UJ) because they were not included in the LCS/LCSD and the laboratory's ability to accurately detect these compounds could not be verified. No other qualification of sample results was warranted.
				219331	9/4/2018				The result for 1,4-dioxane in OC_SP220B_EFF_09042018 was qualified estimated (J-) due to low surrogate and/or low LCS recoveries. Results may be biased low. The result for acetone in OC_SP220B_EFF_090418 was qualified estimated (J+) and may be biased high due to elevated MS/MSD recoveries. Results for Freon 11 and Freon 113 were qualified estimated (J, UJ) because no LCS analysis for these compounds was performed to verify the laboratory could acceptably recover the analyte. No other qualification of sample results was warranted.

Other Groundwater Data Quality Assessment
OU-1 Groundwater Containment Remedy, Omega Chemical Superfund Site
Third Quarter 2018

SDG Number	Number of Samples	Analysis Method	Collection Date	Analysis Date	Sample ID	Data Usability
440-218621-1	3	SW8260B	08/21/2018	08/24/2018	OC_GW_EW-3_20180821	No qualifiers were applied as a result of the data review effort based on the data provided.
					OC_GW_EW-4_20180821	
					OC_GW_EW-5_20180821	
		SW8270C SIM 1,4-dioxane	08/21/2018	08/26/2018	OC_GW_EW-3_20180821	Results for 1,4-dioxane were qualifed as estimated (J-, UJ) and may be biased low due to low surrogate recoveries.
					OC_GW_EW-4_20180821	
					OC_GW_EW-5_20180821	
440-218622-1	8	SW8260B	08/21/2018	08/24/2018	OC_GW_DPE-10D_20180821	This sample was reanalyzed with only isopropyl alcohol being reported from the reanalysis. There was no discussion in the narrative as to the reason for reanalysis. No qualifiers were applied as a result of the data review effort.
				08/24/2018	OC_GW_DPE-3_20180821	This sample was reanalyzed with only naphthlene being reported from the reanalysis. There was no discussion in the narrative as to the reason for reanalysis. No qualifiers were applied as a result of the data review effort.
				08/26/2018	OC_GW_DPE-4_20180821	No qualifiers were applied as a results of the data review effort based on the data provided.
					OC_GW_DPE-5_20180821	
					OC_GW_DPE-7D_20180821	
					OC_GW_DPE-8_20180821	
					OC_GW_DPE-9_20180821	
			08/22/2018	08/25/2018	OC_GW_TB_20180822	No target analytes were detected in the TB.
	7	SW8270C SIM 1,4-dioxane	08/21/2018	08/26/2018	OC_GW_DPE-10D_20180821	Results for 1,4-dioxane were qualifed as estimated (J-, UJ) and may be biased low due to low surrogate recoveries.
					OC_GW_DPE-3_20180821	
					OC_GW_DPE-4_20180821	
					OC_GW_DPE-5_20180821	
					OC_GW_DPE-7D_20180821	
					OC_GW_DPE-8_20180821	
					OC_GW_DPE-9_20180821	
440-218713-1	1	SW8260B	08/23/2018	08/27/2018	OC_GW_PZ-9_20180823	No qualifiers were applied as a result of the data review effort based on the data provided.
		SW8270C SIM	08/23/2018	08/27/2018	OC_GW_PZ-9_20180823	The result for 1,4-dioxane was qualified estimated (J, UJ) because the extract was analyzed over-diluted.
440-218804-1	4	SW8260B	08/24/2018	08/27/2018	OC_GW_OW-11_20180824	This sample was reanalyzed with only isopropyl alcohol being reported from the reanalysis. There was no discussion in the narrative as to the reason for reanalysis. No qualifiers were applied as a result of the data review effort.
					OC_GW_OW-13B_20180824	
					OC_GW_OW-13BN_20180824	
					OC_GW_TB_20180824	No target analytes were detected in the TB.
	2	SW8270C SIM 1,4-dioxane	08/24/2018	08/28/2018	OC_GW_OW-11_20180824	Results for 1,4-dioxane were qualifed as estimated (J-, UJ) and may be biased low due to low surrogate recoveries.
					OC_GW_OW-13B_20180824	

A Stage 2A data review was performed on these samples, which includes a review of MB, LCS/LCSD, MS/MSD (where available), and surrogates.

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7/16/2018
Ms. Jaime Dinello
DeMaximis, Inc
1340 Reynolds Ave, Suite 105

Irvine CA 92614

Project Name: Omega - GWCS Monthly GAC
Project #:
Workorder #: 1807105

Dear Ms. Jaime Dinello

The following report includes the data for the above referenced project for sample(s) received on 7/9/2018 at Air Toxics Ltd.

The data and associated QC analyzed by TO-15 are compliant with the project requirements or laboratory criteria with the exception of the deviations noted in the attached case narrative.

Thank you for choosing Eurofins Air Toxics Inc. for your air analysis needs. Eurofins Air Toxics Inc. is committed to providing accurate data of the highest quality. Please feel free to contact the Project Manager: Kelly Buettner at 916-985-1000 if you have any questions regarding the data in this report.

Regards,

Kelly Buettner

Project Manager

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WORK ORDER #: 1807105

Work Order Summary

CLIENT:	Ms. Jaime Dinello DeMaximis, Inc 1340 Reynolds Ave, Suite 105 Irvine, CA 92614	**BILL TO:**	Mr. Tom Dorsey Omega Chemical Site Environmental Remediation Trust 1322 Scott St. Suite 104
PHONE:	949.679.9290	**P.O. #**	
FAX:	949.679.9078	**PROJECT #**	Omega - GWCS Monthly GAC
DATE RECEIVED:	07/09/2018	**CONTACT:**	Kelly Buettner
DATE COMPLETED:	07/16/2018		

FRACTION #	NAME	TEST	RECEIPT VAC./PRES.	FINAL PRESSURE
01A	OC_VGAC_EFF_SP242_070318	TO-15	5.5 "Hg	15 psi
02A	OC_VGAC_INT_SP245_070318	TO-15	4.0 "Hg	15 psi
03A	OC_VGAC_INF_SP241_070318	TO-15	4.5 "Hg	15 psi
04A	Lab Blank	TO-15	NA	NA
05A	CCV	TO-15	NA	NA
06A	LCS	TO-15	NA	NA
06AA	LCSD	TO-15	NA	NA

CERTIFIED BY: Heidi Hayes

Technical Director

DATE: 07/16/18

Certification numbers: AZ Licensure AZ0775, NJ NELAP - CA016, NY NELAP - 11291,
TX NELAP - T104704434-15-9, UT NELAP CA0093332015-6, VA NELAP - 8113, WA NELAP - C935
Name of Accreditation Body: NELAP/ORELAP (Oregon Environmental Laboratory Accreditation Program)
Accreditation number: CA300005, Effective date: 10/18/2015, Expiration date: 10/17/2016.
Eurofins Air Toxics Inc.. certifies that the test results contained in this report meet all requirements of the NELAC standards

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180 BLUE RAVINE ROAD, SUITE B FOLSOM, CA - 95630
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LABORATORY NARRATIVE
EPA Method TO-15
DeMaximis, Inc
Workorder# 1807105

Three 1 Liter Summa Canister samples were received on July 09, 2018. The laboratory performed analysis via EPA Method TO-15 using GC/MS in the full scan mode.

This workorder was independently validated prior to submittal using 'USEPA National Functional Guidelines' as generally applied to the analysis of volatile organic compounds in air. A rules-based, logic driven, independent validation engine was employed to assess completeness, evaluate pass/fail of relevant project quality control requirements and verification of all quantified amounts.

Receiving Notes

There were no receiving discrepancies.

Analytical Notes

The TNMOC concentration was calculated by taking the total area counts in the sample and quantitating the area based on the response factor of TNMOC ref. to Heptane (MW=100).

Definition of Data Qualifying Flags

Ten qualifiers may have been used on the data analysis sheets and indicates as follows:

B - Compound present in laboratory blank greater than reporting limit (background subtraction not performed).
J - Estimated value.
E - Exceeds instrument calibration range.
S - Saturated peak.
Q - Exceeds quality control limits.
U - Compound analyzed for but not detected above the reporting limit, LOD, or MDL value. See data page for project specific U-flag definition.
UJ- Non-detected compound associated with low bias in the CCV
N - The identification is based on presumptive evidence.
M - Reported value may be biased due to apparent matrix interferences.
CN - See Case Narrative.

File extensions may have been used on the data analysis sheets and indicates as follows:

a-File was requantified
b-File was quantified by a second column and detector
r1-File was requantified for the purpose of reissue

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Summary of Detected Compounds
EPA METHOD TO-15 GC/MS FULL SCAN

Client Sample ID: OC_VGAC_EFF_SP242_070318

Lab ID#: 1807105-01A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 11	1.2	9.1	6.9	51
Freon 113	1.2	25	9.5	190
1,1-Dichloroethene	1.2	20	4.9	82
Chloroform	1.2	5.1	6.0	25
TNMOC ref. to Heptane (MW=100)	25	73	100	300

Client Sample ID: OC_VGAC_INT_SP245_070318

Lab ID#: 1807105-02A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 11	1.2	8.3	6.5	47
Freon 113	1.2	26	8.9	200
1,1-Dichloroethene	1.2	25	4.6	98
Chloroform	1.2	7.0	5.7	34
1,2-Dichloroethane	1.2	1.9	4.7	7.6
TNMOC ref. to Heptane (MW=100)	23	77	95	310

Client Sample ID: OC_VGAC_INF_SP241_070318

Lab ID#: 1807105-03A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 11	1.2	6.6	6.7	37
Freon 113	1.2	22	9.1	170
1,1-Dichloroethene	1.2	18	4.7	73
2-Propanol	4.8	44	12	110
Chloroform	1.2	5.6	5.8	28
1,2-Dichloroethane	1.2	1.4	4.8	5.8
Trichloroethene	1.2	12	6.4	64
Tetrachloroethene	1.2	81	8.1	550
TNMOC ref. to Heptane (MW=100)	24	300	97	1200

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Client Sample ID: OC_VGAC_EFF_SP242_070318

Lab ID#: 1807105-01A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**p071110**	**Date of Collection:**	**7/3/18 9:19:00 AM**
Dil. Factor:	**2.47**	**Date of Analysis:**	**7/11/18 03:50 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	1.2	Not Detected	6.1	Not Detected
Vinyl Chloride	1.2	Not Detected	3.2	Not Detected
Freon 11	1.2	9.1	6.9	51
Freon 113	1.2	25	9.5	190
1,1-Dichloroethene	1.2	20	4.9	82
2-Propanol	4.9	Not Detected	12	Not Detected
Carbon Disulfide	4.9	Not Detected	15	Not Detected
Methylene Chloride	12	Not Detected	43	Not Detected
Hexane	1.2	Not Detected	4.4	Not Detected
1,1-Dichloroethane	1.2	Not Detected	5.0	Not Detected
2-Butanone (Methyl Ethyl Ketone)	4.9	Not Detected	14	Not Detected
Chloroform	1.2	5.1	6.0	25
1,1,1-Trichloroethane	1.2	Not Detected	6.7	Not Detected
Carbon Tetrachloride	1.2	Not Detected	7.8	Not Detected
Benzene	1.2	Not Detected	3.9	Not Detected
1,2-Dichloroethane	1.2	Not Detected	5.0	Not Detected
Trichloroethene	1.2	Not Detected	6.6	Not Detected
1,4-Dioxane	4.9	Not Detected	18	Not Detected
Toluene	1.2	Not Detected	4.6	Not Detected
1,1,2-Trichloroethane	1.2	Not Detected	6.7	Not Detected
Tetrachloroethene	1.2	Not Detected	8.4	Not Detected
o-Xylene	1.2	Not Detected	5.4	Not Detected
TNMOC ref. to Heptane (MW=100)	25	73	100	300

Container Type: 1 Liter Summa Canister

Surrogates	%Recovery	Method Limits
Toluene-d8	97	70-130
1,2-Dichloroethane-d4	92	70-130
4-Bromofluorobenzene	91	70-130

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Client Sample ID: OC_VGAC_INT_SP245_070318

Lab ID#: 1807105-02A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**p071111**	**Date of Collection:**	**7/3/18 9:21:00 AM**
Dil. Factor:	**2.33**	**Date of Analysis:**	**7/11/18 04:16 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	1.2	Not Detected	5.8	Not Detected
Vinyl Chloride	1.2	Not Detected	3.0	Not Detected
Freon 11	1.2	8.3	6.5	47
Freon 113	1.2	26	8.9	200
1,1-Dichloroethene	1.2	25	4.6	98
2-Propanol	4.7	Not Detected	11	Not Detected
Carbon Disulfide	4.7	Not Detected	14	Not Detected
Methylene Chloride	12	Not Detected	40	Not Detected
Hexane	1.2	Not Detected	4.1	Not Detected
1,1-Dichloroethane	1.2	Not Detected	4.7	Not Detected
2-Butanone (Methyl Ethyl Ketone)	4.7	Not Detected	14	Not Detected
Chloroform	1.2	7.0	5.7	34
1,1,1-Trichloroethane	1.2	Not Detected	6.4	Not Detected
Carbon Tetrachloride	1.2	Not Detected	7.3	Not Detected
Benzene	1.2	Not Detected	3.7	Not Detected
1,2-Dichloroethane	1.2	1.9	4.7	7.6
Trichloroethene	1.2	Not Detected	6.3	Not Detected
1,4-Dioxane	4.7	Not Detected	17	Not Detected
Toluene	1.2	Not Detected	4.4	Not Detected
1,1,2-Trichloroethane	1.2	Not Detected	6.4	Not Detected
Tetrachloroethene	1.2	Not Detected	7.9	Not Detected
o-Xylene	1.2	Not Detected	5.0	Not Detected
TNMOC ref. to Heptane (MW=100)	23	77	95	310

Container Type: 1 Liter Summa Canister

Surrogates	%Recovery	Method Limits
Toluene-d8	99	70-130
1,2-Dichloroethane-d4	90	70-130
4-Bromofluorobenzene	94	70-130

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Client Sample ID: OC_VGAC_INF_SP241_070318

Lab ID#: 1807105-03A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**p071112**	**Date of Collection:**	**7/3/18 9:22:00 AM**
Dil. Factor:	**2.38**	**Date of Analysis:**	**7/11/18 04:42 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	1.2	Not Detected	5.9	Not Detected
Vinyl Chloride	1.2	Not Detected	3.0	Not Detected
Freon 11	1.2	6.6	6.7	37
Freon 113	1.2	22	9.1	170
1,1-Dichloroethene	1.2	18	4.7	73
2-Propanol	4.8	44	12	110
Carbon Disulfide	4.8	Not Detected	15	Not Detected
Methylene Chloride	12	Not Detected	41	Not Detected
Hexane	1.2	Not Detected	4.2	Not Detected
1,1-Dichloroethane	1.2	Not Detected	4.8	Not Detected
2-Butanone (Methyl Ethyl Ketone)	4.8	Not Detected	14	Not Detected
Chloroform	1.2	5.6	5.8	28
1,1,1-Trichloroethane	1.2	Not Detected	6.5	Not Detected
Carbon Tetrachloride	1.2	Not Detected	7.5	Not Detected
Benzene	1.2	Not Detected	3.8	Not Detected
1,2-Dichloroethane	1.2	1.4	4.8	5.8
Trichloroethene	1.2	12	6.4	64
1,4-Dioxane	4.8	Not Detected	17	Not Detected
Toluene	1.2	Not Detected	4.5	Not Detected
1,1,2-Trichloroethane	1.2	Not Detected	6.5	Not Detected
Tetrachloroethene	1.2	81	8.1	550
o-Xylene	1.2	Not Detected	5.2	Not Detected
TNMOC ref. to Heptane (MW=100)	24	300	97	1200

Container Type: 1 Liter Summa Canister

Surrogates	%Recovery	Method Limits
Toluene-d8	96	70-130
1,2-Dichloroethane-d4	90	70-130
4-Bromofluorobenzene	91	70-130

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Client Sample ID: Lab Blank

Lab ID#: 1807105-04A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**p071106**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 7/11/18 12:24 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.50	Not Detected	2.5	Not Detected
Vinyl Chloride	0.50	Not Detected	1.3	Not Detected
Freon 11	0.50	Not Detected	2.8	Not Detected
Freon 113	0.50	Not Detected	3.8	Not Detected
1,1-Dichloroethene	0.50	Not Detected	2.0	Not Detected
2-Propanol	2.0	Not Detected	4.9	Not Detected
Carbon Disulfide	2.0	Not Detected	6.2	Not Detected
Methylene Chloride	5.0	Not Detected	17	Not Detected
Hexane	0.50	Not Detected	1.8	Not Detected
1,1-Dichloroethane	0.50	Not Detected	2.0	Not Detected
2-Butanone (Methyl Ethyl Ketone)	2.0	Not Detected	5.9	Not Detected
Chloroform	0.50	Not Detected	2.4	Not Detected
1,1,1-Trichloroethane	0.50	Not Detected	2.7	Not Detected
Carbon Tetrachloride	0.50	Not Detected	3.1	Not Detected
Benzene	0.50	Not Detected	1.6	Not Detected
1,2-Dichloroethane	0.50	Not Detected	2.0	Not Detected
Trichloroethene	0.50	Not Detected	2.7	Not Detected
1,4-Dioxane	2.0	Not Detected	7.2	Not Detected
Toluene	0.50	Not Detected	1.9	Not Detected
1,1,2-Trichloroethane	0.50	Not Detected	2.7	Not Detected
Tetrachloroethene	0.50	Not Detected	3.4	Not Detected
o-Xylene	0.50	Not Detected	2.2	Not Detected
TNMOC ref. to Heptane (MW=100)	10	Not Detected	41	Not Detected

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
Toluene-d8	97	70-130
1,2-Dichloroethane-d4	90	70-130
4-Bromofluorobenzene	93	70-130

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Client Sample ID: CCV

Lab ID#: 1807105-05A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**p071102**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 7/11/18 10:16 AM**	

Compound	**%Recovery**
Freon 12	106
Vinyl Chloride	112
Freon 11	106
Freon 113	105
1,1-Dichloroethene	97
2-Propanol	87
Carbon Disulfide	95
Methylene Chloride	91
Hexane	97
1,1-Dichloroethane	98
2-Butanone (Methyl Ethyl Ketone)	100
Chloroform	104
1,1,1-Trichloroethane	100
Carbon Tetrachloride	108
Benzene	114
1,2-Dichloroethane	104
Trichloroethene	106
1,4-Dioxane	114
Toluene	113
1,1,2-Trichloroethane	110
Tetrachloroethene	117
o-Xylene	124
TNMOC ref. to Heptane (MW=100)	100

Container Type: NA - Not Applicable

Surrogates	**%Recovery**	**Method Limits**
Toluene-d8	105	70-130
1,2-Dichloroethane-d4	92	70-130
4-Bromofluorobenzene	109	70-130

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Client Sample ID: LCS

Lab ID#: 1807105-06A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**p071103**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 7/11/18 10:40 AM**	

Compound	**%Recovery**	**Method Limits**
Freon 12	101	70-130
Vinyl Chloride	106	70-130
Freon 11	100	70-130
Freon 113	101	70-130
1,1-Dichloroethene	97	70-130
2-Propanol	88	70-130
Carbon Disulfide	92	70-130
Methylene Chloride	84	70-130
Hexane	96	70-130
1,1-Dichloroethane	92	70-130
2-Butanone (Methyl Ethyl Ketone)	98	70-130
Chloroform	100	70-130
1,1,1-Trichloroethane	100	70-130
Carbon Tetrachloride	111	70-130
Benzene	106	70-130
1,2-Dichloroethane	96	70-130
Trichloroethene	100	70-130
1,4-Dioxane	110	70-130
Toluene	105	70-130
1,1,2-Trichloroethane	105	70-130
Tetrachloroethene	112	70-130
o-Xylene	123	70-130
TNMOC ref. to Heptane (MW=100)	Not Spiked	

Container Type: NA - Not Applicable

Surrogates	**%Recovery**	**Method Limits**
Toluene-d8	103	70-130
1,2-Dichloroethane-d4	92	70-130
4-Bromofluorobenzene	110	70-130

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Client Sample ID: LCSD

Lab ID#: 1807105-06AA

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**p071104**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 7/11/18 11:05 AM**	

Compound	**%Recovery**	**Method Limits**
Freon 12	103	70-130
Vinyl Chloride	114	70-130
Freon 11	103	70-130
Freon 113	102	70-130
1,1-Dichloroethene	99	70-130
2-Propanol	90	70-130
Carbon Disulfide	94	70-130
Methylene Chloride	87	70-130
Hexane	100	70-130
1,1-Dichloroethane	94	70-130
2-Butanone (Methyl Ethyl Ketone)	101	70-130
Chloroform	101	70-130
1,1,1-Trichloroethane	103	70-130
Carbon Tetrachloride	116	70-130
Benzene	105	70-130
1,2-Dichloroethane	96	70-130
Trichloroethene	100	70-130
1,4-Dioxane	108	70-130
Toluene	105	70-130
1,1,2-Trichloroethane	104	70-130
Tetrachloroethene	110	70-130
o-Xylene	120	70-130
TNMOC ref. to Heptane (MW=100)	Not Spiked	

Container Type: NA - Not Applicable

Surrogates	**%Recovery**	**Method Limits**
Toluene-d8	102	70-130
1,2-Dichloroethane-d4	91	70-130
4-Bromofluorobenzene	109	70-130

Calscience Environmental Laboratories, Inc.

7440 LINCOLN WAY
GARDEN GROVE, CA 92841-1427
TEL: (714) 895-5494 . FAX: (714) 894-7501

AIR CHAIN OF CUSTODY RECORD

DATE: 07/03/18
PAGE: 1 OF 1

LABORATORY CLIENT: de maximis	CLIENT PROJECT NAME / NUMBER: Omega - GWCS Monthly GAC
ADDRESS: 1322 Scott St., Suite 104	PROJECT ADDRESS: 12520 Whittier Blvd.
CITY: San Diego STATE: CA ZIP: 92106	CITY: Whittier STATE: CA ZIP: 90602
TEL: (562) 756-8149 EMAIL: jdinello@demaximis.com	PROJECT CONTACT: Trent Henderson thenderson@jacobandhefner.com
TURNAROUND TIME: ☐ SAME DAY ☐ 24 HR ☐ 48 HR ☐ 72 HR ☑ 5 DAYS ☐ 10 DAYS	SAMPLER(S): (NAME / SIGNATURE) Khalid Azhar
SPECIAL REQUIREMENTS (ADDITIONAL COSTS MAY APPLY) ☑ EDD	
SPECIAL INSTRUCTIONS:	

P.O. NO.:
LAB CONTACT OR QUOTE NO.:
LAB USE ONLY ☐☐-☐☐☐☐

REQUESTED ANALYSES

	LAB USE ONLY	SAMPLE ID	FIELD ID / Point of Collection	Air Type (I) Indoor (SV) Soil Vap. (A) Ambient	Sampling Equipment Info: Canister ID#	Canister Size 6L or 1L	Flow Controller ID#	Start Sampling Information: Date	Time (24hr clock)	Canister Pressure ("Hg)	Stop Sampling Information: Date	Time (24hr clock)	Canister Pressure ("Hg)	TO-15 (TAL 2.3)
01A	1	OC_VGAC_EFF_SP242_070318	SP-EFF-GAC	Vapor	40872	1L	23350	7/3/2018	0915	-30	7/3/2018	0919	-5	X
02A	2	OC_VGAC_INT_SP245_070318	SP-MID-GAC	Vapor	1L2758	1L	24260	7/3/2018	0916	-30	7/3/2018	0921	-5	X
03A	3	OC_VGAC_INF_SP241_070318	SP-INF-GAC	Vapor	1L2923	1L	23739	7/3/2018	0917	-30	7/3/2018	0922	-5	X
	4													
	5													
	6													
	7													
	8													
	9													
	10													
	11													
	12													
	13													
	14													
	15													

Custody Seal Intact? Y N NA
Temp 2.4
Ztotx

Relinquished by: (Signature)	Received by: (Signature)	Date:	Time:
[signature]	[signature] EATL	07/09/18	0950
Relinquished by: (Signature)	Received by: (Signature)	Date:	Time:
Relinquished by: (Signature)	Received by: (Signature)	Date:	Time:

1807105

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8/17/2018
Ms. Jaime Dinello
DeMaximis, Inc
1340 Reynolds Ave, Suite 105

Irvine CA 92614

Project Name: Omega - GWCS Monthly GAC
Project #:
Workorder #: 1808201

Dear Ms. Jaime Dinello

The following report includes the data for the above referenced project for sample(s) received on 8/10/2018 at Air Toxics Ltd.

The data and associated QC analyzed by TO-15 are compliant with the project requirements or laboratory criteria with the exception of the deviations noted in the attached case narrative.

Thank you for choosing Eurofins Air Toxics Inc. for your air analysis needs. Eurofins Air Toxics Inc. is committed to providing accurate data of the highest quality. Please feel free to contact the Project Manager: Kelly Buettner at 916-985-1000 if you have any questions regarding the data in this report.

Regards,

Kelly Buettner

Project Manager

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WORK ORDER #: 1808201

Work Order Summary

CLIENT:	Ms. Jaime Dinello DeMaximis, Inc 1340 Reynolds Ave, Suite 105 Irvine, CA 92614	**BILL TO:**	Mr. Tom Dorsey Omega Chemical Site Environmental Remediation Trust 1322 Scott St. Suite 104
PHONE:	949.679.9290	**P.O. #**	
FAX:	949.679.9078	**PROJECT #**	Omega - GWCS Monthly GAC
DATE RECEIVED:	08/10/2018	**CONTACT:**	Kelly Buettner
DATE COMPLETED:	08/17/2018		

FRACTION #	NAME	TEST	RECEIPT VAC./PRES.	FINAL PRESSURE
01A	OC_VGAC_EFF_SP242_080718	TO-15	4.1 "Hg	15.1 psi
02A	OC_VGAC_INT_SP245_080718	TO-15	3.1 "Hg	14.8 psi
03A	OC_VGAC_INF_SP241_080718	TO-15	5.3 "Hg	14.7 psi
04A	Lab Blank	TO-15	NA	NA
05A	CCV	TO-15	NA	NA
06A	LCS	TO-15	NA	NA
06AA	LCSD	TO-15	NA	NA

CERTIFIED BY: Heidi Hayes

Technical Director

DATE: 08/17/18

Certification numbers: AZ Licensure AZ0775, NJ NELAP - CA016, NY NELAP - 11291,
TX NELAP - T104704434-15-9, UT NELAP CA0093332015-6, VA NELAP - 8113, WA NELAP - C935
Name of Accreditation Body: NELAP/ORELAP (Oregon Environmental Laboratory Accreditation Program)
Accreditation number: CA300005, Effective date: 10/18/2015, Expiration date: 10/17/2016.
Eurofins Air Toxics Inc.. certifies that the test results contained in this report meet all requirements of the NELAC standards

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LABORATORY NARRATIVE
EPA Method TO-15
DeMaximis, Inc
Workorder# 1808201

Three 1 Liter Summa Canister samples were received on August 10, 2018. The laboratory performed analysis via EPA Method TO-15 using GC/MS in the full scan mode.

This workorder was independently validated prior to submittal using 'USEPA National Functional Guidelines' as generally applied to the analysis of volatile organic compounds in air. A rules-based, logic driven, independent validation engine was employed to assess completeness, evaluate pass/fail of relevant project quality control requirements and verification of all quantified amounts.

Receiving Notes

There were no receiving discrepancies.

Analytical Notes

The TNMOC concentration was calculated by taking the total area counts in the sample and quantitating the area based on the response factor of Heptane.

Definition of Data Qualifying Flags

Ten qualifiers may have been used on the data analysis sheets and indicates as follows:

B - Compound present in laboratory blank greater than reporting limit (background subtraction not performed).
J - Estimated value.
E - Exceeds instrument calibration range.
S - Saturated peak.
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UJ- Non-detected compound associated with low bias in the CCV
N - The identification is based on presumptive evidence.
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CN - See Case Narrative.

File extensions may have been used on the data analysis sheets and indicates as follows:
a-File was requantified
b-File was quantified by a second column and detector
r1-File was requantified for the purpose of reissue

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Summary of Detected Compounds
EPA METHOD TO-15 GC/MS FULL SCAN

Client Sample ID: OC_VGAC_EFF_SP242_080718

Lab ID#: 1808201-01A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 11	1.2	8.2	6.6	46
Freon 113	1.2	22	9.0	170
1,1-Dichloroethene	1.2	25	4.6	100
Hexane	1.2	6.0	4.1	21
2-Butanone (Methyl Ethyl Ketone)	4.7	4.8	14	14
Chloroform	1.2	5.1	5.7	25
Benzene	1.2	3.1	3.8	9.8
TNMOC ref. to Heptane (MW=100)	24	200	96	820

Client Sample ID: OC_VGAC_INT_SP245_080718

Lab ID#: 1808201-02A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 11	1.1	7.4	6.3	42
Freon 113	1.1	28	8.6	210
1,1-Dichloroethene	1.1	28	4.4	110
Chloroform	1.1	7.7	5.5	38
1,2-Dichloroethane	1.1	1.9	4.5	7.8
TNMOC ref. to Heptane (MW=100)	22	100	92	410

Client Sample ID: OC_VGAC_INF_SP241_080718

Lab ID#: 1808201-03A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 11	1.2	6.3	6.8	36
Freon 113	1.2	20	9.3	160
1,1-Dichloroethene	1.2	20	4.8	78
Chloroform	1.2	5.2	5.9	25
Trichloroethene	1.2	10	6.5	54
Tetrachloroethene	1.2	73	8.2	500
TNMOC ref. to Heptane (MW=100)	24	220	99	900

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Client Sample ID: OC_VGAC_EFF_SP242_080718

Lab ID#: 1808201-01A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**17081409**	**Date of Collection:**	**8/7/18 9:24:00 AM**
Dil. Factor:	**2.35**	**Date of Analysis:**	**8/14/18 04:59 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	1.2	Not Detected	5.8	Not Detected
Vinyl Chloride	1.2	Not Detected	3.0	Not Detected
Freon 11	1.2	8.2	6.6	46
Freon 113	1.2	22	9.0	170
1,1-Dichloroethene	1.2	25	4.6	100
2-Propanol	4.7	Not Detected	12	Not Detected
Carbon Disulfide	4.7	Not Detected	15	Not Detected
Methylene Chloride	12	Not Detected	41	Not Detected
Hexane	1.2	6.0	4.1	21
1,1-Dichloroethane	1.2	Not Detected	4.8	Not Detected
2-Butanone (Methyl Ethyl Ketone)	4.7	4.8	14	14
Chloroform	1.2	5.1	5.7	25
1,1,1-Trichloroethane	1.2	Not Detected	6.4	Not Detected
Carbon Tetrachloride	1.2	Not Detected	7.4	Not Detected
Benzene	1.2	3.1	3.8	9.8
1,2-Dichloroethane	1.2	Not Detected	4.8	Not Detected
Trichloroethene	1.2	Not Detected	6.3	Not Detected
1,4-Dioxane	4.7	Not Detected	17	Not Detected
Toluene	1.2	Not Detected	4.4	Not Detected
1,1,2-Trichloroethane	1.2	Not Detected	6.4	Not Detected
Tetrachloroethene	1.2	Not Detected	8.0	Not Detected
o-Xylene	1.2	Not Detected	5.1	Not Detected
TNMOC ref. to Heptane (MW=100)	24	200	96	820

Container Type: 1 Liter Summa Canister

Surrogates	%Recovery	Method Limits
Toluene-d8	99	70-130
1,2-Dichloroethane-d4	96	70-130
4-Bromofluorobenzene	93	70-130

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Client Sample ID: OC_VGAC_INT_SP245_080718

Lab ID#: 1808201-02A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**17081412**	**Date of Collection:**	**8/7/18 9:26:00 AM**
Dil. Factor:	**2.24**	**Date of Analysis:**	**8/14/18 06:24 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	1.1	Not Detected	5.5	Not Detected
Vinyl Chloride	1.1	Not Detected	2.9	Not Detected
Freon 11	1.1	7.4	6.3	42
Freon 113	1.1	28	8.6	210
1,1-Dichloroethene	1.1	28	4.4	110
2-Propanol	4.5	Not Detected	11	Not Detected
Carbon Disulfide	4.5	Not Detected	14	Not Detected
Methylene Chloride	11	Not Detected	39	Not Detected
Hexane	1.1	Not Detected	3.9	Not Detected
1,1-Dichloroethane	1.1	Not Detected	4.5	Not Detected
2-Butanone (Methyl Ethyl Ketone)	4.5	Not Detected	13	Not Detected
Chloroform	1.1	7.7	5.5	38
1,1,1-Trichloroethane	1.1	Not Detected	6.1	Not Detected
Carbon Tetrachloride	1.1	Not Detected	7.0	Not Detected
Benzene	1.1	Not Detected	3.6	Not Detected
1,2-Dichloroethane	1.1	1.9	4.5	7.8
Trichloroethene	1.1	Not Detected	6.0	Not Detected
1,4-Dioxane	4.5	Not Detected	16	Not Detected
Toluene	1.1	Not Detected	4.2	Not Detected
1,1,2-Trichloroethane	1.1	Not Detected	6.1	Not Detected
Tetrachloroethene	1.1	Not Detected	7.6	Not Detected
o-Xylene	1.1	Not Detected	4.9	Not Detected
TNMOC ref. to Heptane (MW=100)	22	100	92	410

Container Type: 1 Liter Summa Canister

Surrogates	%Recovery	Method Limits
Toluene-d8	100	70-130
1,2-Dichloroethane-d4	95	70-130
4-Bromofluorobenzene	94	70-130

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Client Sample ID: OC_VGAC_INF_SP241_080718

Lab ID#: 1808201-03A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**17081415**	**Date of Collection:**	**8/7/18 9:27:00 AM**
Dil. Factor:	**2.43**	**Date of Analysis:**	**8/14/18 07:49 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	1.2	Not Detected	6.0	Not Detected
Vinyl Chloride	1.2	Not Detected	3.1	Not Detected
Freon 11	1.2	6.3	6.8	36
Freon 113	1.2	20	9.3	160
1,1-Dichloroethene	1.2	20	4.8	78
2-Propanol	4.9	Not Detected	12	Not Detected
Carbon Disulfide	4.9	Not Detected	15	Not Detected
Methylene Chloride	12	Not Detected	42	Not Detected
Hexane	1.2	Not Detected	4.3	Not Detected
1,1-Dichloroethane	1.2	Not Detected	4.9	Not Detected
2-Butanone (Methyl Ethyl Ketone)	4.9	Not Detected	14	Not Detected
Chloroform	1.2	5.2	5.9	25
1,1,1-Trichloroethane	1.2	Not Detected	6.6	Not Detected
Carbon Tetrachloride	1.2	Not Detected	7.6	Not Detected
Benzene	1.2	Not Detected	3.9	Not Detected
1,2-Dichloroethane	1.2	Not Detected	4.9	Not Detected
Trichloroethene	1.2	10	6.5	54
1,4-Dioxane	4.9	Not Detected	18	Not Detected
Toluene	1.2	Not Detected	4.6	Not Detected
1,1,2-Trichloroethane	1.2	Not Detected	6.6	Not Detected
Tetrachloroethene	1.2	73	8.2	500
o-Xylene	1.2	Not Detected	5.3	Not Detected
TNMOC ref. to Heptane (MW=100)	24	220	99	900

Container Type: 1 Liter Summa Canister

Surrogates	%Recovery	Method Limits
Toluene-d8	100	70-130
1,2-Dichloroethane-d4	94	70-130
4-Bromofluorobenzene	94	70-130

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Client Sample ID: Lab Blank

Lab ID#: 1808201-04A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**17081407**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 8/14/18 02:24 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.50	Not Detected	2.5	Not Detected
Vinyl Chloride	0.50	Not Detected	1.3	Not Detected
Freon 11	0.50	Not Detected	2.8	Not Detected
Freon 113	0.50	Not Detected	3.8	Not Detected
1,1-Dichloroethene	0.50	Not Detected	2.0	Not Detected
2-Propanol	2.0	Not Detected	4.9	Not Detected
Carbon Disulfide	2.0	Not Detected	6.2	Not Detected
Methylene Chloride	5.0	Not Detected	17	Not Detected
Hexane	0.50	Not Detected	1.8	Not Detected
1,1-Dichloroethane	0.50	Not Detected	2.0	Not Detected
2-Butanone (Methyl Ethyl Ketone)	2.0	Not Detected	5.9	Not Detected
Chloroform	0.50	Not Detected	2.4	Not Detected
1,1,1-Trichloroethane	0.50	Not Detected	2.7	Not Detected
Carbon Tetrachloride	0.50	Not Detected	3.1	Not Detected
Benzene	0.50	Not Detected	1.6	Not Detected
1,2-Dichloroethane	0.50	Not Detected	2.0	Not Detected
Trichloroethene	0.50	Not Detected	2.7	Not Detected
1,4-Dioxane	2.0	Not Detected	7.2	Not Detected
Toluene	0.50	Not Detected	1.9	Not Detected
1,1,2-Trichloroethane	0.50	Not Detected	2.7	Not Detected
Tetrachloroethene	0.50	Not Detected	3.4	Not Detected
o-Xylene	0.50	Not Detected	2.2	Not Detected
TNMOC ref. to Heptane (MW=100)	10	Not Detected	41	Not Detected

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
Toluene-d8	100	70-130
1,2-Dichloroethane-d4	95	70-130
4-Bromofluorobenzene	93	70-130

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Client Sample ID: CCV

Lab ID#: 1808201-05A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**17081402**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 8/14/18 10:00 AM**	

Compound	**%Recovery**
Freon 12	97
Vinyl Chloride	94
Freon 11	94
Freon 113	96
1,1-Dichloroethene	95
2-Propanol	86
Carbon Disulfide	96
Methylene Chloride	90
Hexane	88
1,1-Dichloroethane	92
2-Butanone (Methyl Ethyl Ketone)	90
Chloroform	98
1,1,1-Trichloroethane	96
Carbon Tetrachloride	96
Benzene	98
1,2-Dichloroethane	100
Trichloroethene	100
1,4-Dioxane	93
Toluene	99
1,1,2-Trichloroethane	102
Tetrachloroethene	99
o-Xylene	97
TNMOC ref. to Heptane (MW=100)	100

Container Type: NA - Not Applicable

Surrogates	**%Recovery**	**Method Limits**
Toluene-d8	101	70-130
1,2-Dichloroethane-d4	98	70-130
4-Bromofluorobenzene	97	70-130

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Client Sample ID: LCS

Lab ID#: 1808201-06A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**17081403**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 8/14/18 10:43 AM**	

Compound	**%Recovery**	**Method Limits**
Freon 12	100	70-130
Vinyl Chloride	102	70-130
Freon 11	98	70-130
Freon 113	98	70-130
1,1-Dichloroethene	98	70-130
2-Propanol	87	70-130
Carbon Disulfide	102	70-130
Methylene Chloride	93	70-130
Hexane	93	70-130
1,1-Dichloroethane	96	70-130
2-Butanone (Methyl Ethyl Ketone)	99	70-130
Chloroform	103	70-130
1,1,1-Trichloroethane	100	70-130
Carbon Tetrachloride	98	70-130
Benzene	101	70-130
1,2-Dichloroethane	100	70-130
Trichloroethene	110	70-130
1,4-Dioxane	94	70-130
Toluene	100	70-130
1,1,2-Trichloroethane	104	70-130
Tetrachloroethene	101	70-130
o-Xylene	98	70-130
TNMOC ref. to Heptane (MW=100)	Not Spiked	

Container Type: NA - Not Applicable

Surrogates	**%Recovery**	**Method Limits**
Toluene-d8	100	70-130
1,2-Dichloroethane-d4	97	70-130
4-Bromofluorobenzene	98	70-130

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Client Sample ID: LCSD

Lab ID#: 1808201-06AA

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**17081404**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 8/14/18 11:12 AM**	

Compound	**%Recovery**	**Method Limits**
Freon 12	99	70-130
Vinyl Chloride	100	70-130
Freon 11	98	70-130
Freon 113	98	70-130
1,1-Dichloroethene	99	70-130
2-Propanol	88	70-130
Carbon Disulfide	102	70-130
Methylene Chloride	93	70-130
Hexane	94	70-130
1,1-Dichloroethane	96	70-130
2-Butanone (Methyl Ethyl Ketone)	98	70-130
Chloroform	102	70-130
1,1,1-Trichloroethane	100	70-130
Carbon Tetrachloride	98	70-130
Benzene	100	70-130
1,2-Dichloroethane	100	70-130
Trichloroethene	112	70-130
1,4-Dioxane	94	70-130
Toluene	100	70-130
1,1,2-Trichloroethane	104	70-130
Tetrachloroethene	100	70-130
o-Xylene	97	70-130
TNMOC ref. to Heptane (MW=100)	Not Spiked	

Container Type: NA - Not Applicable

Surrogates	**%Recovery**	**Method Limits**
Toluene-d8	100	70-130
1,2-Dichloroethane-d4	96	70-130
4-Bromofluorobenzene	95	70-130

Calscience Environmental Laboratories, Inc.

7440 LINCOLN WAY
GARDEN GROVE, CA 92841-1427
TEL: (714) 895-5494 . FAX: (714) 894-7501

AIR CHAIN OF CUSTODY RECORD

DATE: 08/07/18
PAGE: 1 OF 1

LABORATORY CLIENT: de maximis
ADDRESS: 1322 Scott St., Suite 104
CITY: San Diego STATE: CA ZIP: 92106
TEL: (562) 756-8149 EMAIL: jdinello@demaximis.com

CLIENT PROJECT NAME / NUMBER: Omega - GWCS Monthly GAC
PROJECT ADDRESS: 12520 Whittier Blvd.
CITY: Whittier STATE: CA ZIP: 90602
PROJECT CONTACT: Trent Henderson thenderson@jacobandhefner.com

P.O. NO.:
LAB CONTACT OR QUOTE NO.:
LAB USE ONLY: ☐☐-☐☐☐☐

TURNAROUND TIME: ☐ SAME DAY ☐ 24 HR ☐ 48 HR ☐ 72 HR ☑ 5 DAYS ☐ 10 DAYS

SAMPLER(S): (NAME / SIGNATURE) Khalid Azhar

SPECIAL REQUIREMENTS (ADDITIONAL COSTS MAY APPLY): ☑ EDD

SPECIAL INSTRUCTIONS:

REQUESTED ANALYSES

LAB USE ONLY	SAMPLE ID	FIELD ID / Point of Collection	Air Type (I) Indoor (SV) Soil Vap. (A) Ambient	Sampling Equipment Info: Canister ID#	Canister Size 6L or 1L	Flow Controller ID#	Start Sampling Information: Date	Time (24hr clock)	Canister Pressure ("Hg)	Stop Sampling Information: Date	Time (24hr clock)	Canister Pressure ("Hg)	TO-15 (TAL 2.3)
1	OC_VGAC_EFF_SP242_080718	SP-EFF-GAC	Vapor	1L2177	1L	23493	8/7/2018	0919	-30	8/7/2018	0924	-5	X
2	OC_VGAC_INT_SP245_080718	SP-MID-GAC	Vapor	1L1807	1L	24306	8/7/2018	0921	-30	8/7/2018	0926	-5	X
3	OC_VGAC_INF_SP241_080718	SP-INF-GAC	Vapor	1L1564	1L	23246	8/7/2018	0922	-30	8/7/2018	0927	-5	X
4													
5													
6													
7													
8													
9													
10													
11													
12													
13													
14													
15													

01A
02A
03A

Relinquished by: (Signature)	Received by: (Signature)	Date:	Time:
	Jan FAIL 8/10/18		935 -
Relinquished by: (Signature)	Received by: (Signature)	Date:	Time:
Relinquished by: (Signature)	Received by: (Signature)	Date:	Time:

Custody Seal Intact?

Y N None Temp NA

IIOFX

1808201

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9/14/2018
Ms. Jaime Dinello
DeMaximis, Inc
1340 Reynolds Ave, Suite 105

Irvine CA 92614

Project Name: Omega- GWTS Monthly GAC
Project #:
Workorder #: 1809092

Dear Ms. Jaime Dinello

The following report includes the data for the above referenced project for sample(s) received on 9/7/2018 at Air Toxics Ltd.

The data and associated QC analyzed by TO-15 are compliant with the project requirements or laboratory criteria with the exception of the deviations noted in the attached case narrative.

Thank you for choosing Eurofins Air Toxics Inc. for your air analysis needs. Eurofins Air Toxics Inc. is committed to providing accurate data of the highest quality. Please feel free to contact the Project Manager: Kelly Buettner at 916-985-1000 if you have any questions regarding the data in this report.

Regards,

Kelly Buettner

Project Manager

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WORK ORDER #: 1809092

Work Order Summary

CLIENT:	Ms. Jaime Dinello DeMaximis, Inc 1340 Reynolds Ave, Suite 105 Irvine, CA 92614	**BILL TO:**	Mr. Tom Dorsey Omega Chemical Site Environmental Remediation Trust 1322 Scott St. Suite 104
PHONE:	949.679.9290	**P.O. #**	
FAX:	949.679.9078	**PROJECT #**	Omega- GWTS Monthly GAC
DATE RECEIVED:	09/07/2018	**CONTACT:**	Kelly Buettner
DATE COMPLETED:	09/14/2018		

FRACTION #	NAME	TEST	RECEIPT VAC./PRES.	FINAL PRESSURE
01A	OC_VGAC_EFF_SP242_090418	TO-15	4.0 "Hg	15 psi
02A	OC_VGAC_INT_SP245_090418	TO-15	5.0 "Hg	15 psi
03A	OC_VGAC_INF_SP241_090418	TO-15	4.0 "Hg	15 psi
04A	Lab Blank	TO-15	NA	NA
05A	CCV	TO-15	NA	NA
06A	LCS	TO-15	NA	NA
06AA	LCSD	TO-15	NA	NA

CERTIFIED BY: Heidi Hayes

Technical Director

DATE: 09/14/18

Certification numbers: AZ Licensure AZ0775, NJ NELAP - CA016, NY NELAP - 11291,
TX NELAP - T104704434-15-9, UT NELAP CA0093332015-6, VA NELAP - 8113, WA NELAP - C935
Name of Accreditation Body: NELAP/ORELAP (Oregon Environmental Laboratory Accreditation Program)
Accreditation number: CA300005, Effective date: 10/18/2015, Expiration date: 10/17/2016.
Eurofins Air Toxics Inc.. certifies that the test results contained in this report meet all requirements of the NELAC standards

This report shall not be reproduced, except in full, without the written approval of Eurofins Air Toxics, Inc.

180 BLUE RAVINE ROAD, SUITE B FOLSOM, CA - 95630
(916) 985-1000 . (800) 985-5955 . FAX (916) 985-1020

LABORATORY NARRATIVE
EPA Method TO-15
DeMaximis, Inc
Workorder# 1809092

Three 1 Liter Summa Canister samples were received on September 07, 2018. The laboratory performed analysis via EPA Method TO-15 using GC/MS in the full scan mode.

This workorder was independently validated prior to submittal using 'USEPA National Functional Guidelines' as generally applied to the analysis of volatile organic compounds in air. A rules-based, logic driven, independent validation engine was employed to assess completeness, evaluate pass/fail of relevant project quality control requirements and verification of all quantified amounts.

Receiving Notes

There were no receiving discrepancies.

Analytical Notes

The TNMOC concentration was calculated by taking the total area counts in the sample and quantitating the area based on the response factor of Heptane.

Definition of Data Qualifying Flags

Ten qualifiers may have been used on the data analysis sheets and indicates as follows:

B - Compound present in laboratory blank greater than reporting limit (background subtraction not performed).
J - Estimated value.
E - Exceeds instrument calibration range.
S - Saturated peak.
Q - Exceeds quality control limits.
U - Compound analyzed for but not detected above the reporting limit, LOD, or MDL value. See data page for project specific U-flag definition.
UJ- Non-detected compound associated with low bias in the CCV
N - The identification is based on presumptive evidence.
M - Reported value may be biased due to apparent matrix interferences.
CN - See Case Narrative.

File extensions may have been used on the data analysis sheets and indicates as follows:
a-File was requantified
b-File was quantified by a second column and detector
r1-File was requantified for the purpose of reissue

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Summary of Detected Compounds
EPA METHOD TO-15 GC/MS FULL SCAN

Client Sample ID: OC_VGAC_EFF_SP242_090418

Lab ID#: 1809092-01A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 11	1.2	8.8	6.5	49
Freon 113	1.2	25	8.9	190
1,1-Dichloroethene	1.2	26	4.6	100
2-Butanone (Methyl Ethyl Ketone)	4.7	4.8	14	14
Chloroform	1.2	5.3	5.7	26
Toluene	1.2	7.9	4.4	30
TNMOC ref. to Heptane (MW=100)	23	190	95	780

Client Sample ID: OC_VGAC_INT_SP245_090418

Lab ID#: 1809092-02A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 11	1.2	7.0	6.8	40
Freon 113	1.2	28	9.3	220
1,1-Dichloroethene	1.2	23	4.8	90
Chloroform	1.2	7.4	5.9	36
1,2-Dichloroethane	1.2	2.3	4.9	9.4
TNMOC ref. to Heptane (MW=100)	24	140	99	570

Client Sample ID: OC_VGAC_INF_SP241_090418

Lab ID#: 1809092-03A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 11	1.2	7.5	6.5	42
Freon 113	1.2	21	8.9	160
1,1-Dichloroethene	1.2	19	4.6	76
Chloroform	1.2	5.3	5.7	26
1,2-Dichloroethane	1.2	1.4	4.7	5.9
Trichloroethene	1.2	11	6.3	59
Tetrachloroethene	1.2	68	7.9	460
TNMOC ref. to Heptane (MW=100)	23	230	95	940

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Client Sample ID: OC_VGAC_EFF_SP242_090418

Lab ID#: 1809092-01A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**3091217**	**Date of Collection:**	**9/4/18 11:31:00 AM**
Dil. Factor:	**2.33**	**Date of Analysis:**	**9/12/18 11:12 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	1.2	Not Detected	5.8	Not Detected
Vinyl Chloride	1.2	Not Detected	3.0	Not Detected
Freon 11	1.2	8.8	6.5	49
Freon 113	1.2	25	8.9	190
1,1-Dichloroethene	1.2	26	4.6	100
2-Propanol	4.7	Not Detected	11	Not Detected
Carbon Disulfide	4.7	Not Detected	14	Not Detected
Methylene Chloride	12	Not Detected	40	Not Detected
Hexane	1.2	Not Detected	4.1	Not Detected
1,1-Dichloroethane	1.2	Not Detected	4.7	Not Detected
2-Butanone (Methyl Ethyl Ketone)	4.7	4.8	14	14
Chloroform	1.2	5.3	5.7	26
1,1,1-Trichloroethane	1.2	Not Detected	6.4	Not Detected
Carbon Tetrachloride	1.2	Not Detected	7.3	Not Detected
Benzene	1.2	Not Detected	3.7	Not Detected
1,2-Dichloroethane	1.2	Not Detected	4.7	Not Detected
Trichloroethene	1.2	Not Detected	6.3	Not Detected
1,4-Dioxane	4.7	Not Detected	17	Not Detected
Toluene	1.2	7.9	4.4	30
1,1,2-Trichloroethane	1.2	Not Detected	6.4	Not Detected
Tetrachloroethene	1.2	Not Detected	7.9	Not Detected
o-Xylene	1.2	Not Detected	5.0	Not Detected
TNMOC ref. to Heptane (MW=100)	23	190	95	780

Container Type: 1 Liter Summa Canister

Surrogates	%Recovery	Method Limits
Toluene-d8	100	70-130
1,2-Dichloroethane-d4	112	70-130
4-Bromofluorobenzene	109	70-130

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Client Sample ID: OC_VGAC_INT_SP245_090418

Lab ID#: 1809092-02A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**3091218**	**Date of Collection:**	**9/4/18 11:33:00 AM**
Dil. Factor:	**2.42**	**Date of Analysis:**	**9/12/18 11:38 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	1.2	Not Detected	6.0	Not Detected
Vinyl Chloride	1.2	Not Detected	3.1	Not Detected
Freon 11	1.2	7.0	6.8	40
Freon 113	1.2	28	9.3	220
1,1-Dichloroethene	1.2	23	4.8	90
2-Propanol	4.8	Not Detected	12	Not Detected
Carbon Disulfide	4.8	Not Detected	15	Not Detected
Methylene Chloride	12	Not Detected	42	Not Detected
Hexane	1.2	Not Detected	4.3	Not Detected
1,1-Dichloroethane	1.2	Not Detected	4.9	Not Detected
2-Butanone (Methyl Ethyl Ketone)	4.8	Not Detected	14	Not Detected
Chloroform	1.2	7.4	5.9	36
1,1,1-Trichloroethane	1.2	Not Detected	6.6	Not Detected
Carbon Tetrachloride	1.2	Not Detected	7.6	Not Detected
Benzene	1.2	Not Detected	3.9	Not Detected
1,2-Dichloroethane	1.2	2.3	4.9	9.4
Trichloroethene	1.2	Not Detected	6.5	Not Detected
1,4-Dioxane	4.8	Not Detected	17	Not Detected
Toluene	1.2	Not Detected	4.6	Not Detected
1,1,2-Trichloroethane	1.2	Not Detected	6.6	Not Detected
Tetrachloroethene	1.2	Not Detected	8.2	Not Detected
o-Xylene	1.2	Not Detected	5.2	Not Detected
TNMOC ref. to Heptane (MW=100)	24	140	99	570

Container Type: 1 Liter Summa Canister

Surrogates	%Recovery	Method Limits
Toluene-d8	96	70-130
1,2-Dichloroethane-d4	111	70-130
4-Bromofluorobenzene	106	70-130

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Client Sample ID: OC_VGAC_INF_SP241_090418

Lab ID#: 1809092-03A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**3091219**	**Date of Collection:**	**9/4/18 11:35:00 AM**
Dil. Factor:	**2.33**	**Date of Analysis:**	**9/13/18 12:05 AM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	1.2	Not Detected	5.8	Not Detected
Vinyl Chloride	1.2	Not Detected	3.0	Not Detected
Freon 11	1.2	7.5	6.5	42
Freon 113	1.2	21	8.9	160
1,1-Dichloroethene	1.2	19	4.6	76
2-Propanol	4.7	Not Detected	11	Not Detected
Carbon Disulfide	4.7	Not Detected	14	Not Detected
Methylene Chloride	12	Not Detected	40	Not Detected
Hexane	1.2	Not Detected	4.1	Not Detected
1,1-Dichloroethane	1.2	Not Detected	4.7	Not Detected
2-Butanone (Methyl Ethyl Ketone)	4.7	Not Detected	14	Not Detected
Chloroform	1.2	5.3	5.7	26
1,1,1-Trichloroethane	1.2	Not Detected	6.4	Not Detected
Carbon Tetrachloride	1.2	Not Detected	7.3	Not Detected
Benzene	1.2	Not Detected	3.7	Not Detected
1,2-Dichloroethane	1.2	1.4	4.7	5.9
Trichloroethene	1.2	11	6.3	59
1,4-Dioxane	4.7	Not Detected	17	Not Detected
Toluene	1.2	Not Detected	4.4	Not Detected
1,1,2-Trichloroethane	1.2	Not Detected	6.4	Not Detected
Tetrachloroethene	1.2	68	7.9	460
o-Xylene	1.2	Not Detected	5.0	Not Detected
TNMOC ref. to Heptane (MW=100)	23	230	95	940

Container Type: 1 Liter Summa Canister

Surrogates	%Recovery	Method Limits
Toluene-d8	101	70-130
1,2-Dichloroethane-d4	111	70-130
4-Bromofluorobenzene	102	70-130

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Client Sample ID: Lab Blank

Lab ID#: 1809092-04A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**3091205d**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 9/12/18 01:21 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.50	Not Detected	2.5	Not Detected
Vinyl Chloride	0.50	Not Detected	1.3	Not Detected
Freon 11	0.50	Not Detected	2.8	Not Detected
Freon 113	0.50	Not Detected	3.8	Not Detected
1,1-Dichloroethene	0.50	Not Detected	2.0	Not Detected
2-Propanol	2.0	Not Detected	4.9	Not Detected
Carbon Disulfide	2.0	Not Detected	6.2	Not Detected
Methylene Chloride	5.0	Not Detected	17	Not Detected
Hexane	0.50	Not Detected	1.8	Not Detected
1,1-Dichloroethane	0.50	Not Detected	2.0	Not Detected
2-Butanone (Methyl Ethyl Ketone)	2.0	Not Detected	5.9	Not Detected
Chloroform	0.50	Not Detected	2.4	Not Detected
1,1,1-Trichloroethane	0.50	Not Detected	2.7	Not Detected
Carbon Tetrachloride	0.50	Not Detected	3.1	Not Detected
Benzene	0.50	Not Detected	1.6	Not Detected
1,2-Dichloroethane	0.50	Not Detected	2.0	Not Detected
Trichloroethene	0.50	Not Detected	2.7	Not Detected
1,4-Dioxane	2.0	Not Detected	7.2	Not Detected
Toluene	0.50	Not Detected	1.9	Not Detected
1,1,2-Trichloroethane	0.50	Not Detected	2.7	Not Detected
Tetrachloroethene	0.50	Not Detected	3.4	Not Detected
o-Xylene	0.50	Not Detected	2.2	Not Detected
TNMOC ref. to Heptane (MW=100)	10	Not Detected	41	Not Detected

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
Toluene-d8	99	70-130
1,2-Dichloroethane-d4	108	70-130
4-Bromofluorobenzene	99	70-130

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Client Sample ID: CCV

Lab ID#: 1809092-05A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**3091202**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 9/12/18 11:32 AM**	

Compound	**%Recovery**
Freon 12	114
Vinyl Chloride	103
Freon 11	118
Freon 113	107
1,1-Dichloroethene	101
2-Propanol	103
Carbon Disulfide	103
Methylene Chloride	106
Hexane	105
1,1-Dichloroethane	109
2-Butanone (Methyl Ethyl Ketone)	103
Chloroform	110
1,1,1-Trichloroethane	115
Carbon Tetrachloride	117
Benzene	106
1,2-Dichloroethane	120
Trichloroethene	108
1,4-Dioxane	98
Toluene	104
1,1,2-Trichloroethane	103
Tetrachloroethene	104
o-Xylene	105
TNMOC ref. to Heptane (MW=100)	100

Container Type: NA - Not Applicable

Surrogates	**%Recovery**	**Method Limits**
Toluene-d8	103	70-130
1,2-Dichloroethane-d4	106	70-130
4-Bromofluorobenzene	102	70-130

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Client Sample ID: LCS

Lab ID#: 1809092-06A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**3091203**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 9/12/18 12:13 PM**	

Compound	**%Recovery**	**Method Limits**
Freon 12	108	70-130
Vinyl Chloride	102	70-130
Freon 11	110	70-130
Freon 113	101	70-130
1,1-Dichloroethene	96	70-130
2-Propanol	102	70-130
Carbon Disulfide	98	70-130
Methylene Chloride	98	70-130
Hexane	102	70-130
1,1-Dichloroethane	101	70-130
2-Butanone (Methyl Ethyl Ketone)	101	70-130
Chloroform	105	70-130
1,1,1-Trichloroethane	108	70-130
Carbon Tetrachloride	109	70-130
Benzene	101	70-130
1,2-Dichloroethane	112	70-130
Trichloroethene	108	70-130
1,4-Dioxane	104	70-130
Toluene	100	70-130
1,1,2-Trichloroethane	100	70-130
Tetrachloroethene	101	70-130
o-Xylene	106	70-130
TNMOC ref. to Heptane (MW=100)	Not Spiked	

Container Type: NA - Not Applicable

Surrogates	**%Recovery**	**Method Limits**
Toluene-d8	104	70-130
1,2-Dichloroethane-d4	105	70-130
4-Bromofluorobenzene	101	70-130

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Client Sample ID: LCSD

Lab ID#: 1809092-06AA

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**3091204**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 9/12/18 12:38 PM**	

Compound	**%Recovery**	**Method Limits**
Freon 12	110	70-130
Vinyl Chloride	106	70-130
Freon 11	112	70-130
Freon 113	102	70-130
1,1-Dichloroethene	103	70-130
2-Propanol	106	70-130
Carbon Disulfide	102	70-130
Methylene Chloride	103	70-130
Hexane	102	70-130
1,1-Dichloroethane	105	70-130
2-Butanone (Methyl Ethyl Ketone)	101	70-130
Chloroform	106	70-130
1,1,1-Trichloroethane	112	70-130
Carbon Tetrachloride	114	70-130
Benzene	100	70-130
1,2-Dichloroethane	113	70-130
Trichloroethene	107	70-130
1,4-Dioxane	102	70-130
Toluene	100	70-130
1,1,2-Trichloroethane	101	70-130
Tetrachloroethene	100	70-130
o-Xylene	106	70-130
TNMOC ref. to Heptane (MW=100)	Not Spiked	

Container Type: NA - Not Applicable

Surrogates	**%Recovery**	**Method Limits**
Toluene-d8	101	70-130
1,2-Dichloroethane-d4	108	70-130
4-Bromofluorobenzene	102	70-130

Calscience Environmental Laboratories, Inc.

7440 LINCOLN WAY
GARDEN GROVE, CA 92841-1427
TEL: (714) 895-5494 . FAX: (714) 894-7501

AIR CHAIN OF CUSTODY RECORD

DATE: 09/04/18
PAGE: 1 OF 1

LABORATORY CLIENT: de maximis
ADDRESS: 1322 Scott St., Suite 104
CITY: San Diego STATE: CA ZIP: 92106
TEL: (562) 756-8149 EMAIL: jdinello@demaximis.com

CLIENT PROJECT NAME / NUMBER: Omega - GWTS Monthly GAC
PROJECT ADDRESS: 12520 Whittier Blvd.
CITY: Whittier STATE: CA ZIP: 90602
PROJECT CONTACT: Trent Henderson thenderson@jacobandhefner.com

P.O. NO.:
LAB CONTACT OR QUOTE NO.:
LAB USE ONLY: ☐☐-☐☐☐☐

TURNAROUND TIME: ☐ SAME DAY ☐ 24 HR ☐ 48 HR ☐ 72 HR ☒ 5 DAYS ☐ 10 DAYS

SAMPLER(S): (NAME / SIGNATURE) Khalid Azhar

SPECIAL REQUIREMENTS (ADDITIONAL COSTS MAY APPLY): ☒ EDD

SPECIAL INSTRUCTIONS:

REQUESTED ANALYSES

	LAB USE ONLY	SAMPLE ID	FIELD ID / Point of Collection	Air Type (I) Indoor (SV) Soil Vap. (A) Ambient	Sampling Equipment Info: Canister ID#	Canister Size 6L or 1L	Flow Controller ID#	Start Sampling Information: Date	Time (24hr clock)	Canister Pressure ("Hg)	Stop Sampling Information: Date	Time (24hr clock)	Canister Pressure ("Hg)	TO-15 (TAL 2.3)				
01A	1	OC_VGAC_EFF_SP242_090418	SP-EFF-GAC	Vapor	1L1547	1L	23120	9/4/2018	1127	-27	9/4/2018	1131	-5	X				
02A	2	OC_VGAC_INT_SP245_090418	SP-MID-GAC	Vapor	1L1858	1L	23705	9/4/2018	1128	-30	9/4/2018	1133	-5	X				
03A	3	OC_VGAC_INF_SP241_090418	SP-INF-GAC	Vapor	1L2318	1L	23618	9/4/2018	1129	-30	9/4/2018	1135	-5	X				
	4																	
	5																	
	6																	
	7																	
	8																	
	9																	
	10																	
	11																	
	12																	
	13																	
	14																	
	15																	

Relinquished by: (Signature)	Received by: (Signature) EATL	Date: 9/7/18	Time: 1000
Relinquished by: (Signature)	Received by: (Signature)	Date:	Time:
Relinquished by: (Signature)	Received by: (Signature)	Date:	Time:

Custody Seal Intact?
Y N None Temp NA

~~1809099~~ 9/7/18
1809092

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.
TestAmerica Irvine
17461 Derian Ave
Suite 100
Irvine, CA 92614-5817
Tel: (949)261-1022

TestAmerica Job ID: 440-215179-1
TestAmerica Sample Delivery Group: Omega Chemical
Client Project/Site: Omega Chemical - GWTS Monthly

For:
Jacob & Hefner Associates P.C.
15375 Barranca Parkway, J-101
Irvine, California 92618

Attn: Trent Henderson

Authorized for release by:
7/14/2018 7:26:55 AM

Danielle Roberts, Senior Project Manager
(949)261-1022
danielle.roberts@testamericainc.com

LINKS

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The test results in this report meet all 2003 NELAC and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

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Sample Summary

Client: Jacob & Hefner Associates P.C.
Project/Site: Omega Chemical - GWTS Monthly

TestAmerica Job ID: 440-215179-1
SDG: Omega Chemical

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
440-215179-1	OC_SP220B_EFF_070518	Water	07/05/18 12:10	07/06/18 14:50
440-215179-2	OC_SP210_INF_070518	Water	07/05/18 12:20	07/06/18 14:50
440-215179-3	OC_TB_070518	Water	07/05/18 12:00	07/06/18 14:50

Job ID: 440-215179-1

Laboratory: TestAmerica Irvine

Narrative

Job Narrative
440-215179-1

Comments
No additional comments.

Receipt
The samples were received on 7/6/2018 2:50 PM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 2.9º C.

GC/MS VOA
Method(s) 8260B: The continuing calibration verification (CCV) associated with batch 440-486666 recovered above the upper control limit for Dichlorodifluoromethane. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported. The following samples are impacted: OC_SP220B_EFF_070518 (440-215179-1), OC_SP210_INF_070518 (440-215179-2), OC_TB_070518 (440-215179-3) and (CCVIS 440-486666/2).

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

GC/MS Semi VOA
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

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

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

Detection Summary

Client: Jacob & Hefner Associates P.C.
Project/Site: Omega Chemical - GWTS Monthly

TestAmerica Job ID: 440-215179-1
SDG: Omega Chemical

Client Sample ID: OC_SP220B_EFF_070518 — Lab Sample ID: 440-215179-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Acetone	17		10	10	ug/L	1		8260B	Total/NA

Client Sample ID: OC_SP210_INF_070518 — Lab Sample ID: 440-215179-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Acetone	17		10	10	ug/L	1		8260B	Total/NA
Chloroform	20		1.0	0.25	ug/L	1		8260B	Total/NA
cis-1,2-Dichloroethene	0.26	J	1.0	0.25	ug/L	1		8260B	Total/NA
1,1-Dichloroethane	0.52	J	1.0	0.25	ug/L	1		8260B	Total/NA
1,2-Dichloroethane	3.8		1.0	0.25	ug/L	1		8260B	Total/NA
1,1-Dichloroethene	35		1.0	0.25	ug/L	1		8260B	Total/NA
1,1,2-Trichloroethane	0.37	J	1.0	0.25	ug/L	1		8260B	Total/NA
Trichloroethene	36		1.0	0.25	ug/L	1		8260B	Total/NA
Trichlorofluoromethane	32		1.0	0.25	ug/L	1		8260B	Total/NA
1,1,2-Trichloro-1,2,2-trifluoroethane	110		5.0	0.50	ug/L	1		8260B	Total/NA
Tetrachloroethene - DL	360		5.0	1.3	ug/L	5		8260B	Total/NA

Client Sample ID: OC_TB_070518 — Lab Sample ID: 440-215179-3

No Detections.

This Detection Summary does not include radiochemical test results.

Client Sample Results

Client: Jacob & Hefner Associates P.C.
Project/Site: Omega Chemical - GWTS Monthly

TestAmerica Job ID: 440-215179-1
SDG: Omega Chemical

Client Sample ID: OC_SP220B_EFF_070518

Lab Sample ID: 440-215179-1

Date Collected: 07/05/18 12:10
Matrix: Water
Date Received: 07/06/18 14:50

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	17		10	10	ug/L			07/11/18 03:24	1
Benzene	ND		0.50	0.25	ug/L			07/11/18 03:24	1
Bromobenzene	ND		1.0	0.25	ug/L			07/11/18 03:24	1
Bromochloromethane	ND		1.0	0.25	ug/L			07/11/18 03:24	1
Bromodichloromethane	ND		1.0	0.25	ug/L			07/11/18 03:24	1
Bromoform	ND		1.0	0.40	ug/L			07/11/18 03:24	1
Bromomethane	ND		1.0	0.25	ug/L			07/11/18 03:24	1
Carbon tetrachloride	ND		0.50	0.25	ug/L			07/11/18 03:24	1
Chlorobenzene	ND		1.0	0.25	ug/L			07/11/18 03:24	1
Chloroethane	ND		1.0	0.40	ug/L			07/11/18 03:24	1
Chloroform	ND		1.0	0.25	ug/L			07/11/18 03:24	1
Chloromethane	ND		1.0	0.25	ug/L			07/11/18 03:24	1
2-Chlorotoluene	ND		1.0	0.25	ug/L			07/11/18 03:24	1
4-Chlorotoluene	ND		1.0	0.25	ug/L			07/11/18 03:24	1
cis-1,2-Dichloroethene	ND		1.0	0.25	ug/L			07/11/18 03:24	1
cis-1,3-Dichloropropene	ND		0.50	0.25	ug/L			07/11/18 03:24	1
Dibromochloromethane	ND		1.0	0.25	ug/L			07/11/18 03:24	1
1,2-Dibromo-3-Chloropropane	ND		5.0	0.50	ug/L			07/11/18 03:24	1
1,2-Dibromoethane (EDB)	ND		1.0	0.25	ug/L			07/11/18 03:24	1
Dibromomethane	ND		1.0	0.25	ug/L			07/11/18 03:24	1
1,2-Dichlorobenzene	ND		1.0	0.25	ug/L			07/11/18 03:24	1
1,3-Dichlorobenzene	ND		1.0	0.25	ug/L			07/11/18 03:24	1
1,4-Dichlorobenzene	ND		1.0	0.25	ug/L			07/11/18 03:24	1
Dichlorodifluoromethane	ND		1.0	0.40	ug/L			07/11/18 03:24	1
1,1-Dichloroethane	ND		1.0	0.25	ug/L			07/11/18 03:24	1
1,2-Dichloroethane	ND		1.0	0.25	ug/L			07/11/18 03:24	1
1,1-Dichloroethene	ND		1.0	0.25	ug/L			07/11/18 03:24	1
1,2-Dichloropropane	ND		1.0	0.25	ug/L			07/11/18 03:24	1
1,3-Dichloropropane	ND		1.0	0.25	ug/L			07/11/18 03:24	1
2,2-Dichloropropane	ND		1.0	0.40	ug/L			07/11/18 03:24	1
1,1-Dichloropropene	ND		1.0	0.25	ug/L			07/11/18 03:24	1
Ethylbenzene	ND		1.0	0.25	ug/L			07/11/18 03:24	1
Hexachlorobutadiene	ND		1.0	0.25	ug/L			07/11/18 03:24	1
Isopropyl alcohol	ND		250	180	ug/L			07/11/18 03:24	1
Isopropylbenzene	ND		1.0	0.25	ug/L			07/11/18 03:24	1
Methylene Chloride	ND		5.0	0.88	ug/L			07/11/18 03:24	1
Methyl-t-Butyl Ether (MTBE)	ND		1.0	0.25	ug/L			07/11/18 03:24	1
m,p-Xylene	ND		1.0	0.50	ug/L			07/11/18 03:24	1
Naphthalene	ND		1.0	0.40	ug/L			07/11/18 03:24	1
n-Butylbenzene	ND		1.0	0.40	ug/L			07/11/18 03:24	1
N-Propylbenzene	ND		1.0	0.25	ug/L			07/11/18 03:24	1
o-Xylene	ND		1.0	0.25	ug/L			07/11/18 03:24	1
p-Isopropyltoluene	ND		1.0	0.25	ug/L			07/11/18 03:24	1
sec-Butylbenzene	ND		1.0	0.25	ug/L			07/11/18 03:24	1
Styrene	ND		1.0	0.25	ug/L			07/11/18 03:24	1
tert-Butylbenzene	ND		1.0	0.25	ug/L			07/11/18 03:24	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.25	ug/L			07/11/18 03:24	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.25	ug/L			07/11/18 03:24	1
Tetrachloroethene	ND		1.0	0.25	ug/L			07/11/18 03:24	1

Client Sample ID: OC_SP220B_EFF_070518

Lab Sample ID: 440-215179-1
Date Collected: 07/05/18 12:10
Matrix: Water
Date Received: 07/06/18 14:50

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Toluene	ND		1.0	0.25	ug/L			07/11/18 03:24	1
trans-1,2-Dichloroethene	ND		1.0	0.25	ug/L			07/11/18 03:24	1
trans-1,3-Dichloropropene	ND		0.50	0.25	ug/L			07/11/18 03:24	1
1,2,3-Trichlorobenzene	ND		1.0	0.40	ug/L			07/11/18 03:24	1
1,2,4-Trichlorobenzene	ND		1.0	0.40	ug/L			07/11/18 03:24	1
1,1,1-Trichloroethane	ND		1.0	0.25	ug/L			07/11/18 03:24	1
1,1,2-Trichloroethane	ND		1.0	0.25	ug/L			07/11/18 03:24	1
Trichloroethene	ND		1.0	0.25	ug/L			07/11/18 03:24	1
Trichlorofluoromethane	ND		1.0	0.25	ug/L			07/11/18 03:24	1
1,2,3-Trichloropropane	ND		1.0	0.40	ug/L			07/11/18 03:24	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		5.0	0.50	ug/L			07/11/18 03:24	1
1,2,4-Trimethylbenzene	ND		1.0	0.25	ug/L			07/11/18 03:24	1
1,3,5-Trimethylbenzene	ND		1.0	0.25	ug/L			07/11/18 03:24	1
Vinyl chloride	ND		0.50	0.25	ug/L			07/11/18 03:24	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Unknown	*16*	*T J*	*ug/L*		*1.76*			*07/11/18 03:24*	*1*
Unknown	*660*	*T J*	*ug/L*		*1.87*			*07/11/18 03:24*	*1*
Unknown	*13*	*T J*	*ug/L*		*5.97*			*07/11/18 03:24*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*104*		*80 - 120*		*07/11/18 03:24*	*1*
Dibromofluoromethane (Surr)	*118*		*76 - 132*		*07/11/18 03:24*	*1*
Toluene-d8 (Surr)	*107*		*80 - 128*		*07/11/18 03:24*	*1*

Method: 8270C SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	ND		0.49	0.098	ug/L		07/08/18 09:33	07/09/18 16:52	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,4-Dioxane-d8 (Surr)	*53*		*27 - 120*	*07/08/18 09:33*	*07/09/18 16:52*	*1*

Client Sample ID: OC_SP210_INF_070518

Lab Sample ID: 440-215179-2
Date Collected: 07/05/18 12:20
Matrix: Water
Date Received: 07/06/18 14:50

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	**17**		10	10	ug/L			07/11/18 03:54	1
Benzene	ND		0.50	0.25	ug/L			07/11/18 03:54	1
Bromobenzene	ND		1.0	0.25	ug/L			07/11/18 03:54	1
Bromochloromethane	ND		1.0	0.25	ug/L			07/11/18 03:54	1
Bromodichloromethane	ND		1.0	0.25	ug/L			07/11/18 03:54	1
Bromoform	ND		1.0	0.40	ug/L			07/11/18 03:54	1
Bromomethane	ND		1.0	0.25	ug/L			07/11/18 03:54	1
Carbon tetrachloride	ND		0.50	0.25	ug/L			07/11/18 03:54	1
Chlorobenzene	ND		1.0	0.25	ug/L			07/11/18 03:54	1
Chloroethane	ND		1.0	0.40	ug/L			07/11/18 03:54	1
Chloroform	**20**		1.0	0.25	ug/L			07/11/18 03:54	1
Chloromethane	ND		1.0	0.25	ug/L			07/11/18 03:54	1
2-Chlorotoluene	ND		1.0	0.25	ug/L			07/11/18 03:54	1

Client Sample Results

Client: Jacob & Hefner Associates P.C.
Project/Site: Omega Chemical - GWTS Monthly

TestAmerica Job ID: 440-215179-1
SDG: Omega Chemical

Client Sample ID: OC_SP210_INF_070518

Lab Sample ID: 440-215179-2
Date Collected: 07/05/18 12:20
Matrix: Water
Date Received: 07/06/18 14:50

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4-Chlorotoluene	ND		1.0	0.25	ug/L			07/11/18 03:54	1
cis-1,2-Dichloroethene	**0.26**	**J**	1.0	0.25	ug/L			07/11/18 03:54	1
cis-1,3-Dichloropropene	ND		0.50	0.25	ug/L			07/11/18 03:54	1
Dibromochloromethane	ND		1.0	0.25	ug/L			07/11/18 03:54	1
1,2-Dibromo-3-Chloropropane	ND		5.0	0.50	ug/L			07/11/18 03:54	1
1,2-Dibromoethane (EDB)	ND		1.0	0.25	ug/L			07/11/18 03:54	1
Dibromomethane	ND		1.0	0.25	ug/L			07/11/18 03:54	1
1,2-Dichlorobenzene	ND		1.0	0.25	ug/L			07/11/18 03:54	1
1,3-Dichlorobenzene	ND		1.0	0.25	ug/L			07/11/18 03:54	1
1,4-Dichlorobenzene	ND		1.0	0.25	ug/L			07/11/18 03:54	1
Dichlorodifluoromethane	ND		1.0	0.40	ug/L			07/11/18 03:54	1
1,1-Dichloroethane	**0.52**	**J**	1.0	0.25	ug/L			07/11/18 03:54	1
1,2-Dichloroethane	**3.8**		1.0	0.25	ug/L			07/11/18 03:54	1
1,1-Dichloroethene	**35**		1.0	0.25	ug/L			07/11/18 03:54	1
1,2-Dichloropropane	ND		1.0	0.25	ug/L			07/11/18 03:54	1
1,3-Dichloropropane	ND		1.0	0.25	ug/L			07/11/18 03:54	1
2,2-Dichloropropane	ND		1.0	0.40	ug/L			07/11/18 03:54	1
1,1-Dichloropropene	ND		1.0	0.25	ug/L			07/11/18 03:54	1
Ethylbenzene	ND		1.0	0.25	ug/L			07/11/18 03:54	1
Hexachlorobutadiene	ND		1.0	0.25	ug/L			07/11/18 03:54	1
Isopropyl alcohol	ND		250	180	ug/L			07/11/18 03:54	1
Isopropylbenzene	ND		1.0	0.25	ug/L			07/11/18 03:54	1
Methylene Chloride	ND		5.0	0.88	ug/L			07/11/18 03:54	1
Methyl-t-Butyl Ether (MTBE)	ND		1.0	0.25	ug/L			07/11/18 03:54	1
m,p-Xylene	ND		1.0	0.50	ug/L			07/11/18 03:54	1
Naphthalene	ND		1.0	0.40	ug/L			07/11/18 03:54	1
n-Butylbenzene	ND		1.0	0.40	ug/L			07/11/18 03:54	1
N-Propylbenzene	ND		1.0	0.25	ug/L			07/11/18 03:54	1
o-Xylene	ND		1.0	0.25	ug/L			07/11/18 03:54	1
p-Isopropyltoluene	ND		1.0	0.25	ug/L			07/11/18 03:54	1
sec-Butylbenzene	ND		1.0	0.25	ug/L			07/11/18 03:54	1
Styrene	ND		1.0	0.25	ug/L			07/11/18 03:54	1
tert-Butylbenzene	ND		1.0	0.25	ug/L			07/11/18 03:54	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.25	ug/L			07/11/18 03:54	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.25	ug/L			07/11/18 03:54	1
Toluene	ND		1.0	0.25	ug/L			07/11/18 03:54	1
trans-1,2-Dichloroethene	ND		1.0	0.25	ug/L			07/11/18 03:54	1
trans-1,3-Dichloropropene	ND		0.50	0.25	ug/L			07/11/18 03:54	1
1,2,3-Trichlorobenzene	ND		1.0	0.40	ug/L			07/11/18 03:54	1
1,2,4-Trichlorobenzene	ND		1.0	0.40	ug/L			07/11/18 03:54	1
1,1,1-Trichloroethane	ND		1.0	0.25	ug/L			07/11/18 03:54	1
1,1,2-Trichloroethane	**0.37**	**J**	1.0	0.25	ug/L			07/11/18 03:54	1
Trichloroethene	**36**		1.0	0.25	ug/L			07/11/18 03:54	1
Trichlorofluoromethane	**32**		1.0	0.25	ug/L			07/11/18 03:54	1
1,2,3-Trichloropropane	ND		1.0	0.40	ug/L			07/11/18 03:54	1
1,1,2-Trichloro-1,2,2-trifluoroethane	**110**		5.0	0.50	ug/L			07/11/18 03:54	1
1,2,4-Trimethylbenzene	ND		1.0	0.25	ug/L			07/11/18 03:54	1
1,3,5-Trimethylbenzene	ND		1.0	0.25	ug/L			07/11/18 03:54	1
Vinyl chloride	ND		0.50	0.25	ug/L			07/11/18 03:54	1

Tentatively Identified Compound	Est. Result	Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Unknown	17	T J	ug/L		1.76			07/11/18 03:54	1
Unknown	260	T J	ug/L		1.82			07/11/18 03:54	1
Unknown	12	T J	ug/L		5.97			07/11/18 03:54	1
Hexanal	4.3	T J N	ug/L		8.48	66-25-1		07/11/18 03:54	1
Unknown	6.1	T J	ug/L		11.51			07/11/18 03:54	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	105		80 - 120		07/11/18 03:54	1
Dibromofluoromethane (Surr)	114		76 - 132		07/11/18 03:54	1
Toluene-d8 (Surr)	107		80 - 128		07/11/18 03:54	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Tetrachloroethene	360		5.0	1.3	ug/L			07/11/18 10:42	5

Tentatively Identified Compound	Est. Result	Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Unknown	89	T J	ug/L		17.30			07/11/18 10:42	5

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	99		80 - 120		07/11/18 10:42	5
Dibromofluoromethane (Surr)	101		76 - 132		07/11/18 10:42	5
Toluene-d8 (Surr)	110		80 - 128		07/11/18 10:42	5

Client Sample ID: OC_TB_070518

Lab Sample ID: 440-215179-3

Date Collected: 07/05/18 12:00

Matrix: Water

Date Received: 07/06/18 14:50

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		10	10	ug/L			07/11/18 04:23	1
Benzene	ND		0.50	0.25	ug/L			07/11/18 04:23	1
Bromobenzene	ND		1.0	0.25	ug/L			07/11/18 04:23	1
Bromochloromethane	ND		1.0	0.25	ug/L			07/11/18 04:23	1
Bromodichloromethane	ND		1.0	0.25	ug/L			07/11/18 04:23	1
Bromoform	ND		1.0	0.40	ug/L			07/11/18 04:23	1
Bromomethane	ND		1.0	0.25	ug/L			07/11/18 04:23	1
Carbon tetrachloride	ND		0.50	0.25	ug/L			07/11/18 04:23	1
Chlorobenzene	ND		1.0	0.25	ug/L			07/11/18 04:23	1
Chloroethane	ND		1.0	0.40	ug/L			07/11/18 04:23	1
Chloroform	ND		1.0	0.25	ug/L			07/11/18 04:23	1
Chloromethane	ND		1.0	0.25	ug/L			07/11/18 04:23	1
2-Chlorotoluene	ND		1.0	0.25	ug/L			07/11/18 04:23	1
4-Chlorotoluene	ND		1.0	0.25	ug/L			07/11/18 04:23	1
cis-1,2-Dichloroethene	ND		1.0	0.25	ug/L			07/11/18 04:23	1
cis-1,3-Dichloropropene	ND		0.50	0.25	ug/L			07/11/18 04:23	1
Dibromochloromethane	ND		1.0	0.25	ug/L			07/11/18 04:23	1
1,2-Dibromo-3-Chloropropane	ND		5.0	0.50	ug/L			07/11/18 04:23	1
1,2-Dibromoethane (EDB)	ND		1.0	0.25	ug/L			07/11/18 04:23	1
Dibromomethane	ND		1.0	0.25	ug/L			07/11/18 04:23	1
1,2-Dichlorobenzene	ND		1.0	0.25	ug/L			07/11/18 04:23	1
1,3-Dichlorobenzene	ND		1.0	0.25	ug/L			07/11/18 04:23	1
1,4-Dichlorobenzene	ND		1.0	0.25	ug/L			07/11/18 04:23	1
Dichlorodifluoromethane	ND		1.0	0.40	ug/L			07/11/18 04:23	1
1,1-Dichloroethane	ND		1.0	0.25	ug/L			07/11/18 04:23	1
1,2-Dichloroethane	ND		1.0	0.25	ug/L			07/11/18 04:23	1

Client Sample ID: OC_TB_070518

Lab Sample ID: 440-215179-3

Date Collected: 07/05/18 12:00

Matrix: Water

Date Received: 07/06/18 14:50

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	ND		1.0	0.25	ug/L			07/11/18 04:23	1
1,2-Dichloropropane	ND		1.0	0.25	ug/L			07/11/18 04:23	1
1,3-Dichloropropane	ND		1.0	0.25	ug/L			07/11/18 04:23	1
2,2-Dichloropropane	ND		1.0	0.40	ug/L			07/11/18 04:23	1
1,1-Dichloropropene	ND		1.0	0.25	ug/L			07/11/18 04:23	1
Ethylbenzene	ND		1.0	0.25	ug/L			07/11/18 04:23	1
Hexachlorobutadiene	ND		1.0	0.25	ug/L			07/11/18 04:23	1
Isopropyl alcohol	ND		250	180	ug/L			07/11/18 04:23	1
Isopropylbenzene	ND		1.0	0.25	ug/L			07/11/18 04:23	1
Methylene Chloride	ND		5.0	0.88	ug/L			07/11/18 04:23	1
Methyl-t-Butyl Ether (MTBE)	ND		1.0	0.25	ug/L			07/11/18 04:23	1
m,p-Xylene	ND		1.0	0.50	ug/L			07/11/18 04:23	1
Naphthalene	ND		1.0	0.40	ug/L			07/11/18 04:23	1
n-Butylbenzene	ND		1.0	0.40	ug/L			07/11/18 04:23	1
N-Propylbenzene	ND		1.0	0.25	ug/L			07/11/18 04:23	1
o-Xylene	ND		1.0	0.25	ug/L			07/11/18 04:23	1
p-Isopropyltoluene	ND		1.0	0.25	ug/L			07/11/18 04:23	1
sec-Butylbenzene	ND		1.0	0.25	ug/L			07/11/18 04:23	1
Styrene	ND		1.0	0.25	ug/L			07/11/18 04:23	1
tert-Butylbenzene	ND		1.0	0.25	ug/L			07/11/18 04:23	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.25	ug/L			07/11/18 04:23	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.25	ug/L			07/11/18 04:23	1
Toluene	ND		1.0	0.25	ug/L			07/11/18 04:23	1
trans-1,2-Dichloroethene	ND		1.0	0.25	ug/L			07/11/18 04:23	1
trans-1,3-Dichloropropene	ND		0.50	0.25	ug/L			07/11/18 04:23	1
1,2,3-Trichlorobenzene	ND		1.0	0.40	ug/L			07/11/18 04:23	1
1,2,4-Trichlorobenzene	ND		1.0	0.40	ug/L			07/11/18 04:23	1
1,1,1-Trichloroethane	ND		1.0	0.25	ug/L			07/11/18 04:23	1
1,1,2-Trichloroethane	ND		1.0	0.25	ug/L			07/11/18 04:23	1
Trichloroethene	ND		1.0	0.25	ug/L			07/11/18 04:23	1
Trichlorofluoromethane	ND		1.0	0.25	ug/L			07/11/18 04:23	1
1,2,3-Trichloropropane	ND		1.0	0.40	ug/L			07/11/18 04:23	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		5.0	0.50	ug/L			07/11/18 04:23	1
1,2,4-Trimethylbenzene	ND		1.0	0.25	ug/L			07/11/18 04:23	1
1,3,5-Trimethylbenzene	ND		1.0	0.25	ug/L			07/11/18 04:23	1
Vinyl chloride	ND		0.50	0.25	ug/L			07/11/18 04:23	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Unknown	*15*	*T J*	*ug/L*		*1.76*			*07/11/18 04:23*	*1*
Unknown	*66*	*T J*	*ug/L*		*1.82*			*07/11/18 04:23*	*1*
Unknown	*14*	*T J*	*ug/L*		*5.97*			*07/11/18 04:23*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*107*		*80 - 120*		*07/11/18 04:23*	*1*
Dibromofluoromethane (Surr)	*123*		*76 - 132*		*07/11/18 04:23*	*1*
Toluene-d8 (Surr)	*103*		*80 - 128*		*07/11/18 04:23*	*1*

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Tetrachloroethene	ND		1.0	0.25	ug/L			07/11/18 11:09	1

Client Sample Results

Client: Jacob & Hefner Associates P.C.
Project/Site: Omega Chemical - GWTS Monthly

TestAmerica Job ID: 440-215179-1
SDG: Omega Chemical

Client Sample ID: OC_TB_070518

Lab Sample ID: 440-215179-3

Date Collected: 07/05/18 12:00
Matrix: Water
Date Received: 07/06/18 14:50

Tentatively Identified Compound	Est. Result	Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Unknown	2.8	T J	ug/L		3.27			07/11/18 11:09	1
Unknown	10	T J	ug/L		7.25			07/11/18 11:09	1
Unknown	35	T J	ug/L		17.63			07/11/18 11:09	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	101		80 - 120		07/11/18 11:09	1
Dibromofluoromethane (Surr)	103		76 - 132		07/11/18 11:09	1
Toluene-d8 (Surr)	108		80 - 128		07/11/18 11:09	1

Surrogate Summary

Client: Jacob & Hefner Associates P.C.
Project/Site: Omega Chemical - GWTS Monthly

TestAmerica Job ID: 440-215179-1
SDG: Omega Chemical

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

Matrix: Water **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)		
		BFB	DBFM	TOL
Lab Sample ID	Client Sample ID	(80-120)	(76-132)	(80-128)
440-215179-1	OC_SP220B_EFF_070518	104	118	107
440-215179-2	OC_SP210_INF_070518	105	114	107
440-215179-2 - DL	OC_SP210_INF_070518	99	101	110
440-215179-3	OC_TB_070518	107	123	103
440-215179-3 - RA	OC_TB_070518	101	103	108
440-215198-B-2 MS	Matrix Spike	106	109	106
440-215198-B-2 MSD	Matrix Spike Duplicate	106	110	106
440-215214-B-7 MS	Matrix Spike	95	102	106
440-215214-B-7 MSD	Matrix Spike Duplicate	100	103	105
LCS 440-486666/5	Lab Control Sample	106	114	105
LCS 440-486743/5	Lab Control Sample	97	105	104
MB 440-486666/4	Method Blank	108	112	110
MB 440-486743/4	Method Blank	100	102	111

Surrogate Legend

BFB = 4-Bromofluorobenzene (Surr)
DBFM = Dibromofluoromethane (Surr)
TOL = Toluene-d8 (Surr)

Method: 8270C SIM - Semivolatile Organic Compounds (GC/MS SIM)

Matrix: Water **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)
		DXE
Lab Sample ID	Client Sample ID	(27-120)
440-214993-A-4-A MS	Matrix Spike	62
440-214993-A-4-B MSD	Matrix Spike Duplicate	62
440-215179-1	OC_SP220B_EFF_070518	53
LCS 440-486258/3-A	Lab Control Sample	60
MB 440-486258/1-A	Method Blank	67

Surrogate Legend

DXE = 1,4-Dioxane-d8 (Surr)

Method Summary

Client: Jacob & Hefner Associates P.C.
Project/Site: Omega Chemical - GWTS Monthly

TestAmerica Job ID: 440-215179-1
SDG: Omega Chemical

Method	Method Description	Protocol	Laboratory
8260B	Volatile Organic Compounds (GC/MS)	SW846	TAL IRV
8270C SIM	Semivolatile Organic Compounds (GC/MS SIM)	SW846	TAL IRV
3520C	Liquid-Liquid Extraction (Continuous)	SW846	TAL IRV
5030B	Purge and Trap	SW846	TAL IRV

Protocol References:

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL IRV = TestAmerica Irvine, 17461 Derian Ave, Suite 100, Irvine, CA 92614-5817, TEL (949)261-1022

Lab Chronicle

Client: Jacob & Hefner Associates P.C.
Project/Site: Omega Chemical - GWTS Monthly

TestAmerica Job ID: 440-215179-1
SDG: Omega Chemical

Client Sample ID: OC_SP220B_EFF_070518 — Lab Sample ID: 440-215179-1

Date Collected: 07/05/18 12:10 — **Matrix: Water**
Date Received: 07/06/18 14:50

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	10 mL	10 mL	486666	07/11/18 03:24	OH1	TAL IRV
Total/NA	Prep	3520C			1025 mL	1.0 mL	486258	07/08/18 09:33	JS1	TAL IRV
Total/NA	Analysis	8270C SIM		1			486366	07/09/18 16:52	P1P	TAL IRV

Client Sample ID: OC_SP210_INF_070518 — Lab Sample ID: 440-215179-2

Date Collected: 07/05/18 12:20 — **Matrix: Water**
Date Received: 07/06/18 14:50

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B	DL	5	10 mL	10 mL	486743	07/11/18 10:42	RM	TAL IRV
Total/NA	Analysis	8260B		1	10 mL	10 mL	486666	07/11/18 03:54	OH1	TAL IRV

Client Sample ID: OC_TB_070518 — Lab Sample ID: 440-215179-3

Date Collected: 07/05/18 12:00 — **Matrix: Water**
Date Received: 07/06/18 14:50

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B	RA	1	10 mL	10 mL	486743	07/11/18 11:09	RM	TAL IRV
Total/NA	Analysis	8260B		1	10 mL	10 mL	486666	07/11/18 04:23	OH1	TAL IRV

Laboratory References:
TAL IRV = TestAmerica Irvine, 17461 Derian Ave, Suite 100, Irvine, CA 92614-5817, TEL (949)261-1022

QC Sample Results

Client: Jacob & Hefner Associates P.C.
Project/Site: Omega Chemical - GWTS Monthly

TestAmerica Job ID: 440-215179-1
SDG: Omega Chemical

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

Lab Sample ID: MB 440-486666/4
Matrix: Water
Analysis Batch: 486666

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		10	10	ug/L			07/10/18 19:59	1
Benzene	ND		0.50	0.25	ug/L			07/10/18 19:59	1
Bromobenzene	ND		1.0	0.25	ug/L			07/10/18 19:59	1
Bromochloromethane	ND		1.0	0.25	ug/L			07/10/18 19:59	1
Bromodichloromethane	ND		1.0	0.25	ug/L			07/10/18 19:59	1
Bromoform	ND		1.0	0.40	ug/L			07/10/18 19:59	1
Bromomethane	ND		1.0	0.25	ug/L			07/10/18 19:59	1
Carbon tetrachloride	ND		0.50	0.25	ug/L			07/10/18 19:59	1
Chlorobenzene	ND		1.0	0.25	ug/L			07/10/18 19:59	1
Chloroethane	ND		1.0	0.40	ug/L			07/10/18 19:59	1
Chloroform	ND		1.0	0.25	ug/L			07/10/18 19:59	1
Chloromethane	ND		1.0	0.25	ug/L			07/10/18 19:59	1
2-Chlorotoluene	ND		1.0	0.25	ug/L			07/10/18 19:59	1
4-Chlorotoluene	ND		1.0	0.25	ug/L			07/10/18 19:59	1
cis-1,2-Dichloroethene	ND		1.0	0.25	ug/L			07/10/18 19:59	1
cis-1,3-Dichloropropene	ND		0.50	0.25	ug/L			07/10/18 19:59	1
Dibromochloromethane	ND		1.0	0.25	ug/L			07/10/18 19:59	1
1,2-Dibromo-3-Chloropropane	ND		5.0	0.50	ug/L			07/10/18 19:59	1
1,2-Dibromoethane (EDB)	ND		1.0	0.25	ug/L			07/10/18 19:59	1
Dibromomethane	ND		1.0	0.25	ug/L			07/10/18 19:59	1
1,2-Dichlorobenzene	ND		1.0	0.25	ug/L			07/10/18 19:59	1
1,3-Dichlorobenzene	ND		1.0	0.25	ug/L			07/10/18 19:59	1
1,4-Dichlorobenzene	ND		1.0	0.25	ug/L			07/10/18 19:59	1
Dichlorodifluoromethane	ND		1.0	0.40	ug/L			07/10/18 19:59	1
1,1-Dichloroethane	ND		1.0	0.25	ug/L			07/10/18 19:59	1
1,2-Dichloroethane	ND		1.0	0.25	ug/L			07/10/18 19:59	1
1,1-Dichloroethene	ND		1.0	0.25	ug/L			07/10/18 19:59	1
1,2-Dichloropropane	ND		1.0	0.25	ug/L			07/10/18 19:59	1
1,3-Dichloropropane	ND		1.0	0.25	ug/L			07/10/18 19:59	1
2,2-Dichloropropane	ND		1.0	0.40	ug/L			07/10/18 19:59	1
1,1-Dichloropropene	ND		1.0	0.25	ug/L			07/10/18 19:59	1
Ethylbenzene	ND		1.0	0.25	ug/L			07/10/18 19:59	1
Hexachlorobutadiene	ND		1.0	0.25	ug/L			07/10/18 19:59	1
Isopropyl alcohol	ND		250	180	ug/L			07/10/18 19:59	1
Isopropylbenzene	ND		1.0	0.25	ug/L			07/10/18 19:59	1
Methylene Chloride	ND		5.0	0.88	ug/L			07/10/18 19:59	1
Methyl-t-Butyl Ether (MTBE)	ND		1.0	0.25	ug/L			07/10/18 19:59	1
m,p-Xylene	ND		1.0	0.50	ug/L			07/10/18 19:59	1
Naphthalene	ND		1.0	0.40	ug/L			07/10/18 19:59	1
n-Butylbenzene	ND		1.0	0.40	ug/L			07/10/18 19:59	1
N-Propylbenzene	ND		1.0	0.25	ug/L			07/10/18 19:59	1
o-Xylene	ND		1.0	0.25	ug/L			07/10/18 19:59	1
p-Isopropyltoluene	ND		1.0	0.25	ug/L			07/10/18 19:59	1
sec-Butylbenzene	ND		1.0	0.25	ug/L			07/10/18 19:59	1
Styrene	ND		1.0	0.25	ug/L			07/10/18 19:59	1
tert-Butylbenzene	ND		1.0	0.25	ug/L			07/10/18 19:59	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.25	ug/L			07/10/18 19:59	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.25	ug/L			07/10/18 19:59	1

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

Lab Sample ID: MB 440-486666/4
Matrix: Water
Analysis Batch: 486666

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Tetrachloroethene	ND		1.0	0.25	ug/L			07/10/18 19:59	1
Toluene	ND		1.0	0.25	ug/L			07/10/18 19:59	1
trans-1,2-Dichloroethene	ND		1.0	0.25	ug/L			07/10/18 19:59	1
trans-1,3-Dichloropropene	ND		0.50	0.25	ug/L			07/10/18 19:59	1
1,2,3-Trichlorobenzene	ND		1.0	0.40	ug/L			07/10/18 19:59	1
1,2,4-Trichlorobenzene	ND		1.0	0.40	ug/L			07/10/18 19:59	1
1,1,1-Trichloroethane	ND		1.0	0.25	ug/L			07/10/18 19:59	1
1,1,2-Trichloroethane	ND		1.0	0.25	ug/L			07/10/18 19:59	1
Trichloroethene	ND		1.0	0.25	ug/L			07/10/18 19:59	1
Trichlorofluoromethane	ND		1.0	0.25	ug/L			07/10/18 19:59	1
1,2,3-Trichloropropane	ND		1.0	0.40	ug/L			07/10/18 19:59	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		5.0	0.50	ug/L			07/10/18 19:59	1
1,2,4-Trimethylbenzene	ND		1.0	0.25	ug/L			07/10/18 19:59	1
1,3,5-Trimethylbenzene	ND		1.0	0.25	ug/L			07/10/18 19:59	1
Vinyl chloride	ND		0.50	0.25	ug/L			07/10/18 19:59	1

Tentatively Identified Compound	*MB Est. Result*	*MB Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Tentatively Identified Compound	*None*		*ug/L*					*07/10/18 19:59*	*1*

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*108*		*80 - 120*		*07/10/18 19:59*	*1*
Dibromofluoromethane (Surr)	*112*		*76 - 132*		*07/10/18 19:59*	*1*
Toluene-d8 (Surr)	*110*		*80 - 128*		*07/10/18 19:59*	*1*

Lab Sample ID: LCS 440-486666/5
Matrix: Water
Analysis Batch: 486666

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Acetone	25.0	25.4		ug/L		102	10 - 150
Benzene	25.0	25.1		ug/L		100	68 - 130
Bromobenzene	25.0	26.5		ug/L		106	70 - 130
Bromochloromethane	25.0	25.3		ug/L		101	70 - 130
Bromodichloromethane	25.0	29.2		ug/L		117	70 - 132
Bromoform	25.0	27.9		ug/L		112	60 - 148
Bromomethane	25.0	26.2		ug/L		105	64 - 139
Carbon tetrachloride	25.0	31.2		ug/L		125	60 - 150
Chlorobenzene	25.0	24.8		ug/L		99	70 - 130
Chloroethane	25.0	22.4		ug/L		90	64 - 135
Chloroform	25.0	29.0		ug/L		116	70 - 130
Chloromethane	25.0	22.3		ug/L		89	47 - 140
2-Chlorotoluene	25.0	26.8		ug/L		107	70 - 130
4-Chlorotoluene	25.0	27.7		ug/L		111	70 - 130
cis-1,2-Dichloroethene	25.0	26.2		ug/L		105	70 - 133
cis-1,3-Dichloropropene	25.0	28.4		ug/L		113	70 - 133
Dibromochloromethane	25.0	29.1		ug/L		116	69 - 145
1,2-Dibromo-3-Chloropropane	25.0	29.3		ug/L		117	52 - 140

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

Lab Sample ID: LCS 440-486666/5
Matrix: Water
Analysis Batch: 486666

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,2-Dibromoethane (EDB)	25.0	26.9		ug/L		108	70 - 130
Dibromomethane	25.0	28.1		ug/L		112	70 - 130
1,2-Dichlorobenzene	25.0	26.5		ug/L		106	70 - 130
1,3-Dichlorobenzene	25.0	25.6		ug/L		103	70 - 130
1,4-Dichlorobenzene	25.0	25.7		ug/L		103	70 - 130
Dichlorodifluoromethane	25.0	24.2		ug/L		97	29 - 150
1,1-Dichloroethane	25.0	25.2		ug/L		101	64 - 130
1,2-Dichloroethane	25.0	28.9		ug/L		115	57 - 138
1,1-Dichloroethene	25.0	25.1		ug/L		101	70 - 130
1,2-Dichloropropane	25.0	24.7		ug/L		99	67 - 130
1,3-Dichloropropane	25.0	25.8		ug/L		103	70 - 130
2,2-Dichloropropane	25.0	28.8		ug/L		115	68 - 141
1,1-Dichloropropene	25.0	27.8		ug/L		111	70 - 130
Ethylbenzene	25.0	27.2		ug/L		109	70 - 130
Hexachlorobutadiene	25.0	28.7		ug/L		115	10 - 150
Isopropylbenzene	25.0	28.3		ug/L		113	70 - 136
Methylene Chloride	25.0	26.4		ug/L		106	52 - 130
Methyl-t-Butyl Ether (MTBE)	25.0	27.8		ug/L		111	63 - 131
m,p-Xylene	25.0	26.3		ug/L		105	70 - 130
Naphthalene	25.0	27.3		ug/L		109	60 - 140
n-Butylbenzene	25.0	28.2		ug/L		113	65 - 150
N-Propylbenzene	25.0	27.7		ug/L		111	67 - 139
o-Xylene	25.0	26.6		ug/L		107	70 - 130
p-Isopropyltoluene	25.0	27.2		ug/L		109	70 - 132
sec-Butylbenzene	25.0	27.2		ug/L		109	70 - 138
Styrene	25.0	27.8		ug/L		111	70 - 134
tert-Butylbenzene	25.0	27.4		ug/L		110	70 - 130
1,1,1,2-Tetrachloroethane	25.0	29.1		ug/L		117	60 - 141
1,1,2,2-Tetrachloroethane	25.0	24.5		ug/L		98	63 - 130
Tetrachloroethene	25.0	26.4		ug/L		105	70 - 130
Toluene	25.0	25.6		ug/L		102	70 - 130
trans-1,2-Dichloroethene	25.0	27.0		ug/L		108	70 - 130
trans-1,3-Dichloropropene	25.0	29.3		ug/L		117	70 - 132
1,2,3-Trichlorobenzene	25.0	28.0		ug/L		112	60 - 140
1,2,4-Trichlorobenzene	25.0	28.9		ug/L		116	60 - 140
1,1,1-Trichloroethane	25.0	30.7		ug/L		123	70 - 130
1,1,2-Trichloroethane	25.0	26.0		ug/L		104	70 - 130
Trichloroethene	25.0	25.8		ug/L		103	70 - 130
Trichlorofluoromethane	25.0	30.6		ug/L		122	60 - 150
1,2,3-Trichloropropane	25.0	26.3		ug/L		105	63 - 130
1,2,4-Trimethylbenzene	25.0	28.2		ug/L		113	70 - 135
1,3,5-Trimethylbenzene	25.0	28.3		ug/L		113	70 - 136
Vinyl chloride	25.0	24.3		ug/L		97	59 - 133

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*106*		*80 - 120*
Dibromofluoromethane (Surr)	*114*		*76 - 132*
Toluene-d8 (Surr)	*105*		*80 - 128*

QC Sample Results

Client: Jacob & Hefner Associates P.C.
Project/Site: Omega Chemical - GWTS Monthly

TestAmerica Job ID: 440-215179-1
SDG: Omega Chemical

Lab Sample ID: 440-215198-B-2 MS
Matrix: Water
Analysis Batch: 486666

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Acetone	ND		25.0	29.5		ug/L		118	10 - 150
Benzene	ND		25.0	25.1		ug/L		100	66 - 130
Bromobenzene	ND		25.0	26.6		ug/L		106	70 - 130
Bromochloromethane	ND		25.0	24.9		ug/L		100	70 - 130
Bromodichloromethane	ND		25.0	29.1		ug/L		116	70 - 138
Bromoform	ND		25.0	29.5		ug/L		118	59 - 150
Bromomethane	ND		25.0	27.4		ug/L		109	62 - 131
Carbon tetrachloride	ND		25.0	32.2		ug/L		129	60 - 150
Chlorobenzene	ND		25.0	25.6		ug/L		102	70 - 130
Chloroethane	ND		25.0	23.7		ug/L		95	68 - 130
Chloroform	ND		25.0	28.8		ug/L		115	70 - 130
Chloromethane	ND		25.0	22.4		ug/L		90	39 - 144
2-Chlorotoluene	ND		25.0	28.0		ug/L		112	70 - 130
4-Chlorotoluene	ND		25.0	28.9		ug/L		115	70 - 130
cis-1,2-Dichloroethene	3.0		25.0	29.1		ug/L		104	70 - 130
cis-1,3-Dichloropropene	ND		25.0	29.1		ug/L		116	70 - 133
Dibromochloromethane	ND		25.0	29.8		ug/L		119	70 - 148
1,2-Dibromo-3-Chloropropane	ND		25.0	29.7		ug/L		119	48 - 140
1,2-Dibromoethane (EDB)	ND		25.0	27.5		ug/L		110	70 - 131
Dibromomethane	ND		25.0	27.7		ug/L		111	70 - 130
1,2-Dichlorobenzene	ND		25.0	26.9		ug/L		107	70 - 130
1,3-Dichlorobenzene	ND		25.0	26.6		ug/L		107	70 - 130
1,4-Dichlorobenzene	ND		25.0	26.4		ug/L		105	70 - 130
Dichlorodifluoromethane	ND		25.0	24.2		ug/L		97	25 - 142
1,1-Dichloroethane	ND		25.0	25.5		ug/L		102	65 - 130
1,2-Dichloroethane	ND		25.0	28.7		ug/L		115	56 - 146
1,1-Dichloroethene	ND		25.0	26.4		ug/L		105	70 - 130
1,2-Dichloropropane	ND		25.0	24.4		ug/L		98	69 - 130
1,3-Dichloropropane	ND		25.0	25.8		ug/L		103	70 - 130
2,2-Dichloropropane	ND		25.0	32.8		ug/L		131	69 - 138
1,1-Dichloropropene	ND		25.0	28.2		ug/L		113	64 - 130
Ethylbenzene	ND		25.0	28.2		ug/L		113	70 - 130
Hexachlorobutadiene	ND		25.0	29.9		ug/L		120	10 - 150
Isopropylbenzene	ND		25.0	29.9		ug/L		120	70 - 132
Methylene Chloride	ND		25.0	26.5		ug/L		106	52 - 130
Methyl-t-Butyl Ether (MTBE)	ND		25.0	28.9		ug/L		115	70 - 130
m,p-Xylene	ND		25.0	27.8		ug/L		111	70 - 133
Naphthalene	ND		25.0	27.5		ug/L		110	60 - 140
n-Butylbenzene	ND		25.0	29.6		ug/L		119	61 - 149
N-Propylbenzene	ND		25.0	28.8		ug/L		115	66 - 135
o-Xylene	ND		25.0	28.3		ug/L		113	70 - 133
p-Isopropyltoluene	ND		25.0	28.6		ug/L		114	70 - 130
sec-Butylbenzene	ND		25.0	28.3		ug/L		113	67 - 134
Styrene	ND		25.0	28.3		ug/L		113	29 - 150
tert-Butylbenzene	ND		25.0	28.4		ug/L		114	70 - 130
1,1,1,2-Tetrachloroethane	ND		25.0	28.9		ug/L		116	60 - 149
1,1,2,2-Tetrachloroethane	ND		25.0	25.1		ug/L		100	63 - 130
Tetrachloroethene	0.43	J	25.0	27.9		ug/L		110	70 - 137
Toluene	ND		25.0	26.4		ug/L		105	70 - 130
trans-1,2-Dichloroethene	ND		25.0	27.0		ug/L		108	70 - 130

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

Lab Sample ID: 440-215198-B-2 MS
Matrix: Water
Analysis Batch: 486666

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
trans-1,3-Dichloropropene	ND		25.0	29.7		ug/L		119	70 - 138
1,2,3-Trichlorobenzene	ND		25.0	28.4		ug/L		114	60 - 140
1,2,4-Trichlorobenzene	ND		25.0	29.3		ug/L		117	60 - 140
1,1,1-Trichloroethane	ND		25.0	31.6		ug/L		126	70 - 130
1,1,2-Trichloroethane	ND		25.0	26.2		ug/L		105	70 - 130
Trichloroethene	5.2		25.0	31.7		ug/L		106	70 - 130
Trichlorofluoromethane	ND		25.0	31.9		ug/L		128	60 - 150
1,2,3-Trichloropropane	ND		25.0	27.3		ug/L		109	60 - 130
1,2,4-Trimethylbenzene	ND		25.0	29.0		ug/L		116	70 - 130
1,3,5-Trimethylbenzene	ND		25.0	29.6		ug/L		118	70 - 130
Vinyl chloride	ND		25.0	24.3		ug/L		97	50 - 137

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*106*		*80 - 120*
Dibromofluoromethane (Surr)	*109*		*76 - 132*
Toluene-d8 (Surr)	*106*		*80 - 128*

Lab Sample ID: 440-215198-B-2 MSD
Matrix: Water
Analysis Batch: 486666

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Acetone	ND		25.0	29.2		ug/L		117	10 - 150	1	35
Benzene	ND		25.0	25.2		ug/L		101	66 - 130	0	20
Bromobenzene	ND		25.0	26.6		ug/L		106	70 - 130	0	20
Bromochloromethane	ND		25.0	25.6		ug/L		102	70 - 130	3	25
Bromodichloromethane	ND		25.0	29.6		ug/L		118	70 - 138	2	20
Bromoform	ND		25.0	28.5		ug/L		114	59 - 150	4	25
Bromomethane	ND		25.0	27.1		ug/L		108	62 - 131	1	25
Carbon tetrachloride	ND		25.0	32.1		ug/L		128	60 - 150	0	25
Chlorobenzene	ND		25.0	25.8		ug/L		103	70 - 130	1	20
Chloroethane	ND		25.0	23.8		ug/L		95	68 - 130	0	25
Chloroform	ND		25.0	29.1		ug/L		116	70 - 130	1	20
Chloromethane	ND		25.0	22.1		ug/L		89	39 - 144	1	25
2-Chlorotoluene	ND		25.0	27.9		ug/L		112	70 - 130	0	20
4-Chlorotoluene	ND		25.0	28.6		ug/L		114	70 - 130	1	20
cis-1,2-Dichloroethene	3.0		25.0	29.5		ug/L		106	70 - 130	1	20
cis-1,3-Dichloropropene	ND		25.0	29.3		ug/L		117	70 - 133	1	20
Dibromochloromethane	ND		25.0	29.1		ug/L		116	70 - 148	2	25
1,2-Dibromo-3-Chloropropane	ND		25.0	29.6		ug/L		119	48 - 140	0	30
1,2-Dibromoethane (EDB)	ND		25.0	27.6		ug/L		110	70 - 131	0	25
Dibromomethane	ND		25.0	28.6		ug/L		114	70 - 130	3	25
1,2-Dichlorobenzene	ND		25.0	27.1		ug/L		108	70 - 130	1	20
1,3-Dichlorobenzene	ND		25.0	26.2		ug/L		105	70 - 130	2	20
1,4-Dichlorobenzene	ND		25.0	25.7		ug/L		103	70 - 130	3	20
Dichlorodifluoromethane	ND		25.0	25.2		ug/L		101	25 - 142	4	30
1,1-Dichloroethane	ND		25.0	25.6		ug/L		102	65 - 130	0	20
1,2-Dichloroethane	ND		25.0	29.4		ug/L		118	56 - 146	2	20

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

Lab Sample ID: 440-215198-B-2 MSD
Matrix: Water
Analysis Batch: 486666

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,1-Dichloroethene	ND		25.0	26.9		ug/L		108	70 - 130	2	20
1,2-Dichloropropane	ND		25.0	24.9		ug/L		100	69 - 130	2	20
1,3-Dichloropropane	ND		25.0	25.7		ug/L		103	70 - 130	0	25
2,2-Dichloropropane	ND		25.0	32.7		ug/L		131	69 - 138	0	25
1,1-Dichloropropene	ND		25.0	28.2		ug/L		113	64 - 130	0	20
Ethylbenzene	ND		25.0	28.2		ug/L		113	70 - 130	0	20
Hexachlorobutadiene	ND		25.0	29.0		ug/L		116	10 - 150	3	20
Isopropylbenzene	ND		25.0	29.6		ug/L		118	70 - 132	1	20
Methylene Chloride	ND		25.0	26.4		ug/L		106	52 - 130	0	20
Methyl-t-Butyl Ether (MTBE)	ND		25.0	28.2		ug/L		113	70 - 130	2	25
m,p-Xylene	ND		25.0	27.9		ug/L		112	70 - 133	1	25
Naphthalene	ND		25.0	27.6		ug/L		110	60 - 140	0	30
n-Butylbenzene	ND		25.0	29.2		ug/L		117	61 - 149	1	20
N-Propylbenzene	ND		25.0	28.7		ug/L		115	66 - 135	0	20
o-Xylene	ND		25.0	28.1		ug/L		113	70 - 133	1	20
p-Isopropyltoluene	ND		25.0	27.9		ug/L		112	70 - 130	2	20
sec-Butylbenzene	ND		25.0	27.9		ug/L		112	67 - 134	1	20
Styrene	ND		25.0	28.2		ug/L		113	29 - 150	1	35
tert-Butylbenzene	ND		25.0	28.1		ug/L		113	70 - 130	1	20
1,1,1,2-Tetrachloroethane	ND		25.0	29.4		ug/L		117	60 - 149	1	20
1,1,2,2-Tetrachloroethane	ND		25.0	24.7		ug/L		99	63 - 130	2	30
Tetrachloroethene	0.43	J	25.0	28.4		ug/L		112	70 - 137	2	20
Toluene	ND		25.0	27.0		ug/L		108	70 - 130	2	20
trans-1,2-Dichloroethene	ND		25.0	27.1		ug/L		109	70 - 130	1	20
trans-1,3-Dichloropropene	ND		25.0	29.9		ug/L		119	70 - 138	1	25
1,2,3-Trichlorobenzene	ND		25.0	28.2		ug/L		113	60 - 140	1	20
1,2,4-Trichlorobenzene	ND		25.0	28.4		ug/L		114	60 - 140	3	20
1,1,1-Trichloroethane	ND		25.0	31.8		ug/L		127	70 - 130	1	20
1,1,2-Trichloroethane	ND		25.0	26.8		ug/L		107	70 - 130	2	25
Trichloroethene	5.2		25.0	31.7		ug/L		106	70 - 130	0	20
Trichlorofluoromethane	ND		25.0	31.3		ug/L		125	60 - 150	2	25
1,2,3-Trichloropropane	ND		25.0	26.3		ug/L		105	60 - 130	4	30
1,2,4-Trimethylbenzene	ND		25.0	28.6		ug/L		115	70 - 130	1	25
1,3,5-Trimethylbenzene	ND		25.0	29.2		ug/L		117	70 - 130	1	20
Vinyl chloride	ND		25.0	24.3		ug/L		97	50 - 137	0	30

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*106*		*80 - 120*
Dibromofluoromethane (Surr)	*110*		*76 - 132*
Toluene-d8 (Surr)	*106*		*80 - 128*

Lab Sample ID: MB 440-486743/4
Matrix: Water
Analysis Batch: 486743

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Tetrachloroethene	ND		1.0	0.25	ug/L			07/11/18 08:00	1

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

Lab Sample ID: MB 440-486743/4
Matrix: Water
Analysis Batch: 486743

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

Tentatively Identified Compound	MB Est. Result	MB Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Unknown	4.41	T J	ug/L		3.26			07/11/18 08:00	1
Unknown	3.81	T J	ug/L		14.25			07/11/18 08:00	1
Cyclotrisiloxane, hexamethyl-	23.0	T J N	ug/L		17.11	541-05-9		07/11/18 08:00	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	100		80 - 120		07/11/18 08:00	1
Dibromofluoromethane (Surr)	102		76 - 132		07/11/18 08:00	1
Toluene-d8 (Surr)	111		80 - 128		07/11/18 08:00	1

Lab Sample ID: LCS 440-486743/5
Matrix: Water
Analysis Batch: 486743

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Tetrachloroethene	25.0	26.0		ug/L		104	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene (Surr)	97		80 - 120
Dibromofluoromethane (Surr)	105		76 - 132
Toluene-d8 (Surr)	104		80 - 128

Lab Sample ID: 440-215214-B-7 MS
Matrix: Water
Analysis Batch: 486743

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Tetrachloroethene	ND		25.0	26.5		ug/L		106	70 - 137

Surrogate	MS %Recovery	MS Qualifier	Limits
4-Bromofluorobenzene (Surr)	95		80 - 120
Dibromofluoromethane (Surr)	102		76 - 132
Toluene-d8 (Surr)	106		80 - 128

Lab Sample ID: 440-215214-B-7 MSD
Matrix: Water
Analysis Batch: 486743

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Tetrachloroethene	ND		25.0	26.4		ug/L		106	70 - 137	0	20

Surrogate	MSD %Recovery	MSD Qualifier	Limits
4-Bromofluorobenzene (Surr)	100		80 - 120
Dibromofluoromethane (Surr)	103		76 - 132
Toluene-d8 (Surr)	105		80 - 128

Method: 8270C SIM - Semivolatile Organic Compounds (GC/MS SIM)

Lab Sample ID: MB 440-486258/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 486366 — **Prep Batch: 486258**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	ND		0.49	0.098	ug/L		07/08/18 09:33	07/09/18 12:42	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,4-Dioxane-d8 (Surr)	*67*		*27 - 120*	*07/08/18 09:33*	*07/09/18 12:42*	*1*

Lab Sample ID: LCS 440-486258/3-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 486366 — **Prep Batch: 486258**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,4-Dioxane	1.96	1.32		ug/L		67	36 - 120

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1,4-Dioxane-d8 (Surr)	*60*		*27 - 120*

Lab Sample ID: 440-214993-A-4-A MS — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 486366 — **Prep Batch: 486258**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
1,4-Dioxane	0.28	J	2.04	1.63		ug/L		67	10 - 150

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
1,4-Dioxane-d8 (Surr)	*62*		*27 - 120*

Lab Sample ID: 440-214993-A-4-B MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 486366 — **Prep Batch: 486258**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,4-Dioxane	0.28	J	2.05	1.62		ug/L		66	10 - 150	1	35

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
1,4-Dioxane-d8 (Surr)	*62*		*27 - 120*

QC Association Summary

Client: Jacob & Hefner Associates P.C.
Project/Site: Omega Chemical - GWTS Monthly

TestAmerica Job ID: 440-215179-1
SDG: Omega Chemical

GC/MS VOA

Analysis Batch: 486666

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-215179-1	OC_SP220B_EFF_070518	Total/NA	Water	8260B	
440-215179-2	OC_SP210_INF_070518	Total/NA	Water	8260B	
440-215179-3	OC_TB_070518	Total/NA	Water	8260B	
MB 440-486666/4	Method Blank	Total/NA	Water	8260B	
LCS 440-486666/5	Lab Control Sample	Total/NA	Water	8260B	
440-215198-B-2 MS	Matrix Spike	Total/NA	Water	8260B	
440-215198-B-2 MSD	Matrix Spike Duplicate	Total/NA	Water	8260B	

Analysis Batch: 486743

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-215179-2 - DL	OC_SP210_INF_070518	Total/NA	Water	8260B	
440-215179-3 - RA	OC_TB_070518	Total/NA	Water	8260B	
MB 440-486743/4	Method Blank	Total/NA	Water	8260B	
LCS 440-486743/5	Lab Control Sample	Total/NA	Water	8260B	
440-215214-B-7 MS	Matrix Spike	Total/NA	Water	8260B	
440-215214-B-7 MSD	Matrix Spike Duplicate	Total/NA	Water	8260B	

GC/MS Semi VOA

Prep Batch: 486258

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-215179-1	OC_SP220B_EFF_070518	Total/NA	Water	3520C	
MB 440-486258/1-A	Method Blank	Total/NA	Water	3520C	
LCS 440-486258/3-A	Lab Control Sample	Total/NA	Water	3520C	
440-214993-A-4-A MS	Matrix Spike	Total/NA	Water	3520C	
440-214993-A-4-B MSD	Matrix Spike Duplicate	Total/NA	Water	3520C	

Analysis Batch: 486366

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-215179-1	OC_SP220B_EFF_070518	Total/NA	Water	8270C SIM	486258
MB 440-486258/1-A	Method Blank	Total/NA	Water	8270C SIM	486258
LCS 440-486258/3-A	Lab Control Sample	Total/NA	Water	8270C SIM	486258
440-214993-A-4-A MS	Matrix Spike	Total/NA	Water	8270C SIM	486258
440-214993-A-4-B MSD	Matrix Spike Duplicate	Total/NA	Water	8270C SIM	486258

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

GC/MS VOA TICs

Qualifier	Qualifier Description
J	Indicates an Estimated Value for TICs
T	Result is a tentatively identified compound (TIC) and an estimated value.
N	Presumptive evidence of material.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Accreditation/Certification Summary

Client: Jacob & Hefner Associates P.C.
Project/Site: Omega Chemical - GWTS Monthly

TestAmerica Job ID: 440-215179-1
SDG: Omega Chemical

Laboratory: TestAmerica Irvine

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	EPA Region	Identification Number	Expiration Date
California	State Program	9	CA ELAP 2706	06-30-19

The following analytes are included in this report, but accreditation/certification is not offered by the governing authority:

Analysis Method	Prep Method	Matrix	Analyte
8260B		Water	1,1,2-Trichloro-1,2,2-trifluoroethane
8260B		Water	m,p-Xylene
8270C SIM	3520C	Water	1,4-Dioxane

TestAmerica Irvine
17461 Derian Ave
Suite 100
Irvine, CA 92614
phone 949.261 1022 fax

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING
TestAmerica Laboratories, Inc.

Regulatory Program: ☐DW ☐NPDES ☑RCRA ☐Other:

Client Contact	Project Manager: Trent Henderson	Site Contact: Khalid Azhar	Date: 7/5/2018	COC No:
De Maximis - Jaime Dinello	Tel/Fax: (949) 453-1045 / (949) 453-1047	Lab Contact: Danielle Roberts	Carrier:	1 of 1 COCs
1322 Scott St., Suite 104	Analysis Turnaround Time			Sampler:
San Diego, CA 92106	☐CALENDAR DAYS ☐WORKING DAYS			For Lab Use Only:
(562) 756-8149	TAT if different from Below STD			Walk-in Client:
	☐ 2 weeks			Lab Sampling:
Project Name: Omega Chemical - GWTS Monthly	☐ 1 week			
Site: Omega Chemical	☐ 2 days			Job / SDG No.:
P O #:	☐ 1 day			

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.	Filtered Sample (Y/N)	Perform MS / MSD (Y/N)	EPA 8260B - VOCs + Freons	EPA 8270C - 1,4-Dioxane	Sample Specific Notes.
OC_SP220B_EFF_070518	7/5/2018	1210	Grab	GW	5			x	x	
OC_SP210_INF_070518	7/5/2018	1220	Grab	GW	3			x		
OC_TB_070518	7/5/2018	1200		H2O	2			x		

440-215179 Chain of Custody

Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other _____

Possible Hazard Identification:
Are any samples from a listed EPA Hazardous Waste? Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample.
☐Non-Hazard ☐Flammable ☐Skin Irritant ☐Poison B ☐Unknown

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐Return to Client ☐Disposal by Lab ☐Archive for_____ Months

Special Instructions/QC Requirements & Comments:

Custody Seals Intact: ☐ Yes ☐ No | Custody Seal No . | Cooler Temp. (°C): Obs'd: 2.3 Corr'd: 2.9 | Therm ID No.: IR-39

Relinquished by:	Company:	Date/Time:	Received by.	Company	Date/Time:
	JHA	7/6/18 1450			
Relinquished by:	Company.	Date/Time:	Received by:	Company:	Date/Time.
Relinquished by:	Company:	Date/Time:	Received in Laboratory by.	Company TA-IRL	Date/Time. 7/6/18 14:50

7/6/18

Login Sample Receipt Checklist

Client: Jacob & Hefner Associates P.C.

Job Number: 440-215179-1
SDG Number: Omega Chemical

Login Number: 215179
List Number: 1
Creator: Skinner, Alma D

List Source: TestAmerica Irvine

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	N/A	Not present
Sample custody seals, if present, are intact.	N/A	Not Present
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

TestAmerica

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ANALYTICAL REPORT

TestAmerica Laboratories, Inc.
TestAmerica Irvine
17461 Derian Ave
Suite 100
Irvine, CA 92614-5817
Tel: (949)261-1022

TestAmerica Job ID: 440-217616-1
TestAmerica Sample Delivery Group: Omega Chemical, Whittier
Client Project/Site: Omega Chemical - GWTS Monthly

For:
Jacob & Hefner Associates P.C.
15375 Barranca Parkway, J-101
Irvine, California 92618

Attn: Trent Henderson

Authorized for release by:
8/14/2018 4:39:07 PM

Danielle Roberts, Senior Project Manager
(949)261-1022
danielle.roberts@testamericainc.com

LINKS

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Results relate only to the items tested and the sample(s) as received by the laboratory.

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Sample Summary

Client: Jacob & Hefner Associates P.C.
Project/Site: Omega Chemical - GWTS Monthly

TestAmerica Job ID: 440-217616-1
SDG: Omega Chemical, Whittier

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
440-217616-1	OC_SP220B_EFF_080718	Water	08/07/18 09:34	08/08/18 12:43
440-217616-2	OC_SP210_INF_080718	Water	08/07/18 09:41	08/08/18 12:43
440-217616-3	OC_TB_080718	Water	08/07/18 09:30	08/08/18 12:43

Case Narrative

Client: Jacob & Hefner Associates P.C.
Project/Site: Omega Chemical - GWTS Monthly

TestAmerica Job ID: 440-217616-1
SDG: Omega Chemical, Whittier

Job ID: 440-217616-1

Laboratory: TestAmerica Irvine

Narrative

Job Narrative
440-217616-1

Comments
No additional comments.

Receipt
The samples were received on 8/8/2018 5:50 PM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 2.8º C.

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

GC/MS Semi VOA
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Organic Prep
Method(s) 3520C: Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD) associated with preparation batch 440-492779. 3520C_8270-SIM 1,4 Dioxane/1,4 Dioxane.

