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May 15, 2020

Omer Shalev
Remedial Project Manager
United States Environmental Protection Agency
75 Hawthorne Street
San Francisco, California 94105

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

Dear Mr. Shalev:

Enclosed for your review is the Quarterly 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 first quarter 2020.

This report complies with the requirements in the April 2007 Performance Standards Verification Plan, 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.

MAY 15, 2020

INTERIM GROUNDWATER CONTAINMENT REMEDY QUARTERLY PERFORMANCE EVALUATION REPORT FIRST QUARTER 2020 OMEGA CHEMICAL SUPERFUND SITE, OU-1

Prepared for:

Omega Chemical Site
PRP Organized Group
(OPOG)

Prepared by:

de maximis, inc.
1322 Scott Street, Suite 104
San Diego, CA 92106

INTERIM GROUNDWATER CONTAINMENT REMEDY
OPERABLE UNIT 1 OMEGA CHEMICAL SUPERFUND SITE

Quarterly Performance Evaluation Report
First Quarter 2020

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INTERIM GROUNDWATER CONTAINMENT REMEDY
OPERABLE UNIT 1 OMEGA CHEMICAL SUPERFUND SITE

Quarterly Performance Evaluation Report
First Quarter 2020

1. INTRODUCTION

This Quarterly Performance Evaluation Report (QPER) has been prepared for the Interim Groundwater Containment Remedy (GCR) on behalf of the Omega Chemical Site Potentially Responsible Parties Organized Group (OPOG) to comply with the February 2001 Consent Decree (CD) No. 00-12471 between the United States Environmental Protection Agency (USEPA) and OPOG (USEPA, 2001). As stated in the September 2005 Removal Action Memorandum (USEPA, 2005), the primary goal of the selected remedy is to contain the highest levels of contamination dissolved in groundwater within Operable Unit 1 (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. The location and components of the GCR are presented on Figure 1.

The GCR Remedial Action Objective (RAO) monitoring requirements are specified in the Performance Standards Verification Plan (PSVP) (CDM, 2007). Updated monitoring requirements will be included in the Final OU-1 Groundwater Containment System Operations Monitoring & Maintenance (OM&M) Manual. The Draft OM&M Manual was submitted to the USEPA on July 3, 2019 and is currently under review by the USEPA. Current monitoring requirements are as follows:

- GCR operational data are collected to support the determination of compliance with the second RAO (RAO #2, treated vapor emissions and treated groundwater discharge) as well as to conform to the requirements of the PSVP and the current OM&M Manual (CDM, 2010). These data are included in Section 2.

- Quarterly piezometric data from the PSVP-specified monitoring locations are plotted to illustrate that groundwater flow is toward the pumping wells (CDM, 2005). The goal of

this monitoring is to verify that vertical and hydraulic containment of groundwater contamination within OU-1 is achieved. According to the CD, these data provide the primary documentation of containment required by RAO #1 (USEPA, 2001). These data are included in Section 3.

- An updated particle tracking figure is prepared annually as part of the Annual Performance Evaluation Report. Thus, this figure was not updated this quarter.

- The Mann-Kendall analysis for downgradient wells OW-9 and OW-10 is conducted annually as part of the Annual Performance Evaluation Report. Thus, this analysis was not conducted this quarter.

- Semi-annual water quality monitoring data are plotted on time-series charts to show concentration trends (CDM, 2007). These data are collected during the first and third quarter monitoring events and are used to further demonstrate horizontal and vertical containment. Results of the water quality monitoring are summarized in Section 4.

2. GCR SYSTEM OPERATIONS THIS QUARTER

The GCR System functioned this quarter with minimal issues or downtime. Below is a list of non-routine operations and maintenance items which occurred during the first quarter:

- Alarm testing was conducted on January 24, 2020. All alarms functioned as intended.
- Between January 8 and 10, 2020, the GCR system was shut down due to the failure of the discharge pump. A replacement pump was installed on January 10, 2020 and the system was subsequently restarted.
- On February 11, 2020, Duel Phase Extraction (DPE) well VE-7D shut down due to a transducer malfunction. As noted in the Fourth Quarter 2019 QPER (submitted to USEPA on February 10, 2020), OPOG intended to terminate groundwater extraction at DPE well VE-7D following the completion of the semi-annual groundwater monitoring (as the value of extraction from that media is limited). Due to this, OPOG elected to leave VE-7D off and not repair or replace the transducer.
- On March 10, 2020, the anti-scalent pump was replaced.
- Periodic pumping of vaults was conducted during the first quarter following rain events.

The GCR had an operational run time of approximately 97 percent during the first quarter (Table

1). There was limited downtime in January due to the GCR System effluent pump failure as noted above. Approximately 2.5 pounds of Volatile Organic Carbon (VOC) mass were removed from treated groundwater (via the air stripper) during the first quarter, compared to 2.9 pounds removed during the previous quarter. Figure 2 shows the cumulative mass removed since 2009. The total gallons of water treated during the Fourth Quarter 2019 and First Quarter 2020 was 677,600 and 682,200 gallons, respectively.

EXTRACTION WELLS

The Extraction Wells (EWs) (EW-1 through EW-5) were mechanically functional this quarter. Attachment A, Table A-1 includes measurements for each EW during this quarter, including pump runtime, extracted volume, operational flow rate, average flow rate, and calculated mass removed (if semi-annual water quality monitoring was conducted). The measured depth to water (during the quarterly piezometric monitoring) and targeted extraction interval (i.e. screen interval) are discussed in Section 3.

In addition to the five GCR EWs, seven dual-phase extraction (DPE) wells are extracting groundwater within OU-1. These DPE wells were constructed in 2014 as part of the Full Scale On-Site (OU-1) Soil Remedy under the 2010 Consent Decree between the USEPA and OPOG (USEPA 2010). These wells are designated DPE-3, DPE-4, DPE-5, DPE-8, DPE-9, VE-7D, and VE-10D, and are shown on Figure 1. As noted above, groundwater extraction at VE-7D was terminated on February 10, 2020. Although installed as part of the OU-1 soil remedy to increase subsurface vapor removal, the DPE wells are currently extracting most of the water and contaminant mass. Pumping from the DPE wells accounted for approximately 98% of groundwater extracted this quarter.

Other groundwater data collected during the quarter, including data from groundwater pumped from the DPE wells, are summarized in Attachment B. This includes operational information such as volume of groundwater extracted this quarter, targeted extraction interval (i.e. screen interval), approximate depth to water, analytical data (if collected), and calculations of mass removed per pumping well, if applicable. Laboratory analytical results and associated data validation reports are included in Attachment C.

AIR STRIPPER

VOC concentrations in groundwater prior to and after treatment by the air stripper are

summarized in Table 2. These data show continued effectiveness in transferring VOCs from the aqueous phase to the vapor phase for treatment by the Vapor Phase Granular Activated Carbon (VGAC). Air stripper influent concentrations over time are shown on Figure 3. Laboratory analytical results and associated data quality assessments are included in Attachment C.

TREATED VAPOR DISCHARGE

The GCR operated in accordance with treated vapor discharge limits and VGAC operations requirements. The carbon changeout criteria were not triggered during this quarter (Attachment A, Table A-2). The VGAC change out criteria are currently based on the existing Health Risk Assessment (CDM Smith, 2015). A revised Health Risk Assessment was prepared and submitted to the USEPA on March 18, 2019 and is currently under review by the USEPA. The most recent carbon changeout for the GCR was conducted on March 23, 2015.

Table 3 shows the chemical-specific concentrations in the VGAC influent, midpoint, and effluent and effluent discharge limits for the fourth quarter. Attachment A, Table A-2 show VGAC operational conditions for flow rate, temperature, and total VOC emissions as indicated by a Photo Ionization Detector (PID).

TREATED EFFLUENT DISCHARGE

Discharge compliance samples are collected on a quarterly basis from the designated sample collection point (20039A) to confirm compliance with the current SDLAC Industrial Waste Discharge Permit (No. 20039). The SDLAC permit is dated August 8, 2017 and is scheduled to expire on August 7, 2022. The results for the quarterly effluent samples were provided to SDLAC in the self-monitoring report (Attachment D). The analytical results show that all analytes were within SDLAC permit limits or were non-detectable above reporting limits.

3. QUARTERLY PIEZOMETRIC MONITORING

A network of five EWs, 11 groundwater observation wells, and four piezometers are included in the quarterly piezometric monitoring. The quarterly piezometric data are provided in Attachment E, Table E-1. Included in this table are the screen interval (which would equate to the target extraction interval in the listed EWs), and approximate depth to water. Historical piezometric data are presented in time series charts in Attachment E, Figures E-1 through E-20. Note that observation wells OW-4a and OW-4b, included in the PSVP, 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 OU-2 Consent Decree (USEPA 2017).

Attachment F provides a review of the piezometric conditions during the fourth quarter piezometric monitoring. As demonstrated by Figure F-1, horizontal containment of OU-1 groundwater continues to be achieved. It is also noted that the regional drought conditions and the pumping from Full Scale On-Site (OU-1) Soil Remedy DPE wells have reduced water levels locally to below the pump intake of some GCR extraction wells. The combination of all these factors has essentially dewatered the aquifer within the OU-1 boundary, and thus is providing horizontal containment.

Vertical gradients are examined at a well triplet and two well pairs (Figure F-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 F-4). The significant head differential between the A-Zone and B-Zone is further evidence of very limited hydraulic connection between the zones.

GROUNDWATER MODEL UPDATE AND FLOW TRACKING FIGURE

The annual groundwater model was not updated this quarter. Attachment G serves as a placeholder for the next annual groundwater model update, expected to be included in the Annual Performance Evaluation Report.

Field forms for the quarterly piezometric monitoring and semi-annual water quality monitoring are included in Appendix H.

MANN-KENDALL ANALYSIS

The annual Mann-Kendall analysis was not completed this quarter. Attachment I serves as a placeholder for the next annual Mann-Kendall analysis, expected to be included in the Annual Performance Evaluation Report.

4. SEMI-ANNUAL WATER QUALITY MONITORING

A network of five EWs and 11 groundwater observation wells are included in semi-annual water quality monitoring, conducted in the first and third quarters. Concentrations of PCE, TCE, 1,4-dioxane, and other analytes in samples collected during this quarter are presented in

Attachment E, Table E-2. Historical data from these locations are presented in time series charts in Figures E-21 through E-36. Field forms for the semi-annual monitoring are included in Attachment H. Analytical laboratory reports and data validation reports are included in Attachment C.

5. SUBMITTALS DURING THE QUARTER

The following submittals were provided to USEPA this quarter as part of the OU-1 GCR:

- Interim Groundwater Containment Remedy Quarterly Performance Evaluation Report, Fourth Quarter 2019 (February 10, 2020)

6. PLANNED ACTIVITIES

Planned operational and monitoring activities scheduled for the second quarter include the following:

- Replacement of transducers in DPE-3, DPE-4, and DPE-8.
- Quarterly piezometric monitoring
- Monthly assessment of VGAC effectiveness and need for carbon changeout
- Monthly and quarterly assessment of data to determine if system adjustments are appropriate
- Quarterly performance reporting

7. REFERENCES

CDM. (2005). *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 Vapor Extraction, Omega Chemical Superfund Site, Whittier, California 90602, February 26.*

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). *Removal Action Memorandum, September 27*

USEPA. (2010). *Consent Decree Docket No. 10-05051, October 6*
USEPA. (2017). *Consent Decree No. 2:16-cv-02696-GW-E*, March 31

TABLES

Table 1
GWTP Operational Summary and Mass Removed Totals
OU-1 Groundwater Containment Remedy, Omega Chemical Superfund Site
First Quarter 2020

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)
January 2020	92	684	6.2	5.7	253,500	0.9
February 2020	100	695	5.3	5.3	223,000	0.7
March 2020	100	741	4.6	4.6	205,700	0.9
1st Quarter 2020	**Average = 97**	**Average = 707**	**Average = 5.4**	**Average = 5.2**	**Total = 682,200**	**Total = 2.5**
				Cumulative Total[6]	**45,776,565**	**983.0**

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 45,776,565 gallons of water and removed a cumulative total of 983.0 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
First Quarter 2020

Sample ID	Sample Date	PCE	TCE	MeCL	1,2-DCA	Freon 11	Freon 113
OC_SP210_INF_010720	1/7/2020	220	28	5 U	1.9	18	100
OC_SP220B_EFF_010720	1/7/2020	1 U	1 U	5 U	1 U	1 U	5 U
OC_SP210_INF_020420	2/4/2020	200	22	5 U	1.9	13	88
OC_SP220B_EFF_020420	2/4/2020	1 U	1 U	5 U	1 U	1 U	5 U
OC_SP210_INF_031020	3/10/2020	270	28	5 U	3.1	24	120
OC_SP220B_EFF_031020	3/10/2020	1 U	1 U	0.97 J	1 U	1 U	5 U

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.
All results are in micrograms per liter (ug/L)
U = not detected above reporting limit listed
J = quantitatively estimated
PCE = Tetrachloroethene; TCE = Trichloroethene; MeCL = Methylene chloride; 1,2-DCA = Dichloroethane; Freon 11 = Trichlorofluoromethane;
Freon 113 = 1,1,2-Trichloro-1,2,2-trifluoroethane

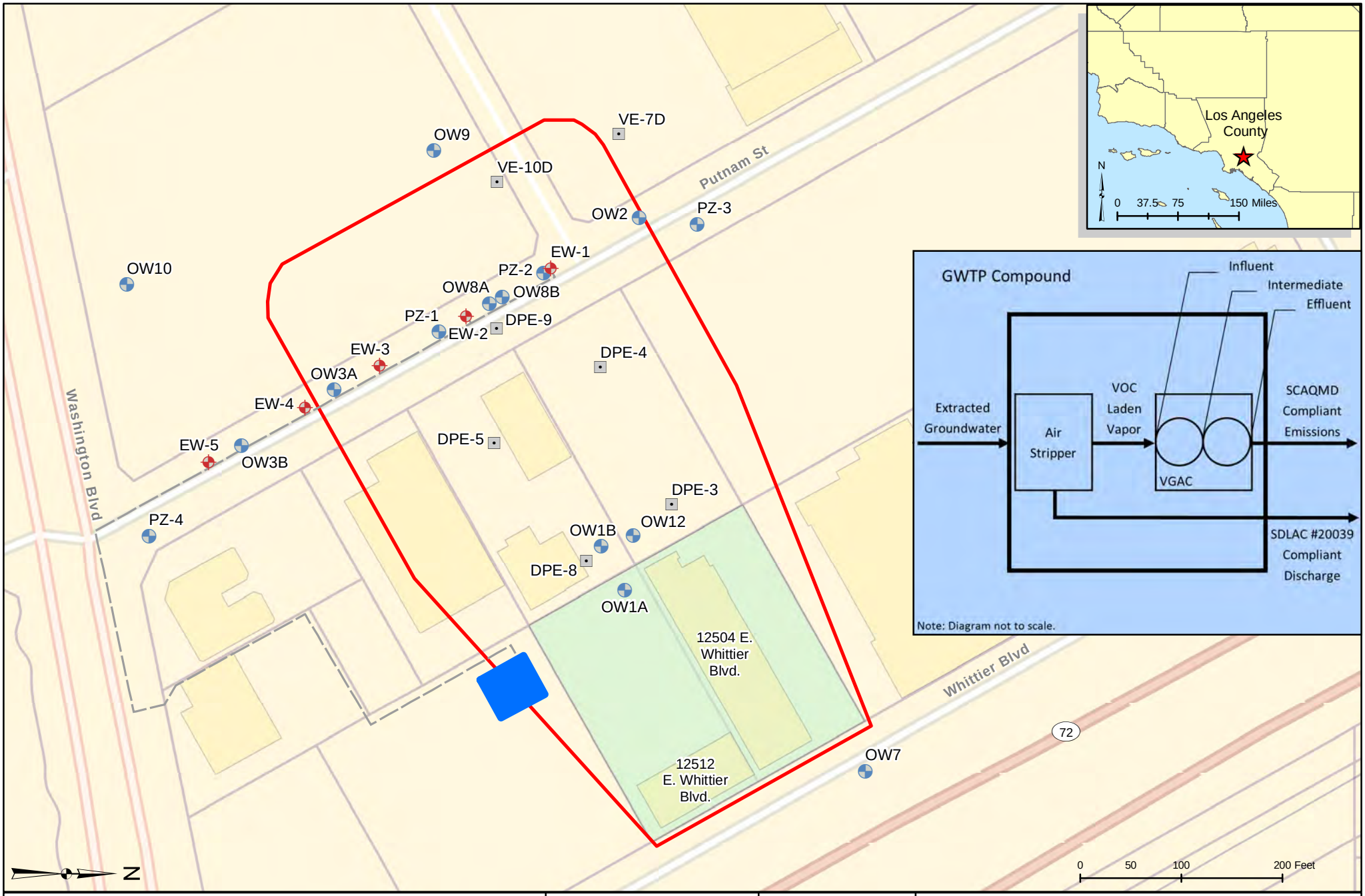
Table 3
Vapor Phase GAC Concentrations Demonstrating Substantive Compliance with SCAQMD Regulations
OU-1 Groundwater Containment Remedy, Omega Chemical Superfund Site
First Quarter 2020

SCAQMD Chemical-Specific Effluent Limit[1]			28	12	18	12	12	6900	230	95
Sample ID	**Sample Date**	**Units**	**PCE**	**TCE**	**1,1-DCA**	**1,2-DCA**	**BZ**	**MeCL**	**VC**	**CFM**
OC_VGAC_INF_SP241_010720	1/7/2020	ppbv	49	7.8	1.2 U	1.2 U	1.2 U	12 U	1.2 U	3.8
OC_VGAC_INT_SP245_010720	1/7/2020	ppbv	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	12 U	1.2 U	3.6
OC_VGAC_EFF_SP242_010720[2]	1/7/2020	ppbv	**1.2 U**	**1.2 U**	**1.2 U**	**1.2 U**	**1.2 U**	**12 U**	**1.2 U**	**3.4**
OC_VGAC_INF_SP241_020420	2/4/2020	ppbv	51	8	1.2 U	1.2 U	1.2 U	12 U	1.2 U	4.4
OC_VGAC_INT_SP245_020420	2/4/2020	ppbv	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	12 U	1.2 U	3.9
OC_VGAC_EFF_SP242_020420	2/4/2020	ppbv	**1.2 U**	**1.2 U**	**1.2 U**	**1.2 U**	**1.2 U**	**12 U**	**1.2 U**	**3.6**
OC_VGAC_INF_SP241_031020	3/10/2020	ppbv	52	7.4	1.2 U	1.2 U	1.2 U	12 U	1.2 U	4.4
OC_VGAC_INT_SP245_031020	3/10/2020	ppbv	1.1 U	1.1 U	1.1 U	1.4	1.1 U	11 U	1.1 U	4.4
OC_VGAC_EFF_SP242_031020	3/10/2020	ppbv	**1.2 U**	**1.2 U**	**1.2 U**	**1.2 U**	**1.2 U**	**12 U**	**1.2 U**	**4.2**
Compliance with Effluent Limits?			**YES**	**YES**	**YES**	**YES**	**YES**	**YES**	**YES**	**YES**

1. SCAQMD effluent limits are derived from the Health Risk Assessment (CDM Smith, 2015).
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

FIGURES

FIGURES



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

Extraction from VE-7D was terminated on February 11, 2020.The pump will remain off as the value of extraction at this location is limited. Only piezometric data are collected from PZ-3 for GCR performance monitoring.

ddms

de maximis, inc.

Reviewed By: KRK
Drawn By: LEM
Date: 4/21/2020

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

Figure 2
Cumulative Gallons Treated and Mass Removed
OU-1 Groundwater Containment Remedy, Omega Chemical Superfund Site
First Quarter 2020

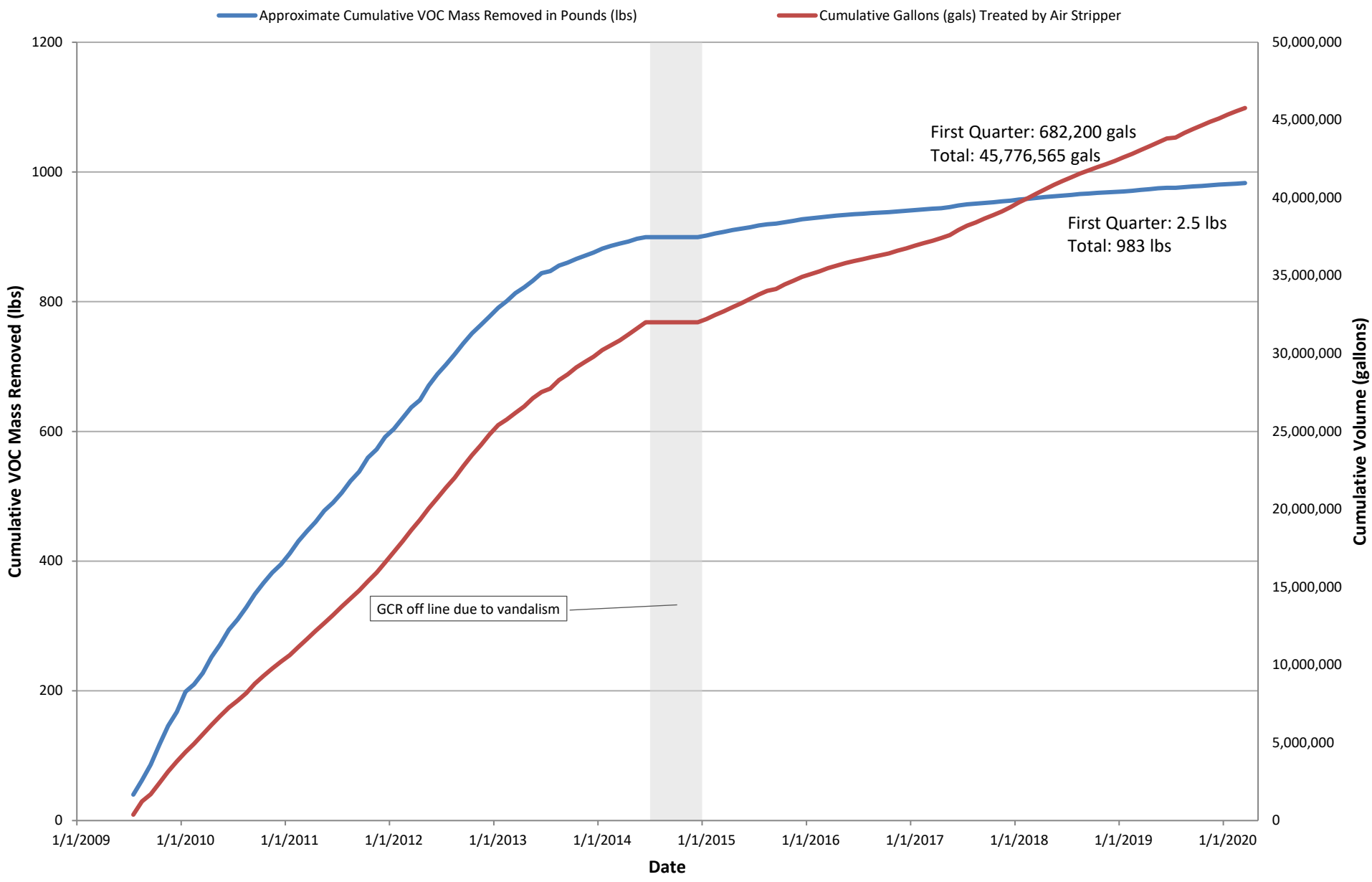
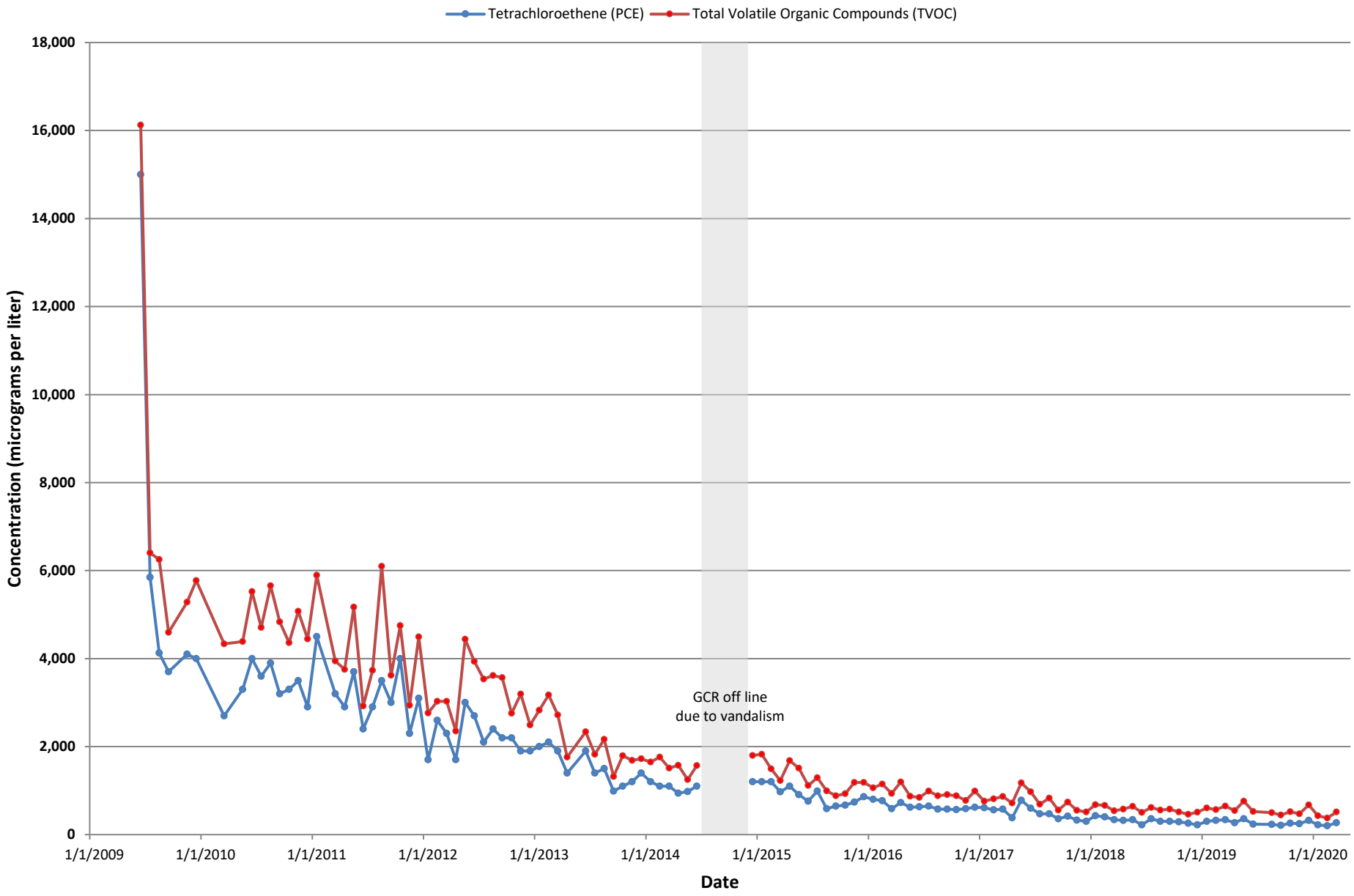


Figure 3
GCR Air Stripper Influent Concentrations
OU-1 Groundwater Containment Remedy, Omega Chemical Superfund Site
First Quarter 2020



ATTACHMENT A

Operational Data Summaries

Attachment A, Table A-1
Hydraulic Containment Extraction Well Operational Summary
OU-1 Groundwater Containment Remedy, Omega Chemical Superfund Site
First Quarter 2020

		Pump Runtime (hrs)	Total Volume Extracted (gal)	Operational Flow Rate[1] (gpm)	Average Flow Rate[2] (gpm)	Mass Removed (lbs)
EW-1	January 2020	0.02	2.12	1.77	0.00005	
	February 2020	0	0	0	0	
	March 2020	0	0	0	0	
	1st Quarter 2020	0.02	2.12	0.59	0.00002	NA
EW-2	January 2020	0[3]	0	0	0	
	February 2020	0	0	0	0	
	March 2020	0	0	0	0	
	1st Quarter 2020	0	0	0	0	NA
EW-3	January 2020	0.46	41.3	1.50	0.001	
	February 2020	0	0	0	0	
	March 2020	3.07	303	1.64	0.01	
	1st Quarter 2020	3.53	344	1.05	0.003	0.000004
EW-4	January 2020	0.71	284	6.67	0.01	
	February 2020	0.02	8.86	7.38	0.0002	
	March 2020	1.18	470	6.64	0.01	
	1st Quarter 2020	1.91	763	6.90	0.01	0.00001
EW-5	January 2020	94.6	3,611	0.64	0.08	
	February 2020	231	2,956	0.21	0.07	
	March 2020	25.6	2,793	1.82	0.06	
	1st Quarter 2020	351	9,360	0.89	0.07	0.01

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 gpm = gallons per minute

gal = gallons lbs = pounds

Attachment A, Table A-2
Vapor Phase GAC Operational Data Demonstrating Substantive Compliance with SCAQMD Regulations
First Quarter 2020

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] (%)
1/7/2020	19.3	705	96.1	1.620	0.414	0.000	74	100
1/19/2020	19.5	705	95.6	1.029	0.013	0.000	99	100
1/23/2020	19.6	703	92.5	1.465	0.330	0.327	77	78
1/28/2020	19.6	710	96.8	1.072	0.456	0.172	57	84
2/4/2020	20.0	693	94.8	1.054	0.007	0.000	99	100
2/11/2020	20.0	699	95.2	0.000	0.000	0.000	100	100
2/17/2020	20.1	700	98.0	0.000	0.051	0.032	100	100
2/25/2020	20.5	706	96.6	0.000	0.000	0.000	100	100
3/3/2020	20.8	705	100.4	0.354	0.000	0.000	100	100
3/10/2020	21.0	695	96.1	0.000	0.000	0.000	100	100
3/17/2020	21.1	698	94.5	0.000	0.000	0.000	100	100
3/24/2020	21.4	698	95.4	0.170	0.075	0.035	56	79
3/31/2020	21.4	703	95.3	0.000	0.000	0.000	100	100
1st Quarter 2020	**20.3**	**702**	**95.9**	**0.520**	**0.104**	**0.044**	**80**	**92**
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.

Kyle King

From: Reed, Alesandra F. <reedaf@cdmsmith.com>
Sent: Tuesday, April 21, 2020 2:21 PM
To: lmillan@ddmsinc.com; Kyle King
Cc: Bamer, Jeffrey
Subject: Omega GWCS GAC Evaluation January 2020
Attachments: Omega GWCS GAC Assessment_January 2020.xlsx

**** WARNING EXTERNAL SENDER ****

Team,

We evaluated the performance of the GAC used by the GWCS for the month of January 2020, 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 January, the GWCS system met the conditions presented in the HRA and was 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 January 7, 2020					
	Concentration (ppbv)				
Parameter	**Influent**	**Midpoint**	**Effluent**	**HRA Effluent Limit**	**Below 2015 HRA Limit?**
1,1,1-Trichloroethane (TCA)	ND	ND	ND	3	Yes
1,1-Dichloroethane	ND	ND	ND	18	Yes
1,1-Dichloroethene	13	11	11	140	Yes
1,2-Dichloroethane	ND	ND	ND	12	Yes
Benzene	ND	ND	ND	12	Yes
Carbon disulfide	ND	ND	ND	690	Yes
Chloroform	3.8	3.6	3.4	95	Yes
Freon 11	4.9	3.8	3.7	4200	Yes
Freon 113	20	17	17	510	Yes
Freon 12	ND	ND	ND	249	Yes
Isopropyl Alcohol (Isopropanol)	ND	ND	ND	29	Yes
o-Xylene	ND	ND	ND	3	Yes
Methyl ethyl ketone	ND	ND	ND	24	Yes
Methylene chloride	ND	ND	ND	6900	Yes

Tetrachloroethene (PCE)	49	ND	ND	28	Yes
TNMOC ref. to Heptane (MW=100)	120	24	56	4177	Yes
Toluene	1.4	ND	ND	42	Yes
Trichloroethene (TCE)	7.8	ND	ND	12	Yes
Vinyl chloride	ND	ND	ND	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

Kyle King

From: Reed, Alesandra F. <reedaf@cdmsmith.com>
Sent: Tuesday, April 21, 2020 2:21 PM
To: lmillan@ddmsinc.com; Kyle King
Cc: Bamer, Jeffrey
Subject: Omega GWCS GAC Evaluation February 2020
Attachments: Omega GWCS GAC Assessment_February 2020.xlsx

**** WARNING EXTERNAL SENDER ****

Team,

We evaluated the performance of the GAC used by the GWCS for the month of February 2020, 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 February, the GWCS system met the conditions presented in the HRA and was 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 February 4, 2020					
	Concentration (ppbv)				
Parameter	**Influent**	**Midpoint**	**Effluent**	**HRA Effluent Limit**	**Below 2015 HRA Limit?**
1,1,1-Trichloroethane (TCA)	ND	ND	ND	3	Yes
1,1-Dichloroethane	ND	ND	ND	18	Yes
1,1-Dichloroethene	14	12	10	140	Yes
1,2-Dichloroethane	ND	ND	ND	12	Yes
Benzene	ND	ND	ND	12	Yes
Carbon disulfide	ND	ND	ND	690	Yes
Chloroform	4.4	3.9	3.6	95	Yes
Freon 11	7	5.5	4.4	4200	Yes
Freon 113	25	19	17	510	Yes
Freon 12	ND	ND	ND	249	Yes
Isopropyl Alcohol (Isopropanol)	ND	ND	ND	29	Yes
o-Xylene	ND	ND	ND	3	Yes
Methyl ethyl ketone	ND	ND	ND	24	Yes

Methylene chloride	ND	ND	ND	6900	Yes
Tetrachloroethene (PCE)	51	ND	ND	28	Yes
TNMOC ref. to Heptane (MW=100)	120	41	43	4177	Yes
Toluene	ND	ND	ND	42	Yes
Trichloroethene (TCE)	8	ND	ND	12	Yes
Vinyl chloride	ND	ND	ND	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

Kyle King

From: Day, Maria L. <dayml@cdmsmith.com>
Sent: Tuesday, April 21, 2020 1:49 PM
To: Kyle King; lmillan@ddmsinc.com
Cc: Reed, Alesandra F.; Bamer, Jeffrey
Subject: GWCS March GAC Assessment
Attachments: Revised Omega GWCS GAC Assessment_Mar 2020_AFR.xlsx

**** WARNING EXTERNAL SENDER ****

Team,

We evaluated the performance of the GAC used by the GWCS for the month of March 2020, 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 March, 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 March 10, 2020					
	Concentration (ppbv)				
Parameter	**Influent**	**Midpoint**	**Effluent**	**HRA Effluent Limit**	**Below 2015 HRA Limit?**
1,1,1-Trichloroethane (TCA)	ND	ND	ND	3	Yes
1,1-Dichloroethane	ND	ND	ND	18	Yes
1,1-Dichloroethene	14	14	13	140	Yes
1,2-Dichloroethane	ND	1.4	ND	12	Yes
Benzene	ND	ND	ND	12	Yes
Carbon disulfide	ND	ND	ND	690	Yes
Chloroform	4.4	4.4	4.2	95	Yes
Freon 11	5.3	5.7	5.1	4200	Yes
Freon 113	22	22	20	510	Yes
Freon 12	ND	ND	ND	249	Yes
Isopropyl Alcohol (Isopropanol)	ND	ND	ND	29	Yes
o-Xylene	ND	ND	ND	3	Yes
Methyl ethyl ketone	ND	ND	ND	24	Yes

Methylene chloride	ND	ND	ND	6900	Yes
Tetrachloroethene (PCE)	52	ND	ND	28	Yes
TNMOC ref. to Heptane (MW=100)	110	31	46	4177	Yes
Toluene	ND	ND	ND	42	Yes
Trichloroethene (TCE)	7.4	ND	ND	12	Yes
Vinyl chloride	ND	ND	ND	230	Yes

We have attached the original spreadsheet. Please let us know if there are any questions or if you would like to discuss the data further. Have a great day.

Maria Day
CDM Smith
555 17th St., Suite 500, Denver, CO 80202
Office: 303.383.2380
Cell: 303.913.8864
dayml@cdmsmith.com

ATTACHMENT B

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

Extraction from VE-7D was terminated on February 11, 2020.
The pump will remain off as the value of extraction at this location is limited.

ddms

de maximis, inc.

Reviewed By: LEM
Drawn By: KM
Date: 4/21/2020

Attachment B, Figure B-1
Other Groundwater Data Locations
Omega Chemical Superfund Site

Attachment B, Table B-1
Other Groundwater Elevation Data Collected This Quarter
Omega Chemical Superfund Site
First Quarter 2020

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	1/22/2020	85.62	112.35
OW11	200.06	100.52 - 120.52	1/21/2020	87.30	112.76
OW13B	210.89	71.37 - 81.37	1/23/2020	99.26	111.63
DPE-3[1]	206.76	109.32 - 169.32	1/20/2020	91.00	115.76
DPE-4[1]	202.97	105.50 - 165.50	1/20/2020	91.40	111.57
DPE-5[1]	201.77	104.36 - 164.36	1/20/2020	90.50	111.27
DPE-8[1]	204.87	107.46 - 167.46	2/7/2020	87.35	117.52
DPE-9[1]	199.06	101.59 - 161.59	1/20/2020	91.75	107.31
VE-7D[1]	200.11	102.03 - 162.03	1/20/2020	94.63	105.48
VE-10D[1]	198.8	100.66 - 160.66	1/20/2020	94.20	104.60

Notes:
Elevation data per California Coordinate System NADV88
btoc = below top of casing
MSL = mean sea level
1. The depth to water shown are based on hand measurements.

Attachment B, Table B-2
Other Groundwater Analytical Data Collected This Quarter
Omega Chemical Superfund Site
First Quarter 2020

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)	1/23/2020	ORIG	290	21	280 J-	1.0 U	37	8.2	53	17	1.0 UJ
OW11 (80 - 100)	1/21/2020	ORIG	200	33	0.49 UJ	1.0 U	34	1.0 U	50	15	1.0 UJ
OW13B (130 - 140)	1/23/2020	ORIG	23	1.0 U	0.50 UJ	1.0 U	1.0 U	1.0 U	5.0 U	1.0 U	1.0 UJ
DPE-3 (40 - 100)	1/20/2020	ORIG	130	8.0	3.8 J-	1.1	4.8	1.9	120	12	1.0 UJ
DPE-4 (40 - 100)	1/20/2020	ORIG	510	47	13 J-	4.0	25	1.9	470	17	1.0 UJ
DPE-5 (40 - 100)	1/20/2020	ORIG	88	8.5	2.8 J-	1.0 U	37	0.36 J	14	9.1	1.0 UJ
DPE-8 (40 - 100)	1/20/2020	ORIG	17	3.2	2.6 J-	1.0 U	0.59 J	1.0 U	3.1 J	1.8	1.0 UJ
DPE-9 (40 - 100)	1/20/2020	ORIG	96	6.9	22 J-	1.0 U	12	1.9	14	5.7	1.0 UJ
VE-7D (40 - 100)	1/20/2020	ORIG	54	22	0.49 UJ	1.0 U	12	1.0 U	14	4.8	1.0 UJ
VE-10D (40 - 100)	1/20/2020	ORIG	320	33	18 J-	1.0 U	47	3.9	64	19	1.0 UJ

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

Attachment B, Table B-3
Other Groundwater Pumping Data Collected This Quarter
Omega Chemical Superfund Site
First Quarter 2020

		Pump Runtime (hrs)	Total Volume Extracted (gal)	Operational Flow Rate[1] (gpm)	Average Flow Rate[2] (gpm)	Mass Removed (lbs)
DPE-3	January 2020	125	36,421	4.85	0.82	
	February 2020	116	35,326	5.07	0.85	
	March 2020	111	36,114	5.42	0.81	
	1st Quarter 2020	352	107,861	5.12	0.82	0.23
DPE-4	January 2020	131	12,728	1.62	0.29	
	February 2020	121	11,731	1.62	0.28	
	March 2020	132	13,244	1.67	0.30	
	1st Quarter 2020	384	37,702	1.64	0.29	0.31
DPE-5	January 2020	146	20,536	2.35	0.46	
	February 2020	134	19,401	2.41	0.46	
	March 2020	132	18,708	2.36	0.42	
	1st Quarter 2020	412	58,646	2.37	0.45	0.07
DPE-8	January 2020	205	13,824	1.12	0.31	
	February 2020	148	10,062	1.13	0.24	
	March 2020	159	11,137	1.17	0.25	
	1st Quarter 2020	513	35,023	1.14	0.27	0.01
DPE-9	January 2020	290	71,916	4.13	1.61	
	February 2020	281	70,058	4.16	1.68	
	March 2020	218	55,033	4.21	1.23	
	1st Quarter 2020	789	197,007	4.17	1.51	0.24

Attachment B, Table B-3
Other Groundwater Pumping Data Collected This Quarter
Omega Chemical Superfund Site
First Quarter 2020

		Pump Runtime (hrs)	Total Volume Extracted (gal)	Operational Flow Rate[1] (gpm)	Average Flow Rate[2] (gpm)	Mass Removed (lbs)
VE-7D[3]	January 2020	132	26,214	3.30	0.59	
	February 2020	42.5	8,949	3.51	0.21	
	March 2020	0	0	0	0	
	1st Quarter 2020	175	35,163	2.27	0.27	0.03
VE-10D	January 2020	321	67,922	3.53	1.52	
	February 2020	283	64,507	3.80	1.54	
	March 2020	300	67,898	3.78	1.52	
	1st Quarter 2020	903	200,328	3.70	1.53	0.79

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. Extraction from VE-7D was terminated on February 11, 2020. The pump will remain off as the value of extraction at this location is limited.

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

lbs = pounds

ATTACHMENT C

Laboratory Analytical Results and Data Verification Reports

Data Quality Assessment
OU-1 Groundwater Containment Remedy, Omega Chemical Superfund Site
First Quarter 2020

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									
Q1	Quarterly sampling of the treatment plant effluent is required per Los Angeles County Sanitation District Industrial Waste Discharge Permit Number 20039.	Quarterly	Water	261356	2/21-22/2020	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. The result for 1,4-dioxane in GRAB was qualified as estimated (J, UJ) due to an unacceptable surrogate recovery and low LCSD recovery. The result for benzidine was rejected (R) in GRAB due to unacceptable recoveries in the LCS and LCSD. Results for all other semi-volatile compounds in GRAB were qualified as estimated (J, UJ) due to low surrogate and LCS recoveries. No other qualification of sample results was warranted.
GWTS Process Sampling									
SCAQMD Compliance									
Q1	Sampling of the influent, intermediate, and effluent sample ports of the VPGAC vessels is required monthly for the SCAQMD permit.	Monthly	Air	2001137	1/7/2020	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.
				2002237	2/4/2020				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.
				2003327	3/10/2020				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.
Treatment System Process Sampling									
Q1	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	258644	1/7/2020	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_010720 was qualified estimated (J-) due to an unacceptable LCS recovery. The result may be biased low. Results for 1,1-dichloroethene in the influent and effluent samples were qualified as estimated (J-, UJ) due to a low recovery in the MSD. Results may be biased low. No other qualification of sample results was warranted.
				260299	2/4/2020				The result for 1,4-dioxane in OC_SP220B_EFF_020420 was qualified estimated (J-) due to unacceptable surrogate and LCS recoveries. The result may be biased low. No other qualification of sample results was warranted.
				262641	3/10/2020				The result for 1,4-dioxane in OC_SP220B_EFF_031020 was qualified estimated (J-) due to low surrogate and LCS/LCSD recoveries. The result may be biased low. No other qualification of sample results was warranted.

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1/16/2020
Ms. Jaime Dinello
DeMaximis, Inc
1340 Reynolds Ave, Suite 105

Irvine CA 92614

Project Name: Omega - GWCS Monthly GAC
Project #:
Workorder #: 2001137

Dear Ms. Jaime Dinello

The following report includes the data for the above referenced project for sample(s) received on 1/9/2020 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 #: 2001137

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:	01/09/2020	**CONTACT:**	Kelly Buettner
DATE COMPLETED:	01/15/2020		

FRACTION #	NAME	TEST	RECEIPT VAC./PRES.	FINAL PRESSURE
01A	OC_VGAC_EFF_SP242_010720	TO-15	3.9 "Hg	15.9 psi
02A	OC_VGAC_INT_SP245_010720	TO-15	3.7 "Hg	15.8 psi
03A	OC_VGAC_INF_SP241_010720	TO-15	3.7 "Hg	15.8 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: 01/15/20

Certification numbers: AZ Licensure AZ0775, FL NELAP – E87680, LA NELAP – 02089, NH NELAP - 209218, NJ NELAP - CA016, NY NELAP - 11291, TX NELAP - T104704434-18-13, UT NELAP – CA009332019-11, VA NELAP - 460197, WA NELAP - C935
Name of Accreditation Body: NELAP/ORELAP (Oregon Environmental Laboratory Accreditation Program)
Accreditation number: CA300005-011, Effective date: 10/18/2019, Expiration date: 10/17/2020.
Eurofins Air Toxics, LLC 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, LLC.

180 BLUE RAVINE ROAD, SUITE B FOLSOM, CA - 95630
(916) 985-1000 . (800) 985-5955 . FAX (916) 351-8279

LABORATORY NARRATIVE
EPA Method TO-15
DeMaximis, Inc
Workorder# 2001137

Three 1 Liter Summa Canister samples were received on January 09, 2020. The laboratory performed analysis via EPA Method TO-15 using GC/MS in the full scan mode.

Receiving Notes

There were no receiving discrepancies.

Analytical Notes

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_010720

Lab ID#: 2001137-01A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 11	1.2	3.7	6.7	21
Freon 113	1.2	17	9.2	130
1,1-Dichloroethene	1.2	11	4.7	45
Chloroform	1.2	3.4	5.8	16
TNMOC ref. to Heptane (MW=100)	24	56	98	230

Client Sample ID: OC_VGAC_INT_SP245_010720

Lab ID#: 2001137-02A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 11	1.2	3.8	6.6	22
Freon 113	1.2	17	9.1	130
1,1-Dichloroethene	1.2	11	4.7	43
Chloroform	1.2	3.6	5.8	18
TNMOC ref. to Heptane (MW=100)	24	24	97	98

Client Sample ID: OC_VGAC_INF_SP241_010720

Lab ID#: 2001137-03A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 11	1.2	4.9	6.6	27
Freon 113	1.2	20	9.1	160
1,1-Dichloroethene	1.2	13	4.7	51
Chloroform	1.2	3.8	5.8	19
Trichloroethene	1.2	7.8	6.4	42
Toluene	1.2	1.4	4.5	5.1
Tetrachloroethene	1.2	49	8.0	330
TNMOC ref. to Heptane (MW=100)	24	120	97	490

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Client Sample ID: OC_VGAC_EFF_SP242_010720

Lab ID#: 2001137-01A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**3011016**	**Date of Collection:**	**1/7/20 8:48:00 AM**
Dil. Factor:	**2.39**	**Date of Analysis:**	**1/10/20 06:32 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	3.7	6.7	21
Freon 113	1.2	17	9.2	130
1,1-Dichloroethene	1.2	11	4.7	45
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	4.2	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	3.4	5.8	16
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	Not Detected	4.8	Not Detected
Trichloroethene	1.2	Not Detected	6.4	Not Detected
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	Not Detected	8.1	Not Detected
o-Xylene	1.2	Not Detected	5.2	Not Detected
TNMOC ref. to Heptane (MW=100)	24	56	98	230

Container Type: 1 Liter Summa Canister

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

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Client Sample ID: OC_VGAC_INT_SP245_010720

Lab ID#: 2001137-02A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**3011018**	**Date of Collection:**	**1/7/20 8:50:00 AM**
Dil. Factor:	**2.37**	**Date of Analysis:**	**1/10/20 07:25 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	3.8	6.6	22
Freon 113	1.2	17	9.1	130
1,1-Dichloroethene	1.2	11	4.7	43
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	Not Detected	4.2	Not Detected
1,1-Dichloroethane	1.2	Not Detected	4.8	Not Detected
2-Butanone (Methyl Ethyl Ketone)	4.7	Not Detected	14	Not Detected
Chloroform	1.2	3.6	5.8	18
1,1,1-Trichloroethane	1.2	Not Detected	6.5	Not Detected
Carbon Tetrachloride	1.2	Not Detected	7.4	Not Detected
Benzene	1.2	Not Detected	3.8	Not Detected
1,2-Dichloroethane	1.2	Not Detected	4.8	Not Detected
Trichloroethene	1.2	Not Detected	6.4	Not Detected
1,4-Dioxane	4.7	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	Not Detected	8.0	Not Detected
o-Xylene	1.2	Not Detected	5.1	Not Detected
TNMOC ref. to Heptane (MW=100)	24	24	97	98

Container Type: 1 Liter Summa Canister

Surrogates	%Recovery	Method Limits
Toluene-d8	99	70-130
1,2-Dichloroethane-d4	101	70-130
4-Bromofluorobenzene	97	70-130

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Client Sample ID: OC_VGAC_INF_SP241_010720

Lab ID#: 2001137-03A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**3011019**	**Date of Collection:**	**1/7/20 8:50:00 AM**
Dil. Factor:	**2.37**	**Date of Analysis:**	**1/10/20 07:52 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	4.9	6.6	27
Freon 113	1.2	20	9.1	160
1,1-Dichloroethene	1.2	13	4.7	51
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	Not Detected	4.2	Not Detected
1,1-Dichloroethane	1.2	Not Detected	4.8	Not Detected
2-Butanone (Methyl Ethyl Ketone)	4.7	Not Detected	14	Not Detected
Chloroform	1.2	3.8	5.8	19
1,1,1-Trichloroethane	1.2	Not Detected	6.5	Not Detected
Carbon Tetrachloride	1.2	Not Detected	7.4	Not Detected
Benzene	1.2	Not Detected	3.8	Not Detected
1,2-Dichloroethane	1.2	Not Detected	4.8	Not Detected
Trichloroethene	1.2	7.8	6.4	42
1,4-Dioxane	4.7	Not Detected	17	Not Detected
Toluene	1.2	1.4	4.5	5.1
1,1,2-Trichloroethane	1.2	Not Detected	6.5	Not Detected
Tetrachloroethene	1.2	49	8.0	330
o-Xylene	1.2	Not Detected	5.1	Not Detected
TNMOC ref. to Heptane (MW=100)	24	120	97	490

Container Type: 1 Liter Summa Canister

Surrogates	%Recovery	Method Limits
Toluene-d8	98	70-130
1,2-Dichloroethane-d4	102	70-130
4-Bromofluorobenzene	98	70-130

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Client Sample ID: Lab Blank

Lab ID#: 2001137-04A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**3011006**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 1/10/20 12:17 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	98	70-130
1,2-Dichloroethane-d4	101	70-130
4-Bromofluorobenzene	99	70-130

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Client Sample ID: CCV

Lab ID#: 2001137-05A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**3011002**	**Date of Collection: NA**
Dil. Factor:	**1.00**	**Date of Analysis: 1/10/20 09:02 AM**

Compound	**%Recovery**
Freon 12	98
Vinyl Chloride	89
Freon 11	100
Freon 113	98
1,1-Dichloroethene	97
2-Propanol	96
Carbon Disulfide	94
Methylene Chloride	98
Hexane	93
1,1-Dichloroethane	96
2-Butanone (Methyl Ethyl Ketone)	95
Chloroform	95
1,1,1-Trichloroethane	96
Carbon Tetrachloride	103
Benzene	98
1,2-Dichloroethane	101
Trichloroethene	101
1,4-Dioxane	96
Toluene	91
1,1,2-Trichloroethane	101
Tetrachloroethene	102
o-Xylene	99
TNMOC ref. to Heptane (MW=100)	100

Container Type: NA - Not Applicable

Surrogates	**%Recovery**	**Method Limits**
Toluene-d8	99	70-130
1,2-Dichloroethane-d4	95	70-130
4-Bromofluorobenzene	98	70-130

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Client Sample ID: LCS

Lab ID#: 2001137-06A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**3011003**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 1/10/20 09:27 AM**	

Compound	**%Recovery**	**Method Limits**
Freon 12	93	70-130
Vinyl Chloride	88	70-130
Freon 11	98	70-130
Freon 113	98	70-130
1,1-Dichloroethene	99	70-130
2-Propanol	90	70-130
Carbon Disulfide	89	70-130
Methylene Chloride	97	70-130
Hexane	91	70-130
1,1-Dichloroethane	98	70-130
2-Butanone (Methyl Ethyl Ketone)	91	70-130
Chloroform	96	70-130
1,1,1-Trichloroethane	95	70-130
Carbon Tetrachloride	102	70-130
Benzene	93	70-130
1,2-Dichloroethane	98	70-130
Trichloroethene	101	70-130
1,4-Dioxane	92	70-130
Toluene	90	70-130
1,1,2-Trichloroethane	95	70-130
Tetrachloroethene	98	70-130
o-Xylene	95	70-130
TNMOC ref. to Heptane (MW=100)	Not Spiked	

Container Type: NA - Not Applicable

Surrogates	**%Recovery**	**Method Limits**
Toluene-d8	99	70-130
1,2-Dichloroethane-d4	100	70-130
4-Bromofluorobenzene	98	70-130

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Client Sample ID: LCSD

Lab ID#: 2001137-06AA

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**3011004**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 1/10/20 09:51 AM**	

Compound	**%Recovery**	**Method Limits**
Freon 12	94	70-130
Vinyl Chloride	88	70-130
Freon 11	97	70-130
Freon 113	97	70-130
1,1-Dichloroethene	97	70-130
2-Propanol	90	70-130
Carbon Disulfide	89	70-130
Methylene Chloride	96	70-130
Hexane	91	70-130
1,1-Dichloroethane	96	70-130
2-Butanone (Methyl Ethyl Ketone)	92	70-130
Chloroform	95	70-130
1,1,1-Trichloroethane	94	70-130
Carbon Tetrachloride	100	70-130
Benzene	92	70-130
1,2-Dichloroethane	99	70-130
Trichloroethene	100	70-130
1,4-Dioxane	92	70-130
Toluene	89	70-130
1,1,2-Trichloroethane	95	70-130
Tetrachloroethene	98	70-130
o-Xylene	96	70-130
TNMOC ref. to Heptane (MW=100)	Not Spiked	

Container Type: NA - Not Applicable

Surrogates	**%Recovery**	**Method Limits**
Toluene-d8	99	70-130
1,2-Dichloroethane-d4	98	70-130
4-Bromofluorobenzene	99	70-130

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

2001137

AIR CHAIN OF CUSTODY RECORD

DATE: 01/07/20
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_010720	SP-EFF-GAC	Vapor	1L1776	1L	23192	1/7/2020	0844	-27.5	1/7/2020	0848	-5	X
02A	2	OC_VGAC_INT_SP245_010720	SP-MID-GAC	Vapor	1L2806	1L	24206	1/7/2020	0845	-28	1/7/2020	0850	-5	X
03A	3	OC_VGAC_INF_SP241_010720	SP-INF-GAC	Vapor	1L1606	1L	23193	1/7/2020	0846	-26	1/7/2020	0850	-4	X
	4													
	5													
	6													
	7													
	8													
	9													
	10													
	11													
	12													
	13													
	14													
	15													

Custody Seal Intact?
Y N None Temp NA
FEDEX

Relinquished by: (Signature)	Received by: (Signature)	Date:	Time:
[signature]	[signature]	01/09/20	0943
Relinquished by: (Signature)	Received by: (Signature)	Date:	Time:
Relinquished by: (Signature)	Received by: (Signature)	Date:	Time:

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2/17/2020
Ms. Jaime Dinello
DeMaximis, Inc
1340 Reynolds Ave, Suite 105

Irvine CA 92614

Project Name: Omega - GWCS Monthly GAC
Project #:
Workorder #: 2002237

Dear Ms. Jaime Dinello

The following report includes the data for the above referenced project for sample(s) received on 2/10/2020 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 #: 2002237

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:	02/10/2020	**CONTACT:**	Kelly Buettner
DATE COMPLETED:	02/17/2020		

FRACTION #	NAME	TEST	RECEIPT VAC./PRES.	FINAL PRESSURE
01A	OC_VGAC_EFF_SP242_020420	TO-15	4.3 "Hg	15.5 psi
02A	OC_VGAC_INT_SP245_020420	TO-15	3.7 "Hg	15.1 psi
03A	OC_VGAC_INF_SP241_020420	TO-15	3.5 "Hg	16.3 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: 02/17/20

Certification numbers: AZ Licensure AZ0775, FL NELAP – E87680, LA NELAP – 02089, NH NELAP - 209218, NJ NELAP - CA016, NY NELAP - 11291, TX NELAP - T104704434-18-13, UT NELAP – CA009332019-11, VA NELAP - 460197, WA NELAP - C935
Name of Accreditation Body: NELAP/ORELAP (Oregon Environmental Laboratory Accreditation Program)
Accreditation number: CA300005-011, Effective date: 10/18/2019, Expiration date: 10/17/2020.
Eurofins Air Toxics, LLC 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, LLC.

180 BLUE RAVINE ROAD, SUITE B FOLSOM, CA - 95630
(916) 985-1000 . (800) 985-5955 . FAX (916) 351-8279

LABORATORY NARRATIVE
EPA Method TO-15
DeMaximis, Inc
Workorder# 2002237

Three 1 Liter Summa Canister samples were received on February 10, 2020. The laboratory performed analysis via EPA Method TO-15 using GC/MS in the full scan mode.

Receiving Notes

There were no receiving discrepancies.

Analytical Notes

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_020420

Lab ID#: 2002237-01A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 11	1.2	4.4	6.7	24
Freon 113	1.2	17	9.2	130
1,1-Dichloroethene	1.2	10	4.8	40
Chloroform	1.2	3.6	5.8	17
TNMOC ref. to Heptane (MW=100)	24	43	98	180

Client Sample ID: OC_VGAC_INT_SP245_020420

Lab ID#: 2002237-02A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 11	1.2	5.5	6.5	31
Freon 113	1.2	19	8.8	150
1,1-Dichloroethene	1.2	12	4.6	47
Chloroform	1.2	3.9	5.6	19
TNMOC ref. to Heptane (MW=100)	23	41	94	170

Client Sample ID: OC_VGAC_INF_SP241_020420

Lab ID#: 2002237-03A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 11	1.2	7.0	6.7	39
Freon 113	1.2	25	9.2	190
1,1-Dichloroethene	1.2	14	4.7	55
Chloroform	1.2	4.4	5.8	22
Trichloroethene	1.2	8.0	6.4	43
Tetrachloroethene	1.2	51	8.1	340
TNMOC ref. to Heptane (MW=100)	24	120	98	490

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Client Sample ID: OC_VGAC_EFF_SP242_020420

Lab ID#: 2002237-01A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**17021220**	**Date of Collection:**	**2/4/20 11:25:00 AM**
Dil. Factor:	**2.40**	**Date of Analysis:**	**2/12/20 11:35 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	3.1	Not Detected
Freon 11	1.2	4.4	6.7	24
Freon 113	1.2	17	9.2	130
1,1-Dichloroethene	1.2	10	4.8	40
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	4.2	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	3.6	5.8	17
1,1,1-Trichloroethane	1.2	Not Detected	6.5	Not Detected
Carbon Tetrachloride	1.2	Not Detected	7.6	Not Detected
Benzene	1.2	Not Detected	3.8	Not Detected
1,2-Dichloroethane	1.2	Not Detected	4.8	Not Detected
Trichloroethene	1.2	Not Detected	6.4	Not Detected
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	Not Detected	8.1	Not Detected
o-Xylene	1.2	Not Detected	5.2	Not Detected
TNMOC ref. to Heptane (MW=100)	24	43	98	180

Container Type: 1 Liter Summa Canister

Surrogates	%Recovery	Method Limits
Toluene-d8	95	70-130
1,2-Dichloroethane-d4	126	70-130
4-Bromofluorobenzene	104	70-130

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Client Sample ID: OC_VGAC_INT_SP245_020420

Lab ID#: 2002237-02A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**17021221**	**Date of Collection:**	**2/4/20 11:28:00 AM**
Dil. Factor:	**2.31**	**Date of Analysis:**	**2/13/20 12:04 AM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	1.2	Not Detected	5.7	Not Detected
Vinyl Chloride	1.2	Not Detected	3.0	Not Detected
Freon 11	1.2	5.5	6.5	31
Freon 113	1.2	19	8.8	150
1,1-Dichloroethene	1.2	12	4.6	47
2-Propanol	4.6	Not Detected	11	Not Detected
Carbon Disulfide	4.6	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)	4.6	Not Detected	14	Not Detected
Chloroform	1.2	3.9	5.6	19
1,1,1-Trichloroethane	1.2	Not Detected	6.3	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	6.2	Not Detected
1,4-Dioxane	4.6	Not Detected	17	Not Detected
Toluene	1.2	Not Detected	4.4	Not Detected
1,1,2-Trichloroethane	1.2	Not Detected	6.3	Not Detected
Tetrachloroethene	1.2	Not Detected	7.8	Not Detected
o-Xylene	1.2	Not Detected	5.0	Not Detected
TNMOC ref. to Heptane (MW=100)	23	41	94	170

Container Type: 1 Liter Summa Canister

Surrogates	%Recovery	Method Limits
Toluene-d8	94	70-130
1,2-Dichloroethane-d4	118	70-130
4-Bromofluorobenzene	101	70-130

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Client Sample ID: OC_VGAC_INF_SP241_020420

Lab ID#: 2002237-03A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**17021222**	**Date of Collection:**	**2/4/20 11:30:00 AM**
Dil. Factor:	**2.39**	**Date of Analysis:**	**2/13/20 12:32 AM**

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	7.0	6.7	39
Freon 113	1.2	25	9.2	190
1,1-Dichloroethene	1.2	14	4.7	55
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	4.2	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	4.4	5.8	22
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	Not Detected	4.8	Not Detected
Trichloroethene	1.2	8.0	6.4	43
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	51	8.1	340
o-Xylene	1.2	Not Detected	5.2	Not Detected
TNMOC ref. to Heptane (MW=100)	24	120	98	490

Container Type: 1 Liter Summa Canister

Surrogates	%Recovery	Method Limits
Toluene-d8	98	70-130
1,2-Dichloroethane-d4	122	70-130
4-Bromofluorobenzene	102	70-130

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Client Sample ID: Lab Blank

Lab ID#: 2002237-04A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**17021215**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 2/12/20 07:01 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	92	70-130
1,2-Dichloroethane-d4	127	70-130
4-Bromofluorobenzene	98	70-130

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Client Sample ID: CCV

Lab ID#: 2002237-05A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**17021202**	**Date of Collection: NA**
Dil. Factor:	**1.00**	**Date of Analysis: 2/12/20 11:27 AM**

Compound	%Recovery
Freon 12	112
Vinyl Chloride	80
Freon 11	119
Freon 113	102
1,1-Dichloroethene	99
2-Propanol	73
Carbon Disulfide	86
Methylene Chloride	75
Hexane	83
1,1-Dichloroethane	88
2-Butanone (Methyl Ethyl Ketone)	84
Chloroform	105
1,1,1-Trichloroethane	110
Carbon Tetrachloride	115
Benzene	88
1,2-Dichloroethane	114
Trichloroethene	102
1,4-Dioxane	90
Toluene	92
1,1,2-Trichloroethane	92
Tetrachloroethene	105
o-Xylene	97
TNMOC ref. to Heptane (MW=100)	100

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
Toluene-d8	95	70-130
1,2-Dichloroethane-d4	115	70-130
4-Bromofluorobenzene	105	70-130

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Client Sample ID: LCS

Lab ID#: 2002237-06A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**17021203**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 2/12/20 11:53 AM**	

Compound	**%Recovery**	**Method Limits**
Freon 12	114	70-130
Vinyl Chloride	84	70-130
Freon 11	120	70-130
Freon 113	103	70-130
1,1-Dichloroethene	101	70-130
2-Propanol	82	70-130
Carbon Disulfide	89	70-130
Methylene Chloride	78	70-130
Hexane	85	70-130
1,1-Dichloroethane	88	70-130
2-Butanone (Methyl Ethyl Ketone)	88	70-130
Chloroform	108	70-130
1,1,1-Trichloroethane	113	70-130
Carbon Tetrachloride	118	70-130
Benzene	86	70-130
1,2-Dichloroethane	112	70-130
Trichloroethene	99	70-130
1,4-Dioxane	89	70-130
Toluene	88	70-130
1,1,2-Trichloroethane	89	70-130
Tetrachloroethene	101	70-130
o-Xylene	95	70-130
TNMOC ref. to Heptane (MW=100)	Not Spiked	

Container Type: NA - Not Applicable

Surrogates	**%Recovery**	**Method Limits**
Toluene-d8	97	70-130
1,2-Dichloroethane-d4	121	70-130
4-Bromofluorobenzene	106	70-130

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Client Sample ID: LCSD

Lab ID#: 2002237-06AA

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**17021204**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 2/12/20 12:19 PM**	

Compound	**%Recovery**	**Method Limits**
Freon 12	114	70-130
Vinyl Chloride	83	70-130
Freon 11	121	70-130
Freon 113	104	70-130
1,1-Dichloroethene	100	70-130
2-Propanol	80	70-130
Carbon Disulfide	91	70-130
Methylene Chloride	75	70-130
Hexane	85	70-130
1,1-Dichloroethane	89	70-130
2-Butanone (Methyl Ethyl Ketone)	81	70-130
Chloroform	108	70-130
1,1,1-Trichloroethane	112	70-130
Carbon Tetrachloride	119	70-130
Benzene	91	70-130
1,2-Dichloroethane	114	70-130
Trichloroethene	101	70-130
1,4-Dioxane	90	70-130
Toluene	92	70-130
1,1,2-Trichloroethane	89	70-130
Tetrachloroethene	102	70-130
o-Xylene	93	70-130
TNMOC ref. to Heptane (MW=100)	Not Spiked	

Container Type: NA - Not Applicable

Surrogates	**%Recovery**	**Method Limits**
Toluene-d8	99	70-130
1,2-Dichloroethane-d4	114	70-130
4-Bromofluorobenzene	107	70-130

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

2002237

AIR CHAIN OF CUSTODY RECORD

DATE: 02/04/20
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 Azh

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_020420	SP-EFF-GAC	Vapor	121910	1L	23348	2/4/2020	1121	-27	2/4/2020	1125	-5	X
02A	2	OC_VGAC_INT_SP245_020420	SP-MID-GAC	Vapor	122650	1L	23292	2/4/2020	1123	-26	2/4/2020	1128	-5	X
03A	3	OC_VGAC_INF_SP241_020420	SP-INF-GAC	Vapor	122824	1L	23252	2/4/2020	1124	-26	2/4/2020	1130	-5	X
	4													
	5													
	6													
	7													
	8													
	9													
	10													
	11													
	12													
	13													
	14													
	15													

FedEx

Custody Seal Intact? Y N None Temp N/A

Relinquished by: (Signature)	Received by: (Signature)	Date:	Time:
	CALL	2/10/20	0925
Relinquished by: (Signature)	Received by: (Signature)	Date:	Time:
Relinquished by: (Signature)	Received by: (Signature)	Date:	Time:

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3/19/2020
Ms. Jaime Dinello
DeMaximis, Inc
1340 Reynolds Ave, Suite 105

Irvine CA 92614

Project Name: Omega - GWCS Monthly GAC
Project #:
Workorder #: 2003327

Dear Ms. Jaime Dinello

The following report includes the data for the above referenced project for sample(s) received on 3/12/2020 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 #: 2003327

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:	03/12/2020	**CONTACT:**	Kelly Buettner
DATE COMPLETED:	03/19/2020		

FRACTION #	NAME	TEST	RECEIPT VAC./PRES.	FINAL PRESSURE
01A	OC_VGAC_EFF_SP242_031020	TO-15	4.0 "Hg	15 psi
02A	OC_VGAC_INT_SP245_031020	TO-15	3.5 "Hg	15 psi
03A	OC_VGAC_INF_SP241_031020	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: 03/19/20

Certification numbers: AZ Licensure AZ0775, FL NELAP – E87680, LA NELAP – 02089, NH NELAP - 209218, NJ NELAP - CA016, NY NELAP - 11291, TX NELAP - T104704434-18-13, UT NELAP – CA009332019-11, VA NELAP - 460197, WA NELAP - C935
Name of Accreditation Body: NELAP/ORELAP (Oregon Environmental Laboratory Accreditation Program)
Accreditation number: CA300005-011, Effective date: 10/18/2019, Expiration date: 10/17/2020.
Eurofins Air Toxics, LLC 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, LLC.

180 BLUE RAVINE ROAD, SUITE B FOLSOM, CA - 95630
(916) 985-1000 . (800) 985-5955 . FAX (916) 351-8279

LABORATORY NARRATIVE
EPA Method TO-15
DeMaximis, Inc
Workorder# 2003327

Three 1 Liter Summa Canister samples were received on March 12, 2020. The laboratory performed analysis via EPA Method TO-15 using GC/MS in the full scan mode.

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_031020

Lab ID#: 2003327-01A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 11	1.2	5.1	6.5	28
Freon 113	1.2	20	8.9	160
1,1-Dichloroethene	1.2	13	4.6	53
Chloroform	1.2	4.2	5.7	21
TNMOC ref. to Heptane (MW=100)	23	46	95	190

Client Sample ID: OC_VGAC_INT_SP245_031020

Lab ID#: 2003327-02A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 11	1.1	5.7	6.4	32
Freon 113	1.1	22	8.8	160
1,1-Dichloroethene	1.1	14	4.5	56
Chloroform	1.1	4.4	5.6	22
1,2-Dichloroethane	1.1	1.4	4.6	5.6
TNMOC ref. to Heptane (MW=100)	23	31	94	130

Client Sample ID: OC_VGAC_INF_SP241_031020

Lab ID#: 2003327-03A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 11	1.2	5.3	6.7	30
Freon 113	1.2	22	9.1	170
1,1-Dichloroethene	1.2	14	4.7	57
Chloroform	1.2	4.4	5.8	22
Trichloroethene	1.2	7.4	6.4	40
Tetrachloroethene	1.2	52	8.1	350
TNMOC ref. to Heptane (MW=100)	24	110	97	450

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Client Sample ID: OC_VGAC_EFF_SP242_031020

Lab ID#: 2003327-01A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**a031306**	**Date of Collection:**	**3/10/20 10:14:00 AM**
Dil. Factor:	**2.33**	**Date of Analysis:**	**3/13/20 01:18 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	5.1	6.5	28
Freon 113	1.2	20	8.9	160
1,1-Dichloroethene	1.2	13	4.6	53
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	4.2	5.7	21
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	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	46	95	190

Container Type: 1 Liter Summa Canister

Surrogates	%Recovery	Method Limits
Toluene-d8	93	70-130
1,2-Dichloroethane-d4	98	70-130
4-Bromofluorobenzene	96	70-130

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Client Sample ID: OC_VGAC_INT_SP245_031020

Lab ID#: 2003327-02A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**a031307**	**Date of Collection:**	**3/10/20 10:15:00 AM**
Dil. Factor:	**2.29**	**Date of Analysis:**	**3/13/20 01:44 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	1.1	Not Detected	5.7	Not Detected
Vinyl Chloride	1.1	Not Detected	2.9	Not Detected
Freon 11	1.1	5.7	6.4	32
Freon 113	1.1	22	8.8	160
1,1-Dichloroethene	1.1	14	4.5	56
2-Propanol	4.6	Not Detected	11	Not Detected
Carbon Disulfide	4.6	Not Detected	14	Not Detected
Methylene Chloride	11	Not Detected	40	Not Detected
Hexane	1.1	Not Detected	4.0	Not Detected
1,1-Dichloroethane	1.1	Not Detected	4.6	Not Detected
2-Butanone (Methyl Ethyl Ketone)	4.6	Not Detected	14	Not Detected
Chloroform	1.1	4.4	5.6	22
1,1,1-Trichloroethane	1.1	Not Detected	6.2	Not Detected
Carbon Tetrachloride	1.1	Not Detected	7.2	Not Detected
Benzene	1.1	Not Detected	3.6	Not Detected
1,2-Dichloroethane	1.1	1.4	4.6	5.6
Trichloroethene	1.1	Not Detected	6.2	Not Detected
1,4-Dioxane	4.6	Not Detected	16	Not Detected
Toluene	1.1	Not Detected	4.3	Not Detected
1,1,2-Trichloroethane	1.1	Not Detected	6.2	Not Detected
Tetrachloroethene	1.1	Not Detected	7.8	Not Detected
o-Xylene	1.1	Not Detected	5.0	Not Detected
TNMOC ref. to Heptane (MW=100)	23	31	94	130

Container Type: 1 Liter Summa Canister

Surrogates	%Recovery	Method Limits
Toluene-d8	94	70-130
1,2-Dichloroethane-d4	98	70-130
4-Bromofluorobenzene	95	70-130

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Client Sample ID: OC_VGAC_INF_SP241_031020

Lab ID#: 2003327-03A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**a031308**	**Date of Collection:**	**3/10/20 10:18:00 AM**
Dil. Factor:	**2.38**	**Date of Analysis:**	**3/13/20 02:11 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	5.3	6.7	30
Freon 113	1.2	22	9.1	170
1,1-Dichloroethene	1.2	14	4.7	57
2-Propanol	4.8	Not Detected	12	Not Detected
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	4.4	5.8	22
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	Not Detected	4.8	Not Detected
Trichloroethene	1.2	7.4	6.4	40
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	52	8.1	350
o-Xylene	1.2	Not Detected	5.2	Not Detected
TNMOC ref. to Heptane (MW=100)	24	110	97	450

Container Type: 1 Liter Summa Canister

Surrogates	%Recovery	Method Limits
Toluene-d8	91	70-130
1,2-Dichloroethane-d4	94	70-130
4-Bromofluorobenzene	96	70-130

eurofins | Air Toxics

Client Sample ID: Lab Blank

Lab ID#: 2003327-04A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**a031305**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 3/13/20 11:50 AM**	

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	91	70-130
1,2-Dichloroethane-d4	97	70-130
4-Bromofluorobenzene	96	70-130

eurofins | Air Toxics

Client Sample ID: CCV

Lab ID#: 2003327-05A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**a031302**	**Date of Collection: NA**
Dil. Factor:	**1.00**	**Date of Analysis: 3/13/20 09:24 AM**

Compound	**%Recovery**
Freon 12	101
Vinyl Chloride	100
Freon 11	99
Freon 113	94
1,1-Dichloroethene	100
2-Propanol	109
Carbon Disulfide	98
Methylene Chloride	98
Hexane	97
1,1-Dichloroethane	97
2-Butanone (Methyl Ethyl Ketone)	95
Chloroform	96
1,1,1-Trichloroethane	94
Carbon Tetrachloride	91
Benzene	95
1,2-Dichloroethane	99
Trichloroethene	94
1,4-Dioxane	93
Toluene	88
1,1,2-Trichloroethane	95
Tetrachloroethene	91
o-Xylene	95
TNMOC ref. to Heptane (MW=100)	100

Container Type: NA - Not Applicable

Surrogates	**%Recovery**	**Method Limits**
Toluene-d8	94	70-130
1,2-Dichloroethane-d4	99	70-130
4-Bromofluorobenzene	93	70-130

eurofins | Air Toxics

Client Sample ID: LCS

Lab ID#: 2003327-06A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**a031303**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 3/13/20 09:51 AM**	

Compound	**%Recovery**	**Method Limits**
Freon 12	116	70-130
Vinyl Chloride	117	70-130
Freon 11	113	70-130
Freon 113	104	70-130
1,1-Dichloroethene	111	70-130
2-Propanol	117	70-130
Carbon Disulfide	115	70-130
Methylene Chloride	111	70-130
Hexane	112	70-130
1,1-Dichloroethane	111	70-130
2-Butanone (Methyl Ethyl Ketone)	111	70-130
Chloroform	111	70-130
1,1,1-Trichloroethane	108	70-130
Carbon Tetrachloride	104	70-130
Benzene	111	70-130
1,2-Dichloroethane	114	70-130
Trichloroethene	124	70-130
1,4-Dioxane	106	70-130
Toluene	99	70-130
1,1,2-Trichloroethane	114	70-130
Tetrachloroethene	104	70-130
o-Xylene	108	70-130
TNMOC ref. to Heptane (MW=100)	Not Spiked	

Container Type: NA - Not Applicable

Surrogates	**%Recovery**	**Method Limits**
Toluene-d8	93	70-130
1,2-Dichloroethane-d4	98	70-130
4-Bromofluorobenzene	96	70-130

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Client Sample ID: LCSD

Lab ID#: 2003327-06AA

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**a031304**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 3/13/20 10:18 AM**	

Compound	**%Recovery**	**Method Limits**
Freon 12	117	70-130
Vinyl Chloride	118	70-130
Freon 11	113	70-130
Freon 113	104	70-130
1,1-Dichloroethene	112	70-130
2-Propanol	114	70-130
Carbon Disulfide	116	70-130
Methylene Chloride	111	70-130
Hexane	112	70-130
1,1-Dichloroethane	110	70-130
2-Butanone (Methyl Ethyl Ketone)	112	70-130
Chloroform	114	70-130
1,1,1-Trichloroethane	109	70-130
Carbon Tetrachloride	105	70-130
Benzene	114	70-130
1,2-Dichloroethane	114	70-130
Trichloroethene	124	70-130
1,4-Dioxane	108	70-130
Toluene	100	70-130
1,1,2-Trichloroethane	115	70-130
Tetrachloroethene	104	70-130
o-Xylene	108	70-130
TNMOC ref. to Heptane (MW=100)	Not Spiked	

Container Type: NA - Not Applicable

Surrogates	**%Recovery**	**Method Limits**
Toluene-d8	94	70-130
1,2-Dichloroethane-d4	99	70-130
4-Bromofluorobenzene	96	70-130

2003327

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: 03/10/20
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 Azha [signature]

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_031020	SP-EFF-GAC	Vapor	1L2461	1L	23212	3/10/2020	1009	-27.5	3/10/2020	1014	-5	X
02A	2	OC_VGAC_INT_SP245_031020	SP-MID-GAC	Vapor	1L2538	1L	23461	3/10/2020	1011	-27	3/10/2020	1015	-5	X
03A	3	OC_VGAC_INF_SP241_031020	SP-INF-GAC	Vapor	1L2780	1L	23761	3/10/2020	1012	-27.5	3/10/2020	1018	-5	X
	4													
	5													
	6													
	7													
	8													
	9													
	10													
	11													
	12													
	13													
	14													
	15													

Custody Seal Intact?
(Y) N None Temp NA
Fed EX
Gel

Relinquished by: (Signature)	Received by: (Signature)	Date:	Time:
[signature]	Darry Mane EAtL	3/12/20	0931
Relinquished by: (Signature)	Received by: (Signature)	Date:	Time:
Relinquished by: (Signature)	Received by: (Signature)	Date:	Time:

ANALYTICAL REPORT

Eurofins Calscience Irvine
17461 Derian Ave
Suite 100
Irvine, CA 92614-5817
Tel: (949)261-1022

Laboratory Job ID: 440-258644-1
Laboratory Sample Delivery Group: Omega Chemical
Client Project/Site: Omega Chemical - GWCS Monthly

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

Attn: Trent Henderson

Authorized for release by:
1/11/2020 7:44:31 AM

Danielle Roberts, Senior Project Manager
(949)260-3249
danielle.roberts@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 - GWCS Monthly

Job ID: 440-258644-1
SDG: Omega Chemical

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
440-258644-1	OC_SP220B_EFF_010720	Water	01/07/20 09:08	01/08/20 07:35	
440-258644-2	OC_SP210_INF_010720	Water	01/07/20 09:15	01/08/20 07:35	
440-258644-3	OC_TB_010720	Water	01/07/20 09:00	01/08/20 07:35	

Job ID: 440-258644-1

Laboratory: Eurofins Calscience Irvine

Narrative

Job Narrative
440-258644-1

Comments
No additional comments.

Receipt
The samples were received on 1/8/2020 7:35 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 0.6º C.

GC/MS VOA
Method 8260B: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for analytical batch 440-589703 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.

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 - GWCS Monthly

Job ID: 440-258644-1
SDG: Omega Chemical

Client Sample ID: OC_SP220B_EFF_010720 — Lab Sample ID: 440-258644-1

Analyte	Result	Qualifier	RL		Unit	Dil Fac	D	Method	Prep Type
1,4-Dioxane	17		0.49		ug/L	1		8270C SIM	Total/NA

Client Sample ID: OC_SP210_INF_010720 — Lab Sample ID: 440-258644-2

Analyte	Result	Qualifier	RL		Unit	Dil Fac	D	Method	Prep Type
1,1-Dichloroethene	34	F1	1.0		ug/L	1		8260B	Total/NA
1,2-Dichloroethane	1.9		1.0		ug/L	1		8260B	Total/NA
Chloroform	12		1.0		ug/L	1		8260B	Total/NA
Trichloroethene	28		1.0		ug/L	1		8260B	Total/NA
Trichlorofluoromethane	18		1.0		ug/L	1		8260B	Total/NA
1,1,2-Trichloro-1,2,2-trifluoroethane - DL	100		25		ug/L	5		8260B	Total/NA
Tetrachloroethene - DL	220		5.0		ug/L	5		8260B	Total/NA

Client Sample ID: OC_TB_010720 — Lab Sample ID: 440-258644-3

No Detections.

This Detection Summary does not include radiochemical test results.

Client Sample Results

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

Job ID: 440-258644-1
SDG: Omega Chemical

Client Sample ID: OC_SP220B_EFF_010720

Lab Sample ID: 440-258644-1

Date Collected: 01/07/20 09:08
Matrix: Water
Date Received: 01/08/20 07:35

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			01/09/20 11:35	1
1,1,1-Trichloroethane	ND		1.0		ug/L			01/09/20 11:35	1
1,1,2,2-Tetrachloroethane	ND		1.0		ug/L			01/09/20 11:35	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		5.0		ug/L			01/09/20 11:35	1
1,1,2-Trichloroethane	ND		1.0		ug/L			01/09/20 11:35	1
1,1-Dichloroethane	ND		1.0		ug/L			01/09/20 11:35	1
1,1-Dichloroethene	ND		1.0		ug/L			01/09/20 11:35	1
1,1-Dichloropropene	ND		1.0		ug/L			01/09/20 11:35	1
1,2,3-Trichlorobenzene	ND		1.0		ug/L			01/09/20 11:35	1
1,2,3-Trichloropropane	ND		1.0		ug/L			01/09/20 11:35	1
1,2,4-Trichlorobenzene	ND		1.0		ug/L			01/09/20 11:35	1
1,2,4-Trimethylbenzene	ND		1.0		ug/L			01/09/20 11:35	1
1,2-Dibromo-3-Chloropropane	ND		5.0		ug/L			01/09/20 11:35	1
1,2-Dibromoethane (EDB)	ND		1.0		ug/L			01/09/20 11:35	1
1,2-Dichlorobenzene	ND		1.0		ug/L			01/09/20 11:35	1
1,2-Dichloroethane	ND		1.0		ug/L			01/09/20 11:35	1
1,2-Dichloropropane	ND		1.0		ug/L			01/09/20 11:35	1
1,3,5-Trimethylbenzene	ND		1.0		ug/L			01/09/20 11:35	1
1,3-Dichlorobenzene	ND		1.0		ug/L			01/09/20 11:35	1
1,3-Dichloropropane	ND		1.0		ug/L			01/09/20 11:35	1
1,4-Dichlorobenzene	ND		1.0		ug/L			01/09/20 11:35	1
2,2-Dichloropropane	ND		1.0		ug/L			01/09/20 11:35	1
2-Chlorotoluene	ND		1.0		ug/L			01/09/20 11:35	1
4-Chlorotoluene	ND		1.0		ug/L			01/09/20 11:35	1
Acetone	ND		10		ug/L			01/09/20 11:35	1
Benzene	ND		0.50		ug/L			01/09/20 11:35	1
Bromobenzene	ND		1.0		ug/L			01/09/20 11:35	1
Bromochloromethane	ND		1.0		ug/L			01/09/20 11:35	1
Bromodichloromethane	ND		1.0		ug/L			01/09/20 11:35	1
Bromoform	ND		1.0		ug/L			01/09/20 11:35	1
Bromomethane	ND		1.0		ug/L			01/09/20 11:35	1
Carbon tetrachloride	ND		0.50		ug/L			01/09/20 11:35	1
Chlorobenzene	ND		1.0		ug/L			01/09/20 11:35	1
Chloroethane	ND		1.0		ug/L			01/09/20 11:35	1
Chloroform	ND		1.0		ug/L			01/09/20 11:35	1
Chloromethane	ND		1.0		ug/L			01/09/20 11:35	1
cis-1,2-Dichloroethene	ND		1.0		ug/L			01/09/20 11:35	1
cis-1,3-Dichloropropene	ND		0.50		ug/L			01/09/20 11:35	1
Dibromochloromethane	ND		1.0		ug/L			01/09/20 11:35	1
Dibromomethane	ND		1.0		ug/L			01/09/20 11:35	1
Dichlorodifluoromethane	ND		1.0		ug/L			01/09/20 11:35	1
Ethylbenzene	ND		1.0		ug/L			01/09/20 11:35	1
Hexachlorobutadiene	ND		1.0		ug/L			01/09/20 11:35	1
Isopropyl alcohol	ND		250		ug/L			01/09/20 11:35	1
Isopropylbenzene	ND		1.0		ug/L			01/09/20 11:35	1
m,p-Xylene	ND		1.0		ug/L			01/09/20 11:35	1
Methylene Chloride	ND		5.0		ug/L			01/09/20 11:35	1
Methyl-t-Butyl Ether (MTBE)	ND		1.0		ug/L			01/09/20 11:35	1
Naphthalene	ND		1.0		ug/L			01/09/20 11:35	1

Client Sample ID: OC_SP220B_EFF_010720

Lab Sample ID: 440-258644-1

Date Collected: 01/07/20 09:08
Matrix: Water
Date Received: 01/08/20 07:35

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			01/09/20 11:35	1
N-Propylbenzene	ND		1.0	ug/L			01/09/20 11:35	1
o-Xylene	ND		1.0	ug/L			01/09/20 11:35	1
p-Isopropyltoluene	ND		1.0	ug/L			01/09/20 11:35	1
sec-Butylbenzene	ND		1.0	ug/L			01/09/20 11:35	1
Styrene	ND		1.0	ug/L			01/09/20 11:35	1
tert-Butylbenzene	ND		1.0	ug/L			01/09/20 11:35	1
Tetrachloroethene	ND		1.0	ug/L			01/09/20 11:35	1
Toluene	ND		1.0	ug/L			01/09/20 11:35	1
trans-1,2-Dichloroethene	ND		1.0	ug/L			01/09/20 11:35	1
trans-1,3-Dichloropropene	ND		0.50	ug/L			01/09/20 11:35	1
Trichloroethene	ND		1.0	ug/L			01/09/20 11:35	1
Trichlorofluoromethane	ND		1.0	ug/L			01/09/20 11:35	1
Vinyl chloride	ND		0.50	ug/L			01/09/20 11:35	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*105*		*70 - 130*		*01/09/20 11:35*	*1*
4-Bromofluorobenzene (Surr)	*103*		*80 - 120*		*01/09/20 11:35*	*1*
Dibromofluoromethane (Surr)	*100*		*76 - 132*		*01/09/20 11:35*	*1*
Toluene-d8 (Surr)	*98*		*80 - 128*		*01/09/20 11:35*	*1*

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	**17**		0.49	ug/L		01/09/20 06:50	01/10/20 13:23	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,4-Dioxane-d8 (Surr)	*71*		*27 - 120*	*01/09/20 06:50*	*01/10/20 13:23*	*1*

Client Sample ID: OC_SP210_INF_010720

Lab Sample ID: 440-258644-2

Date Collected: 01/07/20 09:15
Matrix: Water
Date Received: 01/08/20 07:35

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			01/09/20 09:44	1
1,1,1-Trichloroethane	ND		1.0	ug/L			01/09/20 09:44	1
1,1,2,2-Tetrachloroethane	ND		1.0	ug/L			01/09/20 09:44	1
1,1,2-Trichloroethane	ND		1.0	ug/L			01/09/20 09:44	1
1,1-Dichloroethane	ND		1.0	ug/L			01/09/20 09:44	1
1,1-Dichloroethene	**34**	**F1**	1.0	ug/L			01/09/20 09:44	1
1,1-Dichloropropene	ND		1.0	ug/L			01/09/20 09:44	1
1,2,3-Trichlorobenzene	ND		1.0	ug/L			01/09/20 09:44	1
1,2,3-Trichloropropane	ND		1.0	ug/L			01/09/20 09:44	1
1,2,4-Trichlorobenzene	ND		1.0	ug/L			01/09/20 09:44	1
1,2,4-Trimethylbenzene	ND		1.0	ug/L			01/09/20 09:44	1
1,2-Dibromo-3-Chloropropane	ND		5.0	ug/L			01/09/20 09:44	1
1,2-Dibromoethane (EDB)	ND		1.0	ug/L			01/09/20 09:44	1
1,2-Dichlorobenzene	ND		1.0	ug/L			01/09/20 09:44	1
1,2-Dichloroethane	**1.9**		1.0	ug/L			01/09/20 09:44	1
1,2-Dichloropropane	ND		1.0	ug/L			01/09/20 09:44	1
1,3,5-Trimethylbenzene	ND		1.0	ug/L			01/09/20 09:44	1

Client Sample ID: OC_SP210_INF_010720

Lab Sample ID: 440-258644-2

Date Collected: 01/07/20 09:15
Matrix: Water
Date Received: 01/08/20 07:35

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
1,3-Dichlorobenzene	ND		1.0	ug/L			01/09/20 09:44	1
1,3-Dichloropropane	ND		1.0	ug/L			01/09/20 09:44	1
1,4-Dichlorobenzene	ND		1.0	ug/L			01/09/20 09:44	1
2,2-Dichloropropane	ND		1.0	ug/L			01/09/20 09:44	1
2-Chlorotoluene	ND		1.0	ug/L			01/09/20 09:44	1
4-Chlorotoluene	ND		1.0	ug/L			01/09/20 09:44	1
Acetone	ND		10	ug/L			01/09/20 09:44	1
Benzene	ND		0.50	ug/L			01/09/20 09:44	1
Bromobenzene	ND		1.0	ug/L			01/09/20 09:44	1
Bromochloromethane	ND		1.0	ug/L			01/09/20 09:44	1
Bromodichloromethane	ND		1.0	ug/L			01/09/20 09:44	1
Bromoform	ND		1.0	ug/L			01/09/20 09:44	1
Bromomethane	ND		1.0	ug/L			01/09/20 09:44	1
Carbon tetrachloride	ND		0.50	ug/L			01/09/20 09:44	1
Chlorobenzene	ND		1.0	ug/L			01/09/20 09:44	1
Chloroethane	ND		1.0	ug/L			01/09/20 09:44	1
Chloroform	**12**		1.0	ug/L			01/09/20 09:44	1
Chloromethane	ND		1.0	ug/L			01/09/20 09:44	1
cis-1,2-Dichloroethene	ND		1.0	ug/L			01/09/20 09:44	1
cis-1,3-Dichloropropene	ND		0.50	ug/L			01/09/20 09:44	1
Dibromochloromethane	ND		1.0	ug/L			01/09/20 09:44	1
Dibromomethane	ND		1.0	ug/L			01/09/20 09:44	1
Dichlorodifluoromethane	ND		1.0	ug/L			01/09/20 09:44	1
Ethylbenzene	ND		1.0	ug/L			01/09/20 09:44	1
Hexachlorobutadiene	ND		1.0	ug/L			01/09/20 09:44	1
Isopropyl alcohol	ND		250	ug/L			01/09/20 09:44	1
Isopropylbenzene	ND		1.0	ug/L			01/09/20 09:44	1
m,p-Xylene	ND		1.0	ug/L			01/09/20 09:44	1
Methylene Chloride	ND		5.0	ug/L			01/09/20 09:44	1
Methyl-t-Butyl Ether (MTBE)	ND		1.0	ug/L			01/09/20 09:44	1
Naphthalene	ND		1.0	ug/L			01/09/20 09:44	1
n-Butylbenzene	ND		1.0	ug/L			01/09/20 09:44	1
N-Propylbenzene	ND		1.0	ug/L			01/09/20 09:44	1
o-Xylene	ND		1.0	ug/L			01/09/20 09:44	1
p-Isopropyltoluene	ND		1.0	ug/L			01/09/20 09:44	1
sec-Butylbenzene	ND		1.0	ug/L			01/09/20 09:44	1
Styrene	ND		1.0	ug/L			01/09/20 09:44	1
tert-Butylbenzene	ND		1.0	ug/L			01/09/20 09:44	1
Toluene	ND		1.0	ug/L			01/09/20 09:44	1
trans-1,2-Dichloroethene	ND		1.0	ug/L			01/09/20 09:44	1
trans-1,3-Dichloropropene	ND		0.50	ug/L			01/09/20 09:44	1
Trichloroethene	**28**		1.0	ug/L			01/09/20 09:44	1
Trichlorofluoromethane	**18**		1.0	ug/L			01/09/20 09:44	1
Vinyl chloride	ND		0.50	ug/L			01/09/20 09:44	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*97*		*70 - 130*		*01/09/20 09:44*	*1*
4-Bromofluorobenzene (Surr)	*103*		*80 - 120*		*01/09/20 09:44*	*1*
Dibromofluoromethane (Surr)	*97*		*76 - 132*		*01/09/20 09:44*	*1*
Toluene-d8 (Surr)	*102*		*80 - 128*		*01/09/20 09:44*	*1*

Client Sample Results

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

Job ID: 440-258644-1
SDG: Omega Chemical

Client Sample ID: OC_SP210_INF_010720

Lab Sample ID: 440-258644-2
Matrix: Water

Date Collected: 01/07/20 09:15
Date Received: 01/08/20 07:35

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,2-Trichloro-1,2,2-trifluoroethane	100		25	ug/L			01/09/20 11:07	5
Tetrachloroethene	220		5.0	ug/L			01/09/20 11:07	5

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*104*		*70 - 130*		*01/09/20 11:07*	*5*
4-Bromofluorobenzene (Surr)	*99*		*80 - 120*		*01/09/20 11:07*	*5*
Dibromofluoromethane (Surr)	*106*		*76 - 132*		*01/09/20 11:07*	*5*
Toluene-d8 (Surr)	*102*		*80 - 128*		*01/09/20 11:07*	*5*

Client Sample ID: OC_TB_010720

Lab Sample ID: 440-258644-3
Matrix: Water

Date Collected: 01/07/20 09:00
Date Received: 01/08/20 07:35

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			01/09/20 12:02	1
1,1,1-Trichloroethane	ND		1.0	ug/L			01/09/20 12:02	1
1,1,2,2-Tetrachloroethane	ND		1.0	ug/L			01/09/20 12:02	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		5.0	ug/L			01/09/20 12:02	1
1,1,2-Trichloroethane	ND		1.0	ug/L			01/09/20 12:02	1
1,1-Dichloroethane	ND		1.0	ug/L			01/09/20 12:02	1
1,1-Dichloroethene	ND		1.0	ug/L			01/09/20 12:02	1
1,1-Dichloropropene	ND		1.0	ug/L			01/09/20 12:02	1
1,2,3-Trichlorobenzene	ND		1.0	ug/L			01/09/20 12:02	1
1,2,3-Trichloropropane	ND		1.0	ug/L			01/09/20 12:02	1
1,2,4-Trichlorobenzene	ND		1.0	ug/L			01/09/20 12:02	1
1,2,4-Trimethylbenzene	ND		1.0	ug/L			01/09/20 12:02	1
1,2-Dibromo-3-Chloropropane	ND		5.0	ug/L			01/09/20 12:02	1
1,2-Dibromoethane (EDB)	ND		1.0	ug/L			01/09/20 12:02	1
1,2-Dichlorobenzene	ND		1.0	ug/L			01/09/20 12:02	1
1,2-Dichloroethane	ND		1.0	ug/L			01/09/20 12:02	1
1,2-Dichloropropane	ND		1.0	ug/L			01/09/20 12:02	1
1,3,5-Trimethylbenzene	ND		1.0	ug/L			01/09/20 12:02	1
1,3-Dichlorobenzene	ND		1.0	ug/L			01/09/20 12:02	1
1,3-Dichloropropane	ND		1.0	ug/L			01/09/20 12:02	1
1,4-Dichlorobenzene	ND		1.0	ug/L			01/09/20 12:02	1
2,2-Dichloropropane	ND		1.0	ug/L			01/09/20 12:02	1
2-Chlorotoluene	ND		1.0	ug/L			01/09/20 12:02	1
4-Chlorotoluene	ND		1.0	ug/L			01/09/20 12:02	1
Acetone	ND		10	ug/L			01/09/20 12:02	1
Benzene	ND		0.50	ug/L			01/09/20 12:02	1
Bromobenzene	ND		1.0	ug/L			01/09/20 12:02	1
Bromochloromethane	ND		1.0	ug/L			01/09/20 12:02	1
Bromodichloromethane	ND		1.0	ug/L			01/09/20 12:02	1
Bromoform	ND		1.0	ug/L			01/09/20 12:02	1
Bromomethane	ND		1.0	ug/L			01/09/20 12:02	1
Carbon tetrachloride	ND		0.50	ug/L			01/09/20 12:02	1
Chlorobenzene	ND		1.0	ug/L			01/09/20 12:02	1
Chloroethane	ND		1.0	ug/L			01/09/20 12:02	1