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

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

Detection Summary

Client: Jacob & Hefner Associates P.C.
Project/Site: Omega Chemical - GWTS Monthly

TestAmerica Job ID: 440-217616-1
SDG: Omega Chemical, Whittier

Client Sample ID: OC_SP220B_EFF_080718 — Lab Sample ID: 440-217616-1

Analyte	Result	Qualifier	RL		Unit	Dil Fac	D	Method	Prep Type
Acetone	28		10		ug/L	1		8260B	Total/NA
1,4-Dioxane	15		0.49		ug/L	1		8270C SIM	Total/NA

Client Sample ID: OC_SP210_INF_080718 — Lab Sample ID: 440-217616-2

Analyte	Result	Qualifier	RL		Unit	Dil Fac	D	Method	Prep Type
1,1,2-Trichloro-1,2,2-trifluoroethane	100		5.0		ug/L	1		8260B	Total/NA
1,1-Dichloroethene	50		1.0		ug/L	1		8260B	Total/NA
1,2-Dichloroethane	3.0		1.0		ug/L	1		8260B	Total/NA
Acetone	27		10		ug/L	1		8260B	Total/NA
Chloroform	16		1.0		ug/L	1		8260B	Total/NA
Trichloroethene	35		1.0		ug/L	1		8260B	Total/NA
Trichlorofluoromethane	22		1.0		ug/L	1		8260B	Total/NA
Tetrachloroethene - DL	300		5.0		ug/L	5		8260B	Total/NA

Client Sample ID: OC_TB_080718 — Lab Sample ID: 440-217616-3

Analyte	Result	Qualifier	RL		Unit	Dil Fac	D	Method	Prep Type
Acetone	11		10		ug/L	1		8260B	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample Results

Client: Jacob & Hefner Associates P.C.
Project/Site: Omega Chemical - GWTS Monthly

TestAmerica Job ID: 440-217616-1
SDG: Omega Chemical, Whittier

Client Sample ID: OC_SP220B_EFF_080718

Lab Sample ID: 440-217616-1

Date Collected: 08/07/18 09:34
Matrix: Water
Date Received: 08/08/18 12:43

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		1.0		ug/L			08/11/18 01:51	1
1,1,1-Trichloroethane	ND		1.0		ug/L			08/11/18 01:51	1
1,1,2,2-Tetrachloroethane	ND		1.0		ug/L			08/11/18 01:51	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		5.0		ug/L			08/11/18 01:51	1
1,1,2-Trichloroethane	ND		1.0		ug/L			08/11/18 01:51	1
1,1-Dichloroethane	ND		1.0		ug/L			08/11/18 01:51	1
1,1-Dichloroethene	ND		1.0		ug/L			08/11/18 01:51	1
1,1-Dichloropropene	ND		1.0		ug/L			08/11/18 01:51	1
1,2,3-Trichlorobenzene	ND		1.0		ug/L			08/11/18 01:51	1
1,2,3-Trichloropropane	ND		1.0		ug/L			08/11/18 01:51	1
1,2,4-Trichlorobenzene	ND		1.0		ug/L			08/11/18 01:51	1
1,2,4-Trimethylbenzene	ND		1.0		ug/L			08/11/18 01:51	1
1,2-Dibromo-3-Chloropropane	ND		5.0		ug/L			08/11/18 01:51	1
1,2-Dibromoethane (EDB)	ND		1.0		ug/L			08/11/18 01:51	1
1,2-Dichlorobenzene	ND		1.0		ug/L			08/11/18 01:51	1
1,2-Dichloroethane	ND		1.0		ug/L			08/11/18 01:51	1
1,2-Dichloropropane	ND		1.0		ug/L			08/11/18 01:51	1
1,3,5-Trimethylbenzene	ND		1.0		ug/L			08/11/18 01:51	1
1,3-Dichlorobenzene	ND		1.0		ug/L			08/11/18 01:51	1
1,3-Dichloropropane	ND		1.0		ug/L			08/11/18 01:51	1
1,4-Dichlorobenzene	ND		1.0		ug/L			08/11/18 01:51	1
2,2-Dichloropropane	ND		1.0		ug/L			08/11/18 01:51	1
2-Chlorotoluene	ND		1.0		ug/L			08/11/18 01:51	1
4-Chlorotoluene	ND		1.0		ug/L			08/11/18 01:51	1
Acetone	**28**		10		ug/L			08/11/18 01:51	1
Benzene	ND		0.50		ug/L			08/11/18 01:51	1
Bromobenzene	ND		1.0		ug/L			08/11/18 01:51	1
Bromochloromethane	ND		1.0		ug/L			08/11/18 01:51	1
Bromodichloromethane	ND		1.0		ug/L			08/11/18 01:51	1
Bromoform	ND		1.0		ug/L			08/11/18 01:51	1
Bromomethane	ND		1.0		ug/L			08/11/18 01:51	1
Carbon tetrachloride	ND		0.50		ug/L			08/11/18 01:51	1
Chlorobenzene	ND		1.0		ug/L			08/11/18 01:51	1
Chloroethane	ND		1.0		ug/L			08/11/18 01:51	1
Chloroform	ND		1.0		ug/L			08/11/18 01:51	1
Chloromethane	ND		1.0		ug/L			08/11/18 01:51	1
cis-1,2-Dichloroethene	ND		1.0		ug/L			08/11/18 01:51	1
cis-1,3-Dichloropropene	ND		0.50		ug/L			08/11/18 01:51	1
Dibromochloromethane	ND		1.0		ug/L			08/11/18 01:51	1
Dibromomethane	ND		1.0		ug/L			08/11/18 01:51	1
Dichlorodifluoromethane	ND		1.0		ug/L			08/11/18 01:51	1
Ethylbenzene	ND		1.0		ug/L			08/11/18 01:51	1
Hexachlorobutadiene	ND		1.0		ug/L			08/11/18 01:51	1
Isopropyl alcohol	ND		250		ug/L			08/11/18 01:51	1
Isopropylbenzene	ND		1.0		ug/L			08/11/18 01:51	1
m,p-Xylene	ND		1.0		ug/L			08/11/18 01:51	1
Methylene Chloride	ND		5.0		ug/L			08/11/18 01:51	1
Methyl-t-Butyl Ether (MTBE)	ND		1.0		ug/L			08/11/18 01:51	1
Naphthalene	ND		1.0		ug/L			08/11/18 01:51	1

Client Sample ID: OC_SP220B_EFF_080718

Lab Sample ID: 440-217616-1
Date Collected: 08/07/18 09:34
Matrix: Water
Date Received: 08/08/18 12:43

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
n-Butylbenzene	ND		1.0	ug/L			08/11/18 01:51	1
N-Propylbenzene	ND		1.0	ug/L			08/11/18 01:51	1
o-Xylene	ND		1.0	ug/L			08/11/18 01:51	1
p-Isopropyltoluene	ND		1.0	ug/L			08/11/18 01:51	1
sec-Butylbenzene	ND		1.0	ug/L			08/11/18 01:51	1
Styrene	ND		1.0	ug/L			08/11/18 01:51	1
tert-Butylbenzene	ND		1.0	ug/L			08/11/18 01:51	1
Tetrachloroethene	ND		1.0	ug/L			08/11/18 01:51	1
Toluene	ND		1.0	ug/L			08/11/18 01:51	1
trans-1,2-Dichloroethene	ND		1.0	ug/L			08/11/18 01:51	1
trans-1,3-Dichloropropene	ND		0.50	ug/L			08/11/18 01:51	1
Trichloroethene	ND		1.0	ug/L			08/11/18 01:51	1
Trichlorofluoromethane	ND		1.0	ug/L			08/11/18 01:51	1
Vinyl chloride	ND		0.50	ug/L			08/11/18 01:51	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*102*		*70 - 130*		*08/11/18 01:51*	*1*
4-Bromofluorobenzene (Surr)	*102*		*80 - 120*		*08/11/18 01:51*	*1*
Dibromofluoromethane (Surr)	*102*		*76 - 132*		*08/11/18 01:51*	*1*
Toluene-d8 (Surr)	*107*		*80 - 128*		*08/11/18 01:51*	*1*

Method: 8270C SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	**15**		0.49	ug/L		08/10/18 11:07	08/12/18 10:42	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,4-Dioxane-d8 (Surr)	*54*		*27 - 120*	*08/10/18 11:07*	*08/12/18 10:42*	*1*

Client Sample ID: OC_SP210_INF_080718

Lab Sample ID: 440-217616-2
Date Collected: 08/07/18 09:41
Matrix: Water
Date Received: 08/08/18 12:43

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		1.0	ug/L			08/11/18 02:18	1
1,1,1-Trichloroethane	ND		1.0	ug/L			08/11/18 02:18	1
1,1,2,2-Tetrachloroethane	ND		1.0	ug/L			08/11/18 02:18	1
1,1,2-Trichloro-1,2,2-trifluoroethane	**100**		5.0	ug/L			08/11/18 02:18	1
1,1,2-Trichloroethane	ND		1.0	ug/L			08/11/18 02:18	1
1,1-Dichloroethane	ND		1.0	ug/L			08/11/18 02:18	1
1,1-Dichloroethene	**50**		1.0	ug/L			08/11/18 02:18	1
1,1-Dichloropropene	ND		1.0	ug/L			08/11/18 02:18	1
1,2,3-Trichlorobenzene	ND		1.0	ug/L			08/11/18 02:18	1
1,2,3-Trichloropropane	ND		1.0	ug/L			08/11/18 02:18	1
1,2,4-Trichlorobenzene	ND		1.0	ug/L			08/11/18 02:18	1
1,2,4-Trimethylbenzene	ND		1.0	ug/L			08/11/18 02:18	1
1,2-Dibromo-3-Chloropropane	ND		5.0	ug/L			08/11/18 02:18	1
1,2-Dibromoethane (EDB)	ND		1.0	ug/L			08/11/18 02:18	1
1,2-Dichlorobenzene	ND		1.0	ug/L			08/11/18 02:18	1
1,2-Dichloroethane	**3.0**		1.0	ug/L			08/11/18 02:18	1

Client Sample Results

Client: Jacob & Hefner Associates P.C.
Project/Site: Omega Chemical - GWTS Monthly

TestAmerica Job ID: 440-217616-1
SDG: Omega Chemical, Whittier

Client Sample ID: OC_SP210_INF_080718

Lab Sample ID: 440-217616-2

Date Collected: 08/07/18 09:41
Matrix: Water
Date Received: 08/08/18 12:43

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dichloropropane	ND		1.0	ug/L			08/11/18 02:18	1
1,3,5-Trimethylbenzene	ND		1.0	ug/L			08/11/18 02:18	1
1,3-Dichlorobenzene	ND		1.0	ug/L			08/11/18 02:18	1
1,3-Dichloropropane	ND		1.0	ug/L			08/11/18 02:18	1
1,4-Dichlorobenzene	ND		1.0	ug/L			08/11/18 02:18	1
2,2-Dichloropropane	ND		1.0	ug/L			08/11/18 02:18	1
2-Chlorotoluene	ND		1.0	ug/L			08/11/18 02:18	1
4-Chlorotoluene	ND		1.0	ug/L			08/11/18 02:18	1
Acetone	**27**		10	ug/L			08/11/18 02:18	1
Benzene	ND		0.50	ug/L			08/11/18 02:18	1
Bromobenzene	ND		1.0	ug/L			08/11/18 02:18	1
Bromochloromethane	ND		1.0	ug/L			08/11/18 02:18	1
Bromodichloromethane	ND		1.0	ug/L			08/11/18 02:18	1
Bromoform	ND		1.0	ug/L			08/11/18 02:18	1
Bromomethane	ND		1.0	ug/L			08/11/18 02:18	1
Carbon tetrachloride	ND		0.50	ug/L			08/11/18 02:18	1
Chlorobenzene	ND		1.0	ug/L			08/11/18 02:18	1
Chloroethane	ND		1.0	ug/L			08/11/18 02:18	1
Chloroform	**16**		1.0	ug/L			08/11/18 02:18	1
Chloromethane	ND		1.0	ug/L			08/11/18 02:18	1
cis-1,2-Dichloroethene	ND		1.0	ug/L			08/11/18 02:18	1
cis-1,3-Dichloropropene	ND		0.50	ug/L			08/11/18 02:18	1
Dibromochloromethane	ND		1.0	ug/L			08/11/18 02:18	1
Dibromomethane	ND		1.0	ug/L			08/11/18 02:18	1
Dichlorodifluoromethane	ND		1.0	ug/L			08/11/18 02:18	1
Ethylbenzene	ND		1.0	ug/L			08/11/18 02:18	1
Hexachlorobutadiene	ND		1.0	ug/L			08/11/18 02:18	1
Isopropyl alcohol	ND		250	ug/L			08/11/18 02:18	1
Isopropylbenzene	ND		1.0	ug/L			08/11/18 02:18	1
m,p-Xylene	ND		1.0	ug/L			08/11/18 02:18	1
Methylene Chloride	ND		5.0	ug/L			08/11/18 02:18	1
Methyl-t-Butyl Ether (MTBE)	ND		1.0	ug/L			08/11/18 02:18	1
Naphthalene	ND		1.0	ug/L			08/11/18 02:18	1
n-Butylbenzene	ND		1.0	ug/L			08/11/18 02:18	1
N-Propylbenzene	ND		1.0	ug/L			08/11/18 02:18	1
o-Xylene	ND		1.0	ug/L			08/11/18 02:18	1
p-Isopropyltoluene	ND		1.0	ug/L			08/11/18 02:18	1
sec-Butylbenzene	ND		1.0	ug/L			08/11/18 02:18	1
Styrene	ND		1.0	ug/L			08/11/18 02:18	1
tert-Butylbenzene	ND		1.0	ug/L			08/11/18 02:18	1
Toluene	ND		1.0	ug/L			08/11/18 02:18	1
trans-1,2-Dichloroethene	ND		1.0	ug/L			08/11/18 02:18	1
trans-1,3-Dichloropropene	ND		0.50	ug/L			08/11/18 02:18	1
Trichloroethene	**35**		1.0	ug/L			08/11/18 02:18	1
Trichlorofluoromethane	**22**		1.0	ug/L			08/11/18 02:18	1
Vinyl chloride	ND		0.50	ug/L			08/11/18 02:18	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*100*		*70 - 130*		*08/11/18 02:18*	*1*
4-Bromofluorobenzene (Surr)	*100*		*80 - 120*		*08/11/18 02:18*	*1*

Client Sample ID: OC_SP210_INF_080718

Lab Sample ID: 440-217616-2
Date Collected: 08/07/18 09:41
Matrix: Water
Date Received: 08/08/18 12:43

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

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Dibromofluoromethane (Surr)	*100*		*76 - 132*		*08/11/18 02:18*	*1*
Toluene-d8 (Surr)	*105*		*80 - 128*		*08/11/18 02:18*	*1*

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Tetrachloroethene	**300**		5.0	ug/L			08/11/18 02:46	5

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*101*		*70 - 130*		*08/11/18 02:46*	*5*
4-Bromofluorobenzene (Surr)	*102*		*80 - 120*		*08/11/18 02:46*	*5*
Dibromofluoromethane (Surr)	*103*		*76 - 132*		*08/11/18 02:46*	*5*
Toluene-d8 (Surr)	*108*		*80 - 128*		*08/11/18 02:46*	*5*

Client Sample ID: OC_TB_080718

Lab Sample ID: 440-217616-3
Date Collected: 08/07/18 09:30
Matrix: Water
Date Received: 08/08/18 12:43

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		1.0	ug/L			08/11/18 01:23	1
1,1,1-Trichloroethane	ND		1.0	ug/L			08/11/18 01:23	1
1,1,2,2-Tetrachloroethane	ND		1.0	ug/L			08/11/18 01:23	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		5.0	ug/L			08/11/18 01:23	1
1,1,2-Trichloroethane	ND		1.0	ug/L			08/11/18 01:23	1
1,1-Dichloroethane	ND		1.0	ug/L			08/11/18 01:23	1
1,1-Dichloroethene	ND		1.0	ug/L			08/11/18 01:23	1
1,1-Dichloropropene	ND		1.0	ug/L			08/11/18 01:23	1
1,2,3-Trichlorobenzene	ND		1.0	ug/L			08/11/18 01:23	1
1,2,3-Trichloropropane	ND		1.0	ug/L			08/11/18 01:23	1
1,2,4-Trichlorobenzene	ND		1.0	ug/L			08/11/18 01:23	1
1,2,4-Trimethylbenzene	ND		1.0	ug/L			08/11/18 01:23	1
1,2-Dibromo-3-Chloropropane	ND		5.0	ug/L			08/11/18 01:23	1
1,2-Dibromoethane (EDB)	ND		1.0	ug/L			08/11/18 01:23	1
1,2-Dichlorobenzene	ND		1.0	ug/L			08/11/18 01:23	1
1,2-Dichloroethane	ND		1.0	ug/L			08/11/18 01:23	1
1,2-Dichloropropane	ND		1.0	ug/L			08/11/18 01:23	1
1,3,5-Trimethylbenzene	ND		1.0	ug/L			08/11/18 01:23	1
1,3-Dichlorobenzene	ND		1.0	ug/L			08/11/18 01:23	1
1,3-Dichloropropane	ND		1.0	ug/L			08/11/18 01:23	1
1,4-Dichlorobenzene	ND		1.0	ug/L			08/11/18 01:23	1
2,2-Dichloropropane	ND		1.0	ug/L			08/11/18 01:23	1
2-Chlorotoluene	ND		1.0	ug/L			08/11/18 01:23	1
4-Chlorotoluene	ND		1.0	ug/L			08/11/18 01:23	1
Acetone	**11**		10	ug/L			08/11/18 01:23	1
Benzene	ND		0.50	ug/L			08/11/18 01:23	1
Bromobenzene	ND		1.0	ug/L			08/11/18 01:23	1
Bromochloromethane	ND		1.0	ug/L			08/11/18 01:23	1
Bromodichloromethane	ND		1.0	ug/L			08/11/18 01:23	1
Bromoform	ND		1.0	ug/L			08/11/18 01:23	1
Bromomethane	ND		1.0	ug/L			08/11/18 01:23	1

Client Sample Results

Client: Jacob & Hefner Associates P.C.
Project/Site: Omega Chemical - GWTS Monthly

TestAmerica Job ID: 440-217616-1
SDG: Omega Chemical, Whittier

Client Sample ID: OC_TB_080718

Date Collected: 08/07/18 09:30
Date Received: 08/08/18 12:43

Lab Sample ID: 440-217616-3

Matrix: Water

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Carbon tetrachloride	ND		0.50	ug/L			08/11/18 01:23	1
Chlorobenzene	ND		1.0	ug/L			08/11/18 01:23	1
Chloroethane	ND		1.0	ug/L			08/11/18 01:23	1
Chloroform	ND		1.0	ug/L			08/11/18 01:23	1
Chloromethane	ND		1.0	ug/L			08/11/18 01:23	1
cis-1,2-Dichloroethene	ND		1.0	ug/L			08/11/18 01:23	1
cis-1,3-Dichloropropene	ND		0.50	ug/L			08/11/18 01:23	1
Dibromochloromethane	ND		1.0	ug/L			08/11/18 01:23	1
Dibromomethane	ND		1.0	ug/L			08/11/18 01:23	1
Dichlorodifluoromethane	ND		1.0	ug/L			08/11/18 01:23	1
Ethylbenzene	ND		1.0	ug/L			08/11/18 01:23	1
Hexachlorobutadiene	ND		1.0	ug/L			08/11/18 01:23	1
Isopropyl alcohol	ND		250	ug/L			08/11/18 01:23	1
Isopropylbenzene	ND		1.0	ug/L			08/11/18 01:23	1
m,p-Xylene	ND		1.0	ug/L			08/11/18 01:23	1
Methylene Chloride	ND		5.0	ug/L			08/11/18 01:23	1
Methyl-t-Butyl Ether (MTBE)	ND		1.0	ug/L			08/11/18 01:23	1
Naphthalene	ND		1.0	ug/L			08/11/18 01:23	1
n-Butylbenzene	ND		1.0	ug/L			08/11/18 01:23	1
N-Propylbenzene	ND		1.0	ug/L			08/11/18 01:23	1
o-Xylene	ND		1.0	ug/L			08/11/18 01:23	1
p-Isopropyltoluene	ND		1.0	ug/L			08/11/18 01:23	1
sec-Butylbenzene	ND		1.0	ug/L			08/11/18 01:23	1
Styrene	ND		1.0	ug/L			08/11/18 01:23	1
tert-Butylbenzene	ND		1.0	ug/L			08/11/18 01:23	1
Tetrachloroethene	ND		1.0	ug/L			08/11/18 01:23	1
Toluene	ND		1.0	ug/L			08/11/18 01:23	1
trans-1,2-Dichloroethene	ND		1.0	ug/L			08/11/18 01:23	1
trans-1,3-Dichloropropene	ND		0.50	ug/L			08/11/18 01:23	1
Trichloroethene	ND		1.0	ug/L			08/11/18 01:23	1
Trichlorofluoromethane	ND		1.0	ug/L			08/11/18 01:23	1
Vinyl chloride	ND		0.50	ug/L			08/11/18 01:23	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*105*		*70 - 130*		*08/11/18 01:23*	*1*
4-Bromofluorobenzene (Surr)	*101*		*80 - 120*		*08/11/18 01:23*	*1*
Dibromofluoromethane (Surr)	*103*		*76 - 132*		*08/11/18 01:23*	*1*
Toluene-d8 (Surr)	*106*		*80 - 128*		*08/11/18 01:23*	*1*

Surrogate Summary

Client: Jacob & Hefner Associates P.C.
Project/Site: Omega Chemical - GWTS Monthly

TestAmerica Job ID: 440-217616-1
SDG: Omega Chemical, Whittier

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

Matrix: Water **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)			
		DCA	BFB	DBFM	TOL
Lab Sample ID	Client Sample ID	(70-130)	(80-120)	(76-132)	(80-128)
440-217616-1	OC_SP220B_EFF_080718	102	102	102	107
440-217616-2	OC_SP210_INF_080718	100	100	100	105
440-217616-2 - DL	OC_SP210_INF_080718	101	102	103	108
440-217616-3	OC_TB_080718	105	101	103	106
440-217824-E-5 MS	Matrix Spike	101	106	100	104
440-217824-E-5 MSD	Matrix Spike Duplicate	99	103	99	107
LCS 440-492823/5	Lab Control Sample	95	106	99	103
LCS 440-492823/6	Lab Control Sample	96	104	99	110
MB 440-492823/4	Method Blank	94	102	98	111

Surrogate Legend

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

Method: 8270C SIM - Semivolatile Organic Compounds (GC/MS SIM)

Matrix: Water **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)
		DXE
Lab Sample ID	Client Sample ID	(27-120)
440-217616-1	OC_SP220B_EFF_080718	54
LCS 440-492779/2-A	Lab Control Sample	64
LCSD 440-492779/3-A	Lab Control Sample Dup	64
MB 440-492779/1-A	Method Blank	60

Surrogate Legend

DXE = 1,4-Dioxane-d8 (Surr)

Method Summary

Client: Jacob & Hefner Associates P.C.
Project/Site: Omega Chemical - GWTS Monthly

TestAmerica Job ID: 440-217616-1
SDG: Omega Chemical, Whittier

Method	Method Description	Protocol	Laboratory
8260B	Volatile Organic Compounds (GC/MS)	SW846	TAL IRV
8270C SIM	Semivolatile Organic Compounds (GC/MS SIM)	SW846	TAL IRV
3520C	Liquid-Liquid Extraction (Continuous)	SW846	TAL IRV
5030B	Purge and Trap	SW846	TAL IRV

Protocol References:

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL IRV = TestAmerica Irvine, 17461 Derian Ave, Suite 100, Irvine, CA 92614-5817, TEL (949)261-1022

Lab Chronicle

Client: Jacob & Hefner Associates P.C.
Project/Site: Omega Chemical - GWTS Monthly

TestAmerica Job ID: 440-217616-1
SDG: Omega Chemical, Whittier

Client Sample ID: OC_SP220B_EFF_080718 — Lab Sample ID: 440-217616-1

Date Collected: 08/07/18 09:34 — **Matrix: Water**
Date Received: 08/08/18 12:43

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	10 mL	10 mL	492823	08/11/18 01:51	AYL	TAL IRV
Total/NA	Prep	3520C			1025 mL	1.0 mL	492779	08/10/18 11:07	JS1	TAL IRV
Total/NA	Analysis	8270C SIM		1			492956	08/12/18 10:42	ANW	TAL IRV

Client Sample ID: OC_SP210_INF_080718 — Lab Sample ID: 440-217616-2

Date Collected: 08/07/18 09:41 — **Matrix: Water**
Date Received: 08/08/18 12:43

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	10 mL	10 mL	492823	08/11/18 02:18	AYL	TAL IRV
Total/NA	Analysis	8260B	DL	5	10 mL	10 mL	492823	08/11/18 02:46	AYL	TAL IRV

Client Sample ID: OC_TB_080718 — Lab Sample ID: 440-217616-3

Date Collected: 08/07/18 09:30 — **Matrix: Water**
Date Received: 08/08/18 12:43

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	10 mL	10 mL	492823	08/11/18 01:23	AYL	TAL IRV

Laboratory References:

TAL IRV = TestAmerica Irvine, 17461 Derian Ave, Suite 100, Irvine, CA 92614-5817, TEL (949)261-1022

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

Lab Sample ID: MB 440-492823/4
Matrix: Water
Analysis Batch: 492823

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

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		1.0		ug/L			08/10/18 20:21	1
1,1,1-Trichloroethane	ND		1.0		ug/L			08/10/18 20:21	1
1,1,2,2-Tetrachloroethane	ND		1.0		ug/L			08/10/18 20:21	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		5.0		ug/L			08/10/18 20:21	1
1,1,2-Trichloroethane	ND		1.0		ug/L			08/10/18 20:21	1
1,1-Dichloroethane	ND		1.0		ug/L			08/10/18 20:21	1
1,1-Dichloroethene	ND		1.0		ug/L			08/10/18 20:21	1
1,1-Dichloropropene	ND		1.0		ug/L			08/10/18 20:21	1
1,2,3-Trichlorobenzene	ND		1.0		ug/L			08/10/18 20:21	1
1,2,3-Trichloropropane	ND		1.0		ug/L			08/10/18 20:21	1
1,2,4-Trichlorobenzene	ND		1.0		ug/L			08/10/18 20:21	1
1,2,4-Trimethylbenzene	ND		1.0		ug/L			08/10/18 20:21	1
1,2-Dibromo-3-Chloropropane	ND		5.0		ug/L			08/10/18 20:21	1
1,2-Dibromoethane (EDB)	ND		1.0		ug/L			08/10/18 20:21	1
1,2-Dichlorobenzene	ND		1.0		ug/L			08/10/18 20:21	1
1,2-Dichloroethane	ND		1.0		ug/L			08/10/18 20:21	1
1,2-Dichloropropane	ND		1.0		ug/L			08/10/18 20:21	1
1,3,5-Trimethylbenzene	ND		1.0		ug/L			08/10/18 20:21	1
1,3-Dichlorobenzene	ND		1.0		ug/L			08/10/18 20:21	1
1,3-Dichloropropane	ND		1.0		ug/L			08/10/18 20:21	1
1,4-Dichlorobenzene	ND		1.0		ug/L			08/10/18 20:21	1
2,2-Dichloropropane	ND		1.0		ug/L			08/10/18 20:21	1
2-Chlorotoluene	ND		1.0		ug/L			08/10/18 20:21	1
4-Chlorotoluene	ND		1.0		ug/L			08/10/18 20:21	1
Acetone	ND		10		ug/L			08/10/18 20:21	1
Benzene	ND		0.50		ug/L			08/10/18 20:21	1
Bromobenzene	ND		1.0		ug/L			08/10/18 20:21	1
Bromochloromethane	ND		1.0		ug/L			08/10/18 20:21	1
Bromodichloromethane	ND		1.0		ug/L			08/10/18 20:21	1
Bromoform	ND		1.0		ug/L			08/10/18 20:21	1
Bromomethane	ND		1.0		ug/L			08/10/18 20:21	1
Carbon tetrachloride	ND		0.50		ug/L			08/10/18 20:21	1
Chlorobenzene	ND		1.0		ug/L			08/10/18 20:21	1
Chloroethane	ND		1.0		ug/L			08/10/18 20:21	1
Chloroform	ND		1.0		ug/L			08/10/18 20:21	1
Chloromethane	ND		1.0		ug/L			08/10/18 20:21	1
cis-1,2-Dichloroethene	ND		1.0		ug/L			08/10/18 20:21	1
cis-1,3-Dichloropropene	ND		0.50		ug/L			08/10/18 20:21	1
Dibromochloromethane	ND		1.0		ug/L			08/10/18 20:21	1
Dibromomethane	ND		1.0		ug/L			08/10/18 20:21	1
Dichlorodifluoromethane	ND		1.0		ug/L			08/10/18 20:21	1
Ethylbenzene	ND		1.0		ug/L			08/10/18 20:21	1
Hexachlorobutadiene	ND		1.0		ug/L			08/10/18 20:21	1
Isopropyl alcohol	ND		250		ug/L			08/10/18 20:21	1
Isopropylbenzene	ND		1.0		ug/L			08/10/18 20:21	1
m,p-Xylene	ND		1.0		ug/L			08/10/18 20:21	1
Methylene Chloride	ND		5.0		ug/L			08/10/18 20:21	1
Methyl-t-Butyl Ether (MTBE)	ND		1.0		ug/L			08/10/18 20:21	1

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

Lab Sample ID: MB 440-492823/4
Matrix: Water
Analysis Batch: 492823

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

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Naphthalene	ND		1.0	ug/L			08/10/18 20:21	1
n-Butylbenzene	ND		1.0	ug/L			08/10/18 20:21	1
N-Propylbenzene	ND		1.0	ug/L			08/10/18 20:21	1
o-Xylene	ND		1.0	ug/L			08/10/18 20:21	1
p-Isopropyltoluene	ND		1.0	ug/L			08/10/18 20:21	1
sec-Butylbenzene	ND		1.0	ug/L			08/10/18 20:21	1
Styrene	ND		1.0	ug/L			08/10/18 20:21	1
tert-Butylbenzene	ND		1.0	ug/L			08/10/18 20:21	1
Tetrachloroethene	ND		1.0	ug/L			08/10/18 20:21	1
Toluene	ND		1.0	ug/L			08/10/18 20:21	1
trans-1,2-Dichloroethene	ND		1.0	ug/L			08/10/18 20:21	1
trans-1,3-Dichloropropene	ND		0.50	ug/L			08/10/18 20:21	1
Trichloroethene	ND		1.0	ug/L			08/10/18 20:21	1
Trichlorofluoromethane	ND		1.0	ug/L			08/10/18 20:21	1
Vinyl chloride	ND		0.50	ug/L			08/10/18 20:21	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*94*		*70 - 130*		*08/10/18 20:21*	*1*
4-Bromofluorobenzene (Surr)	*102*		*80 - 120*		*08/10/18 20:21*	*1*
Dibromofluoromethane (Surr)	*98*		*76 - 132*		*08/10/18 20:21*	*1*
Toluene-d8 (Surr)	*111*		*80 - 128*		*08/10/18 20:21*	*1*

Lab Sample ID: LCS 440-492823/5
Matrix: Water
Analysis Batch: 492823

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1,1,2-Tetrachloroethane	25.0	26.2		ug/L		105	60 - 141
1,1,1-Trichloroethane	25.0	24.9		ug/L		100	70 - 130
1,1,2,2-Tetrachloroethane	25.0	27.8		ug/L		111	63 - 130
1,1,2-Trichloroethane	25.0	26.9		ug/L		108	70 - 130
1,1-Dichloroethane	25.0	25.6		ug/L		102	64 - 130
1,1-Dichloroethene	25.0	25.2		ug/L		101	70 - 130
1,1-Dichloropropene	25.0	26.4		ug/L		106	70 - 130
1,2,3-Trichlorobenzene	25.0	28.5		ug/L		114	60 - 140
1,2,3-Trichloropropane	25.0	27.7		ug/L		111	63 - 130
1,2,4-Trichlorobenzene	25.0	28.8		ug/L		115	60 - 140
1,2,4-Trimethylbenzene	25.0	27.6		ug/L		110	70 - 135
1,2-Dibromo-3-Chloropropane	25.0	25.9		ug/L		104	52 - 140
1,2-Dibromoethane (EDB)	25.0	25.0		ug/L		100	70 - 130
1,2-Dichlorobenzene	25.0	27.4		ug/L		110	70 - 130
1,2-Dichloroethane	25.0	24.7		ug/L		99	57 - 138
1,2-Dichloropropane	25.0	26.5		ug/L		106	67 - 130
1,3,5-Trimethylbenzene	25.0	28.2		ug/L		113	70 - 136
1,3-Dichlorobenzene	25.0	25.6		ug/L		103	70 - 130
1,3-Dichloropropane	25.0	26.5		ug/L		106	70 - 130
1,4-Dichlorobenzene	25.0	25.0		ug/L		100	70 - 130
2,2-Dichloropropane	25.0	24.5		ug/L		98	68 - 141

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

Lab Sample ID: LCS 440-492823/5
Matrix: Water
Analysis Batch: 492823

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
2-Chlorotoluene	25.0	27.8		ug/L		111	70 - 130
4-Chlorotoluene	25.0	28.5		ug/L		114	70 - 130
Acetone	25.0	21.4		ug/L		86	10 - 150
Benzene	25.0	26.0		ug/L		104	68 - 130
Bromobenzene	25.0	28.6		ug/L		115	70 - 130
Bromochloromethane	25.0	26.3		ug/L		105	70 - 130
Bromodichloromethane	25.0	25.3		ug/L		101	70 - 132
Bromoform	25.0	25.9		ug/L		103	60 - 148
Bromomethane	25.0	20.3		ug/L		81	64 - 139
Carbon tetrachloride	25.0	23.7		ug/L		95	60 - 150
Chlorobenzene	25.0	24.6		ug/L		98	70 - 130
Chloroethane	25.0	19.9		ug/L		80	64 - 135
Chloroform	25.0	24.8		ug/L		99	70 - 130
Chloromethane	25.0	16.3		ug/L		65	47 - 140
cis-1,2-Dichloroethene	25.0	26.8		ug/L		107	70 - 133
cis-1,3-Dichloropropene	25.0	28.3		ug/L		113	70 - 133
Dibromochloromethane	25.0	25.4		ug/L		102	69 - 145
Dibromomethane	25.0	25.4		ug/L		102	70 - 130
Dichlorodifluoromethane	25.0	18.3		ug/L		73	29 - 150
Ethylbenzene	25.0	26.2		ug/L		105	70 - 130
Hexachlorobutadiene	25.0	28.9		ug/L		116	10 - 150
Isopropylbenzene	25.0	26.1		ug/L		104	70 - 136
m,p-Xylene	25.0	27.2		ug/L		109	70 - 130
Methylene Chloride	25.0	25.7		ug/L		103	52 - 130
Methyl-t-Butyl Ether (MTBE)	25.0	28.0		ug/L		112	63 - 131
Naphthalene	25.0	29.2		ug/L		117	60 - 140
n-Butylbenzene	25.0	26.4		ug/L		106	65 - 150
N-Propylbenzene	25.0	28.1		ug/L		113	67 - 139
o-Xylene	25.0	26.6		ug/L		106	70 - 130
p-Isopropyltoluene	25.0	27.0		ug/L		108	70 - 132
sec-Butylbenzene	25.0	27.2		ug/L		109	70 - 138
Styrene	25.0	24.6		ug/L		98	70 - 134
tert-Butylbenzene	25.0	28.7		ug/L		115	70 - 130
Tetrachloroethene	25.0	24.7		ug/L		99	70 - 130
Toluene	25.0	26.6		ug/L		107	70 - 130
trans-1,2-Dichloroethene	25.0	27.5		ug/L		110	70 - 130
trans-1,3-Dichloropropene	25.0	25.6		ug/L		102	70 - 132
Trichloroethene	25.0	25.6		ug/L		102	70 - 130
Trichlorofluoromethane	25.0	21.2		ug/L		85	60 - 150
Vinyl chloride	25.0	17.3		ug/L		69	59 - 133

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*95*		*70 - 130*
4-Bromofluorobenzene (Surr)	*106*		*80 - 120*
Dibromofluoromethane (Surr)	*99*		*76 - 132*
Toluene-d8 (Surr)	*103*		*80 - 128*

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

Lab Sample ID: LCS 440-492823/6
Matrix: Water
Analysis Batch: 492823

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

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*96*		*70 - 130*
4-Bromofluorobenzene (Surr)	*104*		*80 - 120*
Dibromofluoromethane (Surr)	*99*		*76 - 132*
Toluene-d8 (Surr)	*110*		*80 - 128*

Lab Sample ID: 440-217824-E-5 MS
Matrix: Water
Analysis Batch: 492823

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1,1,2-Tetrachloroethane	ND		25.0	26.4		ug/L		106	60 - 149
1,1,1-Trichloroethane	ND		25.0	25.5		ug/L		102	70 - 130
1,1,2,2-Tetrachloroethane	ND		25.0	29.0		ug/L		116	63 - 130
1,1,2-Trichloroethane	ND		25.0	28.2		ug/L		113	70 - 130
1,1-Dichloroethane	ND		25.0	25.6		ug/L		102	65 - 130
1,1-Dichloroethene	ND		25.0	25.6		ug/L		102	70 - 130
1,1-Dichloropropene	ND		25.0	26.1		ug/L		104	64 - 130
1,2,3-Trichlorobenzene	ND		25.0	29.4		ug/L		118	60 - 140
1,2,3-Trichloropropane	ND		25.0	29.7		ug/L		119	60 - 130
1,2,4-Trichlorobenzene	ND		25.0	29.4		ug/L		118	60 - 140
1,2,4-Trimethylbenzene	ND		25.0	27.7		ug/L		111	70 - 130
1,2-Dibromo-3-Chloropropane	ND		25.0	28.5		ug/L		114	48 - 140
1,2-Dibromoethane (EDB)	ND		25.0	26.6		ug/L		107	70 - 131
1,2-Dichlorobenzene	ND		25.0	27.0		ug/L		108	70 - 130
1,2-Dichloroethane	ND		25.0	25.5		ug/L		102	56 - 146
1,2-Dichloropropane	ND		25.0	26.0		ug/L		104	69 - 130
1,3,5-Trimethylbenzene	ND		25.0	27.9		ug/L		112	70 - 130
1,3-Dichlorobenzene	ND		25.0	25.3		ug/L		101	70 - 130
1,3-Dichloropropane	ND		25.0	27.3		ug/L		109	70 - 130
1,4-Dichlorobenzene	ND		25.0	24.7		ug/L		99	70 - 130
2,2-Dichloropropane	ND		25.0	24.3		ug/L		97	69 - 138
2-Chlorotoluene	ND		25.0	26.9		ug/L		108	70 - 130
4-Chlorotoluene	ND		25.0	27.8		ug/L		111	70 - 130
Acetone	ND		25.0	35.3		ug/L		141	10 - 150
Benzene	ND		25.0	25.6		ug/L		102	66 - 130
Bromobenzene	ND		25.0	28.1		ug/L		113	70 - 130
Bromochloromethane	ND		25.0	26.2		ug/L		105	70 - 130
Bromodichloromethane	ND		25.0	26.1		ug/L		105	70 - 138
Bromoform	ND		25.0	27.8		ug/L		111	59 - 150
Bromomethane	ND		25.0	20.8		ug/L		83	62 - 131
Carbon tetrachloride	ND		25.0	24.1		ug/L		97	60 - 150
Chlorobenzene	ND		25.0	24.8		ug/L		99	70 - 130
Chloroethane	ND		25.0	20.3		ug/L		81	68 - 130
Chloroform	ND		25.0	25.1		ug/L		100	70 - 130
Chloromethane	ND		25.0	16.3		ug/L		65	39 - 144
cis-1,2-Dichloroethene	ND		25.0	25.7		ug/L		103	70 - 130
cis-1,3-Dichloropropene	ND		25.0	29.0		ug/L		116	70 - 133
Dibromochloromethane	ND		25.0	27.1		ug/L		108	70 - 148

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

Lab Sample ID: 440-217824-E-5 MS
Matrix: Water
Analysis Batch: 492823

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Dibromomethane	ND		25.0	26.4		ug/L		106	70 - 130
Dichlorodifluoromethane	ND		25.0	18.8		ug/L		75	25 - 142
Ethylbenzene	ND		25.0	26.6		ug/L		106	70 - 130
Hexachlorobutadiene	ND		25.0	28.2		ug/L		113	10 - 150
Isopropylbenzene	ND		25.0	26.4		ug/L		105	70 - 132
m,p-Xylene	ND		25.0	27.4		ug/L		109	70 - 133
Methylene Chloride	ND		25.0	25.5		ug/L		102	52 - 130
Methyl-t-Butyl Ether (MTBE)	ND		25.0	29.5		ug/L		118	70 - 130
Naphthalene	ND		25.0	30.5		ug/L		122	60 - 140
n-Butylbenzene	ND		25.0	26.3		ug/L		105	61 - 149
N-Propylbenzene	ND		25.0	27.8		ug/L		111	66 - 135
o-Xylene	ND		25.0	26.6		ug/L		106	70 - 133
p-Isopropyltoluene	ND		25.0	27.1		ug/L		108	70 - 130
sec-Butylbenzene	ND		25.0	26.9		ug/L		107	67 - 134
Styrene	ND		25.0	24.9		ug/L		100	29 - 150
tert-Butylbenzene	ND		25.0	28.2		ug/L		113	70 - 130
Tetrachloroethene	ND		25.0	25.1		ug/L		100	70 - 137
Toluene	ND		25.0	26.7		ug/L		107	70 - 130
trans-1,2-Dichloroethene	ND		25.0	27.6		ug/L		110	70 - 130
trans-1,3-Dichloropropene	ND		25.0	26.7		ug/L		107	70 - 138
Trichloroethene	ND		25.0	25.2		ug/L		101	70 - 130
Trichlorofluoromethane	ND		25.0	21.9		ug/L		88	60 - 150
Vinyl chloride	ND		25.0	17.4		ug/L		69	50 - 137

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*101*		*70 - 130*
4-Bromofluorobenzene (Surr)	*106*		*80 - 120*
Dibromofluoromethane (Surr)	*100*		*76 - 132*
Toluene-d8 (Surr)	*104*		*80 - 128*

Lab Sample ID: 440-217824-E-5 MSD
Matrix: Water
Analysis Batch: 492823

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,1,1,2-Tetrachloroethane	ND		25.0	27.3		ug/L		109	60 - 149	3	20
1,1,1-Trichloroethane	ND		25.0	25.3		ug/L		101	70 - 130	1	20
1,1,2,2-Tetrachloroethane	ND		25.0	27.1		ug/L		108	63 - 130	7	30
1,1,2-Trichloroethane	ND		25.0	28.3		ug/L		113	70 - 130	0	25
1,1-Dichloroethane	ND		25.0	25.7		ug/L		103	65 - 130	1	20
1,1-Dichloroethene	ND		25.0	26.0		ug/L		104	70 - 130	2	20
1,1-Dichloropropene	ND		25.0	27.0		ug/L		108	64 - 130	3	20
1,2,3-Trichlorobenzene	ND		25.0	28.1		ug/L		112	60 - 140	5	20
1,2,3-Trichloropropane	ND		25.0	27.8		ug/L		111	60 - 130	7	30
1,2,4-Trichlorobenzene	ND		25.0	28.9		ug/L		116	60 - 140	2	20
1,2,4-Trimethylbenzene	ND		25.0	27.1		ug/L		108	70 - 130	2	25
1,2-Dibromo-3-Chloropropane	ND		25.0	25.4		ug/L		102	48 - 140	12	30
1,2-Dibromoethane (EDB)	ND		25.0	26.5		ug/L		106	70 - 131	1	25

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

Lab Sample ID: 440-217824-E-5 MSD
Matrix: Water
Analysis Batch: 492823

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,2-Dichlorobenzene	ND		25.0	26.8		ug/L		107	70 - 130	1	20
1,2-Dichloroethane	ND		25.0	25.0		ug/L		100	56 - 146	2	20
1,2-Dichloropropane	ND		25.0	26.2		ug/L		105	69 - 130	1	20
1,3,5-Trimethylbenzene	ND		25.0	27.4		ug/L		110	70 - 130	2	20
1,3-Dichlorobenzene	ND		25.0	25.1		ug/L		100	70 - 130	1	20
1,3-Dichloropropane	ND		25.0	28.1		ug/L		113	70 - 130	3	25
1,4-Dichlorobenzene	ND		25.0	24.7		ug/L		99	70 - 130	0	20
2,2-Dichloropropane	ND		25.0	24.0		ug/L		96	69 - 138	1	25
2-Chlorotoluene	ND		25.0	26.9		ug/L		107	70 - 130	0	20
4-Chlorotoluene	ND		25.0	27.8		ug/L		111	70 - 130	0	20
Acetone	ND		25.0	31.7		ug/L		127	10 - 150	11	35
Benzene	ND		25.0	26.0		ug/L		104	66 - 130	1	20
Bromobenzene	ND		25.0	27.5		ug/L		110	70 - 130	2	20
Bromochloromethane	ND		25.0	25.7		ug/L		103	70 - 130	2	25
Bromodichloromethane	ND		25.0	26.0		ug/L		104	70 - 138	0	20
Bromoform	ND		25.0	27.7		ug/L		111	59 - 150	0	25
Bromomethane	ND		25.0	21.1		ug/L		85	62 - 131	2	25
Carbon tetrachloride	ND		25.0	24.1		ug/L		97	60 - 150	0	25
Chlorobenzene	ND		25.0	25.8		ug/L		103	70 - 130	4	20
Chloroethane	ND		25.0	20.4		ug/L		81	68 - 130	0	25
Chloroform	ND		25.0	25.2		ug/L		101	70 - 130	0	20
Chloromethane	ND		25.0	17.1		ug/L		68	39 - 144	5	25
cis-1,2-Dichloroethene	ND		25.0	25.6		ug/L		102	70 - 130	0	20
cis-1,3-Dichloropropene	ND		25.0	29.9		ug/L		120	70 - 133	3	20
Dibromochloromethane	ND		25.0	26.9		ug/L		108	70 - 148	1	25
Dibromomethane	ND		25.0	25.5		ug/L		102	70 - 130	3	25
Dichlorodifluoromethane	ND		25.0	19.0		ug/L		76	25 - 142	1	30
Ethylbenzene	ND		25.0	27.3		ug/L		109	70 - 130	3	20
Hexachlorobutadiene	ND		25.0	27.5		ug/L		110	10 - 150	3	20
Isopropylbenzene	ND		25.0	27.2		ug/L		109	70 - 132	3	20
m,p-Xylene	ND		25.0	28.2		ug/L		113	70 - 133	3	25
Methylene Chloride	ND		25.0	25.3		ug/L		101	52 - 130	1	20
Methyl-t-Butyl Ether (MTBE)	ND		25.0	29.2		ug/L		117	70 - 130	1	25
Naphthalene	ND		25.0	28.9		ug/L		115	60 - 140	6	30
n-Butylbenzene	ND		25.0	26.3		ug/L		105	61 - 149	0	20
N-Propylbenzene	ND		25.0	27.3		ug/L		109	66 - 135	2	20
o-Xylene	ND		25.0	28.0		ug/L		112	70 - 133	5	20
p-Isopropyltoluene	ND		25.0	26.9		ug/L		107	70 - 130	1	20
sec-Butylbenzene	ND		25.0	26.5		ug/L		106	67 - 134	1	20
Styrene	ND		25.0	25.6		ug/L		103	29 - 150	3	35
tert-Butylbenzene	ND		25.0	27.8		ug/L		111	70 - 130	1	20
Tetrachloroethene	ND		25.0	26.3		ug/L		105	70 - 137	5	20
Toluene	ND		25.0	27.4		ug/L		109	70 - 130	2	20
trans-1,2-Dichloroethene	ND		25.0	27.6		ug/L		111	70 - 130	0	20
trans-1,3-Dichloropropene	ND		25.0	27.2		ug/L		109	70 - 138	2	25
Trichloroethene	ND		25.0	26.0		ug/L		104	70 - 130	3	20
Trichlorofluoromethane	ND		25.0	21.6		ug/L		86	60 - 150	1	25
Vinyl chloride	ND		25.0	17.8		ug/L		71	50 - 137	3	30

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

Lab Sample ID: 440-217824-E-5 MSD
Matrix: Water
Analysis Batch: 492823

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*99*		*70 - 130*
4-Bromofluorobenzene (Surr)	*103*		*80 - 120*
Dibromofluoromethane (Surr)	*99*		*76 - 132*
Toluene-d8 (Surr)	*107*		*80 - 128*

Method: 8270C SIM - Semivolatile Organic Compounds (GC/MS SIM)

Lab Sample ID: MB 440-492779/1-A
Matrix: Water
Analysis Batch: 492956

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 492779

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	ND		0.50		ug/L		08/10/18 11:07	08/12/18 08:24	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,4-Dioxane-d8 (Surr)	*60*		*27 - 120*	*08/10/18 11:07*	*08/12/18 08:24*	*1*

Lab Sample ID: LCS 440-492779/2-A
Matrix: Water
Analysis Batch: 492956

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 492779

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
1,4-Dioxane			1.96	1.42		ug/L		72	36 - 120		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1,4-Dioxane-d8 (Surr)	*64*		*27 - 120*

Lab Sample ID: LCSD 440-492779/3-A
Matrix: Water
Analysis Batch: 492956

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 492779

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,4-Dioxane			1.96	1.40		ug/L		71	36 - 120	2	35

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
1,4-Dioxane-d8 (Surr)	*64*		*27 - 120*

QC Association Summary

Client: Jacob & Hefner Associates P.C.
Project/Site: Omega Chemical - GWTS Monthly

TestAmerica Job ID: 440-217616-1
SDG: Omega Chemical, Whittier

GC/MS VOA

Analysis Batch: 492823

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-217616-1	OC_SP220B_EFF_080718	Total/NA	Water	8260B	
440-217616-2	OC_SP210_INF_080718	Total/NA	Water	8260B	
440-217616-2 - DL	OC_SP210_INF_080718	Total/NA	Water	8260B	
440-217616-3	OC_TB_080718	Total/NA	Water	8260B	
MB 440-492823/4	Method Blank	Total/NA	Water	8260B	
LCS 440-492823/5	Lab Control Sample	Total/NA	Water	8260B	
LCS 440-492823/6	Lab Control Sample	Total/NA	Water	8260B	
440-217824-E-5 MS	Matrix Spike	Total/NA	Water	8260B	
440-217824-E-5 MSD	Matrix Spike Duplicate	Total/NA	Water	8260B	

GC/MS Semi VOA

Prep Batch: 492779

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-217616-1	OC_SP220B_EFF_080718	Total/NA	Water	3520C	
MB 440-492779/1-A	Method Blank	Total/NA	Water	3520C	
LCS 440-492779/2-A	Lab Control Sample	Total/NA	Water	3520C	
LCSD 440-492779/3-A	Lab Control Sample Dup	Total/NA	Water	3520C	

Analysis Batch: 492956

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-217616-1	OC_SP220B_EFF_080718	Total/NA	Water	8270C SIM	492779
MB 440-492779/1-A	Method Blank	Total/NA	Water	8270C SIM	492779
LCS 440-492779/2-A	Lab Control Sample	Total/NA	Water	8270C SIM	492779
LCSD 440-492779/3-A	Lab Control Sample Dup	Total/NA	Water	8270C SIM	492779

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Accreditation/Certification Summary

Client: Jacob & Hefner Associates P.C.
Project/Site: Omega Chemical - GWTS Monthly

TestAmerica Job ID: 440-217616-1
SDG: Omega Chemical, Whittier

Laboratory: TestAmerica Irvine

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	EPA Region	Identification Number	Expiration Date
California	State Program	9	CA ELAP 2706	06-30-19

The following analytes are included in this report, but accreditation/certification is not offered by the governing authority:

Analysis Method	Prep Method	Matrix	Analyte
8260B		Water	1,1,2-Trichloro-1,2,2-trifluoroethane
8260B		Water	m,p-Xylene
8270C SIM	3520C	Water	1,4-Dioxane

TestAmerica Irvine
17461 Derian Ave
Suite 100
Irvine, CA 92614
phone 949.261 1022 fax

Chain of Custody Record

TestAmerica
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TestAmerica Laboratories, Inc.

Regulatory Program: ☐DW ☐NPDES ☑RCRA ☐Other:

Client Contact	Project Manager: Trent Henderson	Site Contact: Khalid Azhar	Date: 8/7/2018	COC No:
De Maximis - Jaime Dinello	Tel/Fax: (949) 453-1045 / (949) 453-1047	Lab Contact: Danielle Roberts	Carrier:	1 of 1 COCs
1322 Scott St., Suite 104	Analysis Turnaround Time			Sampler
San Diego, CA 92106	☐CALENDAR DAYS ☐WORKING DAYS			For Lab Use Only:
(562) 756-8149	TAT if different from Below STD			Walk-in Client.
	☐ 2 weeks			Lab Sampling:
Project Name: Omega Chemical - GWTS Monthly	☐ 1 week			
Site: Omega Chemical	☐ 2 days			Job / SDG No.:
P O #.	☐ 1 day			

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.	Filtered Sample (Y / N)	Perform MS / MSD (Y / N)	EPA 8260B - VOCs + Freons	EPA 8270C - 1,4-Dioxane	Sample Specific Notes.
OC_SP220B_EFF_080718	8/7/2018	0934	Grab	GW	5			x	x	
OC_SP210_INF_080718	8/7/2018	0941	Grab	GW	3			x		
OC_TB_080718	8/7/2018	0930		H2O	2			x		

440-217616 Chain of Custody

Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other _____

Possible Hazard Identification:
Are any samples from a listed EPA Hazardous Waste? Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample.
☐Non-Hazard ☐Flammable ☐Skin Irritant ☐Poison B ☐Unknown

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐Return to Client ☐Disposal by Lab ☐Archive for_____ Months

Special Instructions/QC Requirements & Comments:

Custody Seals Intact ☐ Yes ☐ No | Custody Seal No.. | Cooler Temp. (°C): Obs'd: 2.6 Corr'd: 2.6 | Therm ID No.: IR-89

Relinquished by:	Company:	Date/Time:	Received by:	Company	Date/Time:
	JHA	8/8/18 1200	Peter Miller	TA IRVINE	8/8/18 1200
Relinquished by: Peter Miller	Company: TA IRVINE	Date/Time: 8/8/18 1700	Received by:	Company	Date/Time:
Relinquished by:	Company:	Date/Time:	Received in Laboratory by:	Company: TAIRV	Date/Time: 8/8/18 1700

8/14/2018

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Login Sample Receipt Checklist

Client: Jacob & Hefner Associates P.C.

Job Number: 440-217616-1
SDG Number: Omega Chemical, Whittier

Login Number: 217616
List Number: 1
Creator: Soderblom, Tim

List Source: TestAmerica Irvine

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	N/A	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	False	Refer to Job Narrative for details.
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

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ANALYTICAL REPORT

TestAmerica Laboratories, Inc.
TestAmerica Irvine
17461 Derian Ave
Suite 100
Irvine, CA 92614-5817
Tel: (949)261-1022

TestAmerica Job ID: 440-218305-1
TestAmerica Sample Delivery Group: Whittier
Client Project/Site: Omega Chemical Wastewater

For:
Jacob & Hefner Associates P.C.
15375 Barranca Parkway, J-101
Irvine, California 92618

Attn: Trent Henderson

Authorized for release by:
8/24/2018 8:27:54 AM

Danielle Roberts, Senior Project Manager
(949)261-1022
danielle.roberts@testamericainc.com

LINKS

Review your project results through TotalAccess

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The test results in this report meet all 2003 NELAC and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

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Sample Summary

Client: Jacob & Hefner Associates P.C.
Project/Site: Omega Chemical Wastewater

TestAmerica Job ID: 440-218305-1
SDG: Whittier

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
440-218305-1	Composite	Water	08/17/18 11:00	08/17/18 14:40
440-218305-2	Grab	Water	08/17/18 11:15	08/17/18 14:40

Job ID: 440-218305-1

Laboratory: TestAmerica Irvine

Narrative

Job Narrative
440-218305-1

Comments
No additional comments.

Receipt
The samples were received on 8/17/2018 2:40 PM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 4.7º C.

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

GC/MS Semi VOA
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Field Service / Mobile Lab
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

General Chemistry
Method(s) SM 4500 S2 D: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 440-494567 and analytical batch 440-494592 were outside control limits. Sample matrix interference is suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

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

Organic Prep
Method(s) 3520C: Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD) associated with preparation batch 440-494334. 3520C_8270-SIM 1,4 Dioxane.

Method(s) 3520C: Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD) associated with 3520C_8270C-REGpreparation batch 440-494434.

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

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

Detection Summary

Client: Jacob & Hefner Associates P.C.
Project/Site: Omega Chemical Wastewater

TestAmerica Job ID: 440-218305-1
SDG: Whittier

Client Sample ID: Composite — Lab Sample ID: 440-218305-1

Analyte	Result	Qualifier	RL		Unit	Dil Fac	D	Method	Prep Type
Total Suspended Solids	2.5		1.0		mg/L	1		SM 2540D	Total/NA
Chemical Oxygen Demand	33		20		mg/L	1		SM 5220D	Total/NA

Client Sample ID: Grab — Lab Sample ID: 440-218305-2

Analyte	Result	Qualifier	RL		Unit	Dil Fac	D	Method	Prep Type
1,4-Dioxane	10		0.53		ug/L	1		8270C SIM	Total/NA
pH	8.8	HF	0.1		SU	1		SM 4500 H+ B	Total/NA
Field pH	8.40				SU	1		Field Sampling	Total/NA
Field Temperature	19.2				Celsius	1		Field Sampling	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample Results

Client: Jacob & Hefner Associates P.C.
Project/Site: Omega Chemical Wastewater

TestAmerica Job ID: 440-218305-1
SDG: Whittier

Client Sample ID: Composite

Lab Sample ID: 440-218305-1
Date Collected: 08/17/18 11:00
Matrix: Water
Date Received: 08/17/18 14:40

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids	2.5		1.0	mg/L			08/21/18 19:58	1
Chemical Oxygen Demand	33		20	mg/L			08/21/18 08:28	1

Client Sample ID: Grab

Lab Sample ID: 440-218305-2
Date Collected: 08/17/18 11:15
Matrix: Water
Date Received: 08/17/18 14:40

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		1.0	ug/L			08/21/18 13:51	1
2-Chloroethyl vinyl ether	ND		2.0	ug/L			08/20/18 14:11	1
1,1,1-Trichloroethane	ND		1.0	ug/L			08/21/18 13:51	1
Acrolein	ND		5.0	ug/L			08/20/18 14:11	1
1,1,2,2-Tetrachloroethane	ND		1.0	ug/L			08/21/18 13:51	1
Acrylonitrile	ND		2.0	ug/L			08/20/18 14:11	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		5.0	ug/L			08/21/18 13:51	1
Total Volatile Organic Compounds	ND		150	ug/L			08/20/18 14:11	1
1,1,2-Trichloroethane	ND		1.0	ug/L			08/21/18 13:51	1
1,1-Dichloroethane	ND		1.0	ug/L			08/21/18 13:51	1
1,1-Dichloroethene	ND		1.0	ug/L			08/21/18 13:51	1
1,1-Dichloropropene	ND		1.0	ug/L			08/21/18 13:51	1
1,2,3-Trichlorobenzene	ND		1.0	ug/L			08/21/18 13:51	1
1,2,3-Trichloropropane	ND		1.0	ug/L			08/21/18 13:51	1
1,2,4-Trichlorobenzene	ND		1.0	ug/L			08/21/18 13:51	1
1,2,4-Trimethylbenzene	ND		1.0	ug/L			08/21/18 13:51	1
1,2-Dibromo-3-Chloropropane	ND		5.0	ug/L			08/21/18 13:51	1
1,2-Dibromoethane (EDB)	ND		1.0	ug/L			08/21/18 13:51	1
1,2-Dichlorobenzene	ND		1.0	ug/L			08/21/18 13:51	1
1,2-Dichloroethane	ND		1.0	ug/L			08/21/18 13:51	1
1,2-Dichloropropane	ND		1.0	ug/L			08/21/18 13:51	1
1,3,5-Trimethylbenzene	ND		1.0	ug/L			08/21/18 13:51	1
1,3-Dichlorobenzene	ND		1.0	ug/L			08/21/18 13:51	1
1,3-Dichloropropane	ND		1.0	ug/L			08/21/18 13:51	1
1,4-Dichlorobenzene	ND		1.0	ug/L			08/21/18 13:51	1
2,2-Dichloropropane	ND		1.0	ug/L			08/21/18 13:51	1
2-Chlorotoluene	ND		1.0	ug/L			08/21/18 13:51	1
4-Chlorotoluene	ND		1.0	ug/L			08/21/18 13:51	1
Acetone	ND		10	ug/L			08/21/18 13:51	1
Benzene	ND		0.50	ug/L			08/21/18 13:51	1
Bromobenzene	ND		1.0	ug/L			08/21/18 13:51	1
Bromochloromethane	ND		1.0	ug/L			08/21/18 13:51	1
Bromodichloromethane	ND		1.0	ug/L			08/21/18 13:51	1
Bromoform	ND		1.0	ug/L			08/21/18 13:51	1
Bromomethane	ND		1.0	ug/L			08/21/18 13:51	1
Carbon tetrachloride	ND		0.50	ug/L			08/21/18 13:51	1
Chlorobenzene	ND		1.0	ug/L			08/21/18 13:51	1
Chloroethane	ND		1.0	ug/L			08/21/18 13:51	1
Chloroform	ND		1.0	ug/L			08/21/18 13:51	1
Chloromethane	ND		1.0	ug/L			08/21/18 13:51	1

Client Sample ID: Grab

Date Collected: 08/17/18 11:15
Date Received: 08/17/18 14:40

Lab Sample ID: 440-218305-2

Matrix: Water

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
cis-1,2-Dichloroethene	ND		1.0	ug/L			08/21/18 13:51	1
cis-1,3-Dichloropropene	ND		0.50	ug/L			08/21/18 13:51	1
Dibromochloromethane	ND		1.0	ug/L			08/21/18 13:51	1
Dibromomethane	ND		1.0	ug/L			08/21/18 13:51	1
Dichlorodifluoromethane	ND		1.0	ug/L			08/21/18 13:51	1
Ethylbenzene	ND		1.0	ug/L			08/21/18 13:51	1
Hexachlorobutadiene	ND		1.0	ug/L			08/21/18 13:51	1
Isopropylbenzene	ND		1.0	ug/L			08/21/18 13:51	1
m,p-Xylene	ND		1.0	ug/L			08/21/18 13:51	1
Methylene Chloride	ND		5.0	ug/L			08/21/18 13:51	1
Methyl-t-Butyl Ether (MTBE)	ND		1.0	ug/L			08/21/18 13:51	1
Naphthalene	ND		1.0	ug/L			08/21/18 13:51	1
n-Butylbenzene	ND		1.0	ug/L			08/21/18 13:51	1
N-Propylbenzene	ND		1.0	ug/L			08/21/18 13:51	1
o-Xylene	ND		1.0	ug/L			08/21/18 13:51	1
p-Isopropyltoluene	ND		1.0	ug/L			08/21/18 13:51	1
sec-Butylbenzene	ND		1.0	ug/L			08/21/18 13:51	1
Styrene	ND		1.0	ug/L			08/21/18 13:51	1
tert-Butylbenzene	ND		1.0	ug/L			08/21/18 13:51	1
Tetrachloroethene	ND		1.0	ug/L			08/21/18 13:51	1
Toluene	ND		1.0	ug/L			08/21/18 13:51	1
trans-1,2-Dichloroethene	ND		1.0	ug/L			08/21/18 13:51	1
trans-1,3-Dichloropropene	ND		0.50	ug/L			08/21/18 13:51	1
Trichloroethene	ND		1.0	ug/L			08/21/18 13:51	1
Trichlorofluoromethane	ND		1.0	ug/L			08/21/18 13:51	1
Vinyl chloride	ND		0.50	ug/L			08/21/18 13:51	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*109*		*70 - 130*		*08/21/18 13:51*	*1*
4-Bromofluorobenzene (Surr)	*105*		*80 - 120*		*08/20/18 14:11*	*1*
4-Bromofluorobenzene (Surr)	*96*		*80 - 120*		*08/21/18 13:51*	*1*
Dibromofluoromethane (Surr)	*91*		*76 - 132*		*08/20/18 14:11*	*1*
Dibromofluoromethane (Surr)	*108*		*76 - 132*		*08/21/18 13:51*	*1*
Toluene-d8 (Surr)	*107*		*80 - 128*		*08/20/18 14:11*	*1*
1,2-Dichloroethane-d4 (Surr)	*92*		*70 - 130*		*08/20/18 14:11*	*1*
Toluene-d8 (Surr)	*106*		*80 - 128*		*08/21/18 13:51*	*1*

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Isopropyl alcohol	ND		250	ug/L			08/22/18 11:33	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*85*		*70 - 130*		*08/22/18 11:33*	*1*
4-Bromofluorobenzene (Surr)	*92*		*80 - 120*		*08/22/18 11:33*	*1*
Dibromofluoromethane (Surr)	*89*		*76 - 132*		*08/22/18 11:33*	*1*
Toluene-d8 (Surr)	*105*		*80 - 128*		*08/22/18 11:33*	*1*

Method: 8270C SIM - 1,4 Dioxane by SIM

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	**10**		0.53	ug/L		08/18/18 09:51	08/20/18 14:39	1

Client Sample Results

Client: Jacob & Hefner Associates P.C.
Project/Site: Omega Chemical Wastewater

TestAmerica Job ID: 440-218305-1
SDG: Whittier

Client Sample ID: Grab

Date Collected: 08/17/18 11:15
Date Received: 08/17/18 14:40

Lab Sample ID: 440-218305-2

Matrix: Water

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,4-Dioxane-d8 (Surr)	*38*		*27 - 120*	*08/18/18 09:51*	*08/20/18 14:39*	*1*

Method: 8270C - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4-Trichlorobenzene	ND		11	ug/L		08/20/18 07:20	08/22/18 18:25	1
1,2-Dichlorobenzene	ND		11	ug/L		08/20/18 07:20	08/22/18 18:25	1
1,2-Diphenylhydrazine(as Azobenzene)	ND		22	ug/L		08/20/18 07:20	08/22/18 18:25	1
1,3-Dichlorobenzene	ND		11	ug/L		08/20/18 07:20	08/22/18 18:25	1
1,4-Dichlorobenzene	ND		11	ug/L		08/20/18 07:20	08/22/18 18:25	1
2,4,5-Trichlorophenol	ND		22	ug/L		08/20/18 07:20	08/22/18 18:25	1
2,4,6-Trichlorophenol	ND		22	ug/L		08/20/18 07:20	08/22/18 18:25	1
2,4-Dichlorophenol	ND		11	ug/L		08/20/18 07:20	08/22/18 18:25	1
2,4-Dimethylphenol	ND		22	ug/L		08/20/18 07:20	08/22/18 18:25	1
2,4-Dinitrophenol	ND		44	ug/L		08/20/18 07:20	08/22/18 18:25	1
2,4-Dinitrotoluene	ND		11	ug/L		08/20/18 07:20	08/22/18 18:25	1
2,6-Dinitrotoluene	ND		11	ug/L		08/20/18 07:20	08/22/18 18:25	1
2-Chloronaphthalene	ND		11	ug/L		08/20/18 07:20	08/22/18 18:25	1
2-Chlorophenol	ND		11	ug/L		08/20/18 07:20	08/22/18 18:25	1
2-Methylnaphthalene	ND		11	ug/L		08/20/18 07:20	08/22/18 18:25	1
2-Methylphenol	ND		11	ug/L		08/20/18 07:20	08/22/18 18:25	1
2-Nitroaniline	ND		22	ug/L		08/20/18 07:20	08/22/18 18:25	1
2-Nitrophenol	ND		11	ug/L		08/20/18 07:20	08/22/18 18:25	1
3,3'-Dichlorobenzidine	ND		44	ug/L		08/20/18 07:20	08/22/18 18:25	1
3-Methylphenol + 4-Methylphenol	ND		11	ug/L		08/20/18 07:20	08/22/18 18:25	1
3-Nitroaniline	ND		22	ug/L		08/20/18 07:20	08/22/18 18:25	1
4,6-Dinitro-2-methylphenol	ND		22	ug/L		08/20/18 07:20	08/22/18 18:25	1
4-Bromophenyl phenyl ether	ND		11	ug/L		08/20/18 07:20	08/22/18 18:25	1
4-Chloro-3-methylphenol	ND		22	ug/L		08/20/18 07:20	08/22/18 18:25	1
4-Chloroaniline	ND		11	ug/L		08/20/18 07:20	08/22/18 18:25	1
4-Chlorophenyl phenyl ether	ND		11	ug/L		08/20/18 07:20	08/22/18 18:25	1
4-Nitroaniline	ND		22	ug/L		08/20/18 07:20	08/22/18 18:25	1
4-Nitrophenol	ND		22	ug/L		08/20/18 07:20	08/22/18 18:25	1
Acenaphthene	ND		11	ug/L		08/20/18 07:20	08/22/18 18:25	1
Acenaphthylene	ND		11	ug/L		08/20/18 07:20	08/22/18 18:25	1
Aniline	ND		11	ug/L		08/20/18 07:20	08/22/18 18:25	1
Anthracene	ND		11	ug/L		08/20/18 07:20	08/22/18 18:25	1
Benzidine	ND		44	ug/L		08/20/18 07:20	08/22/18 18:25	1
Benzo[a]anthracene	ND		11	ug/L		08/20/18 07:20	08/22/18 18:25	1
Benzo[a]pyrene	ND		11	ug/L		08/20/18 07:20	08/22/18 18:25	1
Benzo[b]fluoranthene	ND		11	ug/L		08/20/18 07:20	08/22/18 18:25	1
Benzo[g,h,i]perylene	ND		11	ug/L		08/20/18 07:20	08/22/18 18:25	1
Benzo[k]fluoranthene	ND		11	ug/L		08/20/18 07:20	08/22/18 18:25	1
Benzoic acid	ND		22	ug/L		08/20/18 07:20	08/22/18 18:25	1
Benzyl alcohol	ND		22	ug/L		08/20/18 07:20	08/22/18 18:25	1
bis (2-chloroisopropyl) ether	ND		11	ug/L		08/20/18 07:20	08/22/18 18:25	1
Bis(2-chloroethoxy)methane	ND		11	ug/L		08/20/18 07:20	08/22/18 18:25	1
Bis(2-chloroethyl)ether	ND		11	ug/L		08/20/18 07:20	08/22/18 18:25	1
Bis(2-ethylhexyl) phthalate	ND		22	ug/L		08/20/18 07:20	08/22/18 18:25	1
Butyl benzyl phthalate	ND		22	ug/L		08/20/18 07:20	08/22/18 18:25	1

Client Sample Results

Client: Jacob & Hefner Associates P.C.
Project/Site: Omega Chemical Wastewater

TestAmerica Job ID: 440-218305-1
SDG: Whittier

Client Sample ID: Grab

Date Collected: 08/17/18 11:15
Date Received: 08/17/18 14:40

Lab Sample ID: 440-218305-2

Matrix: Water

Method: 8270C - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chrysene	ND		11	ug/L		08/20/18 07:20	08/22/18 18:25	1
Dibenz(a,h)anthracene	ND		22	ug/L		08/20/18 07:20	08/22/18 18:25	1
Dibenzofuran	ND		11	ug/L		08/20/18 07:20	08/22/18 18:25	1
Diethyl phthalate	ND		11	ug/L		08/20/18 07:20	08/22/18 18:25	1
Dimethyl phthalate	ND		11	ug/L		08/20/18 07:20	08/22/18 18:25	1
Di-n-butyl phthalate	ND		22	ug/L		08/20/18 07:20	08/22/18 18:25	1
Di-n-octyl phthalate	ND		22	ug/L		08/20/18 07:20	08/22/18 18:25	1
Fluoranthene	ND		11	ug/L		08/20/18 07:20	08/22/18 18:25	1
Fluorene	ND		11	ug/L		08/20/18 07:20	08/22/18 18:25	1
Hexachlorobenzene	ND		11	ug/L		08/20/18 07:20	08/22/18 18:25	1
Hexachlorobutadiene	ND		11	ug/L		08/20/18 07:20	08/22/18 18:25	1
Hexachlorocyclopentadiene	ND		22	ug/L		08/20/18 07:20	08/22/18 18:25	1
Hexachloroethane	ND		11	ug/L		08/20/18 07:20	08/22/18 18:25	1
Indeno[1,2,3-cd]pyrene	ND		22	ug/L		08/20/18 07:20	08/22/18 18:25	1
Isophorone	ND		11	ug/L		08/20/18 07:20	08/22/18 18:25	1
Naphthalene	ND		11	ug/L		08/20/18 07:20	08/22/18 18:25	1
Nitrobenzene	ND		22	ug/L		08/20/18 07:20	08/22/18 18:25	1
N-Nitrosodimethylamine	ND		22	ug/L		08/20/18 07:20	08/22/18 18:25	1
N-Nitrosodi-n-propylamine	ND		11	ug/L		08/20/18 07:20	08/22/18 18:25	1
N-Nitrosodiphenylamine	ND		11	ug/L		08/20/18 07:20	08/22/18 18:25	1
Pentachlorophenol	ND		22	ug/L		08/20/18 07:20	08/22/18 18:25	1
Phenanthrene	ND		11	ug/L		08/20/18 07:20	08/22/18 18:25	1
Phenol	ND		11	ug/L		08/20/18 07:20	08/22/18 18:25	1
Pyrene	ND		11	ug/L		08/20/18 07:20	08/22/18 18:25	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol (Surr)	*72*		*40 - 120*	*08/20/18 07:20*	*08/22/18 18:25*	*1*
2-Fluorobiphenyl	*69*		*50 - 120*	*08/20/18 07:20*	*08/22/18 18:25*	*1*
2-Fluorophenol (Surr)	*57*		*30 - 120*	*08/20/18 07:20*	*08/22/18 18:25*	*1*
Nitrobenzene-d5 (Surr)	*73*		*45 - 120*	*08/20/18 07:20*	*08/22/18 18:25*	*1*
Phenol-d6 (Surr)	*49*		*35 - 120*	*08/20/18 07:20*	*08/22/18 18:25*	*1*
Terphenyl-d14 (Surr)	*83*		*10 - 150*	*08/20/18 07:20*	*08/22/18 18:25*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
pH	**8.8**	**HF**	0.1	SU			08/19/18 14:46	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfide, Dissolved	ND	HF	0.050	mg/L		08/20/18 15:04	08/20/18 16:07	1

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Field pH	**8.40**			SU			08/17/18 11:15	1
Field Temperature	**19.2**			Celsius			08/17/18 11:15	1

Surrogate Summary

Client: Jacob & Hefner Associates P.C.
Project/Site: Omega Chemical Wastewater

TestAmerica Job ID: 440-218305-1
SDG: Whittier

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

Matrix: Water **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)			
		BFB	DBFM	TOL	DCA
Lab Sample ID	Client Sample ID	(80-120)	(76-132)	(80-128)	(70-130)
440-218305-2	Grab	105	91	107	92
440-218305-2	Grab	96	108	106	109
440-218305-2 - RA	Grab	92	89	105	85
440-218305-2 MS	Grab	106	91	103	88
440-218305-2 MSD	Grab	107	91	105	91
440-218386-D-1 MS	Matrix Spike	90	112	98	106
440-218386-D-1 MSD	Matrix Spike Duplicate	92	110	102	110
440-218466-A-1 MS	Matrix Spike	90	92	102	79
440-218466-A-1 MSD	Matrix Spike Duplicate	91	88	101	80
LCS 440-494413/5	Lab Control Sample	108	86	107	85
LCS 440-494657/5	Lab Control Sample	93	104	101	101
MB 440-494413/4	Method Blank	106	86	113	83
MB 440-494657/4	Method Blank	95	108	104	109
MB 440-494941/4	Method Blank	93	89	104	83

Surrogate Legend

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

Method: 8270C - Semivolatile Organic Compounds (GC/MS)

Matrix: Water **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)					
		TBP	FBP	2FP	NBZ	PHL6	TPHL
Lab Sample ID	Client Sample ID	(40-120)	(50-120)	(30-120)	(45-120)	(35-120)	(10-150)
440-218305-2	Grab	72	69	57	73	49	83
LCS 440-494434/2-A	Lab Control Sample	70	63	43	63	50	74
LCSD 440-494434/3-A	Lab Control Sample Dup	72	65	52	62	58	76
MB 440-494434/1-A	Method Blank	62	72	54	68	64	82

Surrogate Legend

TBP = 2,4,6-Tribromophenol (Surr)
FBP = 2-Fluorobiphenyl
2FP = 2-Fluorophenol (Surr)
NBZ = Nitrobenzene-d5 (Surr)
PHL6 = Phenol-d6 (Surr)
TPHL = Terphenyl-d14 (Surr)

Method: 8270C SIM - 1,4 Dioxane by SIM

Matrix: Water **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)
		DXE
Lab Sample ID	Client Sample ID	(27-120)
440-218305-2	Grab	38
LCS 440-494334/2-A	Lab Control Sample	62
LCSD 440-494334/3-A	Lab Control Sample Dup	65
MB 440-494334/1-A	Method Blank	67

Surrogate Summary

Client: Jacob & Hefner Associates P.C.
Project/Site: Omega Chemical Wastewater

TestAmerica Job ID: 440-218305-1
SDG: Whittier

Surrogate Legend

DXE = 1,4-Dioxane-d8 (Surr)

Method Summary

Client: Jacob & Hefner Associates P.C.
Project/Site: Omega Chemical Wastewater

TestAmerica Job ID: 440-218305-1
SDG: Whittier

Method	Method Description	Protocol	Laboratory
8260B	Volatile Organic Compounds (GC/MS)	SW846	TAL IRV
8270C	Semivolatile Organic Compounds (GC/MS)	SW846	TAL IRV
8270C SIM	1,4 Dioxane by SIM	SW846	TAL IRV
SM 2540D	Solids, Total Suspended (TSS)	SM	TAL IRV
SM 4500 H+ B	pH	SM	TAL IRV
SM 4500 S2 D	Sulfide, Total	SM	TAL IRV
SM 5220D	COD	SM	TAL IRV
Field Sampling	Field Sampling	EPA	TAL IRV
3520C	Liquid-Liquid Extraction (Continuous)	SW846	TAL IRV
5030B	Purge and Trap	SW846	TAL IRV
SM 4500 S2 B	Sulfide, Separation of Soluble and Insoluble	SM	TAL IRV

Protocol References:

EPA = US Environmental Protection Agency

SM = "Standard Methods For The Examination Of Water And Wastewater"

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL IRV = TestAmerica Irvine, 17461 Derian Ave, Suite 100, Irvine, CA 92614-5817, TEL (949)261-1022

Lab Chronicle

Client: Jacob & Hefner Associates P.C.
Project/Site: Omega Chemical Wastewater

TestAmerica Job ID: 440-218305-1
SDG: Whittier

Client Sample ID: Composite

Lab Sample ID: 440-218305-1
Date Collected: 08/17/18 11:00
Matrix: Water
Date Received: 08/17/18 14:40

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	SM 2540D		1	1000 mL	1000 mL	494894	08/21/18 19:58	KM	TAL IRV
Total/NA	Analysis	SM 5220D		1	2.5 mL	2.5 mL	494701	08/21/18 08:28	KYP	TAL IRV

Client Sample ID: Grab

Lab Sample ID: 440-218305-2
Date Collected: 08/17/18 11:15
Matrix: Water
Date Received: 08/17/18 14:40

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	10 mL	10 mL	494413	08/20/18 14:11	WC	TAL IRV
Total/NA	Analysis	8260B	RA	1	10 mL	10 mL	494941	08/22/18 11:33	RM	TAL IRV
Total/NA	Analysis	8260B		1	10 mL	10 mL	494657	08/21/18 13:51	TCN	TAL IRV
Total/NA	Prep	3520C			915 mL	2.0 mL	494434	08/20/18 07:20	JAA	TAL IRV
Total/NA	Analysis	8270C		1			494995	08/22/18 18:25	HN	TAL IRV
Total/NA	Prep	3520C			945 mL	1.0 mL	494334	08/18/18 09:51	JS1	TAL IRV
Total/NA	Analysis	8270C SIM		1			494451	08/20/18 14:39	HN	TAL IRV
Total/NA	Analysis	SM 4500 H+ B		1			494371	08/19/18 14:46	CMM	TAL IRV
Dissolved	Prep	SM 4500 S2 B			7.5 mL	7.5 mL	494567	08/20/18 15:04	KMY	TAL IRV
Dissolved	Analysis	SM 4500 S2 D		1	7.5 mL	7.5 mL	494592	08/20/18 16:07	KMY	TAL IRV
Total/NA	Analysis	Field Sampling		1			494399	08/17/18 11:15	PS	TAL IRV

Laboratory References:

TAL IRV = TestAmerica Irvine, 17461 Derian Ave, Suite 100, Irvine, CA 92614-5817, TEL (949)261-1022

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

Lab Sample ID: MB 440-494413/4
Client Sample ID: Method Blank
Matrix: Water
Prep Type: Total/NA
Analysis Batch: 494413

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
2-Chloroethyl vinyl ether	ND		2.0	ug/L			08/20/18 08:18	1
Acrolein	ND		5.0	ug/L			08/20/18 08:18	1
Acrylonitrile	ND		2.0	ug/L			08/20/18 08:18	1
Total Volatile Organic Compounds	ND		150	ug/L			08/20/18 08:18	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*106*		*80 - 120*		*08/20/18 08:18*	*1*
Dibromofluoromethane (Surr)	*86*		*76 - 132*		*08/20/18 08:18*	*1*
1,2-Dichloroethane-d4 (Surr)	*83*		*70 - 130*		*08/20/18 08:18*	*1*
Toluene-d8 (Surr)	*113*		*80 - 128*		*08/20/18 08:18*	*1*

Lab Sample ID: LCS 440-494413/5
Client Sample ID: Lab Control Sample
Matrix: Water
Prep Type: Total/NA
Analysis Batch: 494413

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
2-Chloroethyl vinyl ether	25.0	18.7		ug/L		75	37 - 150
Acrolein	25.0	21.7		ug/L		87	10 - 145
Acrylonitrile	250	238		ug/L		95	48 - 140

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*108*		*80 - 120*
Dibromofluoromethane (Surr)	*86*		*76 - 132*
1,2-Dichloroethane-d4 (Surr)	*85*		*70 - 130*
Toluene-d8 (Surr)	*107*		*80 - 128*

Lab Sample ID: 440-218305-2 MS
Client Sample ID: Grab
Matrix: Water
Prep Type: Total/NA
Analysis Batch: 494413

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
2-Chloroethyl vinyl ether	ND		25.0	16.8		ug/L		67	10 - 140
Acrolein	ND		25.0	10.1		ug/L		40	10 - 147
Acrylonitrile	ND		250	178		ug/L		71	38 - 144

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*106*		*80 - 120*
Dibromofluoromethane (Surr)	*91*		*76 - 132*
1,2-Dichloroethane-d4 (Surr)	*88*		*70 - 130*
Toluene-d8 (Surr)	*103*		*80 - 128*

Lab Sample ID: 440-218305-2 MSD
Client Sample ID: Grab
Matrix: Water
Prep Type: Total/NA
Analysis Batch: 494413

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
2-Chloroethyl vinyl ether	ND		25.0	18.2		ug/L		73	10 - 140	8	35

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

Lab Sample ID: 440-218305-2 MSD
Matrix: Water
Analysis Batch: 494413

Client Sample ID: Grab
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Acrolein	ND		25.0	8.46		ug/L		34	10 - 147	17	40
Acrylonitrile	ND		250	191		ug/L		76	38 - 144	7	40

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*107*		*80 - 120*
Dibromofluoromethane (Surr)	*91*		*76 - 132*
1,2-Dichloroethane-d4 (Surr)	*91*		*70 - 130*
Toluene-d8 (Surr)	*105*		*80 - 128*

Lab Sample ID: MB 440-494657/4
Matrix: Water
Analysis Batch: 494657

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

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		1.0		ug/L			08/21/18 08:09	1
1,1,1-Trichloroethane	ND		1.0		ug/L			08/21/18 08:09	1
1,1,2,2-Tetrachloroethane	ND		1.0		ug/L			08/21/18 08:09	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		5.0		ug/L			08/21/18 08:09	1
1,1,2-Trichloroethane	ND		1.0		ug/L			08/21/18 08:09	1
1,1-Dichloroethane	ND		1.0		ug/L			08/21/18 08:09	1
1,1-Dichloroethene	ND		1.0		ug/L			08/21/18 08:09	1
1,1-Dichloropropene	ND		1.0		ug/L			08/21/18 08:09	1
1,2,3-Trichlorobenzene	ND		1.0		ug/L			08/21/18 08:09	1
1,2,3-Trichloropropane	ND		1.0		ug/L			08/21/18 08:09	1
1,2,4-Trichlorobenzene	ND		1.0		ug/L			08/21/18 08:09	1
1,2,4-Trimethylbenzene	ND		1.0		ug/L			08/21/18 08:09	1
1,2-Dibromo-3-Chloropropane	ND		5.0		ug/L			08/21/18 08:09	1
1,2-Dibromoethane (EDB)	ND		1.0		ug/L			08/21/18 08:09	1
1,2-Dichlorobenzene	ND		1.0		ug/L			08/21/18 08:09	1
1,2-Dichloroethane	ND		1.0		ug/L			08/21/18 08:09	1
1,2-Dichloropropane	ND		1.0		ug/L			08/21/18 08:09	1
1,3,5-Trimethylbenzene	ND		1.0		ug/L			08/21/18 08:09	1
1,3-Dichlorobenzene	ND		1.0		ug/L			08/21/18 08:09	1
1,3-Dichloropropane	ND		1.0		ug/L			08/21/18 08:09	1
1,4-Dichlorobenzene	ND		1.0		ug/L			08/21/18 08:09	1
2,2-Dichloropropane	ND		1.0		ug/L			08/21/18 08:09	1
2-Chlorotoluene	ND		1.0		ug/L			08/21/18 08:09	1
4-Chlorotoluene	ND		1.0		ug/L			08/21/18 08:09	1
Acetone	ND		10		ug/L			08/21/18 08:09	1
Benzene	ND		0.50		ug/L			08/21/18 08:09	1
Bromobenzene	ND		1.0		ug/L			08/21/18 08:09	1
Bromochloromethane	ND		1.0		ug/L			08/21/18 08:09	1
Bromodichloromethane	ND		1.0		ug/L			08/21/18 08:09	1
Bromoform	ND		1.0		ug/L			08/21/18 08:09	1
Bromomethane	ND		1.0		ug/L			08/21/18 08:09	1
Carbon tetrachloride	ND		0.50		ug/L			08/21/18 08:09	1
Chlorobenzene	ND		1.0		ug/L			08/21/18 08:09	1
Chloroethane	ND		1.0		ug/L			08/21/18 08:09	1

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

Lab Sample ID: MB 440-494657/4
Matrix: Water
Analysis Batch: 494657

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

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloroform	ND		1.0		ug/L			08/21/18 08:09	1
Chloromethane	ND		1.0		ug/L			08/21/18 08:09	1
cis-1,2-Dichloroethene	ND		1.0		ug/L			08/21/18 08:09	1
cis-1,3-Dichloropropene	ND		0.50		ug/L			08/21/18 08:09	1
Dibromochloromethane	ND		1.0		ug/L			08/21/18 08:09	1
Dibromomethane	ND		1.0		ug/L			08/21/18 08:09	1
Dichlorodifluoromethane	ND		1.0		ug/L			08/21/18 08:09	1
Ethylbenzene	ND		1.0		ug/L			08/21/18 08:09	1
Hexachlorobutadiene	ND		1.0		ug/L			08/21/18 08:09	1
Isopropylbenzene	ND		1.0		ug/L			08/21/18 08:09	1
m,p-Xylene	ND		1.0		ug/L			08/21/18 08:09	1
Methylene Chloride	ND		5.0		ug/L			08/21/18 08:09	1
Methyl-t-Butyl Ether (MTBE)	ND		1.0		ug/L			08/21/18 08:09	1
Naphthalene	ND		1.0		ug/L			08/21/18 08:09	1
n-Butylbenzene	ND		1.0		ug/L			08/21/18 08:09	1
N-Propylbenzene	ND		1.0		ug/L			08/21/18 08:09	1
o-Xylene	ND		1.0		ug/L			08/21/18 08:09	1
p-Isopropyltoluene	ND		1.0		ug/L			08/21/18 08:09	1
sec-Butylbenzene	ND		1.0		ug/L			08/21/18 08:09	1
Styrene	ND		1.0		ug/L			08/21/18 08:09	1
tert-Butylbenzene	ND		1.0		ug/L			08/21/18 08:09	1
Tetrachloroethene	ND		1.0		ug/L			08/21/18 08:09	1
Toluene	ND		1.0		ug/L			08/21/18 08:09	1
trans-1,2-Dichloroethene	ND		1.0		ug/L			08/21/18 08:09	1
trans-1,3-Dichloropropene	ND		0.50		ug/L			08/21/18 08:09	1
Trichloroethene	ND		1.0		ug/L			08/21/18 08:09	1
Trichlorofluoromethane	ND		1.0		ug/L			08/21/18 08:09	1
Vinyl chloride	ND		0.50		ug/L			08/21/18 08:09	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*95*		*80 - 120*		*08/21/18 08:09*	*1*
Dibromofluoromethane (Surr)	*108*		*76 - 132*		*08/21/18 08:09*	*1*
1,2-Dichloroethane-d4 (Surr)	*109*		*70 - 130*		*08/21/18 08:09*	*1*
Toluene-d8 (Surr)	*104*		*80 - 128*		*08/21/18 08:09*	*1*

Lab Sample ID: LCS 440-494657/5
Matrix: Water
Analysis Batch: 494657

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1,1,2-Tetrachloroethane	25.0	25.4		ug/L		101	60 - 141
1,1,1-Trichloroethane	25.0	26.8		ug/L		107	70 - 130
1,1,2,2-Tetrachloroethane	25.0	25.1		ug/L		100	63 - 130
1,1,2-Trichloro-1,2,2-trifluoroethane	25.0	27.9		ug/L		111	60 - 140
1,1,2-Trichloroethane	25.0	24.8		ug/L		99	70 - 130
1,1-Dichloroethane	25.0	24.4		ug/L		98	64 - 130
1,1-Dichloroethene	25.0	25.8		ug/L		103	70 - 130

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

Lab Sample ID: LCS 440-494657/5
Matrix: Water
Analysis Batch: 494657

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1-Dichloropropene	25.0	26.0		ug/L		104	70 - 130
1,2,3-Trichlorobenzene	25.0	27.4		ug/L		110	60 - 140
1,2,3-Trichloropropane	25.0	26.5		ug/L		106	63 - 130
1,2,4-Trichlorobenzene	25.0	27.9		ug/L		112	60 - 140
1,2,4-Trimethylbenzene	25.0	26.7		ug/L		107	70 - 135
1,2-Dibromo-3-Chloropropane	25.0	26.7		ug/L		107	52 - 140
1,2-Dibromoethane (EDB)	25.0	25.5		ug/L		102	70 - 130
1,2-Dichlorobenzene	25.0	25.9		ug/L		104	70 - 130
1,2-Dichloroethane	25.0	24.5		ug/L		98	57 - 138
1,2-Dichloropropane	25.0	25.0		ug/L		100	67 - 130
1,3,5-Trimethylbenzene	25.0	26.6		ug/L		107	70 - 136
1,3-Dichlorobenzene	25.0	25.5		ug/L		102	70 - 130
1,3-Dichloropropane	25.0	23.8		ug/L		95	70 - 130
1,4-Dichlorobenzene	25.0	25.9		ug/L		104	70 - 130
2,2-Dichloropropane	25.0	28.9		ug/L		116	68 - 141
2-Chlorotoluene	25.0	24.7		ug/L		99	70 - 130
4-Chlorotoluene	25.0	25.1		ug/L		100	70 - 130
Acetone	25.0	23.7		ug/L		95	10 - 150
Benzene	25.0	25.5		ug/L		102	68 - 130
Bromobenzene	25.0	24.9		ug/L		99	70 - 130
Bromochloromethane	25.0	27.5		ug/L		110	70 - 130
Bromodichloromethane	25.0	24.6		ug/L		98	70 - 132
Bromoform	25.0	27.7		ug/L		111	60 - 148
Bromomethane	25.0	26.2		ug/L		105	64 - 139
Carbon tetrachloride	25.0	27.7		ug/L		111	60 - 150
Chlorobenzene	25.0	25.8		ug/L		103	70 - 130
Chloroethane	25.0	23.7		ug/L		95	64 - 135
Chloroform	25.0	25.8		ug/L		103	70 - 130
Chloromethane	25.0	22.9		ug/L		92	47 - 140
cis-1,2-Dichloroethene	25.0	26.3		ug/L		105	70 - 133
cis-1,3-Dichloropropene	25.0	25.7		ug/L		103	70 - 133
Dibromochloromethane	25.0	25.7		ug/L		103	69 - 145
Dibromomethane	25.0	25.9		ug/L		104	70 - 130
Dichlorodifluoromethane	25.0	22.9		ug/L		92	29 - 150
Ethylbenzene	25.0	25.9		ug/L		103	70 - 130
Hexachlorobutadiene	25.0	27.7		ug/L		111	10 - 150
Isopropylbenzene	25.0	28.2		ug/L		113	70 - 136
m,p-Xylene	25.0	26.8		ug/L		107	70 - 130
Methylene Chloride	25.0	24.4		ug/L		98	52 - 130
Methyl-t-Butyl Ether (MTBE)	25.0	25.2		ug/L		101	63 - 131
Naphthalene	25.0	28.7		ug/L		115	60 - 140
n-Butylbenzene	25.0	26.8		ug/L		107	65 - 150
N-Propylbenzene	25.0	25.5		ug/L		102	67 - 139
o-Xylene	25.0	27.8		ug/L		111	70 - 130
p-Isopropyltoluene	25.0	27.3		ug/L		109	70 - 132
sec-Butylbenzene	25.0	27.7		ug/L		111	70 - 138
Styrene	25.0	26.5		ug/L		106	70 - 134
tert-Butylbenzene	25.0	26.9		ug/L		107	70 - 130

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

Lab Sample ID: LCS 440-494657/5
Matrix: Water
Analysis Batch: 494657

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Tetrachloroethene	25.0	28.1		ug/L		112	70 - 130
Toluene	25.0	25.6		ug/L		102	70 - 130
trans-1,2-Dichloroethene	25.0	26.7		ug/L		107	70 - 130
trans-1,3-Dichloropropene	25.0	24.4		ug/L		98	70 - 132
Trichloroethene	25.0	28.6		ug/L		114	70 - 130
Trichlorofluoromethane	25.0	28.4		ug/L		113	60 - 150
Vinyl chloride	25.0	24.4		ug/L		97	59 - 133

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*93*		*80 - 120*
Dibromofluoromethane (Surr)	*104*		*76 - 132*
1,2-Dichloroethane-d4 (Surr)	*101*		*70 - 130*
Toluene-d8 (Surr)	*101*		*80 - 128*

Lab Sample ID: 440-218386-D-1 MS
Matrix: Water
Analysis Batch: 494657

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1,1,2-Tetrachloroethane	ND		25.0	24.7		ug/L		99	60 - 149
1,1,1-Trichloroethane	ND		25.0	27.6		ug/L		110	70 - 130
1,1,2,2-Tetrachloroethane	ND		25.0	22.9		ug/L		92	63 - 130
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		25.0	28.2		ug/L		113	60 - 140
1,1,2-Trichloroethane	ND		25.0	23.0		ug/L		92	70 - 130
1,1-Dichloroethane	ND		25.0	25.4		ug/L		102	65 - 130
1,1-Dichloroethene	ND		25.0	26.5		ug/L		106	70 - 130
1,1-Dichloropropene	ND		25.0	27.3		ug/L		109	64 - 130
1,2,3-Trichlorobenzene	ND		25.0	26.5		ug/L		106	60 - 140
1,2,3-Trichloropropane	ND		25.0	24.0		ug/L		96	60 - 130
1,2,4-Trichlorobenzene	ND		25.0	27.4		ug/L		109	60 - 140
1,2,4-Trimethylbenzene	ND		25.0	26.3		ug/L		105	70 - 130
1,2-Dibromo-3-Chloropropane	ND		25.0	23.5		ug/L		94	48 - 140
1,2-Dibromoethane (EDB)	ND		25.0	23.8		ug/L		95	70 - 131
1,2-Dichlorobenzene	ND		25.0	25.5		ug/L		102	70 - 130
1,2-Dichloroethane	ND		25.0	24.9		ug/L		99	56 - 146
1,2-Dichloropropane	ND		25.0	25.6		ug/L		102	69 - 130
1,3,5-Trimethylbenzene	ND		25.0	26.2		ug/L		105	70 - 130
1,3-Dichlorobenzene	ND		25.0	25.1		ug/L		100	70 - 130
1,3-Dichloropropane	ND		25.0	23.5		ug/L		94	70 - 130
1,4-Dichlorobenzene	ND		25.0	25.7		ug/L		103	70 - 130
2,2-Dichloropropane	ND		25.0	30.0		ug/L		120	69 - 138
2-Chlorotoluene	ND		25.0	24.4		ug/L		97	70 - 130
4-Chlorotoluene	ND		25.0	25.1		ug/L		100	70 - 130
Acetone	ND		25.0	25.2		ug/L		101	10 - 150
Benzene	ND		25.0	26.2		ug/L		105	66 - 130
Bromobenzene	ND		25.0	24.5		ug/L		98	70 - 130
Bromochloromethane	ND		25.0	27.7		ug/L		111	70 - 130

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

Lab Sample ID: 440-218386-D-1 MS
Matrix: Water
Analysis Batch: 494657

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Bromodichloromethane	ND		25.0	25.5		ug/L		102	70 - 138
Bromoform	ND		25.0	25.7		ug/L		103	59 - 150
Bromomethane	ND		25.0	26.2		ug/L		105	62 - 131
Carbon tetrachloride	ND		25.0	28.2		ug/L		113	60 - 150
Chlorobenzene	ND		25.0	25.6		ug/L		103	70 - 130
Chloroethane	ND		25.0	24.5		ug/L		98	68 - 130
Chloroform	ND		25.0	25.9		ug/L		104	70 - 130
Chloromethane	ND		25.0	24.1		ug/L		96	39 - 144
cis-1,2-Dichloroethene	ND		25.0	27.0		ug/L		108	70 - 130
cis-1,3-Dichloropropene	ND		25.0	25.6		ug/L		102	70 - 133
Dibromochloromethane	ND		25.0	25.7		ug/L		103	70 - 148
Dibromomethane	ND		25.0	24.6		ug/L		98	70 - 130
Dichlorodifluoromethane	ND		25.0	22.8		ug/L		91	25 - 142
Ethylbenzene	ND		25.0	25.3		ug/L		101	70 - 130
Hexachlorobutadiene	ND		25.0	27.4		ug/L		109	10 - 150
Isopropylbenzene	ND		25.0	27.0		ug/L		108	70 - 132
m,p-Xylene	ND		25.0	26.5		ug/L		106	70 - 133
Methylene Chloride	ND		25.0	24.9		ug/L		100	52 - 130
Methyl-t-Butyl Ether (MTBE)	ND		25.0	25.7		ug/L		103	70 - 130
Naphthalene	ND		25.0	26.8		ug/L		107	60 - 140
n-Butylbenzene	ND		25.0	26.6		ug/L		106	61 - 149
N-Propylbenzene	ND		25.0	25.3		ug/L		101	66 - 135
o-Xylene	ND		25.0	26.6		ug/L		106	70 - 133
p-Isopropyltoluene	ND		25.0	26.9		ug/L		107	70 - 130
sec-Butylbenzene	ND		25.0	27.1		ug/L		108	67 - 134
Styrene	ND		25.0	25.8		ug/L		103	29 - 150
tert-Butylbenzene	ND		25.0	26.7		ug/L		107	70 - 130
Tetrachloroethene	ND		25.0	27.0		ug/L		108	70 - 137
Toluene	ND		25.0	24.9		ug/L		100	70 - 130
trans-1,2-Dichloroethene	ND		25.0	27.4		ug/L		110	70 - 130
trans-1,3-Dichloropropene	ND		25.0	23.8		ug/L		95	70 - 138
Trichloroethene	ND		25.0	28.8		ug/L		115	70 - 130
Trichlorofluoromethane	ND		25.0	28.0		ug/L		112	60 - 150
Vinyl chloride	ND		25.0	24.3		ug/L		97	50 - 137

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*90*		*80 - 120*
Dibromofluoromethane (Surr)	*112*		*76 - 132*
1,2-Dichloroethane-d4 (Surr)	*106*		*70 - 130*
Toluene-d8 (Surr)	*98*		*80 - 128*

Lab Sample ID: 440-218386-D-1 MSD
Matrix: Water
Analysis Batch: 494657

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,1,1,2-Tetrachloroethane	ND		25.0	26.4		ug/L		105	60 - 149	6	20
1,1,1-Trichloroethane	ND		25.0	26.8		ug/L		107	70 - 130	3	20

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

Lab Sample ID: 440-218386-D-1 MSD
Matrix: Water
Analysis Batch: 494657

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,1,2,2-Tetrachloroethane	ND		25.0	26.1		ug/L		104	63 - 130	13	30
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		25.0	26.7		ug/L		107	60 - 140	5	20
1,1,2-Trichloroethane	ND		25.0	25.8		ug/L		103	70 - 130	11	25
1,1-Dichloroethane	ND		25.0	24.6		ug/L		98	65 - 130	3	20
1,1-Dichloroethene	ND		25.0	23.6		ug/L		94	70 - 130	12	20
1,1-Dichloropropene	ND		25.0	25.6		ug/L		102	64 - 130	7	20
1,2,3-Trichlorobenzene	ND		25.0	27.1		ug/L		109	60 - 140	2	20
1,2,3-Trichloropropane	ND		25.0	27.5		ug/L		110	60 - 130	14	30
1,2,4-Trichlorobenzene	ND		25.0	27.4		ug/L		110	60 - 140	0	20
1,2,4-Trimethylbenzene	ND		25.0	26.0		ug/L		104	70 - 130	1	25
1,2-Dibromo-3-Chloropropane	ND		25.0	27.5		ug/L		110	48 - 140	16	30
1,2-Dibromoethane (EDB)	ND		25.0	26.1		ug/L		104	70 - 131	9	25
1,2-Dichlorobenzene	ND		25.0	25.9		ug/L		104	70 - 130	1	20
1,2-Dichloroethane	ND		25.0	25.8		ug/L		103	56 - 146	4	20
1,2-Dichloropropane	ND		25.0	26.0		ug/L		104	69 - 130	2	20
1,3,5-Trimethylbenzene	ND		25.0	25.7		ug/L		103	70 - 130	2	20
1,3-Dichlorobenzene	ND		25.0	24.7		ug/L		99	70 - 130	2	20
1,3-Dichloropropane	ND		25.0	25.0		ug/L		100	70 - 130	6	25
1,4-Dichlorobenzene	ND		25.0	25.8		ug/L		103	70 - 130	0	20
2,2-Dichloropropane	ND		25.0	28.4		ug/L		114	69 - 138	6	25
2-Chlorotoluene	ND		25.0	24.0		ug/L		96	70 - 130	1	20
4-Chlorotoluene	ND		25.0	24.2		ug/L		97	70 - 130	4	20
Acetone	ND		25.0	29.2		ug/L		117	10 - 150	15	35
Benzene	ND		25.0	25.6		ug/L		102	66 - 130	3	20
Bromobenzene	ND		25.0	24.7		ug/L		99	70 - 130	1	20
Bromochloromethane	ND		25.0	28.6		ug/L		114	70 - 130	3	25
Bromodichloromethane	ND		25.0	26.0		ug/L		104	70 - 138	2	20
Bromoform	ND		25.0	27.8		ug/L		111	59 - 150	8	25
Bromomethane	ND		25.0	25.8		ug/L		103	62 - 131	1	25
Carbon tetrachloride	ND		25.0	27.4		ug/L		110	60 - 150	3	25
Chlorobenzene	ND		25.0	26.2		ug/L		105	70 - 130	2	20
Chloroethane	ND		25.0	23.5		ug/L		94	68 - 130	4	25
Chloroform	ND		25.0	26.1		ug/L		105	70 - 130	1	20
Chloromethane	ND		25.0	23.2		ug/L		93	39 - 144	4	25
cis-1,2-Dichloroethene	ND		25.0	26.9		ug/L		108	70 - 130	0	20
cis-1,3-Dichloropropene	ND		25.0	26.5		ug/L		106	70 - 133	4	20
Dibromochloromethane	ND		25.0	27.2		ug/L		109	70 - 148	6	25
Dibromomethane	ND		25.0	26.1		ug/L		104	70 - 130	6	25
Dichlorodifluoromethane	ND		25.0	20.8		ug/L		83	25 - 142	9	30
Ethylbenzene	ND		25.0	25.7		ug/L		103	70 - 130	2	20
Hexachlorobutadiene	ND		25.0	26.5		ug/L		106	10 - 150	3	20
Isopropylbenzene	ND		25.0	27.0		ug/L		108	70 - 132	0	20
m,p-Xylene	ND		25.0	26.3		ug/L		105	70 - 133	1	25
Methylene Chloride	ND		25.0	24.6		ug/L		98	52 - 130	1	20
Methyl-t-Butyl Ether (MTBE)	ND		25.0	27.5		ug/L		110	70 - 130	7	25
Naphthalene	ND		25.0	29.1		ug/L		116	60 - 140	8	30
n-Butylbenzene	ND		25.0	25.7		ug/L		103	61 - 149	3	20

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

Lab Sample ID: 440-218386-D-1 MSD
Matrix: Water
Analysis Batch: 494657

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
N-Propylbenzene	ND		25.0	24.7		ug/L		99	66 - 135	3	20
o-Xylene	ND		25.0	27.0		ug/L		108	70 - 133	2	20
p-Isopropyltoluene	ND		25.0	26.4		ug/L		106	70 - 130	2	20
sec-Butylbenzene	ND		25.0	25.9		ug/L		104	67 - 134	4	20
Styrene	ND		25.0	26.4		ug/L		106	29 - 150	3	35
tert-Butylbenzene	ND		25.0	25.9		ug/L		104	70 - 130	3	20
Tetrachloroethene	ND		25.0	26.5		ug/L		106	70 - 137	2	20
Toluene	ND		25.0	25.2		ug/L		101	70 - 130	1	20
trans-1,2-Dichloroethene	ND		25.0	25.5		ug/L		102	70 - 130	7	20
trans-1,3-Dichloropropene	ND		25.0	25.3		ug/L		101	70 - 138	6	25
Trichloroethene	ND		25.0	27.5		ug/L		110	70 - 130	5	20
Trichlorofluoromethane	ND		25.0	26.2		ug/L		105	60 - 150	6	25
Vinyl chloride	ND		25.0	23.5		ug/L		94	50 - 137	3	30

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*92*		*80 - 120*
Dibromofluoromethane (Surr)	*110*		*76 - 132*
1,2-Dichloroethane-d4 (Surr)	*110*		*70 - 130*
Toluene-d8 (Surr)	*102*		*80 - 128*

Lab Sample ID: MB 440-494941/4
Matrix: Water
Analysis Batch: 494941

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

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Isopropyl alcohol	ND		250		ug/L			08/22/18 08:14	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*93*		*80 - 120*		*08/22/18 08:14*	*1*
Dibromofluoromethane (Surr)	*89*		*76 - 132*		*08/22/18 08:14*	*1*
1,2-Dichloroethane-d4 (Surr)	*83*		*70 - 130*		*08/22/18 08:14*	*1*
Toluene-d8 (Surr)	*104*		*80 - 128*		*08/22/18 08:14*	*1*

Lab Sample ID: 440-218466-A-1 MS
Matrix: Water
Analysis Batch: 494941

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*90*		*80 - 120*
Dibromofluoromethane (Surr)	*92*		*76 - 132*
1,2-Dichloroethane-d4 (Surr)	*79*		*70 - 130*
Toluene-d8 (Surr)	*102*		*80 - 128*

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

Lab Sample ID: 440-218466-A-1 MSD
Matrix: Water
Analysis Batch: 494941

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*91*		*80 - 120*
Dibromofluoromethane (Surr)	*88*		*76 - 132*
1,2-Dichloroethane-d4 (Surr)	*80*		*70 - 130*
Toluene-d8 (Surr)	*101*		*80 - 128*

Method: 8270C - Semivolatile Organic Compounds (GC/MS)

Lab Sample ID: MB 440-494434/1-A
Matrix: Water
Analysis Batch: 494995

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 494434

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
1,2,4-Trichlorobenzene	ND		10		ug/L		08/20/18 07:20	08/22/18 13:12	1
1,2-Dichlorobenzene	ND		10		ug/L		08/20/18 07:20	08/22/18 13:12	1
1,2-Diphenylhydrazine(as Azobenzene)	ND		21		ug/L		08/20/18 07:20	08/22/18 13:12	1
1,3-Dichlorobenzene	ND		10		ug/L		08/20/18 07:20	08/22/18 13:12	1
1,4-Dichlorobenzene	ND		10		ug/L		08/20/18 07:20	08/22/18 13:12	1
2,4,5-Trichlorophenol	ND		21		ug/L		08/20/18 07:20	08/22/18 13:12	1
2,4,6-Trichlorophenol	ND		21		ug/L		08/20/18 07:20	08/22/18 13:12	1
2,4-Dichlorophenol	ND		10		ug/L		08/20/18 07:20	08/22/18 13:12	1
2,4-Dimethylphenol	ND		21		ug/L		08/20/18 07:20	08/22/18 13:12	1
2,4-Dinitrophenol	ND		41		ug/L		08/20/18 07:20	08/22/18 13:12	1
2,4-Dinitrotoluene	ND		10		ug/L		08/20/18 07:20	08/22/18 13:12	1
2,6-Dinitrotoluene	ND		10		ug/L		08/20/18 07:20	08/22/18 13:12	1
2-Chloronaphthalene	ND		10		ug/L		08/20/18 07:20	08/22/18 13:12	1
2-Chlorophenol	ND		10		ug/L		08/20/18 07:20	08/22/18 13:12	1
2-Methylnaphthalene	ND		10		ug/L		08/20/18 07:20	08/22/18 13:12	1
2-Methylphenol	ND		10		ug/L		08/20/18 07:20	08/22/18 13:12	1
2-Nitroaniline	ND		21		ug/L		08/20/18 07:20	08/22/18 13:12	1
2-Nitrophenol	ND		10		ug/L		08/20/18 07:20	08/22/18 13:12	1
3,3'-Dichlorobenzidine	ND		41		ug/L		08/20/18 07:20	08/22/18 13:12	1
3-Methylphenol + 4-Methylphenol	ND		10		ug/L		08/20/18 07:20	08/22/18 13:12	1
3-Nitroaniline	ND		21		ug/L		08/20/18 07:20	08/22/18 13:12	1
4,6-Dinitro-2-methylphenol	ND		21		ug/L		08/20/18 07:20	08/22/18 13:12	1
4-Bromophenyl phenyl ether	ND		10		ug/L		08/20/18 07:20	08/22/18 13:12	1
4-Chloro-3-methylphenol	ND		21		ug/L		08/20/18 07:20	08/22/18 13:12	1
4-Chloroaniline	ND		10		ug/L		08/20/18 07:20	08/22/18 13:12	1
4-Chlorophenyl phenyl ether	ND		10		ug/L		08/20/18 07:20	08/22/18 13:12	1
4-Nitroaniline	ND		21		ug/L		08/20/18 07:20	08/22/18 13:12	1
4-Nitrophenol	ND		21		ug/L		08/20/18 07:20	08/22/18 13:12	1
Acenaphthene	ND		10		ug/L		08/20/18 07:20	08/22/18 13:12	1
Acenaphthylene	ND		10		ug/L		08/20/18 07:20	08/22/18 13:12	1
Aniline	ND		10		ug/L		08/20/18 07:20	08/22/18 13:12	1
Anthracene	ND		10		ug/L		08/20/18 07:20	08/22/18 13:12	1
Benzidine	ND		41		ug/L		08/20/18 07:20	08/22/18 13:12	1
Benzo[a]anthracene	ND		10		ug/L		08/20/18 07:20	08/22/18 13:12	1
Benzo[a]pyrene	ND		10		ug/L		08/20/18 07:20	08/22/18 13:12	1

Method: 8270C - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 440-494434/1-A
Matrix: Water
Analysis Batch: 494995

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 494434

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzo[b]fluoranthene	ND		10		ug/L		08/20/18 07:20	08/22/18 13:12	1
Benzo[g,h,i]perylene	ND		10		ug/L		08/20/18 07:20	08/22/18 13:12	1
Benzo[k]fluoranthene	ND		10		ug/L		08/20/18 07:20	08/22/18 13:12	1
Benzoic acid	ND		21		ug/L		08/20/18 07:20	08/22/18 13:12	1
Benzyl alcohol	ND		21		ug/L		08/20/18 07:20	08/22/18 13:12	1
bis (2-chloroisopropyl) ether	ND		10		ug/L		08/20/18 07:20	08/22/18 13:12	1
Bis(2-chloroethoxy)methane	ND		10		ug/L		08/20/18 07:20	08/22/18 13:12	1
Bis(2-chloroethyl)ether	ND		10		ug/L		08/20/18 07:20	08/22/18 13:12	1
Bis(2-ethylhexyl) phthalate	ND		21		ug/L		08/20/18 07:20	08/22/18 13:12	1
Butyl benzyl phthalate	ND		21		ug/L		08/20/18 07:20	08/22/18 13:12	1
Chrysene	ND		10		ug/L		08/20/18 07:20	08/22/18 13:12	1
Dibenz(a,h)anthracene	ND		21		ug/L		08/20/18 07:20	08/22/18 13:12	1
Dibenzofuran	ND		10		ug/L		08/20/18 07:20	08/22/18 13:12	1
Diethyl phthalate	ND		10		ug/L		08/20/18 07:20	08/22/18 13:12	1
Dimethyl phthalate	ND		10		ug/L		08/20/18 07:20	08/22/18 13:12	1
Di-n-butyl phthalate	ND		21		ug/L		08/20/18 07:20	08/22/18 13:12	1
Di-n-octyl phthalate	ND		21		ug/L		08/20/18 07:20	08/22/18 13:12	1
Fluoranthene	ND		10		ug/L		08/20/18 07:20	08/22/18 13:12	1
Fluorene	ND		10		ug/L		08/20/18 07:20	08/22/18 13:12	1
Hexachlorobenzene	ND		10		ug/L		08/20/18 07:20	08/22/18 13:12	1
Hexachlorobutadiene	ND		10		ug/L		08/20/18 07:20	08/22/18 13:12	1
Hexachlorocyclopentadiene	ND		21		ug/L		08/20/18 07:20	08/22/18 13:12	1
Hexachloroethane	ND		10		ug/L		08/20/18 07:20	08/22/18 13:12	1
Indeno[1,2,3-cd]pyrene	ND		21		ug/L		08/20/18 07:20	08/22/18 13:12	1
Isophorone	ND		10		ug/L		08/20/18 07:20	08/22/18 13:12	1
Naphthalene	ND		10		ug/L		08/20/18 07:20	08/22/18 13:12	1
Nitrobenzene	ND		21		ug/L		08/20/18 07:20	08/22/18 13:12	1
N-Nitrosodimethylamine	ND		21		ug/L		08/20/18 07:20	08/22/18 13:12	1
N-Nitrosodi-n-propylamine	ND		10		ug/L		08/20/18 07:20	08/22/18 13:12	1
N-Nitrosodiphenylamine	ND		10		ug/L		08/20/18 07:20	08/22/18 13:12	1
Pentachlorophenol	ND		21		ug/L		08/20/18 07:20	08/22/18 13:12	1
Phenanthrene	ND		10		ug/L		08/20/18 07:20	08/22/18 13:12	1
Phenol	ND		10		ug/L		08/20/18 07:20	08/22/18 13:12	1
Pyrene	ND		10		ug/L		08/20/18 07:20	08/22/18 13:12	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol (Surr)	*62*		*40 - 120*	*08/20/18 07:20*	*08/22/18 13:12*	*1*
2-Fluorobiphenyl	*72*		*50 - 120*	*08/20/18 07:20*	*08/22/18 13:12*	*1*
2-Fluorophenol (Surr)	*54*		*30 - 120*	*08/20/18 07:20*	*08/22/18 13:12*	*1*
Nitrobenzene-d5 (Surr)	*68*		*45 - 120*	*08/20/18 07:20*	*08/22/18 13:12*	*1*
Phenol-d6 (Surr)	*64*		*35 - 120*	*08/20/18 07:20*	*08/22/18 13:12*	*1*
Terphenyl-d14 (Surr)	*82*		*10 - 150*	*08/20/18 07:20*	*08/22/18 13:12*	*1*

Method: 8270C - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 440-494434/2-A
Matrix: Water
Analysis Batch: 494995

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 494434

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,2,4-Trichlorobenzene	103	56.0		ug/L		55	25 - 84
1,2-Dichlorobenzene	103	52.5		ug/L		51	24 - 85
1,2-Diphenylhydrazine(as Azobenzene)	103	68.0		ug/L		66	44 - 113
1,3-Dichlorobenzene	103	49.2		ug/L		48	20 - 80
1,4-Dichlorobenzene	103	49.8		ug/L		49	22 - 81
2,4,5-Trichlorophenol	103	65.4		ug/L		64	24 - 121
2,4,6-Trichlorophenol	103	65.7		ug/L		64	20 - 121
2,4-Dichlorophenol	103	61.6		ug/L		60	23 - 113
2,4-Dimethylphenol	103	64.6		ug/L		63	39 - 94
2,4-Dinitrophenol	205	119		ug/L		58	23 - 134
2,4-Dinitrotoluene	103	75.5		ug/L		74	54 - 115
2,6-Dinitrotoluene	103	70.5		ug/L		69	50 - 115
2-Chloronaphthalene	103	63.9		ug/L		62	34 - 102
2-Chlorophenol	103	52.8		ug/L		51	20 - 106
2-Methylnaphthalene	103	61.6		ug/L		60	34 - 98
2-Methylphenol	103	56.7		ug/L		55	36 - 103
2-Nitroaniline	103	68.4		ug/L		67	48 - 111
2-Nitrophenol	103	62.7		ug/L		61	20 - 117
3,3'-Dichlorobenzidine	103	71.9		ug/L		70	22 - 97
3-Methylphenol + 4-Methylphenol	103	59.3		ug/L		58	35 - 106
3-Nitroaniline	103	70.5		ug/L		69	51 - 116
4,6-Dinitro-2-methylphenol	205	119		ug/L		58	28 - 139
4-Bromophenyl phenyl ether	103	70.4		ug/L		69	42 - 113
4-Chloro-3-methylphenol	103	69.6		ug/L		68	44 - 110
4-Chloroaniline	103	69.0		ug/L		67	42 - 109
4-Chlorophenyl phenyl ether	103	70.7		ug/L		69	38 - 115
4-Nitroaniline	103	73.7		ug/L		72	50 - 116
4-Nitrophenol	205	137		ug/L		67	26 - 132
Acenaphthene	103	67.8		ug/L		66	37 - 107
Acenaphthylene	103	66.9		ug/L		65	39 - 107
Aniline	103	71.4		ug/L		70	27 - 115
Anthracene	103	72.3		ug/L		71	42 - 120
Benzidine	103	87.8		ug/L		86	5 - 150
Benzo[a]anthracene	103	73.3		ug/L		71	42 - 115
Benzo[a]pyrene	103	73.0		ug/L		71	41 - 117
Benzo[b]fluoranthene	103	70.4		ug/L		69	36 - 113
Benzo[g,h,i]perylene	103	71.6		ug/L		70	37 - 115
Benzo[k]fluoranthene	103	73.7		ug/L		72	42 - 122
Benzoic acid	103	35.7		ug/L		35	15 - 121
Benzyl alcohol	103	48.1		ug/L		47	39 - 106
bis (2-chloroisopropyl) ether	103	57.6		ug/L		56	38 - 104
Bis(2-chloroethoxy)methane	103	66.3		ug/L		65	47 - 104
Bis(2-chloroethyl)ether	103	58.3		ug/L		57	42 - 99
Bis(2-ethylhexyl) phthalate	103	78.6		ug/L		77	43 - 124
Butyl benzyl phthalate	103	75.3		ug/L		73	44 - 122
Chrysene	103	74.9		ug/L		73	42 - 118
Dibenz(a,h)anthracene	103	73.2		ug/L		71	40 - 114

Method: 8270C - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 440-494434/2-A
Matrix: Water
Analysis Batch: 494995

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 494434

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Dibenzofuran	103	69.8		ug/L		68	37 - 113
Diethyl phthalate	103	72.5		ug/L		71	51 - 120
Dimethyl phthalate	103	71.9		ug/L		70	49 - 113
Di-n-butyl phthalate	103	72.7		ug/L		71	47 - 125
Di-n-octyl phthalate	103	75.0		ug/L		73	42 - 125
Fluoranthene	103	73.8		ug/L		72	44 - 119
Fluorene	103	71.7		ug/L		70	39 - 116
Hexachlorobenzene	103	71.0		ug/L		69	43 - 112
Hexachlorobutadiene	103	50.6		ug/L		49	14 - 77
Hexachlorocyclopentadiene	103	39.6		ug/L		39	10 - 77
Hexachloroethane	103	45.6		ug/L		44	13 - 75
Indeno[1,2,3-cd]pyrene	103	69.3		ug/L		68	35 - 116
Isophorone	103	67.0		ug/L		65	48 - 107
Naphthalene	103	61.6		ug/L		60	33 - 95
Nitrobenzene	103	63.0		ug/L		61	42 - 99
N-Nitrosodimethylamine	103	56.6		ug/L		55	35 - 96
N-Nitrosodi-n-propylamine	103	61.1		ug/L		60	44 - 111
N-Nitrosodiphenylamine	103	71.7		ug/L		70	46 - 116
Pentachlorophenol	205	124		ug/L		61	26 - 136
Phenanthrene	103	72.0		ug/L		70	43 - 120
Phenol	103	56.1		ug/L		55	25 - 99
Pyrene	103	74.1		ug/L		72	43 - 119

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
2,4,6-Tribromophenol (Surr)	*70*		*40 - 120*
2-Fluorobiphenyl	*63*		*50 - 120*
2-Fluorophenol (Surr)	*43*		*30 - 120*
Nitrobenzene-d5 (Surr)	*63*		*45 - 120*
Phenol-d6 (Surr)	*50*		*35 - 120*
Terphenyl-d14 (Surr)	*74*		*10 - 150*

Lab Sample ID: LCSD 440-494434/3-A
Matrix: Water
Analysis Batch: 494995

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 494434

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,2,4-Trichlorobenzene	103	57.5		ug/L		56	25 - 84	3	35
1,2-Dichlorobenzene	103	54.4		ug/L		53	24 - 85	4	35
1,2-Diphenylhydrazine(as Azobenzene)	103	68.4		ug/L		67	44 - 113	1	35
1,3-Dichlorobenzene	103	52.0		ug/L		51	20 - 80	5	35
1,4-Dichlorobenzene	103	52.8		ug/L		51	22 - 81	6	35
2,4,5-Trichlorophenol	103	68.8		ug/L		67	24 - 121	5	35
2,4,6-Trichlorophenol	103	71.4		ug/L		70	20 - 121	8	35
2,4-Dichlorophenol	103	68.1		ug/L		66	23 - 113	10	35
2,4-Dimethylphenol	103	68.9		ug/L		67	39 - 94	7	35
2,4-Dinitrophenol	205	134		ug/L		65	23 - 134	12	35
2,4-Dinitrotoluene	103	75.7		ug/L		74	54 - 115	0	35

Method: 8270C - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCSD 440-494434/3-A
Matrix: Water
Analysis Batch: 494995

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 494434

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
2,6-Dinitrotoluene	103	73.3		ug/L		71	50 - 115	4	35
2-Chloronaphthalene	103	66.9		ug/L		65	34 - 102	5	35
2-Chlorophenol	103	59.0		ug/L		58	20 - 106	11	35
2-Methylnaphthalene	103	64.9		ug/L		63	34 - 98	5	35
2-Methylphenol	103	58.7		ug/L		57	36 - 103	3	35
2-Nitroaniline	103	69.6		ug/L		68	48 - 111	2	35
2-Nitrophenol	103	65.7		ug/L		64	20 - 117	5	35
3,3'-Dichlorobenzidine	103	71.1		ug/L		69	22 - 97	1	35
3-Methylphenol + 4-Methylphenol	103	59.1		ug/L		58	35 - 106	0	35
3-Nitroaniline	103	71.7		ug/L		70	51 - 116	2	35
4,6-Dinitro-2-methylphenol	205	135		ug/L		66	28 - 139	12	35
4-Bromophenyl phenyl ether	103	71.9		ug/L		70	42 - 113	2	35
4-Chloro-3-methylphenol	103	73.2		ug/L		71	44 - 110	5	35
4-Chloroaniline	103	68.4		ug/L		67	42 - 109	1	35
4-Chlorophenyl phenyl ether	103	73.8		ug/L		72	38 - 115	4	35
4-Nitroaniline	103	74.4		ug/L		72	50 - 116	1	35
4-Nitrophenol	205	136		ug/L		66	26 - 132	0	35
Acenaphthene	103	71.3		ug/L		70	37 - 107	5	35
Acenaphthylene	103	69.6		ug/L		68	39 - 107	4	35
Aniline	103	74.0		ug/L		72	27 - 115	4	35
Anthracene	103	73.7		ug/L		72	42 - 120	2	35
Benzidine	103	96.4		ug/L		94	5 - 150	9	35
Benzo[a]anthracene	103	75.8		ug/L		74	42 - 115	3	35
Benzo[a]pyrene	103	75.5		ug/L		74	41 - 117	3	35
Benzo[b]fluoranthene	103	73.4		ug/L		72	36 - 113	4	35
Benzo[g,h,i]perylene	103	73.7		ug/L		72	37 - 115	3	35
Benzo[k]fluoranthene	103	77.6		ug/L		76	42 - 122	5	35
Benzoic acid	103	49.0		ug/L		48	15 - 121	31	35
Benzyl alcohol	103	52.9		ug/L		52	39 - 106	10	35
bis (2-chloroisopropyl) ether	103	55.7		ug/L		54	38 - 104	3	35
Bis(2-chloroethoxy)methane	103	69.4		ug/L		68	47 - 104	5	35
Bis(2-chloroethyl)ether	103	61.2		ug/L		60	42 - 99	5	35
Bis(2-ethylhexyl) phthalate	103	78.4		ug/L		76	43 - 124	0	35
Butyl benzyl phthalate	103	77.3		ug/L		75	44 - 122	3	35
Chrysene	103	77.4		ug/L		75	42 - 118	3	35
Dibenz(a,h)anthracene	103	74.9		ug/L		73	40 - 114	2	35
Dibenzofuran	103	71.8		ug/L		70	37 - 113	3	35
Diethyl phthalate	103	75.1		ug/L		73	51 - 120	4	35
Dimethyl phthalate	103	74.1		ug/L		72	49 - 113	3	35
Di-n-butyl phthalate	103	74.9		ug/L		73	47 - 125	3	35
Di-n-octyl phthalate	103	76.8		ug/L		75	42 - 125	2	35
Fluoranthene	103	74.1		ug/L		72	44 - 119	0	35
Fluorene	103	73.1		ug/L		71	39 - 116	2	35
Hexachlorobenzene	103	72.1		ug/L		70	43 - 112	1	35
Hexachlorobutadiene	103	52.3		ug/L		51	14 - 77	3	35
Hexachlorocyclopentadiene	103	42.5		ug/L		41	10 - 77	7	35
Hexachloroethane	103	44.9		ug/L		44	13 - 75	2	35
Indeno[1,2,3-cd]pyrene	103	74.3		ug/L		72	35 - 116	7	35

Method: 8270C - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCSD 440-494434/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 494995 — **Prep Batch: 494434**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Isophorone	103	69.4		ug/L		68	48 - 107	4	35
Naphthalene	103	63.1		ug/L		61	33 - 95	2	35
Nitrobenzene	103	62.1		ug/L		61	42 - 99	1	35
N-Nitrosodimethylamine	103	56.9		ug/L		56	35 - 96	1	35
N-Nitrosodi-n-propylamine	103	60.7		ug/L		59	44 - 111	1	35
N-Nitrosodiphenylamine	103	72.5		ug/L		71	46 - 116	1	35
Pentachlorophenol	205	127		ug/L		62	26 - 136	2	35
Phenanthrene	103	72.8		ug/L		71	43 - 120	1	35
Phenol	103	62.7		ug/L		61	25 - 99	11	35
Pyrene	103	77.2		ug/L		75	43 - 119	4	35

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
2,4,6-Tribromophenol (Surr)	*72*		*40 - 120*
2-Fluorobiphenyl	*65*		*50 - 120*
2-Fluorophenol (Surr)	*52*		*30 - 120*
Nitrobenzene-d5 (Surr)	*62*		*45 - 120*
Phenol-d6 (Surr)	*58*		*35 - 120*
Terphenyl-d14 (Surr)	*76*		*10 - 150*

Method: 8270C SIM - 1,4 Dioxane by SIM

Lab Sample ID: MB 440-494334/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 494451 — **Prep Batch: 494334**

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	ND		0.49		ug/L		08/18/18 09:51	08/20/18 09:40	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,4-Dioxane-d8 (Surr)	*67*		*27 - 120*	*08/18/18 09:51*	*08/20/18 09:40*	*1*

Lab Sample ID: LCS 440-494334/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 494451 — **Prep Batch: 494334**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,4-Dioxane	1.96	1.27		ug/L		65	36 - 120

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1,4-Dioxane-d8 (Surr)	*62*		*27 - 120*

Lab Sample ID: LCSD 440-494334/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 494451 — **Prep Batch: 494334**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,4-Dioxane	1.98	1.36		ug/L		69	36 - 120	6	35

Method: 8270C SIM - 1,4 Dioxane by SIM (Continued)

Lab Sample ID: LCSD 440-494334/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 494451 — **Prep Batch: 494334**

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
1,4-Dioxane-d8 (Surr)	*65*		*27 - 120*

Method: SM 2540D - Solids, Total Suspended (TSS)

Lab Sample ID: MB 440-494894/1 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 494894

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids	ND		1.0		mg/L			08/21/18 19:58	1

Lab Sample ID: LCS 440-494894/2 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 494894

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Total Suspended Solids			1000	1090		mg/L		109	85 - 115		

Lab Sample ID: 440-218543-B-1 DU — **Client Sample ID: Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 494894

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Total Suspended Solids	37			37.5		mg/L				3	10

Method: SM 4500 H+ B - pH

Lab Sample ID: 440-218307-A-5 DU — **Client Sample ID: Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 494371

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
pH	9.8			9.8		SU				0	2

Method: SM 4500 S2 D - Sulfide, Total

Lab Sample ID: MB 440-494567/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Dissolved**
Analysis Batch: 494592 — **Prep Batch: 494567**

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Sulfide, Dissolved	ND		0.050		mg/L		08/20/18 15:03	08/20/18 16:07	1

Method: SM 4500 S2 D - Sulfide, Total (Continued)

Lab Sample ID: LCS 440-494567/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Dissolved**
Analysis Batch: 494592 — **Prep Batch: 494567**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Sulfide, Dissolved	0.460	0.446		mg/L		97	80 - 120

Lab Sample ID: LCSD 440-494567/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Dissolved**
Analysis Batch: 494592 — **Prep Batch: 494567**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Sulfide, Dissolved	0.460	0.435		mg/L		94	80 - 120	3	20

Lab Sample ID: 440-218102-B-1-B MS — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Dissolved**
Analysis Batch: 494592 — **Prep Batch: 494567**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Sulfide, Dissolved	ND	F1 HF	0.460	0.123	F1 HF	mg/L		27	70 - 130

Lab Sample ID: 440-218102-B-1-C MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Dissolved**
Analysis Batch: 494592 — **Prep Batch: 494567**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Sulfide, Dissolved	ND	F1 HF	0.460	0.112	F1 HF	mg/L		24	70 - 130	9	30

Method: SM 5220D - COD

Lab Sample ID: MB 440-494701/3 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 494701

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chemical Oxygen Demand	ND		20		mg/L			08/21/18 08:26	1

Lab Sample ID: LCS 440-494701/4 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 494701

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chemical Oxygen Demand	200	200		mg/L		100	90 - 110

Lab Sample ID: 440-218016-D-1 MS — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 494701

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Chemical Oxygen Demand	25		200	223		mg/L		99	70 - 120

Method: SM 5220D - COD (Continued)

Lab Sample ID: 440-218016-D-1 MSD
Matrix: Water
Analysis Batch: 494701

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chemical Oxygen Demand	25		200	223		mg/L		99	70 - 120	0	15

QC Association Summary

Client: Jacob & Hefner Associates P.C.
Project/Site: Omega Chemical Wastewater

TestAmerica Job ID: 440-218305-1
SDG: Whittier

GC/MS VOA

Analysis Batch: 494413

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-218305-2	Grab	Total/NA	Water	8260B	
MB 440-494413/4	Method Blank	Total/NA	Water	8260B	
LCS 440-494413/5	Lab Control Sample	Total/NA	Water	8260B	
440-218305-2 MS	Grab	Total/NA	Water	8260B	
440-218305-2 MSD	Grab	Total/NA	Water	8260B	

Analysis Batch: 494657

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-218305-2	Grab	Total/NA	Water	8260B	
MB 440-494657/4	Method Blank	Total/NA	Water	8260B	
LCS 440-494657/5	Lab Control Sample	Total/NA	Water	8260B	
440-218386-D-1 MS	Matrix Spike	Total/NA	Water	8260B	
440-218386-D-1 MSD	Matrix Spike Duplicate	Total/NA	Water	8260B	

Analysis Batch: 494941

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-218305-2 - RA	Grab	Total/NA	Water	8260B	
MB 440-494941/4	Method Blank	Total/NA	Water	8260B	
440-218466-A-1 MS	Matrix Spike	Total/NA	Water	8260B	
440-218466-A-1 MSD	Matrix Spike Duplicate	Total/NA	Water	8260B	

GC/MS Semi VOA

Prep Batch: 494334

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-218305-2	Grab	Total/NA	Water	3520C	
MB 440-494334/1-A	Method Blank	Total/NA	Water	3520C	
LCS 440-494334/2-A	Lab Control Sample	Total/NA	Water	3520C	
LCSD 440-494334/3-A	Lab Control Sample Dup	Total/NA	Water	3520C	

Prep Batch: 494434

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-218305-2	Grab	Total/NA	Water	3520C	
MB 440-494434/1-A	Method Blank	Total/NA	Water	3520C	
LCS 440-494434/2-A	Lab Control Sample	Total/NA	Water	3520C	
LCSD 440-494434/3-A	Lab Control Sample Dup	Total/NA	Water	3520C	

Analysis Batch: 494451

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-218305-2	Grab	Total/NA	Water	8270C SIM	494334
MB 440-494334/1-A	Method Blank	Total/NA	Water	8270C SIM	494334
LCS 440-494334/2-A	Lab Control Sample	Total/NA	Water	8270C SIM	494334
LCSD 440-494334/3-A	Lab Control Sample Dup	Total/NA	Water	8270C SIM	494334

Analysis Batch: 494995

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-218305-2	Grab	Total/NA	Water	8270C	494434
MB 440-494434/1-A	Method Blank	Total/NA	Water	8270C	494434
LCS 440-494434/2-A	Lab Control Sample	Total/NA	Water	8270C	494434
LCSD 440-494434/3-A	Lab Control Sample Dup	Total/NA	Water	8270C	494434

QC Association Summary

Client: Jacob & Hefner Associates P.C.
Project/Site: Omega Chemical Wastewater

TestAmerica Job ID: 440-218305-1
SDG: Whittier

General Chemistry

Analysis Batch: 494371

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-218305-2	Grab	Total/NA	Water	SM 4500 H+ B	
440-218307-A-5 DU	Duplicate	Total/NA	Water	SM 4500 H+ B	

Prep Batch: 494567

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-218305-2	Grab	Dissolved	Water	SM 4500 S2 B	
MB 440-494567/1-A	Method Blank	Dissolved	Water	SM 4500 S2 B	
LCS 440-494567/2-A	Lab Control Sample	Dissolved	Water	SM 4500 S2 B	
LCSD 440-494567/3-A	Lab Control Sample Dup	Dissolved	Water	SM 4500 S2 B	
440-218102-B-1-B MS	Matrix Spike	Dissolved	Water	SM 4500 S2 B	
440-218102-B-1-C MSD	Matrix Spike Duplicate	Dissolved	Water	SM 4500 S2 B	

Analysis Batch: 494592

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-218305-2	Grab	Dissolved	Water	SM 4500 S2 D	494567
MB 440-494567/1-A	Method Blank	Dissolved	Water	SM 4500 S2 D	494567
LCS 440-494567/2-A	Lab Control Sample	Dissolved	Water	SM 4500 S2 D	494567
LCSD 440-494567/3-A	Lab Control Sample Dup	Dissolved	Water	SM 4500 S2 D	494567
440-218102-B-1-B MS	Matrix Spike	Dissolved	Water	SM 4500 S2 D	494567
440-218102-B-1-C MSD	Matrix Spike Duplicate	Dissolved	Water	SM 4500 S2 D	494567

Analysis Batch: 494701

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-218305-1	Composite	Total/NA	Water	SM 5220D	
MB 440-494701/3	Method Blank	Total/NA	Water	SM 5220D	
LCS 440-494701/4	Lab Control Sample	Total/NA	Water	SM 5220D	
440-218016-D-1 MS	Matrix Spike	Total/NA	Water	SM 5220D	
440-218016-D-1 MSD	Matrix Spike Duplicate	Total/NA	Water	SM 5220D	

Analysis Batch: 494894

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-218305-1	Composite	Total/NA	Water	SM 2540D	
MB 440-494894/1	Method Blank	Total/NA	Water	SM 2540D	
LCS 440-494894/2	Lab Control Sample	Total/NA	Water	SM 2540D	
440-218543-B-1 DU	Duplicate	Total/NA	Water	SM 2540D	

Field Service / Mobile Lab

Analysis Batch: 494399

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-218305-2	Grab	Total/NA	Water	Field Sampling	

Qualifiers

General Chemistry

Qualifier	Qualifier Description
F1	MS and/or MSD Recovery is outside acceptance limits.
HF	Field parameter with a holding time of 15 minutes. Test performed by laboratory at client's request.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Accreditation/Certification Summary

Client: Jacob & Hefner Associates P.C.
Project/Site: Omega Chemical Wastewater

TestAmerica Job ID: 440-218305-1
SDG: Whittier

Laboratory: TestAmerica Irvine

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	EPA Region	Identification Number	Expiration Date
California	State Program	9	CA ELAP 2706	06-30-19

The following analytes are included in this report, but accreditation/certification is not offered by the governing authority:

Analysis Method	Prep Method	Matrix	Analyte
8260B		Water	1,1,2-Trichloro-1,2,2-trifluoroethane
8260B		Water	m,p-Xylene
8260B		Water	Total Volatile Organic Compounds
8270C	3520C	Water	2-Methylphenol
8270C	3520C	Water	3-Methylphenol + 4-Methylphenol
8270C	3520C	Water	4-Chloroaniline
8270C	3520C	Water	Benzidine
8270C SIM	3520C	Water	1,4-Dioxane
Field Sampling		Water	Field pH
Field Sampling		Water	Field Temperature

TestAmerica Irvine
17461 Derian Ave Suite 100
Irvine, CA 92614-5817
Phone (949) 261-1022 Fax (949) 260-3297

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Client Information	Sampler: Felipe Reyes	Lab PM: Roberts, Danielle C	Carrier Tracking No(s):	COC No.: 440-137466-24652.1
Client Contact: Trent Henderson	Phone: 714 651-2862	E-Mail: danielle.roberts@testamericainc.com		Page: Page 1 of 1
Company: Jacob & Hefner Associates P.C.				Job #:
Address: 15375 Barranca Parkway, J-101	Due Date Requested:			
City: Irvine	TAT Requested (days):			
State, Zip: CA, 92618				
Phone: 949-453-1045(Tel) 949-453-1047(Fax)	PO #: Omega Chemical Wastewater			
Email: thenderson@jacobhefner.com	WO #:			
Project Name: Omega Chemical Wastewater	Project #: 44003641			
Site: California	SSOW#:			

Analysis Requested

Preservation Codes:
A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA
M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Z - other (specify)
Other:

Sample Identification	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	5220D - COD	2540D - TSS	SM4500_S2_D - Dissolved Sulfide	8260B_LL - VOCs+Oxys+Ks+F113-LL	8270C, 8270C_SIM	SM4500_H+ - pH	8260B_LL - A+A+2CVE	Total Number of containers	Special Instructions/Note:
			Preservation Code:				S	N	B	A	N	N	N		
Composite	8/16-17/18	11:00	C	Water			x	x						2	ISCO start 8-16-18 10:00
Grab	8/17/18	11:15	G	Water					x	x	x	x	x	12	ISCO end 8-17-18 10:00
															Field Temp 19.2° C
															Field PH 8.40
															Meter start = 6026763 End = 6035222

440-218305 Chain of Custody

8/17/18 00:00

Possible Hazard Identification
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months

Deliverable Requested: I, II, III, IV, Other (specify)

Special Instructions/QC Requirements:

Empty Kit Relinquished by	Date:	Time:	Method of Shipment:		
Relinquished by:	Date/Time: 8/17/18 14:40	Company: B-T	Received by:	Date/Time:	Company:
Relinquished by:	Date/Time:	Company:	Received by:	Date/Time:	Company:
Relinquished by:	Date/Time:	Company:	Received by:	Date/Time: 8/17/18 1440	Company: TA IRV

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks: Temp 4.5/4.7° 1289

Ver: 08/04/2016

Login Sample Receipt Checklist

Client: Jacob & Hefner Associates P.C.

Job Number: 440-218305-1
SDG Number: Whittier

Login Number: 218305
List Number: 1
Creator: Avila, Stephanie 1

List Source: TestAmerica Irvine

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	N/A	Not present
Sample custody seals, if present, are intact.	N/A	Not Present
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.
TestAmerica Irvine
17461 Derian Ave
Suite 100
Irvine, CA 92614-5817
Tel: (949)261-1022

TestAmerica Job ID: 440-218620-1
TestAmerica Sample Delivery Group: Omega Chemical
Client Project/Site: Omega Chemical - SemiAnnual GWM 2018
Revision: 1

For:
de maximis, inc.
2365 Northside Drive, Suite C-100
San Diego, California 92108

Attn: Jaime Dinello

Authorized for release by:
8/31/2018 10:54:10 AM
Alain Mouton, Project Management Assistant I
alain.mouton@testamericainc.com

Designee for

Danielle Roberts, Senior Project Manager
(949)261-1022
danielle.roberts@testamericainc.com

LINKS

Review your project results through TotalAccess

Have a Question? Ask The Expert

Visit us at: www.testamericainc.com

The test results in this report meet all 2003 NELAC and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

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Sample Summary

Client: de maximis, inc.
Project/Site: Omega Chemical - SemiAnnual GWM 2018

TestAmerica Job ID: 440-218620-1
SDG: Omega Chemical

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
440-218620-1	OC_GW_OW-12_20180821	Water	08/21/18 12:40	08/22/18 18:35
440-218620-2	OC_GW_OW-3B_20180822	Water	08/22/18 08:35	08/22/18 18:35
440-218620-3	OC_GW_OW-8B_20180822	Water	08/22/18 10:03	08/22/18 18:35
440-218620-4	OC_GW_OW-1BN_20180822	Water	08/22/18 14:00	08/22/18 18:35
440-218620-5	OC_GW_TB1_20180822	Water	08/22/18 06:30	08/22/18 18:35
440-218620-6	OC_GW_TB_20180821	Water	08/21/18 06:30	08/22/18 18:35
440-218620-7	OC_GW_OW-12N_20180821	Water	08/21/18 14:10	08/22/18 18:35

Case Narrative

Client: de maximis, inc.
Project/Site: Omega Chemical - SemiAnnual GWM 2018

TestAmerica Job ID: 440-218620-1
SDG: Omega Chemical

Job ID: 440-218620-1

Laboratory: TestAmerica Irvine

Narrative

Job Narrative
440-218620-1

Comments
The report was revised on 08/31/18 to correct errors on sample IDs.

Receipt
The samples were received on 8/22/2018 6:35 PM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 5.2º C.

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

GC/MS Semi VOA
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Organic Prep
Method(s) 3520C: Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD) associated with preparation batch 440-495481. 3520C_8270-SIM 1,4 Dioxane/1,4 Dioxane.

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

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

Detection Summary

Client: de maximis, inc.
Project/Site: Omega Chemical - SemiAnnual GWM 2018

TestAmerica Job ID: 440-218620-1
SDG: Omega Chemical

Client Sample ID: OC_GW_OW-12_20180821 — Lab Sample ID: 440-218620-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,1,1-Trichloroethane	93		5.0	1.3	ug/L	5		8260B	Total/NA
1,1-Dichloroethane	1.5	J	5.0	1.3	ug/L	5		8260B	Total/NA
1,1-Dichloroethene	210		5.0	1.3	ug/L	5		8260B	Total/NA
1,2-Dichlorobenzene	2.7	J	5.0	1.3	ug/L	5		8260B	Total/NA
1,2-Dichloroethane	11		5.0	1.3	ug/L	5		8260B	Total/NA
Chloroform	290		5.0	1.3	ug/L	5		8260B	Total/NA
Toluene	11		5.0	1.3	ug/L	5		8260B	Total/NA
Trichloroethene	540		5.0	1.3	ug/L	5		8260B	Total/NA
Trichlorofluoromethane	120		5.0	1.3	ug/L	5		8260B	Total/NA
1,1,2-Trichloro-1,2,2-trifluoroethane - DL	1900		130	13	ug/L	25		8260B	Total/NA
Tetrachloroethene - DL	2400		25	6.3	ug/L	25		8260B	Total/NA
1,4-Dioxane	6.4		0.49	0.097	ug/L	1		8270C SIM	Total/NA

Client Sample ID: OC_GW_OW-3B_20180822 — Lab Sample ID: 440-218620-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Tetrachloroethene	9.2		1.0	0.25	ug/L	1		8260B	Total/NA

Client Sample ID: OC_GW_OW-8B_20180822 — Lab Sample ID: 440-218620-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,1,2-Trichloro-1,2,2-trifluoroethane	0.60	J	5.0	0.50	ug/L	1		8260B	Total/NA
Tetrachloroethene	23		1.0	0.25	ug/L	1		8260B	Total/NA

Client Sample ID: OC_GW_OW-1BN_20180822 — Lab Sample ID: 440-218620-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Acetone	28		10	10	ug/L	1		8260B	Total/NA
Tetrachloroethene	0.39	J	1.0	0.25	ug/L	1		8260B	Total/NA

Client Sample ID: OC_GW_TB1_20180822 — Lab Sample ID: 440-218620-5

No Detections.

Client Sample ID: OC_GW_TB_20180821 — Lab Sample ID: 440-218620-6

No Detections.