Client Sample Results

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

Job ID: 440-258644-1
SDG: Omega Chemical

Client Sample ID: OC_TB_010720

Lab Sample ID: 440-258644-3

Date Collected: 01/07/20 09:00
Date Received: 01/08/20 07:35

Matrix: Water

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloroform	ND		1.0		ug/L			01/09/20 12:02	1
Chloromethane	ND		1.0		ug/L			01/09/20 12:02	1
cis-1,2-Dichloroethene	ND		1.0		ug/L			01/09/20 12:02	1
cis-1,3-Dichloropropene	ND		0.50		ug/L			01/09/20 12:02	1
Dibromochloromethane	ND		1.0		ug/L			01/09/20 12:02	1
Dibromomethane	ND		1.0		ug/L			01/09/20 12:02	1
Dichlorodifluoromethane	ND		1.0		ug/L			01/09/20 12:02	1
Ethylbenzene	ND		1.0		ug/L			01/09/20 12:02	1
Hexachlorobutadiene	ND		1.0		ug/L			01/09/20 12:02	1
Isopropyl alcohol	ND		250		ug/L			01/09/20 12:02	1
Isopropylbenzene	ND		1.0		ug/L			01/09/20 12:02	1
m,p-Xylene	ND		1.0		ug/L			01/09/20 12:02	1
Methylene Chloride	ND		5.0		ug/L			01/09/20 12:02	1
Methyl-t-Butyl Ether (MTBE)	ND		1.0		ug/L			01/09/20 12:02	1
Naphthalene	ND		1.0		ug/L			01/09/20 12:02	1
n-Butylbenzene	ND		1.0		ug/L			01/09/20 12:02	1
N-Propylbenzene	ND		1.0		ug/L			01/09/20 12:02	1
o-Xylene	ND		1.0		ug/L			01/09/20 12:02	1
p-Isopropyltoluene	ND		1.0		ug/L			01/09/20 12:02	1
sec-Butylbenzene	ND		1.0		ug/L			01/09/20 12:02	1
Styrene	ND		1.0		ug/L			01/09/20 12:02	1
tert-Butylbenzene	ND		1.0		ug/L			01/09/20 12:02	1
Tetrachloroethene	ND		1.0		ug/L			01/09/20 12:02	1
Toluene	ND		1.0		ug/L			01/09/20 12:02	1
trans-1,2-Dichloroethene	ND		1.0		ug/L			01/09/20 12:02	1
trans-1,3-Dichloropropene	ND		0.50		ug/L			01/09/20 12:02	1
Trichloroethene	ND		1.0		ug/L			01/09/20 12:02	1
Trichlorofluoromethane	ND		1.0		ug/L			01/09/20 12:02	1
Vinyl chloride	ND		0.50		ug/L			01/09/20 12:02	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*104*		*70 - 130*		*01/09/20 12:02*	*1*
4-Bromofluorobenzene (Surr)	*98*		*80 - 120*		*01/09/20 12:02*	*1*
Dibromofluoromethane (Surr)	*105*		*76 - 132*		*01/09/20 12:02*	*1*
Toluene-d8 (Surr)	*103*		*80 - 128*		*01/09/20 12:02*	*1*

Surrogate Summary

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

Job ID: 440-258644-1
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)**
440-258644-1	OC_SP220B_EFF_010720	105	103	100	98
440-258644-2	OC_SP210_INF_010720	97	103	97	102
440-258644-2 - DL	OC_SP210_INF_010720	104	99	106	102
440-258644-2 MS	OC_SP210_INF_010720	103	96	97	98
440-258644-2 MSD	OC_SP210_INF_010720	102	101	101	98
440-258644-3	OC_TB_010720	104	98	105	103
LCS 440-589703/1002	Lab Control Sample	99	95	102	98
LCS 440-589703/1003	Lab Control Sample	106	105	101	106
MB 440-589703/4	Method Blank	105	103	101	103

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)**
440-258644-1	OC_SP220B_EFF_010720	71
440-258719-C-5-A MS	Matrix Spike	58
440-258719-C-5-B MSD	Matrix Spike Duplicate	47
LCS 440-589711/3-A	Lab Control Sample	63
MB 440-589711/1-A	Method Blank	60

Surrogate Legend

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

Method Summary

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

Job ID: 440-258644-1
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 = Eurofins Calscience 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 - GWCS Monthly

Job ID: 440-258644-1
SDG: Omega Chemical

Client Sample ID: OC_SP220B_EFF_010720 — Lab Sample ID: 440-258644-1

Date Collected: 01/07/20 09:08 — **Matrix: Water**
Date Received: 01/08/20 07:35

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	589703	01/09/20 11:35	MML	TAL IRV
Total/NA	Prep	3520C			1030 mL	1.0 mL	589711	01/09/20 06:50	NAM	TAL IRV
Total/NA	Analysis	8270C SIM		1			589953	01/10/20 13:23	YCL	TAL IRV

Client Sample ID: OC_SP210_INF_010720 — Lab Sample ID: 440-258644-2

Date Collected: 01/07/20 09:15 — **Matrix: Water**
Date Received: 01/08/20 07:35

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	589703	01/09/20 09:44	MML	TAL IRV
Total/NA	Analysis	8260B	DL	5	10 mL	10 mL	589703	01/09/20 11:07	MML	TAL IRV

Client Sample ID: OC_TB_010720 — Lab Sample ID: 440-258644-3

Date Collected: 01/07/20 09:00 — **Matrix: Water**
Date Received: 01/08/20 07:35

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	589703	01/09/20 12:02	MML	TAL IRV

Laboratory References:

TAL IRV = Eurofins Calscience 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 440-589703/4
Matrix: Water
Analysis Batch: 589703

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			01/09/20 08:39	1
1,1,1-Trichloroethane	ND		1.0		ug/L			01/09/20 08:39	1
1,1,2,2-Tetrachloroethane	ND		1.0		ug/L			01/09/20 08:39	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		5.0		ug/L			01/09/20 08:39	1
1,1,2-Trichloroethane	ND		1.0		ug/L			01/09/20 08:39	1
1,1-Dichloroethane	ND		1.0		ug/L			01/09/20 08:39	1
1,1-Dichloroethene	ND		1.0		ug/L			01/09/20 08:39	1
1,1-Dichloropropene	ND		1.0		ug/L			01/09/20 08:39	1
1,2,3-Trichlorobenzene	ND		1.0		ug/L			01/09/20 08:39	1
1,2,3-Trichloropropane	ND		1.0		ug/L			01/09/20 08:39	1
1,2,4-Trichlorobenzene	ND		1.0		ug/L			01/09/20 08:39	1
1,2,4-Trimethylbenzene	ND		1.0		ug/L			01/09/20 08:39	1
1,2-Dibromo-3-Chloropropane	ND		5.0		ug/L			01/09/20 08:39	1
1,2-Dibromoethane (EDB)	ND		1.0		ug/L			01/09/20 08:39	1
1,2-Dichlorobenzene	ND		1.0		ug/L			01/09/20 08:39	1
1,2-Dichloroethane	ND		1.0		ug/L			01/09/20 08:39	1
1,2-Dichloropropane	ND		1.0		ug/L			01/09/20 08:39	1
1,3,5-Trimethylbenzene	ND		1.0		ug/L			01/09/20 08:39	1
1,3-Dichlorobenzene	ND		1.0		ug/L			01/09/20 08:39	1
1,3-Dichloropropane	ND		1.0		ug/L			01/09/20 08:39	1
1,4-Dichlorobenzene	ND		1.0		ug/L			01/09/20 08:39	1
2,2-Dichloropropane	ND		1.0		ug/L			01/09/20 08:39	1
2-Chlorotoluene	ND		1.0		ug/L			01/09/20 08:39	1
4-Chlorotoluene	ND		1.0		ug/L			01/09/20 08:39	1
Acetone	ND		10		ug/L			01/09/20 08:39	1
Benzene	ND		0.50		ug/L			01/09/20 08:39	1
Bromobenzene	ND		1.0		ug/L			01/09/20 08:39	1
Bromochloromethane	ND		1.0		ug/L			01/09/20 08:39	1
Bromodichloromethane	ND		1.0		ug/L			01/09/20 08:39	1
Bromoform	ND		1.0		ug/L			01/09/20 08:39	1
Bromomethane	ND		1.0		ug/L			01/09/20 08:39	1
Carbon tetrachloride	ND		0.50		ug/L			01/09/20 08:39	1
Chlorobenzene	ND		1.0		ug/L			01/09/20 08:39	1
Chloroethane	ND		1.0		ug/L			01/09/20 08:39	1
Chloroform	ND		1.0		ug/L			01/09/20 08:39	1
Chloromethane	ND		1.0		ug/L			01/09/20 08:39	1
cis-1,2-Dichloroethene	ND		1.0		ug/L			01/09/20 08:39	1
cis-1,3-Dichloropropene	ND		0.50		ug/L			01/09/20 08:39	1
Dibromochloromethane	ND		1.0		ug/L			01/09/20 08:39	1
Dibromomethane	ND		1.0		ug/L			01/09/20 08:39	1
Dichlorodifluoromethane	ND		1.0		ug/L			01/09/20 08:39	1
Ethylbenzene	ND		1.0		ug/L			01/09/20 08:39	1
Hexachlorobutadiene	ND		1.0		ug/L			01/09/20 08:39	1
Isopropyl alcohol	ND		250		ug/L			01/09/20 08:39	1
Isopropylbenzene	ND		1.0		ug/L			01/09/20 08:39	1
m,p-Xylene	ND		1.0		ug/L			01/09/20 08:39	1
Methylene Chloride	ND		5.0		ug/L			01/09/20 08:39	1
Methyl-t-Butyl Ether (MTBE)	ND		1.0		ug/L			01/09/20 08:39	1

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

Lab Sample ID: MB 440-589703/4
Matrix: Water
Analysis Batch: 589703

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			01/09/20 08:39	1
n-Butylbenzene	ND		1.0	ug/L			01/09/20 08:39	1
N-Propylbenzene	ND		1.0	ug/L			01/09/20 08:39	1
o-Xylene	ND		1.0	ug/L			01/09/20 08:39	1
p-Isopropyltoluene	ND		1.0	ug/L			01/09/20 08:39	1
sec-Butylbenzene	ND		1.0	ug/L			01/09/20 08:39	1
Styrene	ND		1.0	ug/L			01/09/20 08:39	1
tert-Butylbenzene	ND		1.0	ug/L			01/09/20 08:39	1
Tetrachloroethene	ND		1.0	ug/L			01/09/20 08:39	1
Toluene	ND		1.0	ug/L			01/09/20 08:39	1
trans-1,2-Dichloroethene	ND		1.0	ug/L			01/09/20 08:39	1
trans-1,3-Dichloropropene	ND		0.50	ug/L			01/09/20 08:39	1
Trichloroethene	ND		1.0	ug/L			01/09/20 08:39	1
Trichlorofluoromethane	ND		1.0	ug/L			01/09/20 08:39	1
Vinyl chloride	ND		0.50	ug/L			01/09/20 08:39	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*105*		*70 - 130*		*01/09/20 08:39*	*1*
4-Bromofluorobenzene (Surr)	*103*		*80 - 120*		*01/09/20 08:39*	*1*
Dibromofluoromethane (Surr)	*101*		*76 - 132*		*01/09/20 08:39*	*1*
Toluene-d8 (Surr)	*103*		*80 - 128*		*01/09/20 08:39*	*1*

Lab Sample ID: LCS 440-589703/1002
Matrix: Water
Analysis Batch: 589703

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	24.1		ug/L		97	60 - 141
1,1,1-Trichloroethane	25.0	24.6		ug/L		98	70 - 130
1,1,2,2-Tetrachloroethane	25.0	22.6		ug/L		90	63 - 130
1,1,2-Trichloroethane	25.0	22.8		ug/L		91	70 - 130
1,1-Dichloroethane	25.0	24.8		ug/L		99	64 - 130
1,1-Dichloroethene	25.0	25.7		ug/L		103	70 - 130
1,1-Dichloropropene	25.0	26.6		ug/L		106	70 - 130
1,2,3-Trichlorobenzene	25.0	22.1		ug/L		88	60 - 140
1,2,3-Trichloropropane	25.0	22.3		ug/L		89	63 - 130
1,2,4-Trichlorobenzene	25.0	23.1		ug/L		92	60 - 140
1,2,4-Trimethylbenzene	25.0	26.0		ug/L		104	70 - 135
1,2-Dibromo-3-Chloropropane	25.0	23.9		ug/L		95	52 - 140
1,2-Dibromoethane (EDB)	25.0	23.5		ug/L		94	70 - 130
1,2-Dichlorobenzene	25.0	24.1		ug/L		96	70 - 130
1,2-Dichloroethane	25.0	25.1		ug/L		100	57 - 138
1,2-Dichloropropane	25.0	26.4		ug/L		106	67 - 130
1,3,5-Trimethylbenzene	25.0	25.3		ug/L		101	70 - 136
1,3-Dichlorobenzene	25.0	24.4		ug/L		98	70 - 130
1,3-Dichloropropane	25.0	22.4		ug/L		90	70 - 130
1,4-Dichlorobenzene	25.0	23.3		ug/L		93	70 - 130
2,2-Dichloropropane	25.0	26.0		ug/L		104	68 - 141

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

Lab Sample ID: LCS 440-589703/1002
Matrix: Water
Analysis Batch: 589703

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	24.0		ug/L		96	70 - 130
4-Chlorotoluene	25.0	25.8		ug/L		103	70 - 130
Acetone	125	118		ug/L		94	10 - 150
Benzene	25.0	24.6		ug/L		98	68 - 130
Bromobenzene	25.0	23.9		ug/L		96	70 - 130
Bromochloromethane	25.0	28.0		ug/L		112	70 - 130
Bromodichloromethane	25.0	25.6		ug/L		102	70 - 132
Bromoform	25.0	22.7		ug/L		91	60 - 148
Bromomethane	25.0	24.2		ug/L		97	64 - 139
Carbon tetrachloride	25.0	26.3		ug/L		105	60 - 150
Chlorobenzene	25.0	23.1		ug/L		93	70 - 130
Chloroethane	25.0	24.0		ug/L		96	64 - 135
Chloroform	25.0	26.2		ug/L		105	70 - 130
Chloromethane	25.0	25.7		ug/L		103	47 - 140
cis-1,2-Dichloroethene	25.0	27.6		ug/L		110	70 - 133
cis-1,3-Dichloropropene	25.0	24.1		ug/L		97	70 - 133
Dibromochloromethane	25.0	23.2		ug/L		93	69 - 145
Dibromomethane	25.0	23.5		ug/L		94	70 - 130
Dichlorodifluoromethane	25.0	25.0		ug/L		100	29 - 150
Ethylbenzene	25.0	24.2		ug/L		97	70 - 130
Hexachlorobutadiene	25.0	25.0		ug/L		100	10 - 150
Isopropylbenzene	25.0	25.1		ug/L		101	70 - 136
m,p-Xylene	25.0	24.5		ug/L		98	70 - 130
Methylene Chloride	25.0	23.9		ug/L		96	52 - 130
Methyl-t-Butyl Ether (MTBE)	25.0	24.3		ug/L		97	63 - 131
Naphthalene	25.0	23.0		ug/L		92	60 - 140
n-Butylbenzene	25.0	26.1		ug/L		105	65 - 150
N-Propylbenzene	25.0	24.5		ug/L		98	67 - 139
o-Xylene	25.0	24.0		ug/L		96	70 - 130
p-Isopropyltoluene	25.0	25.4		ug/L		101	70 - 132
sec-Butylbenzene	25.0	25.9		ug/L		104	70 - 138
Styrene	25.0	25.6		ug/L		103	70 - 134
tert-Butylbenzene	25.0	25.2		ug/L		101	70 - 130
Tetrachloroethene	25.0	24.0		ug/L		96	70 - 130
Toluene	25.0	23.0		ug/L		92	70 - 130
trans-1,2-Dichloroethene	25.0	26.8		ug/L		107	70 - 130
trans-1,3-Dichloropropene	25.0	24.3		ug/L		97	70 - 132
Trichloroethene	25.0	25.9		ug/L		104	70 - 130
Trichlorofluoromethane	25.0	25.5		ug/L		102	60 - 150
Vinyl chloride	25.0	25.7		ug/L		103	59 - 133

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*99*		*70 - 130*
4-Bromofluorobenzene (Surr)	*95*		*80 - 120*
Dibromofluoromethane (Surr)	*102*		*76 - 132*
Toluene-d8 (Surr)	*98*		*80 - 128*

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

Lab Sample ID: LCS 440-589703/1003
Matrix: Water
Analysis Batch: 589703

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	244	J	ug/L		98	49 - 142		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*106*		*70 - 130*
4-Bromofluorobenzene (Surr)	*105*		*80 - 120*
Dibromofluoromethane (Surr)	*101*		*76 - 132*
Toluene-d8 (Surr)	*106*		*80 - 128*

Lab Sample ID: 440-258644-2 MS
Matrix: Water
Analysis Batch: 589703

Client Sample ID: OC_SP210_INF_010720
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		10.0	9.83		ug/L		98	60 - 149		
1,1,1-Trichloroethane	ND		10.0	11.4		ug/L		114	70 - 130		
1,1,2,2-Tetrachloroethane	ND		10.0	9.02		ug/L		90	63 - 130		
1,1,2-Trichloroethane	ND		10.0	10.2		ug/L		102	70 - 130		
1,1-Dichloroethane	ND		10.0	10.5		ug/L		105	65 - 130		
1,1-Dichloroethene	35	F1	10.0	43.4		ug/L		85	70 - 130		
1,1-Dichloropropene	ND		10.0	10.4		ug/L		104	64 - 130		
1,2,3-Trichlorobenzene	ND		10.0	9.23		ug/L		69	60 - 140		
1,2,3-Trichloropropane	ND		10.0	9.78		ug/L		98	60 - 130		
1,2,4-Trichlorobenzene	ND		10.0	9.79		ug/L		98	60 - 140		
1,2,4-Trimethylbenzene	ND		10.0	11.1		ug/L		111	70 - 130		
1,2-Dibromo-3-Chloropropane	ND		10.0	10.2		ug/L		102	48 - 140		
1,2-Dibromoethane (EDB)	ND		10.0	9.74		ug/L		97	70 - 131		
1,2-Dichlorobenzene	ND		10.0	10.5		ug/L		105	70 - 130		
1,2-Dichloroethane	ND		10.0	12.2		ug/L		102	56 - 146		
1,2-Dichloropropane	ND		10.0	9.96		ug/L		100	69 - 130		
1,3,5-Trimethylbenzene	ND		10.0	10.9		ug/L		109	70 - 130		
1,3-Dichlorobenzene	ND		10.0	10.3		ug/L		103	70 - 130		
1,3-Dichloropropane	ND		10.0	8.99		ug/L		90	70 - 130		
1,4-Dichlorobenzene	ND		10.0	9.53		ug/L		95	70 - 130		
2,2-Dichloropropane	ND		10.0	12.0		ug/L		120	69 - 138		
2-Chlorotoluene	ND		10.0	10.4		ug/L		104	70 - 130		
4-Chlorotoluene	ND		10.0	10.4		ug/L		104	70 - 130		
Acetone	ND		50.0	32.7		ug/L		65	10 - 150		
Benzene	ND		10.0	9.99		ug/L		100	66 - 130		
Bromobenzene	ND		10.0	10.1		ug/L		101	70 - 130		
Bromochloromethane	ND		10.0	8.95		ug/L		89	70 - 130		
Bromodichloromethane	ND		10.0	10.4		ug/L		104	70 - 138		
Bromoform	ND		10.0	9.82		ug/L		98	59 - 150		
Bromomethane	ND		10.0	10.4		ug/L		104	62 - 131		
Carbon tetrachloride	ND		10.0	10.3		ug/L		103	60 - 150		
Chlorobenzene	ND		10.0	9.78		ug/L		98	70 - 130		
Chloroethane	ND		10.0	9.52		ug/L		95	68 - 130		
Chloroform	11		10.0	22.6		ug/L		116	70 - 130		
Chloromethane	ND		10.0	8.67		ug/L		87	39 - 144		

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

Lab Sample ID: 440-258644-2 MS
Matrix: Water
Analysis Batch: 589703

Client Sample ID: OC_SP210_INF_010720
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
cis-1,2-Dichloroethene	ND		10.0	11.5		ug/L		115	70 - 130
cis-1,3-Dichloropropene	ND		10.0	9.31		ug/L		93	70 - 133
Dibromochloromethane	ND		10.0	9.22		ug/L		92	70 - 148
Dibromomethane	ND		10.0	10.1		ug/L		101	70 - 130
Dichlorodifluoromethane	ND		10.0	7.55		ug/L		75	25 - 142
Ethylbenzene	ND		10.0	9.90		ug/L		99	70 - 130
Hexachlorobutadiene	ND		10.0	9.62		ug/L		96	10 - 150
Isopropylbenzene	ND		10.0	10.3		ug/L		103	70 - 132
m,p-Xylene	ND		10.0	10.2		ug/L		102	70 - 133
Methylene Chloride	ND		10.0	9.49		ug/L		95	52 - 130
Methyl-t-Butyl Ether (MTBE)	ND		10.0	9.42		ug/L		94	70 - 130
Naphthalene	ND		10.0	9.52		ug/L		95	60 - 140
n-Butylbenzene	ND		10.0	11.0		ug/L		110	61 - 149
N-Propylbenzene	ND		10.0	10.7		ug/L		107	66 - 135
o-Xylene	ND		10.0	10.1		ug/L		101	70 - 133
p-Isopropyltoluene	ND		10.0	10.6		ug/L		106	70 - 130
sec-Butylbenzene	ND		10.0	10.9		ug/L		109	67 - 134
Styrene	ND		10.0	9.81		ug/L		98	29 - 150
tert-Butylbenzene	ND		10.0	10.7		ug/L		107	70 - 130
Tetrachloroethene	220		10.0	220	E 4	ug/L		-17	70 - 137
Toluene	ND		10.0	9.79		ug/L		98	70 - 130
trans-1,2-Dichloroethene	ND		10.0	9.90		ug/L		99	70 - 130
trans-1,3-Dichloropropene	ND		10.0	9.71		ug/L		97	70 - 138
Trichloroethene	26		10.0	38.1		ug/L		121	70 - 130
Trichlorofluoromethane	17		10.0	27.0		ug/L		96	60 - 150
Vinyl chloride	ND		10.0	9.05		ug/L		91	50 - 137

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*103*		*70 - 130*
4-Bromofluorobenzene (Surr)	*96*		*80 - 120*
Dibromofluoromethane (Surr)	*97*		*76 - 132*
Toluene-d8 (Surr)	*98*		*80 - 128*

Lab Sample ID: 440-258644-2 MSD
Matrix: Water
Analysis Batch: 589703

Client Sample ID: OC_SP210_INF_010720
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		10.0	10.3		ug/L		103	60 - 149	5	20
1,1,1-Trichloroethane	ND		10.0	11.0		ug/L		110	70 - 130	3	20
1,1,2,2-Tetrachloroethane	ND		10.0	10.6		ug/L		106	63 - 130	16	30
1,1,2-Trichloroethane	ND		10.0	10.4		ug/L		104	70 - 130	2	25
1,1-Dichloroethane	ND		10.0	10.4		ug/L		104	65 - 130	1	20
1,1-Dichloroethene	35	F1	10.0	41.7	F1	ug/L		68	70 - 130	4	20
1,1-Dichloropropene	ND		10.0	9.52		ug/L		95	64 - 130	9	20
1,2,3-Trichlorobenzene	ND		10.0	9.97		ug/L		76	60 - 140	8	20
1,2,3-Trichloropropane	ND		10.0	8.82		ug/L		88	60 - 130	10	30
1,2,4-Trichlorobenzene	ND		10.0	10.6		ug/L		106	60 - 140	8	20

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

Lab Sample ID: 440-258644-2 MSD
Matrix: Water
Analysis Batch: 589703

Client Sample ID: OC_SP210_INF_010720
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		10.0	11.0		ug/L		110	70 - 130	1	25
1,2-Dibromo-3-Chloropropane	ND		10.0	10.1		ug/L		101	48 - 140	2	30
1,2-Dibromoethane (EDB)	ND		10.0	9.73		ug/L		97	70 - 131	0	25
1,2-Dichlorobenzene	ND		10.0	10.4		ug/L		104	70 - 130	0	20
1,2-Dichloroethane	ND		10.0	12.4		ug/L		104	56 - 146	2	20
1,2-Dichloropropane	ND		10.0	10.3		ug/L		103	69 - 130	3	20
1,3,5-Trimethylbenzene	ND		10.0	10.5		ug/L		105	70 - 130	3	20
1,3-Dichlorobenzene	ND		10.0	10.4		ug/L		104	70 - 130	1	20
1,3-Dichloropropane	ND		10.0	9.04		ug/L		90	70 - 130	1	25
1,4-Dichlorobenzene	ND		10.0	9.83		ug/L		98	70 - 130	3	20
2,2-Dichloropropane	ND		10.0	11.3		ug/L		113	69 - 138	6	25
2-Chlorotoluene	ND		10.0	9.91		ug/L		99	70 - 130	5	20
4-Chlorotoluene	ND		10.0	10.6		ug/L		106	70 - 130	2	20
Acetone	ND		50.0	35.8		ug/L		72	10 - 150	9	35
Benzene	ND		10.0	10.1		ug/L		101	66 - 130	1	20
Bromobenzene	ND		10.0	10.1		ug/L		101	70 - 130	0	20
Bromochloromethane	ND		10.0	10.7		ug/L		107	70 - 130	18	25
Bromodichloromethane	ND		10.0	11.1		ug/L		111	70 - 138	6	20
Bromoform	ND		10.0	9.32		ug/L		93	59 - 150	5	25
Bromomethane	ND		10.0	9.04		ug/L		90	62 - 131	14	25
Carbon tetrachloride	ND		10.0	10.4		ug/L		104	60 - 150	1	25
Chlorobenzene	ND		10.0	9.44		ug/L		94	70 - 130	4	20
Chloroethane	ND		10.0	9.16		ug/L		92	68 - 130	4	25
Chloroform	11		10.0	22.8		ug/L		118	70 - 130	1	20
Chloromethane	ND		10.0	8.58		ug/L		86	39 - 144	1	25
cis-1,2-Dichloroethene	ND		10.0	11.2		ug/L		112	70 - 130	3	20
cis-1,3-Dichloropropene	ND		10.0	9.59		ug/L		96	70 - 133	3	20
Dibromochloromethane	ND		10.0	9.85		ug/L		99	70 - 148	7	25
Dibromomethane	ND		10.0	10.1		ug/L		101	70 - 130	0	25
Dichlorodifluoromethane	ND		10.0	7.54		ug/L		75	25 - 142	0	30
Ethylbenzene	ND		10.0	10.5		ug/L		105	70 - 130	6	20
Hexachlorobutadiene	ND		10.0	11.4		ug/L		114	10 - 150	17	20
Isopropylbenzene	ND		10.0	10.5		ug/L		105	70 - 132	1	20
m,p-Xylene	ND		10.0	10.7		ug/L		107	70 - 133	5	25
Methylene Chloride	ND		10.0	7.96		ug/L		80	52 - 130	18	20
Methyl-t-Butyl Ether (MTBE)	ND		10.0	9.52		ug/L		95	70 - 130	1	25
Naphthalene	ND		10.0	10.1		ug/L		101	60 - 140	6	30
n-Butylbenzene	ND		10.0	10.9		ug/L		109	61 - 149	1	20
N-Propylbenzene	ND		10.0	10.5		ug/L		105	66 - 135	1	20
o-Xylene	ND		10.0	10.4		ug/L		104	70 - 133	4	20
p-Isopropyltoluene	ND		10.0	10.6		ug/L		106	70 - 130	1	20
sec-Butylbenzene	ND		10.0	10.8		ug/L		108	67 - 134	1	20
Styrene	ND		10.0	10.5		ug/L		105	29 - 150	6	35
tert-Butylbenzene	ND		10.0	10.4		ug/L		104	70 - 130	2	20
Tetrachloroethene	220		10.0	218	E 4	ug/L		-40	70 - 137	1	20
Toluene	ND		10.0	9.72		ug/L		97	70 - 130	1	20
trans-1,2-Dichloroethene	ND		10.0	10.2		ug/L		102	70 - 130	3	20
trans-1,3-Dichloropropene	ND		10.0	10.3		ug/L		103	70 - 138	6	25
Trichloroethene	26		10.0	37.7		ug/L		118	70 - 130	1	20

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

Lab Sample ID: 440-258644-2 MSD — **Client Sample ID: OC_SP210_INF_010720**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 589703

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Trichlorofluoromethane	17		10.0	25.8		ug/L		84	60 - 150	5	25
Vinyl chloride	ND		10.0	8.93		ug/L		89	50 - 137	1	30

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*102*		*70 - 130*
4-Bromofluorobenzene (Surr)	*101*		*80 - 120*
Dibromofluoromethane (Surr)	*101*		*76 - 132*
Toluene-d8 (Surr)	*98*		*80 - 128*

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

Lab Sample ID: MB 440-589711/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 589953 — **Prep Batch: 589711**

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	ND		0.50		ug/L		01/09/20 06:50	01/10/20 10:31	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,4-Dioxane-d8 (Surr)	*60*		*27 - 120*	*01/09/20 06:50*	*01/10/20 10:31*	*1*

Lab Sample ID: LCS 440-589711/3-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 589953 — **Prep Batch: 589711**

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
1,4-Dioxane			2.00	1.29		ug/L		64	36 - 120		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1,4-Dioxane-d8 (Surr)	*63*		*27 - 120*

Lab Sample ID: 440-258719-C-5-A MS — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 589953 — **Prep Batch: 589711**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
1,4-Dioxane	ND		1.94	1.26		ug/L		59	10 - 150		

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
1,4-Dioxane-d8 (Surr)	*58*		*27 - 120*

Lab Sample ID: 440-258719-C-5-B MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 589953 — **Prep Batch: 589711**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,4-Dioxane	ND		1.95	1.03		ug/L		47	10 - 150	20	35

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

Lab Sample ID: 440-258719-C-5-B MSD
Matrix: Water
Analysis Batch: 589953

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 589711

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
1,4-Dioxane-d8 (Surr)	*47*		*27 - 120*

QC Association Summary

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

Job ID: 440-258644-1
SDG: Omega Chemical

GC/MS VOA

Analysis Batch: 589703

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-258644-1	OC_SP220B_EFF_010720	Total/NA	Water	8260B	
440-258644-2	OC_SP210_INF_010720	Total/NA	Water	8260B	
440-258644-2 - DL	OC_SP210_INF_010720	Total/NA	Water	8260B	
440-258644-3	OC_TB_010720	Total/NA	Water	8260B	
MB 440-589703/4	Method Blank	Total/NA	Water	8260B	
LCS 440-589703/1002	Lab Control Sample	Total/NA	Water	8260B	
LCS 440-589703/1003	Lab Control Sample	Total/NA	Water	8260B	
440-258644-2 MS	OC_SP210_INF_010720	Total/NA	Water	8260B	
440-258644-2 MSD	OC_SP210_INF_010720	Total/NA	Water	8260B	

GC/MS Semi VOA

Prep Batch: 589711

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-258644-1	OC_SP220B_EFF_010720	Total/NA	Water	3520C	
MB 440-589711/1-A	Method Blank	Total/NA	Water	3520C	
LCS 440-589711/3-A	Lab Control Sample	Total/NA	Water	3520C	
440-258719-C-5-A MS	Matrix Spike	Total/NA	Water	3520C	
440-258719-C-5-B MSD	Matrix Spike Duplicate	Total/NA	Water	3520C	

Analysis Batch: 589953

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-258644-1	OC_SP220B_EFF_010720	Total/NA	Water	8270C SIM	589711
MB 440-589711/1-A	Method Blank	Total/NA	Water	8270C SIM	589711
LCS 440-589711/3-A	Lab Control Sample	Total/NA	Water	8270C SIM	589711
440-258719-C-5-A MS	Matrix Spike	Total/NA	Water	8270C SIM	589711
440-258719-C-5-B MSD	Matrix Spike Duplicate	Total/NA	Water	8270C SIM	589711

Definitions/Glossary

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

Job ID: 440-258644-1
SDG: Omega Chemical

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
4	MS, MSD: The analyte present in the original sample is greater than 4 times the matrix spike concentration; therefore, control limits are not applicable.
E	Result exceeded calibration range.
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 - GWCS Monthly

Job ID: 440-258644-1
SDG: Omega Chemical

Laboratory: Eurofins Calscience Irvine

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

Authority	Program	Identification Number	Expiration Date
California	State Program	CA ELAP 2706	06-30-20

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
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: 1/7/2020	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 - GWCS 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_010720	1/7/2020	0908	Grab	GW	5			x	x	
OC_SP210_INF_010720	1/7/2020	0915	Grab	GW	3			x		
OC_TB_010720	1/7/2020	0900		H2O	2			x		

440-258644 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: 0.8 Corr'd: 0.6 | Therm ID No.: IR-87

Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
	JLAD	1/8/20 0735			
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
Relinquished by:	Company:	Date/Time:	Received in Laboratory by:	Company: EC-IRV ~~TAIRO~~ AS	Date/Time: 1/8/20 0735

Login Sample Receipt Checklist

Client: Jacob & Hefner Associates P.C.

Job Number: 440-258644-1
SDG Number: Omega Chemical

Login Number: 258644
List Number: 1
Creator: Skinner, Alma D

List Source: Eurofins 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	

ANALYTICAL REPORT

Eurofins Calscience Irvine
17461 Derian Ave
Suite 100
Irvine, CA 92614-5817
Tel: (949)261-1022

Laboratory Job ID: 440-259513-1
Laboratory Sample Delivery Group: Omega Chemical
Client Project/Site: Omega Chemical -2020 Semi-Annual GWM Feb

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

Attn: Trent Henderson

Authorized for release by:
1/29/2020 12:34:29 PM

Danielle Roberts, Senior Project Manager
(949)260-3249
danielle.roberts@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 -2020 Semi-Annual GWM Feb

Job ID: 440-259513-1
SDG: Omega Chemical

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
440-259513-1	OC_GW_OW-11_202001	Water	01/21/20 12:00	01/21/20 15:10	

Job ID: 440-259513-1

Laboratory: Eurofins Calscience Irvine

Narrative

Job Narrative
440-259513-1

Comments
No additional comments.

Receipt
The samples were received on 1/21/2020 3:10 PM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperatures of the 3 coolers at receipt time were 1.3º C, 1.7º C and 1.9º C.

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

GC/MS Semi VOA
Method 8270C SIM: The method blank for preparation batch 440-591971 and analytical batch 440-592177 contained 1,4-Dioxane above the method detection limit. This target analyte concentration was less than the reporting limit (RL); therefore, re-extraction and/or re-analysis of samples was not performed.

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

Organic Prep
Method 3520C: Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD) associated with 8270C preparation batch 440-591971. LCS was performed in duplicate to provide precision of data.

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 -2020 Semi-Annual GWM Feb

Job ID: 440-259513-1
SDG: Omega Chemical

Client Sample ID: OC_GW_OW-11_202001

Lab Sample ID: 440-259513-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,1,2-Trichloro-1,2,2-trifluoroethane	50		5.0	0.50	ug/L	1		8260B	Total/NA
1,1-Dichloroethene	34		1.0	0.25	ug/L	1		8260B	Total/NA
Chloroform	0.64	J	1.0	0.25	ug/L	1		8260B	Total/NA
Trichloroethene	33		1.0	0.25	ug/L	1		8260B	Total/NA
Trichlorofluoromethane	15		1.0	0.25	ug/L	1		8260B	Total/NA
Tetrachloroethene - DL	200		5.0	1.3	ug/L	5		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 -2020 Semi-Annual GWM Feb

Job ID: 440-259513-1
SDG: Omega Chemical

Client Sample ID: OC_GW_OW-11_202001

Lab Sample ID: 440-259513-1

Date Collected: 01/21/20 12:00
Matrix: Water
Date Received: 01/21/20 15:10

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			01/23/20 14:49	1
1,1,1-Trichloroethane	ND		1.0	0.25	ug/L			01/23/20 14:49	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.25	ug/L			01/23/20 14:49	1
1,1,2-Trichloro-1,2,2-trifluoroethane	**50**		5.0	0.50	ug/L			01/23/20 14:49	1
1,1,2-Trichloroethane	ND		1.0	0.25	ug/L			01/23/20 14:49	1
1,1-Dichloroethane	ND		1.0	0.25	ug/L			01/23/20 14:49	1
1,1-Dichloroethene	**34**		1.0	0.25	ug/L			01/23/20 14:49	1
1,1-Dichloropropene	ND		1.0	0.25	ug/L			01/23/20 14:49	1
1,2,3-Trichlorobenzene	ND		1.0	0.40	ug/L			01/23/20 14:49	1
1,2,3-Trichloropropane	ND		1.0	0.40	ug/L			01/23/20 14:49	1
1,2,4-Trichlorobenzene	ND		1.0	0.40	ug/L			01/23/20 14:49	1
1,2,4-Trimethylbenzene	ND		1.0	0.25	ug/L			01/23/20 14:49	1
1,2-Dibromo-3-Chloropropane	ND		5.0	0.50	ug/L			01/23/20 14:49	1
1,2-Dibromoethane (EDB)	ND		1.0	0.25	ug/L			01/23/20 14:49	1
1,2-Dichlorobenzene	ND		1.0	0.25	ug/L			01/23/20 14:49	1
1,2-Dichloroethane	ND		1.0	0.25	ug/L			01/23/20 14:49	1
1,2-Dichloropropane	ND		1.0	0.25	ug/L			01/23/20 14:49	1
1,3,5-Trimethylbenzene	ND		1.0	0.25	ug/L			01/23/20 14:49	1
1,3-Dichlorobenzene	ND		1.0	0.25	ug/L			01/23/20 14:49	1
1,3-Dichloropropane	ND		1.0	0.25	ug/L			01/23/20 14:49	1
1,4-Dichlorobenzene	ND		1.0	0.25	ug/L			01/23/20 14:49	1
2,2-Dichloropropane	ND		1.0	0.40	ug/L			01/23/20 14:49	1
2-Chlorotoluene	ND		1.0	0.25	ug/L			01/23/20 14:49	1
4-Chlorotoluene	ND		1.0	0.25	ug/L			01/23/20 14:49	1
Acetone	ND		10	10	ug/L			01/23/20 14:49	1
Benzene	ND		0.50	0.25	ug/L			01/23/20 14:49	1
Bromobenzene	ND		1.0	0.25	ug/L			01/23/20 14:49	1
Bromochloromethane	ND		1.0	0.25	ug/L			01/23/20 14:49	1
Bromodichloromethane	ND		1.0	0.25	ug/L			01/23/20 14:49	1
Bromoform	ND		1.0	0.40	ug/L			01/23/20 14:49	1
Bromomethane	ND		1.0	0.25	ug/L			01/23/20 14:49	1
Carbon tetrachloride	ND		0.50	0.25	ug/L			01/23/20 14:49	1
Chlorobenzene	ND		1.0	0.25	ug/L			01/23/20 14:49	1
Chloroethane	ND		1.0	0.40	ug/L			01/23/20 14:49	1
Chloroform	**0.64**	**J**	1.0	0.25	ug/L			01/23/20 14:49	1
Chloromethane	ND		1.0	0.25	ug/L			01/23/20 14:49	1
cis-1,2-Dichloroethene	ND		1.0	0.25	ug/L			01/23/20 14:49	1
cis-1,3-Dichloropropene	ND		0.50	0.25	ug/L			01/23/20 14:49	1
Dibromochloromethane	ND		1.0	0.25	ug/L			01/23/20 14:49	1
Dibromomethane	ND		1.0	0.25	ug/L			01/23/20 14:49	1
Dichlorodifluoromethane	ND		1.0	0.40	ug/L			01/23/20 14:49	1
Ethylbenzene	ND		1.0	0.25	ug/L			01/23/20 14:49	1
Hexachlorobutadiene	ND		1.0	0.25	ug/L			01/23/20 14:49	1
Isopropyl alcohol	ND		250	180	ug/L			01/23/20 14:49	1
Isopropylbenzene	ND		1.0	0.25	ug/L			01/23/20 14:49	1
m,p-Xylene	ND		1.0	0.50	ug/L			01/23/20 14:49	1
Methylene Chloride	ND		5.0	0.88	ug/L			01/23/20 14:49	1
Methyl-t-Butyl Ether (MTBE)	ND		1.0	0.25	ug/L			01/23/20 14:49	1
Naphthalene	ND		1.0	0.40	ug/L			01/23/20 14:49	1

Client Sample ID: OC_GW_OW-11_202001

Lab Sample ID: 440-259513-1

Date Collected: 01/21/20 12:00
Matrix: Water
Date Received: 01/21/20 15:10

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			01/23/20 14:49	1
N-Propylbenzene	ND		1.0	0.25	ug/L			01/23/20 14:49	1
o-Xylene	ND		1.0	0.25	ug/L			01/23/20 14:49	1
p-Isopropyltoluene	ND		1.0	0.25	ug/L			01/23/20 14:49	1
sec-Butylbenzene	ND		1.0	0.25	ug/L			01/23/20 14:49	1
Styrene	ND		1.0	0.25	ug/L			01/23/20 14:49	1
tert-Butylbenzene	ND		1.0	0.25	ug/L			01/23/20 14:49	1
Toluene	ND		1.0	0.25	ug/L			01/23/20 14:49	1
trans-1,2-Dichloroethene	ND		1.0	0.25	ug/L			01/23/20 14:49	1
trans-1,3-Dichloropropene	ND		0.50	0.25	ug/L			01/23/20 14:49	1
Trichloroethene	**33**		1.0	0.25	ug/L			01/23/20 14:49	1
Trichlorofluoromethane	**15**		1.0	0.25	ug/L			01/23/20 14:49	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Tentatively Identified Compound	*None*		*ug/L*					*01/23/20 14:49*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*104*		*70 - 130*		*01/23/20 14:49*	*1*
4-Bromofluorobenzene (Surr)	*100*		*80 - 120*		*01/23/20 14:49*	*1*
Dibromofluoromethane (Surr)	*103*		*76 - 132*		*01/23/20 14:49*	*1*
Toluene-d8 (Surr)	*104*		*80 - 128*		*01/23/20 14:49*	*1*

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Tetrachloroethene	**200**		5.0	1.3	ug/L			01/24/20 12:22	5

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Tentatively Identified Compound	*None*		*ug/L*					*01/24/20 12:22*	*5*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*96*		*70 - 130*		*01/24/20 12:22*	*5*
4-Bromofluorobenzene (Surr)	*104*		*80 - 120*		*01/24/20 12:22*	*5*
Dibromofluoromethane (Surr)	*100*		*76 - 132*		*01/24/20 12:22*	*5*
Toluene-d8 (Surr)	*106*		*80 - 128*		*01/24/20 12:22*	*5*

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Vinyl chloride	ND		0.50	0.25	ug/L			01/23/20 13:25	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Tentatively Identified Compound	*None*		*ug/L*					*01/23/20 13:25*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*96*		*70 - 130*		*01/23/20 13:25*	*1*
4-Bromofluorobenzene (Surr)	*103*		*80 - 120*		*01/23/20 13:25*	*1*
Dibromofluoromethane (Surr)	*100*		*76 - 132*		*01/23/20 13:25*	*1*
Toluene-d8 (Surr)	*107*		*80 - 128*		*01/23/20 13:25*	*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	0.097	ug/L		01/23/20 06:45	01/24/20 09:55	1

Client Sample Results

Client: Jacob & Hefner Associates P.C.
Project/Site: Omega Chemical -2020 Semi-Annual GWM Feb

Job ID: 440-259513-1
SDG: Omega Chemical

Client Sample ID: OC_GW_OW-11_202001

Lab Sample ID: 440-259513-1

Date Collected: 01/21/20 12:00
Date Received: 01/21/20 15:10

Matrix: Water

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,4-Dioxane-d8 (Surr)	47		27 - 120	01/23/20 06:45	01/24/20 09:55	1

Surrogate Summary

Client: Jacob & Hefner Associates P.C.
Project/Site: Omega Chemical -2020 Semi-Annual GWM Feb

Job ID: 440-259513-1
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)
440-259513-1	OC_GW_OW-11_202001	104	100	103	104
440-259513-1 - RA	OC_GW_OW-11_202001	96	103	100	107
440-259513-1 - DL	OC_GW_OW-11_202001	96	104	100	106
440-259517-B-3 MS	Matrix Spike	100	102	103	103
440-259517-B-3 MSD	Matrix Spike Duplicate	100	103	103	104
440-259519-B-13 MS	Matrix Spike	96	96	101	102
440-259519-B-13 MSD	Matrix Spike Duplicate	98	98	100	102
440-259585-D-2 MS	Matrix Spike	94	98	99	104
440-259585-D-2 MSD	Matrix Spike Duplicate	93	102	99	103
LCS 440-591946/1002	Lab Control Sample	100	99	99	97
LCS 440-591946/1003	Lab Control Sample	101	101	99	102
LCS 440-591948/1002	Lab Control Sample	97	99	97	103
LCS 440-592157/1002	Lab Control Sample	97	95	100	103
MB 440-591946/4	Method Blank	102	101	102	102
MB 440-591948/5	Method Blank	94	104	100	108
MB 440-592157/5	Method Blank	94	107	100	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)
440-259513-1	OC_GW_OW-11_202001	47
LCS 440-591971/2-A	Lab Control Sample	48
LCSD 440-591971/3-A	Lab Control Sample Dup	57
MB 440-591971/1-A	Method Blank	58

Surrogate Legend

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

Method Summary

Client: Jacob & Hefner Associates P.C.
Project/Site: Omega Chemical -2020 Semi-Annual GWM Feb

Job ID: 440-259513-1
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 = Eurofins Calscience 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 -2020 Semi-Annual GWM Feb

Job ID: 440-259513-1
SDG: Omega Chemical

Client Sample ID: OC_GW_OW-11_202001

Lab Sample ID: 440-259513-1

Date Collected: 01/21/20 12:00
Matrix: Water
Date Received: 01/21/20 15:10

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	591948	01/23/20 13:25	A1W	TAL IRV
Total/NA	Analysis	8260B	DL	5	10 mL	10 mL	592157	01/24/20 12:22	GMA	TAL IRV
Total/NA	Analysis	8260B		1	10 mL	10 mL	591946	01/23/20 14:49	RM	TAL IRV
Total/NA	Prep	3520C			1030 mL	1.0 mL	591971	01/23/20 06:45	NAM	TAL IRV
Total/NA	Analysis	8270C SIM		1			592177	01/24/20 09:55	HN	TAL IRV

Laboratory References:

TAL IRV = Eurofins Calscience 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 440-591946/4
Matrix: Water
Analysis Batch: 591946

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			01/23/20 07:45	1
1,1,1-Trichloroethane	ND		1.0	0.25	ug/L			01/23/20 07:45	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.25	ug/L			01/23/20 07:45	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		5.0	0.50	ug/L			01/23/20 07:45	1
1,1,2-Trichloroethane	ND		1.0	0.25	ug/L			01/23/20 07:45	1
1,1-Dichloroethane	ND		1.0	0.25	ug/L			01/23/20 07:45	1
1,1-Dichloroethene	ND		1.0	0.25	ug/L			01/23/20 07:45	1
1,1-Dichloropropene	ND		1.0	0.25	ug/L			01/23/20 07:45	1
1,2,3-Trichlorobenzene	ND		1.0	0.40	ug/L			01/23/20 07:45	1
1,2,3-Trichloropropane	ND		1.0	0.40	ug/L			01/23/20 07:45	1
1,2,4-Trichlorobenzene	ND		1.0	0.40	ug/L			01/23/20 07:45	1
1,2,4-Trimethylbenzene	ND		1.0	0.25	ug/L			01/23/20 07:45	1
1,2-Dibromo-3-Chloropropane	ND		5.0	0.50	ug/L			01/23/20 07:45	1
1,2-Dibromoethane (EDB)	ND		1.0	0.25	ug/L			01/23/20 07:45	1
1,2-Dichlorobenzene	ND		1.0	0.25	ug/L			01/23/20 07:45	1
1,2-Dichloroethane	ND		1.0	0.25	ug/L			01/23/20 07:45	1
1,2-Dichloropropane	ND		1.0	0.25	ug/L			01/23/20 07:45	1
1,3,5-Trimethylbenzene	ND		1.0	0.25	ug/L			01/23/20 07:45	1
1,3-Dichlorobenzene	ND		1.0	0.25	ug/L			01/23/20 07:45	1
1,3-Dichloropropane	ND		1.0	0.25	ug/L			01/23/20 07:45	1
1,4-Dichlorobenzene	ND		1.0	0.25	ug/L			01/23/20 07:45	1
2,2-Dichloropropane	ND		1.0	0.40	ug/L			01/23/20 07:45	1
2-Chlorotoluene	ND		1.0	0.25	ug/L			01/23/20 07:45	1
4-Chlorotoluene	ND		1.0	0.25	ug/L			01/23/20 07:45	1
Acetone	ND		10	10	ug/L			01/23/20 07:45	1
Benzene	ND		0.50	0.25	ug/L			01/23/20 07:45	1
Bromobenzene	ND		1.0	0.25	ug/L			01/23/20 07:45	1
Bromochloromethane	ND		1.0	0.25	ug/L			01/23/20 07:45	1
Bromodichloromethane	ND		1.0	0.25	ug/L			01/23/20 07:45	1
Bromoform	ND		1.0	0.40	ug/L			01/23/20 07:45	1
Bromomethane	ND		1.0	0.25	ug/L			01/23/20 07:45	1
Carbon tetrachloride	ND		0.50	0.25	ug/L			01/23/20 07:45	1
Chlorobenzene	ND		1.0	0.25	ug/L			01/23/20 07:45	1
Chloroethane	ND		1.0	0.40	ug/L			01/23/20 07:45	1
Chloroform	ND		1.0	0.25	ug/L			01/23/20 07:45	1
Chloromethane	ND		1.0	0.25	ug/L			01/23/20 07:45	1
cis-1,2-Dichloroethene	ND		1.0	0.25	ug/L			01/23/20 07:45	1
cis-1,3-Dichloropropene	ND		0.50	0.25	ug/L			01/23/20 07:45	1
Dibromochloromethane	ND		1.0	0.25	ug/L			01/23/20 07:45	1
Dibromomethane	ND		1.0	0.25	ug/L			01/23/20 07:45	1
Dichlorodifluoromethane	ND		1.0	0.40	ug/L			01/23/20 07:45	1
Ethylbenzene	ND		1.0	0.25	ug/L			01/23/20 07:45	1
Hexachlorobutadiene	ND		1.0	0.25	ug/L			01/23/20 07:45	1
Isopropyl alcohol	ND		250	180	ug/L			01/23/20 07:45	1
Isopropylbenzene	ND		1.0	0.25	ug/L			01/23/20 07:45	1
m,p-Xylene	ND		1.0	0.50	ug/L			01/23/20 07:45	1
Methylene Chloride	ND		5.0	0.88	ug/L			01/23/20 07:45	1
Methyl-t-Butyl Ether (MTBE)	ND		1.0	0.25	ug/L			01/23/20 07:45	1

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

Lab Sample ID: MB 440-591946/4
Matrix: Water
Analysis Batch: 591946

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			01/23/20 07:45	1
n-Butylbenzene	ND		1.0	0.40	ug/L			01/23/20 07:45	1
N-Propylbenzene	ND		1.0	0.25	ug/L			01/23/20 07:45	1
o-Xylene	ND		1.0	0.25	ug/L			01/23/20 07:45	1
p-Isopropyltoluene	ND		1.0	0.25	ug/L			01/23/20 07:45	1
sec-Butylbenzene	ND		1.0	0.25	ug/L			01/23/20 07:45	1
Styrene	ND		1.0	0.25	ug/L			01/23/20 07:45	1
tert-Butylbenzene	ND		1.0	0.25	ug/L			01/23/20 07:45	1
Tetrachloroethene	ND		1.0	0.25	ug/L			01/23/20 07:45	1
Toluene	ND		1.0	0.25	ug/L			01/23/20 07:45	1
trans-1,2-Dichloroethene	ND		1.0	0.25	ug/L			01/23/20 07:45	1
trans-1,3-Dichloropropene	ND		0.50	0.25	ug/L			01/23/20 07:45	1
Trichloroethene	ND		1.0	0.25	ug/L			01/23/20 07:45	1
Trichlorofluoromethane	ND		1.0	0.25	ug/L			01/23/20 07:45	1

Tentatively Identified Compound	*MB Est. Result*	*MB Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Methacrylonitrile	*3.66*	*J*	*ug/L*		*6.57*	*126-98-7*		*01/23/20 07:45*	*1*
2-Ethyl-1-butanol	*16.3*	*J*	*ug/L*		*10.28*	*97-95-0*		*01/23/20 07:45*	*1*
Cyclohexanone	*37.7*	*J*	*ug/L*		*11.49*	*108-94-1*		*01/23/20 07:45*	*1*
1,3,5-Trichlorobenzene	*0.841*	*J*	*ug/L*		*14.65*	*108-70-3*		*01/23/20 07:45*	*1*
Tentatively Identified Compound	*None*		*ug/L*					*01/23/20 07:45*	*1*

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*102*		*70 - 130*		*01/23/20 07:45*	*1*
4-Bromofluorobenzene (Surr)	*101*		*80 - 120*		*01/23/20 07:45*	*1*
Dibromofluoromethane (Surr)	*102*		*76 - 132*		*01/23/20 07:45*	*1*
Toluene-d8 (Surr)	*102*		*80 - 128*		*01/23/20 07:45*	*1*

Lab Sample ID: LCS 440-591946/1002
Matrix: Water
Analysis Batch: 591946

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	24.2		ug/L		97	60 - 141
1,1,1-Trichloroethane	25.0	24.1		ug/L		96	70 - 130
1,1,2,2-Tetrachloroethane	25.0	27.1		ug/L		108	63 - 130
1,1,2-Trichloro-1,2,2-trifluoroethane	25.0	23.1		ug/L		92	60 - 140
1,1,2-Trichloroethane	25.0	24.3		ug/L		97	70 - 130
1,1-Dichloroethane	25.0	23.5		ug/L		94	64 - 130
1,1-Dichloroethene	25.0	22.2		ug/L		89	70 - 130
1,1-Dichloropropene	25.0	23.7		ug/L		95	70 - 130
1,2,3-Trichlorobenzene	25.0	23.4		ug/L		94	60 - 140
1,2,3-Trichloropropane	25.0	24.1		ug/L		96	63 - 130
1,2,4-Trichlorobenzene	25.0	24.4		ug/L		98	60 - 140
1,2,4-Trimethylbenzene	25.0	24.0		ug/L		96	70 - 135
1,2-Dibromo-3-Chloropropane	25.0	24.3		ug/L		97	52 - 140
1,2-Dibromoethane (EDB)	25.0	24.5		ug/L		98	70 - 130

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

Lab Sample ID: LCS 440-591946/1002
Matrix: Water
Analysis Batch: 591946

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,2-Dichlorobenzene	25.0	22.8		ug/L		91	70 - 130
1,2-Dichloroethane	25.0	24.1		ug/L		97	57 - 138
1,2-Dichloropropane	25.0	25.0		ug/L		100	67 - 130
1,3,5-Trimethylbenzene	25.0	24.1		ug/L		96	70 - 136
1,3-Dichlorobenzene	25.0	25.1		ug/L		100	70 - 130
1,3-Dichloropropane	25.0	22.3		ug/L		89	70 - 130
1,4-Dichlorobenzene	25.0	24.7		ug/L		99	70 - 130
2,2-Dichloropropane	25.0	28.3		ug/L		113	68 - 141
2-Chlorotoluene	25.0	24.1		ug/L		96	70 - 130
4-Chlorotoluene	25.0	22.7		ug/L		91	70 - 130
Acetone	125	140		ug/L		112	10 - 150
Benzene	25.0	23.8		ug/L		95	68 - 130
Bromobenzene	25.0	23.4		ug/L		94	70 - 130
Bromochloromethane	25.0	24.8		ug/L		99	70 - 130
Bromodichloromethane	25.0	25.4		ug/L		101	70 - 132
Bromoform	25.0	24.7		ug/L		99	60 - 148
Bromomethane	25.0	22.5		ug/L		90	64 - 139
Carbon tetrachloride	25.0	24.7		ug/L		99	60 - 150
Chlorobenzene	25.0	22.8		ug/L		91	70 - 130
Chloroethane	25.0	23.7		ug/L		95	64 - 135
Chloroform	25.0	24.7		ug/L		99	70 - 130
Chloromethane	25.0	20.0		ug/L		80	47 - 140
cis-1,2-Dichloroethene	25.0	22.9		ug/L		91	70 - 133
cis-1,3-Dichloropropene	25.0	24.0		ug/L		96	70 - 133
Dibromochloromethane	25.0	24.6		ug/L		98	69 - 145
Dibromomethane	25.0	24.8		ug/L		99	70 - 130
Dichlorodifluoromethane	25.0	18.1		ug/L		72	29 - 150
Ethylbenzene	25.0	22.1		ug/L		88	70 - 130
Hexachlorobutadiene	25.0	26.5		ug/L		106	10 - 150
Isopropylbenzene	25.0	22.5		ug/L		90	70 - 136
m,p-Xylene	25.0	23.7		ug/L		95	70 - 130
Methylene Chloride	25.0	22.8		ug/L		91	52 - 130
Methyl-t-Butyl Ether (MTBE)	25.0	27.9		ug/L		111	63 - 131
Naphthalene	25.0	23.6		ug/L		94	60 - 140
n-Butylbenzene	25.0	26.4		ug/L		106	65 - 150
N-Propylbenzene	25.0	22.5		ug/L		90	67 - 139
o-Xylene	25.0	23.1		ug/L		92	70 - 130
p-Isopropyltoluene	25.0	24.6		ug/L		98	70 - 132
sec-Butylbenzene	25.0	27.4		ug/L		110	70 - 138
Styrene	25.0	23.3		ug/L		93	70 - 134
tert-Butylbenzene	25.0	25.8		ug/L		103	70 - 130
Tetrachloroethene	25.0	23.4		ug/L		94	70 - 130
Toluene	25.0	22.2		ug/L		89	70 - 130
trans-1,2-Dichloroethene	25.0	22.6		ug/L		90	70 - 130
trans-1,3-Dichloropropene	25.0	23.5		ug/L		94	70 - 132
Trichloroethene	25.0	23.0		ug/L		92	70 - 130
Trichlorofluoromethane	25.0	22.1		ug/L		88	60 - 150

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

Lab Sample ID: LCS 440-591946/1002
Matrix: Water
Analysis Batch: 591946

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

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*100*		*70 - 130*
4-Bromofluorobenzene (Surr)	*99*		*80 - 120*
Dibromofluoromethane (Surr)	*99*		*76 - 132*
Toluene-d8 (Surr)	*97*		*80 - 128*

Lab Sample ID: LCS 440-591946/1003
Matrix: Water
Analysis Batch: 591946

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	208	J	ug/L		83	49 - 142

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*101*		*70 - 130*
4-Bromofluorobenzene (Surr)	*101*		*80 - 120*
Dibromofluoromethane (Surr)	*99*		*76 - 132*
Toluene-d8 (Surr)	*102*		*80 - 128*

Lab Sample ID: 440-259517-B-3 MS
Matrix: Water
Analysis Batch: 591946

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		250	244		ug/L		98	60 - 149
1,1,1-Trichloroethane	50		250	295		ug/L		98	70 - 130
1,1,2,2-Tetrachloroethane	ND		250	298		ug/L		119	63 - 130
1,1,2-Trichloro-1,2,2-trifluoroethane	1300		250	1490	4	ug/L		66	60 - 140
1,1,2-Trichloroethane	ND		250	253		ug/L		101	70 - 130
1,1-Dichloroethane	ND		250	242		ug/L		97	65 - 130
1,1-Dichloroethene	51		250	274		ug/L		89	70 - 130
1,1-Dichloropropene	ND		250	232		ug/L		93	64 - 130
1,2,3-Trichlorobenzene	ND		250	202		ug/L		81	60 - 140
1,2,3-Trichloropropane	ND		250	249		ug/L		100	60 - 130
1,2,4-Trichlorobenzene	ND		250	212		ug/L		85	60 - 140
1,2,4-Trimethylbenzene	ND		250	248		ug/L		99	70 - 130
1,2-Dibromo-3-Chloropropane	ND		250	232		ug/L		93	48 - 140
1,2-Dibromoethane (EDB)	ND		250	253		ug/L		101	70 - 131
1,2-Dichlorobenzene	ND		250	233		ug/L		93	70 - 130
1,2-Dichloroethane	ND		250	244		ug/L		98	56 - 146
1,2-Dichloropropane	ND		250	248		ug/L		99	69 - 130
1,3,5-Trimethylbenzene	ND		250	245		ug/L		98	70 - 130
1,3-Dichlorobenzene	ND		250	248		ug/L		99	70 - 130
1,3-Dichloropropane	ND		250	237		ug/L		95	70 - 130
1,4-Dichlorobenzene	ND		250	248		ug/L		99	70 - 130
2,2-Dichloropropane	ND		250	258		ug/L		103	69 - 138
2-Chlorotoluene	ND		250	242		ug/L		97	70 - 130
4-Chlorotoluene	ND		250	232		ug/L		93	70 - 130

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

Lab Sample ID: 440-259517-B-3 MS
Matrix: Water
Analysis Batch: 591946

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		1250	1040		ug/L		83	10 - 150
Benzene	ND		250	240		ug/L		96	66 - 130
Bromobenzene	ND		250	242		ug/L		97	70 - 130
Bromochloromethane	ND		250	242		ug/L		97	70 - 130
Bromodichloromethane	ND		250	254		ug/L		102	70 - 138
Bromoform	ND		250	246		ug/L		99	59 - 150
Bromomethane	ND		250	206		ug/L		82	62 - 131
Carbon tetrachloride	ND		250	240		ug/L		96	60 - 150
Chlorobenzene	ND		250	245		ug/L		98	70 - 130
Chloroethane	ND		250	211		ug/L		85	68 - 130
Chloroform	38		250	288		ug/L		100	70 - 130
Chloromethane	ND		250	187		ug/L		75	39 - 144
cis-1,2-Dichloroethene	ND		250	226		ug/L		90	70 - 130
cis-1,3-Dichloropropene	ND		250	249		ug/L		100	70 - 133
Dibromochloromethane	ND		250	251		ug/L		100	70 - 148
Dibromomethane	ND		250	243		ug/L		97	70 - 130
Dichlorodifluoromethane	ND		250	161		ug/L		65	25 - 142
Ethylbenzene	ND		250	235		ug/L		94	70 - 130
Hexachlorobutadiene	ND		250	214		ug/L		86	10 - 150
Isopropyl alcohol	ND		6250	5050	J	ug/L		81	46 - 142
Isopropylbenzene	ND		250	236		ug/L		94	70 - 132
m,p-Xylene	ND		250	248		ug/L		99	70 - 133
Methylene Chloride	ND		250	250		ug/L		100	52 - 130
Methyl-t-Butyl Ether (MTBE)	ND		250	244		ug/L		98	70 - 130
Naphthalene	ND		250	210		ug/L		84	60 - 140
n-Butylbenzene	ND		250	257		ug/L		103	61 - 149
N-Propylbenzene	ND		250	232		ug/L		93	66 - 135
o-Xylene	ND		250	239		ug/L		96	70 - 133
p-Isopropyltoluene	ND		250	245		ug/L		98	70 - 130
sec-Butylbenzene	ND		250	272		ug/L		109	67 - 134
Styrene	ND		250	242		ug/L		97	29 - 150
tert-Butylbenzene	ND		250	257		ug/L		103	70 - 130
Tetrachloroethene	1500		250	1810	4	ug/L		119	70 - 137
Toluene	ND		250	243		ug/L		97	70 - 130
trans-1,2-Dichloroethene	ND		250	227		ug/L		91	70 - 130
trans-1,3-Dichloropropene	ND		250	244		ug/L		98	70 - 138
Trichloroethene	150		250	387		ug/L		93	70 - 130
Trichlorofluoromethane	26		250	241		ug/L		86	60 - 150

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*100*		*70 - 130*
4-Bromofluorobenzene (Surr)	*102*		*80 - 120*
Dibromofluoromethane (Surr)	*103*		*76 - 132*
Toluene-d8 (Surr)	*103*		*80 - 128*

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

Lab Sample ID: 440-259517-B-3 MSD
Matrix: Water
Analysis Batch: 591946

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		250	240		ug/L		96	60 - 149	2	20
1,1,1-Trichloroethane	50		250	287		ug/L		95	70 - 130	3	20
1,1,2,2-Tetrachloroethane	ND		250	307		ug/L		123	63 - 130	3	30
1,1,2-Trichloro-1,2,2-trifluoroethane	1300		250	1430	4	ug/L		44	60 - 140	4	20
1,1,2-Trichloroethane	ND		250	258		ug/L		103	70 - 130	2	25
1,1-Dichloroethane	ND		250	233		ug/L		93	65 - 130	3	20
1,1-Dichloroethene	51		250	259		ug/L		83	70 - 130	6	20
1,1-Dichloropropene	ND		250	225		ug/L		90	64 - 130	3	20
1,2,3-Trichlorobenzene	ND		250	234		ug/L		94	60 - 140	15	20
1,2,3-Trichloropropane	ND		250	253		ug/L		101	60 - 130	2	30
1,2,4-Trichlorobenzene	ND		250	237		ug/L		95	60 - 140	11	20
1,2,4-Trimethylbenzene	ND		250	244		ug/L		98	70 - 130	1	25
1,2-Dibromo-3-Chloropropane	ND		250	257		ug/L		103	48 - 140	10	30
1,2-Dibromoethane (EDB)	ND		250	253		ug/L		101	70 - 131	0	25
1,2-Dichlorobenzene	ND		250	236		ug/L		94	70 - 130	1	20
1,2-Dichloroethane	ND		250	240		ug/L		96	56 - 146	2	20
1,2-Dichloropropane	ND		250	243		ug/L		97	69 - 130	2	20
1,3,5-Trimethylbenzene	ND		250	245		ug/L		98	70 - 130	0	20
1,3-Dichlorobenzene	ND		250	254		ug/L		102	70 - 130	3	20
1,3-Dichloropropane	ND		250	233		ug/L		93	70 - 130	2	25
1,4-Dichlorobenzene	ND		250	249		ug/L		99	70 - 130	0	20
2,2-Dichloropropane	ND		250	246		ug/L		99	69 - 138	5	25
2-Chlorotoluene	ND		250	235		ug/L		94	70 - 130	3	20
4-Chlorotoluene	ND		250	227		ug/L		91	70 - 130	2	20
Acetone	ND		1250	1200		ug/L		96	10 - 150	15	35
Benzene	ND		250	230		ug/L		92	66 - 130	4	20
Bromobenzene	ND		250	235		ug/L		94	70 - 130	3	20
Bromochloromethane	ND		250	245		ug/L		98	70 - 130	1	25
Bromodichloromethane	ND		250	253		ug/L		101	70 - 138	0	20
Bromoform	ND		250	248		ug/L		99	59 - 150	1	25
Bromomethane	ND		250	192		ug/L		77	62 - 131	7	25
Carbon tetrachloride	ND		250	235		ug/L		94	60 - 150	2	25
Chlorobenzene	ND		250	236		ug/L		94	70 - 130	4	20
Chloroethane	ND		250	208		ug/L		83	68 - 130	2	25
Chloroform	38		250	280		ug/L		97	70 - 130	3	20
Chloromethane	ND		250	181		ug/L		72	39 - 144	3	25
cis-1,2-Dichloroethene	ND		250	225		ug/L		90	70 - 130	1	20
cis-1,3-Dichloropropene	ND		250	242		ug/L		97	70 - 133	3	20
Dibromochloromethane	ND		250	248		ug/L		99	70 - 148	1	25
Dibromomethane	ND		250	237		ug/L		95	70 - 130	3	25
Dichlorodifluoromethane	ND		250	153		ug/L		61	25 - 142	6	30
Ethylbenzene	ND		250	230		ug/L		92	70 - 130	2	20
Hexachlorobutadiene	ND		250	238		ug/L		95	10 - 150	10	20
Isopropyl alcohol	ND		6250	6440		ug/L		103	46 - 142	24	40
Isopropylbenzene	ND		250	228		ug/L		91	70 - 132	3	20
m,p-Xylene	ND		250	237		ug/L		95	70 - 133	5	25
Methylene Chloride	ND		250	209		ug/L		84	52 - 130	18	20
Methyl-t-Butyl Ether (MTBE)	ND		250	244		ug/L		98	70 - 130	0	25

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

Lab Sample ID: 440-259517-B-3 MSD
Matrix: Water
Analysis Batch: 591946

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		250	238		ug/L		95	60 - 140	13	30
n-Butylbenzene	ND		250	255		ug/L		102	61 - 149	1	20
N-Propylbenzene	ND		250	232		ug/L		93	66 - 135	0	20
o-Xylene	ND		250	238		ug/L		95	70 - 133	1	20
p-Isopropyltoluene	ND		250	244		ug/L		98	70 - 130	0	20
sec-Butylbenzene	ND		250	269		ug/L		108	67 - 134	1	20
Styrene	ND		250	238		ug/L		95	29 - 150	1	35
tert-Butylbenzene	ND		250	254		ug/L		101	70 - 130	1	20
Tetrachloroethene	1500		250	1720	4	ug/L		82	70 - 137	5	20
Toluene	ND		250	236		ug/L		95	70 - 130	3	20
trans-1,2-Dichloroethene	ND		250	221		ug/L		88	70 - 130	3	20
trans-1,3-Dichloropropene	ND		250	247		ug/L		99	70 - 138	1	25
Trichloroethene	150		250	370		ug/L		87	70 - 130	4	20
Trichlorofluoromethane	26		250	235		ug/L		83	60 - 150	3	25

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*100*		*70 - 130*
4-Bromofluorobenzene (Surr)	*103*		*80 - 120*
Dibromofluoromethane (Surr)	*103*		*76 - 132*
Toluene-d8 (Surr)	*104*		*80 - 128*

Lab Sample ID: MB 440-591948/5
Matrix: Water
Analysis Batch: 591948

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Vinyl chloride	ND		0.50	0.25	ug/L			01/23/20 08:25	1

Tentatively Identified Compound	*MB Est. Result*	*MB Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Tentatively Identified Compound	*None*		*ug/L*					*01/23/20 08:25*	*1*

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*94*		*70 - 130*		*01/23/20 08:25*	*1*
4-Bromofluorobenzene (Surr)	*104*		*80 - 120*		*01/23/20 08:25*	*1*
Dibromofluoromethane (Surr)	*100*		*76 - 132*		*01/23/20 08:25*	*1*
Toluene-d8 (Surr)	*108*		*80 - 128*		*01/23/20 08:25*	*1*

Lab Sample ID: LCS 440-591948/1002
Matrix: Water
Analysis Batch: 591948

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

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Vinyl chloride			25.0	21.2		ug/L		85	59 - 133		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*97*		*70 - 130*
4-Bromofluorobenzene (Surr)	*99*		*80 - 120*

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

Lab Sample ID: LCS 440-591948/1002
Matrix: Water
Analysis Batch: 591948

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

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
Dibromofluoromethane (Surr)	*97*		*76 - 132*
Toluene-d8 (Surr)	*103*		*80 - 128*

Lab Sample ID: 440-259519-B-13 MS
Matrix: Water
Analysis Batch: 591948

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
Vinyl chloride	ND		10.0	7.47		ug/L		75	50 - 137

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*96*		*70 - 130*
4-Bromofluorobenzene (Surr)	*96*		*80 - 120*
Dibromofluoromethane (Surr)	*101*		*76 - 132*
Toluene-d8 (Surr)	*102*		*80 - 128*

Lab Sample ID: 440-259519-B-13 MSD
Matrix: Water
Analysis Batch: 591948

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
Vinyl chloride	ND		10.0	8.36		ug/L		84	50 - 137	11	30

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*98*		*70 - 130*
4-Bromofluorobenzene (Surr)	*98*		*80 - 120*
Dibromofluoromethane (Surr)	*100*		*76 - 132*
Toluene-d8 (Surr)	*102*		*80 - 128*

Lab Sample ID: MB 440-592157/5
Matrix: Water
Analysis Batch: 592157

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			01/24/20 08:49	1

Tentatively Identified Compound	*MB Est. Result*	*MB Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Tentatively Identified Compound	*None*		*ug/L*					*01/24/20 08:49*	*1*

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*94*		*70 - 130*		*01/24/20 08:49*	*1*
4-Bromofluorobenzene (Surr)	*107*		*80 - 120*		*01/24/20 08:49*	*1*
Dibromofluoromethane (Surr)	*100*		*76 - 132*		*01/24/20 08:49*	*1*
Toluene-d8 (Surr)	*110*		*80 - 128*		*01/24/20 08:49*	*1*

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

Lab Sample ID: LCS 440-592157/1002
Matrix: Water
Analysis Batch: 592157

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	25.6		ug/L		102	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*97*		*70 - 130*
4-Bromofluorobenzene (Surr)	*95*		*80 - 120*
Dibromofluoromethane (Surr)	*100*		*76 - 132*
Toluene-d8 (Surr)	*103*		*80 - 128*

Lab Sample ID: 440-259585-D-2 MS
Matrix: Water
Analysis Batch: 592157

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		1000	1050		ug/L		105	70 - 137		

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*94*		*70 - 130*
4-Bromofluorobenzene (Surr)	*98*		*80 - 120*
Dibromofluoromethane (Surr)	*99*		*76 - 132*
Toluene-d8 (Surr)	*104*		*80 - 128*

Lab Sample ID: 440-259585-D-2 MSD
Matrix: Water
Analysis Batch: 592157

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		1000	1030		ug/L		103	70 - 137	1	20

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*93*		*70 - 130*
4-Bromofluorobenzene (Surr)	*102*		*80 - 120*
Dibromofluoromethane (Surr)	*99*		*76 - 132*
Toluene-d8 (Surr)	*103*		*80 - 128*

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

Lab Sample ID: MB 440-591971/1-A
Matrix: Water
Analysis Batch: 592177

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 591971

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	0.118	J	0.50	0.10	ug/L		01/23/20 06:45	01/24/20 08:50	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,4-Dioxane-d8 (Surr)	*58*		*27 - 120*	*01/23/20 06:45*	*01/24/20 08:50*	*1*

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

Lab Sample ID: LCS 440-591971/2-A
Matrix: Water
Analysis Batch: 592177

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 591971

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
1,4-Dioxane			2.00	1.09		ug/L		54	36 - 120		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1,4-Dioxane-d8 (Surr)	*48*		*27 - 120*

Lab Sample ID: LCSD 440-591971/3-A
Matrix: Water
Analysis Batch: 592177

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 591971

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,4-Dioxane			2.00	1.29		ug/L		65	36 - 120	17	35

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
1,4-Dioxane-d8 (Surr)	*57*		*27 - 120*

QC Association Summary

Client: Jacob & Hefner Associates P.C.
Project/Site: Omega Chemical -2020 Semi-Annual GWM Feb

Job ID: 440-259513-1
SDG: Omega Chemical

GC/MS VOA

Analysis Batch: 591946

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-259513-1	OC_GW_OW-11_202001	Total/NA	Water	8260B	
MB 440-591946/4	Method Blank	Total/NA	Water	8260B	
LCS 440-591946/1002	Lab Control Sample	Total/NA	Water	8260B	
LCS 440-591946/1003	Lab Control Sample	Total/NA	Water	8260B	
440-259517-B-3 MS	Matrix Spike	Total/NA	Water	8260B	
440-259517-B-3 MSD	Matrix Spike Duplicate	Total/NA	Water	8260B	

Analysis Batch: 591948

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-259513-1 - RA	OC_GW_OW-11_202001	Total/NA	Water	8260B	
MB 440-591948/5	Method Blank	Total/NA	Water	8260B	
LCS 440-591948/1002	Lab Control Sample	Total/NA	Water	8260B	
440-259519-B-13 MS	Matrix Spike	Total/NA	Water	8260B	
440-259519-B-13 MSD	Matrix Spike Duplicate	Total/NA	Water	8260B	

Analysis Batch: 592157

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-259513-1 - DL	OC_GW_OW-11_202001	Total/NA	Water	8260B	
MB 440-592157/5	Method Blank	Total/NA	Water	8260B	
LCS 440-592157/1002	Lab Control Sample	Total/NA	Water	8260B	
440-259585-D-2 MS	Matrix Spike	Total/NA	Water	8260B	
440-259585-D-2 MSD	Matrix Spike Duplicate	Total/NA	Water	8260B	

GC/MS Semi VOA

Prep Batch: 591971

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-259513-1	OC_GW_OW-11_202001	Total/NA	Water	3520C	
MB 440-591971/1-A	Method Blank	Total/NA	Water	3520C	
LCS 440-591971/2-A	Lab Control Sample	Total/NA	Water	3520C	
LCSD 440-591971/3-A	Lab Control Sample Dup	Total/NA	Water	3520C	

Analysis Batch: 592177

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-259513-1	OC_GW_OW-11_202001	Total/NA	Water	8270C SIM	591971
MB 440-591971/1-A	Method Blank	Total/NA	Water	8270C SIM	591971
LCS 440-591971/2-A	Lab Control Sample	Total/NA	Water	8270C SIM	591971
LCSD 440-591971/3-A	Lab Control Sample Dup	Total/NA	Water	8270C SIM	591971

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
4	MS, MSD: The analyte present in the original sample is greater than 4 times the matrix spike concentration; therefore, control limits are not applicable.
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	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate 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: Jacob & Hefner Associates P.C.
Project/Site: Omega Chemical -2020 Semi-Annual GWM Feb

Job ID: 440-259513-1
SDG: Omega Chemical

Laboratory: Eurofins Calscience Irvine

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

Authority	Program	Identification Number	Expiration Date
California	State	2706	06-30-20

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	1,1,1,2-Tetrachloroethane
8260B		Water	1,1,1-Trichloroethane
8260B		Water	1,1,2,2-Tetrachloroethane
8260B		Water	1,1,2-Trichloro-1,2,2-trifluoroethane
8260B		Water	1,1,2-Trichloroethane
8260B		Water	1,1-Dichloroethane
8260B		Water	1,1-Dichloroethene
8260B		Water	1,1-Dichloropropene
8260B		Water	1,2,3-Trichlorobenzene
8260B		Water	1,2,3-Trichloropropane
8260B		Water	1,2,4-Trichlorobenzene
8260B		Water	1,2,4-Trimethylbenzene
8260B		Water	1,2-Dibromo-3-Chloropropane
8260B		Water	1,2-Dibromoethane (EDB)
8260B		Water	1,2-Dichlorobenzene
8260B		Water	1,2-Dichloroethane
8260B		Water	1,2-Dichloropropane
8260B		Water	1,3,5-Trimethylbenzene
8260B		Water	1,3-Dichlorobenzene
8260B		Water	1,3-Dichloropropane
8260B		Water	1,4-Dichlorobenzene
8260B		Water	2,2-Dichloropropane
8260B		Water	2-Chlorotoluene
8260B		Water	4-Chlorotoluene
8260B		Water	Acetone
8260B		Water	Benzene
8260B		Water	Bromobenzene
8260B		Water	Bromochloromethane
8260B		Water	Bromodichloromethane
8260B		Water	Bromoform
8260B		Water	Bromomethane
8260B		Water	Carbon tetrachloride
8260B		Water	Chlorobenzene
8260B		Water	Chloroethane
8260B		Water	Chloroform
8260B		Water	Chloromethane
8260B		Water	cis-1,2-Dichloroethene
8260B		Water	cis-1,3-Dichloropropene
8260B		Water	Dibromochloromethane
8260B		Water	Dibromomethane
8260B		Water	Dichlorodifluoromethane
8260B		Water	Ethylbenzene
8260B		Water	Hexachlorobutadiene
8260B		Water	Isopropyl alcohol
8260B		Water	Isopropylbenzene

Laboratory: Eurofins Calscience Irvine (Continued)

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

Authority		Program		Identification Number	Expiration Date
California		State		2706	06-30-20
8260B			Water	m,p-Xylene	
8260B			Water	Methylene Chloride	
8260B			Water	Methyl-t-Butyl Ether (MTBE)	
8260B			Water	Naphthalene	
8260B			Water	n-Butylbenzene	
8260B			Water	N-Propylbenzene	
8260B			Water	o-Xylene	
8260B			Water	p-Isopropyltoluene	
8260B			Water	sec-Butylbenzene	
8260B			Water	Styrene	
8260B			Water	Tentatively Identified Compound	
8260B			Water	tert-Butylbenzene	
8260B			Water	Tetrachloroethene	
8260B			Water	Toluene	
8260B			Water	trans-1,2-Dichloroethene	
8260B			Water	trans-1,3-Dichloropropene	
8260B			Water	Trichloroethene	
8260B			Water	Trichlorofluoromethane	
8260B			Water	Vinyl chloride	
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: 2/ /20	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 Chem. - 2020 Semi-Ann. GWM Feb	☐ 1 week			
Site: Omega Chemical	☐ 2 days			Job / SDG No.:
P O #: 3139G/E742	☐ 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_202001	1/21/2020	1200	Grab	GW	5			x	x	
OC_GW_OW-13B_202001	1/ /2020		Grab	GW	5			x	x	
OC_GW_PZ-3_202001	1/ /2020		Grab	GW	5			x	x	
OC_GW_PZ-9_202001	1/ /2020		Grab	GW	5			x	x	
OC_TB _202001	1/ /2020		Grab	H20	2			x		

440-259513 Chain of Custody

1/21/20 LD

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 | 43509 | Cooler Temp. (°C): Obs'd:_____ Corr'd:_____ Therm ID No.:_____

Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
[signature]	JHA	1/21/20 1405	Will Reiva	EC-IRV	1/21/20 1405
WR	EC-IRV	1/21/20 1510			
			Received in Laboratory by: [signature]	EC-IRV	1/21/20 1510

1.8°/1.6°, 1.9°/1.7°, 2.1°/1.9° #89

Login Sample Receipt Checklist

Client: Jacob & Hefner Associates P.C.

Job Number: 440-259513-1
SDG Number: Omega Chemical

Login Number: 259513
List Number: 1
Creator: Soderblom, Tim

List Source: Eurofins 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	

ANALYTICAL REPORT

Eurofins Calscience Irvine
17461 Derian Ave
Suite 100
Irvine, CA 92614-5817
Tel: (949)261-1022

Laboratory Job ID: 440-259515-1
Laboratory Sample Delivery Group: Omega Chemical
Client Project/Site: Omega Chemical -2020 Semi-Annual GWM Feb

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

Attn: Trent Henderson

Authorized for release by:
1/29/2020 12:46:04 PM

Danielle Roberts, Senior Project Manager
(949)260-3249
danielle.roberts@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 -2020 Semi-Annual GWM Feb

Job ID: 440-259515-1
SDG: Omega Chemical

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
440-259515-1	OC_GW_EW-3_20200121	Water	01/21/20 09:07	01/21/20 15:10	
440-259515-2	OC_GW_EW-4_20200120	Water	01/20/20 14:20	01/21/20 15:10	
440-259515-3	OC_GW_EW-5_20200121	Water	01/21/20 13:08	01/21/20 15:10	
440-259515-4	OC_TB_20200121	Water	01/21/20 07:00	01/21/20 15:10	

Job ID: 440-259515-1

Laboratory: Eurofins Calscience Irvine

Narrative

Job Narrative
440-259515-1

Comments
No additional comments.

Receipt
The samples were received on 1/21/2020 3:10 PM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperatures of the 3 coolers at receipt time were 1.6º C, 1.7º C and 1.9º C.

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

GC/MS Semi VOA
Method 8270C SIM: The method blank for preparation batch 440-591747 and analytical batch 440-591979 contained 1,4-Dioxane above the method detection limit. This target analyte concentration was less than the reporting limit (RL); therefore, re-extraction and/or re-analysis of samples was not performed.

Method 8270C SIM: The method blank for preparation batch 440-591971 and analytical batch 440-592177 contained 1,4-Dioxane above the method detection limit. This target analyte concentration was less than the reporting limit (RL); therefore, re-extraction and/or re-analysis of samples was not performed.

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

Organic Prep
Method 3520C: Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD) associated with 8270C preparation batch 440-591747. LCS was performed in duplicate to provide precision of data.

Method 3520C: Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD) associated with 8270C preparation batch 440-591971. LCS was performed in duplicate to provide precision of data.

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 -2020 Semi-Annual GWM Feb

Job ID: 440-259515-1
SDG: Omega Chemical

Client Sample ID: OC_GW_EW-3_20200121 — Lab Sample ID: 440-259515-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Tetrachloroethene	1.6		1.0	0.25	ug/L	1		8260B	Total/NA
1,4-Dioxane	0.34	J B	0.49	0.098	ug/L	1		8270C SIM	Total/NA

Client Sample ID: OC_GW_EW-4_20200120 — Lab Sample ID: 440-259515-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,1-Dichloroethene	0.41	J	1.0	0.25	ug/L	1		8260B	Total/NA
Tetrachloroethene	1.6		1.0	0.25	ug/L	1		8260B	Total/NA
1,4-Dioxane	0.54	B	0.50	0.10	ug/L	1		8270C SIM	Total/NA

Client Sample ID: OC_GW_EW-5_20200121 — Lab Sample ID: 440-259515-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,1,2-Trichloro-1,2,2-trifluoroethane	55		5.0	0.50	ug/L	1		8260B	Total/NA
1,1-Dichloroethene	15		1.0	0.25	ug/L	1		8260B	Total/NA
Tetrachloroethene	16		1.0	0.25	ug/L	1		8260B	Total/NA
Trichloroethene	1.7		1.0	0.25	ug/L	1		8260B	Total/NA
Trichlorofluoromethane	35		1.0	0.25	ug/L	1		8260B	Total/NA
1,4-Dioxane	0.10	J B	0.49	0.098	ug/L	1		8270C SIM	Total/NA

Client Sample ID: OC_TB_20200121 — Lab Sample ID: 440-259515-4

No Detections.

This Detection Summary does not include radiochemical test results.

Client Sample Results

Client: Jacob & Hefner Associates P.C.
Project/Site: Omega Chemical -2020 Semi-Annual GWM Feb

Job ID: 440-259515-1
SDG: Omega Chemical

Client Sample ID: OC_GW_EW-3_20200121

Lab Sample ID: 440-259515-1

Date Collected: 01/21/20 09:07
Matrix: Water
Date Received: 01/21/20 15:10

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			01/23/20 08:32	1
1,1,1-Trichloroethane	ND		1.0	0.25	ug/L			01/23/20 08:32	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.25	ug/L			01/23/20 08:32	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		5.0	0.50	ug/L			01/23/20 08:32	1
1,1,2-Trichloroethane	ND		1.0	0.25	ug/L			01/23/20 08:32	1
1,1-Dichloroethane	ND		1.0	0.25	ug/L			01/23/20 08:32	1
1,1-Dichloroethene	ND		1.0	0.25	ug/L			01/23/20 08:32	1
1,1-Dichloropropene	ND		1.0	0.25	ug/L			01/23/20 08:32	1
1,2,3-Trichlorobenzene	ND		1.0	0.40	ug/L			01/23/20 08:32	1
1,2,3-Trichloropropane	ND		1.0	0.40	ug/L			01/23/20 08:32	1
1,2,4-Trichlorobenzene	ND		1.0	0.40	ug/L			01/23/20 08:32	1
1,2,4-Trimethylbenzene	ND		1.0	0.25	ug/L			01/23/20 08:32	1
1,2-Dibromo-3-Chloropropane	ND		5.0	0.50	ug/L			01/23/20 08:32	1
1,2-Dibromoethane (EDB)	ND		1.0	0.25	ug/L			01/23/20 08:32	1
1,2-Dichlorobenzene	ND		1.0	0.25	ug/L			01/23/20 08:32	1
1,2-Dichloroethane	ND		1.0	0.25	ug/L			01/23/20 08:32	1
1,2-Dichloropropane	ND		1.0	0.25	ug/L			01/23/20 08:32	1
1,3,5-Trimethylbenzene	ND		1.0	0.25	ug/L			01/23/20 08:32	1
1,3-Dichlorobenzene	ND		1.0	0.25	ug/L			01/23/20 08:32	1
1,3-Dichloropropane	ND		1.0	0.25	ug/L			01/23/20 08:32	1
1,4-Dichlorobenzene	ND		1.0	0.25	ug/L			01/23/20 08:32	1
2,2-Dichloropropane	ND		1.0	0.40	ug/L			01/23/20 08:32	1
2-Chlorotoluene	ND		1.0	0.25	ug/L			01/23/20 08:32	1
4-Chlorotoluene	ND		1.0	0.25	ug/L			01/23/20 08:32	1
Acetone	ND		10	10	ug/L			01/23/20 08:32	1
Benzene	ND		0.50	0.25	ug/L			01/23/20 08:32	1
Bromobenzene	ND		1.0	0.25	ug/L			01/23/20 08:32	1
Bromochloromethane	ND		1.0	0.25	ug/L			01/23/20 08:32	1
Bromodichloromethane	ND		1.0	0.25	ug/L			01/23/20 08:32	1
Bromoform	ND		1.0	0.40	ug/L			01/23/20 08:32	1
Bromomethane	ND		1.0	0.25	ug/L			01/23/20 08:32	1
Carbon tetrachloride	ND		0.50	0.25	ug/L			01/23/20 08:32	1
Chlorobenzene	ND		1.0	0.25	ug/L			01/23/20 08:32	1
Chloroethane	ND		1.0	0.40	ug/L			01/23/20 08:32	1
Chloroform	ND		1.0	0.25	ug/L			01/23/20 08:32	1
Chloromethane	ND		1.0	0.25	ug/L			01/23/20 08:32	1
cis-1,2-Dichloroethene	ND		1.0	0.25	ug/L			01/23/20 08:32	1
cis-1,3-Dichloropropene	ND		0.50	0.25	ug/L			01/23/20 08:32	1
Dibromochloromethane	ND		1.0	0.25	ug/L			01/23/20 08:32	1
Dibromomethane	ND		1.0	0.25	ug/L			01/23/20 08:32	1
Dichlorodifluoromethane	ND		1.0	0.40	ug/L			01/23/20 08:32	1
Ethylbenzene	ND		1.0	0.25	ug/L			01/23/20 08:32	1
Hexachlorobutadiene	ND		1.0	0.25	ug/L			01/23/20 08:32	1
Isopropyl alcohol	ND		250	180	ug/L			01/23/20 08:32	1
Isopropylbenzene	ND		1.0	0.25	ug/L			01/23/20 08:32	1
m,p-Xylene	ND		1.0	0.50	ug/L			01/23/20 08:32	1
Methylene Chloride	ND		5.0	0.88	ug/L			01/23/20 08:32	1
Methyl-t-Butyl Ether (MTBE)	ND		1.0	0.25	ug/L			01/23/20 08:32	1
Naphthalene	ND		1.0	0.40	ug/L			01/23/20 08:32	1

Client Sample ID: OC_GW_EW-3_20200121

Lab Sample ID: 440-259515-1

Date Collected: 01/21/20 09:07
Matrix: Water
Date Received: 01/21/20 15:10

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			01/23/20 08:32	1
N-Propylbenzene	ND		1.0	0.25	ug/L			01/23/20 08:32	1
o-Xylene	ND		1.0	0.25	ug/L			01/23/20 08:32	1
p-Isopropyltoluene	ND		1.0	0.25	ug/L			01/23/20 08:32	1
sec-Butylbenzene	ND		1.0	0.25	ug/L			01/23/20 08:32	1
Styrene	ND		1.0	0.25	ug/L			01/23/20 08:32	1
tert-Butylbenzene	ND		1.0	0.25	ug/L			01/23/20 08:32	1
Tetrachloroethene	**1.6**		1.0	0.25	ug/L			01/23/20 08:32	1
Toluene	ND		1.0	0.25	ug/L			01/23/20 08:32	1
trans-1,2-Dichloroethene	ND		1.0	0.25	ug/L			01/23/20 08:32	1
trans-1,3-Dichloropropene	ND		0.50	0.25	ug/L			01/23/20 08:32	1
Trichloroethene	ND		1.0	0.25	ug/L			01/23/20 08:32	1
Trichlorofluoromethane	ND		1.0	0.25	ug/L			01/23/20 08:32	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Tentatively Identified Compound	*None*		*ug/L*					*01/23/20 08:32*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*100*		*70 - 130*		*01/23/20 08:32*	*1*
4-Bromofluorobenzene (Surr)	*101*		*80 - 120*		*01/23/20 08:32*	*1*
Dibromofluoromethane (Surr)	*102*		*76 - 132*		*01/23/20 08:32*	*1*
Toluene-d8 (Surr)	*104*		*80 - 128*		*01/23/20 08:32*	*1*

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Vinyl chloride	ND		0.50	0.25	ug/L			01/23/20 11:36	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Tentatively Identified Compound	*None*		*ug/L*					*01/23/20 11:36*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*96*		*70 - 130*		*01/23/20 11:36*	*1*
4-Bromofluorobenzene (Surr)	*104*		*80 - 120*		*01/23/20 11:36*	*1*
Dibromofluoromethane (Surr)	*99*		*76 - 132*		*01/23/20 11:36*	*1*
Toluene-d8 (Surr)	*109*		*80 - 128*		*01/23/20 11:36*	*1*

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	**0.34**	**J B**	0.49	0.098	ug/L		01/23/20 06:45	01/24/20 10:16	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,4-Dioxane-d8 (Surr)	*47*		*27 - 120*	*01/23/20 06:45*	*01/24/20 10:16*	*1*

Client Sample ID: OC_GW_EW-4_20200120

Lab Sample ID: 440-259515-2

Date Collected: 01/20/20 14:20
Matrix: Water
Date Received: 01/21/20 15:10

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			01/23/20 08:55	1
1,1,1-Trichloroethane	ND		1.0	0.25	ug/L			01/23/20 08:55	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.25	ug/L			01/23/20 08:55	1

Client Sample Results

Client: Jacob & Hefner Associates P.C.
Project/Site: Omega Chemical -2020 Semi-Annual GWM Feb

Job ID: 440-259515-1
SDG: Omega Chemical

Client Sample ID: OC_GW_EW-4_20200120

Lab Sample ID: 440-259515-2

Date Collected: 01/20/20 14:20
Matrix: Water
Date Received: 01/21/20 15:10

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		5.0	0.50	ug/L			01/23/20 08:55	1
1,1,2-Trichloroethane	ND		1.0	0.25	ug/L			01/23/20 08:55	1
1,1-Dichloroethane	ND		1.0	0.25	ug/L			01/23/20 08:55	1
1,1-Dichloroethene	**0.41**	**J**	1.0	0.25	ug/L			01/23/20 08:55	1
1,1-Dichloropropene	ND		1.0	0.25	ug/L			01/23/20 08:55	1
1,2,3-Trichlorobenzene	ND		1.0	0.40	ug/L			01/23/20 08:55	1
1,2,3-Trichloropropane	ND		1.0	0.40	ug/L			01/23/20 08:55	1
1,2,4-Trichlorobenzene	ND		1.0	0.40	ug/L			01/23/20 08:55	1
1,2,4-Trimethylbenzene	ND		1.0	0.25	ug/L			01/23/20 08:55	1
1,2-Dibromo-3-Chloropropane	ND		5.0	0.50	ug/L			01/23/20 08:55	1
1,2-Dibromoethane (EDB)	ND		1.0	0.25	ug/L			01/23/20 08:55	1
1,2-Dichlorobenzene	ND		1.0	0.25	ug/L			01/23/20 08:55	1
1,2-Dichloroethane	ND		1.0	0.25	ug/L			01/23/20 08:55	1
1,2-Dichloropropane	ND		1.0	0.25	ug/L			01/23/20 08:55	1
1,3,5-Trimethylbenzene	ND		1.0	0.25	ug/L			01/23/20 08:55	1
1,3-Dichlorobenzene	ND		1.0	0.25	ug/L			01/23/20 08:55	1
1,3-Dichloropropane	ND		1.0	0.25	ug/L			01/23/20 08:55	1
1,4-Dichlorobenzene	ND		1.0	0.25	ug/L			01/23/20 08:55	1
2,2-Dichloropropane	ND		1.0	0.40	ug/L			01/23/20 08:55	1
2-Chlorotoluene	ND		1.0	0.25	ug/L			01/23/20 08:55	1
4-Chlorotoluene	ND		1.0	0.25	ug/L			01/23/20 08:55	1
Acetone	ND		10	10	ug/L			01/23/20 08:55	1
Benzene	ND		0.50	0.25	ug/L			01/23/20 08:55	1
Bromobenzene	ND		1.0	0.25	ug/L			01/23/20 08:55	1
Bromochloromethane	ND		1.0	0.25	ug/L			01/23/20 08:55	1
Bromodichloromethane	ND		1.0	0.25	ug/L			01/23/20 08:55	1
Bromoform	ND		1.0	0.40	ug/L			01/23/20 08:55	1
Bromomethane	ND		1.0	0.25	ug/L			01/23/20 08:55	1
Carbon tetrachloride	ND		0.50	0.25	ug/L			01/23/20 08:55	1
Chlorobenzene	ND		1.0	0.25	ug/L			01/23/20 08:55	1
Chloroethane	ND		1.0	0.40	ug/L			01/23/20 08:55	1
Chloroform	ND		1.0	0.25	ug/L			01/23/20 08:55	1
Chloromethane	ND		1.0	0.25	ug/L			01/23/20 08:55	1
cis-1,2-Dichloroethene	ND		1.0	0.25	ug/L			01/23/20 08:55	1
cis-1,3-Dichloropropene	ND		0.50	0.25	ug/L			01/23/20 08:55	1
Dibromochloromethane	ND		1.0	0.25	ug/L			01/23/20 08:55	1
Dibromomethane	ND		1.0	0.25	ug/L			01/23/20 08:55	1
Dichlorodifluoromethane	ND		1.0	0.40	ug/L			01/23/20 08:55	1
Ethylbenzene	ND		1.0	0.25	ug/L			01/23/20 08:55	1
Hexachlorobutadiene	ND		1.0	0.25	ug/L			01/23/20 08:55	1
Isopropyl alcohol	ND		250	180	ug/L			01/23/20 08:55	1
Isopropylbenzene	ND		1.0	0.25	ug/L			01/23/20 08:55	1
m,p-Xylene	ND		1.0	0.50	ug/L			01/23/20 08:55	1
Methylene Chloride	ND		5.0	0.88	ug/L			01/23/20 08:55	1
Methyl-t-Butyl Ether (MTBE)	ND		1.0	0.25	ug/L			01/23/20 08:55	1
Naphthalene	ND		1.0	0.40	ug/L			01/23/20 08:55	1
n-Butylbenzene	ND		1.0	0.40	ug/L			01/23/20 08:55	1
N-Propylbenzene	ND		1.0	0.25	ug/L			01/23/20 08:55	1
o-Xylene	ND		1.0	0.25	ug/L			01/23/20 08:55	1