Client Sample ID: OC_GW_OW-12N_20180821 — Lab Sample ID: 440-218620-7

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Acetone	29		10	10	ug/L	1		8260B	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample Results

Client: de maximis, inc.
Project/Site: Omega Chemical - SemiAnnual GWM 2018

TestAmerica Job ID: 440-218620-1
SDG: Omega Chemical

Client Sample ID: OC_GW_OW-12_20180821

Lab Sample ID: 440-218620-1

Date Collected: 08/21/18 12:40
Matrix: Water
Date Received: 08/22/18 18:35

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		5.0	1.3	ug/L			08/24/18 14:17	5
1,1,1-Trichloroethane	**93**		5.0	1.3	ug/L			08/24/18 14:17	5
1,1,2,2-Tetrachloroethane	ND		5.0	1.3	ug/L			08/24/18 14:17	5
1,1,2-Trichloroethane	ND		5.0	1.3	ug/L			08/24/18 14:17	5
1,1-Dichloroethane	**1.5**	**J**	5.0	1.3	ug/L			08/24/18 14:17	5
1,1-Dichloroethene	**210**		5.0	1.3	ug/L			08/24/18 14:17	5
1,1-Dichloropropene	ND		5.0	1.3	ug/L			08/24/18 14:17	5
1,2,3-Trichlorobenzene	ND		5.0	2.0	ug/L			08/24/18 14:17	5
1,2,3-Trichloropropane	ND		5.0	2.0	ug/L			08/24/18 14:17	5
1,2,4-Trichlorobenzene	ND		5.0	2.0	ug/L			08/24/18 14:17	5
1,2,4-Trimethylbenzene	ND		5.0	1.3	ug/L			08/24/18 14:17	5
1,2-Dibromo-3-Chloropropane	ND		25	2.5	ug/L			08/24/18 14:17	5
1,2-Dibromoethane (EDB)	ND		5.0	1.3	ug/L			08/24/18 14:17	5
1,2-Dichlorobenzene	**2.7**	**J**	5.0	1.3	ug/L			08/24/18 14:17	5
1,2-Dichloroethane	**11**		5.0	1.3	ug/L			08/24/18 14:17	5
1,2-Dichloropropane	ND		5.0	1.3	ug/L			08/24/18 14:17	5
1,3,5-Trimethylbenzene	ND		5.0	1.3	ug/L			08/24/18 14:17	5
1,3-Dichlorobenzene	ND		5.0	1.3	ug/L			08/24/18 14:17	5
1,3-Dichloropropane	ND		5.0	1.3	ug/L			08/24/18 14:17	5
1,4-Dichlorobenzene	ND		5.0	1.3	ug/L			08/24/18 14:17	5
2,2-Dichloropropane	ND		5.0	2.0	ug/L			08/24/18 14:17	5
2-Chlorotoluene	ND		5.0	1.3	ug/L			08/24/18 14:17	5
4-Chlorotoluene	ND		5.0	1.3	ug/L			08/24/18 14:17	5
Acetone	ND		50	50	ug/L			08/24/18 14:17	5
Benzene	ND		2.5	1.3	ug/L			08/24/18 14:17	5
Bromobenzene	ND		5.0	1.3	ug/L			08/24/18 14:17	5
Bromochloromethane	ND		5.0	1.3	ug/L			08/24/18 14:17	5
Bromodichloromethane	ND		5.0	1.3	ug/L			08/24/18 14:17	5
Bromoform	ND		5.0	2.0	ug/L			08/24/18 14:17	5
Bromomethane	ND		5.0	1.3	ug/L			08/24/18 14:17	5
Carbon tetrachloride	ND		2.5	1.3	ug/L			08/24/18 14:17	5
Chlorobenzene	ND		5.0	1.3	ug/L			08/24/18 14:17	5
Chloroethane	ND		5.0	2.0	ug/L			08/24/18 14:17	5
Chloroform	**290**		5.0	1.3	ug/L			08/24/18 14:17	5
Chloromethane	ND		5.0	1.3	ug/L			08/24/18 14:17	5
cis-1,2-Dichloroethene	ND		5.0	1.3	ug/L			08/24/18 14:17	5
cis-1,3-Dichloropropene	ND		2.5	1.3	ug/L			08/24/18 14:17	5
Dibromochloromethane	ND		5.0	1.3	ug/L			08/24/18 14:17	5
Dibromomethane	ND		5.0	1.3	ug/L			08/24/18 14:17	5
Dichlorodifluoromethane	ND		5.0	2.0	ug/L			08/24/18 14:17	5
Ethylbenzene	ND		5.0	1.3	ug/L			08/24/18 14:17	5
Hexachlorobutadiene	ND		5.0	1.3	ug/L			08/24/18 14:17	5
Isopropyl alcohol	ND		1300	880	ug/L			08/24/18 14:17	5
Isopropylbenzene	ND		5.0	1.3	ug/L			08/24/18 14:17	5
m,p-Xylene	ND		5.0	2.5	ug/L			08/24/18 14:17	5
Methylene Chloride	ND		25	4.4	ug/L			08/24/18 14:17	5
Methyl-t-Butyl Ether (MTBE)	ND		5.0	1.3	ug/L			08/24/18 14:17	5
Naphthalene	ND		5.0	2.0	ug/L			08/24/18 14:17	5
n-Butylbenzene	ND		5.0	2.0	ug/L			08/24/18 14:17	5

Client Sample ID: OC_GW_OW-12_20180821

Lab Sample ID: 440-218620-1

Date Collected: 08/21/18 12:40
Matrix: Water
Date Received: 08/22/18 18:35

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
N-Propylbenzene	ND		5.0	1.3	ug/L			08/24/18 14:17	5
o-Xylene	ND		5.0	1.3	ug/L			08/24/18 14:17	5
p-Isopropyltoluene	ND		5.0	1.3	ug/L			08/24/18 14:17	5
sec-Butylbenzene	ND		5.0	1.3	ug/L			08/24/18 14:17	5
Styrene	ND		5.0	1.3	ug/L			08/24/18 14:17	5
tert-Butylbenzene	ND		5.0	1.3	ug/L			08/24/18 14:17	5
Toluene	**11**		5.0	1.3	ug/L			08/24/18 14:17	5
trans-1,2-Dichloroethene	ND		5.0	1.3	ug/L			08/24/18 14:17	5
trans-1,3-Dichloropropene	ND		2.5	1.3	ug/L			08/24/18 14:17	5
Trichloroethene	**540**		5.0	1.3	ug/L			08/24/18 14:17	5
Trichlorofluoromethane	**120**		5.0	1.3	ug/L			08/24/18 14:17	5
Vinyl chloride	ND		2.5	1.3	ug/L			08/24/18 14:17	5

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Unknown	*97*	*T J*	*ug/L*		*1.75*			*08/24/18 14:17*	*5*
Unknown	*630*	*T J*	*ug/L*		*1.82*			*08/24/18 14:17*	*5*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*110*		*70 - 130*		*08/24/18 14:17*	*5*
4-Bromofluorobenzene (Surr)	*97*		*80 - 120*		*08/24/18 14:17*	*5*
Dibromofluoromethane (Surr)	*110*		*76 - 132*		*08/24/18 14:17*	*5*
Toluene-d8 (Surr)	*104*		*80 - 128*		*08/24/18 14:17*	*5*

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,2-Trichloro-1,2,2-trifluoroethane	**1900**		130	13	ug/L			08/24/18 14:46	25
Tetrachloroethene	**2400**		25	6.3	ug/L			08/24/18 14:46	25

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Unknown	*500*	*T J*	*ug/L*		*1.75*			*08/24/18 14:46*	*25*
Unknown	*2600*	*T J*	*ug/L*		*1.82*			*08/24/18 14:46*	*25*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*111*		*70 - 130*		*08/24/18 14:46*	*25*
4-Bromofluorobenzene (Surr)	*96*		*80 - 120*		*08/24/18 14:46*	*25*
Dibromofluoromethane (Surr)	*114*		*76 - 132*		*08/24/18 14:46*	*25*
Toluene-d8 (Surr)	*106*		*80 - 128*		*08/24/18 14:46*	*25*

Method: 8270C SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	**6.4**		0.49	0.097	ug/L		08/24/18 07:29	08/26/18 11:01	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,4-Dioxane-d8 (Surr)	*56*		*27 - 120*	*08/24/18 07:29*	*08/26/18 11:01*	*1*

Client Sample Results

Client: de maximis, inc.
Project/Site: Omega Chemical - SemiAnnual GWM 2018

TestAmerica Job ID: 440-218620-1
SDG: Omega Chemical

Client Sample ID: OC_GW_OW-3B_20180822
Date Collected: 08/22/18 08:35
Date Received: 08/22/18 18:35

Lab Sample ID: 440-218620-2
Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		1.0	0.25	ug/L			08/24/18 09:46	1
1,1,1-Trichloroethane	ND		1.0	0.25	ug/L			08/24/18 09:46	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.25	ug/L			08/24/18 09:46	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		5.0	0.50	ug/L			08/24/18 09:46	1
1,1,2-Trichloroethane	ND		1.0	0.25	ug/L			08/24/18 09:46	1
1,1-Dichloroethane	ND		1.0	0.25	ug/L			08/24/18 09:46	1
1,1-Dichloroethene	ND		1.0	0.25	ug/L			08/24/18 09:46	1
1,1-Dichloropropene	ND		1.0	0.25	ug/L			08/24/18 09:46	1
1,2,3-Trichlorobenzene	ND		1.0	0.40	ug/L			08/24/18 09:46	1
1,2,3-Trichloropropane	ND		1.0	0.40	ug/L			08/24/18 09:46	1
1,2,4-Trichlorobenzene	ND		1.0	0.40	ug/L			08/24/18 09:46	1
1,2,4-Trimethylbenzene	ND		1.0	0.25	ug/L			08/24/18 09:46	1
1,2-Dibromo-3-Chloropropane	ND		5.0	0.50	ug/L			08/24/18 09:46	1
1,2-Dibromoethane (EDB)	ND		1.0	0.25	ug/L			08/24/18 09:46	1
1,2-Dichlorobenzene	ND		1.0	0.25	ug/L			08/24/18 09:46	1
1,2-Dichloroethane	ND		1.0	0.25	ug/L			08/24/18 09:46	1
1,2-Dichloropropane	ND		1.0	0.25	ug/L			08/24/18 09:46	1
1,3,5-Trimethylbenzene	ND		1.0	0.25	ug/L			08/24/18 09:46	1
1,3-Dichlorobenzene	ND		1.0	0.25	ug/L			08/24/18 09:46	1
1,3-Dichloropropane	ND		1.0	0.25	ug/L			08/24/18 09:46	1
1,4-Dichlorobenzene	ND		1.0	0.25	ug/L			08/24/18 09:46	1
2,2-Dichloropropane	ND		1.0	0.40	ug/L			08/24/18 09:46	1
2-Chlorotoluene	ND		1.0	0.25	ug/L			08/24/18 09:46	1
4-Chlorotoluene	ND		1.0	0.25	ug/L			08/24/18 09:46	1
Acetone	ND		10	10	ug/L			08/24/18 09:46	1
Benzene	ND		0.50	0.25	ug/L			08/24/18 09:46	1
Bromobenzene	ND		1.0	0.25	ug/L			08/24/18 09:46	1
Bromochloromethane	ND		1.0	0.25	ug/L			08/24/18 09:46	1
Bromodichloromethane	ND		1.0	0.25	ug/L			08/24/18 09:46	1
Bromoform	ND		1.0	0.40	ug/L			08/24/18 09:46	1
Bromomethane	ND		1.0	0.25	ug/L			08/24/18 09:46	1
Carbon tetrachloride	ND		0.50	0.25	ug/L			08/24/18 09:46	1
Chlorobenzene	ND		1.0	0.25	ug/L			08/24/18 09:46	1
Chloroethane	ND		1.0	0.40	ug/L			08/24/18 09:46	1
Chloroform	ND		1.0	0.25	ug/L			08/24/18 09:46	1
Chloromethane	ND		1.0	0.25	ug/L			08/24/18 09:46	1
cis-1,2-Dichloroethene	ND		1.0	0.25	ug/L			08/24/18 09:46	1
cis-1,3-Dichloropropene	ND		0.50	0.25	ug/L			08/24/18 09:46	1
Dibromochloromethane	ND		1.0	0.25	ug/L			08/24/18 09:46	1
Dibromomethane	ND		1.0	0.25	ug/L			08/24/18 09:46	1
Dichlorodifluoromethane	ND		1.0	0.40	ug/L			08/24/18 09:46	1
Ethylbenzene	ND		1.0	0.25	ug/L			08/24/18 09:46	1
Hexachlorobutadiene	ND		1.0	0.25	ug/L			08/24/18 09:46	1
Isopropyl alcohol	ND		250	180	ug/L			08/24/18 09:46	1
Isopropylbenzene	ND		1.0	0.25	ug/L			08/24/18 09:46	1
m,p-Xylene	ND		1.0	0.50	ug/L			08/24/18 09:46	1
Methylene Chloride	ND		5.0	0.88	ug/L			08/24/18 09:46	1
Methyl-t-Butyl Ether (MTBE)	ND		1.0	0.25	ug/L			08/24/18 09:46	1
Naphthalene	ND		1.0	0.40	ug/L			08/24/18 09:46	1

Client Sample ID: OC_GW_OW-3B_20180822

Lab Sample ID: 440-218620-2
Date Collected: 08/22/18 08:35
Matrix: Water
Date Received: 08/22/18 18:35

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
n-Butylbenzene	ND		1.0	0.40	ug/L			08/24/18 09:46	1
N-Propylbenzene	ND		1.0	0.25	ug/L			08/24/18 09:46	1
o-Xylene	ND		1.0	0.25	ug/L			08/24/18 09:46	1
p-Isopropyltoluene	ND		1.0	0.25	ug/L			08/24/18 09:46	1
sec-Butylbenzene	ND		1.0	0.25	ug/L			08/24/18 09:46	1
Styrene	ND		1.0	0.25	ug/L			08/24/18 09:46	1
tert-Butylbenzene	ND		1.0	0.25	ug/L			08/24/18 09:46	1
Tetrachloroethene	**9.2**		1.0	0.25	ug/L			08/24/18 09:46	1
Toluene	ND		1.0	0.25	ug/L			08/24/18 09:46	1
trans-1,2-Dichloroethene	ND		1.0	0.25	ug/L			08/24/18 09:46	1
trans-1,3-Dichloropropene	ND		0.50	0.25	ug/L			08/24/18 09:46	1
Trichloroethene	ND		1.0	0.25	ug/L			08/24/18 09:46	1
Trichlorofluoromethane	ND		1.0	0.25	ug/L			08/24/18 09:46	1
Vinyl chloride	ND		0.50	0.25	ug/L			08/24/18 09:46	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Unknown	*18*	*T J*	*ug/L*		*1.76*			*08/24/18 09:46*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*108*		*70 - 130*		*08/24/18 09:46*	*1*
4-Bromofluorobenzene (Surr)	*93*		*80 - 120*		*08/24/18 09:46*	*1*
Dibromofluoromethane (Surr)	*110*		*76 - 132*		*08/24/18 09:46*	*1*
Toluene-d8 (Surr)	*105*		*80 - 128*		*08/24/18 09:46*	*1*

Method: 8270C SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	ND		0.49	0.098	ug/L		08/24/18 07:29	08/26/18 11:25	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,4-Dioxane-d8 (Surr)	*57*		*27 - 120*	*08/24/18 07:29*	*08/26/18 11:25*	*1*

Client Sample ID: OC_GW_OW-8B_20180822

Lab Sample ID: 440-218620-3
Date Collected: 08/22/18 10:03
Matrix: Water
Date Received: 08/22/18 18:35

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		1.0	0.25	ug/L			08/24/18 15:16	1
1,1,1-Trichloroethane	ND		1.0	0.25	ug/L			08/24/18 15:16	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.25	ug/L			08/24/18 15:16	1
1,1,2-Trichloro-1,2,2-trifluoroethane	**0.60**	**J**	5.0	0.50	ug/L			08/24/18 15:16	1
1,1,2-Trichloroethane	ND		1.0	0.25	ug/L			08/24/18 15:16	1
1,1-Dichloroethane	ND		1.0	0.25	ug/L			08/24/18 15:16	1
1,1-Dichloroethene	ND		1.0	0.25	ug/L			08/24/18 15:16	1
1,1-Dichloropropene	ND		1.0	0.25	ug/L			08/24/18 15:16	1
1,2,3-Trichlorobenzene	ND		1.0	0.40	ug/L			08/24/18 15:16	1
1,2,3-Trichloropropane	ND		1.0	0.40	ug/L			08/24/18 15:16	1
1,2,4-Trichlorobenzene	ND		1.0	0.40	ug/L			08/24/18 15:16	1
1,2,4-Trimethylbenzene	ND		1.0	0.25	ug/L			08/24/18 15:16	1
1,2-Dibromo-3-Chloropropane	ND		5.0	0.50	ug/L			08/24/18 15:16	1

Client Sample Results

Client: de maximis, inc.
Project/Site: Omega Chemical - SemiAnnual GWM 2018

TestAmerica Job ID: 440-218620-1
SDG: Omega Chemical

Client Sample ID: OC_GW_OW-8B_20180822

Lab Sample ID: 440-218620-3

Date Collected: 08/22/18 10:03
Matrix: Water
Date Received: 08/22/18 18:35

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dibromoethane (EDB)	ND		1.0	0.25	ug/L			08/24/18 15:16	1
1,2-Dichlorobenzene	ND		1.0	0.25	ug/L			08/24/18 15:16	1
1,2-Dichloroethane	ND		1.0	0.25	ug/L			08/24/18 15:16	1
1,2-Dichloropropane	ND		1.0	0.25	ug/L			08/24/18 15:16	1
1,3,5-Trimethylbenzene	ND		1.0	0.25	ug/L			08/24/18 15:16	1
1,3-Dichlorobenzene	ND		1.0	0.25	ug/L			08/24/18 15:16	1
1,3-Dichloropropane	ND		1.0	0.25	ug/L			08/24/18 15:16	1
1,4-Dichlorobenzene	ND		1.0	0.25	ug/L			08/24/18 15:16	1
2,2-Dichloropropane	ND		1.0	0.40	ug/L			08/24/18 15:16	1
2-Chlorotoluene	ND		1.0	0.25	ug/L			08/24/18 15:16	1
4-Chlorotoluene	ND		1.0	0.25	ug/L			08/24/18 15:16	1
Acetone	ND		10	10	ug/L			08/24/18 15:16	1
Benzene	ND		0.50	0.25	ug/L			08/24/18 15:16	1
Bromobenzene	ND		1.0	0.25	ug/L			08/24/18 15:16	1
Bromochloromethane	ND		1.0	0.25	ug/L			08/24/18 15:16	1
Bromodichloromethane	ND		1.0	0.25	ug/L			08/24/18 15:16	1
Bromoform	ND		1.0	0.40	ug/L			08/24/18 15:16	1
Bromomethane	ND		1.0	0.25	ug/L			08/24/18 15:16	1
Carbon tetrachloride	ND		0.50	0.25	ug/L			08/24/18 15:16	1
Chlorobenzene	ND		1.0	0.25	ug/L			08/24/18 15:16	1
Chloroethane	ND		1.0	0.40	ug/L			08/24/18 15:16	1
Chloroform	ND		1.0	0.25	ug/L			08/24/18 15:16	1
Chloromethane	ND		1.0	0.25	ug/L			08/24/18 15:16	1
cis-1,2-Dichloroethene	ND		1.0	0.25	ug/L			08/24/18 15:16	1
cis-1,3-Dichloropropene	ND		0.50	0.25	ug/L			08/24/18 15:16	1
Dibromochloromethane	ND		1.0	0.25	ug/L			08/24/18 15:16	1
Dibromomethane	ND		1.0	0.25	ug/L			08/24/18 15:16	1
Dichlorodifluoromethane	ND		1.0	0.40	ug/L			08/24/18 15:16	1
Ethylbenzene	ND		1.0	0.25	ug/L			08/24/18 15:16	1
Hexachlorobutadiene	ND		1.0	0.25	ug/L			08/24/18 15:16	1
Isopropyl alcohol	ND		250	180	ug/L			08/24/18 15:16	1
Isopropylbenzene	ND		1.0	0.25	ug/L			08/24/18 15:16	1
m,p-Xylene	ND		1.0	0.50	ug/L			08/24/18 15:16	1
Methylene Chloride	ND		5.0	0.88	ug/L			08/24/18 15:16	1
Methyl-t-Butyl Ether (MTBE)	ND		1.0	0.25	ug/L			08/24/18 15:16	1
Naphthalene	ND		1.0	0.40	ug/L			08/24/18 15:16	1
n-Butylbenzene	ND		1.0	0.40	ug/L			08/24/18 15:16	1
N-Propylbenzene	ND		1.0	0.25	ug/L			08/24/18 15:16	1
o-Xylene	ND		1.0	0.25	ug/L			08/24/18 15:16	1
p-Isopropyltoluene	ND		1.0	0.25	ug/L			08/24/18 15:16	1
sec-Butylbenzene	ND		1.0	0.25	ug/L			08/24/18 15:16	1
Styrene	ND		1.0	0.25	ug/L			08/24/18 15:16	1
tert-Butylbenzene	ND		1.0	0.25	ug/L			08/24/18 15:16	1
Tetrachloroethene	**23**		1.0	0.25	ug/L			08/24/18 15:16	1
Toluene	ND		1.0	0.25	ug/L			08/24/18 15:16	1
trans-1,2-Dichloroethene	ND		1.0	0.25	ug/L			08/24/18 15:16	1
trans-1,3-Dichloropropene	ND		0.50	0.25	ug/L			08/24/18 15:16	1
Trichloroethene	ND		1.0	0.25	ug/L			08/24/18 15:16	1
Trichlorofluoromethane	ND		1.0	0.25	ug/L			08/24/18 15:16	1

Client Sample ID: OC_GW_OW-8B_20180822

Lab Sample ID: 440-218620-3
Date Collected: 08/22/18 10:03
Matrix: Water
Date Received: 08/22/18 18:35

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Vinyl chloride	ND		0.50	0.25	ug/L			08/24/18 15:16	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Unknown	*19*	*T J*	*ug/L*		*1.75*			*08/24/18 15:16*	*1*
Unknown	*300*	*T J*	*ug/L*		*1.82*			*08/24/18 15:16*	*1*
Unknown	*2.5*	*T J*	*ug/L*		*4.56*			*08/24/18 15:16*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*115*		*70 - 130*		*08/24/18 15:16*	*1*
4-Bromofluorobenzene (Surr)	*94*		*80 - 120*		*08/24/18 15:16*	*1*
Dibromofluoromethane (Surr)	*113*		*76 - 132*		*08/24/18 15:16*	*1*
Toluene-d8 (Surr)	*103*		*80 - 128*		*08/24/18 15:16*	*1*

Method: 8270C SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	ND		0.49	0.098	ug/L		08/24/18 07:29	08/26/18 11:48	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,4-Dioxane-d8 (Surr)	*55*		*27 - 120*	*08/24/18 07:29*	*08/26/18 11:48*	*1*

Client Sample ID: OC_GW_OW-1BN_20180822

Lab Sample ID: 440-218620-4
Date Collected: 08/22/18 14:00
Matrix: Water
Date Received: 08/22/18 18:35

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		1.0	0.25	ug/L			08/24/18 15:45	1
1,1,1-Trichloroethane	ND		1.0	0.25	ug/L			08/24/18 15:45	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.25	ug/L			08/24/18 15:45	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		5.0	0.50	ug/L			08/24/18 15:45	1
1,1,2-Trichloroethane	ND		1.0	0.25	ug/L			08/24/18 15:45	1
1,1-Dichloroethane	ND		1.0	0.25	ug/L			08/24/18 15:45	1
1,1-Dichloroethene	ND		1.0	0.25	ug/L			08/24/18 15:45	1
1,1-Dichloropropene	ND		1.0	0.25	ug/L			08/24/18 15:45	1
1,2,3-Trichlorobenzene	ND		1.0	0.40	ug/L			08/24/18 15:45	1
1,2,3-Trichloropropane	ND		1.0	0.40	ug/L			08/24/18 15:45	1
1,2,4-Trichlorobenzene	ND		1.0	0.40	ug/L			08/24/18 15:45	1
1,2,4-Trimethylbenzene	ND		1.0	0.25	ug/L			08/24/18 15:45	1
1,2-Dibromo-3-Chloropropane	ND		5.0	0.50	ug/L			08/24/18 15:45	1
1,2-Dibromoethane (EDB)	ND		1.0	0.25	ug/L			08/24/18 15:45	1
1,2-Dichlorobenzene	ND		1.0	0.25	ug/L			08/24/18 15:45	1
1,2-Dichloroethane	ND		1.0	0.25	ug/L			08/24/18 15:45	1
1,2-Dichloropropane	ND		1.0	0.25	ug/L			08/24/18 15:45	1
1,3,5-Trimethylbenzene	ND		1.0	0.25	ug/L			08/24/18 15:45	1
1,3-Dichlorobenzene	ND		1.0	0.25	ug/L			08/24/18 15:45	1
1,3-Dichloropropane	ND		1.0	0.25	ug/L			08/24/18 15:45	1
1,4-Dichlorobenzene	ND		1.0	0.25	ug/L			08/24/18 15:45	1
2,2-Dichloropropane	ND		1.0	0.40	ug/L			08/24/18 15:45	1
2-Chlorotoluene	ND		1.0	0.25	ug/L			08/24/18 15:45	1
4-Chlorotoluene	ND		1.0	0.25	ug/L			08/24/18 15:45	1
Acetone	**28**		10	10	ug/L			08/24/18 15:45	1

Client Sample ID: OC_GW_OW-1BN_20180822

Lab Sample ID: 440-218620-4

Date Collected: 08/22/18 14:00
Matrix: Water
Date Received: 08/22/18 18:35

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.50	0.25	ug/L			08/24/18 15:45	1
Bromobenzene	ND		1.0	0.25	ug/L			08/24/18 15:45	1
Bromochloromethane	ND		1.0	0.25	ug/L			08/24/18 15:45	1
Bromodichloromethane	ND		1.0	0.25	ug/L			08/24/18 15:45	1
Bromoform	ND		1.0	0.40	ug/L			08/24/18 15:45	1
Bromomethane	ND		1.0	0.25	ug/L			08/24/18 15:45	1
Carbon tetrachloride	ND		0.50	0.25	ug/L			08/24/18 15:45	1
Chlorobenzene	ND		1.0	0.25	ug/L			08/24/18 15:45	1
Chloroethane	ND		1.0	0.40	ug/L			08/24/18 15:45	1
Chloroform	ND		1.0	0.25	ug/L			08/24/18 15:45	1
Chloromethane	ND		1.0	0.25	ug/L			08/24/18 15:45	1
cis-1,2-Dichloroethene	ND		1.0	0.25	ug/L			08/24/18 15:45	1
cis-1,3-Dichloropropene	ND		0.50	0.25	ug/L			08/24/18 15:45	1
Dibromochloromethane	ND		1.0	0.25	ug/L			08/24/18 15:45	1
Dibromomethane	ND		1.0	0.25	ug/L			08/24/18 15:45	1
Dichlorodifluoromethane	ND		1.0	0.40	ug/L			08/24/18 15:45	1
Ethylbenzene	ND		1.0	0.25	ug/L			08/24/18 15:45	1
Hexachlorobutadiene	ND		1.0	0.25	ug/L			08/24/18 15:45	1
Isopropyl alcohol	ND		250	180	ug/L			08/24/18 15:45	1
Isopropylbenzene	ND		1.0	0.25	ug/L			08/24/18 15:45	1
m,p-Xylene	ND		1.0	0.50	ug/L			08/24/18 15:45	1
Methylene Chloride	ND		5.0	0.88	ug/L			08/24/18 15:45	1
Methyl-t-Butyl Ether (MTBE)	ND		1.0	0.25	ug/L			08/24/18 15:45	1
Naphthalene	ND		1.0	0.40	ug/L			08/24/18 15:45	1
n-Butylbenzene	ND		1.0	0.40	ug/L			08/24/18 15:45	1
N-Propylbenzene	ND		1.0	0.25	ug/L			08/24/18 15:45	1
o-Xylene	ND		1.0	0.25	ug/L			08/24/18 15:45	1
p-Isopropyltoluene	ND		1.0	0.25	ug/L			08/24/18 15:45	1
sec-Butylbenzene	ND		1.0	0.25	ug/L			08/24/18 15:45	1
Styrene	ND		1.0	0.25	ug/L			08/24/18 15:45	1
tert-Butylbenzene	ND		1.0	0.25	ug/L			08/24/18 15:45	1
Tetrachloroethene	**0.39**	**J**	1.0	0.25	ug/L			08/24/18 15:45	1
Toluene	ND		1.0	0.25	ug/L			08/24/18 15:45	1
trans-1,2-Dichloroethene	ND		1.0	0.25	ug/L			08/24/18 15:45	1
trans-1,3-Dichloropropene	ND		0.50	0.25	ug/L			08/24/18 15:45	1
Trichloroethene	ND		1.0	0.25	ug/L			08/24/18 15:45	1
Trichlorofluoromethane	ND		1.0	0.25	ug/L			08/24/18 15:45	1
Vinyl chloride	ND		0.50	0.25	ug/L			08/24/18 15:45	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Unknown	*21*	*T J*	*ug/L*		*1.76*			*08/24/18 15:45*	*1*
Unknown	*100*	*T J*	*ug/L*		*1.82*			*08/24/18 15:45*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*110*		*70 - 130*		*08/24/18 15:45*	*1*
4-Bromofluorobenzene (Surr)	*95*		*80 - 120*		*08/24/18 15:45*	*1*
Dibromofluoromethane (Surr)	*112*		*76 - 132*		*08/24/18 15:45*	*1*
Toluene-d8 (Surr)	*104*		*80 - 128*		*08/24/18 15:45*	*1*

Client Sample Results

Client: de maximis, inc.
Project/Site: Omega Chemical - SemiAnnual GWM 2018

TestAmerica Job ID: 440-218620-1
SDG: Omega Chemical

Client Sample ID: OC_GW_TB1_20180822

Lab Sample ID: 440-218620-5

Date Collected: 08/22/18 06:30
Matrix: Water
Date Received: 08/22/18 18:35

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		1.0	0.25	ug/L			08/24/18 16:15	1
1,1,1-Trichloroethane	ND		1.0	0.25	ug/L			08/24/18 16:15	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.25	ug/L			08/24/18 16:15	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		5.0	0.50	ug/L			08/24/18 16:15	1
1,1,2-Trichloroethane	ND		1.0	0.25	ug/L			08/24/18 16:15	1
1,1-Dichloroethane	ND		1.0	0.25	ug/L			08/24/18 16:15	1
1,1-Dichloroethene	ND		1.0	0.25	ug/L			08/24/18 16:15	1
1,1-Dichloropropene	ND		1.0	0.25	ug/L			08/24/18 16:15	1
1,2,3-Trichlorobenzene	ND		1.0	0.40	ug/L			08/24/18 16:15	1
1,2,3-Trichloropropane	ND		1.0	0.40	ug/L			08/24/18 16:15	1
1,2,4-Trichlorobenzene	ND		1.0	0.40	ug/L			08/24/18 16:15	1
1,2,4-Trimethylbenzene	ND		1.0	0.25	ug/L			08/24/18 16:15	1
1,2-Dibromo-3-Chloropropane	ND		5.0	0.50	ug/L			08/24/18 16:15	1
1,2-Dibromoethane (EDB)	ND		1.0	0.25	ug/L			08/24/18 16:15	1
1,2-Dichlorobenzene	ND		1.0	0.25	ug/L			08/24/18 16:15	1
1,2-Dichloroethane	ND		1.0	0.25	ug/L			08/24/18 16:15	1
1,2-Dichloropropane	ND		1.0	0.25	ug/L			08/24/18 16:15	1
1,3,5-Trimethylbenzene	ND		1.0	0.25	ug/L			08/24/18 16:15	1
1,3-Dichlorobenzene	ND		1.0	0.25	ug/L			08/24/18 16:15	1
1,3-Dichloropropane	ND		1.0	0.25	ug/L			08/24/18 16:15	1
1,4-Dichlorobenzene	ND		1.0	0.25	ug/L			08/24/18 16:15	1
2,2-Dichloropropane	ND		1.0	0.40	ug/L			08/24/18 16:15	1
2-Chlorotoluene	ND		1.0	0.25	ug/L			08/24/18 16:15	1
4-Chlorotoluene	ND		1.0	0.25	ug/L			08/24/18 16:15	1
Acetone	ND		10	10	ug/L			08/24/18 16:15	1
Benzene	ND		0.50	0.25	ug/L			08/24/18 16:15	1
Bromobenzene	ND		1.0	0.25	ug/L			08/24/18 16:15	1
Bromochloromethane	ND		1.0	0.25	ug/L			08/24/18 16:15	1
Bromodichloromethane	ND		1.0	0.25	ug/L			08/24/18 16:15	1
Bromoform	ND		1.0	0.40	ug/L			08/24/18 16:15	1
Bromomethane	ND		1.0	0.25	ug/L			08/24/18 16:15	1
Carbon tetrachloride	ND		0.50	0.25	ug/L			08/24/18 16:15	1
Chlorobenzene	ND		1.0	0.25	ug/L			08/24/18 16:15	1
Chloroethane	ND		1.0	0.40	ug/L			08/24/18 16:15	1
Chloroform	ND		1.0	0.25	ug/L			08/24/18 16:15	1
Chloromethane	ND		1.0	0.25	ug/L			08/24/18 16:15	1
cis-1,2-Dichloroethene	ND		1.0	0.25	ug/L			08/24/18 16:15	1
cis-1,3-Dichloropropene	ND		0.50	0.25	ug/L			08/24/18 16:15	1
Dibromochloromethane	ND		1.0	0.25	ug/L			08/24/18 16:15	1
Dibromomethane	ND		1.0	0.25	ug/L			08/24/18 16:15	1
Dichlorodifluoromethane	ND		1.0	0.40	ug/L			08/24/18 16:15	1
Ethylbenzene	ND		1.0	0.25	ug/L			08/24/18 16:15	1
Hexachlorobutadiene	ND		1.0	0.25	ug/L			08/24/18 16:15	1
Isopropyl alcohol	ND		250	180	ug/L			08/24/18 16:15	1
Isopropylbenzene	ND		1.0	0.25	ug/L			08/24/18 16:15	1
m,p-Xylene	ND		1.0	0.50	ug/L			08/24/18 16:15	1
Methylene Chloride	ND		5.0	0.88	ug/L			08/24/18 16:15	1
Methyl-t-Butyl Ether (MTBE)	ND		1.0	0.25	ug/L			08/24/18 16:15	1
Naphthalene	ND		1.0	0.40	ug/L			08/24/18 16:15	1

Client Sample ID: OC_GW_TB1_20180822

Lab Sample ID: 440-218620-5

Date Collected: 08/22/18 06:30
Matrix: Water
Date Received: 08/22/18 18:35

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
n-Butylbenzene	ND		1.0	0.40	ug/L			08/24/18 16:15	1
N-Propylbenzene	ND		1.0	0.25	ug/L			08/24/18 16:15	1
o-Xylene	ND		1.0	0.25	ug/L			08/24/18 16:15	1
p-Isopropyltoluene	ND		1.0	0.25	ug/L			08/24/18 16:15	1
sec-Butylbenzene	ND		1.0	0.25	ug/L			08/24/18 16:15	1
Styrene	ND		1.0	0.25	ug/L			08/24/18 16:15	1
tert-Butylbenzene	ND		1.0	0.25	ug/L			08/24/18 16:15	1
Tetrachloroethene	ND		1.0	0.25	ug/L			08/24/18 16:15	1
Toluene	ND		1.0	0.25	ug/L			08/24/18 16:15	1
trans-1,2-Dichloroethene	ND		1.0	0.25	ug/L			08/24/18 16:15	1
trans-1,3-Dichloropropene	ND		0.50	0.25	ug/L			08/24/18 16:15	1
Trichloroethene	ND		1.0	0.25	ug/L			08/24/18 16:15	1
Trichlorofluoromethane	ND		1.0	0.25	ug/L			08/24/18 16:15	1
Vinyl chloride	ND		0.50	0.25	ug/L			08/24/18 16:15	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Unknown	*27*	*T J*	*ug/L*		*1.76*			*08/24/18 16:15*	*1*
Unknown	*57*	*T J*	*ug/L*		*1.82*			*08/24/18 16:15*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*114*		*70 - 130*		*08/24/18 16:15*	*1*
4-Bromofluorobenzene (Surr)	*93*		*80 - 120*		*08/24/18 16:15*	*1*
Dibromofluoromethane (Surr)	*114*		*76 - 132*		*08/24/18 16:15*	*1*
Toluene-d8 (Surr)	*105*		*80 - 128*		*08/24/18 16:15*	*1*

Client Sample ID: OC_GW_TB_20180821

Lab Sample ID: 440-218620-6

Date Collected: 08/21/18 06:30
Matrix: Water
Date Received: 08/22/18 18:35

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		1.0	0.25	ug/L			08/24/18 16:45	1
1,1,1-Trichloroethane	ND		1.0	0.25	ug/L			08/24/18 16:45	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.25	ug/L			08/24/18 16:45	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		5.0	0.50	ug/L			08/24/18 16:45	1
1,1,2-Trichloroethane	ND		1.0	0.25	ug/L			08/24/18 16:45	1
1,1-Dichloroethane	ND		1.0	0.25	ug/L			08/24/18 16:45	1
1,1-Dichloroethene	ND		1.0	0.25	ug/L			08/24/18 16:45	1
1,1-Dichloropropene	ND		1.0	0.25	ug/L			08/24/18 16:45	1
1,2,3-Trichlorobenzene	ND		1.0	0.40	ug/L			08/24/18 16:45	1
1,2,3-Trichloropropane	ND		1.0	0.40	ug/L			08/24/18 16:45	1
1,2,4-Trichlorobenzene	ND		1.0	0.40	ug/L			08/24/18 16:45	1
1,2,4-Trimethylbenzene	ND		1.0	0.25	ug/L			08/24/18 16:45	1
1,2-Dibromo-3-Chloropropane	ND		5.0	0.50	ug/L			08/24/18 16:45	1
1,2-Dibromoethane (EDB)	ND		1.0	0.25	ug/L			08/24/18 16:45	1
1,2-Dichlorobenzene	ND		1.0	0.25	ug/L			08/24/18 16:45	1
1,2-Dichloroethane	ND		1.0	0.25	ug/L			08/24/18 16:45	1
1,2-Dichloropropane	ND		1.0	0.25	ug/L			08/24/18 16:45	1
1,3,5-Trimethylbenzene	ND		1.0	0.25	ug/L			08/24/18 16:45	1
1,3-Dichlorobenzene	ND		1.0	0.25	ug/L			08/24/18 16:45	1

Client Sample ID: OC_GW_TB_20180821

Lab Sample ID: 440-218620-6

Date Collected: 08/21/18 06:30
Matrix: Water
Date Received: 08/22/18 18:35

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,3-Dichloropropane	ND		1.0	0.25	ug/L			08/24/18 16:45	1
1,4-Dichlorobenzene	ND		1.0	0.25	ug/L			08/24/18 16:45	1
2,2-Dichloropropane	ND		1.0	0.40	ug/L			08/24/18 16:45	1
2-Chlorotoluene	ND		1.0	0.25	ug/L			08/24/18 16:45	1
4-Chlorotoluene	ND		1.0	0.25	ug/L			08/24/18 16:45	1
Acetone	ND		10	10	ug/L			08/24/18 16:45	1
Benzene	ND		0.50	0.25	ug/L			08/24/18 16:45	1
Bromobenzene	ND		1.0	0.25	ug/L			08/24/18 16:45	1
Bromochloromethane	ND		1.0	0.25	ug/L			08/24/18 16:45	1
Bromodichloromethane	ND		1.0	0.25	ug/L			08/24/18 16:45	1
Bromoform	ND		1.0	0.40	ug/L			08/24/18 16:45	1
Bromomethane	ND		1.0	0.25	ug/L			08/24/18 16:45	1
Carbon tetrachloride	ND		0.50	0.25	ug/L			08/24/18 16:45	1
Chlorobenzene	ND		1.0	0.25	ug/L			08/24/18 16:45	1
Chloroethane	ND		1.0	0.40	ug/L			08/24/18 16:45	1
Chloroform	ND		1.0	0.25	ug/L			08/24/18 16:45	1
Chloromethane	ND		1.0	0.25	ug/L			08/24/18 16:45	1
cis-1,2-Dichloroethene	ND		1.0	0.25	ug/L			08/24/18 16:45	1
cis-1,3-Dichloropropene	ND		0.50	0.25	ug/L			08/24/18 16:45	1
Dibromochloromethane	ND		1.0	0.25	ug/L			08/24/18 16:45	1
Dibromomethane	ND		1.0	0.25	ug/L			08/24/18 16:45	1
Dichlorodifluoromethane	ND		1.0	0.40	ug/L			08/24/18 16:45	1
Ethylbenzene	ND		1.0	0.25	ug/L			08/24/18 16:45	1
Hexachlorobutadiene	ND		1.0	0.25	ug/L			08/24/18 16:45	1
Isopropyl alcohol	ND		250	180	ug/L			08/24/18 16:45	1
Isopropylbenzene	ND		1.0	0.25	ug/L			08/24/18 16:45	1
m,p-Xylene	ND		1.0	0.50	ug/L			08/24/18 16:45	1
Methylene Chloride	ND		5.0	0.88	ug/L			08/24/18 16:45	1
Methyl-t-Butyl Ether (MTBE)	ND		1.0	0.25	ug/L			08/24/18 16:45	1
Naphthalene	ND		1.0	0.40	ug/L			08/24/18 16:45	1
n-Butylbenzene	ND		1.0	0.40	ug/L			08/24/18 16:45	1
N-Propylbenzene	ND		1.0	0.25	ug/L			08/24/18 16:45	1
o-Xylene	ND		1.0	0.25	ug/L			08/24/18 16:45	1
p-Isopropyltoluene	ND		1.0	0.25	ug/L			08/24/18 16:45	1
sec-Butylbenzene	ND		1.0	0.25	ug/L			08/24/18 16:45	1
Styrene	ND		1.0	0.25	ug/L			08/24/18 16:45	1
tert-Butylbenzene	ND		1.0	0.25	ug/L			08/24/18 16:45	1
Tetrachloroethene	ND		1.0	0.25	ug/L			08/24/18 16:45	1
Toluene	ND		1.0	0.25	ug/L			08/24/18 16:45	1
trans-1,2-Dichloroethene	ND		1.0	0.25	ug/L			08/24/18 16:45	1
trans-1,3-Dichloropropene	ND		0.50	0.25	ug/L			08/24/18 16:45	1
Trichloroethene	ND		1.0	0.25	ug/L			08/24/18 16:45	1
Trichlorofluoromethane	ND		1.0	0.25	ug/L			08/24/18 16:45	1
Vinyl chloride	ND		0.50	0.25	ug/L			08/24/18 16:45	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Unknown	*26*	*T J*	*ug/L*		*1.76*			*08/24/18 16:45*	*1*
Unknown	*41*	*T J*	*ug/L*		*1.82*			*08/24/18 16:45*	*1*

Client Sample Results

Client: de maximis, inc.
Project/Site: Omega Chemical - SemiAnnual GWM 2018

TestAmerica Job ID: 440-218620-1
SDG: Omega Chemical

Client Sample ID: OC_GW_TB_20180821

Lab Sample ID: 440-218620-6
Date Collected: 08/21/18 06:30
Matrix: Water
Date Received: 08/22/18 18:35

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	113		70 - 130		08/24/18 16:45	1
4-Bromofluorobenzene (Surr)	96		80 - 120		08/24/18 16:45	1
Dibromofluoromethane (Surr)	111		76 - 132		08/24/18 16:45	1
Toluene-d8 (Surr)	103		80 - 128		08/24/18 16:45	1

Client Sample ID: OC_GW_OW-12N_20180821

Lab Sample ID: 440-218620-7
Date Collected: 08/21/18 14:10
Matrix: Water
Date Received: 08/22/18 18:35

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		1.0	0.25	ug/L			08/24/18 17:14	1
1,1,1-Trichloroethane	ND		1.0	0.25	ug/L			08/24/18 17:14	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.25	ug/L			08/24/18 17:14	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		5.0	0.50	ug/L			08/24/18 17:14	1
1,1,2-Trichloroethane	ND		1.0	0.25	ug/L			08/24/18 17:14	1
1,1-Dichloroethane	ND		1.0	0.25	ug/L			08/24/18 17:14	1
1,1-Dichloroethene	ND		1.0	0.25	ug/L			08/24/18 17:14	1
1,1-Dichloropropene	ND		1.0	0.25	ug/L			08/24/18 17:14	1
1,2,3-Trichlorobenzene	ND		1.0	0.40	ug/L			08/24/18 17:14	1
1,2,3-Trichloropropane	ND		1.0	0.40	ug/L			08/24/18 17:14	1
1,2,4-Trichlorobenzene	ND		1.0	0.40	ug/L			08/24/18 17:14	1
1,2,4-Trimethylbenzene	ND		1.0	0.25	ug/L			08/24/18 17:14	1
1,2-Dibromo-3-Chloropropane	ND		5.0	0.50	ug/L			08/24/18 17:14	1
1,2-Dibromoethane (EDB)	ND		1.0	0.25	ug/L			08/24/18 17:14	1
1,2-Dichlorobenzene	ND		1.0	0.25	ug/L			08/24/18 17:14	1
1,2-Dichloroethane	ND		1.0	0.25	ug/L			08/24/18 17:14	1
1,2-Dichloropropane	ND		1.0	0.25	ug/L			08/24/18 17:14	1
1,3,5-Trimethylbenzene	ND		1.0	0.25	ug/L			08/24/18 17:14	1
1,3-Dichlorobenzene	ND		1.0	0.25	ug/L			08/24/18 17:14	1
1,3-Dichloropropane	ND		1.0	0.25	ug/L			08/24/18 17:14	1
1,4-Dichlorobenzene	ND		1.0	0.25	ug/L			08/24/18 17:14	1
2,2-Dichloropropane	ND		1.0	0.40	ug/L			08/24/18 17:14	1
2-Chlorotoluene	ND		1.0	0.25	ug/L			08/24/18 17:14	1
4-Chlorotoluene	ND		1.0	0.25	ug/L			08/24/18 17:14	1
Acetone	**29**		10	10	ug/L			08/24/18 17:14	1
Benzene	ND		0.50	0.25	ug/L			08/24/18 17:14	1
Bromobenzene	ND		1.0	0.25	ug/L			08/24/18 17:14	1
Bromochloromethane	ND		1.0	0.25	ug/L			08/24/18 17:14	1
Bromodichloromethane	ND		1.0	0.25	ug/L			08/24/18 17:14	1
Bromoform	ND		1.0	0.40	ug/L			08/24/18 17:14	1
Bromomethane	ND		1.0	0.25	ug/L			08/24/18 17:14	1
Carbon tetrachloride	ND		0.50	0.25	ug/L			08/24/18 17:14	1
Chlorobenzene	ND		1.0	0.25	ug/L			08/24/18 17:14	1
Chloroethane	ND		1.0	0.40	ug/L			08/24/18 17:14	1
Chloroform	ND		1.0	0.25	ug/L			08/24/18 17:14	1
Chloromethane	ND		1.0	0.25	ug/L			08/24/18 17:14	1
cis-1,2-Dichloroethene	ND		1.0	0.25	ug/L			08/24/18 17:14	1
cis-1,3-Dichloropropene	ND		0.50	0.25	ug/L			08/24/18 17:14	1
Dibromochloromethane	ND		1.0	0.25	ug/L			08/24/18 17:14	1

Client Sample ID: OC_GW_OW-12N_20180821

Lab Sample ID: 440-218620-7

Date Collected: 08/21/18 14:10

Matrix: Water

Date Received: 08/22/18 18:35

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dibromomethane	ND		1.0	0.25	ug/L			08/24/18 17:14	1
Dichlorodifluoromethane	ND		1.0	0.40	ug/L			08/24/18 17:14	1
Ethylbenzene	ND		1.0	0.25	ug/L			08/24/18 17:14	1
Hexachlorobutadiene	ND		1.0	0.25	ug/L			08/24/18 17:14	1
Isopropyl alcohol	ND		250	180	ug/L			08/24/18 17:14	1
Isopropylbenzene	ND		1.0	0.25	ug/L			08/24/18 17:14	1
m,p-Xylene	ND		1.0	0.50	ug/L			08/24/18 17:14	1
Methylene Chloride	ND		5.0	0.88	ug/L			08/24/18 17:14	1
Methyl-t-Butyl Ether (MTBE)	ND		1.0	0.25	ug/L			08/24/18 17:14	1
Naphthalene	ND		1.0	0.40	ug/L			08/24/18 17:14	1
n-Butylbenzene	ND		1.0	0.40	ug/L			08/24/18 17:14	1
N-Propylbenzene	ND		1.0	0.25	ug/L			08/24/18 17:14	1
o-Xylene	ND		1.0	0.25	ug/L			08/24/18 17:14	1
p-Isopropyltoluene	ND		1.0	0.25	ug/L			08/24/18 17:14	1
sec-Butylbenzene	ND		1.0	0.25	ug/L			08/24/18 17:14	1
Styrene	ND		1.0	0.25	ug/L			08/24/18 17:14	1
tert-Butylbenzene	ND		1.0	0.25	ug/L			08/24/18 17:14	1
Tetrachloroethene	ND		1.0	0.25	ug/L			08/24/18 17:14	1
Toluene	ND		1.0	0.25	ug/L			08/24/18 17:14	1
trans-1,2-Dichloroethene	ND		1.0	0.25	ug/L			08/24/18 17:14	1
trans-1,3-Dichloropropene	ND		0.50	0.25	ug/L			08/24/18 17:14	1
Trichloroethene	ND		1.0	0.25	ug/L			08/24/18 17:14	1
Trichlorofluoromethane	ND		1.0	0.25	ug/L			08/24/18 17:14	1
Vinyl chloride	ND		0.50	0.25	ug/L			08/24/18 17:14	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Unknown	*30*	*T J*	*ug/L*		*1.76*			*08/24/18 17:14*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*109*		*70 - 130*		*08/24/18 17:14*	*1*
4-Bromofluorobenzene (Surr)	*94*		*80 - 120*		*08/24/18 17:14*	*1*
Dibromofluoromethane (Surr)	*112*		*76 - 132*		*08/24/18 17:14*	*1*
Toluene-d8 (Surr)	*106*		*80 - 128*		*08/24/18 17:14*	*1*

Surrogate Summary

Client: de maximis, inc.
Project/Site: Omega Chemical - SemiAnnual GWM 2018

TestAmerica Job ID: 440-218620-1
SDG: Omega Chemical

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

Matrix: Water **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)			
		DCA	BFB	DBFM	TOL
Lab Sample ID	Client Sample ID	(70-130)	(80-120)	(76-132)	(80-128)
440-218620-1	OC_GW_OW-12_20180821	110	97	110	104
440-218620-1 - DL	OC_GW_OW-12_20180821	111	96	114	106
440-218620-2	OC_GW_OW-3B_20180822	108	93	110	105
440-218620-2 MS	OC_GW_OW-3B_20180822	112	96	110	98
440-218620-2 MSD	OC_GW_OW-3B_20180822	105	95	110	98
440-218620-3	OC_GW_OW-8B_20180822	115	94	113	103
440-218620-4	OC_GW_OW-1BN_20180822	110	95	112	104
440-218620-5	OC_GW_TB1_20180822	114	93	114	105
440-218620-6	OC_GW_TB_20180821	113	96	111	103
440-218620-7	OC_GW_OW-12N_20180821	109	94	112	106
LCS 440-495462/5	Lab Control Sample	108	94	114	99
MB 440-495462/4	Method Blank	111	95	110	106

Surrogate Legend

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

Method: 8270C SIM - Semivolatile Organic Compounds (GC/MS SIM)

Matrix: Water **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)
		DXE
Lab Sample ID	Client Sample ID	(27-120)
440-218620-1	OC_GW_OW-12_20180821	56
440-218620-2	OC_GW_OW-3B_20180822	57
440-218620-3	OC_GW_OW-8B_20180822	55
LCS 440-495481/2-A	Lab Control Sample	77
LCSD 440-495481/3-A	Lab Control Sample Dup	65
MB 440-495481/1-A	Method Blank	62

Surrogate Legend

DXE = 1,4-Dioxane-d8 (Surr)

Method Summary

Client: de maximis, inc.
Project/Site: Omega Chemical - SemiAnnual GWM 2018

TestAmerica Job ID: 440-218620-1
SDG: Omega Chemical

Method	Method Description	Protocol	Laboratory
8260B	Volatile Organic Compounds (GC/MS)	SW846	TAL IRV
8270C SIM	Semivolatile Organic Compounds (GC/MS SIM)	SW846	TAL IRV
3520C	Liquid-Liquid Extraction (Continuous)	SW846	TAL IRV
5030B	Purge and Trap	SW846	TAL IRV

Protocol References:

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL IRV = TestAmerica Irvine, 17461 Derian Ave, Suite 100, Irvine, CA 92614-5817, TEL (949)261-1022

Lab Chronicle

Client: de maximis, inc.
Project/Site: Omega Chemical - SemiAnnual GWM 2018

TestAmerica Job ID: 440-218620-1
SDG: Omega Chemical

Client Sample ID: OC_GW_OW-12_20180821 — Lab Sample ID: 440-218620-1

Date Collected: 08/21/18 12:40 — **Matrix: Water**
Date Received: 08/22/18 18:35

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		5	10 mL	10 mL	495462	08/24/18 14:17	AYL	TAL IRV
Total/NA	Analysis	8260B	DL	25	10 mL	10 mL	495462	08/24/18 14:46	AYL	TAL IRV
Total/NA	Prep	3520C			1030 mL	1.0 mL	495481	08/24/18 07:29	JS1	TAL IRV
Total/NA	Analysis	8270C SIM		1			495745	08/26/18 11:01	HN	TAL IRV

Client Sample ID: OC_GW_OW-3B_20180822 — Lab Sample ID: 440-218620-2

Date Collected: 08/22/18 08:35 — **Matrix: Water**
Date Received: 08/22/18 18:35

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	10 mL	10 mL	495462	08/24/18 09:46	AYL	TAL IRV
Total/NA	Prep	3520C			1025 mL	1.0 mL	495481	08/24/18 07:29	JS1	TAL IRV
Total/NA	Analysis	8270C SIM		1			495745	08/26/18 11:25	HN	TAL IRV

Client Sample ID: OC_GW_OW-8B_20180822 — Lab Sample ID: 440-218620-3

Date Collected: 08/22/18 10:03 — **Matrix: Water**
Date Received: 08/22/18 18:35

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	10 mL	10 mL	495462	08/24/18 15:16	AYL	TAL IRV
Total/NA	Prep	3520C			1025 mL	1.0 mL	495481	08/24/18 07:29	JS1	TAL IRV
Total/NA	Analysis	8270C SIM		1			495745	08/26/18 11:48	HN	TAL IRV

Client Sample ID: OC_GW_OW-1BN_20180822 — Lab Sample ID: 440-218620-4

Date Collected: 08/22/18 14:00 — **Matrix: Water**
Date Received: 08/22/18 18:35

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	10 mL	10 mL	495462	08/24/18 15:45	AYL	TAL IRV

Client Sample ID: OC_GW_TB1_20180822 — Lab Sample ID: 440-218620-5

Date Collected: 08/22/18 06:30 — **Matrix: Water**
Date Received: 08/22/18 18:35

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	10 mL	10 mL	495462	08/24/18 16:15	AYL	TAL IRV

Lab Chronicle

Client: de maximis, inc.
Project/Site: Omega Chemical - SemiAnnual GWM 2018

TestAmerica Job ID: 440-218620-1
SDG: Omega Chemical

Client Sample ID: OC_GW_TB_20180821 — Lab Sample ID: 440-218620-6

Date Collected: 08/21/18 06:30 — **Matrix: Water**
Date Received: 08/22/18 18:35

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	10 mL	10 mL	495462	08/24/18 16:45	AYL	TAL IRV

Client Sample ID: OC_GW_OW-12N_20180821 — Lab Sample ID: 440-218620-7

Date Collected: 08/21/18 14:10 — **Matrix: Water**
Date Received: 08/22/18 18:35

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	10 mL	10 mL	495462	08/24/18 17:14	AYL	TAL IRV

Laboratory References:

TAL IRV = TestAmerica Irvine, 17461 Derian Ave, Suite 100, Irvine, CA 92614-5817, TEL (949)261-1022

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

Lab Sample ID: MB 440-495462/4
Matrix: Water
Analysis Batch: 495462

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		1.0	0.25	ug/L			08/24/18 08:46	1
1,1,1-Trichloroethane	ND		1.0	0.25	ug/L			08/24/18 08:46	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.25	ug/L			08/24/18 08:46	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		5.0	0.50	ug/L			08/24/18 08:46	1
1,1,2-Trichloroethane	ND		1.0	0.25	ug/L			08/24/18 08:46	1
1,1-Dichloroethane	ND		1.0	0.25	ug/L			08/24/18 08:46	1
1,1-Dichloroethene	ND		1.0	0.25	ug/L			08/24/18 08:46	1
1,1-Dichloropropene	ND		1.0	0.25	ug/L			08/24/18 08:46	1
1,2,3-Trichlorobenzene	ND		1.0	0.40	ug/L			08/24/18 08:46	1
1,2,3-Trichloropropane	ND		1.0	0.40	ug/L			08/24/18 08:46	1
1,2,4-Trichlorobenzene	ND		1.0	0.40	ug/L			08/24/18 08:46	1
1,2,4-Trimethylbenzene	ND		1.0	0.25	ug/L			08/24/18 08:46	1
1,2-Dibromo-3-Chloropropane	ND		5.0	0.50	ug/L			08/24/18 08:46	1
1,2-Dibromoethane (EDB)	ND		1.0	0.25	ug/L			08/24/18 08:46	1
1,2-Dichlorobenzene	ND		1.0	0.25	ug/L			08/24/18 08:46	1
1,2-Dichloroethane	ND		1.0	0.25	ug/L			08/24/18 08:46	1
1,2-Dichloropropane	ND		1.0	0.25	ug/L			08/24/18 08:46	1
1,3,5-Trimethylbenzene	ND		1.0	0.25	ug/L			08/24/18 08:46	1
1,3-Dichlorobenzene	ND		1.0	0.25	ug/L			08/24/18 08:46	1
1,3-Dichloropropane	ND		1.0	0.25	ug/L			08/24/18 08:46	1
1,4-Dichlorobenzene	ND		1.0	0.25	ug/L			08/24/18 08:46	1
2,2-Dichloropropane	ND		1.0	0.40	ug/L			08/24/18 08:46	1
2-Chlorotoluene	ND		1.0	0.25	ug/L			08/24/18 08:46	1
4-Chlorotoluene	ND		1.0	0.25	ug/L			08/24/18 08:46	1
Acetone	ND		10	10	ug/L			08/24/18 08:46	1
Benzene	ND		0.50	0.25	ug/L			08/24/18 08:46	1
Bromobenzene	ND		1.0	0.25	ug/L			08/24/18 08:46	1
Bromochloromethane	ND		1.0	0.25	ug/L			08/24/18 08:46	1
Bromodichloromethane	ND		1.0	0.25	ug/L			08/24/18 08:46	1
Bromoform	ND		1.0	0.40	ug/L			08/24/18 08:46	1
Bromomethane	ND		1.0	0.25	ug/L			08/24/18 08:46	1
Carbon tetrachloride	ND		0.50	0.25	ug/L			08/24/18 08:46	1
Chlorobenzene	ND		1.0	0.25	ug/L			08/24/18 08:46	1
Chloroethane	ND		1.0	0.40	ug/L			08/24/18 08:46	1
Chloroform	ND		1.0	0.25	ug/L			08/24/18 08:46	1
Chloromethane	ND		1.0	0.25	ug/L			08/24/18 08:46	1
cis-1,2-Dichloroethene	ND		1.0	0.25	ug/L			08/24/18 08:46	1
cis-1,3-Dichloropropene	ND		0.50	0.25	ug/L			08/24/18 08:46	1
Dibromochloromethane	ND		1.0	0.25	ug/L			08/24/18 08:46	1
Dibromomethane	ND		1.0	0.25	ug/L			08/24/18 08:46	1
Dichlorodifluoromethane	ND		1.0	0.40	ug/L			08/24/18 08:46	1
Ethylbenzene	ND		1.0	0.25	ug/L			08/24/18 08:46	1
Hexachlorobutadiene	ND		1.0	0.25	ug/L			08/24/18 08:46	1
Isopropyl alcohol	ND		250	180	ug/L			08/24/18 08:46	1
Isopropylbenzene	ND		1.0	0.25	ug/L			08/24/18 08:46	1
m,p-Xylene	ND		1.0	0.50	ug/L			08/24/18 08:46	1
Methylene Chloride	ND		5.0	0.88	ug/L			08/24/18 08:46	1
Methyl-t-Butyl Ether (MTBE)	ND		1.0	0.25	ug/L			08/24/18 08:46	1

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

Lab Sample ID: MB 440-495462/4
Matrix: Water
Analysis Batch: 495462

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Naphthalene	ND		1.0	0.40	ug/L			08/24/18 08:46	1
n-Butylbenzene	ND		1.0	0.40	ug/L			08/24/18 08:46	1
N-Propylbenzene	ND		1.0	0.25	ug/L			08/24/18 08:46	1
o-Xylene	ND		1.0	0.25	ug/L			08/24/18 08:46	1
p-Isopropyltoluene	ND		1.0	0.25	ug/L			08/24/18 08:46	1
sec-Butylbenzene	ND		1.0	0.25	ug/L			08/24/18 08:46	1
Styrene	ND		1.0	0.25	ug/L			08/24/18 08:46	1
tert-Butylbenzene	ND		1.0	0.25	ug/L			08/24/18 08:46	1
Tetrachloroethene	ND		1.0	0.25	ug/L			08/24/18 08:46	1
Toluene	ND		1.0	0.25	ug/L			08/24/18 08:46	1
trans-1,2-Dichloroethene	ND		1.0	0.25	ug/L			08/24/18 08:46	1
trans-1,3-Dichloropropene	ND		0.50	0.25	ug/L			08/24/18 08:46	1
Trichloroethene	ND		1.0	0.25	ug/L			08/24/18 08:46	1
Trichlorofluoromethane	ND		1.0	0.25	ug/L			08/24/18 08:46	1
Vinyl chloride	ND		0.50	0.25	ug/L			08/24/18 08:46	1

Tentatively Identified Compound	*MB Est. Result*	*MB Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Tentatively Identified Compound	*None*		*ug/L*					*08/24/18 08:46*	*1*

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*111*		*70 - 130*		*08/24/18 08:46*	*1*
4-Bromofluorobenzene (Surr)	*95*		*80 - 120*		*08/24/18 08:46*	*1*
Dibromofluoromethane (Surr)	*110*		*76 - 132*		*08/24/18 08:46*	*1*
Toluene-d8 (Surr)	*106*		*80 - 128*		*08/24/18 08:46*	*1*

Lab Sample ID: LCS 440-495462/5
Matrix: Water
Analysis Batch: 495462

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1,1,2-Tetrachloroethane	25.0	25.9		ug/L		103	60 - 141
1,1,1-Trichloroethane	25.0	27.8		ug/L		111	70 - 130
1,1,2,2-Tetrachloroethane	25.0	25.5		ug/L		102	63 - 130
1,1,2-Trichloro-1,2,2-trifluoroetha ne	25.0	28.5		ug/L		114	60 - 140
1,1,2-Trichloroethane	25.0	25.5		ug/L		102	70 - 130
1,1-Dichloroethane	25.0	25.4		ug/L		102	64 - 130
1,1-Dichloroethene	25.0	26.5		ug/L		106	70 - 130
1,1-Dichloropropene	25.0	26.7		ug/L		107	70 - 130
1,2,3-Trichlorobenzene	25.0	27.9		ug/L		112	60 - 140
1,2,3-Trichloropropane	25.0	26.3		ug/L		105	63 - 130
1,2,4-Trichlorobenzene	25.0	28.6		ug/L		115	60 - 140
1,2,4-Trimethylbenzene	25.0	26.4		ug/L		106	70 - 135
1,2-Dibromo-3-Chloropropane	25.0	24.8		ug/L		99	52 - 140
1,2-Dibromoethane (EDB)	25.0	25.5		ug/L		102	70 - 130
1,2-Dichlorobenzene	25.0	26.4		ug/L		106	70 - 130
1,2-Dichloroethane	25.0	25.5		ug/L		102	57 - 138
1,2-Dichloropropane	25.0	27.4		ug/L		110	67 - 130

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

Lab Sample ID: LCS 440-495462/5
Matrix: Water
Analysis Batch: 495462

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,3,5-Trimethylbenzene	25.0	26.1		ug/L		104	70 - 136
1,3-Dichlorobenzene	25.0	25.0		ug/L		100	70 - 130
1,3-Dichloropropane	25.0	23.4		ug/L		94	70 - 130
1,4-Dichlorobenzene	25.0	25.9		ug/L		104	70 - 130
2,2-Dichloropropane	25.0	28.5		ug/L		114	68 - 141
2-Chlorotoluene	25.0	24.7		ug/L		99	70 - 130
4-Chlorotoluene	25.0	25.2		ug/L		101	70 - 130
Acetone	25.0	29.0		ug/L		116	10 - 150
Benzene	25.0	26.7		ug/L		107	68 - 130
Bromobenzene	25.0	25.3		ug/L		101	70 - 130
Bromochloromethane	25.0	29.1		ug/L		116	70 - 130
Bromodichloromethane	25.0	27.0		ug/L		108	70 - 132
Bromoform	25.0	26.8		ug/L		107	60 - 148
Bromomethane	25.0	27.6		ug/L		110	64 - 139
Carbon tetrachloride	25.0	28.5		ug/L		114	60 - 150
Chlorobenzene	25.0	26.0		ug/L		104	70 - 130
Chloroethane	25.0	25.4		ug/L		102	64 - 135
Chloroform	25.0	27.0		ug/L		108	70 - 130
Chloromethane	25.0	24.6		ug/L		99	47 - 140
cis-1,2-Dichloroethene	25.0	27.8		ug/L		111	70 - 133
cis-1,3-Dichloropropene	25.0	26.0		ug/L		104	70 - 133
Dibromochloromethane	25.0	26.7		ug/L		107	69 - 145
Dibromomethane	25.0	26.5		ug/L		106	70 - 130
Dichlorodifluoromethane	25.0	22.2		ug/L		89	29 - 150
Ethylbenzene	25.0	25.0		ug/L		100	70 - 130
Hexachlorobutadiene	25.0	27.2		ug/L		109	10 - 150
Isopropyl alcohol	250	219	J	ug/L		87	49 - 142
Isopropylbenzene	25.0	26.9		ug/L		108	70 - 136
m,p-Xylene	25.0	25.7		ug/L		103	70 - 130
Methylene Chloride	25.0	25.6		ug/L		102	52 - 130
Methyl-t-Butyl Ether (MTBE)	25.0	26.5		ug/L		106	63 - 131
Naphthalene	25.0	28.1		ug/L		112	60 - 140
n-Butylbenzene	25.0	26.1		ug/L		104	65 - 150
N-Propylbenzene	25.0	25.1		ug/L		100	67 - 139
o-Xylene	25.0	27.1		ug/L		108	70 - 130
p-Isopropyltoluene	25.0	26.8		ug/L		107	70 - 132
sec-Butylbenzene	25.0	26.8		ug/L		107	70 - 138
Styrene	25.0	26.7		ug/L		107	70 - 134
tert-Butylbenzene	25.0	26.2		ug/L		105	70 - 130
Tetrachloroethene	25.0	26.4		ug/L		105	70 - 130
Toluene	25.0	24.5		ug/L		98	70 - 130
trans-1,2-Dichloroethene	25.0	27.4		ug/L		110	70 - 130
trans-1,3-Dichloropropene	25.0	25.4		ug/L		101	70 - 132
Trichloroethene	25.0	29.2		ug/L		117	70 - 130
Trichlorofluoromethane	25.0	28.6		ug/L		114	60 - 150
Vinyl chloride	25.0	25.1		ug/L		100	59 - 133

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

Lab Sample ID: LCS 440-495462/5
Matrix: Water
Analysis Batch: 495462

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

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*108*		*70 - 130*
4-Bromofluorobenzene (Surr)	*94*		*80 - 120*
Dibromofluoromethane (Surr)	*114*		*76 - 132*
Toluene-d8 (Surr)	*99*		*80 - 128*

Lab Sample ID: 440-218620-2 MS
Matrix: Water
Analysis Batch: 495462

Client Sample ID: OC_GW_OW-3B_20180822
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1,1,2-Tetrachloroethane	ND		25.0	25.2		ug/L		101	60 - 149
1,1,1-Trichloroethane	ND		25.0	25.7		ug/L		103	70 - 130
1,1,2,2-Tetrachloroethane	ND		25.0	25.3		ug/L		101	63 - 130
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		25.0	25.6		ug/L		102	60 - 140
1,1,2-Trichloroethane	ND		25.0	23.8		ug/L		95	70 - 130
1,1-Dichloroethane	ND		25.0	23.5		ug/L		94	65 - 130
1,1-Dichloroethene	ND		25.0	23.9		ug/L		96	70 - 130
1,1-Dichloropropene	ND		25.0	25.0		ug/L		100	64 - 130
1,2,3-Trichlorobenzene	ND		25.0	27.5		ug/L		110	60 - 140
1,2,3-Trichloropropane	ND		25.0	26.4		ug/L		106	60 - 130
1,2,4-Trichlorobenzene	ND		25.0	28.3		ug/L		113	60 - 140
1,2,4-Trimethylbenzene	ND		25.0	25.6		ug/L		102	70 - 130
1,2-Dibromo-3-Chloropropane	ND		25.0	26.3		ug/L		105	48 - 140
1,2-Dibromoethane (EDB)	ND		25.0	25.1		ug/L		100	70 - 131
1,2-Dichlorobenzene	ND		25.0	25.3		ug/L		101	70 - 130
1,2-Dichloroethane	ND		25.0	25.2		ug/L		101	56 - 146
1,2-Dichloropropane	ND		25.0	25.0		ug/L		100	69 - 130
1,3,5-Trimethylbenzene	ND		25.0	25.3		ug/L		101	70 - 130
1,3-Dichlorobenzene	ND		25.0	24.5		ug/L		98	70 - 130
1,3-Dichloropropane	ND		25.0	23.5		ug/L		94	70 - 130
1,4-Dichlorobenzene	ND		25.0	25.6		ug/L		102	70 - 130
2,2-Dichloropropane	ND		25.0	26.9		ug/L		108	69 - 138
2-Chlorotoluene	ND		25.0	23.8		ug/L		95	70 - 130
4-Chlorotoluene	ND		25.0	24.5		ug/L		98	70 - 130
Acetone	ND		25.0	27.8		ug/L		111	10 - 150
Benzene	ND		25.0	25.0		ug/L		100	66 - 130
Bromobenzene	ND		25.0	25.0		ug/L		100	70 - 130
Bromochloromethane	ND		25.0	27.8		ug/L		111	70 - 130
Bromodichloromethane	ND		25.0	26.2		ug/L		105	70 - 138
Bromoform	ND		25.0	26.8		ug/L		107	59 - 150
Bromomethane	ND		25.0	25.0		ug/L		100	62 - 131
Carbon tetrachloride	ND		25.0	26.1		ug/L		104	60 - 150
Chlorobenzene	ND		25.0	24.4		ug/L		98	70 - 130
Chloroethane	ND		25.0	23.0		ug/L		92	68 - 130
Chloroform	ND		25.0	24.5		ug/L		98	70 - 130
Chloromethane	ND		25.0	21.8		ug/L		87	39 - 144
cis-1,2-Dichloroethene	ND		25.0	25.9		ug/L		104	70 - 130

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

Lab Sample ID: 440-218620-2 MS
Matrix: Water
Analysis Batch: 495462

Client Sample ID: OC_GW_OW-3B_20180822
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
cis-1,3-Dichloropropene	ND		25.0	25.6		ug/L		103	70 - 133
Dibromochloromethane	ND		25.0	25.9		ug/L		103	70 - 148
Dibromomethane	ND		25.0	25.0		ug/L		100	70 - 130
Dichlorodifluoromethane	ND		25.0	18.7		ug/L		75	25 - 142
Ethylbenzene	ND		25.0	23.6		ug/L		94	70 - 130
Hexachlorobutadiene	ND		25.0	26.4		ug/L		106	10 - 150
Isopropyl alcohol	ND		250	301		ug/L		120	46 - 142
Isopropylbenzene	ND		25.0	25.6		ug/L		102	70 - 132
m,p-Xylene	ND		25.0	25.0		ug/L		100	70 - 133
Methylene Chloride	ND		25.0	24.1		ug/L		96	52 - 130
Methyl-t-Butyl Ether (MTBE)	ND		25.0	25.5		ug/L		102	70 - 130
Naphthalene	ND		25.0	28.4		ug/L		114	60 - 140
n-Butylbenzene	ND		25.0	25.5		ug/L		102	61 - 149
N-Propylbenzene	ND		25.0	24.5		ug/L		98	66 - 135
o-Xylene	ND		25.0	26.3		ug/L		105	70 - 133
p-Isopropyltoluene	ND		25.0	26.3		ug/L		105	70 - 130
sec-Butylbenzene	ND		25.0	25.6		ug/L		102	67 - 134
Styrene	ND		25.0	25.7		ug/L		103	29 - 150
tert-Butylbenzene	ND		25.0	25.5		ug/L		102	70 - 130
Tetrachloroethene	9.2		25.0	33.0		ug/L		95	70 - 137
Toluene	ND		25.0	23.4		ug/L		93	70 - 130
trans-1,2-Dichloroethene	ND		25.0	24.7		ug/L		99	70 - 130
trans-1,3-Dichloropropene	ND		25.0	24.9		ug/L		100	70 - 138
Trichloroethene	ND		25.0	26.6		ug/L		106	70 - 130
Trichlorofluoromethane	ND		25.0	25.8		ug/L		103	60 - 150
Vinyl chloride	ND		25.0	23.0		ug/L		92	50 - 137

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*112*		*70 - 130*
4-Bromofluorobenzene (Surr)	*96*		*80 - 120*
Dibromofluoromethane (Surr)	*110*		*76 - 132*
Toluene-d8 (Surr)	*98*		*80 - 128*

Lab Sample ID: 440-218620-2 MSD
Matrix: Water
Analysis Batch: 495462

Client Sample ID: OC_GW_OW-3B_20180822
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,1,1,2-Tetrachloroethane	ND		25.0	25.6		ug/L		103	60 - 149	2	20
1,1,1-Trichloroethane	ND		25.0	25.6		ug/L		102	70 - 130	0	20
1,1,2,2-Tetrachloroethane	ND		25.0	27.8		ug/L		111	63 - 130	9	30
1,1,2-Trichloro-1,2,2-trifluoroetha ne	ND		25.0	26.9		ug/L		108	60 - 140	5	20
1,1,2-Trichloroethane	ND		25.0	24.8		ug/L		99	70 - 130	4	25
1,1-Dichloroethane	ND		25.0	23.4		ug/L		94	65 - 130	0	20
1,1-Dichloroethene	ND		25.0	24.8		ug/L		99	70 - 130	4	20
1,1-Dichloropropene	ND		25.0	24.8		ug/L		99	64 - 130	1	20
1,2,3-Trichlorobenzene	ND		25.0	28.3		ug/L		113	60 - 140	3	20

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

Lab Sample ID: 440-218620-2 MSD
Matrix: Water
Analysis Batch: 495462

Client Sample ID: OC_GW_OW-3B_20180822
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,2,3-Trichloropropane	ND		25.0	28.8		ug/L		115	60 - 130	9	30
1,2,4-Trichlorobenzene	ND		25.0	28.5		ug/L		114	60 - 140	1	20
1,2,4-Trimethylbenzene	ND		25.0	25.8		ug/L		103	70 - 130	1	25
1,2-Dibromo-3-Chloropropane	ND		25.0	29.7		ug/L		119	48 - 140	12	30
1,2-Dibromoethane (EDB)	ND		25.0	26.6		ug/L		106	70 - 131	6	25
1,2-Dichlorobenzene	ND		25.0	26.4		ug/L		106	70 - 130	4	20
1,2-Dichloroethane	ND		25.0	24.6		ug/L		99	56 - 146	2	20
1,2-Dichloropropane	ND		25.0	25.2		ug/L		101	69 - 130	1	20
1,3,5-Trimethylbenzene	ND		25.0	25.4		ug/L		101	70 - 130	0	20
1,3-Dichlorobenzene	ND		25.0	25.1		ug/L		100	70 - 130	3	20
1,3-Dichloropropane	ND		25.0	25.2		ug/L		101	70 - 130	7	25
1,4-Dichlorobenzene	ND		25.0	25.1		ug/L		101	70 - 130	2	20
2,2-Dichloropropane	ND		25.0	25.9		ug/L		104	69 - 138	4	25
2-Chlorotoluene	ND		25.0	24.1		ug/L		96	70 - 130	1	20
4-Chlorotoluene	ND		25.0	24.6		ug/L		98	70 - 130	1	20
Acetone	ND		25.0	35.7		ug/L		143	10 - 150	25	35
Benzene	ND		25.0	24.9		ug/L		100	66 - 130	0	20
Bromobenzene	ND		25.0	25.0		ug/L		100	70 - 130	0	20
Bromochloromethane	ND		25.0	27.1		ug/L		109	70 - 130	2	25
Bromodichloromethane	ND		25.0	26.3		ug/L		105	70 - 138	0	20
Bromoform	ND		25.0	28.7		ug/L		115	59 - 150	7	25
Bromomethane	ND		25.0	26.4		ug/L		105	62 - 131	5	25
Carbon tetrachloride	ND		25.0	25.9		ug/L		103	60 - 150	1	25
Chlorobenzene	ND		25.0	25.8		ug/L		103	70 - 130	5	20
Chloroethane	ND		25.0	23.6		ug/L		94	68 - 130	3	25
Chloroform	ND		25.0	25.5		ug/L		102	70 - 130	4	20
Chloromethane	ND		25.0	22.8		ug/L		91	39 - 144	5	25
cis-1,2-Dichloroethene	ND		25.0	25.8		ug/L		103	70 - 130	0	20
cis-1,3-Dichloropropene	ND		25.0	26.2		ug/L		105	70 - 133	2	20
Dibromochloromethane	ND		25.0	26.6		ug/L		106	70 - 148	3	25
Dibromomethane	ND		25.0	26.0		ug/L		104	70 - 130	4	25
Dichlorodifluoromethane	ND		25.0	20.5		ug/L		82	25 - 142	9	30
Ethylbenzene	ND		25.0	24.7		ug/L		99	70 - 130	5	20
Hexachlorobutadiene	ND		25.0	26.8		ug/L		107	10 - 150	2	20
Isopropyl alcohol	ND		250	309		ug/L		124	46 - 142	3	40
Isopropylbenzene	ND		25.0	26.4		ug/L		106	70 - 132	3	20
m,p-Xylene	ND		25.0	25.7		ug/L		103	70 - 133	3	25
Methylene Chloride	ND		25.0	24.3		ug/L		97	52 - 130	1	20
Methyl-t-Butyl Ether (MTBE)	ND		25.0	26.7		ug/L		107	70 - 130	4	25
Naphthalene	ND		25.0	31.5		ug/L		126	60 - 140	10	30
n-Butylbenzene	ND		25.0	25.7		ug/L		103	61 - 149	1	20
N-Propylbenzene	ND		25.0	24.8		ug/L		99	66 - 135	1	20
o-Xylene	ND		25.0	26.3		ug/L		105	70 - 133	0	20
p-Isopropyltoluene	ND		25.0	26.3		ug/L		105	70 - 130	0	20
sec-Butylbenzene	ND		25.0	25.9		ug/L		104	67 - 134	1	20
Styrene	ND		25.0	26.4		ug/L		106	29 - 150	3	35
tert-Butylbenzene	ND		25.0	25.8		ug/L		103	70 - 130	1	20
Tetrachloroethene	9.2		25.0	34.0		ug/L		99	70 - 137	3	20

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

Lab Sample ID: 440-218620-2 MSD — **Client Sample ID: OC_GW_OW-3B_20180822**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 495462

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Toluene	ND		25.0	24.3		ug/L		97	70 - 130	4	20
trans-1,2-Dichloroethene	ND		25.0	25.3		ug/L		101	70 - 130	2	20
trans-1,3-Dichloropropene	ND		25.0	26.1		ug/L		104	70 - 138	4	25
Trichloroethene	ND		25.0	26.4		ug/L		106	70 - 130	0	20
Trichlorofluoromethane	ND		25.0	26.1		ug/L		104	60 - 150	1	25
Vinyl chloride	ND		25.0	24.3		ug/L		97	50 - 137	6	30

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*105*		*70 - 130*
4-Bromofluorobenzene (Surr)	*95*		*80 - 120*
Dibromofluoromethane (Surr)	*110*		*76 - 132*
Toluene-d8 (Surr)	*98*		*80 - 128*

Method: 8270C SIM - Semivolatile Organic Compounds (GC/MS SIM)

Lab Sample ID: MB 440-495481/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 495745 — **Prep Batch: 495481**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	ND		0.49	0.098	ug/L		08/24/18 07:29	08/26/18 09:53	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,4-Dioxane-d8 (Surr)	*62*		*27 - 120*	*08/24/18 07:29*	*08/26/18 09:53*	*1*

Lab Sample ID: LCS 440-495481/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 495745 — **Prep Batch: 495481**

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
1,4-Dioxane			1.98	1.65		ug/L		83	36 - 120		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1,4-Dioxane-d8 (Surr)	*77*		*27 - 120*

Lab Sample ID: LCSD 440-495481/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 495745 — **Prep Batch: 495481**

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,4-Dioxane			1.97	1.38		ug/L		70	36 - 120	18	35

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
1,4-Dioxane-d8 (Surr)	*65*		*27 - 120*

QC Association Summary

Client: de maximis, inc.
Project/Site: Omega Chemical - SemiAnnual GWM 2018

TestAmerica Job ID: 440-218620-1
SDG: Omega Chemical

GC/MS VOA

Analysis Batch: 495462

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-218620-1	OC_GW_OW-12_20180821	Total/NA	Water	8260B	
440-218620-1 - DL	OC_GW_OW-12_20180821	Total/NA	Water	8260B	
440-218620-2	OC_GW_OW-3B_20180822	Total/NA	Water	8260B	
440-218620-3	OC_GW_OW-8B_20180822	Total/NA	Water	8260B	
440-218620-4	OC_GW_OW-1BN_20180822	Total/NA	Water	8260B	
440-218620-5	OC_GW_TB1_20180822	Total/NA	Water	8260B	
440-218620-6	OC_GW_TB_20180821	Total/NA	Water	8260B	
440-218620-7	OC_GW_OW-12N_20180821	Total/NA	Water	8260B	
MB 440-495462/4	Method Blank	Total/NA	Water	8260B	
LCS 440-495462/5	Lab Control Sample	Total/NA	Water	8260B	
440-218620-2 MS	OC_GW_OW-3B_20180822	Total/NA	Water	8260B	
440-218620-2 MSD	OC_GW_OW-3B_20180822	Total/NA	Water	8260B	

GC/MS Semi VOA

Prep Batch: 495481

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-218620-1	OC_GW_OW-12_20180821	Total/NA	Water	3520C	
440-218620-2	OC_GW_OW-3B_20180822	Total/NA	Water	3520C	
440-218620-3	OC_GW_OW-8B_20180822	Total/NA	Water	3520C	
MB 440-495481/1-A	Method Blank	Total/NA	Water	3520C	
LCS 440-495481/2-A	Lab Control Sample	Total/NA	Water	3520C	
LCSD 440-495481/3-A	Lab Control Sample Dup	Total/NA	Water	3520C	

Analysis Batch: 495745

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-218620-1	OC_GW_OW-12_20180821	Total/NA	Water	8270C SIM	495481
440-218620-2	OC_GW_OW-3B_20180822	Total/NA	Water	8270C SIM	495481
440-218620-3	OC_GW_OW-8B_20180822	Total/NA	Water	8270C SIM	495481
MB 440-495481/1-A	Method Blank	Total/NA	Water	8270C SIM	495481
LCS 440-495481/2-A	Lab Control Sample	Total/NA	Water	8270C SIM	495481
LCSD 440-495481/3-A	Lab Control Sample Dup	Total/NA	Water	8270C SIM	495481

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

GC/MS VOA TICs

Qualifier	Qualifier Description
J	Indicates an Estimated Value for TICs
T	Result is a tentatively identified compound (TIC) and an estimated value.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Accreditation/Certification Summary

Client: de maximis, inc.
Project/Site: Omega Chemical - SemiAnnual GWM 2018

TestAmerica Job ID: 440-218620-1
SDG: Omega Chemical

Laboratory: TestAmerica Irvine

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	EPA Region	Identification Number	Expiration Date
California	State Program	9	CA ELAP 2706	06-30-19

The following analytes are included in this report, but accreditation/certification is not offered by the governing authority:

Analysis Method	Prep Method	Matrix	Analyte
8260B		Water	1,1,2-Trichloro-1,2,2-trifluoroethane
8260B		Water	m,p-Xylene
8270C SIM	3520C	Water	1,4-Dioxane

TestAmerica Irvine
17461 Derian Ave
Suite 100
Irvine, CA 92614
phone 949.261.1022 fax

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING
TestAmerica Laboratories, Inc.

Regulatory Program: ☐ DW ☐ NPDES ☐ RCRA ☐ Other

Client Contact	Project Manager: Trent Henderson	Site Contact: Khalid Azhar	Date: 8/21/18	COC No:
De Maximis - Jaime Dinello	Tel/Fax: 949 453 1045/949 453 1047	Lab Contact: Danielle Roberts	Carrier:	1 of 1 COCs
1322 Scott St., Suite 104	Analysis Turnaround Time			Sampler.
San Diego, CA 92106	☐ CALENDAR DAYS ☐ WORKING DAYS			For Lab Use Only:
(562) 756-8149	TAT if different from Below STD			Walk-in Client:
	☐ 2 weeks			Lab Sampling:
Project Name: Omega Chemical - SemiAnn GWM . 2018	☐ 1 week			
Site: Omega Chemical	☐ 2 days			Job / SDG No.:
P O #:	☐ 1 day			

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.	Filtered Sample (Y/N)	Perform MS/MSD (Y/N)	EPA 8260B - VOCs + Freons	EPA 8270C - 1,4 Dioxane	Sample Specific Notes:
OC_GW_OW-12_20180821	8/21/18	1240	Grab	GW	5			x	x	
OC_GW_OW-3B_20180822	8/22/18	0835	Grab	GW	5			x	x	
OC_GW_OW-8B_20180822	"	1003	Grab	GW	5			x	x	
OC_GW_OW-1B_20180822	"	1400	Grab	GW	5			x	x	
OC_GW_ _201808			Grab	GW	5			x	x	
OC_GW_ _201808			Grab	GW	5			x	x	
OC_GW_ _201808			Grab	GW	5			x	x	
OC_GW_ _201808			Grab	GW	5			x	x	
OC_GW_ _201808			Grab	GW	5			x	x	
OC_GW_TB1_20180822	8/22/18	0630	Grab	GW	5			x	x	
OC_GW_TB_20180821	8/21/18	0630	Grab	H2O	3			x		
OC_GW_OW-12N_20180821	8/21/18	1410	Grab	H2O	3			x		

440-218620 Chain of Custody

Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other _____

Possible Hazard Identification:
Are any samples from a listed EPA Hazardous Waste? Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample.
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return to Client ☐ Disposal by Lab ☐ Archive for _____ Months

8/22

Special Instructions/QC Requirements & Comments:

Custody Seals Intact: ☐ Yes ☐ No | Custody Seal No.: | Cooler Temp. (°C): Obs'd: _____ Corr'd: _____ | Therm ID No.: _____

Relinquished by:	Company	Date/Time:	Received by:	Company:	Date/Time:
	JHA	8/22/18 1430		B-T	8/22/18 14:30
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
	B-T	8/22/18 1835			
Relinquished by:	Company	Date/Time	Received in Laboratory by:	Company:	Date/Time:
				TA IRV	8/22/18 1835

Temp 21.9/52°
5.3/5.6°
54/57

1266

Chain of Custody Record

TestAmerica Irvine
17461 Derian Ave
Suite 100
Irvine, CA 92614
phone 949.261.1022 fax

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING
TestAmerica Laboratories, Inc.

Regulatory Program: ☐ DW ☐ NPDES ☐ RCRA ☐ Other:

Client Contact	Project Manager: Trent Henderson	Site Contact: Khalid Azhar	Date: 8/21/18	COC No:
De Maximis - Jaime Dinello	Tel/Fax: 949 453 1045/949 453 1047	Lab Contact: Danielle Roberts	Carrier:	1 of 1 COCs
1322 Scott St., Suite 104	Analysis Turnaround Time			Sampler:
San Diego, CA 92106	☐ CALENDAR DAYS ☐ WORKING DAYS			For Lab Use Only:
(562) 756-8149	TAT if different from Below STD			Walk-in Client:
	☐ 2 weeks			Lab Sampling:
Project Name: Omega Chemical - SemiAnn GWM . 2018	☐ 1 week			
Site: Omega Chemical	☐ 2 days			Job / SDG No.:
P O #:	☐ 1 day			

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.	Filtered Sample (Y / N)	Perform MS / MSD (Y / N)	EPA 8260B - VOCs + Freons	EPA 8270C - 1,4 Dioxane	Sample Specific Notes:
OC_GW_OW-12_20180821	8/21/18	1240	Grab	GW	5			x	x	
OC_GW_OW-3B_20180822	8/22/18	0835	Grab	GW	5			x	x	
OC_GW_OW-8B_20180822	"	1003	Grab	GW	5			x	x	
OC_GW_OW-18N_20180822	"	1400	Grab	GW	5			x		
OC_GW_ _201808			Grab	GW	5			x	x	
OC_GW_ _201808			Grab	GW	5			x	x	
OC_GW_ _201808			Grab	GW	5			x	x	
OC_GW_ _201808			Grab	GW	5			x	x	
OC_GW_ _201808			Grab	GW	5			x	x	
OC_GW_TB1_20180822	8/22/18	0630	Grab	GW	5			x		
OC_GW_TB_20180821	8/21/18	0630	Grab	H2O	3			x		
OC_GW_OW-12N_20180821	8/21/18	1410	Grab	H2O	3			x		

Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other _____

Possible Hazard Identification:
Are any samples from a listed EPA Hazardous Waste? Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample.

☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)

☐ Return to Client ☐ Disposal by Lab ☐ Archive for _____ Months

Special Instructions/QC Requirements & Comments:

Custody Seals Intact: ☐ Yes ☐ No | Custody Seal No.: | Cooler Temp. (°C): Obs'd: _____ Corr'd: _____ | Therm ID No.: _____

Relinquished by:	Company: JHA	Date/Time: 8/22/18 1430	Received by:	Company: B-T	Date/Time: 8/22/18 14:30
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
Relinquished by:	Company:	Date/Time:	Received in Laboratory by:	Company:	Date/Time:

Login Sample Receipt Checklist

Client: de maximis, inc.

Job Number: 440-218620-1
SDG Number: Omega Chemical

Login Number: 218620
List Number: 1
Creator: Soderblom, Tim

List Source: TestAmerica Irvine

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	N/A	Not present
Sample custody seals, if present, are intact.	N/A	Not Present
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.
TestAmerica Irvine
17461 Derian Ave
Suite 100
Irvine, CA 92614-5817
Tel: (949)261-1022

TestAmerica Job ID: 440-218621-1
TestAmerica Sample Delivery Group: Omega Chemical
Client Project/Site: Omega Chemical - Semi Annual GWM 2018
Revision: 1

For:
de maximis, inc.
2365 Northside Drive, Suite C-100
San Diego, California 92108

Attn: Jaime Dinello

Authorized for release by:
8/31/2018 2:13:57 PM
Alain Mouton, Project Management Assistant I
alain.mouton@testamericainc.com

Designee for

Danielle Roberts, Senior Project Manager
(949)261-1022
danielle.roberts@testamericainc.com

LINKS

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This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

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Sample Summary

Client: de maximis, inc.
Project/Site: Omega Chemical - Semi Annual GWM 2018

TestAmerica Job ID: 440-218621-1
SDG: Omega Chemical

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
440-218621-1	OC_GW_EW-3_20180821	Water	08/21/18 10:20	08/22/18 18:35
440-218621-2	OC_GW_EW-4_20180821	Water	08/21/18 10:35	08/22/18 18:35
440-218621-3	OC_GW_EW-5_20180821	Water	08/21/18 10:45	08/22/18 18:35

Job ID: 440-218621-1

Laboratory: TestAmerica Irvine

Narrative

Job Narrative
440-218621-1

Comments
The report was revised on 08/31/18 to correct errors on sample IDs.

Receipt
The samples were received on 8/22/2018 6:35 PM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 5.6º C.

Receipt Exceptions

The Field Sampler was not listed on the Chain of Custody.

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

GC/MS Semi VOA
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Organic Prep
Method(s) 3520C: Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD) associated with preparation batch 440-495481. 3520C_8270-SIM 1,4 Dioxane/1,4 Dioxane.

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

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

Detection Summary

Client: de maximis, inc.
Project/Site: Omega Chemical - Semi Annual GWM 2018

TestAmerica Job ID: 440-218621-1
SDG: Omega Chemical

Client Sample ID: OC_GW_EW-3_20180821 — Lab Sample ID: 440-218621-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,1,2-Trichloro-1,2,2-trifluoroethane	3.6	J	5.0	0.50	ug/L	1		8260B	Total/NA
1,1-Dichloroethene	2.4		1.0	0.25	ug/L	1		8260B	Total/NA
Tetrachloroethene	21		1.0	0.25	ug/L	1		8260B	Total/NA
Trichloroethene	1.5		1.0	0.25	ug/L	1		8260B	Total/NA
Trichlorofluoromethane	0.93	J	1.0	0.25	ug/L	1		8260B	Total/NA
1,4-Dioxane	0.73		0.49	0.098	ug/L	1		8270C SIM	Total/NA

Client Sample ID: OC_GW_EW-4_20180821 — Lab Sample ID: 440-218621-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,1,2-Trichloro-1,2,2-trifluoroethane	14		5.0	0.50	ug/L	1		8260B	Total/NA
1,1-Dichloroethene	23		1.0	0.25	ug/L	1		8260B	Total/NA
Tetrachloroethene	23		1.0	0.25	ug/L	1		8260B	Total/NA
Trichloroethene	2.8		1.0	0.25	ug/L	1		8260B	Total/NA
Trichlorofluoromethane	8.9		1.0	0.25	ug/L	1		8260B	Total/NA
1,4-Dioxane	0.35	J	0.49	0.098	ug/L	1		8270C SIM	Total/NA

Client Sample ID: OC_GW_EW-5_20180821 — Lab Sample ID: 440-218621-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,1,2-Trichloro-1,2,2-trifluoroethane	74		5.0	0.50	ug/L	1		8260B	Total/NA
1,1-Dichloroethene	19		1.0	0.25	ug/L	1		8260B	Total/NA
Tetrachloroethene	21		1.0	0.25	ug/L	1		8260B	Total/NA
Trichloroethene	2.6		1.0	0.25	ug/L	1		8260B	Total/NA
Trichlorofluoromethane	47		1.0	0.25	ug/L	1		8260B	Total/NA
1,4-Dioxane	0.13	J	0.49	0.098	ug/L	1		8270C SIM	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample Results

Client: de maximis, inc.
Project/Site: Omega Chemical - Semi Annual GWM 2018

TestAmerica Job ID: 440-218621-1
SDG: Omega Chemical

Client Sample ID: OC_GW_EW-3_20180821

Lab Sample ID: 440-218621-1

Date Collected: 08/21/18 10:20
Matrix: Water
Date Received: 08/22/18 18:35

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		1.0	0.25	ug/L			08/24/18 17:44	1
1,1,1-Trichloroethane	ND		1.0	0.25	ug/L			08/24/18 17:44	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.25	ug/L			08/24/18 17:44	1
1,1,2-Trichloro-1,2,2-trifluoroethane	**3.6**	**J**	5.0	0.50	ug/L			08/24/18 17:44	1
1,1,2-Trichloroethane	ND		1.0	0.25	ug/L			08/24/18 17:44	1
1,1-Dichloroethane	ND		1.0	0.25	ug/L			08/24/18 17:44	1
1,1-Dichloroethene	**2.4**		1.0	0.25	ug/L			08/24/18 17:44	1
1,1-Dichloropropene	ND		1.0	0.25	ug/L			08/24/18 17:44	1
1,2,3-Trichlorobenzene	ND		1.0	0.40	ug/L			08/24/18 17:44	1
1,2,3-Trichloropropane	ND		1.0	0.40	ug/L			08/24/18 17:44	1
1,2,4-Trichlorobenzene	ND		1.0	0.40	ug/L			08/24/18 17:44	1
1,2,4-Trimethylbenzene	ND		1.0	0.25	ug/L			08/24/18 17:44	1
1,2-Dibromo-3-Chloropropane	ND		5.0	0.50	ug/L			08/24/18 17:44	1
1,2-Dibromoethane (EDB)	ND		1.0	0.25	ug/L			08/24/18 17:44	1
1,2-Dichlorobenzene	ND		1.0	0.25	ug/L			08/24/18 17:44	1
1,2-Dichloroethane	ND		1.0	0.25	ug/L			08/24/18 17:44	1
1,2-Dichloropropane	ND		1.0	0.25	ug/L			08/24/18 17:44	1
1,3,5-Trimethylbenzene	ND		1.0	0.25	ug/L			08/24/18 17:44	1
1,3-Dichlorobenzene	ND		1.0	0.25	ug/L			08/24/18 17:44	1
1,3-Dichloropropane	ND		1.0	0.25	ug/L			08/24/18 17:44	1
1,4-Dichlorobenzene	ND		1.0	0.25	ug/L			08/24/18 17:44	1
2,2-Dichloropropane	ND		1.0	0.40	ug/L			08/24/18 17:44	1
2-Chlorotoluene	ND		1.0	0.25	ug/L			08/24/18 17:44	1
4-Chlorotoluene	ND		1.0	0.25	ug/L			08/24/18 17:44	1
Acetone	ND		10	10	ug/L			08/24/18 17:44	1
Benzene	ND		0.50	0.25	ug/L			08/24/18 17:44	1
Bromobenzene	ND		1.0	0.25	ug/L			08/24/18 17:44	1
Bromochloromethane	ND		1.0	0.25	ug/L			08/24/18 17:44	1
Bromodichloromethane	ND		1.0	0.25	ug/L			08/24/18 17:44	1
Bromoform	ND		1.0	0.40	ug/L			08/24/18 17:44	1
Bromomethane	ND		1.0	0.25	ug/L			08/24/18 17:44	1
Carbon tetrachloride	ND		0.50	0.25	ug/L			08/24/18 17:44	1
Chlorobenzene	ND		1.0	0.25	ug/L			08/24/18 17:44	1
Chloroethane	ND		1.0	0.40	ug/L			08/24/18 17:44	1
Chloroform	ND		1.0	0.25	ug/L			08/24/18 17:44	1
Chloromethane	ND		1.0	0.25	ug/L			08/24/18 17:44	1
cis-1,2-Dichloroethene	ND		1.0	0.25	ug/L			08/24/18 17:44	1
cis-1,3-Dichloropropene	ND		0.50	0.25	ug/L			08/24/18 17:44	1
Dibromochloromethane	ND		1.0	0.25	ug/L			08/24/18 17:44	1
Dibromomethane	ND		1.0	0.25	ug/L			08/24/18 17:44	1
Dichlorodifluoromethane	ND		1.0	0.40	ug/L			08/24/18 17:44	1
Ethylbenzene	ND		1.0	0.25	ug/L			08/24/18 17:44	1
Hexachlorobutadiene	ND		1.0	0.25	ug/L			08/24/18 17:44	1
Isopropyl alcohol	ND		250	180	ug/L			08/24/18 17:44	1
Isopropylbenzene	ND		1.0	0.25	ug/L			08/24/18 17:44	1
m,p-Xylene	ND		1.0	0.50	ug/L			08/24/18 17:44	1
Methylene Chloride	ND		5.0	0.88	ug/L			08/24/18 17:44	1
Methyl-t-Butyl Ether (MTBE)	ND		1.0	0.25	ug/L			08/24/18 17:44	1

Client Sample Results

Client: de maximis, inc.
Project/Site: Omega Chemical - Semi Annual GWM 2018

TestAmerica Job ID: 440-218621-1
SDG: Omega Chemical

Client Sample ID: OC_GW_EW-3_20180821

Lab Sample ID: 440-218621-1
Date Collected: 08/21/18 10:20
Matrix: Water
Date Received: 08/22/18 18:35

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Naphthalene	ND		1.0	0.40	ug/L			08/24/18 17:44	1
n-Butylbenzene	ND		1.0	0.40	ug/L			08/24/18 17:44	1
N-Propylbenzene	ND		1.0	0.25	ug/L			08/24/18 17:44	1
o-Xylene	ND		1.0	0.25	ug/L			08/24/18 17:44	1
p-Isopropyltoluene	ND		1.0	0.25	ug/L			08/24/18 17:44	1
sec-Butylbenzene	ND		1.0	0.25	ug/L			08/24/18 17:44	1
Styrene	ND		1.0	0.25	ug/L			08/24/18 17:44	1
tert-Butylbenzene	ND		1.0	0.25	ug/L			08/24/18 17:44	1
Tetrachloroethene	**21**		1.0	0.25	ug/L			08/24/18 17:44	1
Toluene	ND		1.0	0.25	ug/L			08/24/18 17:44	1
trans-1,2-Dichloroethene	ND		1.0	0.25	ug/L			08/24/18 17:44	1
trans-1,3-Dichloropropene	ND		0.50	0.25	ug/L			08/24/18 17:44	1
Trichloroethene	**1.5**		1.0	0.25	ug/L			08/24/18 17:44	1
Trichlorofluoromethane	**0.93**	**J**	1.0	0.25	ug/L			08/24/18 17:44	1
Vinyl chloride	ND		0.50	0.25	ug/L			08/24/18 17:44	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Unknown	*21*	*T J*	*ug/L*		*1.76*			*08/24/18 17:44*	*1*
Unknown	*210*	*T J*	*ug/L*		*1.82*			*08/24/18 17:44*	*1*
Unknown	*5.0*	*T J*	*ug/L*		*4.56*			*08/24/18 17:44*	*1*
Furan, tetrahydro-	*140*	*T J N*	*ug/L*		*5.77*	*109-99-9*		*08/24/18 17:44*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*120*		*70 - 130*		*08/24/18 17:44*	*1*
4-Bromofluorobenzene (Surr)	*94*		*80 - 120*		*08/24/18 17:44*	*1*
Dibromofluoromethane (Surr)	*114*		*76 - 132*		*08/24/18 17:44*	*1*
Toluene-d8 (Surr)	*103*		*80 - 128*		*08/24/18 17:44*	*1*

Method: 8270C SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	**0.73**		0.49	0.098	ug/L		08/24/18 07:29	08/26/18 12:11	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,4-Dioxane-d8 (Surr)	*56*		*27 - 120*	*08/24/18 07:29*	*08/26/18 12:11*	*1*

Client Sample ID: OC_GW_EW-4_20180821

Lab Sample ID: 440-218621-2
Date Collected: 08/21/18 10:35
Matrix: Water
Date Received: 08/22/18 18:35

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		1.0	0.25	ug/L			08/24/18 18:14	1
1,1,1-Trichloroethane	ND		1.0	0.25	ug/L			08/24/18 18:14	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.25	ug/L			08/24/18 18:14	1
1,1,2-Trichloro-1,2,2-trifluoroethane	**14**		5.0	0.50	ug/L			08/24/18 18:14	1
1,1,2-Trichloroethane	ND		1.0	0.25	ug/L			08/24/18 18:14	1
1,1-Dichloroethane	ND		1.0	0.25	ug/L			08/24/18 18:14	1
1,1-Dichloroethene	**23**		1.0	0.25	ug/L			08/24/18 18:14	1
1,1-Dichloropropene	ND		1.0	0.25	ug/L			08/24/18 18:14	1
1,2,3-Trichlorobenzene	ND		1.0	0.40	ug/L			08/24/18 18:14	1

Client Sample Results

Client: de maximis, inc.
Project/Site: Omega Chemical - Semi Annual GWM 2018

TestAmerica Job ID: 440-218621-1
SDG: Omega Chemical

Client Sample ID: OC_GW_EW-4_20180821

Lab Sample ID: 440-218621-2
Date Collected: 08/21/18 10:35
Matrix: Water
Date Received: 08/22/18 18:35

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,3-Trichloropropane	ND		1.0	0.40	ug/L			08/24/18 18:14	1
1,2,4-Trichlorobenzene	ND		1.0	0.40	ug/L			08/24/18 18:14	1
1,2,4-Trimethylbenzene	ND		1.0	0.25	ug/L			08/24/18 18:14	1
1,2-Dibromo-3-Chloropropane	ND		5.0	0.50	ug/L			08/24/18 18:14	1
1,2-Dibromoethane (EDB)	ND		1.0	0.25	ug/L			08/24/18 18:14	1
1,2-Dichlorobenzene	ND		1.0	0.25	ug/L			08/24/18 18:14	1
1,2-Dichloroethane	ND		1.0	0.25	ug/L			08/24/18 18:14	1
1,2-Dichloropropane	ND		1.0	0.25	ug/L			08/24/18 18:14	1
1,3,5-Trimethylbenzene	ND		1.0	0.25	ug/L			08/24/18 18:14	1
1,3-Dichlorobenzene	ND		1.0	0.25	ug/L			08/24/18 18:14	1
1,3-Dichloropropane	ND		1.0	0.25	ug/L			08/24/18 18:14	1
1,4-Dichlorobenzene	ND		1.0	0.25	ug/L			08/24/18 18:14	1
2,2-Dichloropropane	ND		1.0	0.40	ug/L			08/24/18 18:14	1
2-Chlorotoluene	ND		1.0	0.25	ug/L			08/24/18 18:14	1
4-Chlorotoluene	ND		1.0	0.25	ug/L			08/24/18 18:14	1
Acetone	ND		10	10	ug/L			08/24/18 18:14	1
Benzene	ND		0.50	0.25	ug/L			08/24/18 18:14	1
Bromobenzene	ND		1.0	0.25	ug/L			08/24/18 18:14	1
Bromochloromethane	ND		1.0	0.25	ug/L			08/24/18 18:14	1
Bromodichloromethane	ND		1.0	0.25	ug/L			08/24/18 18:14	1
Bromoform	ND		1.0	0.40	ug/L			08/24/18 18:14	1
Bromomethane	ND		1.0	0.25	ug/L			08/24/18 18:14	1
Carbon tetrachloride	ND		0.50	0.25	ug/L			08/24/18 18:14	1
Chlorobenzene	ND		1.0	0.25	ug/L			08/24/18 18:14	1
Chloroethane	ND		1.0	0.40	ug/L			08/24/18 18:14	1
Chloroform	ND		1.0	0.25	ug/L			08/24/18 18:14	1
Chloromethane	ND		1.0	0.25	ug/L			08/24/18 18:14	1
cis-1,2-Dichloroethene	ND		1.0	0.25	ug/L			08/24/18 18:14	1
cis-1,3-Dichloropropene	ND		0.50	0.25	ug/L			08/24/18 18:14	1
Dibromochloromethane	ND		1.0	0.25	ug/L			08/24/18 18:14	1
Dibromomethane	ND		1.0	0.25	ug/L			08/24/18 18:14	1
Dichlorodifluoromethane	ND		1.0	0.40	ug/L			08/24/18 18:14	1
Ethylbenzene	ND		1.0	0.25	ug/L			08/24/18 18:14	1
Hexachlorobutadiene	ND		1.0	0.25	ug/L			08/24/18 18:14	1
Isopropyl alcohol	ND		250	180	ug/L			08/24/18 18:14	1
Isopropylbenzene	ND		1.0	0.25	ug/L			08/24/18 18:14	1
m,p-Xylene	ND		1.0	0.50	ug/L			08/24/18 18:14	1
Methylene Chloride	ND		5.0	0.88	ug/L			08/24/18 18:14	1
Methyl-t-Butyl Ether (MTBE)	ND		1.0	0.25	ug/L			08/24/18 18:14	1
Naphthalene	ND		1.0	0.40	ug/L			08/24/18 18:14	1
n-Butylbenzene	ND		1.0	0.40	ug/L			08/24/18 18:14	1
N-Propylbenzene	ND		1.0	0.25	ug/L			08/24/18 18:14	1
o-Xylene	ND		1.0	0.25	ug/L			08/24/18 18:14	1
p-Isopropyltoluene	ND		1.0	0.25	ug/L			08/24/18 18:14	1
sec-Butylbenzene	ND		1.0	0.25	ug/L			08/24/18 18:14	1
Styrene	ND		1.0	0.25	ug/L			08/24/18 18:14	1
tert-Butylbenzene	ND		1.0	0.25	ug/L			08/24/18 18:14	1
Tetrachloroethene	**23**		1.0	0.25	ug/L			08/24/18 18:14	1
Toluene	ND		1.0	0.25	ug/L			08/24/18 18:14	1

Client Sample ID: OC_GW_EW-4_20180821

Lab Sample ID: 440-218621-2
Date Collected: 08/21/18 10:35
Matrix: Water
Date Received: 08/22/18 18:35

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
trans-1,2-Dichloroethene	ND		1.0	0.25	ug/L			08/24/18 18:14	1
trans-1,3-Dichloropropene	ND		0.50	0.25	ug/L			08/24/18 18:14	1
Trichloroethene	**2.8**		1.0	0.25	ug/L			08/24/18 18:14	1
Trichlorofluoromethane	**8.9**		1.0	0.25	ug/L			08/24/18 18:14	1
Vinyl chloride	ND		0.50	0.25	ug/L			08/24/18 18:14	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Unknown	*20*	*T J*	*ug/L*		*1.76*			*08/24/18 18:14*	*1*
Unknown	*320*	*T J*	*ug/L*		*1.82*			*08/24/18 18:14*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*123*		*70 - 130*		*08/24/18 18:14*	*1*
4-Bromofluorobenzene (Surr)	*94*		*80 - 120*		*08/24/18 18:14*	*1*
Dibromofluoromethane (Surr)	*113*		*76 - 132*		*08/24/18 18:14*	*1*
Toluene-d8 (Surr)	*102*		*80 - 128*		*08/24/18 18:14*	*1*

Method: 8270C SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	**0.35**	**J**	0.49	0.098	ug/L		08/24/18 07:29	08/26/18 12:34	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,4-Dioxane-d8 (Surr)	*53*		*27 - 120*	*08/24/18 07:29*	*08/26/18 12:34*	*1*

Client Sample ID: OC_GW_EW-5_20180821

Lab Sample ID: 440-218621-3
Date Collected: 08/21/18 10:45
Matrix: Water
Date Received: 08/22/18 18:35

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		1.0	0.25	ug/L			08/24/18 18:44	1
1,1,1-Trichloroethane	ND		1.0	0.25	ug/L			08/24/18 18:44	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.25	ug/L			08/24/18 18:44	1
1,1,2-Trichloro-1,2,2-trifluoroethane	**74**		5.0	0.50	ug/L			08/24/18 18:44	1
1,1,2-Trichloroethane	ND		1.0	0.25	ug/L			08/24/18 18:44	1
1,1-Dichloroethane	ND		1.0	0.25	ug/L			08/24/18 18:44	1
1,1-Dichloroethene	**19**		1.0	0.25	ug/L			08/24/18 18:44	1
1,1-Dichloropropene	ND		1.0	0.25	ug/L			08/24/18 18:44	1
1,2,3-Trichlorobenzene	ND		1.0	0.40	ug/L			08/24/18 18:44	1
1,2,3-Trichloropropane	ND		1.0	0.40	ug/L			08/24/18 18:44	1
1,2,4-Trichlorobenzene	ND		1.0	0.40	ug/L			08/24/18 18:44	1
1,2,4-Trimethylbenzene	ND		1.0	0.25	ug/L			08/24/18 18:44	1
1,2-Dibromo-3-Chloropropane	ND		5.0	0.50	ug/L			08/24/18 18:44	1
1,2-Dibromoethane (EDB)	ND		1.0	0.25	ug/L			08/24/18 18:44	1
1,2-Dichlorobenzene	ND		1.0	0.25	ug/L			08/24/18 18:44	1
1,2-Dichloroethane	ND		1.0	0.25	ug/L			08/24/18 18:44	1
1,2-Dichloropropane	ND		1.0	0.25	ug/L			08/24/18 18:44	1
1,3,5-Trimethylbenzene	ND		1.0	0.25	ug/L			08/24/18 18:44	1
1,3-Dichlorobenzene	ND		1.0	0.25	ug/L			08/24/18 18:44	1
1,3-Dichloropropane	ND		1.0	0.25	ug/L			08/24/18 18:44	1
1,4-Dichlorobenzene	ND		1.0	0.25	ug/L			08/24/18 18:44	1

Client Sample Results

Client: de maximis, inc.
Project/Site: Omega Chemical - Semi Annual GWM 2018

TestAmerica Job ID: 440-218621-1
SDG: Omega Chemical

Client Sample ID: OC_GW_EW-5_20180821

Lab Sample ID: 440-218621-3

Date Collected: 08/21/18 10:45
Matrix: Water
Date Received: 08/22/18 18:35

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,2-Dichloropropane	ND		1.0	0.40	ug/L			08/24/18 18:44	1
2-Chlorotoluene	ND		1.0	0.25	ug/L			08/24/18 18:44	1
4-Chlorotoluene	ND		1.0	0.25	ug/L			08/24/18 18:44	1
Acetone	ND		10	10	ug/L			08/24/18 18:44	1
Benzene	ND		0.50	0.25	ug/L			08/24/18 18:44	1
Bromobenzene	ND		1.0	0.25	ug/L			08/24/18 18:44	1
Bromochloromethane	ND		1.0	0.25	ug/L			08/24/18 18:44	1
Bromodichloromethane	ND		1.0	0.25	ug/L			08/24/18 18:44	1
Bromoform	ND		1.0	0.40	ug/L			08/24/18 18:44	1
Bromomethane	ND		1.0	0.25	ug/L			08/24/18 18:44	1
Carbon tetrachloride	ND		0.50	0.25	ug/L			08/24/18 18:44	1
Chlorobenzene	ND		1.0	0.25	ug/L			08/24/18 18:44	1
Chloroethane	ND		1.0	0.40	ug/L			08/24/18 18:44	1
Chloroform	ND		1.0	0.25	ug/L			08/24/18 18:44	1
Chloromethane	ND		1.0	0.25	ug/L			08/24/18 18:44	1
cis-1,2-Dichloroethene	ND		1.0	0.25	ug/L			08/24/18 18:44	1
cis-1,3-Dichloropropene	ND		0.50	0.25	ug/L			08/24/18 18:44	1
Dibromochloromethane	ND		1.0	0.25	ug/L			08/24/18 18:44	1
Dibromomethane	ND		1.0	0.25	ug/L			08/24/18 18:44	1
Dichlorodifluoromethane	ND		1.0	0.40	ug/L			08/24/18 18:44	1
Ethylbenzene	ND		1.0	0.25	ug/L			08/24/18 18:44	1
Hexachlorobutadiene	ND		1.0	0.25	ug/L			08/24/18 18:44	1
Isopropyl alcohol	ND		250	180	ug/L			08/24/18 18:44	1
Isopropylbenzene	ND		1.0	0.25	ug/L			08/24/18 18:44	1
m,p-Xylene	ND		1.0	0.50	ug/L			08/24/18 18:44	1
Methylene Chloride	ND		5.0	0.88	ug/L			08/24/18 18:44	1
Methyl-t-Butyl Ether (MTBE)	ND		1.0	0.25	ug/L			08/24/18 18:44	1
Naphthalene	ND		1.0	0.40	ug/L			08/24/18 18:44	1
n-Butylbenzene	ND		1.0	0.40	ug/L			08/24/18 18:44	1
N-Propylbenzene	ND		1.0	0.25	ug/L			08/24/18 18:44	1
o-Xylene	ND		1.0	0.25	ug/L			08/24/18 18:44	1
p-Isopropyltoluene	ND		1.0	0.25	ug/L			08/24/18 18:44	1
sec-Butylbenzene	ND		1.0	0.25	ug/L			08/24/18 18:44	1
Styrene	ND		1.0	0.25	ug/L			08/24/18 18:44	1
tert-Butylbenzene	ND		1.0	0.25	ug/L			08/24/18 18:44	1
Tetrachloroethene	**21**		1.0	0.25	ug/L			08/24/18 18:44	1
Toluene	ND		1.0	0.25	ug/L			08/24/18 18:44	1
trans-1,2-Dichloroethene	ND		1.0	0.25	ug/L			08/24/18 18:44	1
trans-1,3-Dichloropropene	ND		0.50	0.25	ug/L			08/24/18 18:44	1
Trichloroethene	**2.6**		1.0	0.25	ug/L			08/24/18 18:44	1
Trichlorofluoromethane	**47**		1.0	0.25	ug/L			08/24/18 18:44	1
Vinyl chloride	ND		0.50	0.25	ug/L			08/24/18 18:44	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Unknown	*21*	*T J*	*ug/L*		*1.75*			*08/24/18 18:44*	*1*
Unknown	*390*	*T J*	*ug/L*		*1.82*			*08/24/18 18:44*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*114*		*70 - 130*		*08/24/18 18:44*	*1*
4-Bromofluorobenzene (Surr)	*96*		*80 - 120*		*08/24/18 18:44*	*1*

Client Sample Results

Client: de maximis, inc.
Project/Site: Omega Chemical - Semi Annual GWM 2018

TestAmerica Job ID: 440-218621-1
SDG: Omega Chemical

Client Sample ID: OC_GW_EW-5_20180821

Lab Sample ID: 440-218621-3
Date Collected: 08/21/18 10:45
Matrix: Water
Date Received: 08/22/18 18:35

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

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Dibromofluoromethane (Surr)	*116*		*76 - 132*		*08/24/18 18:44*	*1*
Toluene-d8 (Surr)	*104*		*80 - 128*		*08/24/18 18:44*	*1*

Method: 8270C SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	**0.13**	**J**	0.49	0.098	ug/L		08/24/18 07:29	08/26/18 12:58	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,4-Dioxane-d8 (Surr)	*54*		*27 - 120*	*08/24/18 07:29*	*08/26/18 12:58*	*1*

Surrogate Summary

Client: de maximis, inc.
Project/Site: Omega Chemical - Semi Annual GWM 2018

TestAmerica Job ID: 440-218621-1
SDG: Omega Chemical

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

Matrix: Water **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)			
		DCA	BFB	DBFM	TOL
Lab Sample ID	Client Sample ID	(70-130)	(80-120)	(76-132)	(80-128)
440-218620-A-2 MS	Matrix Spike	112	96	110	98
440-218620-A-2 MSD	Matrix Spike Duplicate	105	95	110	98
440-218621-1	OC_GW_EW-3_20180821	120	94	114	103
440-218621-2	OC_GW_EW-4_20180821	123	94	113	102
440-218621-3	OC_GW_EW-5_20180821	114	96	116	104
LCS 440-495462/5	Lab Control Sample	108	94	114	99
MB 440-495462/4	Method Blank	111	95	110	106

Surrogate Legend

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

Method: 8270C SIM - Semivolatile Organic Compounds (GC/MS SIM)

Matrix: Water **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)
		DXE
Lab Sample ID	Client Sample ID	(27-120)
440-218621-1	OC_GW_EW-3_20180821	56
440-218621-2	OC_GW_EW-4_20180821	53
440-218621-3	OC_GW_EW-5_20180821	54
LCS 440-495481/2-A	Lab Control Sample	77
LCSD 440-495481/3-A	Lab Control Sample Dup	65
MB 440-495481/1-A	Method Blank	62

Surrogate Legend

DXE = 1,4-Dioxane-d8 (Surr)

Method Summary

Client: de maximis, inc.
Project/Site: Omega Chemical - Semi Annual GWM 2018

TestAmerica Job ID: 440-218621-1
SDG: Omega Chemical

Method	Method Description	Protocol	Laboratory
8260B	Volatile Organic Compounds (GC/MS)	SW846	TAL IRV
8270C SIM	Semivolatile Organic Compounds (GC/MS SIM)	SW846	TAL IRV
3520C	Liquid-Liquid Extraction (Continuous)	SW846	TAL IRV
5030B	Purge and Trap	SW846	TAL IRV

Protocol References:

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL IRV = TestAmerica Irvine, 17461 Derian Ave, Suite 100, Irvine, CA 92614-5817, TEL (949)261-1022

Lab Chronicle

Client: de maximis, inc.
Project/Site: Omega Chemical - Semi Annual GWM 2018

TestAmerica Job ID: 440-218621-1
SDG: Omega Chemical

Client Sample ID: OC_GW_EW-3_20180821 — Lab Sample ID: 440-218621-1

Date Collected: 08/21/18 10:20 — **Matrix: Water**
Date Received: 08/22/18 18:35

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	10 mL	10 mL	495462	08/24/18 17:44	AYL	TAL IRV
Total/NA	Prep	3520C			1020 mL	1.0 mL	495481	08/24/18 07:29	JS1	TAL IRV
Total/NA	Analysis	8270C SIM		1			495745	08/26/18 12:11	HN	TAL IRV

Client Sample ID: OC_GW_EW-4_20180821 — Lab Sample ID: 440-218621-2

Date Collected: 08/21/18 10:35 — **Matrix: Water**
Date Received: 08/22/18 18:35

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	10 mL	10 mL	495462	08/24/18 18:14	AYL	TAL IRV
Total/NA	Prep	3520C			1025 mL	1.0 mL	495481	08/24/18 07:29	JS1	TAL IRV
Total/NA	Analysis	8270C SIM		1			495745	08/26/18 12:34	HN	TAL IRV

Client Sample ID: OC_GW_EW-5_20180821 — Lab Sample ID: 440-218621-3

Date Collected: 08/21/18 10:45 — **Matrix: Water**
Date Received: 08/22/18 18:35

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	10 mL	10 mL	495462	08/24/18 18:44	AYL	TAL IRV
Total/NA	Prep	3520C			1020 mL	1.0 mL	495481	08/24/18 07:29	JS1	TAL IRV
Total/NA	Analysis	8270C SIM		1			495745	08/26/18 12:58	HN	TAL IRV

Laboratory References:
TAL IRV = TestAmerica Irvine, 17461 Derian Ave, Suite 100, Irvine, CA 92614-5817, TEL (949)261-1022

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

Lab Sample ID: MB 440-495462/4
Matrix: Water
Analysis Batch: 495462

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		1.0	0.25	ug/L			08/24/18 08:46	1
1,1,1-Trichloroethane	ND		1.0	0.25	ug/L			08/24/18 08:46	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.25	ug/L			08/24/18 08:46	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		5.0	0.50	ug/L			08/24/18 08:46	1
1,1,2-Trichloroethane	ND		1.0	0.25	ug/L			08/24/18 08:46	1
1,1-Dichloroethane	ND		1.0	0.25	ug/L			08/24/18 08:46	1
1,1-Dichloroethene	ND		1.0	0.25	ug/L			08/24/18 08:46	1
1,1-Dichloropropene	ND		1.0	0.25	ug/L			08/24/18 08:46	1
1,2,3-Trichlorobenzene	ND		1.0	0.40	ug/L			08/24/18 08:46	1
1,2,3-Trichloropropane	ND		1.0	0.40	ug/L			08/24/18 08:46	1
1,2,4-Trichlorobenzene	ND		1.0	0.40	ug/L			08/24/18 08:46	1
1,2,4-Trimethylbenzene	ND		1.0	0.25	ug/L			08/24/18 08:46	1
1,2-Dibromo-3-Chloropropane	ND		5.0	0.50	ug/L			08/24/18 08:46	1
1,2-Dibromoethane (EDB)	ND		1.0	0.25	ug/L			08/24/18 08:46	1
1,2-Dichlorobenzene	ND		1.0	0.25	ug/L			08/24/18 08:46	1
1,2-Dichloroethane	ND		1.0	0.25	ug/L			08/24/18 08:46	1
1,2-Dichloropropane	ND		1.0	0.25	ug/L			08/24/18 08:46	1
1,3,5-Trimethylbenzene	ND		1.0	0.25	ug/L			08/24/18 08:46	1
1,3-Dichlorobenzene	ND		1.0	0.25	ug/L			08/24/18 08:46	1
1,3-Dichloropropane	ND		1.0	0.25	ug/L			08/24/18 08:46	1
1,4-Dichlorobenzene	ND		1.0	0.25	ug/L			08/24/18 08:46	1
2,2-Dichloropropane	ND		1.0	0.40	ug/L			08/24/18 08:46	1
2-Chlorotoluene	ND		1.0	0.25	ug/L			08/24/18 08:46	1
4-Chlorotoluene	ND		1.0	0.25	ug/L			08/24/18 08:46	1
Acetone	ND		10	10	ug/L			08/24/18 08:46	1
Benzene	ND		0.50	0.25	ug/L			08/24/18 08:46	1
Bromobenzene	ND		1.0	0.25	ug/L			08/24/18 08:46	1
Bromochloromethane	ND		1.0	0.25	ug/L			08/24/18 08:46	1
Bromodichloromethane	ND		1.0	0.25	ug/L			08/24/18 08:46	1
Bromoform	ND		1.0	0.40	ug/L			08/24/18 08:46	1
Bromomethane	ND		1.0	0.25	ug/L			08/24/18 08:46	1
Carbon tetrachloride	ND		0.50	0.25	ug/L			08/24/18 08:46	1
Chlorobenzene	ND		1.0	0.25	ug/L			08/24/18 08:46	1
Chloroethane	ND		1.0	0.40	ug/L			08/24/18 08:46	1
Chloroform	ND		1.0	0.25	ug/L			08/24/18 08:46	1
Chloromethane	ND		1.0	0.25	ug/L			08/24/18 08:46	1
cis-1,2-Dichloroethene	ND		1.0	0.25	ug/L			08/24/18 08:46	1
cis-1,3-Dichloropropene	ND		0.50	0.25	ug/L			08/24/18 08:46	1
Dibromochloromethane	ND		1.0	0.25	ug/L			08/24/18 08:46	1
Dibromomethane	ND		1.0	0.25	ug/L			08/24/18 08:46	1
Dichlorodifluoromethane	ND		1.0	0.40	ug/L			08/24/18 08:46	1
Ethylbenzene	ND		1.0	0.25	ug/L			08/24/18 08:46	1
Hexachlorobutadiene	ND		1.0	0.25	ug/L			08/24/18 08:46	1
Isopropyl alcohol	ND		250	180	ug/L			08/24/18 08:46	1
Isopropylbenzene	ND		1.0	0.25	ug/L			08/24/18 08:46	1
m,p-Xylene	ND		1.0	0.50	ug/L			08/24/18 08:46	1
Methylene Chloride	ND		5.0	0.88	ug/L			08/24/18 08:46	1
Methyl-t-Butyl Ether (MTBE)	ND		1.0	0.25	ug/L			08/24/18 08:46	1

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

Lab Sample ID: MB 440-495462/4
Matrix: Water
Analysis Batch: 495462

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Naphthalene	ND		1.0	0.40	ug/L			08/24/18 08:46	1
n-Butylbenzene	ND		1.0	0.40	ug/L			08/24/18 08:46	1
N-Propylbenzene	ND		1.0	0.25	ug/L			08/24/18 08:46	1
o-Xylene	ND		1.0	0.25	ug/L			08/24/18 08:46	1
p-Isopropyltoluene	ND		1.0	0.25	ug/L			08/24/18 08:46	1
sec-Butylbenzene	ND		1.0	0.25	ug/L			08/24/18 08:46	1
Styrene	ND		1.0	0.25	ug/L			08/24/18 08:46	1
tert-Butylbenzene	ND		1.0	0.25	ug/L			08/24/18 08:46	1
Tetrachloroethene	ND		1.0	0.25	ug/L			08/24/18 08:46	1
Toluene	ND		1.0	0.25	ug/L			08/24/18 08:46	1
trans-1,2-Dichloroethene	ND		1.0	0.25	ug/L			08/24/18 08:46	1
trans-1,3-Dichloropropene	ND		0.50	0.25	ug/L			08/24/18 08:46	1
Trichloroethene	ND		1.0	0.25	ug/L			08/24/18 08:46	1
Trichlorofluoromethane	ND		1.0	0.25	ug/L			08/24/18 08:46	1
Vinyl chloride	ND		0.50	0.25	ug/L			08/24/18 08:46	1

Tentatively Identified Compound	*MB Est. Result*	*MB Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Tentatively Identified Compound	*None*		*ug/L*					*08/24/18 08:46*	*1*

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*111*		*70 - 130*		*08/24/18 08:46*	*1*
4-Bromofluorobenzene (Surr)	*95*		*80 - 120*		*08/24/18 08:46*	*1*
Dibromofluoromethane (Surr)	*110*		*76 - 132*		*08/24/18 08:46*	*1*
Toluene-d8 (Surr)	*106*		*80 - 128*		*08/24/18 08:46*	*1*

Lab Sample ID: LCS 440-495462/5
Matrix: Water
Analysis Batch: 495462

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1,1,2-Tetrachloroethane	25.0	25.9		ug/L		103	60 - 141
1,1,1-Trichloroethane	25.0	27.8		ug/L		111	70 - 130
1,1,2,2-Tetrachloroethane	25.0	25.5		ug/L		102	63 - 130
1,1,2-Trichloro-1,2,2-trifluoroetha ne	25.0	28.5		ug/L		114	60 - 140
1,1,2-Trichloroethane	25.0	25.5		ug/L		102	70 - 130
1,1-Dichloroethane	25.0	25.4		ug/L		102	64 - 130
1,1-Dichloroethene	25.0	26.5		ug/L		106	70 - 130
1,1-Dichloropropene	25.0	26.7		ug/L		107	70 - 130
1,2,3-Trichlorobenzene	25.0	27.9		ug/L		112	60 - 140
1,2,3-Trichloropropane	25.0	26.3		ug/L		105	63 - 130
1,2,4-Trichlorobenzene	25.0	28.6		ug/L		115	60 - 140
1,2,4-Trimethylbenzene	25.0	26.4		ug/L		106	70 - 135
1,2-Dibromo-3-Chloropropane	25.0	24.8		ug/L		99	52 - 140
1,2-Dibromoethane (EDB)	25.0	25.5		ug/L		102	70 - 130
1,2-Dichlorobenzene	25.0	26.4		ug/L		106	70 - 130
1,2-Dichloroethane	25.0	25.5		ug/L		102	57 - 138
1,2-Dichloropropane	25.0	27.4		ug/L		110	67 - 130

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

Lab Sample ID: LCS 440-495462/5
Matrix: Water
Analysis Batch: 495462

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,3,5-Trimethylbenzene	25.0	26.1		ug/L		104	70 - 136
1,3-Dichlorobenzene	25.0	25.0		ug/L		100	70 - 130
1,3-Dichloropropane	25.0	23.4		ug/L		94	70 - 130
1,4-Dichlorobenzene	25.0	25.9		ug/L		104	70 - 130
2,2-Dichloropropane	25.0	28.5		ug/L		114	68 - 141
2-Chlorotoluene	25.0	24.7		ug/L		99	70 - 130
4-Chlorotoluene	25.0	25.2		ug/L		101	70 - 130
Acetone	25.0	29.0		ug/L		116	10 - 150
Benzene	25.0	26.7		ug/L		107	68 - 130
Bromobenzene	25.0	25.3		ug/L		101	70 - 130
Bromochloromethane	25.0	29.1		ug/L		116	70 - 130
Bromodichloromethane	25.0	27.0		ug/L		108	70 - 132
Bromoform	25.0	26.8		ug/L		107	60 - 148
Bromomethane	25.0	27.6		ug/L		110	64 - 139
Carbon tetrachloride	25.0	28.5		ug/L		114	60 - 150
Chlorobenzene	25.0	26.0		ug/L		104	70 - 130
Chloroethane	25.0	25.4		ug/L		102	64 - 135
Chloroform	25.0	27.0		ug/L		108	70 - 130
Chloromethane	25.0	24.6		ug/L		99	47 - 140
cis-1,2-Dichloroethene	25.0	27.8		ug/L		111	70 - 133
cis-1,3-Dichloropropene	25.0	26.0		ug/L		104	70 - 133
Dibromochloromethane	25.0	26.7		ug/L		107	69 - 145
Dibromomethane	25.0	26.5		ug/L		106	70 - 130
Dichlorodifluoromethane	25.0	22.2		ug/L		89	29 - 150
Ethylbenzene	25.0	25.0		ug/L		100	70 - 130
Hexachlorobutadiene	25.0	27.2		ug/L		109	10 - 150
Isopropyl alcohol	250	219	J	ug/L		87	49 - 142
Isopropylbenzene	25.0	26.9		ug/L		108	70 - 136
m,p-Xylene	25.0	25.7		ug/L		103	70 - 130
Methylene Chloride	25.0	25.6		ug/L		102	52 - 130
Methyl-t-Butyl Ether (MTBE)	25.0	26.5		ug/L		106	63 - 131
Naphthalene	25.0	28.1		ug/L		112	60 - 140
n-Butylbenzene	25.0	26.1		ug/L		104	65 - 150
N-Propylbenzene	25.0	25.1		ug/L		100	67 - 139
o-Xylene	25.0	27.1		ug/L		108	70 - 130
p-Isopropyltoluene	25.0	26.8		ug/L		107	70 - 132
sec-Butylbenzene	25.0	26.8		ug/L		107	70 - 138
Styrene	25.0	26.7		ug/L		107	70 - 134
tert-Butylbenzene	25.0	26.2		ug/L		105	70 - 130
Tetrachloroethene	25.0	26.4		ug/L		105	70 - 130
Toluene	25.0	24.5		ug/L		98	70 - 130
trans-1,2-Dichloroethene	25.0	27.4		ug/L		110	70 - 130
trans-1,3-Dichloropropene	25.0	25.4		ug/L		101	70 - 132
Trichloroethene	25.0	29.2		ug/L		117	70 - 130
Trichlorofluoromethane	25.0	28.6		ug/L		114	60 - 150
Vinyl chloride	25.0	25.1		ug/L		100	59 - 133

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

Lab Sample ID: LCS 440-495462/5
Matrix: Water
Analysis Batch: 495462

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

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*108*		*70 - 130*
4-Bromofluorobenzene (Surr)	*94*		*80 - 120*
Dibromofluoromethane (Surr)	*114*		*76 - 132*
Toluene-d8 (Surr)	*99*		*80 - 128*

Lab Sample ID: 440-218620-A-2 MS
Matrix: Water
Analysis Batch: 495462

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1,1,2-Tetrachloroethane	ND		25.0	25.2		ug/L		101	60 - 149
1,1,1-Trichloroethane	ND		25.0	25.7		ug/L		103	70 - 130
1,1,2,2-Tetrachloroethane	ND		25.0	25.3		ug/L		101	63 - 130
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		25.0	25.6		ug/L		102	60 - 140
1,1,2-Trichloroethane	ND		25.0	23.8		ug/L		95	70 - 130
1,1-Dichloroethane	ND		25.0	23.5		ug/L		94	65 - 130
1,1-Dichloroethene	ND		25.0	23.9		ug/L		96	70 - 130
1,1-Dichloropropene	ND		25.0	25.0		ug/L		100	64 - 130
1,2,3-Trichlorobenzene	ND		25.0	27.5		ug/L		110	60 - 140
1,2,3-Trichloropropane	ND		25.0	26.4		ug/L		106	60 - 130
1,2,4-Trichlorobenzene	ND		25.0	28.3		ug/L		113	60 - 140
1,2,4-Trimethylbenzene	ND		25.0	25.6		ug/L		102	70 - 130
1,2-Dibromo-3-Chloropropane	ND		25.0	26.3		ug/L		105	48 - 140
1,2-Dibromoethane (EDB)	ND		25.0	25.1		ug/L		100	70 - 131
1,2-Dichlorobenzene	ND		25.0	25.3		ug/L		101	70 - 130
1,2-Dichloroethane	ND		25.0	25.2		ug/L		101	56 - 146
1,2-Dichloropropane	ND		25.0	25.0		ug/L		100	69 - 130
1,3,5-Trimethylbenzene	ND		25.0	25.3		ug/L		101	70 - 130
1,3-Dichlorobenzene	ND		25.0	24.5		ug/L		98	70 - 130
1,3-Dichloropropane	ND		25.0	23.5		ug/L		94	70 - 130
1,4-Dichlorobenzene	ND		25.0	25.6		ug/L		102	70 - 130
2,2-Dichloropropane	ND		25.0	26.9		ug/L		108	69 - 138
2-Chlorotoluene	ND		25.0	23.8		ug/L		95	70 - 130
4-Chlorotoluene	ND		25.0	24.5		ug/L		98	70 - 130
Acetone	ND		25.0	27.8		ug/L		111	10 - 150
Benzene	ND		25.0	25.0		ug/L		100	66 - 130
Bromobenzene	ND		25.0	25.0		ug/L		100	70 - 130
Bromochloromethane	ND		25.0	27.8		ug/L		111	70 - 130
Bromodichloromethane	ND		25.0	26.2		ug/L		105	70 - 138
Bromoform	ND		25.0	26.8		ug/L		107	59 - 150
Bromomethane	ND		25.0	25.0		ug/L		100	62 - 131
Carbon tetrachloride	ND		25.0	26.1		ug/L		104	60 - 150
Chlorobenzene	ND		25.0	24.4		ug/L		98	70 - 130
Chloroethane	ND		25.0	23.0		ug/L		92	68 - 130
Chloroform	ND		25.0	24.5		ug/L		98	70 - 130
Chloromethane	ND		25.0	21.8		ug/L		87	39 - 144
cis-1,2-Dichloroethene	ND		25.0	25.9		ug/L		104	70 - 130

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

Lab Sample ID: 440-218620-A-2 MS
Matrix: Water
Analysis Batch: 495462

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
cis-1,3-Dichloropropene	ND		25.0	25.6		ug/L		103	70 - 133
Dibromochloromethane	ND		25.0	25.9		ug/L		103	70 - 148
Dibromomethane	ND		25.0	25.0		ug/L		100	70 - 130
Dichlorodifluoromethane	ND		25.0	18.7		ug/L		75	25 - 142
Ethylbenzene	ND		25.0	23.6		ug/L		94	70 - 130
Hexachlorobutadiene	ND		25.0	26.4		ug/L		106	10 - 150
Isopropyl alcohol	ND		250	301		ug/L		120	46 - 142
Isopropylbenzene	ND		25.0	25.6		ug/L		102	70 - 132
m,p-Xylene	ND		25.0	25.0		ug/L		100	70 - 133
Methylene Chloride	ND		25.0	24.1		ug/L		96	52 - 130
Methyl-t-Butyl Ether (MTBE)	ND		25.0	25.5		ug/L		102	70 - 130
Naphthalene	ND		25.0	28.4		ug/L		114	60 - 140
n-Butylbenzene	ND		25.0	25.5		ug/L		102	61 - 149
N-Propylbenzene	ND		25.0	24.5		ug/L		98	66 - 135
o-Xylene	ND		25.0	26.3		ug/L		105	70 - 133
p-Isopropyltoluene	ND		25.0	26.3		ug/L		105	70 - 130
sec-Butylbenzene	ND		25.0	25.6		ug/L		102	67 - 134
Styrene	ND		25.0	25.7		ug/L		103	29 - 150
tert-Butylbenzene	ND		25.0	25.5		ug/L		102	70 - 130
Tetrachloroethene	9.2		25.0	33.0		ug/L		95	70 - 137
Toluene	ND		25.0	23.4		ug/L		93	70 - 130
trans-1,2-Dichloroethene	ND		25.0	24.7		ug/L		99	70 - 130
trans-1,3-Dichloropropene	ND		25.0	24.9		ug/L		100	70 - 138
Trichloroethene	ND		25.0	26.6		ug/L		106	70 - 130
Trichlorofluoromethane	ND		25.0	25.8		ug/L		103	60 - 150
Vinyl chloride	ND		25.0	23.0		ug/L		92	50 - 137

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*112*		*70 - 130*
4-Bromofluorobenzene (Surr)	*96*		*80 - 120*
Dibromofluoromethane (Surr)	*110*		*76 - 132*
Toluene-d8 (Surr)	*98*		*80 - 128*

Lab Sample ID: 440-218620-A-2 MSD
Matrix: Water
Analysis Batch: 495462

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,1,1,2-Tetrachloroethane	ND		25.0	25.6		ug/L		103	60 - 149	2	20
1,1,1-Trichloroethane	ND		25.0	25.6		ug/L		102	70 - 130	0	20
1,1,2,2-Tetrachloroethane	ND		25.0	27.8		ug/L		111	63 - 130	9	30
1,1,2-Trichloro-1,2,2-trifluoroetha ne	ND		25.0	26.9		ug/L		108	60 - 140	5	20
1,1,2-Trichloroethane	ND		25.0	24.8		ug/L		99	70 - 130	4	25
1,1-Dichloroethane	ND		25.0	23.4		ug/L		94	65 - 130	0	20
1,1-Dichloroethene	ND		25.0	24.8		ug/L		99	70 - 130	4	20
1,1-Dichloropropene	ND		25.0	24.8		ug/L		99	64 - 130	1	20
1,2,3-Trichlorobenzene	ND		25.0	28.3		ug/L		113	60 - 140	3	20

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

Lab Sample ID: 440-218620-A-2 MSD
Matrix: Water
Analysis Batch: 495462

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,2,3-Trichloropropane	ND		25.0	28.8		ug/L		115	60 - 130	9	30
1,2,4-Trichlorobenzene	ND		25.0	28.5		ug/L		114	60 - 140	1	20
1,2,4-Trimethylbenzene	ND		25.0	25.8		ug/L		103	70 - 130	1	25
1,2-Dibromo-3-Chloropropane	ND		25.0	29.7		ug/L		119	48 - 140	12	30
1,2-Dibromoethane (EDB)	ND		25.0	26.6		ug/L		106	70 - 131	6	25
1,2-Dichlorobenzene	ND		25.0	26.4		ug/L		106	70 - 130	4	20
1,2-Dichloroethane	ND		25.0	24.6		ug/L		99	56 - 146	2	20
1,2-Dichloropropane	ND		25.0	25.2		ug/L		101	69 - 130	1	20
1,3,5-Trimethylbenzene	ND		25.0	25.4		ug/L		101	70 - 130	0	20
1,3-Dichlorobenzene	ND		25.0	25.1		ug/L		100	70 - 130	3	20
1,3-Dichloropropane	ND		25.0	25.2		ug/L		101	70 - 130	7	25
1,4-Dichlorobenzene	ND		25.0	25.1		ug/L		101	70 - 130	2	20
2,2-Dichloropropane	ND		25.0	25.9		ug/L		104	69 - 138	4	25
2-Chlorotoluene	ND		25.0	24.1		ug/L		96	70 - 130	1	20
4-Chlorotoluene	ND		25.0	24.6		ug/L		98	70 - 130	1	20
Acetone	ND		25.0	35.7		ug/L		143	10 - 150	25	35
Benzene	ND		25.0	24.9		ug/L		100	66 - 130	0	20
Bromobenzene	ND		25.0	25.0		ug/L		100	70 - 130	0	20
Bromochloromethane	ND		25.0	27.1		ug/L		109	70 - 130	2	25
Bromodichloromethane	ND		25.0	26.3		ug/L		105	70 - 138	0	20
Bromoform	ND		25.0	28.7		ug/L		115	59 - 150	7	25
Bromomethane	ND		25.0	26.4		ug/L		105	62 - 131	5	25
Carbon tetrachloride	ND		25.0	25.9		ug/L		103	60 - 150	1	25
Chlorobenzene	ND		25.0	25.8		ug/L		103	70 - 130	5	20
Chloroethane	ND		25.0	23.6		ug/L		94	68 - 130	3	25
Chloroform	ND		25.0	25.5		ug/L		102	70 - 130	4	20
Chloromethane	ND		25.0	22.8		ug/L		91	39 - 144	5	25
cis-1,2-Dichloroethene	ND		25.0	25.8		ug/L		103	70 - 130	0	20
cis-1,3-Dichloropropene	ND		25.0	26.2		ug/L		105	70 - 133	2	20
Dibromochloromethane	ND		25.0	26.6		ug/L		106	70 - 148	3	25
Dibromomethane	ND		25.0	26.0		ug/L		104	70 - 130	4	25
Dichlorodifluoromethane	ND		25.0	20.5		ug/L		82	25 - 142	9	30
Ethylbenzene	ND		25.0	24.7		ug/L		99	70 - 130	5	20
Hexachlorobutadiene	ND		25.0	26.8		ug/L		107	10 - 150	2	20
Isopropyl alcohol	ND		250	309		ug/L		124	46 - 142	3	40
Isopropylbenzene	ND		25.0	26.4		ug/L		106	70 - 132	3	20
m,p-Xylene	ND		25.0	25.7		ug/L		103	70 - 133	3	25
Methylene Chloride	ND		25.0	24.3		ug/L		97	52 - 130	1	20
Methyl-t-Butyl Ether (MTBE)	ND		25.0	26.7		ug/L		107	70 - 130	4	25
Naphthalene	ND		25.0	31.5		ug/L		126	60 - 140	10	30
n-Butylbenzene	ND		25.0	25.7		ug/L		103	61 - 149	1	20
N-Propylbenzene	ND		25.0	24.8		ug/L		99	66 - 135	1	20
o-Xylene	ND		25.0	26.3		ug/L		105	70 - 133	0	20
p-Isopropyltoluene	ND		25.0	26.3		ug/L		105	70 - 130	0	20
sec-Butylbenzene	ND		25.0	25.9		ug/L		104	67 - 134	1	20
Styrene	ND		25.0	26.4		ug/L		106	29 - 150	3	35
tert-Butylbenzene	ND		25.0	25.8		ug/L		103	70 - 130	1	20
Tetrachloroethene	9.2		25.0	34.0		ug/L		99	70 - 137	3	20

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

Lab Sample ID: 440-218620-A-2 MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 495462

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Toluene	ND		25.0	24.3		ug/L		97	70 - 130	4	20
trans-1,2-Dichloroethene	ND		25.0	25.3		ug/L		101	70 - 130	2	20
trans-1,3-Dichloropropene	ND		25.0	26.1		ug/L		104	70 - 138	4	25
Trichloroethene	ND		25.0	26.4		ug/L		106	70 - 130	0	20
Trichlorofluoromethane	ND		25.0	26.1		ug/L		104	60 - 150	1	25
Vinyl chloride	ND		25.0	24.3		ug/L		97	50 - 137	6	30

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*105*		*70 - 130*
4-Bromofluorobenzene (Surr)	*95*		*80 - 120*
Dibromofluoromethane (Surr)	*110*		*76 - 132*
Toluene-d8 (Surr)	*98*		*80 - 128*

Method: 8270C SIM - Semivolatile Organic Compounds (GC/MS SIM)

Lab Sample ID: MB 440-495481/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 495745 — **Prep Batch: 495481**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	ND		0.49	0.098	ug/L		08/24/18 07:29	08/26/18 09:53	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,4-Dioxane-d8 (Surr)	*62*		*27 - 120*	*08/24/18 07:29*	*08/26/18 09:53*	*1*

Lab Sample ID: LCS 440-495481/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 495745 — **Prep Batch: 495481**

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
1,4-Dioxane			1.98	1.65		ug/L		83	36 - 120		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1,4-Dioxane-d8 (Surr)	*77*		*27 - 120*

Lab Sample ID: LCSD 440-495481/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 495745 — **Prep Batch: 495481**

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,4-Dioxane			1.97	1.38		ug/L		70	36 - 120	18	35

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
1,4-Dioxane-d8 (Surr)	*65*		*27 - 120*

QC Association Summary

Client: de maximis, inc.
Project/Site: Omega Chemical - Semi Annual GWM 2018

TestAmerica Job ID: 440-218621-1
SDG: Omega Chemical

GC/MS VOA

Analysis Batch: 495462

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-218621-1	OC_GW_EW-3_20180821	Total/NA	Water	8260B	
440-218621-2	OC_GW_EW-4_20180821	Total/NA	Water	8260B	
440-218621-3	OC_GW_EW-5_20180821	Total/NA	Water	8260B	
MB 440-495462/4	Method Blank	Total/NA	Water	8260B	
LCS 440-495462/5	Lab Control Sample	Total/NA	Water	8260B	
440-218620-A-2 MS	Matrix Spike	Total/NA	Water	8260B	
440-218620-A-2 MSD	Matrix Spike Duplicate	Total/NA	Water	8260B	

GC/MS Semi VOA

Prep Batch: 495481

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-218621-1	OC_GW_EW-3_20180821	Total/NA	Water	3520C	
440-218621-2	OC_GW_EW-4_20180821	Total/NA	Water	3520C	
440-218621-3	OC_GW_EW-5_20180821	Total/NA	Water	3520C	
MB 440-495481/1-A	Method Blank	Total/NA	Water	3520C	
LCS 440-495481/2-A	Lab Control Sample	Total/NA	Water	3520C	
LCSD 440-495481/3-A	Lab Control Sample Dup	Total/NA	Water	3520C	

Analysis Batch: 495745

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-218621-1	OC_GW_EW-3_20180821	Total/NA	Water	8270C SIM	495481
440-218621-2	OC_GW_EW-4_20180821	Total/NA	Water	8270C SIM	495481
440-218621-3	OC_GW_EW-5_20180821	Total/NA	Water	8270C SIM	495481
MB 440-495481/1-A	Method Blank	Total/NA	Water	8270C SIM	495481
LCS 440-495481/2-A	Lab Control Sample	Total/NA	Water	8270C SIM	495481
LCSD 440-495481/3-A	Lab Control Sample Dup	Total/NA	Water	8270C SIM	495481

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

GC/MS VOA TICs

Qualifier	Qualifier Description
J	Indicates an Estimated Value for TICs
N	Presumptive evidence of material.
T	Result is a tentatively identified compound (TIC) and an estimated value.

GC/MS Semi VOA

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Accreditation/Certification Summary

Client: de maximis, inc.
Project/Site: Omega Chemical - Semi Annual GWM 2018

TestAmerica Job ID: 440-218621-1
SDG: Omega Chemical

Laboratory: TestAmerica Irvine

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	EPA Region	Identification Number	Expiration Date
California	State Program	9	CA ELAP 2706	06-30-19

The following analytes are included in this report, but accreditation/certification is not offered by the governing authority:

Analysis Method	Prep Method	Matrix	Analyte
8260B		Water	1,1,2-Trichloro-1,2,2-trifluoroethane
8260B		Water	m,p-Xylene
8270C SIM	3520C	Water	1,4-Dioxane

TestAmerica Irvine
17461 Derian Ave
Suite 100
Irvine, CA 92614
phone 949.261.1022 fax

Chain of Custody Record

TestAmerica
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TestAmerica Laboratories, Inc.

Regulatory Program: ☐ DW ☐ NPDES ☐ RCRA ☐ Other:

Client Contact	Project Manager: Trent Henderson	Site Contact: Khalid Azhar	Date: 8/21/18	COC No:
De Maximis - Jaime Dinello	Tel/Fax: 949 453 1045/949 453 1047	Lab Contact: Danielle Roberts	Carrier:	1 of 1 COCs
1322 Scott St., Suite 104	Analysis Turnaround Time			Sampler:
San Diego, CA 92106	☐ CALENDAR DAYS ☐ WORKING DAYS			For Lab Use Only:
(562) 756-8149	TAT if different from Below ___STD___			Walk-in Client:
	☐ 2 weeks			Lab Sampling:
Project Name: Omega Chemical - SemiAnn GWM 2018	☐ 1 week			
Site: Omega Chemical	☐ 2 days			Job / SDG No.:
P O #:	☐ 1 day			

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.	Filtered Sample (Y / N)	Perform MS / MSD (Y / N)	EPA 8260B - VOCs + Freons	EPA 8270C - 1,4 Dioxane	Sample Specific Notes:
OC_GW_EW-3_20180821	8/21/18	1020	Grab	GW	5			x	x	
OC_GW_EW-4_20180821	"	1035	Grab	GW	5			x	x	
OC_GW_EW-5_20180821	"	1045	Grab	GW	5			x	x	
OC_GW_ _201808			Grab	GW	5			x	x	
OC_GW_ _201808			Grab	GW	5			x	x	
OC_GW_ _201808			Grab	GW	5			x	x	
OC_GW_ _201808			Grab	GW	5			x	x	
OC_GW_ _201808			Grab	GW	5			x	x	
OC_GW_ _201808			Grab	GW	5			x	x	
OC_GW_ _201808			Grab	GW	5			x	x	
OC_GW_TB_201808			Grab	H2O	3			x		
OC_GW_ N_201808			Grab	H2O	3			x		

440-218621 Chain of Custody

Preservation Used: 1= Ice, 2= HCl, 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other _____

Possible Hazard Identification:
Are any samples from a listed EPA Hazardous Waste? Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return to Client ☐ Disposal by Lab ☐ Archive for_____ Months

NE 8/22

Special Instructions/QC Requirements & Comments:

Custody Seals Intact: ☐ Yes ☐ No | Custody Seal No.: | Cooler Temp. (°C): Obs'd:_____ Corr'd:_____ | Therm ID No.: 606

Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
	JHD	8/21/18 1430		B-T	8/22/18 14:30
Relinquished by:	Company: B-T 8/22/18 1835	Date/Time:	Received by:	Company:	Date/Time:
Relinquished by:	Company:	Date/Time:	Received in Laboratory by:	Company: TA IRV	Date/Time: 8/22/18 1635

Temp 4.9/5.2° 5.3/5.6° 5.4/5.7 IR 66

Login Sample Receipt Checklist

Client: de maximis, inc.

Job Number: 440-218621-1
SDG Number: Omega Chemical

Login Number: 218621
List Number: 1
Creator: Soderblom, Tim

List Source: TestAmerica Irvine

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	N/A	Not present
Sample custody seals, if present, are intact.	N/A	Not Present
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	False	Refer to Job Narrative for details.
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

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ANALYTICAL REPORT

TestAmerica Laboratories, Inc.
TestAmerica Irvine
17461 Derian Ave
Suite 100
Irvine, CA 92614-5817
Tel: (949)261-1022

TestAmerica Job ID: 440-218622-1
TestAmerica Sample Delivery Group: Omega Chemical
Client Project/Site: Omega Chemical - Semi Annual GWM 2018
Revision: 1

For:
de maximis, inc.
2365 Northside Drive, Suite C-100
San Diego, California 92108

Attn: Jaime Dinello

Authorized for release by:
8/31/2018 10:55:31 AM
Alain Mouton, Project Management Assistant I
alain.mouton@testamericainc.com

Designee for

Danielle Roberts, Senior Project Manager
(949)261-1022
danielle.roberts@testamericainc.com

LINKS

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The test results in this report meet all 2003 NELAC and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

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Sample Summary

Client: de maximis, inc.
Project/Site: Omega Chemical - Semi Annual GWM 2018

TestAmerica Job ID: 440-218622-1
SDG: Omega Chemical

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
440-218622-1	OC_GW_DPE-3_20180821	Water	08/21/18 07:35	08/22/18 18:35
440-218622-2	OC_GW_DPE-8_20180821	Water	08/21/18 07:55	08/22/18 18:35
440-218622-3	OC_GW_DPE-4_20180821	Water	08/21/18 08:05	08/22/18 18:35
440-218622-4	OC_GW_DPE-9_20180821	Water	08/21/18 09:50	08/22/18 18:35
440-218622-5	OC_GW_DPE-10D_20180821	Water	08/21/18 13:00	08/22/18 18:35
440-218622-6	OC_GW_DPE-7D_20180821	Water	08/21/18 13:25	08/22/18 18:35
440-218622-7	OC_GW_DPE-5_20180821	Water	08/21/18 13:40	08/22/18 18:35
440-218622-8	OC_GW_TB_20180822	Water	08/22/18 06:30	08/22/18 18:35

Job ID: 440-218622-1

Laboratory: TestAmerica Irvine

Narrative

Job Narrative
440-218622-1

Comments
The report was revised on 08/31/18 to correct errors on sample IDs.

Receipt
The samples were received on 8/22/2018 6:35 PM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 5.7º C.

Receipt Exceptions

The Field Sampler was not listed on the Chain of Custody.

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

GC/MS Semi VOA
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Organic Prep
Method(s) 3520C: Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD) associated with preparation batch 440-495481. 3520C_8270-SIM 1,4 Dioxane/1,4 Dioxane.

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

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

Detection Summary

Client: de maximis, inc.
Project/Site: Omega Chemical - Semi Annual GWM 2018

TestAmerica Job ID: 440-218622-1
SDG: Omega Chemical

Client Sample ID: OC_GW_DPE-3_20180821 — Lab Sample ID: 440-218622-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,1,1-Trichloroethane	0.60	J	1.0	0.25	ug/L	1		8260B	Total/NA
1,1,2-Trichloro-1,2,2-trifluoroethane	87		5.0	0.50	ug/L	1		8260B	Total/NA
1,1,2-Trichloroethane	0.33	J	1.0	0.25	ug/L	1		8260B	Total/NA
1,1-Dichloroethene	2.8		1.0	0.25	ug/L	1		8260B	Total/NA
1,2-Dichloroethane	3.2		1.0	0.25	ug/L	1		8260B	Total/NA
Chloroform	3.8		1.0	0.25	ug/L	1		8260B	Total/NA
Tetrachloroethene	120		1.0	0.25	ug/L	1		8260B	Total/NA
Trichloroethene	8.6		1.0	0.25	ug/L	1		8260B	Total/NA
Trichlorofluoromethane	9.4		1.0	0.25	ug/L	1		8260B	Total/NA
1,4-Dioxane	6.0		2.0	0.39	ug/L	4		8270C SIM	Total/NA

Client Sample ID: OC_GW_DPE-8_20180821 — Lab Sample ID: 440-218622-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,1,2-Trichloro-1,2,2-trifluoroethane	3.0	J	5.0	0.50	ug/L	1		8260B	Total/NA
1,1-Dichloroethene	0.55	J	1.0	0.25	ug/L	1		8260B	Total/NA
Tetrachloroethene	19		1.0	0.25	ug/L	1		8260B	Total/NA
Trichloroethene	2.9		1.0	0.25	ug/L	1		8260B	Total/NA
Trichlorofluoromethane	2.0		1.0	0.25	ug/L	1		8260B	Total/NA
1,4-Dioxane	3.2		0.51	0.10	ug/L	1		8270C SIM	Total/NA

Client Sample ID: OC_GW_DPE-4_20180821 — Lab Sample ID: 440-218622-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,1,1-Trichloroethane	0.55	J	1.0	0.25	ug/L	1		8260B	Total/NA
1,1,2-Trichloro-1,2,2-trifluoroethane	160		5.0	0.50	ug/L	1		8260B	Total/NA
1,1,2-Trichloroethane	1.3		1.0	0.25	ug/L	1		8260B	Total/NA
1,1-Dichloroethane	0.26	J	1.0	0.25	ug/L	1		8260B	Total/NA
1,1-Dichloroethene	10		1.0	0.25	ug/L	1		8260B	Total/NA
1,2-Dichloroethane	4.2		1.0	0.25	ug/L	1		8260B	Total/NA
Chloroform	16		1.0	0.25	ug/L	1		8260B	Total/NA
Trichloroethene	31		1.0	0.25	ug/L	1		8260B	Total/NA
Trichlorofluoromethane	6.3		1.0	0.25	ug/L	1		8260B	Total/NA
Tetrachloroethene - DL	360		10	2.5	ug/L	10		8260B	Total/NA
1,4-Dioxane	49		5.0	0.99	ug/L	10		8270C SIM	Total/NA

Client Sample ID: OC_GW_DPE-9_20180821 — Lab Sample ID: 440-218622-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,1,2-Trichloro-1,2,2-trifluoroethane	40		5.0	0.50	ug/L	1		8260B	Total/NA
1,1-Dichloroethane	0.33	J	1.0	0.25	ug/L	1		8260B	Total/NA
1,1-Dichloroethene	8.0		1.0	0.25	ug/L	1		8260B	Total/NA
1,2-Dichloroethane	2.9		1.0	0.25	ug/L	1		8260B	Total/NA
Chloroform	12		1.0	0.25	ug/L	1		8260B	Total/NA
Tetrachloroethene	240		1.0	0.25	ug/L	1		8260B	Total/NA
Trichloroethene	15		1.0	0.25	ug/L	1		8260B	Total/NA
Trichlorofluoromethane	9.3		1.0	0.25	ug/L	1		8260B	Total/NA
1,4-Dioxane	27		2.4	0.49	ug/L	5		8270C SIM	Total/NA

Client Sample ID: OC_GW_DPE-10D_20180821 — Lab Sample ID: 440-218622-5

This Detection Summary does not include radiochemical test results.