Client Sample ID: OC_GW_EW-4_20200120

Lab Sample ID: 440-259515-2

Date Collected: 01/20/20 14:20
Matrix: Water
Date Received: 01/21/20 15:10

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			01/23/20 08:55	1
sec-Butylbenzene	ND		1.0	0.25	ug/L			01/23/20 08:55	1
Styrene	ND		1.0	0.25	ug/L			01/23/20 08:55	1
tert-Butylbenzene	ND		1.0	0.25	ug/L			01/23/20 08:55	1
Tetrachloroethene	**1.6**		1.0	0.25	ug/L			01/23/20 08:55	1
Toluene	ND		1.0	0.25	ug/L			01/23/20 08:55	1
trans-1,2-Dichloroethene	ND		1.0	0.25	ug/L			01/23/20 08:55	1
trans-1,3-Dichloropropene	ND		0.50	0.25	ug/L			01/23/20 08:55	1
Trichloroethene	ND		1.0	0.25	ug/L			01/23/20 08:55	1
Trichlorofluoromethane	ND		1.0	0.25	ug/L			01/23/20 08:55	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Tentatively Identified Compound	*None*		*ug/L*					*01/23/20 08:55*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*102*		*70 - 130*		*01/23/20 08:55*	*1*
4-Bromofluorobenzene (Surr)	*102*		*80 - 120*		*01/23/20 08:55*	*1*
Dibromofluoromethane (Surr)	*103*		*76 - 132*		*01/23/20 08:55*	*1*
Toluene-d8 (Surr)	*106*		*80 - 128*		*01/23/20 08:55*	*1*

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Vinyl chloride	ND		0.50	0.25	ug/L			01/23/20 12:03	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Tentatively Identified Compound	*None*		*ug/L*					*01/23/20 12:03*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*100*		*70 - 130*		*01/23/20 12:03*	*1*
4-Bromofluorobenzene (Surr)	*106*		*80 - 120*		*01/23/20 12:03*	*1*
Dibromofluoromethane (Surr)	*102*		*76 - 132*		*01/23/20 12:03*	*1*
Toluene-d8 (Surr)	*109*		*80 - 128*		*01/23/20 12:03*	*1*

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	**0.54**	**B**	0.50	0.10	ug/L		01/22/20 07:00	01/23/20 13:13	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,4-Dioxane-d8 (Surr)	*49*		*27 - 120*	*01/22/20 07:00*	*01/23/20 13:13*	*1*

Client Sample ID: OC_GW_EW-5_20200121

Lab Sample ID: 440-259515-3

Date Collected: 01/21/20 13:08
Matrix: Water
Date Received: 01/21/20 15:10

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			01/23/20 09:19	1
1,1,1-Trichloroethane	ND		1.0	0.25	ug/L			01/23/20 09:19	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.25	ug/L			01/23/20 09:19	1
1,1,2-Trichloro-1,2,2-trifluoroethane	**55**		5.0	0.50	ug/L			01/23/20 09:19	1
1,1,2-Trichloroethane	ND		1.0	0.25	ug/L			01/23/20 09:19	1

Client Sample Results

Client: Jacob & Hefner Associates P.C.
Project/Site: Omega Chemical -2020 Semi-Annual GWM Feb

Job ID: 440-259515-1
SDG: Omega Chemical

Client Sample ID: OC_GW_EW-5_20200121

Lab Sample ID: 440-259515-3

Date Collected: 01/21/20 13:08
Date Received: 01/21/20 15:10

Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethane	ND		1.0	0.25	ug/L			01/23/20 09:19	1
1,1-Dichloroethene	**15**		1.0	0.25	ug/L			01/23/20 09:19	1
1,1-Dichloropropene	ND		1.0	0.25	ug/L			01/23/20 09:19	1
1,2,3-Trichlorobenzene	ND		1.0	0.40	ug/L			01/23/20 09:19	1
1,2,3-Trichloropropane	ND		1.0	0.40	ug/L			01/23/20 09:19	1
1,2,4-Trichlorobenzene	ND		1.0	0.40	ug/L			01/23/20 09:19	1
1,2,4-Trimethylbenzene	ND		1.0	0.25	ug/L			01/23/20 09:19	1
1,2-Dibromo-3-Chloropropane	ND		5.0	0.50	ug/L			01/23/20 09:19	1
1,2-Dibromoethane (EDB)	ND		1.0	0.25	ug/L			01/23/20 09:19	1
1,2-Dichlorobenzene	ND		1.0	0.25	ug/L			01/23/20 09:19	1
1,2-Dichloroethane	ND		1.0	0.25	ug/L			01/23/20 09:19	1
1,2-Dichloropropane	ND		1.0	0.25	ug/L			01/23/20 09:19	1
1,3,5-Trimethylbenzene	ND		1.0	0.25	ug/L			01/23/20 09:19	1
1,3-Dichlorobenzene	ND		1.0	0.25	ug/L			01/23/20 09:19	1
1,3-Dichloropropane	ND		1.0	0.25	ug/L			01/23/20 09:19	1
1,4-Dichlorobenzene	ND		1.0	0.25	ug/L			01/23/20 09:19	1
2,2-Dichloropropane	ND		1.0	0.40	ug/L			01/23/20 09:19	1
2-Chlorotoluene	ND		1.0	0.25	ug/L			01/23/20 09:19	1
4-Chlorotoluene	ND		1.0	0.25	ug/L			01/23/20 09:19	1
Acetone	ND		10	10	ug/L			01/23/20 09:19	1
Benzene	ND		0.50	0.25	ug/L			01/23/20 09:19	1
Bromobenzene	ND		1.0	0.25	ug/L			01/23/20 09:19	1
Bromochloromethane	ND		1.0	0.25	ug/L			01/23/20 09:19	1
Bromodichloromethane	ND		1.0	0.25	ug/L			01/23/20 09:19	1
Bromoform	ND		1.0	0.40	ug/L			01/23/20 09:19	1
Bromomethane	ND		1.0	0.25	ug/L			01/23/20 09:19	1
Carbon tetrachloride	ND		0.50	0.25	ug/L			01/23/20 09:19	1
Chlorobenzene	ND		1.0	0.25	ug/L			01/23/20 09:19	1
Chloroethane	ND		1.0	0.40	ug/L			01/23/20 09:19	1
Chloroform	ND		1.0	0.25	ug/L			01/23/20 09:19	1
Chloromethane	ND		1.0	0.25	ug/L			01/23/20 09:19	1
cis-1,2-Dichloroethene	ND		1.0	0.25	ug/L			01/23/20 09:19	1
cis-1,3-Dichloropropene	ND		0.50	0.25	ug/L			01/23/20 09:19	1
Dibromochloromethane	ND		1.0	0.25	ug/L			01/23/20 09:19	1
Dibromomethane	ND		1.0	0.25	ug/L			01/23/20 09:19	1
Dichlorodifluoromethane	ND		1.0	0.40	ug/L			01/23/20 09:19	1
Ethylbenzene	ND		1.0	0.25	ug/L			01/23/20 09:19	1
Hexachlorobutadiene	ND		1.0	0.25	ug/L			01/23/20 09:19	1
Isopropyl alcohol	ND		250	180	ug/L			01/23/20 09:19	1
Isopropylbenzene	ND		1.0	0.25	ug/L			01/23/20 09:19	1
m,p-Xylene	ND		1.0	0.50	ug/L			01/23/20 09:19	1
Methylene Chloride	ND		5.0	0.88	ug/L			01/23/20 09:19	1
Methyl-t-Butyl Ether (MTBE)	ND		1.0	0.25	ug/L			01/23/20 09:19	1
Naphthalene	ND		1.0	0.40	ug/L			01/23/20 09:19	1
n-Butylbenzene	ND		1.0	0.40	ug/L			01/23/20 09:19	1
N-Propylbenzene	ND		1.0	0.25	ug/L			01/23/20 09:19	1
o-Xylene	ND		1.0	0.25	ug/L			01/23/20 09:19	1
p-Isopropyltoluene	ND		1.0	0.25	ug/L			01/23/20 09:19	1
sec-Butylbenzene	ND		1.0	0.25	ug/L			01/23/20 09:19	1

Client Sample ID: OC_GW_EW-5_20200121

Lab Sample ID: 440-259515-3

Date Collected: 01/21/20 13:08
Matrix: Water
Date Received: 01/21/20 15:10

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Styrene	ND		1.0	0.25	ug/L			01/23/20 09:19	1
tert-Butylbenzene	ND		1.0	0.25	ug/L			01/23/20 09:19	1
Tetrachloroethene	**16**		1.0	0.25	ug/L			01/23/20 09:19	1
Toluene	ND		1.0	0.25	ug/L			01/23/20 09:19	1
trans-1,2-Dichloroethene	ND		1.0	0.25	ug/L			01/23/20 09:19	1
trans-1,3-Dichloropropene	ND		0.50	0.25	ug/L			01/23/20 09:19	1
Trichloroethene	**1.7**		1.0	0.25	ug/L			01/23/20 09:19	1
Trichlorofluoromethane	**35**		1.0	0.25	ug/L			01/23/20 09:19	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Tentatively Identified Compound	*None*		*ug/L*					*01/23/20 09:19*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*101*		*70 - 130*		*01/23/20 09:19*	*1*
4-Bromofluorobenzene (Surr)	*98*		*80 - 120*		*01/23/20 09:19*	*1*
Dibromofluoromethane (Surr)	*100*		*76 - 132*		*01/23/20 09:19*	*1*
Toluene-d8 (Surr)	*104*		*80 - 128*		*01/23/20 09:19*	*1*

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Vinyl chloride	ND		0.50	0.25	ug/L			01/23/20 12:31	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Unknown	*2.7*	*T J*	*ug/L*		*3.29*			*01/23/20 12:31*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*95*		*70 - 130*		*01/23/20 12:31*	*1*
4-Bromofluorobenzene (Surr)	*103*		*80 - 120*		*01/23/20 12:31*	*1*
Dibromofluoromethane (Surr)	*98*		*76 - 132*		*01/23/20 12:31*	*1*
Toluene-d8 (Surr)	*108*		*80 - 128*		*01/23/20 12:31*	*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 B**	0.49	0.098	ug/L		01/23/20 06:45	01/24/20 10:38	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,4-Dioxane-d8 (Surr)	*41*		*27 - 120*	*01/23/20 06:45*	*01/24/20 10:38*	*1*

Client Sample ID: OC_TB_20200121

Lab Sample ID: 440-259515-4

Date Collected: 01/21/20 07:00
Matrix: Water
Date Received: 01/21/20 15:10

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			01/23/20 09:43	1
1,1,1-Trichloroethane	ND		1.0	0.25	ug/L			01/23/20 09:43	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.25	ug/L			01/23/20 09:43	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		5.0	0.50	ug/L			01/23/20 09:43	1
1,1,2-Trichloroethane	ND		1.0	0.25	ug/L			01/23/20 09:43	1
1,1-Dichloroethane	ND		1.0	0.25	ug/L			01/23/20 09:43	1
1,1-Dichloroethene	ND		1.0	0.25	ug/L			01/23/20 09:43	1
1,1-Dichloropropene	ND		1.0	0.25	ug/L			01/23/20 09:43	1

Client Sample Results

Client: Jacob & Hefner Associates P.C.
Project/Site: Omega Chemical -2020 Semi-Annual GWM Feb

Job ID: 440-259515-1
SDG: Omega Chemical

Client Sample ID: OC_TB_20200121

Lab Sample ID: 440-259515-4

Date Collected: 01/21/20 07:00
Matrix: Water
Date Received: 01/21/20 15:10

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,3-Trichlorobenzene	ND		1.0	0.40	ug/L			01/23/20 09:43	1
1,2,3-Trichloropropane	ND		1.0	0.40	ug/L			01/23/20 09:43	1
1,2,4-Trichlorobenzene	ND		1.0	0.40	ug/L			01/23/20 09:43	1
1,2,4-Trimethylbenzene	ND		1.0	0.25	ug/L			01/23/20 09:43	1
1,2-Dibromo-3-Chloropropane	ND		5.0	0.50	ug/L			01/23/20 09:43	1
1,2-Dibromoethane (EDB)	ND		1.0	0.25	ug/L			01/23/20 09:43	1
1,2-Dichlorobenzene	ND		1.0	0.25	ug/L			01/23/20 09:43	1
1,2-Dichloroethane	ND		1.0	0.25	ug/L			01/23/20 09:43	1
1,2-Dichloropropane	ND		1.0	0.25	ug/L			01/23/20 09:43	1
1,3,5-Trimethylbenzene	ND		1.0	0.25	ug/L			01/23/20 09:43	1
1,3-Dichlorobenzene	ND		1.0	0.25	ug/L			01/23/20 09:43	1
1,3-Dichloropropane	ND		1.0	0.25	ug/L			01/23/20 09:43	1
1,4-Dichlorobenzene	ND		1.0	0.25	ug/L			01/23/20 09:43	1
2,2-Dichloropropane	ND		1.0	0.40	ug/L			01/23/20 09:43	1
2-Chlorotoluene	ND		1.0	0.25	ug/L			01/23/20 09:43	1
4-Chlorotoluene	ND		1.0	0.25	ug/L			01/23/20 09:43	1
Acetone	ND		10	10	ug/L			01/23/20 09:43	1
Benzene	ND		0.50	0.25	ug/L			01/23/20 09:43	1
Bromobenzene	ND		1.0	0.25	ug/L			01/23/20 09:43	1
Bromochloromethane	ND		1.0	0.25	ug/L			01/23/20 09:43	1
Bromodichloromethane	ND		1.0	0.25	ug/L			01/23/20 09:43	1
Bromoform	ND		1.0	0.40	ug/L			01/23/20 09:43	1
Bromomethane	ND		1.0	0.25	ug/L			01/23/20 09:43	1
Carbon tetrachloride	ND		0.50	0.25	ug/L			01/23/20 09:43	1
Chlorobenzene	ND		1.0	0.25	ug/L			01/23/20 09:43	1
Chloroethane	ND		1.0	0.40	ug/L			01/23/20 09:43	1
Chloroform	ND		1.0	0.25	ug/L			01/23/20 09:43	1
Chloromethane	ND		1.0	0.25	ug/L			01/23/20 09:43	1
cis-1,2-Dichloroethene	ND		1.0	0.25	ug/L			01/23/20 09:43	1
cis-1,3-Dichloropropene	ND		0.50	0.25	ug/L			01/23/20 09:43	1
Dibromochloromethane	ND		1.0	0.25	ug/L			01/23/20 09:43	1
Dibromomethane	ND		1.0	0.25	ug/L			01/23/20 09:43	1
Dichlorodifluoromethane	ND		1.0	0.40	ug/L			01/23/20 09:43	1
Ethylbenzene	ND		1.0	0.25	ug/L			01/23/20 09:43	1
Hexachlorobutadiene	ND		1.0	0.25	ug/L			01/23/20 09:43	1
Isopropyl alcohol	ND		250	180	ug/L			01/23/20 09:43	1
Isopropylbenzene	ND		1.0	0.25	ug/L			01/23/20 09:43	1
m,p-Xylene	ND		1.0	0.50	ug/L			01/23/20 09:43	1
Methylene Chloride	ND		5.0	0.88	ug/L			01/23/20 09:43	1
Methyl-t-Butyl Ether (MTBE)	ND		1.0	0.25	ug/L			01/23/20 09:43	1
Naphthalene	ND		1.0	0.40	ug/L			01/23/20 09:43	1
n-Butylbenzene	ND		1.0	0.40	ug/L			01/23/20 09:43	1
N-Propylbenzene	ND		1.0	0.25	ug/L			01/23/20 09:43	1
o-Xylene	ND		1.0	0.25	ug/L			01/23/20 09:43	1
p-Isopropyltoluene	ND		1.0	0.25	ug/L			01/23/20 09:43	1
sec-Butylbenzene	ND		1.0	0.25	ug/L			01/23/20 09:43	1
Styrene	ND		1.0	0.25	ug/L			01/23/20 09:43	1
tert-Butylbenzene	ND		1.0	0.25	ug/L			01/23/20 09:43	1
Tetrachloroethene	ND		1.0	0.25	ug/L			01/23/20 09:43	1

Client Sample ID: OC_TB_20200121

Lab Sample ID: 440-259515-4

Date Collected: 01/21/20 07:00
Matrix: Water
Date Received: 01/21/20 15:10

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			01/23/20 09:43	1
trans-1,2-Dichloroethene	ND		1.0	0.25	ug/L			01/23/20 09:43	1
trans-1,3-Dichloropropene	ND		0.50	0.25	ug/L			01/23/20 09:43	1
Trichloroethene	ND		1.0	0.25	ug/L			01/23/20 09:43	1
Trichlorofluoromethane	ND		1.0	0.25	ug/L			01/23/20 09:43	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Tentatively Identified Compound	*None*		*ug/L*					*01/23/20 09:43*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*102*		*70 - 130*		*01/23/20 09:43*	*1*
4-Bromofluorobenzene (Surr)	*101*		*80 - 120*		*01/23/20 09:43*	*1*
Dibromofluoromethane (Surr)	*102*		*76 - 132*		*01/23/20 09:43*	*1*
Toluene-d8 (Surr)	*104*		*80 - 128*		*01/23/20 09:43*	*1*

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Vinyl chloride	ND		0.50	0.25	ug/L			01/23/20 12:58	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Tentatively Identified Compound	*None*		*ug/L*					*01/23/20 12:58*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*94*		*70 - 130*		*01/23/20 12:58*	*1*
4-Bromofluorobenzene (Surr)	*107*		*80 - 120*		*01/23/20 12:58*	*1*
Dibromofluoromethane (Surr)	*100*		*76 - 132*		*01/23/20 12:58*	*1*
Toluene-d8 (Surr)	*109*		*80 - 128*		*01/23/20 12:58*	*1*

Surrogate Summary

Client: Jacob & Hefner Associates P.C.
Project/Site: Omega Chemical -2020 Semi-Annual GWM Feb

Job ID: 440-259515-1
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)
440-259515-1	OC_GW_EW-3_20200121	100	101	102	104
440-259515-1 - RA	OC_GW_EW-3_20200121	96	104	99	109
440-259515-2	OC_GW_EW-4_20200120	102	102	103	106
440-259515-2 - RA	OC_GW_EW-4_20200120	100	106	102	109
440-259515-3	OC_GW_EW-5_20200121	101	98	100	104
440-259515-3 - RA	OC_GW_EW-5_20200121	95	103	98	108
440-259515-4	OC_TB_20200121	102	101	102	104
440-259515-4 - RA	OC_TB_20200121	94	107	100	109
440-259517-B-3 MS	Matrix Spike	100	102	103	103
440-259517-B-3 MSD	Matrix Spike Duplicate	100	103	103	104
440-259519-B-13 MS	Matrix Spike	96	96	101	102
440-259519-B-13 MSD	Matrix Spike Duplicate	98	98	100	102
LCS 440-591946/1002	Lab Control Sample	100	99	99	97
LCS 440-591946/1003	Lab Control Sample	101	101	99	102
LCS 440-591948/1002	Lab Control Sample	97	99	97	103
MB 440-591946/4	Method Blank	102	101	102	102
MB 440-591948/5	Method Blank	94	104	100	108

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)
440-259515-1	OC_GW_EW-3_20200121	47
440-259515-2	OC_GW_EW-4_20200120	49
440-259515-3	OC_GW_EW-5_20200121	41
LCS 440-591747/2-A	Lab Control Sample	54
LCS 440-591971/2-A	Lab Control Sample	48
LCSD 440-591747/3-A	Lab Control Sample Dup	57
LCSD 440-591971/3-A	Lab Control Sample Dup	57
MB 440-591747/1-A	Method Blank	68
MB 440-591971/1-A	Method Blank	58

Surrogate Legend

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

Method Summary

Client: Jacob & Hefner Associates P.C.
Project/Site: Omega Chemical -2020 Semi-Annual GWM Feb

Job ID: 440-259515-1
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 = Eurofins Calscience 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 -2020 Semi-Annual GWM Feb

Job ID: 440-259515-1
SDG: Omega Chemical

Client Sample ID: OC_GW_EW-3_20200121 — Lab Sample ID: 440-259515-1

Date Collected: 01/21/20 09:07 — **Matrix: Water**
Date Received: 01/21/20 15:10

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	591948	01/23/20 11:36	A1W	TAL IRV
Total/NA	Analysis	8260B		1	10 mL	10 mL	591946	01/23/20 08:32	RM	TAL IRV
Total/NA	Prep	3520C			1025 mL	1.0 mL	591971	01/23/20 06:45	NAM	TAL IRV
Total/NA	Analysis	8270C SIM		1			592177	01/24/20 10:16	HN	TAL IRV

Client Sample ID: OC_GW_EW-4_20200120 — Lab Sample ID: 440-259515-2

Date Collected: 01/20/20 14:20 — **Matrix: Water**
Date Received: 01/21/20 15:10

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	591948	01/23/20 12:03	A1W	TAL IRV
Total/NA	Analysis	8260B		1	10 mL	10 mL	591946	01/23/20 08:55	RM	TAL IRV
Total/NA	Prep	3520C			1005 mL	1.0 mL	591747	01/22/20 07:00	NAM	TAL IRV
Total/NA	Analysis	8270C SIM		1			591979	01/23/20 13:13	HN	TAL IRV

Client Sample ID: OC_GW_EW-5_20200121 — Lab Sample ID: 440-259515-3

Date Collected: 01/21/20 13:08 — **Matrix: Water**
Date Received: 01/21/20 15:10

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	591948	01/23/20 12:31	A1W	TAL IRV
Total/NA	Analysis	8260B		1	10 mL	10 mL	591946	01/23/20 09:19	RM	TAL IRV
Total/NA	Prep	3520C			1025 mL	1.0 mL	591971	01/23/20 06:45	NAM	TAL IRV
Total/NA	Analysis	8270C SIM		1			592177	01/24/20 10:38	HN	TAL IRV

Client Sample ID: OC_TB_20200121 — Lab Sample ID: 440-259515-4

Date Collected: 01/21/20 07:00 — **Matrix: Water**
Date Received: 01/21/20 15:10

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	591948	01/23/20 12:58	A1W	TAL IRV
Total/NA	Analysis	8260B		1	10 mL	10 mL	591946	01/23/20 09:43	RM	TAL IRV

Laboratory References:

TAL IRV = Eurofins Calscience 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 440-591946/4
Matrix: Water
Analysis Batch: 591946

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			01/23/20 07:45	1
1,1,1-Trichloroethane	ND		1.0	0.25	ug/L			01/23/20 07:45	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.25	ug/L			01/23/20 07:45	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		5.0	0.50	ug/L			01/23/20 07:45	1
1,1,2-Trichloroethane	ND		1.0	0.25	ug/L			01/23/20 07:45	1
1,1-Dichloroethane	ND		1.0	0.25	ug/L			01/23/20 07:45	1
1,1-Dichloroethene	ND		1.0	0.25	ug/L			01/23/20 07:45	1
1,1-Dichloropropene	ND		1.0	0.25	ug/L			01/23/20 07:45	1
1,2,3-Trichlorobenzene	ND		1.0	0.40	ug/L			01/23/20 07:45	1
1,2,3-Trichloropropane	ND		1.0	0.40	ug/L			01/23/20 07:45	1
1,2,4-Trichlorobenzene	ND		1.0	0.40	ug/L			01/23/20 07:45	1
1,2,4-Trimethylbenzene	ND		1.0	0.25	ug/L			01/23/20 07:45	1
1,2-Dibromo-3-Chloropropane	ND		5.0	0.50	ug/L			01/23/20 07:45	1
1,2-Dibromoethane (EDB)	ND		1.0	0.25	ug/L			01/23/20 07:45	1
1,2-Dichlorobenzene	ND		1.0	0.25	ug/L			01/23/20 07:45	1
1,2-Dichloroethane	ND		1.0	0.25	ug/L			01/23/20 07:45	1
1,2-Dichloropropane	ND		1.0	0.25	ug/L			01/23/20 07:45	1
1,3,5-Trimethylbenzene	ND		1.0	0.25	ug/L			01/23/20 07:45	1
1,3-Dichlorobenzene	ND		1.0	0.25	ug/L			01/23/20 07:45	1
1,3-Dichloropropane	ND		1.0	0.25	ug/L			01/23/20 07:45	1
1,4-Dichlorobenzene	ND		1.0	0.25	ug/L			01/23/20 07:45	1
2,2-Dichloropropane	ND		1.0	0.40	ug/L			01/23/20 07:45	1
2-Chlorotoluene	ND		1.0	0.25	ug/L			01/23/20 07:45	1
4-Chlorotoluene	ND		1.0	0.25	ug/L			01/23/20 07:45	1
Acetone	ND		10	10	ug/L			01/23/20 07:45	1
Benzene	ND		0.50	0.25	ug/L			01/23/20 07:45	1
Bromobenzene	ND		1.0	0.25	ug/L			01/23/20 07:45	1
Bromochloromethane	ND		1.0	0.25	ug/L			01/23/20 07:45	1
Bromodichloromethane	ND		1.0	0.25	ug/L			01/23/20 07:45	1
Bromoform	ND		1.0	0.40	ug/L			01/23/20 07:45	1
Bromomethane	ND		1.0	0.25	ug/L			01/23/20 07:45	1
Carbon tetrachloride	ND		0.50	0.25	ug/L			01/23/20 07:45	1
Chlorobenzene	ND		1.0	0.25	ug/L			01/23/20 07:45	1
Chloroethane	ND		1.0	0.40	ug/L			01/23/20 07:45	1
Chloroform	ND		1.0	0.25	ug/L			01/23/20 07:45	1
Chloromethane	ND		1.0	0.25	ug/L			01/23/20 07:45	1
cis-1,2-Dichloroethene	ND		1.0	0.25	ug/L			01/23/20 07:45	1
cis-1,3-Dichloropropene	ND		0.50	0.25	ug/L			01/23/20 07:45	1
Dibromochloromethane	ND		1.0	0.25	ug/L			01/23/20 07:45	1
Dibromomethane	ND		1.0	0.25	ug/L			01/23/20 07:45	1
Dichlorodifluoromethane	ND		1.0	0.40	ug/L			01/23/20 07:45	1
Ethylbenzene	ND		1.0	0.25	ug/L			01/23/20 07:45	1
Hexachlorobutadiene	ND		1.0	0.25	ug/L			01/23/20 07:45	1
Isopropyl alcohol	ND		250	180	ug/L			01/23/20 07:45	1
Isopropylbenzene	ND		1.0	0.25	ug/L			01/23/20 07:45	1
m,p-Xylene	ND		1.0	0.50	ug/L			01/23/20 07:45	1
Methylene Chloride	ND		5.0	0.88	ug/L			01/23/20 07:45	1
Methyl-t-Butyl Ether (MTBE)	ND		1.0	0.25	ug/L			01/23/20 07:45	1

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

Lab Sample ID: MB 440-591946/4
Matrix: Water
Analysis Batch: 591946

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			01/23/20 07:45	1
n-Butylbenzene	ND		1.0	0.40	ug/L			01/23/20 07:45	1
N-Propylbenzene	ND		1.0	0.25	ug/L			01/23/20 07:45	1
o-Xylene	ND		1.0	0.25	ug/L			01/23/20 07:45	1
p-Isopropyltoluene	ND		1.0	0.25	ug/L			01/23/20 07:45	1
sec-Butylbenzene	ND		1.0	0.25	ug/L			01/23/20 07:45	1
Styrene	ND		1.0	0.25	ug/L			01/23/20 07:45	1
tert-Butylbenzene	ND		1.0	0.25	ug/L			01/23/20 07:45	1
Tetrachloroethene	ND		1.0	0.25	ug/L			01/23/20 07:45	1
Toluene	ND		1.0	0.25	ug/L			01/23/20 07:45	1
trans-1,2-Dichloroethene	ND		1.0	0.25	ug/L			01/23/20 07:45	1
trans-1,3-Dichloropropene	ND		0.50	0.25	ug/L			01/23/20 07:45	1
Trichloroethene	ND		1.0	0.25	ug/L			01/23/20 07:45	1
Trichlorofluoromethane	ND		1.0	0.25	ug/L			01/23/20 07:45	1

Tentatively Identified Compound	*MB Est. Result*	*MB Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Methacrylonitrile	*3.66*	*J*	*ug/L*		*6.57*	*126-98-7*		*01/23/20 07:45*	*1*
2-Ethyl-1-butanol	*16.3*	*J*	*ug/L*		*10.28*	*97-95-0*		*01/23/20 07:45*	*1*
Cyclohexanone	*37.7*	*J*	*ug/L*		*11.49*	*108-94-1*		*01/23/20 07:45*	*1*
1,3,5-Trichlorobenzene	*0.841*	*J*	*ug/L*		*14.65*	*108-70-3*		*01/23/20 07:45*	*1*
Tentatively Identified Compound	*None*		*ug/L*					*01/23/20 07:45*	*1*

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*102*		*70 - 130*		*01/23/20 07:45*	*1*
4-Bromofluorobenzene (Surr)	*101*		*80 - 120*		*01/23/20 07:45*	*1*
Dibromofluoromethane (Surr)	*102*		*76 - 132*		*01/23/20 07:45*	*1*
Toluene-d8 (Surr)	*102*		*80 - 128*		*01/23/20 07:45*	*1*

Lab Sample ID: LCS 440-591946/1002
Matrix: Water
Analysis Batch: 591946

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	24.2		ug/L		97	60 - 141
1,1,1-Trichloroethane	25.0	24.1		ug/L		96	70 - 130
1,1,2,2-Tetrachloroethane	25.0	27.1		ug/L		108	63 - 130
1,1,2-Trichloro-1,2,2-trifluoroethane	25.0	23.1		ug/L		92	60 - 140
1,1,2-Trichloroethane	25.0	24.3		ug/L		97	70 - 130
1,1-Dichloroethane	25.0	23.5		ug/L		94	64 - 130
1,1-Dichloroethene	25.0	22.2		ug/L		89	70 - 130
1,1-Dichloropropene	25.0	23.7		ug/L		95	70 - 130
1,2,3-Trichlorobenzene	25.0	23.4		ug/L		94	60 - 140
1,2,3-Trichloropropane	25.0	24.1		ug/L		96	63 - 130
1,2,4-Trichlorobenzene	25.0	24.4		ug/L		98	60 - 140
1,2,4-Trimethylbenzene	25.0	24.0		ug/L		96	70 - 135
1,2-Dibromo-3-Chloropropane	25.0	24.3		ug/L		97	52 - 140
1,2-Dibromoethane (EDB)	25.0	24.5		ug/L		98	70 - 130

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

Lab Sample ID: LCS 440-591946/1002
Matrix: Water
Analysis Batch: 591946

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,2-Dichlorobenzene	25.0	22.8		ug/L		91	70 - 130
1,2-Dichloroethane	25.0	24.1		ug/L		97	57 - 138
1,2-Dichloropropane	25.0	25.0		ug/L		100	67 - 130
1,3,5-Trimethylbenzene	25.0	24.1		ug/L		96	70 - 136
1,3-Dichlorobenzene	25.0	25.1		ug/L		100	70 - 130
1,3-Dichloropropane	25.0	22.3		ug/L		89	70 - 130
1,4-Dichlorobenzene	25.0	24.7		ug/L		99	70 - 130
2,2-Dichloropropane	25.0	28.3		ug/L		113	68 - 141
2-Chlorotoluene	25.0	24.1		ug/L		96	70 - 130
4-Chlorotoluene	25.0	22.7		ug/L		91	70 - 130
Acetone	125	140		ug/L		112	10 - 150
Benzene	25.0	23.8		ug/L		95	68 - 130
Bromobenzene	25.0	23.4		ug/L		94	70 - 130
Bromochloromethane	25.0	24.8		ug/L		99	70 - 130
Bromodichloromethane	25.0	25.4		ug/L		101	70 - 132
Bromoform	25.0	24.7		ug/L		99	60 - 148
Bromomethane	25.0	22.5		ug/L		90	64 - 139
Carbon tetrachloride	25.0	24.7		ug/L		99	60 - 150
Chlorobenzene	25.0	22.8		ug/L		91	70 - 130
Chloroethane	25.0	23.7		ug/L		95	64 - 135
Chloroform	25.0	24.7		ug/L		99	70 - 130
Chloromethane	25.0	20.0		ug/L		80	47 - 140
cis-1,2-Dichloroethene	25.0	22.9		ug/L		91	70 - 133
cis-1,3-Dichloropropene	25.0	24.0		ug/L		96	70 - 133
Dibromochloromethane	25.0	24.6		ug/L		98	69 - 145
Dibromomethane	25.0	24.8		ug/L		99	70 - 130
Dichlorodifluoromethane	25.0	18.1		ug/L		72	29 - 150
Ethylbenzene	25.0	22.1		ug/L		88	70 - 130
Hexachlorobutadiene	25.0	26.5		ug/L		106	10 - 150
Isopropylbenzene	25.0	22.5		ug/L		90	70 - 136
m,p-Xylene	25.0	23.7		ug/L		95	70 - 130
Methylene Chloride	25.0	22.8		ug/L		91	52 - 130
Methyl-t-Butyl Ether (MTBE)	25.0	27.9		ug/L		111	63 - 131
Naphthalene	25.0	23.6		ug/L		94	60 - 140
n-Butylbenzene	25.0	26.4		ug/L		106	65 - 150
N-Propylbenzene	25.0	22.5		ug/L		90	67 - 139
o-Xylene	25.0	23.1		ug/L		92	70 - 130
p-Isopropyltoluene	25.0	24.6		ug/L		98	70 - 132
sec-Butylbenzene	25.0	27.4		ug/L		110	70 - 138
Styrene	25.0	23.3		ug/L		93	70 - 134
tert-Butylbenzene	25.0	25.8		ug/L		103	70 - 130
Tetrachloroethene	25.0	23.4		ug/L		94	70 - 130
Toluene	25.0	22.2		ug/L		89	70 - 130
trans-1,2-Dichloroethene	25.0	22.6		ug/L		90	70 - 130
trans-1,3-Dichloropropene	25.0	23.5		ug/L		94	70 - 132
Trichloroethene	25.0	23.0		ug/L		92	70 - 130
Trichlorofluoromethane	25.0	22.1		ug/L		88	60 - 150

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

Lab Sample ID: LCS 440-591946/1002
Matrix: Water
Analysis Batch: 591946

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

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	100		70 - 130
4-Bromofluorobenzene (Surr)	99		80 - 120
Dibromofluoromethane (Surr)	99		76 - 132
Toluene-d8 (Surr)	97		80 - 128

Lab Sample ID: LCS 440-591946/1003
Matrix: Water
Analysis Batch: 591946

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	208	J	ug/L		83	49 - 142

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	101		70 - 130
4-Bromofluorobenzene (Surr)	101		80 - 120
Dibromofluoromethane (Surr)	99		76 - 132
Toluene-d8 (Surr)	102		80 - 128

Lab Sample ID: 440-259517-B-3 MS
Matrix: Water
Analysis Batch: 591946

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		250	244		ug/L		98	60 - 149
1,1,1-Trichloroethane	50		250	295		ug/L		98	70 - 130
1,1,2,2-Tetrachloroethane	ND		250	298		ug/L		119	63 - 130
1,1,2-Trichloro-1,2,2-trifluoroethane	1300		250	1490	4	ug/L		66	60 - 140
1,1,2-Trichloroethane	ND		250	253		ug/L		101	70 - 130
1,1-Dichloroethane	ND		250	242		ug/L		97	65 - 130
1,1-Dichloroethene	51		250	274		ug/L		89	70 - 130
1,1-Dichloropropene	ND		250	232		ug/L		93	64 - 130
1,2,3-Trichlorobenzene	ND		250	202		ug/L		81	60 - 140
1,2,3-Trichloropropane	ND		250	249		ug/L		100	60 - 130
1,2,4-Trichlorobenzene	ND		250	212		ug/L		85	60 - 140
1,2,4-Trimethylbenzene	ND		250	248		ug/L		99	70 - 130
1,2-Dibromo-3-Chloropropane	ND		250	232		ug/L		93	48 - 140
1,2-Dibromoethane (EDB)	ND		250	253		ug/L		101	70 - 131
1,2-Dichlorobenzene	ND		250	233		ug/L		93	70 - 130
1,2-Dichloroethane	ND		250	244		ug/L		98	56 - 146
1,2-Dichloropropane	ND		250	248		ug/L		99	69 - 130
1,3,5-Trimethylbenzene	ND		250	245		ug/L		98	70 - 130
1,3-Dichlorobenzene	ND		250	248		ug/L		99	70 - 130
1,3-Dichloropropane	ND		250	237		ug/L		95	70 - 130
1,4-Dichlorobenzene	ND		250	248		ug/L		99	70 - 130
2,2-Dichloropropane	ND		250	258		ug/L		103	69 - 138
2-Chlorotoluene	ND		250	242		ug/L		97	70 - 130
4-Chlorotoluene	ND		250	232		ug/L		93	70 - 130

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

Lab Sample ID: 440-259517-B-3 MS
Matrix: Water
Analysis Batch: 591946

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		1250	1040		ug/L		83	10 - 150
Benzene	ND		250	240		ug/L		96	66 - 130
Bromobenzene	ND		250	242		ug/L		97	70 - 130
Bromochloromethane	ND		250	242		ug/L		97	70 - 130
Bromodichloromethane	ND		250	254		ug/L		102	70 - 138
Bromoform	ND		250	246		ug/L		99	59 - 150
Bromomethane	ND		250	206		ug/L		82	62 - 131
Carbon tetrachloride	ND		250	240		ug/L		96	60 - 150
Chlorobenzene	ND		250	245		ug/L		98	70 - 130
Chloroethane	ND		250	211		ug/L		85	68 - 130
Chloroform	38		250	288		ug/L		100	70 - 130
Chloromethane	ND		250	187		ug/L		75	39 - 144
cis-1,2-Dichloroethene	ND		250	226		ug/L		90	70 - 130
cis-1,3-Dichloropropene	ND		250	249		ug/L		100	70 - 133
Dibromochloromethane	ND		250	251		ug/L		100	70 - 148
Dibromomethane	ND		250	243		ug/L		97	70 - 130
Dichlorodifluoromethane	ND		250	161		ug/L		65	25 - 142
Ethylbenzene	ND		250	235		ug/L		94	70 - 130
Hexachlorobutadiene	ND		250	214		ug/L		86	10 - 150
Isopropyl alcohol	ND		6250	5050	J	ug/L		81	46 - 142
Isopropylbenzene	ND		250	236		ug/L		94	70 - 132
m,p-Xylene	ND		250	248		ug/L		99	70 - 133
Methylene Chloride	ND		250	250		ug/L		100	52 - 130
Methyl-t-Butyl Ether (MTBE)	ND		250	244		ug/L		98	70 - 130
Naphthalene	ND		250	210		ug/L		84	60 - 140
n-Butylbenzene	ND		250	257		ug/L		103	61 - 149
N-Propylbenzene	ND		250	232		ug/L		93	66 - 135
o-Xylene	ND		250	239		ug/L		96	70 - 133
p-Isopropyltoluene	ND		250	245		ug/L		98	70 - 130
sec-Butylbenzene	ND		250	272		ug/L		109	67 - 134
Styrene	ND		250	242		ug/L		97	29 - 150
tert-Butylbenzene	ND		250	257		ug/L		103	70 - 130
Tetrachloroethene	1500		250	1810	4	ug/L		119	70 - 137
Toluene	ND		250	243		ug/L		97	70 - 130
trans-1,2-Dichloroethene	ND		250	227		ug/L		91	70 - 130
trans-1,3-Dichloropropene	ND		250	244		ug/L		98	70 - 138
Trichloroethene	150		250	387		ug/L		93	70 - 130
Trichlorofluoromethane	26		250	241		ug/L		86	60 - 150

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*100*		*70 - 130*
4-Bromofluorobenzene (Surr)	*102*		*80 - 120*
Dibromofluoromethane (Surr)	*103*		*76 - 132*
Toluene-d8 (Surr)	*103*		*80 - 128*

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

Lab Sample ID: 440-259517-B-3 MSD
Matrix: Water
Analysis Batch: 591946

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		250	240		ug/L		96	60 - 149	2	20
1,1,1-Trichloroethane	50		250	287		ug/L		95	70 - 130	3	20
1,1,2,2-Tetrachloroethane	ND		250	307		ug/L		123	63 - 130	3	30
1,1,2-Trichloro-1,2,2-trifluoroethane	1300		250	1430	4	ug/L		44	60 - 140	4	20
1,1,2-Trichloroethane	ND		250	258		ug/L		103	70 - 130	2	25
1,1-Dichloroethane	ND		250	233		ug/L		93	65 - 130	3	20
1,1-Dichloroethene	51		250	259		ug/L		83	70 - 130	6	20
1,1-Dichloropropene	ND		250	225		ug/L		90	64 - 130	3	20
1,2,3-Trichlorobenzene	ND		250	234		ug/L		94	60 - 140	15	20
1,2,3-Trichloropropane	ND		250	253		ug/L		101	60 - 130	2	30
1,2,4-Trichlorobenzene	ND		250	237		ug/L		95	60 - 140	11	20
1,2,4-Trimethylbenzene	ND		250	244		ug/L		98	70 - 130	1	25
1,2-Dibromo-3-Chloropropane	ND		250	257		ug/L		103	48 - 140	10	30
1,2-Dibromoethane (EDB)	ND		250	253		ug/L		101	70 - 131	0	25
1,2-Dichlorobenzene	ND		250	236		ug/L		94	70 - 130	1	20
1,2-Dichloroethane	ND		250	240		ug/L		96	56 - 146	2	20
1,2-Dichloropropane	ND		250	243		ug/L		97	69 - 130	2	20
1,3,5-Trimethylbenzene	ND		250	245		ug/L		98	70 - 130	0	20
1,3-Dichlorobenzene	ND		250	254		ug/L		102	70 - 130	3	20
1,3-Dichloropropane	ND		250	233		ug/L		93	70 - 130	2	25
1,4-Dichlorobenzene	ND		250	249		ug/L		99	70 - 130	0	20
2,2-Dichloropropane	ND		250	246		ug/L		99	69 - 138	5	25
2-Chlorotoluene	ND		250	235		ug/L		94	70 - 130	3	20
4-Chlorotoluene	ND		250	227		ug/L		91	70 - 130	2	20
Acetone	ND		1250	1200		ug/L		96	10 - 150	15	35
Benzene	ND		250	230		ug/L		92	66 - 130	4	20
Bromobenzene	ND		250	235		ug/L		94	70 - 130	3	20
Bromochloromethane	ND		250	245		ug/L		98	70 - 130	1	25
Bromodichloromethane	ND		250	253		ug/L		101	70 - 138	0	20
Bromoform	ND		250	248		ug/L		99	59 - 150	1	25
Bromomethane	ND		250	192		ug/L		77	62 - 131	7	25
Carbon tetrachloride	ND		250	235		ug/L		94	60 - 150	2	25
Chlorobenzene	ND		250	236		ug/L		94	70 - 130	4	20
Chloroethane	ND		250	208		ug/L		83	68 - 130	2	25
Chloroform	38		250	280		ug/L		97	70 - 130	3	20
Chloromethane	ND		250	181		ug/L		72	39 - 144	3	25
cis-1,2-Dichloroethene	ND		250	225		ug/L		90	70 - 130	1	20
cis-1,3-Dichloropropene	ND		250	242		ug/L		97	70 - 133	3	20
Dibromochloromethane	ND		250	248		ug/L		99	70 - 148	1	25
Dibromomethane	ND		250	237		ug/L		95	70 - 130	3	25
Dichlorodifluoromethane	ND		250	153		ug/L		61	25 - 142	6	30
Ethylbenzene	ND		250	230		ug/L		92	70 - 130	2	20
Hexachlorobutadiene	ND		250	238		ug/L		95	10 - 150	10	20
Isopropyl alcohol	ND		6250	6440		ug/L		103	46 - 142	24	40
Isopropylbenzene	ND		250	228		ug/L		91	70 - 132	3	20
m,p-Xylene	ND		250	237		ug/L		95	70 - 133	5	25
Methylene Chloride	ND		250	209		ug/L		84	52 - 130	18	20
Methyl-t-Butyl Ether (MTBE)	ND		250	244		ug/L		98	70 - 130	0	25

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

Lab Sample ID: 440-259517-B-3 MSD
Matrix: Water
Analysis Batch: 591946

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		250	238		ug/L		95	60 - 140	13	30
n-Butylbenzene	ND		250	255		ug/L		102	61 - 149	1	20
N-Propylbenzene	ND		250	232		ug/L		93	66 - 135	0	20
o-Xylene	ND		250	238		ug/L		95	70 - 133	1	20
p-Isopropyltoluene	ND		250	244		ug/L		98	70 - 130	0	20
sec-Butylbenzene	ND		250	269		ug/L		108	67 - 134	1	20
Styrene	ND		250	238		ug/L		95	29 - 150	1	35
tert-Butylbenzene	ND		250	254		ug/L		101	70 - 130	1	20
Tetrachloroethene	1500		250	1720	4	ug/L		82	70 - 137	5	20
Toluene	ND		250	236		ug/L		95	70 - 130	3	20
trans-1,2-Dichloroethene	ND		250	221		ug/L		88	70 - 130	3	20
trans-1,3-Dichloropropene	ND		250	247		ug/L		99	70 - 138	1	25
Trichloroethene	150		250	370		ug/L		87	70 - 130	4	20
Trichlorofluoromethane	26		250	235		ug/L		83	60 - 150	3	25

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*100*		*70 - 130*
4-Bromofluorobenzene (Surr)	*103*		*80 - 120*
Dibromofluoromethane (Surr)	*103*		*76 - 132*
Toluene-d8 (Surr)	*104*		*80 - 128*

Lab Sample ID: MB 440-591948/5
Matrix: Water
Analysis Batch: 591948

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Vinyl chloride	ND		0.50	0.25	ug/L			01/23/20 08:25	1

Tentatively Identified Compound	*MB Est. Result*	*MB Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Tentatively Identified Compound	*None*		*ug/L*					*01/23/20 08:25*	*1*

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*94*		*70 - 130*		*01/23/20 08:25*	*1*
4-Bromofluorobenzene (Surr)	*104*		*80 - 120*		*01/23/20 08:25*	*1*
Dibromofluoromethane (Surr)	*100*		*76 - 132*		*01/23/20 08:25*	*1*
Toluene-d8 (Surr)	*108*		*80 - 128*		*01/23/20 08:25*	*1*

Lab Sample ID: LCS 440-591948/1002
Matrix: Water
Analysis Batch: 591948

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

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Vinyl chloride			25.0	21.2		ug/L		85	59 - 133		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*97*		*70 - 130*
4-Bromofluorobenzene (Surr)	*99*		*80 - 120*

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

Lab Sample ID: LCS 440-591948/1002 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 591948

Surrogate	LCS %Recovery	LCS Qualifier	Limits
Dibromofluoromethane (Surr)	97		76 - 132
Toluene-d8 (Surr)	103		80 - 128

Lab Sample ID: 440-259519-B-13 MS — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 591948

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Vinyl chloride	ND		10.0	7.47		ug/L		75	50 - 137

Surrogate	MS %Recovery	MS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	96		70 - 130
4-Bromofluorobenzene (Surr)	96		80 - 120
Dibromofluoromethane (Surr)	101		76 - 132
Toluene-d8 (Surr)	102		80 - 128

Lab Sample ID: 440-259519-B-13 MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 591948

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Vinyl chloride	ND		10.0	8.36		ug/L		84	50 - 137	11	30

Surrogate	MSD %Recovery	MSD Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	98		70 - 130
4-Bromofluorobenzene (Surr)	98		80 - 120
Dibromofluoromethane (Surr)	100		76 - 132
Toluene-d8 (Surr)	102		80 - 128

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

Lab Sample ID: MB 440-591747/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 591979 — **Prep Batch: 591747**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	0.130	J	0.50	0.10	ug/L		01/22/20 07:00	01/23/20 10:03	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,4-Dioxane-d8 (Surr)	68		27 - 120	01/22/20 07:00	01/23/20 10:03	1

Lab Sample ID: LCS 440-591747/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 591979 — **Prep Batch: 591747**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,4-Dioxane	2.00	1.22		ug/L		61	36 - 120

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

Lab Sample ID: LCS 440-591747/2-A
Matrix: Water
Analysis Batch: 591979

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 591747

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1,4-Dioxane-d8 (Surr)	54		27 - 120

Lab Sample ID: LCSD 440-591747/3-A
Matrix: Water
Analysis Batch: 591979

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 591747

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,4-Dioxane			2.00	1.31		ug/L		65	36 - 120	7	35

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
1,4-Dioxane-d8 (Surr)	57		27 - 120

Lab Sample ID: MB 440-591971/1-A
Matrix: Water
Analysis Batch: 592177

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 591971

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	0.118	J	0.50	0.10	ug/L		01/23/20 06:45	01/24/20 08:50	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,4-Dioxane-d8 (Surr)	58		27 - 120	01/23/20 06:45	01/24/20 08:50	1

Lab Sample ID: LCS 440-591971/2-A
Matrix: Water
Analysis Batch: 592177

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 591971

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
1,4-Dioxane			2.00	1.09		ug/L		54	36 - 120		

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1,4-Dioxane-d8 (Surr)	48		27 - 120

Lab Sample ID: LCSD 440-591971/3-A
Matrix: Water
Analysis Batch: 592177

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 591971

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,4-Dioxane			2.00	1.29		ug/L		65	36 - 120	17	35

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
1,4-Dioxane-d8 (Surr)	57		27 - 120

QC Association Summary

Client: Jacob & Hefner Associates P.C.
Project/Site: Omega Chemical -2020 Semi-Annual GWM Feb

Job ID: 440-259515-1
SDG: Omega Chemical

GC/MS VOA

Analysis Batch: 591946

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-259515-1	OC_GW_EW-3_20200121	Total/NA	Water	8260B	
440-259515-2	OC_GW_EW-4_20200120	Total/NA	Water	8260B	
440-259515-3	OC_GW_EW-5_20200121	Total/NA	Water	8260B	
440-259515-4	OC_TB_20200121	Total/NA	Water	8260B	
MB 440-591946/4	Method Blank	Total/NA	Water	8260B	
LCS 440-591946/1002	Lab Control Sample	Total/NA	Water	8260B	
LCS 440-591946/1003	Lab Control Sample	Total/NA	Water	8260B	
440-259517-B-3 MS	Matrix Spike	Total/NA	Water	8260B	
440-259517-B-3 MSD	Matrix Spike Duplicate	Total/NA	Water	8260B	

Analysis Batch: 591948

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-259515-1 - RA	OC_GW_EW-3_20200121	Total/NA	Water	8260B	
440-259515-2 - RA	OC_GW_EW-4_20200120	Total/NA	Water	8260B	
440-259515-3 - RA	OC_GW_EW-5_20200121	Total/NA	Water	8260B	
440-259515-4 - RA	OC_TB_20200121	Total/NA	Water	8260B	
MB 440-591948/5	Method Blank	Total/NA	Water	8260B	
LCS 440-591948/1002	Lab Control Sample	Total/NA	Water	8260B	
440-259519-B-13 MS	Matrix Spike	Total/NA	Water	8260B	
440-259519-B-13 MSD	Matrix Spike Duplicate	Total/NA	Water	8260B	

GC/MS Semi VOA

Prep Batch: 591747

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-259515-2	OC_GW_EW-4_20200120	Total/NA	Water	3520C	
MB 440-591747/1-A	Method Blank	Total/NA	Water	3520C	
LCS 440-591747/2-A	Lab Control Sample	Total/NA	Water	3520C	
LCSD 440-591747/3-A	Lab Control Sample Dup	Total/NA	Water	3520C	

Prep Batch: 591971

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-259515-1	OC_GW_EW-3_20200121	Total/NA	Water	3520C	
440-259515-3	OC_GW_EW-5_20200121	Total/NA	Water	3520C	
MB 440-591971/1-A	Method Blank	Total/NA	Water	3520C	
LCS 440-591971/2-A	Lab Control Sample	Total/NA	Water	3520C	
LCSD 440-591971/3-A	Lab Control Sample Dup	Total/NA	Water	3520C	

Analysis Batch: 591979

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-259515-2	OC_GW_EW-4_20200120	Total/NA	Water	8270C SIM	591747
MB 440-591747/1-A	Method Blank	Total/NA	Water	8270C SIM	591747
LCS 440-591747/2-A	Lab Control Sample	Total/NA	Water	8270C SIM	591747
LCSD 440-591747/3-A	Lab Control Sample Dup	Total/NA	Water	8270C SIM	591747

Analysis Batch: 592177

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-259515-1	OC_GW_EW-3_20200121	Total/NA	Water	8270C SIM	591971
440-259515-3	OC_GW_EW-5_20200121	Total/NA	Water	8270C SIM	591971
MB 440-591971/1-A	Method Blank	Total/NA	Water	8270C SIM	591971
LCS 440-591971/2-A	Lab Control Sample	Total/NA	Water	8270C SIM	591971

GC/MS Semi VOA (Continued)

Analysis Batch: 592177 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCSD 440-591971/3-A	Lab Control Sample Dup	Total/NA	Water	8270C SIM	591971

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
4	MS, MSD: The analyte present in the original sample is greater than 4 times the matrix spike concentration; therefore, control limits are not applicable.
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
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
T	Result is a tentatively identified compound (TIC) and an estimated value.