Detection Summary

Client: de maximis, inc.
Project/Site: Omega Chemical - Semi Annual GWM 2018

TestAmerica Job ID: 440-218622-1
SDG: Omega Chemical

Client Sample ID: OC_GW_DPE-10D_20180821 (Continued) — Lab Sample ID: 440-218622-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,1,2-Trichloro-1,2,2-trifluoroethane	110		5.0	0.50	ug/L	1		8260B	Total/NA
1,1-Dichloroethane	0.98	J	1.0	0.25	ug/L	1		8260B	Total/NA
1,1-Dichloroethene	76		1.0	0.25	ug/L	1		8260B	Total/NA
1,2-Dichloroethane	4.7		1.0	0.25	ug/L	1		8260B	Total/NA
Chloroform	31		1.0	0.25	ug/L	1		8260B	Total/NA
trans-1,2-Dichloroethene	0.56	J	1.0	0.25	ug/L	1		8260B	Total/NA
Trichloroethene	56		1.0	0.25	ug/L	1		8260B	Total/NA
Trichlorofluoromethane	33		1.0	0.25	ug/L	1		8260B	Total/NA
Tetrachloroethene - DL	610		20	5.0	ug/L	20		8260B	Total/NA
1,4-Dioxane	25		0.99	0.20	ug/L	2		8270C SIM	Total/NA

Client Sample ID: OC_GW_DPE-7D_20180821 — Lab Sample ID: 440-218622-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,1,2-Trichloro-1,2,2-trifluoroethane	16		5.0	0.50	ug/L	1		8260B	Total/NA
1,1-Dichloroethene	13		1.0	0.25	ug/L	1		8260B	Total/NA
Tetrachloroethene	78		1.0	0.25	ug/L	1		8260B	Total/NA
Trichloroethene	28		1.0	0.25	ug/L	1		8260B	Total/NA
Trichlorofluoromethane	5.8		1.0	0.25	ug/L	1		8260B	Total/NA
1,4-Dioxane	0.10	J	0.50	0.099	ug/L	1		8270C SIM	Total/NA

Client Sample ID: OC_GW_DPE-5_20180821 — Lab Sample ID: 440-218622-7

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,1,2-Trichloro-1,2,2-trifluoroethane	9.0		5.0	0.50	ug/L	1		8260B	Total/NA
1,1-Dichloroethene	30		1.0	0.25	ug/L	1		8260B	Total/NA
1,2-Dichloroethane	0.40	J	1.0	0.25	ug/L	1		8260B	Total/NA
Chloroform	2.0		1.0	0.25	ug/L	1		8260B	Total/NA
Tetrachloroethene	110		1.0	0.25	ug/L	1		8260B	Total/NA
Trichloroethene	9.3		1.0	0.25	ug/L	1		8260B	Total/NA
Trichlorofluoromethane	6.8		1.0	0.25	ug/L	1		8260B	Total/NA
1,4-Dioxane	4.7		0.49	0.099	ug/L	1		8270C SIM	Total/NA

Client Sample ID: OC_GW_TB_20180822 — Lab Sample ID: 440-218622-8

No Detections.

This Detection Summary does not include radiochemical test results.

Client Sample Results

Client: de maximis, inc.
Project/Site: Omega Chemical - Semi Annual GWM 2018

TestAmerica Job ID: 440-218622-1
SDG: Omega Chemical

Client Sample ID: OC_GW_DPE-3_20180821

Lab Sample ID: 440-218622-1

Date Collected: 08/21/18 07:35
Matrix: Water
Date Received: 08/22/18 18:35

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		1.0	0.25	ug/L			08/24/18 22:14	1
1,1,1-Trichloroethane	**0.60**	**J**	1.0	0.25	ug/L			08/24/18 22:14	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.25	ug/L			08/24/18 22:14	1
1,1,2-Trichloro-1,2,2-trifluoroethane	**87**		5.0	0.50	ug/L			08/24/18 22:14	1
1,1,2-Trichloroethane	**0.33**	**J**	1.0	0.25	ug/L			08/24/18 22:14	1
1,1-Dichloroethane	ND		1.0	0.25	ug/L			08/24/18 22:14	1
1,1-Dichloroethene	**2.8**		1.0	0.25	ug/L			08/24/18 22:14	1
1,1-Dichloropropene	ND		1.0	0.25	ug/L			08/24/18 22:14	1
1,2,3-Trichlorobenzene	ND		1.0	0.40	ug/L			08/24/18 22:14	1
1,2,3-Trichloropropane	ND		1.0	0.40	ug/L			08/24/18 22:14	1
1,2,4-Trichlorobenzene	ND		1.0	0.40	ug/L			08/24/18 22:14	1
1,2,4-Trimethylbenzene	ND		1.0	0.25	ug/L			08/24/18 22:14	1
1,2-Dibromo-3-Chloropropane	ND		5.0	0.50	ug/L			08/24/18 22:14	1
1,2-Dibromoethane (EDB)	ND		1.0	0.25	ug/L			08/24/18 22:14	1
1,2-Dichlorobenzene	ND		1.0	0.25	ug/L			08/24/18 22:14	1
1,2-Dichloroethane	**3.2**		1.0	0.25	ug/L			08/24/18 22:14	1
1,2-Dichloropropane	ND		1.0	0.25	ug/L			08/24/18 22:14	1
1,3,5-Trimethylbenzene	ND		1.0	0.25	ug/L			08/24/18 22:14	1
1,3-Dichlorobenzene	ND		1.0	0.25	ug/L			08/24/18 22:14	1
1,3-Dichloropropane	ND		1.0	0.25	ug/L			08/24/18 22:14	1
1,4-Dichlorobenzene	ND		1.0	0.25	ug/L			08/24/18 22:14	1
2,2-Dichloropropane	ND		1.0	0.40	ug/L			08/24/18 22:14	1
2-Chlorotoluene	ND		1.0	0.25	ug/L			08/24/18 22:14	1
4-Chlorotoluene	ND		1.0	0.25	ug/L			08/24/18 22:14	1
Acetone	ND		10	10	ug/L			08/24/18 22:14	1
Benzene	ND		0.50	0.25	ug/L			08/24/18 22:14	1
Bromobenzene	ND		1.0	0.25	ug/L			08/24/18 22:14	1
Bromochloromethane	ND		1.0	0.25	ug/L			08/24/18 22:14	1
Bromodichloromethane	ND		1.0	0.25	ug/L			08/24/18 22:14	1
Bromoform	ND		1.0	0.40	ug/L			08/24/18 22:14	1
Bromomethane	ND		1.0	0.25	ug/L			08/24/18 22:14	1
Carbon tetrachloride	ND		0.50	0.25	ug/L			08/24/18 22:14	1
Chlorobenzene	ND		1.0	0.25	ug/L			08/24/18 22:14	1
Chloroethane	ND		1.0	0.40	ug/L			08/24/18 22:14	1
Chloroform	**3.8**		1.0	0.25	ug/L			08/24/18 22:14	1
Chloromethane	ND		1.0	0.25	ug/L			08/24/18 22:14	1
cis-1,2-Dichloroethene	ND		1.0	0.25	ug/L			08/24/18 22:14	1
cis-1,3-Dichloropropene	ND		0.50	0.25	ug/L			08/24/18 22:14	1
Dibromochloromethane	ND		1.0	0.25	ug/L			08/24/18 22:14	1
Dibromomethane	ND		1.0	0.25	ug/L			08/24/18 22:14	1
Dichlorodifluoromethane	ND		1.0	0.40	ug/L			08/24/18 22:14	1
Ethylbenzene	ND		1.0	0.25	ug/L			08/24/18 22:14	1
Hexachlorobutadiene	ND		1.0	0.25	ug/L			08/24/18 22:14	1
Isopropyl alcohol	ND		250	180	ug/L			08/24/18 22:14	1
Isopropylbenzene	ND		1.0	0.25	ug/L			08/24/18 22:14	1
m,p-Xylene	ND		1.0	0.50	ug/L			08/24/18 22:14	1
Methylene Chloride	ND		5.0	0.88	ug/L			08/24/18 22:14	1
Methyl-t-Butyl Ether (MTBE)	ND		1.0	0.25	ug/L			08/24/18 22:14	1

Client Sample Results

Client: de maximis, inc.
Project/Site: Omega Chemical - Semi Annual GWM 2018

TestAmerica Job ID: 440-218622-1
SDG: Omega Chemical

Client Sample ID: OC_GW_DPE-3_20180821

Lab Sample ID: 440-218622-1
Date Collected: 08/21/18 07:35
Matrix: Water
Date Received: 08/22/18 18:35

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
n-Butylbenzene	ND		1.0	0.40	ug/L			08/24/18 22:14	1
N-Propylbenzene	ND		1.0	0.25	ug/L			08/24/18 22:14	1
o-Xylene	ND		1.0	0.25	ug/L			08/24/18 22:14	1
p-Isopropyltoluene	ND		1.0	0.25	ug/L			08/24/18 22:14	1
sec-Butylbenzene	ND		1.0	0.25	ug/L			08/24/18 22:14	1
Styrene	ND		1.0	0.25	ug/L			08/24/18 22:14	1
tert-Butylbenzene	ND		1.0	0.25	ug/L			08/24/18 22:14	1
Tetrachloroethene	**120**		1.0	0.25	ug/L			08/24/18 22:14	1
Toluene	ND		1.0	0.25	ug/L			08/24/18 22:14	1
trans-1,2-Dichloroethene	ND		1.0	0.25	ug/L			08/24/18 22:14	1
trans-1,3-Dichloropropene	ND		0.50	0.25	ug/L			08/24/18 22:14	1
Trichloroethene	**8.6**		1.0	0.25	ug/L			08/24/18 22:14	1
Trichlorofluoromethane	**9.4**		1.0	0.25	ug/L			08/24/18 22:14	1
Vinyl chloride	ND		0.50	0.25	ug/L			08/24/18 22:14	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Unknown	*2.8*	*T J*	*ug/L*		*14.91*			*08/24/18 22:14*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*99*		*70 - 130*		*08/24/18 22:14*	*1*
4-Bromofluorobenzene (Surr)	*93*		*80 - 120*		*08/24/18 22:14*	*1*
Dibromofluoromethane (Surr)	*103*		*76 - 132*		*08/24/18 22:14*	*1*
Toluene-d8 (Surr)	*103*		*80 - 128*		*08/24/18 22:14*	*1*

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Naphthalene	ND		1.0	0.40	ug/L			08/26/18 15:15	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Unknown	*19*	*T J*	*ug/L*		*1.75*			*08/26/18 15:15*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*108*		*70 - 130*		*08/26/18 15:15*	*1*
4-Bromofluorobenzene (Surr)	*100*		*80 - 120*		*08/26/18 15:15*	*1*
Dibromofluoromethane (Surr)	*110*		*76 - 132*		*08/26/18 15:15*	*1*
Toluene-d8 (Surr)	*103*		*80 - 128*		*08/26/18 15:15*	*1*

Method: 8270C SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	**6.0**		2.0	0.39	ug/L		08/24/18 07:29	08/26/18 13:20	4

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,4-Dioxane-d8 (Surr)	*55*		*27 - 120*	*08/24/18 07:29*	*08/26/18 13:20*	*4*

Client Sample ID: OC_GW_DPE-8_20180821

Lab Sample ID: 440-218622-2
Date Collected: 08/21/18 07:55
Matrix: Water
Date Received: 08/22/18 18:35

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		1.0	0.25	ug/L			08/24/18 20:55	1

Client Sample ID: OC_GW_DPE-8_20180821

Lab Sample ID: 440-218622-2

Date Collected: 08/21/18 07:55
Matrix: Water
Date Received: 08/22/18 18:35

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	ND		1.0	0.25	ug/L			08/24/18 20:55	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.25	ug/L			08/24/18 20:55	1
1,1,2-Trichloro-1,2,2-trifluoroethane	**3.0**	**J**	5.0	0.50	ug/L			08/24/18 20:55	1
1,1,2-Trichloroethane	ND		1.0	0.25	ug/L			08/24/18 20:55	1
1,1-Dichloroethane	ND		1.0	0.25	ug/L			08/24/18 20:55	1
1,1-Dichloroethene	**0.55**	**J**	1.0	0.25	ug/L			08/24/18 20:55	1
1,1-Dichloropropene	ND		1.0	0.25	ug/L			08/24/18 20:55	1
1,2,3-Trichlorobenzene	ND		1.0	0.40	ug/L			08/24/18 20:55	1
1,2,3-Trichloropropane	ND		1.0	0.40	ug/L			08/24/18 20:55	1
1,2,4-Trichlorobenzene	ND		1.0	0.40	ug/L			08/24/18 20:55	1
1,2,4-Trimethylbenzene	ND		1.0	0.25	ug/L			08/24/18 20:55	1
1,2-Dibromo-3-Chloropropane	ND		5.0	0.50	ug/L			08/24/18 20:55	1
1,2-Dibromoethane (EDB)	ND		1.0	0.25	ug/L			08/24/18 20:55	1
1,2-Dichlorobenzene	ND		1.0	0.25	ug/L			08/24/18 20:55	1
1,2-Dichloroethane	ND		1.0	0.25	ug/L			08/24/18 20:55	1
1,2-Dichloropropane	ND		1.0	0.25	ug/L			08/24/18 20:55	1
1,3,5-Trimethylbenzene	ND		1.0	0.25	ug/L			08/24/18 20:55	1
1,3-Dichlorobenzene	ND		1.0	0.25	ug/L			08/24/18 20:55	1
1,3-Dichloropropane	ND		1.0	0.25	ug/L			08/24/18 20:55	1
1,4-Dichlorobenzene	ND		1.0	0.25	ug/L			08/24/18 20:55	1
2,2-Dichloropropane	ND		1.0	0.40	ug/L			08/24/18 20:55	1
2-Chlorotoluene	ND		1.0	0.25	ug/L			08/24/18 20:55	1
4-Chlorotoluene	ND		1.0	0.25	ug/L			08/24/18 20:55	1
Acetone	ND		10	10	ug/L			08/24/18 20:55	1
Benzene	ND		0.50	0.25	ug/L			08/24/18 20:55	1
Bromobenzene	ND		1.0	0.25	ug/L			08/24/18 20:55	1
Bromochloromethane	ND		1.0	0.25	ug/L			08/24/18 20:55	1
Bromodichloromethane	ND		1.0	0.25	ug/L			08/24/18 20:55	1
Bromoform	ND		1.0	0.40	ug/L			08/24/18 20:55	1
Bromomethane	ND		1.0	0.25	ug/L			08/24/18 20:55	1
Carbon tetrachloride	ND		0.50	0.25	ug/L			08/24/18 20:55	1
Chlorobenzene	ND		1.0	0.25	ug/L			08/24/18 20:55	1
Chloroethane	ND		1.0	0.40	ug/L			08/24/18 20:55	1
Chloroform	ND		1.0	0.25	ug/L			08/24/18 20:55	1
Chloromethane	ND		1.0	0.25	ug/L			08/24/18 20:55	1
cis-1,2-Dichloroethene	ND		1.0	0.25	ug/L			08/24/18 20:55	1
cis-1,3-Dichloropropene	ND		0.50	0.25	ug/L			08/24/18 20:55	1
Dibromochloromethane	ND		1.0	0.25	ug/L			08/24/18 20:55	1
Dibromomethane	ND		1.0	0.25	ug/L			08/24/18 20:55	1
Dichlorodifluoromethane	ND		1.0	0.40	ug/L			08/24/18 20:55	1
Ethylbenzene	ND		1.0	0.25	ug/L			08/24/18 20:55	1
Hexachlorobutadiene	ND		1.0	0.25	ug/L			08/24/18 20:55	1
Isopropyl alcohol	ND		250	180	ug/L			08/24/18 20:55	1
Isopropylbenzene	ND		1.0	0.25	ug/L			08/24/18 20:55	1
m,p-Xylene	ND		1.0	0.50	ug/L			08/24/18 20:55	1
Methylene Chloride	ND		5.0	0.88	ug/L			08/24/18 20:55	1
Methyl-t-Butyl Ether (MTBE)	ND		1.0	0.25	ug/L			08/24/18 20:55	1
Naphthalene	ND		1.0	0.40	ug/L			08/24/18 20:55	1
n-Butylbenzene	ND		1.0	0.40	ug/L			08/24/18 20:55	1

Client Sample ID: OC_GW_DPE-8_20180821

Lab Sample ID: 440-218622-2
Date Collected: 08/21/18 07:55
Matrix: Water
Date Received: 08/22/18 18:35

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
N-Propylbenzene	ND		1.0	0.25	ug/L			08/24/18 20:55	1
o-Xylene	ND		1.0	0.25	ug/L			08/24/18 20:55	1
p-Isopropyltoluene	ND		1.0	0.25	ug/L			08/24/18 20:55	1
sec-Butylbenzene	ND		1.0	0.25	ug/L			08/24/18 20:55	1
Styrene	ND		1.0	0.25	ug/L			08/24/18 20:55	1
tert-Butylbenzene	ND		1.0	0.25	ug/L			08/24/18 20:55	1
Tetrachloroethene	**19**		1.0	0.25	ug/L			08/24/18 20:55	1
Toluene	ND		1.0	0.25	ug/L			08/24/18 20:55	1
trans-1,2-Dichloroethene	ND		1.0	0.25	ug/L			08/24/18 20:55	1
trans-1,3-Dichloropropene	ND		0.50	0.25	ug/L			08/24/18 20:55	1
Trichloroethene	**2.9**		1.0	0.25	ug/L			08/24/18 20:55	1
Trichlorofluoromethane	**2.0**		1.0	0.25	ug/L			08/24/18 20:55	1
Vinyl chloride	ND		0.50	0.25	ug/L			08/24/18 20:55	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Tentatively Identified Compound	*None*		*ug/L*					*08/24/18 20:55*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*96*		*70 - 130*		*08/24/18 20:55*	*1*
4-Bromofluorobenzene (Surr)	*94*		*80 - 120*		*08/24/18 20:55*	*1*
Dibromofluoromethane (Surr)	*100*		*76 - 132*		*08/24/18 20:55*	*1*
Toluene-d8 (Surr)	*102*		*80 - 128*		*08/24/18 20:55*	*1*

Method: 8270C SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	**3.2**		0.51	0.10	ug/L		08/24/18 07:29	08/26/18 13:43	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,4-Dioxane-d8 (Surr)	*53*		*27 - 120*	*08/24/18 07:29*	*08/26/18 13:43*	*1*

Client Sample ID: OC_GW_DPE-4_20180821

Lab Sample ID: 440-218622-3
Date Collected: 08/21/18 08:05
Matrix: Water
Date Received: 08/22/18 18:35

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		1.0	0.25	ug/L			08/24/18 22:40	1
1,1,1-Trichloroethane	**0.55**	**J**	1.0	0.25	ug/L			08/24/18 22:40	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.25	ug/L			08/24/18 22:40	1
1,1,2-Trichloro-1,2,2-trifluoroethane	**160**		5.0	0.50	ug/L			08/24/18 22:40	1
1,1,2-Trichloroethane	**1.3**		1.0	0.25	ug/L			08/24/18 22:40	1
1,1-Dichloroethane	**0.26**	**J**	1.0	0.25	ug/L			08/24/18 22:40	1
1,1-Dichloroethene	**10**		1.0	0.25	ug/L			08/24/18 22:40	1
1,1-Dichloropropene	ND		1.0	0.25	ug/L			08/24/18 22:40	1
1,2,3-Trichlorobenzene	ND		1.0	0.40	ug/L			08/24/18 22:40	1
1,2,3-Trichloropropane	ND		1.0	0.40	ug/L			08/24/18 22:40	1
1,2,4-Trichlorobenzene	ND		1.0	0.40	ug/L			08/24/18 22:40	1
1,2,4-Trimethylbenzene	ND		1.0	0.25	ug/L			08/24/18 22:40	1
1,2-Dibromo-3-Chloropropane	ND		5.0	0.50	ug/L			08/24/18 22:40	1
1,2-Dibromoethane (EDB)	ND		1.0	0.25	ug/L			08/24/18 22:40	1

Client Sample Results

Client: de maximis, inc.
Project/Site: Omega Chemical - Semi Annual GWM 2018

TestAmerica Job ID: 440-218622-1
SDG: Omega Chemical

Client Sample ID: OC_GW_DPE-4_20180821

Lab Sample ID: 440-218622-3

Date Collected: 08/21/18 08:05
Matrix: Water
Date Received: 08/22/18 18:35

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dichlorobenzene	ND		1.0	0.25	ug/L			08/24/18 22:40	1
1,2-Dichloroethane	**4.2**		1.0	0.25	ug/L			08/24/18 22:40	1
1,2-Dichloropropane	ND		1.0	0.25	ug/L			08/24/18 22:40	1
1,3,5-Trimethylbenzene	ND		1.0	0.25	ug/L			08/24/18 22:40	1
1,3-Dichlorobenzene	ND		1.0	0.25	ug/L			08/24/18 22:40	1
1,3-Dichloropropane	ND		1.0	0.25	ug/L			08/24/18 22:40	1
1,4-Dichlorobenzene	ND		1.0	0.25	ug/L			08/24/18 22:40	1
2,2-Dichloropropane	ND		1.0	0.40	ug/L			08/24/18 22:40	1
2-Chlorotoluene	ND		1.0	0.25	ug/L			08/24/18 22:40	1
4-Chlorotoluene	ND		1.0	0.25	ug/L			08/24/18 22:40	1
Acetone	ND		10	10	ug/L			08/24/18 22:40	1
Benzene	ND		0.50	0.25	ug/L			08/24/18 22:40	1
Bromobenzene	ND		1.0	0.25	ug/L			08/24/18 22:40	1
Bromochloromethane	ND		1.0	0.25	ug/L			08/24/18 22:40	1
Bromodichloromethane	ND		1.0	0.25	ug/L			08/24/18 22:40	1
Bromoform	ND		1.0	0.40	ug/L			08/24/18 22:40	1
Bromomethane	ND		1.0	0.25	ug/L			08/24/18 22:40	1
Carbon tetrachloride	ND		0.50	0.25	ug/L			08/24/18 22:40	1
Chlorobenzene	ND		1.0	0.25	ug/L			08/24/18 22:40	1
Chloroethane	ND		1.0	0.40	ug/L			08/24/18 22:40	1
Chloroform	**16**		1.0	0.25	ug/L			08/24/18 22:40	1
Chloromethane	ND		1.0	0.25	ug/L			08/24/18 22:40	1
cis-1,2-Dichloroethene	ND		1.0	0.25	ug/L			08/24/18 22:40	1
cis-1,3-Dichloropropene	ND		0.50	0.25	ug/L			08/24/18 22:40	1
Dibromochloromethane	ND		1.0	0.25	ug/L			08/24/18 22:40	1
Dibromomethane	ND		1.0	0.25	ug/L			08/24/18 22:40	1
Dichlorodifluoromethane	ND		1.0	0.40	ug/L			08/24/18 22:40	1
Ethylbenzene	ND		1.0	0.25	ug/L			08/24/18 22:40	1
Hexachlorobutadiene	ND		1.0	0.25	ug/L			08/24/18 22:40	1
Isopropyl alcohol	ND		250	180	ug/L			08/24/18 22:40	1
Isopropylbenzene	ND		1.0	0.25	ug/L			08/24/18 22:40	1
m,p-Xylene	ND		1.0	0.50	ug/L			08/24/18 22:40	1
Methylene Chloride	ND		5.0	0.88	ug/L			08/24/18 22:40	1
Methyl-t-Butyl Ether (MTBE)	ND		1.0	0.25	ug/L			08/24/18 22:40	1
Naphthalene	ND		1.0	0.40	ug/L			08/24/18 22:40	1
n-Butylbenzene	ND		1.0	0.40	ug/L			08/24/18 22:40	1
N-Propylbenzene	ND		1.0	0.25	ug/L			08/24/18 22:40	1
o-Xylene	ND		1.0	0.25	ug/L			08/24/18 22:40	1
p-Isopropyltoluene	ND		1.0	0.25	ug/L			08/24/18 22:40	1
sec-Butylbenzene	ND		1.0	0.25	ug/L			08/24/18 22:40	1
Styrene	ND		1.0	0.25	ug/L			08/24/18 22:40	1
tert-Butylbenzene	ND		1.0	0.25	ug/L			08/24/18 22:40	1
Toluene	ND		1.0	0.25	ug/L			08/24/18 22:40	1
trans-1,2-Dichloroethene	ND		1.0	0.25	ug/L			08/24/18 22:40	1
trans-1,3-Dichloropropene	ND		0.50	0.25	ug/L			08/24/18 22:40	1
Trichloroethene	**31**		1.0	0.25	ug/L			08/24/18 22:40	1
Trichlorofluoromethane	**6.3**		1.0	0.25	ug/L			08/24/18 22:40	1
Vinyl chloride	ND		0.50	0.25	ug/L			08/24/18 22:40	1

Client Sample ID: OC_GW_DPE-4_20180821

Lab Sample ID: 440-218622-3
Date Collected: 08/21/18 08:05
Matrix: Water
Date Received: 08/22/18 18:35

Tentatively Identified Compound	Est. Result	Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Unknown	4.2	T J	ug/L		15.01			08/24/18 22:40	1
Unknown	14	T J	ug/L		16.96			08/24/18 22:40	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	100		70 - 130		08/24/18 22:40	1
4-Bromofluorobenzene (Surr)	96		80 - 120		08/24/18 22:40	1
Dibromofluoromethane (Surr)	104		76 - 132		08/24/18 22:40	1
Toluene-d8 (Surr)	103		80 - 128		08/24/18 22:40	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Tetrachloroethene	**360**		10	2.5	ug/L			08/26/18 15:46	10

Tentatively Identified Compound	Est. Result	Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Unknown	170	T J	ug/L		1.76			08/26/18 15:46	10
Unknown	1200	T J	ug/L		1.82			08/26/18 15:46	10

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	108		70 - 130		08/26/18 15:46	10
4-Bromofluorobenzene (Surr)	98		80 - 120		08/26/18 15:46	10
Dibromofluoromethane (Surr)	109		76 - 132		08/26/18 15:46	10
Toluene-d8 (Surr)	103		80 - 128		08/26/18 15:46	10

Method: 8270C SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	**49**		5.0	0.99	ug/L		08/24/18 07:29	08/26/18 14:06	10

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,4-Dioxane-d8 (Surr)	56		27 - 120	08/24/18 07:29	08/26/18 14:06	10

Client Sample ID: OC_GW_DPE-9_20180821

Lab Sample ID: 440-218622-4
Date Collected: 08/21/18 09:50
Matrix: Water
Date Received: 08/22/18 18:35

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		1.0	0.25	ug/L			08/24/18 23:07	1
1,1,1-Trichloroethane	ND		1.0	0.25	ug/L			08/24/18 23:07	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.25	ug/L			08/24/18 23:07	1
1,1,2-Trichloro-1,2,2-trifluoroethane	**40**		5.0	0.50	ug/L			08/24/18 23:07	1
1,1,2-Trichloroethane	ND		1.0	0.25	ug/L			08/24/18 23:07	1
1,1-Dichloroethane	**0.33**	**J**	1.0	0.25	ug/L			08/24/18 23:07	1
1,1-Dichloroethene	**8.0**		1.0	0.25	ug/L			08/24/18 23:07	1
1,1-Dichloropropene	ND		1.0	0.25	ug/L			08/24/18 23:07	1
1,2,3-Trichlorobenzene	ND		1.0	0.40	ug/L			08/24/18 23:07	1
1,2,3-Trichloropropane	ND		1.0	0.40	ug/L			08/24/18 23:07	1
1,2,4-Trichlorobenzene	ND		1.0	0.40	ug/L			08/24/18 23:07	1
1,2,4-Trimethylbenzene	ND		1.0	0.25	ug/L			08/24/18 23:07	1
1,2-Dibromo-3-Chloropropane	ND		5.0	0.50	ug/L			08/24/18 23:07	1
1,2-Dibromoethane (EDB)	ND		1.0	0.25	ug/L			08/24/18 23:07	1
1,2-Dichlorobenzene	ND		1.0	0.25	ug/L			08/24/18 23:07	1

Client Sample ID: OC_GW_DPE-9_20180821

Lab Sample ID: 440-218622-4

Date Collected: 08/21/18 09:50
Matrix: Water
Date Received: 08/22/18 18:35

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane	**2.9**		1.0	0.25	ug/L			08/24/18 23:07	1
1,2-Dichloropropane	ND		1.0	0.25	ug/L			08/24/18 23:07	1
1,3,5-Trimethylbenzene	ND		1.0	0.25	ug/L			08/24/18 23:07	1
1,3-Dichlorobenzene	ND		1.0	0.25	ug/L			08/24/18 23:07	1
1,3-Dichloropropane	ND		1.0	0.25	ug/L			08/24/18 23:07	1
1,4-Dichlorobenzene	ND		1.0	0.25	ug/L			08/24/18 23:07	1
2,2-Dichloropropane	ND		1.0	0.40	ug/L			08/24/18 23:07	1
2-Chlorotoluene	ND		1.0	0.25	ug/L			08/24/18 23:07	1
4-Chlorotoluene	ND		1.0	0.25	ug/L			08/24/18 23:07	1
Acetone	ND		10	10	ug/L			08/24/18 23:07	1
Benzene	ND		0.50	0.25	ug/L			08/24/18 23:07	1
Bromobenzene	ND		1.0	0.25	ug/L			08/24/18 23:07	1
Bromochloromethane	ND		1.0	0.25	ug/L			08/24/18 23:07	1
Bromodichloromethane	ND		1.0	0.25	ug/L			08/24/18 23:07	1
Bromoform	ND		1.0	0.40	ug/L			08/24/18 23:07	1
Bromomethane	ND		1.0	0.25	ug/L			08/24/18 23:07	1
Carbon tetrachloride	ND		0.50	0.25	ug/L			08/24/18 23:07	1
Chlorobenzene	ND		1.0	0.25	ug/L			08/24/18 23:07	1
Chloroethane	ND		1.0	0.40	ug/L			08/24/18 23:07	1
Chloroform	**12**		1.0	0.25	ug/L			08/24/18 23:07	1
Chloromethane	ND		1.0	0.25	ug/L			08/24/18 23:07	1
cis-1,2-Dichloroethene	ND		1.0	0.25	ug/L			08/24/18 23:07	1
cis-1,3-Dichloropropene	ND		0.50	0.25	ug/L			08/24/18 23:07	1
Dibromochloromethane	ND		1.0	0.25	ug/L			08/24/18 23:07	1
Dibromomethane	ND		1.0	0.25	ug/L			08/24/18 23:07	1
Dichlorodifluoromethane	ND		1.0	0.40	ug/L			08/24/18 23:07	1
Ethylbenzene	ND		1.0	0.25	ug/L			08/24/18 23:07	1
Hexachlorobutadiene	ND		1.0	0.25	ug/L			08/24/18 23:07	1
Isopropyl alcohol	ND		250	180	ug/L			08/24/18 23:07	1
Isopropylbenzene	ND		1.0	0.25	ug/L			08/24/18 23:07	1
m,p-Xylene	ND		1.0	0.50	ug/L			08/24/18 23:07	1
Methylene Chloride	ND		5.0	0.88	ug/L			08/24/18 23:07	1
Methyl-t-Butyl Ether (MTBE)	ND		1.0	0.25	ug/L			08/24/18 23:07	1
Naphthalene	ND		1.0	0.40	ug/L			08/24/18 23:07	1
n-Butylbenzene	ND		1.0	0.40	ug/L			08/24/18 23:07	1
N-Propylbenzene	ND		1.0	0.25	ug/L			08/24/18 23:07	1
o-Xylene	ND		1.0	0.25	ug/L			08/24/18 23:07	1
p-Isopropyltoluene	ND		1.0	0.25	ug/L			08/24/18 23:07	1
sec-Butylbenzene	ND		1.0	0.25	ug/L			08/24/18 23:07	1
Styrene	ND		1.0	0.25	ug/L			08/24/18 23:07	1
tert-Butylbenzene	ND		1.0	0.25	ug/L			08/24/18 23:07	1
Tetrachloroethene	**240**		1.0	0.25	ug/L			08/24/18 23:07	1
Toluene	ND		1.0	0.25	ug/L			08/24/18 23:07	1
trans-1,2-Dichloroethene	ND		1.0	0.25	ug/L			08/24/18 23:07	1
trans-1,3-Dichloropropene	ND		0.50	0.25	ug/L			08/24/18 23:07	1
Trichloroethene	**15**		1.0	0.25	ug/L			08/24/18 23:07	1
Trichlorofluoromethane	**9.3**		1.0	0.25	ug/L			08/24/18 23:07	1
Vinyl chloride	ND		0.50	0.25	ug/L			08/24/18 23:07	1

Client Sample Results

Client: de maximis, inc.
Project/Site: Omega Chemical - Semi Annual GWM 2018

TestAmerica Job ID: 440-218622-1
SDG: Omega Chemical

Client Sample ID: OC_GW_DPE-9_20180821

Lab Sample ID: 440-218622-4
Date Collected: 08/21/18 09:50
Matrix: Water
Date Received: 08/22/18 18:35

Tentatively Identified Compound	Est. Result	Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Unknown	2.6	T J	ug/L		5.77			08/24/18 23:07	1
Unknown	34	T J	ug/L		17.32			08/24/18 23:07	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	99		70 - 130		08/24/18 23:07	1
4-Bromofluorobenzene (Surr)	95		80 - 120		08/24/18 23:07	1
Dibromofluoromethane (Surr)	102		76 - 132		08/24/18 23:07	1
Toluene-d8 (Surr)	102		80 - 128		08/24/18 23:07	1

Method: 8270C SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	**27**		2.4	0.49	ug/L		08/24/18 07:29	08/26/18 14:29	5

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,4-Dioxane-d8 (Surr)	62		27 - 120	08/24/18 07:29	08/26/18 14:29	5

Client Sample ID: OC_GW_DPE-10D_20180821

Lab Sample ID: 440-218622-5
Date Collected: 08/21/18 13:00
Matrix: Water
Date Received: 08/22/18 18:35

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		1.0	0.25	ug/L			08/24/18 23:33	1
1,1,1-Trichloroethane	ND		1.0	0.25	ug/L			08/24/18 23:33	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.25	ug/L			08/24/18 23:33	1
1,1,2-Trichloro-1,2,2-trifluoroethane	**110**		5.0	0.50	ug/L			08/24/18 23:33	1
1,1,2-Trichloroethane	ND		1.0	0.25	ug/L			08/24/18 23:33	1
1,1-Dichloroethane	**0.98**	**J**	1.0	0.25	ug/L			08/24/18 23:33	1
1,1-Dichloroethene	**76**		1.0	0.25	ug/L			08/24/18 23:33	1
1,1-Dichloropropene	ND		1.0	0.25	ug/L			08/24/18 23:33	1
1,2,3-Trichlorobenzene	ND		1.0	0.40	ug/L			08/24/18 23:33	1
1,2,3-Trichloropropane	ND		1.0	0.40	ug/L			08/24/18 23:33	1
1,2,4-Trichlorobenzene	ND		1.0	0.40	ug/L			08/24/18 23:33	1
1,2,4-Trimethylbenzene	ND		1.0	0.25	ug/L			08/24/18 23:33	1
1,2-Dibromo-3-Chloropropane	ND		5.0	0.50	ug/L			08/24/18 23:33	1
1,2-Dibromoethane (EDB)	ND		1.0	0.25	ug/L			08/24/18 23:33	1
1,2-Dichlorobenzene	ND		1.0	0.25	ug/L			08/24/18 23:33	1
1,2-Dichloroethane	**4.7**		1.0	0.25	ug/L			08/24/18 23:33	1
1,2-Dichloropropane	ND		1.0	0.25	ug/L			08/24/18 23:33	1
1,3,5-Trimethylbenzene	ND		1.0	0.25	ug/L			08/24/18 23:33	1
1,3-Dichlorobenzene	ND		1.0	0.25	ug/L			08/24/18 23:33	1
1,3-Dichloropropane	ND		1.0	0.25	ug/L			08/24/18 23:33	1
1,4-Dichlorobenzene	ND		1.0	0.25	ug/L			08/24/18 23:33	1
2,2-Dichloropropane	ND		1.0	0.40	ug/L			08/24/18 23:33	1
2-Chlorotoluene	ND		1.0	0.25	ug/L			08/24/18 23:33	1
4-Chlorotoluene	ND		1.0	0.25	ug/L			08/24/18 23:33	1
Acetone	ND		10	10	ug/L			08/24/18 23:33	1
Benzene	ND		0.50	0.25	ug/L			08/24/18 23:33	1
Bromobenzene	ND		1.0	0.25	ug/L			08/24/18 23:33	1
Bromochloromethane	ND		1.0	0.25	ug/L			08/24/18 23:33	1

Client Sample Results

Client: de maximis, inc.
Project/Site: Omega Chemical - Semi Annual GWM 2018

TestAmerica Job ID: 440-218622-1
SDG: Omega Chemical

Client Sample ID: OC_GW_DPE-10D_20180821

Lab Sample ID: 440-218622-5

Date Collected: 08/21/18 13:00
Matrix: Water
Date Received: 08/22/18 18:35

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bromodichloromethane	ND		1.0	0.25	ug/L			08/24/18 23:33	1
Bromoform	ND		1.0	0.40	ug/L			08/24/18 23:33	1
Bromomethane	ND		1.0	0.25	ug/L			08/24/18 23:33	1
Carbon tetrachloride	ND		0.50	0.25	ug/L			08/24/18 23:33	1
Chlorobenzene	ND		1.0	0.25	ug/L			08/24/18 23:33	1
Chloroethane	ND		1.0	0.40	ug/L			08/24/18 23:33	1
Chloroform	**31**		1.0	0.25	ug/L			08/24/18 23:33	1
Chloromethane	ND		1.0	0.25	ug/L			08/24/18 23:33	1
cis-1,2-Dichloroethene	ND		1.0	0.25	ug/L			08/24/18 23:33	1
cis-1,3-Dichloropropene	ND		0.50	0.25	ug/L			08/24/18 23:33	1
Dibromochloromethane	ND		1.0	0.25	ug/L			08/24/18 23:33	1
Dibromomethane	ND		1.0	0.25	ug/L			08/24/18 23:33	1
Dichlorodifluoromethane	ND		1.0	0.40	ug/L			08/24/18 23:33	1
Ethylbenzene	ND		1.0	0.25	ug/L			08/24/18 23:33	1
Hexachlorobutadiene	ND		1.0	0.25	ug/L			08/24/18 23:33	1
Isopropylbenzene	ND		1.0	0.25	ug/L			08/24/18 23:33	1
m,p-Xylene	ND		1.0	0.50	ug/L			08/24/18 23:33	1
Methylene Chloride	ND		5.0	0.88	ug/L			08/24/18 23:33	1
Methyl-t-Butyl Ether (MTBE)	ND		1.0	0.25	ug/L			08/24/18 23:33	1
Naphthalene	ND		1.0	0.40	ug/L			08/24/18 23:33	1
n-Butylbenzene	ND		1.0	0.40	ug/L			08/24/18 23:33	1
N-Propylbenzene	ND		1.0	0.25	ug/L			08/24/18 23:33	1
o-Xylene	ND		1.0	0.25	ug/L			08/24/18 23:33	1
p-Isopropyltoluene	ND		1.0	0.25	ug/L			08/24/18 23:33	1
sec-Butylbenzene	ND		1.0	0.25	ug/L			08/24/18 23:33	1
Styrene	ND		1.0	0.25	ug/L			08/24/18 23:33	1
tert-Butylbenzene	ND		1.0	0.25	ug/L			08/24/18 23:33	1
Toluene	ND		1.0	0.25	ug/L			08/24/18 23:33	1
trans-1,2-Dichloroethene	**0.56**	**J**	1.0	0.25	ug/L			08/24/18 23:33	1
trans-1,3-Dichloropropene	ND		0.50	0.25	ug/L			08/24/18 23:33	1
Trichloroethene	**56**		1.0	0.25	ug/L			08/24/18 23:33	1
Trichlorofluoromethane	**33**		1.0	0.25	ug/L			08/24/18 23:33	1
Vinyl chloride	ND		0.50	0.25	ug/L			08/24/18 23:33	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Unknown	*2.8*	*T J*	*ug/L*		*5.77*			*08/24/18 23:33*	*1*
Unknown	*33*	*T J*	*ug/L*		*17.60*			*08/24/18 23:33*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*99*		*70 - 130*		*08/24/18 23:33*	*1*
4-Bromofluorobenzene (Surr)	*94*		*80 - 120*		*08/24/18 23:33*	*1*
Dibromofluoromethane (Surr)	*102*		*76 - 132*		*08/24/18 23:33*	*1*
Toluene-d8 (Surr)	*103*		*80 - 128*		*08/24/18 23:33*	*1*

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Tetrachloroethene	**610**		20	5.0	ug/L			08/26/18 17:19	20

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Unknown	*380*	*T J*	*ug/L*		*1.75*			*08/26/18 17:19*	*20*

Client Sample ID: OC_GW_DPE-10D_20180821

Lab Sample ID: 440-218622-5
Date Collected: 08/21/18 13:00
Matrix: Water
Date Received: 08/22/18 18:35

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

Tentatively Identified Compound	Est. Result	Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Unknown	1300	T J	ug/L		1.82			08/26/18 17:19	20

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	108		70 - 130		08/26/18 17:19	20
4-Bromofluorobenzene (Surr)	96		80 - 120		08/26/18 17:19	20
Dibromofluoromethane (Surr)	110		76 - 132		08/26/18 17:19	20
Toluene-d8 (Surr)	103		80 - 128		08/26/18 17:19	20

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Isopropyl alcohol	ND		250	180	ug/L			08/26/18 16:50	1

Tentatively Identified Compound	Est. Result	Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Unknown	19	T J	ug/L		1.75			08/26/18 16:50	1
Unknown	280	T J	ug/L		1.82			08/26/18 16:50	1
Unknown	3.4	T J	ug/L		8.81			08/26/18 16:50	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	109		70 - 130		08/26/18 16:50	1
4-Bromofluorobenzene (Surr)	98		80 - 120		08/26/18 16:50	1
Dibromofluoromethane (Surr)	112		76 - 132		08/26/18 16:50	1
Toluene-d8 (Surr)	101		80 - 128		08/26/18 16:50	1

Method: 8270C SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	**25**		0.99	0.20	ug/L		08/24/18 07:29	08/26/18 14:52	2

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,4-Dioxane-d8 (Surr)	57		27 - 120	08/24/18 07:29	08/26/18 14:52	2

Client Sample ID: OC_GW_DPE-7D_20180821

Lab Sample ID: 440-218622-6
Date Collected: 08/21/18 13:25
Matrix: Water
Date Received: 08/22/18 18:35

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		1.0	0.25	ug/L			08/25/18 00:00	1
1,1,1-Trichloroethane	ND		1.0	0.25	ug/L			08/25/18 00:00	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.25	ug/L			08/25/18 00:00	1
1,1,2-Trichloro-1,2,2-trifluoroethane	**16**		5.0	0.50	ug/L			08/25/18 00:00	1
1,1,2-Trichloroethane	ND		1.0	0.25	ug/L			08/25/18 00:00	1
1,1-Dichloroethane	ND		1.0	0.25	ug/L			08/25/18 00:00	1
1,1-Dichloroethene	**13**		1.0	0.25	ug/L			08/25/18 00:00	1
1,1-Dichloropropene	ND		1.0	0.25	ug/L			08/25/18 00:00	1
1,2,3-Trichlorobenzene	ND		1.0	0.40	ug/L			08/25/18 00:00	1
1,2,3-Trichloropropane	ND		1.0	0.40	ug/L			08/25/18 00:00	1
1,2,4-Trichlorobenzene	ND		1.0	0.40	ug/L			08/25/18 00:00	1
1,2,4-Trimethylbenzene	ND		1.0	0.25	ug/L			08/25/18 00:00	1
1,2-Dibromo-3-Chloropropane	ND		5.0	0.50	ug/L			08/25/18 00:00	1
1,2-Dibromoethane (EDB)	ND		1.0	0.25	ug/L			08/25/18 00:00	1

Client Sample Results

Client: de maximis, inc.
Project/Site: Omega Chemical - Semi Annual GWM 2018

TestAmerica Job ID: 440-218622-1
SDG: Omega Chemical

Client Sample ID: OC_GW_DPE-7D_20180821

Lab Sample ID: 440-218622-6

Date Collected: 08/21/18 13:25
Matrix: Water
Date Received: 08/22/18 18:35

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dichlorobenzene	ND		1.0	0.25	ug/L			08/25/18 00:00	1
1,2-Dichloroethane	ND		1.0	0.25	ug/L			08/25/18 00:00	1
1,2-Dichloropropane	ND		1.0	0.25	ug/L			08/25/18 00:00	1
1,3,5-Trimethylbenzene	ND		1.0	0.25	ug/L			08/25/18 00:00	1
1,3-Dichlorobenzene	ND		1.0	0.25	ug/L			08/25/18 00:00	1
1,3-Dichloropropane	ND		1.0	0.25	ug/L			08/25/18 00:00	1
1,4-Dichlorobenzene	ND		1.0	0.25	ug/L			08/25/18 00:00	1
2,2-Dichloropropane	ND		1.0	0.40	ug/L			08/25/18 00:00	1
2-Chlorotoluene	ND		1.0	0.25	ug/L			08/25/18 00:00	1
4-Chlorotoluene	ND		1.0	0.25	ug/L			08/25/18 00:00	1
Acetone	ND		10	10	ug/L			08/25/18 00:00	1
Benzene	ND		0.50	0.25	ug/L			08/25/18 00:00	1
Bromobenzene	ND		1.0	0.25	ug/L			08/25/18 00:00	1
Bromochloromethane	ND		1.0	0.25	ug/L			08/25/18 00:00	1
Bromodichloromethane	ND		1.0	0.25	ug/L			08/25/18 00:00	1
Bromoform	ND		1.0	0.40	ug/L			08/25/18 00:00	1
Bromomethane	ND		1.0	0.25	ug/L			08/25/18 00:00	1
Carbon tetrachloride	ND		0.50	0.25	ug/L			08/25/18 00:00	1
Chlorobenzene	ND		1.0	0.25	ug/L			08/25/18 00:00	1
Chloroethane	ND		1.0	0.40	ug/L			08/25/18 00:00	1
Chloroform	ND		1.0	0.25	ug/L			08/25/18 00:00	1
Chloromethane	ND		1.0	0.25	ug/L			08/25/18 00:00	1
cis-1,2-Dichloroethene	ND		1.0	0.25	ug/L			08/25/18 00:00	1
cis-1,3-Dichloropropene	ND		0.50	0.25	ug/L			08/25/18 00:00	1
Dibromochloromethane	ND		1.0	0.25	ug/L			08/25/18 00:00	1
Dibromomethane	ND		1.0	0.25	ug/L			08/25/18 00:00	1
Dichlorodifluoromethane	ND		1.0	0.40	ug/L			08/25/18 00:00	1
Ethylbenzene	ND		1.0	0.25	ug/L			08/25/18 00:00	1
Hexachlorobutadiene	ND		1.0	0.25	ug/L			08/25/18 00:00	1
Isopropyl alcohol	ND		250	180	ug/L			08/25/18 00:00	1
Isopropylbenzene	ND		1.0	0.25	ug/L			08/25/18 00:00	1
m,p-Xylene	ND		1.0	0.50	ug/L			08/25/18 00:00	1
Methylene Chloride	ND		5.0	0.88	ug/L			08/25/18 00:00	1
Methyl-t-Butyl Ether (MTBE)	ND		1.0	0.25	ug/L			08/25/18 00:00	1
Naphthalene	ND		1.0	0.40	ug/L			08/25/18 00:00	1
n-Butylbenzene	ND		1.0	0.40	ug/L			08/25/18 00:00	1
N-Propylbenzene	ND		1.0	0.25	ug/L			08/25/18 00:00	1
o-Xylene	ND		1.0	0.25	ug/L			08/25/18 00:00	1
p-Isopropyltoluene	ND		1.0	0.25	ug/L			08/25/18 00:00	1
sec-Butylbenzene	ND		1.0	0.25	ug/L			08/25/18 00:00	1
Styrene	ND		1.0	0.25	ug/L			08/25/18 00:00	1
tert-Butylbenzene	ND		1.0	0.25	ug/L			08/25/18 00:00	1
Tetrachloroethene	**78**		1.0	0.25	ug/L			08/25/18 00:00	1
Toluene	ND		1.0	0.25	ug/L			08/25/18 00:00	1
trans-1,2-Dichloroethene	ND		1.0	0.25	ug/L			08/25/18 00:00	1
trans-1,3-Dichloropropene	ND		0.50	0.25	ug/L			08/25/18 00:00	1
Trichloroethene	**28**		1.0	0.25	ug/L			08/25/18 00:00	1
Trichlorofluoromethane	**5.8**		1.0	0.25	ug/L			08/25/18 00:00	1
Vinyl chloride	ND		0.50	0.25	ug/L			08/25/18 00:00	1

Client Sample Results

Client: de maximis, inc.
Project/Site: Omega Chemical - Semi Annual GWM 2018

TestAmerica Job ID: 440-218622-1
SDG: Omega Chemical

Client Sample ID: OC_GW_DPE-7D_20180821

Lab Sample ID: 440-218622-6
Date Collected: 08/21/18 13:25
Matrix: Water
Date Received: 08/22/18 18:35

Tentatively Identified Compound	Est. Result	Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Unknown	32	T J	ug/L		17.31			08/25/18 00:00	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	100		70 - 130		08/25/18 00:00	1
4-Bromofluorobenzene (Surr)	94		80 - 120		08/25/18 00:00	1
Dibromofluoromethane (Surr)	103		76 - 132		08/25/18 00:00	1
Toluene-d8 (Surr)	104		80 - 128		08/25/18 00:00	1

Method: 8270C SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	**0.10**	**J**	0.50	0.099	ug/L		08/24/18 07:29	08/26/18 15:15	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,4-Dioxane-d8 (Surr)	52		27 - 120	08/24/18 07:29	08/26/18 15:15	1

Client Sample ID: OC_GW_DPE-5_20180821

Lab Sample ID: 440-218622-7
Date Collected: 08/21/18 13:40
Matrix: Water
Date Received: 08/22/18 18:35

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		1.0	0.25	ug/L			08/25/18 00:26	1
1,1,1-Trichloroethane	ND		1.0	0.25	ug/L			08/25/18 00:26	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.25	ug/L			08/25/18 00:26	1
1,1,2-Trichloro-1,2,2-trifluoroethane	**9.0**		5.0	0.50	ug/L			08/25/18 00:26	1
1,1,2-Trichloroethane	ND		1.0	0.25	ug/L			08/25/18 00:26	1
1,1-Dichloroethane	ND		1.0	0.25	ug/L			08/25/18 00:26	1
1,1-Dichloroethene	**30**		1.0	0.25	ug/L			08/25/18 00:26	1
1,1-Dichloropropene	ND		1.0	0.25	ug/L			08/25/18 00:26	1
1,2,3-Trichlorobenzene	ND		1.0	0.40	ug/L			08/25/18 00:26	1
1,2,3-Trichloropropane	ND		1.0	0.40	ug/L			08/25/18 00:26	1
1,2,4-Trichlorobenzene	ND		1.0	0.40	ug/L			08/25/18 00:26	1
1,2,4-Trimethylbenzene	ND		1.0	0.25	ug/L			08/25/18 00:26	1
1,2-Dibromo-3-Chloropropane	ND		5.0	0.50	ug/L			08/25/18 00:26	1
1,2-Dibromoethane (EDB)	ND		1.0	0.25	ug/L			08/25/18 00:26	1
1,2-Dichlorobenzene	ND		1.0	0.25	ug/L			08/25/18 00:26	1
1,2-Dichloroethane	**0.40**	**J**	1.0	0.25	ug/L			08/25/18 00:26	1
1,2-Dichloropropane	ND		1.0	0.25	ug/L			08/25/18 00:26	1
1,3,5-Trimethylbenzene	ND		1.0	0.25	ug/L			08/25/18 00:26	1
1,3-Dichlorobenzene	ND		1.0	0.25	ug/L			08/25/18 00:26	1
1,3-Dichloropropane	ND		1.0	0.25	ug/L			08/25/18 00:26	1
1,4-Dichlorobenzene	ND		1.0	0.25	ug/L			08/25/18 00:26	1
2,2-Dichloropropane	ND		1.0	0.40	ug/L			08/25/18 00:26	1
2-Chlorotoluene	ND		1.0	0.25	ug/L			08/25/18 00:26	1
4-Chlorotoluene	ND		1.0	0.25	ug/L			08/25/18 00:26	1
Acetone	ND		10	10	ug/L			08/25/18 00:26	1
Benzene	ND		0.50	0.25	ug/L			08/25/18 00:26	1
Bromobenzene	ND		1.0	0.25	ug/L			08/25/18 00:26	1
Bromochloromethane	ND		1.0	0.25	ug/L			08/25/18 00:26	1
Bromodichloromethane	ND		1.0	0.25	ug/L			08/25/18 00:26	1

Client Sample Results

Client: de maximis, inc.
Project/Site: Omega Chemical - Semi Annual GWM 2018

TestAmerica Job ID: 440-218622-1
SDG: Omega Chemical

Client Sample ID: OC_GW_DPE-5_20180821

Lab Sample ID: 440-218622-7

Date Collected: 08/21/18 13:40
Matrix: Water
Date Received: 08/22/18 18:35

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bromoform	ND		1.0	0.40	ug/L			08/25/18 00:26	1
Bromomethane	ND		1.0	0.25	ug/L			08/25/18 00:26	1
Carbon tetrachloride	ND		0.50	0.25	ug/L			08/25/18 00:26	1
Chlorobenzene	ND		1.0	0.25	ug/L			08/25/18 00:26	1
Chloroethane	ND		1.0	0.40	ug/L			08/25/18 00:26	1
Chloroform	**2.0**		1.0	0.25	ug/L			08/25/18 00:26	1
Chloromethane	ND		1.0	0.25	ug/L			08/25/18 00:26	1
cis-1,2-Dichloroethene	ND		1.0	0.25	ug/L			08/25/18 00:26	1
cis-1,3-Dichloropropene	ND		0.50	0.25	ug/L			08/25/18 00:26	1
Dibromochloromethane	ND		1.0	0.25	ug/L			08/25/18 00:26	1
Dibromomethane	ND		1.0	0.25	ug/L			08/25/18 00:26	1
Dichlorodifluoromethane	ND		1.0	0.40	ug/L			08/25/18 00:26	1
Ethylbenzene	ND		1.0	0.25	ug/L			08/25/18 00:26	1
Hexachlorobutadiene	ND		1.0	0.25	ug/L			08/25/18 00:26	1
Isopropyl alcohol	ND		250	180	ug/L			08/25/18 00:26	1
Isopropylbenzene	ND		1.0	0.25	ug/L			08/25/18 00:26	1
m,p-Xylene	ND		1.0	0.50	ug/L			08/25/18 00:26	1
Methylene Chloride	ND		5.0	0.88	ug/L			08/25/18 00:26	1
Methyl-t-Butyl Ether (MTBE)	ND		1.0	0.25	ug/L			08/25/18 00:26	1
Naphthalene	ND		1.0	0.40	ug/L			08/25/18 00:26	1
n-Butylbenzene	ND		1.0	0.40	ug/L			08/25/18 00:26	1
N-Propylbenzene	ND		1.0	0.25	ug/L			08/25/18 00:26	1
o-Xylene	ND		1.0	0.25	ug/L			08/25/18 00:26	1
p-Isopropyltoluene	ND		1.0	0.25	ug/L			08/25/18 00:26	1
sec-Butylbenzene	ND		1.0	0.25	ug/L			08/25/18 00:26	1
Styrene	ND		1.0	0.25	ug/L			08/25/18 00:26	1
tert-Butylbenzene	ND		1.0	0.25	ug/L			08/25/18 00:26	1
Tetrachloroethene	**110**		1.0	0.25	ug/L			08/25/18 00:26	1
Toluene	ND		1.0	0.25	ug/L			08/25/18 00:26	1
trans-1,2-Dichloroethene	ND		1.0	0.25	ug/L			08/25/18 00:26	1
trans-1,3-Dichloropropene	ND		0.50	0.25	ug/L			08/25/18 00:26	1
Trichloroethene	**9.3**		1.0	0.25	ug/L			08/25/18 00:26	1
Trichlorofluoromethane	**6.8**		1.0	0.25	ug/L			08/25/18 00:26	1
Vinyl chloride	ND		0.50	0.25	ug/L			08/25/18 00:26	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Unknown	*34*	*T J*	*ug/L*		*17.06*			*08/25/18 00:26*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*100*		*70 - 130*		*08/25/18 00:26*	*1*
4-Bromofluorobenzene (Surr)	*97*		*80 - 120*		*08/25/18 00:26*	*1*
Dibromofluoromethane (Surr)	*104*		*76 - 132*		*08/25/18 00:26*	*1*
Toluene-d8 (Surr)	*102*		*80 - 128*		*08/25/18 00:26*	*1*

Method: 8270C SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	**4.7**		0.49	0.099	ug/L		08/24/18 07:29	08/26/18 15:38	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,4-Dioxane-d8 (Surr)	*53*		*27 - 120*	*08/24/18 07:29*	*08/26/18 15:38*	*1*

Client Sample Results

Client: de maximis, inc.
Project/Site: Omega Chemical - Semi Annual GWM 2018

TestAmerica Job ID: 440-218622-1
SDG: Omega Chemical

Client Sample ID: OC_GW_TB_20180822

Lab Sample ID: 440-218622-8

Date Collected: 08/22/18 06:30
Matrix: Water
Date Received: 08/22/18 18:35

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		1.0	0.25	ug/L			08/25/18 00:52	1
1,1,1-Trichloroethane	ND		1.0	0.25	ug/L			08/25/18 00:52	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.25	ug/L			08/25/18 00:52	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		5.0	0.50	ug/L			08/25/18 00:52	1
1,1,2-Trichloroethane	ND		1.0	0.25	ug/L			08/25/18 00:52	1
1,1-Dichloroethane	ND		1.0	0.25	ug/L			08/25/18 00:52	1
1,1-Dichloroethene	ND		1.0	0.25	ug/L			08/25/18 00:52	1
1,1-Dichloropropene	ND		1.0	0.25	ug/L			08/25/18 00:52	1
1,2,3-Trichlorobenzene	ND		1.0	0.40	ug/L			08/25/18 00:52	1
1,2,3-Trichloropropane	ND		1.0	0.40	ug/L			08/25/18 00:52	1
1,2,4-Trichlorobenzene	ND		1.0	0.40	ug/L			08/25/18 00:52	1
1,2,4-Trimethylbenzene	ND		1.0	0.25	ug/L			08/25/18 00:52	1
1,2-Dibromo-3-Chloropropane	ND		5.0	0.50	ug/L			08/25/18 00:52	1
1,2-Dibromoethane (EDB)	ND		1.0	0.25	ug/L			08/25/18 00:52	1
1,2-Dichlorobenzene	ND		1.0	0.25	ug/L			08/25/18 00:52	1
1,2-Dichloroethane	ND		1.0	0.25	ug/L			08/25/18 00:52	1
1,2-Dichloropropane	ND		1.0	0.25	ug/L			08/25/18 00:52	1
1,3,5-Trimethylbenzene	ND		1.0	0.25	ug/L			08/25/18 00:52	1
1,3-Dichlorobenzene	ND		1.0	0.25	ug/L			08/25/18 00:52	1
1,3-Dichloropropane	ND		1.0	0.25	ug/L			08/25/18 00:52	1
1,4-Dichlorobenzene	ND		1.0	0.25	ug/L			08/25/18 00:52	1
2,2-Dichloropropane	ND		1.0	0.40	ug/L			08/25/18 00:52	1
2-Chlorotoluene	ND		1.0	0.25	ug/L			08/25/18 00:52	1
4-Chlorotoluene	ND		1.0	0.25	ug/L			08/25/18 00:52	1
Acetone	ND		10	10	ug/L			08/25/18 00:52	1
Benzene	ND		0.50	0.25	ug/L			08/25/18 00:52	1
Bromobenzene	ND		1.0	0.25	ug/L			08/25/18 00:52	1
Bromochloromethane	ND		1.0	0.25	ug/L			08/25/18 00:52	1
Bromodichloromethane	ND		1.0	0.25	ug/L			08/25/18 00:52	1
Bromoform	ND		1.0	0.40	ug/L			08/25/18 00:52	1
Bromomethane	ND		1.0	0.25	ug/L			08/25/18 00:52	1
Carbon tetrachloride	ND		0.50	0.25	ug/L			08/25/18 00:52	1
Chlorobenzene	ND		1.0	0.25	ug/L			08/25/18 00:52	1
Chloroethane	ND		1.0	0.40	ug/L			08/25/18 00:52	1
Chloroform	ND		1.0	0.25	ug/L			08/25/18 00:52	1
Chloromethane	ND		1.0	0.25	ug/L			08/25/18 00:52	1
cis-1,2-Dichloroethene	ND		1.0	0.25	ug/L			08/25/18 00:52	1
cis-1,3-Dichloropropene	ND		0.50	0.25	ug/L			08/25/18 00:52	1
Dibromochloromethane	ND		1.0	0.25	ug/L			08/25/18 00:52	1
Dibromomethane	ND		1.0	0.25	ug/L			08/25/18 00:52	1
Dichlorodifluoromethane	ND		1.0	0.40	ug/L			08/25/18 00:52	1
Ethylbenzene	ND		1.0	0.25	ug/L			08/25/18 00:52	1
Hexachlorobutadiene	ND		1.0	0.25	ug/L			08/25/18 00:52	1
Isopropyl alcohol	ND		250	180	ug/L			08/25/18 00:52	1
Isopropylbenzene	ND		1.0	0.25	ug/L			08/25/18 00:52	1
m,p-Xylene	ND		1.0	0.50	ug/L			08/25/18 00:52	1
Methylene Chloride	ND		5.0	0.88	ug/L			08/25/18 00:52	1
Methyl-t-Butyl Ether (MTBE)	ND		1.0	0.25	ug/L			08/25/18 00:52	1
Naphthalene	ND		1.0	0.40	ug/L			08/25/18 00:52	1

Client Sample Results

Client: de maximis, inc.
Project/Site: Omega Chemical - Semi Annual GWM 2018

TestAmerica Job ID: 440-218622-1
SDG: Omega Chemical

Client Sample ID: OC_GW_TB_20180822

Lab Sample ID: 440-218622-8

Date Collected: 08/22/18 06:30
Matrix: Water
Date Received: 08/22/18 18:35

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
n-Butylbenzene	ND		1.0	0.40	ug/L			08/25/18 00:52	1
N-Propylbenzene	ND		1.0	0.25	ug/L			08/25/18 00:52	1
o-Xylene	ND		1.0	0.25	ug/L			08/25/18 00:52	1
p-Isopropyltoluene	ND		1.0	0.25	ug/L			08/25/18 00:52	1
sec-Butylbenzene	ND		1.0	0.25	ug/L			08/25/18 00:52	1
Styrene	ND		1.0	0.25	ug/L			08/25/18 00:52	1
tert-Butylbenzene	ND		1.0	0.25	ug/L			08/25/18 00:52	1
Tetrachloroethene	ND		1.0	0.25	ug/L			08/25/18 00:52	1
Toluene	ND		1.0	0.25	ug/L			08/25/18 00:52	1
trans-1,2-Dichloroethene	ND		1.0	0.25	ug/L			08/25/18 00:52	1
trans-1,3-Dichloropropene	ND		0.50	0.25	ug/L			08/25/18 00:52	1
Trichloroethene	ND		1.0	0.25	ug/L			08/25/18 00:52	1
Trichlorofluoromethane	ND		1.0	0.25	ug/L			08/25/18 00:52	1
Vinyl chloride	ND		0.50	0.25	ug/L			08/25/18 00:52	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Unknown	*34*	*T J*	*ug/L*		*16.22*			*08/25/18 00:52*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*101*		*70 - 130*		*08/25/18 00:52*	*1*
4-Bromofluorobenzene (Surr)	*97*		*80 - 120*		*08/25/18 00:52*	*1*
Dibromofluoromethane (Surr)	*105*		*76 - 132*		*08/25/18 00:52*	*1*
Toluene-d8 (Surr)	*102*		*80 - 128*		*08/25/18 00:52*	*1*

Surrogate Summary

Client: de maximis, inc.
Project/Site: Omega Chemical - Semi Annual GWM 2018

TestAmerica Job ID: 440-218622-1
SDG: Omega Chemical

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

Matrix: Water **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)			
		DCA	BFB	DBFM	TOL
Lab Sample ID	Client Sample ID	(70-130)	(80-120)	(76-132)	(80-128)
440-218622-1	OC_GW_DPE-3_20180821	99	93	103	103
440-218622-1 - RA	OC_GW_DPE-3_20180821	108	100	110	103
440-218622-2	OC_GW_DPE-8_20180821	96	94	100	102
440-218622-2 MS	OC_GW_DPE-8_20180821	94	93	103	99
440-218622-2 MSD	OC_GW_DPE-8_20180821	94	93	103	99
440-218622-3	OC_GW_DPE-4_20180821	100	96	104	103
440-218622-3 - DL	OC_GW_DPE-4_20180821	108	98	109	103
440-218622-4	OC_GW_DPE-9_20180821	99	95	102	102
440-218622-5	OC_GW_DPE-10D_20180821	99	94	102	103
440-218622-5 - RA	OC_GW_DPE-10D_20180821	109	98	112	101
440-218622-5 - DL	OC_GW_DPE-10D_20180821	108	96	110	103
440-218622-6	OC_GW_DPE-7D_20180821	100	94	103	104
440-218622-7	OC_GW_DPE-5_20180821	100	97	104	102
440-218622-8	OC_GW_TB_20180822	101	97	105	102
440-218756-AA-1 MS	Matrix Spike	103	93	106	102
440-218756-Y-1 MSD	Matrix Spike Duplicate	102	96	106	102
LCS 440-495613/5	Lab Control Sample	94	94	103	99
LCS 440-495727/5	Lab Control Sample	101	96	106	101
MB 440-495613/4	Method Blank	90	95	97	106
MB 440-495727/4	Method Blank	104	99	110	106

Surrogate Legend

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

Method: 8270C SIM - Semivolatile Organic Compounds (GC/MS SIM)

Matrix: Water **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)
		DXE
Lab Sample ID	Client Sample ID	(27-120)
440-218622-1	OC_GW_DPE-3_20180821	55
440-218622-2	OC_GW_DPE-8_20180821	53
440-218622-3	OC_GW_DPE-4_20180821	56
440-218622-4	OC_GW_DPE-9_20180821	62
440-218622-5	OC_GW_DPE-10D_20180821	57
440-218622-6	OC_GW_DPE-7D_20180821	52
440-218622-7	OC_GW_DPE-5_20180821	53
LCS 440-495481/2-A	Lab Control Sample	77
LCSD 440-495481/3-A	Lab Control Sample Dup	65
MB 440-495481/1-A	Method Blank	62

Surrogate Legend

DXE = 1,4-Dioxane-d8 (Surr)

Method Summary

Client: de maximis, inc.
Project/Site: Omega Chemical - Semi Annual GWM 2018

TestAmerica Job ID: 440-218622-1
SDG: Omega Chemical

Method	Method Description	Protocol	Laboratory
8260B	Volatile Organic Compounds (GC/MS)	SW846	TAL IRV
8270C SIM	Semivolatile Organic Compounds (GC/MS SIM)	SW846	TAL IRV
3520C	Liquid-Liquid Extraction (Continuous)	SW846	TAL IRV
5030B	Purge and Trap	SW846	TAL IRV

Protocol References:

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL IRV = TestAmerica Irvine, 17461 Derian Ave, Suite 100, Irvine, CA 92614-5817, TEL (949)261-1022

Lab Chronicle

Client: de maximis, inc.
Project/Site: Omega Chemical - Semi Annual GWM 2018

TestAmerica Job ID: 440-218622-1
SDG: Omega Chemical

Client Sample ID: OC_GW_DPE-3_20180821 — Lab Sample ID: 440-218622-1

Date Collected: 08/21/18 07:35 — **Matrix: Water**
Date Received: 08/22/18 18:35

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	10 mL	10 mL	495613	08/24/18 22:14	WK	TAL IRV
Total/NA	Analysis	8260B	RA	1	10 mL	10 mL	495727	08/26/18 15:15	JB	TAL IRV
Total/NA	Prep	3520C			1025 mL	1.0 mL	495481	08/24/18 07:29	JS1	TAL IRV
Total/NA	Analysis	8270C SIM		4			495745	08/26/18 13:20	HN	TAL IRV

Client Sample ID: OC_GW_DPE-8_20180821 — Lab Sample ID: 440-218622-2

Date Collected: 08/21/18 07:55 — **Matrix: Water**
Date Received: 08/22/18 18:35

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	10 mL	10 mL	495613	08/24/18 20:55	WK	TAL IRV
Total/NA	Prep	3520C			985 mL	1.0 mL	495481	08/24/18 07:29	JS1	TAL IRV
Total/NA	Analysis	8270C SIM		1			495745	08/26/18 13:43	HN	TAL IRV

Client Sample ID: OC_GW_DPE-4_20180821 — Lab Sample ID: 440-218622-3

Date Collected: 08/21/18 08:05 — **Matrix: Water**
Date Received: 08/22/18 18:35

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	10 mL	10 mL	495613	08/24/18 22:40	WK	TAL IRV
Total/NA	Analysis	8260B	DL	10	10 mL	10 mL	495727	08/26/18 15:46	JB	TAL IRV
Total/NA	Prep	3520C			1010 mL	1.0 mL	495481	08/24/18 07:29	JS1	TAL IRV
Total/NA	Analysis	8270C SIM		10			495745	08/26/18 14:06	HN	TAL IRV

Client Sample ID: OC_GW_DPE-9_20180821 — Lab Sample ID: 440-218622-4

Date Collected: 08/21/18 09:50 — **Matrix: Water**
Date Received: 08/22/18 18:35

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	10 mL	10 mL	495613	08/24/18 23:07	WK	TAL IRV
Total/NA	Prep	3520C			1025 mL	1.0 mL	495481	08/24/18 07:29	JS1	TAL IRV
Total/NA	Analysis	8270C SIM		5			495745	08/26/18 14:29	HN	TAL IRV

Client Sample ID: OC_GW_DPE-10D_20180821 — Lab Sample ID: 440-218622-5

Date Collected: 08/21/18 13:00 — **Matrix: Water**
Date Received: 08/22/18 18:35

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	10 mL	10 mL	495613	08/24/18 23:33	WK	TAL IRV
Total/NA	Analysis	8260B	RA	1	10 mL	10 mL	495727	08/26/18 16:50	JB	TAL IRV
Total/NA	Analysis	8260B	DL	20	10 mL	10 mL	495727	08/26/18 17:19	JB	TAL IRV
Total/NA	Prep	3520C			1015 mL	1.0 mL	495481	08/24/18 07:29	JS1	TAL IRV

Lab Chronicle

Client: de maximis, inc.
Project/Site: Omega Chemical - Semi Annual GWM 2018

TestAmerica Job ID: 440-218622-1
SDG: Omega Chemical

Client Sample ID: OC_GW_DPE-10D_20180821 — Lab Sample ID: 440-218622-5

Date Collected: 08/21/18 13:00 — **Matrix: Water**
Date Received: 08/22/18 18:35

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8270C SIM		2			495745	08/26/18 14:52	HN	TAL IRV

Client Sample ID: OC_GW_DPE-7D_20180821 — Lab Sample ID: 440-218622-6

Date Collected: 08/21/18 13:25 — **Matrix: Water**
Date Received: 08/22/18 18:35

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	10 mL	10 mL	495613	08/25/18 00:00	WK	TAL IRV
Total/NA	Prep	3520C			1010 mL	1.0 mL	495481	08/24/18 07:29	JS1	TAL IRV
Total/NA	Analysis	8270C SIM		1			495745	08/26/18 15:15	HN	TAL IRV

Client Sample ID: OC_GW_DPE-5_20180821 — Lab Sample ID: 440-218622-7

Date Collected: 08/21/18 13:40 — **Matrix: Water**
Date Received: 08/22/18 18:35

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	10 mL	10 mL	495613	08/25/18 00:26	WK	TAL IRV
Total/NA	Prep	3520C			1015 mL	1.0 mL	495481	08/24/18 07:29	JS1	TAL IRV
Total/NA	Analysis	8270C SIM		1			495745	08/26/18 15:38	HN	TAL IRV

Client Sample ID: OC_GW_TB_20180822 — Lab Sample ID: 440-218622-8

Date Collected: 08/22/18 06:30 — **Matrix: Water**
Date Received: 08/22/18 18:35

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	10 mL	10 mL	495613	08/25/18 00:52	WK	TAL IRV

Laboratory References:

TAL IRV = TestAmerica Irvine, 17461 Derian Ave, Suite 100, Irvine, CA 92614-5817, TEL (949)261-1022

QC Sample Results

Client: de maximis, inc.
Project/Site: Omega Chemical - Semi Annual GWM 2018

TestAmerica Job ID: 440-218622-1
SDG: Omega Chemical

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

Lab Sample ID: MB 440-495613/4
Matrix: Water
Analysis Batch: 495613

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		1.0	0.25	ug/L			08/24/18 19:29	1
1,1,1-Trichloroethane	ND		1.0	0.25	ug/L			08/24/18 19:29	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.25	ug/L			08/24/18 19:29	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		5.0	0.50	ug/L			08/24/18 19:29	1
1,1,2-Trichloroethane	ND		1.0	0.25	ug/L			08/24/18 19:29	1
1,1-Dichloroethane	ND		1.0	0.25	ug/L			08/24/18 19:29	1
1,1-Dichloroethene	ND		1.0	0.25	ug/L			08/24/18 19:29	1
1,1-Dichloropropene	ND		1.0	0.25	ug/L			08/24/18 19:29	1
1,2,3-Trichlorobenzene	ND		1.0	0.40	ug/L			08/24/18 19:29	1
1,2,3-Trichloropropane	ND		1.0	0.40	ug/L			08/24/18 19:29	1
1,2,4-Trichlorobenzene	ND		1.0	0.40	ug/L			08/24/18 19:29	1
1,2,4-Trimethylbenzene	ND		1.0	0.25	ug/L			08/24/18 19:29	1
1,2-Dibromo-3-Chloropropane	ND		5.0	0.50	ug/L			08/24/18 19:29	1
1,2-Dibromoethane (EDB)	ND		1.0	0.25	ug/L			08/24/18 19:29	1
1,2-Dichlorobenzene	ND		1.0	0.25	ug/L			08/24/18 19:29	1
1,2-Dichloroethane	ND		1.0	0.25	ug/L			08/24/18 19:29	1
1,2-Dichloropropane	ND		1.0	0.25	ug/L			08/24/18 19:29	1
1,3,5-Trimethylbenzene	ND		1.0	0.25	ug/L			08/24/18 19:29	1
1,3-Dichlorobenzene	ND		1.0	0.25	ug/L			08/24/18 19:29	1
1,3-Dichloropropane	ND		1.0	0.25	ug/L			08/24/18 19:29	1
1,4-Dichlorobenzene	ND		1.0	0.25	ug/L			08/24/18 19:29	1
2,2-Dichloropropane	ND		1.0	0.40	ug/L			08/24/18 19:29	1
2-Chlorotoluene	ND		1.0	0.25	ug/L			08/24/18 19:29	1
4-Chlorotoluene	ND		1.0	0.25	ug/L			08/24/18 19:29	1
Acetone	ND		10	10	ug/L			08/24/18 19:29	1
Benzene	ND		0.50	0.25	ug/L			08/24/18 19:29	1
Bromobenzene	ND		1.0	0.25	ug/L			08/24/18 19:29	1
Bromochloromethane	ND		1.0	0.25	ug/L			08/24/18 19:29	1
Bromodichloromethane	ND		1.0	0.25	ug/L			08/24/18 19:29	1
Bromoform	ND		1.0	0.40	ug/L			08/24/18 19:29	1
Bromomethane	ND		1.0	0.25	ug/L			08/24/18 19:29	1
Carbon tetrachloride	ND		0.50	0.25	ug/L			08/24/18 19:29	1
Chlorobenzene	ND		1.0	0.25	ug/L			08/24/18 19:29	1
Chloroethane	ND		1.0	0.40	ug/L			08/24/18 19:29	1
Chloroform	ND		1.0	0.25	ug/L			08/24/18 19:29	1
Chloromethane	ND		1.0	0.25	ug/L			08/24/18 19:29	1
cis-1,2-Dichloroethene	ND		1.0	0.25	ug/L			08/24/18 19:29	1
cis-1,3-Dichloropropene	ND		0.50	0.25	ug/L			08/24/18 19:29	1
Dibromochloromethane	ND		1.0	0.25	ug/L			08/24/18 19:29	1
Dibromomethane	ND		1.0	0.25	ug/L			08/24/18 19:29	1
Dichlorodifluoromethane	ND		1.0	0.40	ug/L			08/24/18 19:29	1
Ethylbenzene	ND		1.0	0.25	ug/L			08/24/18 19:29	1
Hexachlorobutadiene	ND		1.0	0.25	ug/L			08/24/18 19:29	1
Isopropyl alcohol	ND		250	180	ug/L			08/24/18 19:29	1
Isopropylbenzene	ND		1.0	0.25	ug/L			08/24/18 19:29	1
m,p-Xylene	ND		1.0	0.50	ug/L			08/24/18 19:29	1
Methylene Chloride	ND		5.0	0.88	ug/L			08/24/18 19:29	1
Methyl-t-Butyl Ether (MTBE)	ND		1.0	0.25	ug/L			08/24/18 19:29	1

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

Lab Sample ID: MB 440-495613/4
Matrix: Water
Analysis Batch: 495613

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Naphthalene	ND		1.0	0.40	ug/L			08/24/18 19:29	1
n-Butylbenzene	ND		1.0	0.40	ug/L			08/24/18 19:29	1
N-Propylbenzene	ND		1.0	0.25	ug/L			08/24/18 19:29	1
o-Xylene	ND		1.0	0.25	ug/L			08/24/18 19:29	1
p-Isopropyltoluene	ND		1.0	0.25	ug/L			08/24/18 19:29	1
sec-Butylbenzene	ND		1.0	0.25	ug/L			08/24/18 19:29	1
Styrene	ND		1.0	0.25	ug/L			08/24/18 19:29	1
tert-Butylbenzene	ND		1.0	0.25	ug/L			08/24/18 19:29	1
Tetrachloroethene	ND		1.0	0.25	ug/L			08/24/18 19:29	1
Toluene	ND		1.0	0.25	ug/L			08/24/18 19:29	1
trans-1,2-Dichloroethene	ND		1.0	0.25	ug/L			08/24/18 19:29	1
trans-1,3-Dichloropropene	ND		0.50	0.25	ug/L			08/24/18 19:29	1
Trichloroethene	ND		1.0	0.25	ug/L			08/24/18 19:29	1
Trichlorofluoromethane	ND		1.0	0.25	ug/L			08/24/18 19:29	1
Vinyl chloride	ND		0.50	0.25	ug/L			08/24/18 19:29	1

Tentatively Identified Compound	*MB Est. Result*	*MB Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Tentatively Identified Compound	*None*		*ug/L*					*08/24/18 19:29*	*1*

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*90*		*70 - 130*		*08/24/18 19:29*	*1*
4-Bromofluorobenzene (Surr)	*95*		*80 - 120*		*08/24/18 19:29*	*1*
Dibromofluoromethane (Surr)	*97*		*76 - 132*		*08/24/18 19:29*	*1*
Toluene-d8 (Surr)	*106*		*80 - 128*		*08/24/18 19:29*	*1*

Lab Sample ID: LCS 440-495613/5
Matrix: Water
Analysis Batch: 495613

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1,1,2-Tetrachloroethane	25.0	25.7		ug/L		103	60 - 141
1,1,1-Trichloroethane	25.0	24.5		ug/L		98	70 - 130
1,1,2,2-Tetrachloroethane	25.0	20.6		ug/L		82	63 - 130
1,1,2-Trichloro-1,2,2-trifluoroethane	25.0	23.4		ug/L		93	60 - 140
1,1,2-Trichloroethane	25.0	23.9		ug/L		96	70 - 130
1,1-Dichloroethane	25.0	24.6		ug/L		98	64 - 130
1,1-Dichloroethene	25.0	24.0		ug/L		96	70 - 130
1,1-Dichloropropene	25.0	22.1		ug/L		89	70 - 130
1,2,3-Trichlorobenzene	25.0	26.5		ug/L		106	60 - 140
1,2,3-Trichloropropane	25.0	22.5		ug/L		90	63 - 130
1,2,4-Trichlorobenzene	25.0	25.9		ug/L		104	60 - 140
1,2,4-Trimethylbenzene	25.0	23.9		ug/L		96	70 - 135
1,2-Dibromo-3-Chloropropane	25.0	18.7		ug/L		75	52 - 140
1,2-Dibromoethane (EDB)	25.0	24.4		ug/L		98	70 - 130
1,2-Dichlorobenzene	25.0	25.8		ug/L		103	70 - 130
1,2-Dichloroethane	25.0	23.7		ug/L		95	57 - 138
1,2-Dichloropropane	25.0	24.8		ug/L		99	67 - 130

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

Lab Sample ID: LCS 440-495613/5
Matrix: Water
Analysis Batch: 495613

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,3,5-Trimethylbenzene	25.0	24.2		ug/L		97	70 - 136
1,3-Dichlorobenzene	25.0	25.8		ug/L		103	70 - 130
1,3-Dichloropropane	25.0	23.2		ug/L		93	70 - 130
1,4-Dichlorobenzene	25.0	25.3		ug/L		101	70 - 130
2,2-Dichloropropane	25.0	22.9		ug/L		92	68 - 141
2-Chlorotoluene	25.0	23.2		ug/L		93	70 - 130
4-Chlorotoluene	25.0	23.8		ug/L		95	70 - 130
Acetone	25.0	21.3		ug/L		85	10 - 150
Benzene	25.0	23.9		ug/L		96	68 - 130
Bromobenzene	25.0	24.8		ug/L		99	70 - 130
Bromochloromethane	25.0	27.4		ug/L		110	70 - 130
Bromodichloromethane	25.0	25.0		ug/L		100	70 - 132
Bromoform	25.0	25.6		ug/L		102	60 - 148
Bromomethane	25.0	21.8		ug/L		87	64 - 139
Carbon tetrachloride	25.0	24.4		ug/L		98	60 - 150
Chlorobenzene	25.0	25.1		ug/L		101	70 - 130
Chloroethane	25.0	22.7		ug/L		91	64 - 135
Chloroform	25.0	25.3		ug/L		101	70 - 130
Chloromethane	25.0	19.1		ug/L		77	47 - 140
cis-1,2-Dichloroethene	25.0	26.3		ug/L		105	70 - 133
cis-1,3-Dichloropropene	25.0	23.9		ug/L		95	70 - 133
Dibromochloromethane	25.0	26.2		ug/L		105	69 - 145
Dibromomethane	25.0	22.1		ug/L		88	70 - 130
Dichlorodifluoromethane	25.0	15.0		ug/L		60	29 - 150
Ethylbenzene	25.0	24.6		ug/L		99	70 - 130
Hexachlorobutadiene	25.0	24.3		ug/L		97	10 - 150
Isopropylbenzene	25.0	25.2		ug/L		101	70 - 136
m,p-Xylene	25.0	24.3		ug/L		97	70 - 130
Methylene Chloride	25.0	22.0		ug/L		88	52 - 130
Methyl-t-Butyl Ether (MTBE)	25.0	23.4		ug/L		93	63 - 131
Naphthalene	25.0	26.4		ug/L		106	60 - 140
n-Butylbenzene	25.0	22.8		ug/L		91	65 - 150
N-Propylbenzene	25.0	23.6		ug/L		94	67 - 139
o-Xylene	25.0	24.1		ug/L		97	70 - 130
p-Isopropyltoluene	25.0	25.1		ug/L		100	70 - 132
sec-Butylbenzene	25.0	23.2		ug/L		93	70 - 138
Styrene	25.0	24.9		ug/L		100	70 - 134
tert-Butylbenzene	25.0	25.0		ug/L		100	70 - 130
Tetrachloroethene	25.0	25.4		ug/L		102	70 - 130
Toluene	25.0	25.6		ug/L		102	70 - 130
trans-1,2-Dichloroethene	25.0	25.1		ug/L		100	70 - 130
trans-1,3-Dichloropropene	25.0	22.6		ug/L		91	70 - 132
Trichloroethene	25.0	26.2		ug/L		105	70 - 130
Trichlorofluoromethane	25.0	22.6		ug/L		91	60 - 150
Vinyl chloride	25.0	16.7		ug/L		67	59 - 133

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*94*		*70 - 130*

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

Lab Sample ID: LCS 440-495613/5
Matrix: Water
Analysis Batch: 495613

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

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*94*		*80 - 120*
Dibromofluoromethane (Surr)	*103*		*76 - 132*
Toluene-d8 (Surr)	*99*		*80 - 128*

Lab Sample ID: 440-218622-2 MS
Matrix: Water
Analysis Batch: 495613

Client Sample ID: OC_GW_DPE-8_20180821
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1,1,2-Tetrachloroethane	ND		25.0	26.1		ug/L		105	60 - 149
1,1,1-Trichloroethane	ND		25.0	24.1		ug/L		97	70 - 130
1,1,2,2-Tetrachloroethane	ND		25.0	21.1		ug/L		84	63 - 130
1,1,2-Trichloro-1,2,2-trifluoroethane	3.0	J	25.0	26.3		ug/L		93	60 - 140
1,1,2-Trichloroethane	ND		25.0	25.1		ug/L		100	70 - 130
1,1-Dichloroethane	ND		25.0	24.1		ug/L		96	65 - 130
1,1-Dichloroethene	0.55	J	25.0	24.2		ug/L		95	70 - 130
1,1-Dichloropropene	ND		25.0	21.9		ug/L		88	64 - 130
1,2,3-Trichlorobenzene	ND		25.0	26.6		ug/L		106	60 - 140
1,2,3-Trichloropropane	ND		25.0	21.9		ug/L		88	60 - 130
1,2,4-Trichlorobenzene	ND		25.0	26.3		ug/L		105	60 - 140
1,2,4-Trimethylbenzene	ND		25.0	22.7		ug/L		91	70 - 130
1,2-Dibromo-3-Chloropropane	ND		25.0	19.0		ug/L		76	48 - 140
1,2-Dibromoethane (EDB)	ND		25.0	25.3		ug/L		101	70 - 131
1,2-Dichlorobenzene	ND		25.0	26.4		ug/L		106	70 - 130
1,2-Dichloroethane	ND		25.0	24.0		ug/L		96	56 - 146
1,2-Dichloropropane	ND		25.0	24.3		ug/L		97	69 - 130
1,3,5-Trimethylbenzene	ND		25.0	23.6		ug/L		94	70 - 130
1,3-Dichlorobenzene	ND		25.0	25.7		ug/L		103	70 - 130
1,3-Dichloropropane	ND		25.0	23.6		ug/L		94	70 - 130
1,4-Dichlorobenzene	ND		25.0	25.0		ug/L		100	70 - 130
2,2-Dichloropropane	ND		25.0	22.4		ug/L		90	69 - 138
2-Chlorotoluene	ND		25.0	23.2		ug/L		93	70 - 130
4-Chlorotoluene	ND		25.0	23.2		ug/L		93	70 - 130
Acetone	ND		25.0	22.2		ug/L		89	10 - 150
Benzene	ND		25.0	23.8		ug/L		95	66 - 130
Bromobenzene	ND		25.0	24.6		ug/L		99	70 - 130
Bromochloromethane	ND		25.0	27.9		ug/L		112	70 - 130
Bromodichloromethane	ND		25.0	25.6		ug/L		102	70 - 138
Bromoform	ND		25.0	26.3		ug/L		105	59 - 150
Bromomethane	ND		25.0	21.3		ug/L		85	62 - 131
Carbon tetrachloride	ND		25.0	24.1		ug/L		97	60 - 150
Chlorobenzene	ND		25.0	24.8		ug/L		99	70 - 130
Chloroethane	ND		25.0	22.4		ug/L		90	68 - 130
Chloroform	ND		25.0	25.6		ug/L		102	70 - 130
Chloromethane	ND		25.0	18.6		ug/L		74	39 - 144
cis-1,2-Dichloroethene	ND		25.0	26.1		ug/L		105	70 - 130
cis-1,3-Dichloropropene	ND		25.0	23.7		ug/L		95	70 - 133

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

Lab Sample ID: 440-218622-2 MS — **Client Sample ID: OC_GW_DPE-8_20180821**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 495613

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Dibromochloromethane	ND		25.0	26.7		ug/L		107	70 - 148
Dibromomethane	ND		25.0	22.2		ug/L		89	70 - 130
Dichlorodifluoromethane	ND		25.0	14.9		ug/L		59	25 - 142
Ethylbenzene	ND		25.0	24.9		ug/L		99	70 - 130
Hexachlorobutadiene	ND		25.0	24.2		ug/L		97	10 - 150
Isopropylbenzene	ND		25.0	25.5		ug/L		102	70 - 132
m,p-Xylene	ND		25.0	24.0		ug/L		96	70 - 133
Methylene Chloride	ND		25.0	22.1		ug/L		88	52 - 130
Methyl-t-Butyl Ether (MTBE)	ND		25.0	24.1		ug/L		96	70 - 130
Naphthalene	ND		25.0	25.4		ug/L		102	60 - 140
n-Butylbenzene	ND		25.0	23.1		ug/L		93	61 - 149
N-Propylbenzene	ND		25.0	23.3		ug/L		93	66 - 135
o-Xylene	ND		25.0	23.6		ug/L		94	70 - 133
p-Isopropyltoluene	ND		25.0	24.4		ug/L		98	70 - 130
sec-Butylbenzene	ND		25.0	23.0		ug/L		92	67 - 134
Styrene	ND		25.0	22.9		ug/L		92	29 - 150
tert-Butylbenzene	ND		25.0	25.0		ug/L		100	70 - 130
Tetrachloroethene	19		25.0	42.9		ug/L		95	70 - 137
Toluene	ND		25.0	25.6		ug/L		102	70 - 130
trans-1,2-Dichloroethene	ND		25.0	24.5		ug/L		98	70 - 130
trans-1,3-Dichloropropene	ND		25.0	23.7		ug/L		95	70 - 138
Trichloroethene	2.9		25.0	28.9		ug/L		104	70 - 130
Trichlorofluoromethane	2.0		25.0	24.6		ug/L		90	60 - 150
Vinyl chloride	ND		25.0	16.7		ug/L		67	50 - 137

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*94*		*70 - 130*
4-Bromofluorobenzene (Surr)	*93*		*80 - 120*
Dibromofluoromethane (Surr)	*103*		*76 - 132*
Toluene-d8 (Surr)	*99*		*80 - 128*

Lab Sample ID: 440-218622-2 MSD — **Client Sample ID: OC_GW_DPE-8_20180821**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 495613

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,1,1,2-Tetrachloroethane	ND		25.0	26.7		ug/L		107	60 - 149	2	20
1,1,1-Trichloroethane	ND		25.0	25.1		ug/L		100	70 - 130	4	20
1,1,2,2-Tetrachloroethane	ND		25.0	21.7		ug/L		87	63 - 130	3	30
1,1,2-Trichloro-1,2,2-trifluoroethane	3.0	J	25.0	26.6		ug/L		95	60 - 140	1	20
1,1,2-Trichloroethane	ND		25.0	24.7		ug/L		99	70 - 130	1	25
1,1-Dichloroethane	ND		25.0	24.6		ug/L		98	65 - 130	2	20
1,1-Dichloroethene	0.55	J	25.0	24.4		ug/L		95	70 - 130	1	20
1,1-Dichloropropene	ND		25.0	22.4		ug/L		90	64 - 130	2	20
1,2,3-Trichlorobenzene	ND		25.0	27.0		ug/L		108	60 - 140	1	20
1,2,3-Trichloropropane	ND		25.0	22.5		ug/L		90	60 - 130	3	30
1,2,4-Trichlorobenzene	ND		25.0	27.1		ug/L		109	60 - 140	3	20

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

Lab Sample ID: 440-218622-2 MSD
Matrix: Water
Analysis Batch: 495613

Client Sample ID: OC_GW_DPE-8_20180821
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,2,4-Trimethylbenzene	ND		25.0	23.5		ug/L		94	70 - 130	4	25
1,2-Dibromo-3-Chloropropane	ND		25.0	19.8		ug/L		79	48 - 140	4	30
1,2-Dibromoethane (EDB)	ND		25.0	25.2		ug/L		101	70 - 131	0	25
1,2-Dichlorobenzene	ND		25.0	26.3		ug/L		105	70 - 130	0	20
1,2-Dichloroethane	ND		25.0	24.2		ug/L		97	56 - 146	1	20
1,2-Dichloropropane	ND		25.0	25.1		ug/L		100	69 - 130	3	20
1,3,5-Trimethylbenzene	ND		25.0	24.2		ug/L		97	70 - 130	2	20
1,3-Dichlorobenzene	ND		25.0	25.7		ug/L		103	70 - 130	0	20
1,3-Dichloropropane	ND		25.0	23.7		ug/L		95	70 - 130	0	25
1,4-Dichlorobenzene	ND		25.0	25.8		ug/L		103	70 - 130	3	20
2,2-Dichloropropane	ND		25.0	23.3		ug/L		93	69 - 138	4	25
2-Chlorotoluene	ND		25.0	23.5		ug/L		94	70 - 130	1	20
4-Chlorotoluene	ND		25.0	24.0		ug/L		96	70 - 130	3	20
Acetone	ND		25.0	22.4		ug/L		90	10 - 150	1	35
Benzene	ND		25.0	24.0		ug/L		96	66 - 130	1	20
Bromobenzene	ND		25.0	24.5		ug/L		98	70 - 130	1	20
Bromochloromethane	ND		25.0	27.9		ug/L		111	70 - 130	0	25
Bromodichloromethane	ND		25.0	25.7		ug/L		103	70 - 138	0	20
Bromoform	ND		25.0	26.5		ug/L		106	59 - 150	1	25
Bromomethane	ND		25.0	21.3		ug/L		85	62 - 131	0	25
Carbon tetrachloride	ND		25.0	24.1		ug/L		96	60 - 150	0	25
Chlorobenzene	ND		25.0	25.5		ug/L		102	70 - 130	3	20
Chloroethane	ND		25.0	21.7		ug/L		87	68 - 130	3	25
Chloroform	ND		25.0	25.4		ug/L		102	70 - 130	0	20
Chloromethane	ND		25.0	18.6		ug/L		74	39 - 144	0	25
cis-1,2-Dichloroethene	ND		25.0	25.8		ug/L		103	70 - 130	1	20
cis-1,3-Dichloropropene	ND		25.0	24.3		ug/L		97	70 - 133	2	20
Dibromochloromethane	ND		25.0	27.0		ug/L		108	70 - 148	1	25
Dibromomethane	ND		25.0	22.3		ug/L		89	70 - 130	0	25
Dichlorodifluoromethane	ND		25.0	15.0		ug/L		60	25 - 142	1	30
Ethylbenzene	ND		25.0	25.3		ug/L		101	70 - 130	2	20
Hexachlorobutadiene	ND		25.0	24.3		ug/L		97	10 - 150	0	20
Isopropylbenzene	ND		25.0	25.6		ug/L		103	70 - 132	1	20
m,p-Xylene	ND		25.0	24.3		ug/L		97	70 - 133	1	25
Methylene Chloride	ND		25.0	22.4		ug/L		90	52 - 130	1	20
Methyl-t-Butyl Ether (MTBE)	ND		25.0	24.6		ug/L		99	70 - 130	2	25
Naphthalene	ND		25.0	26.7		ug/L		107	60 - 140	5	30
n-Butylbenzene	ND		25.0	24.0		ug/L		96	61 - 149	4	20
N-Propylbenzene	ND		25.0	23.7		ug/L		95	66 - 135	1	20
o-Xylene	ND		25.0	24.0		ug/L		96	70 - 133	2	20
p-Isopropyltoluene	ND		25.0	25.2		ug/L		101	70 - 130	3	20
sec-Butylbenzene	ND		25.0	23.3		ug/L		93	67 - 134	1	20
Styrene	ND		25.0	24.3		ug/L		97	29 - 150	6	35
tert-Butylbenzene	ND		25.0	25.0		ug/L		100	70 - 130	0	20
Tetrachloroethene	19		25.0	43.7		ug/L		99	70 - 137	2	20
Toluene	ND		25.0	25.8		ug/L		103	70 - 130	1	20
trans-1,2-Dichloroethene	ND		25.0	25.0		ug/L		100	70 - 130	2	20
trans-1,3-Dichloropropene	ND		25.0	24.0		ug/L		96	70 - 138	1	25

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

Lab Sample ID: 440-218622-2 MSD — **Client Sample ID: OC_GW_DPE-8_20180821**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 495613

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Trichloroethene	2.9		25.0	28.8		ug/L		103	70 - 130	0	20
Trichlorofluoromethane	2.0		25.0	24.8		ug/L		91	60 - 150	1	25
Vinyl chloride	ND		25.0	16.5		ug/L		66	50 - 137	2	30

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*94*		*70 - 130*
4-Bromofluorobenzene (Surr)	*93*		*80 - 120*
Dibromofluoromethane (Surr)	*103*		*76 - 132*
Toluene-d8 (Surr)	*99*		*80 - 128*

Lab Sample ID: MB 440-495727/4 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 495727

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Isopropyl alcohol	ND		250	180	ug/L			08/26/18 11:19	1
Naphthalene	ND		1.0	0.40	ug/L			08/26/18 11:19	1
Tetrachloroethene	ND		1.0	0.25	ug/L			08/26/18 11:19	1

Tentatively Identified Compound	*MB Est. Result*	*MB Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Dimethyl disulfide	*4.66*		*ug/L*		*7.75*	*624-92-0*		*08/26/18 11:19*	*1*
Tentatively Identified Compound	*None*		*ug/L*					*08/26/18 11:19*	*1*

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*104*		*70 - 130*		*08/26/18 11:19*	*1*
4-Bromofluorobenzene (Surr)	*99*		*80 - 120*		*08/26/18 11:19*	*1*
Dibromofluoromethane (Surr)	*110*		*76 - 132*		*08/26/18 11:19*	*1*
Toluene-d8 (Surr)	*106*		*80 - 128*		*08/26/18 11:19*	*1*

Lab Sample ID: LCS 440-495727/5 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 495727

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Naphthalene	25.0	26.7		ug/L		107	60 - 140
Tetrachloroethene	25.0	25.0		ug/L		100	70 - 130

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*101*		*70 - 130*
4-Bromofluorobenzene (Surr)	*96*		*80 - 120*
Dibromofluoromethane (Surr)	*106*		*76 - 132*
Toluene-d8 (Surr)	*101*		*80 - 128*

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

Lab Sample ID: 440-218756-AA-1 MS
Matrix: Water
Analysis Batch: 495727

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Naphthalene	ND		25.0	25.8		ug/L		103	60 - 140
Tetrachloroethene	ND		25.0	25.8		ug/L		103	70 - 137

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*103*		*70 - 130*
4-Bromofluorobenzene (Surr)	*93*		*80 - 120*
Dibromofluoromethane (Surr)	*106*		*76 - 132*
Toluene-d8 (Surr)	*102*		*80 - 128*

Lab Sample ID: 440-218756-Y-1 MSD
Matrix: Water
Analysis Batch: 495727

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Naphthalene	ND		25.0	28.1		ug/L		112	60 - 140	8	30
Tetrachloroethene	ND		25.0	24.4		ug/L		98	70 - 137	6	20

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*102*		*70 - 130*
4-Bromofluorobenzene (Surr)	*96*		*80 - 120*
Dibromofluoromethane (Surr)	*106*		*76 - 132*
Toluene-d8 (Surr)	*102*		*80 - 128*

Method: 8270C SIM - Semivolatile Organic Compounds (GC/MS SIM)

Lab Sample ID: MB 440-495481/1-A
Matrix: Water
Analysis Batch: 495745

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 495481

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	ND		0.49	0.098	ug/L		08/24/18 07:29	08/26/18 09:53	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,4-Dioxane-d8 (Surr)	*62*		*27 - 120*	*08/24/18 07:29*	*08/26/18 09:53*	*1*

Lab Sample ID: LCS 440-495481/2-A
Matrix: Water
Analysis Batch: 495745

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 495481

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,4-Dioxane			1.98	1.65		ug/L		83	36 - 120

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1,4-Dioxane-d8 (Surr)	*77*		*27 - 120*

Method: 8270C SIM - Semivolatile Organic Compounds (GC/MS SIM) (Continued)

Lab Sample ID: LCSD 440-495481/3-A
Matrix: Water
Analysis Batch: 495745

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 495481

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,4-Dioxane			1.97	1.38		ug/L		70	36 - 120	18	35

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
1,4-Dioxane-d8 (Surr)	*65*		*27 - 120*

QC Association Summary

Client: de maximis, inc.
Project/Site: Omega Chemical - Semi Annual GWM 2018

TestAmerica Job ID: 440-218622-1
SDG: Omega Chemical

GC/MS VOA

Analysis Batch: 495613

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-218622-1	OC_GW_DPE-3_20180821	Total/NA	Water	8260B	
440-218622-2	OC_GW_DPE-8_20180821	Total/NA	Water	8260B	
440-218622-3	OC_GW_DPE-4_20180821	Total/NA	Water	8260B	
440-218622-4	OC_GW_DPE-9_20180821	Total/NA	Water	8260B	
440-218622-5	OC_GW_DPE-10D_20180821	Total/NA	Water	8260B	
440-218622-6	OC_GW_DPE-7D_20180821	Total/NA	Water	8260B	
440-218622-7	OC_GW_DPE-5_20180821	Total/NA	Water	8260B	
440-218622-8	OC_GW_TB_20180822	Total/NA	Water	8260B	
MB 440-495613/4	Method Blank	Total/NA	Water	8260B	
LCS 440-495613/5	Lab Control Sample	Total/NA	Water	8260B	
440-218622-2 MS	OC_GW_DPE-8_20180821	Total/NA	Water	8260B	
440-218622-2 MSD	OC_GW_DPE-8_20180821	Total/NA	Water	8260B	

Analysis Batch: 495727

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-218622-1 - RA	OC_GW_DPE-3_20180821	Total/NA	Water	8260B	
440-218622-3 - DL	OC_GW_DPE-4_20180821	Total/NA	Water	8260B	
440-218622-5 - RA	OC_GW_DPE-10D_20180821	Total/NA	Water	8260B	
440-218622-5 - DL	OC_GW_DPE-10D_20180821	Total/NA	Water	8260B	
MB 440-495727/4	Method Blank	Total/NA	Water	8260B	
LCS 440-495727/5	Lab Control Sample	Total/NA	Water	8260B	
440-218756-AA-1 MS	Matrix Spike	Total/NA	Water	8260B	
440-218756-Y-1 MSD	Matrix Spike Duplicate	Total/NA	Water	8260B	

GC/MS Semi VOA

Prep Batch: 495481

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-218622-1	OC_GW_DPE-3_20180821	Total/NA	Water	3520C	
440-218622-2	OC_GW_DPE-8_20180821	Total/NA	Water	3520C	
440-218622-3	OC_GW_DPE-4_20180821	Total/NA	Water	3520C	
440-218622-4	OC_GW_DPE-9_20180821	Total/NA	Water	3520C	
440-218622-5	OC_GW_DPE-10D_20180821	Total/NA	Water	3520C	
440-218622-6	OC_GW_DPE-7D_20180821	Total/NA	Water	3520C	
440-218622-7	OC_GW_DPE-5_20180821	Total/NA	Water	3520C	
MB 440-495481/1-A	Method Blank	Total/NA	Water	3520C	
LCS 440-495481/2-A	Lab Control Sample	Total/NA	Water	3520C	
LCSD 440-495481/3-A	Lab Control Sample Dup	Total/NA	Water	3520C	

Analysis Batch: 495745

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-218622-1	OC_GW_DPE-3_20180821	Total/NA	Water	8270C SIM	495481
440-218622-2	OC_GW_DPE-8_20180821	Total/NA	Water	8270C SIM	495481
440-218622-3	OC_GW_DPE-4_20180821	Total/NA	Water	8270C SIM	495481
440-218622-4	OC_GW_DPE-9_20180821	Total/NA	Water	8270C SIM	495481
440-218622-5	OC_GW_DPE-10D_20180821	Total/NA	Water	8270C SIM	495481
440-218622-6	OC_GW_DPE-7D_20180821	Total/NA	Water	8270C SIM	495481
440-218622-7	OC_GW_DPE-5_20180821	Total/NA	Water	8270C SIM	495481
MB 440-495481/1-A	Method Blank	Total/NA	Water	8270C SIM	495481
LCS 440-495481/2-A	Lab Control Sample	Total/NA	Water	8270C SIM	495481

GC/MS Semi VOA (Continued)

Analysis Batch: 495745 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCSD 440-495481/3-A	Lab Control Sample Dup	Total/NA	Water	8270C SIM	495481

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

GC/MS VOA TICs

Qualifier	Qualifier Description
J	Indicates an Estimated Value for TICs
T	Result is a tentatively identified compound (TIC) and an estimated value.

GC/MS Semi VOA

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Accreditation/Certification Summary

Client: de maximis, inc.
Project/Site: Omega Chemical - Semi Annual GWM 2018

TestAmerica Job ID: 440-218622-1
SDG: Omega Chemical

Laboratory: TestAmerica Irvine

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	EPA Region	Identification Number	Expiration Date
California	State Program	9	CA ELAP 2706	06-30-19

The following analytes are included in this report, but accreditation/certification is not offered by the governing authority:

Analysis Method	Prep Method	Matrix	Analyte
8260B		Water	1,1,2-Trichloro-1,2,2-trifluoroethane
8260B		Water	m,p-Xylene
8270C SIM	3520C	Water	1,4-Dioxane

TestAmerica Irvine
17461 Derian Ave
Suite 100
Irvine, CA 92614
phone 949.261 1022 fax

Chain of Custody Record

TestAmerica
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TestAmerica Laboratories, Inc.

Regulatory Program: ☐ DW ☐ NPDES ☐ RCRA ☐ Other:

Client Contact	Project Manager: Trent Henderson	Site Contact: Khalid Azhar	Date: 8/21/18	COC No:
De Maximis - Jaime Dinello	Tel/Fax: 949 453 1045/949 453 1047	Lab Contact: Danielle Roberts	Carrier:	1 of 1 COCs
1322 Scott St., Suite 104	Analysis Turnaround Time			Sampler:
San Diego, CA 92106	☐ CALENDAR DAYS ☐ WORKING DAYS			For Lab Use Only:
(562) 756-8149	TAT if different from Below STD			Walk-in Client:
	☐ 2 weeks			Lab Sampling:
Project Name: Omega Chemical - SemiAnn GWM 2018	☐ 1 week			
Site: Omega Chemical	☐ 2 days			Job / SDG No.:
P O #:	☐ 1 day			

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.	Filtered Sample (Y / N)	Perform MS / MSD (Y / N)	EPA 8260B - VOCs + Freons	EPA 8270C - 1,4 Dioxane	Sample Specific Notes:
OC_GW_DPE-3_201808 21	8/21/18	0735	Grab	GW	5			x	x	
OC_GW_DPE-8_201808 21	"	0755	Grab	GW	5			x	x	
OC_GW_DPE-4_201808 21	"	0805	Grab	GW	5			x	x	
OC_GW_DPE-9_201808 21	"	0950	Grab	GW	5			x	x	
OC_GW_DPE-10_201808 21	"	1200	Grab	GW	5			x	x	
OC_GW_DPE-7D_201808 21	"	1325	Grab	GW	5			x	x	
OC_GW_DPE-5_201808 21	"	1340	Grab	GW	5			x	x	
OC_GW_ _201808			Grab	GW	5			x	x	
OC_GW_ _201808			Grab	GW	5			x	x	
OC_GW_ _201808			Grab	GW	5			x	x	
OC_GW_TB_201808 22	8/22/18	0630	Grab	H2O	3			x		
OC_GW_ N_201808			Grab	H2O	3			x		

440-218622 Chain of Custody

Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other

Possible Hazard Identification:
Are any samples from a listed EPA Hazardous Waste? Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample.
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return to Client ☐ Disposal by Lab ☐ Archive for _____ Months

Special Instructions/QC Requirements & Comments:

Custody Seals Intact: ☐ Yes ☐ No | Custody Seal No.: | Cooler Temp. (°C): Obs'd: _____ Corr'd: _____ | Therm ID No. _____

Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
	JHA	8/22/18 1430		B-T	8/22/18 14:30
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
	B-T	8/22/18 18:35			
Relinquished by:	Company:	Date/Time:	Received in Laboratory by:	Company:	Date/Time:
				TA IRV	8/22/18 1835

Temp 4.9/5.2° 5.3/5.5 5.4/5.7 7 IR 66

Login Sample Receipt Checklist

Client: de maximis, inc.

Job Number: 440-218622-1
SDG Number: Omega Chemical

Login Number: 218622
List Number: 1
Creator: Soderblom, Tim

List Source: TestAmerica Irvine

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	N/A	Not present
Sample custody seals, if present, are intact.	N/A	Not Present
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	False	Refer to Job Narrative for details.
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

TestAmerica

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ANALYTICAL REPORT

TestAmerica Laboratories, Inc.
TestAmerica Irvine
17461 Derian Ave
Suite 100
Irvine, CA 92614-5817
Tel: (949)261-1022

TestAmerica Job ID: 440-218713-1
Client Project/Site: Omega Chemical - Semi Annual GWM 2018

For:
de maximis, inc.
2365 Northside Drive, Suite C-100
San Diego, California 92108

Attn: Jaime Dinello

Authorized for release by:
8/28/2018 2:44:49 PM

Danielle Roberts, Senior Project Manager
(949)261-1022
danielle.roberts@testamericainc.com

LINKS

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This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

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Sample Summary

Client: de maximis, inc.
Project/Site: Omega Chemical - Semi Annual GWM 2018

TestAmerica Job ID: 440-218713-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
440-218713-1	OC_GW_PZ-9_20180823	Water	08/23/18 09:20	08/23/18 18:30

Job ID: 440-218713-1

Laboratory: TestAmerica Irvine

Narrative

Job Narrative
440-218713-1

Comments
No additional comments.

Receipt
The sample was received on 8/23/2018 6:30 PM; the sample arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 4.5º C.

Receipt Exceptions

The Field Sampler was not listed on the Chain of Custody.

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

GC/MS Semi VOA
Method(s) 8270C SIM: The following sample required a dilution due to the nature of the sample matrix: OC_GW_PZ-9_20180823 (440-218713-1). Because of this dilution, the surrogate spike concentration in the sample was reduced to a level where the recovery calculation does not provide useful information.

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

Organic Prep
Method(s) 3520C: Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD) associated with preparation batch 440-495481. 3520C_8270-SIM 1,4 Dioxane.

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

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

Detection Summary

Client: de maximis, inc.
Project/Site: Omega Chemical - Semi Annual GWM 2018

TestAmerica Job ID: 440-218713-1

Client Sample ID: OC_GW_PZ-9_20180823

Lab Sample ID: 440-218713-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,1,2-Trichloro-1,2,2-trifluoroethane	510		50	5.0	ug/L	10		8260B	Total/NA
1,1-Dichloroethane	2.7	J	10	2.5	ug/L	10		8260B	Total/NA
1,1-Dichloroethene	220		10	2.5	ug/L	10		8260B	Total/NA
1,2-Dichloroethane	16		10	2.5	ug/L	10		8260B	Total/NA
Chloroform	86		10	2.5	ug/L	10		8260B	Total/NA
Tetrachloroethene	1300		10	2.5	ug/L	10		8260B	Total/NA
Trichloroethene	96		10	2.5	ug/L	10		8260B	Total/NA
Trichlorofluoromethane	130		10	2.5	ug/L	10		8260B	Total/NA
1,4-Dioxane	140		10	2.0	ug/L	20		8270C SIM	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample Results

Client: de maximis, inc.
Project/Site: Omega Chemical - Semi Annual GWM 2018

TestAmerica Job ID: 440-218713-1

Client Sample ID: OC_GW_PZ-9_20180823

Lab Sample ID: 440-218713-1

Date Collected: 08/23/18 09:20

Matrix: Water

Date Received: 08/23/18 18:30

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		10	2.5	ug/L			08/27/18 12:16	10
1,1,1-Trichloroethane	ND		10	2.5	ug/L			08/27/18 12:16	10
1,1,2,2-Tetrachloroethane	ND		10	2.5	ug/L			08/27/18 12:16	10
1,1,2-Trichloro-1,2,2-trifluoroethane	**510**		50	5.0	ug/L			08/27/18 12:16	10
1,1,2-Trichloroethane	ND		10	2.5	ug/L			08/27/18 12:16	10
1,1-Dichloroethane	**2.7**	**J**	10	2.5	ug/L			08/27/18 12:16	10
1,1-Dichloroethene	**220**		10	2.5	ug/L			08/27/18 12:16	10
1,1-Dichloropropene	ND		10	2.5	ug/L			08/27/18 12:16	10
1,2,3-Trichlorobenzene	ND		10	4.0	ug/L			08/27/18 12:16	10
1,2,3-Trichloropropane	ND		10	4.0	ug/L			08/27/18 12:16	10
1,2,4-Trichlorobenzene	ND		10	4.0	ug/L			08/27/18 12:16	10
1,2,4-Trimethylbenzene	ND		10	2.5	ug/L			08/27/18 12:16	10
1,2-Dibromo-3-Chloropropane	ND		50	5.0	ug/L			08/27/18 12:16	10
1,2-Dibromoethane (EDB)	ND		10	2.5	ug/L			08/27/18 12:16	10
1,2-Dichlorobenzene	ND		10	2.5	ug/L			08/27/18 12:16	10
1,2-Dichloroethane	**16**		10	2.5	ug/L			08/27/18 12:16	10
1,2-Dichloropropane	ND		10	2.5	ug/L			08/27/18 12:16	10
1,3,5-Trimethylbenzene	ND		10	2.5	ug/L			08/27/18 12:16	10
1,3-Dichlorobenzene	ND		10	2.5	ug/L			08/27/18 12:16	10
1,3-Dichloropropane	ND		10	2.5	ug/L			08/27/18 12:16	10
1,4-Dichlorobenzene	ND		10	2.5	ug/L			08/27/18 12:16	10
2,2-Dichloropropane	ND		10	4.0	ug/L			08/27/18 12:16	10
2-Chlorotoluene	ND		10	2.5	ug/L			08/27/18 12:16	10
4-Chlorotoluene	ND		10	2.5	ug/L			08/27/18 12:16	10
Acetone	ND		100	100	ug/L			08/27/18 12:16	10
Benzene	ND		5.0	2.5	ug/L			08/27/18 12:16	10
Bromobenzene	ND		10	2.5	ug/L			08/27/18 12:16	10
Bromochloromethane	ND		10	2.5	ug/L			08/27/18 12:16	10
Bromodichloromethane	ND		10	2.5	ug/L			08/27/18 12:16	10
Bromoform	ND		10	4.0	ug/L			08/27/18 12:16	10
Bromomethane	ND		10	2.5	ug/L			08/27/18 12:16	10
Carbon tetrachloride	ND		5.0	2.5	ug/L			08/27/18 12:16	10
Chlorobenzene	ND		10	2.5	ug/L			08/27/18 12:16	10
Chloroethane	ND		10	4.0	ug/L			08/27/18 12:16	10
Chloroform	**86**		10	2.5	ug/L			08/27/18 12:16	10
Chloromethane	ND		10	2.5	ug/L			08/27/18 12:16	10
cis-1,2-Dichloroethene	ND		10	2.5	ug/L			08/27/18 12:16	10
cis-1,3-Dichloropropene	ND		5.0	2.5	ug/L			08/27/18 12:16	10
Dibromochloromethane	ND		10	2.5	ug/L			08/27/18 12:16	10
Dibromomethane	ND		10	2.5	ug/L			08/27/18 12:16	10
Dichlorodifluoromethane	ND		10	4.0	ug/L			08/27/18 12:16	10
Ethylbenzene	ND		10	2.5	ug/L			08/27/18 12:16	10
Hexachlorobutadiene	ND		10	2.5	ug/L			08/27/18 12:16	10
Isopropyl alcohol	ND		2500	1800	ug/L			08/27/18 12:16	10
Isopropylbenzene	ND		10	2.5	ug/L			08/27/18 12:16	10
m,p-Xylene	ND		10	5.0	ug/L			08/27/18 12:16	10
Methylene Chloride	ND		50	8.8	ug/L			08/27/18 12:16	10
Methyl-t-Butyl Ether (MTBE)	ND		10	2.5	ug/L			08/27/18 12:16	10

Client Sample Results

Client: de maximis, inc.
Project/Site: Omega Chemical - Semi Annual GWM 2018

TestAmerica Job ID: 440-218713-1

Client Sample ID: OC_GW_PZ-9_20180823

Lab Sample ID: 440-218713-1

Date Collected: 08/23/18 09:20
Matrix: Water
Date Received: 08/23/18 18:30

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Naphthalene	ND		10	4.0	ug/L			08/27/18 12:16	10
n-Butylbenzene	ND		10	4.0	ug/L			08/27/18 12:16	10
N-Propylbenzene	ND		10	2.5	ug/L			08/27/18 12:16	10
o-Xylene	ND		10	2.5	ug/L			08/27/18 12:16	10
p-Isopropyltoluene	ND		10	2.5	ug/L			08/27/18 12:16	10
sec-Butylbenzene	ND		10	2.5	ug/L			08/27/18 12:16	10
Styrene	ND		10	2.5	ug/L			08/27/18 12:16	10
tert-Butylbenzene	ND		10	2.5	ug/L			08/27/18 12:16	10
Tetrachloroethene	**1300**		10	2.5	ug/L			08/27/18 12:16	10
Toluene	ND		10	2.5	ug/L			08/27/18 12:16	10
trans-1,2-Dichloroethene	ND		10	2.5	ug/L			08/27/18 12:16	10
trans-1,3-Dichloropropene	ND		5.0	2.5	ug/L			08/27/18 12:16	10
Trichloroethene	**96**		10	2.5	ug/L			08/27/18 12:16	10
Trichlorofluoromethane	**130**		10	2.5	ug/L			08/27/18 12:16	10
Vinyl chloride	ND		5.0	2.5	ug/L			08/27/18 12:16	10

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Unknown	*110*	*T J*	*ug/L*		*1.67*			*08/27/18 12:16*	*10*
Unknown	*1900*	*T J*	*ug/L*		*1.76*			*08/27/18 12:16*	*10*
Unknown	*85*	*T J*	*ug/L*		*15.74*			*08/27/18 12:16*	*10*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*93*		*70 - 130*		*08/27/18 12:16*	*10*
4-Bromofluorobenzene (Surr)	*99*		*80 - 120*		*08/27/18 12:16*	*10*
Dibromofluoromethane (Surr)	*93*		*76 - 132*		*08/27/18 12:16*	*10*
Toluene-d8 (Surr)	*108*		*80 - 128*		*08/27/18 12:16*	*10*

Method: 8270C SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	**140**		10	2.0	ug/L		08/24/18 07:29	08/27/18 07:54	20

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,4-Dioxane-d8 (Surr)	*0*	*X*	*27 - 120*	*08/24/18 07:29*	*08/27/18 07:54*	*20*

Surrogate Summary

Client: de maximis, inc.
Project/Site: Omega Chemical - Semi Annual GWM 2018

TestAmerica Job ID: 440-218713-1

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

Matrix: Water **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)			
		DCA	BFB	DBFM	TOL
Lab Sample ID	Client Sample ID	(70-130)	(80-120)	(76-132)	(80-128)
440-218713-1	OC_GW_PZ-9_20180823	93	99	93	108
440-218823-C-1 MS	Matrix Spike	98	96	94	102
440-218823-C-1 MSD	Matrix Spike Duplicate	88	92	93	105
LCS 440-495779/5	Lab Control Sample	89	95	100	103
MB 440-495779/4	Method Blank	93	96	97	105

Surrogate Legend

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

Method: 8270C SIM - Semivolatile Organic Compounds (GC/MS SIM)

Matrix: Water **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)
		DXE
Lab Sample ID	Client Sample ID	(27-120)
440-218713-1	OC_GW_PZ-9_20180823	0 X
LCS 440-495481/2-A	Lab Control Sample	77
LCSD 440-495481/3-A	Lab Control Sample Dup	65
MB 440-495481/1-A	Method Blank	62

Surrogate Legend

DXE = 1,4-Dioxane-d8 (Surr)

Method Summary

Client: de maximis, inc.
Project/Site: Omega Chemical - Semi Annual GWM 2018

TestAmerica Job ID: 440-218713-1

Method	Method Description	Protocol	Laboratory
8260B	Volatile Organic Compounds (GC/MS)	SW846	TAL IRV
8270C SIM	Semivolatile Organic Compounds (GC/MS SIM)	SW846	TAL IRV
3520C	Liquid-Liquid Extraction (Continuous)	SW846	TAL IRV
5030B	Purge and Trap	SW846	TAL IRV

Protocol References:

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL IRV = TestAmerica Irvine, 17461 Derian Ave, Suite 100, Irvine, CA 92614-5817, TEL (949)261-1022

Lab Chronicle

Client: de maximis, inc.
Project/Site: Omega Chemical - Semi Annual GWM 2018

TestAmerica Job ID: 440-218713-1

Client Sample ID: OC_GW_PZ-9_20180823

Lab Sample ID: 440-218713-1

Date Collected: 08/23/18 09:20

Matrix: Water

Date Received: 08/23/18 18:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		10	10 mL	10 mL	495779	08/27/18 12:16	RM	TAL IRV
Total/NA	Prep	3520C			1005 mL	1.0 mL	495481	08/24/18 07:29	JS1	TAL IRV
Total/NA	Analysis	8270C SIM		20			495803	08/27/18 07:54	HN	TAL IRV

Laboratory References:

TAL IRV = TestAmerica Irvine, 17461 Derian Ave, Suite 100, Irvine, CA 92614-5817, TEL (949)261-1022

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

Lab Sample ID: MB 440-495779/4
Matrix: Water
Analysis Batch: 495779

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		1.0	0.25	ug/L			08/27/18 08:52	1
1,1,1-Trichloroethane	ND		1.0	0.25	ug/L			08/27/18 08:52	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.25	ug/L			08/27/18 08:52	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		5.0	0.50	ug/L			08/27/18 08:52	1
1,1,2-Trichloroethane	ND		1.0	0.25	ug/L			08/27/18 08:52	1
1,1-Dichloroethane	ND		1.0	0.25	ug/L			08/27/18 08:52	1
1,1-Dichloroethene	ND		1.0	0.25	ug/L			08/27/18 08:52	1
1,1-Dichloropropene	ND		1.0	0.25	ug/L			08/27/18 08:52	1
1,2,3-Trichlorobenzene	ND		1.0	0.40	ug/L			08/27/18 08:52	1
1,2,3-Trichloropropane	ND		1.0	0.40	ug/L			08/27/18 08:52	1
1,2,4-Trichlorobenzene	ND		1.0	0.40	ug/L			08/27/18 08:52	1
1,2,4-Trimethylbenzene	ND		1.0	0.25	ug/L			08/27/18 08:52	1
1,2-Dibromo-3-Chloropropane	ND		5.0	0.50	ug/L			08/27/18 08:52	1
1,2-Dibromoethane (EDB)	ND		1.0	0.25	ug/L			08/27/18 08:52	1
1,2-Dichlorobenzene	ND		1.0	0.25	ug/L			08/27/18 08:52	1
1,2-Dichloroethane	ND		1.0	0.25	ug/L			08/27/18 08:52	1
1,2-Dichloropropane	ND		1.0	0.25	ug/L			08/27/18 08:52	1
1,3,5-Trimethylbenzene	ND		1.0	0.25	ug/L			08/27/18 08:52	1
1,3-Dichlorobenzene	ND		1.0	0.25	ug/L			08/27/18 08:52	1
1,3-Dichloropropane	ND		1.0	0.25	ug/L			08/27/18 08:52	1
1,4-Dichlorobenzene	ND		1.0	0.25	ug/L			08/27/18 08:52	1
2,2-Dichloropropane	ND		1.0	0.40	ug/L			08/27/18 08:52	1
2-Chlorotoluene	ND		1.0	0.25	ug/L			08/27/18 08:52	1
4-Chlorotoluene	ND		1.0	0.25	ug/L			08/27/18 08:52	1
Acetone	ND		10	10	ug/L			08/27/18 08:52	1
Benzene	ND		0.50	0.25	ug/L			08/27/18 08:52	1
Bromobenzene	ND		1.0	0.25	ug/L			08/27/18 08:52	1
Bromochloromethane	ND		1.0	0.25	ug/L			08/27/18 08:52	1
Bromodichloromethane	ND		1.0	0.25	ug/L			08/27/18 08:52	1
Bromoform	ND		1.0	0.40	ug/L			08/27/18 08:52	1
Bromomethane	ND		1.0	0.25	ug/L			08/27/18 08:52	1
Carbon tetrachloride	ND		0.50	0.25	ug/L			08/27/18 08:52	1
Chlorobenzene	ND		1.0	0.25	ug/L			08/27/18 08:52	1
Chloroethane	ND		1.0	0.40	ug/L			08/27/18 08:52	1
Chloroform	ND		1.0	0.25	ug/L			08/27/18 08:52	1
Chloromethane	ND		1.0	0.25	ug/L			08/27/18 08:52	1
cis-1,2-Dichloroethene	ND		1.0	0.25	ug/L			08/27/18 08:52	1
cis-1,3-Dichloropropene	ND		0.50	0.25	ug/L			08/27/18 08:52	1
Dibromochloromethane	ND		1.0	0.25	ug/L			08/27/18 08:52	1
Dibromomethane	ND		1.0	0.25	ug/L			08/27/18 08:52	1
Dichlorodifluoromethane	ND		1.0	0.40	ug/L			08/27/18 08:52	1
Ethylbenzene	ND		1.0	0.25	ug/L			08/27/18 08:52	1
Hexachlorobutadiene	ND		1.0	0.25	ug/L			08/27/18 08:52	1
Isopropyl alcohol	ND		250	180	ug/L			08/27/18 08:52	1
Isopropylbenzene	ND		1.0	0.25	ug/L			08/27/18 08:52	1
m,p-Xylene	ND		1.0	0.50	ug/L			08/27/18 08:52	1
Methylene Chloride	ND		5.0	0.88	ug/L			08/27/18 08:52	1
Methyl-t-Butyl Ether (MTBE)	ND		1.0	0.25	ug/L			08/27/18 08:52	1

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

Lab Sample ID: MB 440-495779/4
Matrix: Water
Analysis Batch: 495779

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Naphthalene	ND		1.0	0.40	ug/L			08/27/18 08:52	1
n-Butylbenzene	ND		1.0	0.40	ug/L			08/27/18 08:52	1
N-Propylbenzene	ND		1.0	0.25	ug/L			08/27/18 08:52	1
o-Xylene	ND		1.0	0.25	ug/L			08/27/18 08:52	1
p-Isopropyltoluene	ND		1.0	0.25	ug/L			08/27/18 08:52	1
sec-Butylbenzene	ND		1.0	0.25	ug/L			08/27/18 08:52	1
Styrene	ND		1.0	0.25	ug/L			08/27/18 08:52	1
tert-Butylbenzene	ND		1.0	0.25	ug/L			08/27/18 08:52	1
Tetrachloroethene	ND		1.0	0.25	ug/L			08/27/18 08:52	1
Toluene	ND		1.0	0.25	ug/L			08/27/18 08:52	1
trans-1,2-Dichloroethene	ND		1.0	0.25	ug/L			08/27/18 08:52	1
trans-1,3-Dichloropropene	ND		0.50	0.25	ug/L			08/27/18 08:52	1
Trichloroethene	ND		1.0	0.25	ug/L			08/27/18 08:52	1
Trichlorofluoromethane	ND		1.0	0.25	ug/L			08/27/18 08:52	1
Vinyl chloride	ND		0.50	0.25	ug/L			08/27/18 08:52	1

Tentatively Identified Compound	*MB Est. Result*	*MB Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Tentatively Identified Compound	*None*		*ug/L*					*08/27/18 08:52*	*1*

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*93*		*70 - 130*		*08/27/18 08:52*	*1*
4-Bromofluorobenzene (Surr)	*96*		*80 - 120*		*08/27/18 08:52*	*1*
Dibromofluoromethane (Surr)	*97*		*76 - 132*		*08/27/18 08:52*	*1*
Toluene-d8 (Surr)	*105*		*80 - 128*		*08/27/18 08:52*	*1*

Lab Sample ID: LCS 440-495779/5
Matrix: Water
Analysis Batch: 495779

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1,1,2-Tetrachloroethane	25.0	25.7		ug/L		103	60 - 141
1,1,1-Trichloroethane	25.0	23.6		ug/L		94	70 - 130
1,1,2,2-Tetrachloroethane	25.0	25.1		ug/L		101	63 - 130
1,1,2-Trichloro-1,2,2-trifluoroethane	25.0	22.7		ug/L		91	60 - 140
1,1,2-Trichloroethane	25.0	27.5		ug/L		110	70 - 130
1,1-Dichloroethane	25.0	27.3		ug/L		109	64 - 130
1,1-Dichloroethene	25.0	25.3		ug/L		101	70 - 130
1,1-Dichloropropene	25.0	25.0		ug/L		100	70 - 130
1,2,3-Trichlorobenzene	25.0	24.7		ug/L		99	60 - 140
1,2,3-Trichloropropane	25.0	22.4		ug/L		90	63 - 130
1,2,4-Trichlorobenzene	25.0	24.8		ug/L		99	60 - 140
1,2,4-Trimethylbenzene	25.0	24.0		ug/L		96	70 - 135
1,2-Dibromo-3-Chloropropane	25.0	19.9		ug/L		80	52 - 140
1,2-Dibromoethane (EDB)	25.0	26.8		ug/L		107	70 - 130
1,2-Dichlorobenzene	25.0	27.3		ug/L		109	70 - 130
1,2-Dichloroethane	25.0	25.7		ug/L		103	57 - 138
1,2-Dichloropropane	25.0	28.0		ug/L		112	67 - 130

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

Lab Sample ID: LCS 440-495779/5
Matrix: Water
Analysis Batch: 495779

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,3,5-Trimethylbenzene	25.0	24.4		ug/L		97	70 - 136
1,3-Dichlorobenzene	25.0	26.4		ug/L		106	70 - 130
1,3-Dichloropropane	25.0	25.6		ug/L		102	70 - 130
1,4-Dichlorobenzene	25.0	26.0		ug/L		104	70 - 130
2,2-Dichloropropane	25.0	24.5		ug/L		98	68 - 141
2-Chlorotoluene	25.0	24.4		ug/L		98	70 - 130
4-Chlorotoluene	25.0	25.1		ug/L		100	70 - 130
Acetone	25.0	22.0		ug/L		88	10 - 150
Benzene	25.0	25.5		ug/L		102	68 - 130
Bromobenzene	25.0	26.5		ug/L		106	70 - 130
Bromochloromethane	25.0	26.4		ug/L		105	70 - 130
Bromodichloromethane	25.0	25.4		ug/L		102	70 - 132
Bromoform	25.0	22.9		ug/L		91	60 - 148
Bromomethane	25.0	19.2		ug/L		77	64 - 139
Carbon tetrachloride	25.0	22.1		ug/L		88	60 - 150
Chlorobenzene	25.0	25.9		ug/L		104	70 - 130
Chloroethane	25.0	20.2		ug/L		81	64 - 135
Chloroform	25.0	25.3		ug/L		101	70 - 130
Chloromethane	25.0	20.1		ug/L		80	47 - 140
cis-1,2-Dichloroethene	25.0	25.2		ug/L		101	70 - 133
cis-1,3-Dichloropropene	25.0	27.7		ug/L		111	70 - 133
Dibromochloromethane	25.0	25.5		ug/L		102	69 - 145
Dibromomethane	25.0	23.8		ug/L		95	70 - 130
Dichlorodifluoromethane	25.0	13.8		ug/L		55	29 - 150
Ethylbenzene	25.0	25.2		ug/L		101	70 - 130
Hexachlorobutadiene	25.0	23.5		ug/L		94	10 - 150
Isopropylbenzene	25.0	25.8		ug/L		103	70 - 136
m,p-Xylene	25.0	27.1		ug/L		108	70 - 130
Methylene Chloride	25.0	24.9		ug/L		100	52 - 130
Methyl-t-Butyl Ether (MTBE)	25.0	24.8		ug/L		99	63 - 131
Naphthalene	25.0	24.1		ug/L		96	60 - 140
n-Butylbenzene	25.0	24.2		ug/L		97	65 - 150
N-Propylbenzene	25.0	25.1		ug/L		100	67 - 139
o-Xylene	25.0	27.5		ug/L		110	70 - 130
p-Isopropyltoluene	25.0	24.7		ug/L		99	70 - 132
sec-Butylbenzene	25.0	24.4		ug/L		98	70 - 138
Styrene	25.0	27.6		ug/L		110	70 - 134
tert-Butylbenzene	25.0	24.1		ug/L		97	70 - 130
Tetrachloroethene	25.0	25.9		ug/L		103	70 - 130
Toluene	25.0	26.1		ug/L		105	70 - 130
trans-1,2-Dichloroethene	25.0	25.1		ug/L		100	70 - 130
trans-1,3-Dichloropropene	25.0	25.9		ug/L		104	70 - 132
Trichloroethene	25.0	25.7		ug/L		103	70 - 130
Trichlorofluoromethane	25.0	20.8		ug/L		83	60 - 150
Vinyl chloride	25.0	18.7		ug/L		75	59 - 133

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*89*		*70 - 130*

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

Lab Sample ID: LCS 440-495779/5
Matrix: Water
Analysis Batch: 495779

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

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*95*		*80 - 120*
Dibromofluoromethane (Surr)	*100*		*76 - 132*
Toluene-d8 (Surr)	*103*		*80 - 128*

Lab Sample ID: 440-218823-C-1 MS
Matrix: Water
Analysis Batch: 495779

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1,1,2-Tetrachloroethane	ND		25.0	26.1		ug/L		104	60 - 149
1,1,1-Trichloroethane	ND		25.0	24.9		ug/L		99	70 - 130
1,1,2,2-Tetrachloroethane	ND		25.0	25.5		ug/L		102	63 - 130
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		25.0	25.1		ug/L		100	60 - 140
1,1,2-Trichloroethane	ND		25.0	27.8		ug/L		111	70 - 130
1,1-Dichloroethane	ND		25.0	25.5		ug/L		102	65 - 130
1,1-Dichloroethene	ND		25.0	27.7		ug/L		111	70 - 130
1,1-Dichloropropene	ND		25.0	25.7		ug/L		103	64 - 130
1,2,3-Trichlorobenzene	ND		25.0	24.9		ug/L		100	60 - 140
1,2,3-Trichloropropane	ND		25.0	22.3		ug/L		89	60 - 130
1,2,4-Trichlorobenzene	ND		25.0	25.4		ug/L		102	60 - 140
1,2,4-Trimethylbenzene	ND		25.0	23.6		ug/L		94	70 - 130
1,2-Dibromo-3-Chloropropane	ND		25.0	23.1		ug/L		93	48 - 140
1,2-Dibromoethane (EDB)	ND		25.0	27.6		ug/L		111	70 - 131
1,2-Dichlorobenzene	ND		25.0	26.5		ug/L		106	70 - 130
1,2-Dichloroethane	ND		25.0	24.8		ug/L		99	56 - 146
1,2-Dichloropropane	ND		25.0	26.5		ug/L		106	69 - 130
1,3,5-Trimethylbenzene	ND		25.0	24.3		ug/L		97	70 - 130
1,3-Dichlorobenzene	ND		25.0	26.0		ug/L		104	70 - 130
1,3-Dichloropropane	ND		25.0	26.9		ug/L		107	70 - 130
1,4-Dichlorobenzene	ND		25.0	25.9		ug/L		104	70 - 130
2,2-Dichloropropane	ND		25.0	25.8		ug/L		103	69 - 138
2-Chlorotoluene	ND		25.0	23.9		ug/L		96	70 - 130
4-Chlorotoluene	ND		25.0	25.0		ug/L		100	70 - 130
Acetone	10		25.0	30.1		ug/L		80	10 - 150
Benzene	ND		25.0	26.0		ug/L		104	66 - 130
Bromobenzene	ND		25.0	25.4		ug/L		101	70 - 130
Bromochloromethane	ND		25.0	26.0		ug/L		104	70 - 130
Bromodichloromethane	ND		25.0	24.5		ug/L		98	70 - 138
Bromoform	ND		25.0	23.8		ug/L		95	59 - 150
Bromomethane	ND		25.0	21.7		ug/L		87	62 - 131
Carbon tetrachloride	ND		25.0	23.7		ug/L		95	60 - 150
Chlorobenzene	ND		25.0	25.8		ug/L		103	70 - 130
Chloroethane	ND		25.0	22.1		ug/L		88	68 - 130
Chloroform	ND		25.0	24.3		ug/L		97	70 - 130
Chloromethane	ND		25.0	23.9		ug/L		96	39 - 144
cis-1,2-Dichloroethene	ND		25.0	25.2		ug/L		101	70 - 130
cis-1,3-Dichloropropene	ND		25.0	27.4		ug/L		109	70 - 133

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

Lab Sample ID: 440-218823-C-1 MS
Matrix: Water
Analysis Batch: 495779

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Dibromochloromethane	ND		25.0	25.9		ug/L		104	70 - 148
Dibromomethane	ND		25.0	24.5		ug/L		98	70 - 130
Dichlorodifluoromethane	ND		25.0	20.5		ug/L		82	25 - 142
Ethylbenzene	ND		25.0	25.6		ug/L		103	70 - 130
Hexachlorobutadiene	ND		25.0	22.9		ug/L		92	10 - 150
Isopropylbenzene	ND		25.0	26.9		ug/L		108	70 - 132
m,p-Xylene	ND		25.0	27.5		ug/L		110	70 - 133
Methylene Chloride	ND		25.0	24.7		ug/L		99	52 - 130
Methyl-t-Butyl Ether (MTBE)	ND		25.0	25.4		ug/L		102	70 - 130
Naphthalene	ND		25.0	25.4		ug/L		102	60 - 140
n-Butylbenzene	ND		25.0	24.7		ug/L		99	61 - 149
N-Propylbenzene	ND		25.0	25.0		ug/L		100	66 - 135
o-Xylene	ND		25.0	27.1		ug/L		108	70 - 133
p-Isopropyltoluene	ND		25.0	25.0		ug/L		100	70 - 130
sec-Butylbenzene	ND		25.0	25.0		ug/L		100	67 - 134
Styrene	ND		25.0	25.3		ug/L		101	29 - 150
tert-Butylbenzene	ND		25.0	24.4		ug/L		98	70 - 130
Tetrachloroethene	ND		25.0	26.4		ug/L		106	70 - 137
Toluene	ND		25.0	26.5		ug/L		106	70 - 130
trans-1,2-Dichloroethene	ND		25.0	24.6		ug/L		98	70 - 130
trans-1,3-Dichloropropene	ND		25.0	26.4		ug/L		106	70 - 138
Trichloroethene	ND		25.0	25.2		ug/L		101	70 - 130
Trichlorofluoromethane	ND		25.0	24.7		ug/L		99	60 - 150
Vinyl chloride	ND		25.0	22.1		ug/L		89	50 - 137

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*98*		*70 - 130*
4-Bromofluorobenzene (Surr)	*96*		*80 - 120*
Dibromofluoromethane (Surr)	*94*		*76 - 132*
Toluene-d8 (Surr)	*102*		*80 - 128*

Lab Sample ID: 440-218823-C-1 MSD
Matrix: Water
Analysis Batch: 495779

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,1,1,2-Tetrachloroethane	ND		25.0	25.7		ug/L		103	60 - 149	2	20
1,1,1-Trichloroethane	ND		25.0	23.6		ug/L		94	70 - 130	5	20
1,1,2,2-Tetrachloroethane	ND		25.0	26.2		ug/L		105	63 - 130	3	30
1,1,2-Trichloro-1,2,2-trifluoroetha ne	ND		25.0	25.4		ug/L		102	60 - 140	1	20
1,1,2-Trichloroethane	ND		25.0	28.2		ug/L		113	70 - 130	1	25
1,1-Dichloroethane	ND		25.0	26.8		ug/L		107	65 - 130	5	20
1,1-Dichloroethene	ND		25.0	26.1		ug/L		105	70 - 130	6	20
1,1-Dichloropropene	ND		25.0	25.4		ug/L		102	64 - 130	1	20
1,2,3-Trichlorobenzene	ND		25.0	24.4		ug/L		98	60 - 140	2	20
1,2,3-Trichloropropane	ND		25.0	23.9		ug/L		96	60 - 130	7	30
1,2,4-Trichlorobenzene	ND		25.0	24.5		ug/L		98	60 - 140	4	20

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

Lab Sample ID: 440-218823-C-1 MSD
Matrix: Water
Analysis Batch: 495779

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,2,4-Trimethylbenzene	ND		25.0	23.0		ug/L		92	70 - 130	2	25
1,2-Dibromo-3-Chloropropane	ND		25.0	22.5		ug/L		90	48 - 140	3	30
1,2-Dibromoethane (EDB)	ND		25.0	28.3		ug/L		113	70 - 131	2	25
1,2-Dichlorobenzene	ND		25.0	25.9		ug/L		104	70 - 130	2	20
1,2-Dichloroethane	ND		25.0	25.1		ug/L		100	56 - 146	1	20
1,2-Dichloropropane	ND		25.0	26.5		ug/L		106	69 - 130	0	20
1,3,5-Trimethylbenzene	ND		25.0	23.7		ug/L		95	70 - 130	3	20
1,3-Dichlorobenzene	ND		25.0	25.2		ug/L		101	70 - 130	3	20
1,3-Dichloropropane	ND		25.0	26.5		ug/L		106	70 - 130	1	25
1,4-Dichlorobenzene	ND		25.0	25.3		ug/L		101	70 - 130	2	20
2,2-Dichloropropane	ND		25.0	25.6		ug/L		103	69 - 138	0	25
2-Chlorotoluene	ND		25.0	23.5		ug/L		94	70 - 130	1	20
4-Chlorotoluene	ND		25.0	24.3		ug/L		97	70 - 130	3	20
Acetone	10		25.0	30.4		ug/L		81	10 - 150	1	35
Benzene	ND		25.0	25.1		ug/L		100	66 - 130	4	20
Bromobenzene	ND		25.0	25.6		ug/L		103	70 - 130	1	20
Bromochloromethane	ND		25.0	25.7		ug/L		103	70 - 130	1	25
Bromodichloromethane	ND		25.0	24.5		ug/L		98	70 - 138	0	20
Bromoform	ND		25.0	24.5		ug/L		98	59 - 150	3	25
Bromomethane	ND		25.0	20.8		ug/L		83	62 - 131	4	25
Carbon tetrachloride	ND		25.0	22.5		ug/L		90	60 - 150	5	25
Chlorobenzene	ND		25.0	26.0		ug/L		104	70 - 130	1	20
Chloroethane	ND		25.0	22.1		ug/L		89	68 - 130	0	25
Chloroform	ND		25.0	24.4		ug/L		98	70 - 130	0	20
Chloromethane	ND		25.0	23.9		ug/L		96	39 - 144	0	25
cis-1,2-Dichloroethene	ND		25.0	24.6		ug/L		99	70 - 130	2	20
cis-1,3-Dichloropropene	ND		25.0	27.3		ug/L		109	70 - 133	0	20
Dibromochloromethane	ND		25.0	25.8		ug/L		103	70 - 148	0	25
Dibromomethane	ND		25.0	22.8		ug/L		91	70 - 130	7	25
Dichlorodifluoromethane	ND		25.0	20.2		ug/L		81	25 - 142	1	30
Ethylbenzene	ND		25.0	25.8		ug/L		103	70 - 130	1	20
Hexachlorobutadiene	ND		25.0	22.9		ug/L		92	10 - 150	0	20
Isopropylbenzene	ND		25.0	26.0		ug/L		104	70 - 132	3	20
m,p-Xylene	ND		25.0	27.3		ug/L		109	70 - 133	1	25
Methylene Chloride	ND		25.0	24.9		ug/L		100	52 - 130	1	20
Methyl-t-Butyl Ether (MTBE)	ND		25.0	24.7		ug/L		99	70 - 130	3	25
Naphthalene	ND		25.0	25.1		ug/L		100	60 - 140	1	30
n-Butylbenzene	ND		25.0	24.2		ug/L		97	61 - 149	2	20
N-Propylbenzene	ND		25.0	24.7		ug/L		99	66 - 135	1	20
o-Xylene	ND		25.0	27.7		ug/L		111	70 - 133	2	20
p-Isopropyltoluene	ND		25.0	24.4		ug/L		98	70 - 130	2	20
sec-Butylbenzene	ND		25.0	24.6		ug/L		99	67 - 134	1	20
Styrene	ND		25.0	20.6		ug/L		82	29 - 150	21	35
tert-Butylbenzene	ND		25.0	23.9		ug/L		96	70 - 130	2	20
Tetrachloroethene	ND		25.0	26.7		ug/L		107	70 - 137	1	20
Toluene	ND		25.0	26.6		ug/L		106	70 - 130	0	20
trans-1,2-Dichloroethene	ND		25.0	24.1		ug/L		96	70 - 130	2	20
trans-1,3-Dichloropropene	ND		25.0	26.9		ug/L		108	70 - 138	2	25

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

Lab Sample ID: 440-218823-C-1 MSD
Matrix: Water
Analysis Batch: 495779

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Trichloroethene	ND		25.0	24.6		ug/L		99	70 - 130	2	20
Trichlorofluoromethane	ND		25.0	23.3		ug/L		93	60 - 150	6	25
Vinyl chloride	ND		25.0	22.3		ug/L		89	50 - 137	1	30

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*88*		*70 - 130*
4-Bromofluorobenzene (Surr)	*92*		*80 - 120*
Dibromofluoromethane (Surr)	*93*		*76 - 132*
Toluene-d8 (Surr)	*105*		*80 - 128*

Method: 8270C SIM - Semivolatile Organic Compounds (GC/MS SIM)

Lab Sample ID: MB 440-495481/1-A
Matrix: Water
Analysis Batch: 495745

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 495481

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	ND		0.49	0.098	ug/L		08/24/18 07:29	08/26/18 09:53	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,4-Dioxane-d8 (Surr)	*62*		*27 - 120*	*08/24/18 07:29*	*08/26/18 09:53*	*1*

Lab Sample ID: LCS 440-495481/2-A
Matrix: Water
Analysis Batch: 495745

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 495481

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,4-Dioxane	1.98	1.65		ug/L		83	36 - 120

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1,4-Dioxane-d8 (Surr)	*77*		*27 - 120*

Lab Sample ID: LCSD 440-495481/3-A
Matrix: Water
Analysis Batch: 495745

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 495481

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,4-Dioxane	1.97	1.38		ug/L		70	36 - 120	18	35

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
1,4-Dioxane-d8 (Surr)	*65*		*27 - 120*

QC Association Summary

Client: de maximis, inc.
Project/Site: Omega Chemical - Semi Annual GWM 2018

TestAmerica Job ID: 440-218713-1

GC/MS VOA

Analysis Batch: 495779

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-218713-1	OC_GW_PZ-9_20180823	Total/NA	Water	8260B	
MB 440-495779/4	Method Blank	Total/NA	Water	8260B	
LCS 440-495779/5	Lab Control Sample	Total/NA	Water	8260B	
440-218823-C-1 MS	Matrix Spike	Total/NA	Water	8260B	
440-218823-C-1 MSD	Matrix Spike Duplicate	Total/NA	Water	8260B	

GC/MS Semi VOA

Prep Batch: 495481

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-218713-1	OC_GW_PZ-9_20180823	Total/NA	Water	3520C	
MB 440-495481/1-A	Method Blank	Total/NA	Water	3520C	
LCS 440-495481/2-A	Lab Control Sample	Total/NA	Water	3520C	
LCSD 440-495481/3-A	Lab Control Sample Dup	Total/NA	Water	3520C	

Analysis Batch: 495745

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 440-495481/1-A	Method Blank	Total/NA	Water	8270C SIM	495481
LCS 440-495481/2-A	Lab Control Sample	Total/NA	Water	8270C SIM	495481
LCSD 440-495481/3-A	Lab Control Sample Dup	Total/NA	Water	8270C SIM	495481

Analysis Batch: 495803

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-218713-1	OC_GW_PZ-9_20180823	Total/NA	Water	8270C SIM	495481

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

GC/MS VOA TICs

Qualifier	Qualifier Description
J	Indicates an Estimated Value for TICs
T	Result is a tentatively identified compound (TIC) and an estimated value.

GC/MS Semi VOA

Qualifier	Qualifier Description
X	Surrogate is outside control limits

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Accreditation/Certification Summary

Client: de maximis, inc.
Project/Site: Omega Chemical - Semi Annual GWM 2018

TestAmerica Job ID: 440-218713-1

Laboratory: TestAmerica Irvine

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	EPA Region	Identification Number	Expiration Date
California	State Program	9	CA ELAP 2706	06-30-19

The following analytes are included in this report, but accreditation/certification is not offered by the governing authority:

Analysis Method	Prep Method	Matrix	Analyte
8260B		Water	1,1,2-Trichloro-1,2,2-trifluoroethane
8260B		Water	m,p-Xylene
8270C SIM	3520C	Water	1,4-Dioxane

TestAmerica Irvine
17461 Derian Ave
Suite 100
Irvine, CA 92614
phone 949.261.1022 fax

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING
TestAmerica Laboratories, Inc.

Regulatory Program: ☐ DW ☐ NPDES ☐ RCRA ☐ Other

Client Contact	Project Manager: Trent Henderson	Site Contact: Khalid Azhar	Date: 8/23/18	COC No:
De Maximis - Jaime Dinello	Tel/Fax: 949 453 1045/949 453 1047	Lab Contact: Danielle Roberts	Carrier:	1 of 1 COCs
1322 Scott St., Suite 104	Analysis Turnaround Time			Sampler:
San Diego, CA 92106	☐ CALENDAR DAYS ☐ WORKING DAYS			For Lab Use Only:
(562) 756-8149	TAT if different from Below STD			Walk-in Client:
	☐ 2 weeks			Lab Sampling:
Project Name: Omega Chemical - SemiAnn GWM Feb. 2018	☐ 1 week			
Site: Omega Chemical	☐ 2 days			Job / SDG No.:
P O #:	☐ 1 day			

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.	Filtered Sample (Y/N)	Perform MS/MSD (Y/N)	EPA 8260B - VOCs + Freons	EPA 8270C - 1,4 Dioxane	Sample Specific Notes:
OC_GW_P2-9_20180823	8/23/18	0920	Grab	GW	5			x	x	
OC_GW_ _201808			Grab	GW	5			x	x	
OC_GW_ _201808			Grab	GW	5			x	x	
OC_GW_ _201808			Grab	GW	5			x	x	
OC_GW_ _201808			Grab	GW	5			x	x	
OC_GW_ _201808			Grab	GW	5			x	x	
OC_GW_ _201808			Grab	GW	5			x	x	
OC_GW_ _201808			Grab	GW	5			x	x	
OC_GW_ _201808			Grab	GW	5			x	x	
OC_GW_ _201808			Grab	GW	5			x	x	
OC_GW_TB_201808			Grab	H2O	3			x		
OC_GW_ N_201808			Grab	H2O	3			x		

440-218713 Chain of Custody

00/00
8/23/18

Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other _____

Possible Hazard Identification:
Are any samples from a listed EPA Hazardous Waste? Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample

☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)

☐ Return to Client ☐ Disposal by Lab ☐ Archive for _____ Months

Special Instructions/QC Requirements & Comments:

Custody Seals Intact: ☐ Yes ☐ No | Custody Seal No.: | Cooler Temp (°C): Obs'd. 4.2 Corr'd: 4.5 | Therm ID No.: 66

Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
	JHA	8/23/18 1337		TA-IRV	8/23/18 1337
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
	TA-IRV	8/23/18 1830			
Relinquished by:	Company:	Date/Time:	Received in Laboratory by:	Company:	Date/Time:
				TA IRV	8/23/18 1830

Login Sample Receipt Checklist

Client: de maximis, inc.

Job Number: 440-218713-1

Login Number: 218713

List Source: TestAmerica Irvine

List Number: 1

Creator: Soderblom, Tim

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	N/A	Not present
Sample custody seals, if present, are intact.	N/A	Not Present
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	False	Refer to Job Narrative for details.
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.
TestAmerica Irvine
17461 Derian Ave
Suite 100
Irvine, CA 92614-5817
Tel: (949)261-1022

TestAmerica Job ID: 440-218715-1
TestAmerica Sample Delivery Group: Omega Chemical
Client Project/Site: Omega Chemical - Semi Annual GWM 2018

For:
de maximis, inc.
2365 Northside Drive, Suite C-100
San Diego, California 92108

Attn: Jaime Dinello

Authorized for release by:
9/6/2018 3:25:03 PM

Danielle Roberts, Senior Project Manager
(949)261-1022
danielle.roberts@testamericainc.com

LINKS

Review your project results through TotalAccess

Have a Question? Ask The Expert

Visit us at: www.testamericainc.com

The test results in this report meet all 2003 NELAC and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

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Sample Summary

Client: de maximis, inc.
Project/Site: Omega Chemical - Semi Annual GWM 2018

TestAmerica Job ID: 440-218715-1
SDG: Omega Chemical

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
440-218715-1	OC_GW_OW-1B_20180823	Water	08/23/18 10:45	08/23/18 18:30
440-218715-2	OC_GW_OW-9_20180823	Water	08/23/18 12:25	08/23/18 18:30
440-218715-3	OC_GW_OW-9K_20180823	Water	08/23/18 12:25	08/23/18 18:30
440-218715-4	OC_GW_OW-10_20180823	Water	08/23/18 13:15	08/23/18 18:30
440-218715-5	OC_GW_TB_20180823	Water	08/23/18 06:30	08/23/18 18:30
440-218715-6	OC_GW_OW-10N_20180823	Water	08/23/18 13:33	08/23/18 18:30

Job ID: 440-218715-1

Laboratory: TestAmerica Irvine

Narrative

Job Narrative
440-218715-1

Comments
No additional comments.

Receipt
The samples were received on 8/23/2018 6:30 PM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 4.5º C.

Receipt Exceptions

The Field Sampler was not listed on the Chain of Custody.

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

GC/MS Semi VOA
Method(s) 8270C SIM: The following sample required a dilution due to the nature of the sample matrix: OC_GW_OW-9K_20180823 (440-218715-3). Because of this dilution, the surrogate spike concentration in the sample was reduced to a level where the recovery calculation does not provide useful information.

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

Organic Prep
Method(s) 3520C: Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD) associated with 3520C_8270C-SIM-1,4-DXN preparation batch 440-495789.

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

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

Detection Summary

Client: de maximis, inc.
Project/Site: Omega Chemical - Semi Annual GWM 2018

TestAmerica Job ID: 440-218715-1
SDG: Omega Chemical

Client Sample ID: OC_GW_OW-1B_20180823 — Lab Sample ID: 440-218715-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,1,2-Trichloro-1,2,2-trifluoroethane	4.6	J	5.0	0.50	ug/L	1		8260B	Total/NA
Acetone	42		10	10	ug/L	1		8260B	Total/NA
Tetrachloroethene	8.0		1.0	0.25	ug/L	1		8260B	Total/NA
Trichlorofluoromethane	1.6		1.0	0.25	ug/L	1		8260B	Total/NA
1,4-Dioxane	0.53		0.49	0.099	ug/L	1		8270C SIM	Total/NA

Client Sample ID: OC_GW_OW-9_20180823 — Lab Sample ID: 440-218715-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,1,2-Trichloro-1,2,2-trifluoroethane	130		25	2.5	ug/L	5		8260B	Total/NA
1,1,2-Trichloroethane	5.8		5.0	1.3	ug/L	5		8260B	Total/NA
1,1-Dichloroethane	9.8		5.0	1.3	ug/L	5		8260B	Total/NA
1,1-Dichloroethene	310		5.0	1.3	ug/L	5		8260B	Total/NA
1,2-Dichloroethane	78		5.0	1.3	ug/L	5		8260B	Total/NA
Chloroform	320		5.0	1.3	ug/L	5		8260B	Total/NA
cis-1,2-Dichloroethene	4.4	J	5.0	1.3	ug/L	5		8260B	Total/NA
trans-1,2-Dichloroethene	3.7	J	5.0	1.3	ug/L	5		8260B	Total/NA
Trichloroethene	200		5.0	1.3	ug/L	5		8260B	Total/NA
Trichlorofluoromethane	57		5.0	1.3	ug/L	5		8260B	Total/NA
Tetrachloroethene - DL	4000		25	6.3	ug/L	25		8260B	Total/NA
1,4-Dioxane	780		50	10	ug/L	2		8270C SIM	Total/NA

Client Sample ID: OC_GW_OW-9K_20180823 — Lab Sample ID: 440-218715-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,1,2-Trichloro-1,2,2-trifluoroethane	100		25	2.5	ug/L	5		8260B	Total/NA
1,1,2-Trichloroethane	5.0		5.0	1.3	ug/L	5		8260B	Total/NA
1,1-Dichloroethane	8.3		5.0	1.3	ug/L	5		8260B	Total/NA
1,1-Dichloroethene	270		5.0	1.3	ug/L	5		8260B	Total/NA
1,2-Dichloroethane	72		5.0	1.3	ug/L	5		8260B	Total/NA
Chloroform	300		5.0	1.3	ug/L	5		8260B	Total/NA
cis-1,2-Dichloroethene	5.0		5.0	1.3	ug/L	5		8260B	Total/NA
trans-1,2-Dichloroethene	3.2	J	5.0	1.3	ug/L	5		8260B	Total/NA
Trichloroethene	180		5.0	1.3	ug/L	5		8260B	Total/NA
Trichlorofluoromethane	48		5.0	1.3	ug/L	5		8260B	Total/NA
Tetrachloroethene - DL	4100		25	6.3	ug/L	25		8260B	Total/NA
1,4-Dioxane	700		24	4.9	ug/L	50		8270C SIM	Total/NA

Client Sample ID: OC_GW_OW-10_20180823 — Lab Sample ID: 440-218715-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,1,2-Trichloro-1,2,2-trifluoroethane	1.6	J	5.0	0.50	ug/L	1		8260B	Total/NA
1,1-Dichloroethene	11		1.0	0.25	ug/L	1		8260B	Total/NA
Tetrachloroethene	19		1.0	0.25	ug/L	1		8260B	Total/NA
Trichloroethene	1.4		1.0	0.25	ug/L	1		8260B	Total/NA
Trichlorofluoromethane	1.4		1.0	0.25	ug/L	1		8260B	Total/NA
1,4-Dioxane	0.12	J	0.48	0.097	ug/L	1		8270C SIM	Total/NA

Client Sample ID: OC_GW_TB_20180823 — Lab Sample ID: 440-218715-5

No Detections.

This Detection Summary does not include radiochemical test results.

TestAmerica Irvine

Detection Summary

Client: de maximis, inc.
Project/Site: Omega Chemical - Semi Annual GWM 2018

TestAmerica Job ID: 440-218715-1
SDG: Omega Chemical

Client Sample ID: OC_GW_OW-10N_20180823 — Lab Sample ID: 440-218715-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Acetone	30		10	10	ug/L	1		8260B	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample Results

Client: de maximis, inc.
Project/Site: Omega Chemical - Semi Annual GWM 2018

TestAmerica Job ID: 440-218715-1
SDG: Omega Chemical

Client Sample ID: OC_GW_OW-1B_20180823

Lab Sample ID: 440-218715-1

Date Collected: 08/23/18 10:45
Matrix: Water
Date Received: 08/23/18 18:30

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		1.0	0.25	ug/L			08/27/18 12:45	1
1,1,1-Trichloroethane	ND		1.0	0.25	ug/L			08/27/18 12:45	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.25	ug/L			08/27/18 12:45	1
1,1,2-Trichloro-1,2,2-trifluoroethane	**4.6**	**J**	5.0	0.50	ug/L			08/27/18 12:45	1
1,1,2-Trichloroethane	ND		1.0	0.25	ug/L			08/27/18 12:45	1
1,1-Dichloroethane	ND		1.0	0.25	ug/L			08/27/18 12:45	1
1,1-Dichloroethene	ND		1.0	0.25	ug/L			08/27/18 12:45	1
1,1-Dichloropropene	ND		1.0	0.25	ug/L			08/27/18 12:45	1
1,2,3-Trichlorobenzene	ND		1.0	0.40	ug/L			08/27/18 12:45	1
1,2,3-Trichloropropane	ND		1.0	0.40	ug/L			08/27/18 12:45	1
1,2,4-Trichlorobenzene	ND		1.0	0.40	ug/L			08/27/18 12:45	1
1,2,4-Trimethylbenzene	ND		1.0	0.25	ug/L			08/27/18 12:45	1
1,2-Dibromo-3-Chloropropane	ND		5.0	0.50	ug/L			08/27/18 12:45	1
1,2-Dibromoethane (EDB)	ND		1.0	0.25	ug/L			08/27/18 12:45	1
1,2-Dichlorobenzene	ND		1.0	0.25	ug/L			08/27/18 12:45	1
1,2-Dichloroethane	ND		1.0	0.25	ug/L			08/27/18 12:45	1
1,2-Dichloropropane	ND		1.0	0.25	ug/L			08/27/18 12:45	1
1,3,5-Trimethylbenzene	ND		1.0	0.25	ug/L			08/27/18 12:45	1
1,3-Dichlorobenzene	ND		1.0	0.25	ug/L			08/27/18 12:45	1
1,3-Dichloropropane	ND		1.0	0.25	ug/L			08/27/18 12:45	1
1,4-Dichlorobenzene	ND		1.0	0.25	ug/L			08/27/18 12:45	1
2,2-Dichloropropane	ND		1.0	0.40	ug/L			08/27/18 12:45	1
2-Chlorotoluene	ND		1.0	0.25	ug/L			08/27/18 12:45	1
4-Chlorotoluene	ND		1.0	0.25	ug/L			08/27/18 12:45	1
Acetone	**42**		10	10	ug/L			08/27/18 12:45	1
Benzene	ND		0.50	0.25	ug/L			08/27/18 12:45	1
Bromobenzene	ND		1.0	0.25	ug/L			08/27/18 12:45	1
Bromochloromethane	ND		1.0	0.25	ug/L			08/27/18 12:45	1
Bromodichloromethane	ND		1.0	0.25	ug/L			08/27/18 12:45	1
Bromoform	ND		1.0	0.40	ug/L			08/27/18 12:45	1
Bromomethane	ND		1.0	0.25	ug/L			08/27/18 12:45	1
Carbon tetrachloride	ND		0.50	0.25	ug/L			08/27/18 12:45	1
Chlorobenzene	ND		1.0	0.25	ug/L			08/27/18 12:45	1
Chloroethane	ND		1.0	0.40	ug/L			08/27/18 12:45	1
Chloroform	ND		1.0	0.25	ug/L			08/27/18 12:45	1
Chloromethane	ND		1.0	0.25	ug/L			08/27/18 12:45	1
cis-1,2-Dichloroethene	ND		1.0	0.25	ug/L			08/27/18 12:45	1
cis-1,3-Dichloropropene	ND		0.50	0.25	ug/L			08/27/18 12:45	1
Dibromochloromethane	ND		1.0	0.25	ug/L			08/27/18 12:45	1
Dibromomethane	ND		1.0	0.25	ug/L			08/27/18 12:45	1
Dichlorodifluoromethane	ND		1.0	0.40	ug/L			08/27/18 12:45	1
Ethylbenzene	ND		1.0	0.25	ug/L			08/27/18 12:45	1
Hexachlorobutadiene	ND		1.0	0.25	ug/L			08/27/18 12:45	1
Isopropylbenzene	ND		1.0	0.25	ug/L			08/27/18 12:45	1
m,p-Xylene	ND		1.0	0.50	ug/L			08/27/18 12:45	1
Methylene Chloride	ND		5.0	0.88	ug/L			08/27/18 12:45	1
Methyl-t-Butyl Ether (MTBE)	ND		1.0	0.25	ug/L			08/27/18 12:45	1
Naphthalene	ND		1.0	0.40	ug/L			08/27/18 12:45	1

Client Sample Results

Client: de maximis, inc.
Project/Site: Omega Chemical - Semi Annual GWM 2018

TestAmerica Job ID: 440-218715-1
SDG: Omega Chemical

Client Sample ID: OC_GW_OW-1B_20180823

Lab Sample ID: 440-218715-1

Date Collected: 08/23/18 10:45
Matrix: Water
Date Received: 08/23/18 18:30

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
n-Butylbenzene	ND		1.0	0.40	ug/L			08/27/18 12:45	1
N-Propylbenzene	ND		1.0	0.25	ug/L			08/27/18 12:45	1
o-Xylene	ND		1.0	0.25	ug/L			08/27/18 12:45	1
p-Isopropyltoluene	ND		1.0	0.25	ug/L			08/27/18 12:45	1
sec-Butylbenzene	ND		1.0	0.25	ug/L			08/27/18 12:45	1
Styrene	ND		1.0	0.25	ug/L			08/27/18 12:45	1
tert-Butylbenzene	ND		1.0	0.25	ug/L			08/27/18 12:45	1
Tetrachloroethene	**8.0**		1.0	0.25	ug/L			08/27/18 12:45	1
Toluene	ND		1.0	0.25	ug/L			08/27/18 12:45	1
trans-1,2-Dichloroethene	ND		1.0	0.25	ug/L			08/27/18 12:45	1
trans-1,3-Dichloropropene	ND		0.50	0.25	ug/L			08/27/18 12:45	1
Trichloroethene	ND		1.0	0.25	ug/L			08/27/18 12:45	1
Trichlorofluoromethane	**1.6**		1.0	0.25	ug/L			08/27/18 12:45	1
Vinyl chloride	ND		0.50	0.25	ug/L			08/27/18 12:45	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Unknown	*13*	*T J*	*ug/L*		*1.66*			*08/27/18 12:45*	*1*
Unknown	*780*	*T J*	*ug/L*		*1.76*			*08/27/18 12:45*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*93*		*70 - 130*		*08/27/18 12:45*	*1*
4-Bromofluorobenzene (Surr)	*100*		*80 - 120*		*08/27/18 12:45*	*1*
Dibromofluoromethane (Surr)	*93*		*76 - 132*		*08/27/18 12:45*	*1*
Toluene-d8 (Surr)	*111*		*80 - 128*		*08/27/18 12:45*	*1*

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Isopropyl alcohol	ND		250	180	ug/L			08/30/18 22:54	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Unknown	*15*	*T J*	*ug/L*		*16.70*			*08/30/18 22:54*	*1*
Unknown	*3.6*	*T J*	*ug/L*		*17.72*			*08/30/18 22:54*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*97*		*70 - 130*		*08/30/18 22:54*	*1*
4-Bromofluorobenzene (Surr)	*95*		*80 - 120*		*08/30/18 22:54*	*1*
Dibromofluoromethane (Surr)	*102*		*76 - 132*		*08/30/18 22:54*	*1*
Toluene-d8 (Surr)	*106*		*80 - 128*		*08/30/18 22:54*	*1*

Method: 8270C SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	**0.53**		0.49	0.099	ug/L		08/27/18 07:16	08/28/18 15:08	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,4-Dioxane-d8 (Surr)	*49*		*27 - 120*	*08/27/18 07:16*	*08/28/18 15:08*	*1*

Client Sample Results

Client: de maximis, inc.
Project/Site: Omega Chemical - Semi Annual GWM 2018

TestAmerica Job ID: 440-218715-1
SDG: Omega Chemical

Client Sample ID: OC_GW_OW-9_20180823

Lab Sample ID: 440-218715-2

Date Collected: 08/23/18 12:25
Matrix: Water
Date Received: 08/23/18 18:30

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		5.0	1.3	ug/L			08/31/18 00:13	5
1,1,1-Trichloroethane	ND		5.0	1.3	ug/L			08/31/18 00:13	5
1,1,2,2-Tetrachloroethane	ND		5.0	1.3	ug/L			08/31/18 00:13	5
1,1,2-Trichloro-1,2,2-trifluoroethane	**130**		25	2.5	ug/L			08/31/18 00:13	5
1,1,2-Trichloroethane	**5.8**		5.0	1.3	ug/L			08/31/18 00:13	5
1,1-Dichloroethane	**9.8**		5.0	1.3	ug/L			08/31/18 00:13	5
1,1-Dichloroethene	**310**		5.0	1.3	ug/L			08/31/18 00:13	5
1,1-Dichloropropene	ND		5.0	1.3	ug/L			08/31/18 00:13	5
1,2,3-Trichlorobenzene	ND		5.0	2.0	ug/L			08/31/18 00:13	5
1,2,3-Trichloropropane	ND		5.0	2.0	ug/L			08/31/18 00:13	5
1,2,4-Trichlorobenzene	ND		5.0	2.0	ug/L			08/31/18 00:13	5
1,2,4-Trimethylbenzene	ND		5.0	1.3	ug/L			08/31/18 00:13	5
1,2-Dibromo-3-Chloropropane	ND		25	2.5	ug/L			08/31/18 00:13	5
1,2-Dibromoethane (EDB)	ND		5.0	1.3	ug/L			08/31/18 00:13	5
1,2-Dichloroethane	**78**		5.0	1.3	ug/L			08/31/18 00:13	5
1,2-Dichloropropane	ND		5.0	1.3	ug/L			08/31/18 00:13	5
1,3,5-Trimethylbenzene	ND		5.0	1.3	ug/L			08/31/18 00:13	5
1,3-Dichlorobenzene	ND		5.0	1.3	ug/L			08/31/18 00:13	5
1,3-Dichloropropane	ND		5.0	1.3	ug/L			08/31/18 00:13	5
1,4-Dichlorobenzene	ND		5.0	1.3	ug/L			08/31/18 00:13	5
2,2-Dichloropropane	ND		5.0	2.0	ug/L			08/31/18 00:13	5
2-Chlorotoluene	ND		5.0	1.3	ug/L			08/31/18 00:13	5
4-Chlorotoluene	ND		5.0	1.3	ug/L			08/31/18 00:13	5
Acetone	ND		50	50	ug/L			08/31/18 00:13	5
Benzene	ND		2.5	1.3	ug/L			08/31/18 00:13	5
Bromobenzene	ND		5.0	1.3	ug/L			08/31/18 00:13	5
Bromochloromethane	ND		5.0	1.3	ug/L			08/31/18 00:13	5
Bromodichloromethane	ND		5.0	1.3	ug/L			08/31/18 00:13	5
Bromoform	ND		5.0	2.0	ug/L			08/31/18 00:13	5
Bromomethane	ND		5.0	1.3	ug/L			08/31/18 00:13	5
Carbon tetrachloride	ND		2.5	1.3	ug/L			08/31/18 00:13	5
Chlorobenzene	ND		5.0	1.3	ug/L			08/31/18 00:13	5
Chloroethane	ND		5.0	2.0	ug/L			08/31/18 00:13	5
Chloroform	**320**		5.0	1.3	ug/L			08/31/18 00:13	5
Chloromethane	ND		5.0	1.3	ug/L			08/31/18 00:13	5
cis-1,2-Dichloroethene	**4.4**	**J**	5.0	1.3	ug/L			08/31/18 00:13	5
cis-1,3-Dichloropropene	ND		2.5	1.3	ug/L			08/31/18 00:13	5
Dibromochloromethane	ND		5.0	1.3	ug/L			08/31/18 00:13	5
Dibromomethane	ND		5.0	1.3	ug/L			08/31/18 00:13	5
Dichlorodifluoromethane	ND		5.0	2.0	ug/L			08/31/18 00:13	5
Ethylbenzene	ND		5.0	1.3	ug/L			08/31/18 00:13	5
Hexachlorobutadiene	ND		5.0	1.3	ug/L			08/31/18 00:13	5
Isopropyl alcohol	ND		1300	880	ug/L			08/31/18 00:13	5
Isopropylbenzene	ND		5.0	1.3	ug/L			08/31/18 00:13	5
m,p-Xylene	ND		5.0	2.5	ug/L			08/31/18 00:13	5
Methylene Chloride	ND		25	4.4	ug/L			08/31/18 00:13	5
Methyl-t-Butyl Ether (MTBE)	ND		5.0	1.3	ug/L			08/31/18 00:13	5
n-Butylbenzene	ND		5.0	2.0	ug/L			08/31/18 00:13	5
N-Propylbenzene	ND		5.0	1.3	ug/L			08/31/18 00:13	5

Client Sample ID: OC_GW_OW-9_20180823

Lab Sample ID: 440-218715-2

Date Collected: 08/23/18 12:25
Matrix: Water
Date Received: 08/23/18 18:30

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
o-Xylene	ND		5.0	1.3	ug/L			08/31/18 00:13	5
p-Isopropyltoluene	ND		5.0	1.3	ug/L			08/31/18 00:13	5
sec-Butylbenzene	ND		5.0	1.3	ug/L			08/31/18 00:13	5
Styrene	ND		5.0	1.3	ug/L			08/31/18 00:13	5
tert-Butylbenzene	ND		5.0	1.3	ug/L			08/31/18 00:13	5
Toluene	ND		5.0	1.3	ug/L			08/31/18 00:13	5
trans-1,2-Dichloroethene	**3.7**	**J**	5.0	1.3	ug/L			08/31/18 00:13	5
trans-1,3-Dichloropropene	ND		2.5	1.3	ug/L			08/31/18 00:13	5
Trichloroethene	**200**		5.0	1.3	ug/L			08/31/18 00:13	5
Trichlorofluoromethane	**57**		5.0	1.3	ug/L			08/31/18 00:13	5
Vinyl chloride	ND		2.5	1.3	ug/L			08/31/18 00:13	5

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Tentatively Identified Compound	*None*		*ug/L*					*08/31/18 00:13*	*5*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*96*		*70 - 130*		*08/31/18 00:13*	*5*
4-Bromofluorobenzene (Surr)	*96*		*80 - 120*		*08/31/18 00:13*	*5*
Dibromofluoromethane (Surr)	*103*		*76 - 132*		*08/31/18 00:13*	*5*
Toluene-d8 (Surr)	*105*		*80 - 128*		*08/31/18 00:13*	*5*

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Tetrachloroethene	**4000**		25	6.3	ug/L			08/27/18 13:15	25

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Unknown	*280*	*T J*	*ug/L*		*1.66*			*08/27/18 13:15*	*25*
Unknown	*2500*	*T J*	*ug/L*		*1.77*			*08/27/18 13:15*	*25*
Unknown	*81*	*T J*	*ug/L*		*15.19*			*08/27/18 13:15*	*25*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*91*		*70 - 130*		*08/27/18 13:15*	*25*
4-Bromofluorobenzene (Surr)	*98*		*80 - 120*		*08/27/18 13:15*	*25*
Dibromofluoromethane (Surr)	*96*		*76 - 132*		*08/27/18 13:15*	*25*
Toluene-d8 (Surr)	*105*		*80 - 128*		*08/27/18 13:15*	*25*

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dichlorobenzene	ND		5.0	1.3	ug/L			08/31/18 13:47	5
Naphthalene	ND		5.0	2.0	ug/L			08/31/18 13:47	5

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Unknown	*59*	*T J*	*ug/L*		*1.67*			*08/31/18 13:47*	*5*
Unknown	*1200*	*T J*	*ug/L*		*1.72*			*08/31/18 13:47*	*5*
Unknown	*59*	*T J*	*ug/L*		*8.59*			*08/31/18 13:47*	*5*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*96*		*70 - 130*		*08/31/18 13:47*	*5*
4-Bromofluorobenzene (Surr)	*101*		*80 - 120*		*08/31/18 13:47*	*5*
Dibromofluoromethane (Surr)	*96*		*76 - 132*		*08/31/18 13:47*	*5*
Toluene-d8 (Surr)	*106*		*80 - 128*		*08/31/18 13:47*	*5*

Client Sample Results

Client: de maximis, inc.
Project/Site: Omega Chemical - Semi Annual GWM 2018

TestAmerica Job ID: 440-218715-1
SDG: Omega Chemical

Client Sample ID: OC_GW_OW-9_20180823

Lab Sample ID: 440-218715-2
Date Collected: 08/23/18 12:25
Matrix: Water
Date Received: 08/23/18 18:30

Method: 8270C SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	**780**		50	10	ug/L		08/27/18 07:16	08/28/18 15:30	2

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,4-Dioxane-d8 (Surr)	*53*		*27 - 120*	*08/27/18 07:16*	*08/28/18 15:30*	*2*

Client Sample ID: OC_GW_OW-9K_20180823

Lab Sample ID: 440-218715-3
Date Collected: 08/23/18 12:25
Matrix: Water
Date Received: 08/23/18 18:30

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		5.0	1.3	ug/L			08/31/18 00:40	5
1,1,1-Trichloroethane	ND		5.0	1.3	ug/L			08/31/18 00:40	5
1,1,2,2-Tetrachloroethane	ND		5.0	1.3	ug/L			08/31/18 00:40	5
1,1,2-Trichloro-1,2,2-trifluoroethane	**100**		25	2.5	ug/L			08/31/18 00:40	5
1,1,2-Trichloroethane	**5.0**		5.0	1.3	ug/L			08/31/18 00:40	5
1,1-Dichloroethane	**8.3**		5.0	1.3	ug/L			08/31/18 00:40	5
1,1-Dichloroethene	**270**		5.0	1.3	ug/L			08/31/18 00:40	5
1,1-Dichloropropene	ND		5.0	1.3	ug/L			08/31/18 00:40	5
1,2,3-Trichlorobenzene	ND		5.0	2.0	ug/L			08/31/18 00:40	5
1,2,3-Trichloropropane	ND		5.0	2.0	ug/L			08/31/18 00:40	5
1,2,4-Trichlorobenzene	ND		5.0	2.0	ug/L			08/31/18 00:40	5
1,2,4-Trimethylbenzene	ND		5.0	1.3	ug/L			08/31/18 00:40	5
1,2-Dibromo-3-Chloropropane	ND		25	2.5	ug/L			08/31/18 00:40	5
1,2-Dibromoethane (EDB)	ND		5.0	1.3	ug/L			08/31/18 00:40	5
1,2-Dichlorobenzene	ND		5.0	1.3	ug/L			08/31/18 00:40	5
1,2-Dichloroethane	**72**		5.0	1.3	ug/L			08/31/18 00:40	5
1,2-Dichloropropane	ND		5.0	1.3	ug/L			08/31/18 00:40	5
1,3,5-Trimethylbenzene	ND		5.0	1.3	ug/L			08/31/18 00:40	5
1,3-Dichlorobenzene	ND		5.0	1.3	ug/L			08/31/18 00:40	5
1,3-Dichloropropane	ND		5.0	1.3	ug/L			08/31/18 00:40	5
1,4-Dichlorobenzene	ND		5.0	1.3	ug/L			08/31/18 00:40	5
2,2-Dichloropropane	ND		5.0	2.0	ug/L			08/31/18 00:40	5
2-Chlorotoluene	ND		5.0	1.3	ug/L			08/31/18 00:40	5
4-Chlorotoluene	ND		5.0	1.3	ug/L			08/31/18 00:40	5
Acetone	ND		50	50	ug/L			08/31/18 00:40	5
Benzene	ND		2.5	1.3	ug/L			08/31/18 00:40	5
Bromobenzene	ND		5.0	1.3	ug/L			08/31/18 00:40	5
Bromochloromethane	ND		5.0	1.3	ug/L			08/31/18 00:40	5
Bromodichloromethane	ND		5.0	1.3	ug/L			08/31/18 00:40	5
Bromoform	ND		5.0	2.0	ug/L			08/31/18 00:40	5
Bromomethane	ND		5.0	1.3	ug/L			08/31/18 00:40	5
Carbon tetrachloride	ND		2.5	1.3	ug/L			08/31/18 00:40	5
Chlorobenzene	ND		5.0	1.3	ug/L			08/31/18 00:40	5
Chloroethane	ND		5.0	2.0	ug/L			08/31/18 00:40	5
Chloroform	**300**		5.0	1.3	ug/L			08/31/18 00:40	5
Chloromethane	ND		5.0	1.3	ug/L			08/31/18 00:40	5
cis-1,2-Dichloroethene	**5.0**		5.0	1.3	ug/L			08/31/18 00:40	5
cis-1,3-Dichloropropene	ND		2.5	1.3	ug/L			08/31/18 00:40	5

Client Sample ID: OC_GW_OW-9K_20180823

Lab Sample ID: 440-218715-3

Date Collected: 08/23/18 12:25
Matrix: Water
Date Received: 08/23/18 18:30

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dibromochloromethane	ND		5.0	1.3	ug/L			08/31/18 00:40	5
Dibromomethane	ND		5.0	1.3	ug/L			08/31/18 00:40	5
Dichlorodifluoromethane	ND		5.0	2.0	ug/L			08/31/18 00:40	5
Ethylbenzene	ND		5.0	1.3	ug/L			08/31/18 00:40	5
Hexachlorobutadiene	ND		5.0	1.3	ug/L			08/31/18 00:40	5
Isopropyl alcohol	ND		1300	880	ug/L			08/31/18 00:40	5
Isopropylbenzene	ND		5.0	1.3	ug/L			08/31/18 00:40	5
m,p-Xylene	ND		5.0	2.5	ug/L			08/31/18 00:40	5
Methylene Chloride	ND		25	4.4	ug/L			08/31/18 00:40	5
Methyl-t-Butyl Ether (MTBE)	ND		5.0	1.3	ug/L			08/31/18 00:40	5
Naphthalene	ND		5.0	2.0	ug/L			08/31/18 00:40	5
n-Butylbenzene	ND		5.0	2.0	ug/L			08/31/18 00:40	5
N-Propylbenzene	ND		5.0	1.3	ug/L			08/31/18 00:40	5
o-Xylene	ND		5.0	1.3	ug/L			08/31/18 00:40	5
p-Isopropyltoluene	ND		5.0	1.3	ug/L			08/31/18 00:40	5
sec-Butylbenzene	ND		5.0	1.3	ug/L			08/31/18 00:40	5
Styrene	ND		5.0	1.3	ug/L			08/31/18 00:40	5
tert-Butylbenzene	ND		5.0	1.3	ug/L			08/31/18 00:40	5
Toluene	ND		5.0	1.3	ug/L			08/31/18 00:40	5
trans-1,2-Dichloroethene	**3.2**	**J**	5.0	1.3	ug/L			08/31/18 00:40	5
trans-1,3-Dichloropropene	ND		2.5	1.3	ug/L			08/31/18 00:40	5
Trichloroethene	**180**		5.0	1.3	ug/L			08/31/18 00:40	5
Trichlorofluoromethane	**48**		5.0	1.3	ug/L			08/31/18 00:40	5
Vinyl chloride	ND		2.5	1.3	ug/L			08/31/18 00:40	5

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Unknown	*22*	*T J*	*ug/L*		*15.03*			*08/31/18 00:40*	*5*
Unknown	*73*	*T J*	*ug/L*		*17.13*			*08/31/18 00:40*	*5*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*96*		*70 - 130*		*08/31/18 00:40*	*5*
4-Bromofluorobenzene (Surr)	*95*		*80 - 120*		*08/31/18 00:40*	*5*
Dibromofluoromethane (Surr)	*103*		*76 - 132*		*08/31/18 00:40*	*5*
Toluene-d8 (Surr)	*105*		*80 - 128*		*08/31/18 00:40*	*5*

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Tetrachloroethene	**4100**		25	6.3	ug/L			08/27/18 13:43	25

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Unknown	*310*	*T J*	*ug/L*		*1.67*			*08/27/18 13:43*	*25*
Unknown	*2600*	*T J*	*ug/L*		*1.76*			*08/27/18 13:43*	*25*
Unknown	*65*	*T J*	*ug/L*		*8.59*			*08/27/18 13:43*	*25*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*95*		*70 - 130*		*08/27/18 13:43*	*25*
4-Bromofluorobenzene (Surr)	*98*		*80 - 120*		*08/27/18 13:43*	*25*
Dibromofluoromethane (Surr)	*94*		*76 - 132*		*08/27/18 13:43*	*25*
Toluene-d8 (Surr)	*106*		*80 - 128*		*08/27/18 13:43*	*25*

Client Sample Results

Client: de maximis, inc.
Project/Site: Omega Chemical - Semi Annual GWM 2018

TestAmerica Job ID: 440-218715-1
SDG: Omega Chemical

Client Sample ID: OC_GW_OW-9K_20180823

Lab Sample ID: 440-218715-3
Date Collected: 08/23/18 12:25
Matrix: Water
Date Received: 08/23/18 18:30

Method: 8270C SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	**700**		24	4.9	ug/L		08/27/18 07:16	08/29/18 09:50	50

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,4-Dioxane-d8 (Surr)	*0*	*X*	*27 - 120*	*08/27/18 07:16*	*08/29/18 09:50*	*50*

Client Sample ID: OC_GW_OW-10_20180823

Lab Sample ID: 440-218715-4
Date Collected: 08/23/18 13:15
Matrix: Water
Date Received: 08/23/18 18:30

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		1.0	0.25	ug/L			08/27/18 14:11	1
1,1,1-Trichloroethane	ND		1.0	0.25	ug/L			08/27/18 14:11	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.25	ug/L			08/27/18 14:11	1
1,1,2-Trichloro-1,2,2-trifluoroethane	**1.6**	**J**	5.0	0.50	ug/L			08/27/18 14:11	1
1,1,2-Trichloroethane	ND		1.0	0.25	ug/L			08/27/18 14:11	1
1,1-Dichloroethane	ND		1.0	0.25	ug/L			08/27/18 14:11	1
1,1-Dichloroethene	**11**		1.0	0.25	ug/L			08/27/18 14:11	1
1,1-Dichloropropene	ND		1.0	0.25	ug/L			08/27/18 14:11	1
1,2,3-Trichlorobenzene	ND		1.0	0.40	ug/L			08/27/18 14:11	1
1,2,3-Trichloropropane	ND		1.0	0.40	ug/L			08/27/18 14:11	1
1,2,4-Trichlorobenzene	ND		1.0	0.40	ug/L			08/27/18 14:11	1
1,2,4-Trimethylbenzene	ND		1.0	0.25	ug/L			08/27/18 14:11	1
1,2-Dibromo-3-Chloropropane	ND		5.0	0.50	ug/L			08/27/18 14:11	1
1,2-Dibromoethane (EDB)	ND		1.0	0.25	ug/L			08/27/18 14:11	1
1,2-Dichlorobenzene	ND		1.0	0.25	ug/L			08/27/18 14:11	1
1,2-Dichloroethane	ND		1.0	0.25	ug/L			08/27/18 14:11	1
1,2-Dichloropropane	ND		1.0	0.25	ug/L			08/27/18 14:11	1
1,3,5-Trimethylbenzene	ND		1.0	0.25	ug/L			08/27/18 14:11	1
1,3-Dichlorobenzene	ND		1.0	0.25	ug/L			08/27/18 14:11	1
1,3-Dichloropropane	ND		1.0	0.25	ug/L			08/27/18 14:11	1
1,4-Dichlorobenzene	ND		1.0	0.25	ug/L			08/27/18 14:11	1
2,2-Dichloropropane	ND		1.0	0.40	ug/L			08/27/18 14:11	1
2-Chlorotoluene	ND		1.0	0.25	ug/L			08/27/18 14:11	1
4-Chlorotoluene	ND		1.0	0.25	ug/L			08/27/18 14:11	1
Acetone	ND		10	10	ug/L			08/27/18 14:11	1
Benzene	ND		0.50	0.25	ug/L			08/27/18 14:11	1
Bromobenzene	ND		1.0	0.25	ug/L			08/27/18 14:11	1
Bromochloromethane	ND		1.0	0.25	ug/L			08/27/18 14:11	1
Bromodichloromethane	ND		1.0	0.25	ug/L			08/27/18 14:11	1
Bromoform	ND		1.0	0.40	ug/L			08/27/18 14:11	1
Bromomethane	ND		1.0	0.25	ug/L			08/27/18 14:11	1
Carbon tetrachloride	ND		0.50	0.25	ug/L			08/27/18 14:11	1
Chlorobenzene	ND		1.0	0.25	ug/L			08/27/18 14:11	1
Chloroethane	ND		1.0	0.40	ug/L			08/27/18 14:11	1
Chloroform	ND		1.0	0.25	ug/L			08/27/18 14:11	1
Chloromethane	ND		1.0	0.25	ug/L			08/27/18 14:11	1
cis-1,2-Dichloroethene	ND		1.0	0.25	ug/L			08/27/18 14:11	1
cis-1,3-Dichloropropene	ND		0.50	0.25	ug/L			08/27/18 14:11	1

Client Sample ID: OC_GW_OW-10_20180823

Lab Sample ID: 440-218715-4

Date Collected: 08/23/18 13:15
Matrix: Water
Date Received: 08/23/18 18:30

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dibromochloromethane	ND		1.0	0.25	ug/L			08/27/18 14:11	1
Dibromomethane	ND		1.0	0.25	ug/L			08/27/18 14:11	1
Dichlorodifluoromethane	ND		1.0	0.40	ug/L			08/27/18 14:11	1
Ethylbenzene	ND		1.0	0.25	ug/L			08/27/18 14:11	1
Hexachlorobutadiene	ND		1.0	0.25	ug/L			08/27/18 14:11	1
Isopropylbenzene	ND		1.0	0.25	ug/L			08/27/18 14:11	1
m,p-Xylene	ND		1.0	0.50	ug/L			08/27/18 14:11	1
Methylene Chloride	ND		5.0	0.88	ug/L			08/27/18 14:11	1
Methyl-t-Butyl Ether (MTBE)	ND		1.0	0.25	ug/L			08/27/18 14:11	1
Naphthalene	ND		1.0	0.40	ug/L			08/27/18 14:11	1
n-Butylbenzene	ND		1.0	0.40	ug/L			08/27/18 14:11	1
N-Propylbenzene	ND		1.0	0.25	ug/L			08/27/18 14:11	1
o-Xylene	ND		1.0	0.25	ug/L			08/27/18 14:11	1
p-Isopropyltoluene	ND		1.0	0.25	ug/L			08/27/18 14:11	1
sec-Butylbenzene	ND		1.0	0.25	ug/L			08/27/18 14:11	1
Styrene	ND		1.0	0.25	ug/L			08/27/18 14:11	1
tert-Butylbenzene	ND		1.0	0.25	ug/L			08/27/18 14:11	1
Tetrachloroethene	**19**		1.0	0.25	ug/L			08/27/18 14:11	1
Toluene	ND		1.0	0.25	ug/L			08/27/18 14:11	1
trans-1,2-Dichloroethene	ND		1.0	0.25	ug/L			08/27/18 14:11	1
trans-1,3-Dichloropropene	ND		0.50	0.25	ug/L			08/27/18 14:11	1
Trichloroethene	**1.4**		1.0	0.25	ug/L			08/27/18 14:11	1
Trichlorofluoromethane	**1.4**		1.0	0.25	ug/L			08/27/18 14:11	1
Vinyl chloride	ND		0.50	0.25	ug/L			08/27/18 14:11	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Unknown	*14*	*T J*	*ug/L*		*1.67*			*08/27/18 14:11*	*1*
Unknown	*1200*	*T J*	*ug/L*		*1.75*			*08/27/18 14:11*	*1*
Unknown	*2.5*	*T J*	*ug/L*		*3.18*			*08/27/18 14:11*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*95*		*70 - 130*		*08/27/18 14:11*	*1*
4-Bromofluorobenzene (Surr)	*98*		*80 - 120*		*08/27/18 14:11*	*1*
Dibromofluoromethane (Surr)	*99*		*76 - 132*		*08/27/18 14:11*	*1*
Toluene-d8 (Surr)	*105*		*80 - 128*		*08/27/18 14:11*	*1*

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Isopropyl alcohol	ND		250	180	ug/L			08/31/18 01:06	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Unknown	*3.3*	*T J*	*ug/L*		*16.92*			*08/31/18 01:06*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*101*		*70 - 130*		*08/31/18 01:06*	*1*
4-Bromofluorobenzene (Surr)	*96*		*80 - 120*		*08/31/18 01:06*	*1*
Dibromofluoromethane (Surr)	*104*		*76 - 132*		*08/31/18 01:06*	*1*
Toluene-d8 (Surr)	*104*		*80 - 128*		*08/31/18 01:06*	*1*

Client Sample Results

Client: de maximis, inc.
Project/Site: Omega Chemical - Semi Annual GWM 2018

TestAmerica Job ID: 440-218715-1
SDG: Omega Chemical

Client Sample ID: OC_GW_OW-10_20180823

Lab Sample ID: 440-218715-4
Date Collected: 08/23/18 13:15
Matrix: Water
Date Received: 08/23/18 18:30

Method: 8270C SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	0.12	J	0.48	0.097	ug/L		08/27/18 07:16	08/28/18 16:16	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,4-Dioxane-d8 (Surr)	*57*		*27 - 120*	*08/27/18 07:16*	*08/28/18 16:16*	*1*

Client Sample ID: OC_GW_TB_20180823

Lab Sample ID: 440-218715-5
Date Collected: 08/23/18 06:30
Matrix: Water
Date Received: 08/23/18 18:30

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		1.0	0.25	ug/L			08/27/18 10:23	1
1,1,1-Trichloroethane	ND		1.0	0.25	ug/L			08/27/18 10:23	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.25	ug/L			08/27/18 10:23	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		5.0	0.50	ug/L			08/27/18 10:23	1
1,1,2-Trichloroethane	ND		1.0	0.25	ug/L			08/27/18 10:23	1
1,1-Dichloroethane	ND		1.0	0.25	ug/L			08/27/18 10:23	1
1,1-Dichloroethene	ND		1.0	0.25	ug/L			08/27/18 10:23	1
1,1-Dichloropropene	ND		1.0	0.25	ug/L			08/27/18 10:23	1
1,2,3-Trichlorobenzene	ND		1.0	0.40	ug/L			08/27/18 10:23	1
1,2,3-Trichloropropane	ND		1.0	0.40	ug/L			08/27/18 10:23	1
1,2,4-Trichlorobenzene	ND		1.0	0.40	ug/L			08/27/18 10:23	1
1,2,4-Trimethylbenzene	ND		1.0	0.25	ug/L			08/27/18 10:23	1
1,2-Dibromo-3-Chloropropane	ND		5.0	0.50	ug/L			08/27/18 10:23	1
1,2-Dibromoethane (EDB)	ND		1.0	0.25	ug/L			08/27/18 10:23	1
1,2-Dichlorobenzene	ND		1.0	0.25	ug/L			08/27/18 10:23	1
1,2-Dichloroethane	ND		1.0	0.25	ug/L			08/27/18 10:23	1
1,2-Dichloropropane	ND		1.0	0.25	ug/L			08/27/18 10:23	1
1,3,5-Trimethylbenzene	ND		1.0	0.25	ug/L			08/27/18 10:23	1
1,3-Dichlorobenzene	ND		1.0	0.25	ug/L			08/27/18 10:23	1
1,3-Dichloropropane	ND		1.0	0.25	ug/L			08/27/18 10:23	1
1,4-Dichlorobenzene	ND		1.0	0.25	ug/L			08/27/18 10:23	1
2,2-Dichloropropane	ND		1.0	0.40	ug/L			08/27/18 10:23	1
2-Chlorotoluene	ND		1.0	0.25	ug/L			08/27/18 10:23	1
4-Chlorotoluene	ND		1.0	0.25	ug/L			08/27/18 10:23	1
Acetone	ND		10	10	ug/L			08/27/18 10:23	1
Benzene	ND		0.50	0.25	ug/L			08/27/18 10:23	1
Bromobenzene	ND		1.0	0.25	ug/L			08/27/18 10:23	1
Bromochloromethane	ND		1.0	0.25	ug/L			08/27/18 10:23	1
Bromodichloromethane	ND		1.0	0.25	ug/L			08/27/18 10:23	1
Bromoform	ND		1.0	0.40	ug/L			08/27/18 10:23	1
Bromomethane	ND		1.0	0.25	ug/L			08/27/18 10:23	1
Carbon tetrachloride	ND		0.50	0.25	ug/L			08/27/18 10:23	1
Chlorobenzene	ND		1.0	0.25	ug/L			08/27/18 10:23	1
Chloroethane	ND		1.0	0.40	ug/L			08/27/18 10:23	1
Chloroform	ND		1.0	0.25	ug/L			08/27/18 10:23	1
Chloromethane	ND		1.0	0.25	ug/L			08/27/18 10:23	1
cis-1,2-Dichloroethene	ND		1.0	0.25	ug/L			08/27/18 10:23	1
cis-1,3-Dichloropropene	ND		0.50	0.25	ug/L			08/27/18 10:23	1
Dibromochloromethane	ND		1.0	0.25	ug/L			08/27/18 10:23	1

Client Sample ID: OC_GW_TB_20180823

Lab Sample ID: 440-218715-5

Date Collected: 08/23/18 06:30
Matrix: Water
Date Received: 08/23/18 18:30

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dibromomethane	ND		1.0	0.25	ug/L			08/27/18 10:23	1
Dichlorodifluoromethane	ND		1.0	0.40	ug/L			08/27/18 10:23	1
Ethylbenzene	ND		1.0	0.25	ug/L			08/27/18 10:23	1
Hexachlorobutadiene	ND		1.0	0.25	ug/L			08/27/18 10:23	1
Isopropylbenzene	ND		1.0	0.25	ug/L			08/27/18 10:23	1
m,p-Xylene	ND		1.0	0.50	ug/L			08/27/18 10:23	1
Methylene Chloride	ND		5.0	0.88	ug/L			08/27/18 10:23	1
Methyl-t-Butyl Ether (MTBE)	ND		1.0	0.25	ug/L			08/27/18 10:23	1
Naphthalene	ND		1.0	0.40	ug/L			08/27/18 10:23	1
n-Butylbenzene	ND		1.0	0.40	ug/L			08/27/18 10:23	1
N-Propylbenzene	ND		1.0	0.25	ug/L			08/27/18 10:23	1
o-Xylene	ND		1.0	0.25	ug/L			08/27/18 10:23	1
p-Isopropyltoluene	ND		1.0	0.25	ug/L			08/27/18 10:23	1
sec-Butylbenzene	ND		1.0	0.25	ug/L			08/27/18 10:23	1
Styrene	ND		1.0	0.25	ug/L			08/27/18 10:23	1
tert-Butylbenzene	ND		1.0	0.25	ug/L			08/27/18 10:23	1
Tetrachloroethene	ND		1.0	0.25	ug/L			08/27/18 10:23	1
Toluene	ND		1.0	0.25	ug/L			08/27/18 10:23	1
trans-1,2-Dichloroethene	ND		1.0	0.25	ug/L			08/27/18 10:23	1
trans-1,3-Dichloropropene	ND		0.50	0.25	ug/L			08/27/18 10:23	1
Trichloroethene	ND		1.0	0.25	ug/L			08/27/18 10:23	1
Trichlorofluoromethane	ND		1.0	0.25	ug/L			08/27/18 10:23	1
Vinyl chloride	ND		0.50	0.25	ug/L			08/27/18 10:23	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Unknown	*10*	*T J*	*ug/L*		*1.67*			*08/27/18 10:23*	*1*
Unknown	*18*	*T J*	*ug/L*		*1.72*			*08/27/18 10:23*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*91*		*70 - 130*		*08/27/18 10:23*	*1*
4-Bromofluorobenzene (Surr)	*100*		*80 - 120*		*08/27/18 10:23*	*1*
Dibromofluoromethane (Surr)	*98*		*76 - 132*		*08/27/18 10:23*	*1*
Toluene-d8 (Surr)	*107*		*80 - 128*		*08/27/18 10:23*	*1*

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Isopropyl alcohol	ND		250	180	ug/L			08/31/18 01:59	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Unknown	*7.3*	*T J*	*ug/L*		*15.89*			*08/31/18 01:59*	*1*
Unknown	*6.4*	*T J*	*ug/L*		*16.95*			*08/31/18 01:59*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*98*		*70 - 130*		*08/31/18 01:59*	*1*
4-Bromofluorobenzene (Surr)	*94*		*80 - 120*		*08/31/18 01:59*	*1*
Dibromofluoromethane (Surr)	*102*		*76 - 132*		*08/31/18 01:59*	*1*
Toluene-d8 (Surr)	*106*		*80 - 128*		*08/31/18 01:59*	*1*

Client Sample Results

Client: de maximis, inc.
Project/Site: Omega Chemical - Semi Annual GWM 2018

TestAmerica Job ID: 440-218715-1
SDG: Omega Chemical

Client Sample ID: OC_GW_OW-10N_20180823

Lab Sample ID: 440-218715-6

Date Collected: 08/23/18 13:33
Matrix: Water
Date Received: 08/23/18 18:30

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		1.0	0.25	ug/L			08/27/18 14:40	1
1,1,1-Trichloroethane	ND		1.0	0.25	ug/L			08/27/18 14:40	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.25	ug/L			08/27/18 14:40	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		5.0	0.50	ug/L			08/27/18 14:40	1
1,1,2-Trichloroethane	ND		1.0	0.25	ug/L			08/27/18 14:40	1
1,1-Dichloroethane	ND		1.0	0.25	ug/L			08/27/18 14:40	1
1,1-Dichloroethene	ND		1.0	0.25	ug/L			08/27/18 14:40	1
1,1-Dichloropropene	ND		1.0	0.25	ug/L			08/27/18 14:40	1
1,2,3-Trichlorobenzene	ND		1.0	0.40	ug/L			08/27/18 14:40	1
1,2,3-Trichloropropane	ND		1.0	0.40	ug/L			08/27/18 14:40	1
1,2,4-Trichlorobenzene	ND		1.0	0.40	ug/L			08/27/18 14:40	1
1,2,4-Trimethylbenzene	ND		1.0	0.25	ug/L			08/27/18 14:40	1
1,2-Dibromo-3-Chloropropane	ND		5.0	0.50	ug/L			08/27/18 14:40	1
1,2-Dibromoethane (EDB)	ND		1.0	0.25	ug/L			08/27/18 14:40	1
1,2-Dichlorobenzene	ND		1.0	0.25	ug/L			08/27/18 14:40	1
1,2-Dichloroethane	ND		1.0	0.25	ug/L			08/27/18 14:40	1
1,2-Dichloropropane	ND		1.0	0.25	ug/L			08/27/18 14:40	1
1,3,5-Trimethylbenzene	ND		1.0	0.25	ug/L			08/27/18 14:40	1
1,3-Dichlorobenzene	ND		1.0	0.25	ug/L			08/27/18 14:40	1
1,3-Dichloropropane	ND		1.0	0.25	ug/L			08/27/18 14:40	1
1,4-Dichlorobenzene	ND		1.0	0.25	ug/L			08/27/18 14:40	1
2,2-Dichloropropane	ND		1.0	0.40	ug/L			08/27/18 14:40	1
2-Chlorotoluene	ND		1.0	0.25	ug/L			08/27/18 14:40	1
4-Chlorotoluene	ND		1.0	0.25	ug/L			08/27/18 14:40	1
Acetone	**30**		10	10	ug/L			08/27/18 14:40	1
Benzene	ND		0.50	0.25	ug/L			08/27/18 14:40	1
Bromobenzene	ND		1.0	0.25	ug/L			08/27/18 14:40	1
Bromochloromethane	ND		1.0	0.25	ug/L			08/27/18 14:40	1
Bromodichloromethane	ND		1.0	0.25	ug/L			08/27/18 14:40	1
Bromoform	ND		1.0	0.40	ug/L			08/27/18 14:40	1
Bromomethane	ND		1.0	0.25	ug/L			08/27/18 14:40	1
Carbon tetrachloride	ND		0.50	0.25	ug/L			08/27/18 14:40	1
Chlorobenzene	ND		1.0	0.25	ug/L			08/27/18 14:40	1
Chloroethane	ND		1.0	0.40	ug/L			08/27/18 14:40	1
Chloroform	ND		1.0	0.25	ug/L			08/27/18 14:40	1
Chloromethane	ND		1.0	0.25	ug/L			08/27/18 14:40	1
cis-1,2-Dichloroethene	ND		1.0	0.25	ug/L			08/27/18 14:40	1
cis-1,3-Dichloropropene	ND		0.50	0.25	ug/L			08/27/18 14:40	1
Dibromochloromethane	ND		1.0	0.25	ug/L			08/27/18 14:40	1
Dibromomethane	ND		1.0	0.25	ug/L			08/27/18 14:40	1
Dichlorodifluoromethane	ND		1.0	0.40	ug/L			08/27/18 14:40	1
Ethylbenzene	ND		1.0	0.25	ug/L			08/27/18 14:40	1
Hexachlorobutadiene	ND		1.0	0.25	ug/L			08/27/18 14:40	1
Isopropylbenzene	ND		1.0	0.25	ug/L			08/27/18 14:40	1
m,p-Xylene	ND		1.0	0.50	ug/L			08/27/18 14:40	1
Methylene Chloride	ND		5.0	0.88	ug/L			08/27/18 14:40	1
Methyl-t-Butyl Ether (MTBE)	ND		1.0	0.25	ug/L			08/27/18 14:40	1
Naphthalene	ND		1.0	0.40	ug/L			08/27/18 14:40	1
n-Butylbenzene	ND		1.0	0.40	ug/L			08/27/18 14:40	1

Client Sample ID: OC_GW_OW-10N_20180823

Lab Sample ID: 440-218715-6

Date Collected: 08/23/18 13:33
Matrix: Water
Date Received: 08/23/18 18:30

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
N-Propylbenzene	ND		1.0	0.25	ug/L			08/27/18 14:40	1
o-Xylene	ND		1.0	0.25	ug/L			08/27/18 14:40	1
p-Isopropyltoluene	ND		1.0	0.25	ug/L			08/27/18 14:40	1
sec-Butylbenzene	ND		1.0	0.25	ug/L			08/27/18 14:40	1
Styrene	ND		1.0	0.25	ug/L			08/27/18 14:40	1
tert-Butylbenzene	ND		1.0	0.25	ug/L			08/27/18 14:40	1
Tetrachloroethene	ND		1.0	0.25	ug/L			08/27/18 14:40	1
Toluene	ND		1.0	0.25	ug/L			08/27/18 14:40	1
trans-1,2-Dichloroethene	ND		1.0	0.25	ug/L			08/27/18 14:40	1
trans-1,3-Dichloropropene	ND		0.50	0.25	ug/L			08/27/18 14:40	1
Trichloroethene	ND		1.0	0.25	ug/L			08/27/18 14:40	1
Trichlorofluoromethane	ND		1.0	0.25	ug/L			08/27/18 14:40	1
Vinyl chloride	ND		0.50	0.25	ug/L			08/27/18 14:40	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Unknown	*13*	*T J*	*ug/L*		*1.67*			*08/27/18 14:40*	*1*
Unknown	*63*	*T J*	*ug/L*		*1.72*			*08/27/18 14:40*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*96*		*70 - 130*		*08/27/18 14:40*	*1*
4-Bromofluorobenzene (Surr)	*98*		*80 - 120*		*08/27/18 14:40*	*1*
Dibromofluoromethane (Surr)	*93*		*76 - 132*		*08/27/18 14:40*	*1*
Toluene-d8 (Surr)	*107*		*80 - 128*		*08/27/18 14:40*	*1*

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Isopropyl alcohol	ND		250	180	ug/L			08/31/18 01:32	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Unknown	*13*	*T J*	*ug/L*		*17.55*			*08/31/18 01:32*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*101*		*70 - 130*		*08/31/18 01:32*	*1*
4-Bromofluorobenzene (Surr)	*95*		*80 - 120*		*08/31/18 01:32*	*1*
Dibromofluoromethane (Surr)	*104*		*76 - 132*		*08/31/18 01:32*	*1*
Toluene-d8 (Surr)	*105*		*80 - 128*		*08/31/18 01:32*	*1*

Surrogate Summary

Client: de maximis, inc.
Project/Site: Omega Chemical - Semi Annual GWM 2018

TestAmerica Job ID: 440-218715-1
SDG: Omega Chemical

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

Matrix: Water **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)			
		DCA	BFB	DBFM	TOL
Lab Sample ID	Client Sample ID	(70-130)	(80-120)	(76-132)	(80-128)
440-218715-1	OC_GW_OW-1B_20180823	93	100	93	111
440-218715-1 - RA	OC_GW_OW-1B_20180823	97	95	102	106
440-218715-1 MS	OC_GW_OW-1B_20180823	97	89	102	102
440-218715-1 MSD	OC_GW_OW-1B_20180823	95	92	101	101
440-218715-2 - DL	OC_GW_OW-9_20180823	91	98	96	105
440-218715-2	OC_GW_OW-9_20180823	96	96	103	105
440-218715-2 - RA	OC_GW_OW-9_20180823	96	101	96	106
440-218715-3 - DL	OC_GW_OW-9K_20180823	95	98	94	106
440-218715-3	OC_GW_OW-9K_20180823	96	95	103	105
440-218715-4	OC_GW_OW-10_20180823	95	98	99	105
440-218715-4 - RA	OC_GW_OW-10_20180823	101	96	104	104
440-218715-5	OC_GW_TB_20180823	91	100	98	107
440-218715-5 - RA	OC_GW_TB_20180823	98	94	102	106
440-218715-6	OC_GW_OW-10N_20180823	96	98	93	107
440-218715-6 - RA	OC_GW_OW-10N_20180823	101	95	104	105
440-218823-C-1 MS	Matrix Spike	98	96	94	102
440-218823-C-1 MSD	Matrix Spike Duplicate	88	92	93	105
440-219176-A-1 MS	Matrix Spike	103	96	99	97
440-219176-A-1 MSD	Matrix Spike Duplicate	92	98	100	96
LCS 440-495779/5	Lab Control Sample	89	95	100	103
LCS 440-496669/5	Lab Control Sample	98	93	103	102
LCS 440-496669/6	Lab Control Sample	99	97	102	105
LCS 440-496725/5	Lab Control Sample	102	98	99	105
LCSD 440-496725/6	Lab Control Sample Dup	104	96	100	102
MB 440-495779/4	Method Blank	93	96	97	105
MB 440-496669/4	Method Blank	102	97	103	105
MB 440-496725/4	Method Blank	96	96	96	109

Surrogate Legend

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

Method: 8270C SIM - Semivolatile Organic Compounds (GC/MS SIM)

Matrix: Water **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)
		DXE
Lab Sample ID	Client Sample ID	(27-120)
440-218715-1	OC_GW_OW-1B_20180823	49
440-218715-2	OC_GW_OW-9_20180823	53
440-218715-3	OC_GW_OW-9K_20180823	0 X
440-218715-4	OC_GW_OW-10_20180823	57
LCS 440-495789/2-A	Lab Control Sample	54
LCSD 440-495789/3-A	Lab Control Sample Dup	58
MB 440-495789/1-A	Method Blank	60

Surrogate Legend

DXE = 1,4-Dioxane-d8 (Surr)

Method Summary

Client: de maximis, inc.
Project/Site: Omega Chemical - Semi Annual GWM 2018

TestAmerica Job ID: 440-218715-1
SDG: Omega Chemical

Method	Method Description	Protocol	Laboratory
8260B	Volatile Organic Compounds (GC/MS)	SW846	TAL IRV
8270C SIM	Semivolatile Organic Compounds (GC/MS SIM)	SW846	TAL IRV
3520C	Liquid-Liquid Extraction (Continuous)	SW846	TAL IRV
5030B	Purge and Trap	SW846	TAL IRV

Protocol References:

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL IRV = TestAmerica Irvine, 17461 Derian Ave, Suite 100, Irvine, CA 92614-5817, TEL (949)261-1022

Lab Chronicle

Client: de maximis, inc.
Project/Site: Omega Chemical - Semi Annual GWM 2018

TestAmerica Job ID: 440-218715-1
SDG: Omega Chemical

Client Sample ID: OC_GW_OW-1B_20180823 — Lab Sample ID: 440-218715-1

Date Collected: 08/23/18 10:45 — **Matrix: Water**
Date Received: 08/23/18 18:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B	RA	1	10 mL	10 mL	496669	08/30/18 22:54	WK	TAL IRV
Total/NA	Analysis	8260B		1	10 mL	10 mL	495779	08/27/18 12:45	RM	TAL IRV
Total/NA	Prep	3520C			1015 mL	1.0 mL	495789	08/27/18 07:16	JAA	TAL IRV
Total/NA	Analysis	8270C SIM		1			496139	08/28/18 15:08	L1B	TAL IRV

Client Sample ID: OC_GW_OW-9_20180823 — Lab Sample ID: 440-218715-2

Date Collected: 08/23/18 12:25 — **Matrix: Water**
Date Received: 08/23/18 18:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		5	10 mL	10 mL	496669	08/31/18 00:13	WK	TAL IRV
Total/NA	Analysis	8260B	DL	25	10 mL	10 mL	495779	08/27/18 13:15	RM	TAL IRV
Total/NA	Analysis	8260B	RA	5	10 mL	10 mL	496725	08/31/18 13:47	TCN	TAL IRV
Total/NA	Prep	3520C			20 mL	1.0 mL	495789	08/27/18 07:16	JAA	TAL IRV
Total/NA	Analysis	8270C SIM		2			496139	08/28/18 15:30	L1B	TAL IRV

Client Sample ID: OC_GW_OW-9K_20180823 — Lab Sample ID: 440-218715-3

Date Collected: 08/23/18 12:25 — **Matrix: Water**
Date Received: 08/23/18 18:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		5	10 mL	10 mL	496669	08/31/18 00:40	WK	TAL IRV
Total/NA	Analysis	8260B	DL	25	10 mL	10 mL	495779	08/27/18 13:43	RM	TAL IRV
Total/NA	Prep	3520C			1025 mL	1.0 mL	495789	08/27/18 07:16	JAA	TAL IRV
Total/NA	Analysis	8270C SIM		50			496282	08/29/18 09:50	L1B	TAL IRV

Client Sample ID: OC_GW_OW-10_20180823 — Lab Sample ID: 440-218715-4

Date Collected: 08/23/18 13:15 — **Matrix: Water**
Date Received: 08/23/18 18:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B	RA	1	10 mL	10 mL	496669	08/31/18 01:06	WK	TAL IRV
Total/NA	Analysis	8260B		1	10 mL	10 mL	495779	08/27/18 14:11	RM	TAL IRV
Total/NA	Prep	3520C			1035 mL	1.0 mL	495789	08/27/18 07:16	JAA	TAL IRV
Total/NA	Analysis	8270C SIM		1			496139	08/28/18 16:16	L1B	TAL IRV

Client Sample ID: OC_GW_TB_20180823 — Lab Sample ID: 440-218715-5

Date Collected: 08/23/18 06:30 — **Matrix: Water**
Date Received: 08/23/18 18:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B	RA	1	10 mL	10 mL	496669	08/31/18 01:59	WK	TAL IRV

Lab Chronicle

Client: de maximis, inc.
Project/Site: Omega Chemical - Semi Annual GWM 2018

TestAmerica Job ID: 440-218715-1
SDG: Omega Chemical

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	10 mL	10 mL	495779	08/27/18 10:23	RM	TAL IRV

Client Sample ID: OC_GW_OW-10N_20180823

Lab Sample ID: 440-218715-6

Date Collected: 08/23/18 13:33

Matrix: Water

Date Received: 08/23/18 18:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B	RA	1	10 mL	10 mL	496669	08/31/18 01:32	WK	TAL IRV
Total/NA	Analysis	8260B		1	10 mL	10 mL	495779	08/27/18 14:40	RM	TAL IRV

Laboratory References:

TAL IRV = TestAmerica Irvine, 17461 Derian Ave, Suite 100, Irvine, CA 92614-5817, TEL (949)261-1022

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

Lab Sample ID: MB 440-495779/4
Matrix: Water
Analysis Batch: 495779

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		1.0	0.25	ug/L			08/27/18 08:52	1
1,1,1-Trichloroethane	ND		1.0	0.25	ug/L			08/27/18 08:52	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.25	ug/L			08/27/18 08:52	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		5.0	0.50	ug/L			08/27/18 08:52	1
1,1,2-Trichloroethane	ND		1.0	0.25	ug/L			08/27/18 08:52	1
1,1-Dichloroethane	ND		1.0	0.25	ug/L			08/27/18 08:52	1
1,1-Dichloroethene	ND		1.0	0.25	ug/L			08/27/18 08:52	1
1,1-Dichloropropene	ND		1.0	0.25	ug/L			08/27/18 08:52	1
1,2,3-Trichlorobenzene	ND		1.0	0.40	ug/L			08/27/18 08:52	1
1,2,3-Trichloropropane	ND		1.0	0.40	ug/L			08/27/18 08:52	1
1,2,4-Trichlorobenzene	ND		1.0	0.40	ug/L			08/27/18 08:52	1
1,2,4-Trimethylbenzene	ND		1.0	0.25	ug/L			08/27/18 08:52	1
1,2-Dibromo-3-Chloropropane	ND		5.0	0.50	ug/L			08/27/18 08:52	1
1,2-Dibromoethane (EDB)	ND		1.0	0.25	ug/L			08/27/18 08:52	1
1,2-Dichlorobenzene	ND		1.0	0.25	ug/L			08/27/18 08:52	1
1,2-Dichloroethane	ND		1.0	0.25	ug/L			08/27/18 08:52	1
1,2-Dichloropropane	ND		1.0	0.25	ug/L			08/27/18 08:52	1
1,3,5-Trimethylbenzene	ND		1.0	0.25	ug/L			08/27/18 08:52	1
1,3-Dichlorobenzene	ND		1.0	0.25	ug/L			08/27/18 08:52	1
1,3-Dichloropropane	ND		1.0	0.25	ug/L			08/27/18 08:52	1
1,4-Dichlorobenzene	ND		1.0	0.25	ug/L			08/27/18 08:52	1
2,2-Dichloropropane	ND		1.0	0.40	ug/L			08/27/18 08:52	1
2-Chlorotoluene	ND		1.0	0.25	ug/L			08/27/18 08:52	1
4-Chlorotoluene	ND		1.0	0.25	ug/L			08/27/18 08:52	1
Acetone	ND		10	10	ug/L			08/27/18 08:52	1
Benzene	ND		0.50	0.25	ug/L			08/27/18 08:52	1
Bromobenzene	ND		1.0	0.25	ug/L			08/27/18 08:52	1
Bromochloromethane	ND		1.0	0.25	ug/L			08/27/18 08:52	1
Bromodichloromethane	ND		1.0	0.25	ug/L			08/27/18 08:52	1
Bromoform	ND		1.0	0.40	ug/L			08/27/18 08:52	1
Bromomethane	ND		1.0	0.25	ug/L			08/27/18 08:52	1
Carbon tetrachloride	ND		0.50	0.25	ug/L			08/27/18 08:52	1
Chlorobenzene	ND		1.0	0.25	ug/L			08/27/18 08:52	1
Chloroethane	ND		1.0	0.40	ug/L			08/27/18 08:52	1
Chloroform	ND		1.0	0.25	ug/L			08/27/18 08:52	1
Chloromethane	ND		1.0	0.25	ug/L			08/27/18 08:52	1
cis-1,2-Dichloroethene	ND		1.0	0.25	ug/L			08/27/18 08:52	1
cis-1,3-Dichloropropene	ND		0.50	0.25	ug/L			08/27/18 08:52	1
Dibromochloromethane	ND		1.0	0.25	ug/L			08/27/18 08:52	1
Dibromomethane	ND		1.0	0.25	ug/L			08/27/18 08:52	1
Dichlorodifluoromethane	ND		1.0	0.40	ug/L			08/27/18 08:52	1
Ethylbenzene	ND		1.0	0.25	ug/L			08/27/18 08:52	1
Hexachlorobutadiene	ND		1.0	0.25	ug/L			08/27/18 08:52	1
Isopropyl alcohol	ND		250	180	ug/L			08/27/18 08:52	1
Isopropylbenzene	ND		1.0	0.25	ug/L			08/27/18 08:52	1
m,p-Xylene	ND		1.0	0.50	ug/L			08/27/18 08:52	1
Methylene Chloride	ND		5.0	0.88	ug/L			08/27/18 08:52	1
Methyl-t-Butyl Ether (MTBE)	ND		1.0	0.25	ug/L			08/27/18 08:52	1

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

Lab Sample ID: MB 440-495779/4
Matrix: Water
Analysis Batch: 495779

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Naphthalene	ND		1.0	0.40	ug/L			08/27/18 08:52	1
n-Butylbenzene	ND		1.0	0.40	ug/L			08/27/18 08:52	1
N-Propylbenzene	ND		1.0	0.25	ug/L			08/27/18 08:52	1
o-Xylene	ND		1.0	0.25	ug/L			08/27/18 08:52	1
p-Isopropyltoluene	ND		1.0	0.25	ug/L			08/27/18 08:52	1
sec-Butylbenzene	ND		1.0	0.25	ug/L			08/27/18 08:52	1
Styrene	ND		1.0	0.25	ug/L			08/27/18 08:52	1
tert-Butylbenzene	ND		1.0	0.25	ug/L			08/27/18 08:52	1
Tetrachloroethene	ND		1.0	0.25	ug/L			08/27/18 08:52	1
Toluene	ND		1.0	0.25	ug/L			08/27/18 08:52	1
trans-1,2-Dichloroethene	ND		1.0	0.25	ug/L			08/27/18 08:52	1
trans-1,3-Dichloropropene	ND		0.50	0.25	ug/L			08/27/18 08:52	1
Trichloroethene	ND		1.0	0.25	ug/L			08/27/18 08:52	1
Trichlorofluoromethane	ND		1.0	0.25	ug/L			08/27/18 08:52	1
Vinyl chloride	ND		0.50	0.25	ug/L			08/27/18 08:52	1

Tentatively Identified Compound	*MB Est. Result*	*MB Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Tentatively Identified Compound	*None*		*ug/L*					*08/27/18 08:52*	*1*

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*93*		*70 - 130*		*08/27/18 08:52*	*1*
4-Bromofluorobenzene (Surr)	*96*		*80 - 120*		*08/27/18 08:52*	*1*
Dibromofluoromethane (Surr)	*97*		*76 - 132*		*08/27/18 08:52*	*1*
Toluene-d8 (Surr)	*105*		*80 - 128*		*08/27/18 08:52*	*1*

Lab Sample ID: LCS 440-495779/5
Matrix: Water
Analysis Batch: 495779

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1,1,2-Tetrachloroethane	25.0	25.7		ug/L		103	60 - 141
1,1,1-Trichloroethane	25.0	23.6		ug/L		94	70 - 130
1,1,2,2-Tetrachloroethane	25.0	25.1		ug/L		101	63 - 130
1,1,2-Trichloro-1,2,2-trifluoroethane	25.0	22.7		ug/L		91	60 - 140
1,1,2-Trichloroethane	25.0	27.5		ug/L		110	70 - 130
1,1-Dichloroethane	25.0	27.3		ug/L		109	64 - 130
1,1-Dichloroethene	25.0	25.3		ug/L		101	70 - 130
1,1-Dichloropropene	25.0	25.0		ug/L		100	70 - 130
1,2,3-Trichlorobenzene	25.0	24.7		ug/L		99	60 - 140
1,2,3-Trichloropropane	25.0	22.4		ug/L		90	63 - 130
1,2,4-Trichlorobenzene	25.0	24.8		ug/L		99	60 - 140
1,2,4-Trimethylbenzene	25.0	24.0		ug/L		96	70 - 135
1,2-Dibromo-3-Chloropropane	25.0	19.9		ug/L		80	52 - 140
1,2-Dibromoethane (EDB)	25.0	26.8		ug/L		107	70 - 130
1,2-Dichlorobenzene	25.0	27.3		ug/L		109	70 - 130
1,2-Dichloroethane	25.0	25.7		ug/L		103	57 - 138
1,2-Dichloropropane	25.0	28.0		ug/L		112	67 - 130

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

Lab Sample ID: LCS 440-495779/5
Matrix: Water
Analysis Batch: 495779

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,3,5-Trimethylbenzene	25.0	24.4		ug/L		97	70 - 136
1,3-Dichlorobenzene	25.0	26.4		ug/L		106	70 - 130
1,3-Dichloropropane	25.0	25.6		ug/L		102	70 - 130
1,4-Dichlorobenzene	25.0	26.0		ug/L		104	70 - 130
2,2-Dichloropropane	25.0	24.5		ug/L		98	68 - 141
2-Chlorotoluene	25.0	24.4		ug/L		98	70 - 130
4-Chlorotoluene	25.0	25.1		ug/L		100	70 - 130
Acetone	25.0	22.0		ug/L		88	10 - 150
Benzene	25.0	25.5		ug/L		102	68 - 130
Bromobenzene	25.0	26.5		ug/L		106	70 - 130
Bromochloromethane	25.0	26.4		ug/L		105	70 - 130
Bromodichloromethane	25.0	25.4		ug/L		102	70 - 132
Bromoform	25.0	22.9		ug/L		91	60 - 148
Bromomethane	25.0	19.2		ug/L		77	64 - 139
Carbon tetrachloride	25.0	22.1		ug/L		88	60 - 150
Chlorobenzene	25.0	25.9		ug/L		104	70 - 130
Chloroethane	25.0	20.2		ug/L		81	64 - 135
Chloroform	25.0	25.3		ug/L		101	70 - 130
Chloromethane	25.0	20.1		ug/L		80	47 - 140
cis-1,2-Dichloroethene	25.0	25.2		ug/L		101	70 - 133
cis-1,3-Dichloropropene	25.0	27.7		ug/L		111	70 - 133
Dibromochloromethane	25.0	25.5		ug/L		102	69 - 145
Dibromomethane	25.0	23.8		ug/L		95	70 - 130
Dichlorodifluoromethane	25.0	13.8		ug/L		55	29 - 150
Ethylbenzene	25.0	25.2		ug/L		101	70 - 130
Hexachlorobutadiene	25.0	23.5		ug/L		94	10 - 150
Isopropylbenzene	25.0	25.8		ug/L		103	70 - 136
m,p-Xylene	25.0	27.1		ug/L		108	70 - 130
Methylene Chloride	25.0	24.9		ug/L		100	52 - 130
Methyl-t-Butyl Ether (MTBE)	25.0	24.8		ug/L		99	63 - 131
Naphthalene	25.0	24.1		ug/L		96	60 - 140
n-Butylbenzene	25.0	24.2		ug/L		97	65 - 150
N-Propylbenzene	25.0	25.1		ug/L		100	67 - 139
o-Xylene	25.0	27.5		ug/L		110	70 - 130
p-Isopropyltoluene	25.0	24.7		ug/L		99	70 - 132
sec-Butylbenzene	25.0	24.4		ug/L		98	70 - 138
Styrene	25.0	27.6		ug/L		110	70 - 134
tert-Butylbenzene	25.0	24.1		ug/L		97	70 - 130
Tetrachloroethene	25.0	25.9		ug/L		103	70 - 130
Toluene	25.0	26.1		ug/L		105	70 - 130
trans-1,2-Dichloroethene	25.0	25.1		ug/L		100	70 - 130
trans-1,3-Dichloropropene	25.0	25.9		ug/L		104	70 - 132
Trichloroethene	25.0	25.7		ug/L		103	70 - 130
Trichlorofluoromethane	25.0	20.8		ug/L		83	60 - 150
Vinyl chloride	25.0	18.7		ug/L		75	59 - 133

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*89*		*70 - 130*

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

Lab Sample ID: LCS 440-495779/5
Matrix: Water
Analysis Batch: 495779

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

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*95*		*80 - 120*
Dibromofluoromethane (Surr)	*100*		*76 - 132*
Toluene-d8 (Surr)	*103*		*80 - 128*

Lab Sample ID: 440-218823-C-1 MS
Matrix: Water
Analysis Batch: 495779

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1,1,2-Tetrachloroethane	ND		25.0	26.1		ug/L		104	60 - 149
1,1,1-Trichloroethane	ND		25.0	24.9		ug/L		99	70 - 130
1,1,2,2-Tetrachloroethane	ND		25.0	25.5		ug/L		102	63 - 130
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		25.0	25.1		ug/L		100	60 - 140
1,1,2-Trichloroethane	ND		25.0	27.8		ug/L		111	70 - 130
1,1-Dichloroethane	ND		25.0	25.5		ug/L		102	65 - 130
1,1-Dichloroethene	ND		25.0	27.7		ug/L		111	70 - 130
1,1-Dichloropropene	ND		25.0	25.7		ug/L		103	64 - 130
1,2,3-Trichlorobenzene	ND		25.0	24.9		ug/L		100	60 - 140
1,2,3-Trichloropropane	ND		25.0	22.3		ug/L		89	60 - 130
1,2,4-Trichlorobenzene	ND		25.0	25.4		ug/L		102	60 - 140
1,2,4-Trimethylbenzene	ND		25.0	23.6		ug/L		94	70 - 130
1,2-Dibromo-3-Chloropropane	ND		25.0	23.1		ug/L		93	48 - 140
1,2-Dibromoethane (EDB)	ND		25.0	27.6		ug/L		111	70 - 131
1,2-Dichlorobenzene	ND		25.0	26.5		ug/L		106	70 - 130
1,2-Dichloroethane	ND		25.0	24.8		ug/L		99	56 - 146
1,2-Dichloropropane	ND		25.0	26.5		ug/L		106	69 - 130
1,3,5-Trimethylbenzene	ND		25.0	24.3		ug/L		97	70 - 130
1,3-Dichlorobenzene	ND		25.0	26.0		ug/L		104	70 - 130
1,3-Dichloropropane	ND		25.0	26.9		ug/L		107	70 - 130
1,4-Dichlorobenzene	ND		25.0	25.9		ug/L		104	70 - 130
2,2-Dichloropropane	ND		25.0	25.8		ug/L		103	69 - 138
2-Chlorotoluene	ND		25.0	23.9		ug/L		96	70 - 130
4-Chlorotoluene	ND		25.0	25.0		ug/L		100	70 - 130
Acetone	10		25.0	30.1		ug/L		80	10 - 150
Benzene	ND		25.0	26.0		ug/L		104	66 - 130
Bromobenzene	ND		25.0	25.4		ug/L		101	70 - 130
Bromochloromethane	ND		25.0	26.0		ug/L		104	70 - 130
Bromodichloromethane	ND		25.0	24.5		ug/L		98	70 - 138
Bromoform	ND		25.0	23.8		ug/L		95	59 - 150
Bromomethane	ND		25.0	21.7		ug/L		87	62 - 131
Carbon tetrachloride	ND		25.0	23.7		ug/L		95	60 - 150
Chlorobenzene	ND		25.0	25.8		ug/L		103	70 - 130
Chloroethane	ND		25.0	22.1		ug/L		88	68 - 130
Chloroform	ND		25.0	24.3		ug/L		97	70 - 130
Chloromethane	ND		25.0	23.9		ug/L		96	39 - 144
cis-1,2-Dichloroethene	ND		25.0	25.2		ug/L		101	70 - 130
cis-1,3-Dichloropropene	ND		25.0	27.4		ug/L		109	70 - 133

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

Lab Sample ID: 440-218823-C-1 MS
Matrix: Water
Analysis Batch: 495779

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Dibromochloromethane	ND		25.0	25.9		ug/L		104	70 - 148
Dibromomethane	ND		25.0	24.5		ug/L		98	70 - 130
Dichlorodifluoromethane	ND		25.0	20.5		ug/L		82	25 - 142
Ethylbenzene	ND		25.0	25.6		ug/L		103	70 - 130
Hexachlorobutadiene	ND		25.0	22.9		ug/L		92	10 - 150
Isopropylbenzene	ND		25.0	26.9		ug/L		108	70 - 132
m,p-Xylene	ND		25.0	27.5		ug/L		110	70 - 133
Methylene Chloride	ND		25.0	24.7		ug/L		99	52 - 130
Methyl-t-Butyl Ether (MTBE)	ND		25.0	25.4		ug/L		102	70 - 130
Naphthalene	ND		25.0	25.4		ug/L		102	60 - 140
n-Butylbenzene	ND		25.0	24.7		ug/L		99	61 - 149
N-Propylbenzene	ND		25.0	25.0		ug/L		100	66 - 135
o-Xylene	ND		25.0	27.1		ug/L		108	70 - 133
p-Isopropyltoluene	ND		25.0	25.0		ug/L		100	70 - 130
sec-Butylbenzene	ND		25.0	25.0		ug/L		100	67 - 134
Styrene	ND		25.0	25.3		ug/L		101	29 - 150
tert-Butylbenzene	ND		25.0	24.4		ug/L		98	70 - 130
Tetrachloroethene	ND		25.0	26.4		ug/L		106	70 - 137
Toluene	ND		25.0	26.5		ug/L		106	70 - 130
trans-1,2-Dichloroethene	ND		25.0	24.6		ug/L		98	70 - 130
trans-1,3-Dichloropropene	ND		25.0	26.4		ug/L		106	70 - 138
Trichloroethene	ND		25.0	25.2		ug/L		101	70 - 130
Trichlorofluoromethane	ND		25.0	24.7		ug/L		99	60 - 150
Vinyl chloride	ND		25.0	22.1		ug/L		89	50 - 137

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*98*		*70 - 130*
4-Bromofluorobenzene (Surr)	*96*		*80 - 120*
Dibromofluoromethane (Surr)	*94*		*76 - 132*
Toluene-d8 (Surr)	*102*		*80 - 128*

Lab Sample ID: 440-218823-C-1 MSD
Matrix: Water
Analysis Batch: 495779

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,1,1,2-Tetrachloroethane	ND		25.0	25.7		ug/L		103	60 - 149	2	20
1,1,1-Trichloroethane	ND		25.0	23.6		ug/L		94	70 - 130	5	20
1,1,2,2-Tetrachloroethane	ND		25.0	26.2		ug/L		105	63 - 130	3	30
1,1,2-Trichloro-1,2,2-trifluoroetha ne	ND		25.0	25.4		ug/L		102	60 - 140	1	20
1,1,2-Trichloroethane	ND		25.0	28.2		ug/L		113	70 - 130	1	25
1,1-Dichloroethane	ND		25.0	26.8		ug/L		107	65 - 130	5	20
1,1-Dichloroethene	ND		25.0	26.1		ug/L		105	70 - 130	6	20
1,1-Dichloropropene	ND		25.0	25.4		ug/L		102	64 - 130	1	20
1,2,3-Trichlorobenzene	ND		25.0	24.4		ug/L		98	60 - 140	2	20
1,2,3-Trichloropropane	ND		25.0	23.9		ug/L		96	60 - 130	7	30
1,2,4-Trichlorobenzene	ND		25.0	24.5		ug/L		98	60 - 140	4	20

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

Lab Sample ID: 440-218823-C-1 MSD
Matrix: Water
Analysis Batch: 495779

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,2,4-Trimethylbenzene	ND		25.0	23.0		ug/L		92	70 - 130	2	25
1,2-Dibromo-3-Chloropropane	ND		25.0	22.5		ug/L		90	48 - 140	3	30
1,2-Dibromoethane (EDB)	ND		25.0	28.3		ug/L		113	70 - 131	2	25
1,2-Dichlorobenzene	ND		25.0	25.9		ug/L		104	70 - 130	2	20
1,2-Dichloroethane	ND		25.0	25.1		ug/L		100	56 - 146	1	20
1,2-Dichloropropane	ND		25.0	26.5		ug/L		106	69 - 130	0	20
1,3,5-Trimethylbenzene	ND		25.0	23.7		ug/L		95	70 - 130	3	20
1,3-Dichlorobenzene	ND		25.0	25.2		ug/L		101	70 - 130	3	20
1,3-Dichloropropane	ND		25.0	26.5		ug/L		106	70 - 130	1	25
1,4-Dichlorobenzene	ND		25.0	25.3		ug/L		101	70 - 130	2	20
2,2-Dichloropropane	ND		25.0	25.6		ug/L		103	69 - 138	0	25
2-Chlorotoluene	ND		25.0	23.5		ug/L		94	70 - 130	1	20
4-Chlorotoluene	ND		25.0	24.3		ug/L		97	70 - 130	3	20
Acetone	10		25.0	30.4		ug/L		81	10 - 150	1	35
Benzene	ND		25.0	25.1		ug/L		100	66 - 130	4	20
Bromobenzene	ND		25.0	25.6		ug/L		103	70 - 130	1	20
Bromochloromethane	ND		25.0	25.7		ug/L		103	70 - 130	1	25
Bromodichloromethane	ND		25.0	24.5		ug/L		98	70 - 138	0	20
Bromoform	ND		25.0	24.5		ug/L		98	59 - 150	3	25
Bromomethane	ND		25.0	20.8		ug/L		83	62 - 131	4	25
Carbon tetrachloride	ND		25.0	22.5		ug/L		90	60 - 150	5	25
Chlorobenzene	ND		25.0	26.0		ug/L		104	70 - 130	1	20
Chloroethane	ND		25.0	22.1		ug/L		89	68 - 130	0	25
Chloroform	ND		25.0	24.4		ug/L		98	70 - 130	0	20
Chloromethane	ND		25.0	23.9		ug/L		96	39 - 144	0	25
cis-1,2-Dichloroethene	ND		25.0	24.6		ug/L		99	70 - 130	2	20
cis-1,3-Dichloropropene	ND		25.0	27.3		ug/L		109	70 - 133	0	20
Dibromochloromethane	ND		25.0	25.8		ug/L		103	70 - 148	0	25
Dibromomethane	ND		25.0	22.8		ug/L		91	70 - 130	7	25
Dichlorodifluoromethane	ND		25.0	20.2		ug/L		81	25 - 142	1	30
Ethylbenzene	ND		25.0	25.8		ug/L		103	70 - 130	1	20
Hexachlorobutadiene	ND		25.0	22.9		ug/L		92	10 - 150	0	20
Isopropylbenzene	ND		25.0	26.0		ug/L		104	70 - 132	3	20
m,p-Xylene	ND		25.0	27.3		ug/L		109	70 - 133	1	25
Methylene Chloride	ND		25.0	24.9		ug/L		100	52 - 130	1	20
Methyl-t-Butyl Ether (MTBE)	ND		25.0	24.7		ug/L		99	70 - 130	3	25
Naphthalene	ND		25.0	25.1		ug/L		100	60 - 140	1	30
n-Butylbenzene	ND		25.0	24.2		ug/L		97	61 - 149	2	20
N-Propylbenzene	ND		25.0	24.7		ug/L		99	66 - 135	1	20
o-Xylene	ND		25.0	27.7		ug/L		111	70 - 133	2	20
p-Isopropyltoluene	ND		25.0	24.4		ug/L		98	70 - 130	2	20
sec-Butylbenzene	ND		25.0	24.6		ug/L		99	67 - 134	1	20
Styrene	ND		25.0	20.6		ug/L		82	29 - 150	21	35
tert-Butylbenzene	ND		25.0	23.9		ug/L		96	70 - 130	2	20
Tetrachloroethene	ND		25.0	26.7		ug/L		107	70 - 137	1	20
Toluene	ND		25.0	26.6		ug/L		106	70 - 130	0	20
trans-1,2-Dichloroethene	ND		25.0	24.1		ug/L		96	70 - 130	2	20
trans-1,3-Dichloropropene	ND		25.0	26.9		ug/L		108	70 - 138	2	25

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

Lab Sample ID: 440-218823-C-1 MSD
Matrix: Water
Analysis Batch: 495779

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Trichloroethene	ND		25.0	24.6		ug/L		99	70 - 130	2	20
Trichlorofluoromethane	ND		25.0	23.3		ug/L		93	60 - 150	6	25
Vinyl chloride	ND		25.0	22.3		ug/L		89	50 - 137	1	30

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*88*		*70 - 130*
4-Bromofluorobenzene (Surr)	*92*		*80 - 120*
Dibromofluoromethane (Surr)	*93*		*76 - 132*
Toluene-d8 (Surr)	*105*		*80 - 128*

Lab Sample ID: MB 440-496669/4
Matrix: Water
Analysis Batch: 496669

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		1.0	0.25	ug/L			08/30/18 21:16	1
1,1,1-Trichloroethane	ND		1.0	0.25	ug/L			08/30/18 21:16	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.25	ug/L			08/30/18 21:16	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		5.0	0.50	ug/L			08/30/18 21:16	1
1,1,2-Trichloroethane	ND		1.0	0.25	ug/L			08/30/18 21:16	1
1,1-Dichloroethane	ND		1.0	0.25	ug/L			08/30/18 21:16	1
1,1-Dichloroethene	ND		1.0	0.25	ug/L			08/30/18 21:16	1
1,1-Dichloropropene	ND		1.0	0.25	ug/L			08/30/18 21:16	1
1,2,3-Trichlorobenzene	ND		1.0	0.40	ug/L			08/30/18 21:16	1
1,2,3-Trichloropropane	ND		1.0	0.40	ug/L			08/30/18 21:16	1
1,2,4-Trichlorobenzene	ND		1.0	0.40	ug/L			08/30/18 21:16	1
1,2,4-Trimethylbenzene	ND		1.0	0.25	ug/L			08/30/18 21:16	1
1,2-Dibromo-3-Chloropropane	ND		5.0	0.50	ug/L			08/30/18 21:16	1
1,2-Dibromoethane (EDB)	ND		1.0	0.25	ug/L			08/30/18 21:16	1
1,2-Dichlorobenzene	ND		1.0	0.25	ug/L			08/30/18 21:16	1
1,2-Dichloroethane	ND		1.0	0.25	ug/L			08/30/18 21:16	1
1,2-Dichloropropane	ND		1.0	0.25	ug/L			08/30/18 21:16	1
1,3,5-Trimethylbenzene	ND		1.0	0.25	ug/L			08/30/18 21:16	1
1,3-Dichlorobenzene	ND		1.0	0.25	ug/L			08/30/18 21:16	1
1,3-Dichloropropane	ND		1.0	0.25	ug/L			08/30/18 21:16	1
1,4-Dichlorobenzene	ND		1.0	0.25	ug/L			08/30/18 21:16	1
2,2-Dichloropropane	ND		1.0	0.40	ug/L			08/30/18 21:16	1
2-Chlorotoluene	ND		1.0	0.25	ug/L			08/30/18 21:16	1
4-Chlorotoluene	ND		1.0	0.25	ug/L			08/30/18 21:16	1
Acetone	ND		10	10	ug/L			08/30/18 21:16	1
Benzene	ND		0.50	0.25	ug/L			08/30/18 21:16	1
Bromobenzene	ND		1.0	0.25	ug/L			08/30/18 21:16	1
Bromochloromethane	ND		1.0	0.25	ug/L			08/30/18 21:16	1
Bromodichloromethane	ND		1.0	0.25	ug/L			08/30/18 21:16	1
Bromoform	ND		1.0	0.40	ug/L			08/30/18 21:16	1
Bromomethane	ND		1.0	0.25	ug/L			08/30/18 21:16	1
Carbon tetrachloride	ND		0.50	0.25	ug/L			08/30/18 21:16	1
Chlorobenzene	ND		1.0	0.25	ug/L			08/30/18 21:16	1

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

Lab Sample ID: MB 440-496669/4
Matrix: Water
Analysis Batch: 496669

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloroethane	ND		1.0	0.40	ug/L			08/30/18 21:16	1
Chloroform	ND		1.0	0.25	ug/L			08/30/18 21:16	1
Chloromethane	ND		1.0	0.25	ug/L			08/30/18 21:16	1
cis-1,2-Dichloroethene	ND		1.0	0.25	ug/L			08/30/18 21:16	1
cis-1,3-Dichloropropene	ND		0.50	0.25	ug/L			08/30/18 21:16	1
Dibromochloromethane	ND		1.0	0.25	ug/L			08/30/18 21:16	1
Dibromomethane	ND		1.0	0.25	ug/L			08/30/18 21:16	1
Dichlorodifluoromethane	ND		1.0	0.40	ug/L			08/30/18 21:16	1
Ethylbenzene	ND		1.0	0.25	ug/L			08/30/18 21:16	1
Hexachlorobutadiene	ND		1.0	0.25	ug/L			08/30/18 21:16	1
Isopropyl alcohol	ND		250	180	ug/L			08/30/18 21:16	1
Isopropylbenzene	ND		1.0	0.25	ug/L			08/30/18 21:16	1
m,p-Xylene	ND		1.0	0.50	ug/L			08/30/18 21:16	1
Methylene Chloride	ND		5.0	0.88	ug/L			08/30/18 21:16	1
Methyl-t-Butyl Ether (MTBE)	ND		1.0	0.25	ug/L			08/30/18 21:16	1
Naphthalene	ND		1.0	0.40	ug/L			08/30/18 21:16	1
n-Butylbenzene	ND		1.0	0.40	ug/L			08/30/18 21:16	1
N-Propylbenzene	ND		1.0	0.25	ug/L			08/30/18 21:16	1
o-Xylene	ND		1.0	0.25	ug/L			08/30/18 21:16	1
p-Isopropyltoluene	ND		1.0	0.25	ug/L			08/30/18 21:16	1
sec-Butylbenzene	ND		1.0	0.25	ug/L			08/30/18 21:16	1
Styrene	ND		1.0	0.25	ug/L			08/30/18 21:16	1
tert-Butylbenzene	ND		1.0	0.25	ug/L			08/30/18 21:16	1
Tetrachloroethene	ND		1.0	0.25	ug/L			08/30/18 21:16	1
Toluene	ND		1.0	0.25	ug/L			08/30/18 21:16	1
trans-1,2-Dichloroethene	ND		1.0	0.25	ug/L			08/30/18 21:16	1
trans-1,3-Dichloropropene	ND		0.50	0.25	ug/L			08/30/18 21:16	1
Trichloroethene	ND		1.0	0.25	ug/L			08/30/18 21:16	1
Trichlorofluoromethane	ND		1.0	0.25	ug/L			08/30/18 21:16	1
Vinyl chloride	ND		0.50	0.25	ug/L			08/30/18 21:16	1

Tentatively Identified Compound	*MB Est. Result*	*MB Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Tentatively Identified Compound	*None*		*ug/L*					*08/30/18 21:16*	*1*

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*102*		*70 - 130*		*08/30/18 21:16*	*1*
4-Bromofluorobenzene (Surr)	*97*		*80 - 120*		*08/30/18 21:16*	*1*
Dibromofluoromethane (Surr)	*103*		*76 - 132*		*08/30/18 21:16*	*1*
Toluene-d8 (Surr)	*105*		*80 - 128*		*08/30/18 21:16*	*1*

Lab Sample ID: LCS 440-496669/5
Matrix: Water
Analysis Batch: 496669

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1,1,2-Tetrachloroethane	25.0	26.7		ug/L		107	60 - 141
1,1,1-Trichloroethane	25.0	24.5		ug/L		98	70 - 130

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

Lab Sample ID: LCS 440-496669/5
Matrix: Water
Analysis Batch: 496669

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1,2,2-Tetrachloroethane	25.0	23.0		ug/L		92	63 - 130
1,1,2-Trichloro-1,2,2-trifluoroethane	25.0	23.5		ug/L		94	60 - 140
1,1,2-Trichloroethane	25.0	26.5		ug/L		106	70 - 130
1,1-Dichloroethane	25.0	25.2		ug/L		101	64 - 130
1,1-Dichloroethene	25.0	24.3		ug/L		97	70 - 130
1,1-Dichloropropene	25.0	22.4		ug/L		89	70 - 130
1,2,3-Trichlorobenzene	25.0	27.3		ug/L		109	60 - 140
1,2,3-Trichloropropane	25.0	23.7		ug/L		95	63 - 130
1,2,4-Trichlorobenzene	25.0	26.2		ug/L		105	60 - 140
1,2,4-Trimethylbenzene	25.0	24.1		ug/L		96	70 - 135
1,2-Dibromo-3-Chloropropane	25.0	21.2		ug/L		85	52 - 140
1,2-Dibromoethane (EDB)	25.0	25.9		ug/L		104	70 - 130
1,2-Dichlorobenzene	25.0	26.9		ug/L		108	70 - 130
1,2-Dichloroethane	25.0	24.9		ug/L		100	57 - 138
1,2-Dichloropropane	25.0	26.1		ug/L		104	67 - 130
1,3,5-Trimethylbenzene	25.0	24.3		ug/L		97	70 - 136
1,3-Dichlorobenzene	25.0	26.4		ug/L		106	70 - 130
1,3-Dichloropropane	25.0	25.5		ug/L		102	70 - 130
1,4-Dichlorobenzene	25.0	25.9		ug/L		103	70 - 130
2,2-Dichloropropane	25.0	22.6		ug/L		91	68 - 141
2-Chlorotoluene	25.0	23.6		ug/L		95	70 - 130
4-Chlorotoluene	25.0	24.2		ug/L		97	70 - 130
Acetone	25.0	21.5		ug/L		86	10 - 150
Benzene	25.0	25.0		ug/L		100	68 - 130
Bromobenzene	25.0	24.3		ug/L		97	70 - 130
Bromochloromethane	25.0	28.0		ug/L		112	70 - 130
Bromodichloromethane	25.0	26.3		ug/L		105	70 - 132
Bromoform	25.0	27.6		ug/L		111	60 - 148
Bromomethane	25.0	23.3		ug/L		93	64 - 139
Carbon tetrachloride	25.0	23.5		ug/L		94	60 - 150
Chlorobenzene	25.0	25.5		ug/L		102	70 - 130
Chloroethane	25.0	23.4		ug/L		94	64 - 135
Chloroform	25.0	26.0		ug/L		104	70 - 130
Chloromethane	25.0	20.6		ug/L		82	47 - 140
cis-1,2-Dichloroethene	25.0	26.0		ug/L		104	70 - 133
cis-1,3-Dichloropropene	25.0	25.8		ug/L		103	70 - 133
Dibromochloromethane	25.0	28.3		ug/L		113	69 - 145
Dibromomethane	25.0	24.1		ug/L		96	70 - 130
Dichlorodifluoromethane	25.0	16.0		ug/L		64	29 - 150
Ethylbenzene	25.0	26.0		ug/L		104	70 - 130
Hexachlorobutadiene	25.0	23.6		ug/L		94	10 - 150
Isopropylbenzene	25.0	25.9		ug/L		103	70 - 136
m,p-Xylene	25.0	24.8		ug/L		99	70 - 130
Methylene Chloride	25.0	24.2		ug/L		97	52 - 130
Methyl-t-Butyl Ether (MTBE)	25.0	24.9		ug/L		100	63 - 131
Naphthalene	25.0	27.4		ug/L		110	60 - 140
n-Butylbenzene	25.0	23.7		ug/L		95	65 - 150

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

Lab Sample ID: LCS 440-496669/5
Matrix: Water
Analysis Batch: 496669

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
N-Propylbenzene	25.0	23.6		ug/L		94	67 - 139
o-Xylene	25.0	25.2		ug/L		101	70 - 130
p-Isopropyltoluene	25.0	24.6		ug/L		98	70 - 132
sec-Butylbenzene	25.0	23.6		ug/L		94	70 - 138
Styrene	25.0	25.9		ug/L		104	70 - 134
tert-Butylbenzene	25.0	24.7		ug/L		99	70 - 130
Tetrachloroethene	25.0	24.9		ug/L		100	70 - 130
Toluene	25.0	27.0		ug/L		108	70 - 130
trans-1,2-Dichloroethene	25.0	25.5		ug/L		102	70 - 130
trans-1,3-Dichloropropene	25.0	25.2		ug/L		101	70 - 132
Trichloroethene	25.0	25.7		ug/L		103	70 - 130
Trichlorofluoromethane	25.0	23.0		ug/L		92	60 - 150
Vinyl chloride	25.0	18.5		ug/L		74	59 - 133

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*98*		*70 - 130*
4-Bromofluorobenzene (Surr)	*93*		*80 - 120*
Dibromofluoromethane (Surr)	*103*		*76 - 132*
Toluene-d8 (Surr)	*102*		*80 - 128*

Lab Sample ID: LCS 440-496669/6
Matrix: Water
Analysis Batch: 496669

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Isopropyl alcohol	250	245	J	ug/L		98	49 - 142

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*99*		*70 - 130*
4-Bromofluorobenzene (Surr)	*97*		*80 - 120*
Dibromofluoromethane (Surr)	*102*		*76 - 132*
Toluene-d8 (Surr)	*105*		*80 - 128*

Lab Sample ID: 440-218715-1 MS
Matrix: Water
Analysis Batch: 496669

Client Sample ID: OC_GW_OW-1B_20180823
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1,1,2-Tetrachloroethane	ND		25.0	27.7		ug/L		111	60 - 149
1,1,1-Trichloroethane	ND		25.0	25.5		ug/L		102	70 - 130
1,1,2,2-Tetrachloroethane	ND		25.0	23.0		ug/L		92	63 - 130
1,1,2-Trichloro-1,2,2-trifluoroethane	4.4	J	25.0	29.0		ug/L		99	60 - 140
1,1,2-Trichloroethane	ND		25.0	26.8		ug/L		107	70 - 130
1,1-Dichloroethane	ND		25.0	25.2		ug/L		101	65 - 130
1,1-Dichloroethene	ND		25.0	25.2		ug/L		101	70 - 130
1,1-Dichloropropene	ND		25.0	23.5		ug/L		94	64 - 130
1,2,3-Trichlorobenzene	ND		25.0	27.6		ug/L		110	60 - 140

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

Lab Sample ID: 440-218715-1 MS
Matrix: Water
Analysis Batch: 496669

Client Sample ID: OC_GW_OW-1B_20180823
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
1,2,3-Trichloropropane	ND		25.0	22.9		ug/L		92	60 - 130
1,2,4-Trichlorobenzene	ND		25.0	27.8		ug/L		111	60 - 140
1,2,4-Trimethylbenzene	ND		25.0	24.0		ug/L		96	70 - 130
1,2-Dibromo-3-Chloropropane	ND		25.0	20.7		ug/L		83	48 - 140
1,2-Dibromoethane (EDB)	ND		25.0	26.8		ug/L		107	70 - 131
1,2-Dichlorobenzene	ND		25.0	26.5		ug/L		106	70 - 130
1,2-Dichloroethane	ND		25.0	24.5		ug/L		98	56 - 146
1,2-Dichloropropane	ND		25.0	25.9		ug/L		104	69 - 130
1,3,5-Trimethylbenzene	ND		25.0	24.2		ug/L		97	70 - 130
1,3-Dichlorobenzene	ND		25.0	26.0		ug/L		104	70 - 130
1,3-Dichloropropane	ND		25.0	25.5		ug/L		102	70 - 130
1,4-Dichlorobenzene	ND		25.0	25.5		ug/L		102	70 - 130
2,2-Dichloropropane	ND		25.0	24.2		ug/L		97	69 - 138
2-Chlorotoluene	ND		25.0	23.9		ug/L		96	70 - 130
4-Chlorotoluene	ND		25.0	24.0		ug/L		96	70 - 130
Acetone	40		25.0	65.1		ug/L		101	10 - 150
Benzene	ND		25.0	25.2		ug/L		101	66 - 130
Bromobenzene	ND		25.0	24.4		ug/L		98	70 - 130
Bromochloromethane	ND		25.0	27.9		ug/L		112	70 - 130
Bromodichloromethane	ND		25.0	25.9		ug/L		103	70 - 138
Bromoform	ND		25.0	27.7		ug/L		111	59 - 150
Bromomethane	ND		25.0	22.5		ug/L		90	62 - 131
Carbon tetrachloride	ND		25.0	24.4		ug/L		97	60 - 150
Chlorobenzene	ND		25.0	26.0		ug/L		104	70 - 130
Chloroethane	ND		25.0	24.2		ug/L		97	68 - 130
Chloroform	ND		25.0	26.2		ug/L		105	70 - 130
Chloromethane	ND		25.0	20.1		ug/L		81	39 - 144
cis-1,2-Dichloroethene	ND		25.0	27.0		ug/L		108	70 - 130
cis-1,3-Dichloropropene	ND		25.0	26.3		ug/L		105	70 - 133
Dibromochloromethane	ND		25.0	28.0		ug/L		112	70 - 148
Dibromomethane	ND		25.0	23.6		ug/L		94	70 - 130
Dichlorodifluoromethane	ND		25.0	16.5		ug/L		66	25 - 142
Ethylbenzene	ND		25.0	26.8		ug/L		107	70 - 130
Hexachlorobutadiene	ND		25.0	25.4		ug/L		101	10 - 150
Isopropyl alcohol	ND		250	342		ug/L		137	46 - 142
Isopropylbenzene	ND		25.0	26.6		ug/L		106	70 - 132
m,p-Xylene	ND		25.0	25.8		ug/L		103	70 - 133
Methylene Chloride	ND		25.0	23.1		ug/L		93	52 - 130
Methyl-t-Butyl Ether (MTBE)	ND		25.0	24.2		ug/L		97	70 - 130
Naphthalene	ND		25.0	27.1		ug/L		108	60 - 140
n-Butylbenzene	ND		25.0	24.8		ug/L		99	61 - 149
N-Propylbenzene	ND		25.0	24.0		ug/L		96	66 - 135
o-Xylene	ND		25.0	25.7		ug/L		103	70 - 133
p-Isopropyltoluene	ND		25.0	25.3		ug/L		101	70 - 130
sec-Butylbenzene	ND		25.0	24.0		ug/L		96	67 - 134
Styrene	ND		25.0	25.8		ug/L		103	29 - 150
tert-Butylbenzene	ND		25.0	24.9		ug/L		100	70 - 130
Tetrachloroethene	7.1		25.0	33.8		ug/L		107	70 - 137

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

Lab Sample ID: 440-218715-1 MS — **Client Sample ID: OC_GW_OW-1B_20180823**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 496669

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Toluene	ND		25.0	27.2		ug/L		109	70 - 130
trans-1,2-Dichloroethene	ND		25.0	26.5		ug/L		106	70 - 130
trans-1,3-Dichloropropene	ND		25.0	25.6		ug/L		102	70 - 138
Trichloroethene	ND		25.0	26.0		ug/L		104	70 - 130
Trichlorofluoromethane	1.7		25.0	25.1		ug/L		94	60 - 150
Vinyl chloride	ND		25.0	18.2		ug/L		73	50 - 137

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*97*		*70 - 130*
4-Bromofluorobenzene (Surr)	*89*		*80 - 120*
Dibromofluoromethane (Surr)	*102*		*76 - 132*
Toluene-d8 (Surr)	*102*		*80 - 128*

Lab Sample ID: 440-218715-1 MSD — **Client Sample ID: OC_GW_OW-1B_20180823**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 496669

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,1,1,2-Tetrachloroethane	ND		25.0	27.2		ug/L		109	60 - 149	2	20
1,1,1-Trichloroethane	ND		25.0	25.4		ug/L		101	70 - 130	0	20
1,1,2,2-Tetrachloroethane	ND		25.0	23.5		ug/L		94	63 - 130	2	30
1,1,2-Trichloro-1,2,2-trifluoroethane	4.4	J	25.0	29.1		ug/L		99	60 - 140	0	20
1,1,2-Trichloroethane	ND		25.0	26.3		ug/L		105	70 - 130	2	25
1,1-Dichloroethane	ND		25.0	24.9		ug/L		100	65 - 130	1	20
1,1-Dichloroethene	ND		25.0	25.3		ug/L		101	70 - 130	0	20
1,1-Dichloropropene	ND		25.0	23.8		ug/L		95	64 - 130	1	20
1,2,3-Trichlorobenzene	ND		25.0	27.6		ug/L		110	60 - 140	0	20
1,2,3-Trichloropropane	ND		25.0	23.5		ug/L		94	60 - 130	2	30
1,2,4-Trichlorobenzene	ND		25.0	27.6		ug/L		110	60 - 140	0	20
1,2,4-Trimethylbenzene	ND		25.0	24.2		ug/L		97	70 - 130	1	25
1,2-Dibromo-3-Chloropropane	ND		25.0	21.0		ug/L		84	48 - 140	1	30
1,2-Dibromoethane (EDB)	ND		25.0	26.5		ug/L		106	70 - 131	1	25
1,2-Dichlorobenzene	ND		25.0	27.3		ug/L		109	70 - 130	3	20
1,2-Dichloroethane	ND		25.0	24.7		ug/L		99	56 - 146	1	20
1,2-Dichloropropane	ND		25.0	25.7		ug/L		103	69 - 130	1	20
1,3,5-Trimethylbenzene	ND		25.0	24.7		ug/L		99	70 - 130	2	20
1,3-Dichlorobenzene	ND		25.0	26.3		ug/L		105	70 - 130	1	20
1,3-Dichloropropane	ND		25.0	24.7		ug/L		99	70 - 130	3	25
1,4-Dichlorobenzene	ND		25.0	26.1		ug/L		105	70 - 130	2	20
2,2-Dichloropropane	ND		25.0	23.9		ug/L		96	69 - 138	1	25
2-Chlorotoluene	ND		25.0	24.1		ug/L		96	70 - 130	1	20
4-Chlorotoluene	ND		25.0	24.7		ug/L		99	70 - 130	3	20
Acetone	40		25.0	68.8		ug/L		116	10 - 150	6	35
Benzene	ND		25.0	25.1		ug/L		100	66 - 130	0	20
Bromobenzene	ND		25.0	24.9		ug/L		99	70 - 130	2	20
Bromochloromethane	ND		25.0	27.3		ug/L		109	70 - 130	2	25
Bromodichloromethane	ND		25.0	26.7		ug/L		107	70 - 138	3	20

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

Lab Sample ID: 440-218715-1 MSD — **Client Sample ID: OC_GW_OW-1B_20180823**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 496669

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Bromoform	ND		25.0	28.1		ug/L		113	59 - 150	1	25
Bromomethane	ND		25.0	23.0		ug/L		92	62 - 131	2	25
Carbon tetrachloride	ND		25.0	24.7		ug/L		99	60 - 150	1	25
Chlorobenzene	ND		25.0	25.7		ug/L		103	70 - 130	1	20
Chloroethane	ND		25.0	24.3		ug/L		97	68 - 130	0	25
Chloroform	ND		25.0	26.0		ug/L		104	70 - 130	1	20
Chloromethane	ND		25.0	20.9		ug/L		84	39 - 144	4	25
cis-1,2-Dichloroethene	ND		25.0	26.5		ug/L		106	70 - 130	2	20
cis-1,3-Dichloropropene	ND		25.0	25.6		ug/L		103	70 - 133	2	20
Dibromochloromethane	ND		25.0	27.6		ug/L		111	70 - 148	1	25
Dibromomethane	ND		25.0	22.6		ug/L		91	70 - 130	4	25
Dichlorodifluoromethane	ND		25.0	17.3		ug/L		69	25 - 142	5	30
Ethylbenzene	ND		25.0	26.4		ug/L		106	70 - 130	1	20
Hexachlorobutadiene	ND		25.0	25.3		ug/L		101	10 - 150	0	20
Isopropyl alcohol	ND		250	351		ug/L		140	46 - 142	2	40
Isopropylbenzene	ND		25.0	26.7		ug/L		107	70 - 132	0	20
m,p-Xylene	ND		25.0	25.6		ug/L		103	70 - 133	1	25
Methylene Chloride	ND		25.0	23.9		ug/L		95	52 - 130	3	20
Methyl-t-Butyl Ether (MTBE)	ND		25.0	24.7		ug/L		99	70 - 130	2	25
Naphthalene	ND		25.0	27.8		ug/L		111	60 - 140	3	30
n-Butylbenzene	ND		25.0	25.2		ug/L		101	61 - 149	1	20
N-Propylbenzene	ND		25.0	24.5		ug/L		98	66 - 135	2	20
o-Xylene	ND		25.0	25.2		ug/L		101	70 - 133	2	20
p-Isopropyltoluene	ND		25.0	26.0		ug/L		104	70 - 130	3	20
sec-Butylbenzene	ND		25.0	24.3		ug/L		97	67 - 134	1	20
Styrene	ND		25.0	25.9		ug/L		104	29 - 150	0	35
tert-Butylbenzene	ND		25.0	25.4		ug/L		101	70 - 130	2	20
Tetrachloroethene	7.1		25.0	33.1		ug/L		104	70 - 137	2	20
Toluene	ND		25.0	26.8		ug/L		107	70 - 130	2	20
trans-1,2-Dichloroethene	ND		25.0	25.7		ug/L		103	70 - 130	3	20
trans-1,3-Dichloropropene	ND		25.0	25.1		ug/L		100	70 - 138	2	25
Trichloroethene	ND		25.0	26.0		ug/L		104	70 - 130	0	20
Trichlorofluoromethane	1.7		25.0	24.8		ug/L		93	60 - 150	1	25
Vinyl chloride	ND		25.0	18.6		ug/L		74	50 - 137	2	30

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*95*		*70 - 130*
4-Bromofluorobenzene (Surr)	*92*		*80 - 120*
Dibromofluoromethane (Surr)	*101*		*76 - 132*
Toluene-d8 (Surr)	*101*		*80 - 128*

Lab Sample ID: MB 440-496725/4 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 496725

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dichlorobenzene	ND		1.0	0.25	ug/L			08/31/18 08:15	1
Naphthalene	ND		1.0	0.40	ug/L			08/31/18 08:15	1

Tentatively Identified Compound	MB Est. Result	MB Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Tentatively Identified Compound	None		ug/L					08/31/18 08:15	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	96		70 - 130		08/31/18 08:15	1
4-Bromofluorobenzene (Surr)	96		80 - 120		08/31/18 08:15	1
Dibromofluoromethane (Surr)	96		76 - 132		08/31/18 08:15	1
Toluene-d8 (Surr)	109		80 - 128		08/31/18 08:15	1

Lab Sample ID: LCS 440-496725/5
Client Sample ID: Lab Control Sample
Matrix: Water
Prep Type: Total/NA
Analysis Batch: 496725

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,2-Dichlorobenzene	25.0	28.0		ug/L		112	70 - 130
Naphthalene	25.0	25.1		ug/L		100	60 - 140

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	102		70 - 130
4-Bromofluorobenzene (Surr)	98		80 - 120
Dibromofluoromethane (Surr)	99		76 - 132
Toluene-d8 (Surr)	105		80 - 128

Lab Sample ID: LCSD 440-496725/6
Client Sample ID: Lab Control Sample Dup
Matrix: Water
Prep Type: Total/NA
Analysis Batch: 496725

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,2-Dichlorobenzene	25.0	28.1		ug/L		112	70 - 130	0	20
Naphthalene	25.0	24.8		ug/L		99	60 - 140	1	25

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	104		70 - 130
4-Bromofluorobenzene (Surr)	96		80 - 120
Dibromofluoromethane (Surr)	100		76 - 132
Toluene-d8 (Surr)	102		80 - 128

Lab Sample ID: 440-219176-A-1 MS
Client Sample ID: Matrix Spike
Matrix: Water
Prep Type: Total/NA
Analysis Batch: 496725

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
1,2-Dichlorobenzene	ND		25.0	26.5		ug/L		106	70 - 130
Naphthalene	ND		25.0	25.1		ug/L		101	60 - 140

Surrogate	MS %Recovery	MS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	103		70 - 130
4-Bromofluorobenzene (Surr)	96		80 - 120
Dibromofluoromethane (Surr)	99		76 - 132
Toluene-d8 (Surr)	97		80 - 128

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

Lab Sample ID: 440-219176-A-1 MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 496725

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,2-Dichlorobenzene	ND		25.0	28.6		ug/L		114	70 - 130	8	20
Naphthalene	ND		25.0	26.4		ug/L		106	60 - 140	5	30

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*92*		*70 - 130*
4-Bromofluorobenzene (Surr)	*98*		*80 - 120*
Dibromofluoromethane (Surr)	*100*		*76 - 132*
Toluene-d8 (Surr)	*96*		*80 - 128*

Method: 8270C SIM - Semivolatile Organic Compounds (GC/MS SIM)

Lab Sample ID: MB 440-495789/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 496139 — **Prep Batch: 495789**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	ND		0.50	0.10	ug/L		08/27/18 07:16	08/28/18 13:58	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,4-Dioxane-d8 (Surr)	*60*		*27 - 120*	*08/27/18 07:16*	*08/28/18 13:58*	*1*

Lab Sample ID: LCS 440-495789/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 496139 — **Prep Batch: 495789**

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
1,4-Dioxane			2.00	1.19		ug/L		60	36 - 120		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1,4-Dioxane-d8 (Surr)	*54*		*27 - 120*

Lab Sample ID: LCSD 440-495789/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 496139 — **Prep Batch: 495789**

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,4-Dioxane			2.00	1.32		ug/L		66	36 - 120	10	35

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
1,4-Dioxane-d8 (Surr)	*58*		*27 - 120*

QC Association Summary

Client: de maximis, inc.
Project/Site: Omega Chemical - Semi Annual GWM 2018

TestAmerica Job ID: 440-218715-1
SDG: Omega Chemical

GC/MS VOA

Analysis Batch: 495779

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-218715-1	OC_GW_OW-1B_20180823	Total/NA	Water	8260B	
440-218715-2 - DL	OC_GW_OW-9_20180823	Total/NA	Water	8260B	
440-218715-3 - DL	OC_GW_OW-9K_20180823	Total/NA	Water	8260B	
440-218715-4	OC_GW_OW-10_20180823	Total/NA	Water	8260B	
440-218715-5	OC_GW_TB_20180823	Total/NA	Water	8260B	
440-218715-6	OC_GW_OW-10N_20180823	Total/NA	Water	8260B	
MB 440-495779/4	Method Blank	Total/NA	Water	8260B	
LCS 440-495779/5	Lab Control Sample	Total/NA	Water	8260B	
440-218823-C-1 MS	Matrix Spike	Total/NA	Water	8260B	
440-218823-C-1 MSD	Matrix Spike Duplicate	Total/NA	Water	8260B	

Analysis Batch: 496669

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-218715-1 - RA	OC_GW_OW-1B_20180823	Total/NA	Water	8260B	
440-218715-2	OC_GW_OW-9_20180823	Total/NA	Water	8260B	
440-218715-3	OC_GW_OW-9K_20180823	Total/NA	Water	8260B	
440-218715-4 - RA	OC_GW_OW-10_20180823	Total/NA	Water	8260B	
440-218715-5 - RA	OC_GW_TB_20180823	Total/NA	Water	8260B	
440-218715-6 - RA	OC_GW_OW-10N_20180823	Total/NA	Water	8260B	
MB 440-496669/4	Method Blank	Total/NA	Water	8260B	
LCS 440-496669/5	Lab Control Sample	Total/NA	Water	8260B	
LCS 440-496669/6	Lab Control Sample	Total/NA	Water	8260B	
440-218715-1 MS	OC_GW_OW-1B_20180823	Total/NA	Water	8260B	
440-218715-1 MSD	OC_GW_OW-1B_20180823	Total/NA	Water	8260B	

Analysis Batch: 496725

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-218715-2 - RA	OC_GW_OW-9_20180823	Total/NA	Water	8260B	
MB 440-496725/4	Method Blank	Total/NA	Water	8260B	
LCS 440-496725/5	Lab Control Sample	Total/NA	Water	8260B	
LCSD 440-496725/6	Lab Control Sample Dup	Total/NA	Water	8260B	
440-219176-A-1 MS	Matrix Spike	Total/NA	Water	8260B	
440-219176-A-1 MSD	Matrix Spike Duplicate	Total/NA	Water	8260B	

GC/MS Semi VOA

Prep Batch: 495789

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-218715-1	OC_GW_OW-1B_20180823	Total/NA	Water	3520C	
440-218715-2	OC_GW_OW-9_20180823	Total/NA	Water	3520C	
440-218715-3	OC_GW_OW-9K_20180823	Total/NA	Water	3520C	
440-218715-4	OC_GW_OW-10_20180823	Total/NA	Water	3520C	
MB 440-495789/1-A	Method Blank	Total/NA	Water	3520C	
LCS 440-495789/2-A	Lab Control Sample	Total/NA	Water	3520C	
LCSD 440-495789/3-A	Lab Control Sample Dup	Total/NA	Water	3520C	

Analysis Batch: 496139

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-218715-1	OC_GW_OW-1B_20180823	Total/NA	Water	8270C SIM	495789
440-218715-2	OC_GW_OW-9_20180823	Total/NA	Water	8270C SIM	495789

GC/MS Semi VOA (Continued)

Analysis Batch: 496139 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-218715-4	OC_GW_OW-10_20180823	Total/NA	Water	8270C SIM	495789
MB 440-495789/1-A	Method Blank	Total/NA	Water	8270C SIM	495789
LCS 440-495789/2-A	Lab Control Sample	Total/NA	Water	8270C SIM	495789
LCSD 440-495789/3-A	Lab Control Sample Dup	Total/NA	Water	8270C SIM	495789

Analysis Batch: 496282

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-218715-3	OC_GW_OW-9K_20180823	Total/NA	Water	8270C SIM	495789

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

GC/MS VOA TICs

Qualifier	Qualifier Description
J	Indicates an Estimated Value for TICs
T	Result is a tentatively identified compound (TIC) and an estimated value.

GC/MS Semi VOA

Qualifier	Qualifier Description
X	Surrogate is outside control limits
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Accreditation/Certification Summary

Client: de maximis, inc.
Project/Site: Omega Chemical - Semi Annual GWM 2018

TestAmerica Job ID: 440-218715-1
SDG: Omega Chemical

Laboratory: TestAmerica Irvine

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	EPA Region	Identification Number	Expiration Date
California	State Program	9	CA ELAP 2706	06-30-19

The following analytes are included in this report, but accreditation/certification is not offered by the governing authority:

Analysis Method	Prep Method	Matrix	Analyte
8260B		Water	1,1,2-Trichloro-1,2,2-trifluoroethane
8260B		Water	m,p-Xylene
8270C SIM	3520C	Water	1,4-Dioxane

TestAmerica Irvine
17461 Derian Ave
Suite 100
Irvine, CA 92614
phone 949.261.1022 fax

Chain of Custody Record

TestAmerica
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TestAmerica Laboratories, Inc.

Regulatory Program: ☐ DW ☐ NPDES ☐ RCRA ☐ Other:

Client Contact	Project Manager: Trent Henderson	Site Contact: Khalid Azhar	Date: 8/23/18	COC No:
De Maximis - Jaime Dinello	Tel/Fax: 949 453 1045/949 453 1047	Lab Contact: Danielle Roberts	Carrier:	1 of 1 COCs
1322 Scott St., Suite 104	Analysis Turnaround Time			Sampler.
San Diego, CA 92106	☐ CALENDAR DAYS ☐ WORKING DAYS			For Lab Use Only:
(562) 756-8149	TAT if different from Below STD			Walk-in Client:
	☐ 2 weeks			Lab Sampling:
Project Name: Omega Chemical - SemiAnn GWM Feb. 2018	☐ 1 week			
Site: Omega Chemical	☐ 2 days			Job / SDG No.:
P O #:	☐ 1 day			

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.	Filtered Sample (Y / N)	Perform MS / MSD (Y / N)	EPA 8260B - VOCs + Freons	EPA 8270C - 1,4 Dioxane	Sample Specific Notes:
OC_GW_OW-1B_20180823	8/23/18	1045	Grab	GW	5			x	x	
OC_GW_OW-9_20180823	"	1225	Grab	GW	5			x	x	
OC_GW_OW-9K_20180823	"	1225	Grab	GW	5			x	x	
OC_GW_OW-10_20180823	"	1315	Grab	GW	5			x	x	
OC_GW_ _201808			Grab	GW	5			x	x	
OC_GW_ _201808			Grab	GW	5			x	x	
OC_GW_ _201808			Grab	GW	5			x	x	
OC_GW_ _201808			Grab	GW	5			x	x	
OC_GW_ _201808			Grab	GW	5			x	x	
OC_GW_ _201808			Grab	GW	5			x	x	
OC_GW_TB_20180823	8/23/18	0630	Grab	H2O	3			x		
OC_GW_OW-10N_20180823	"	1333	Grab	H2O	3			x		

440-218715 Chain of Custody

00/00 8/23/18

Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other

Possible Hazard Identification:
Are any samples from a listed EPA Hazardous Waste? Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample.
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return to Client ☐ Disposal by Lab ☐ Archive for _____ Months

Special Instructions/QC Requirements & Comments:

Custody Seals Intact: ☐ Yes ☐ No | Custody Seal No.: | Cooler Temp. (°C): Obs'd: 4.2 Corr'd: 4.5 | Therm ID No.: IR 66

Relinquished by:	Company	Date/Time:	Received by:	Company:	Date/Time:
	JHA	1337 8/23/18		TA-IRV	8/23/18 1237
Relinquished by:	TA-IRV	1837 8/23/18	Received by:	Company:	Date/Time
Relinquished by:	Company:	Date/Time:	Received in Laboratory by:	Company: TA IRV	Date/Time: 8/23/18 1830

Login Sample Receipt Checklist

Client: de maximis, inc.

Job Number: 440-218715-1
SDG Number: Omega Chemical

Login Number: 218715
List Number: 1
Creator: Soderblom, Tim

List Source: TestAmerica Irvine

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	N/A	Not present
Sample custody seals, if present, are intact.	N/A	Not Present
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	False	Not requested on COC.
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

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ANALYTICAL REPORT

TestAmerica Laboratories, Inc.
TestAmerica Irvine
17461 Derian Ave
Suite 100
Irvine, CA 92614-5817
Tel: (949)261-1022

TestAmerica Job ID: 440-218804-1
TestAmerica Sample Delivery Group: Omega Chemical
Client Project/Site: Omega Chemical - Semi Annual GWM 2018

For:
de maximis, inc.
2365 Northside Drive, Suite C-100
San Diego, California 92108

Attn: Jaime Dinello

Authorized for release by:
9/6/2018 3:40:06 PM

Danielle Roberts, Senior Project Manager
(949)261-1022
danielle.roberts@testamericainc.com

LINKS

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The test results in this report meet all 2003 NELAC and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

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Sample Summary

Client: de maximis, inc.
Project/Site: Omega Chemical - Semi Annual GWM 2018

TestAmerica Job ID: 440-218804-1
SDG: Omega Chemical

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
440-218804-1	OC_GW_OW-11_20180824	Water	08/24/18 08:31	08/24/18 17:02
440-218804-2	OC_GW_OW-13B_20180824	Water	08/24/18 10:36	08/24/18 17:02
440-218804-3	OC_GW_TB_20180824	Water	08/24/18 06:30	08/24/18 17:02
440-218804-4	OC_GW_OW-13BN_20180824	Water	08/24/18 11:10	08/24/18 17:02

Job ID: 440-218804-1

Laboratory: TestAmerica Irvine

Narrative

Job Narrative
440-218804-1

Comments
No additional comments.

Receipt
The samples were received on 8/24/2018 5:02 PM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 0.5º C.

Receipt Exceptions

The Field Sampler was not listed on the Chain of Custody.

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

GC/MS Semi VOA
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Organic Prep
Method(s) 3520C: Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD) associated with 3520C_8270C-SIM-1,4-DXN preparation batch 440-495789.

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

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

Detection Summary

Client: de maximis, inc.
Project/Site: Omega Chemical - Semi Annual GWM 2018

TestAmerica Job ID: 440-218804-1
SDG: Omega Chemical

Client Sample ID: OC_GW_OW-11_20180824 — Lab Sample ID: 440-218804-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,1,2-Trichloro-1,2,2-trifluoroethane	57		5.0	0.50	ug/L	1		8260B	Total/NA
1,1-Dichloroethene	39		1.0	0.25	ug/L	1		8260B	Total/NA
Chloroform	0.58	J	1.0	0.25	ug/L	1		8260B	Total/NA
Tetrachloroethene	220		1.0	0.25	ug/L	1		8260B	Total/NA
Trichloroethene	41		1.0	0.25	ug/L	1		8260B	Total/NA
Trichlorofluoromethane	17		1.0	0.25	ug/L	1		8260B	Total/NA

Client Sample ID: OC_GW_OW-13B_20180824 — Lab Sample ID: 440-218804-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Tetrachloroethene	25		1.0	0.25	ug/L	1		8260B	Total/NA

Client Sample ID: OC_GW_TB_20180824 — Lab Sample ID: 440-218804-3

No Detections.