GC/MS Semi VOA

Qualifier	Qualifier Description
B	Compound was found in the blank and sample.
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 -2020 Semi-Annual GWM Feb

Job ID: 440-259515-1
SDG: Omega Chemical

Laboratory: Eurofins Calscience Irvine

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

Authority	Program	Identification Number	Expiration Date
California	State	2706	06-30-20

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	1,1,1,2-Tetrachloroethane
8260B		Water	1,1,1-Trichloroethane
8260B		Water	1,1,2,2-Tetrachloroethane
8260B		Water	1,1,2-Trichloro-1,2,2-trifluoroethane
8260B		Water	1,1,2-Trichloroethane
8260B		Water	1,1-Dichloroethane
8260B		Water	1,1-Dichloroethene
8260B		Water	1,1-Dichloropropene
8260B		Water	1,2,3-Trichlorobenzene
8260B		Water	1,2,3-Trichloropropane
8260B		Water	1,2,4-Trichlorobenzene
8260B		Water	1,2,4-Trimethylbenzene
8260B		Water	1,2-Dibromo-3-Chloropropane
8260B		Water	1,2-Dibromoethane (EDB)
8260B		Water	1,2-Dichlorobenzene
8260B		Water	1,2-Dichloroethane
8260B		Water	1,2-Dichloropropane
8260B		Water	1,3,5-Trimethylbenzene
8260B		Water	1,3-Dichlorobenzene
8260B		Water	1,3-Dichloropropane
8260B		Water	1,4-Dichlorobenzene
8260B		Water	2,2-Dichloropropane
8260B		Water	2-Chlorotoluene
8260B		Water	4-Chlorotoluene
8260B		Water	Acetone
8260B		Water	Benzene
8260B		Water	Bromobenzene
8260B		Water	Bromochloromethane
8260B		Water	Bromodichloromethane
8260B		Water	Bromoform
8260B		Water	Bromomethane
8260B		Water	Carbon tetrachloride
8260B		Water	Chlorobenzene
8260B		Water	Chloroethane
8260B		Water	Chloroform
8260B		Water	Chloromethane
8260B		Water	cis-1,2-Dichloroethene
8260B		Water	cis-1,3-Dichloropropene
8260B		Water	Dibromochloromethane
8260B		Water	Dibromomethane
8260B		Water	Dichlorodifluoromethane
8260B		Water	Ethylbenzene
8260B		Water	Hexachlorobutadiene
8260B		Water	Isopropyl alcohol
8260B		Water	Isopropylbenzene

Laboratory: Eurofins Calscience Irvine (Continued)

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

Authority	Program	Identification Number	Expiration Date
California	State	2706	06-30-20

8260B		Water	m,p-Xylene
8260B		Water	Methylene Chloride
8260B		Water	Methyl-t-Butyl Ether (MTBE)
8260B		Water	Naphthalene
8260B		Water	n-Butylbenzene
8260B		Water	N-Propylbenzene
8260B		Water	o-Xylene
8260B		Water	p-Isopropyltoluene
8260B		Water	sec-Butylbenzene
8260B		Water	Styrene
8260B		Water	Tentatively Identified Compound
8260B		Water	tert-Butylbenzene
8260B		Water	Tetrachloroethene
8260B		Water	Toluene
8260B		Water	trans-1,2-Dichloroethene
8260B		Water	trans-1,3-Dichloropropene
8260B		Water	Trichloroethene
8260B		Water	Trichlorofluoromethane
8260B		Water	Unknown
8260B		Water	Vinyl chloride
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: 2/ /20	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 Chem. - 2020 Semi-Ann. GWM Feb	☐ 1 week			
Site: Omega Chemical	☐ 2 days			Job / SDG No..
P O #: 3139G/E742	☐ 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-1_202001	1/ /20		Grab	GW	5			x	x	
OC_GW_EW-2_202001	1/ /20		Grab	GW	5			x	x	
OC_GW_EW-3_202001 21	1/21 /20	0907	Grab	GW	5			x	x	
OC_GW_EW-4_202001 20	1/20 /20	1420	Grab	GW	5			x	x	
OC_GW_EW-5_202001 21	1/21 /20	1308	Grab	GW	5			x	x	
OC_TB _202001 21	1/21 /20	0700	Grab	H2O	2			x		
										1/21/2020

440-259515 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 | 43509 | Cooler Temp. (°C): Obs'd:_____ Corr'd:_____ Therm ID No.:_____

Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
[signature]	JHA	1/21/20 1405	Ariel Rivera	EC-IRV	1/21/20 1405
Relinquished by: CWR	Company: EC-IRV	Date/Time: 1/21/20 1510	Received by:	Company:	Date/Time:
Relinquished by:	Company:	Date/Time:	Received in Laboratory by: [signature]	Company: EC-IRV	Date/Time: 1/21/20 1510

1.8°/1.6°, 1.9°/1.7°, 2.1°/1.9° #84

Login Sample Receipt Checklist

Client: Jacob & Hefner Associates P.C.

Job Number: 440-259515-1
SDG Number: Omega Chemical

Login Number: 259515
List Number: 1
Creator: Soderblom, Tim

List Source: Eurofins 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	

ANALYTICAL REPORT

Eurofins Calscience Irvine
17461 Derian Ave
Suite 100
Irvine, CA 92614-5817
Tel: (949)261-1022

Laboratory Job ID: 440-259516-1
Laboratory Sample Delivery Group: Omega Chemical
Client Project/Site: Omega Chemical -2020 Semi-Annual GWM Feb

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

Attn: Trent Henderson

Authorized for release by:
1/29/2020 1:03:21 PM

Danielle Roberts, Senior Project Manager
(949)260-3249
danielle.roberts@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 -2020 Semi-Annual GWM Feb

Job ID: 440-259516-1
SDG: Omega Chemical

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
440-259516-1	OC_GW_DPE-3_20200120	Water	01/20/20 07:55	01/21/20 15:10	
440-259516-2	OC_GW_DPE-4_20200120	Water	01/20/20 08:20	01/21/20 15:10	
440-259516-3	OC_GW_DPE-5_20200120	Water	01/20/20 09:45	01/21/20 15:10	
440-259516-4	OC_GW_DPE-8_20200120	Water	01/20/20 08:45	01/21/20 15:10	
440-259516-5	OC_GW_DPE-9_20200120	Water	01/20/20 13:15	01/21/20 15:10	
440-259516-6	OC_GW_DPE-7D_20200120	Water	01/20/20 12:18	01/21/20 15:10	
440-259516-7	OC_GW_DPE-10D_20200120	Water	01/20/20 12:38	01/21/20 15:10	

Job ID: 440-259516-1

Laboratory: Eurofins Calscience Irvine

Narrative

Job Narrative
440-259516-1

Comments
No additional comments.

Receipt
The samples were received on 1/21/2020 3:10 PM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperatures of the 3 coolers at receipt time were 1.6º C, 1.7º C and 1.9º C.

GC/MS VOA
Method 8260B: The continuing calibration verification (CCV) associated with batch 440-591960 recovered above the upper control limit for Vinyl chloride and Chloroethane. 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_GW_DPE-9_20200120 (440-259516-5), OC_GW_DPE-7D_20200120 (440-259516-6), OC_GW_DPE-10D_20200120 (440-259516-7) and (CCVIS 440-591960/2).

Method 8260B: Due to TALS limitation, the MS percent recovery for Isopropyl alcohol was not calculated in analytical batch 440-591951 because it was below the reporting limit (RL) of 250 ppb. The raw amount was 178.8178 ppb. The percent recovery was 71.5%: (440-259516-A-5 MS)

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

GC/MS Semi VOA
Method 8270C SIM: The method blank for preparation batch 440-591747 and analytical batch 440-591979 contained 1,4-Dioxane above the method detection limit. This target analyte concentration was less than the reporting limit (RL); therefore, re-extraction and/or re-analysis of samples was not performed.

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

Organic Prep
Method 3520C: Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD) associated with 8270C preparation batch 440-591747. LCS was performed in duplicate to provide precision of data.

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 -2020 Semi-Annual GWM Feb

Job ID: 440-259516-1
SDG: Omega Chemical

Client Sample ID: OC_GW_DPE-3_20200120 — Lab Sample ID: 440-259516-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,1,1-Trichloroethane	1.1		1.0	0.25	ug/L	1		8260B	Total/NA
1,1-Dichloroethene	4.8		1.0	0.25	ug/L	1		8260B	Total/NA
1,2-Dichloroethane	1.9		1.0	0.25	ug/L	1		8260B	Total/NA
Chloroform	2.9		1.0	0.25	ug/L	1		8260B	Total/NA
Trichloroethene	8.0		1.0	0.25	ug/L	1		8260B	Total/NA
Trichlorofluoromethane	12		1.0	0.25	ug/L	1		8260B	Total/NA
1,1,2-Trichloro-1,2,2-trifluoroethane - DL	120		25	2.5	ug/L	5		8260B	Total/NA
Tetrachloroethene - DL	130		5.0	1.3	ug/L	5		8260B	Total/NA
1,4-Dioxane	3.8	B	0.49	0.098	ug/L	1		8270C SIM	Total/NA

Client Sample ID: OC_GW_DPE-4_20200120 — Lab Sample ID: 440-259516-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,1,1-Trichloroethane	4.0		1.0	0.25	ug/L	1		8260B	Total/NA
1,1,2-Trichloroethane	0.34	J	1.0	0.25	ug/L	1		8260B	Total/NA
1,1-Dichloroethene	25		1.0	0.25	ug/L	1		8260B	Total/NA
1,2-Dichloroethane	1.9		1.0	0.25	ug/L	1		8260B	Total/NA
Chloroform	20		1.0	0.25	ug/L	1		8260B	Total/NA
Trichloroethene	47		1.0	0.25	ug/L	1		8260B	Total/NA
Trichlorofluoromethane	17		1.0	0.25	ug/L	1		8260B	Total/NA
1,1,2-Trichloro-1,2,2-trifluoroethane - DL	470		50	5.0	ug/L	10		8260B	Total/NA
Tetrachloroethene - DL	510		10	2.5	ug/L	10		8260B	Total/NA
1,4-Dioxane	13	B	0.49	0.098	ug/L	1		8270C SIM	Total/NA

Client Sample ID: OC_GW_DPE-5_20200120 — Lab Sample ID: 440-259516-3

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	37		1.0	0.25	ug/L	1		8260B	Total/NA
1,2-Dichloroethane	0.36	J	1.0	0.25	ug/L	1		8260B	Total/NA
Chloroform	1.4		1.0	0.25	ug/L	1		8260B	Total/NA
Tetrachloroethene	88		1.0	0.25	ug/L	1		8260B	Total/NA
Trichloroethene	8.5		1.0	0.25	ug/L	1		8260B	Total/NA
Trichlorofluoromethane	9.1		1.0	0.25	ug/L	1		8260B	Total/NA
1,4-Dioxane	2.8	B	0.49	0.097	ug/L	1		8270C SIM	Total/NA

Client Sample ID: OC_GW_DPE-8_20200120 — Lab Sample ID: 440-259516-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,1,2-Trichloro-1,2,2-trifluoroethane	3.1	J	5.0	0.50	ug/L	1		8260B	Total/NA
1,1-Dichloroethene	0.59	J	1.0	0.25	ug/L	1		8260B	Total/NA
Tetrachloroethene	17		1.0	0.25	ug/L	1		8260B	Total/NA
Trichloroethene	3.2		1.0	0.25	ug/L	1		8260B	Total/NA
Trichlorofluoromethane	1.8		1.0	0.25	ug/L	1		8260B	Total/NA
1,4-Dioxane	2.6	B	0.49	0.097	ug/L	1		8270C SIM	Total/NA

Client Sample ID: OC_GW_DPE-9_20200120 — Lab Sample ID: 440-259516-5

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	12		1.0	0.25	ug/L	1		8260B	Total/NA

This Detection Summary does not include radiochemical test results.

Detection Summary

Client: Jacob & Hefner Associates P.C.
Project/Site: Omega Chemical -2020 Semi-Annual GWM Feb

Job ID: 440-259516-1
SDG: Omega Chemical

Client Sample ID: OC_GW_DPE-9_20200120 (Continued) — Lab Sample ID: 440-259516-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,2-Dichloroethane	1.9		1.0	0.25	ug/L	1		8260B	Total/NA
Chloroform	7.1		1.0	0.25	ug/L	1		8260B	Total/NA
Tetrachloroethene	96		1.0	0.25	ug/L	1		8260B	Total/NA
Trichloroethene	6.9		1.0	0.25	ug/L	1		8260B	Total/NA
Trichlorofluoromethane	5.7		1.0	0.25	ug/L	1		8260B	Total/NA
1,4-Dioxane	22	B	0.51	0.10	ug/L	1		8270C SIM	Total/NA

Client Sample ID: OC_GW_DPE-7D_20200120 — Lab Sample ID: 440-259516-6

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	12		1.0	0.25	ug/L	1		8260B	Total/NA
Tetrachloroethene	54		1.0	0.25	ug/L	1		8260B	Total/NA
Trichloroethene	22		1.0	0.25	ug/L	1		8260B	Total/NA
Trichlorofluoromethane	4.8		1.0	0.25	ug/L	1		8260B	Total/NA

Client Sample ID: OC_GW_DPE-10D_20200120 — Lab Sample ID: 440-259516-7

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,1,2-Trichloro-1,2,2-trifluoroethane	64		5.0	0.50	ug/L	1		8260B	Total/NA
1,1,2-Trichloroethane	0.36	J	1.0	0.25	ug/L	1		8260B	Total/NA
1,1-Dichloroethane	0.69	J	1.0	0.25	ug/L	1		8260B	Total/NA
1,1-Dichloroethene	47		1.0	0.25	ug/L	1		8260B	Total/NA
1,2-Dichloroethane	3.9		1.0	0.25	ug/L	1		8260B	Total/NA
Chloroform	21		1.0	0.25	ug/L	1		8260B	Total/NA
trans-1,2-Dichloroethene	0.27	J	1.0	0.25	ug/L	1		8260B	Total/NA
Trichloroethene	33		1.0	0.25	ug/L	1		8260B	Total/NA
Trichlorofluoromethane	19		1.0	0.25	ug/L	1		8260B	Total/NA
Tetrachloroethene - DL	320		10	2.5	ug/L	10		8260B	Total/NA
1,4-Dioxane	18	B	0.49	0.098	ug/L	1		8270C SIM	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample Results

Client: Jacob & Hefner Associates P.C.
Project/Site: Omega Chemical -2020 Semi-Annual GWM Feb

Job ID: 440-259516-1
SDG: Omega Chemical

Client Sample ID: OC_GW_DPE-3_20200120

Lab Sample ID: 440-259516-1

Date Collected: 01/20/20 07:55
Matrix: Water
Date Received: 01/21/20 15:10

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			01/23/20 15:12	1
1,1,1-Trichloroethane	**1.1**		1.0	0.25	ug/L			01/23/20 15:12	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.25	ug/L			01/23/20 15:12	1
1,1,2-Trichloroethane	ND		1.0	0.25	ug/L			01/23/20 15:12	1
1,1-Dichloroethane	ND		1.0	0.25	ug/L			01/23/20 15:12	1
1,1-Dichloroethene	**4.8**		1.0	0.25	ug/L			01/23/20 15:12	1
1,1-Dichloropropene	ND		1.0	0.25	ug/L			01/23/20 15:12	1
1,2,3-Trichlorobenzene	ND		1.0	0.40	ug/L			01/23/20 15:12	1
1,2,3-Trichloropropane	ND		1.0	0.40	ug/L			01/23/20 15:12	1
1,2,4-Trichlorobenzene	ND		1.0	0.40	ug/L			01/23/20 15:12	1
1,2,4-Trimethylbenzene	ND		1.0	0.25	ug/L			01/23/20 15:12	1
1,2-Dibromo-3-Chloropropane	ND		5.0	0.50	ug/L			01/23/20 15:12	1
1,2-Dibromoethane (EDB)	ND		1.0	0.25	ug/L			01/23/20 15:12	1
1,2-Dichlorobenzene	ND		1.0	0.25	ug/L			01/23/20 15:12	1
1,2-Dichloroethane	**1.9**		1.0	0.25	ug/L			01/23/20 15:12	1
1,2-Dichloropropane	ND		1.0	0.25	ug/L			01/23/20 15:12	1
1,3,5-Trimethylbenzene	ND		1.0	0.25	ug/L			01/23/20 15:12	1
1,3-Dichlorobenzene	ND		1.0	0.25	ug/L			01/23/20 15:12	1
1,3-Dichloropropane	ND		1.0	0.25	ug/L			01/23/20 15:12	1
1,4-Dichlorobenzene	ND		1.0	0.25	ug/L			01/23/20 15:12	1
2,2-Dichloropropane	ND		1.0	0.40	ug/L			01/23/20 15:12	1
2-Chlorotoluene	ND		1.0	0.25	ug/L			01/23/20 15:12	1
4-Chlorotoluene	ND		1.0	0.25	ug/L			01/23/20 15:12	1
Acetone	ND		10	10	ug/L			01/23/20 15:12	1
Benzene	ND		0.50	0.25	ug/L			01/23/20 15:12	1
Bromobenzene	ND		1.0	0.25	ug/L			01/23/20 15:12	1
Bromochloromethane	ND		1.0	0.25	ug/L			01/23/20 15:12	1
Bromodichloromethane	ND		1.0	0.25	ug/L			01/23/20 15:12	1
Bromoform	ND		1.0	0.40	ug/L			01/23/20 15:12	1
Bromomethane	ND		1.0	0.25	ug/L			01/23/20 15:12	1
Carbon tetrachloride	ND		0.50	0.25	ug/L			01/23/20 15:12	1
Chlorobenzene	ND		1.0	0.25	ug/L			01/23/20 15:12	1
Chloroethane	ND		1.0	0.40	ug/L			01/23/20 15:12	1
Chloroform	**2.9**		1.0	0.25	ug/L			01/23/20 15:12	1
Chloromethane	ND		1.0	0.25	ug/L			01/23/20 15:12	1
cis-1,2-Dichloroethene	ND		1.0	0.25	ug/L			01/23/20 15:12	1
cis-1,3-Dichloropropene	ND		0.50	0.25	ug/L			01/23/20 15:12	1
Dibromochloromethane	ND		1.0	0.25	ug/L			01/23/20 15:12	1
Dibromomethane	ND		1.0	0.25	ug/L			01/23/20 15:12	1
Dichlorodifluoromethane	ND		1.0	0.40	ug/L			01/23/20 15:12	1
Ethylbenzene	ND		1.0	0.25	ug/L			01/23/20 15:12	1
Hexachlorobutadiene	ND		1.0	0.25	ug/L			01/23/20 15:12	1
Isopropyl alcohol	ND		250	180	ug/L			01/23/20 15:12	1
Isopropylbenzene	ND		1.0	0.25	ug/L			01/23/20 15:12	1
m,p-Xylene	ND		1.0	0.50	ug/L			01/23/20 15:12	1
Methylene Chloride	ND		5.0	0.88	ug/L			01/23/20 15:12	1
Methyl-t-Butyl Ether (MTBE)	ND		1.0	0.25	ug/L			01/23/20 15:12	1
Naphthalene	ND		1.0	0.40	ug/L			01/23/20 15:12	1
n-Butylbenzene	ND		1.0	0.40	ug/L			01/23/20 15:12	1

Client Sample ID: OC_GW_DPE-3_20200120

Lab Sample ID: 440-259516-1

Date Collected: 01/20/20 07:55
Matrix: Water
Date Received: 01/21/20 15:10

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			01/23/20 15:12	1
o-Xylene	ND		1.0	0.25	ug/L			01/23/20 15:12	1
p-Isopropyltoluene	ND		1.0	0.25	ug/L			01/23/20 15:12	1
sec-Butylbenzene	ND		1.0	0.25	ug/L			01/23/20 15:12	1
Styrene	ND		1.0	0.25	ug/L			01/23/20 15:12	1
tert-Butylbenzene	ND		1.0	0.25	ug/L			01/23/20 15:12	1
Toluene	ND		1.0	0.25	ug/L			01/23/20 15:12	1
trans-1,2-Dichloroethene	ND		1.0	0.25	ug/L			01/23/20 15:12	1
trans-1,3-Dichloropropene	ND		0.50	0.25	ug/L			01/23/20 15:12	1
Trichloroethene	**8.0**		1.0	0.25	ug/L			01/23/20 15:12	1
Trichlorofluoromethane	**12**		1.0	0.25	ug/L			01/23/20 15:12	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Tentatively Identified Compound	*None*		*ug/L*					*01/23/20 15:12*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*104*		*70 - 130*		*01/23/20 15:12*	*1*
4-Bromofluorobenzene (Surr)	*99*		*80 - 120*		*01/23/20 15:12*	*1*
Dibromofluoromethane (Surr)	*104*		*76 - 132*		*01/23/20 15:12*	*1*
Toluene-d8 (Surr)	*105*		*80 - 128*		*01/23/20 15:12*	*1*

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	**120**		25	2.5	ug/L			01/24/20 11:28	5
Tetrachloroethene	**130**		5.0	1.3	ug/L			01/24/20 11:28	5

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Tentatively Identified Compound	*None*		*ug/L*					*01/24/20 11:28*	*5*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*92*		*70 - 130*		*01/24/20 11:28*	*5*
4-Bromofluorobenzene (Surr)	*101*		*80 - 120*		*01/24/20 11:28*	*5*
Dibromofluoromethane (Surr)	*98*		*76 - 132*		*01/24/20 11:28*	*5*
Toluene-d8 (Surr)	*109*		*80 - 128*		*01/24/20 11:28*	*5*

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Vinyl chloride	ND		0.50	0.25	ug/L			01/23/20 13:53	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Tentatively Identified Compound	*None*		*ug/L*					*01/23/20 13:53*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*93*		*70 - 130*		*01/23/20 13:53*	*1*
4-Bromofluorobenzene (Surr)	*104*		*80 - 120*		*01/23/20 13:53*	*1*
Dibromofluoromethane (Surr)	*99*		*76 - 132*		*01/23/20 13:53*	*1*
Toluene-d8 (Surr)	*108*		*80 - 128*		*01/23/20 13:53*	*1*

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	**3.8**	**B**	0.49	0.098	ug/L		01/22/20 07:00	01/23/20 13:35	1

Client Sample Results

Client: Jacob & Hefner Associates P.C.
Project/Site: Omega Chemical -2020 Semi-Annual GWM Feb

Job ID: 440-259516-1
SDG: Omega Chemical

Client Sample ID: OC_GW_DPE-3_20200120

Lab Sample ID: 440-259516-1
Matrix: Water

Date Collected: 01/20/20 07:55
Date Received: 01/21/20 15:10

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,4-Dioxane-d8 (Surr)	*37*		*27 - 120*	*01/22/20 07:00*	*01/23/20 13:35*	*1*

Client Sample ID: OC_GW_DPE-4_20200120

Lab Sample ID: 440-259516-2
Matrix: Water

Date Collected: 01/20/20 08:20
Date Received: 01/21/20 15:10

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			01/23/20 15:36	1
1,1,1-Trichloroethane	**4.0**		1.0	0.25	ug/L			01/23/20 15:36	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.25	ug/L			01/23/20 15:36	1
1,1,2-Trichloroethane	**0.34**	**J**	1.0	0.25	ug/L			01/23/20 15:36	1
1,1-Dichloroethane	ND		1.0	0.25	ug/L			01/23/20 15:36	1
1,1-Dichloroethene	**25**		1.0	0.25	ug/L			01/23/20 15:36	1
1,1-Dichloropropene	ND		1.0	0.25	ug/L			01/23/20 15:36	1
1,2,3-Trichlorobenzene	ND		1.0	0.40	ug/L			01/23/20 15:36	1
1,2,3-Trichloropropane	ND		1.0	0.40	ug/L			01/23/20 15:36	1
1,2,4-Trichlorobenzene	ND		1.0	0.40	ug/L			01/23/20 15:36	1
1,2,4-Trimethylbenzene	ND		1.0	0.25	ug/L			01/23/20 15:36	1
1,2-Dibromo-3-Chloropropane	ND		5.0	0.50	ug/L			01/23/20 15:36	1
1,2-Dibromoethane (EDB)	ND		1.0	0.25	ug/L			01/23/20 15:36	1
1,2-Dichlorobenzene	ND		1.0	0.25	ug/L			01/23/20 15:36	1
1,2-Dichloroethane	**1.9**		1.0	0.25	ug/L			01/23/20 15:36	1
1,2-Dichloropropane	ND		1.0	0.25	ug/L			01/23/20 15:36	1
1,3,5-Trimethylbenzene	ND		1.0	0.25	ug/L			01/23/20 15:36	1
1,3-Dichlorobenzene	ND		1.0	0.25	ug/L			01/23/20 15:36	1
1,3-Dichloropropane	ND		1.0	0.25	ug/L			01/23/20 15:36	1
1,4-Dichlorobenzene	ND		1.0	0.25	ug/L			01/23/20 15:36	1
2,2-Dichloropropane	ND		1.0	0.40	ug/L			01/23/20 15:36	1
2-Chlorotoluene	ND		1.0	0.25	ug/L			01/23/20 15:36	1
4-Chlorotoluene	ND		1.0	0.25	ug/L			01/23/20 15:36	1
Acetone	ND		10	10	ug/L			01/23/20 15:36	1
Benzene	ND		0.50	0.25	ug/L			01/23/20 15:36	1
Bromobenzene	ND		1.0	0.25	ug/L			01/23/20 15:36	1
Bromochloromethane	ND		1.0	0.25	ug/L			01/23/20 15:36	1
Bromodichloromethane	ND		1.0	0.25	ug/L			01/23/20 15:36	1
Bromoform	ND		1.0	0.40	ug/L			01/23/20 15:36	1
Bromomethane	ND		1.0	0.25	ug/L			01/23/20 15:36	1
Carbon tetrachloride	ND		0.50	0.25	ug/L			01/23/20 15:36	1
Chlorobenzene	ND		1.0	0.25	ug/L			01/23/20 15:36	1
Chloroethane	ND		1.0	0.40	ug/L			01/23/20 15:36	1
Chloroform	**20**		1.0	0.25	ug/L			01/23/20 15:36	1
Chloromethane	ND		1.0	0.25	ug/L			01/23/20 15:36	1
cis-1,2-Dichloroethene	ND		1.0	0.25	ug/L			01/23/20 15:36	1
cis-1,3-Dichloropropene	ND		0.50	0.25	ug/L			01/23/20 15:36	1
Dibromochloromethane	ND		1.0	0.25	ug/L			01/23/20 15:36	1
Dibromomethane	ND		1.0	0.25	ug/L			01/23/20 15:36	1
Dichlorodifluoromethane	ND		1.0	0.40	ug/L			01/23/20 15:36	1
Ethylbenzene	ND		1.0	0.25	ug/L			01/23/20 15:36	1
Hexachlorobutadiene	ND		1.0	0.25	ug/L			01/23/20 15:36	1

Client Sample ID: OC_GW_DPE-4_20200120

Lab Sample ID: 440-259516-2

Date Collected: 01/20/20 08:20
Matrix: Water
Date Received: 01/21/20 15:10

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Isopropyl alcohol	ND		250	180	ug/L			01/23/20 15:36	1
Isopropylbenzene	ND		1.0	0.25	ug/L			01/23/20 15:36	1
m,p-Xylene	ND		1.0	0.50	ug/L			01/23/20 15:36	1
Methylene Chloride	ND		5.0	0.88	ug/L			01/23/20 15:36	1
Methyl-t-Butyl Ether (MTBE)	ND		1.0	0.25	ug/L			01/23/20 15:36	1
Naphthalene	ND		1.0	0.40	ug/L			01/23/20 15:36	1
n-Butylbenzene	ND		1.0	0.40	ug/L			01/23/20 15:36	1
N-Propylbenzene	ND		1.0	0.25	ug/L			01/23/20 15:36	1
o-Xylene	ND		1.0	0.25	ug/L			01/23/20 15:36	1
p-Isopropyltoluene	ND		1.0	0.25	ug/L			01/23/20 15:36	1
sec-Butylbenzene	ND		1.0	0.25	ug/L			01/23/20 15:36	1
Styrene	ND		1.0	0.25	ug/L			01/23/20 15:36	1
tert-Butylbenzene	ND		1.0	0.25	ug/L			01/23/20 15:36	1
Toluene	ND		1.0	0.25	ug/L			01/23/20 15:36	1
trans-1,2-Dichloroethene	ND		1.0	0.25	ug/L			01/23/20 15:36	1
trans-1,3-Dichloropropene	ND		0.50	0.25	ug/L			01/23/20 15:36	1
Trichloroethene	**47**		1.0	0.25	ug/L			01/23/20 15:36	1
Trichlorofluoromethane	**17**		1.0	0.25	ug/L			01/23/20 15:36	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Ethane, 1,2-dichloro-1,1,2-trifluoro-	*2.5*	*T J N*	*ug/L*		*4.38*	*354-23-4*		*01/23/20 15:36*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*104*		*70 - 130*		*01/23/20 15:36*	*1*
4-Bromofluorobenzene (Surr)	*97*		*80 - 120*		*01/23/20 15:36*	*1*
Dibromofluoromethane (Surr)	*102*		*76 - 132*		*01/23/20 15:36*	*1*
Toluene-d8 (Surr)	*104*		*80 - 128*		*01/23/20 15:36*	*1*

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	**470**		50	5.0	ug/L			01/24/20 11:55	10
Tetrachloroethene	**510**		10	2.5	ug/L			01/24/20 11:55	10

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Tentatively Identified Compound	*None*		*ug/L*					*01/24/20 11:55*	*10*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*94*		*70 - 130*		*01/24/20 11:55*	*10*
4-Bromofluorobenzene (Surr)	*105*		*80 - 120*		*01/24/20 11:55*	*10*
Dibromofluoromethane (Surr)	*100*		*76 - 132*		*01/24/20 11:55*	*10*
Toluene-d8 (Surr)	*108*		*80 - 128*		*01/24/20 11:55*	*10*

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Vinyl chloride	ND		0.50	0.25	ug/L			01/23/20 14:20	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Tentatively Identified Compound	*None*		*ug/L*					*01/23/20 14:20*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*97*		*70 - 130*		*01/23/20 14:20*	*1*

Client Sample ID: OC_GW_DPE-4_20200120

Lab Sample ID: 440-259516-2

Date Collected: 01/20/20 08:20
Matrix: Water
Date Received: 01/21/20 15:10

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

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	102		80 - 120		01/23/20 14:20	1
Dibromofluoromethane (Surr)	99		76 - 132		01/23/20 14:20	1
Toluene-d8 (Surr)	108		80 - 128		01/23/20 14:20	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	**13**	**B**	0.49	0.098	ug/L		01/22/20 07:00	01/23/20 13:57	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,4-Dioxane-d8 (Surr)	51		27 - 120	01/22/20 07:00	01/23/20 13:57	1

Client Sample ID: OC_GW_DPE-5_20200120

Lab Sample ID: 440-259516-3

Date Collected: 01/20/20 09:45
Matrix: Water
Date Received: 01/21/20 15:10

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			01/23/20 15:59	1
1,1,1-Trichloroethane	ND		1.0	0.25	ug/L			01/23/20 15:59	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.25	ug/L			01/23/20 15:59	1
1,1,2-Trichloro-1,2,2-trifluoroethane	**14**		5.0	0.50	ug/L			01/23/20 15:59	1
1,1,2-Trichloroethane	ND		1.0	0.25	ug/L			01/23/20 15:59	1
1,1-Dichloroethane	ND		1.0	0.25	ug/L			01/23/20 15:59	1
1,1-Dichloroethene	**37**		1.0	0.25	ug/L			01/23/20 15:59	1
1,1-Dichloropropene	ND		1.0	0.25	ug/L			01/23/20 15:59	1
1,2,3-Trichlorobenzene	ND		1.0	0.40	ug/L			01/23/20 15:59	1
1,2,3-Trichloropropane	ND		1.0	0.40	ug/L			01/23/20 15:59	1
1,2,4-Trichlorobenzene	ND		1.0	0.40	ug/L			01/23/20 15:59	1
1,2,4-Trimethylbenzene	ND		1.0	0.25	ug/L			01/23/20 15:59	1
1,2-Dibromo-3-Chloropropane	ND		5.0	0.50	ug/L			01/23/20 15:59	1
1,2-Dibromoethane (EDB)	ND		1.0	0.25	ug/L			01/23/20 15:59	1
1,2-Dichlorobenzene	ND		1.0	0.25	ug/L			01/23/20 15:59	1
1,2-Dichloroethane	**0.36**	**J**	1.0	0.25	ug/L			01/23/20 15:59	1
1,2-Dichloropropane	ND		1.0	0.25	ug/L			01/23/20 15:59	1
1,3,5-Trimethylbenzene	ND		1.0	0.25	ug/L			01/23/20 15:59	1
1,3-Dichlorobenzene	ND		1.0	0.25	ug/L			01/23/20 15:59	1
1,3-Dichloropropane	ND		1.0	0.25	ug/L			01/23/20 15:59	1
1,4-Dichlorobenzene	ND		1.0	0.25	ug/L			01/23/20 15:59	1
2,2-Dichloropropane	ND		1.0	0.40	ug/L			01/23/20 15:59	1
2-Chlorotoluene	ND		1.0	0.25	ug/L			01/23/20 15:59	1
4-Chlorotoluene	ND		1.0	0.25	ug/L			01/23/20 15:59	1
Acetone	ND		10	10	ug/L			01/23/20 15:59	1
Benzene	ND		0.50	0.25	ug/L			01/23/20 15:59	1
Bromobenzene	ND		1.0	0.25	ug/L			01/23/20 15:59	1
Bromochloromethane	ND		1.0	0.25	ug/L			01/23/20 15:59	1
Bromodichloromethane	ND		1.0	0.25	ug/L			01/23/20 15:59	1
Bromoform	ND		1.0	0.40	ug/L			01/23/20 15:59	1
Bromomethane	ND		1.0	0.25	ug/L			01/23/20 15:59	1
Carbon tetrachloride	ND		0.50	0.25	ug/L			01/23/20 15:59	1

Client Sample ID: OC_GW_DPE-5_20200120

Lab Sample ID: 440-259516-3

Date Collected: 01/20/20 09:45
Matrix: Water
Date Received: 01/21/20 15:10

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chlorobenzene	ND		1.0	0.25	ug/L			01/23/20 15:59	1
Chloroethane	ND		1.0	0.40	ug/L			01/23/20 15:59	1
Chloroform	**1.4**		1.0	0.25	ug/L			01/23/20 15:59	1
Chloromethane	ND		1.0	0.25	ug/L			01/23/20 15:59	1
cis-1,2-Dichloroethene	ND		1.0	0.25	ug/L			01/23/20 15:59	1
cis-1,3-Dichloropropene	ND		0.50	0.25	ug/L			01/23/20 15:59	1
Dibromochloromethane	ND		1.0	0.25	ug/L			01/23/20 15:59	1
Dibromomethane	ND		1.0	0.25	ug/L			01/23/20 15:59	1
Dichlorodifluoromethane	ND		1.0	0.40	ug/L			01/23/20 15:59	1
Ethylbenzene	ND		1.0	0.25	ug/L			01/23/20 15:59	1
Hexachlorobutadiene	ND		1.0	0.25	ug/L			01/23/20 15:59	1
Isopropyl alcohol	ND		250	180	ug/L			01/23/20 15:59	1
Isopropylbenzene	ND		1.0	0.25	ug/L			01/23/20 15:59	1
m,p-Xylene	ND		1.0	0.50	ug/L			01/23/20 15:59	1
Methylene Chloride	ND		5.0	0.88	ug/L			01/23/20 15:59	1
Methyl-t-Butyl Ether (MTBE)	ND		1.0	0.25	ug/L			01/23/20 15:59	1
Naphthalene	ND		1.0	0.40	ug/L			01/23/20 15:59	1
n-Butylbenzene	ND		1.0	0.40	ug/L			01/23/20 15:59	1
N-Propylbenzene	ND		1.0	0.25	ug/L			01/23/20 15:59	1
o-Xylene	ND		1.0	0.25	ug/L			01/23/20 15:59	1
p-Isopropyltoluene	ND		1.0	0.25	ug/L			01/23/20 15:59	1
sec-Butylbenzene	ND		1.0	0.25	ug/L			01/23/20 15:59	1
Styrene	ND		1.0	0.25	ug/L			01/23/20 15:59	1
tert-Butylbenzene	ND		1.0	0.25	ug/L			01/23/20 15:59	1
Tetrachloroethene	**88**		1.0	0.25	ug/L			01/23/20 15:59	1
Toluene	ND		1.0	0.25	ug/L			01/23/20 15:59	1
trans-1,2-Dichloroethene	ND		1.0	0.25	ug/L			01/23/20 15:59	1
trans-1,3-Dichloropropene	ND		0.50	0.25	ug/L			01/23/20 15:59	1
Trichloroethene	**8.5**		1.0	0.25	ug/L			01/23/20 15:59	1
Trichlorofluoromethane	**9.1**		1.0	0.25	ug/L			01/23/20 15:59	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Tentatively Identified Compound	*None*		*ug/L*					*01/23/20 15:59*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*105*		*70 - 130*		*01/23/20 15:59*	*1*
4-Bromofluorobenzene (Surr)	*99*		*80 - 120*		*01/23/20 15:59*	*1*
Dibromofluoromethane (Surr)	*103*		*76 - 132*		*01/23/20 15:59*	*1*
Toluene-d8 (Surr)	*105*		*80 - 128*		*01/23/20 15:59*	*1*

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Vinyl chloride	ND		0.50	0.25	ug/L			01/23/20 14:48	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Tentatively Identified Compound	*None*		*ug/L*					*01/23/20 14:48*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*96*		*70 - 130*		*01/23/20 14:48*	*1*
4-Bromofluorobenzene (Surr)	*105*		*80 - 120*		*01/23/20 14:48*	*1*
Dibromofluoromethane (Surr)	*99*		*76 - 132*		*01/23/20 14:48*	*1*

Client Sample ID: OC_GW_DPE-5_20200120

Lab Sample ID: 440-259516-3

Date Collected: 01/20/20 09:45
Matrix: Water
Date Received: 01/21/20 15:10

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

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	*111*		*80 - 128*		*01/23/20 14:48*	*1*

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	**2.8**	**B**	0.49	0.097	ug/L		01/22/20 07:00	01/23/20 14:19	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,4-Dioxane-d8 (Surr)	*49*		*27 - 120*	*01/22/20 07:00*	*01/23/20 14:19*	*1*

Client Sample ID: OC_GW_DPE-8_20200120

Lab Sample ID: 440-259516-4

Date Collected: 01/20/20 08:45
Matrix: Water
Date Received: 01/21/20 15:10

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			01/23/20 16:23	1
1,1,1-Trichloroethane	ND		1.0	0.25	ug/L			01/23/20 16:23	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.25	ug/L			01/23/20 16:23	1
1,1,2-Trichloro-1,2,2-trifluoroethane	**3.1**	**J**	5.0	0.50	ug/L			01/23/20 16:23	1
1,1,2-Trichloroethane	ND		1.0	0.25	ug/L			01/23/20 16:23	1
1,1-Dichloroethane	ND		1.0	0.25	ug/L			01/23/20 16:23	1
1,1-Dichloroethene	**0.59**	**J**	1.0	0.25	ug/L			01/23/20 16:23	1
1,1-Dichloropropene	ND		1.0	0.25	ug/L			01/23/20 16:23	1
1,2,3-Trichlorobenzene	ND		1.0	0.40	ug/L			01/23/20 16:23	1
1,2,3-Trichloropropane	ND		1.0	0.40	ug/L			01/23/20 16:23	1
1,2,4-Trichlorobenzene	ND		1.0	0.40	ug/L			01/23/20 16:23	1
1,2,4-Trimethylbenzene	ND		1.0	0.25	ug/L			01/23/20 16:23	1
1,2-Dibromo-3-Chloropropane	ND		5.0	0.50	ug/L			01/23/20 16:23	1
1,2-Dibromoethane (EDB)	ND		1.0	0.25	ug/L			01/23/20 16:23	1
1,2-Dichlorobenzene	ND		1.0	0.25	ug/L			01/23/20 16:23	1
1,2-Dichloroethane	ND		1.0	0.25	ug/L			01/23/20 16:23	1
1,2-Dichloropropane	ND		1.0	0.25	ug/L			01/23/20 16:23	1
1,3,5-Trimethylbenzene	ND		1.0	0.25	ug/L			01/23/20 16:23	1
1,3-Dichlorobenzene	ND		1.0	0.25	ug/L			01/23/20 16:23	1
1,3-Dichloropropane	ND		1.0	0.25	ug/L			01/23/20 16:23	1
1,4-Dichlorobenzene	ND		1.0	0.25	ug/L			01/23/20 16:23	1
2,2-Dichloropropane	ND		1.0	0.40	ug/L			01/23/20 16:23	1
2-Chlorotoluene	ND		1.0	0.25	ug/L			01/23/20 16:23	1
4-Chlorotoluene	ND		1.0	0.25	ug/L			01/23/20 16:23	1
Acetone	ND		10	10	ug/L			01/23/20 16:23	1
Benzene	ND		0.50	0.25	ug/L			01/23/20 16:23	1
Bromobenzene	ND		1.0	0.25	ug/L			01/23/20 16:23	1
Bromochloromethane	ND		1.0	0.25	ug/L			01/23/20 16:23	1
Bromodichloromethane	ND		1.0	0.25	ug/L			01/23/20 16:23	1
Bromoform	ND		1.0	0.40	ug/L			01/23/20 16:23	1
Bromomethane	ND		1.0	0.25	ug/L			01/23/20 16:23	1
Carbon tetrachloride	ND		0.50	0.25	ug/L			01/23/20 16:23	1
Chlorobenzene	ND		1.0	0.25	ug/L			01/23/20 16:23	1
Chloroethane	ND		1.0	0.40	ug/L			01/23/20 16:23	1

Client Sample ID: OC_GW_DPE-8_20200120

Lab Sample ID: 440-259516-4

Date Collected: 01/20/20 08:45
Matrix: Water
Date Received: 01/21/20 15:10

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloroform	ND		1.0	0.25	ug/L			01/23/20 16:23	1
Chloromethane	ND		1.0	0.25	ug/L			01/23/20 16:23	1
cis-1,2-Dichloroethene	ND		1.0	0.25	ug/L			01/23/20 16:23	1
cis-1,3-Dichloropropene	ND		0.50	0.25	ug/L			01/23/20 16:23	1
Dibromochloromethane	ND		1.0	0.25	ug/L			01/23/20 16:23	1
Dibromomethane	ND		1.0	0.25	ug/L			01/23/20 16:23	1
Dichlorodifluoromethane	ND		1.0	0.40	ug/L			01/23/20 16:23	1
Ethylbenzene	ND		1.0	0.25	ug/L			01/23/20 16:23	1
Hexachlorobutadiene	ND		1.0	0.25	ug/L			01/23/20 16:23	1
Isopropyl alcohol	ND		250	180	ug/L			01/23/20 16:23	1
Isopropylbenzene	ND		1.0	0.25	ug/L			01/23/20 16:23	1
m,p-Xylene	ND		1.0	0.50	ug/L			01/23/20 16:23	1
Methylene Chloride	ND		5.0	0.88	ug/L			01/23/20 16:23	1
Methyl-t-Butyl Ether (MTBE)	ND		1.0	0.25	ug/L			01/23/20 16:23	1
Naphthalene	ND		1.0	0.40	ug/L			01/23/20 16:23	1
n-Butylbenzene	ND		1.0	0.40	ug/L			01/23/20 16:23	1
N-Propylbenzene	ND		1.0	0.25	ug/L			01/23/20 16:23	1
o-Xylene	ND		1.0	0.25	ug/L			01/23/20 16:23	1
p-Isopropyltoluene	ND		1.0	0.25	ug/L			01/23/20 16:23	1
sec-Butylbenzene	ND		1.0	0.25	ug/L			01/23/20 16:23	1
Styrene	ND		1.0	0.25	ug/L			01/23/20 16:23	1
tert-Butylbenzene	ND		1.0	0.25	ug/L			01/23/20 16:23	1
Tetrachloroethene	**17**		1.0	0.25	ug/L			01/23/20 16:23	1
Toluene	ND		1.0	0.25	ug/L			01/23/20 16:23	1
trans-1,2-Dichloroethene	ND		1.0	0.25	ug/L			01/23/20 16:23	1
trans-1,3-Dichloropropene	ND		0.50	0.25	ug/L			01/23/20 16:23	1
Trichloroethene	**3.2**		1.0	0.25	ug/L			01/23/20 16:23	1
Trichlorofluoromethane	**1.8**		1.0	0.25	ug/L			01/23/20 16:23	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Tentatively Identified Compound	*None*		*ug/L*					*01/23/20 16:23*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*103*		*70 - 130*		*01/23/20 16:23*	*1*
4-Bromofluorobenzene (Surr)	*98*		*80 - 120*		*01/23/20 16:23*	*1*
Dibromofluoromethane (Surr)	*104*		*76 - 132*		*01/23/20 16:23*	*1*
Toluene-d8 (Surr)	*104*		*80 - 128*		*01/23/20 16:23*	*1*

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Vinyl chloride	ND		0.50	0.25	ug/L			01/23/20 15:15	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Tentatively Identified Compound	*None*		*ug/L*					*01/23/20 15:15*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*97*		*70 - 130*		*01/23/20 15:15*	*1*
4-Bromofluorobenzene (Surr)	*103*		*80 - 120*		*01/23/20 15:15*	*1*
Dibromofluoromethane (Surr)	*101*		*76 - 132*		*01/23/20 15:15*	*1*
Toluene-d8 (Surr)	*107*		*80 - 128*		*01/23/20 15:15*	*1*

Client Sample Results

Client: Jacob & Hefner Associates P.C.
Project/Site: Omega Chemical -2020 Semi-Annual GWM Feb