Client Sample ID: OC_GW_OW-13BN_20180824 — Lab Sample ID: 440-218804-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Acetone	36		10	10	ug/L	1		8260B	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample Results

Client: de maximis, inc.
Project/Site: Omega Chemical - Semi Annual GWM 2018

TestAmerica Job ID: 440-218804-1
SDG: Omega Chemical

Client Sample ID: OC_GW_OW-11_20180824

Lab Sample ID: 440-218804-1

Date Collected: 08/24/18 08:31
Matrix: Water
Date Received: 08/24/18 17:02

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		1.0	0.25	ug/L			08/27/18 15:07	1
1,1,1-Trichloroethane	ND		1.0	0.25	ug/L			08/27/18 15:07	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.25	ug/L			08/27/18 15:07	1
1,1,2-Trichloro-1,2,2-trifluoroethane	**57**		5.0	0.50	ug/L			08/27/18 15:07	1
1,1,2-Trichloroethane	ND		1.0	0.25	ug/L			08/27/18 15:07	1
1,1-Dichloroethane	ND		1.0	0.25	ug/L			08/27/18 15:07	1
1,1-Dichloroethene	**39**		1.0	0.25	ug/L			08/27/18 15:07	1
1,1-Dichloropropene	ND		1.0	0.25	ug/L			08/27/18 15:07	1
1,2,3-Trichlorobenzene	ND		1.0	0.40	ug/L			08/27/18 15:07	1
1,2,3-Trichloropropane	ND		1.0	0.40	ug/L			08/27/18 15:07	1
1,2,4-Trichlorobenzene	ND		1.0	0.40	ug/L			08/27/18 15:07	1
1,2,4-Trimethylbenzene	ND		1.0	0.25	ug/L			08/27/18 15:07	1
1,2-Dibromo-3-Chloropropane	ND		5.0	0.50	ug/L			08/27/18 15:07	1
1,2-Dibromoethane (EDB)	ND		1.0	0.25	ug/L			08/27/18 15:07	1
1,2-Dichlorobenzene	ND		1.0	0.25	ug/L			08/27/18 15:07	1
1,2-Dichloroethane	ND		1.0	0.25	ug/L			08/27/18 15:07	1
1,2-Dichloropropane	ND		1.0	0.25	ug/L			08/27/18 15:07	1
1,3,5-Trimethylbenzene	ND		1.0	0.25	ug/L			08/27/18 15:07	1
1,3-Dichlorobenzene	ND		1.0	0.25	ug/L			08/27/18 15:07	1
1,3-Dichloropropane	ND		1.0	0.25	ug/L			08/27/18 15:07	1
1,4-Dichlorobenzene	ND		1.0	0.25	ug/L			08/27/18 15:07	1
2,2-Dichloropropane	ND		1.0	0.40	ug/L			08/27/18 15:07	1
2-Chlorotoluene	ND		1.0	0.25	ug/L			08/27/18 15:07	1
4-Chlorotoluene	ND		1.0	0.25	ug/L			08/27/18 15:07	1
Acetone	ND		10	10	ug/L			08/27/18 15:07	1
Benzene	ND		0.50	0.25	ug/L			08/27/18 15:07	1
Bromobenzene	ND		1.0	0.25	ug/L			08/27/18 15:07	1
Bromochloromethane	ND		1.0	0.25	ug/L			08/27/18 15:07	1
Bromodichloromethane	ND		1.0	0.25	ug/L			08/27/18 15:07	1
Bromoform	ND		1.0	0.40	ug/L			08/27/18 15:07	1
Bromomethane	ND		1.0	0.25	ug/L			08/27/18 15:07	1
Carbon tetrachloride	ND		0.50	0.25	ug/L			08/27/18 15:07	1
Chlorobenzene	ND		1.0	0.25	ug/L			08/27/18 15:07	1
Chloroethane	ND		1.0	0.40	ug/L			08/27/18 15:07	1
Chloroform	**0.58**	**J**	1.0	0.25	ug/L			08/27/18 15:07	1
Chloromethane	ND		1.0	0.25	ug/L			08/27/18 15:07	1
cis-1,2-Dichloroethene	ND		1.0	0.25	ug/L			08/27/18 15:07	1
cis-1,3-Dichloropropene	ND		0.50	0.25	ug/L			08/27/18 15:07	1
Dibromochloromethane	ND		1.0	0.25	ug/L			08/27/18 15:07	1
Dibromomethane	ND		1.0	0.25	ug/L			08/27/18 15:07	1
Dichlorodifluoromethane	ND		1.0	0.40	ug/L			08/27/18 15:07	1
Ethylbenzene	ND		1.0	0.25	ug/L			08/27/18 15:07	1
Hexachlorobutadiene	ND		1.0	0.25	ug/L			08/27/18 15:07	1
Isopropylbenzene	ND		1.0	0.25	ug/L			08/27/18 15:07	1
m,p-Xylene	ND		1.0	0.50	ug/L			08/27/18 15:07	1
Methylene Chloride	ND		5.0	0.88	ug/L			08/27/18 15:07	1
Methyl-t-Butyl Ether (MTBE)	ND		1.0	0.25	ug/L			08/27/18 15:07	1
Naphthalene	ND		1.0	0.40	ug/L			08/27/18 15:07	1

Client Sample Results

Client: de maximis, inc.
Project/Site: Omega Chemical - Semi Annual GWM 2018

TestAmerica Job ID: 440-218804-1
SDG: Omega Chemical

Client Sample ID: OC_GW_OW-11_20180824

Lab Sample ID: 440-218804-1

Date Collected: 08/24/18 08:31
Matrix: Water
Date Received: 08/24/18 17:02

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
n-Butylbenzene	ND		1.0	0.40	ug/L			08/27/18 15:07	1
N-Propylbenzene	ND		1.0	0.25	ug/L			08/27/18 15:07	1
o-Xylene	ND		1.0	0.25	ug/L			08/27/18 15:07	1
p-Isopropyltoluene	ND		1.0	0.25	ug/L			08/27/18 15:07	1
sec-Butylbenzene	ND		1.0	0.25	ug/L			08/27/18 15:07	1
Styrene	ND		1.0	0.25	ug/L			08/27/18 15:07	1
tert-Butylbenzene	ND		1.0	0.25	ug/L			08/27/18 15:07	1
Tetrachloroethene	**220**		1.0	0.25	ug/L			08/27/18 15:07	1
Toluene	ND		1.0	0.25	ug/L			08/27/18 15:07	1
trans-1,2-Dichloroethene	ND		1.0	0.25	ug/L			08/27/18 15:07	1
trans-1,3-Dichloropropene	ND		0.50	0.25	ug/L			08/27/18 15:07	1
Trichloroethene	**41**		1.0	0.25	ug/L			08/27/18 15:07	1
Trichlorofluoromethane	**17**		1.0	0.25	ug/L			08/27/18 15:07	1
Vinyl chloride	ND		0.50	0.25	ug/L			08/27/18 15:07	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Unknown	*14*	*T J*	*ug/L*		*1.67*			*08/27/18 15:07*	*1*
Unknown	*1100*	*T J*	*ug/L*		*1.76*			*08/27/18 15:07*	*1*
Unknown	*3.7*	*T J*	*ug/L*		*8.59*			*08/27/18 15:07*	*1*
Unknown	*4.5*	*T J*	*ug/L*		*16.20*			*08/27/18 15:07*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*92*		*70 - 130*		*08/27/18 15:07*	*1*
4-Bromofluorobenzene (Surr)	*99*		*80 - 120*		*08/27/18 15:07*	*1*
Dibromofluoromethane (Surr)	*91*		*76 - 132*		*08/27/18 15:07*	*1*
Toluene-d8 (Surr)	*104*		*80 - 128*		*08/27/18 15:07*	*1*

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Isopropyl alcohol	ND		250	180	ug/L			08/31/18 02:52	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Unknown	*19*	*T J*	*ug/L*		*16.31*			*08/31/18 02:52*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*100*		*70 - 130*		*08/31/18 02:52*	*1*
4-Bromofluorobenzene (Surr)	*95*		*80 - 120*		*08/31/18 02:52*	*1*
Dibromofluoromethane (Surr)	*103*		*76 - 132*		*08/31/18 02:52*	*1*
Toluene-d8 (Surr)	*104*		*80 - 128*		*08/31/18 02:52*	*1*

Method: 8270C SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	ND		0.50	0.099	ug/L		08/27/18 07:16	08/28/18 20:05	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,4-Dioxane-d8 (Surr)	*60*		*27 - 120*	*08/27/18 07:16*	*08/28/18 20:05*	*1*

Client Sample Results

Client: de maximis, inc.
Project/Site: Omega Chemical - Semi Annual GWM 2018

TestAmerica Job ID: 440-218804-1
SDG: Omega Chemical

Client Sample ID: OC_GW_OW-13B_20180824

Lab Sample ID: 440-218804-2

Date Collected: 08/24/18 10:36
Matrix: Water
Date Received: 08/24/18 17:02

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		1.0	0.25	ug/L			08/27/18 15:37	1
1,1,1-Trichloroethane	ND		1.0	0.25	ug/L			08/27/18 15:37	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.25	ug/L			08/27/18 15:37	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		5.0	0.50	ug/L			08/27/18 15:37	1
1,1,2-Trichloroethane	ND		1.0	0.25	ug/L			08/27/18 15:37	1
1,1-Dichloroethane	ND		1.0	0.25	ug/L			08/27/18 15:37	1
1,1-Dichloroethene	ND		1.0	0.25	ug/L			08/27/18 15:37	1
1,1-Dichloropropene	ND		1.0	0.25	ug/L			08/27/18 15:37	1
1,2,3-Trichlorobenzene	ND		1.0	0.40	ug/L			08/27/18 15:37	1
1,2,3-Trichloropropane	ND		1.0	0.40	ug/L			08/27/18 15:37	1
1,2,4-Trichlorobenzene	ND		1.0	0.40	ug/L			08/27/18 15:37	1
1,2,4-Trimethylbenzene	ND		1.0	0.25	ug/L			08/27/18 15:37	1
1,2-Dibromo-3-Chloropropane	ND		5.0	0.50	ug/L			08/27/18 15:37	1
1,2-Dibromoethane (EDB)	ND		1.0	0.25	ug/L			08/27/18 15:37	1
1,2-Dichlorobenzene	ND		1.0	0.25	ug/L			08/27/18 15:37	1
1,2-Dichloroethane	ND		1.0	0.25	ug/L			08/27/18 15:37	1
1,2-Dichloropropane	ND		1.0	0.25	ug/L			08/27/18 15:37	1
1,3,5-Trimethylbenzene	ND		1.0	0.25	ug/L			08/27/18 15:37	1
1,3-Dichlorobenzene	ND		1.0	0.25	ug/L			08/27/18 15:37	1
1,3-Dichloropropane	ND		1.0	0.25	ug/L			08/27/18 15:37	1
1,4-Dichlorobenzene	ND		1.0	0.25	ug/L			08/27/18 15:37	1
2,2-Dichloropropane	ND		1.0	0.40	ug/L			08/27/18 15:37	1
2-Chlorotoluene	ND		1.0	0.25	ug/L			08/27/18 15:37	1
4-Chlorotoluene	ND		1.0	0.25	ug/L			08/27/18 15:37	1
Acetone	ND		10	10	ug/L			08/27/18 15:37	1
Benzene	ND		0.50	0.25	ug/L			08/27/18 15:37	1
Bromobenzene	ND		1.0	0.25	ug/L			08/27/18 15:37	1
Bromochloromethane	ND		1.0	0.25	ug/L			08/27/18 15:37	1
Bromodichloromethane	ND		1.0	0.25	ug/L			08/27/18 15:37	1
Bromoform	ND		1.0	0.40	ug/L			08/27/18 15:37	1
Bromomethane	ND		1.0	0.25	ug/L			08/27/18 15:37	1
Carbon tetrachloride	ND		0.50	0.25	ug/L			08/27/18 15:37	1
Chlorobenzene	ND		1.0	0.25	ug/L			08/27/18 15:37	1
Chloroethane	ND		1.0	0.40	ug/L			08/27/18 15:37	1
Chloroform	ND		1.0	0.25	ug/L			08/27/18 15:37	1
Chloromethane	ND		1.0	0.25	ug/L			08/27/18 15:37	1
cis-1,2-Dichloroethene	ND		1.0	0.25	ug/L			08/27/18 15:37	1
cis-1,3-Dichloropropene	ND		0.50	0.25	ug/L			08/27/18 15:37	1
Dibromochloromethane	ND		1.0	0.25	ug/L			08/27/18 15:37	1
Dibromomethane	ND		1.0	0.25	ug/L			08/27/18 15:37	1
Dichlorodifluoromethane	ND		1.0	0.40	ug/L			08/27/18 15:37	1
Ethylbenzene	ND		1.0	0.25	ug/L			08/27/18 15:37	1
Hexachlorobutadiene	ND		1.0	0.25	ug/L			08/27/18 15:37	1
Isopropylbenzene	ND		1.0	0.25	ug/L			08/27/18 15:37	1
m,p-Xylene	ND		1.0	0.50	ug/L			08/27/18 15:37	1
Methylene Chloride	ND		5.0	0.88	ug/L			08/27/18 15:37	1
Methyl-t-Butyl Ether (MTBE)	ND		1.0	0.25	ug/L			08/27/18 15:37	1
Naphthalene	ND		1.0	0.40	ug/L			08/27/18 15:37	1
n-Butylbenzene	ND		1.0	0.40	ug/L			08/27/18 15:37	1

Client Sample ID: OC_GW_OW-13B_20180824

Lab Sample ID: 440-218804-2

Date Collected: 08/24/18 10:36
Matrix: Water
Date Received: 08/24/18 17:02

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
N-Propylbenzene	ND		1.0	0.25	ug/L			08/27/18 15:37	1
o-Xylene	ND		1.0	0.25	ug/L			08/27/18 15:37	1
p-Isopropyltoluene	ND		1.0	0.25	ug/L			08/27/18 15:37	1
sec-Butylbenzene	ND		1.0	0.25	ug/L			08/27/18 15:37	1
Styrene	ND		1.0	0.25	ug/L			08/27/18 15:37	1
tert-Butylbenzene	ND		1.0	0.25	ug/L			08/27/18 15:37	1
Tetrachloroethene	**25**		1.0	0.25	ug/L			08/27/18 15:37	1
Toluene	ND		1.0	0.25	ug/L			08/27/18 15:37	1
trans-1,2-Dichloroethene	ND		1.0	0.25	ug/L			08/27/18 15:37	1
trans-1,3-Dichloropropene	ND		0.50	0.25	ug/L			08/27/18 15:37	1
Trichloroethene	ND		1.0	0.25	ug/L			08/27/18 15:37	1
Trichlorofluoromethane	ND		1.0	0.25	ug/L			08/27/18 15:37	1
Vinyl chloride	ND		0.50	0.25	ug/L			08/27/18 15:37	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Unknown	*14*	*T J*	*ug/L*		*1.66*			*08/27/18 15:37*	*1*
Unknown	*800*	*T J*	*ug/L*		*1.72*			*08/27/18 15:37*	*1*
Unknown	*3.2*	*T J*	*ug/L*		*4.33*			*08/27/18 15:37*	*1*
Unknown	*3.7*	*T J*	*ug/L*		*15.37*			*08/27/18 15:37*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*98*		*70 - 130*		*08/27/18 15:37*	*1*
4-Bromofluorobenzene (Surr)	*98*		*80 - 120*		*08/27/18 15:37*	*1*
Dibromofluoromethane (Surr)	*96*		*76 - 132*		*08/27/18 15:37*	*1*
Toluene-d8 (Surr)	*105*		*80 - 128*		*08/27/18 15:37*	*1*

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Isopropyl alcohol	ND		250	180	ug/L			08/31/18 03:18	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*103*		*70 - 130*		*08/31/18 03:18*	*1*
4-Bromofluorobenzene (Surr)	*94*		*80 - 120*		*08/31/18 03:18*	*1*
Dibromofluoromethane (Surr)	*103*		*76 - 132*		*08/31/18 03:18*	*1*
Toluene-d8 (Surr)	*105*		*80 - 128*		*08/31/18 03:18*	*1*

Method: 8270C SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	ND		0.49	0.099	ug/L		08/27/18 07:16	08/28/18 20:28	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,4-Dioxane-d8 (Surr)	*45*		*27 - 120*	*08/27/18 07:16*	*08/28/18 20:28*	*1*

Client Sample ID: OC_GW_TB_20180824

Lab Sample ID: 440-218804-3

Date Collected: 08/24/18 06:30
Matrix: Water
Date Received: 08/24/18 17:02

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		1.0	0.25	ug/L			08/27/18 09:55	1
1,1,1-Trichloroethane	ND		1.0	0.25	ug/L			08/27/18 09:55	1

Client Sample Results

Client: de maximis, inc.
Project/Site: Omega Chemical - Semi Annual GWM 2018

TestAmerica Job ID: 440-218804-1
SDG: Omega Chemical

Client Sample ID: OC_GW_TB_20180824
Date Collected: 08/24/18 06:30
Date Received: 08/24/18 17:02

Lab Sample ID: 440-218804-3
Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,2,2-Tetrachloroethane	ND		1.0	0.25	ug/L			08/27/18 09:55	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		5.0	0.50	ug/L			08/27/18 09:55	1
1,1,2-Trichloroethane	ND		1.0	0.25	ug/L			08/27/18 09:55	1
1,1-Dichloroethane	ND		1.0	0.25	ug/L			08/27/18 09:55	1
1,1-Dichloroethene	ND		1.0	0.25	ug/L			08/27/18 09:55	1
1,1-Dichloropropene	ND		1.0	0.25	ug/L			08/27/18 09:55	1
1,2,3-Trichlorobenzene	ND		1.0	0.40	ug/L			08/27/18 09:55	1
1,2,3-Trichloropropane	ND		1.0	0.40	ug/L			08/27/18 09:55	1
1,2,4-Trichlorobenzene	ND		1.0	0.40	ug/L			08/27/18 09:55	1
1,2,4-Trimethylbenzene	ND		1.0	0.25	ug/L			08/27/18 09:55	1
1,2-Dibromo-3-Chloropropane	ND		5.0	0.50	ug/L			08/27/18 09:55	1
1,2-Dibromoethane (EDB)	ND		1.0	0.25	ug/L			08/27/18 09:55	1
1,2-Dichlorobenzene	ND		1.0	0.25	ug/L			08/27/18 09:55	1
1,2-Dichloroethane	ND		1.0	0.25	ug/L			08/27/18 09:55	1
1,2-Dichloropropane	ND		1.0	0.25	ug/L			08/27/18 09:55	1
1,3,5-Trimethylbenzene	ND		1.0	0.25	ug/L			08/27/18 09:55	1
1,3-Dichlorobenzene	ND		1.0	0.25	ug/L			08/27/18 09:55	1
1,3-Dichloropropane	ND		1.0	0.25	ug/L			08/27/18 09:55	1
1,4-Dichlorobenzene	ND		1.0	0.25	ug/L			08/27/18 09:55	1
2,2-Dichloropropane	ND		1.0	0.40	ug/L			08/27/18 09:55	1
2-Chlorotoluene	ND		1.0	0.25	ug/L			08/27/18 09:55	1
4-Chlorotoluene	ND		1.0	0.25	ug/L			08/27/18 09:55	1
Acetone	ND		10	10	ug/L			08/27/18 09:55	1
Benzene	ND		0.50	0.25	ug/L			08/27/18 09:55	1
Bromobenzene	ND		1.0	0.25	ug/L			08/27/18 09:55	1
Bromochloromethane	ND		1.0	0.25	ug/L			08/27/18 09:55	1
Bromodichloromethane	ND		1.0	0.25	ug/L			08/27/18 09:55	1
Bromoform	ND		1.0	0.40	ug/L			08/27/18 09:55	1
Bromomethane	ND		1.0	0.25	ug/L			08/27/18 09:55	1
Carbon tetrachloride	ND		0.50	0.25	ug/L			08/27/18 09:55	1
Chlorobenzene	ND		1.0	0.25	ug/L			08/27/18 09:55	1
Chloroethane	ND		1.0	0.40	ug/L			08/27/18 09:55	1
Chloroform	ND		1.0	0.25	ug/L			08/27/18 09:55	1
Chloromethane	ND		1.0	0.25	ug/L			08/27/18 09:55	1
cis-1,2-Dichloroethene	ND		1.0	0.25	ug/L			08/27/18 09:55	1
cis-1,3-Dichloropropene	ND		0.50	0.25	ug/L			08/27/18 09:55	1
Dibromochloromethane	ND		1.0	0.25	ug/L			08/27/18 09:55	1
Dibromomethane	ND		1.0	0.25	ug/L			08/27/18 09:55	1
Dichlorodifluoromethane	ND		1.0	0.40	ug/L			08/27/18 09:55	1
Ethylbenzene	ND		1.0	0.25	ug/L			08/27/18 09:55	1
Hexachlorobutadiene	ND		1.0	0.25	ug/L			08/27/18 09:55	1
Isopropylbenzene	ND		1.0	0.25	ug/L			08/27/18 09:55	1
m,p-Xylene	ND		1.0	0.50	ug/L			08/27/18 09:55	1
Methylene Chloride	ND		5.0	0.88	ug/L			08/27/18 09:55	1
Methyl-t-Butyl Ether (MTBE)	ND		1.0	0.25	ug/L			08/27/18 09:55	1
Naphthalene	ND		1.0	0.40	ug/L			08/27/18 09:55	1
n-Butylbenzene	ND		1.0	0.40	ug/L			08/27/18 09:55	1
N-Propylbenzene	ND		1.0	0.25	ug/L			08/27/18 09:55	1
o-Xylene	ND		1.0	0.25	ug/L			08/27/18 09:55	1

Client Sample ID: OC_GW_TB_20180824

Lab Sample ID: 440-218804-3

Date Collected: 08/24/18 06:30
Matrix: Water
Date Received: 08/24/18 17:02

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
p-Isopropyltoluene	ND		1.0	0.25	ug/L			08/27/18 09:55	1
sec-Butylbenzene	ND		1.0	0.25	ug/L			08/27/18 09:55	1
Styrene	ND		1.0	0.25	ug/L			08/27/18 09:55	1
tert-Butylbenzene	ND		1.0	0.25	ug/L			08/27/18 09:55	1
Tetrachloroethene	ND		1.0	0.25	ug/L			08/27/18 09:55	1
Toluene	ND		1.0	0.25	ug/L			08/27/18 09:55	1
trans-1,2-Dichloroethene	ND		1.0	0.25	ug/L			08/27/18 09:55	1
trans-1,3-Dichloropropene	ND		0.50	0.25	ug/L			08/27/18 09:55	1
Trichloroethene	ND		1.0	0.25	ug/L			08/27/18 09:55	1
Trichlorofluoromethane	ND		1.0	0.25	ug/L			08/27/18 09:55	1
Vinyl chloride	ND		0.50	0.25	ug/L			08/27/18 09:55	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Unknown	*9.9*	*T J*	*ug/L*		*1.67*			*08/27/18 09:55*	*1*
Unknown	*17*	*T J*	*ug/L*		*1.72*			*08/27/18 09:55*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*87*		*70 - 130*		*08/27/18 09:55*	*1*
4-Bromofluorobenzene (Surr)	*97*		*80 - 120*		*08/27/18 09:55*	*1*
Dibromofluoromethane (Surr)	*95*		*76 - 132*		*08/27/18 09:55*	*1*
Toluene-d8 (Surr)	*109*		*80 - 128*		*08/27/18 09:55*	*1*

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Isopropyl alcohol	ND		250	180	ug/L			08/31/18 02:25	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Unknown	*6.4*	*T J*	*ug/L*		*15.24*			*08/31/18 02:25*	*1*
Unknown	*9.0*	*T J*	*ug/L*		*16.94*			*08/31/18 02:25*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*103*		*70 - 130*		*08/31/18 02:25*	*1*
4-Bromofluorobenzene (Surr)	*94*		*80 - 120*		*08/31/18 02:25*	*1*
Dibromofluoromethane (Surr)	*105*		*76 - 132*		*08/31/18 02:25*	*1*
Toluene-d8 (Surr)	*102*		*80 - 128*		*08/31/18 02:25*	*1*

Client Sample ID: OC_GW_OW-13BN_20180824

Lab Sample ID: 440-218804-4

Date Collected: 08/24/18 11:10
Matrix: Water
Date Received: 08/24/18 17:02

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		1.0	0.25	ug/L			08/27/18 16:05	1
1,1,1-Trichloroethane	ND		1.0	0.25	ug/L			08/27/18 16:05	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.25	ug/L			08/27/18 16:05	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		5.0	0.50	ug/L			08/27/18 16:05	1
1,1,2-Trichloroethane	ND		1.0	0.25	ug/L			08/27/18 16:05	1
1,1-Dichloroethane	ND		1.0	0.25	ug/L			08/27/18 16:05	1
1,1-Dichloroethene	ND		1.0	0.25	ug/L			08/27/18 16:05	1
1,1-Dichloropropene	ND		1.0	0.25	ug/L			08/27/18 16:05	1
1,2,3-Trichlorobenzene	ND		1.0	0.40	ug/L			08/27/18 16:05	1

Client Sample Results

Client: de maximis, inc.
Project/Site: Omega Chemical - Semi Annual GWM 2018

TestAmerica Job ID: 440-218804-1
SDG: Omega Chemical

Client Sample ID: OC_GW_OW-13BN_20180824

Lab Sample ID: 440-218804-4

Date Collected: 08/24/18 11:10
Matrix: Water
Date Received: 08/24/18 17:02

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,3-Trichloropropane	ND		1.0	0.40	ug/L			08/27/18 16:05	1
1,2,4-Trichlorobenzene	ND		1.0	0.40	ug/L			08/27/18 16:05	1
1,2,4-Trimethylbenzene	ND		1.0	0.25	ug/L			08/27/18 16:05	1
1,2-Dibromo-3-Chloropropane	ND		5.0	0.50	ug/L			08/27/18 16:05	1
1,2-Dibromoethane (EDB)	ND		1.0	0.25	ug/L			08/27/18 16:05	1
1,2-Dichlorobenzene	ND		1.0	0.25	ug/L			08/27/18 16:05	1
1,2-Dichloroethane	ND		1.0	0.25	ug/L			08/27/18 16:05	1
1,2-Dichloropropane	ND		1.0	0.25	ug/L			08/27/18 16:05	1
1,3,5-Trimethylbenzene	ND		1.0	0.25	ug/L			08/27/18 16:05	1
1,3-Dichlorobenzene	ND		1.0	0.25	ug/L			08/27/18 16:05	1
1,3-Dichloropropane	ND		1.0	0.25	ug/L			08/27/18 16:05	1
1,4-Dichlorobenzene	ND		1.0	0.25	ug/L			08/27/18 16:05	1
2,2-Dichloropropane	ND		1.0	0.40	ug/L			08/27/18 16:05	1
2-Chlorotoluene	ND		1.0	0.25	ug/L			08/27/18 16:05	1
4-Chlorotoluene	ND		1.0	0.25	ug/L			08/27/18 16:05	1
Acetone	**36**		10	10	ug/L			08/27/18 16:05	1
Benzene	ND		0.50	0.25	ug/L			08/27/18 16:05	1
Bromobenzene	ND		1.0	0.25	ug/L			08/27/18 16:05	1
Bromochloromethane	ND		1.0	0.25	ug/L			08/27/18 16:05	1
Bromodichloromethane	ND		1.0	0.25	ug/L			08/27/18 16:05	1
Bromoform	ND		1.0	0.40	ug/L			08/27/18 16:05	1
Bromomethane	ND		1.0	0.25	ug/L			08/27/18 16:05	1
Carbon tetrachloride	ND		0.50	0.25	ug/L			08/27/18 16:05	1
Chlorobenzene	ND		1.0	0.25	ug/L			08/27/18 16:05	1
Chloroethane	ND		1.0	0.40	ug/L			08/27/18 16:05	1
Chloroform	ND		1.0	0.25	ug/L			08/27/18 16:05	1
Chloromethane	ND		1.0	0.25	ug/L			08/27/18 16:05	1
cis-1,2-Dichloroethene	ND		1.0	0.25	ug/L			08/27/18 16:05	1
cis-1,3-Dichloropropene	ND		0.50	0.25	ug/L			08/27/18 16:05	1
Dibromochloromethane	ND		1.0	0.25	ug/L			08/27/18 16:05	1
Dibromomethane	ND		1.0	0.25	ug/L			08/27/18 16:05	1
Dichlorodifluoromethane	ND		1.0	0.40	ug/L			08/27/18 16:05	1
Ethylbenzene	ND		1.0	0.25	ug/L			08/27/18 16:05	1
Hexachlorobutadiene	ND		1.0	0.25	ug/L			08/27/18 16:05	1
Isopropylbenzene	ND		1.0	0.25	ug/L			08/27/18 16:05	1
m,p-Xylene	ND		1.0	0.50	ug/L			08/27/18 16:05	1
Methylene Chloride	ND		5.0	0.88	ug/L			08/27/18 16:05	1
Methyl-t-Butyl Ether (MTBE)	ND		1.0	0.25	ug/L			08/27/18 16:05	1
Naphthalene	ND		1.0	0.40	ug/L			08/27/18 16:05	1
n-Butylbenzene	ND		1.0	0.40	ug/L			08/27/18 16:05	1
N-Propylbenzene	ND		1.0	0.25	ug/L			08/27/18 16:05	1
o-Xylene	ND		1.0	0.25	ug/L			08/27/18 16:05	1
p-Isopropyltoluene	ND		1.0	0.25	ug/L			08/27/18 16:05	1
sec-Butylbenzene	ND		1.0	0.25	ug/L			08/27/18 16:05	1
Styrene	ND		1.0	0.25	ug/L			08/27/18 16:05	1
tert-Butylbenzene	ND		1.0	0.25	ug/L			08/27/18 16:05	1
Tetrachloroethene	ND		1.0	0.25	ug/L			08/27/18 16:05	1
Toluene	ND		1.0	0.25	ug/L			08/27/18 16:05	1
trans-1,2-Dichloroethene	ND		1.0	0.25	ug/L			08/27/18 16:05	1

Client Sample ID: OC_GW_OW-13BN_20180824

Lab Sample ID: 440-218804-4

Date Collected: 08/24/18 11:10

Matrix: Water

Date Received: 08/24/18 17:02

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
trans-1,3-Dichloropropene	ND		0.50	0.25	ug/L			08/27/18 16:05	1
Trichloroethene	ND		1.0	0.25	ug/L			08/27/18 16:05	1
Trichlorofluoromethane	ND		1.0	0.25	ug/L			08/27/18 16:05	1
Vinyl chloride	ND		0.50	0.25	ug/L			08/27/18 16:05	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Unknown	*14*	*T J*	*ug/L*		*1.67*			*08/27/18 16:05*	*1*
Unknown	*93*	*T J*	*ug/L*		*1.72*			*08/27/18 16:05*	*1*
Unknown	*3.3*	*T J*	*ug/L*		*15.32*			*08/27/18 16:05*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*102*		*70 - 130*		*08/27/18 16:05*	*1*
4-Bromofluorobenzene (Surr)	*100*		*80 - 120*		*08/27/18 16:05*	*1*
Dibromofluoromethane (Surr)	*96*		*76 - 132*		*08/27/18 16:05*	*1*
Toluene-d8 (Surr)	*104*		*80 - 128*		*08/27/18 16:05*	*1*

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Isopropyl alcohol	ND		250	180	ug/L			08/31/18 03:45	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Unknown	*20*	*T J*	*ug/L*		*17.58*			*08/31/18 03:45*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*101*		*70 - 130*		*08/31/18 03:45*	*1*
4-Bromofluorobenzene (Surr)	*94*		*80 - 120*		*08/31/18 03:45*	*1*
Dibromofluoromethane (Surr)	*104*		*76 - 132*		*08/31/18 03:45*	*1*
Toluene-d8 (Surr)	*105*		*80 - 128*		*08/31/18 03:45*	*1*

Surrogate Summary

Client: de maximis, inc.
Project/Site: Omega Chemical - Semi Annual GWM 2018

TestAmerica Job ID: 440-218804-1
SDG: Omega Chemical

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

Matrix: Water **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)			
		DCA	BFB	DBFM	TOL
Lab Sample ID	Client Sample ID	(70-130)	(80-120)	(76-132)	(80-128)
440-218715-B-1 MS	Matrix Spike	97	89	102	102
440-218715-B-1 MSD	Matrix Spike Duplicate	95	92	101	101
440-218804-1	OC_GW_OW-11_20180824	92	99	91	104
440-218804-1 - RA	OC_GW_OW-11_20180824	100	95	103	104
440-218804-2	OC_GW_OW-13B_20180824	98	98	96	105
440-218804-2 - RA	OC_GW_OW-13B_20180824	103	94	103	105
440-218804-3	OC_GW_TB_20180824	87	97	95	109
440-218804-3 - RA	OC_GW_TB_20180824	103	94	105	102
440-218804-4	OC_GW_OW-13BN_20180824	102	100	96	104
440-218804-4 - RA	OC_GW_OW-13BN_20180824	101	94	104	105
440-218823-C-1 MS	Matrix Spike	98	96	94	102
440-218823-C-1 MSD	Matrix Spike Duplicate	88	92	93	105
LCS 440-495779/5	Lab Control Sample	89	95	100	103
LCS 440-496669/6	Lab Control Sample	99	97	102	105
MB 440-495779/4	Method Blank	93	96	97	105
MB 440-496669/4	Method Blank	102	97	103	105

Surrogate Legend

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

Method: 8270C SIM - Semivolatile Organic Compounds (GC/MS SIM)

Matrix: Water **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)
		DXE
Lab Sample ID	Client Sample ID	(27-120)
440-218804-1	OC_GW_OW-11_20180824	60
440-218804-2	OC_GW_OW-13B_20180824	45
LCS 440-495789/2-A	Lab Control Sample	54
LCSD 440-495789/3-A	Lab Control Sample Dup	58
MB 440-495789/1-A	Method Blank	60

Surrogate Legend

DXE = 1,4-Dioxane-d8 (Surr)

Method Summary

Client: de maximis, inc.
Project/Site: Omega Chemical - Semi Annual GWM 2018

TestAmerica Job ID: 440-218804-1
SDG: Omega Chemical

Method	Method Description	Protocol	Laboratory
8260B	Volatile Organic Compounds (GC/MS)	SW846	TAL IRV
8270C SIM	Semivolatile Organic Compounds (GC/MS SIM)	SW846	TAL IRV
3520C	Liquid-Liquid Extraction (Continuous)	SW846	TAL IRV
5030B	Purge and Trap	SW846	TAL IRV

Protocol References:

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL IRV = TestAmerica Irvine, 17461 Derian Ave, Suite 100, Irvine, CA 92614-5817, TEL (949)261-1022

Lab Chronicle

Client: de maximis, inc.
Project/Site: Omega Chemical - Semi Annual GWM 2018

TestAmerica Job ID: 440-218804-1
SDG: Omega Chemical

Client Sample ID: OC_GW_OW-11_20180824 — Lab Sample ID: 440-218804-1

Date Collected: 08/24/18 08:31 — **Matrix: Water**
Date Received: 08/24/18 17:02

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B	RA	1	10 mL	10 mL	496669	08/31/18 02:52	WK	TAL IRV
Total/NA	Analysis	8260B		1	10 mL	10 mL	495779	08/27/18 15:07	RM	TAL IRV
Total/NA	Prep	3520C			1010 mL	1.0 mL	495789	08/27/18 07:16	JAA	TAL IRV
Total/NA	Analysis	8270C SIM		1			496139	08/28/18 20:05	L1B	TAL IRV

Client Sample ID: OC_GW_OW-13B_20180824 — Lab Sample ID: 440-218804-2

Date Collected: 08/24/18 10:36 — **Matrix: Water**
Date Received: 08/24/18 17:02

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B	RA	1	10 mL	10 mL	496669	08/31/18 03:18	WK	TAL IRV
Total/NA	Analysis	8260B		1	10 mL	10 mL	495779	08/27/18 15:37	RM	TAL IRV
Total/NA	Prep	3520C			1015 mL	1.0 mL	495789	08/27/18 07:16	JAA	TAL IRV
Total/NA	Analysis	8270C SIM		1			496139	08/28/18 20:28	L1B	TAL IRV

Client Sample ID: OC_GW_TB_20180824 — Lab Sample ID: 440-218804-3

Date Collected: 08/24/18 06:30 — **Matrix: Water**
Date Received: 08/24/18 17:02

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B	RA	1	10 mL	10 mL	496669	08/31/18 02:25	WK	TAL IRV
Total/NA	Analysis	8260B		1	10 mL	10 mL	495779	08/27/18 09:55	RM	TAL IRV

Client Sample ID: OC_GW_OW-13BN_20180824 — Lab Sample ID: 440-218804-4

Date Collected: 08/24/18 11:10 — **Matrix: Water**
Date Received: 08/24/18 17:02

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B	RA	1	10 mL	10 mL	496669	08/31/18 03:45	WK	TAL IRV
Total/NA	Analysis	8260B		1	10 mL	10 mL	495779	08/27/18 16:05	RM	TAL IRV

Laboratory References:

TAL IRV = TestAmerica Irvine, 17461 Derian Ave, Suite 100, Irvine, CA 92614-5817, TEL (949)261-1022

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

Lab Sample ID: MB 440-495779/4
Matrix: Water
Analysis Batch: 495779

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		1.0	0.25	ug/L			08/27/18 08:52	1
1,1,1-Trichloroethane	ND		1.0	0.25	ug/L			08/27/18 08:52	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.25	ug/L			08/27/18 08:52	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		5.0	0.50	ug/L			08/27/18 08:52	1
1,1,2-Trichloroethane	ND		1.0	0.25	ug/L			08/27/18 08:52	1
1,1-Dichloroethane	ND		1.0	0.25	ug/L			08/27/18 08:52	1
1,1-Dichloroethene	ND		1.0	0.25	ug/L			08/27/18 08:52	1
1,1-Dichloropropene	ND		1.0	0.25	ug/L			08/27/18 08:52	1
1,2,3-Trichlorobenzene	ND		1.0	0.40	ug/L			08/27/18 08:52	1
1,2,3-Trichloropropane	ND		1.0	0.40	ug/L			08/27/18 08:52	1
1,2,4-Trichlorobenzene	ND		1.0	0.40	ug/L			08/27/18 08:52	1
1,2,4-Trimethylbenzene	ND		1.0	0.25	ug/L			08/27/18 08:52	1
1,2-Dibromo-3-Chloropropane	ND		5.0	0.50	ug/L			08/27/18 08:52	1
1,2-Dibromoethane (EDB)	ND		1.0	0.25	ug/L			08/27/18 08:52	1
1,2-Dichlorobenzene	ND		1.0	0.25	ug/L			08/27/18 08:52	1
1,2-Dichloroethane	ND		1.0	0.25	ug/L			08/27/18 08:52	1
1,2-Dichloropropane	ND		1.0	0.25	ug/L			08/27/18 08:52	1
1,3,5-Trimethylbenzene	ND		1.0	0.25	ug/L			08/27/18 08:52	1
1,3-Dichlorobenzene	ND		1.0	0.25	ug/L			08/27/18 08:52	1
1,3-Dichloropropane	ND		1.0	0.25	ug/L			08/27/18 08:52	1
1,4-Dichlorobenzene	ND		1.0	0.25	ug/L			08/27/18 08:52	1
2,2-Dichloropropane	ND		1.0	0.40	ug/L			08/27/18 08:52	1
2-Chlorotoluene	ND		1.0	0.25	ug/L			08/27/18 08:52	1
4-Chlorotoluene	ND		1.0	0.25	ug/L			08/27/18 08:52	1
Acetone	ND		10	10	ug/L			08/27/18 08:52	1
Benzene	ND		0.50	0.25	ug/L			08/27/18 08:52	1
Bromobenzene	ND		1.0	0.25	ug/L			08/27/18 08:52	1
Bromochloromethane	ND		1.0	0.25	ug/L			08/27/18 08:52	1
Bromodichloromethane	ND		1.0	0.25	ug/L			08/27/18 08:52	1
Bromoform	ND		1.0	0.40	ug/L			08/27/18 08:52	1
Bromomethane	ND		1.0	0.25	ug/L			08/27/18 08:52	1
Carbon tetrachloride	ND		0.50	0.25	ug/L			08/27/18 08:52	1
Chlorobenzene	ND		1.0	0.25	ug/L			08/27/18 08:52	1
Chloroethane	ND		1.0	0.40	ug/L			08/27/18 08:52	1
Chloroform	ND		1.0	0.25	ug/L			08/27/18 08:52	1
Chloromethane	ND		1.0	0.25	ug/L			08/27/18 08:52	1
cis-1,2-Dichloroethene	ND		1.0	0.25	ug/L			08/27/18 08:52	1
cis-1,3-Dichloropropene	ND		0.50	0.25	ug/L			08/27/18 08:52	1
Dibromochloromethane	ND		1.0	0.25	ug/L			08/27/18 08:52	1
Dibromomethane	ND		1.0	0.25	ug/L			08/27/18 08:52	1
Dichlorodifluoromethane	ND		1.0	0.40	ug/L			08/27/18 08:52	1
Ethylbenzene	ND		1.0	0.25	ug/L			08/27/18 08:52	1
Hexachlorobutadiene	ND		1.0	0.25	ug/L			08/27/18 08:52	1
Isopropylbenzene	ND		1.0	0.25	ug/L			08/27/18 08:52	1
m,p-Xylene	ND		1.0	0.50	ug/L			08/27/18 08:52	1
Methylene Chloride	ND		5.0	0.88	ug/L			08/27/18 08:52	1
Methyl-t-Butyl Ether (MTBE)	ND		1.0	0.25	ug/L			08/27/18 08:52	1
Naphthalene	ND		1.0	0.40	ug/L			08/27/18 08:52	1

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

Lab Sample ID: MB 440-495779/4
Matrix: Water
Analysis Batch: 495779

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
n-Butylbenzene	ND		1.0	0.40	ug/L			08/27/18 08:52	1
N-Propylbenzene	ND		1.0	0.25	ug/L			08/27/18 08:52	1
o-Xylene	ND		1.0	0.25	ug/L			08/27/18 08:52	1
p-Isopropyltoluene	ND		1.0	0.25	ug/L			08/27/18 08:52	1
sec-Butylbenzene	ND		1.0	0.25	ug/L			08/27/18 08:52	1
Styrene	ND		1.0	0.25	ug/L			08/27/18 08:52	1
tert-Butylbenzene	ND		1.0	0.25	ug/L			08/27/18 08:52	1
Tetrachloroethene	ND		1.0	0.25	ug/L			08/27/18 08:52	1
Toluene	ND		1.0	0.25	ug/L			08/27/18 08:52	1
trans-1,2-Dichloroethene	ND		1.0	0.25	ug/L			08/27/18 08:52	1
trans-1,3-Dichloropropene	ND		0.50	0.25	ug/L			08/27/18 08:52	1
Trichloroethene	ND		1.0	0.25	ug/L			08/27/18 08:52	1
Trichlorofluoromethane	ND		1.0	0.25	ug/L			08/27/18 08:52	1
Vinyl chloride	ND		0.50	0.25	ug/L			08/27/18 08:52	1

Tentatively Identified Compound	*MB Est. Result*	*MB Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Tentatively Identified Compound	*None*		*ug/L*					*08/27/18 08:52*	*1*

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*93*		*70 - 130*		*08/27/18 08:52*	*1*
4-Bromofluorobenzene (Surr)	*96*		*80 - 120*		*08/27/18 08:52*	*1*
Dibromofluoromethane (Surr)	*97*		*76 - 132*		*08/27/18 08:52*	*1*
Toluene-d8 (Surr)	*105*		*80 - 128*		*08/27/18 08:52*	*1*

Lab Sample ID: LCS 440-495779/5
Matrix: Water
Analysis Batch: 495779

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1,1,2-Tetrachloroethane	25.0	25.7		ug/L		103	60 - 141
1,1,1-Trichloroethane	25.0	23.6		ug/L		94	70 - 130
1,1,2,2-Tetrachloroethane	25.0	25.1		ug/L		101	63 - 130
1,1,2-Trichloro-1,2,2-trifluoroethane	25.0	22.7		ug/L		91	60 - 140
1,1,2-Trichloroethane	25.0	27.5		ug/L		110	70 - 130
1,1-Dichloroethane	25.0	27.3		ug/L		109	64 - 130
1,1-Dichloroethene	25.0	25.3		ug/L		101	70 - 130
1,1-Dichloropropene	25.0	25.0		ug/L		100	70 - 130
1,2,3-Trichlorobenzene	25.0	24.7		ug/L		99	60 - 140
1,2,3-Trichloropropane	25.0	22.4		ug/L		90	63 - 130
1,2,4-Trichlorobenzene	25.0	24.8		ug/L		99	60 - 140
1,2,4-Trimethylbenzene	25.0	24.0		ug/L		96	70 - 135
1,2-Dibromo-3-Chloropropane	25.0	19.9		ug/L		80	52 - 140
1,2-Dibromoethane (EDB)	25.0	26.8		ug/L		107	70 - 130
1,2-Dichlorobenzene	25.0	27.3		ug/L		109	70 - 130
1,2-Dichloroethane	25.0	25.7		ug/L		103	57 - 138
1,2-Dichloropropane	25.0	28.0		ug/L		112	67 - 130
1,3,5-Trimethylbenzene	25.0	24.4		ug/L		97	70 - 136

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

Lab Sample ID: LCS 440-495779/5
Matrix: Water
Analysis Batch: 495779

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,3-Dichlorobenzene	25.0	26.4		ug/L		106	70 - 130
1,3-Dichloropropane	25.0	25.6		ug/L		102	70 - 130
1,4-Dichlorobenzene	25.0	26.0		ug/L		104	70 - 130
2,2-Dichloropropane	25.0	24.5		ug/L		98	68 - 141
2-Chlorotoluene	25.0	24.4		ug/L		98	70 - 130
4-Chlorotoluene	25.0	25.1		ug/L		100	70 - 130
Acetone	25.0	22.0		ug/L		88	10 - 150
Benzene	25.0	25.5		ug/L		102	68 - 130
Bromobenzene	25.0	26.5		ug/L		106	70 - 130
Bromochloromethane	25.0	26.4		ug/L		105	70 - 130
Bromodichloromethane	25.0	25.4		ug/L		102	70 - 132
Bromoform	25.0	22.9		ug/L		91	60 - 148
Bromomethane	25.0	19.2		ug/L		77	64 - 139
Carbon tetrachloride	25.0	22.1		ug/L		88	60 - 150
Chlorobenzene	25.0	25.9		ug/L		104	70 - 130
Chloroethane	25.0	20.2		ug/L		81	64 - 135
Chloroform	25.0	25.3		ug/L		101	70 - 130
Chloromethane	25.0	20.1		ug/L		80	47 - 140
cis-1,2-Dichloroethene	25.0	25.2		ug/L		101	70 - 133
cis-1,3-Dichloropropene	25.0	27.7		ug/L		111	70 - 133
Dibromochloromethane	25.0	25.5		ug/L		102	69 - 145
Dibromomethane	25.0	23.8		ug/L		95	70 - 130
Dichlorodifluoromethane	25.0	13.8		ug/L		55	29 - 150
Ethylbenzene	25.0	25.2		ug/L		101	70 - 130
Hexachlorobutadiene	25.0	23.5		ug/L		94	10 - 150
Isopropylbenzene	25.0	25.8		ug/L		103	70 - 136
m,p-Xylene	25.0	27.1		ug/L		108	70 - 130
Methylene Chloride	25.0	24.9		ug/L		100	52 - 130
Methyl-t-Butyl Ether (MTBE)	25.0	24.8		ug/L		99	63 - 131
Naphthalene	25.0	24.1		ug/L		96	60 - 140
n-Butylbenzene	25.0	24.2		ug/L		97	65 - 150
N-Propylbenzene	25.0	25.1		ug/L		100	67 - 139
o-Xylene	25.0	27.5		ug/L		110	70 - 130
p-Isopropyltoluene	25.0	24.7		ug/L		99	70 - 132
sec-Butylbenzene	25.0	24.4		ug/L		98	70 - 138
Styrene	25.0	27.6		ug/L		110	70 - 134
tert-Butylbenzene	25.0	24.1		ug/L		97	70 - 130
Tetrachloroethene	25.0	25.9		ug/L		103	70 - 130
Toluene	25.0	26.1		ug/L		105	70 - 130
trans-1,2-Dichloroethene	25.0	25.1		ug/L		100	70 - 130
trans-1,3-Dichloropropene	25.0	25.9		ug/L		104	70 - 132
Trichloroethene	25.0	25.7		ug/L		103	70 - 130
Trichlorofluoromethane	25.0	20.8		ug/L		83	60 - 150
Vinyl chloride	25.0	18.7		ug/L		75	59 - 133

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*89*		*70 - 130*
4-Bromofluorobenzene (Surr)	*95*		*80 - 120*

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

Lab Sample ID: LCS 440-495779/5
Matrix: Water
Analysis Batch: 495779

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

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
Dibromofluoromethane (Surr)	*100*		*76 - 132*
Toluene-d8 (Surr)	*103*		*80 - 128*

Lab Sample ID: 440-218823-C-1 MS
Matrix: Water
Analysis Batch: 495779

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1,1,2-Tetrachloroethane	ND		25.0	26.1		ug/L		104	60 - 149
1,1,1-Trichloroethane	ND		25.0	24.9		ug/L		99	70 - 130
1,1,2,2-Tetrachloroethane	ND		25.0	25.5		ug/L		102	63 - 130
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		25.0	25.1		ug/L		100	60 - 140
1,1,2-Trichloroethane	ND		25.0	27.8		ug/L		111	70 - 130
1,1-Dichloroethane	ND		25.0	25.5		ug/L		102	65 - 130
1,1-Dichloroethene	ND		25.0	27.7		ug/L		111	70 - 130
1,1-Dichloropropene	ND		25.0	25.7		ug/L		103	64 - 130
1,2,3-Trichlorobenzene	ND		25.0	24.9		ug/L		100	60 - 140
1,2,3-Trichloropropane	ND		25.0	22.3		ug/L		89	60 - 130
1,2,4-Trichlorobenzene	ND		25.0	25.4		ug/L		102	60 - 140
1,2,4-Trimethylbenzene	ND		25.0	23.6		ug/L		94	70 - 130
1,2-Dibromo-3-Chloropropane	ND		25.0	23.1		ug/L		93	48 - 140
1,2-Dibromoethane (EDB)	ND		25.0	27.6		ug/L		111	70 - 131
1,2-Dichlorobenzene	ND		25.0	26.5		ug/L		106	70 - 130
1,2-Dichloroethane	ND		25.0	24.8		ug/L		99	56 - 146
1,2-Dichloropropane	ND		25.0	26.5		ug/L		106	69 - 130
1,3,5-Trimethylbenzene	ND		25.0	24.3		ug/L		97	70 - 130
1,3-Dichlorobenzene	ND		25.0	26.0		ug/L		104	70 - 130
1,3-Dichloropropane	ND		25.0	26.9		ug/L		107	70 - 130
1,4-Dichlorobenzene	ND		25.0	25.9		ug/L		104	70 - 130
2,2-Dichloropropane	ND		25.0	25.8		ug/L		103	69 - 138
2-Chlorotoluene	ND		25.0	23.9		ug/L		96	70 - 130
4-Chlorotoluene	ND		25.0	25.0		ug/L		100	70 - 130
Acetone	10		25.0	30.1		ug/L		80	10 - 150
Benzene	ND		25.0	26.0		ug/L		104	66 - 130
Bromobenzene	ND		25.0	25.4		ug/L		101	70 - 130
Bromochloromethane	ND		25.0	26.0		ug/L		104	70 - 130
Bromodichloromethane	ND		25.0	24.5		ug/L		98	70 - 138
Bromoform	ND		25.0	23.8		ug/L		95	59 - 150
Bromomethane	ND		25.0	21.7		ug/L		87	62 - 131
Carbon tetrachloride	ND		25.0	23.7		ug/L		95	60 - 150
Chlorobenzene	ND		25.0	25.8		ug/L		103	70 - 130
Chloroethane	ND		25.0	22.1		ug/L		88	68 - 130
Chloroform	ND		25.0	24.3		ug/L		97	70 - 130
Chloromethane	ND		25.0	23.9		ug/L		96	39 - 144
cis-1,2-Dichloroethene	ND		25.0	25.2		ug/L		101	70 - 130
cis-1,3-Dichloropropene	ND		25.0	27.4		ug/L		109	70 - 133
Dibromochloromethane	ND		25.0	25.9		ug/L		104	70 - 148

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

Lab Sample ID: 440-218823-C-1 MS
Matrix: Water
Analysis Batch: 495779

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Dibromomethane	ND		25.0	24.5		ug/L		98	70 - 130
Dichlorodifluoromethane	ND		25.0	20.5		ug/L		82	25 - 142
Ethylbenzene	ND		25.0	25.6		ug/L		103	70 - 130
Hexachlorobutadiene	ND		25.0	22.9		ug/L		92	10 - 150
Isopropylbenzene	ND		25.0	26.9		ug/L		108	70 - 132
m,p-Xylene	ND		25.0	27.5		ug/L		110	70 - 133
Methylene Chloride	ND		25.0	24.7		ug/L		99	52 - 130
Methyl-t-Butyl Ether (MTBE)	ND		25.0	25.4		ug/L		102	70 - 130
Naphthalene	ND		25.0	25.4		ug/L		102	60 - 140
n-Butylbenzene	ND		25.0	24.7		ug/L		99	61 - 149
N-Propylbenzene	ND		25.0	25.0		ug/L		100	66 - 135
o-Xylene	ND		25.0	27.1		ug/L		108	70 - 133
p-Isopropyltoluene	ND		25.0	25.0		ug/L		100	70 - 130
sec-Butylbenzene	ND		25.0	25.0		ug/L		100	67 - 134
Styrene	ND		25.0	25.3		ug/L		101	29 - 150
tert-Butylbenzene	ND		25.0	24.4		ug/L		98	70 - 130
Tetrachloroethene	ND		25.0	26.4		ug/L		106	70 - 137
Toluene	ND		25.0	26.5		ug/L		106	70 - 130
trans-1,2-Dichloroethene	ND		25.0	24.6		ug/L		98	70 - 130
trans-1,3-Dichloropropene	ND		25.0	26.4		ug/L		106	70 - 138
Trichloroethene	ND		25.0	25.2		ug/L		101	70 - 130
Trichlorofluoromethane	ND		25.0	24.7		ug/L		99	60 - 150
Vinyl chloride	ND		25.0	22.1		ug/L		89	50 - 137

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*98*		*70 - 130*
4-Bromofluorobenzene (Surr)	*96*		*80 - 120*
Dibromofluoromethane (Surr)	*94*		*76 - 132*
Toluene-d8 (Surr)	*102*		*80 - 128*

Lab Sample ID: 440-218823-C-1 MSD
Matrix: Water
Analysis Batch: 495779

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,1,1,2-Tetrachloroethane	ND		25.0	25.7		ug/L		103	60 - 149	2	20
1,1,1-Trichloroethane	ND		25.0	23.6		ug/L		94	70 - 130	5	20
1,1,2,2-Tetrachloroethane	ND		25.0	26.2		ug/L		105	63 - 130	3	30
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		25.0	25.4		ug/L		102	60 - 140	1	20
1,1,2-Trichloroethane	ND		25.0	28.2		ug/L		113	70 - 130	1	25
1,1-Dichloroethane	ND		25.0	26.8		ug/L		107	65 - 130	5	20
1,1-Dichloroethene	ND		25.0	26.1		ug/L		105	70 - 130	6	20
1,1-Dichloropropene	ND		25.0	25.4		ug/L		102	64 - 130	1	20
1,2,3-Trichlorobenzene	ND		25.0	24.4		ug/L		98	60 - 140	2	20
1,2,3-Trichloropropane	ND		25.0	23.9		ug/L		96	60 - 130	7	30
1,2,4-Trichlorobenzene	ND		25.0	24.5		ug/L		98	60 - 140	4	20
1,2,4-Trimethylbenzene	ND		25.0	23.0		ug/L		92	70 - 130	2	25

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

Lab Sample ID: 440-218823-C-1 MSD
Matrix: Water
Analysis Batch: 495779

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,2-Dibromo-3-Chloropropane	ND		25.0	22.5		ug/L		90	48 - 140	3	30
1,2-Dibromoethane (EDB)	ND		25.0	28.3		ug/L		113	70 - 131	2	25
1,2-Dichlorobenzene	ND		25.0	25.9		ug/L		104	70 - 130	2	20
1,2-Dichloroethane	ND		25.0	25.1		ug/L		100	56 - 146	1	20
1,2-Dichloropropane	ND		25.0	26.5		ug/L		106	69 - 130	0	20
1,3,5-Trimethylbenzene	ND		25.0	23.7		ug/L		95	70 - 130	3	20
1,3-Dichlorobenzene	ND		25.0	25.2		ug/L		101	70 - 130	3	20
1,3-Dichloropropane	ND		25.0	26.5		ug/L		106	70 - 130	1	25
1,4-Dichlorobenzene	ND		25.0	25.3		ug/L		101	70 - 130	2	20
2,2-Dichloropropane	ND		25.0	25.6		ug/L		103	69 - 138	0	25
2-Chlorotoluene	ND		25.0	23.5		ug/L		94	70 - 130	1	20
4-Chlorotoluene	ND		25.0	24.3		ug/L		97	70 - 130	3	20
Acetone	10		25.0	30.4		ug/L		81	10 - 150	1	35
Benzene	ND		25.0	25.1		ug/L		100	66 - 130	4	20
Bromobenzene	ND		25.0	25.6		ug/L		103	70 - 130	1	20
Bromochloromethane	ND		25.0	25.7		ug/L		103	70 - 130	1	25
Bromodichloromethane	ND		25.0	24.5		ug/L		98	70 - 138	0	20
Bromoform	ND		25.0	24.5		ug/L		98	59 - 150	3	25
Bromomethane	ND		25.0	20.8		ug/L		83	62 - 131	4	25
Carbon tetrachloride	ND		25.0	22.5		ug/L		90	60 - 150	5	25
Chlorobenzene	ND		25.0	26.0		ug/L		104	70 - 130	1	20
Chloroethane	ND		25.0	22.1		ug/L		89	68 - 130	0	25
Chloroform	ND		25.0	24.4		ug/L		98	70 - 130	0	20
Chloromethane	ND		25.0	23.9		ug/L		96	39 - 144	0	25
cis-1,2-Dichloroethene	ND		25.0	24.6		ug/L		99	70 - 130	2	20
cis-1,3-Dichloropropene	ND		25.0	27.3		ug/L		109	70 - 133	0	20
Dibromochloromethane	ND		25.0	25.8		ug/L		103	70 - 148	0	25
Dibromomethane	ND		25.0	22.8		ug/L		91	70 - 130	7	25
Dichlorodifluoromethane	ND		25.0	20.2		ug/L		81	25 - 142	1	30
Ethylbenzene	ND		25.0	25.8		ug/L		103	70 - 130	1	20
Hexachlorobutadiene	ND		25.0	22.9		ug/L		92	10 - 150	0	20
Isopropylbenzene	ND		25.0	26.0		ug/L		104	70 - 132	3	20
m,p-Xylene	ND		25.0	27.3		ug/L		109	70 - 133	1	25
Methylene Chloride	ND		25.0	24.9		ug/L		100	52 - 130	1	20
Methyl-t-Butyl Ether (MTBE)	ND		25.0	24.7		ug/L		99	70 - 130	3	25
Naphthalene	ND		25.0	25.1		ug/L		100	60 - 140	1	30
n-Butylbenzene	ND		25.0	24.2		ug/L		97	61 - 149	2	20
N-Propylbenzene	ND		25.0	24.7		ug/L		99	66 - 135	1	20
o-Xylene	ND		25.0	27.7		ug/L		111	70 - 133	2	20
p-Isopropyltoluene	ND		25.0	24.4		ug/L		98	70 - 130	2	20
sec-Butylbenzene	ND		25.0	24.6		ug/L		99	67 - 134	1	20
Styrene	ND		25.0	20.6		ug/L		82	29 - 150	21	35
tert-Butylbenzene	ND		25.0	23.9		ug/L		96	70 - 130	2	20
Tetrachloroethene	ND		25.0	26.7		ug/L		107	70 - 137	1	20
Toluene	ND		25.0	26.6		ug/L		106	70 - 130	0	20
trans-1,2-Dichloroethene	ND		25.0	24.1		ug/L		96	70 - 130	2	20
trans-1,3-Dichloropropene	ND		25.0	26.9		ug/L		108	70 - 138	2	25
Trichloroethene	ND		25.0	24.6		ug/L		99	70 - 130	2	20

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

Lab Sample ID: 440-218823-C-1 MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 495779

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Trichlorofluoromethane	ND		25.0	23.3		ug/L		93	60 - 150	6	25
Vinyl chloride	ND		25.0	22.3		ug/L		89	50 - 137	1	30

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*88*		*70 - 130*
4-Bromofluorobenzene (Surr)	*92*		*80 - 120*
Dibromofluoromethane (Surr)	*93*		*76 - 132*
Toluene-d8 (Surr)	*105*		*80 - 128*

Lab Sample ID: MB 440-496669/4 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 496669

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Isopropyl alcohol	ND		250	180	ug/L			08/30/18 21:16	1

Tentatively Identified Compound	*MB Est. Result*	*MB Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Tentatively Identified Compound	*None*		*ug/L*					*08/30/18 21:16*	*1*

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*102*		*70 - 130*		*08/30/18 21:16*	*1*
4-Bromofluorobenzene (Surr)	*97*		*80 - 120*		*08/30/18 21:16*	*1*
Dibromofluoromethane (Surr)	*103*		*76 - 132*		*08/30/18 21:16*	*1*
Toluene-d8 (Surr)	*105*		*80 - 128*		*08/30/18 21:16*	*1*

Lab Sample ID: LCS 440-496669/6 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 496669

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Isopropyl alcohol			250	245	J	ug/L		98	49 - 142		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*99*		*70 - 130*
4-Bromofluorobenzene (Surr)	*97*		*80 - 120*
Dibromofluoromethane (Surr)	*102*		*76 - 132*
Toluene-d8 (Surr)	*105*		*80 - 128*

Lab Sample ID: 440-218715-B-1 MS — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 496669

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Isopropyl alcohol	ND		250	342		ug/L		137	46 - 142		

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

Lab Sample ID: 440-218715-B-1 MS
Matrix: Water
Analysis Batch: 496669

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*97*		*70 - 130*
4-Bromofluorobenzene (Surr)	*89*		*80 - 120*
Dibromofluoromethane (Surr)	*102*		*76 - 132*
Toluene-d8 (Surr)	*102*		*80 - 128*

Lab Sample ID: 440-218715-B-1 MSD
Matrix: Water
Analysis Batch: 496669

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Isopropyl alcohol	ND		250	351		ug/L		140	46 - 142	2	40

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*95*		*70 - 130*
4-Bromofluorobenzene (Surr)	*92*		*80 - 120*
Dibromofluoromethane (Surr)	*101*		*76 - 132*
Toluene-d8 (Surr)	*101*		*80 - 128*

Method: 8270C SIM - Semivolatile Organic Compounds (GC/MS SIM)

Lab Sample ID: MB 440-495789/1-A
Matrix: Water
Analysis Batch: 496139

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 495789

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	ND		0.50	0.10	ug/L		08/27/18 07:16	08/28/18 13:58	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,4-Dioxane-d8 (Surr)	*60*		*27 - 120*	*08/27/18 07:16*	*08/28/18 13:58*	*1*

Lab Sample ID: LCS 440-495789/2-A
Matrix: Water
Analysis Batch: 496139

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 495789

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,4-Dioxane	2.00	1.19		ug/L		60	36 - 120

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1,4-Dioxane-d8 (Surr)	*54*		*27 - 120*

Lab Sample ID: LCSD 440-495789/3-A
Matrix: Water
Analysis Batch: 496139

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 495789

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,4-Dioxane	2.00	1.32		ug/L		66	36 - 120	10	35

Method: 8270C SIM - Semivolatile Organic Compounds (GC/MS SIM) (Continued)

Lab Sample ID: LCSD 440-495789/3-A
Matrix: Water
Analysis Batch: 496139

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 495789

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
1,4-Dioxane-d8 (Surr)	*58*		*27 - 120*

QC Association Summary

Client: de maximis, inc.
Project/Site: Omega Chemical - Semi Annual GWM 2018

TestAmerica Job ID: 440-218804-1
SDG: Omega Chemical

GC/MS VOA

Analysis Batch: 495779

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-218804-1	OC_GW_OW-11_20180824	Total/NA	Water	8260B	
440-218804-2	OC_GW_OW-13B_20180824	Total/NA	Water	8260B	
440-218804-3	OC_GW_TB_20180824	Total/NA	Water	8260B	
440-218804-4	OC_GW_OW-13BN_20180824	Total/NA	Water	8260B	
MB 440-495779/4	Method Blank	Total/NA	Water	8260B	
LCS 440-495779/5	Lab Control Sample	Total/NA	Water	8260B	
440-218823-C-1 MS	Matrix Spike	Total/NA	Water	8260B	
440-218823-C-1 MSD	Matrix Spike Duplicate	Total/NA	Water	8260B	

Analysis Batch: 496669

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-218804-1 - RA	OC_GW_OW-11_20180824	Total/NA	Water	8260B	
440-218804-2 - RA	OC_GW_OW-13B_20180824	Total/NA	Water	8260B	
440-218804-3 - RA	OC_GW_TB_20180824	Total/NA	Water	8260B	
440-218804-4 - RA	OC_GW_OW-13BN_20180824	Total/NA	Water	8260B	
MB 440-496669/4	Method Blank	Total/NA	Water	8260B	
LCS 440-496669/6	Lab Control Sample	Total/NA	Water	8260B	
440-218715-B-1 MS	Matrix Spike	Total/NA	Water	8260B	
440-218715-B-1 MSD	Matrix Spike Duplicate	Total/NA	Water	8260B	

GC/MS Semi VOA

Prep Batch: 495789

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-218804-1	OC_GW_OW-11_20180824	Total/NA	Water	3520C	
440-218804-2	OC_GW_OW-13B_20180824	Total/NA	Water	3520C	
MB 440-495789/1-A	Method Blank	Total/NA	Water	3520C	
LCS 440-495789/2-A	Lab Control Sample	Total/NA	Water	3520C	
LCSD 440-495789/3-A	Lab Control Sample Dup	Total/NA	Water	3520C	

Analysis Batch: 496139

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-218804-1	OC_GW_OW-11_20180824	Total/NA	Water	8270C SIM	495789
440-218804-2	OC_GW_OW-13B_20180824	Total/NA	Water	8270C SIM	495789
MB 440-495789/1-A	Method Blank	Total/NA	Water	8270C SIM	495789
LCS 440-495789/2-A	Lab Control Sample	Total/NA	Water	8270C SIM	495789
LCSD 440-495789/3-A	Lab Control Sample Dup	Total/NA	Water	8270C SIM	495789

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

GC/MS VOA TICs

Qualifier	Qualifier Description
J	Indicates an Estimated Value for TICs
T	Result is a tentatively identified compound (TIC) and an estimated value.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Accreditation/Certification Summary

Client: de maximis, inc.
Project/Site: Omega Chemical - Semi Annual GWM 2018

TestAmerica Job ID: 440-218804-1
SDG: Omega Chemical

Laboratory: TestAmerica Irvine

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	EPA Region	Identification Number	Expiration Date
California	State Program	9	CA ELAP 2706	06-30-19

The following analytes are included in this report, but accreditation/certification is not offered by the governing authority:

Analysis Method	Prep Method	Matrix	Analyte
8260B		Water	1,1,2-Trichloro-1,2,2-trifluoroethane
8260B		Water	m,p-Xylene
8270C SIM	3520C	Water	1,4-Dioxane

TestAmerica Irvine
17461 Derian Ave
Suite 100
Irvine, CA 92614
phone 949.261 1022 fax

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING
TestAmerica Laboratories, Inc.

Regulatory Program: ☐ DW ☐ NPDES ☐ RCRA ☐ Other

Client Contact	Project Manager: Trent Henderson	Site Contact: Khalid Azhar	Date: 8/24/18	COC No:
De Maximis - Jaime Dinello	Tel/Fax: 949 453 1045/949 453 1047	Lab Contact: Danielle Roberts	Carrier:	1 of 1 COCs
1322 Scott St., Suite 104	Analysis Turnaround Time			Sampler.
San Diego, CA 92106	☐ CALENDAR DAYS ☐ WORKING DAYS			For Lab Use Only:
(562) 756-8149	TAT if different from Below STD			Walk-in Client
	☐ 2 weeks			Lab Sampling:
Project Name: Omega Chemical - SemiAnn GWM Feb. 2018	☐ 1 week			
Site: Omega Chemical	☐ 2 days			Job / SDG No.:
P O #:	☐ 1 day			

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.	Filtered Sample (Y/N)	Perform MS/MSD (Y/N)	EPA 8260B - VOCs + Freons	EPA 8270C - 1,4 Dioxane	Sample Specific Notes:
OC_GW_OW-11_201808 24	8/24/18	0831	Grab	GW	5			x	x	
OC_GW_OW-13B_201808 24	"	1036	Grab	GW	5			x	x	
OC_GW_ _201808			Grab	GW	5			x	x	
OC_GW_ _201808			Grab	GW	5			x	x	
OC_GW_ _201808			Grab	GW	5			x	x	
OC_GW_ _201808			Grab	GW	5			x	x	
OC_GW_ _201808			Grab	GW	5			x	x	
OC_GW_ _201808			Grab	GW	5			x	x	
OC_GW_ _201808			Grab	GW	5			x	x	
OC_GW_ _201808			Grab	GW	5			x	x	
OC_GW_TB_201808 24	8/24/18	0630	Grab	H2O	3			x		
OC_GW_OW-13BN_201808 24	"	1110	Grab	H2O	3			x		

440-218804 Chain of Custody

Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other

Possible Hazard Identification:
Are any samples from a listed EPA Hazardous Waste? Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample.
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return to Client ☐ Disposal by Lab ☐ Archive for _____ Months

Special Instructions/QC Requirements & Comments:

Custody Seals Intact: ☐ Yes ☐ No | Custody Seal No.: | Cooler Temp. (°C): Obs'd: _____ Corr'd: _____ | Therm ID No.: _____

Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
[signature]	JAP	8/24/18 1200	Will Rivera	TA-IRV	8/24/18 1200
Relinquished by: Will Rivera	Company: TA-IRV	Date/Time: 8/24/18 1202	Received by:	Company:	Date/Time:
Relinquished by:	Company:	Date/Time:	Received in Laboratory by: [signature]	Company: TA IRV	Date/Time: 8/24/18 17:02

0.4/0.5 #88

A5 8/24/18

Login Sample Receipt Checklist

Client: de maximis, inc.

Job Number: 440-218804-1
SDG Number: Omega Chemical

Login Number: 218804
List Number: 1
Creator: Soderblom, Tim

List Source: TestAmerica Irvine

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	N/A	Not present
Sample custody seals, if present, are intact.	N/A	Not Present
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	False	Refer to Job Narrative for details.
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.
TestAmerica Irvine
17461 Derian Ave
Suite 100
Irvine, CA 92614-5817
Tel: (949)261-1022

TestAmerica Job ID: 440-219331-1
TestAmerica Sample Delivery Group: Omega Chemical
Client Project/Site: Omega Chemical - GWTS Monthly

For:
Jacob & Hefner Associates P.C.
15375 Barranca Parkway, J-101
Irvine, California 92618

Attn: Trent Henderson

Authorized for release by:
9/12/2018 3:10:03 PM

Danielle Roberts, Senior Project Manager
(949)261-1022
danielle.roberts@testamericainc.com

LINKS

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The test results in this report meet all 2003 NELAC and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

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Sample Summary

Client: Jacob & Hefner Associates P.C.
Project/Site: Omega Chemical - GWTS Monthly

TestAmerica Job ID: 440-219331-1
SDG: Omega Chemical

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
440-219331-1	OC_SP220B_EFF_090418	Water	09/04/18 11:43	09/04/18 13:40
440-219331-2	OC_SP210_INF_090418	Water	09/04/18 11:50	09/04/18 13:40
440-219331-3	OC_TB_090418	Water	09/04/18 11:30	09/04/18 13:40

Job ID: 440-219331-1

Laboratory: TestAmerica Irvine

Narrative

Job Narrative
440-219331-1

Comments
No additional comments.

Receipt
The samples were received on 9/4/2018 1:40 PM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 2.7º C.

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

GC/MS Semi VOA
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Organic Prep
Method(s) 3520C: Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD) associated with 3520C_8270C-1,4-DXN preparation batch 440-497373.

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

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

Detection Summary

Client: Jacob & Hefner Associates P.C.
Project/Site: Omega Chemical - GWTS Monthly

TestAmerica Job ID: 440-219331-1
SDG: Omega Chemical

Client Sample ID: OC_SP220B_EFF_090418 — Lab Sample ID: 440-219331-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Acetone	15		10	10	ug/L	1		8260B	Total/NA
1,4-Dioxane	16		0.49	0.099	ug/L	1		8270C SIM	Total/NA

Client Sample ID: OC_SP210_INF_090418 — Lab Sample ID: 440-219331-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,1,2-Trichloro-1,2,2-trifluoroethane	120		5.0	0.50	ug/L	1		8260B	Total/NA
1,1-Dichloroethane	0.60	J	1.0	0.25	ug/L	1		8260B	Total/NA
1,1-Dichloroethene	58		1.0	0.25	ug/L	1		8260B	Total/NA
1,2-Dichloroethane	3.4		1.0	0.25	ug/L	1		8260B	Total/NA
Chloroform	18		1.0	0.25	ug/L	1		8260B	Total/NA
Trichloroethene	38		1.0	0.25	ug/L	1		8260B	Total/NA
Trichlorofluoromethane	26		1.0	0.25	ug/L	1		8260B	Total/NA
Tetrachloroethene - DL	300		5.0	1.3	ug/L	5		8260B	Total/NA

Client Sample ID: OC_TB_090418 — Lab Sample ID: 440-219331-3

No Detections.

This Detection Summary does not include radiochemical test results.

Client Sample Results

Client: Jacob & Hefner Associates P.C.
Project/Site: Omega Chemical - GWTS Monthly

TestAmerica Job ID: 440-219331-1
SDG: Omega Chemical

Client Sample ID: OC_SP220B_EFF_090418

Lab Sample ID: 440-219331-1

Date Collected: 09/04/18 11:43
Matrix: Water
Date Received: 09/04/18 13:40

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		1.0	0.25	ug/L			09/09/18 18:29	1
1,1,1-Trichloroethane	ND		1.0	0.25	ug/L			09/09/18 18:29	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.25	ug/L			09/09/18 18:29	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		5.0	0.50	ug/L			09/09/18 18:29	1
1,1,2-Trichloroethane	ND		1.0	0.25	ug/L			09/09/18 18:29	1
1,1-Dichloroethane	ND		1.0	0.25	ug/L			09/09/18 18:29	1
1,1-Dichloroethene	ND		1.0	0.25	ug/L			09/09/18 18:29	1
1,1-Dichloropropene	ND		1.0	0.25	ug/L			09/09/18 18:29	1
1,2,3-Trichlorobenzene	ND		1.0	0.40	ug/L			09/09/18 18:29	1
1,2,3-Trichloropropane	ND		1.0	0.40	ug/L			09/09/18 18:29	1
1,2,4-Trichlorobenzene	ND		1.0	0.40	ug/L			09/09/18 18:29	1
1,2,4-Trimethylbenzene	ND		1.0	0.25	ug/L			09/09/18 18:29	1
1,2-Dibromo-3-Chloropropane	ND		5.0	0.50	ug/L			09/09/18 18:29	1
1,2-Dibromoethane (EDB)	ND		1.0	0.25	ug/L			09/09/18 18:29	1
1,2-Dichlorobenzene	ND		1.0	0.25	ug/L			09/09/18 18:29	1
1,2-Dichloroethane	ND		1.0	0.25	ug/L			09/09/18 18:29	1
1,2-Dichloropropane	ND		1.0	0.25	ug/L			09/09/18 18:29	1
1,3,5-Trimethylbenzene	ND		1.0	0.25	ug/L			09/09/18 18:29	1
1,3-Dichlorobenzene	ND		1.0	0.25	ug/L			09/09/18 18:29	1
1,3-Dichloropropane	ND		1.0	0.25	ug/L			09/09/18 18:29	1
1,4-Dichlorobenzene	ND		1.0	0.25	ug/L			09/09/18 18:29	1
2,2-Dichloropropane	ND		1.0	0.40	ug/L			09/09/18 18:29	1
2-Chlorotoluene	ND		1.0	0.25	ug/L			09/09/18 18:29	1
4-Chlorotoluene	ND		1.0	0.25	ug/L			09/09/18 18:29	1
Acetone	**15**		10	10	ug/L			09/09/18 18:29	1
Benzene	ND		0.50	0.25	ug/L			09/09/18 18:29	1
Bromobenzene	ND		1.0	0.25	ug/L			09/09/18 18:29	1
Bromochloromethane	ND		1.0	0.25	ug/L			09/09/18 18:29	1
Bromodichloromethane	ND		1.0	0.25	ug/L			09/09/18 18:29	1
Bromoform	ND		1.0	0.40	ug/L			09/09/18 18:29	1
Bromomethane	ND		1.0	0.25	ug/L			09/09/18 18:29	1
Carbon tetrachloride	ND		0.50	0.25	ug/L			09/09/18 18:29	1
Chlorobenzene	ND		1.0	0.25	ug/L			09/09/18 18:29	1
Chloroethane	ND		1.0	0.40	ug/L			09/09/18 18:29	1
Chloroform	ND		1.0	0.25	ug/L			09/09/18 18:29	1
Chloromethane	ND		1.0	0.25	ug/L			09/09/18 18:29	1
cis-1,2-Dichloroethene	ND		1.0	0.25	ug/L			09/09/18 18:29	1
cis-1,3-Dichloropropene	ND		0.50	0.25	ug/L			09/09/18 18:29	1
Dibromochloromethane	ND		1.0	0.25	ug/L			09/09/18 18:29	1
Dibromomethane	ND		1.0	0.25	ug/L			09/09/18 18:29	1
Dichlorodifluoromethane	ND		1.0	0.40	ug/L			09/09/18 18:29	1
Ethylbenzene	ND		1.0	0.25	ug/L			09/09/18 18:29	1
Hexachlorobutadiene	ND		1.0	0.25	ug/L			09/09/18 18:29	1
Isopropyl alcohol	ND	F1	250	180	ug/L			09/09/18 18:29	1
Isopropylbenzene	ND		1.0	0.25	ug/L			09/09/18 18:29	1
m,p-Xylene	ND		1.0	0.50	ug/L			09/09/18 18:29	1
Methylene Chloride	ND		5.0	0.88	ug/L			09/09/18 18:29	1
Methyl-t-Butyl Ether (MTBE)	ND		1.0	0.25	ug/L			09/09/18 18:29	1
Naphthalene	ND		1.0	0.40	ug/L			09/09/18 18:29	1

Client Sample ID: OC_SP220B_EFF_090418

Lab Sample ID: 440-219331-1
Date Collected: 09/04/18 11:43
Matrix: Water
Date Received: 09/04/18 13:40

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
n-Butylbenzene	ND		1.0	0.40	ug/L			09/09/18 18:29	1
N-Propylbenzene	ND		1.0	0.25	ug/L			09/09/18 18:29	1
o-Xylene	ND		1.0	0.25	ug/L			09/09/18 18:29	1
p-Isopropyltoluene	ND		1.0	0.25	ug/L			09/09/18 18:29	1
sec-Butylbenzene	ND		1.0	0.25	ug/L			09/09/18 18:29	1
Styrene	ND		1.0	0.25	ug/L			09/09/18 18:29	1
tert-Butylbenzene	ND		1.0	0.25	ug/L			09/09/18 18:29	1
Tetrachloroethene	ND		1.0	0.25	ug/L			09/09/18 18:29	1
Toluene	ND		1.0	0.25	ug/L			09/09/18 18:29	1
trans-1,2-Dichloroethene	ND		1.0	0.25	ug/L			09/09/18 18:29	1
trans-1,3-Dichloropropene	ND		0.50	0.25	ug/L			09/09/18 18:29	1
Trichloroethene	ND		1.0	0.25	ug/L			09/09/18 18:29	1
Trichlorofluoromethane	ND		1.0	0.25	ug/L			09/09/18 18:29	1
Vinyl chloride	ND		0.50	0.25	ug/L			09/09/18 18:29	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*104*		*70 - 130*		*09/09/18 18:29*	*1*
4-Bromofluorobenzene (Surr)	*110*		*80 - 120*		*09/09/18 18:29*	*1*
Dibromofluoromethane (Surr)	*104*		*76 - 132*		*09/09/18 18:29*	*1*
Toluene-d8 (Surr)	*110*		*80 - 128*		*09/09/18 18:29*	*1*

Method: 8270C SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	**16**		0.49	0.099	ug/L		09/05/18 11:21	09/06/18 13:49	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,4-Dioxane-d8 (Surr)	*57*		*27 - 120*	*09/05/18 11:21*	*09/06/18 13:49*	*1*

Client Sample ID: OC_SP210_INF_090418

Lab Sample ID: 440-219331-2
Date Collected: 09/04/18 11:50
Matrix: Water
Date Received: 09/04/18 13:40

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		1.0	0.25	ug/L			09/09/18 19:55	1
1,1,1-Trichloroethane	ND		1.0	0.25	ug/L			09/09/18 19:55	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.25	ug/L			09/09/18 19:55	1
1,1,2-Trichloro-1,2,2-trifluoroethane	**120**		5.0	0.50	ug/L			09/09/18 19:55	1
1,1,2-Trichloroethane	ND		1.0	0.25	ug/L			09/09/18 19:55	1
1,1-Dichloroethane	**0.60**	**J**	1.0	0.25	ug/L			09/09/18 19:55	1
1,1-Dichloroethene	**58**		1.0	0.25	ug/L			09/09/18 19:55	1
1,1-Dichloropropene	ND		1.0	0.25	ug/L			09/09/18 19:55	1
1,2,3-Trichlorobenzene	ND		1.0	0.40	ug/L			09/09/18 19:55	1
1,2,3-Trichloropropane	ND		1.0	0.40	ug/L			09/09/18 19:55	1
1,2,4-Trichlorobenzene	ND		1.0	0.40	ug/L			09/09/18 19:55	1
1,2,4-Trimethylbenzene	ND		1.0	0.25	ug/L			09/09/18 19:55	1
1,2-Dibromo-3-Chloropropane	ND		5.0	0.50	ug/L			09/09/18 19:55	1
1,2-Dibromoethane (EDB)	ND		1.0	0.25	ug/L			09/09/18 19:55	1
1,2-Dichlorobenzene	ND		1.0	0.25	ug/L			09/09/18 19:55	1
1,2-Dichloroethane	**3.4**		1.0	0.25	ug/L			09/09/18 19:55	1

Client Sample ID: OC_SP210_INF_090418

Lab Sample ID: 440-219331-2

Date Collected: 09/04/18 11:50
Matrix: Water
Date Received: 09/04/18 13:40

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dichloropropane	ND		1.0	0.25	ug/L			09/09/18 19:55	1
1,3,5-Trimethylbenzene	ND		1.0	0.25	ug/L			09/09/18 19:55	1
1,3-Dichlorobenzene	ND		1.0	0.25	ug/L			09/09/18 19:55	1
1,3-Dichloropropane	ND		1.0	0.25	ug/L			09/09/18 19:55	1
1,4-Dichlorobenzene	ND		1.0	0.25	ug/L			09/09/18 19:55	1
2,2-Dichloropropane	ND		1.0	0.40	ug/L			09/09/18 19:55	1
2-Chlorotoluene	ND		1.0	0.25	ug/L			09/09/18 19:55	1
4-Chlorotoluene	ND		1.0	0.25	ug/L			09/09/18 19:55	1
Acetone	ND		10	10	ug/L			09/09/18 19:55	1
Benzene	ND		0.50	0.25	ug/L			09/09/18 19:55	1
Bromobenzene	ND		1.0	0.25	ug/L			09/09/18 19:55	1
Bromochloromethane	ND		1.0	0.25	ug/L			09/09/18 19:55	1
Bromodichloromethane	ND		1.0	0.25	ug/L			09/09/18 19:55	1
Bromoform	ND		1.0	0.40	ug/L			09/09/18 19:55	1
Bromomethane	ND		1.0	0.25	ug/L			09/09/18 19:55	1
Carbon tetrachloride	ND		0.50	0.25	ug/L			09/09/18 19:55	1
Chlorobenzene	ND		1.0	0.25	ug/L			09/09/18 19:55	1
Chloroethane	ND		1.0	0.40	ug/L			09/09/18 19:55	1
Chloroform	**18**		1.0	0.25	ug/L			09/09/18 19:55	1
Chloromethane	ND		1.0	0.25	ug/L			09/09/18 19:55	1
cis-1,2-Dichloroethene	ND		1.0	0.25	ug/L			09/09/18 19:55	1
cis-1,3-Dichloropropene	ND		0.50	0.25	ug/L			09/09/18 19:55	1
Dibromochloromethane	ND		1.0	0.25	ug/L			09/09/18 19:55	1
Dibromomethane	ND		1.0	0.25	ug/L			09/09/18 19:55	1
Dichlorodifluoromethane	ND		1.0	0.40	ug/L			09/09/18 19:55	1
Ethylbenzene	ND		1.0	0.25	ug/L			09/09/18 19:55	1
Hexachlorobutadiene	ND		1.0	0.25	ug/L			09/09/18 19:55	1
Isopropyl alcohol	ND		250	180	ug/L			09/09/18 19:55	1
Isopropylbenzene	ND		1.0	0.25	ug/L			09/09/18 19:55	1
m,p-Xylene	ND		1.0	0.50	ug/L			09/09/18 19:55	1
Methylene Chloride	ND		5.0	0.88	ug/L			09/09/18 19:55	1
Methyl-t-Butyl Ether (MTBE)	ND		1.0	0.25	ug/L			09/09/18 19:55	1
Naphthalene	ND		1.0	0.40	ug/L			09/09/18 19:55	1
n-Butylbenzene	ND		1.0	0.40	ug/L			09/09/18 19:55	1
N-Propylbenzene	ND		1.0	0.25	ug/L			09/09/18 19:55	1
o-Xylene	ND		1.0	0.25	ug/L			09/09/18 19:55	1
p-Isopropyltoluene	ND		1.0	0.25	ug/L			09/09/18 19:55	1
sec-Butylbenzene	ND		1.0	0.25	ug/L			09/09/18 19:55	1
Styrene	ND		1.0	0.25	ug/L			09/09/18 19:55	1
tert-Butylbenzene	ND		1.0	0.25	ug/L			09/09/18 19:55	1
Toluene	ND		1.0	0.25	ug/L			09/09/18 19:55	1
trans-1,2-Dichloroethene	ND		1.0	0.25	ug/L			09/09/18 19:55	1
trans-1,3-Dichloropropene	ND		0.50	0.25	ug/L			09/09/18 19:55	1
Trichloroethene	**38**		1.0	0.25	ug/L			09/09/18 19:55	1
Trichlorofluoromethane	**26**		1.0	0.25	ug/L			09/09/18 19:55	1
Vinyl chloride	ND		0.50	0.25	ug/L			09/09/18 19:55	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*103*		*70 - 130*		*09/09/18 19:55*	*1*
4-Bromofluorobenzene (Surr)	*104*		*80 - 120*		*09/09/18 19:55*	*1*

Client Sample ID: OC_SP210_INF_090418

Lab Sample ID: 440-219331-2

Date Collected: 09/04/18 11:50
Matrix: Water
Date Received: 09/04/18 13:40

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

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Dibromofluoromethane (Surr)	*103*		*76 - 132*		*09/09/18 19:55*	*1*
Toluene-d8 (Surr)	*110*		*80 - 128*		*09/09/18 19:55*	*1*

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Tetrachloroethene	**300**		5.0	1.3	ug/L			09/11/18 04:55	5

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*112*		*70 - 130*		*09/11/18 04:55*	*5*
4-Bromofluorobenzene (Surr)	*110*		*80 - 120*		*09/11/18 04:55*	*5*
Dibromofluoromethane (Surr)	*102*		*76 - 132*		*09/11/18 04:55*	*5*
Toluene-d8 (Surr)	*106*		*80 - 128*		*09/11/18 04:55*	*5*

Client Sample ID: OC_TB_090418

Lab Sample ID: 440-219331-3

Date Collected: 09/04/18 11:30
Matrix: Water
Date Received: 09/04/18 13:40

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		1.0	0.25	ug/L			09/10/18 13:10	1
1,1,1-Trichloroethane	ND		1.0	0.25	ug/L			09/10/18 13:10	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.25	ug/L			09/10/18 13:10	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		5.0	0.50	ug/L			09/10/18 13:10	1
1,1,2-Trichloroethane	ND		1.0	0.25	ug/L			09/10/18 13:10	1
1,1-Dichloroethane	ND		1.0	0.25	ug/L			09/10/18 13:10	1
1,1-Dichloroethene	ND		1.0	0.25	ug/L			09/10/18 13:10	1
1,1-Dichloropropene	ND		1.0	0.25	ug/L			09/10/18 13:10	1
1,2,3-Trichlorobenzene	ND		1.0	0.40	ug/L			09/10/18 13:10	1
1,2,3-Trichloropropane	ND		1.0	0.40	ug/L			09/10/18 13:10	1
1,2,4-Trichlorobenzene	ND		1.0	0.40	ug/L			09/10/18 13:10	1
1,2,4-Trimethylbenzene	ND		1.0	0.25	ug/L			09/10/18 13:10	1
1,2-Dibromo-3-Chloropropane	ND		5.0	0.50	ug/L			09/10/18 13:10	1
1,2-Dibromoethane (EDB)	ND		1.0	0.25	ug/L			09/10/18 13:10	1
1,2-Dichlorobenzene	ND		1.0	0.25	ug/L			09/10/18 13:10	1
1,2-Dichloroethane	ND		1.0	0.25	ug/L			09/10/18 13:10	1
1,2-Dichloropropane	ND		1.0	0.25	ug/L			09/10/18 13:10	1
1,3,5-Trimethylbenzene	ND		1.0	0.25	ug/L			09/10/18 13:10	1
1,3-Dichlorobenzene	ND		1.0	0.25	ug/L			09/10/18 13:10	1
1,3-Dichloropropane	ND		1.0	0.25	ug/L			09/10/18 13:10	1
1,4-Dichlorobenzene	ND		1.0	0.25	ug/L			09/10/18 13:10	1
2,2-Dichloropropane	ND		1.0	0.40	ug/L			09/10/18 13:10	1
2-Chlorotoluene	ND		1.0	0.25	ug/L			09/10/18 13:10	1
4-Chlorotoluene	ND		1.0	0.25	ug/L			09/10/18 13:10	1
Acetone	ND		10	10	ug/L			09/10/18 13:10	1
Benzene	ND		0.50	0.25	ug/L			09/10/18 13:10	1
Bromobenzene	ND		1.0	0.25	ug/L			09/10/18 13:10	1
Bromochloromethane	ND		1.0	0.25	ug/L			09/10/18 13:10	1
Bromodichloromethane	ND		1.0	0.25	ug/L			09/10/18 13:10	1
Bromoform	ND		1.0	0.40	ug/L			09/10/18 13:10	1
Bromomethane	ND		1.0	0.25	ug/L			09/10/18 13:10	1

Client Sample Results

Client: Jacob & Hefner Associates P.C.
Project/Site: Omega Chemical - GWTS Monthly

TestAmerica Job ID: 440-219331-1
SDG: Omega Chemical

Client Sample ID: OC_TB_090418

Date Collected: 09/04/18 11:30
Date Received: 09/04/18 13:40

Lab Sample ID: 440-219331-3

Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Carbon tetrachloride	ND		0.50	0.25	ug/L			09/10/18 13:10	1
Chlorobenzene	ND		1.0	0.25	ug/L			09/10/18 13:10	1
Chloroethane	ND		1.0	0.40	ug/L			09/10/18 13:10	1
Chloroform	ND		1.0	0.25	ug/L			09/10/18 13:10	1
Chloromethane	ND		1.0	0.25	ug/L			09/10/18 13:10	1
cis-1,2-Dichloroethene	ND		1.0	0.25	ug/L			09/10/18 13:10	1
cis-1,3-Dichloropropene	ND		0.50	0.25	ug/L			09/10/18 13:10	1
Dibromochloromethane	ND		1.0	0.25	ug/L			09/10/18 13:10	1
Dibromomethane	ND		1.0	0.25	ug/L			09/10/18 13:10	1
Dichlorodifluoromethane	ND		1.0	0.40	ug/L			09/10/18 13:10	1
Ethylbenzene	ND		1.0	0.25	ug/L			09/10/18 13:10	1
Hexachlorobutadiene	ND		1.0	0.25	ug/L			09/10/18 13:10	1
Isopropyl alcohol	ND		250	180	ug/L			09/10/18 13:10	1
Isopropylbenzene	ND		1.0	0.25	ug/L			09/10/18 13:10	1
m,p-Xylene	ND		1.0	0.50	ug/L			09/10/18 13:10	1
Methylene Chloride	ND		5.0	0.88	ug/L			09/10/18 13:10	1
Methyl-t-Butyl Ether (MTBE)	ND		1.0	0.25	ug/L			09/10/18 13:10	1
Naphthalene	ND		1.0	0.40	ug/L			09/10/18 13:10	1
n-Butylbenzene	ND		1.0	0.40	ug/L			09/10/18 13:10	1
N-Propylbenzene	ND		1.0	0.25	ug/L			09/10/18 13:10	1
o-Xylene	ND		1.0	0.25	ug/L			09/10/18 13:10	1
p-Isopropyltoluene	ND		1.0	0.25	ug/L			09/10/18 13:10	1
sec-Butylbenzene	ND		1.0	0.25	ug/L			09/10/18 13:10	1
Styrene	ND		1.0	0.25	ug/L			09/10/18 13:10	1
tert-Butylbenzene	ND		1.0	0.25	ug/L			09/10/18 13:10	1
Tetrachloroethene	ND		1.0	0.25	ug/L			09/10/18 13:10	1
Toluene	ND		1.0	0.25	ug/L			09/10/18 13:10	1
trans-1,2-Dichloroethene	ND		1.0	0.25	ug/L			09/10/18 13:10	1
trans-1,3-Dichloropropene	ND		0.50	0.25	ug/L			09/10/18 13:10	1
Trichloroethene	ND		1.0	0.25	ug/L			09/10/18 13:10	1
Trichlorofluoromethane	ND		1.0	0.25	ug/L			09/10/18 13:10	1
Vinyl chloride	ND		0.50	0.25	ug/L			09/10/18 13:10	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*113*		*70 - 130*		*09/10/18 13:10*	*1*
4-Bromofluorobenzene (Surr)	*94*		*80 - 120*		*09/10/18 13:10*	*1*
Dibromofluoromethane (Surr)	*113*		*76 - 132*		*09/10/18 13:10*	*1*
Toluene-d8 (Surr)	*101*		*80 - 128*		*09/10/18 13:10*	*1*

Surrogate Summary

Client: Jacob & Hefner Associates P.C.
Project/Site: Omega Chemical - GWTS Monthly

TestAmerica Job ID: 440-219331-1
SDG: Omega Chemical

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

Matrix: Water **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)			
		DCA	BFB	DBFM	TOL
Lab Sample ID	Client Sample ID	(70-130)	(80-120)	(76-132)	(80-128)
440-219331-1	OC_SP220B_EFF_090418	104	110	104	110
440-219331-1 MS	OC_SP220B_EFF_090418	109	103	100	100
440-219331-1 MSD	OC_SP220B_EFF_090418	97	100	105	102
440-219331-2	OC_SP210_INF_090418	103	104	103	110
440-219331-2 - DL	OC_SP210_INF_090418	112	110	102	106
440-219331-3	OC_TB_090418	113	94	113	101
720-88306-A-2 MS	Matrix Spike	107	95	108	99
720-88306-A-2 MSD	Matrix Spike Duplicate	105	95	106	100
720-88306-A-7 MS	Matrix Spike	98	103	102	97
720-88306-A-7 MSD	Matrix Spike Duplicate	99	101	101	98
LCS 440-498015/18	Lab Control Sample	107	102	99	109
LCS 440-498015/6	Lab Control Sample	108	95	105	98
LCS 440-498067/6	Lab Control Sample	105	95	107	101
LCS 440-498067/7	Lab Control Sample	106	95	107	105
LCS 440-498219/5	Lab Control Sample	97	96	102	98
MB 440-498015/5	Method Blank	103	103	101	108
MB 440-498067/5	Method Blank	106	94	106	106
MB 440-498219/4	Method Blank	105	109	102	110

Surrogate Legend

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

Method: 8270C SIM - Semivolatile Organic Compounds (GC/MS SIM)

Matrix: Water **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)
		DXE
Lab Sample ID	Client Sample ID	(27-120)
440-219331-1	OC_SP220B_EFF_090418	57
LCS 440-497373/2-A	Lab Control Sample	70
LCSD 440-497373/3-A	Lab Control Sample Dup	70
MB 440-497373/1-A	Method Blank	76

Surrogate Legend

DXE = 1,4-Dioxane-d8 (Surr)

Method Summary

Client: Jacob & Hefner Associates P.C.
Project/Site: Omega Chemical - GWTS Monthly

TestAmerica Job ID: 440-219331-1
SDG: Omega Chemical

Method	Method Description	Protocol	Laboratory
8260B	Volatile Organic Compounds (GC/MS)	SW846	TAL IRV
8270C SIM	Semivolatile Organic Compounds (GC/MS SIM)	SW846	TAL IRV
3520C	Liquid-Liquid Extraction (Continuous)	SW846	TAL IRV
5030B	Purge and Trap	SW846	TAL IRV

Protocol References:

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL IRV = TestAmerica Irvine, 17461 Derian Ave, Suite 100, Irvine, CA 92614-5817, TEL (949)261-1022

Lab Chronicle

Client: Jacob & Hefner Associates P.C.
Project/Site: Omega Chemical - GWTS Monthly

TestAmerica Job ID: 440-219331-1
SDG: Omega Chemical

Client Sample ID: OC_SP220B_EFF_090418 — Lab Sample ID: 440-219331-1

Date Collected: 09/04/18 11:43 — **Matrix: Water**
Date Received: 09/04/18 13:40

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	10 mL	10 mL	498015	09/09/18 18:29	TCN	TAL IRV
Total/NA	Prep	3520C			1015 mL	1.0 mL	497373	09/05/18 11:21	JAA	TAL IRV
Total/NA	Analysis	8270C SIM		1			497623	09/06/18 13:49	HN	TAL IRV

Client Sample ID: OC_SP210_INF_090418 — Lab Sample ID: 440-219331-2

Date Collected: 09/04/18 11:50 — **Matrix: Water**
Date Received: 09/04/18 13:40

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	10 mL	10 mL	498015	09/09/18 19:55	TCN	TAL IRV
Total/NA	Analysis	8260B	DL	5	10 mL	10 mL	498219	09/11/18 04:55	RM	TAL IRV

Client Sample ID: OC_TB_090418 — Lab Sample ID: 440-219331-3

Date Collected: 09/04/18 11:30 — **Matrix: Water**
Date Received: 09/04/18 13:40

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	10 mL	10 mL	498067	09/10/18 13:10	TCN	TAL IRV

Laboratory References:

TAL IRV = TestAmerica Irvine, 17461 Derian Ave, Suite 100, Irvine, CA 92614-5817, TEL (949)261-1022

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

Lab Sample ID: MB 440-498015/5
Matrix: Water
Analysis Batch: 498015

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		1.0	0.25	ug/L			09/09/18 11:52	1
1,1,1-Trichloroethane	ND		1.0	0.25	ug/L			09/09/18 11:52	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.25	ug/L			09/09/18 11:52	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		5.0	0.50	ug/L			09/09/18 11:52	1
1,1,2-Trichloroethane	ND		1.0	0.25	ug/L			09/09/18 11:52	1
1,1-Dichloroethane	ND		1.0	0.25	ug/L			09/09/18 11:52	1
1,1-Dichloroethene	ND		1.0	0.25	ug/L			09/09/18 11:52	1
1,1-Dichloropropene	ND		1.0	0.25	ug/L			09/09/18 11:52	1
1,2,3-Trichlorobenzene	ND		1.0	0.40	ug/L			09/09/18 11:52	1
1,2,3-Trichloropropane	ND		1.0	0.40	ug/L			09/09/18 11:52	1
1,2,4-Trichlorobenzene	ND		1.0	0.40	ug/L			09/09/18 11:52	1
1,2,4-Trimethylbenzene	ND		1.0	0.25	ug/L			09/09/18 11:52	1
1,2-Dibromo-3-Chloropropane	ND		5.0	0.50	ug/L			09/09/18 11:52	1
1,2-Dibromoethane (EDB)	ND		1.0	0.25	ug/L			09/09/18 11:52	1
1,2-Dichlorobenzene	ND		1.0	0.25	ug/L			09/09/18 11:52	1
1,2-Dichloroethane	ND		1.0	0.25	ug/L			09/09/18 11:52	1
1,2-Dichloropropane	ND		1.0	0.25	ug/L			09/09/18 11:52	1
1,3,5-Trimethylbenzene	ND		1.0	0.25	ug/L			09/09/18 11:52	1
1,3-Dichlorobenzene	ND		1.0	0.25	ug/L			09/09/18 11:52	1
1,3-Dichloropropane	ND		1.0	0.25	ug/L			09/09/18 11:52	1
1,4-Dichlorobenzene	ND		1.0	0.25	ug/L			09/09/18 11:52	1
2,2-Dichloropropane	ND		1.0	0.40	ug/L			09/09/18 11:52	1
2-Chlorotoluene	ND		1.0	0.25	ug/L			09/09/18 11:52	1
4-Chlorotoluene	ND		1.0	0.25	ug/L			09/09/18 11:52	1
Acetone	ND		10	10	ug/L			09/09/18 11:52	1
Benzene	ND		0.50	0.25	ug/L			09/09/18 11:52	1
Bromobenzene	ND		1.0	0.25	ug/L			09/09/18 11:52	1
Bromochloromethane	ND		1.0	0.25	ug/L			09/09/18 11:52	1
Bromodichloromethane	ND		1.0	0.25	ug/L			09/09/18 11:52	1
Bromoform	ND		1.0	0.40	ug/L			09/09/18 11:52	1
Bromomethane	ND		1.0	0.25	ug/L			09/09/18 11:52	1
Carbon tetrachloride	ND		0.50	0.25	ug/L			09/09/18 11:52	1
Chlorobenzene	ND		1.0	0.25	ug/L			09/09/18 11:52	1
Chloroethane	ND		1.0	0.40	ug/L			09/09/18 11:52	1
Chloroform	ND		1.0	0.25	ug/L			09/09/18 11:52	1
Chloromethane	ND		1.0	0.25	ug/L			09/09/18 11:52	1
cis-1,2-Dichloroethene	ND		1.0	0.25	ug/L			09/09/18 11:52	1
cis-1,3-Dichloropropene	ND		0.50	0.25	ug/L			09/09/18 11:52	1
Dibromochloromethane	ND		1.0	0.25	ug/L			09/09/18 11:52	1
Dibromomethane	ND		1.0	0.25	ug/L			09/09/18 11:52	1
Dichlorodifluoromethane	ND		1.0	0.40	ug/L			09/09/18 11:52	1
Ethylbenzene	ND		1.0	0.25	ug/L			09/09/18 11:52	1
Hexachlorobutadiene	ND		1.0	0.25	ug/L			09/09/18 11:52	1
Isopropyl alcohol	ND		250	180	ug/L			09/09/18 11:52	1
Isopropylbenzene	ND		1.0	0.25	ug/L			09/09/18 11:52	1
m,p-Xylene	ND		1.0	0.50	ug/L			09/09/18 11:52	1
Methylene Chloride	ND		5.0	0.88	ug/L			09/09/18 11:52	1
Methyl-t-Butyl Ether (MTBE)	ND		1.0	0.25	ug/L			09/09/18 11:52	1

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

Lab Sample ID: MB 440-498015/5
Matrix: Water
Analysis Batch: 498015

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Naphthalene	ND		1.0	0.40	ug/L			09/09/18 11:52	1
n-Butylbenzene	ND		1.0	0.40	ug/L			09/09/18 11:52	1
N-Propylbenzene	ND		1.0	0.25	ug/L			09/09/18 11:52	1
o-Xylene	ND		1.0	0.25	ug/L			09/09/18 11:52	1
p-Isopropyltoluene	ND		1.0	0.25	ug/L			09/09/18 11:52	1
sec-Butylbenzene	ND		1.0	0.25	ug/L			09/09/18 11:52	1
Styrene	ND		1.0	0.25	ug/L			09/09/18 11:52	1
tert-Butylbenzene	ND		1.0	0.25	ug/L			09/09/18 11:52	1
Tetrachloroethene	ND		1.0	0.25	ug/L			09/09/18 11:52	1
Toluene	ND		1.0	0.25	ug/L			09/09/18 11:52	1
trans-1,2-Dichloroethene	ND		1.0	0.25	ug/L			09/09/18 11:52	1
trans-1,3-Dichloropropene	ND		0.50	0.25	ug/L			09/09/18 11:52	1
Trichloroethene	ND		1.0	0.25	ug/L			09/09/18 11:52	1
Trichlorofluoromethane	ND		1.0	0.25	ug/L			09/09/18 11:52	1
Vinyl chloride	ND		0.50	0.25	ug/L			09/09/18 11:52	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*103*		*70 - 130*		*09/09/18 11:52*	*1*
4-Bromofluorobenzene (Surr)	*103*		*80 - 120*		*09/09/18 11:52*	*1*
Dibromofluoromethane (Surr)	*101*		*76 - 132*		*09/09/18 11:52*	*1*
Toluene-d8 (Surr)	*108*		*80 - 128*		*09/09/18 11:52*	*1*

Lab Sample ID: LCS 440-498015/18
Matrix: Water
Analysis Batch: 498015

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Isopropyl alcohol	250	232	J	ug/L		93	49 - 142

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*107*		*70 - 130*
4-Bromofluorobenzene (Surr)	*102*		*80 - 120*
Dibromofluoromethane (Surr)	*99*		*76 - 132*
Toluene-d8 (Surr)	*109*		*80 - 128*

Lab Sample ID: LCS 440-498015/6
Matrix: Water
Analysis Batch: 498015

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1,1,2-Tetrachloroethane	25.0	25.3		ug/L		101	60 - 141
1,1,1-Trichloroethane	25.0	26.3		ug/L		105	70 - 130
1,1,2,2-Tetrachloroethane	25.0	26.1		ug/L		105	63 - 130
1,1,2-Trichloroethane	25.0	26.3		ug/L		105	70 - 130
1,1-Dichloroethane	25.0	28.0		ug/L		112	64 - 130
1,1-Dichloroethene	25.0	27.4		ug/L		109	70 - 130
1,1-Dichloropropene	25.0	27.5		ug/L		110	70 - 130
1,2,3-Trichlorobenzene	25.0	23.1		ug/L		92	60 - 140

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

Lab Sample ID: LCS 440-498015/6
Matrix: Water
Analysis Batch: 498015

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,2,3-Trichloropropane	25.0	25.7		ug/L		103	63 - 130
1,2,4-Trichlorobenzene	25.0	23.4		ug/L		94	60 - 140
1,2,4-Trimethylbenzene	25.0	24.6		ug/L		98	70 - 135
1,2-Dibromo-3-Chloropropane	25.0	24.8		ug/L		99	52 - 140
1,2-Dibromoethane (EDB)	25.0	27.1		ug/L		108	70 - 130
1,2-Dichlorobenzene	25.0	26.1		ug/L		105	70 - 130
1,2-Dichloroethane	25.0	27.1		ug/L		108	57 - 138
1,2-Dichloropropane	25.0	27.1		ug/L		108	67 - 130
1,3,5-Trimethylbenzene	25.0	25.1		ug/L		101	70 - 136
1,3-Dichlorobenzene	25.0	24.7		ug/L		99	70 - 130
1,3-Dichloropropane	25.0	25.0		ug/L		100	70 - 130
1,4-Dichlorobenzene	25.0	25.1		ug/L		101	70 - 130
2,2-Dichloropropane	25.0	26.8		ug/L		107	68 - 141
2-Chlorotoluene	25.0	24.7		ug/L		99	70 - 130
4-Chlorotoluene	25.0	25.5		ug/L		102	70 - 130
Acetone	25.0	29.6		ug/L		118	10 - 150
Benzene	25.0	25.3		ug/L		101	68 - 130
Bromobenzene	25.0	24.9		ug/L		100	70 - 130
Bromochloromethane	25.0	27.7		ug/L		111	70 - 130
Bromodichloromethane	25.0	26.8		ug/L		107	70 - 132
Bromoform	25.0	24.9		ug/L		100	60 - 148
Bromomethane	25.0	24.2		ug/L		97	64 - 139
Carbon tetrachloride	25.0	25.8		ug/L		103	60 - 150
Chlorobenzene	25.0	23.4		ug/L		94	70 - 130
Chloroethane	25.0	23.6		ug/L		95	64 - 135
Chloroform	25.0	26.1		ug/L		104	70 - 130
Chloromethane	25.0	24.3		ug/L		97	47 - 140
cis-1,2-Dichloroethene	25.0	24.9		ug/L		99	70 - 133
cis-1,3-Dichloropropene	25.0	26.2		ug/L		105	70 - 133
Dibromochloromethane	25.0	25.8		ug/L		103	69 - 145
Dibromomethane	25.0	25.1		ug/L		100	70 - 130
Dichlorodifluoromethane	25.0	23.8		ug/L		95	29 - 150
Ethylbenzene	25.0	23.8		ug/L		95	70 - 130
Hexachlorobutadiene	25.0	23.4		ug/L		94	10 - 150
Isopropylbenzene	25.0	25.1		ug/L		100	70 - 136
m,p-Xylene	25.0	25.1		ug/L		100	70 - 130
Methylene Chloride	25.0	25.7		ug/L		103	52 - 130
Methyl-t-Butyl Ether (MTBE)	25.0	27.3		ug/L		109	63 - 131
Naphthalene	25.0	23.9		ug/L		96	60 - 140
n-Butylbenzene	25.0	24.0		ug/L		96	65 - 150
N-Propylbenzene	25.0	25.4		ug/L		102	67 - 139
o-Xylene	25.0	24.2		ug/L		97	70 - 130
p-Isopropyltoluene	25.0	24.5		ug/L		98	70 - 132
sec-Butylbenzene	25.0	24.6		ug/L		99	70 - 138
Styrene	25.0	23.0		ug/L		92	70 - 134
tert-Butylbenzene	25.0	25.1		ug/L		100	70 - 130
Tetrachloroethene	25.0	24.1		ug/L		96	70 - 130
Toluene	25.0	24.6		ug/L		98	70 - 130

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

Lab Sample ID: LCS 440-498015/6
Matrix: Water
Analysis Batch: 498015

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
trans-1,2-Dichloroethene	25.0	25.5		ug/L		102	70 - 130
trans-1,3-Dichloropropene	25.0	25.8		ug/L		103	70 - 132
Trichloroethene	25.0	25.8		ug/L		103	70 - 130
Trichlorofluoromethane	25.0	26.6		ug/L		106	60 - 150
Vinyl chloride	25.0	25.2		ug/L		101	59 - 133

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*108*		*70 - 130*
4-Bromofluorobenzene (Surr)	*95*		*80 - 120*
Dibromofluoromethane (Surr)	*105*		*76 - 132*
Toluene-d8 (Surr)	*98*		*80 - 128*

Lab Sample ID: 440-219331-1 MS
Matrix: Water
Analysis Batch: 498015

Client Sample ID: OC_SP220B_EFF_090418
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1,1,2-Tetrachloroethane	ND		25.0	27.1		ug/L		108	60 - 149
1,1,1-Trichloroethane	ND		25.0	27.1		ug/L		108	70 - 130
1,1,2,2-Tetrachloroethane	ND		25.0	28.1		ug/L		112	63 - 130
1,1,2-Trichloroethane	ND		25.0	27.0		ug/L		108	70 - 130
1,1-Dichloroethane	ND		25.0	27.0		ug/L		108	65 - 130
1,1-Dichloroethene	ND		25.0	26.7		ug/L		107	70 - 130
1,1-Dichloropropene	ND		25.0	27.3		ug/L		109	64 - 130
1,2,3-Trichlorobenzene	ND		25.0	24.1		ug/L		96	60 - 140
1,2,3-Trichloropropane	ND		25.0	25.5		ug/L		102	60 - 130
1,2,4-Trichlorobenzene	ND		25.0	24.8		ug/L		99	60 - 140
1,2,4-Trimethylbenzene	ND		25.0	25.1		ug/L		100	70 - 130
1,2-Dibromo-3-Chloropropane	ND		25.0	25.6		ug/L		103	48 - 140
1,2-Dibromoethane (EDB)	ND		25.0	27.2		ug/L		109	70 - 131
1,2-Dichlorobenzene	ND		25.0	27.3		ug/L		109	70 - 130
1,2-Dichloroethane	ND		25.0	27.6		ug/L		110	56 - 146
1,2-Dichloropropane	ND		25.0	26.7		ug/L		107	69 - 130
1,3,5-Trimethylbenzene	ND		25.0	25.7		ug/L		103	70 - 130
1,3-Dichlorobenzene	ND		25.0	26.1		ug/L		104	70 - 130
1,3-Dichloropropane	ND		25.0	26.5		ug/L		106	70 - 130
1,4-Dichlorobenzene	ND		25.0	26.0		ug/L		104	70 - 130
2,2-Dichloropropane	ND		25.0	26.4		ug/L		106	69 - 138
2-Chlorotoluene	ND		25.0	26.1		ug/L		104	70 - 130
4-Chlorotoluene	ND		25.0	27.0		ug/L		108	70 - 130
Acetone	15		25.0	49.3		ug/L		137	10 - 150
Benzene	ND		25.0	25.2		ug/L		101	66 - 130
Bromobenzene	ND		25.0	26.7		ug/L		107	70 - 130
Bromochloromethane	ND		25.0	25.9		ug/L		104	70 - 130
Bromodichloromethane	ND		25.0	27.1		ug/L		108	70 - 138
Bromoform	ND		25.0	25.5		ug/L		102	59 - 150
Bromomethane	ND		25.0	24.1		ug/L		97	62 - 131
Carbon tetrachloride	ND		25.0	26.2		ug/L		105	60 - 150

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

Lab Sample ID: 440-219331-1 MS
Matrix: Water
Analysis Batch: 498015

Client Sample ID: OC_SP220B_EFF_090418
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Chlorobenzene	ND		25.0	25.1		ug/L		100	70 - 130
Chloroethane	ND		25.0	23.3		ug/L		93	68 - 130
Chloroform	ND		25.0	26.0		ug/L		104	70 - 130
Chloromethane	ND		25.0	24.1		ug/L		96	39 - 144
cis-1,2-Dichloroethene	ND		25.0	23.7		ug/L		95	70 - 130
cis-1,3-Dichloropropene	ND		25.0	27.4		ug/L		110	70 - 133
Dibromochloromethane	ND		25.0	26.6		ug/L		106	70 - 148
Dibromomethane	ND		25.0	25.3		ug/L		101	70 - 130
Dichlorodifluoromethane	ND		25.0	23.0		ug/L		92	25 - 142
Ethylbenzene	ND		25.0	24.9		ug/L		100	70 - 130
Hexachlorobutadiene	ND		25.0	24.8		ug/L		99	10 - 150
Isopropyl alcohol	ND	F1	250	378	F1	ug/L		151	46 - 142
Isopropylbenzene	ND		25.0	25.8		ug/L		103	70 - 132
m,p-Xylene	ND		25.0	25.7		ug/L		103	70 - 133
Methylene Chloride	ND		25.0	24.8		ug/L		99	52 - 130
Methyl-t-Butyl Ether (MTBE)	ND		25.0	26.7		ug/L		107	70 - 130
Naphthalene	ND		25.0	24.4		ug/L		98	60 - 140
n-Butylbenzene	ND		25.0	25.3		ug/L		101	61 - 149
N-Propylbenzene	ND		25.0	26.8		ug/L		107	66 - 135
o-Xylene	ND		25.0	26.1		ug/L		105	70 - 133
p-Isopropyltoluene	ND		25.0	26.4		ug/L		106	70 - 130
sec-Butylbenzene	ND		25.0	25.7		ug/L		103	67 - 134
Styrene	ND		25.0	22.7		ug/L		91	29 - 150
tert-Butylbenzene	ND		25.0	25.9		ug/L		104	70 - 130
Tetrachloroethene	ND		25.0	25.7		ug/L		103	70 - 137
Toluene	ND		25.0	25.6		ug/L		103	70 - 130
trans-1,2-Dichloroethene	ND		25.0	24.1		ug/L		96	70 - 130
trans-1,3-Dichloropropene	ND		25.0	26.8		ug/L		107	70 - 138
Trichloroethene	ND		25.0	25.6		ug/L		102	70 - 130
Trichlorofluoromethane	ND		25.0	26.5		ug/L		106	60 - 150
Vinyl chloride	ND		25.0	24.1		ug/L		96	50 - 137

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*109*		*70 - 130*
4-Bromofluorobenzene (Surr)	*103*		*80 - 120*
Dibromofluoromethane (Surr)	*100*		*76 - 132*
Toluene-d8 (Surr)	*100*		*80 - 128*

Lab Sample ID: 440-219331-1 MSD
Matrix: Water
Analysis Batch: 498015

Client Sample ID: OC_SP220B_EFF_090418
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,1,1,2-Tetrachloroethane	ND		25.0	26.4		ug/L		106	60 - 149	3	20
1,1,1-Trichloroethane	ND		25.0	27.0		ug/L		108	70 - 130	0	20
1,1,2,2-Tetrachloroethane	ND		25.0	26.3		ug/L		105	63 - 130	6	30
1,1,2-Trichloroethane	ND		25.0	27.2		ug/L		109	70 - 130	1	25
1,1-Dichloroethane	ND		25.0	28.5		ug/L		114	65 - 130	5	20

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

Lab Sample ID: 440-219331-1 MSD
Matrix: Water
Analysis Batch: 498015

Client Sample ID: OC_SP220B_EFF_090418
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,1-Dichloroethene	ND		25.0	26.6		ug/L		106	70 - 130	0	20
1,1-Dichloropropene	ND		25.0	27.4		ug/L		109	64 - 130	0	20
1,2,3-Trichlorobenzene	ND		25.0	24.3		ug/L		97	60 - 140	1	20
1,2,3-Trichloropropane	ND		25.0	25.4		ug/L		101	60 - 130	1	30
1,2,4-Trichlorobenzene	ND		25.0	25.1		ug/L		100	60 - 140	1	20
1,2,4-Trimethylbenzene	ND		25.0	24.7		ug/L		99	70 - 130	2	25
1,2-Dibromo-3-Chloropropane	ND		25.0	24.7		ug/L		99	48 - 140	4	30
1,2-Dibromoethane (EDB)	ND		25.0	28.1		ug/L		112	70 - 131	3	25
1,2-Dichlorobenzene	ND		25.0	26.7		ug/L		107	70 - 130	2	20
1,2-Dichloroethane	ND		25.0	28.1		ug/L		112	56 - 146	2	20
1,2-Dichloropropane	ND		25.0	27.6		ug/L		110	69 - 130	3	20
1,3,5-Trimethylbenzene	ND		25.0	25.3		ug/L		101	70 - 130	1	20
1,3-Dichlorobenzene	ND		25.0	25.6		ug/L		102	70 - 130	2	20
1,3-Dichloropropane	ND		25.0	25.0		ug/L		100	70 - 130	6	25
1,4-Dichlorobenzene	ND		25.0	25.8		ug/L		103	70 - 130	1	20
2,2-Dichloropropane	ND		25.0	27.2		ug/L		109	69 - 138	3	25
2-Chlorotoluene	ND		25.0	25.2		ug/L		101	70 - 130	3	20
4-Chlorotoluene	ND		25.0	26.3		ug/L		105	70 - 130	2	20
Acetone	15		25.0	48.4		ug/L		133	10 - 150	2	35
Benzene	ND		25.0	25.7		ug/L		103	66 - 130	2	20
Bromobenzene	ND		25.0	25.3		ug/L		101	70 - 130	5	20
Bromochloromethane	ND		25.0	28.1		ug/L		112	70 - 130	8	25
Bromodichloromethane	ND		25.0	28.3		ug/L		113	70 - 138	4	20
Bromoform	ND		25.0	25.5		ug/L		102	59 - 150	0	25
Bromomethane	ND		25.0	24.6		ug/L		99	62 - 131	2	25
Carbon tetrachloride	ND		25.0	25.6		ug/L		102	60 - 150	2	25
Chlorobenzene	ND		25.0	24.5		ug/L		98	70 - 130	2	20
Chloroethane	ND		25.0	23.9		ug/L		96	68 - 130	3	25
Chloroform	ND		25.0	26.7		ug/L		107	70 - 130	3	20
Chloromethane	ND		25.0	24.0		ug/L		96	39 - 144	1	25
cis-1,2-Dichloroethene	ND		25.0	24.9		ug/L		100	70 - 130	5	20
cis-1,3-Dichloropropene	ND		25.0	27.1		ug/L		108	70 - 133	1	20
Dibromochloromethane	ND		25.0	27.0		ug/L		108	70 - 148	1	25
Dibromomethane	ND		25.0	26.0		ug/L		104	70 - 130	3	25
Dichlorodifluoromethane	ND		25.0	22.7		ug/L		91	25 - 142	1	30
Ethylbenzene	ND		25.0	25.1		ug/L		100	70 - 130	1	20
Hexachlorobutadiene	ND		25.0	24.6		ug/L		98	10 - 150	1	20
Isopropyl alcohol	ND	F1	250	334		ug/L		134	46 - 142	12	40
Isopropylbenzene	ND		25.0	25.7		ug/L		103	70 - 132	1	20
m,p-Xylene	ND		25.0	25.0		ug/L		100	70 - 133	3	25
Methylene Chloride	ND		25.0	25.3		ug/L		101	52 - 130	2	20
Methyl-t-Butyl Ether (MTBE)	ND		25.0	28.1		ug/L		112	70 - 130	5	25
Naphthalene	ND		25.0	24.2		ug/L		97	60 - 140	1	30
n-Butylbenzene	ND		25.0	25.1		ug/L		101	61 - 149	1	20
N-Propylbenzene	ND		25.0	25.9		ug/L		104	66 - 135	3	20
o-Xylene	ND		25.0	25.3		ug/L		101	70 - 133	3	20
p-Isopropyltoluene	ND		25.0	26.4		ug/L		106	70 - 130	0	20
sec-Butylbenzene	ND		25.0	25.4		ug/L		102	67 - 134	1	20

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

Lab Sample ID: 440-219331-1 MSD — **Client Sample ID: OC_SP220B_EFF_090418**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 498015

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Styrene	ND		25.0	23.5		ug/L		94	29 - 150	3	35
tert-Butylbenzene	ND		25.0	25.3		ug/L		101	70 - 130	2	20
Tetrachloroethene	ND		25.0	25.2		ug/L		101	70 - 137	2	20
Toluene	ND		25.0	25.4		ug/L		102	70 - 130	1	20
trans-1,2-Dichloroethene	ND		25.0	25.7		ug/L		103	70 - 130	7	20
trans-1,3-Dichloropropene	ND		25.0	27.4		ug/L		110	70 - 138	2	25
Trichloroethene	ND		25.0	26.3		ug/L		105	70 - 130	3	20
Trichlorofluoromethane	ND		25.0	26.3		ug/L		105	60 - 150	1	25
Vinyl chloride	ND		25.0	24.8		ug/L		99	50 - 137	3	30

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*97*		*70 - 130*
4-Bromofluorobenzene (Surr)	*100*		*80 - 120*
Dibromofluoromethane (Surr)	*105*		*76 - 132*
Toluene-d8 (Surr)	*102*		*80 - 128*

Lab Sample ID: MB 440-498067/5 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 498067

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		1.0	0.25	ug/L			09/10/18 10:15	1
1,1,1-Trichloroethane	ND		1.0	0.25	ug/L			09/10/18 10:15	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.25	ug/L			09/10/18 10:15	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		5.0	0.50	ug/L			09/10/18 10:15	1
1,1,2-Trichloroethane	ND		1.0	0.25	ug/L			09/10/18 10:15	1
1,1-Dichloroethane	ND		1.0	0.25	ug/L			09/10/18 10:15	1
1,1-Dichloroethene	ND		1.0	0.25	ug/L			09/10/18 10:15	1
1,1-Dichloropropene	ND		1.0	0.25	ug/L			09/10/18 10:15	1
1,2,3-Trichlorobenzene	ND		1.0	0.40	ug/L			09/10/18 10:15	1
1,2,3-Trichloropropane	ND		1.0	0.40	ug/L			09/10/18 10:15	1
1,2,4-Trichlorobenzene	ND		1.0	0.40	ug/L			09/10/18 10:15	1
1,2,4-Trimethylbenzene	ND		1.0	0.25	ug/L			09/10/18 10:15	1
1,2-Dibromo-3-Chloropropane	ND		5.0	0.50	ug/L			09/10/18 10:15	1
1,2-Dibromoethane (EDB)	ND		1.0	0.25	ug/L			09/10/18 10:15	1
1,2-Dichlorobenzene	ND		1.0	0.25	ug/L			09/10/18 10:15	1
1,2-Dichloroethane	ND		1.0	0.25	ug/L			09/10/18 10:15	1
1,2-Dichloropropane	ND		1.0	0.25	ug/L			09/10/18 10:15	1
1,3,5-Trimethylbenzene	ND		1.0	0.25	ug/L			09/10/18 10:15	1
1,3-Dichlorobenzene	ND		1.0	0.25	ug/L			09/10/18 10:15	1
1,3-Dichloropropane	ND		1.0	0.25	ug/L			09/10/18 10:15	1
1,4-Dichlorobenzene	ND		1.0	0.25	ug/L			09/10/18 10:15	1
2,2-Dichloropropane	ND		1.0	0.40	ug/L			09/10/18 10:15	1
2-Chlorotoluene	ND		1.0	0.25	ug/L			09/10/18 10:15	1
4-Chlorotoluene	ND		1.0	0.25	ug/L			09/10/18 10:15	1
Acetone	ND		10	10	ug/L			09/10/18 10:15	1
Benzene	ND		0.50	0.25	ug/L			09/10/18 10:15	1
Bromobenzene	ND		1.0	0.25	ug/L			09/10/18 10:15	1

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

Lab Sample ID: MB 440-498067/5
Matrix: Water
Analysis Batch: 498067

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bromochloromethane	ND		1.0	0.25	ug/L			09/10/18 10:15	1
Bromodichloromethane	ND		1.0	0.25	ug/L			09/10/18 10:15	1
Bromoform	ND		1.0	0.40	ug/L			09/10/18 10:15	1
Bromomethane	ND		1.0	0.25	ug/L			09/10/18 10:15	1
Carbon tetrachloride	ND		0.50	0.25	ug/L			09/10/18 10:15	1
Chlorobenzene	ND		1.0	0.25	ug/L			09/10/18 10:15	1
Chloroethane	ND		1.0	0.40	ug/L			09/10/18 10:15	1
Chloroform	ND		1.0	0.25	ug/L			09/10/18 10:15	1
Chloromethane	ND		1.0	0.25	ug/L			09/10/18 10:15	1
cis-1,2-Dichloroethene	ND		1.0	0.25	ug/L			09/10/18 10:15	1
cis-1,3-Dichloropropene	ND		0.50	0.25	ug/L			09/10/18 10:15	1
Dibromochloromethane	ND		1.0	0.25	ug/L			09/10/18 10:15	1
Dibromomethane	ND		1.0	0.25	ug/L			09/10/18 10:15	1
Dichlorodifluoromethane	ND		1.0	0.40	ug/L			09/10/18 10:15	1
Ethylbenzene	ND		1.0	0.25	ug/L			09/10/18 10:15	1
Hexachlorobutadiene	ND		1.0	0.25	ug/L			09/10/18 10:15	1
Isopropyl alcohol	ND		250	180	ug/L			09/10/18 10:15	1
Isopropylbenzene	ND		1.0	0.25	ug/L			09/10/18 10:15	1
m,p-Xylene	ND		1.0	0.50	ug/L			09/10/18 10:15	1
Methylene Chloride	ND		5.0	0.88	ug/L			09/10/18 10:15	1
Methyl-t-Butyl Ether (MTBE)	ND		1.0	0.25	ug/L			09/10/18 10:15	1
Naphthalene	ND		1.0	0.40	ug/L			09/10/18 10:15	1
n-Butylbenzene	ND		1.0	0.40	ug/L			09/10/18 10:15	1
N-Propylbenzene	ND		1.0	0.25	ug/L			09/10/18 10:15	1
o-Xylene	ND		1.0	0.25	ug/L			09/10/18 10:15	1
p-Isopropyltoluene	ND		1.0	0.25	ug/L			09/10/18 10:15	1
sec-Butylbenzene	ND		1.0	0.25	ug/L			09/10/18 10:15	1
Styrene	ND		1.0	0.25	ug/L			09/10/18 10:15	1
tert-Butylbenzene	ND		1.0	0.25	ug/L			09/10/18 10:15	1
Tetrachloroethene	ND		1.0	0.25	ug/L			09/10/18 10:15	1
Toluene	ND		1.0	0.25	ug/L			09/10/18 10:15	1
trans-1,2-Dichloroethene	ND		1.0	0.25	ug/L			09/10/18 10:15	1
trans-1,3-Dichloropropene	ND		0.50	0.25	ug/L			09/10/18 10:15	1
Trichloroethene	ND		1.0	0.25	ug/L			09/10/18 10:15	1
Trichlorofluoromethane	ND		1.0	0.25	ug/L			09/10/18 10:15	1
Vinyl chloride	ND		0.50	0.25	ug/L			09/10/18 10:15	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*106*		*70 - 130*		*09/10/18 10:15*	*1*
4-Bromofluorobenzene (Surr)	*94*		*80 - 120*		*09/10/18 10:15*	*1*
Dibromofluoromethane (Surr)	*106*		*76 - 132*		*09/10/18 10:15*	*1*
Toluene-d8 (Surr)	*106*		*80 - 128*		*09/10/18 10:15*	*1*

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

Lab Sample ID: LCS 440-498067/6
Matrix: Water
Analysis Batch: 498067

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1,1,2-Tetrachloroethane	25.0	26.3		ug/L		105	60 - 141
1,1,1-Trichloroethane	25.0	28.3		ug/L		113	70 - 130
1,1,2,2-Tetrachloroethane	25.0	25.8		ug/L		103	63 - 130
1,1,2-Trichloroethane	25.0	24.9		ug/L		100	70 - 130
1,1-Dichloroethane	25.0	25.6		ug/L		103	64 - 130
1,1-Dichloroethene	25.0	27.3		ug/L		109	70 - 130
1,1-Dichloropropene	25.0	26.1		ug/L		104	70 - 130
1,2,3-Trichlorobenzene	25.0	28.0		ug/L		112	60 - 140
1,2,3-Trichloropropane	25.0	28.3		ug/L		113	63 - 130
1,2,4-Trichlorobenzene	25.0	28.7		ug/L		115	60 - 140
1,2,4-Trimethylbenzene	25.0	27.8		ug/L		111	70 - 135
1,2-Dibromo-3-Chloropropane	25.0	29.6		ug/L		118	52 - 140
1,2-Dibromoethane (EDB)	25.0	25.6		ug/L		103	70 - 130
1,2-Dichlorobenzene	25.0	27.5		ug/L		110	70 - 130
1,2-Dichloroethane	25.0	28.7		ug/L		115	57 - 138
1,2-Dichloropropane	25.0	26.2		ug/L		105	67 - 130
1,3,5-Trimethylbenzene	25.0	28.0		ug/L		112	70 - 136
1,3-Dichlorobenzene	25.0	26.7		ug/L		107	70 - 130
1,3-Dichloropropane	25.0	24.3		ug/L		97	70 - 130
1,4-Dichlorobenzene	25.0	27.1		ug/L		109	70 - 130
2,2-Dichloropropane	25.0	29.1		ug/L		116	68 - 141
2-Chlorotoluene	25.0	26.2		ug/L		105	70 - 130
4-Chlorotoluene	25.0	26.4		ug/L		106	70 - 130
Acetone	25.0	26.1		ug/L		104	10 - 150
Benzene	25.0	26.0		ug/L		104	68 - 130
Bromobenzene	25.0	26.2		ug/L		105	70 - 130
Bromochloromethane	25.0	28.0		ug/L		112	70 - 130
Bromodichloromethane	25.0	26.6		ug/L		106	70 - 132
Bromoform	25.0	29.3		ug/L		117	60 - 148
Bromomethane	25.0	29.7		ug/L		119	64 - 139
Carbon tetrachloride	25.0	29.3		ug/L		117	60 - 150
Chlorobenzene	25.0	26.5		ug/L		106	70 - 130
Chloroethane	25.0	27.3		ug/L		109	64 - 135
Chloroform	25.0	27.1		ug/L		108	70 - 130
Chloromethane	25.0	25.0		ug/L		100	47 - 140
cis-1,2-Dichloroethene	25.0	28.0		ug/L		112	70 - 133
cis-1,3-Dichloropropene	25.0	26.1		ug/L		104	70 - 133
Dibromochloromethane	25.0	27.0		ug/L		108	69 - 145
Dibromomethane	25.0	26.1		ug/L		105	70 - 130
Dichlorodifluoromethane	25.0	26.8		ug/L		107	29 - 150
Ethylbenzene	25.0	26.2		ug/L		105	70 - 130
Hexachlorobutadiene	25.0	30.1		ug/L		120	10 - 150
Isopropylbenzene	25.0	28.2		ug/L		113	70 - 136
m,p-Xylene	25.0	27.7		ug/L		111	70 - 130
Methylene Chloride	25.0	25.2		ug/L		101	52 - 130
Methyl-t-Butyl Ether (MTBE)	25.0	26.0		ug/L		104	63 - 131
Naphthalene	25.0	29.8		ug/L		119	60 - 140
n-Butylbenzene	25.0	27.6		ug/L		110	65 - 150

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

Lab Sample ID: LCS 440-498067/6
Matrix: Water
Analysis Batch: 498067

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
N-Propylbenzene	25.0	26.8		ug/L		107	67 - 139
o-Xylene	25.0	27.6		ug/L		111	70 - 130
p-Isopropyltoluene	25.0	28.7		ug/L		115	70 - 132
sec-Butylbenzene	25.0	29.1		ug/L		116	70 - 138
Styrene	25.0	27.0		ug/L		108	70 - 134
tert-Butylbenzene	25.0	28.8		ug/L		115	70 - 130
Tetrachloroethene	25.0	27.8		ug/L		111	70 - 130
Toluene	25.0	25.8		ug/L		103	70 - 130
trans-1,2-Dichloroethene	25.0	28.2		ug/L		113	70 - 130
trans-1,3-Dichloropropene	25.0	25.3		ug/L		101	70 - 132
Trichloroethene	25.0	28.7		ug/L		115	70 - 130
Trichlorofluoromethane	25.0	31.4		ug/L		126	60 - 150
Vinyl chloride	25.0	28.4		ug/L		114	59 - 133

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*105*		*70 - 130*
4-Bromofluorobenzene (Surr)	*95*		*80 - 120*
Dibromofluoromethane (Surr)	*107*		*76 - 132*
Toluene-d8 (Surr)	*101*		*80 - 128*

Lab Sample ID: LCS 440-498067/7
Matrix: Water
Analysis Batch: 498067

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Isopropyl alcohol	250	212	J	ug/L		85	49 - 142

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*106*		*70 - 130*
4-Bromofluorobenzene (Surr)	*95*		*80 - 120*
Dibromofluoromethane (Surr)	*107*		*76 - 132*
Toluene-d8 (Surr)	*105*		*80 - 128*

Lab Sample ID: 720-88306-A-2 MS
Matrix: Water
Analysis Batch: 498067

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1,1,2-Tetrachloroethane	ND		25.0	25.6		ug/L		102	60 - 149
1,1,1-Trichloroethane	ND		25.0	26.6		ug/L		106	70 - 130
1,1,2,2-Tetrachloroethane	ND		25.0	24.3		ug/L		97	63 - 130
1,1,2-Trichloroethane	ND		25.0	24.6		ug/L		98	70 - 130
1,1-Dichloroethane	ND		25.0	24.2		ug/L		97	65 - 130
1,1-Dichloroethene	ND		25.0	25.8		ug/L		103	70 - 130
1,1-Dichloropropene	ND		25.0	26.4		ug/L		106	64 - 130
1,2,3-Trichlorobenzene	ND		25.0	27.1		ug/L		108	60 - 140
1,2,3-Trichloropropane	ND		25.0	25.9		ug/L		104	60 - 130
1,2,4-Trichlorobenzene	ND		25.0	28.1		ug/L		112	60 - 140

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

Lab Sample ID: 720-88306-A-2 MS
Matrix: Water
Analysis Batch: 498067

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
1,2,4-Trimethylbenzene	ND		25.0	26.2		ug/L		105	70 - 130
1,2-Dibromo-3-Chloropropane	ND		25.0	25.6		ug/L		103	48 - 140
1,2-Dibromoethane (EDB)	ND		25.0	24.5		ug/L		98	70 - 131
1,2-Dichlorobenzene	ND		25.0	26.2		ug/L		105	70 - 130
1,2-Dichloroethane	ND		25.0	24.8		ug/L		99	56 - 146
1,2-Dichloropropane	ND		25.0	25.3		ug/L		101	69 - 130
1,3,5-Trimethylbenzene	ND		25.0	26.1		ug/L		105	70 - 130
1,3-Dichlorobenzene	ND		25.0	25.4		ug/L		102	70 - 130
1,3-Dichloropropane	ND		25.0	23.4		ug/L		94	70 - 130
1,4-Dichlorobenzene	ND		25.0	25.6		ug/L		102	70 - 130
2,2-Dichloropropane	ND		25.0	27.6		ug/L		111	69 - 138
2-Chlorotoluene	ND		25.0	23.9		ug/L		95	70 - 130
4-Chlorotoluene	ND		25.0	24.4		ug/L		98	70 - 130
Acetone	ND		25.0	29.5		ug/L		118	10 - 150
Benzene	ND		25.0	25.6		ug/L		102	66 - 130
Bromobenzene	ND		25.0	25.9		ug/L		104	70 - 130
Bromochloromethane	ND		25.0	26.8		ug/L		107	70 - 130
Bromodichloromethane	ND		25.0	26.2		ug/L		105	70 - 138
Bromoform	ND		25.0	27.0		ug/L		108	59 - 150
Bromomethane	ND		25.0	27.5		ug/L		110	62 - 131
Carbon tetrachloride	ND		25.0	28.3		ug/L		113	60 - 150
Chlorobenzene	ND		25.0	25.7		ug/L		103	70 - 130
Chloroethane	ND		25.0	24.6		ug/L		99	68 - 130
Chloroform	ND		25.0	26.3		ug/L		105	70 - 130
Chloromethane	ND		25.0	23.1		ug/L		93	39 - 144
cis-1,2-Dichloroethene	ND		25.0	26.4		ug/L		106	70 - 130
cis-1,3-Dichloropropene	ND		25.0	26.2		ug/L		105	70 - 133
Dibromochloromethane	ND		25.0	26.2		ug/L		105	70 - 148
Dibromomethane	ND		25.0	24.9		ug/L		99	70 - 130
Dichlorodifluoromethane	ND		25.0	23.0		ug/L		92	25 - 142
Ethylbenzene	ND		25.0	25.0		ug/L		100	70 - 130
Hexachlorobutadiene	ND		25.0	27.4		ug/L		110	10 - 150
Isopropyl alcohol	ND		250	251		ug/L		101	46 - 142
Isopropylbenzene	ND		25.0	26.8		ug/L		107	70 - 132
m,p-Xylene	ND		25.0	25.9		ug/L		103	70 - 133
Methylene Chloride	ND		25.0	25.1		ug/L		100	52 - 130
Methyl-t-Butyl Ether (MTBE)	ND		25.0	24.9		ug/L		100	70 - 130
Naphthalene	ND		25.0	27.7		ug/L		111	60 - 140
n-Butylbenzene	ND		25.0	26.2		ug/L		105	61 - 149
N-Propylbenzene	ND		25.0	25.0		ug/L		100	66 - 135
o-Xylene	ND		25.0	26.2		ug/L		105	70 - 133
p-Isopropyltoluene	ND		25.0	27.2		ug/L		109	70 - 130
sec-Butylbenzene	ND		25.0	26.9		ug/L		108	67 - 134
Styrene	ND		25.0	26.1		ug/L		104	29 - 150
tert-Butylbenzene	ND		25.0	26.8		ug/L		107	70 - 130
Tetrachloroethene	ND		25.0	27.1		ug/L		109	70 - 137
Toluene	ND		25.0	24.6		ug/L		98	70 - 130
trans-1,2-Dichloroethene	ND		25.0	26.4		ug/L		106	70 - 130

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

Lab Sample ID: 720-88306-A-2 MS
Matrix: Water
Analysis Batch: 498067

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
trans-1,3-Dichloropropene	ND		25.0	25.6		ug/L		102	70 - 138
Trichloroethene	ND		25.0	27.7		ug/L		111	70 - 130
Trichlorofluoromethane	ND		25.0	28.9		ug/L		115	60 - 150
Vinyl chloride	ND		25.0	25.1		ug/L		100	50 - 137

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*107*		*70 - 130*
4-Bromofluorobenzene (Surr)	*95*		*80 - 120*
Dibromofluoromethane (Surr)	*108*		*76 - 132*
Toluene-d8 (Surr)	*99*		*80 - 128*

Lab Sample ID: 720-88306-A-2 MSD
Matrix: Water
Analysis Batch: 498067

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,1,1,2-Tetrachloroethane	ND		25.0	24.3		ug/L		97	60 - 149	5	20
1,1,1-Trichloroethane	ND		25.0	25.5		ug/L		102	70 - 130	4	20
1,1,2,2-Tetrachloroethane	ND		25.0	23.9		ug/L		96	63 - 130	1	30
1,1,2-Trichloroethane	ND		25.0	23.1		ug/L		92	70 - 130	6	25
1,1-Dichloroethane	ND		25.0	22.8		ug/L		91	65 - 130	6	20
1,1-Dichloroethene	ND		25.0	24.0		ug/L		96	70 - 130	7	20
1,1-Dichloropropene	ND		25.0	25.1		ug/L		100	64 - 130	5	20
1,2,3-Trichlorobenzene	ND		25.0	26.1		ug/L		104	60 - 140	4	20
1,2,3-Trichloropropane	ND		25.0	25.4		ug/L		102	60 - 130	2	30
1,2,4-Trichlorobenzene	ND		25.0	27.5		ug/L		110	60 - 140	2	20
1,2,4-Trimethylbenzene	ND		25.0	25.9		ug/L		104	70 - 130	1	25
1,2-Dibromo-3-Chloropropane	ND		25.0	25.1		ug/L		100	48 - 140	2	30
1,2-Dibromoethane (EDB)	ND		25.0	23.2		ug/L		93	70 - 131	5	25
1,2-Dichlorobenzene	ND		25.0	25.5		ug/L		102	70 - 130	3	20
1,2-Dichloroethane	ND		25.0	23.9		ug/L		96	56 - 146	4	20
1,2-Dichloropropane	ND		25.0	24.4		ug/L		98	69 - 130	4	20
1,3,5-Trimethylbenzene	ND		25.0	25.8		ug/L		103	70 - 130	1	20
1,3-Dichlorobenzene	ND		25.0	24.9		ug/L		100	70 - 130	2	20
1,3-Dichloropropane	ND		25.0	22.0		ug/L		88	70 - 130	6	25
1,4-Dichlorobenzene	ND		25.0	25.0		ug/L		100	70 - 130	2	20
2,2-Dichloropropane	ND		25.0	26.6		ug/L		106	69 - 138	4	25
2-Chlorotoluene	ND		25.0	24.0		ug/L		96	70 - 130	1	20
4-Chlorotoluene	ND		25.0	23.9		ug/L		96	70 - 130	2	20
Acetone	ND		25.0	26.1		ug/L		104	10 - 150	12	35
Benzene	ND		25.0	24.3		ug/L		97	66 - 130	5	20
Bromobenzene	ND		25.0	24.6		ug/L		98	70 - 130	5	20
Bromochloromethane	ND		25.0	26.3		ug/L		105	70 - 130	2	25
Bromodichloromethane	ND		25.0	24.4		ug/L		97	70 - 138	7	20
Bromoform	ND		25.0	26.3		ug/L		105	59 - 150	3	25
Bromomethane	ND		25.0	26.7		ug/L		107	62 - 131	3	25
Carbon tetrachloride	ND		25.0	26.5		ug/L		106	60 - 150	7	25
Chlorobenzene	ND		25.0	24.2		ug/L		97	70 - 130	6	20

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

Lab Sample ID: 720-88306-A-2 MSD
Matrix: Water
Analysis Batch: 498067

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloroethane	ND		25.0	24.1		ug/L		97	68 - 130	2	25
Chloroform	ND		25.0	24.0		ug/L		96	70 - 130	10	20
Chloromethane	ND		25.0	21.4		ug/L		86	39 - 144	8	25
cis-1,2-Dichloroethene	ND		25.0	25.4		ug/L		102	70 - 130	4	20
cis-1,3-Dichloropropene	ND		25.0	24.8		ug/L		99	70 - 133	5	20
Dibromochloromethane	ND		25.0	24.3		ug/L		97	70 - 148	8	25
Dibromomethane	ND		25.0	24.0		ug/L		96	70 - 130	3	25
Dichlorodifluoromethane	ND		25.0	21.1		ug/L		85	25 - 142	8	30
Ethylbenzene	ND		25.0	24.1		ug/L		96	70 - 130	4	20
Hexachlorobutadiene	ND		25.0	26.3		ug/L		105	10 - 150	4	20
Isopropyl alcohol	ND		250	247	J	ug/L		99	46 - 142	2	40
Isopropylbenzene	ND		25.0	25.8		ug/L		103	70 - 132	4	20
m,p-Xylene	ND		25.0	25.0		ug/L		100	70 - 133	4	25
Methylene Chloride	ND		25.0	23.0		ug/L		92	52 - 130	9	20
Methyl-t-Butyl Ether (MTBE)	ND		25.0	23.8		ug/L		95	70 - 130	5	25
Naphthalene	ND		25.0	26.9		ug/L		107	60 - 140	3	30
n-Butylbenzene	ND		25.0	26.3		ug/L		105	61 - 149	0	20
N-Propylbenzene	ND		25.0	24.9		ug/L		100	66 - 135	0	20
o-Xylene	ND		25.0	25.1		ug/L		100	70 - 133	4	20
p-Isopropyltoluene	ND		25.0	27.1		ug/L		108	70 - 130	0	20
sec-Butylbenzene	ND		25.0	26.5		ug/L		106	67 - 134	1	20
Styrene	ND		25.0	24.4		ug/L		98	29 - 150	7	35
tert-Butylbenzene	ND		25.0	26.9		ug/L		107	70 - 130	0	20
Tetrachloroethene	ND		25.0	25.1		ug/L		100	70 - 137	8	20
Toluene	ND		25.0	23.0		ug/L		92	70 - 130	7	20
trans-1,2-Dichloroethene	ND		25.0	24.9		ug/L		99	70 - 130	6	20
trans-1,3-Dichloropropene	ND		25.0	23.2		ug/L		93	70 - 138	10	25
Trichloroethene	ND		25.0	26.3		ug/L		105	70 - 130	5	20
Trichlorofluoromethane	ND		25.0	28.1		ug/L		112	60 - 150	3	25
Vinyl chloride	ND		25.0	24.6		ug/L		99	50 - 137	2	30

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*105*		*70 - 130*
4-Bromofluorobenzene (Surr)	*95*		*80 - 120*
Dibromofluoromethane (Surr)	*106*		*76 - 132*
Toluene-d8 (Surr)	*100*		*80 - 128*

Lab Sample ID: MB 440-498219/4
Matrix: Water
Analysis Batch: 498219

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Tetrachloroethene	ND		1.0	0.25	ug/L			09/10/18 20:10	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*105*		*70 - 130*		*09/10/18 20:10*	*1*
4-Bromofluorobenzene (Surr)	*109*		*80 - 120*		*09/10/18 20:10*	*1*

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

Lab Sample ID: MB 440-498219/4
Matrix: Water
Analysis Batch: 498219

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

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
Dibromofluoromethane (Surr)	102		76 - 132		09/10/18 20:10	1
Toluene-d8 (Surr)	110		80 - 128		09/10/18 20:10	1

Lab Sample ID: LCS 440-498219/5
Matrix: Water
Analysis Batch: 498219

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Tetrachloroethene	25.0	25.3		ug/L		101	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	97		70 - 130
4-Bromofluorobenzene (Surr)	96		80 - 120
Dibromofluoromethane (Surr)	102		76 - 132
Toluene-d8 (Surr)	98		80 - 128

Lab Sample ID: 720-88306-A-7 MS
Matrix: Water
Analysis Batch: 498219

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Tetrachloroethene	ND		25.0	24.5		ug/L		98	70 - 137

Surrogate	MS %Recovery	MS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	98		70 - 130
4-Bromofluorobenzene (Surr)	103		80 - 120
Dibromofluoromethane (Surr)	102		76 - 132
Toluene-d8 (Surr)	97		80 - 128

Lab Sample ID: 720-88306-A-7 MSD
Matrix: Water
Analysis Batch: 498219

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Tetrachloroethene	ND		25.0	24.5		ug/L		98	70 - 137	0	20

Surrogate	MSD %Recovery	MSD Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	99		70 - 130
4-Bromofluorobenzene (Surr)	101		80 - 120
Dibromofluoromethane (Surr)	101		76 - 132
Toluene-d8 (Surr)	98		80 - 128

QC Sample Results

Client: Jacob & Hefner Associates P.C.
Project/Site: Omega Chemical - GWTS Monthly

TestAmerica Job ID: 440-219331-1
SDG: Omega Chemical

Method: 8270C SIM - Semivolatile Organic Compounds (GC/MS SIM)

Lab Sample ID: MB 440-497373/1-A
Matrix: Water
Analysis Batch: 497623

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 497373

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	ND		0.51	0.10	ug/L		09/05/18 11:21	09/06/18 12:40	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,4-Dioxane-d8 (Surr)	*76*		*27 - 120*	*09/05/18 11:21*	*09/06/18 12:40*	*1*

Lab Sample ID: LCS 440-497373/2-A
Matrix: Water
Analysis Batch: 497623

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 497373

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,4-Dioxane	2.03	1.44		ug/L		71	36 - 120

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1,4-Dioxane-d8 (Surr)	*70*		*27 - 120*

Lab Sample ID: LCSD 440-497373/3-A
Matrix: Water
Analysis Batch: 497623

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 497373

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,4-Dioxane	2.05	1.52		ug/L		74	36 - 120	6	35

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
1,4-Dioxane-d8 (Surr)	*70*		*27 - 120*

QC Association Summary

Client: Jacob & Hefner Associates P.C.
Project/Site: Omega Chemical - GWTS Monthly

TestAmerica Job ID: 440-219331-1
SDG: Omega Chemical

GC/MS VOA

Analysis Batch: 498015

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-219331-1	OC_SP220B_EFF_090418	Total/NA	Water	8260B	
440-219331-2	OC_SP210_INF_090418	Total/NA	Water	8260B	
MB 440-498015/5	Method Blank	Total/NA	Water	8260B	
LCS 440-498015/18	Lab Control Sample	Total/NA	Water	8260B	
LCS 440-498015/6	Lab Control Sample	Total/NA	Water	8260B	
440-219331-1 MS	OC_SP220B_EFF_090418	Total/NA	Water	8260B	
440-219331-1 MSD	OC_SP220B_EFF_090418	Total/NA	Water	8260B	

Analysis Batch: 498067

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-219331-3	OC_TB_090418	Total/NA	Water	8260B	
MB 440-498067/5	Method Blank	Total/NA	Water	8260B	
LCS 440-498067/6	Lab Control Sample	Total/NA	Water	8260B	
LCS 440-498067/7	Lab Control Sample	Total/NA	Water	8260B	
720-88306-A-2 MS	Matrix Spike	Total/NA	Water	8260B	
720-88306-A-2 MSD	Matrix Spike Duplicate	Total/NA	Water	8260B	

Analysis Batch: 498219

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-219331-2 - DL	OC_SP210_INF_090418	Total/NA	Water	8260B	
MB 440-498219/4	Method Blank	Total/NA	Water	8260B	
LCS 440-498219/5	Lab Control Sample	Total/NA	Water	8260B	
720-88306-A-7 MS	Matrix Spike	Total/NA	Water	8260B	
720-88306-A-7 MSD	Matrix Spike Duplicate	Total/NA	Water	8260B	

GC/MS Semi VOA

Prep Batch: 497373

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-219331-1	OC_SP220B_EFF_090418	Total/NA	Water	3520C	
MB 440-497373/1-A	Method Blank	Total/NA	Water	3520C	
LCS 440-497373/2-A	Lab Control Sample	Total/NA	Water	3520C	
LCSD 440-497373/3-A	Lab Control Sample Dup	Total/NA	Water	3520C	

Analysis Batch: 497623

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-219331-1	OC_SP220B_EFF_090418	Total/NA	Water	8270C SIM	497373
MB 440-497373/1-A	Method Blank	Total/NA	Water	8270C SIM	497373
LCS 440-497373/2-A	Lab Control Sample	Total/NA	Water	8270C SIM	497373
LCSD 440-497373/3-A	Lab Control Sample Dup	Total/NA	Water	8270C SIM	497373

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
F1	MS and/or MSD Recovery is outside acceptance limits.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Accreditation/Certification Summary

Client: Jacob & Hefner Associates P.C.
Project/Site: Omega Chemical - GWTS Monthly

TestAmerica Job ID: 440-219331-1
SDG: Omega Chemical

Laboratory: TestAmerica Irvine

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	EPA Region	Identification Number	Expiration Date
California	State Program	9	CA ELAP 2706	06-30-19

The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.

Analysis Method	Prep Method	Matrix	Analyte
8260B		Water	1,1,2-Trichloro-1,2,2-trifluoroethane
8260B		Water	m,p-Xylene
8270C SIM	3520C	Water	1,4-Dioxane

TestAmerica Irvine
17461 Derian Ave
Suite 100
Irvine, CA 92614
phone 949.261.1022 fax

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING
TestAmerica Laboratories, Inc.

Regulatory Program: ☐ DW ☐ NPDES ☑ RCRA ☐ Other:

Client Contact	Project Manager: Trent Henderson	Site Contact: Khalid Azhar	Date: 9/4/2018	COC No
De Maximis - Jaime Dinello	Tel/Fax: (949) 453-1045 / (949) 453-1047	Lab Contact: Danielle Roberts	Carrier:	1 of 1 COCs
1322 Scott St , Suite 104	Analysis Turnaround Time			Sampler:
San Diego, CA 92106	☐ CALENDAR DAYS ☐ WORKING DAYS			For Lab Use Only:
(562) 756-8149	TAT if different from Below STD			Walk-in Client:
	☐ 2 weeks			Lab Sampling:
Project Name: Omega Chemical - GWTS Monthly	☐ 1 week			
Site: Omega Chemical	☐ 2 days			Job / SDG No.:
P O #:	☐ 1 day			

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.	Filtered Sample (Y / N)	Perform MS / MSD (Y / N)	EPA 8260B - VOCs + Freons	EPA 8270C - 1,4-Dioxane	Sample Specific Notes
OC_SP220B_EFF_090418	9/4/2018	1143	Grab	GW	5			x	x	
OC_SP210_INF_090418	9/4/2018	1150	Grab	GW	3			x		
OC_TB_090418	9/4/2018	1130		H2O	2			x		

440-219331 Chain of Custody

Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other _____

Possible Hazard Identification:
Are any samples from a listed EPA Hazardous Waste? Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample.
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return to Client ☐ Disposal by Lab ☐ Archive for _____ Months

Special Instructions/QC Requirements & Comments:

Custody Seals Intact: ☐ Yes ☐ No | Custody Seal No . | Cooler Temp. (°C). Obs'd: _____ Corr'd: _____ | Therm ID No _____

Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
[signature]	JHA	9/4/18 1238	[signature]	TA-IRV	9/4/18 1238
[signature]	TA-IRV	9/4/18 1340	[signature]		
			Received in Laboratory by: [signature]	TA-IRV	9/4/18 1340

2.4/2.7 IR-66

Login Sample Receipt Checklist

Client: Jacob & Hefner Associates P.C.

Job Number: 440-219331-1
SDG Number: Omega Chemical

Login Number: 219331
List Number: 1
Creator: Skinner, Alma D

List Source: TestAmerica Irvine

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	N/A	Not present
Sample custody seals, if present, are intact.	N/A	Not Present
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

DATA VALIDATION

FOR

SEMI-ANNUAL GROUND WATER MONITORING
OMEGA CHEMICAL SITE
WHITTIER CALIFORNIA

ORGANIC ANALYSIS DATA
Volatiles and 1,4-Dioxane in Water

Laboratory Job Nos.

440-218620-1
440-218715-1

Analyses Performed By:

Test America
Irvine, CA

For:

de maximis, inc.
1322 Scott Street
Suite 104
San Diego, CA 92106

Data Validation By:

ddms, inc.
St. Paul, Minnesota 55108

October 23, 2018

1547-3139C/jlr
Omega\GW.docx

EXECUTIVE SUMMARY

Validation of the volatile organics and semi-volatile organic (1,4-dioxane only) analysis data prepared by Test America-Irvine for 14 ground water samples, three rinse blanks (RB) and three trip blanks (TB) from the Omega Chemical Site has been completed by de maximis Data Management Solutions, Inc. (ddms). Full validation was performed on two samples (**bolded below**), which represent 10% of the total number of ground water samples received and analyzed by Test America. A Stage 2B review was performed on the remaining samples. The data were reported by the laboratory under Laboratory Job Nos. 440-218620-1 and 440-218715-1. The following samples were reported:

SDG 440-218620-1

Volatile Organics:

OC_GW_OW-12_20180821	OC_GW_OW-12N_20180821
OC_GW_TB_20180821	OC_GW_OW-1BN_20180822
OC_GW_OW-3B_20180822	OC_GW_OW-8B_20180822
OC_GW_TB1_20180822	

1,4-Dioxane:

OC_GW_OW-12_20180821	OC_GW_OW-3B_20180822
OC_GW_OW-8B_20180822	

SDG 440-218715-1

Volatile Organics:

OC_GW_OW-10_20180823	OC_GW_OW-10N_20180823
OC_GW_OW-1B_20180823	OC_GW_OW-9_20180823
OC_GW_OW-9K_20180823	OC_GW_TB_20180823

1,4-Dioxane:

OC_GW_OW-10_20180823	OC_GW_OW-1B_20180823
OC_GW_OW-9_20180823	OC_GW_OW-9K_20180823

Based on the validation effort, the following data qualifiers were applied:

- The results for dichlorodifluoromethane in OC_GW_OW-9K_20180823, OC_GW_OW-1B_20180823, OC_GW_OW-9_20180823, OC_GW_OW-10_20180823, OC_GW_TB_20180823 and OC_GW_OW-10N_20180823 and chloromethane in OC_GW_OW-9K_20180823 were qualified as estimated (UJ).
- The results for 1,2-dibromo-3-chloroproane in OC_GW_TB_20180823, OC_GW_OW-1B_20180823, OC_GW_OW-9_20180823, OC_GW_OW-10_20180823 and OC_GW_OW-10N_20180823 were qualified as estimated (UJ).
- The results for acetone in OC_GW_OW-12N_20180821 and OC_GW_OW-1B_20180823 were qualified as not detected (U) at the RL or reported value, whichever is greater.
- The results for 1,4-dioxane in OC_GW_OW-1B_20180823, OC_GW_OW-9_20180823, OC_GW_OW-9K_20180823, OC_GW_OW-10_20180823, OC_GW_OW-12_20180821, OC_GW_OW-3B_20180822 and OC_GW_OW-8B_20180822 were qualified as estimated (J-, UJ).
- The result for 1,4-dioxane in OC_GW_OW-1B_20180823 was qualified as estimated (J) and presumptively present (N).

All other results were determined to be valid as reported. A brief explanation of the reason for the actions taken above may be found in the Overall Assessment (Section IV). Details of the validation findings and conclusions based on review of the results for each quality control requirement are provided in the remaining sections of this report.

Documentation issues are discussed in Section II.

This report should be considered <u>part of the data package</u> for all future distributions of the volatile data.

INTRODUCTION

Analyses were performed in accordance with USEPA SW846 Method 8260B an Method 8270C Selected Ion Monitoring (SIM). These methodologies do not stipulate a reporting format; however, the laboratory provided a "CLP-type" data package for review.

ddms' validation was performed, to the extent possible, in conformance with the "Omega Chemical Superfund Site Sampling and Analysis Plan for Remedial Action/Remedial Design October 4, 2010", ddms SOPs ECS-002 and ECS-003, and the analytical methods. Professional judgment was applied as necessary and appropriate.

The data validation process is intended to evaluate data on a technical basis rather than a contract compliance basis for chemical analyses conducted under the referenced methods. An initial assumption is that the data package is presented in accordance with the CLP requirements (or "CLP-like," as in this case). It is also assumed that the data package represents the best efforts of the laboratory and has already been subjected to adequate and sufficient quality review prior to submission for validation.

During the validation process, laboratory data are verified against all available supporting documentation. Based on the findings of the evaluation, qualifier codes may be added by the data validator. Validated results are, therefore, either qualified or unqualified. Unqualified results mean that the reported values may be used without reservation. Final validated results are annotated with the following codes as defined by the National Functional Guidelines:

U The analyte was analyzed for but was not detected above the level of the reported sample quantitation limit.

J The result is an estimated quantity. The associated numerical value is the approximate concentration of the analyte in the sample.

J+ The result is an estimated quantity, but the result may be biased high.

J- The result is an estimated quantity, but the result may be biased low.

NJ The analyte has been "tentatively identified" or "presumptively" as present and the associated numerical value is the estimated concentration in the sample.

UJ The analyte was analyzed for, but was not detected. The reported quantitation limit is approximate and may be inaccurate or imprecise.

R The data are unusable. The sample results are rejected due to serious deficiencies in meeting QC criteria. The analyte may or may not be present in the sample.

All data users should note two facts. First, the "R" qualifier means that the laboratory-reported value is unusable. In other words, due to significant quality control problems, the analysis is invalid and provides no information as to whether the analyte is present or not. Rejected values should not appear on data tables because they cannot be relied upon, even as a last resort. Second, no concentration is guaranteed to be accurate even if all associated quality control is acceptable. Strict quality control conformance serves only to increase confidence in reported results; any analytical result will always contain some error.

The data user is also cautioned that the validation effort is based on the raw data printouts as provided by the laboratory. Software manipulation cannot be routinely detected during validation; unless otherwise stated in the report, these kinds of issues are outside the scope of this review.

I. Holding Times, Preservation and Sample Integrity

Copies of the applicable chain of custody (COC) records were included in the data packages documenting sample collection dates of August 21, 22 and 23, 2018. The samples were received at the laboratory on August 22 and 23, 2018.

The temperatures of the coolers upon receipt at the laboratory were within acceptance limits (acceptable range is 6 ^{o}C ±2 ^{o}C). Documentation of proper pH was included in the data packages. All samples were prepared and analyzed within method holding times.

II. Documentation

No documentation issues were observed during the validation effort.

The remainder of this report is divided into two sections, one reporting the review effort for each of the parameters and the Overall Assessment, summarizing the reason for the qualifications made to sample results as a result of the validation effort. The table below documents the Quality Control (QC) parameters reviewed. Only those quality excursions resulting in qualified data are discussed below. Quality control excursions having no impact to sample results are not discussed. Where a result was qualified J+ or J- and J, the J qualifier takes precedence. Where a result was qualified biased high and low for differing data quality excursions, the final qualifier is J with an indeterminate bias.

III. VOCs

Review Element	Acceptable?
GC/MS Instrument Tunes	Y
Calibration (Initial Calibration [IC], IC Verification [ICV], Continuing Calibration [CC])	N
Laboratory and Field Blanks	N
Surrogates	Y
Laboratory Control Samples (LCS)/ LCS Duplicates (LCSD)	N
Field Duplicates	Y
Matrix Spike (MS)/Matrix Spike Duplicate (MSD)	Y
Internal Standard Responses	Y
Compound Identification	Y
Overall Evaluation	N

Calibration

Summary results for initial calibrations (IC) were reported in support of sample analyses. Although the standards included more compounds than were specifically applicable to these analyses, all project-specified target analytes were included on the IC summary form. For the relevant target analytes, the reported average relative response factors (RRFs) were greater than the evaluation criterion (>0.05) and the relative standard deviations (RSDs) were acceptable (<20% RSD). An ICV was analyzed immediately following the IC and was acceptable (<30%D) with the following exceptions:

Instrument	Compound	%D	Affected Sample(s)
GCMS09	Dichlorodifluoromethane	40	OC_GW_OW-9K_20180823
	Chloromethane	33	
GCMS56	Dichlorodifluoromethane	36	OC_GW_OW-1B_20180823 OC_GW_OW-9_20180823 OC_GW_OW-10_20180823 OC_GW_TB_20180823 OC_GW_OW-10N_20180823

Samples results were qualified as estimated (J, UJ) due to unacceptable percent differences in the ICV.

Summary forms were provided for continuing calibration (CC) standards, as appropriate. Reported RRFs and percent difference (%D) values were acceptable except as summarized below. Where excursions represented an increase in response sensitivity and the compound was not detected, no data required qualification in these cases and are not detailed below.

Instrument	CC Date	Compound	%D	Affected Samples
GCMS56	8/27/2018	1,2-Dibromo-3-chloropropane	22	OC_GW_OW-1B_20180823 OC_GW_OW-9_20180823 OC_GW_OW-10_20180823 OC_GW_TB_20180823 OC_GW_OW-10N_20180823

Sample results were qualified as estimated (UJ) due to low response in the CC.

Blanks

No target compounds were detected in the rinse blanks, trip blanks or method blanks, with the exceptions noted below:

Blank	Type of Blank	Compound	Affected Sample(s)
OC_GW_OW-1BN_20180822	Rinse	Acetone	OC_GW_OW-12N_20180821
OC_GW_OW-10N_20180823	Rinse	Acetone	OC_GW_OW-1B_20180823

Sample results were qualified as not detected (U) at the reporting limit (RL) or reported value, whichever is greater because the sample concentration was five times or less the concentration in the associated blank.

LCS/LCSD

All percent recoveries and relative percent differences (RPDs) were acceptable (70-130%R, RPD<30%) with the following exceptions:

LCS	Compound	LCS%R	LCSD %R	Affected Sample(s)
440-495779	Dichlorodifluoromethane	55	NA	OC_GW_OW-1B_20180823 OC_GW_OW-10_20180823 OC_GW_TB_20180823 OC_GW_OW-10N_20180823

NA-not analyzed

Sample results were qualified as estimated (UJ) due to low LCS/LCSD recoveries.

Overall Evaluation

Based on the documentation provided in the data package, all volatile organic sample results were determined to be valid, as reported, with the exceptions and qualifications noted above.

IV. SVOCs – 1,4-Dioxane only

Review Element	Acceptable?
GC/MS Instrument Tunes	Y
Calibration - IC, ICV, CC	Y
Laboratory and Field Blanks	Y
Surrogates	N
LCS/LCSD	N
Field Duplicates	Y
MS/MSD	NA
Internal Standard Responses	Y
Compound Identification	N
Overall Evaluation	N

Surrogates

All surrogate recoveries were acceptable (70-130%R) with the following exceptions:

Sample	1,4-Dioxane-d_8 %R
OC_GW_OW-1B_20180823	49
OC_GW_OW-9_20180823	53
OC_GW_OW-10_20180823	57
OC_GW_OW-12_20180821	56
OC_GW_OW-3B_20180822	57
OC_GW_OW-8B_20180822	55

Sample results were qualified as estimated (J-, UJ) due to low surrogate recoveries.

LCS/LCSD

All percent recoveries and relative percent differences (RPDs) were acceptable (70-130%R, RPD<30%) with the following exceptions:

LCS	Compound	LCS%R	LCSD %R	Affected Sample(s)
440-495789	1,4-Dioxane	60	66	OC_GW_OW-1B_20180823 OC_GW_OW-9_20180823 OC_GW_OW-9K_20180823 OC_GW_OW-10_20180823

Sample results were qualified as estimated (J-, UJ) due to low LCS/LCSD recoveries.

Compound Identification

For SIM analysis, ratios must be determined during initial calibration using the integrated areas for the primary and secondary ions and confirmation from their respective mass chromatograms. Identification in samples is made by verifying the ratio of the secondary ion to the primary. Where detected, ion ratios were within acceptance limits with the exception of sample OC_GW_OW-1B_20180823. The result for 1,4-dioxane in OC_GW_OW-1B_20180823 was qualified as estimated (J) and presumptively present (N) because the ion ratio was outside acceptance window.

Overall Evaluation

Based on the documentation provided in the data package, all sample results for 1,4-dioxane were determined to be valid, as reported, with the exceptions and qualifications noted above.

V. Overall Assessment

Based on the validation effort, the following qualifiers were applied:

- The results for dichlorodifluoromethane in OC_GW_OW-9K_20180823, OC_GW_OW-1B_20180823, OC_GW_OW-9_20180823, OC_GW_OW-10_20180823, OC_GW_TB_20180823 and OC_GW_OW-10N_20180823 and chloromethane in OC_GW_OW-9K_20180823 were qualified as estimated (UJ) due to unacceptable %D in the ICV.
- The results for 1,2-dibromo-3-chloropropane in OC_GW_TB_20180823, OC_GW_OW-1B_20180823, OC_GW_OW-9_20180823, OC_GW_OW-10_20180823 and OC_GW_OW-10N_20180823 were qualified as estimated (UJ) due to low responses in the CC.
- The results for acetone in OC_GW_OW-12N_20180821 and OC_GW_OW-1B_20180823 were qualified as not detected (U) at the RL or reported value, whichever is greater due to rinse blank contamination.
- The results for dichlorodifluoromethane in OC_GW_OW-1B_20180823, OC_GW_OW-10_20180823, OC_GW_TB_20180823 and OC_GW_OW-10N_20180823 were qualified as estimated (UJ) due to low LCS/LCSD recoveries.
- The results for 1,4-dioxane in OC_GW_OW-1B_20180823, OC_GW_OW-9_20180823, OC_GW_OW-9K_20180823 , OC_GW_OW-10_20180823, OC_GW_OW-12_20180821, OC_GW_OW-3B_20180822 and OC_GW_OW-8B_20180822 were qualified as estimated (J-, UJ) due low surrogate and/or LCS/LCSD recoveries.
- The result for 1,4-dioxane in OC_GW_OW-1B_20180823 was qualified as estimated (J) and presumptively present (N) because the ion ratio was outside acceptance window.

All other results were determined to be valid as reported. This validation report should be considered <u>part of the data package</u> for all future distributions of the volatiles data.

Omega Chemical
Semi-Annual Groundwater Event
August 2018

	Field Sample ID	OC_GW_OW-12_20180821		OC_GW_OW-12N_20180821		OC_GW_OW-1BN_20180822	
	Sample Type	N		RB		RB	
	Lab Sample ID	440-218620-1		440-218620-7		440-218620-4	
RL	Dilution Factor	1,5,25		1		1	
1	1,1,1,2-Tetrachloroethane	5	U	1	U	1	U
1	1,1,1-Trichloroethane (TCA)	**93**		1	U	1	U
1	1,1,2,2-Tetrachloroethane	5	U	1	U	1	U
1	1,1,2-Trichloroethane	5	U	1	U	1	U
1	1,1-Dichloroethane	**1.5**	**J**	1	U	1	U
1	1,1-Dichloroethene	**210**		1	U	1	U
1	1,1-Dichloropropene	5	U	1	U	1	U
1	1,2,3-Trichlorobenzene	5	U	1	U	1	U
1	1,2,3-Trichloropropane	5	U	1	U	1	U
1	1,2,4-Trichlorobenzene	5	U	1	U	1	U
1	1,2,4-Trimethylbenzene	5	U	1	U	1	U
5	1,2-Dibromo-3-chloropropane	25	U	5	U	5	U
1	1,2-Dibromoethane (EDB)	5	U	1	U	1	U
1	1,2-Dichlorobenzene	**2.7**	**J**	1	U	1	U
1	1,2-Dichloroethane	**11**		1	U	1	U
1	1,2-Dichloropropane	5	U	1	U	1	U
1	1,3,5-Trimethylbenzene	5	U	1	U	1	U
1	1,3-Dichlorobenzene	5	U	1	U	1	U
1	1,3-Dichloropropane	5	U	1	U	1	U
1	1,4-Dichlorobenzene	5	U	1	U	1	U
1	2,2-Dichloropropane	5	U	1	U	1	U
1	2-Chlorotoluene	5	U	1	U	1	U
1	4-Chlorotoluene	5	U	1	U	1	U
10	Acetone	50	U	10	U	**28**	
0.5	Benzene	2.5	U	0.5	U	0.5	U
1	Bromobenzene	5	U	1	U	1	U
1	Bromochloromethane	5	U	1	U	1	U
1	Bromodichloromethane	5	U	1	U	1	U
1	Bromoform	5	U	1	U	1	U
1	Bromomethane	5	U	1	U	1	U
0.5	Carbon tetrachloride	2.5	U	0.5	U	0.5	U
1	Chlorobenzene	5	U	1	U	1	U
1	Chloroethane	5	U	1	U	1	U
1	Chloroform	**290**		1	U	1	U
1	Chloromethane	5	U	1	U	1	U
1	cis-1,2-Dichloroethene	5	U	1	U	1	U
0.5	cis-1,3-Dichloropropene	2.5	U	0.5	U	0.5	U
1	Dibromochloromethane	5	U	1	U	1	U
1	Dibromomethane	5	U	1	U	1	U
1	Ethylbenzene	5	U	1	U	1	U
1	Freon 11	**120**		1	U	1	U
5	Freon 113	**1900**		5	U	5	U
1	Freon 12	5	U	1	U	1	U
1	Hexachlorobutadiene	5	U	1	U	1	U
250	Isopropyl Alcohol (Isopropanol)	1300	U	250	U	250	U
1	Isopropylbenzene	5	U	1	U	1	U
1	m,p-Xylene	5	U	1	U	1	U
1	Methyl Tert-Butyl Ether	5	U	1	U	1	U
5	Methylene chloride	25	U	5	U	5	U
1	Naphthalene	5	U	1	U	1	U
1	N-butylbenzene	5	U	1	U	1	U
1	o-Xylene	5	U	1	U	1	U
1	p-Isopropyltoluene	5	U	1	U	1	U
1	Propylbenzene	5	U	1	U	1	U
1	sec-Butylbenzene	5	U	1	U	1	U
1	Styrene	5	U	1	U	1	U
1	tert-Butylbenzene	5	U	1	U	1	U
1	Tetrachloroethene (PCE)	**2400**		1	U	**0.39**	**J**
1	Toluene	**11**		1	U	1	U
1	trans-1,2-Dichloroethene	5	U	1	U	1	U
0.5	trans-1,3-Dichloropropene	2.5	U	0.5	U	0.5	U
1	Trichloroethene (TCE)	**540**		1	U	1	U
0.5	Vinyl chloride	2.5	U	0.5	U	0.5	U
0.49	1,4-Dioxane	**6.4**	**J-**				

Omega Chemical
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	Field Sample ID	OC_GW_OW-3B_20180822		OC_GW_OW-8B_20180822		OC_GW_TB_20180821	
	Sample Type	N		N		TB	
	Lab Sample ID	440-218620-2		440-218620-3		440-218620-6	
RL	Dilution Factor	1		1		1	
1	1,1,1,2-Tetrachloroethane	1	U	1	U	1	U
1	1,1,1-Trichloroethane (TCA)	1	U	1	U	1	U
1	1,1,2,2-Tetrachloroethane	1	U	1	U	1	U
1	1,1,2-Trichloroethane	1	U	1	U	1	U
1	1,1-Dichloroethane	1	U	1	U	1	U
1	1,1-Dichloroethene	1	U	1	U	1	U
1	1,1-Dichloropropene	1	U	1	U	1	U
1	1,2,3-Trichlorobenzene	1	U	1	U	1	U
1	1,2,3-Trichloropropane	1	U	1	U	1	U
1	1,2,4-Trichlorobenzene	1	U	1	U	1	U
1	1,2,4-Trimethylbenzene	1	U	1	U	1	U
5	1,2-Dibromo-3-chloropropane	5	U	5	U	5	U
1	1,2-Dibromoethane (EDB)	1	U	1	U	1	U
1	1,2-Dichlorobenzene	1	U	1	U	1	U
1	1,2-Dichloroethane	1	U	1	U	1	U
1	1,2-Dichloropropane	1	U	1	U	1	U
1	1,3,5-Trimethylbenzene	1	U	1	U	1	U
1	1,3-Dichlorobenzene	1	U	1	U	1	U
1	1,3-Dichloropropane	1	U	1	U	1	U
1	1,4-Dichlorobenzene	1	U	1	U	1	U
1	2,2-Dichloropropane	1	U	1	U	1	U
1	2-Chlorotoluene	1	U	1	U	1	U
1	4-Chlorotoluene	1	U	1	U	1	U
10	Acetone	10	U	10	U	10	U
0.5	Benzene	0.5	U	0.5	U	0.5	U
1	Bromobenzene	1	U	1	U	1	U
1	Bromochloromethane	1	U	1	U	1	U
1	Bromodichloromethane	1	U	1	U	1	U
1	Bromoform	1	U	1	U	1	U
1	Bromomethane	1	U	1	U	1	U
0.5	Carbon tetrachloride	0.5	U	0.5	U	0.5	U
1	Chlorobenzene	1	U	1	U	1	U
1	Chloroethane	1	U	1	U	1	U
1	Chloroform	1	U	1	U	1	U
1	Chloromethane	1	U	1	U	1	U
1	cis-1,2-Dichloroethene	1	U	1	U	1	U
0.5	cis-1,3-Dichloropropene	0.5	U	0.5	U	0.5	U
1	Dibromochloromethane	1	U	1	U	1	U
1	Dibromomethane	1	U	1	U	1	U
1	Ethylbenzene	1	U	1	U	1	U
1	Freon 11	1	U	1	U	1	U
5	Freon 113	5	U	**0.6**	**J**	5	U
1	Freon 12	1	U	1	U	1	U
1	Hexachlorobutadiene	1	U	1	U	1	U
250	Isopropyl Alcohol (Isopropanol)	250	U	250	U	250	U
1	Isopropylbenzene	1	U	1	U	1	U
1	m,p-Xylene	1	U	1	U	1	U
1	Methyl Tert-Butyl Ether	1	U	1	U	1	U
5	Methylene chloride	5	U	5	U	5	U
1	Naphthalene	1	U	1	U	1	U
1	N-butylbenzene	1	U	1	U	1	U
1	o-Xylene	1	U	1	U	1	U
1	p-Isopropyltoluene	1	U	1	U	1	U
1	Propylbenzene	1	U	1	U	1	U
1	sec-Butylbenzene	1	U	1	U	1	U
1	Styrene	1	U	1	U	1	U
1	tert-Butylbenzene	1	U	1	U	1	U
1	Tetrachloroethene (PCE)	**9.2**		**23**		1	U
1	Toluene	1	U	1	U	1	U
1	trans-1,2-Dichloroethene	1	U	1	U	1	U
0.5	trans-1,3-Dichloropropene	0.5	U	0.5	U	0.5	U
1	Trichloroethene (TCE)	1	U	1	U	1	U
0.5	Vinyl chloride	0.5	U	0.5	U	0.5	U
0.49	1,4-Dioxane	0.49	UJ	0.49	UJ		

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	Field Sample ID	OC_GW_TB1_20180822	
	Sample Type	TB	
	Lab Sample ID	440-218620-5	
RL	Dilution Factor	1	
1	1,1,1,2-Tetrachloroethane	1	U
1	1,1,1-Trichloroethane (TCA)	1	U
1	1,1,2,2-Tetrachloroethane	1	U
1	1,1,2-Trichloroethane	1	U
1	1,1-Dichloroethane	1	U
1	1,1-Dichloroethene	1	U
1	1,1-Dichloropropene	1	U
1	1,2,3-Trichlorobenzene	1	U
1	1,2,3-Trichloropropane	1	U
1	1,2,4-Trichlorobenzene	1	U
1	1,2,4-Trimethylbenzene	1	U
5	1,2-Dibromo-3-chloropropane	5	U
1	1,2-Dibromoethane (EDB)	1	U
1	1,2-Dichlorobenzene	1	U
1	1,2-Dichloroethane	1	U
1	1,2-Dichloropropane	1	U
1	1,3,5-Trimethylbenzene	1	U
1	1,3-Dichlorobenzene	1	U
1	1,3-Dichloropropane	1	U
1	1,4-Dichlorobenzene	1	U
1	2,2-Dichloropropane	1	U
1	2-Chlorotoluene	1	U
1	4-Chlorotoluene	1	U
10	Acetone	10	U
0.5	Benzene	0.5	U
1	Bromobenzene	1	U
1	Bromochloromethane	1	U
1	Bromodichloromethane	1	U
1	Bromoform	1	U
1	Bromomethane	1	U
0.5	Carbon tetrachloride	0.5	U
1	Chlorobenzene	1	U
1	Chloroethane	1	U
1	Chloroform	1	U
1	Chloromethane	1	U
1	cis-1,2-Dichloroethene	1	U
0.5	cis-1,3-Dichloropropene	0.5	U
1	Dibromochloromethane	1	U
1	Dibromomethane	1	U
1	Ethylbenzene	1	U
1	Freon 11	1	U
5	Freon 113	5	U
1	Freon 12	1	U
1	Hexachlorobutadiene	1	U
250	Isopropyl Alcohol (Isopropanol)	250	U
1	Isopropylbenzene	1	U
1	m,p-Xylene	1	U
1	Methyl Tert-Butyl Ether	1	U
5	Methylene chloride	5	U
1	Naphthalene	1	U
1	N-butylbenzene	1	U
1	o-Xylene	1	U
1	p-Isopropyltoluene	1	U
1	Propylbenzene	1	U
1	sec-Butylbenzene	1	U
1	Styrene	1	U
1	tert-Butylbenzene	1	U
1	Tetrachloroethene (PCE)	1	U
1	Toluene	1	U
1	trans-1,2-Dichloroethene	1	U
0.5	trans-1,3-Dichloropropene	0.5	U
1	Trichloroethene (TCE)	1	U
0.5	Vinyl chloride	0.5	U
0.49	1,4-Dioxane		

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	Field Sample ID	OC_GW_OW-10_20180823		OC_GW_OW-10N_20180823		OC_GW_OW-1B_20180823	
	Sample Type	N		RB		N	
	Lab Sample ID	440-218715-4		440-218715-6		440-218715-1	
RL	Dilution Factor	1		1		1	
1	1,1,1,2-Tetrachloroethane	1	U	1	U	1	U
1	1,1,1-Trichloroethane (TCA)	1	U	1	U	1	U
1	1,1,2,2-Tetrachloroethane	1	U	1	U	1	U
1	1,1,2-Trichloroethane	1	U	1	U	1	U
1	1,1-Dichloroethane	1	U	1	U	1	U
1	1,1-Dichloroethene	**11**		1	U	1	U
1	1,1-Dichloropropene	1	U	1	U	1	U
1	1,2,3-Trichlorobenzene	1	U	1	U	1	U
1	1,2,3-Trichloropropane	1	U	1	U	1	U
1	1,2,4-Trichlorobenzene	1	U	1	U	1	U
1	1,2,4-Trimethylbenzene	1	U	1	U	1	U
5	1,2-Dibromo-3-chloropropane	5	UJ	5	UJ	5	UJ
1	1,2-Dibromoethane (EDB)	1	U	1	U	1	U
1	1,2-Dichlorobenzene	1	U	1	U	1	U
1	1,2-Dichloroethane	1	U	1	U	1	U
1	1,2-Dichloropropane	1	U	1	U	1	U
1	1,3,5-Trimethylbenzene	1	U	1	U	1	U
1	1,3-Dichlorobenzene	1	U	1	U	1	U
1	1,3-Dichloropropane	1	U	1	U	1	U
1	1,4-Dichlorobenzene	1	U	1	U	1	U
1	2,2-Dichloropropane	1	U	1	U	1	U
1	2-Chlorotoluene	1	U	1	U	1	U
1	4-Chlorotoluene	1	U	1	U	1	U
10	Acetone	10	U	**30**		10	U
0.5	Benzene	0.5	U	0.5	U	0.5	U
1	Bromobenzene	1	U	1	U	1	U
1	Bromochloromethane	1	U	1	U	1	U
1	Bromodichloromethane	1	U	1	U	1	U
1	Bromoform	1	U	1	U	1	U
1	Bromomethane	1	U	1	U	1	U
0.5	Carbon tetrachloride	0.5	U	0.5	U	0.5	U
1	Chlorobenzene	1	U	1	U	1	U
1	Chloroethane	1	U	1	U	1	U
1	Chloroform	1	U	1	U	1	U
1	Chloromethane	1	U	1	U	1	U
1	cis-1,2-Dichloroethene	1	U	1	U	1	U
0.5	cis-1,3-Dichloropropene	0.5	U	0.5	U	0.5	U
1	Dibromochloromethane	1	U	1	U	1	U
1	Dibromomethane	1	U	1	U	1	U
1	Ethylbenzene	1	U	1	U	1	U
1	Freon 11	**1.4**		1	U	**1.6**	
5	Freon 113	**1.6**	**J**	5	U	**4.6**	**J**
1	Freon 12	1	UJ	1	UJ	1	UJ
1	Hexachlorobutadiene	1	U	1	U	1	U
250	Isopropyl Alcohol (Isopropanol)	250	U	250	U	250	U
1	Isopropylbenzene	1	U	1	U	1	U
1	m,p-Xylene	1	U	1	U	1	U
1	Methyl Tert-Butyl Ether	1	U	1	U	1	U
5	Methylene chloride	5	U	5	U	5	U
1	Naphthalene	1	U	1	U	1	U
1	N-butylbenzene	1	U	1	U	1	U
1	o-Xylene	1	U	1	U	1	U
1	p-Isopropyltoluene	1	U	1	U	1	U
1	Propylbenzene	1	U	1	U	1	U
1	sec-Butylbenzene	1	U	1	U	1	U
1	Styrene	1	U	1	U	1	U
1	tert-Butylbenzene	1	U	1	U	1	U
1	Tetrachloroethene (PCE)	**19**		1	U	**8**	
1	Toluene	1	U	1	U	1	U
1	trans-1,2-Dichloroethene	1	U	1	U	1	U
0.5	trans-1,3-Dichloropropene	0.5	U	0.5	U	0.5	U
1	Trichloroethene (TCE)	**1.4**		1	U	1	U
0.5	Vinyl chloride	0.5	U	0.5	U	0.5	U
0.5	1,4-Dioxane	**0.12**	**J-**			**0.53**	**JN**

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	Field Sample ID	OC_GW_OW-9_20180823		OC_GW_OW-9K_20180823		OC_GW_TB_20180823	
	Sample Type	N		FD		TB	
	Lab Sample ID	440-218715-2		440-218715-3		440-218715-5	
RL	Dilution Factor	2,5,25		5,25,50		1	
1	1,1,1,2-Tetrachloroethane	5	U	5	U	1	U
1	1,1,1-Trichloroethane (TCA)	5	U	5	U	1	U
1	1,1,2,2-Tetrachloroethane	5	U	5	U	1	U
1	1,1,2-Trichloroethane	**5.8**		**5**		1	U
1	1,1-Dichloroethane	**9.8**		**8.3**		1	U
1	1,1-Dichloroethene	**310**		**270**		1	U
1	1,1-Dichloropropene	5	U	5	U	1	U
1	1,2,3-Trichlorobenzene	5	U	5	U	1	U
1	1,2,3-Trichloropropane	5	U	5	U	1	U
1	1,2,4-Trichlorobenzene	5	U	5	U	1	U
1	1,2,4-Trimethylbenzene	5	U	5	U	1	U
5	1,2-Dibromo-3-chloropropane	25	UJ	25	U	5	UJ
1	1,2-Dibromoethane (EDB)	5	U	5	U	1	U
1	1,2-Dichlorobenzene	5	U	5	U	1	U
1	1,2-Dichloroethane	**78**		**72**		1	U
1	1,2-Dichloropropane	5	U	5	U	1	U
1	1,3,5-Trimethylbenzene	5	U	5	U	1	U
1	1,3-Dichlorobenzene	5	U	5	U	1	U
1	1,3-Dichloropropane	5	U	5	U	1	U
1	1,4-Dichlorobenzene	5	U	5	U	1	U
1	2,2-Dichloropropane	5	U	5	U	1	U
1	2-Chlorotoluene	5	U	5	U	1	U
1	4-Chlorotoluene	5	U	5	U	1	U
10	Acetone	50	U	50	U	10	U
0.5	Benzene	2.5	U	2.5	U	0.5	U
1	Bromobenzene	5	U	5	U	1	U
1	Bromochloromethane	5	U	5	U	1	U
1	Bromodichloromethane	5	U	5	U	1	U
1	Bromoform	5	U	5	U	1	U
1	Bromomethane	5	U	5	U	1	U
0.5	Carbon tetrachloride	2.5	U	2.5	U	0.5	U
1	Chlorobenzene	5	U	5	U	1	U
1	Chloroethane	5	U	5	U	1	U
1	Chloroform	**320**		**300**		1	U
1	Chloromethane	5	U	5	UJ	1	U
1	cis-1,2-Dichloroethene	**4.4**	**J**	**5**		1	U
0.5	cis-1,3-Dichloropropene	2.5	U	2.5	U	0.5	U
1	Dibromochloromethane	5	U	5	U	1	U
1	Dibromomethane	5	U	5	U	1	U
1	Ethylbenzene	5	U	5	U	1	U
1	Freon 11	**57**		**48**		1	U
5	Freon 113	**130**		**100**		5	U
1	Freon 12	5	UJ	5	UJ	1	UJ
1	Hexachlorobutadiene	5	U	5	U	1	U
250	Isopropyl Alcohol (Isopropanol)	1300	U	1300	U	250	U
1	Isopropylbenzene	5	U	5	U	1	U
1	m,p-Xylene	5	U	5	U	1	U
1	Methyl Tert-Butyl Ether	5	U	5	U	1	U
5	Methylene chloride	25	U	25	U	5	U
1	Naphthalene	5	U	5	U	1	U
1	N-butylbenzene	5	U	5	U	1	U
1	o-Xylene	5	U	5	U	1	U
1	p-Isopropyltoluene	5	U	5	U	1	U
1	Propylbenzene	5	U	5	U	1	U
1	sec-Butylbenzene	5	U	5	U	1	U
1	Styrene	5	U	5	U	1	U
1	tert-Butylbenzene	5	U	5	U	1	U
1	Tetrachloroethene (PCE)	**4000**		**4100**		1	U
1	Toluene	5	U	5	U	1	U
1	trans-1,2-Dichloroethene	**3.7**	**J**	**3.2**	**J**	1	U
0.5	trans-1,3-Dichloropropene	2.5	U	2.5	U	0.5	U
1	Trichloroethene (TCE)	**200**		**180**		1	U
0.5	Vinyl chloride	2.5	U	2.5	U	0.5	U
0.5	1,4-Dioxane	**780**	**J-**	**700**	**J-**		

Attachment F

Annual Groundwater Model Update and Particle Tracking Figures

Memorandum

To: *Ed Modiano – de maximis*

From: *Matt Gamache, CDM Smith*

Date: *October 12, 2018*

Subject: *2018 Omega Capture Zone Model Update*

The purpose for this memorandum is to describe the 2018 updates to the groundwater flow model used to support the site conceptual model (SCM) for hydraulic containment of the OU-1 source area. The model was extended in time one year from 8/15/2017 to 8/21/2018 by incorporating groundwater data collected since the last update, which was documented in the November 7, 2017 technical memorandum titled *2017 Omega Capture Zone Model Update* (CDM Smith, 2017) for the Omega Non-Time Critical Removal Action plan (CDM Smith, 2012). The model was then used to assess hydraulic containment under October 2017, February 2018, June 2018, and August 2018 hydraulic and operating conditions. This memorandum is Attachment F to the Annual Performance Evaluation Report for the OU-1 Groundwater Containment Remedy.

The structure of the model, including the boundaries and computational grid, have remained unchanged since its development and documentation in the 2009 technical memorandum titled *Documentation of the Omega Non-Time Critical Removal Action Capture Zone Model* (CDM, 2009). As stated in the 2009 memo, the objective of the site-specific groundwater model is to evaluate the capture zone achieved by groundwater extraction within Operable Unit 1 (OU-1) or the Phase 1a area. To meet this objective, the model is necessarily larger in size than the Phase 1a area and includes data collected from outside of the Phase 1a area. As described in the EPA-approved April 19, 2007 Performance Standards Verification Plan for Phase 1a Area Groundwater Treatment System (PSVP), the primary line of evidence to evaluate system performance is hydraulic capture as demonstrated by groundwater elevation monitoring. This numerical model is used to provide supporting evidence that the groundwater elevation maps drawn from collected piezometric data accurately represent site hydraulic conditions.

The parameters updated to extend the simulation in time (but not revised for periods prior to 8/15/2017) include the chronological period of the model (extended through 8/15/2018), the number of stress periods, extraction well pumping rates, boundary head conditions, and rainfall recharge. Hydraulic conductivities assigned to the model in the vicinity of VE-7D, which are depicted in Figure 1, were updated to provide a better calibration at VE-7D, where data from the extension period are indicative of higher horizontal hydraulic conductivity than previously

simulated. Calibration was checked by comparing model results to water level data collected during the simulation period.

Simulated and measured heads were compared during the heuristic model calibration process. Figures 2 through 26 include hydrographs comparing the simulated and observed water levels for all wells and Table 1 presents the simulated and measured values (and the simulated minus measured values, or residual values) for these well during the February 12, 2018 synoptic round of water level measurements.

Table 1 – February 2018 Simulated and Measured Water Level Elevations

Well	Simulated Head	Measured Head	Residual
	(Feet NAVD88)	(Feet NAVD88)	(Feet)
DPE-03	113.04	114.56	-1.52
DPE-04	110.48	111.00	-0.52
DPE-05	109.98	109.79	0.19
DPE-08	113.15	113.03	0.12
DPE-09	106.86	106.98	-0.12
OW-1A	DRY	DRY	-
OW-2	DRY	DRY	-
OW-3A	115.84	116.78	-0.94
OW-4A	DRY	DRY	-
OW-7	DRY	DRY	-
OW-9	111.12	111.68	-0.56
OW-10	115.94	121.94	-6.00
OW-11	110.63	112.34	-1.71
OW-12	113.70	116.07	-2.37
PZ-1	DRY	DRY	-
PZ-2	DRY	DRY	-
PZ-3	DRY	DRY	-
PZ-4	119.06	126.31	-7.25
PZ-5	NM	NM	-
PZ-6	NM	NM	-
PZ-7	NM	NM	-
PZ-8	NM	NM	-
PZ-9	111.61	112.02	-0.41
VE-10D	106.96	105.81	1.15
VE-7D	106.90	107.42	-0.52

Rainfall recharge applied to the water table in the model was varied with time according to hydrologic conditions and the observed lag times and general head boundary (GHB) heads were modulated based on water level elevations observed at OW-7, with the associated hydraulic conductances of each GHB cell held at the originally interpolated value. Rainfall recharge was

set to 1.5 inches per year from the beginning of the simulation through 9/30/2010, then 6 inches per year for the wet period through 2/28/2013, then 0.4 inches per year through 8/16/2016, then 1.1 inches per year through 8/15/2018.

Figure 27 includes a scatter plot of observed (horizontal axis) and simulated (vertical axis) heads at the observation wells, piezometers, and DPE wells used during calibration. Deviation from the 45-degree line (shown as a red line) indicates model bias either low or high as compared to observed water levels. The root mean square error (RMS), which is the average of the squared differences in measured and simulated heads, is 1.8 feet, or 6.2% of the range of observed values. In general, the RMS should be less than 10% of the observed head range (Anderson and Woessner, 1992). Hence, model calibration is considered to be reasonable and appropriate.

Other calibration statistics are listed below:

- Mean Error (ME) = -0.13 feet; *this is the mean difference between measured and simulated heads*.
- Mean Absolute Error (MAE) = 1.4 feet; *this is the mean of the absolute value of the differences in measured and simulated heads*.
- Minimum Residual = -7.6 feet
- Maximum Residual = 7.2 feet

The model calibration fits the field data within acceptable criteria and is useable for assessment of the system capture zone.

Simulated flow direction arrows and head contours for October 2017, February 2018, June 2018, and August 2018 are shown in Figures 28 through 31, respectively, along with the associated simulated zone of capture by the groundwater containment remedy (GCR) and OU-1 on-site soil remedy wells. Each zone of capture represents the water that would be captured by the GCR and on-site soil remedy wells if the period (i.e., June 2018) conditions were held constant into perpetuity. Tables 2 and 3 below show the pumping rates of GCR wells and on-site soil remedy wells that were used to simulate flow patterns during each of the four quarters evaluated. Figure 32 shows the February 2018 simulated head contours along with posted head residuals (simulated head minus measure head for each well in feet), which are also included in Table 1. All of the zones of capture shown in Figures 28 through 31 cover the area between Putnam Street and the source are on the Omega property.

These simulated capture zones and water level contours are similar to those produced in previous annual reports and support the site conceptual model (SCM) for hydraulic containment of the OU-1 source area. These results also supplement the analyses provided in Attachment A and previous quarterly groundwater containment reviews in which groundwater

elevation data is contoured (without model simulations) for the purposes of demonstrating hydraulic containment of groundwater within OU-1.

Table 2 - GCR Pumping Rates

Well	October 2017	February 2018	June 2018	August 2018
	(gpm)	(gpm)	(gpm)	(gpm)
EW-1	0	0	0	0
EW-2	0	0	0	0
EW-3	0	0	0	0
EW-4	0.01	0.01	0.09	0.05
EW-5	0.06	0.10	0.03	0.05
Total	0.07	0.11	0.12	0.10

Table 3 – OU-1 On-Site Soil Remedy Well Pumping Rates

Well	October 2017	February 2018	June 2018	August 2018
	(gpm)	(gpm)	(gpm)	(gpm)
DPE-3	0.55	0.35	0.37	0.33
DPE-4	0.56	0.37	0.46	0.37
DPE-5	0.57	0.48	0.49	0.37
DPE-8	0.40	0.29	0.28	0.21
DPE-9	0.85	1.37	1.06	0.76
VE-7D	0.55	1.1	0.73	0.57
VE-10D	0.65	1.91	1.87	1.96
Total	4.13	5.87	5.32	4.55

References

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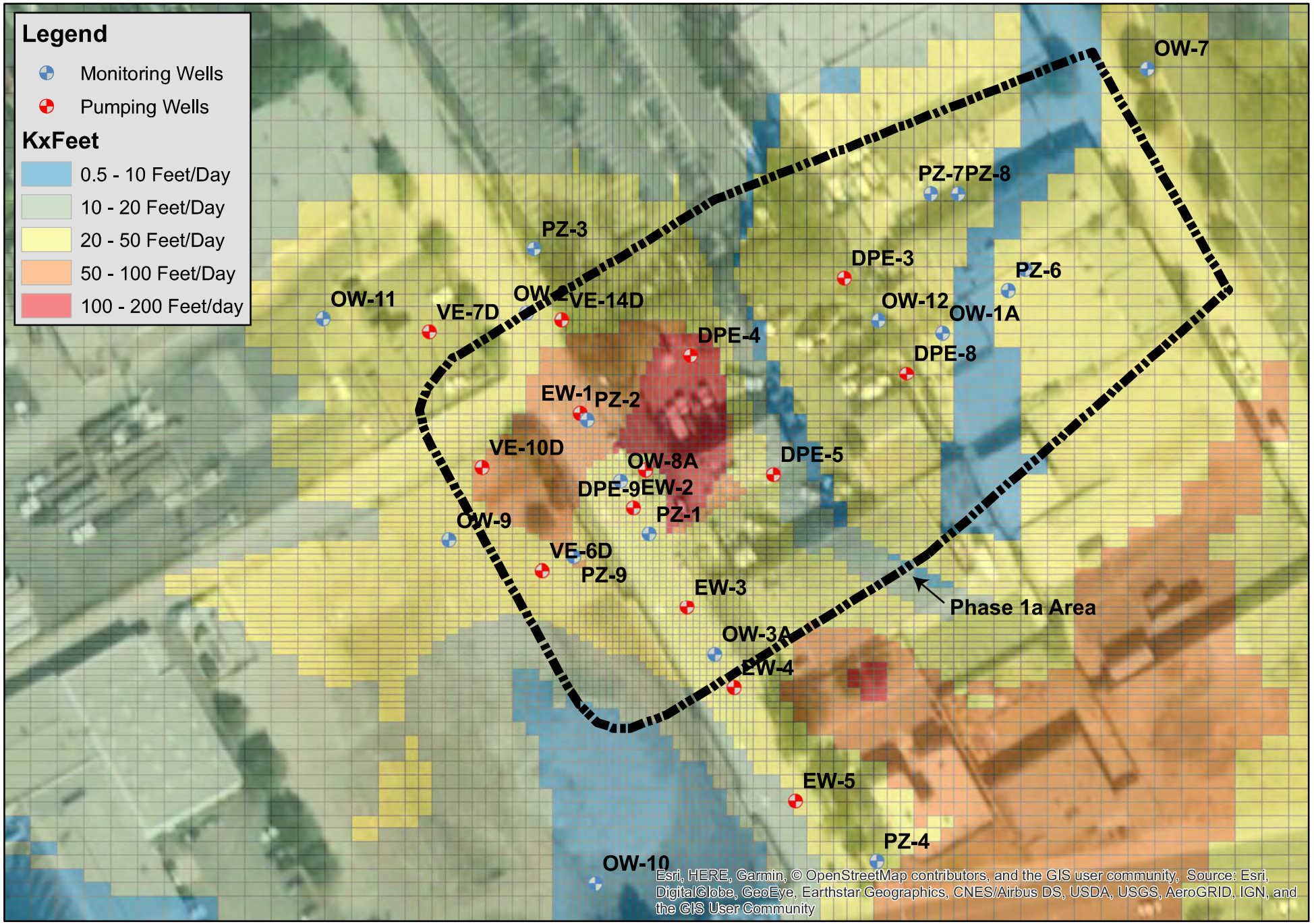
CDM Smith, 2017. *2017 Omega Capture Zone Model Update.* November 7, 2017.



CDM Smith

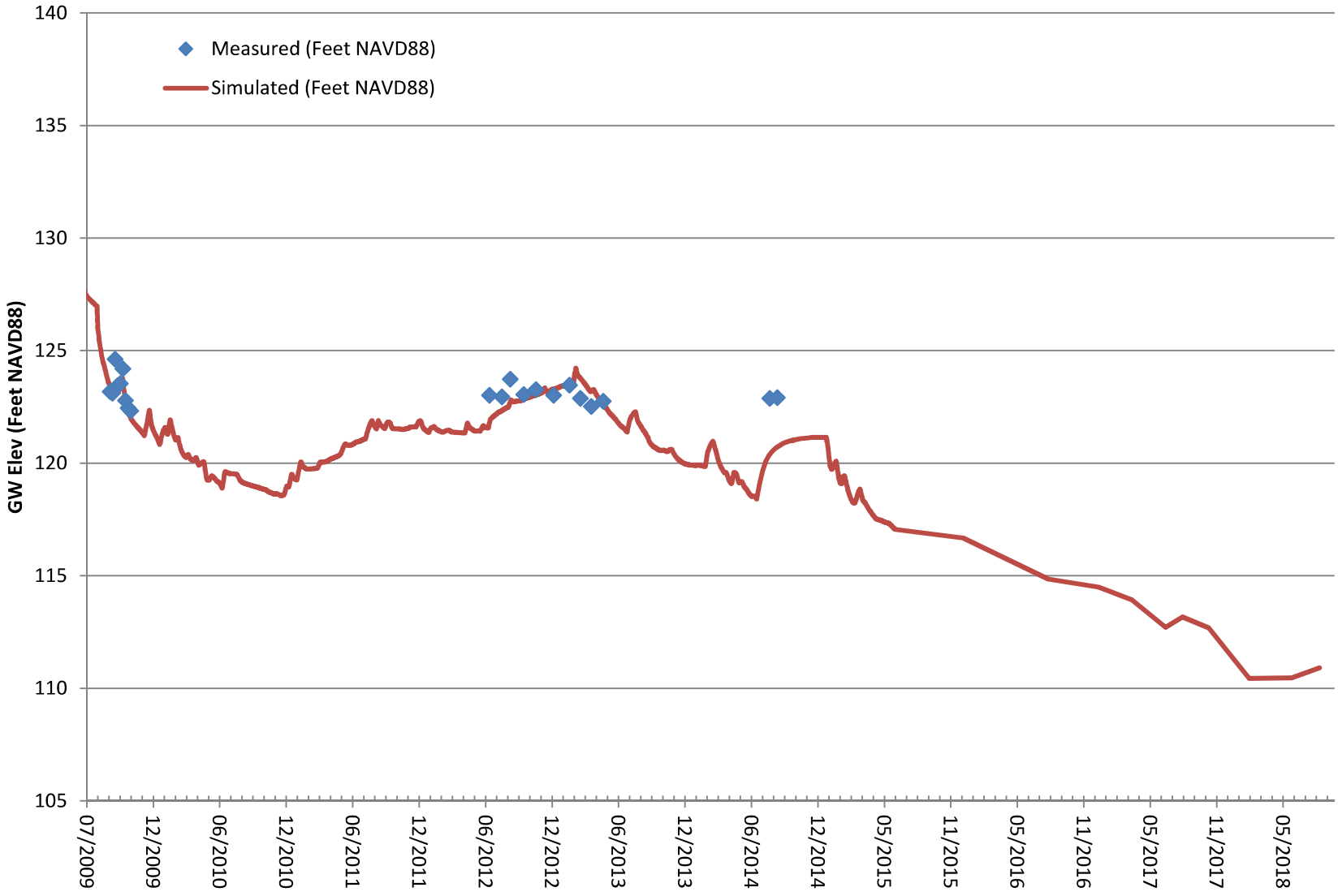
0 25 50 100 Feet

N

Figure 1 - Horizontal Hydraulic Conductivity, Model Layer 1

Omega Chemical Facility
Capture Zone Model

Figure 2
Omega Chemical Facility, Capture Zone Model
Observed vs. Simulated Heads
OW-2



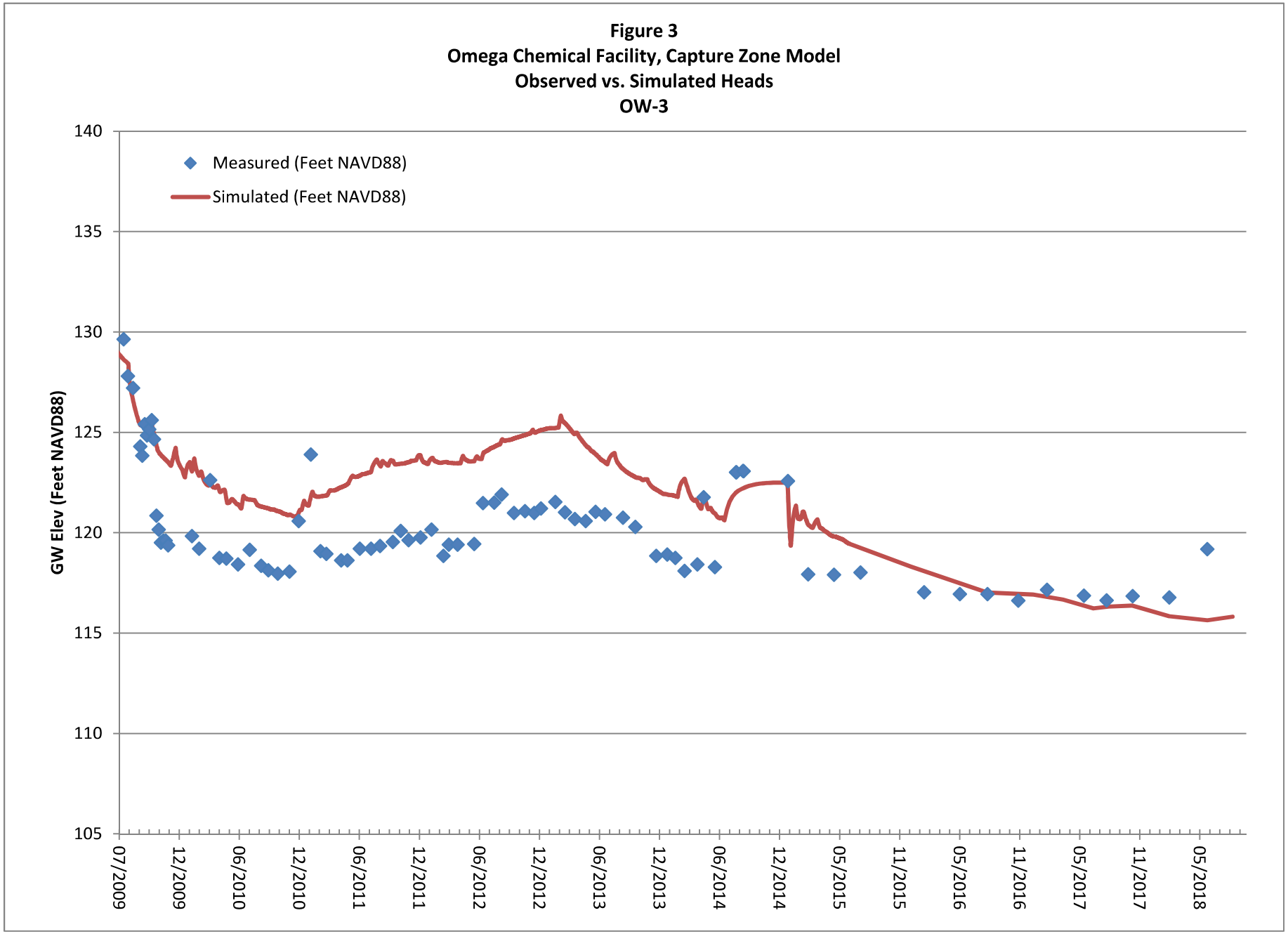


Figure 3
Omega Chemical Facility, Capture Zone Model
Observed vs. Simulated Heads
OW-3
Measured (Feet NAVD88)
Simulated (Feet NAVD88)
GW Elev (Feet NAVD88)
140
135
130
125
120
115
110
105
07/2009
12/2009
06/2010
12/2010
06/2011
12/2011
06/2012
12/2012
06/2013
12/2013
06/2014
12/2014
05/2015
11/2015
05/2016
11/2016
05/2017
11/2017
05/2018

Figure 4
Omega Chemical Facility, Capture Zone Model
Observed vs. Simulated Heads
OW-4a

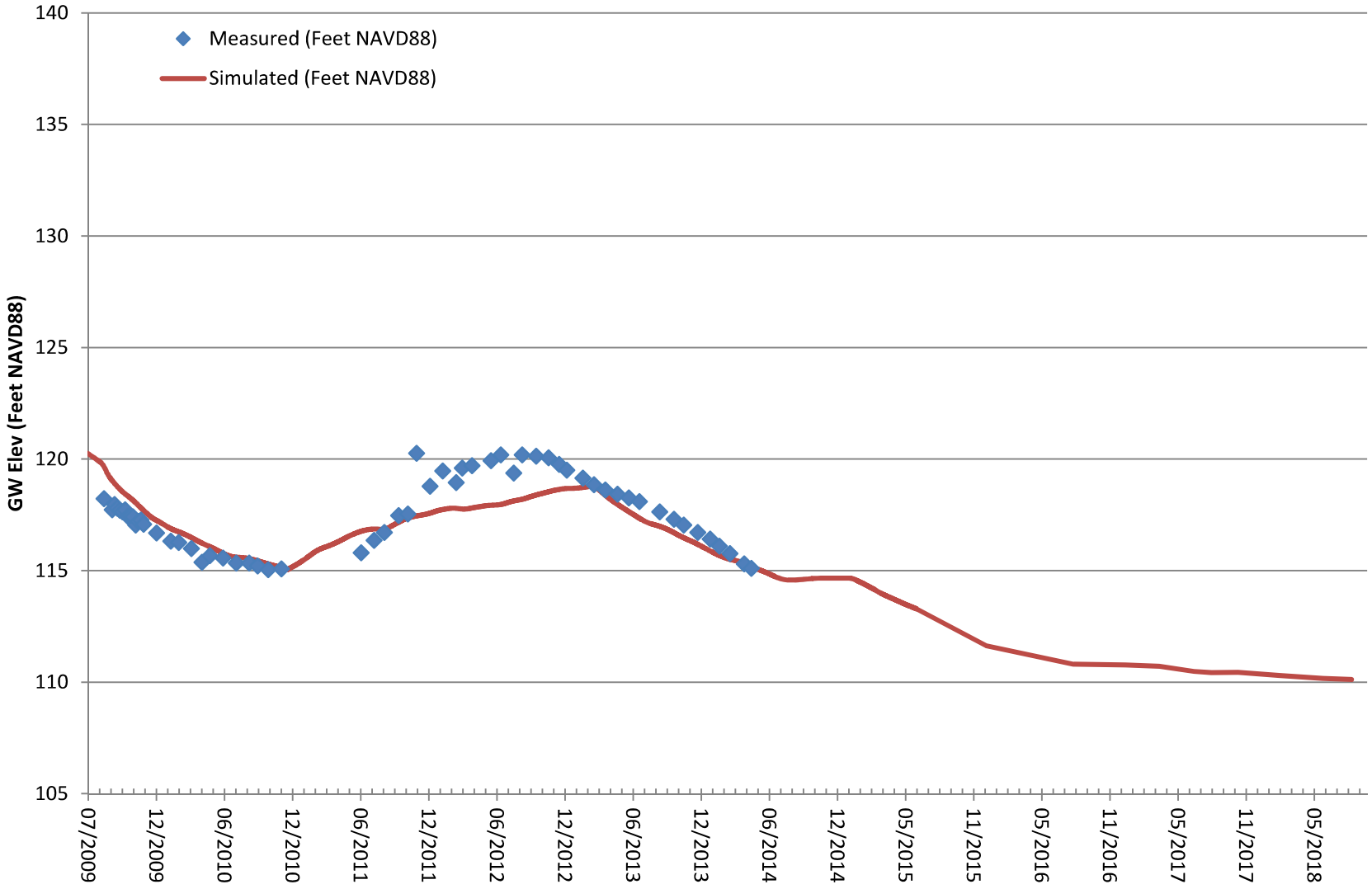


Figure 5
Omega Chemical Facility, Capture Zone Model
Observed vs. Simulated Heads
OW-7

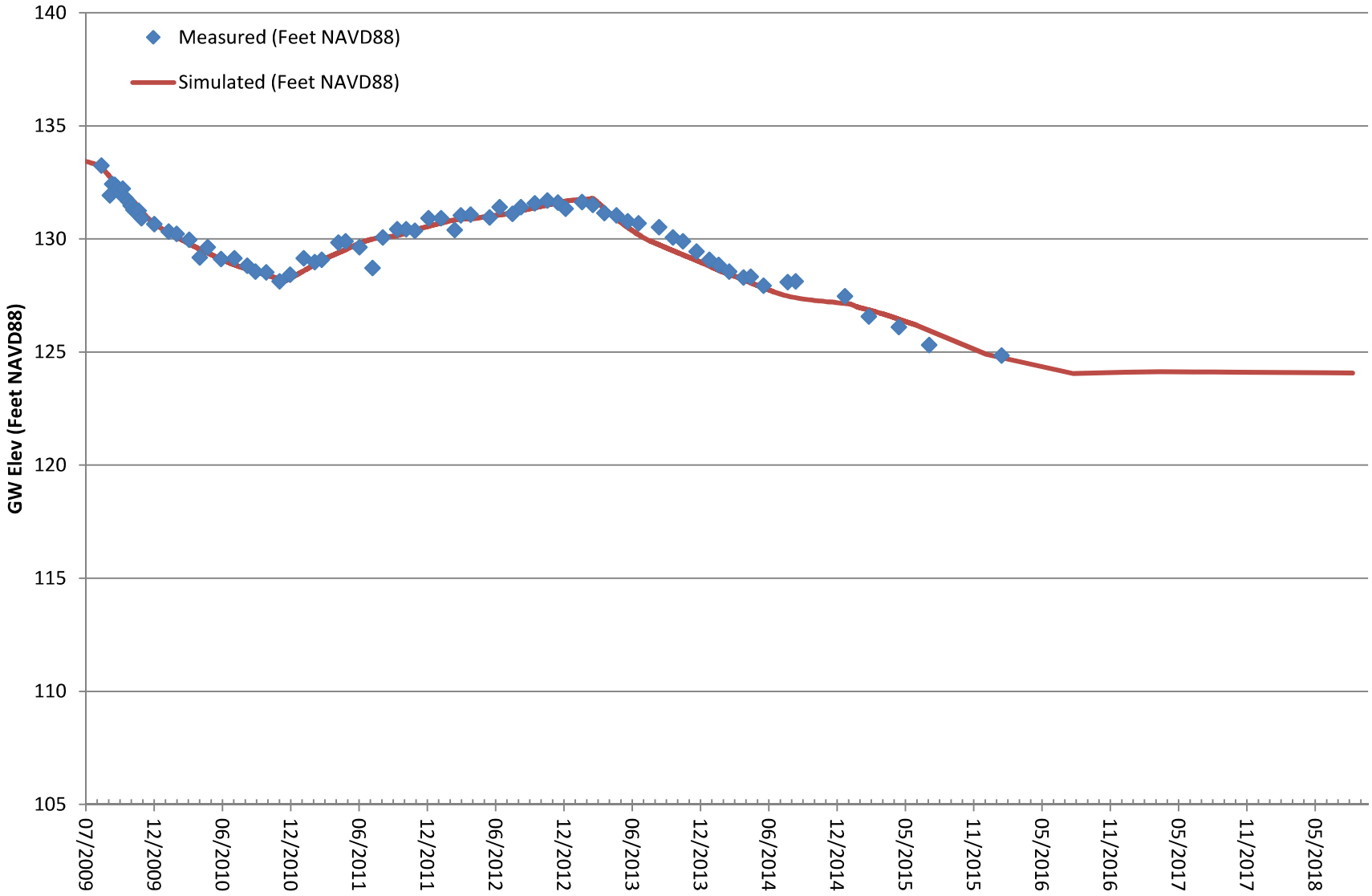


Figure 6
Omega Chemical Facility
Capture Zone Model, Observed vs. Simulated Heads
OW-8a

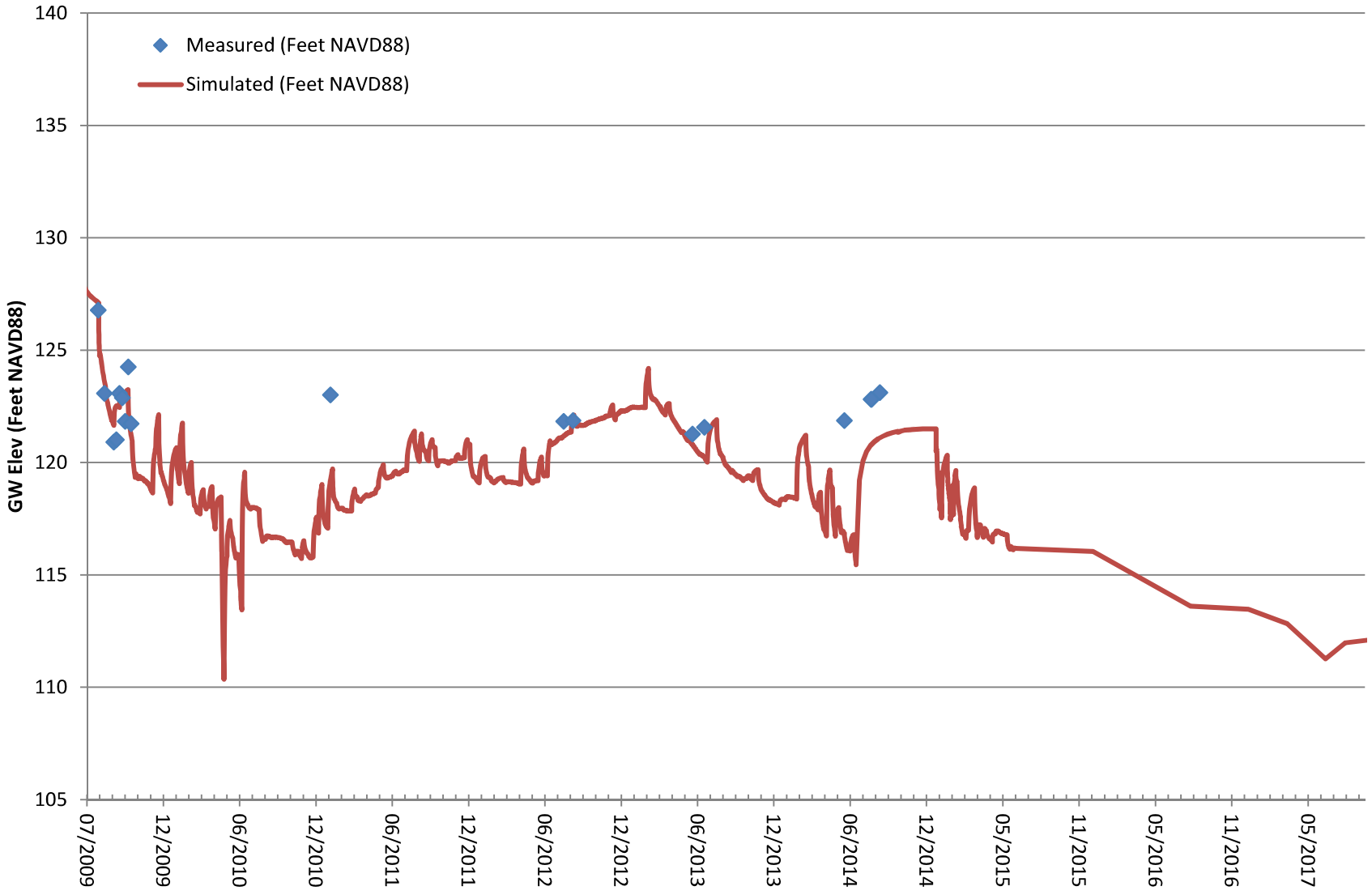


Figure 7
Omega Chemical Facility, Capture Zone Model
Observed vs. Simulated Heads
OW-9

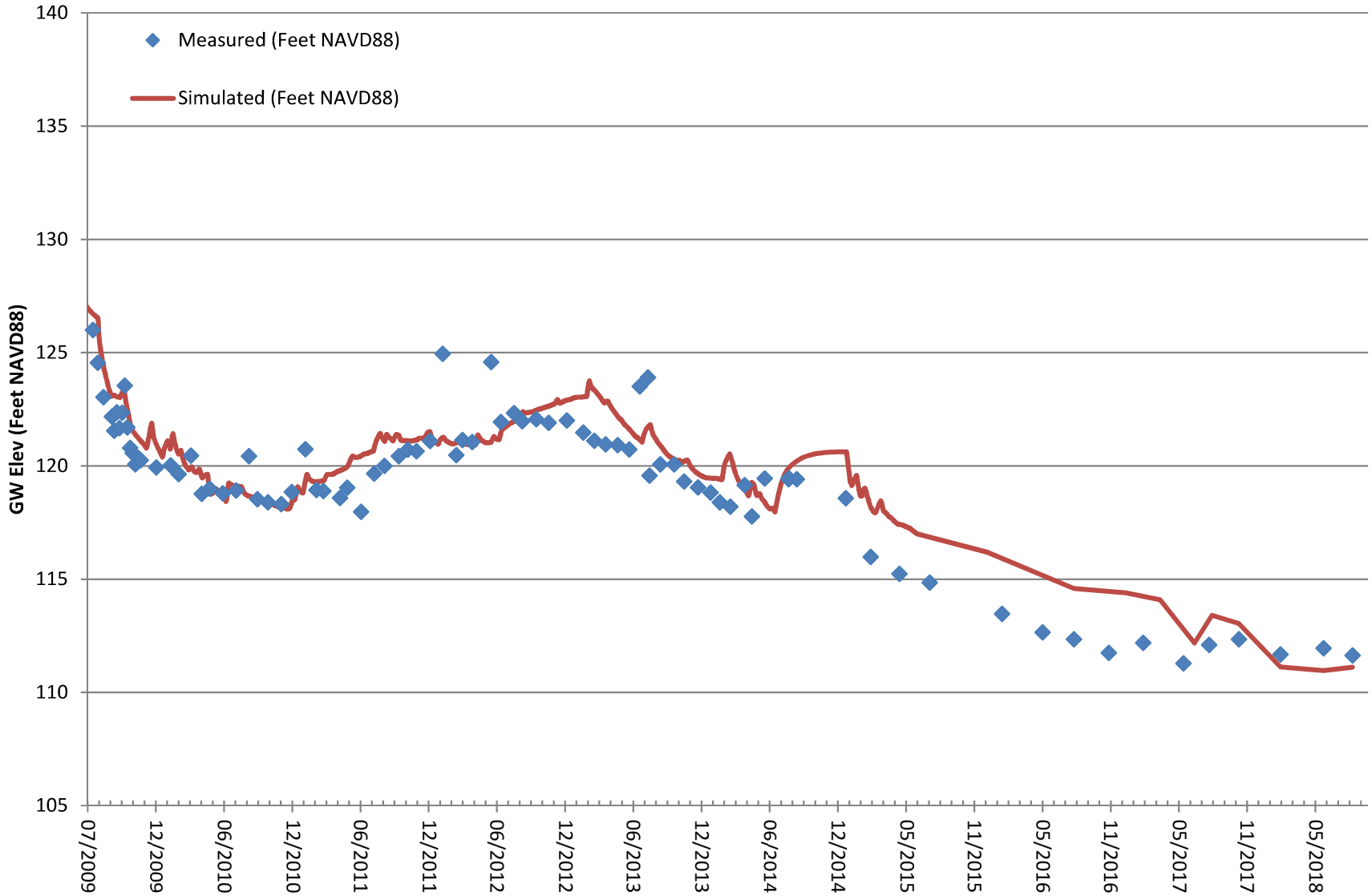


Figure 8
Omega Chemical Facility, Capture Zone Model
Observed vs. Simulated Heads
OW-10

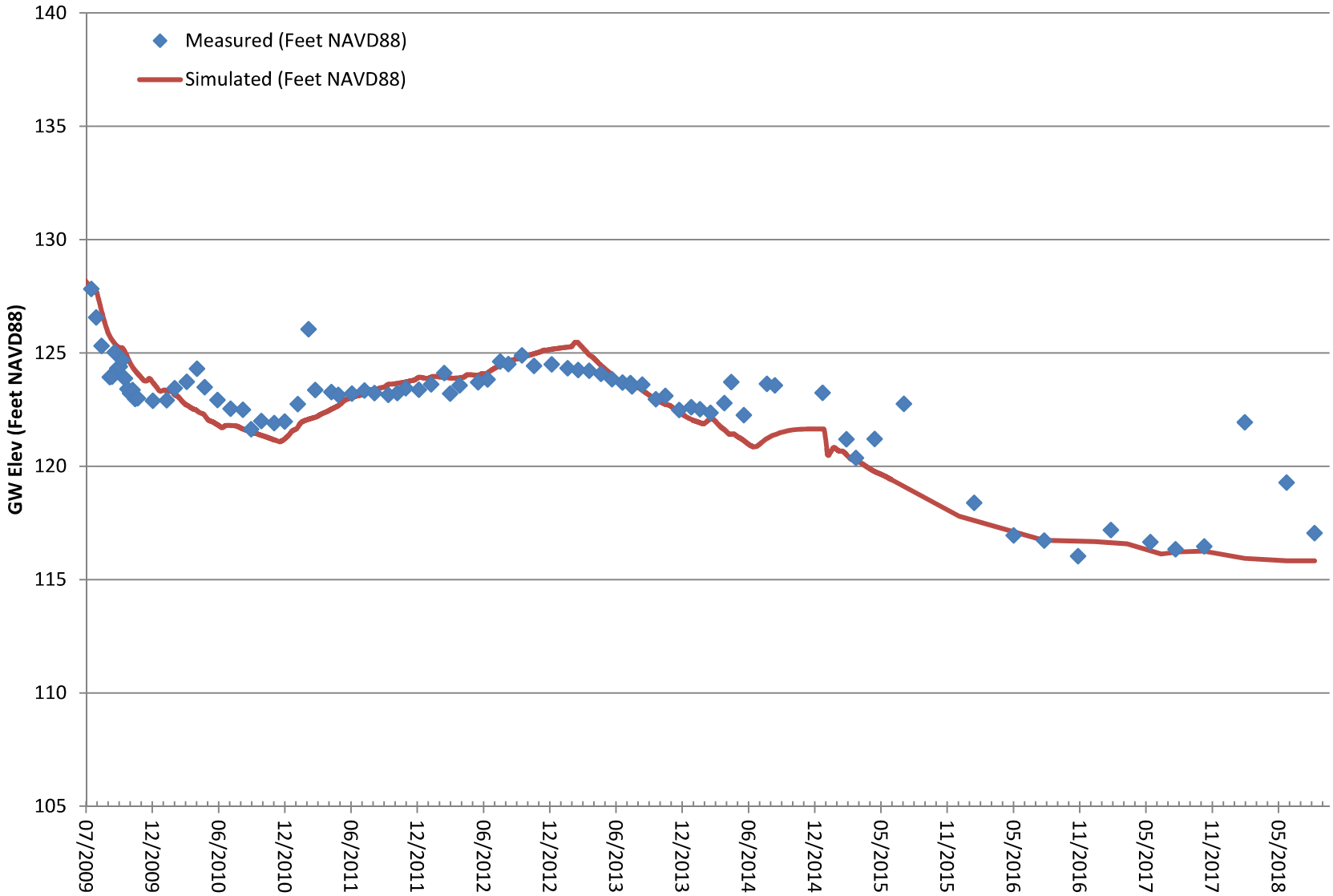


Figure 9
Omega Chemical Facility, Capture Zone Model
Observed vs. Simulated Heads
OW-11

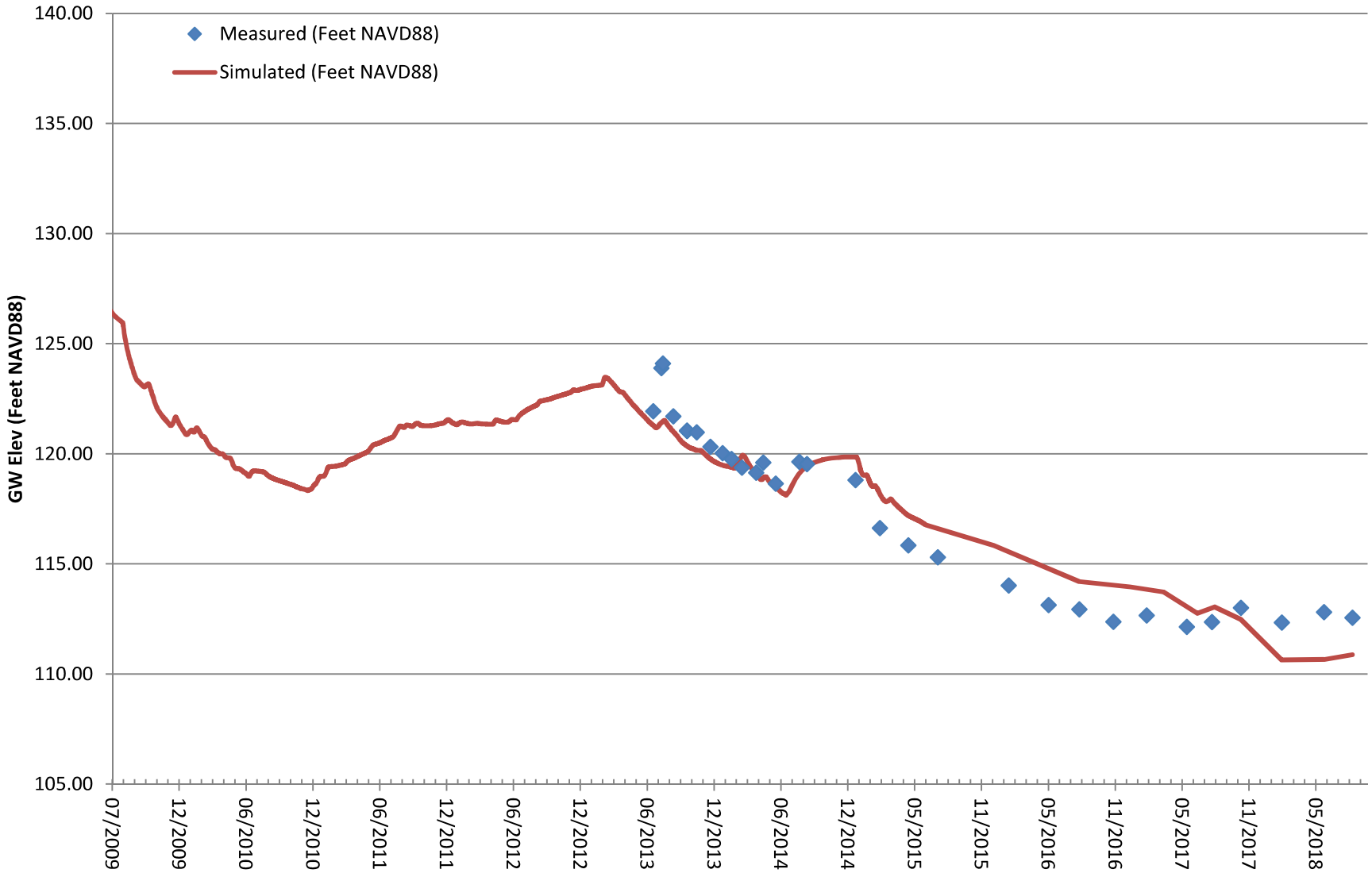


Figure 10
Omega Chemical Facility, Capture Zone Model
Observed vs. Simulated Heads
OW-12

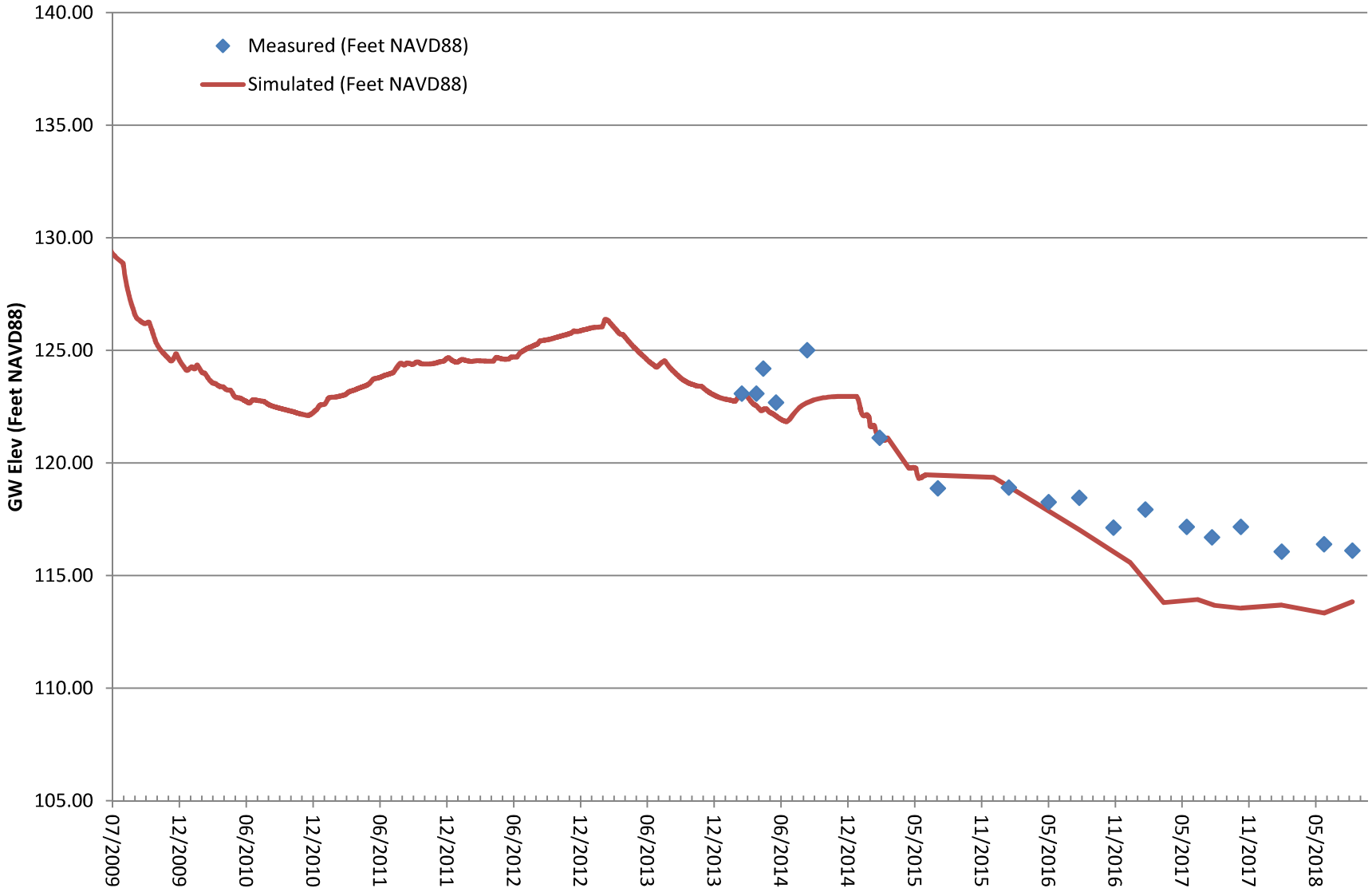


Figure 11
Omega Chemical Facility, Capture Zone Model
Observed vs. Simulated Heads
PZ-1

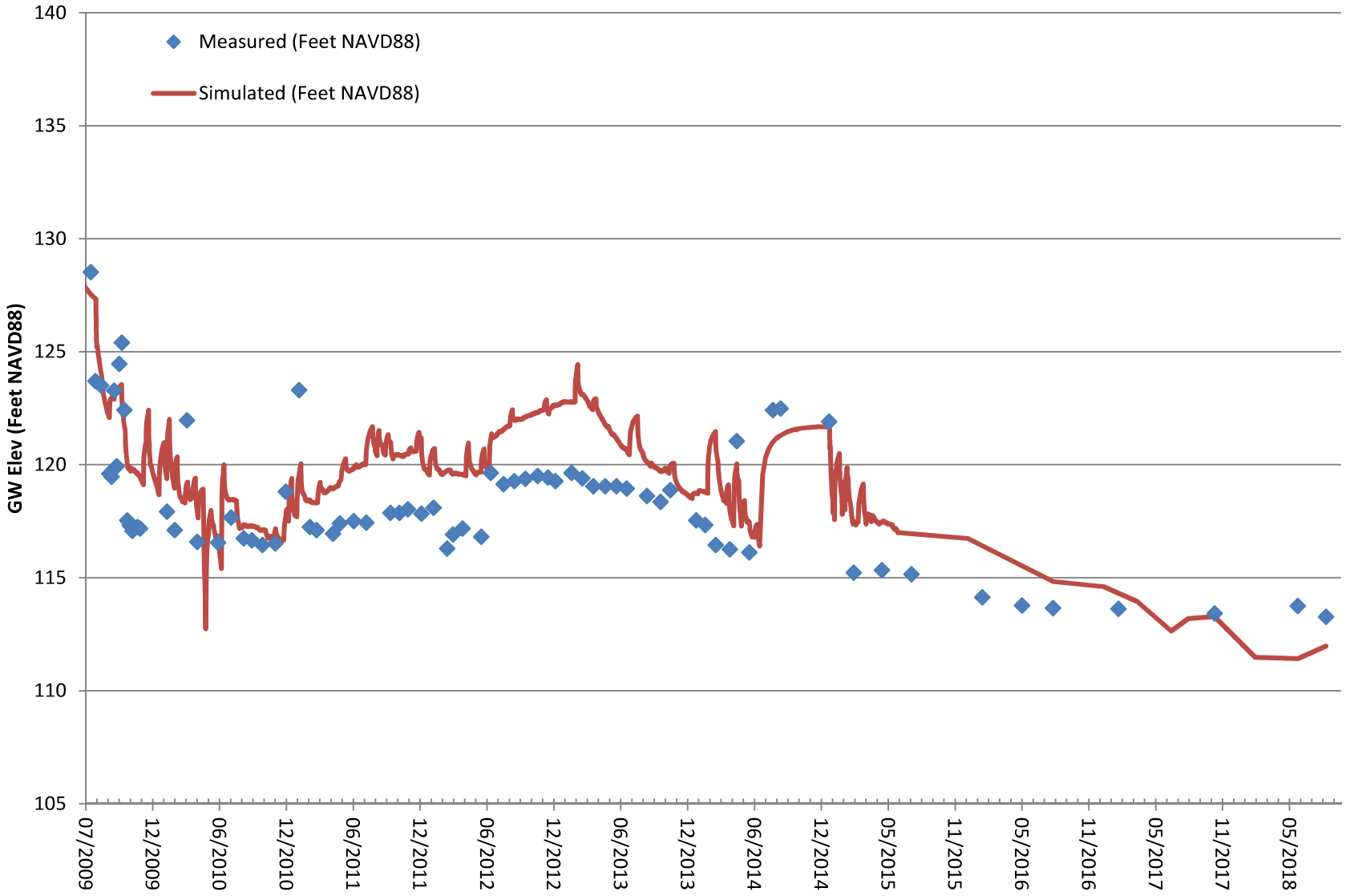


Figure 12
Omega Chemical Facility, Capture Zone Model
Observed vs. Simulated Heads
PZ-2

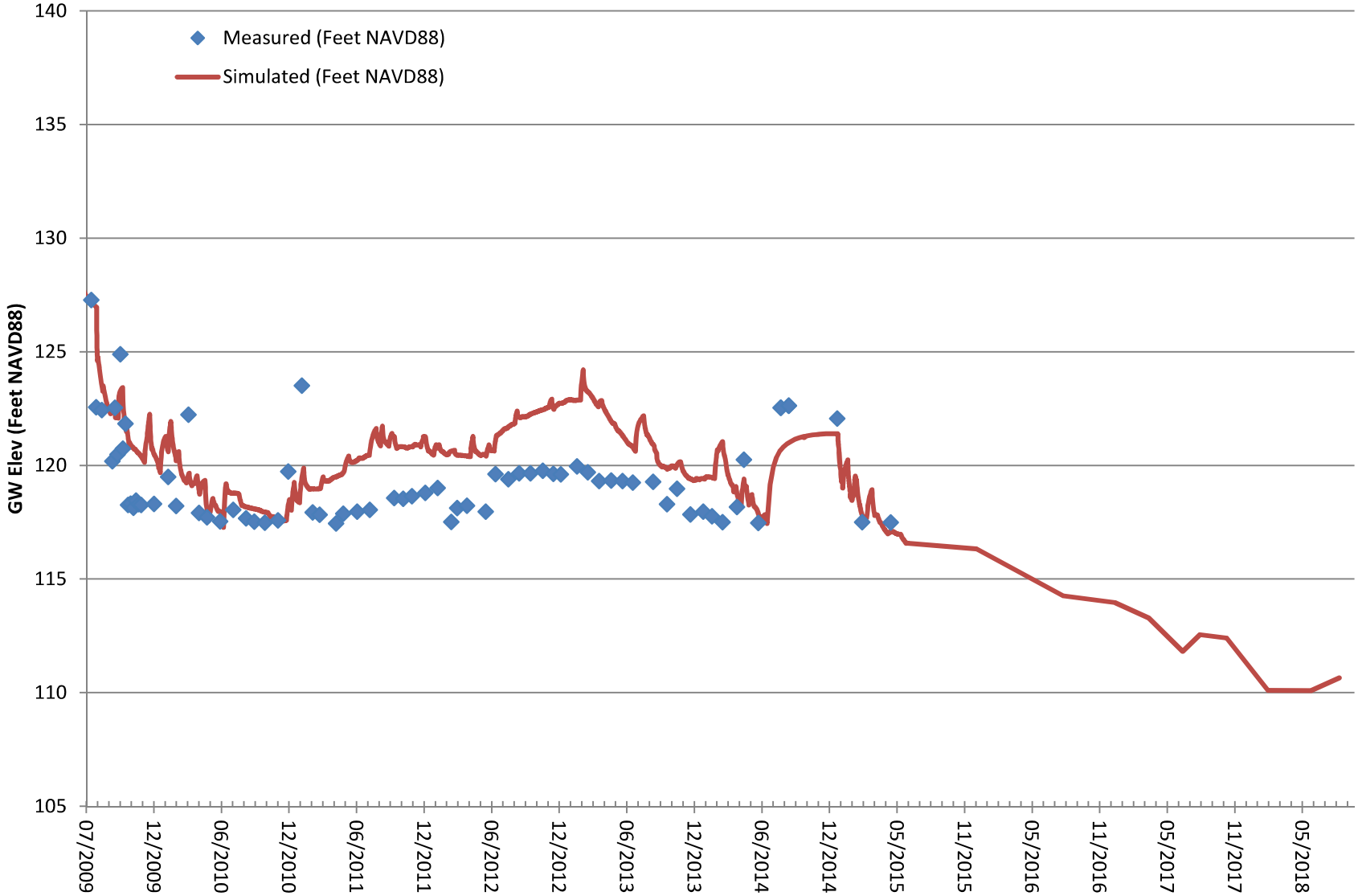


Figure 13
Omega Chemical Facility, Capture Zone Model
Observed vs. Simulated Heads
PZ-3

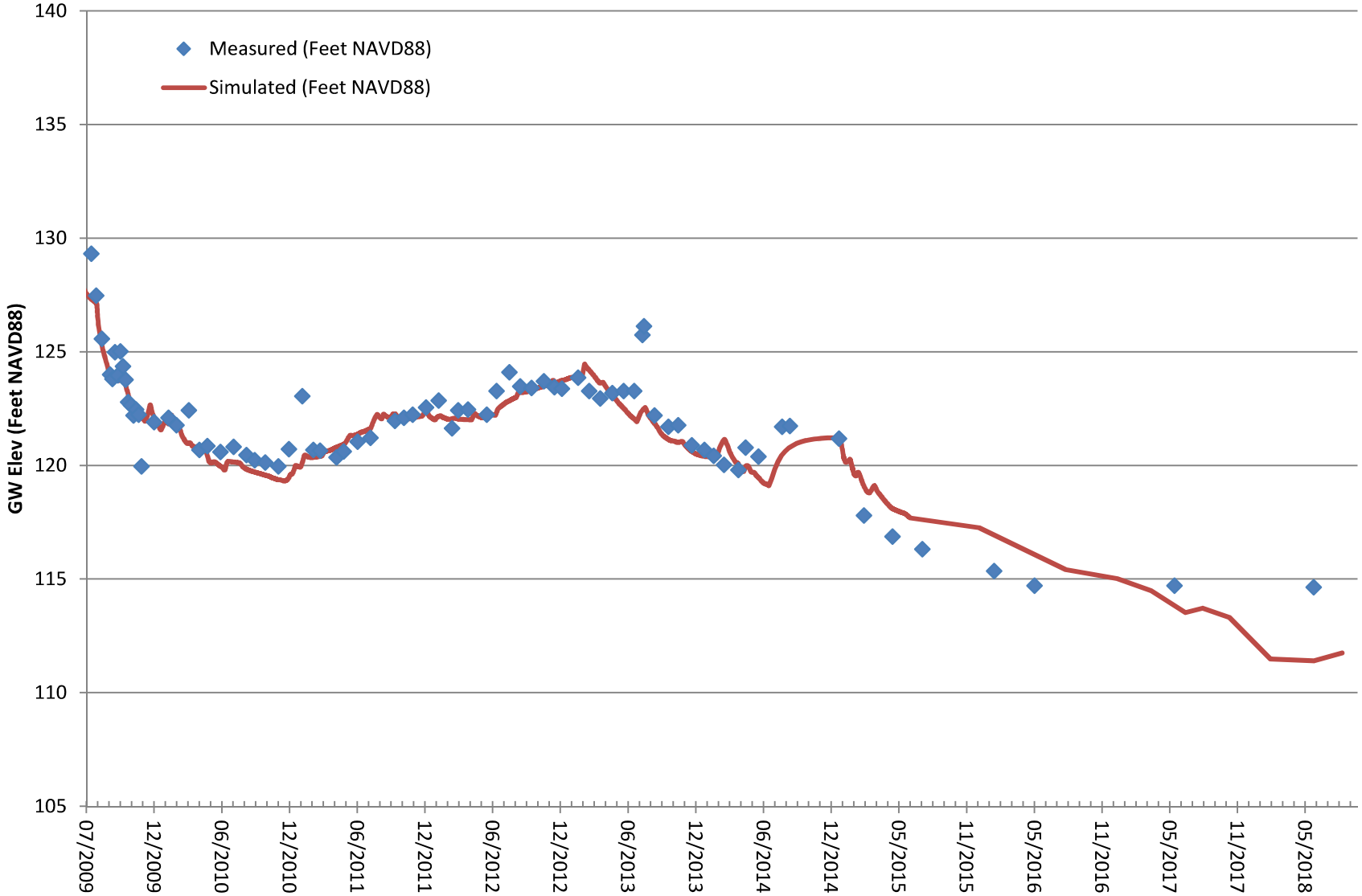


Figure 14
Omega Chemical Facility, Capture Zone Model
Observed vs. Simulated Heads
PZ-4

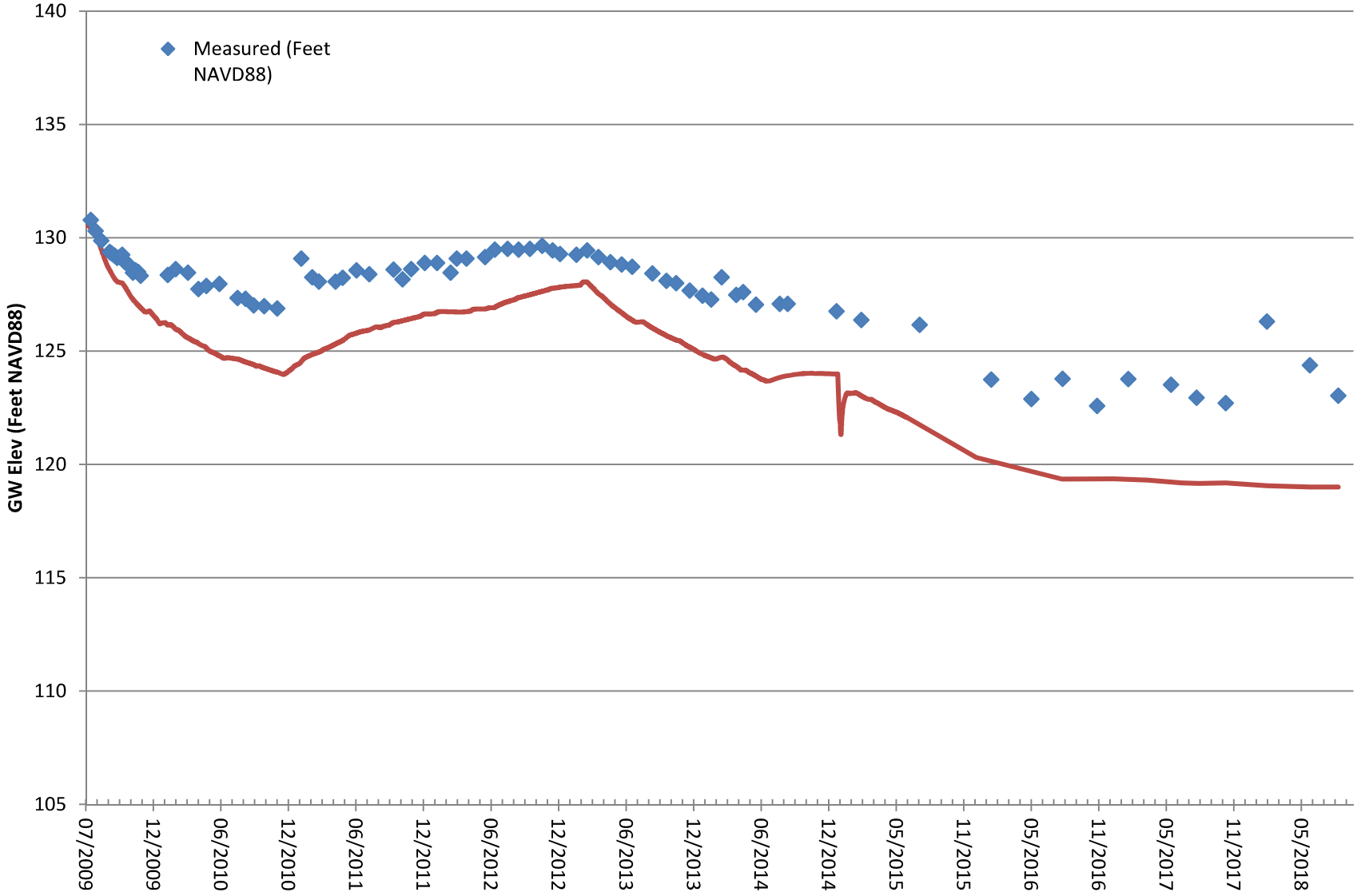


Figure 15
Omega Chemical Facility, Capture Zone Model
Observed vs. Simulated Heads
PZ-5

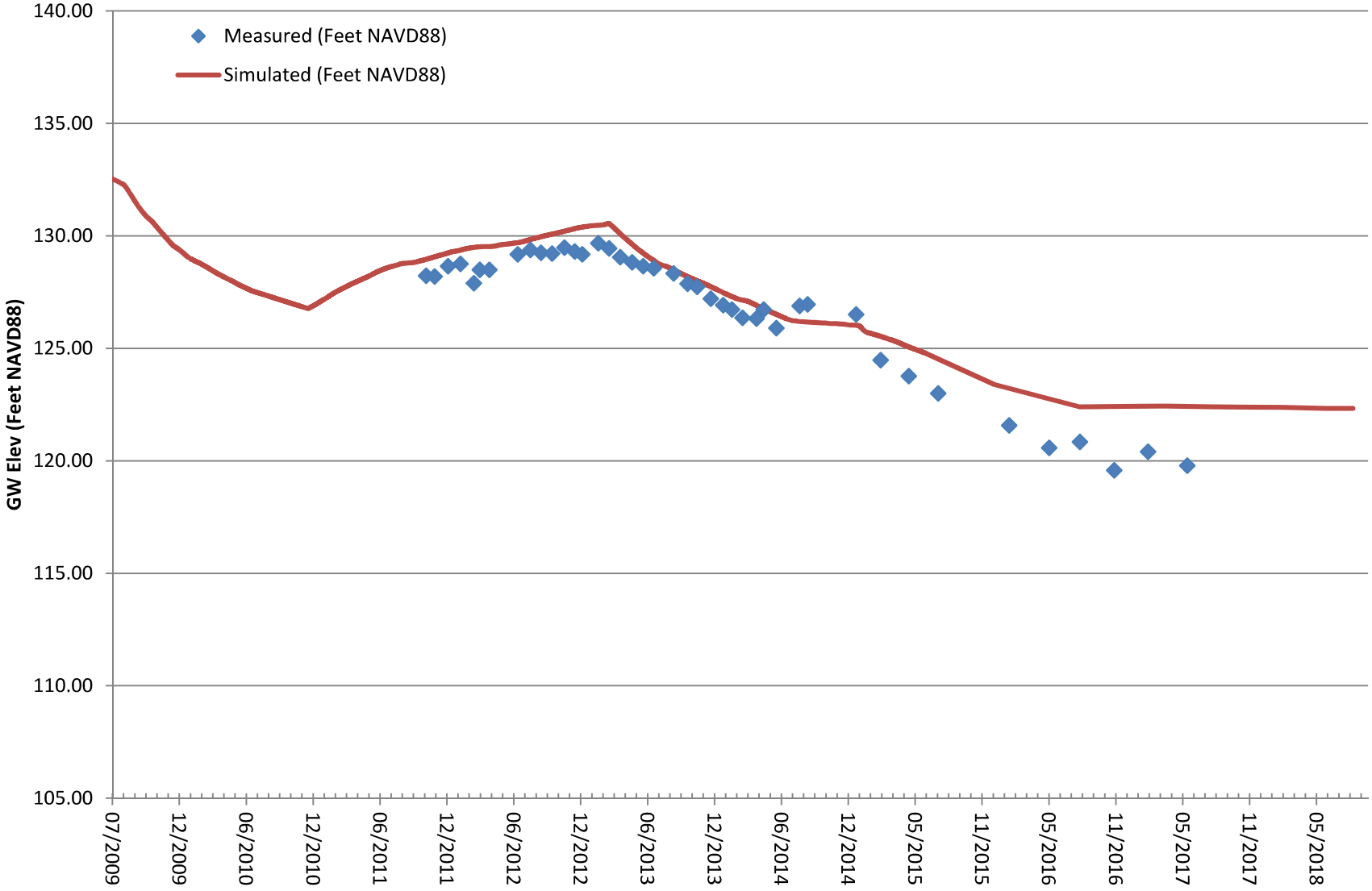


Figure 16
Omega Chemical Facility, Capture Zone Model
Observed vs. Simulated Heads
PZ-6

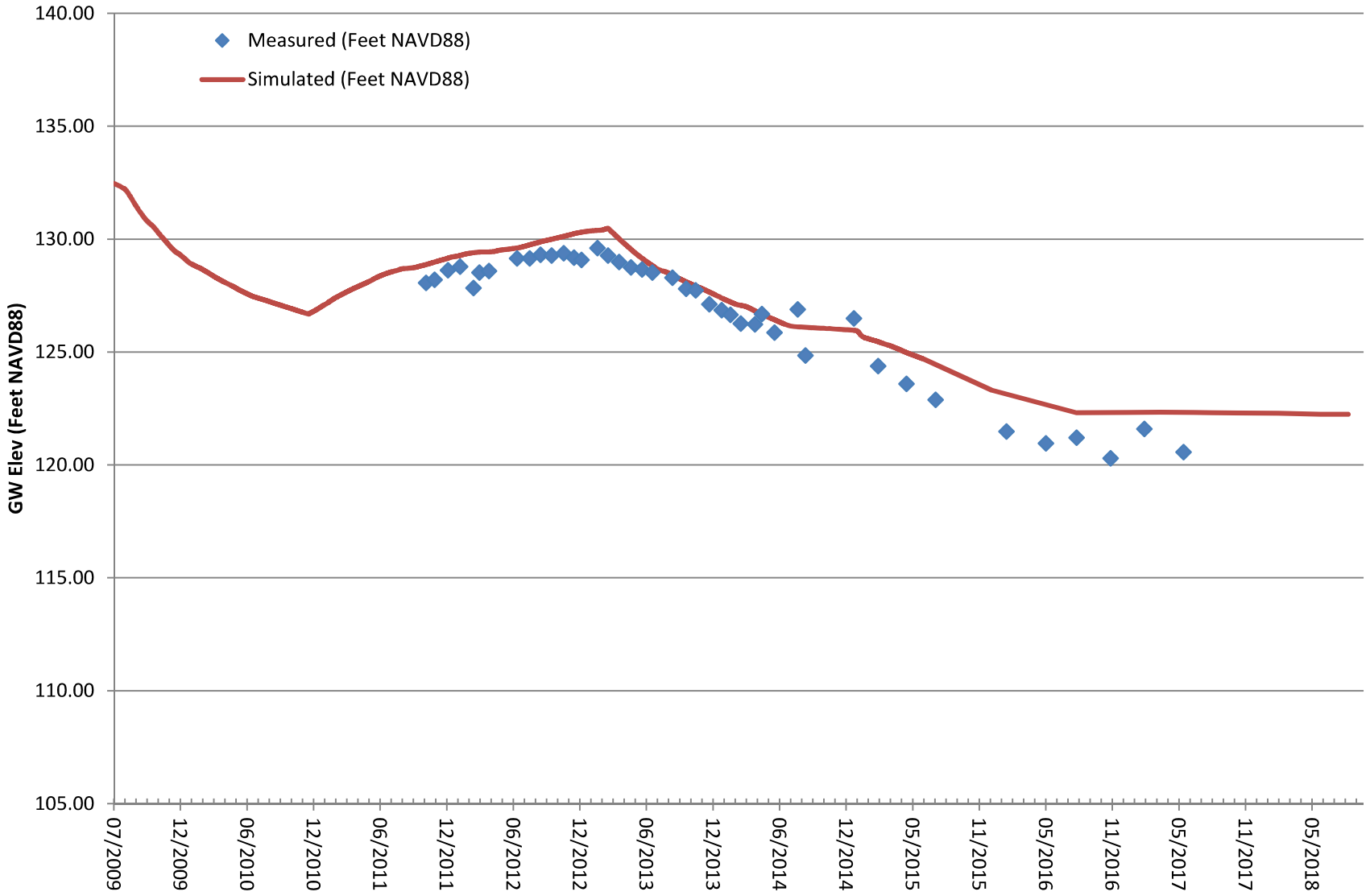


Figure 17
Omega Chemical Facility, Capture Zone Model
Observed vs. Simulated Heads
PZ-7

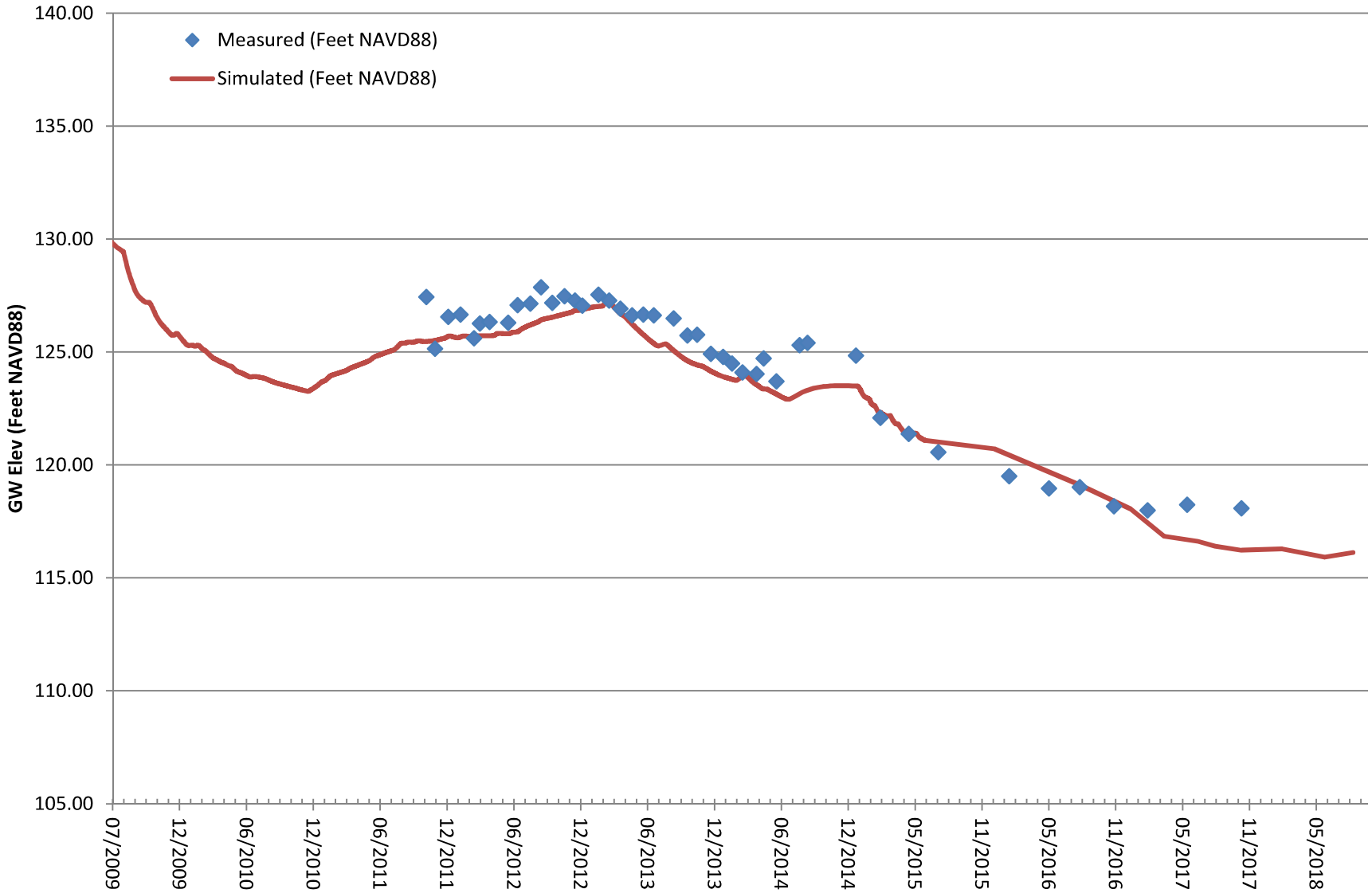


Figure 18
Omega Chemical Facility, Capture Zone Model
Observed vs. Simulated Heads
PZ-8

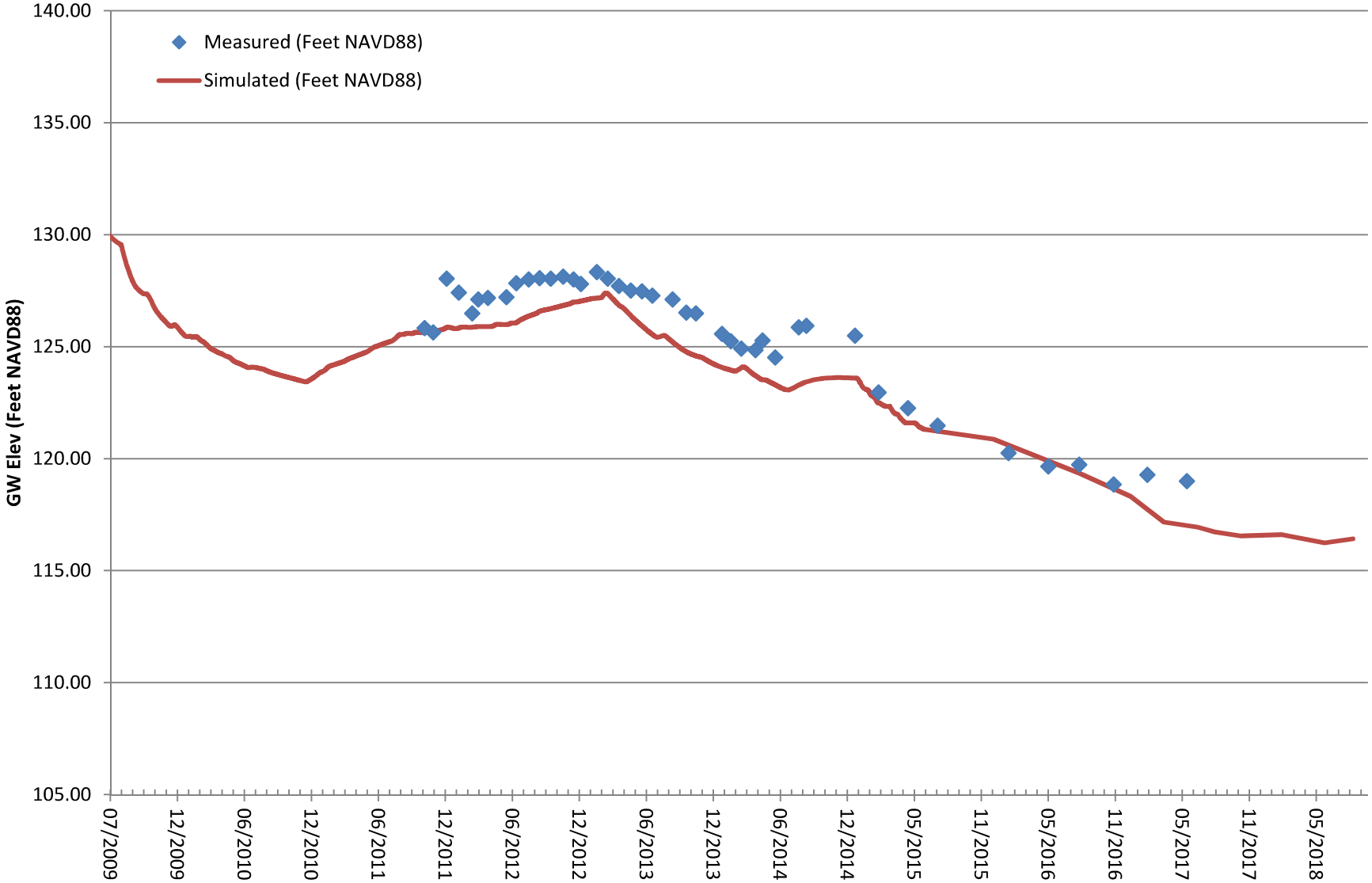
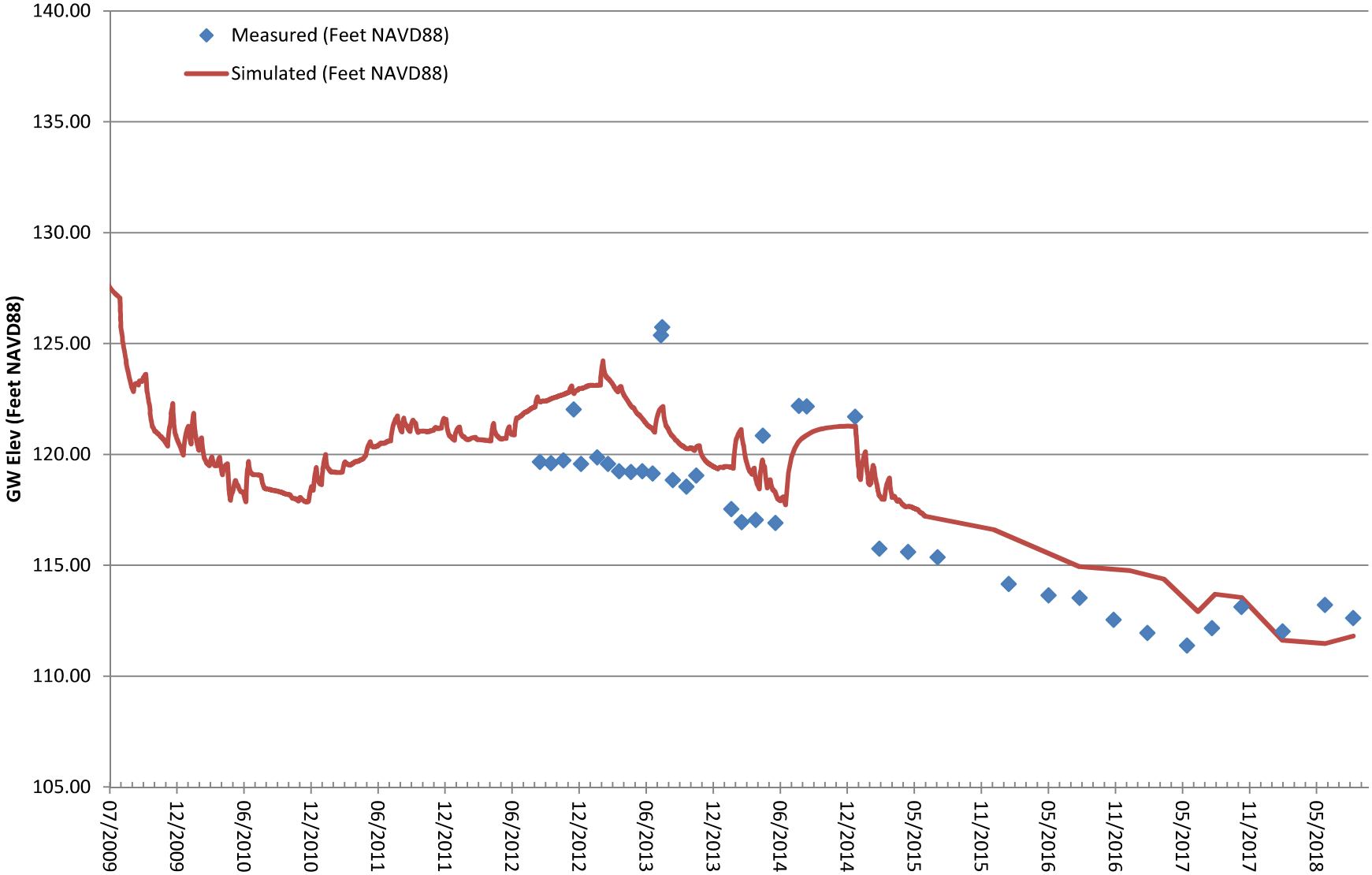


Figure 19
Omega Chemical Facility, Capture Zone Model
Observed vs. Simulated Heads
PZ-9



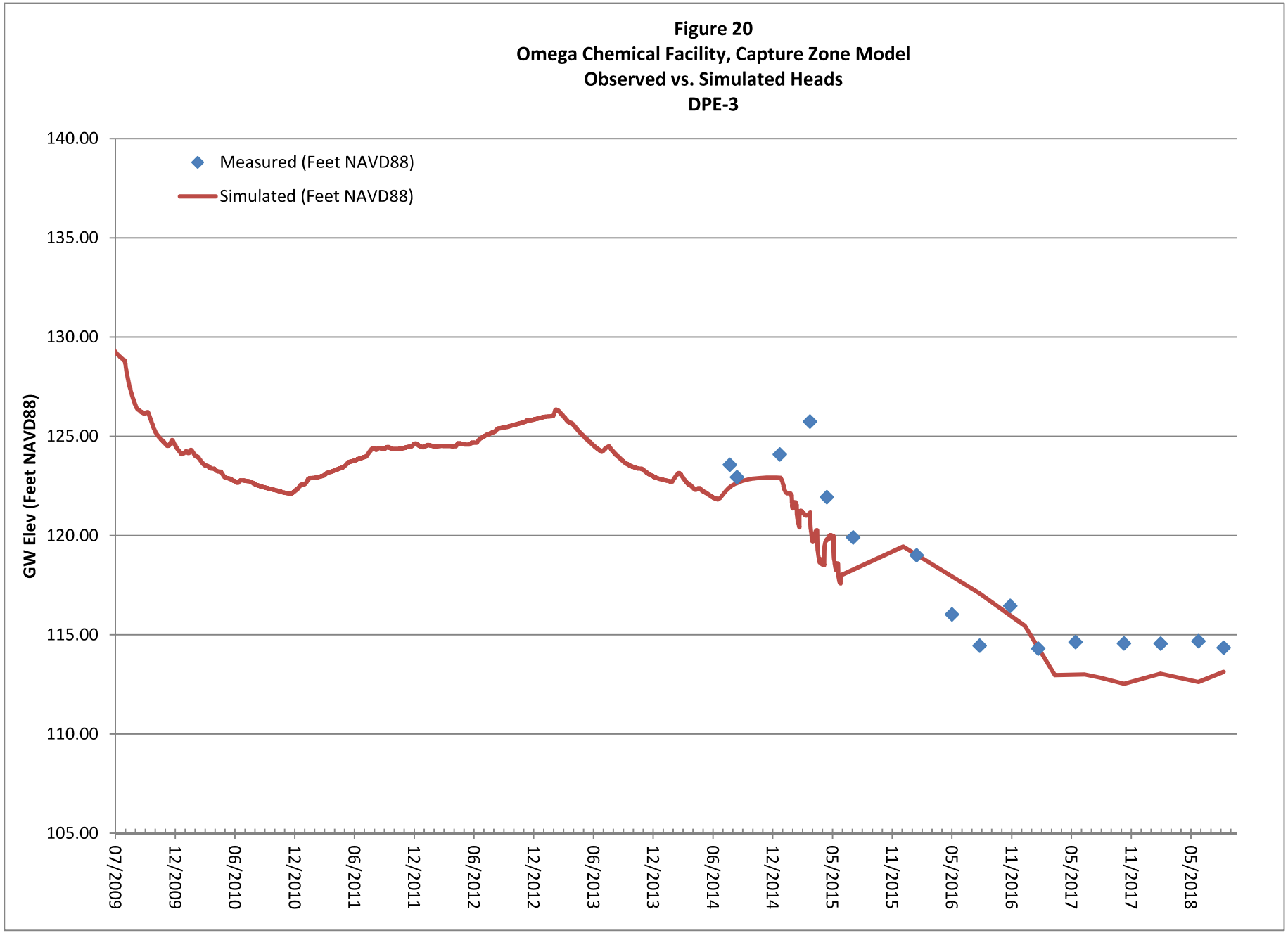


Figure 20
Omega Chemical Facility, Capture Zone Model
Observed vs. Simulated Heads
DPE-3
Measured (Feet NAVD88)
Simulated (Feet NAVD88)
GW Elev (Feet NAVD88)
140.00
135.00
130.00
125.00
120.00
115.00
110.00
105.00
07/2009
12/2009
06/2010
12/2010
06/2011
12/2011
06/2012
12/2012
06/2013
12/2013
06/2014
12/2014
05/2015
11/2015
05/2016
11/2016
05/2017
11/2017
05/2018

Figure 21
Omega Chemical Facility, Capture Zone Model
Observed vs. Simulated Heads
DPE-4

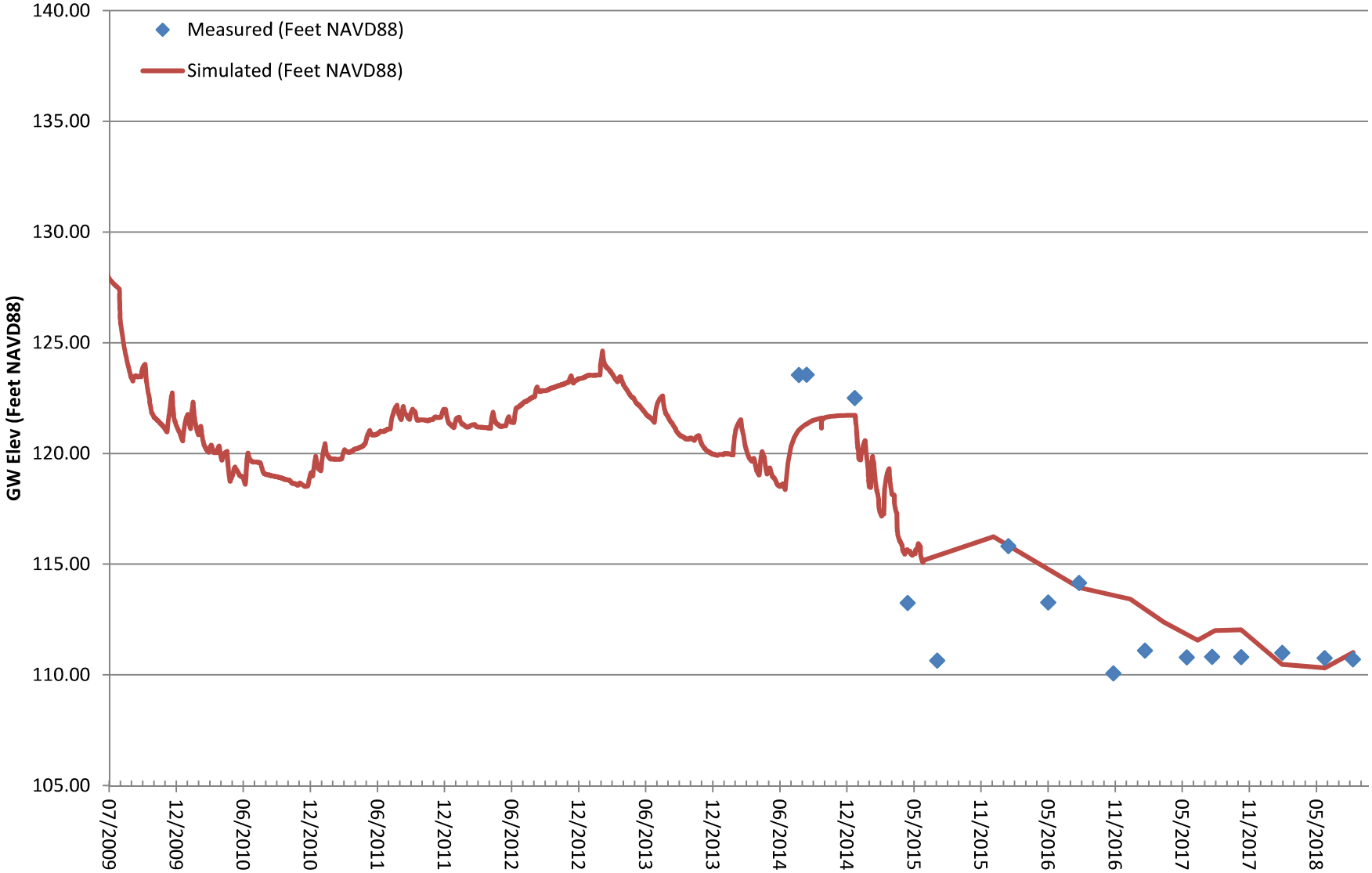


Figure 22
Omega Chemical Facility, Capture Zone Model
Observed vs. Simulated Heads
DPE-5

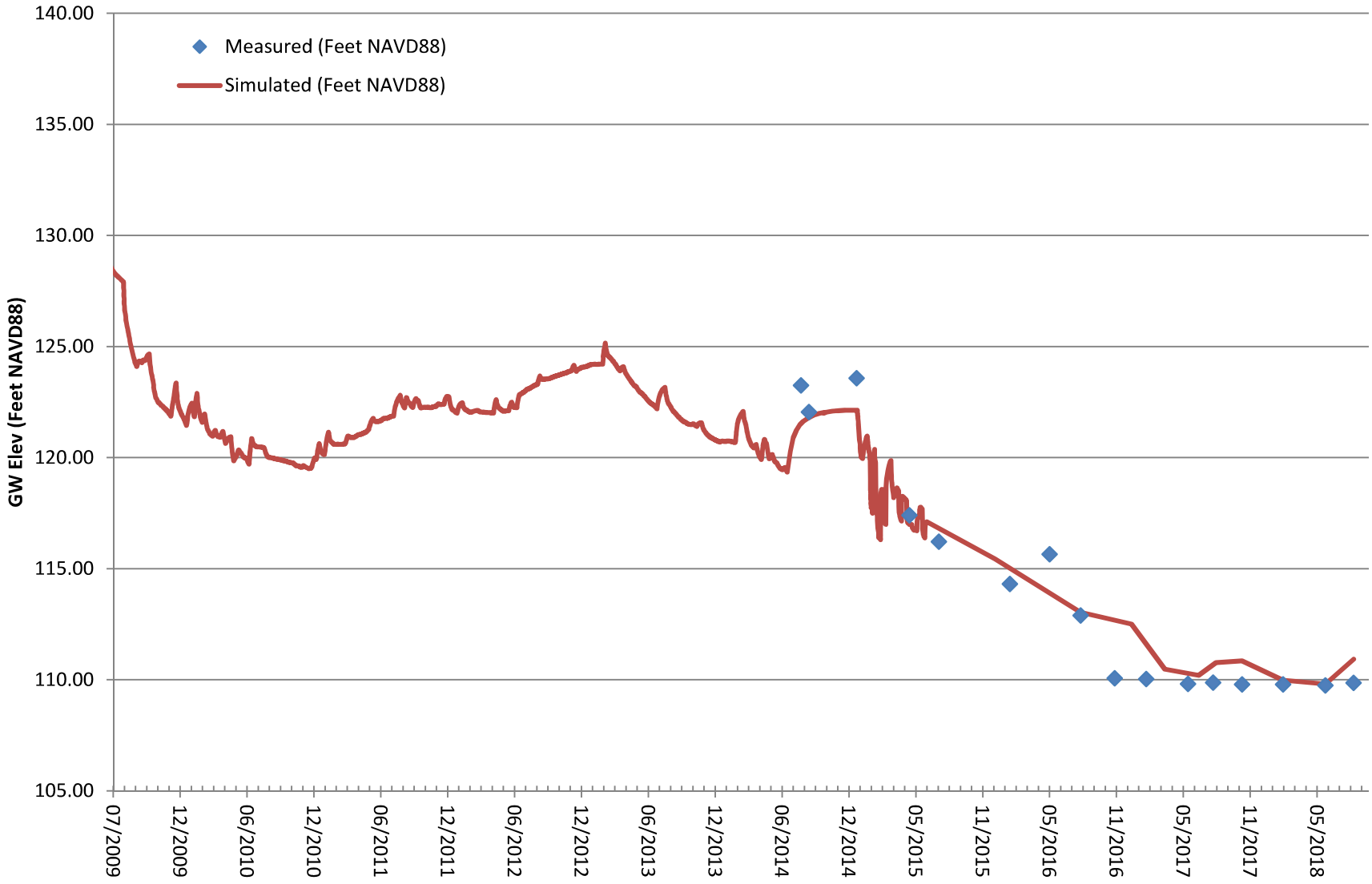


Figure 23
Omega Chemical Facility, Capture Zone Model
Observed vs. Simulated Heads
DPE-8

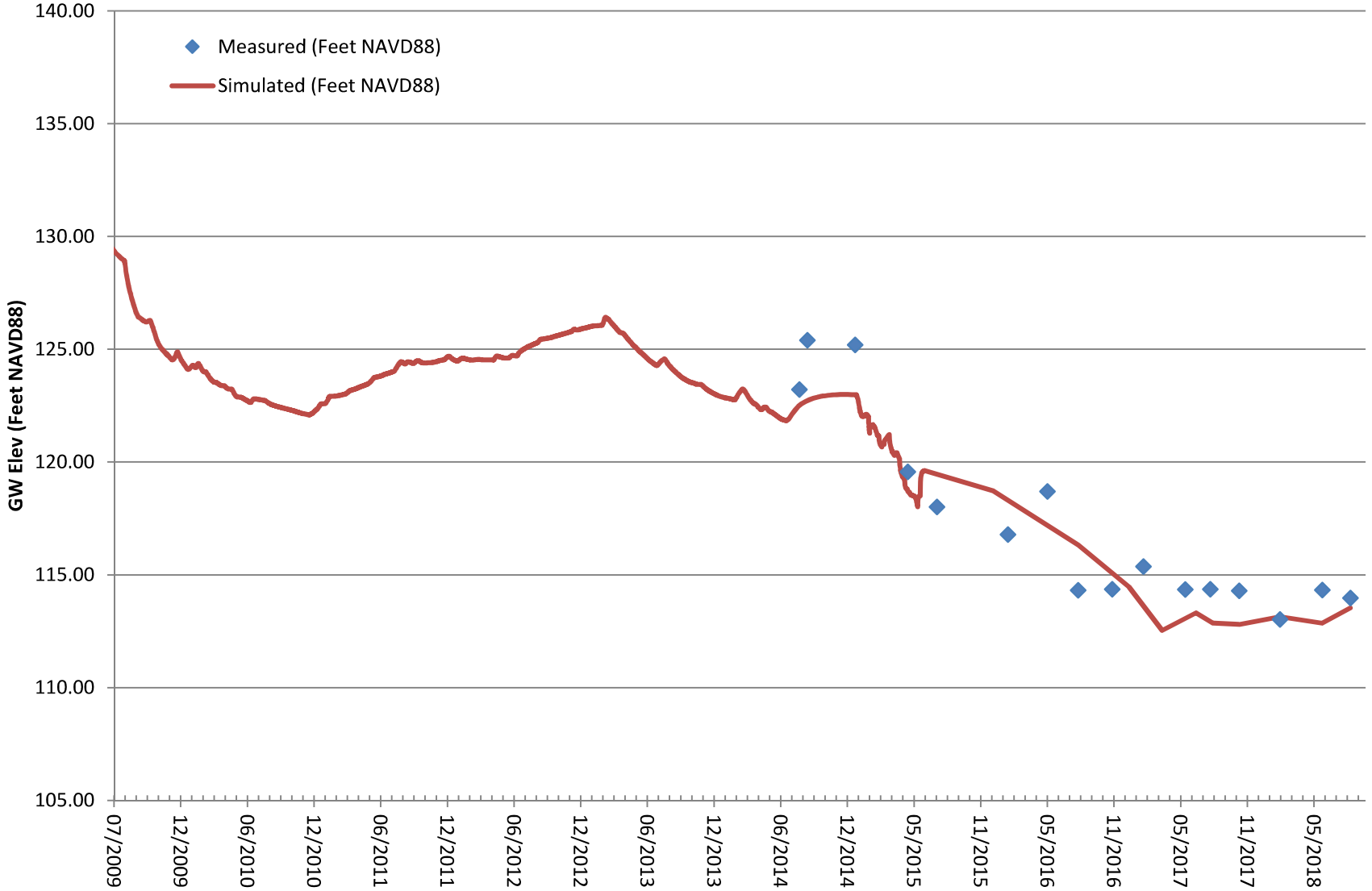
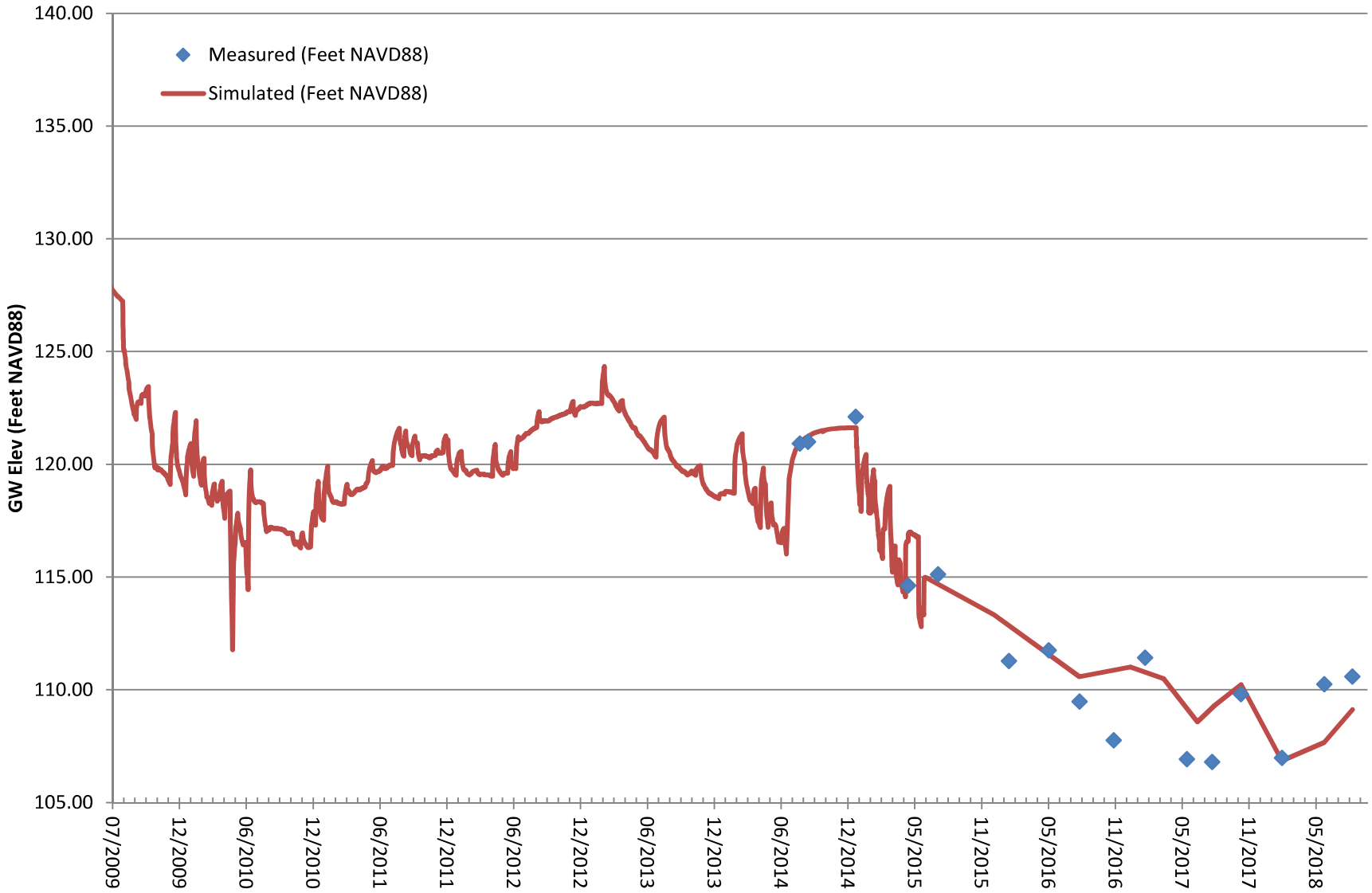


Figure 24
Omega Chemical Facility, Capture Zone Model
Observed vs. Simulated Heads
DPE-9



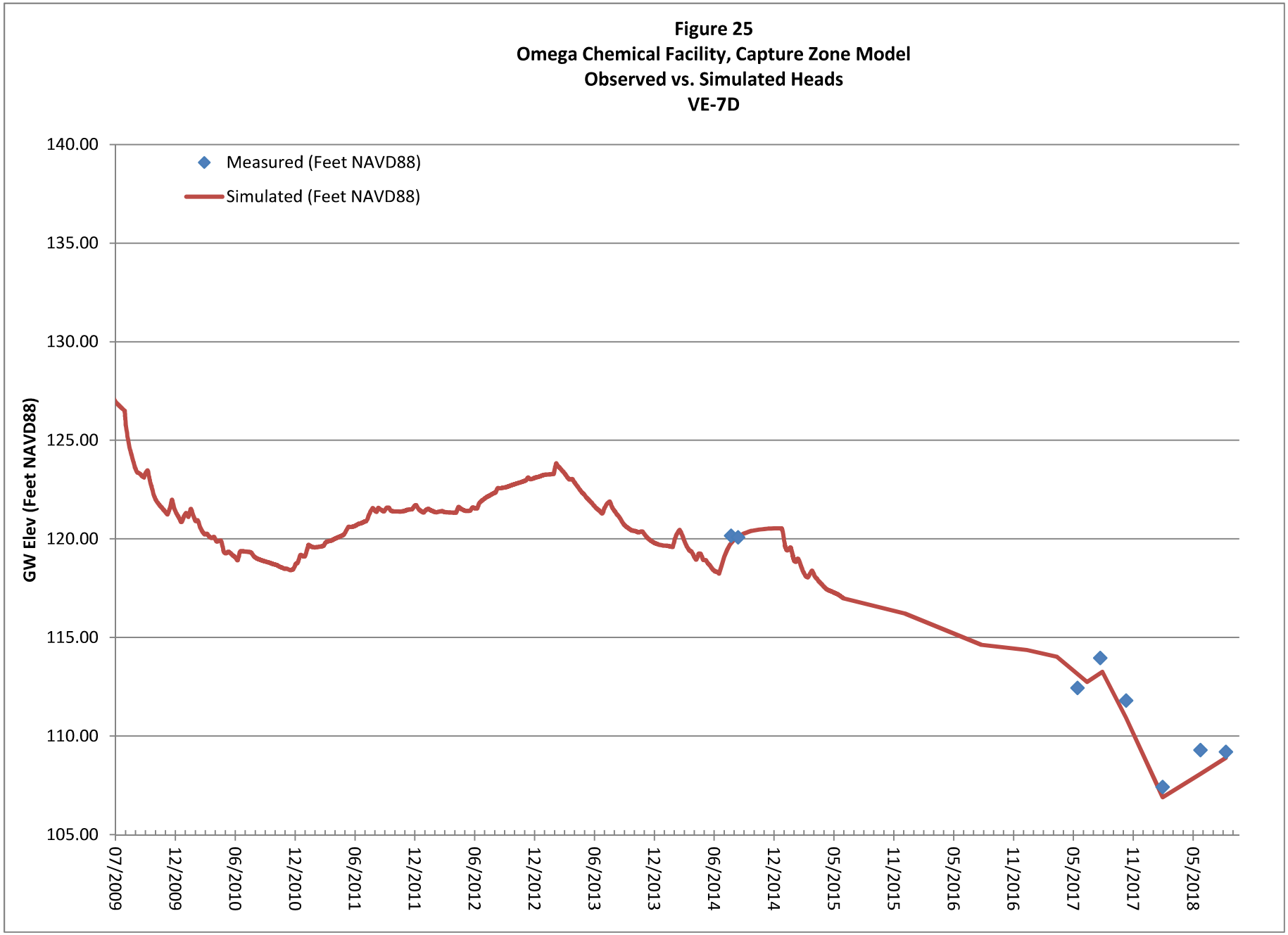


Figure 25
Omega Chemical Facility, Capture Zone Model
Observed vs. Simulated Heads
VE-7D
Measured (Feet NAVD88)
Simulated (Feet NAVD88)
GW Elev (Feet NAVD88)
140.00
135.00
130.00
125.00
120.00
115.00
110.00
105.00
07/2009
12/2009
06/2010
12/2010
06/2011
12/2011
06/2012
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11/2016
05/2017
11/2017
05/2018

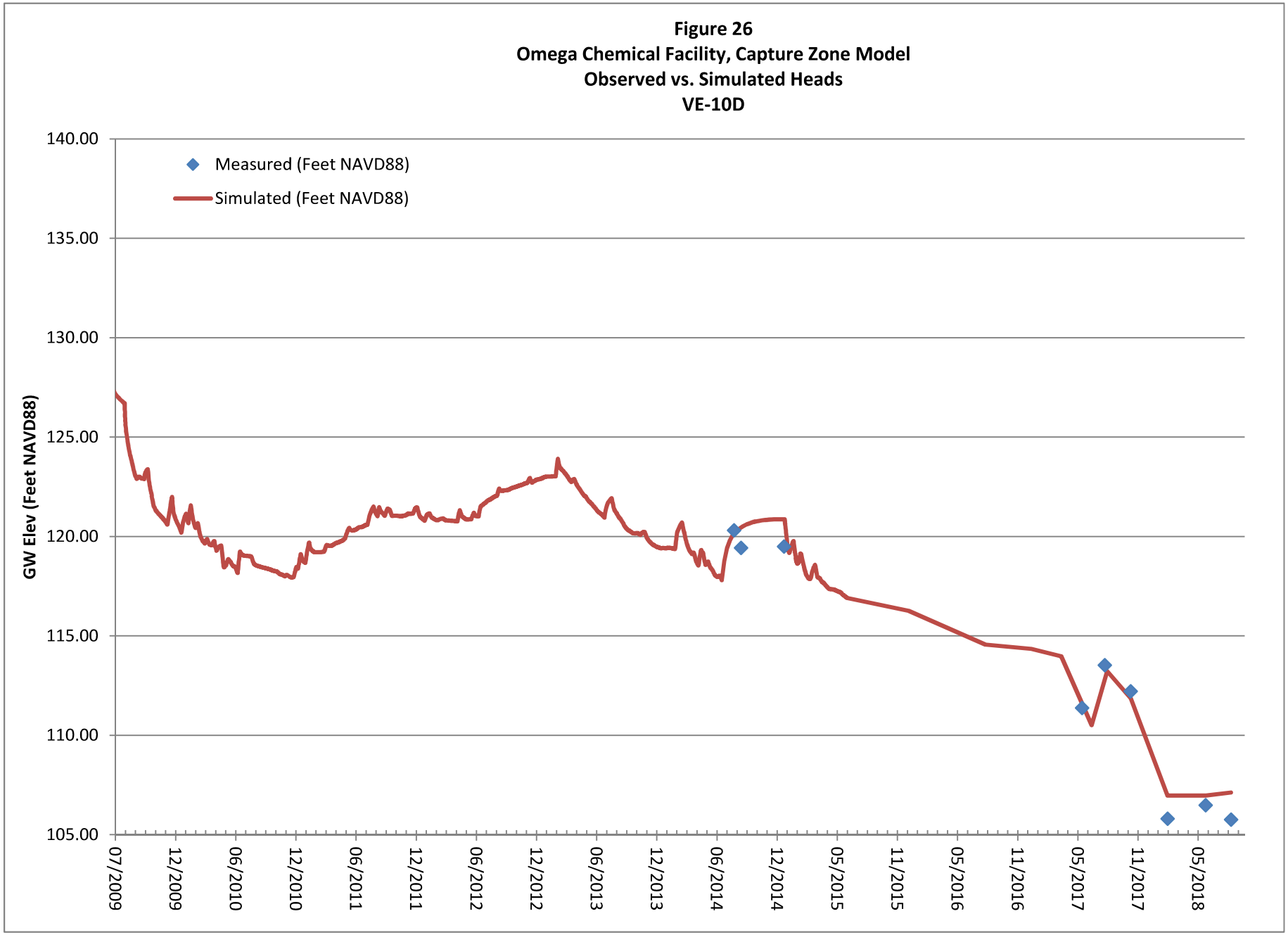
Figure 26
Omega Chemical Facility, Capture Zone Model
Observed vs. Simulated Heads
VE-10D
Measured (Feet NAVD88)
Simulated (Feet NAVD88)
GW Elev (Feet NAVD88)
140.00
135.00
130.00
125.00
120.00
115.00
110.00
105.00
07/2009
12/2009
06/2010
12/2010
06/2011
12/2011
06/2012
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11/2016
05/2017
11/2017
05/2018

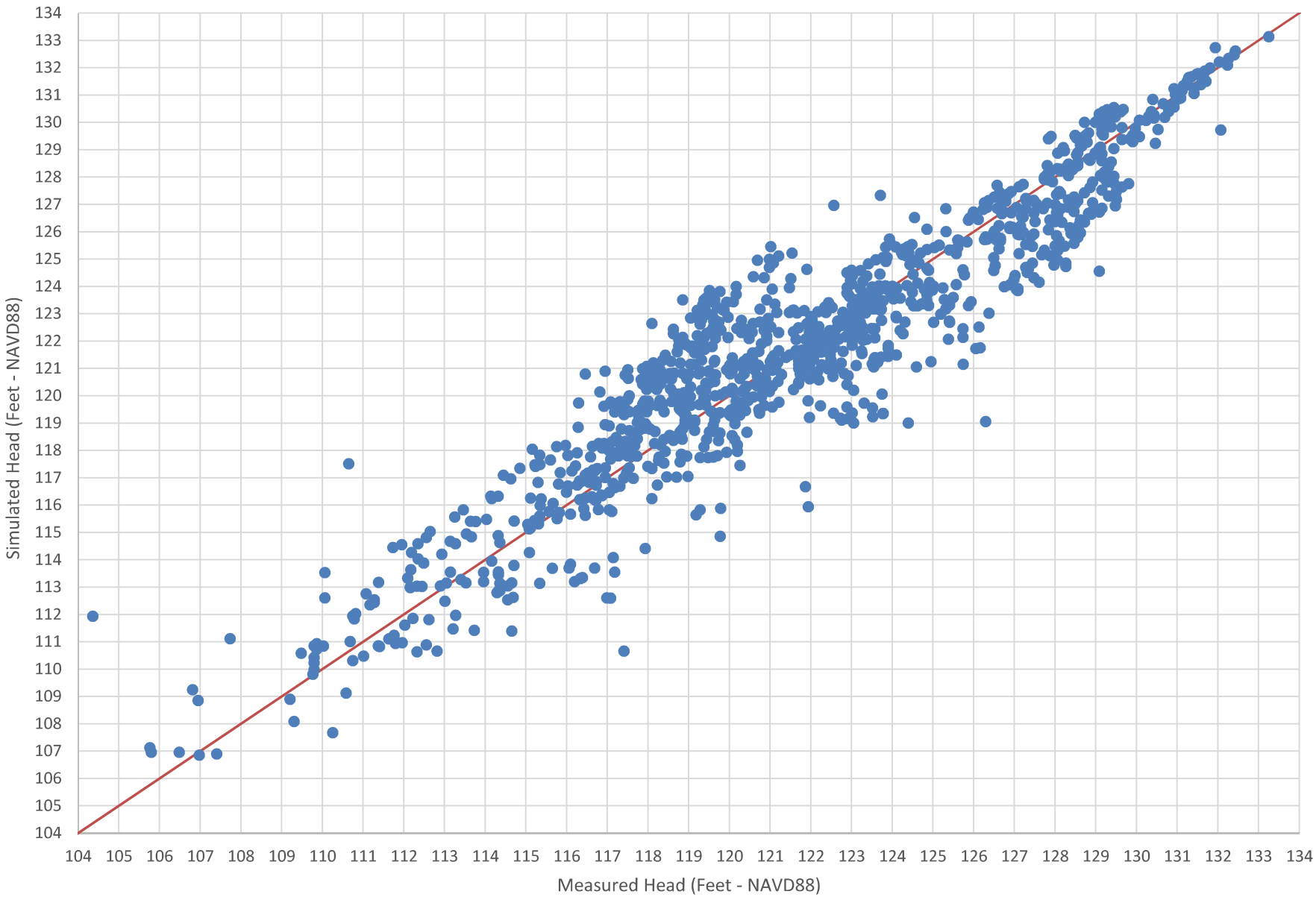


Figure 27 - Model Calibration Scatter Plot
Simulated Head (Feet - NAVD88)
Measured Head (Feet - NAVD88)
104 105 106 107 108 109 110 111 112 113 114 115 116 117 118 119 120 121 122 123 124 125 126 127 128 129 130 131 132 133 134

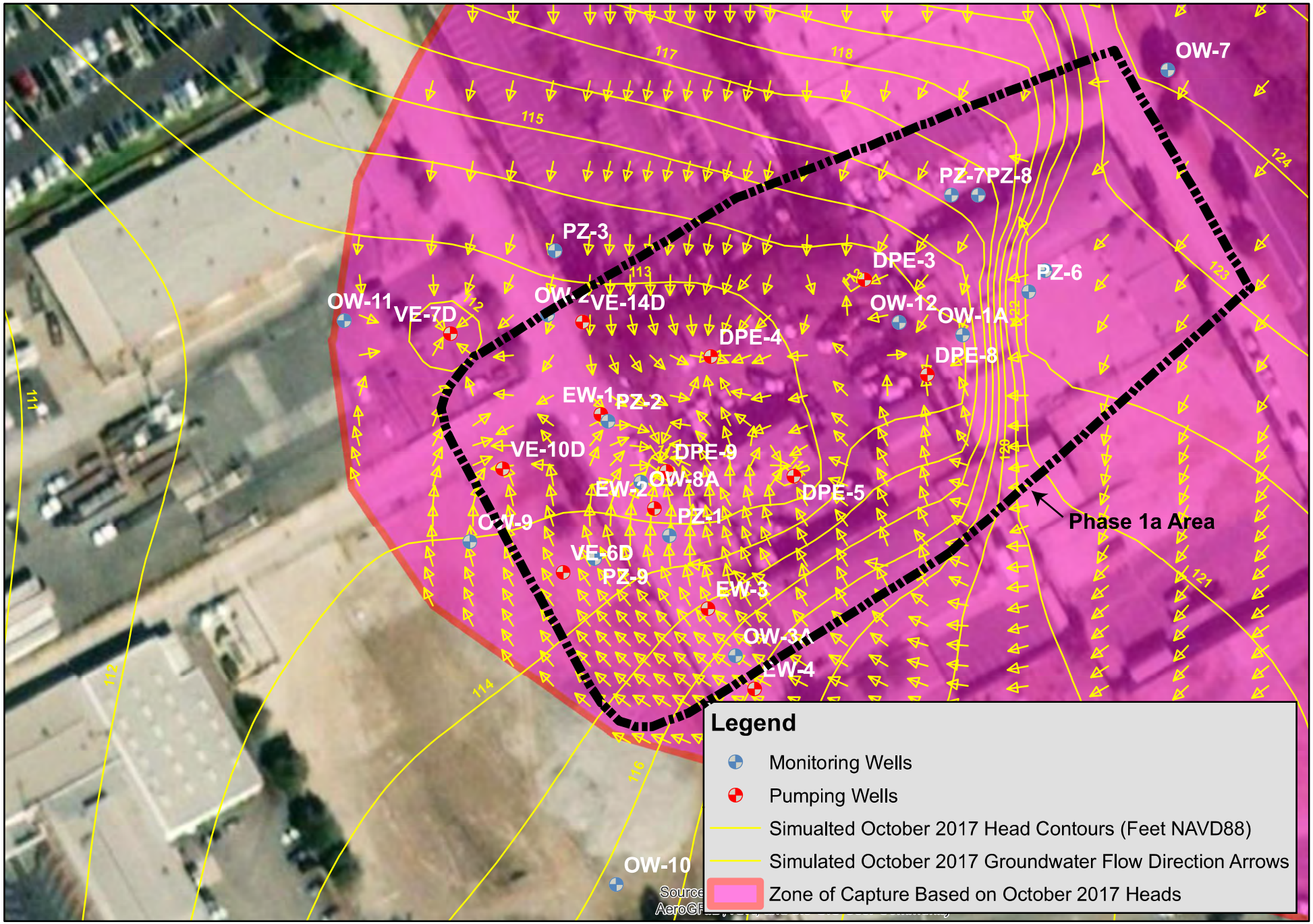
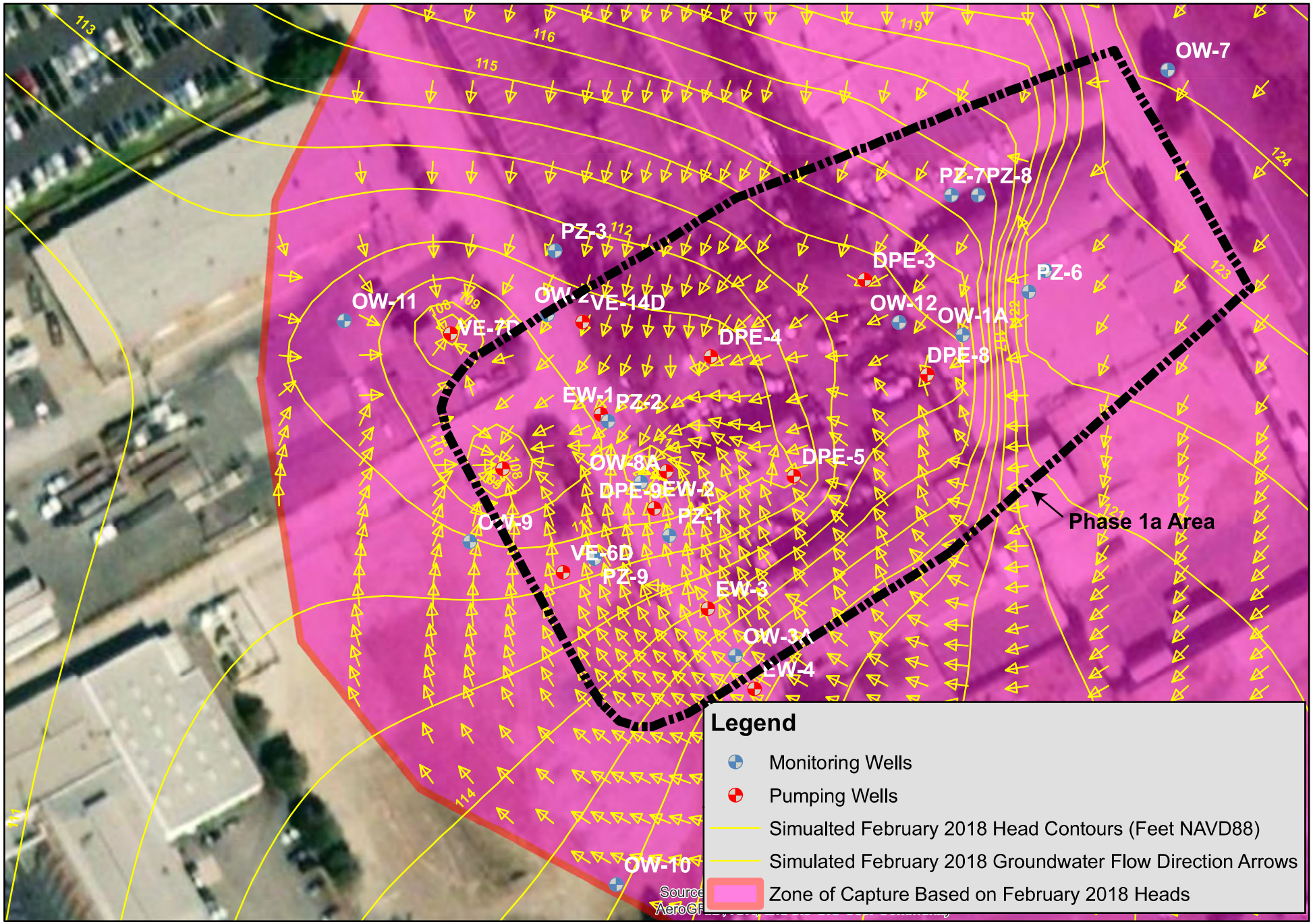


Figure 28 - Simulated Flow Direction Arrows and Head Contours
October 2017 Conditions
Omega Chemical Facility
Capture Zone Model

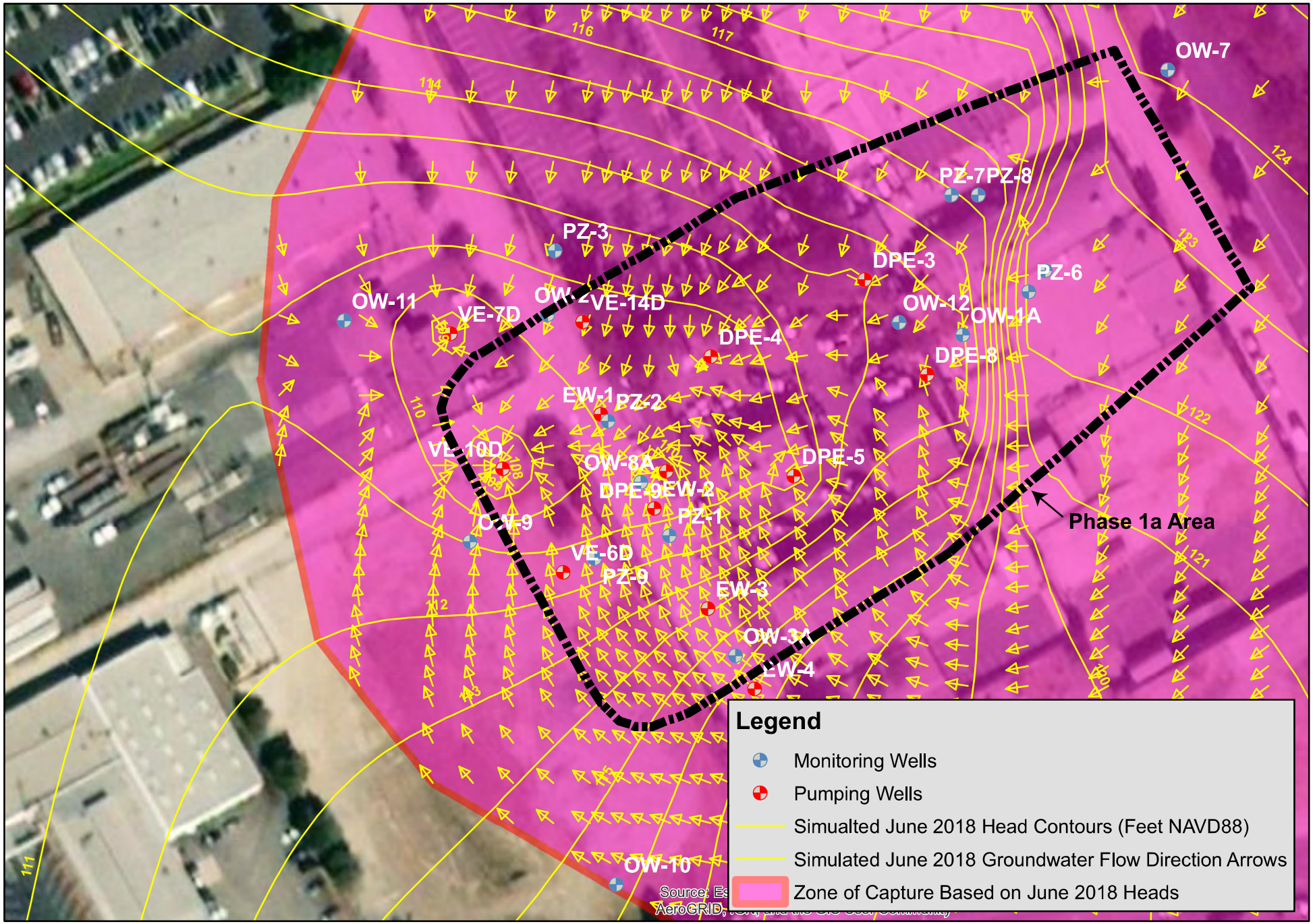


CDM Smith

0 25 50 100 Feet

N

Figure 29 - Simulated Flow Direction Arrows and Head Contours
February 2018 Conditions
Omega Chemical Facility
Capture Zone Model

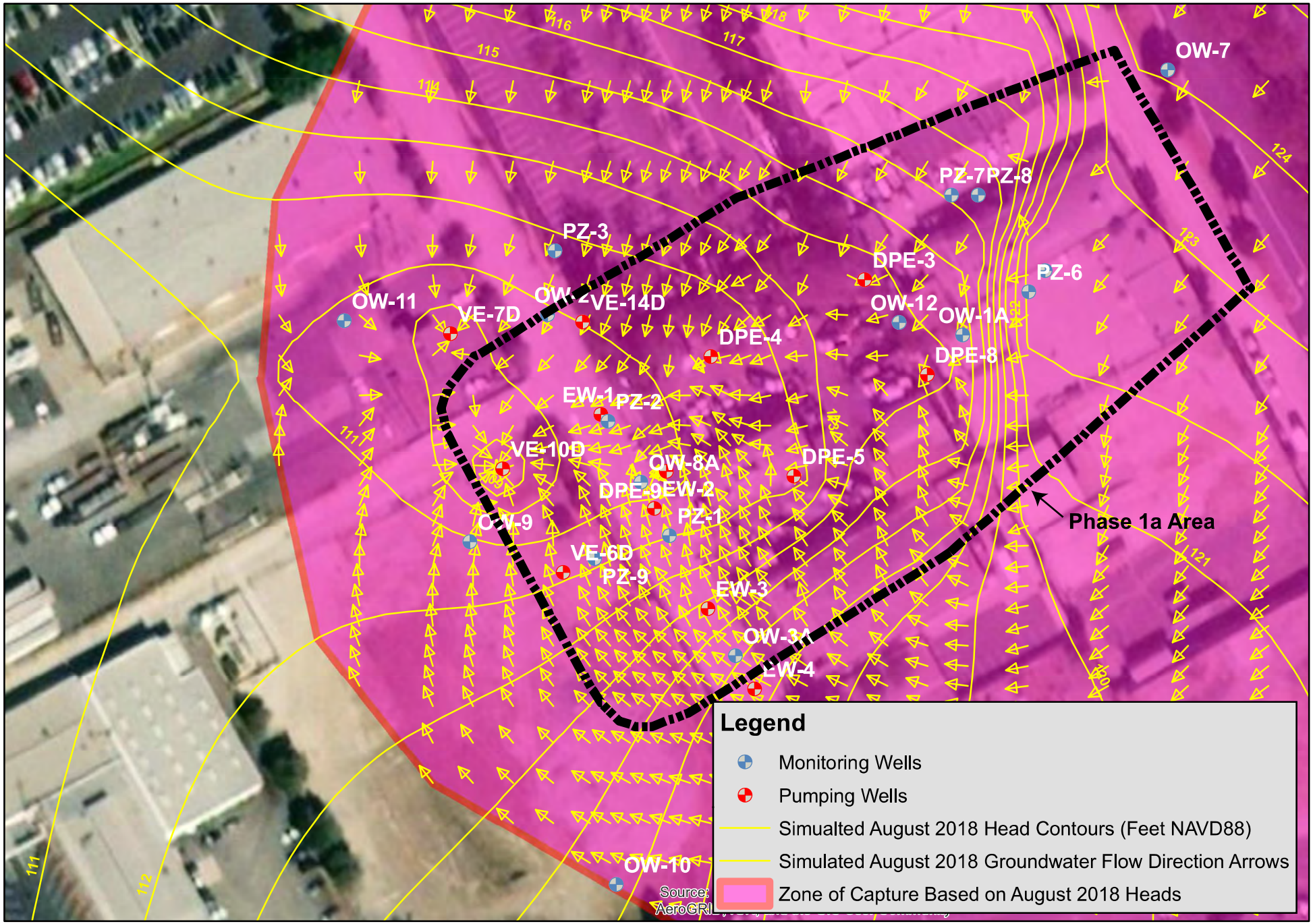


CDM Smith

0 25 50 100 Feet

N

Figure 30 - Simulated Flow Direction Arrows and Head Contours
June 2018 Conditions
Omega Chemical Facility
Capture Zone Model



CDM Smith

0 25 50 100 Feet

N

Figure 31 - Simulated Flow Direction Arrows and Head Contours
August 2018 Conditions
Omega Chemical Facility
Capture Zone Model

CDM Smith

0 25 50 100 Feet

N

Figure 32 - Simulated Head Contours with Residuals
February 2018 Conditions
Omega Chemical Facility
Capture Zone Model

Attachment G

Annual Operational Data Summaries

Attachment G, Table G-1
Hydraulic Containment Extraction Well Operational Summary
OU-1 Groundwater Containment Remedy, Omega Chemical Superfund Site
October 2017 - September 2018

		Pump Runtime (hrs)	Total Volume Extracted (gal)	Operational Flow Rate[1] (gpm)	Average Flow Rate[2] (gpm)	Mass Removed (lbs)
EW-1	October 2017	0	0	0	0	
	November 2017	0	0	0	0	
	December 2017	0	0	0	0	
	January 2018	0	0	0	0	
	February 2018	0[3]	0	0	0	
	March 2018	0.01	0.33	0.56	0.00001	
	April 2018	0	0	0	0	
	May 2018	0	0	0	0	
	June 2018	0	0	0	0	
	July 2018	0	0	0	0	
	August 2018	0[3]	0	0	0	
	September 2018	0	0	0	0	
	Annual	0.01	0.33	0.05	0.000001	NA
EW-2	October 2017	0	0	0	0	
	November 2017	0	0	0	0	
	December 2017	0	0	0	0	
	January 2018	0	0	0	0	
	February 2018	0[3]	0	0	0	
	March 2018	0[3]	0	0	0	
	April 2018	0	0	0	0	
	May 2018	0	0	0	0	
	June 2018	0	0	0	0	
	July 2018	0	0	0	0	
	August 2018	0[3]	0	0	0	
	September 2018	0	0	0	0	
	Annual	0	0	0	0	NA

Attachment G, Table G-1
Hydraulic Containment Extraction Well Operational Summary
OU-1 Groundwater Containment Remedy, Omega Chemical Superfund Site
October 2017 - September 2018

		Pump Runtime (hrs)	Total Volume Extracted (gal)	Operational Flow Rate[1] (gpm)	Average Flow Rate[2] (gpm)	Mass Removed (lbs)
EW-3	October 2017	0[3]	0	0	0	
	November 2017	0	0	0	0	
	December 2017	0	0	0	0	
	January 2018	0	0	0	0	
	February 2018	9.52	1,307	2.29	0.03	
	March 2018	39.4	6,192	2.62	0.14	
	April 2018	13.3	2147	2.70	0.05	
	May 2018	32.4	5,539	2.85	0.12	
	June 2018	2.18	355	2.72	0.01	
	July 2018	0.06	7.92	2.20	0.0002	
	August 2018	0.03	1.14	0.63	0.00003	
	September 2018	0.02	1.14	0.95	0.00003	
	Annual	96.8	15,551	1.41	0.03	0.01
EW-4	October 2017	1.53	604	6.57	0.01	
	November 2017	1.59	618	6.47	0.01	
	December 2017	3.05	821	4.49	0.02	
	January 2018	8.15	745	1.52	0.02	
	February 2018	80.1	2,570	0.54	0.06	
	March 2018	159	7,346	0.77	0.16	
	April 2018	45.6	3,581	1.31	0.08	
	May 2018	110	5,834	0.88	0.13	
	June 2018	11.5	1,854	2.69	0.04	
	July 2018	9.80	1,663	2.83	0.04	
	August 2018	12.4	1,340	1.80	0.03	
	September 2018	5.04	1,044	3.45	0.02	
	Annual	448	28,020	2.78	0.05	0.01

Attachment G, Table G-1
Hydraulic Containment Extraction Well Operational Summary
OU-1 Groundwater Containment Remedy, Omega Chemical Superfund Site
October 2017 - September 2018

		Pump Runtime (hrs)	Total Volume Extracted (gal)	Operational Flow Rate[1] (gpm)	Average Flow Rate[2] (gpm)	Mass Removed (lbs)
EW-5	October 2017	9.86	2,842	4.80	0.06	
	November 2017	10.4	2,862	4.59	0.07	
	December 2017	18.2	5,256	4.82	0.12	
	January 2018	14.7	4,218	4.80	0.09	
	February 2018	24.8	7,204	4.84	0.18	
	March 2018	44.0	13,083	4.95	0.29	
	April 2018	20.2	5,956	4.92	0.14	
	May 2018	38.7	11,811	5.09	0.26	
	June 2018	14.2	4,215	4.94	0.10	
	July 2018	11.9	3,538	4.96	0.08	
	August 2018	11.4	3,278	4.80	0.07	
	September 2018	9.88	2,929	4.94	0.07	
	Annual	228	67,192	4.87	0.13	0.04

Notes:

1. Operational flow rate calculated from total gallons processed in the month and hours the pump actually operated in the month.