Job ID: 440-259516-1
SDG: Omega Chemical

Client Sample ID: OC_GW_DPE-8_20200120

Lab Sample ID: 440-259516-4
Date Collected: 01/20/20 08:45
Matrix: Water
Date Received: 01/21/20 15:10

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	**2.6**	**B**	0.49	0.097	ug/L		01/22/20 07:00	01/23/20 14:40	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,4-Dioxane-d8 (Surr)	*46*		*27 - 120*	*01/22/20 07:00*	*01/23/20 14:40*	*1*

Client Sample ID: OC_GW_DPE-9_20200120

Lab Sample ID: 440-259516-5
Date Collected: 01/20/20 13:15
Matrix: Water
Date Received: 01/21/20 15:10

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			01/23/20 11:48	1
1,1,1-Trichloroethane	ND		1.0	0.25	ug/L			01/23/20 11:48	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.25	ug/L			01/23/20 11:48	1
1,1,2-Trichloro-1,2,2-trifluoroethane	**14**		5.0	0.50	ug/L			01/23/20 11:48	1
1,1,2-Trichloroethane	ND		1.0	0.25	ug/L			01/23/20 11:48	1
1,1-Dichloroethane	ND		1.0	0.25	ug/L			01/23/20 11:48	1
1,1-Dichloroethene	**12**		1.0	0.25	ug/L			01/23/20 11:48	1
1,1-Dichloropropene	ND		1.0	0.25	ug/L			01/23/20 11:48	1
1,2,3-Trichlorobenzene	ND		1.0	0.40	ug/L			01/23/20 11:48	1
1,2,3-Trichloropropane	ND		1.0	0.40	ug/L			01/23/20 11:48	1
1,2,4-Trichlorobenzene	ND		1.0	0.40	ug/L			01/23/20 11:48	1
1,2,4-Trimethylbenzene	ND		1.0	0.25	ug/L			01/23/20 11:48	1
1,2-Dibromo-3-Chloropropane	ND		5.0	0.50	ug/L			01/23/20 11:48	1
1,2-Dibromoethane (EDB)	ND		1.0	0.25	ug/L			01/23/20 11:48	1
1,2-Dichlorobenzene	ND		1.0	0.25	ug/L			01/23/20 11:48	1
1,2-Dichloroethane	**1.9**		1.0	0.25	ug/L			01/23/20 11:48	1
1,2-Dichloropropane	ND		1.0	0.25	ug/L			01/23/20 11:48	1
1,3,5-Trimethylbenzene	ND		1.0	0.25	ug/L			01/23/20 11:48	1
1,3-Dichlorobenzene	ND		1.0	0.25	ug/L			01/23/20 11:48	1
1,3-Dichloropropane	ND		1.0	0.25	ug/L			01/23/20 11:48	1
1,4-Dichlorobenzene	ND		1.0	0.25	ug/L			01/23/20 11:48	1
2,2-Dichloropropane	ND		1.0	0.40	ug/L			01/23/20 11:48	1
2-Chlorotoluene	ND		1.0	0.25	ug/L			01/23/20 11:48	1
4-Chlorotoluene	ND		1.0	0.25	ug/L			01/23/20 11:48	1
Acetone	ND		10	10	ug/L			01/23/20 11:48	1
Benzene	ND		0.50	0.25	ug/L			01/23/20 11:48	1
Bromobenzene	ND		1.0	0.25	ug/L			01/23/20 11:48	1
Bromochloromethane	ND		1.0	0.25	ug/L			01/23/20 11:48	1
Bromodichloromethane	ND		1.0	0.25	ug/L			01/23/20 11:48	1
Bromoform	ND		1.0	0.40	ug/L			01/23/20 11:48	1
Bromomethane	ND		1.0	0.25	ug/L			01/23/20 11:48	1
Carbon tetrachloride	ND		0.50	0.25	ug/L			01/23/20 11:48	1
Chlorobenzene	ND		1.0	0.25	ug/L			01/23/20 11:48	1
Chloroethane	ND		1.0	0.40	ug/L			01/23/20 11:48	1
Chloroform	**7.1**		1.0	0.25	ug/L			01/23/20 11:48	1
Chloromethane	ND		1.0	0.25	ug/L			01/23/20 11:48	1
cis-1,2-Dichloroethene	ND		1.0	0.25	ug/L			01/23/20 11:48	1
cis-1,3-Dichloropropene	ND		0.50	0.25	ug/L			01/23/20 11:48	1

Client Sample ID: OC_GW_DPE-9_20200120

Lab Sample ID: 440-259516-5

Date Collected: 01/20/20 13:15
Matrix: Water
Date Received: 01/21/20 15:10

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			01/23/20 11:48	1
Dibromomethane	ND		1.0	0.25	ug/L			01/23/20 11:48	1
Dichlorodifluoromethane	ND		1.0	0.40	ug/L			01/23/20 11:48	1
Ethylbenzene	ND		1.0	0.25	ug/L			01/23/20 11:48	1
Hexachlorobutadiene	ND		1.0	0.25	ug/L			01/23/20 11:48	1
Isopropylbenzene	ND		1.0	0.25	ug/L			01/23/20 11:48	1
m,p-Xylene	ND		1.0	0.50	ug/L			01/23/20 11:48	1
Methylene Chloride	ND		5.0	0.88	ug/L			01/23/20 11:48	1
Methyl-t-Butyl Ether (MTBE)	ND		1.0	0.25	ug/L			01/23/20 11:48	1
Naphthalene	ND		1.0	0.40	ug/L			01/23/20 11:48	1
n-Butylbenzene	ND		1.0	0.40	ug/L			01/23/20 11:48	1
N-Propylbenzene	ND		1.0	0.25	ug/L			01/23/20 11:48	1
o-Xylene	ND		1.0	0.25	ug/L			01/23/20 11:48	1
p-Isopropyltoluene	ND		1.0	0.25	ug/L			01/23/20 11:48	1
sec-Butylbenzene	ND		1.0	0.25	ug/L			01/23/20 11:48	1
Styrene	ND		1.0	0.25	ug/L			01/23/20 11:48	1
tert-Butylbenzene	ND		1.0	0.25	ug/L			01/23/20 11:48	1
Tetrachloroethene	**96**		1.0	0.25	ug/L			01/23/20 11:48	1
Toluene	ND		1.0	0.25	ug/L			01/23/20 11:48	1
trans-1,2-Dichloroethene	ND		1.0	0.25	ug/L			01/23/20 11:48	1
trans-1,3-Dichloropropene	ND		0.50	0.25	ug/L			01/23/20 11:48	1
Trichloroethene	**6.9**		1.0	0.25	ug/L			01/23/20 11:48	1
Trichlorofluoromethane	**5.7**		1.0	0.25	ug/L			01/23/20 11:48	1
Vinyl chloride	ND		0.50	0.25	ug/L			01/23/20 11:48	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Tentatively Identified Compound	*None*		*ug/L*					*01/23/20 11:48*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*101*		*70 - 130*		*01/23/20 11:48*	*1*
4-Bromofluorobenzene (Surr)	*102*		*80 - 120*		*01/23/20 11:48*	*1*
Dibromofluoromethane (Surr)	*97*		*76 - 132*		*01/23/20 11:48*	*1*
Toluene-d8 (Surr)	*112*		*80 - 128*		*01/23/20 11:48*	*1*

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Isopropyl alcohol	ND	F1	250	180	ug/L			01/23/20 08:55	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Unknown	*49*	*T J*	*ug/L*		*2.30*			*01/23/20 08:55*	*1*
Unknown	*25*	*T J*	*ug/L*		*16.99*			*01/23/20 08:55*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*62*	*X*	*70 - 130*		*01/23/20 08:55*	*1*
4-Bromofluorobenzene (Surr)	*105*		*80 - 120*		*01/23/20 08:55*	*1*
Dibromofluoromethane (Surr)	*90*		*76 - 132*		*01/23/20 08:55*	*1*
Toluene-d8 (Surr)	*98*		*80 - 128*		*01/23/20 08:55*	*1*

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	**22**	**B**	0.51	0.10	ug/L		01/22/20 07:00	01/23/20 15:02	1

Client Sample Results

Client: Jacob & Hefner Associates P.C.
Project/Site: Omega Chemical -2020 Semi-Annual GWM Feb

Job ID: 440-259516-1
SDG: Omega Chemical

Client Sample ID: OC_GW_DPE-9_20200120

Lab Sample ID: 440-259516-5
Date Collected: 01/20/20 13:15
Matrix: Water
Date Received: 01/21/20 15:10

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,4-Dioxane-d8 (Surr)	*53*		*27 - 120*	*01/22/20 07:00*	*01/23/20 15:02*	*1*

Client Sample ID: OC_GW_DPE-7D_20200120

Lab Sample ID: 440-259516-6
Date Collected: 01/20/20 12:18
Matrix: Water
Date Received: 01/21/20 15:10

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			01/23/20 09:06	1
1,1,1-Trichloroethane	ND		1.0	0.25	ug/L			01/23/20 09:06	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.25	ug/L			01/23/20 09:06	1
1,1,2-Trichloro-1,2,2-trifluoroethane	**14**		5.0	0.50	ug/L			01/23/20 09:06	1
1,1,2-Trichloroethane	ND		1.0	0.25	ug/L			01/23/20 09:06	1
1,1-Dichloroethane	ND		1.0	0.25	ug/L			01/23/20 09:06	1
1,1-Dichloroethene	**12**		1.0	0.25	ug/L			01/23/20 09:06	1
1,1-Dichloropropene	ND		1.0	0.25	ug/L			01/23/20 09:06	1
1,2,3-Trichlorobenzene	ND		1.0	0.40	ug/L			01/23/20 09:06	1
1,2,3-Trichloropropane	ND		1.0	0.40	ug/L			01/23/20 09:06	1
1,2,4-Trichlorobenzene	ND		1.0	0.40	ug/L			01/23/20 09:06	1
1,2,4-Trimethylbenzene	ND		1.0	0.25	ug/L			01/23/20 09:06	1
1,2-Dibromo-3-Chloropropane	ND		5.0	0.50	ug/L			01/23/20 09:06	1
1,2-Dibromoethane (EDB)	ND		1.0	0.25	ug/L			01/23/20 09:06	1
1,2-Dichlorobenzene	ND		1.0	0.25	ug/L			01/23/20 09:06	1
1,2-Dichloroethane	ND		1.0	0.25	ug/L			01/23/20 09:06	1
1,2-Dichloropropane	ND		1.0	0.25	ug/L			01/23/20 09:06	1
1,3,5-Trimethylbenzene	ND		1.0	0.25	ug/L			01/23/20 09:06	1
1,3-Dichlorobenzene	ND		1.0	0.25	ug/L			01/23/20 09:06	1
1,3-Dichloropropane	ND		1.0	0.25	ug/L			01/23/20 09:06	1
1,4-Dichlorobenzene	ND		1.0	0.25	ug/L			01/23/20 09:06	1
2,2-Dichloropropane	ND		1.0	0.40	ug/L			01/23/20 09:06	1
2-Chlorotoluene	ND		1.0	0.25	ug/L			01/23/20 09:06	1
4-Chlorotoluene	ND		1.0	0.25	ug/L			01/23/20 09:06	1
Acetone	ND		10	10	ug/L			01/23/20 09:06	1
Benzene	ND		0.50	0.25	ug/L			01/23/20 09:06	1
Bromobenzene	ND		1.0	0.25	ug/L			01/23/20 09:06	1
Bromochloromethane	ND		1.0	0.25	ug/L			01/23/20 09:06	1
Bromodichloromethane	ND		1.0	0.25	ug/L			01/23/20 09:06	1
Bromoform	ND		1.0	0.40	ug/L			01/23/20 09:06	1
Bromomethane	ND		1.0	0.25	ug/L			01/23/20 09:06	1
Carbon tetrachloride	ND		0.50	0.25	ug/L			01/23/20 09:06	1
Chlorobenzene	ND		1.0	0.25	ug/L			01/23/20 09:06	1
Chloroethane	ND	F1	1.0	0.40	ug/L			01/23/20 09:06	1
Chloroform	ND		1.0	0.25	ug/L			01/23/20 09:06	1
Chloromethane	ND		1.0	0.25	ug/L			01/23/20 09:06	1
cis-1,2-Dichloroethene	ND		1.0	0.25	ug/L			01/23/20 09:06	1
cis-1,3-Dichloropropene	ND		0.50	0.25	ug/L			01/23/20 09:06	1
Dibromochloromethane	ND		1.0	0.25	ug/L			01/23/20 09:06	1
Dibromomethane	ND		1.0	0.25	ug/L			01/23/20 09:06	1
Dichlorodifluoromethane	ND		1.0	0.40	ug/L			01/23/20 09:06	1
Ethylbenzene	ND		1.0	0.25	ug/L			01/23/20 09:06	1

Client Sample ID: OC_GW_DPE-7D_20200120

Lab Sample ID: 440-259516-6

Date Collected: 01/20/20 12:18
Matrix: Water
Date Received: 01/21/20 15:10

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hexachlorobutadiene	ND		1.0	0.25	ug/L			01/23/20 09:06	1
Isopropylbenzene	ND		1.0	0.25	ug/L			01/23/20 09:06	1
m,p-Xylene	ND		1.0	0.50	ug/L			01/23/20 09:06	1
Methylene Chloride	ND		5.0	0.88	ug/L			01/23/20 09:06	1
Methyl-t-Butyl Ether (MTBE)	ND		1.0	0.25	ug/L			01/23/20 09:06	1
Naphthalene	ND		1.0	0.40	ug/L			01/23/20 09:06	1
n-Butylbenzene	ND		1.0	0.40	ug/L			01/23/20 09:06	1
N-Propylbenzene	ND		1.0	0.25	ug/L			01/23/20 09:06	1
o-Xylene	ND		1.0	0.25	ug/L			01/23/20 09:06	1
p-Isopropyltoluene	ND		1.0	0.25	ug/L			01/23/20 09:06	1
sec-Butylbenzene	ND		1.0	0.25	ug/L			01/23/20 09:06	1
Styrene	ND		1.0	0.25	ug/L			01/23/20 09:06	1
tert-Butylbenzene	ND		1.0	0.25	ug/L			01/23/20 09:06	1
Tetrachloroethene	**54**		1.0	0.25	ug/L			01/23/20 09:06	1
Toluene	ND		1.0	0.25	ug/L			01/23/20 09:06	1
trans-1,2-Dichloroethene	ND		1.0	0.25	ug/L			01/23/20 09:06	1
trans-1,3-Dichloropropene	ND		0.50	0.25	ug/L			01/23/20 09:06	1
Trichloroethene	**22**		1.0	0.25	ug/L			01/23/20 09:06	1
Trichlorofluoromethane	**4.8**		1.0	0.25	ug/L			01/23/20 09:06	1
Vinyl chloride	ND		0.50	0.25	ug/L			01/23/20 09:06	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Tentatively Identified Compound	*None*		*ug/L*					*01/23/20 09:06*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*97*		*70 - 130*		*01/23/20 09:06*	*1*
4-Bromofluorobenzene (Surr)	*102*		*80 - 120*		*01/23/20 09:06*	*1*
Dibromofluoromethane (Surr)	*95*		*76 - 132*		*01/23/20 09:06*	*1*
Toluene-d8 (Surr)	*111*		*80 - 128*		*01/23/20 09:06*	*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			01/23/20 10:18	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Unknown	*87*	*T J*	*ug/L*		*2.30*			*01/23/20 10:18*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*66*	*X*	*70 - 130*		*01/23/20 10:18*	*1*
4-Bromofluorobenzene (Surr)	*105*		*80 - 120*		*01/23/20 10:18*	*1*
Dibromofluoromethane (Surr)	*93*		*76 - 132*		*01/23/20 10:18*	*1*
Toluene-d8 (Surr)	*103*		*80 - 128*		*01/23/20 10:18*	*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	0.098	ug/L		01/22/20 07:00	01/23/20 15:23	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,4-Dioxane-d8 (Surr)	*55*		*27 - 120*	*01/22/20 07:00*	*01/23/20 15:23*	*1*

Client Sample Results

Client: Jacob & Hefner Associates P.C.
Project/Site: Omega Chemical -2020 Semi-Annual GWM Feb

Job ID: 440-259516-1
SDG: Omega Chemical

Client Sample ID: OC_GW_DPE-10D_20200120

Lab Sample ID: 440-259516-7

Date Collected: 01/20/20 12:38
Matrix: Water
Date Received: 01/21/20 15:10

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			01/23/20 12:15	1
1,1,1-Trichloroethane	ND		1.0	0.25	ug/L			01/23/20 12:15	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.25	ug/L			01/23/20 12:15	1
1,1,2-Trichloro-1,2,2-trifluoroethane	**64**		5.0	0.50	ug/L			01/23/20 12:15	1
1,1,2-Trichloroethane	**0.36**	**J**	1.0	0.25	ug/L			01/23/20 12:15	1
1,1-Dichloroethane	**0.69**	**J**	1.0	0.25	ug/L			01/23/20 12:15	1
1,1-Dichloroethene	**47**		1.0	0.25	ug/L			01/23/20 12:15	1
1,1-Dichloropropene	ND		1.0	0.25	ug/L			01/23/20 12:15	1
1,2,3-Trichlorobenzene	ND		1.0	0.40	ug/L			01/23/20 12:15	1
1,2,3-Trichloropropane	ND		1.0	0.40	ug/L			01/23/20 12:15	1
1,2,4-Trichlorobenzene	ND		1.0	0.40	ug/L			01/23/20 12:15	1
1,2,4-Trimethylbenzene	ND		1.0	0.25	ug/L			01/23/20 12:15	1
1,2-Dibromo-3-Chloropropane	ND		5.0	0.50	ug/L			01/23/20 12:15	1
1,2-Dibromoethane (EDB)	ND		1.0	0.25	ug/L			01/23/20 12:15	1
1,2-Dichlorobenzene	ND		1.0	0.25	ug/L			01/23/20 12:15	1
1,2-Dichloroethane	**3.9**		1.0	0.25	ug/L			01/23/20 12:15	1
1,2-Dichloropropane	ND		1.0	0.25	ug/L			01/23/20 12:15	1
1,3,5-Trimethylbenzene	ND		1.0	0.25	ug/L			01/23/20 12:15	1
1,3-Dichlorobenzene	ND		1.0	0.25	ug/L			01/23/20 12:15	1
1,3-Dichloropropane	ND		1.0	0.25	ug/L			01/23/20 12:15	1
1,4-Dichlorobenzene	ND		1.0	0.25	ug/L			01/23/20 12:15	1
2,2-Dichloropropane	ND		1.0	0.40	ug/L			01/23/20 12:15	1
2-Chlorotoluene	ND		1.0	0.25	ug/L			01/23/20 12:15	1
4-Chlorotoluene	ND		1.0	0.25	ug/L			01/23/20 12:15	1
Acetone	ND		10	10	ug/L			01/23/20 12:15	1
Benzene	ND		0.50	0.25	ug/L			01/23/20 12:15	1
Bromobenzene	ND		1.0	0.25	ug/L			01/23/20 12:15	1
Bromochloromethane	ND		1.0	0.25	ug/L			01/23/20 12:15	1
Bromodichloromethane	ND		1.0	0.25	ug/L			01/23/20 12:15	1
Bromoform	ND		1.0	0.40	ug/L			01/23/20 12:15	1
Bromomethane	ND		1.0	0.25	ug/L			01/23/20 12:15	1
Carbon tetrachloride	ND		0.50	0.25	ug/L			01/23/20 12:15	1
Chlorobenzene	ND		1.0	0.25	ug/L			01/23/20 12:15	1
Chloroethane	ND		1.0	0.40	ug/L			01/23/20 12:15	1
Chloroform	**21**		1.0	0.25	ug/L			01/23/20 12:15	1
Chloromethane	ND		1.0	0.25	ug/L			01/23/20 12:15	1
cis-1,2-Dichloroethene	ND		1.0	0.25	ug/L			01/23/20 12:15	1
cis-1,3-Dichloropropene	ND		0.50	0.25	ug/L			01/23/20 12:15	1
Dibromochloromethane	ND		1.0	0.25	ug/L			01/23/20 12:15	1
Dibromomethane	ND		1.0	0.25	ug/L			01/23/20 12:15	1
Dichlorodifluoromethane	ND		1.0	0.40	ug/L			01/23/20 12:15	1
Ethylbenzene	ND		1.0	0.25	ug/L			01/23/20 12:15	1
Hexachlorobutadiene	ND		1.0	0.25	ug/L			01/23/20 12:15	1
Isopropylbenzene	ND		1.0	0.25	ug/L			01/23/20 12:15	1
m,p-Xylene	ND		1.0	0.50	ug/L			01/23/20 12:15	1
Methylene Chloride	ND		5.0	0.88	ug/L			01/23/20 12:15	1
Methyl-t-Butyl Ether (MTBE)	ND		1.0	0.25	ug/L			01/23/20 12:15	1
Naphthalene	ND		1.0	0.40	ug/L			01/23/20 12:15	1
n-Butylbenzene	ND		1.0	0.40	ug/L			01/23/20 12:15	1

Client Sample ID: OC_GW_DPE-10D_20200120

Lab Sample ID: 440-259516-7

Date Collected: 01/20/20 12:38
Matrix: Water
Date Received: 01/21/20 15:10

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			01/23/20 12:15	1
o-Xylene	ND		1.0	0.25	ug/L			01/23/20 12:15	1
p-Isopropyltoluene	ND		1.0	0.25	ug/L			01/23/20 12:15	1
sec-Butylbenzene	ND		1.0	0.25	ug/L			01/23/20 12:15	1
Styrene	ND		1.0	0.25	ug/L			01/23/20 12:15	1
tert-Butylbenzene	ND		1.0	0.25	ug/L			01/23/20 12:15	1
Toluene	ND		1.0	0.25	ug/L			01/23/20 12:15	1
trans-1,2-Dichloroethene	**0.27**	**J**	1.0	0.25	ug/L			01/23/20 12:15	1
trans-1,3-Dichloropropene	ND		0.50	0.25	ug/L			01/23/20 12:15	1
Trichloroethene	**33**		1.0	0.25	ug/L			01/23/20 12:15	1
Trichlorofluoromethane	**19**		1.0	0.25	ug/L			01/23/20 12:15	1
Vinyl chloride	ND		0.50	0.25	ug/L			01/23/20 12:15	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Tentatively Identified Compound	*None*		*ug/L*					*01/23/20 12:15*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*101*		*70 - 130*		*01/23/20 12:15*	*1*
4-Bromofluorobenzene (Surr)	*104*		*80 - 120*		*01/23/20 12:15*	*1*
Dibromofluoromethane (Surr)	*95*		*76 - 132*		*01/23/20 12:15*	*1*
Toluene-d8 (Surr)	*112*		*80 - 128*		*01/23/20 12:15*	*1*

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Tetrachloroethene	**320**		10	2.5	ug/L			01/24/20 01:48	10

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Tentatively Identified Compound	*None*		*ug/L*					*01/24/20 01:48*	*10*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*94*		*70 - 130*		*01/24/20 01:48*	*10*
4-Bromofluorobenzene (Surr)	*104*		*80 - 120*		*01/24/20 01:48*	*10*
Dibromofluoromethane (Surr)	*101*		*76 - 132*		*01/24/20 01:48*	*10*
Toluene-d8 (Surr)	*108*		*80 - 128*		*01/24/20 01:48*	*10*

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			01/23/20 10:46	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Unknown	*81*	*T J*	*ug/L*		*2.31*			*01/23/20 10:46*	*1*
Unknown	*13*	*T J*	*ug/L*		*16.93*			*01/23/20 10:46*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*65*	*X*	*70 - 130*		*01/23/20 10:46*	*1*
4-Bromofluorobenzene (Surr)	*101*		*80 - 120*		*01/23/20 10:46*	*1*
Dibromofluoromethane (Surr)	*90*		*76 - 132*		*01/23/20 10:46*	*1*
Toluene-d8 (Surr)	*99*		*80 - 128*		*01/23/20 10:46*	*1*

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	**18**	**B**	0.49	0.098	ug/L		01/22/20 07:00	01/23/20 15:45	1

Client Sample Results

Client: Jacob & Hefner Associates P.C.
Project/Site: Omega Chemical -2020 Semi-Annual GWM Feb

Job ID: 440-259516-1
SDG: Omega Chemical

Client Sample ID: OC_GW_DPE-10D_20200120

Lab Sample ID: 440-259516-7

Date Collected: 01/20/20 12:38
Date Received: 01/21/20 15:10

Matrix: Water

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,4-Dioxane-d8 (Surr)	51		27 - 120	01/22/20 07:00	01/23/20 15:45	1

Surrogate Summary

Client: Jacob & Hefner Associates P.C.
Project/Site: Omega Chemical -2020 Semi-Annual GWM Feb

Job ID: 440-259516-1
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)
440-259516-1	OC_GW_DPE-3_20200120	104	99	104	105
440-259516-1 - RA	OC_GW_DPE-3_20200120	93	104	99	108
440-259516-1 - DL	OC_GW_DPE-3_20200120	92	101	98	109
440-259516-2	OC_GW_DPE-4_20200120	104	97	102	104
440-259516-2 - RA	OC_GW_DPE-4_20200120	97	102	99	108
440-259516-2 - DL	OC_GW_DPE-4_20200120	94	105	100	108
440-259516-3	OC_GW_DPE-5_20200120	105	99	103	105
440-259516-3 - RA	OC_GW_DPE-5_20200120	96	105	99	111
440-259516-4	OC_GW_DPE-8_20200120	103	98	104	104
440-259516-4 - RA	OC_GW_DPE-8_20200120	97	103	101	107
440-259516-5 - RA	OC_GW_DPE-9_20200120	62 X	105	90	98
440-259516-5	OC_GW_DPE-9_20200120	101	102	97	112
440-259516-5 MS	OC_GW_DPE-9_20200120	64 X	98	90	99
440-259516-5 MSD	OC_GW_DPE-9_20200120	63 X	99	94	98
440-259516-6 - RA	OC_GW_DPE-7D_20200120	66 X	105	93	103
440-259516-6	OC_GW_DPE-7D_20200120	97	102	95	111
440-259516-6 MS	OC_GW_DPE-7D_20200120	98	101	93	102
440-259516-6 MSD	OC_GW_DPE-7D_20200120	99	101	94	102
440-259516-7 - RA	OC_GW_DPE-10D_20200120	65 X	101	90	99
440-259516-7	OC_GW_DPE-10D_20200120	101	104	95	112
440-259516-7 - DL	OC_GW_DPE-10D_20200120	94	104	101	108
440-259517-B-3 MS	Matrix Spike	100	102	103	103
440-259517-B-3 MSD	Matrix Spike Duplicate	100	103	103	104
440-259519-B-13 MS	Matrix Spike	96	96	101	102
440-259519-B-13 MSD	Matrix Spike Duplicate	98	98	100	102
440-259585-D-2 MS	Matrix Spike	94	98	99	104
440-259585-D-2 MSD	Matrix Spike Duplicate	93	102	99	103
440-259585-F-4 MS	Matrix Spike	93	99	99	105
440-259585-F-4 MSD	Matrix Spike Duplicate	97	99	100	102
LCS 440-591946/1002	Lab Control Sample	100	99	99	97
LCS 440-591946/1003	Lab Control Sample	101	101	99	102
LCS 440-591948/1002	Lab Control Sample	97	99	97	103
LCS 440-591951/1003	Lab Control Sample	62 X	101	90	102
LCS 440-591960/1002	Lab Control Sample	96	101	95	106
LCS 440-592086/1002	Lab Control Sample	95	97	98	101
LCS 440-592157/1002	Lab Control Sample	97	95	100	103
MB 440-591946/4	Method Blank	102	101	102	102
MB 440-591948/5	Method Blank	94	104	100	108
MB 440-591951/4	Method Blank	63 X	104	90	99
MB 440-591960/4	Method Blank	98	104	95	112
MB 440-592086/5	Method Blank	98	105	101	110
MB 440-592157/5	Method Blank	94	107	100	110

Surrogate Legend

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

Surrogate Summary

Client: Jacob & Hefner Associates P.C.
Project/Site: Omega Chemical -2020 Semi-Annual GWM Feb

Job ID: 440-259516-1
SDG: Omega Chemical

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

Matrix: Water

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)							
Lab Sample ID	**Client Sample ID**	**DXE (27-120)**							
440-259516-1	OC_GW_DPE-3_20200120	37							
440-259516-2	OC_GW_DPE-4_20200120	51							
440-259516-3	OC_GW_DPE-5_20200120	49							
440-259516-4	OC_GW_DPE-8_20200120	46							
440-259516-5	OC_GW_DPE-9_20200120	53							
440-259516-6	OC_GW_DPE-7D_20200120	55							
440-259516-7	OC_GW_DPE-10D_20200120	51							
LCS 440-591747/2-A	Lab Control Sample	54							
LCSD 440-591747/3-A	Lab Control Sample Dup	57							
MB 440-591747/1-A	Method Blank	68							

Surrogate Legend

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

Method Summary

Client: Jacob & Hefner Associates P.C.
Project/Site: Omega Chemical -2020 Semi-Annual GWM Feb

Job ID: 440-259516-1
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 = Eurofins Calscience 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 -2020 Semi-Annual GWM Feb

Job ID: 440-259516-1
SDG: Omega Chemical

Client Sample ID: OC_GW_DPE-3_20200120 — Lab Sample ID: 440-259516-1

Date Collected: 01/20/20 07:55 — **Matrix: Water**
Date Received: 01/21/20 15:10

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	591948	01/23/20 13:53	A1W	TAL IRV
Total/NA	Analysis	8260B	DL	5	10 mL	10 mL	592157	01/24/20 11:28	GMA	TAL IRV
Total/NA	Analysis	8260B		1	10 mL	10 mL	591946	01/23/20 15:12	RM	TAL IRV
Total/NA	Prep	3520C			1020 mL	1.0 mL	591747	01/22/20 07:00	NAM	TAL IRV
Total/NA	Analysis	8270C SIM		1			591979	01/23/20 13:35	HN	TAL IRV

Client Sample ID: OC_GW_DPE-4_20200120 — Lab Sample ID: 440-259516-2

Date Collected: 01/20/20 08:20 — **Matrix: Water**
Date Received: 01/21/20 15:10

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	591948	01/23/20 14:20	A1W	TAL IRV
Total/NA	Analysis	8260B	DL	10	10 mL	10 mL	592157	01/24/20 11:55	GMA	TAL IRV
Total/NA	Analysis	8260B		1	10 mL	10 mL	591946	01/23/20 15:36	RM	TAL IRV
Total/NA	Prep	3520C			1025 mL	1.0 mL	591747	01/22/20 07:00	NAM	TAL IRV
Total/NA	Analysis	8270C SIM		1			591979	01/23/20 13:57	HN	TAL IRV

Client Sample ID: OC_GW_DPE-5_20200120 — Lab Sample ID: 440-259516-3

Date Collected: 01/20/20 09:45 — **Matrix: Water**
Date Received: 01/21/20 15:10

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	591948	01/23/20 14:48	A1W	TAL IRV
Total/NA	Analysis	8260B		1	10 mL	10 mL	591946	01/23/20 15:59	RM	TAL IRV
Total/NA	Prep	3520C			1030 mL	1.0 mL	591747	01/22/20 07:00	NAM	TAL IRV
Total/NA	Analysis	8270C SIM		1			591979	01/23/20 14:19	HN	TAL IRV

Client Sample ID: OC_GW_DPE-8_20200120 — Lab Sample ID: 440-259516-4

Date Collected: 01/20/20 08:45 — **Matrix: Water**
Date Received: 01/21/20 15:10

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	591948	01/23/20 15:15	A1W	TAL IRV
Total/NA	Analysis	8260B		1	10 mL	10 mL	591946	01/23/20 16:23	RM	TAL IRV
Total/NA	Prep	3520C			1030 mL	1.0 mL	591747	01/22/20 07:00	NAM	TAL IRV
Total/NA	Analysis	8270C SIM		1			591979	01/23/20 14:40	HN	TAL IRV

Client Sample ID: OC_GW_DPE-9_20200120 — Lab Sample ID: 440-259516-5

Date Collected: 01/20/20 13:15 — **Matrix: Water**
Date Received: 01/21/20 15:10

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	591951	01/23/20 08:55	TCN	TAL IRV
Total/NA	Analysis	8260B		1	10 mL	10 mL	591960	01/23/20 11:48	TCN	TAL IRV

Lab Chronicle

Client: Jacob & Hefner Associates P.C.
Project/Site: Omega Chemical -2020 Semi-Annual GWM Feb

Job ID: 440-259516-1
SDG: Omega Chemical

Client Sample ID: OC_GW_DPE-9_20200120 — Lab Sample ID: 440-259516-5

Date Collected: 01/20/20 13:15 — **Matrix: Water**
Date Received: 01/21/20 15:10

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3520C			975 mL	1.0 mL	591747	01/22/20 07:00	NAM	TAL IRV
Total/NA	Analysis	8270C SIM		1			591979	01/23/20 15:02	HN	TAL IRV

Client Sample ID: OC_GW_DPE-7D_20200120 — Lab Sample ID: 440-259516-6

Date Collected: 01/20/20 12:18 — **Matrix: Water**
Date Received: 01/21/20 15:10

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	591951	01/23/20 10:18	TCN	TAL IRV
Total/NA	Analysis	8260B		1	10 mL	10 mL	591960	01/23/20 09:06	TCN	TAL IRV
Total/NA	Prep	3520C			1020 mL	1.0 mL	591747	01/22/20 07:00	NAM	TAL IRV
Total/NA	Analysis	8270C SIM		1			591979	01/23/20 15:23	HN	TAL IRV

Client Sample ID: OC_GW_DPE-10D_20200120 — Lab Sample ID: 440-259516-7

Date Collected: 01/20/20 12:38 — **Matrix: Water**
Date Received: 01/21/20 15:10

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	10	10 mL	10 mL	592086	01/24/20 01:48	GMA	TAL IRV
Total/NA	Analysis	8260B	RA	1	10 mL	10 mL	591951	01/23/20 10:46	TCN	TAL IRV
Total/NA	Analysis	8260B		1	10 mL	10 mL	591960	01/23/20 12:15	TCN	TAL IRV
Total/NA	Prep	3520C			1020 mL	1.0 mL	591747	01/22/20 07:00	NAM	TAL IRV
Total/NA	Analysis	8270C SIM		1			591979	01/23/20 15:45	HN	TAL IRV

Laboratory References:

TAL IRV = Eurofins Calscience 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 440-591946/4
Matrix: Water
Analysis Batch: 591946

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			01/23/20 07:45	1
1,1,1-Trichloroethane	ND		1.0	0.25	ug/L			01/23/20 07:45	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.25	ug/L			01/23/20 07:45	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		5.0	0.50	ug/L			01/23/20 07:45	1
1,1,2-Trichloroethane	ND		1.0	0.25	ug/L			01/23/20 07:45	1
1,1-Dichloroethane	ND		1.0	0.25	ug/L			01/23/20 07:45	1
1,1-Dichloroethene	ND		1.0	0.25	ug/L			01/23/20 07:45	1
1,1-Dichloropropene	ND		1.0	0.25	ug/L			01/23/20 07:45	1
1,2,3-Trichlorobenzene	ND		1.0	0.40	ug/L			01/23/20 07:45	1
1,2,3-Trichloropropane	ND		1.0	0.40	ug/L			01/23/20 07:45	1
1,2,4-Trichlorobenzene	ND		1.0	0.40	ug/L			01/23/20 07:45	1
1,2,4-Trimethylbenzene	ND		1.0	0.25	ug/L			01/23/20 07:45	1
1,2-Dibromo-3-Chloropropane	ND		5.0	0.50	ug/L			01/23/20 07:45	1
1,2-Dibromoethane (EDB)	ND		1.0	0.25	ug/L			01/23/20 07:45	1
1,2-Dichlorobenzene	ND		1.0	0.25	ug/L			01/23/20 07:45	1
1,2-Dichloroethane	ND		1.0	0.25	ug/L			01/23/20 07:45	1
1,2-Dichloropropane	ND		1.0	0.25	ug/L			01/23/20 07:45	1
1,3,5-Trimethylbenzene	ND		1.0	0.25	ug/L			01/23/20 07:45	1
1,3-Dichlorobenzene	ND		1.0	0.25	ug/L			01/23/20 07:45	1
1,3-Dichloropropane	ND		1.0	0.25	ug/L			01/23/20 07:45	1
1,4-Dichlorobenzene	ND		1.0	0.25	ug/L			01/23/20 07:45	1
2,2-Dichloropropane	ND		1.0	0.40	ug/L			01/23/20 07:45	1
2-Chlorotoluene	ND		1.0	0.25	ug/L			01/23/20 07:45	1
4-Chlorotoluene	ND		1.0	0.25	ug/L			01/23/20 07:45	1
Acetone	ND		10	10	ug/L			01/23/20 07:45	1
Benzene	ND		0.50	0.25	ug/L			01/23/20 07:45	1
Bromobenzene	ND		1.0	0.25	ug/L			01/23/20 07:45	1
Bromochloromethane	ND		1.0	0.25	ug/L			01/23/20 07:45	1
Bromodichloromethane	ND		1.0	0.25	ug/L			01/23/20 07:45	1
Bromoform	ND		1.0	0.40	ug/L			01/23/20 07:45	1
Bromomethane	ND		1.0	0.25	ug/L			01/23/20 07:45	1
Carbon tetrachloride	ND		0.50	0.25	ug/L			01/23/20 07:45	1
Chlorobenzene	ND		1.0	0.25	ug/L			01/23/20 07:45	1
Chloroethane	ND		1.0	0.40	ug/L			01/23/20 07:45	1
Chloroform	ND		1.0	0.25	ug/L			01/23/20 07:45	1
Chloromethane	ND		1.0	0.25	ug/L			01/23/20 07:45	1
cis-1,2-Dichloroethene	ND		1.0	0.25	ug/L			01/23/20 07:45	1
cis-1,3-Dichloropropene	ND		0.50	0.25	ug/L			01/23/20 07:45	1
Dibromochloromethane	ND		1.0	0.25	ug/L			01/23/20 07:45	1
Dibromomethane	ND		1.0	0.25	ug/L			01/23/20 07:45	1
Dichlorodifluoromethane	ND		1.0	0.40	ug/L			01/23/20 07:45	1
Ethylbenzene	ND		1.0	0.25	ug/L			01/23/20 07:45	1
Hexachlorobutadiene	ND		1.0	0.25	ug/L			01/23/20 07:45	1
Isopropyl alcohol	ND		250	180	ug/L			01/23/20 07:45	1
Isopropylbenzene	ND		1.0	0.25	ug/L			01/23/20 07:45	1
m,p-Xylene	ND		1.0	0.50	ug/L			01/23/20 07:45	1
Methylene Chloride	ND		5.0	0.88	ug/L			01/23/20 07:45	1
Methyl-t-Butyl Ether (MTBE)	ND		1.0	0.25	ug/L			01/23/20 07:45	1

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

Lab Sample ID: MB 440-591946/4
Matrix: Water
Analysis Batch: 591946

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			01/23/20 07:45	1
n-Butylbenzene	ND		1.0	0.40	ug/L			01/23/20 07:45	1
N-Propylbenzene	ND		1.0	0.25	ug/L			01/23/20 07:45	1
o-Xylene	ND		1.0	0.25	ug/L			01/23/20 07:45	1
p-Isopropyltoluene	ND		1.0	0.25	ug/L			01/23/20 07:45	1
sec-Butylbenzene	ND		1.0	0.25	ug/L			01/23/20 07:45	1
Styrene	ND		1.0	0.25	ug/L			01/23/20 07:45	1
tert-Butylbenzene	ND		1.0	0.25	ug/L			01/23/20 07:45	1
Tetrachloroethene	ND		1.0	0.25	ug/L			01/23/20 07:45	1
Toluene	ND		1.0	0.25	ug/L			01/23/20 07:45	1
trans-1,2-Dichloroethene	ND		1.0	0.25	ug/L			01/23/20 07:45	1
trans-1,3-Dichloropropene	ND		0.50	0.25	ug/L			01/23/20 07:45	1
Trichloroethene	ND		1.0	0.25	ug/L			01/23/20 07:45	1
Trichlorofluoromethane	ND		1.0	0.25	ug/L			01/23/20 07:45	1

Tentatively Identified Compound	*MB Est. Result*	*MB Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Methacrylonitrile	*3.66*	*J*	*ug/L*		*6.57*	*126-98-7*		*01/23/20 07:45*	*1*
2-Ethyl-1-butanol	*16.3*	*J*	*ug/L*		*10.28*	*97-95-0*		*01/23/20 07:45*	*1*
Cyclohexanone	*37.7*	*J*	*ug/L*		*11.49*	*108-94-1*		*01/23/20 07:45*	*1*
1,3,5-Trichlorobenzene	*0.841*	*J*	*ug/L*		*14.65*	*108-70-3*		*01/23/20 07:45*	*1*
Tentatively Identified Compound	*None*		*ug/L*					*01/23/20 07:45*	*1*

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*102*		*70 - 130*		*01/23/20 07:45*	*1*
4-Bromofluorobenzene (Surr)	*101*		*80 - 120*		*01/23/20 07:45*	*1*
Dibromofluoromethane (Surr)	*102*		*76 - 132*		*01/23/20 07:45*	*1*
Toluene-d8 (Surr)	*102*		*80 - 128*		*01/23/20 07:45*	*1*

Lab Sample ID: LCS 440-591946/1002
Matrix: Water
Analysis Batch: 591946

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	24.2		ug/L		97	60 - 141
1,1,1-Trichloroethane	25.0	24.1		ug/L		96	70 - 130
1,1,2,2-Tetrachloroethane	25.0	27.1		ug/L		108	63 - 130
1,1,2-Trichloro-1,2,2-trifluoroethane	25.0	23.1		ug/L		92	60 - 140
1,1,2-Trichloroethane	25.0	24.3		ug/L		97	70 - 130
1,1-Dichloroethane	25.0	23.5		ug/L		94	64 - 130
1,1-Dichloroethene	25.0	22.2		ug/L		89	70 - 130
1,1-Dichloropropene	25.0	23.7		ug/L		95	70 - 130
1,2,3-Trichlorobenzene	25.0	23.4		ug/L		94	60 - 140
1,2,3-Trichloropropane	25.0	24.1		ug/L		96	63 - 130
1,2,4-Trichlorobenzene	25.0	24.4		ug/L		98	60 - 140
1,2,4-Trimethylbenzene	25.0	24.0		ug/L		96	70 - 135
1,2-Dibromo-3-Chloropropane	25.0	24.3		ug/L		97	52 - 140
1,2-Dibromoethane (EDB)	25.0	24.5		ug/L		98	70 - 130

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

Lab Sample ID: LCS 440-591946/1002
Matrix: Water
Analysis Batch: 591946

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,2-Dichlorobenzene	25.0	22.8		ug/L		91	70 - 130
1,2-Dichloroethane	25.0	24.1		ug/L		97	57 - 138
1,2-Dichloropropane	25.0	25.0		ug/L		100	67 - 130
1,3,5-Trimethylbenzene	25.0	24.1		ug/L		96	70 - 136
1,3-Dichlorobenzene	25.0	25.1		ug/L		100	70 - 130
1,3-Dichloropropane	25.0	22.3		ug/L		89	70 - 130
1,4-Dichlorobenzene	25.0	24.7		ug/L		99	70 - 130
2,2-Dichloropropane	25.0	28.3		ug/L		113	68 - 141
2-Chlorotoluene	25.0	24.1		ug/L		96	70 - 130
4-Chlorotoluene	25.0	22.7		ug/L		91	70 - 130
Acetone	125	140		ug/L		112	10 - 150
Benzene	25.0	23.8		ug/L		95	68 - 130
Bromobenzene	25.0	23.4		ug/L		94	70 - 130
Bromochloromethane	25.0	24.8		ug/L		99	70 - 130
Bromodichloromethane	25.0	25.4		ug/L		101	70 - 132
Bromoform	25.0	24.7		ug/L		99	60 - 148
Bromomethane	25.0	22.5		ug/L		90	64 - 139
Carbon tetrachloride	25.0	24.7		ug/L		99	60 - 150
Chlorobenzene	25.0	22.8		ug/L		91	70 - 130
Chloroethane	25.0	23.7		ug/L		95	64 - 135
Chloroform	25.0	24.7		ug/L		99	70 - 130
Chloromethane	25.0	20.0		ug/L		80	47 - 140
cis-1,2-Dichloroethene	25.0	22.9		ug/L		91	70 - 133
cis-1,3-Dichloropropene	25.0	24.0		ug/L		96	70 - 133
Dibromochloromethane	25.0	24.6		ug/L		98	69 - 145
Dibromomethane	25.0	24.8		ug/L		99	70 - 130
Dichlorodifluoromethane	25.0	18.1		ug/L		72	29 - 150
Ethylbenzene	25.0	22.1		ug/L		88	70 - 130
Hexachlorobutadiene	25.0	26.5		ug/L		106	10 - 150
Isopropylbenzene	25.0	22.5		ug/L		90	70 - 136
m,p-Xylene	25.0	23.7		ug/L		95	70 - 130
Methylene Chloride	25.0	22.8		ug/L		91	52 - 130
Methyl-t-Butyl Ether (MTBE)	25.0	27.9		ug/L		111	63 - 131
Naphthalene	25.0	23.6		ug/L		94	60 - 140
n-Butylbenzene	25.0	26.4		ug/L		106	65 - 150
N-Propylbenzene	25.0	22.5		ug/L		90	67 - 139
o-Xylene	25.0	23.1		ug/L		92	70 - 130
p-Isopropyltoluene	25.0	24.6		ug/L		98	70 - 132
sec-Butylbenzene	25.0	27.4		ug/L		110	70 - 138
Styrene	25.0	23.3		ug/L		93	70 - 134
tert-Butylbenzene	25.0	25.8		ug/L		103	70 - 130
Tetrachloroethene	25.0	23.4		ug/L		94	70 - 130
Toluene	25.0	22.2		ug/L		89	70 - 130
trans-1,2-Dichloroethene	25.0	22.6		ug/L		90	70 - 130
trans-1,3-Dichloropropene	25.0	23.5		ug/L		94	70 - 132
Trichloroethene	25.0	23.0		ug/L		92	70 - 130
Trichlorofluoromethane	25.0	22.1		ug/L		88	60 - 150

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

Lab Sample ID: LCS 440-591946/1002
Matrix: Water
Analysis Batch: 591946

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

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*100*		*70 - 130*
4-Bromofluorobenzene (Surr)	*99*		*80 - 120*
Dibromofluoromethane (Surr)	*99*		*76 - 132*
Toluene-d8 (Surr)	*97*		*80 - 128*

Lab Sample ID: LCS 440-591946/1003
Matrix: Water
Analysis Batch: 591946

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	208	J	ug/L		83	49 - 142

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*101*		*70 - 130*
4-Bromofluorobenzene (Surr)	*101*		*80 - 120*
Dibromofluoromethane (Surr)	*99*		*76 - 132*
Toluene-d8 (Surr)	*102*		*80 - 128*

Lab Sample ID: 440-259517-B-3 MS
Matrix: Water
Analysis Batch: 591946

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		250	244		ug/L		98	60 - 149
1,1,1-Trichloroethane	50		250	295		ug/L		98	70 - 130
1,1,2,2-Tetrachloroethane	ND		250	298		ug/L		119	63 - 130
1,1,2-Trichloro-1,2,2-trifluoroethane	1300		250	1490	4	ug/L		66	60 - 140
1,1,2-Trichloroethane	ND		250	253		ug/L		101	70 - 130
1,1-Dichloroethane	ND		250	242		ug/L		97	65 - 130
1,1-Dichloroethene	51		250	274		ug/L		89	70 - 130
1,1-Dichloropropene	ND		250	232		ug/L		93	64 - 130
1,2,3-Trichlorobenzene	ND		250	202		ug/L		81	60 - 140
1,2,3-Trichloropropane	ND		250	249		ug/L		100	60 - 130
1,2,4-Trichlorobenzene	ND		250	212		ug/L		85	60 - 140
1,2,4-Trimethylbenzene	ND		250	248		ug/L		99	70 - 130
1,2-Dibromo-3-Chloropropane	ND		250	232		ug/L		93	48 - 140
1,2-Dibromoethane (EDB)	ND		250	253		ug/L		101	70 - 131
1,2-Dichlorobenzene	ND		250	233		ug/L		93	70 - 130
1,2-Dichloroethane	ND		250	244		ug/L		98	56 - 146
1,2-Dichloropropane	ND		250	248		ug/L		99	69 - 130
1,3,5-Trimethylbenzene	ND		250	245		ug/L		98	70 - 130
1,3-Dichlorobenzene	ND		250	248		ug/L		99	70 - 130
1,3-Dichloropropane	ND		250	237		ug/L		95	70 - 130
1,4-Dichlorobenzene	ND		250	248		ug/L		99	70 - 130
2,2-Dichloropropane	ND		250	258		ug/L		103	69 - 138
2-Chlorotoluene	ND		250	242		ug/L		97	70 - 130
4-Chlorotoluene	ND		250	232		ug/L		93	70 - 130