2. Average flow rate is calculated from total gallons processed in the month and total hours in the month, regardless of pump uptime.

3. Hour meter indicated the pump motor experienced short and intermittent periods of being energized, but the pump itself did not discharge.

All extraction wells operate on/off based on water levels measured by pressure transducers installed in each well.

NA = no analytical data available, no mass calculation performed

hrs = hours

gal = gallons

gpm = gallons per minute

Attachment G, Table G-2
Vapor Phase GAC Operational Data Demonstrating Substantive Compliance with SCAQMD Regulations
October 2017 - September 2018

SCAQMD Limit		1000	145			3.6		
HRA Changeout Criteria					12[3]		90[3]	
Date	Influent Vapor Relative Humidity (%)	Influent Vapor Flow Rate (SCFM)	Influent Vapor Temperature (°F)	Influent PID Measurement (ppmv)	Intermediate PID Measurement (ppmv)	Effluent PID Measurement (ppmv)	Lead VGAC Efficiency[1] (%)	Overall VGAC Efficiency[2] (%)
10/5/2017	17.1	682	102.8	0.545	0.073	0.000	87	100
10/11/2017	17.0	683	104.7	2.101	1.154	0.897	45	57
10/18/2017	15.8	677	103.5	0.000	0.000	0.000	100	100
10/25/2017	15.7	693	115.2	1.405	0.646	0.375	54	73
11/1/2017	15.2	676	102.2	0.259	0.000	0.000	100	100
11/8/2017	15.2	682	104.1	1.064	0.218	0.000	80	100
11/15/2017	15.5	675	102.5	0.000	0.000	0.000	100	100
11/21/2017	15.3	679	104.4	1.158	0.000	0.000	100	100
11/28/2017	15.7	670	100.3	0.515	0.000	0.000	100	100
12/6/2017	15.7	672	98.6	0.000	0.000	0.000	100	100
12/13/2017	15.1	678	99.5	0.000	0.000	0.000	100	100
12/20/2017	15.7	697	95.3	0.000	0.000	0.000	100	100
12/27/2017	15.7	678	99.7	1.868	0.000	0.000	100	100
1/3/2018	15.4	683	101.6	0.000	0.000	0.000	100	100
1/10/2018	15.9	679	98.4	0.141	0.000	0.101	100	28
1/17/2018	15.3	675	98.0	0.000	0.000	0.000	100	100
1/23/2018	15.8	680	97.4	0.587	0.000	0.000	100	100
1/31/2018	15.7	680	99.1	1.461	0.000	0.000	100	100

Attachment G, Table G-2
Vapor Phase GAC Operational Data Demonstrating Substantive Compliance with SCAQMD Regulations
October 2017 - September 2018

SCAQMD Limit		1000	145			3.6		
HRA Changeout Criteria					12[3]		90[3]	
Date	Influent Vapor Relative Humidity (%)	Influent Vapor Flow Rate (SCFM)	Influent Vapor Temperature (°F)	Influent PID Measurement (ppmv)	Intermediate PID Measurement (ppmv)	Effluent PID Measurement (ppmv)	Lead VGAC Efficiency[1] (%)	Overall VGAC Efficiency[2] (%)
2/7/2018	15.3	684	102.2	1.431	0.105	0.073	93	95
2/14/2018	15.5	689	96.2	0.000	0.000	0.000	100	100
2/21/2018	15.6	683	94.7	0.863	0.000	0.000	100	100
2/28/2018	16.0	681	95.3	1.470	0.000	0.000	100	100
3/6/2018	15.8	696	100.5	0.000	0.000	0.000	100	100
3/14/2018	16.0	681	95.6	0.860	0.021	0.051	98	94
3/21/2018	15.8	683	99.1	0.000	0.000	0.000	100	100
3/28/2018	15.6	678	95.3	0.434	0.000	0.000	100	100
4/4/2018	15.4	675	95.9	0.471	0.000	0.000	100	100
4/11/2018	15.5	696	102.6	1.355	0.235	0.005	83	100
4/18/2018	15.2	682	99.5	1.248	0.067	0.015	95	99
4/24/2018	15.4	689	99.0	0.452	0.000	0.000	100	100
5/2/2018	15.2	683	96.9	0.617	0.031	0.000	95	100
5/9/2018	15.5	688	100.6	0.752	0.187	0.148	75	80
5/15/2018	15.6	687	100.0	0.556	0.000	0.000	100	100
5/23/2018	15.5	685	98.9	0.639	0.036	0.000	94	100
5/30/2018	15.6	681	99.9	0.426	0.024	0.000	94	100

Attachment G, Table G-2
Vapor Phase GAC Operational Data Demonstrating Substantive Compliance with SCAQMD Regulations
October 2017 - September 2018

SCAQMD Limit		1000	145			3.6		
HRA Changeout Criteria					12[3]		90[3]	
Date	Influent Vapor Relative Humidity (%)	Influent Vapor Flow Rate (SCFM)	Influent Vapor Temperature (°F)	Influent PID Measurement (ppmv)	Intermediate PID Measurement (ppmv)	Effluent PID Measurement (ppmv)	Lead VGAC Efficiency[1] (%)	Overall VGAC Efficiency[2] (%)
6/5/2018	15.5	678	100.1	0.495	0.065	0.000	87	100
6/13/2018	16.0	681	105.5	1.101	0.144	0.000	87	100
6/21/2018	15.9	685	103.2	0.861	0.571	0.185	34	79
6/27/2018	15.8	685	101.5	1.193	0.134	0.000	89	100
7/3/2018	15.6	694	102.9	0.595	0.208	0.149	65	75
7/11/2018	16.0	694	108.6	0.862	0.692	0.311	20	64
7/18/2018	16.1	691	108.0	0.427	0.229	0.102	46	76
7/25/2018	15.8	693	110.9	1.597	0.848	0.404	47	75
8/1/2018	15.4	684	107.6	0.949	0.489	0.241	48	75
8/7/2018	15.9	689	108.2	0.942	0.568	0.090	40	90
8/15/2018	15.3	690	109.8	1.046	0.628	0.222	40	79
8/22/2018	15.5	672	106.5	0.594	0.175	0.022	71	96
8/29/2018	15.5	693	109.2	1.063	0.173	0.111	84	90
9/4/2018	15.4	692	105.4	1.235	0.579	0.356	53	71
9/12/2018	15.6	684	105.1	0.854	0.424	0.075	50	91
9/19/2018	15.5	686	105.7	0.339	0.139	0.000	59	100
9/26/2018	15.5	697	102.6	0.478	0.118	0.003	75	99
Annual	**15.6**	**684**	**101.9**	**0.717**	**0.173**	**0.076**	**76**	**89**
Compliance with SCAQMD Limits?		**YES**	**YES**			**YES**		
Carbon changeout required this year?					**NO**		**NO**	

Notes:

°F = degrees Fahrenheight
SCFM = Standard Cubic Feet per Minute
PID = photoionization detector

VGAC = vapor phase granular activated carbon
GAC = granular activated carbon
ppmv = parts per million by volume as hexane
SCAQMD HRA = South Coast Air Quality Management District Health Risk Assessment

1. Lead VGAC efficiency is calculated by the PID readings between the influent and intermediate.
2. Overall VGAC efficiency is calculated by the PID readings between the influent and effluent.
3. These limits by the SCAQMD Health Risk Assessment are for determining when a carbon changeout is required. **BOTH** limits for intermediate PID concentration and the lead VGAC efficiency must be exceeded during the same sampling event for the changeout requirement to take effect.

From: "Reed, Alesandra F." <reedaf@cdmsmith.com>
To: "'jdinello@demaximis.com'" <jdinello@demaximis.com>, Coons Merry <mcoons@demaximis.com>
CC: "Bamer, Jeffrey" <BamerJT@cdmsmith.com>, Ed Modiano <edm@demaximis.com>, King Kyle <kking@demaximis.com>
Date: 8/2/2018 1:07 PM
Subject: Omega GWCS - July GAC Performance Assessment
Attachments: Omega OU-1 GWCS GAC Changeout Assessment_July 2018.xlsx

Team,

We evaluated the performance of the GAC used by the GWCS for the month of July 2018, relative to the conditions listed in the Health Risk Assessment (HRA) (CDM Smith 2015). These conditions must be met to remain in substantive compliance with SCAQMD requirements.

During the month of July, the GWCS system met the conditions presented in the HRA and was therefore substantively compliant (see table below):

- None of the toxic air contaminants listed in Condition #14 of the HRA were detected in the effluent above their respective effluent limit.
- The GWCS did not meet the two criteria for replacement of the lead GAC vessel (listed under Condition #12 of the HRA), and therefore no GAC replacement was required.
- No other carcinogenic air contaminants beyond those listed in Condition #14 of the HRA were detected in effluent above 10 ppbv, and therefore per Condition #16, no toxic risk assessment was required.

We also evaluated all the analytical and PID data and, based on our professional judgement, we do not recommend a voluntary changeout of the lead vessel GAC at this time.

GWCS GAC Assessment - Based on Samples Collected July 3, 2018					
	Concentration (ppbv)				
Parameter	Influent	Midpoint	Effluent	HRA Effluent Limit	Substantively Compliant?
1,1,1-Trichloroethane (TCA)	1.2	1.2	1.2	3	Yes
1,1-Dichloroethane	1.2	1.2	1.2	18	Yes
1,1-Dichloroethene	18	25	20	140	Yes
1,2-Dichloroethane	1.4	1.9	1.2	12	Yes
Benzene	1.2	1.2	1.2	12	Yes
Carbon disulfide	4.8	4.7	4.9	690	Yes
Chloroform	5.6	7	5.1	95	Yes
Freon 11	6.6	8.3	9.1	4,200	Yes
Freon 113	22	26	25	510	Yes
Freon 12	1.2	1.2	1.2	249	Yes
Isopropyl Alcohol (Isopropanol)	44	4.7	4.9	29	Yes
o-Xylene	1.2	1.2	1.2	3	Yes
Methyl ethyl ketone	4.8	4.7	4.9	24	Yes
Methylene chloride	12	12	12	6,900	Yes
Tetrachloroethene (PCE)	81	1.2	1.2	28	Yes
TNMOC ref. to Heptane (MW=100)	300	77	73	4177	Yes
Toluene	1.2	1.2	1.2	42	Yes
Trichloroethene (TCE)	12	1.2	1.2	12	Yes
Vinyl chloride	1.2	1.2	1.2	230	Yes

Please let us know if you have any questions or wish to discuss these data further.

Thanks!
Alesandra

Alesandra Reed, P.E.
Environmental Engineer
CDM Smith
555 17th St. #500
Denver, CO 80202
Mobile: (352) 222-2583
Office: (303) 383-2475

From: "Reed, Alesandra F." <reedaf@cdmsmith.com>
To: "'jdinello@demaximis.com'" <jdinello@demaximis.com>, Coons Merry <mcoons@demaximis.com>
CC: Modiano Ed <edm@demaximis.com>, King Kyle <kking@demaximis.com>, "Bamer,Jeffrey" <BamerJT@cdmsmith.com>
Date: 8/30/2018 1:04 PM
Subject: Omega GWCS - August GAC Assessment
Attachments: Omega OU-1 GWCS GAC Changeout Assessment_Aug 2018.xlsx

Team,

We evaluated the performance of the GAC used by the GWCS for the month of August 2018, relative to the conditions listed in the Health Risk Assessment (HRA) (CDM Smith 2015). These conditions must be met to remain in substantive compliance with SCAQMD requirements.

So far during the month of August, the GWCS system has met the conditions presented in the HRA and is therefore substantively compliant:

- None of the toxic air contaminants listed in Condition #14 of the HRA were detected in the effluent above their respective effluent limit (see table below).
- The GWCS did not meet the two criteria for replacement of the lead GAC vessel (listed under Condition #12 of the HRA), and therefore no GAC replacement was required.
- No other carcinogenic air contaminants beyond those listed in Condition #14 of the HRA were detected in effluent above 10 ppbv, and therefore per Condition #16, no toxic risk assessment was required.

We also evaluated all the analytical and PID data and, based on our professional judgement, we do not recommend a voluntary changeout of the lead vessel GAC at this time.

GWCS GAC Assessment - Based on Samples Collected August 7, 2018					
	Concentration (ppbv)				
Parameter	**Influent**	**Midpoint**	**Effluent**	**HRA Effluent Limit**	**Below 2015 HRA Limit?**
1,1,1-Trichloroethane (TCA)	1.2	1.1	1.2	3	Yes
1,1-Dichloroethane	1.2	1.1	1.2	18	Yes
1,1-Dichloroethene	20	28	25	140	Yes
1,2-Dichloroethane	1.2	1.9	1.2	12	Yes
Benzene	1.2	1.1	3.1	12	Yes
Carbon disulfide	4.9	4.5	4.7	690	Yes
Chloroform	5.2	7.7	5.1	95	Yes
Freon 11	6.3	7.4	8.2	4,200	Yes
Freon 113	20	28	22	510	Yes
Freon 12	1.2	1.1	1.2	249	Yes
Isopropyl Alcohol (Isopropanol)	4.9	4.5	4.7	29	Yes
o-Xylene	1.2	1.1	1.2	3	Yes
Methyl ethyl ketone	4.9	4.5	4.8	24	Yes
Methylene chloride	12	11	12	6,900	Yes
Tetrachloroethene (PCE)	73	1.1	1.2	28	Yes
TNMOC ref. to Heptane (MW=100)	220	100	200	4177	Yes
Toluene	1.2	1.1	1.2	42	Yes
Trichloroethene (TCE)	10	1.1	1.2	12	Yes
Vinyl chloride	1.2	1.1	1.2	230	Yes

Please let us know if you have any questions or wish to discuss these data further.

Thanks!
Alesandra

From: "Reed, Alesandra F." <reedaf@cdmsmith.com>
To: "'jdinello@demaximis.com'" <jdinello@demaximis.com>, Coons Merry <mcoons@demaximis.com>
CC: Kyle King <kking@demaximis.com>, "Bamer, Jeffrey" <BamerJT@cdmsmith.com>, Modiano Ed <edm@demaximis.com>
Date: 9/21/2018 5:37 PM
Subject: Omega GWCS - September GAC Assessment
Attachments: Omega OU-1 GWCS GAC Changeout Assessment_Sep 2018.xlsx

Team,

We evaluated the performance of the GAC used by the GWCS for the month of September 2018, relative to the conditions listed in the Health Risk Assessment (HRA) (CDM Smith 2015). These conditions must be met to remain in substantive compliance with SCAQMD requirements.

So far during the month of September, the GWCS system has met the conditions presented in the HRA and is therefore substantively compliant:

- None of the toxic air contaminants listed in Condition #14 of the HRA were detected in the effluent above their respective effluent limit (see table below).
- The GWCS did not meet the two criteria for replacement of the lead GAC vessel (listed under Condition #12 of the HRA), and therefore no GAC replacement was required.
- No other carcinogenic air contaminants beyond those listed in Condition #14 of the HRA were detected in effluent above 10 ppbv, and therefore per Condition #16, no toxic risk assessment was required.

We also evaluated all the analytical and PID data and, based on our professional judgement, we do not recommend a voluntary changeout of the lead vessel GAC at this time.

GWCS GAC Assessment - Based on Samples Collected September 4, 2018					
	Concentration (ppbv)				
Parameter	Influent	Midpoint	Effluent	HRA Effluent Limit	Below 2015 HRA Limit?
1,1,1-Trichloroethane (TCA)	1.2	1.2	1.2	3	Yes
1,1-Dichloroethane	1.2	1.2	1.2	18	Yes
1,1-Dichloroethene	19	23	26	140	Yes
1,2-Dichloroethane	1.4	2.3	1.2	12	Yes
Benzene	1.2	1.2	1.2	12	Yes
Carbon disulfide	4.7	4.8	4.7	690	Yes
Chloroform	5.3	7.4	5.3	95	Yes
Freon 11	7.5	7	8.8	4,200	Yes
Freon 113	21	28	25	510	Yes
Freon 12	1.2	1.2	1.2	249	Yes
Isopropyl Alcohol (Isopropanol)	4.7	4.8	4.7	29	Yes
o-Xylene	1.2	1.2	1.2	3	Yes
Methyl ethyl ketone	4.7	4.8	4.8	24	Yes
Methylene chloride	12	12	12	6,900	Yes
Tetrachloroethene (PCE)	68	1.2	1.2	28	Yes
TNMOC ref. to Heptane (MW=100)	230	140	190	4177	Yes
Toluene	1.2	1.2	7.9	42	Yes
Trichloroethene (TCE)	11	1.2	1.2	12	Yes
Vinyl chloride	1.2	1.2	1.2	230	Yes

Please let us know if you have any questions or wish to discuss these data further.

Thanks!
Alesandra

Alesandra Reed, PE
Environmental Engineer
CDM Smith
555 17th Street, Suite 500, Denver, CO 80202
(cell) 352.222.2583, (office) 303.383.2475

Attachment H

Third Quarter Sanitation Districts of Los Angeles County

Industrial Wastewater Self-Monitoring Report

OMEGA CHEMICAL SITE PRP ORGANIZED GROUP
1322 Scott Street, Suite 104
San Diego, Ca 92106
(619) 546-8377
(619) 546-9980 FAX
e-mail: edm@demaximis.com

October 9, 2018

Ms. Grace Robinson Hyde
Chief Engineer and General Manager
County Sanitation Districts of Los Angeles County
1955 Workman Mill Road
Whittier, CA 90601-1400

Subject: Self-Monitoring Report -2nd Quarter 2018
Permit Number 20039, Surcharge Account Number 2113183

Dear Ms. Grace Robinson Hyde,

This letter transmits the 3rd Quarter 2018 Self-Monitoring Report (SMR) for the Omega Chemical Site located at 12520 East Whittier Blvd, Whittier, California. Feel free to contact me if you need any additional information.

Sincerely,

Omega Chemical Site PRP Organized Group

Edward Modiano
Project Coordinator

SANITATION DISTRICTS OF LOS ANGELES COUNTY

GRACE ROBINSON HYDE
CHIEF ENGINEER
AND GENERAL MANAGER

For information, please call Loretta Benites
(562) 699-7411 Ext. 2927

Permit Number: 20039
Facility ID: 2113183

INDUSTRIAL WASTEWATER SELF MONITORING REPORT

Reporting Period From: 07/01/2018 To: 09/30/2018 Report Due No Later Than : 10/15/2018

Company Name: **Omega Chemical Site PRP Group LLC**
Wastewater Discharge Address: **12520 WHITTIER Blvd Whittier, CA, 90602**
Sample Location: **20039A**
Mailing Address: **1322 Scott Street # 104 San Diego, CA, 92106**
Industrial Wastewater Contact Name and Phone Number: **Mr. Ravi Subramanian** **949-752-5452 x277 - Business**

Has Ownership or Occupancy Changed Since the Last Report? ☐ Yes ☑ No

(Print) Name of Company Collecting Wastewater Sample: Test America

(Print) Sample Date: 8/17/18

Daily Wastewater Discharge for Reporting Period
Average: 7,308 GPD
Maximum: 8,171 GPD

Method For Determining Wastewater Flow for Sampling Day
☑ Direct Measurement
☐ Adjusted Metered Water Supply
☐ No Discharge During Reporting Period

Type of Composite Sample
☑ Time Composite
☐ Flow Proportioned Composite

Comments:

Parameter (1)	Sample Method (2)	Permit Limit (3)	Test Results (4)	Reporting Limit (5)	Unit (6)	Lab ID Code (7)
Z02 Sample Day Peak Flow			22		gpm	10256
Z01 Sample Day Total Flow			7,590		GPD	10256
101 pH	GRAB	Federal Daily Minimum 5.0 S.U. Local Daily Minimum 6.0 S.U.	8.8		S.U.	10256
151 Solids, Suspended	COMPOSITE		2.5		mg/L	10256
252 Sulfide, Soluble	GRAB	Local At Any Time 0.1 mg/L	ND	0.05	mg/L	10256
403 COD, Total	COMPOSITE		33		mg/L	10256
696 1,4-Dioxane	GRAB		10		ug/L	10256
T09 TTO, Volatile	GRAB	Local At Any Time 1000 ug/L	LACSD calculates this value.		ug/L	10256
601 Methylene Chloride	GRAB		ND	5	ug/L	10256
602 Chloroform	GRAB		ND	1	ug/L	10256
603 1,1,1-Trichloroethane	GRAB		ND	1	ug/L	10256
604 Carbon Tetrachloride	GRAB		ND	0.5	ug/L	10256
605 1,1-Dichloroethene	GRAB		ND	1	ug/L	10256
606 Trichloroethylene	GRAB		ND	1	ug/L	10256
607 Tetrachloroethylene	GRAB		ND	1	ug/L	10256
608 Bromodichloromethane	GRAB		ND	1	ug/L	10256
609 Dibromochloromethane	GRAB		ND	1	ug/L	10256
610 Bromoform	GRAB		ND	1	ug/L	10256
611 Chlorobenzene	GRAB		ND	1	ug/L	10256
612 Vinyl Chloride	GRAB		ND	0.5	ug/L	10256
613 o-Dichlorobenzene	GRAB		ND	1	ug/L	10256
614 m-Dichlorobenzene	GRAB		ND	1	ug/L	10256

Please submit this report to: Sanitation Districts of Los Angeles County - Industrial Waste Section P.O. Box 4998 Whittier, CA 90607-4998

INDUSTRIAL WASTEWATER SELF MONITORING REPORT

Report due no later than : 10/15/2018

Permit Number: 20039

Facility ID: 2113183

Company Name: **Omega Chemical Site PRP Group LLC**

Sample Location: **20039A** Reporting Period From: **07/01/2018** To: **09/30/2018**

Parameter (1)	Sample Method (2)	Permit Limit (3)	Test Results (4)	Reporting Limit (5)	Unit (6)	Lab ID Code (7)
615 p-Dichlorobenzene	GRAB		ND	1	ug/L	10256
616 1,1-Dichloroethane	GRAB		ND	1	ug/L	10256
618 1,1,2-Trichloroethane	GRAB		ND	1	ug/L	10256
619 1,2-Dichloroethane	GRAB		ND	1	ug/L	10256
620 Benzene	GRAB		ND	0.5	ug/L	10256
621 Toluene	GRAB		ND	1	ug/L	10256
624 Ethyl Benzene	GRAB		ND	1	ug/L	10256
645 trans-1,2-Dichloroethylene	GRAB		ND	1	ug/L	10256
646 Bromomethane	GRAB		ND	1	ug/L	10256
647 Chloroethane	GRAB		ND	1	ug/L	10256
648 2-Chloroethylvinylether	GRAB		ND	2	ug/L	10256
649 Chloromethane	GRAB		ND	1	ug/L	10256
650 1,2-Dichloropropane	GRAB		ND	1	ug/L	10256
651 cis-1,3-Dichloropropene	GRAB		ND	0.5	ug/L	10256
652 trans-1,3-Dichloropropene	GRAB		ND	0.5	ug/L	10256
653 1,1,2,2-Tetrachloroethane	GRAB		ND	1	ug/L	10256
T10 TTO, Semi-Volatile	GRAB	Local At Any Time 1000 ug/L	LACSD calculates this value.		ug/L	
800 Acenaphthene	GRAB		ND	11	ug/L	10256
801 Acenaphthylene	GRAB		ND	11	ug/L	10256
802 Anthracene	GRAB		ND	11	ug/L	10256
803 Benzidine	GRAB		ND	44	ug/L	10256
804 Benzo(a)anthracene	GRAB		ND	11	ug/L	10256
805 Benzo(a)pyrene	GRAB		ND	11	ug/L	10256
806 Benzo(b)fluoranthene	GRAB		ND	11	ug/L	10256
807 Benzo(g.h.i.)perylene	GRAB		ND	11	ug/L	10256
808 Benzo(k)fluoranthene	GRAB		ND	11	ug/L	10256
809 Bis(2-cl-ethoxy)methane	GRAB		ND	11	ug/L	10256
810 Bis(2-chloroethyl)ether	GRAB		ND	11	ug/L	10256
811 Bis(2-cl-isopropyl)ether	GRAB		ND	11	ug/L	10256
812 bis(2-ethylhexyl) Phthalate	GRAB		ND	22	ug/L	10256
813 4-bromophenyl Phenylether	GRAB		ND	11	ug/L	10256
814 butylbenzyl Phthalate	GRAB		ND	22	ug/L	10256
815 2-Chloronaphthalene	GRAB		ND	11	ug/L	10256
816 4-Chlorophenylphenylether	GRAB		ND	11	ug/L	10256
817 Chrysene	GRAB		ND	11	ug/L	10256
818 dibenzo(a,h)Anthracene	GRAB		ND	22	ug/L	10256
822 3,3-Dichlorobenzidine	GRAB		ND	44	ug/L	10256
823 diethyl Phthalate	GRAB		ND	11	ug/L	10256

INDUSTRIAL WASTEWATER SELF MONITORING REPORT

Report due no later than : 10/15/2018

Permit Number: 20039

Facility ID: 2113183

Company Name: **Omega Chemical Site PRP Group LLC**

Sample Location: **20039A** Reporting Period From: **07/01/2018** To: **09/30/2018**

Parameter (1)	Sample Method (2)	Permit Limit (3)	Test Results (4)	Reporting Limit (5)	Unit (6)	Lab ID Code (7)
824 dimethyl Phthalate	GRAB		ND	11	ug/L	10256
825 di-n-butyl Phthalate	GRAB		ND	22	ug/L	10256
826 2,4-Dinitrotoluene	GRAB		ND	11	ug/L	10256
827 2,6-Dinitrotoluene	GRAB		ND	11	ug/L	10256
828 di-n-octyl Phthalate	GRAB		ND	22	ug/L	10256
829 1,2-Diphenylhydrazine	GRAB		ND	22	ug/L	10256
830 Fluoranthene	GRAB		ND	11	ug/L	10256
831 Fluorene	GRAB		ND	11	ug/L	10256
832 Hexachlorobenzene	GRAB		ND	11	ug/L	10256
833 Hexachlorobutadiene	GRAB		ND	11	ug/L	10256
834 Hexachlorocyclopentadiene	GRAB		ND	22	ug/L	10256
835 Hexachloroethane	GRAB		ND	11	ug/L	10256
836 Indeno(1,2,3-c,d)Pyrene	GRAB		ND	22	ug/L	10256
837 Isophorone	GRAB		ND	11	ug/L	10256
838 Naphthalene	GRAB		ND	11	ug/L	10256
839 Nitrobenzene	GRAB		ND	22	ug/L	10256
840 n-Nitrosodimethylamine	GRAB		ND	22	ug/L	10256
841 n-Nitrosodi-n-Propylamine	GRAB		ND	11	ug/L	10256
842 Phenanthrene	GRAB		ND	11	ug/L	10256
843 Pyrene	GRAB		ND	11	ug/L	10256
845 2-Chlorophenol (Organic-BNA)	GRAB		ND	11	ug/L	10256
846 1,2,4-Trichlorobenzene	GRAB		ND	11	ug/L	10256
847 2,4-Dichlorophenol (Organic-BNA)	GRAB		ND	11	ug/L	10256
848 2,4-Dimethylphenol (Organic-BNA)	GRAB		ND	22	ug/L	10256
849 2,4-Dinitrophenol	GRAB		ND	44	ug/L	10256
850 2-methyl-4,6-dinitrophenol	GRAB		ND	22	ug/L	10256
851 2-Nitrophenol	GRAB		ND	11	ug/L	10256
852 4-Nitrophenol	GRAB		ND	11	ug/L	10256
853 4-chloro-3-Methylphenol (Organic-BNA)	GRAB		ND	22	ug/L	10256
854 Pentachlorophenol (Organic-BNA)	GRAB		ND	22	ug/L	10256
855 Phenol	GRAB		ND	11	ug/L	10256
856 2,4,6-Trichlorophenol	GRAB		ND	22	ug/L	10256
857 n-Nitrosodiphenylamine	GRAB		ND	11	ug/L	10256

INDUSTRIAL WASTEWATER SELF MONITORING REPORT

Report due no later than : 10/15/2018

Permit Number: 20039

Facility ID: 2113183

Company Name: **Omega Chemical Site PRP Group LLC**

Sample Location: **20039A** Reporting Period From: **07/01/2018** To: **09/30/2018**

(1) Report the test results from the most recent sample collected within the reporting period and include all laboratory test sheets with the self-monitoring report form.

(2) Test results are valid only if the correct sampling method is observed and the laboratory analysis is performed by a State or Sanitation Districts approved laboratory.

(3) Permit limits are included on this form for convenience. For a full list of all applicable permit limits, refer to your Permit Data Sheet.

(4) Enter "ND" (Non Detect) for any result less than (<) the reporting limit.

(5) If the test result is "ND", enter the reporting limit; otherwise leave blank. The reporting limit can be found in your laboratory test sheet.

(6) Default units are listed. Cross out and write in applicable units if laboratory did not report results with these same units.

(7) Indicate the appropriate laboratory certification I.D. code for each testing parameter.

CERTIFICATION BY PERMITTEE

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Signature of responsible company official: Edward Modiano Date: 10/9/18

Print name of official: Ed Modiano Title: Project Coordinator on Behalf of OPOG

LACSD USE ONLY

Monitoring ID: 558541

Lab Report? ☐ Yes ☐ No Signature? ☐ Yes ☐ No Date Received: _____ Initials: _____

Please submit this report to: Sanitation Districts of Los Angeles County - Industrial Waste Section P.O. Box 4998 Whittier, CA 90607-4998

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.
TestAmerica Irvine
17461 Derian Ave
Suite 100
Irvine, CA 92614-5817
Tel: (949)261-1022

TestAmerica Job ID: 440-218305-1
TestAmerica Sample Delivery Group: Whittier
Client Project/Site: Omega Chemical Wastewater

For:
Jacob & Hefner Associates P.C.
15375 Barranca Parkway, J-101
Irvine, California 92618

Attn: Trent Henderson

Authorized for release by:
8/24/2018 8:27:54 AM

Danielle Roberts, Senior Project Manager
(949)261-1022
danielle.roberts@testamericainc.com

LINKS

Review your project results through TotalAccess

Have a Question? Ask The Expert

Visit us at: www.testamericainc.com

The test results in this report meet all 2003 NELAC and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

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Sample Summary

Client: Jacob & Hefner Associates P.C.
Project/Site: Omega Chemical Wastewater

TestAmerica Job ID: 440-218305-1
SDG: Whittier

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
440-218305-1	Composite	Water	08/17/18 11:00	08/17/18 14:40
440-218305-2	Grab	Water	08/17/18 11:15	08/17/18 14:40

Job ID: 440-218305-1

Laboratory: TestAmerica Irvine

Narrative

Job Narrative
440-218305-1

Comments
No additional comments.

Receipt
The samples were received on 8/17/2018 2:40 PM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 4.7° C.

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

GC/MS Semi VOA
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Field Service / Mobile Lab
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

General Chemistry
Method(s) SM 4500 S2 D: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 440-494567 and analytical batch 440-494592 were outside control limits. Sample matrix interference is suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

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

Organic Prep
Method(s) 3520C: Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD) associated with preparation batch 440-494334. 3520C_8270-SIM 1,4 Dioxane.

Method(s) 3520C: Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD) associated with 3520C_8270C-REGpreparation batch 440-494434.

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

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

Detection Summary

Client: Jacob & Hefner Associates P.C.
Project/Site: Omega Chemical Wastewater

TestAmerica Job ID: 440-218305-1
SDG: Whittier

Client Sample ID: Composite — Lab Sample ID: 440-218305-1

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Total Suspended Solids	2.5		1.0	mg/L	1		SM 2540D	Total/NA
Chemical Oxygen Demand	33		20	mg/L	1		SM 5220D	Total/NA

Client Sample ID: Grab — Lab Sample ID: 440-218305-2

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
1,4-Dioxane	10		0.53	ug/L	1		8270C SIM	Total/NA
pH	8.8	HF	0.1	SU	1		SM 4500 H+ B	Total/NA
Field pH	8.40			SU	1		Field Sampling	Total/NA
Field Temperature	19.2			Celsius	1		Field Sampling	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample Results

Client: Jacob & Hefner Associates P.C.
Project/Site: Omega Chemical Wastewater

TestAmerica Job ID: 440-218305-1
SDG: Whittier

Client Sample ID: Composite

Lab Sample ID: 440-218305-1

Date Collected: 08/17/18 11:00
Date Received: 08/17/18 14:40

Matrix: Water

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids	2.5		1.0	mg/L			08/21/18 19:58	1
Chemical Oxygen Demand	33		20	mg/L			08/21/18 08:28	1

Client Sample ID: Grab

Lab Sample ID: 440-218305-2

Date Collected: 08/17/18 11:15
Date Received: 08/17/18 14:40

Matrix: Water

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		1.0	ug/L			08/21/18 13:51	1
2-Chloroethyl vinyl ether	ND		2.0	ug/L			08/20/18 14:11	1
1,1,1-Trichloroethane	ND		1.0	ug/L			08/21/18 13:51	1
Acrolein	ND		5.0	ug/L			08/20/18 14:11	1
1,1,2,2-Tetrachloroethane	ND		1.0	ug/L			08/21/18 13:51	1
Acrylonitrile	ND		2.0	ug/L			08/20/18 14:11	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		5.0	ug/L			08/21/18 13:51	1
Total Volatile Organic Compounds	ND		150	ug/L			08/20/18 14:11	1
1,1,2-Trichloroethane	ND		1.0	ug/L			08/21/18 13:51	1
1,1-Dichloroethane	ND		1.0	ug/L			08/21/18 13:51	1
1,1-Dichloroethene	ND		1.0	ug/L			08/21/18 13:51	1
1,1-Dichloropropene	ND		1.0	ug/L			08/21/18 13:51	1
1,2,3-Trichlorobenzene	ND		1.0	ug/L			08/21/18 13:51	1
1,2,3-Trichloropropane	ND		1.0	ug/L			08/21/18 13:51	1
1,2,4-Trichlorobenzene	ND		1.0	ug/L			08/21/18 13:51	1
1,2,4-Trimethylbenzene	ND		1.0	ug/L			08/21/18 13:51	1
1,2-Dibromo-3-Chloropropane	ND		5.0	ug/L			08/21/18 13:51	1
1,2-Dibromoethane (EDB)	ND		1.0	ug/L			08/21/18 13:51	1
1,2-Dichlorobenzene	ND		1.0	ug/L			08/21/18 13:51	1
1,2-Dichloroethane	ND		1.0	ug/L			08/21/18 13:51	1
1,2-Dichloropropane	ND		1.0	ug/L			08/21/18 13:51	1
1,3,5-Trimethylbenzene	ND		1.0	ug/L			08/21/18 13:51	1
1,3-Dichlorobenzene	ND		1.0	ug/L			08/21/18 13:51	1
1,3-Dichloropropane	ND		1.0	ug/L			08/21/18 13:51	1
1,4-Dichlorobenzene	ND		1.0	ug/L			08/21/18 13:51	1
2,2-Dichloropropane	ND		1.0	ug/L			08/21/18 13:51	1
2-Chlorotoluene	ND		1.0	ug/L			08/21/18 13:51	1
4-Chlorotoluene	ND		1.0	ug/L			08/21/18 13:51	1
Acetone	ND		10	ug/L			08/21/18 13:51	1
Benzene	ND		0.50	ug/L			08/21/18 13:51	1
Bromobenzene	ND		1.0	ug/L			08/21/18 13:51	1
Bromochloromethane	ND		1.0	ug/L			08/21/18 13:51	1
Bromodichloromethane	ND		1.0	ug/L			08/21/18 13:51	1
Bromoform	ND		1.0	ug/L			08/21/18 13:51	1
Bromomethane	ND		1.0	ug/L			08/21/18 13:51	1
Carbon tetrachloride	ND		0.50	ug/L			08/21/18 13:51	1
Chlorobenzene	ND		1.0	ug/L			08/21/18 13:51	1
Chloroethane	ND		1.0	ug/L			08/21/18 13:51	1
Chloroform	ND		1.0	ug/L			08/21/18 13:51	1
Chloromethane	ND		1.0	ug/L			08/21/18 13:51	1

Client Sample Results

Client: Jacob & Hefner Associates P.C.
Project/Site: Omega Chemical Wastewater

TestAmerica Job ID: 440-218305-1
SDG: Whittier

Client Sample ID: Grab
Date Collected: 08/17/18 11:15
Date Received: 08/17/18 14:40

Lab Sample ID: 440-218305-2
Matrix: Water

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
cis-1,2-Dichloroethene	ND		1.0	ug/L			08/21/18 13:51	1
cis-1,3-Dichloropropene	ND		0.50	ug/L			08/21/18 13:51	1
Dibromochloromethane	ND		1.0	ug/L			08/21/18 13:51	1
Dibromomethane	ND		1.0	ug/L			08/21/18 13:51	1
Dichlorodifluoromethane	ND		1.0	ug/L			08/21/18 13:51	1
Ethylbenzene	ND		1.0	ug/L			08/21/18 13:51	1
Hexachlorobutadiene	ND		1.0	ug/L			08/21/18 13:51	1
Isopropylbenzene	ND		1.0	ug/L			08/21/18 13:51	1
m,p-Xylene	ND		1.0	ug/L			08/21/18 13:51	1
Methylene Chloride	ND		5.0	ug/L			08/21/18 13:51	1
Methyl-t-Butyl Ether (MTBE)	ND		1.0	ug/L			08/21/18 13:51	1
Naphthalene	ND		1.0	ug/L			08/21/18 13:51	1
n-Butylbenzene	ND		1.0	ug/L			08/21/18 13:51	1
N-Propylbenzene	ND		1.0	ug/L			08/21/18 13:51	1
o-Xylene	ND		1.0	ug/L			08/21/18 13:51	1
p-Isopropyltoluene	ND		1.0	ug/L			08/21/18 13:51	1
sec-Butylbenzene	ND		1.0	ug/L			08/21/18 13:51	1
Styrene	ND		1.0	ug/L			08/21/18 13:51	1
tert-Butylbenzene	ND		1.0	ug/L			08/21/18 13:51	1
Tetrachloroethene	ND		1.0	ug/L			08/21/18 13:51	1
Toluene	ND		1.0	ug/L			08/21/18 13:51	1
trans-1,2-Dichloroethene	ND		1.0	ug/L			08/21/18 13:51	1
trans-1,3-Dichloropropene	ND		0.50	ug/L			08/21/18 13:51	1
Trichloroethene	ND		1.0	ug/L			08/21/18 13:51	1
Trichlorofluoromethane	ND		1.0	ug/L			08/21/18 13:51	1
Vinyl chloride	ND		0.50	ug/L			08/21/18 13:51	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*109*		*70 - 130*		*08/21/18 13:51*	*1*
4-Bromofluorobenzene (Surr)	*105*		*80 - 120*		*08/20/18 14:11*	*1*
4-Bromofluorobenzene (Surr)	*96*		*80 - 120*		*08/21/18 13:51*	*1*
Dibromofluoromethane (Surr)	*91*		*76 - 132*		*08/20/18 14:11*	*1*
Dibromofluoromethane (Surr)	*108*		*76 - 132*		*08/21/18 13:51*	*1*
Toluene-d8 (Surr)	*107*		*80 - 128*		*08/20/18 14:11*	*1*
1,2-Dichloroethane-d4 (Surr)	*92*		*70 - 130*		*08/20/18 14:11*	*1*
Toluene-d8 (Surr)	*106*		*80 - 128*		*08/21/18 13:51*	*1*

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Isopropyl alcohol	ND		250	ug/L			08/22/18 11:33	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*85*		*70 - 130*		*08/22/18 11:33*	*1*
4-Bromofluorobenzene (Surr)	*92*		*80 - 120*		*08/22/18 11:33*	*1*
Dibromofluoromethane (Surr)	*89*		*76 - 132*		*08/22/18 11:33*	*1*
Toluene-d8 (Surr)	*105*		*80 - 128*		*08/22/18 11:33*	*1*

Method: 8270C SIM - 1,4 Dioxane by SIM

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	**10**		0.53	ug/L		08/18/18 09:51	08/20/18 14:39	1

Client Sample Results

Client: Jacob & Hefner Associates P.C.
Project/Site: Omega Chemical Wastewater

TestAmerica Job ID: 440-218305-1
SDG: Whittier

Client Sample ID: Grab

Date Collected: 08/17/18 11:15
Date Received: 08/17/18 14:40

Lab Sample ID: 440-218305-2

Matrix: Water

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,4-Dioxane-d8 (Surr)	38		27 - 120	08/18/18 09:51	08/20/18 14:39	1

Method: 8270C - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4-Trichlorobenzene	ND		11	ug/L		08/20/18 07:20	08/22/18 18:25	1
1,2-Dichlorobenzene	ND		11	ug/L		08/20/18 07:20	08/22/18 18:25	1
1,2-Diphenylhydrazine(as Azobenzene)	ND		22	ug/L		08/20/18 07:20	08/22/18 18:25	1
1,3-Dichlorobenzene	ND		11	ug/L		08/20/18 07:20	08/22/18 18:25	1
1,4-Dichlorobenzene	ND		11	ug/L		08/20/18 07:20	08/22/18 18:25	1
2,4,5-Trichlorophenol	ND		22	ug/L		08/20/18 07:20	08/22/18 18:25	1
2,4,6-Trichlorophenol	ND		22	ug/L		08/20/18 07:20	08/22/18 18:25	1
2,4-Dichlorophenol	ND		11	ug/L		08/20/18 07:20	08/22/18 18:25	1
2,4-Dimethylphenol	ND		22	ug/L		08/20/18 07:20	08/22/18 18:25	1
2,4-Dinitrophenol	ND		44	ug/L		08/20/18 07:20	08/22/18 18:25	1
2,4-Dinitrotoluene	ND		11	ug/L		08/20/18 07:20	08/22/18 18:25	1
2,6-Dinitrotoluene	ND		11	ug/L		08/20/18 07:20	08/22/18 18:25	1
2-Chloronaphthalene	ND		11	ug/L		08/20/18 07:20	08/22/18 18:25	1
2-Chlorophenol	ND		11	ug/L		08/20/18 07:20	08/22/18 18:25	1
2-Methylnaphthalene	ND		11	ug/L		08/20/18 07:20	08/22/18 18:25	1
2-Methylphenol	ND		11	ug/L		08/20/18 07:20	08/22/18 18:25	1
2-Nitroaniline	ND		22	ug/L		08/20/18 07:20	08/22/18 18:25	1
2-Nitrophenol	ND		11	ug/L		08/20/18 07:20	08/22/18 18:25	1
3,3'-Dichlorobenzidine	ND		44	ug/L		08/20/18 07:20	08/22/18 18:25	1
3-Methylphenol + 4-Methylphenol	ND		11	ug/L		08/20/18 07:20	08/22/18 18:25	1
3-Nitroaniline	ND		22	ug/L		08/20/18 07:20	08/22/18 18:25	1
4,6-Dinitro-2-methylphenol	ND		22	ug/L		08/20/18 07:20	08/22/18 18:25	1
4-Bromophenyl phenyl ether	ND		11	ug/L		08/20/18 07:20	08/22/18 18:25	1
4-Chloro-3-methylphenol	ND		22	ug/L		08/20/18 07:20	08/22/18 18:25	1
4-Chloroaniline	ND		11	ug/L		08/20/18 07:20	08/22/18 18:25	1
4-Chlorophenyl phenyl ether	ND		11	ug/L		08/20/18 07:20	08/22/18 18:25	1
4-Nitroaniline	ND		22	ug/L		08/20/18 07:20	08/22/18 18:25	1
4-Nitrophenol	ND		22	ug/L		08/20/18 07:20	08/22/18 18:25	1
Acenaphthene	ND		11	ug/L		08/20/18 07:20	08/22/18 18:25	1
Acenaphthylene	ND		11	ug/L		08/20/18 07:20	08/22/18 18:25	1
Aniline	ND		11	ug/L		08/20/18 07:20	08/22/18 18:25	1
Anthracene	ND		11	ug/L		08/20/18 07:20	08/22/18 18:25	1
Benzidine	ND		44	ug/L		08/20/18 07:20	08/22/18 18:25	1
Benzo[a]anthracene	ND		11	ug/L		08/20/18 07:20	08/22/18 18:25	1
Benzo[a]pyrene	ND		11	ug/L		08/20/18 07:20	08/22/18 18:25	1
Benzo[b]fluoranthene	ND		11	ug/L		08/20/18 07:20	08/22/18 18:25	1
Benzo[g,h,i]perylene	ND		11	ug/L		08/20/18 07:20	08/22/18 18:25	1
Benzo[k]fluoranthene	ND		11	ug/L		08/20/18 07:20	08/22/18 18:25	1
Benzoic acid	ND		22	ug/L		08/20/18 07:20	08/22/18 18:25	1
Benzyl alcohol	ND		22	ug/L		08/20/18 07:20	08/22/18 18:25	1
bis (2-chloroisopropyl) ether	ND		11	ug/L		08/20/18 07:20	08/22/18 18:25	1
Bis(2-chloroethoxy)methane	ND		11	ug/L		08/20/18 07:20	08/22/18 18:25	1
Bis(2-chloroethyl)ether	ND		11	ug/L		08/20/18 07:20	08/22/18 18:25	1
Bis(2-ethylhexyl) phthalate	ND		22	ug/L		08/20/18 07:20	08/22/18 18:25	1
Butyl benzyl phthalate	ND		22	ug/L		08/20/18 07:20	08/22/18 18:25	1

Client Sample Results

Client: Jacob & Hefner Associates P.C.
Project/Site: Omega Chemical Wastewater

TestAmerica Job ID: 440-218305-1
SDG: Whittier

Client Sample ID: Grab

Date Collected: 08/17/18 11:15
Date Received: 08/17/18 14:40

Lab Sample ID: 440-218305-2

Matrix: Water

Method: 8270C - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chrysene	ND		11	ug/L		08/20/18 07:20	08/22/18 18:25	1
Dibenz(a,h)anthracene	ND		22	ug/L		08/20/18 07:20	08/22/18 18:25	1
Dibenzofuran	ND		11	ug/L		08/20/18 07:20	08/22/18 18:25	1
Diethyl phthalate	ND		11	ug/L		08/20/18 07:20	08/22/18 18:25	1
Dimethyl phthalate	ND		11	ug/L		08/20/18 07:20	08/22/18 18:25	1
Di-n-butyl phthalate	ND		22	ug/L		08/20/18 07:20	08/22/18 18:25	1
Di-n-octyl phthalate	ND		22	ug/L		08/20/18 07:20	08/22/18 18:25	1
Fluoranthene	ND		11	ug/L		08/20/18 07:20	08/22/18 18:25	1
Fluorene	ND		11	ug/L		08/20/18 07:20	08/22/18 18:25	1
Hexachlorobenzene	ND		11	ug/L		08/20/18 07:20	08/22/18 18:25	1
Hexachlorobutadiene	ND		11	ug/L		08/20/18 07:20	08/22/18 18:25	1
Hexachlorocyclopentadiene	ND		22	ug/L		08/20/18 07:20	08/22/18 18:25	1
Hexachloroethane	ND		11	ug/L		08/20/18 07:20	08/22/18 18:25	1
Indeno[1,2,3-cd]pyrene	ND		22	ug/L		08/20/18 07:20	08/22/18 18:25	1
Isophorone	ND		11	ug/L		08/20/18 07:20	08/22/18 18:25	1
Naphthalene	ND		11	ug/L		08/20/18 07:20	08/22/18 18:25	1
Nitrobenzene	ND		22	ug/L		08/20/18 07:20	08/22/18 18:25	1
N-Nitrosodimethylamine	ND		22	ug/L		08/20/18 07:20	08/22/18 18:25	1
N-Nitrosodi-n-propylamine	ND		11	ug/L		08/20/18 07:20	08/22/18 18:25	1
N-Nitrosodiphenylamine	ND		11	ug/L		08/20/18 07:20	08/22/18 18:25	1
Pentachlorophenol	ND		22	ug/L		08/20/18 07:20	08/22/18 18:25	1
Phenanthrene	ND		11	ug/L		08/20/18 07:20	08/22/18 18:25	1
Phenol	ND		11	ug/L		08/20/18 07:20	08/22/18 18:25	1
Pyrene	ND		11	ug/L		08/20/18 07:20	08/22/18 18:25	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol (Surr)	*72*		*40 - 120*	*08/20/18 07:20*	*08/22/18 18:25*	*1*
2-Fluorobiphenyl	*69*		*50 - 120*	*08/20/18 07:20*	*08/22/18 18:25*	*1*
2-Fluorophenol (Surr)	*57*		*30 - 120*	*08/20/18 07:20*	*08/22/18 18:25*	*1*
Nitrobenzene-d5 (Surr)	*73*		*45 - 120*	*08/20/18 07:20*	*08/22/18 18:25*	*1*
Phenol-d6 (Surr)	*49*		*35 - 120*	*08/20/18 07:20*	*08/22/18 18:25*	*1*
Terphenyl-d14 (Surr)	*83*		*10 - 150*	*08/20/18 07:20*	*08/22/18 18:25*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
pH	8.8	HF	0.1	SU			08/19/18 14:46	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfide, Dissolved	ND	HF	0.050	mg/L		08/20/18 15:04	08/20/18 16:07	1

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Field pH	8.40			SU			08/17/18 11:15	1
Field Temperature	19.2			Celsius			08/17/18 11:15	1

Surrogate Summary

Client: Jacob & Hefner Associates P.C.
Project/Site: Omega Chemical Wastewater

TestAmerica Job ID: 440-218305-1
SDG: Whittier

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

Matrix: Water — **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)			
		BFB	DBFM	TOL	DCA
Lab Sample ID	**Client Sample ID**	(80-120)	(76-132)	(80-128)	(70-130)
440-218305-2	Grab	105	91	107	92
440-218305-2	Grab	96	108	106	109
440-218305-2 - RA	Grab	92	89	105	85
440-218305-2 MS	Grab	106	91	103	88
440-218305-2 MSD	Grab	107	91	105	91
440-218386-D-1 MS	Matrix Spike	90	112	98	106
440-218386-D-1 MSD	Matrix Spike Duplicate	92	110	102	110
440-218466-A-1 MS	Matrix Spike	90	92	102	79
440-218466-A-1 MSD	Matrix Spike Duplicate	91	88	101	80
LCS 440-494413/5	Lab Control Sample	108	86	107	85
LCS 440-494657/5	Lab Control Sample	93	104	101	101
MB 440-494413/4	Method Blank	106	86	113	83
MB 440-494657/4	Method Blank	95	108	104	109
MB 440-494941/4	Method Blank	93	89	104	83

Surrogate Legend

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

Method: 8270C - Semivolatile Organic Compounds (GC/MS)

Matrix: Water — **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)					
		TBP	FBP	2FP	NBZ	PHL6	TPHL
Lab Sample ID	**Client Sample ID**	(40-120)	(50-120)	(30-120)	(45-120)	(35-120)	(10-150)
440-218305-2	Grab	72	69	57	73	49	83
LCS 440-494434/2-A	Lab Control Sample	70	63	43	63	50	74
LCSD 440-494434/3-A	Lab Control Sample Dup	72	65	52	62	58	76
MB 440-494434/1-A	Method Blank	62	72	54	68	64	82

Surrogate Legend

TBP = 2,4,6-Tribromophenol (Surr)
FBP = 2-Fluorobiphenyl
2FP = 2-Fluorophenol (Surr)
NBZ = Nitrobenzene-d5 (Surr)
PHL6 = Phenol-d6 (Surr)
TPHL = Terphenyl-d14 (Surr)

Method: 8270C SIM - 1,4 Dioxane by SIM

Matrix: Water — **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)
		DXE
Lab Sample ID	**Client Sample ID**	(27-120)
440-218305-2	Grab	38
LCS 440-494334/2-A	Lab Control Sample	62
LCSD 440-494334/3-A	Lab Control Sample Dup	65
MB 440-494334/1-A	Method Blank	67

Surrogate Summary

Client: Jacob & Hefner Associates P.C.
Project/Site: Omega Chemical Wastewater

TestAmerica Job ID: 440-218305-1
SDG: Whittier

Surrogate Legend

DXE = 1,4-Dioxane-d8 (Surr)

Method Summary

Client: Jacob & Hefner Associates P.C.
Project/Site: Omega Chemical Wastewater

TestAmerica Job ID: 440-218305-1
SDG; Whittier

Method	Method Description	Protocol	Laboratory
8260B	Volatile Organic Compounds (GC/MS)	SW846	TAL IRV
8270C	Semivolatile Organic Compounds (GC/MS)	SW846	TAL IRV
8270C SIM	1,4 Dioxane by SIM	SW846	TAL IRV
SM 2540D	Solids, Total Suspended (TSS)	SM	TAL IRV
SM 4500 H+ B	pH	SM	TAL IRV
SM 4500 S2 D	Sulfide, Total	SM	TAL IRV
SM 5220D	COD	SM	TAL IRV
Field Sampling	Field Sampling	EPA	TAL IRV
3520C	Liquid-Liquid Extraction (Continuous)	SW846	TAL IRV
5030B	Purge and Trap	SW846	TAL IRV
SM 4500 S2 B	Sulfide, Separation of Soluble and Insoluble	SM	TAL IRV

Protocol References:

EPA = US Environmental Protection Agency

SM = "Standard Methods For The Examination Of Water And Wastewater"

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL IRV = TestAmerica Irvine, 17461 Derian Ave, Suite 100, Irvine, CA 92614-5817, TEL (949)261-1022

Lab Chronicle

Client: Jacob & Hefner Associates P.C.
Project/Site: Omega Chemical Wastewater

TestAmerica Job ID: 440-218305-1
SDG: Whittier

Client Sample ID: Composite

Lab Sample ID: 440-218305-1
Matrix: Water

Date Collected: 08/17/18 11:00
Date Received: 08/17/18 14:40

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	SM 2540D		1	1000 mL	1000 mL	494894	08/21/18 19:58	KM	TAL IRV
Total/NA	Analysis	SM 5220D		1	2.5 mL	2.5 mL	494701	08/21/18 08:28	KYP	TAL IRV

Client Sample ID: Grab

Lab Sample ID: 440-218305-2
Matrix: Water

Date Collected: 08/17/18 11:15
Date Received: 08/17/18 14:40

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	10 mL	10 mL	494413	08/20/18 14:11	WC	TAL IRV
Total/NA	Analysis	8260B	RA	1	10 mL	10 mL	494941	08/22/18 11:33	RM	TAL IRV
Total/NA	Analysis	8260B		1	10 mL	10 mL	494657	08/21/18 13:51	TCN	TAL IRV
Total/NA	Prep	3520C			915 mL	2.0 mL	494434	08/20/18 07:20	JAA	TAL IRV
Total/NA	Analysis	8270C		1			494995	08/22/18 18:25	HN	TAL IRV
Total/NA	Prep	3520C			945 mL	1.0 mL	494334	08/18/18 09:51	JS1	TAL IRV
Total/NA	Analysis	8270C SIM		1			494451	08/20/18 14:39	HN	TAL IRV
Total/NA	Analysis	SM 4500 H+ B		1			494371	08/19/18 14:46	CMM	TAL IRV
Dissolved	Prep	SM 4500 S2 B			7.5 mL	7.5 mL	494567	08/20/18 15:04	KMY	TAL IRV
Dissolved	Analysis	SM 4500 S2 D		1	7.5 mL	7.5 mL	494592	08/20/18 16:07	KMY	TAL IRV
Total/NA	Analysis	Field Sampling		1			494399	08/17/18 11:15	PS	TAL IRV

Laboratory References:

TAL IRV = TestAmerica Irvine, 17461 Derian Ave, Suite 100, Irvine, CA 92614-5817, TEL (949)261-1022

QC Sample Results

Client: Jacob & Hefner Associates P.C.
Project/Site: Omega Chemical Wastewater

TestAmerica Job ID: 440-218305-1
SDG: Whittier

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

Lab Sample ID: MB 440-494413/4
Matrix: Water
Analysis Batch: 494413

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

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
2-Chloroethyl vinyl ether	ND		2.0	ug/L			08/20/18 08:18	1
Acrolein	ND		5.0	ug/L			08/20/18 08:18	1
Acrylonitrile	ND		2.0	ug/L			08/20/18 08:18	1
Total Volatile Organic Compounds	ND		150	ug/L			08/20/18 08:18	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*106*		*80 - 120*		*08/20/18 08:18*	*1*
Dibromofluoromethane (Surr)	*86*		*76 - 132*		*08/20/18 08:18*	*1*
1,2-Dichloroethane-d4 (Surr)	*83*		*70 - 130*		*08/20/18 08:18*	*1*
Toluene-d8 (Surr)	*113*		*80 - 128*		*08/20/18 08:18*	*1*

Lab Sample ID: LCS 440-494413/5
Matrix: Water
Analysis Batch: 494413

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
2-Chloroethyl vinyl ether	25.0	18.7		ug/L		75	37 - 150
Acrolein	25.0	21.7		ug/L		87	10 - 145
Acrylonitrile	250	238		ug/L		95	48 - 140

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*108*		*80 - 120*
Dibromofluoromethane (Surr)	*86*		*76 - 132*
1,2-Dichloroethane-d4 (Surr)	*85*		*70 - 130*
Toluene-d8 (Surr)	*107*		*80 - 128*

Lab Sample ID: 440-218305-2 MS
Matrix: Water
Analysis Batch: 494413

Client Sample ID: Grab
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
2-Chloroethyl vinyl ether	ND		25.0	16.8		ug/L		67	10 - 140
Acrolein	ND		25.0	10.1		ug/L		40	10 - 147
Acrylonitrile	ND		250	178		ug/L		71	38 - 144

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*106*		*80 - 120*
Dibromofluoromethane (Surr)	*91*		*76 - 132*
1,2-Dichloroethane-d4 (Surr)	*88*		*70 - 130*
Toluene-d8 (Surr)	*103*		*80 - 128*

Lab Sample ID: 440-218305-2 MSD
Matrix: Water
Analysis Batch: 494413

Client Sample ID: Grab
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
2-Chloroethyl vinyl ether	ND		25.0	18.2		ug/L		73	10 - 140	8	35

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

Lab Sample ID: 440-218305-2 MSD
Matrix: Water
Analysis Batch: 494413

Client Sample ID: Grab
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Acrolein	ND		25.0	8.46		ug/L		34	10 - 147	17	40
Acrylonitrile	ND		250	191		ug/L		76	38 - 144	7	40

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*107*		*80 - 120*
Dibromofluoromethane (Surr)	*91*		*76 - 132*
1,2-Dichloroethane-d4 (Surr)	*91*		*70 - 130*
Toluene-d8 (Surr)	*105*		*80 - 128*

Lab Sample ID: MB 440-494657/4
Matrix: Water
Analysis Batch: 494657

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

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		1.0	ug/L			08/21/18 08:09	1
1,1,1-Trichloroethane	ND		1.0	ug/L			08/21/18 08:09	1
1,1,2,2-Tetrachloroethane	ND		1.0	ug/L			08/21/18 08:09	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		5.0	ug/L			08/21/18 08:09	1
1,1,2-Trichloroethane	ND		1.0	ug/L			08/21/18 08:09	1
1,1-Dichloroethane	ND		1.0	ug/L			08/21/18 08:09	1
1,1-Dichloroethene	ND		1.0	ug/L			08/21/18 08:09	1
1,1-Dichloropropene	ND		1.0	ug/L			08/21/18 08:09	1
1,2,3-Trichlorobenzene	ND		1.0	ug/L			08/21/18 08:09	1
1,2,3-Trichloropropane	ND		1.0	ug/L			08/21/18 08:09	1
1,2,4-Trichlorobenzene	ND		1.0	ug/L			08/21/18 08:09	1
1,2,4-Trimethylbenzene	ND		1.0	ug/L			08/21/18 08:09	1
1,2-Dibromo-3-Chloropropane	ND		5.0	ug/L			08/21/18 08:09	1
1,2-Dibromoethane (EDB)	ND		1.0	ug/L			08/21/18 08:09	1
1,2-Dichlorobenzene	ND		1.0	ug/L			08/21/18 08:09	1
1,2-Dichloroethane	ND		1.0	ug/L			08/21/18 08:09	1
1,2-Dichloropropane	ND		1.0	ug/L			08/21/18 08:09	1
1,3,5-Trimethylbenzene	ND		1.0	ug/L			08/21/18 08:09	1
1,3-Dichlorobenzene	ND		1.0	ug/L			08/21/18 08:09	1
1,3-Dichloropropane	ND		1.0	ug/L			08/21/18 08:09	1
1,4-Dichlorobenzene	ND		1.0	ug/L			08/21/18 08:09	1
2,2-Dichloropropane	ND		1.0	ug/L			08/21/18 08:09	1
2-Chlorotoluene	ND		1.0	ug/L			08/21/18 08:09	1
4-Chlorotoluene	ND		1.0	ug/L			08/21/18 08:09	1
Acetone	ND		10	ug/L			08/21/18 08:09	1
Benzene	ND		0.50	ug/L			08/21/18 08:09	1
Bromobenzene	ND		1.0	ug/L			08/21/18 08:09	1
Bromochloromethane	ND		1.0	ug/L			08/21/18 08:09	1
Bromodichloromethane	ND		1.0	ug/L			08/21/18 08:09	1
Bromoform	ND		1.0	ug/L			08/21/18 08:09	1
Bromomethane	ND		1.0	ug/L			08/21/18 08:09	1
Carbon tetrachloride	ND		0.50	ug/L			08/21/18 08:09	1
Chlorobenzene	ND		1.0	ug/L			08/21/18 08:09	1
Chloroethane	ND		1.0	ug/L			08/21/18 08:09	1

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

Lab Sample ID: MB 440-494657/4
Matrix: Water
Analysis Batch: 494657

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

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloroform	ND		1.0	ug/L			08/21/18 08:09	1
Chloromethane	ND		1.0	ug/L			08/21/18 08:09	1
cis-1,2-Dichloroethene	ND		1.0	ug/L			08/21/18 08:09	1
cis-1,3-Dichloropropene	ND		0.50	ug/L			08/21/18 08:09	1
Dibromochloromethane	ND		1.0	ug/L			08/21/18 08:09	1
Dibromomethane	ND		1.0	ug/L			08/21/18 08:09	1
Dichlorodifluoromethane	ND		1.0	ug/L			08/21/18 08:09	1
Ethylbenzene	ND		1.0	ug/L			08/21/18 08:09	1
Hexachlorobutadiene	ND		1.0	ug/L			08/21/18 08:09	1
Isopropylbenzene	ND		1.0	ug/L			08/21/18 08:09	1
m,p-Xylene	ND		1.0	ug/L			08/21/18 08:09	1
Methylene Chloride	ND		5.0	ug/L			08/21/18 08:09	1
Methyl-t-Butyl Ether (MTBE)	ND		1.0	ug/L			08/21/18 08:09	1
Naphthalene	ND		1.0	ug/L			08/21/18 08:09	1
n-Butylbenzene	ND		1.0	ug/L			08/21/18 08:09	1
N-Propylbenzene	ND		1.0	ug/L			08/21/18 08:09	1
o-Xylene	ND		1.0	ug/L			08/21/18 08:09	1
p-Isopropyltoluene	ND		1.0	ug/L			08/21/18 08:09	1
sec-Butylbenzene	ND		1.0	ug/L			08/21/18 08:09	1
Styrene	ND		1.0	ug/L			08/21/18 08:09	1
tert-Butylbenzene	ND		1.0	ug/L			08/21/18 08:09	1
Tetrachloroethene	ND		1.0	ug/L			08/21/18 08:09	1
Toluene	ND		1.0	ug/L			08/21/18 08:09	1
trans-1,2-Dichloroethene	ND		1.0	ug/L			08/21/18 08:09	1
trans-1,3-Dichloropropene	ND		0.50	ug/L			08/21/18 08:09	1
Trichloroethene	ND		1.0	ug/L			08/21/18 08:09	1
Trichlorofluoromethane	ND		1.0	ug/L			08/21/18 08:09	1
Vinyl chloride	ND		0.50	ug/L			08/21/18 08:09	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*95*		*80 - 120*		*08/21/18 08:09*	*1*
Dibromofluoromethane (Surr)	*108*		*76 - 132*		*08/21/18 08:09*	*1*
1,2-Dichloroethane-d4 (Surr)	*109*		*70 - 130*		*08/21/18 08:09*	*1*
Toluene-d8 (Surr)	*104*		*80 - 128*		*08/21/18 08:09*	*1*

Lab Sample ID: LCS 440-494657/5
Matrix: Water
Analysis Batch: 494657

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1,1,2-Tetrachloroethane	25.0	25.4		ug/L		101	60 - 141
1,1,1-Trichloroethane	25.0	26.8		ug/L		107	70 - 130
1,1,2,2-Tetrachloroethane	25.0	25.1		ug/L		100	63 - 130
1,1,2-Trichloro-1,2,2-trifluoroetha ne	25.0	27.9		ug/L		111	60 - 140
1,1,2-Trichloroethane	25.0	24.8		ug/L		99	70 - 130
1,1-Dichloroethane	25.0	24.4		ug/L		98	64 - 130
1,1-Dichloroethene	25.0	25.8		ug/L		103	70 - 130

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

Lab Sample ID: LCS 440-494657/5
Matrix: Water
Analysis Batch: 494657

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1-Dichloropropene	25.0	26.0		ug/L		104	70 - 130
1,2,3-Trichlorobenzene	25.0	27.4		ug/L		110	60 - 140
1,2,3-Trichloropropane	25.0	26.5		ug/L		106	63 - 130
1,2,4-Trichlorobenzene	25.0	27.9		ug/L		112	60 - 140
1,2,4-Trimethylbenzene	25.0	26.7		ug/L		107	70 - 135
1,2-Dibromo-3-Chloropropane	25.0	26.7		ug/L		107	52 - 140
1,2-Dibromoethane (EDB)	25.0	25.5		ug/L		102	70 - 130
1,2-Dichlorobenzene	25.0	25.9		ug/L		104	70 - 130
1,2-Dichloroethane	25.0	24.5		ug/L		98	57 - 138
1,2-Dichloropropane	25.0	25.0		ug/L		100	67 - 130
1,3,5-Trimethylbenzene	25.0	26.6		ug/L		107	70 - 136
1,3-Dichlorobenzene	25.0	25.5		ug/L		102	70 - 130
1,3-Dichloropropane	25.0	23.8		ug/L		95	70 - 130
1,4-Dichlorobenzene	25.0	25.9		ug/L		104	70 - 130
2,2-Dichloropropane	25.0	28.9		ug/L		116	68 - 141
2-Chlorotoluene	25.0	24.7		ug/L		99	70 - 130
4-Chlorotoluene	25.0	25.1		ug/L		100	70 - 130
Acetone	25.0	23.7		ug/L		95	10 - 150
Benzene	25.0	25.5		ug/L		102	68 - 130
Bromobenzene	25.0	24.9		ug/L		99	70 - 130
Bromochloromethane	25.0	27.5		ug/L		110	70 - 130
Bromodichloromethane	25.0	24.6		ug/L		98	70 - 132
Bromoform	25.0	27.7		ug/L		111	60 - 148
Bromomethane	25.0	26.2		ug/L		105	64 - 139
Carbon tetrachloride	25.0	27.7		ug/L		111	60 - 150
Chlorobenzene	25.0	25.8		ug/L		103	70 - 130
Chloroethane	25.0	23.7		ug/L		95	64 - 135
Chloroform	25.0	25.8		ug/L		103	70 - 130
Chloromethane	25.0	22.9		ug/L		92	47 - 140
cis-1,2-Dichloroethene	25.0	26.3		ug/L		105	70 - 133
cis-1,3-Dichloropropene	25.0	25.7		ug/L		103	70 - 133
Dibromochloromethane	25.0	25.7		ug/L		103	69 - 145
Dibromomethane	25.0	25.9		ug/L		104	70 - 130
Dichlorodifluoromethane	25.0	22.9		ug/L		92	29 - 150
Ethylbenzene	25.0	25.9		ug/L		103	70 - 130
Hexachlorobutadiene	25.0	27.7		ug/L		111	10 - 150
Isopropylbenzene	25.0	28.2		ug/L		113	70 - 136
m,p-Xylene	25.0	26.8		ug/L		107	70 - 130
Methylene Chloride	25.0	24.4		ug/L		98	52 - 130
Methyl-t-Butyl Ether (MTBE)	25.0	25.2		ug/L		101	63 - 131
Naphthalene	25.0	28.7		ug/L		115	60 - 140
n-Butylbenzene	25.0	26.8		ug/L		107	65 - 150
N-Propylbenzene	25.0	25.5		ug/L		102	67 - 139
o-Xylene	25.0	27.8		ug/L		111	70 - 130
p-Isopropyltoluene	25.0	27.3		ug/L		109	70 - 132
sec-Butylbenzene	25.0	27.7		ug/L		111	70 - 138
Styrene	25.0	26.5		ug/L		106	70 - 134
tert-Butylbenzene	25.0	26.9		ug/L		107	70 - 130

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

Lab Sample ID: LCS 440-494657/5
Matrix: Water
Analysis Batch: 494657

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Tetrachloroethene	25.0	28.1		ug/L		112	70 - 130
Toluene	25.0	25.6		ug/L		102	70 - 130
trans-1,2-Dichloroethene	25.0	26.7		ug/L		107	70 - 130
trans-1,3-Dichloropropene	25.0	24.4		ug/L		98	70 - 132
Trichloroethene	25.0	28.6		ug/L		114	70 - 130
Trichlorofluoromethane	25.0	28.4		ug/L		113	60 - 150
Vinyl chloride	25.0	24.4		ug/L		97	59 - 133

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*93*		*80 - 120*
Dibromofluoromethane (Surr)	*104*		*76 - 132*
1,2-Dichloroethane-d4 (Surr)	*101*		*70 - 130*
Toluene-d8 (Surr)	*101*		*80 - 128*

Lab Sample ID: 440-218386-D-1 MS
Matrix: Water
Analysis Batch: 494657

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1,1,2-Tetrachloroethane	ND		25.0	24.7		ug/L		99	60 - 149
1,1,1-Trichloroethane	ND		25.0	27.6		ug/L		110	70 - 130
1,1,2,2-Tetrachloroethane	ND		25.0	22.9		ug/L		92	63 - 130
1,1,2-Trichloro-1,2,2-trifluoroetha ne	ND		25.0	28.2		ug/L		113	60 - 140
1,1,2-Trichloroethane	ND		25.0	23.0		ug/L		92	70 - 130
1,1-Dichloroethane	ND		25.0	25.4		ug/L		102	65 - 130
1,1-Dichloroethene	ND		25.0	26.5		ug/L		106	70 - 130
1,1-Dichloropropene	ND		25.0	27.3		ug/L		109	64 - 130
1,2,3-Trichlorobenzene	ND		25.0	26.5		ug/L		106	60 - 140
1,2,3-Trichloropropane	ND		25.0	24.0		ug/L		96	60 - 130
1,2,4-Trichlorobenzene	ND		25.0	27.4		ug/L		109	60 - 140
1,2,4-Trimethylbenzene	ND		25.0	26.3		ug/L		105	70 - 130
1,2-Dibromo-3-Chloropropane	ND		25.0	23.5		ug/L		94	48 - 140
1,2-Dibromoethane (EDB)	ND		25.0	23.8		ug/L		95	70 - 131
1,2-Dichlorobenzene	ND		25.0	25.5		ug/L		102	70 - 130
1,2-Dichloroethane	ND		25.0	24.9		ug/L		99	56 - 146
1,2-Dichloropropane	ND		25.0	25.6		ug/L		102	69 - 130
1,3,5-Trimethylbenzene	ND		25.0	26.2		ug/L		105	70 - 130
1,3-Dichlorobenzene	ND		25.0	25.1		ug/L		100	70 - 130
1,3-Dichloropropane	ND		25.0	23.5		ug/L		94	70 - 130
1,4-Dichlorobenzene	ND		25.0	25.7		ug/L		103	70 - 130
2,2-Dichloropropane	ND		25.0	30.0		ug/L		120	69 - 138
2-Chlorotoluene	ND		25.0	24.4		ug/L		97	70 - 130
4-Chlorotoluene	ND		25.0	25.1		ug/L		100	70 - 130
Acetone	ND		25.0	25.2		ug/L		101	10 - 150
Benzene	ND		25.0	26.2		ug/L		105	66 - 130
Bromobenzene	ND		25.0	24.5		ug/L		98	70 - 130
Bromochloromethane	ND		25.0	27.7		ug/L		111	70 - 130

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

Lab Sample ID: 440-218386-D-1 MS
Matrix: Water
Analysis Batch: 494657

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Bromodichloromethane	ND		25.0	25.5		ug/L		102	70 - 138
Bromoform	ND		25.0	25.7		ug/L		103	59 - 150
Bromomethane	ND		25.0	26.2		ug/L		105	62 - 131
Carbon tetrachloride	ND		25.0	28.2		ug/L		113	60 - 150
Chlorobenzene	ND		25.0	25.6		ug/L		103	70 - 130
Chloroethane	ND		25.0	24.5		ug/L		98	68 - 130
Chloroform	ND		25.0	25.9		ug/L		104	70 - 130
Chloromethane	ND		25.0	24.1		ug/L		96	39 - 144
cis-1,2-Dichloroethene	ND		25.0	27.0		ug/L		108	70 - 130
cis-1,3-Dichloropropene	ND		25.0	25.6		ug/L		102	70 - 133
Dibromochloromethane	ND		25.0	25.7		ug/L		103	70 - 148
Dibromomethane	ND		25.0	24.6		ug/L		98	70 - 130
Dichlorodifluoromethane	ND		25.0	22.8		ug/L		91	25 - 142
Ethylbenzene	ND		25.0	25.3		ug/L		101	70 - 130
Hexachlorobutadiene	ND		25.0	27.4		ug/L		109	10 - 150
Isopropylbenzene	ND		25.0	27.0		ug/L		108	70 - 132
m,p-Xylene	ND		25.0	26.5		ug/L		106	70 - 133
Methylene Chloride	ND		25.0	24.9		ug/L		100	52 - 130
Methyl-t-Butyl Ether (MTBE)	ND		25.0	25.7		ug/L		103	70 - 130
Naphthalene	ND		25.0	26.8		ug/L		107	60 - 140
n-Butylbenzene	ND		25.0	26.6		ug/L		106	61 - 149
N-Propylbenzene	ND		25.0	25.3		ug/L		101	66 - 135
o-Xylene	ND		25.0	26.6		ug/L		106	70 - 133
p-Isopropyltoluene	ND		25.0	26.9		ug/L		107	70 - 130
sec-Butylbenzene	ND		25.0	27.1		ug/L		108	67 - 134
Styrene	ND		25.0	25.8		ug/L		103	29 - 150
tert-Butylbenzene	ND		25.0	26.7		ug/L		107	70 - 130
Tetrachloroethene	ND		25.0	27.0		ug/L		108	70 - 137
Toluene	ND		25.0	24.9		ug/L		100	70 - 130
trans-1,2-Dichloroethene	ND		25.0	27.4		ug/L		110	70 - 130
trans-1,3-Dichloropropene	ND		25.0	23.8		ug/L		95	70 - 138
Trichloroethene	ND		25.0	28.8		ug/L		115	70 - 130
Trichlorofluoromethane	ND		25.0	28.0		ug/L		112	60 - 150
Vinyl chloride	ND		25.0	24.3		ug/L		97	50 - 137

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*90*		*80 - 120*
Dibromofluoromethane (Surr)	*112*		*76 - 132*
1,2-Dichloroethane-d4 (Surr)	*106*		*70 - 130*
Toluene-d8 (Surr)	*98*		*80 - 128*

Lab Sample ID: 440-218386-D-1 MSD
Matrix: Water
Analysis Batch: 494657

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,1,1,2-Tetrachloroethane	ND		25.0	26.4		ug/L		105	60 - 149	6	20
1,1,1-Trichloroethane	ND		25.0	26.8		ug/L		107	70 - 130	3	20

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

Lab Sample ID: 440-218386-D-1 MSD
Matrix: Water
Analysis Batch: 494657

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,1,2,2-Tetrachloroethane	ND		25.0	26.1		ug/L		104	63 - 130	13	30
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		25.0	26.7		ug/L		107	60 - 140	5	20
1,1,2-Trichloroethane	ND		25.0	25.8		ug/L		103	70 - 130	11	25
1,1-Dichloroethane	ND		25.0	24.6		ug/L		98	65 - 130	3	20
1,1-Dichloroethene	ND		25.0	23.6		ug/L		94	70 - 130	12	20
1,1-Dichloropropene	ND		25.0	25.6		ug/L		102	64 - 130	7	20
1,2,3-Trichlorobenzene	ND		25.0	27.1		ug/L		109	60 - 140	2	20
1,2,3-Trichloropropane	ND		25.0	27.5		ug/L		110	60 - 130	14	30
1,2,4-Trichlorobenzene	ND		25.0	27.4		ug/L		110	60 - 140	0	20
1,2,4-Trimethylbenzene	ND		25.0	26.0		ug/L		104	70 - 130	1	25
1,2-Dibromo-3-Chloropropane	ND		25.0	27.5		ug/L		110	48 - 140	16	30
1,2-Dibromoethane (EDB)	ND		25.0	26.1		ug/L		104	70 - 131	9	25
1,2-Dichlorobenzene	ND		25.0	25.9		ug/L		104	70 - 130	1	20
1,2-Dichloroethane	ND		25.0	25.8		ug/L		103	56 - 146	4	20
1,2-Dichloropropane	ND		25.0	26.0		ug/L		104	69 - 130	2	20
1,3,5-Trimethylbenzene	ND		25.0	25.7		ug/L		103	70 - 130	2	20
1,3-Dichlorobenzene	ND		25.0	24.7		ug/L		99	70 - 130	2	20
1,3-Dichloropropane	ND		25.0	25.0		ug/L		100	70 - 130	6	25
1,4-Dichlorobenzene	ND		25.0	25.8		ug/L		103	70 - 130	0	20
2,2-Dichloropropane	ND		25.0	28.4		ug/L		114	69 - 138	6	25
2-Chlorotoluene	ND		25.0	24.0		ug/L		96	70 - 130	1	20
4-Chlorotoluene	ND		25.0	24.2		ug/L		97	70 - 130	4	20
Acetone	ND		25.0	29.2		ug/L		117	10 - 150	15	35
Benzene	ND		25.0	25.6		ug/L		102	66 - 130	3	20
Bromobenzene	ND		25.0	24.7		ug/L		99	70 - 130	1	20
Bromochloromethane	ND		25.0	28.6		ug/L		114	70 - 130	3	25
Bromodichloromethane	ND		25.0	26.0		ug/L		104	70 - 138	2	20
Bromoform	ND		25.0	27.8		ug/L		111	59 - 150	8	25
Bromomethane	ND		25.0	25.8		ug/L		103	62 - 131	1	25
Carbon tetrachloride	ND		25.0	27.4		ug/L		110	60 - 150	3	25
Chlorobenzene	ND		25.0	26.2		ug/L		105	70 - 130	2	20
Chloroethane	ND		25.0	23.5		ug/L		94	68 - 130	4	25
Chloroform	ND		25.0	26.1		ug/L		105	70 - 130	1	20
Chloromethane	ND		25.0	23.2		ug/L		93	39 - 144	4	25
cis-1,2-Dichloroethene	ND		25.0	26.9		ug/L		108	70 - 130	0	20
cis-1,3-Dichloropropene	ND		25.0	26.5		ug/L		106	70 - 133	4	20
Dibromochloromethane	ND		25.0	27.2		ug/L		109	70 - 148	6	25
Dibromomethane	ND		25.0	26.1		ug/L		104	70 - 130	6	25
Dichlorodifluoromethane	ND		25.0	20.8		ug/L		83	25 - 142	9	30
Ethylbenzene	ND		25.0	25.7		ug/L		103	70 - 130	2	20
Hexachlorobutadiene	ND		25.0	26.5		ug/L		106	10 - 150	3	20
Isopropylbenzene	ND		25.0	27.0		ug/L		108	70 - 132	0	20
m,p-Xylene	ND		25.0	26.3		ug/L		105	70 - 133	1	25
Methylene Chloride	ND		25.0	24.6		ug/L		98	52 - 130	1	20
Methyl-t-Butyl Ether (MTBE)	ND		25.0	27.5		ug/L		110	70 - 130	7	25
Naphthalene	ND		25.0	29.1		ug/L		116	60 - 140	8	30
n-Butylbenzene	ND		25.0	25.7		ug/L		103	61 - 149	3	20

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

Lab Sample ID: 440-218386-D-1 MSD
Matrix: Water
Analysis Batch: 494657

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
N-Propylbenzene	ND		25.0	24.7		ug/L		99	66 - 135	3	20
o-Xylene	ND		25.0	27.0		ug/L		108	70 - 133	2	20
p-Isopropyltoluene	ND		25.0	26.4		ug/L		106	70 - 130	2	20
sec-Butylbenzene	ND		25.0	25.9		ug/L		104	67 - 134	4	20
Styrene	ND		25.0	26.4		ug/L		106	29 - 150	3	35
tert-Butylbenzene	ND		25.0	25.9		ug/L		104	70 - 130	3	20
Tetrachloroethene	ND		25.0	26.5		ug/L		106	70 - 137	2	20
Toluene	ND		25.0	25.2		ug/L		101	70 - 130	1	20
trans-1,2-Dichloroethene	ND		25.0	25.5		ug/L		102	70 - 130	7	20
trans-1,3-Dichloropropene	ND		25.0	25.3		ug/L		101	70 - 138	6	25
Trichloroethene	ND		25.0	27.5		ug/L		110	70 - 130	5	20
Trichlorofluoromethane	ND		25.0	26.2		ug/L		105	60 - 150	6	25
Vinyl chloride	ND		25.0	23.5		ug/L		94	50 - 137	3	30

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*92*		*80 - 120*
Dibromofluoromethane (Surr)	*110*		*76 - 132*
1,2-Dichloroethane-d4 (Surr)	*110*		*70 - 130*
Toluene-d8 (Surr)	*102*		*80 - 128*

Lab Sample ID: MB 440-494941/4
Matrix: Water
Analysis Batch: 494941

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

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Isopropyl alcohol	ND		250	ug/L			08/22/18 08:14	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*93*		*80 - 120*		*08/22/18 08:14*	*1*
Dibromofluoromethane (Surr)	*89*		*76 - 132*		*08/22/18 08:14*	*1*
1,2-Dichloroethane-d4 (Surr)	*83*		*70 - 130*		*08/22/18 08:14*	*1*
Toluene-d8 (Surr)	*104*		*80 - 128*		*08/22/18 08:14*	*1*

Lab Sample ID: 440-218466-A-1 MS
Matrix: Water
Analysis Batch: 494941

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*90*		*80 - 120*
Dibromofluoromethane (Surr)	*92*		*76 - 132*
1,2-Dichloroethane-d4 (Surr)	*79*		*70 - 130*
Toluene-d8 (Surr)	*102*		*80 - 128*

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

Lab Sample ID: 440-218466-A-1 MSD
Matrix: Water
Analysis Batch: 494941

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*91*		*80 - 120*
Dibromofluoromethane (Surr)	*88*		*76 - 132*
1,2-Dichloroethane-d4 (Surr)	*80*		*70 - 130*
Toluene-d8 (Surr)	*101*		*80 - 128*

Method: 8270C - Semivolatile Organic Compounds (GC/MS)

Lab Sample ID: MB 440-494434/1-A
Matrix: Water
Analysis Batch: 494995

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 494434

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4-Trichlorobenzene	ND		10	ug/L		08/20/18 07:20	08/22/18 13:12	1
1,2-Dichlorobenzene	ND		10	ug/L		08/20/18 07:20	08/22/18 13:12	1
1,2-Diphenylhydrazine(as Azobenzene)	ND		21	ug/L		08/20/18 07:20	08/22/18 13:12	1
1,3-Dichlorobenzene	ND		10	ug/L		08/20/18 07:20	08/22/18 13:12	1
1,4-Dichlorobenzene	ND		10	ug/L		08/20/18 07:20	08/22/18 13:12	1
2,4,5-Trichlorophenol	ND		21	ug/L		08/20/18 07:20	08/22/18 13:12	1
2,4,6-Trichlorophenol	ND		21	ug/L		08/20/18 07:20	08/22/18 13:12	1
2,4-Dichlorophenol	ND		10	ug/L		08/20/18 07:20	08/22/18 13:12	1
2,4-Dimethylphenol	ND		21	ug/L		08/20/18 07:20	08/22/18 13:12	1
2,4-Dinitrophenol	ND		41	ug/L		08/20/18 07:20	08/22/18 13:12	1
2,4-Dinitrotoluene	ND		10	ug/L		08/20/18 07:20	08/22/18 13:12	1
2,6-Dinitrotoluene	ND		10	ug/L		08/20/18 07:20	08/22/18 13:12	1
2-Chloronaphthalene	ND		10	ug/L		08/20/18 07:20	08/22/18 13:12	1
2-Chlorophenol	ND		10	ug/L		08/20/18 07:20	08/22/18 13:12	1
2-Methylnaphthalene	ND		10	ug/L		08/20/18 07:20	08/22/18 13:12	1
2-Methylphenol	ND		10	ug/L		08/20/18 07:20	08/22/18 13:12	1
2-Nitroaniline	ND		21	ug/L		08/20/18 07:20	08/22/18 13:12	1
2-Nitrophenol	ND		10	ug/L		08/20/18 07:20	08/22/18 13:12	1
3,3'-Dichlorobenzidine	ND		41	ug/L		08/20/18 07:20	08/22/18 13:12	1
3-Methylphenol + 4-Methylphenol	ND		10	ug/L		08/20/18 07:20	08/22/18 13:12	1
3-Nitroaniline	ND		21	ug/L		08/20/18 07:20	08/22/18 13:12	1
4,6-Dinitro-2-methylphenol	ND		21	ug/L		08/20/18 07:20	08/22/18 13:12	1
4-Bromophenyl phenyl ether	ND		10	ug/L		08/20/18 07:20	08/22/18 13:12	1
4-Chloro-3-methylphenol	ND		21	ug/L		08/20/18 07:20	08/22/18 13:12	1
4-Chloroaniline	ND		10	ug/L		08/20/18 07:20	08/22/18 13:12	1
4-Chlorophenyl phenyl ether	ND		10	ug/L		08/20/18 07:20	08/22/18 13:12	1
4-Nitroaniline	ND		21	ug/L		08/20/18 07:20	08/22/18 13:12	1
4-Nitrophenol	ND		21	ug/L		08/20/18 07:20	08/22/18 13:12	1
Acenaphthene	ND		10	ug/L		08/20/18 07:20	08/22/18 13:12	1
Acenaphthylene	ND		10	ug/L		08/20/18 07:20	08/22/18 13:12	1
Aniline	ND		10	ug/L		08/20/18 07:20	08/22/18 13:12	1
Anthracene	ND		10	ug/L		08/20/18 07:20	08/22/18 13:12	1
Benzidine	ND		41	ug/L		08/20/18 07:20	08/22/18 13:12	1
Benzo[a]anthracene	ND		10	ug/L		08/20/18 07:20	08/22/18 13:12	1
Benzo[a]pyrene	ND		10	ug/L		08/20/18 07:20	08/22/18 13:12	1

Method: 8270C - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 440-494434/1-A
Matrix: Water
Analysis Batch: 494995

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 494434

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzo[b]fluoranthene	ND		10	ug/L		08/20/18 07:20	08/22/18 13:12	1
Benzo[g,h,i]perylene	ND		10	ug/L		08/20/18 07:20	08/22/18 13:12	1
Benzo[k]fluoranthene	ND		10	ug/L		08/20/18 07:20	08/22/18 13:12	1
Benzoic acid	ND		21	ug/L		08/20/18 07:20	08/22/18 13:12	1
Benzyl alcohol	ND		21	ug/L		08/20/18 07:20	08/22/18 13:12	1
bis (2-chloroisopropyl) ether	ND		10	ug/L		08/20/18 07:20	08/22/18 13:12	1
Bis(2-chloroethoxy)methane	ND		10	ug/L		08/20/18 07:20	08/22/18 13:12	1
Bis(2-chloroethyl)ether	ND		10	ug/L		08/20/18 07:20	08/22/18 13:12	1
Bis(2-ethylhexyl) phthalate	ND		21	ug/L		08/20/18 07:20	08/22/18 13:12	1
Butyl benzyl phthalate	ND		21	ug/L		08/20/18 07:20	08/22/18 13:12	1
Chrysene	ND		10	ug/L		08/20/18 07:20	08/22/18 13:12	1
Dibenz(a,h)anthracene	ND		21	ug/L		08/20/18 07:20	08/22/18 13:12	1
Dibenzofuran	ND		10	ug/L		08/20/18 07:20	08/22/18 13:12	1
Diethyl phthalate	ND		10	ug/L		08/20/18 07:20	08/22/18 13:12	1
Dimethyl phthalate	ND		10	ug/L		08/20/18 07:20	08/22/18 13:12	1
Di-n-butyl phthalate	ND		21	ug/L		08/20/18 07:20	08/22/18 13:12	1
Di-n-octyl phthalate	ND		21	ug/L		08/20/18 07:20	08/22/18 13:12	1
Fluoranthene	ND		10	ug/L		08/20/18 07:20	08/22/18 13:12	1
Fluorene	ND		10	ug/L		08/20/18 07:20	08/22/18 13:12	1
Hexachlorobenzene	ND		10	ug/L		08/20/18 07:20	08/22/18 13:12	1
Hexachlorobutadiene	ND		10	ug/L		08/20/18 07:20	08/22/18 13:12	1
Hexachlorocyclopentadiene	ND		21	ug/L		08/20/18 07:20	08/22/18 13:12	1
Hexachloroethane	ND		10	ug/L		08/20/18 07:20	08/22/18 13:12	1
Indeno[1,2,3-cd]pyrene	ND		21	ug/L		08/20/18 07:20	08/22/18 13:12	1
Isophorone	ND		10	ug/L		08/20/18 07:20	08/22/18 13:12	1
Naphthalene	ND		10	ug/L		08/20/18 07:20	08/22/18 13:12	1
Nitrobenzene	ND		21	ug/L		08/20/18 07:20	08/22/18 13:12	1
N-Nitrosodimethylamine	ND		21	ug/L		08/20/18 07:20	08/22/18 13:12	1
N-Nitrosodi-n-propylamine	ND		10	ug/L		08/20/18 07:20	08/22/18 13:12	1
N-Nitrosodiphenylamine	ND		10	ug/L		08/20/18 07:20	08/22/18 13:12	1
Pentachlorophenol	ND		21	ug/L		08/20/18 07:20	08/22/18 13:12	1
Phenanthrene	ND		10	ug/L		08/20/18 07:20	08/22/18 13:12	1
Phenol	ND		10	ug/L		08/20/18 07:20	08/22/18 13:12	1
Pyrene	ND		10	ug/L		08/20/18 07:20	08/22/18 13:12	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol (Surr)	*62*		*40 - 120*	*08/20/18 07:20*	*08/22/18 13:12*	*1*
2-Fluorobiphenyl	*72*		*50 - 120*	*08/20/18 07:20*	*08/22/18 13:12*	*1*
2-Fluorophenol (Surr)	*54*		*30 - 120*	*08/20/18 07:20*	*08/22/18 13:12*	*1*
Nitrobenzene-d5 (Surr)	*68*		*45 - 120*	*08/20/18 07:20*	*08/22/18 13:12*	*1*
Phenol-d6 (Surr)	*64*		*35 - 120*	*08/20/18 07:20*	*08/22/18 13:12*	*1*
Terphenyl-d14 (Surr)	*82*		*10 - 150*	*08/20/18 07:20*	*08/22/18 13:12*	*1*

Method: 8270C - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 440-494434/2-A
Matrix: Water
Analysis Batch: 494995

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 494434

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,2,4-Trichlorobenzene	103	56.0		ug/L		55	25 - 84
1,2-Dichlorobenzene	103	52.5		ug/L		51	24 - 85
1,2-Diphenylhydrazine(as Azobenzene)	103	68.0		ug/L		66	44 - 113
1,3-Dichlorobenzene	103	49.2		ug/L		48	20 - 80
1,4-Dichlorobenzene	103	49.8		ug/L		49	22 - 81
2,4,5-Trichlorophenol	103	65.4		ug/L		64	24 - 121
2,4,6-Trichlorophenol	103	65.7		ug/L		64	20 - 121
2,4-Dichlorophenol	103	61.6		ug/L		60	23 - 113
2,4-Dimethylphenol	103	64.6		ug/L		63	39 - 94
2,4-Dinitrophenol	205	119		ug/L		58	23 - 134
2,4-Dinitrotoluene	103	75.5		ug/L		74	54 - 115
2,6-Dinitrotoluene	103	70.5		ug/L		69	50 - 115
2-Chloronaphthalene	103	63.9		ug/L		62	34 - 102
2-Chlorophenol	103	52.8		ug/L		51	20 - 106
2-Methylnaphthalene	103	61.6		ug/L		60	34 - 98
2-Methylphenol	103	56.7		ug/L		55	36 - 103
2-Nitroaniline	103	68.4		ug/L		67	48 - 111
2-Nitrophenol	103	62.7		ug/L		61	20 - 117
3,3'-Dichlorobenzidine	103	71.9		ug/L		70	22 - 97
3-Methylphenol + 4-Methylphenol	103	59.3		ug/L		58	35 - 106
3-Nitroaniline	103	70.5		ug/L		69	51 - 116
4,6-Dinitro-2-methylphenol	205	119		ug/L		58	28 - 139
4-Bromophenyl phenyl ether	103	70.4		ug/L		69	42 - 113
4-Chloro-3-methylphenol	103	69.6		ug/L		68	44 - 110
4-Chloroaniline	103	69.0		ug/L		67	42 - 109
4-Chlorophenyl phenyl ether	103	70.7		ug/L		69	38 - 115
4-Nitroaniline	103	73.7		ug/L		72	50 - 116
4-Nitrophenol	205	137		ug/L		67	26 - 132
Acenaphthene	103	67.8		ug/L		66	37 - 107
Acenaphthylene	103	66.9		ug/L		65	39 - 107
Aniline	103	71.4		ug/L		70	27 - 115
Anthracene	103	72.3		ug/L		71	42 - 120
Benzidine	103	87.8		ug/L		86	5 - 150
Benzo[a]anthracene	103	73.3		ug/L		71	42 - 115
Benzo[a]pyrene	103	73.0		ug/L		71	41 - 117
Benzo[b]fluoranthene	103	70.4		ug/L		69	36 - 113
Benzo[g,h,i]perylene	103	71.6		ug/L		70	37 - 115
Benzo[k]fluoranthene	103	73.7		ug/L		72	42 - 122
Benzoic acid	103	35.7		ug/L		35	15 - 121
Benzyl alcohol	103	48.1		ug/L		47	39 - 106
bis (2-chloroisopropyl) ether	103	57.6		ug/L		56	38 - 104
Bis(2-chloroethoxy)methane	103	66.3		ug/L		65	47 - 104
Bis(2-chloroethyl)ether	103	58.3		ug/L		57	42 - 99
Bis(2-ethylhexyl) phthalate	103	78.6		ug/L		77	43 - 124
Butyl benzyl phthalate	103	75.3		ug/L		73	44 - 122
Chrysene	103	74.9		ug/L		73	42 - 118
Dibenz(a,h)anthracene	103	73.2		ug/L		71	40 - 114

Method: 8270C - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 440-494434/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 494995 — **Prep Batch: 494434**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Dibenzofuran	103	69.8		ug/L		68	37 - 113
Diethyl phthalate	103	72.5		ug/L		71	51 - 120
Dimethyl phthalate	103	71.9		ug/L		70	49 - 113
Di-n-butyl phthalate	103	72.7		ug/L		71	47 - 125
Di-n-octyl phthalate	103	75.0		ug/L		73	42 - 125
Fluoranthene	103	73.8		ug/L		72	44 - 119
Fluorene	103	71.7		ug/L		70	39 - 116
Hexachlorobenzene	103	71.0		ug/L		69	43 - 112
Hexachlorobutadiene	103	50.6		ug/L		49	14 - 77
Hexachlorocyclopentadiene	103	39.6		ug/L		39	10 - 77
Hexachloroethane	103	45.6		ug/L		44	13 - 75
Indeno[1,2,3-cd]pyrene	103	69.3		ug/L		68	35 - 116
Isophorone	103	67.0		ug/L		65	48 - 107
Naphthalene	103	61.6		ug/L		60	33 - 95
Nitrobenzene	103	63.0		ug/L		61	42 - 99
N-Nitrosodimethylamine	103	56.6		ug/L		55	35 - 96
N-Nitrosodi-n-propylamine	103	61.1		ug/L		60	44 - 111
N-Nitrosodiphenylamine	103	71.7		ug/L		70	46 - 116
Pentachlorophenol	205	124		ug/L		61	26 - 136
Phenanthrene	103	72.0		ug/L		70	43 - 120
Phenol	103	56.1		ug/L		55	25 - 99
Pyrene	103	74.1		ug/L		72	43 - 119

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
2,4,6-Tribromophenol (Surr)	*70*		*40 - 120*
2-Fluorobiphenyl	*63*		*50 - 120*
2-Fluorophenol (Surr)	*43*		*30 - 120*
Nitrobenzene-d5 (Surr)	*63*		*45 - 120*
Phenol-d6 (Surr)	*50*		*35 - 120*
Terphenyl-d14 (Surr)	*74*		*10 - 150*

Lab Sample ID: LCSD 440-494434/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 494995 — **Prep Batch: 494434**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,2,4-Trichlorobenzene	103	57.5		ug/L		56	25 - 84	3	35
1,2-Dichlorobenzene	103	54.4		ug/L		53	24 - 85	4	35
1,2-Diphenylhydrazine(as Azobenzene)	103	68.4		ug/L		67	44 - 113	1	35
1,3-Dichlorobenzene	103	52.0		ug/L		51	20 - 80	5	35
1,4-Dichlorobenzene	103	52.8		ug/L		51	22 - 81	6	35
2,4,5-Trichlorophenol	103	68.8		ug/L		67	24 - 121	5	35
2,4,6-Trichlorophenol	103	71.4		ug/L		70	20 - 121	8	35
2,4-Dichlorophenol	103	68.1		ug/L		66	23 - 113	10	35
2,4-Dimethylphenol	103	68.9		ug/L		67	39 - 94	7	35
2,4-Dinitrophenol	205	134		ug/L		65	23 - 134	12	35
2,4-Dinitrotoluene	103	75.7		ug/L		74	54 - 115	0	35

Method: 8270C - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCSD 440-494434/3-A
Matrix: Water
Analysis Batch: 494995

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 494434

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
2,6-Dinitrotoluene	103	73.3		ug/L		71	50 - 115	4	35
2-Chloronaphthalene	103	66.9		ug/L		65	34 - 102	5	35
2-Chlorophenol	103	59.0		ug/L		58	20 - 106	11	35
2-Methylnaphthalene	103	64.9		ug/L		63	34 - 98	5	35
2-Methylphenol	103	58.7		ug/L		57	36 - 103	3	35
2-Nitroaniline	103	69.6		ug/L		68	48 - 111	2	35
2-Nitrophenol	103	65.7		ug/L		64	20 - 117	5	35
3,3'-Dichlorobenzidine	103	71.1		ug/L		69	22 - 97	1	35
3-Methylphenol + 4-Methylphenol	103	59.1		ug/L		58	35 - 106	0	35
3-Nitroaniline	103	71.7		ug/L		70	51 - 116	2	35
4,6-Dinitro-2-methylphenol	205	135		ug/L		66	28 - 139	12	35
4-Bromophenyl phenyl ether	103	71.9		ug/L		70	42 - 113	2	35
4-Chloro-3-methylphenol	103	73.2		ug/L		71	44 - 110	5	35
4-Chloroaniline	103	68.4		ug/L		67	42 - 109	1	35
4-Chlorophenyl phenyl ether	103	73.8		ug/L		72	38 - 115	4	35
4-Nitroaniline	103	74.4		ug/L		72	50 - 116	1	35
4-Nitrophenol	205	136		ug/L		66	26 - 132	0	35
Acenaphthene	103	71.3		ug/L		70	37 - 107	5	35
Acenaphthylene	103	69.6		ug/L		68	39 - 107	4	35
Aniline	103	74.0		ug/L		72	27 - 115	4	35
Anthracene	103	73.7		ug/L		72	42 - 120	2	35
Benzidine	103	96.4		ug/L		94	5 - 150	9	35
Benzo[a]anthracene	103	75.8		ug/L		74	42 - 115	3	35
Benzo[a]pyrene	103	75.5		ug/L		74	41 - 117	3	35
Benzo[b]fluoranthene	103	73.4		ug/L		72	36 - 113	4	35
Benzo[g,h,i]perylene	103	73.7		ug/L		72	37 - 115	3	35
Benzo[k]fluoranthene	103	77.6		ug/L		76	42 - 122	5	35
Benzoic acid	103	49.0		ug/L		48	15 - 121	31	35
Benzyl alcohol	103	52.9		ug/L		52	39 - 106	10	35
bis (2-chloroisopropyl) ether	103	55.7		ug/L		54	38 - 104	3	35
Bis(2-chloroethoxy)methane	103	69.4		ug/L		68	47 - 104	5	35
Bis(2-chloroethyl)ether	103	61.2		ug/L		60	42 - 99	5	35
Bis(2-ethylhexyl) phthalate	103	78.4		ug/L		76	43 - 124	0	35
Butyl benzyl phthalate	103	77.3		ug/L		75	44 - 122	3	35
Chrysene	103	77.4		ug/L		75	42 - 118	3	35
Dibenz(a,h)anthracene	103	74.9		ug/L		73	40 - 114	2	35
Dibenzofuran	103	71.8		ug/L		70	37 - 113	3	35
Diethyl phthalate	103	75.1		ug/L		73	51 - 120	4	35
Dimethyl phthalate	103	74.1		ug/L		72	49 - 113	3	35
Di-n-butyl phthalate	103	74.9		ug/L		73	47 - 125	3	35
Di-n-octyl phthalate	103	76.8		ug/L		75	42 - 125	2	35
Fluoranthene	103	74.1		ug/L		72	44 - 119	0	35
Fluorene	103	73.1		ug/L		71	39 - 116	2	35
Hexachlorobenzene	103	72.1		ug/L		70	43 - 112	1	35
Hexachlorobutadiene	103	52.3		ug/L		51	14 - 77	3	35
Hexachlorocyclopentadiene	103	42.5		ug/L		41	10 - 77	7	35
Hexachloroethane	103	44.9		ug/L		44	13 - 75	2	35
Indeno[1,2,3-cd]pyrene	103	74.3		ug/L		72	35 - 116	7	35

Method: 8270C - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCSD 440-494434/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 494995 — **Prep Batch: 494434**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Isophorone	103	69.4		ug/L		68	48 - 107	4	35
Naphthalene	103	63.1		ug/L		61	33 - 95	2	35
Nitrobenzene	103	62.1		ug/L		61	42 - 99	1	35
N-Nitrosodimethylamine	103	56.9		ug/L		56	35 - 96	1	35
N-Nitrosodi-n-propylamine	103	60.7		ug/L		59	44 - 111	1	35
N-Nitrosodiphenylamine	103	72.5		ug/L		71	46 - 116	1	35
Pentachlorophenol	205	127		ug/L		62	26 - 136	2	35
Phenanthrene	103	72.8		ug/L		71	43 - 120	1	35
Phenol	103	62.7		ug/L		61	25 - 99	11	35
Pyrene	103	77.2		ug/L		75	43 - 119	4	35

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
2,4,6-Tribromophenol (Surr)	*72*		*40 - 120*
2-Fluorobiphenyl	*65*		*50 - 120*
2-Fluorophenol (Surr)	*52*		*30 - 120*
Nitrobenzene-d5 (Surr)	*62*		*45 - 120*
Phenol-d6 (Surr)	*58*		*35 - 120*
Terphenyl-d14 (Surr)	*76*		*10 - 150*

Method: 8270C SIM - 1,4 Dioxane by SIM

Lab Sample ID: MB 440-494334/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 494451 — **Prep Batch: 494334**

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	ND		0.49	ug/L		08/18/18 09:51	08/20/18 09:40	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,4-Dioxane-d8 (Surr)	*67*		*27 - 120*	*08/18/18 09:51*	*08/20/18 09:40*	*1*

Lab Sample ID: LCS 440-494334/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 494451 — **Prep Batch: 494334**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,4-Dioxane	1.96	1.27		ug/L		65	36 - 120

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1,4-Dioxane-d8 (Surr)	*62*		*27 - 120*

Lab Sample ID: LCSD 440-494334/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 494451 — **Prep Batch: 494334**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,4-Dioxane	1.98	1.36		ug/L		69	36 - 120	6	35

Method: 8270C SIM - 1,4 Dioxane by SIM (Continued)

Lab Sample ID: LCSD 440-494334/3-A
Matrix: Water
Analysis Batch: 494451

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 494334

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
1,4-Dioxane-d8 (Surr)	*65*		*27 - 120*

Method: SM 2540D - Solids, Total Suspended (TSS)

Lab Sample ID: MB 440-494894/1
Matrix: Water
Analysis Batch: 494894

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

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids	ND		1.0	mg/L			08/21/18 19:58	1

Lab Sample ID: LCS 440-494894/2
Matrix: Water
Analysis Batch: 494894

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Suspended Solids	1000	1090		mg/L		109	85 - 115

Lab Sample ID: 440-218543-B-1 DU
Matrix: Water
Analysis Batch: 494894

Client Sample ID: Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Total Suspended Solids	37		37.5		mg/L		3	10

Method: SM 4500 H+ B - pH

Lab Sample ID: 440-218307-A-5 DU
Matrix: Water
Analysis Batch: 494371

Client Sample ID: Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
pH	9.8		9.8		SU		0	2

Method: SM 4500 S2 D - Sulfide, Total

Lab Sample ID: MB 440-494567/1-A
Matrix: Water
Analysis Batch: 494592

Client Sample ID: Method Blank
Prep Type: Dissolved
Prep Batch: 494567

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfide, Dissolved	ND		0.050	mg/L		08/20/18 15:03	08/20/18 16:07	1

Method: SM 4500 S2 D - Sulfide, Total (Continued)

Lab Sample ID: LCS 440-494567/2-A
Matrix: Water
Analysis Batch: 494592

Client Sample ID: Lab Control Sample
Prep Type: Dissolved
Prep Batch: 494567

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Sulfide, Dissolved	0.460	0.446		mg/L		97	80 - 120

Lab Sample ID: LCSD 440-494567/3-A
Matrix: Water
Analysis Batch: 494592

Client Sample ID: Lab Control Sample Dup
Prep Type: Dissolved
Prep Batch: 494567

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Sulfide, Dissolved	0.460	0.435		mg/L		94	80 - 120	3	20

Lab Sample ID: 440-218102-B-1-B MS
Matrix: Water
Analysis Batch: 494592

Client Sample ID: Matrix Spike
Prep Type: Dissolved
Prep Batch: 494567

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Sulfide, Dissolved	ND	F1 HF	0.460	0.123	F1 HF	mg/L		27	70 - 130

Lab Sample ID: 440-218102-B-1-C MSD
Matrix: Water
Analysis Batch: 494592

Client Sample ID: Matrix Spike Duplicate
Prep Type: Dissolved
Prep Batch: 494567

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Sulfide, Dissolved	ND	F1 HF	0.460	0.112	F1 HF	mg/L		24	70 - 130	9	30

Method: SM 5220D - COD

Lab Sample ID: MB 440-494701/3
Matrix: Water
Analysis Batch: 494701

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

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chemical Oxygen Demand	ND		20	mg/L			08/21/18 08:26	1

Lab Sample ID: LCS 440-494701/4
Matrix: Water
Analysis Batch: 494701

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chemical Oxygen Demand	200	200		mg/L		100	90 - 110

Lab Sample ID: 440-218016-D-1 MS
Matrix: Water
Analysis Batch: 494701

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Chemical Oxygen Demand	25		200	223		mg/L		99	70 - 120

Method: SM 5220D - COD (Continued)

Lab Sample ID: 440-218016-D-1 MSD
Matrix: Water
Analysis Batch: 494701

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chemical Oxygen Demand	25		200	223		mg/L		99	70 - 120	0	15

QC Association Summary

Client: Jacob & Hefner Associates P.C.
Project/Site: Omega Chemical Wastewater

TestAmerica Job ID: 440-218305-1
SDG: Whittier

GC/MS VOA

Analysis Batch: 494413

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-218305-2	Grab	Total/NA	Water	8260B	
MB 440-494413/4	Method Blank	Total/NA	Water	8260B	
LCS 440-494413/5	Lab Control Sample	Total/NA	Water	8260B	
440-218305-2 MS	Grab	Total/NA	Water	8260B	
440-218305-2 MSD	Grab	Total/NA	Water	8260B	

Analysis Batch: 494657

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-218305-2	Grab	Total/NA	Water	8260B	
MB 440-494657/4	Method Blank	Total/NA	Water	8260B	
LCS 440-494657/5	Lab Control Sample	Total/NA	Water	8260B	
440-218386-D-1 MS	Matrix Spike	Total/NA	Water	8260B	
440-218386-D-1 MSD	Matrix Spike Duplicate	Total/NA	Water	8260B	

Analysis Batch: 494941

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-218305-2 - RA	Grab	Total/NA	Water	8260B	
MB 440-494941/4	Method Blank	Total/NA	Water	8260B	
440-218466-A-1 MS	Matrix Spike	Total/NA	Water	8260B	
440-218466-A-1 MSD	Matrix Spike Duplicate	Total/NA	Water	8260B	

GC/MS Semi VOA

Prep Batch: 494334

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-218305-2	Grab	Total/NA	Water	3520C	
MB 440-494334/1-A	Method Blank	Total/NA	Water	3520C	
LCS 440-494334/2-A	Lab Control Sample	Total/NA	Water	3520C	
LCSD 440-494334/3-A	Lab Control Sample Dup	Total/NA	Water	3520C	

Prep Batch: 494434

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-218305-2	Grab	Total/NA	Water	3520C	
MB 440-494434/1-A	Method Blank	Total/NA	Water	3520C	
LCS 440-494434/2-A	Lab Control Sample	Total/NA	Water	3520C	
LCSD 440-494434/3-A	Lab Control Sample Dup	Total/NA	Water	3520C	

Analysis Batch: 494451

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-218305-2	Grab	Total/NA	Water	8270C SIM	494334
MB 440-494334/1-A	Method Blank	Total/NA	Water	8270C SIM	494334
LCS 440-494334/2-A	Lab Control Sample	Total/NA	Water	8270C SIM	494334
LCSD 440-494334/3-A	Lab Control Sample Dup	Total/NA	Water	8270C SIM	494334

Analysis Batch: 494995

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-218305-2	Grab	Total/NA	Water	8270C	494434
MB 440-494434/1-A	Method Blank	Total/NA	Water	8270C	494434
LCS 440-494434/2-A	Lab Control Sample	Total/NA	Water	8270C	494434
LCSD 440-494434/3-A	Lab Control Sample Dup	Total/NA	Water	8270C	494434

QC Association Summary

Client: Jacob & Hefner Associates P.C.
Project/Site: Omega Chemical Wastewater

TestAmerica Job ID: 440-218305-1
SDG: Whittier

General Chemistry

Analysis Batch: 494371

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-218305-2	Grab	Total/NA	Water	SM 4500 H+ B	
440-218307-A-5 DU	Duplicate	Total/NA	Water	SM 4500 H+ B	

Prep Batch: 494567

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-218305-2	Grab	Dissolved	Water	SM 4500 S2 B	
MB 440-494567/1-A	Method Blank	Dissolved	Water	SM 4500 S2 B	
LCS 440-494567/2-A	Lab Control Sample	Dissolved	Water	SM 4500 S2 B	
LCSD 440-494567/3-A	Lab Control Sample Dup	Dissolved	Water	SM 4500 S2 B	
440-218102-B-1-B MS	Matrix Spike	Dissolved	Water	SM 4500 S2 B	
440-218102-B-1-C MSD	Matrix Spike Duplicate	Dissolved	Water	SM 4500 S2 B	

Analysis Batch: 494592

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-218305-2	Grab	Dissolved	Water	SM 4500 S2 D	494567
MB 440-494567/1-A	Method Blank	Dissolved	Water	SM 4500 S2 D	494567
LCS 440-494567/2-A	Lab Control Sample	Dissolved	Water	SM 4500 S2 D	494567
LCSD 440-494567/3-A	Lab Control Sample Dup	Dissolved	Water	SM 4500 S2 D	494567
440-218102-B-1-B MS	Matrix Spike	Dissolved	Water	SM 4500 S2 D	494567
440-218102-B-1-C MSD	Matrix Spike Duplicate	Dissolved	Water	SM 4500 S2 D	494567

Analysis Batch: 494701

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-218305-1	Composite	Total/NA	Water	SM 5220D	
MB 440-494701/3	Method Blank	Total/NA	Water	SM 5220D	
LCS 440-494701/4	Lab Control Sample	Total/NA	Water	SM 5220D	
440-218016-D-1 MS	Matrix Spike	Total/NA	Water	SM 5220D	
440-218016-D-1 MSD	Matrix Spike Duplicate	Total/NA	Water	SM 5220D	

Analysis Batch: 494894

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-218305-1	Composite	Total/NA	Water	SM 2540D	
MB 440-494894/1	Method Blank	Total/NA	Water	SM 2540D	
LCS 440-494894/2	Lab Control Sample	Total/NA	Water	SM 2540D	
440-218543-B-1 DU	Duplicate	Total/NA	Water	SM 2540D	

Field Service / Mobile Lab

Analysis Batch: 494399

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-218305-2	Grab	Total/NA	Water	Field Sampling	

Qualifiers

General Chemistry

Qualifier	Qualifier Description
F1	MS and/or MSD Recovery is outside acceptance limits.
HF	Field parameter with a holding time of 15 minutes. Test performed by laboratory at client's request.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Accreditation/Certification Summary

Client: Jacob & Hefner Associates P.C.
Project/Site: Omega Chemical Wastewater

TestAmerica Job ID: 440-218305-1
SDG: Whittier

Laboratory: TestAmerica Irvine

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	EPA Region	Identification Number	Expiration Date
California	State Program	9	CA ELAP 2706	06-30-19

The following analytes are included in this report, but accreditation/certification is not offered by the governing authority:

Analysis Method	Prep Method	Matrix	Analyte
8260B		Water	1,1,2-Trichloro-1,2,2-trifluoroethane
8260B		Water	m,p-Xylene
8260B		Water	Total Volatile Organic Compounds
8270C	3520C	Water	2-Methylphenol
8270C	3520C	Water	3-Methylphenol + 4-Methylphenol
8270C	3520C	Water	4-Chloroaniline
8270C	3520C	Water	Benzidine
8270C SIM	3520C	Water	1,4-Dioxane
Field Sampling		Water	Field pH
Field Sampling		Water	Field Temperature

TestAmerica Irvine
17461 Derian Ave Suite 100
Irvine, CA 92614-5817
Phone (949) 261-1022 Fax (949) 260-3297

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Client Information	Sampler: Felipa Reyes	Lab PM: Roberts, Danielle C	Carrier Tracking No(s):	COC No.: 440-137466-24652.1
Client Contact: Trent Henderson	Phone: 714 651-2862	E-Mail: danielle.roberts@testamericainc.com		Page: Page 1 of 1
Company: Jacob & Hefner Associates P.C.				Job #:
Address: 15375 Barranca Parkway, J-101	Due Date Requested:			
City: Irvine	TAT Requested (days):			
State, Zip: CA, 92618				
Phone: 949-453-1045(Tel) 949-453-1047(Fax)	PO #: Omega Chemical Wastewater			
Email: thenderson@jacobhefner.com	WO #:			
Project Name: Omega Chemical Wastewater	Project #: 44003641			
Site: California	SSOW#:			

Analysis Requested

Preservation Codes:
A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Z - other (specify)
Other:

Sample Identification	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=wasteoil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	5220D - COD	2540D - TSS	SM4500_S2_D - Dissolved Sulfide	8260B_LL - VOCs+Oxys+Ks+F113-LL	8270C, 8270C_SIM	SM4500_H+ - pH	8260B_LL - A+A+2CVE	Total Number of containers	Special Instructions/Note:
			Preservation Code:		X	X	S	N	B	A	N	N	N	X	
Composite	8/16-17/18	11:00	C	Water			x	x						2	ISCO start 8-16-18 10:00
Grab	8/17/18	11:15	G	Water					x	x	x	x	x	12	ISCO end 8-17-18 10:00
															Field Temp 19.2° C
															Field PH 8.40
															Motor start = 6026763
															End = 6035222

00/00 5/17/18

440-218305 Chain of Custody

Possible Hazard Identification
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months

Deliverable Requested: I, II, III, IV, Other (specify)

Special Instructions/QC Requirements:

Empty Kit Relinquished by	Date:	Time:	Method of Shipment:

Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
[signature]	8/17/18 14:40	B-T	[signature]		
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time: 8/17/18 1440	Company: TA 112 V

Custody Seals Intact: Δ Yes Δ No | Custody Seal No.: | Cooler Temperature(s) °C and Other Remarks: Temp 4.5/4.7° 1289

Ver: 08/04/2016

8/24/2018

Login Sample Receipt Checklist

Client: Jacob & Hefner Associates P.C.

Job Number: 440-218305-1
SDG Number: Whittier

Login Number: 218305
List Number: 1
Creator: Avila, Stephanie 1

List Source: TestAmerica Irvine

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	N/A	Not present
Sample custody seals, if present, are intact.	N/A	Not Present
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Attachment I

Other Data Collected this Quarter

OU-1 On-Site Soil Remedy Dual Phase Extraction Well

Observation Well/Piezometer

Former Omega Chemical Property Boundary

OU-1 Boundary

ddms

de maximis, inc.

Reviewed By: LEM
Drawn By: CAT
Date: 7/30/2018

Attachment I, Figure I-1
Other Groundwater Data Locations
Omega Chemical Superfund Site

Attachment I, Table I-1
Other Groundwater Elevation Data Collected This Quarter
Omega Chemical Superfund Site
Third Quarter 2018

Well No.	Top of Casing Elevation (feet MSL)	Screen Interval (feet MSL)	Date	Depth To Water (feet btoc)	Groundwater Elevation (feet MSL)
PZ-9	197.97	108.49 - 128.49	8/23/2018	85.34	112.63
OW11	200.06	100.52 - 120.52	8/24/2018	87.50	112.56
OW13B	210.89	71.37 - 81.37	8/24/2018	98.06	112.83
DPE-3	206.76	109.32 - 169.32	8/21/2018	92.41	114.35
DPE-4	202.97	105.50 - 165.50	8/21/2018	92.27	110.70
DPE-5	201.77	104.36 - 164.36	8/21/2018	91.91	109.86
DPE-8	204.87	107.46 - 167.46	8/21/2018	90.89	113.98
DPE-9	199.06	101.59 - 161.59	8/21/2018	88.47	110.59
VE-7D	200.11	102.03 - 162.03	8/21/2018	90.90	109.21
VE-10D	198.80	100.66 - 160.66	8/21/2018	93.04	105.76

Notes:
Elevation data per California Coordinate System NADV88
btoc = below top of casing
Dry = No water detected, water detected below the screen interval, or water detected at or near total depth of well
MSL = mean sea level

Attachment I, Table I-2
Other Groundwater Analytical Data Collected This Quarter
Omega Chemical Superfund Site
Third Quarter 2018

Well ID / Screen Interval[1]	Sample Date	Sample Type	PCE	TCE	1,4DIOX	1,1,1-TCA	1,1-DCE	1,2-DCA	Freon 113	Freon 11	Freon 12
PZ-3 (69.8 - 89.8)	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry
PZ-9 (70 - 90)	8/23/2018	ORIG	1300	96	140 J	10 U	220	16	510	130	10 U
OW11 (80 - 100)	8/24/2018	ORIG	220	41	0.50 UJ	1.0 U	39	1.0 U	57	17	1.0 U
OW13B (130 - 140)	8/24/2018	ORIG	25	1.0 U	0.49 UJ	1.0 U	1.0 U	1.0 U	5.0 U	1.0 U	1.0 U
DPE-3 (40 - 100)	8/21/2018	ORIG	120	8.6	6.0 J-	0.60 J	2.8	3.2	87	9.4	1.0 U
DPE-4 (40 - 100)	8/21/2018	ORIG	360	31	49 J-	0.55 J	10	4.2	160	6.3	1.0 U
DPE-5 (40 - 100)	8/21/2018	ORIG	110	9.3	4.7 J-	1.0 U	30	0.40 J	9.0	6.8	1.0 U
DPE-8 (40 - 100)	8/21/2018	ORIG	19	2.9	3.2 J-	1.0 U	0.55 J	1.0 U	3.0 J	2.0	1.0 U
DPE-9 (40 - 100)	8/21/2018	ORIG	240	15	27 J-	1.0 U	8.0	2.9	40	9.3	1.0 U
VE-7D (40 - 100)	8/21/2018	ORIG	78	28	0.10 J-	1.0 U	13	1.0 U	16	5.8	1.0 U
VE-10D (40 - 100)	8/21/2018	ORIG	610	56	25 J-	1.0 U	76	4.7	110	33	1.0 U

Notes:

1. The screen interval units are feet below top of casing.

All results are in micrograms per liter (ug/L)

ORIG = primary sample

PCE = Tetrachloroethene; TCE = Trichloroethene; TCA = Trichloroethane; DCE = Dichloroethene;

Freon 113 = 1,1,2-Trichloro-1,2,2-trifluoroethane; Freon 11 = Trichlorofluoromethane;

Freon 12 = Dichlorodifluoromethane; DCA = Dichloroethane; 1,4DIOX = 1,4-dioxane

Dry = No water detected, water detected below the screen interval, or insufficient water to sample

U = not detected above reporting limit listed

UJ = analyte was not detected. The reported quantitation limit is approximate and may be inaccurate or imprecise.

J = results are qualified as estimated

J- = result is an estimated quantity, but the result may be biased low. See data validation report in Attachment E.

Attachment I, Table I-3
Other Groundwater Pumping Data Collected This Quarter
Omega Chemical Superfund Site
Third Quarter 2018

		Pump Runtime (hrs)	Total Volume Extracted (gal)	Operational Flow Rate[1] (gpm)	Average Flow Rate[2] (gpm)	Mass Removed (lbs)
DPE-3	July 2018	94.6	15,598	2.75	0.35	
	August 2018	88.6	14,311	2.69	0.32	
	September 2018	89.5	14,301	2.66	0.33	
	3rd Quarter 2018	273	44,210	2.70	0.33	0.08
DPE-4	July 2018	127	18,788	2.47	0.42	
	August 2018	120	17,863	2.48	0.40	
	September 2018	126	18,509	2.45	0.43	
	3rd Quarter 2018	373	55,160	2.47	0.42	0.26
DPE-5	July 2018	155	20,926	2.25	0.47	
	August 2018	149	20,037	2.24	0.45	
	September 2018	149	20,009	2.24	0.46	
	3rd Quarter 2018	453	60,971	2.24	0.46	0.08
DPE-8	July 2018	87.7	10,423	1.98	0.23	
	August 2018	83.1	9,824	1.97	0.22	
	September 2018	82.9	9,515	1.91	0.22	
	3rd Quarter 2018	254	29,762	1.95	0.22	0.01
DPE-9	July 2018	735	49,939	1.13	1.12	
	August 2018	736	43,715	0.99	0.98	
	September 2018	390	18,554	0.79	0.43	
	3rd Quarter 2018	1,861	112,208	0.97	0.84	0.29

Attachment I, Table I-3
Other Groundwater Pumping Data Collected This Quarter
Omega Chemical Superfund Site
Third Quarter 2018

		Pump Runtime (hrs)	Total Volume Extracted (gal)	Operational Flow Rate[1] (gpm)	Average Flow Rate[2] (gpm)	Mass Removed (lbs)
VE-7D	**July 2018**	721	29,373	0.68	0.66	
	August 2018	736	28,518	0.65	0.64	
	September 2018	695	24,635	0.59	0.57	
	3rd Quarter 2018	2,153	82,527	0.64	0.62	0.09
VE-10D	**July 2018**	540	88,954	2.75	1.99	
	August 2018	574	93,543	2.71	2.10	
	September 2018	600	89,803	2.49	2.08	
	3rd Quarter 2018	1,715	272,300	2.65	2.06	1.90

Notes:

1. Operational flow rate calculated from total gallons processed in the month and hours the pump actually operated in the month.

2. Average flow rate is calculated from total gallons processed in the month and total hours in the month, regardless of pump uptime.

All extraction wells operate on/off based on water levels measured by pressure transducers installed in each well.

hrs = hours

gal = gallons

gpm = gallons per minute