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

Lab Sample ID: 440-259517-B-3 MS
Matrix: Water
Analysis Batch: 591946

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		1250	1040		ug/L		83	10 - 150
Benzene	ND		250	240		ug/L		96	66 - 130
Bromobenzene	ND		250	242		ug/L		97	70 - 130
Bromochloromethane	ND		250	242		ug/L		97	70 - 130
Bromodichloromethane	ND		250	254		ug/L		102	70 - 138
Bromoform	ND		250	246		ug/L		99	59 - 150
Bromomethane	ND		250	206		ug/L		82	62 - 131
Carbon tetrachloride	ND		250	240		ug/L		96	60 - 150
Chlorobenzene	ND		250	245		ug/L		98	70 - 130
Chloroethane	ND		250	211		ug/L		85	68 - 130
Chloroform	38		250	288		ug/L		100	70 - 130
Chloromethane	ND		250	187		ug/L		75	39 - 144
cis-1,2-Dichloroethene	ND		250	226		ug/L		90	70 - 130
cis-1,3-Dichloropropene	ND		250	249		ug/L		100	70 - 133
Dibromochloromethane	ND		250	251		ug/L		100	70 - 148
Dibromomethane	ND		250	243		ug/L		97	70 - 130
Dichlorodifluoromethane	ND		250	161		ug/L		65	25 - 142
Ethylbenzene	ND		250	235		ug/L		94	70 - 130
Hexachlorobutadiene	ND		250	214		ug/L		86	10 - 150
Isopropyl alcohol	ND		6250	5050	J	ug/L		81	46 - 142
Isopropylbenzene	ND		250	236		ug/L		94	70 - 132
m,p-Xylene	ND		250	248		ug/L		99	70 - 133
Methylene Chloride	ND		250	250		ug/L		100	52 - 130
Methyl-t-Butyl Ether (MTBE)	ND		250	244		ug/L		98	70 - 130
Naphthalene	ND		250	210		ug/L		84	60 - 140
n-Butylbenzene	ND		250	257		ug/L		103	61 - 149
N-Propylbenzene	ND		250	232		ug/L		93	66 - 135
o-Xylene	ND		250	239		ug/L		96	70 - 133
p-Isopropyltoluene	ND		250	245		ug/L		98	70 - 130
sec-Butylbenzene	ND		250	272		ug/L		109	67 - 134
Styrene	ND		250	242		ug/L		97	29 - 150
tert-Butylbenzene	ND		250	257		ug/L		103	70 - 130
Tetrachloroethene	1500		250	1810	4	ug/L		119	70 - 137
Toluene	ND		250	243		ug/L		97	70 - 130
trans-1,2-Dichloroethene	ND		250	227		ug/L		91	70 - 130
trans-1,3-Dichloropropene	ND		250	244		ug/L		98	70 - 138
Trichloroethene	150		250	387		ug/L		93	70 - 130
Trichlorofluoromethane	26		250	241		ug/L		86	60 - 150

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*100*		*70 - 130*
4-Bromofluorobenzene (Surr)	*102*		*80 - 120*
Dibromofluoromethane (Surr)	*103*		*76 - 132*
Toluene-d8 (Surr)	*103*		*80 - 128*

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

Lab Sample ID: 440-259517-B-3 MSD
Matrix: Water
Analysis Batch: 591946

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		250	240		ug/L		96	60 - 149	2	20
1,1,1-Trichloroethane	50		250	287		ug/L		95	70 - 130	3	20
1,1,2,2-Tetrachloroethane	ND		250	307		ug/L		123	63 - 130	3	30
1,1,2-Trichloro-1,2,2-trifluoroethane	1300		250	1430	4	ug/L		44	60 - 140	4	20
1,1,2-Trichloroethane	ND		250	258		ug/L		103	70 - 130	2	25
1,1-Dichloroethane	ND		250	233		ug/L		93	65 - 130	3	20
1,1-Dichloroethene	51		250	259		ug/L		83	70 - 130	6	20
1,1-Dichloropropene	ND		250	225		ug/L		90	64 - 130	3	20
1,2,3-Trichlorobenzene	ND		250	234		ug/L		94	60 - 140	15	20
1,2,3-Trichloropropane	ND		250	253		ug/L		101	60 - 130	2	30
1,2,4-Trichlorobenzene	ND		250	237		ug/L		95	60 - 140	11	20
1,2,4-Trimethylbenzene	ND		250	244		ug/L		98	70 - 130	1	25
1,2-Dibromo-3-Chloropropane	ND		250	257		ug/L		103	48 - 140	10	30
1,2-Dibromoethane (EDB)	ND		250	253		ug/L		101	70 - 131	0	25
1,2-Dichlorobenzene	ND		250	236		ug/L		94	70 - 130	1	20
1,2-Dichloroethane	ND		250	240		ug/L		96	56 - 146	2	20
1,2-Dichloropropane	ND		250	243		ug/L		97	69 - 130	2	20
1,3,5-Trimethylbenzene	ND		250	245		ug/L		98	70 - 130	0	20
1,3-Dichlorobenzene	ND		250	254		ug/L		102	70 - 130	3	20
1,3-Dichloropropane	ND		250	233		ug/L		93	70 - 130	2	25
1,4-Dichlorobenzene	ND		250	249		ug/L		99	70 - 130	0	20
2,2-Dichloropropane	ND		250	246		ug/L		99	69 - 138	5	25
2-Chlorotoluene	ND		250	235		ug/L		94	70 - 130	3	20
4-Chlorotoluene	ND		250	227		ug/L		91	70 - 130	2	20
Acetone	ND		1250	1200		ug/L		96	10 - 150	15	35
Benzene	ND		250	230		ug/L		92	66 - 130	4	20
Bromobenzene	ND		250	235		ug/L		94	70 - 130	3	20
Bromochloromethane	ND		250	245		ug/L		98	70 - 130	1	25
Bromodichloromethane	ND		250	253		ug/L		101	70 - 138	0	20
Bromoform	ND		250	248		ug/L		99	59 - 150	1	25
Bromomethane	ND		250	192		ug/L		77	62 - 131	7	25
Carbon tetrachloride	ND		250	235		ug/L		94	60 - 150	2	25
Chlorobenzene	ND		250	236		ug/L		94	70 - 130	4	20
Chloroethane	ND		250	208		ug/L		83	68 - 130	2	25
Chloroform	38		250	280		ug/L		97	70 - 130	3	20
Chloromethane	ND		250	181		ug/L		72	39 - 144	3	25
cis-1,2-Dichloroethene	ND		250	225		ug/L		90	70 - 130	1	20
cis-1,3-Dichloropropene	ND		250	242		ug/L		97	70 - 133	3	20
Dibromochloromethane	ND		250	248		ug/L		99	70 - 148	1	25
Dibromomethane	ND		250	237		ug/L		95	70 - 130	3	25
Dichlorodifluoromethane	ND		250	153		ug/L		61	25 - 142	6	30
Ethylbenzene	ND		250	230		ug/L		92	70 - 130	2	20
Hexachlorobutadiene	ND		250	238		ug/L		95	10 - 150	10	20
Isopropyl alcohol	ND		6250	6440		ug/L		103	46 - 142	24	40
Isopropylbenzene	ND		250	228		ug/L		91	70 - 132	3	20
m,p-Xylene	ND		250	237		ug/L		95	70 - 133	5	25
Methylene Chloride	ND		250	209		ug/L		84	52 - 130	18	20
Methyl-t-Butyl Ether (MTBE)	ND		250	244		ug/L		98	70 - 130	0	25

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

Lab Sample ID: 440-259517-B-3 MSD
Matrix: Water
Analysis Batch: 591946

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		250	238		ug/L		95	60 - 140	13	30
n-Butylbenzene	ND		250	255		ug/L		102	61 - 149	1	20
N-Propylbenzene	ND		250	232		ug/L		93	66 - 135	0	20
o-Xylene	ND		250	238		ug/L		95	70 - 133	1	20
p-Isopropyltoluene	ND		250	244		ug/L		98	70 - 130	0	20
sec-Butylbenzene	ND		250	269		ug/L		108	67 - 134	1	20
Styrene	ND		250	238		ug/L		95	29 - 150	1	35
tert-Butylbenzene	ND		250	254		ug/L		101	70 - 130	1	20
Tetrachloroethene	1500		250	1720	4	ug/L		82	70 - 137	5	20
Toluene	ND		250	236		ug/L		95	70 - 130	3	20
trans-1,2-Dichloroethene	ND		250	221		ug/L		88	70 - 130	3	20
trans-1,3-Dichloropropene	ND		250	247		ug/L		99	70 - 138	1	25
Trichloroethene	150		250	370		ug/L		87	70 - 130	4	20
Trichlorofluoromethane	26		250	235		ug/L		83	60 - 150	3	25

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*100*		*70 - 130*
4-Bromofluorobenzene (Surr)	*103*		*80 - 120*
Dibromofluoromethane (Surr)	*103*		*76 - 132*
Toluene-d8 (Surr)	*104*		*80 - 128*

Lab Sample ID: MB 440-591948/5
Matrix: Water
Analysis Batch: 591948

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Vinyl chloride	ND		0.50	0.25	ug/L			01/23/20 08:25	1

Tentatively Identified Compound	*MB Est. Result*	*MB Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Tentatively Identified Compound	*None*		*ug/L*					*01/23/20 08:25*	*1*

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*94*		*70 - 130*		*01/23/20 08:25*	*1*
4-Bromofluorobenzene (Surr)	*104*		*80 - 120*		*01/23/20 08:25*	*1*
Dibromofluoromethane (Surr)	*100*		*76 - 132*		*01/23/20 08:25*	*1*
Toluene-d8 (Surr)	*108*		*80 - 128*		*01/23/20 08:25*	*1*

Lab Sample ID: LCS 440-591948/1002
Matrix: Water
Analysis Batch: 591948

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

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Vinyl chloride			25.0	21.2		ug/L		85	59 - 133		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*97*		*70 - 130*
4-Bromofluorobenzene (Surr)	*99*		*80 - 120*

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

Lab Sample ID: LCS 440-591948/1002
Matrix: Water
Analysis Batch: 591948

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

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
Dibromofluoromethane (Surr)	*97*		*76 - 132*
Toluene-d8 (Surr)	*103*		*80 - 128*

Lab Sample ID: 440-259519-B-13 MS
Matrix: Water
Analysis Batch: 591948

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		
Vinyl chloride	ND		10.0	7.47		ug/L		75	50 - 137		

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*96*		*70 - 130*
4-Bromofluorobenzene (Surr)	*96*		*80 - 120*
Dibromofluoromethane (Surr)	*101*		*76 - 132*
Toluene-d8 (Surr)	*102*		*80 - 128*

Lab Sample ID: 440-259519-B-13 MSD
Matrix: Water
Analysis Batch: 591948

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
Vinyl chloride	ND		10.0	8.36		ug/L		84	50 - 137	11	30

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*98*		*70 - 130*
4-Bromofluorobenzene (Surr)	*98*		*80 - 120*
Dibromofluoromethane (Surr)	*100*		*76 - 132*
Toluene-d8 (Surr)	*102*		*80 - 128*

Lab Sample ID: MB 440-591951/4
Matrix: Water
Analysis Batch: 591951

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Isopropyl alcohol	ND		250	180	ug/L			01/23/20 08:09	1

Tentatively Identified Compound	*MB Est. Result*	*MB Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Tentatively Identified Compound	*None*		*ug/L*					*01/23/20 08:09*	*1*

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*63*	*X*	*70 - 130*		*01/23/20 08:09*	*1*
4-Bromofluorobenzene (Surr)	*104*		*80 - 120*		*01/23/20 08:09*	*1*
Dibromofluoromethane (Surr)	*90*		*76 - 132*		*01/23/20 08:09*	*1*
Toluene-d8 (Surr)	*99*		*80 - 128*		*01/23/20 08:09*	*1*

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

Lab Sample ID: LCS 440-591951/1003 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 591951

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Isopropyl alcohol			250	187	J	ug/L		75	49 - 142		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*62*	*X*	*70 - 130*
4-Bromofluorobenzene (Surr)	*101*		*80 - 120*
Dibromofluoromethane (Surr)	*90*		*76 - 132*
Toluene-d8 (Surr)	*102*		*80 - 128*

Lab Sample ID: 440-259516-5 MS — **Client Sample ID: OC_GW_DPE-9_20200120**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 591951

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Isopropyl alcohol	ND	F1	250	ND	F1	ug/L		0	46 - 142		

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*64*	*X*	*70 - 130*
4-Bromofluorobenzene (Surr)	*98*		*80 - 120*
Dibromofluoromethane (Surr)	*90*		*76 - 132*
Toluene-d8 (Surr)	*99*		*80 - 128*

Lab Sample ID: 440-259516-5 MSD — **Client Sample ID: OC_GW_DPE-9_20200120**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 591951

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Isopropyl alcohol	ND	F1	250	217	J	ug/L		87	46 - 142	NC	40

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*63*	*X*	*70 - 130*
4-Bromofluorobenzene (Surr)	*99*		*80 - 120*
Dibromofluoromethane (Surr)	*94*		*76 - 132*
Toluene-d8 (Surr)	*98*		*80 - 128*

Lab Sample ID: MB 440-591960/4 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 591960

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			01/23/20 08:08	1
1,1,1-Trichloroethane	ND		1.0	0.25	ug/L			01/23/20 08:08	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.25	ug/L			01/23/20 08:08	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		5.0	0.50	ug/L			01/23/20 08:08	1
1,1,2-Trichloroethane	ND		1.0	0.25	ug/L			01/23/20 08:08	1
1,1-Dichloroethane	ND		1.0	0.25	ug/L			01/23/20 08:08	1
1,1-Dichloroethene	ND		1.0	0.25	ug/L			01/23/20 08:08	1
1,1-Dichloropropene	ND		1.0	0.25	ug/L			01/23/20 08:08	1
1,2,3-Trichlorobenzene	ND		1.0	0.40	ug/L			01/23/20 08:08	1

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

Lab Sample ID: MB 440-591960/4
Matrix: Water
Analysis Batch: 591960

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,3-Trichloropropane	ND		1.0	0.40	ug/L			01/23/20 08:08	1
1,2,4-Trichlorobenzene	ND		1.0	0.40	ug/L			01/23/20 08:08	1
1,2,4-Trimethylbenzene	ND		1.0	0.25	ug/L			01/23/20 08:08	1
1,2-Dibromo-3-Chloropropane	ND		5.0	0.50	ug/L			01/23/20 08:08	1
1,2-Dibromoethane (EDB)	ND		1.0	0.25	ug/L			01/23/20 08:08	1
1,2-Dichlorobenzene	ND		1.0	0.25	ug/L			01/23/20 08:08	1
1,2-Dichloroethane	ND		1.0	0.25	ug/L			01/23/20 08:08	1
1,2-Dichloropropane	ND		1.0	0.25	ug/L			01/23/20 08:08	1
1,3,5-Trimethylbenzene	ND		1.0	0.25	ug/L			01/23/20 08:08	1
1,3-Dichlorobenzene	ND		1.0	0.25	ug/L			01/23/20 08:08	1
1,3-Dichloropropane	ND		1.0	0.25	ug/L			01/23/20 08:08	1
1,4-Dichlorobenzene	ND		1.0	0.25	ug/L			01/23/20 08:08	1
2,2-Dichloropropane	ND		1.0	0.40	ug/L			01/23/20 08:08	1
2-Chlorotoluene	ND		1.0	0.25	ug/L			01/23/20 08:08	1
4-Chlorotoluene	ND		1.0	0.25	ug/L			01/23/20 08:08	1
Acetone	ND		10	10	ug/L			01/23/20 08:08	1
Benzene	ND		0.50	0.25	ug/L			01/23/20 08:08	1
Bromobenzene	ND		1.0	0.25	ug/L			01/23/20 08:08	1
Bromochloromethane	ND		1.0	0.25	ug/L			01/23/20 08:08	1
Bromodichloromethane	ND		1.0	0.25	ug/L			01/23/20 08:08	1
Bromoform	ND		1.0	0.40	ug/L			01/23/20 08:08	1
Bromomethane	ND		1.0	0.25	ug/L			01/23/20 08:08	1
Carbon tetrachloride	ND		0.50	0.25	ug/L			01/23/20 08:08	1
Chlorobenzene	ND		1.0	0.25	ug/L			01/23/20 08:08	1
Chloroethane	ND		1.0	0.40	ug/L			01/23/20 08:08	1
Chloroform	ND		1.0	0.25	ug/L			01/23/20 08:08	1
Chloromethane	ND		1.0	0.25	ug/L			01/23/20 08:08	1
cis-1,2-Dichloroethene	ND		1.0	0.25	ug/L			01/23/20 08:08	1
cis-1,3-Dichloropropene	ND		0.50	0.25	ug/L			01/23/20 08:08	1
Dibromochloromethane	ND		1.0	0.25	ug/L			01/23/20 08:08	1
Dibromomethane	ND		1.0	0.25	ug/L			01/23/20 08:08	1
Dichlorodifluoromethane	ND		1.0	0.40	ug/L			01/23/20 08:08	1
Ethylbenzene	ND		1.0	0.25	ug/L			01/23/20 08:08	1
Hexachlorobutadiene	ND		1.0	0.25	ug/L			01/23/20 08:08	1
Isopropyl alcohol	ND		250	180	ug/L			01/23/20 08:08	1
Isopropylbenzene	ND		1.0	0.25	ug/L			01/23/20 08:08	1
m,p-Xylene	ND		1.0	0.50	ug/L			01/23/20 08:08	1
Methylene Chloride	ND		5.0	0.88	ug/L			01/23/20 08:08	1
Methyl-t-Butyl Ether (MTBE)	ND		1.0	0.25	ug/L			01/23/20 08:08	1
Naphthalene	ND		1.0	0.40	ug/L			01/23/20 08:08	1
n-Butylbenzene	ND		1.0	0.40	ug/L			01/23/20 08:08	1
N-Propylbenzene	ND		1.0	0.25	ug/L			01/23/20 08:08	1
o-Xylene	ND		1.0	0.25	ug/L			01/23/20 08:08	1
p-Isopropyltoluene	ND		1.0	0.25	ug/L			01/23/20 08:08	1
sec-Butylbenzene	ND		1.0	0.25	ug/L			01/23/20 08:08	1
Styrene	ND		1.0	0.25	ug/L			01/23/20 08:08	1
tert-Butylbenzene	ND		1.0	0.25	ug/L			01/23/20 08:08	1
Tetrachloroethene	ND		1.0	0.25	ug/L			01/23/20 08:08	1
Toluene	ND		1.0	0.25	ug/L			01/23/20 08:08	1

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

Lab Sample ID: MB 440-591960/4
Matrix: Water
Analysis Batch: 591960

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
trans-1,2-Dichloroethene	ND		1.0	0.25	ug/L			01/23/20 08:08	1
trans-1,3-Dichloropropene	ND		0.50	0.25	ug/L			01/23/20 08:08	1
Trichloroethene	ND		1.0	0.25	ug/L			01/23/20 08:08	1
Trichlorofluoromethane	ND		1.0	0.25	ug/L			01/23/20 08:08	1
Vinyl chloride	ND		0.50	0.25	ug/L			01/23/20 08:08	1

Tentatively Identified Compound	*MB Est. Result*	*MB Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Tentatively Identified Compound	*None*		*ug/L*					*01/23/20 08:08*	*1*

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*98*		*70 - 130*		*01/23/20 08:08*	*1*
4-Bromofluorobenzene (Surr)	*104*		*80 - 120*		*01/23/20 08:08*	*1*
Dibromofluoromethane (Surr)	*95*		*76 - 132*		*01/23/20 08:08*	*1*
Toluene-d8 (Surr)	*112*		*80 - 128*		*01/23/20 08:08*	*1*

Lab Sample ID: LCS 440-591960/1002
Matrix: Water
Analysis Batch: 591960

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	26.1		ug/L		104	60 - 141
1,1,1-Trichloroethane	25.0	21.9		ug/L		87	70 - 130
1,1,2,2-Tetrachloroethane	25.0	29.0		ug/L		116	63 - 130
1,1,2-Trichloro-1,2,2-trifluoroetha ne	25.0	22.9		ug/L		92	60 - 140
1,1,2-Trichloroethane	25.0	28.9		ug/L		116	70 - 130
1,1-Dichloroethane	25.0	27.1		ug/L		108	64 - 130
1,1-Dichloroethene	25.0	23.3		ug/L		93	70 - 130
1,1-Dichloropropene	25.0	24.8		ug/L		99	70 - 130
1,2,3-Trichlorobenzene	25.0	24.2		ug/L		97	60 - 140
1,2,3-Trichloropropane	25.0	25.7		ug/L		103	63 - 130
1,2,4-Trichlorobenzene	25.0	25.0		ug/L		100	60 - 140
1,2,4-Trimethylbenzene	25.0	26.2		ug/L		105	70 - 135
1,2-Dibromo-3-Chloropropane	25.0	24.8		ug/L		99	52 - 140
1,2-Dibromoethane (EDB)	25.0	26.9		ug/L		108	70 - 130
1,2-Dichlorobenzene	25.0	26.9		ug/L		108	70 - 130
1,2-Dichloroethane	25.0	24.4		ug/L		98	57 - 138
1,2-Dichloropropane	25.0	29.6		ug/L		119	67 - 130
1,3,5-Trimethylbenzene	25.0	25.9		ug/L		104	70 - 136
1,3-Dichlorobenzene	25.0	26.9		ug/L		108	70 - 130
1,3-Dichloropropane	25.0	30.1		ug/L		120	70 - 130
1,4-Dichlorobenzene	25.0	26.9		ug/L		108	70 - 130
2,2-Dichloropropane	25.0	20.6		ug/L		82	68 - 141
2-Chlorotoluene	25.0	26.3		ug/L		105	70 - 130
4-Chlorotoluene	25.0	26.9		ug/L		108	70 - 130
Acetone	125	136		ug/L		109	10 - 150
Benzene	25.0	27.3		ug/L		109	68 - 130
Bromobenzene	25.0	26.7		ug/L		107	70 - 130

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

Lab Sample ID: LCS 440-591960/1002
Matrix: Water
Analysis Batch: 591960

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Bromochloromethane	25.0	24.0		ug/L		96	70 - 130
Bromodichloromethane	25.0	27.4		ug/L		110	70 - 132
Bromoform	25.0	33.1		ug/L		132	60 - 148
Bromomethane	25.0	30.5		ug/L		122	64 - 139
Carbon tetrachloride	25.0	21.2		ug/L		85	60 - 150
Chlorobenzene	25.0	26.7		ug/L		107	70 - 130
Chloroethane	25.0	32.7		ug/L		131	64 - 135
Chloroform	25.0	25.1		ug/L		100	70 - 130
Chloromethane	25.0	32.5		ug/L		130	47 - 140
cis-1,2-Dichloroethene	25.0	25.8		ug/L		103	70 - 133
cis-1,3-Dichloropropene	25.0	28.1		ug/L		113	70 - 133
Dibromochloromethane	25.0	29.1		ug/L		117	69 - 145
Dibromomethane	25.0	24.9		ug/L		100	70 - 130
Dichlorodifluoromethane	25.0	21.7		ug/L		87	29 - 150
Ethylbenzene	25.0	26.9		ug/L		108	70 - 130
Hexachlorobutadiene	25.0	25.2		ug/L		101	10 - 150
Isopropylbenzene	25.0	26.0		ug/L		104	70 - 136
m,p-Xylene	25.0	26.0		ug/L		104	70 - 130
Methylene Chloride	25.0	25.2		ug/L		101	52 - 130
Methyl-t-Butyl Ether (MTBE)	25.0	21.4		ug/L		85	63 - 131
Naphthalene	25.0	20.5		ug/L		82	60 - 140
n-Butylbenzene	25.0	27.1		ug/L		108	65 - 150
N-Propylbenzene	25.0	26.5		ug/L		106	67 - 139
o-Xylene	25.0	26.5		ug/L		106	70 - 130
p-Isopropyltoluene	25.0	25.7		ug/L		103	70 - 132
sec-Butylbenzene	25.0	26.1		ug/L		104	70 - 138
Styrene	25.0	26.6		ug/L		106	70 - 134
tert-Butylbenzene	25.0	24.7		ug/L		99	70 - 130
Tetrachloroethene	25.0	25.1		ug/L		100	70 - 130
Toluene	25.0	27.2		ug/L		109	70 - 130
trans-1,2-Dichloroethene	25.0	24.5		ug/L		98	70 - 130
trans-1,3-Dichloropropene	25.0	26.7		ug/L		107	70 - 132
Trichloroethene	25.0	23.6		ug/L		94	70 - 130
Trichlorofluoromethane	25.0	21.6		ug/L		86	60 - 150
Vinyl chloride	25.0	32.1		ug/L		128	59 - 133

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*96*		*70 - 130*
4-Bromofluorobenzene (Surr)	*101*		*80 - 120*
Dibromofluoromethane (Surr)	*95*		*76 - 132*
Toluene-d8 (Surr)	*106*		*80 - 128*

Lab Sample ID: 440-259516-6 MS
Matrix: Water
Analysis Batch: 591960

Client Sample ID: OC_GW_DPE-7D_20200120
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		10.0	9.78		ug/L		98	60 - 149

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

Lab Sample ID: 440-259516-6 MS
Matrix: Water
Analysis Batch: 591960

Client Sample ID: OC_GW_DPE-7D_20200120
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1,1-Trichloroethane	ND		10.0	8.94		ug/L		89	70 - 130
1,1,2,2-Tetrachloroethane	ND		10.0	12.9		ug/L		129	63 - 130
1,1,2-Trichloro-1,2,2-trifluoroethane	14		10.0	23.4		ug/L		98	60 - 140
1,1,2-Trichloroethane	ND		10.0	11.5		ug/L		115	70 - 130
1,1-Dichloroethane	ND		10.0	10.9		ug/L		109	65 - 130
1,1-Dichloroethene	12		10.0	22.8		ug/L		105	70 - 130
1,1-Dichloropropene	ND		10.0	10.7		ug/L		107	64 - 130
1,2,3-Trichlorobenzene	ND		10.0	10.7		ug/L		107	60 - 140
1,2,3-Trichloropropane	ND		10.0	11.2		ug/L		112	60 - 130
1,2,4-Trichlorobenzene	ND		10.0	10.6		ug/L		106	60 - 140
1,2,4-Trimethylbenzene	ND		10.0	10.6		ug/L		106	70 - 130
1,2-Dibromo-3-Chloropropane	ND		10.0	11.1		ug/L		111	48 - 140
1,2-Dibromoethane (EDB)	ND		10.0	10.7		ug/L		107	70 - 131
1,2-Dichlorobenzene	ND		10.0	11.1		ug/L		111	70 - 130
1,2-Dichloroethane	ND		10.0	10.1		ug/L		101	56 - 146
1,2-Dichloropropane	ND		10.0	12.2		ug/L		122	69 - 130
1,3,5-Trimethylbenzene	ND		10.0	10.2		ug/L		102	70 - 130
1,3-Dichlorobenzene	ND		10.0	11.0		ug/L		110	70 - 130
1,3-Dichloropropane	ND		10.0	11.8		ug/L		118	70 - 130
1,4-Dichlorobenzene	ND		10.0	11.0		ug/L		110	70 - 130
2,2-Dichloropropane	ND		10.0	8.47		ug/L		85	69 - 138
2-Chlorotoluene	ND		10.0	10.8		ug/L		108	70 - 130
4-Chlorotoluene	ND		10.0	10.9		ug/L		109	70 - 130
Acetone	ND		50.0	69.4		ug/L		139	10 - 150
Benzene	ND		10.0	11.6		ug/L		116	66 - 130
Bromobenzene	ND		10.0	10.7		ug/L		107	70 - 130
Bromochloromethane	ND		10.0	9.82		ug/L		98	70 - 130
Bromodichloromethane	ND		10.0	11.1		ug/L		111	70 - 138
Bromoform	ND		10.0	11.9		ug/L		119	59 - 150
Bromomethane	ND		10.0	12.1		ug/L		121	62 - 131
Carbon tetrachloride	ND		10.0	8.50		ug/L		85	60 - 150
Chlorobenzene	ND		10.0	10.7		ug/L		107	70 - 130
Chloroethane	ND	F1	10.0	13.7	F1	ug/L		137	68 - 130
Chloroform	ND		10.0	10.6		ug/L		106	70 - 130
Chloromethane	ND		10.0	13.0		ug/L		130	39 - 144
cis-1,2-Dichloroethene	ND		10.0	10.9		ug/L		109	70 - 130
cis-1,3-Dichloropropene	ND		10.0	10.5		ug/L		105	70 - 133
Dibromochloromethane	ND		10.0	10.8		ug/L		108	70 - 148
Dibromomethane	ND		10.0	10.2		ug/L		102	70 - 130
Dichlorodifluoromethane	ND		10.0	7.96		ug/L		80	25 - 142
Ethylbenzene	ND		10.0	10.6		ug/L		106	70 - 130
Hexachlorobutadiene	ND		10.0	11.5		ug/L		115	10 - 150
Isopropylbenzene	ND		10.0	9.96		ug/L		100	70 - 132
m,p-Xylene	ND		10.0	9.88		ug/L		99	70 - 133
Methylene Chloride	ND		10.0	9.35		ug/L		94	52 - 130
Methyl-t-Butyl Ether (MTBE)	ND		10.0	8.17		ug/L		82	70 - 130
Naphthalene	ND		10.0	8.83		ug/L		88	60 - 140
n-Butylbenzene	ND		10.0	11.2		ug/L		112	61 - 149

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

Lab Sample ID: 440-259516-6 MS — **Client Sample ID: OC_GW_DPE-7D_20200120**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 591960

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
N-Propylbenzene	ND		10.0	10.9		ug/L		109	66 - 135
o-Xylene	ND		10.0	10.2		ug/L		102	70 - 133
p-Isopropyltoluene	ND		10.0	10.5		ug/L		105	70 - 130
sec-Butylbenzene	ND		10.0	10.8		ug/L		108	67 - 134
Styrene	ND		10.0	9.85		ug/L		98	29 - 150
tert-Butylbenzene	ND		10.0	9.73		ug/L		97	70 - 130
Tetrachloroethene	54		10.0	65.2	4	ug/L		111	70 - 137
Toluene	ND		10.0	11.0		ug/L		110	70 - 130
trans-1,2-Dichloroethene	ND		10.0	9.83		ug/L		98	70 - 130
trans-1,3-Dichloropropene	ND		10.0	9.71		ug/L		97	70 - 138
Trichloroethene	22		10.0	34.2		ug/L		118	70 - 130
Trichlorofluoromethane	4.8		10.0	13.9		ug/L		91	60 - 150
Vinyl chloride	ND		10.0	13.1		ug/L		131	50 - 137

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*98*		*70 - 130*
4-Bromofluorobenzene (Surr)	*101*		*80 - 120*
Dibromofluoromethane (Surr)	*93*		*76 - 132*
Toluene-d8 (Surr)	*102*		*80 - 128*

Lab Sample ID: 440-259516-6 MSD — **Client Sample ID: OC_GW_DPE-7D_20200120**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 591960

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		10.0	9.84		ug/L		98	60 - 149	1	20
1,1,1-Trichloroethane	ND		10.0	9.11		ug/L		91	70 - 130	2	20
1,1,2,2-Tetrachloroethane	ND		10.0	12.4		ug/L		124	63 - 130	4	30
1,1,2-Trichloro-1,2,2-trifluoroethane	14		10.0	23.9		ug/L		104	60 - 140	2	20
1,1,2-Trichloroethane	ND		10.0	11.4		ug/L		114	70 - 130	1	25
1,1-Dichloroethane	ND		10.0	11.0		ug/L		110	65 - 130	0	20
1,1-Dichloroethene	12		10.0	22.7		ug/L		105	70 - 130	0	20
1,1-Dichloropropene	ND		10.0	10.7		ug/L		107	64 - 130	0	20
1,2,3-Trichlorobenzene	ND		10.0	10.7		ug/L		107	60 - 140	0	20
1,2,3-Trichloropropane	ND		10.0	11.0		ug/L		110	60 - 130	2	30
1,2,4-Trichlorobenzene	ND		10.0	10.7		ug/L		107	60 - 140	1	20
1,2,4-Trimethylbenzene	ND		10.0	10.8		ug/L		108	70 - 130	2	25
1,2-Dibromo-3-Chloropropane	ND		10.0	11.0		ug/L		110	48 - 140	1	30
1,2-Dibromoethane (EDB)	ND		10.0	10.6		ug/L		106	70 - 131	1	25
1,2-Dichlorobenzene	ND		10.0	11.2		ug/L		112	70 - 130	1	20
1,2-Dichloroethane	ND		10.0	10.1		ug/L		101	56 - 146	0	20
1,2-Dichloropropane	ND		10.0	12.1		ug/L		121	69 - 130	0	20
1,3,5-Trimethylbenzene	ND		10.0	10.4		ug/L		104	70 - 130	1	20
1,3-Dichlorobenzene	ND		10.0	10.8		ug/L		108	70 - 130	2	20
1,3-Dichloropropane	ND		10.0	11.8		ug/L		118	70 - 130	0	25
1,4-Dichlorobenzene	ND		10.0	11.0		ug/L		110	70 - 130	0	20
2,2-Dichloropropane	ND		10.0	8.63		ug/L		86	69 - 138	2	25
2-Chlorotoluene	ND		10.0	10.9		ug/L		109	70 - 130	1	20

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

Lab Sample ID: 440-259516-6 MSD
Matrix: Water
Analysis Batch: 591960

Client Sample ID: OC_GW_DPE-7D_20200120
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
4-Chlorotoluene	ND		10.0	11.1		ug/L		111	70 - 130	2	20
Acetone	ND		50.0	66.4		ug/L		133	10 - 150	4	35
Benzene	ND		10.0	11.6		ug/L		116	66 - 130	0	20
Bromobenzene	ND		10.0	10.7		ug/L		107	70 - 130	0	20
Bromochloromethane	ND		10.0	9.91		ug/L		99	70 - 130	1	25
Bromodichloromethane	ND		10.0	11.4		ug/L		114	70 - 138	3	20
Bromoform	ND		10.0	12.2		ug/L		122	59 - 150	2	25
Bromomethane	ND		10.0	11.9		ug/L		119	62 - 131	1	25
Carbon tetrachloride	ND		10.0	8.68		ug/L		87	60 - 150	2	25
Chlorobenzene	ND		10.0	10.6		ug/L		106	70 - 130	1	20
Chloroethane	ND	F1	10.0	13.1	F1	ug/L		131	68 - 130	4	25
Chloroform	ND		10.0	10.5		ug/L		105	70 - 130	1	20
Chloromethane	ND		10.0	13.1		ug/L		131	39 - 144	1	25
cis-1,2-Dichloroethene	ND		10.0	10.6		ug/L		106	70 - 130	2	20
cis-1,3-Dichloropropene	ND		10.0	10.5		ug/L		105	70 - 133	1	20
Dibromochloromethane	ND		10.0	11.0		ug/L		110	70 - 148	2	25
Dibromomethane	ND		10.0	10.2		ug/L		102	70 - 130	0	25
Dichlorodifluoromethane	ND		10.0	8.16		ug/L		82	25 - 142	3	30
Ethylbenzene	ND		10.0	10.8		ug/L		108	70 - 130	2	20
Hexachlorobutadiene	ND		10.0	11.3		ug/L		113	10 - 150	2	20
Isopropylbenzene	ND		10.0	10.2		ug/L		102	70 - 132	2	20
m,p-Xylene	ND		10.0	10.1		ug/L		101	70 - 133	2	25
Methylene Chloride	ND		10.0	10.6		ug/L		106	52 - 130	12	20
Methyl-t-Butyl Ether (MTBE)	ND		10.0	8.65		ug/L		86	70 - 130	6	25
Naphthalene	ND		10.0	8.97		ug/L		90	60 - 140	2	30
n-Butylbenzene	ND		10.0	11.3		ug/L		113	61 - 149	1	20
N-Propylbenzene	ND		10.0	11.0		ug/L		110	66 - 135	1	20
o-Xylene	ND		10.0	10.3		ug/L		103	70 - 133	0	20
p-Isopropyltoluene	ND		10.0	10.6		ug/L		106	70 - 130	1	20
sec-Butylbenzene	ND		10.0	10.8		ug/L		108	67 - 134	0	20
Styrene	ND		10.0	9.98		ug/L		100	29 - 150	1	35
tert-Butylbenzene	ND		10.0	9.96		ug/L		100	70 - 130	2	20
Tetrachloroethene	54		10.0	66.4	4	ug/L		123	70 - 137	2	20
Toluene	ND		10.0	11.0		ug/L		110	70 - 130	0	20
trans-1,2-Dichloroethene	ND		10.0	9.77		ug/L		98	70 - 130	1	20
trans-1,3-Dichloropropene	ND		10.0	10.0		ug/L		100	70 - 138	3	25
Trichloroethene	22		10.0	34.8		ug/L		124	70 - 130	2	20
Trichlorofluoromethane	4.8		10.0	13.9		ug/L		91	60 - 150	0	25
Vinyl chloride	ND		10.0	12.8		ug/L		128	50 - 137	3	30

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*99*		*70 - 130*
4-Bromofluorobenzene (Surr)	*101*		*80 - 120*
Dibromofluoromethane (Surr)	*94*		*76 - 132*
Toluene-d8 (Surr)	*102*		*80 - 128*

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

Lab Sample ID: MB 440-592086/5 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 592086

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Tetrachloroethene	ND		1.0	0.25	ug/L			01/23/20 18:30	1

Tentatively Identified Compound	*MB Est. Result*	*MB Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Tentatively Identified Compound	*None*		*ug/L*					*01/23/20 18:30*	*1*

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*98*		*70 - 130*		*01/23/20 18:30*	*1*
4-Bromofluorobenzene (Surr)	*105*		*80 - 120*		*01/23/20 18:30*	*1*
Dibromofluoromethane (Surr)	*101*		*76 - 132*		*01/23/20 18:30*	*1*
Toluene-d8 (Surr)	*110*		*80 - 128*		*01/23/20 18:30*	*1*

Lab Sample ID: LCS 440-592086/1002 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 592086

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Tetrachloroethene	25.0	26.9		ug/L		108	70 - 130

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*95*		*70 - 130*
4-Bromofluorobenzene (Surr)	*97*		*80 - 120*
Dibromofluoromethane (Surr)	*98*		*76 - 132*
Toluene-d8 (Surr)	*101*		*80 - 128*

Lab Sample ID: 440-259585-F-4 MS — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 592086

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Tetrachloroethene	ND		10.0	11.2		ug/L		112	70 - 137

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*93*		*70 - 130*
4-Bromofluorobenzene (Surr)	*99*		*80 - 120*
Dibromofluoromethane (Surr)	*99*		*76 - 132*
Toluene-d8 (Surr)	*105*		*80 - 128*

Lab Sample ID: 440-259585-F-4 MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 592086

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Tetrachloroethene	ND		10.0	11.5		ug/L		115	70 - 137	2	20

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*97*		*70 - 130*
4-Bromofluorobenzene (Surr)	*99*		*80 - 120*

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

Lab Sample ID: 440-259585-F-4 MSD
Matrix: Water
Analysis Batch: 592086

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

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
Dibromofluoromethane (Surr)	*100*		*76 - 132*
Toluene-d8 (Surr)	*102*		*80 - 128*

Lab Sample ID: MB 440-592157/5
Matrix: Water
Analysis Batch: 592157

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		5.0	0.50	ug/L			01/24/20 08:49	1
Tetrachloroethene	ND		1.0	0.25	ug/L			01/24/20 08:49	1

Tentatively Identified Compound	*MB Est. Result*	*MB Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Tentatively Identified Compound	*None*		*ug/L*					*01/24/20 08:49*	*1*

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*94*		*70 - 130*		*01/24/20 08:49*	*1*
4-Bromofluorobenzene (Surr)	*107*		*80 - 120*		*01/24/20 08:49*	*1*
Dibromofluoromethane (Surr)	*100*		*76 - 132*		*01/24/20 08:49*	*1*
Toluene-d8 (Surr)	*110*		*80 - 128*		*01/24/20 08:49*	*1*

Lab Sample ID: LCS 440-592157/1002
Matrix: Water
Analysis Batch: 592157

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-Trichloro-1,2,2-trifluoroethane	25.0	23.1		ug/L		92	60 - 140
Tetrachloroethene	25.0	25.6		ug/L		102	70 - 130

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*97*		*70 - 130*
4-Bromofluorobenzene (Surr)	*95*		*80 - 120*
Dibromofluoromethane (Surr)	*100*		*76 - 132*
Toluene-d8 (Surr)	*103*		*80 - 128*

Lab Sample ID: 440-259585-D-2 MS
Matrix: Water
Analysis Batch: 592157

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
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		1000	908		ug/L		91	60 - 140
Tetrachloroethene	ND		1000	1050		ug/L		105	70 - 137

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*94*		*70 - 130*
4-Bromofluorobenzene (Surr)	*98*		*80 - 120*

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

Lab Sample ID: 440-259585-D-2 MS
Matrix: Water
Analysis Batch: 592157

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

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
Dibromofluoromethane (Surr)	*99*		*76 - 132*
Toluene-d8 (Surr)	*104*		*80 - 128*

Lab Sample ID: 440-259585-D-2 MSD
Matrix: Water
Analysis Batch: 592157

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-Trichloro-1,2,2-trifluoroethane	ND		1000	894		ug/L		89	60 - 140	2	20
Tetrachloroethene	ND		1000	1030		ug/L		103	70 - 137	1	20

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*93*		*70 - 130*
4-Bromofluorobenzene (Surr)	*102*		*80 - 120*
Dibromofluoromethane (Surr)	*99*		*76 - 132*
Toluene-d8 (Surr)	*103*		*80 - 128*

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

Lab Sample ID: MB 440-591747/1-A
Matrix: Water
Analysis Batch: 591979

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 591747

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	0.130	J	0.50	0.10	ug/L		01/22/20 07:00	01/23/20 10:03	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,4-Dioxane-d8 (Surr)	*68*		*27 - 120*	*01/22/20 07:00*	*01/23/20 10:03*	*1*

Lab Sample ID: LCS 440-591747/2-A
Matrix: Water
Analysis Batch: 591979

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 591747

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,4-Dioxane	2.00	1.22		ug/L		61	36 - 120

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1,4-Dioxane-d8 (Surr)	*54*		*27 - 120*

Lab Sample ID: LCSD 440-591747/3-A
Matrix: Water
Analysis Batch: 591979

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 591747

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,4-Dioxane	2.00	1.31		ug/L		65	36 - 120	7	35

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

Lab Sample ID: LCSD 440-591747/3-A
Matrix: Water
Analysis Batch: 591979

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 591747

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
1,4-Dioxane-d8 (Surr)	*57*		*27 - 120*

QC Association Summary

Client: Jacob & Hefner Associates P.C.
Project/Site: Omega Chemical -2020 Semi-Annual GWM Feb

Job ID: 440-259516-1
SDG: Omega Chemical

GC/MS VOA

Analysis Batch: 591946

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-259516-1	OC_GW_DPE-3_20200120	Total/NA	Water	8260B	
440-259516-2	OC_GW_DPE-4_20200120	Total/NA	Water	8260B	
440-259516-3	OC_GW_DPE-5_20200120	Total/NA	Water	8260B	
440-259516-4	OC_GW_DPE-8_20200120	Total/NA	Water	8260B	
MB 440-591946/4	Method Blank	Total/NA	Water	8260B	
LCS 440-591946/1002	Lab Control Sample	Total/NA	Water	8260B	
LCS 440-591946/1003	Lab Control Sample	Total/NA	Water	8260B	
440-259517-B-3 MS	Matrix Spike	Total/NA	Water	8260B	
440-259517-B-3 MSD	Matrix Spike Duplicate	Total/NA	Water	8260B	

Analysis Batch: 591948

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-259516-1 - RA	OC_GW_DPE-3_20200120	Total/NA	Water	8260B	
440-259516-2 - RA	OC_GW_DPE-4_20200120	Total/NA	Water	8260B	
440-259516-3 - RA	OC_GW_DPE-5_20200120	Total/NA	Water	8260B	
440-259516-4 - RA	OC_GW_DPE-8_20200120	Total/NA	Water	8260B	
MB 440-591948/5	Method Blank	Total/NA	Water	8260B	
LCS 440-591948/1002	Lab Control Sample	Total/NA	Water	8260B	
440-259519-B-13 MS	Matrix Spike	Total/NA	Water	8260B	
440-259519-B-13 MSD	Matrix Spike Duplicate	Total/NA	Water	8260B	

Analysis Batch: 591951

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-259516-5 - RA	OC_GW_DPE-9_20200120	Total/NA	Water	8260B	
440-259516-6 - RA	OC_GW_DPE-7D_20200120	Total/NA	Water	8260B	
440-259516-7 - RA	OC_GW_DPE-10D_20200120	Total/NA	Water	8260B	
MB 440-591951/4	Method Blank	Total/NA	Water	8260B	
LCS 440-591951/1003	Lab Control Sample	Total/NA	Water	8260B	
440-259516-5 MS	OC_GW_DPE-9_20200120	Total/NA	Water	8260B	
440-259516-5 MSD	OC_GW_DPE-9_20200120	Total/NA	Water	8260B	

Analysis Batch: 591960

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-259516-5	OC_GW_DPE-9_20200120	Total/NA	Water	8260B	
440-259516-6	OC_GW_DPE-7D_20200120	Total/NA	Water	8260B	
440-259516-7	OC_GW_DPE-10D_20200120	Total/NA	Water	8260B	
MB 440-591960/4	Method Blank	Total/NA	Water	8260B	
LCS 440-591960/1002	Lab Control Sample	Total/NA	Water	8260B	
440-259516-6 MS	OC_GW_DPE-7D_20200120	Total/NA	Water	8260B	
440-259516-6 MSD	OC_GW_DPE-7D_20200120	Total/NA	Water	8260B	

Analysis Batch: 592086

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-259516-7 - DL	OC_GW_DPE-10D_20200120	Total/NA	Water	8260B	
MB 440-592086/5	Method Blank	Total/NA	Water	8260B	
LCS 440-592086/1002	Lab Control Sample	Total/NA	Water	8260B	
440-259585-F-4 MS	Matrix Spike	Total/NA	Water	8260B	
440-259585-F-4 MSD	Matrix Spike Duplicate	Total/NA	Water	8260B	

QC Association Summary

Client: Jacob & Hefner Associates P.C.
Project/Site: Omega Chemical -2020 Semi-Annual GWM Feb

Job ID: 440-259516-1
SDG: Omega Chemical

GC/MS VOA

Analysis Batch: 592157

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-259516-1 - DL	OC_GW_DPE-3_20200120	Total/NA	Water	8260B	
440-259516-2 - DL	OC_GW_DPE-4_20200120	Total/NA	Water	8260B	
MB 440-592157/5	Method Blank	Total/NA	Water	8260B	
LCS 440-592157/1002	Lab Control Sample	Total/NA	Water	8260B	
440-259585-D-2 MS	Matrix Spike	Total/NA	Water	8260B	
440-259585-D-2 MSD	Matrix Spike Duplicate	Total/NA	Water	8260B	

GC/MS Semi VOA

Prep Batch: 591747

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-259516-1	OC_GW_DPE-3_20200120	Total/NA	Water	3520C	
440-259516-2	OC_GW_DPE-4_20200120	Total/NA	Water	3520C	
440-259516-3	OC_GW_DPE-5_20200120	Total/NA	Water	3520C	
440-259516-4	OC_GW_DPE-8_20200120	Total/NA	Water	3520C	
440-259516-5	OC_GW_DPE-9_20200120	Total/NA	Water	3520C	
440-259516-6	OC_GW_DPE-7D_20200120	Total/NA	Water	3520C	
440-259516-7	OC_GW_DPE-10D_20200120	Total/NA	Water	3520C	
MB 440-591747/1-A	Method Blank	Total/NA	Water	3520C	
LCS 440-591747/2-A	Lab Control Sample	Total/NA	Water	3520C	
LCSD 440-591747/3-A	Lab Control Sample Dup	Total/NA	Water	3520C	

Analysis Batch: 591979

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-259516-1	OC_GW_DPE-3_20200120	Total/NA	Water	8270C SIM	591747
440-259516-2	OC_GW_DPE-4_20200120	Total/NA	Water	8270C SIM	591747
440-259516-3	OC_GW_DPE-5_20200120	Total/NA	Water	8270C SIM	591747
440-259516-4	OC_GW_DPE-8_20200120	Total/NA	Water	8270C SIM	591747
440-259516-5	OC_GW_DPE-9_20200120	Total/NA	Water	8270C SIM	591747
440-259516-6	OC_GW_DPE-7D_20200120	Total/NA	Water	8270C SIM	591747
440-259516-7	OC_GW_DPE-10D_20200120	Total/NA	Water	8270C SIM	591747
MB 440-591747/1-A	Method Blank	Total/NA	Water	8270C SIM	591747
LCS 440-591747/2-A	Lab Control Sample	Total/NA	Water	8270C SIM	591747
LCSD 440-591747/3-A	Lab Control Sample Dup	Total/NA	Water	8270C SIM	591747

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
4	MS, MSD: The analyte present in the original sample is greater than 4 times the matrix spike concentration; therefore, control limits are not applicable.
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.
X	Surrogate is outside control limits

GC/MS VOA TICs

Qualifier	Qualifier Description
J	Indicates an Estimated Value for TICs
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
N	Presumptive evidence of material.
T	Result is a tentatively identified compound (TIC) and an estimated value.

GC/MS Semi VOA

Qualifier	Qualifier Description
B	Compound was found in the blank and sample.
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)

Laboratory: Eurofins Calscience Irvine

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

Authority	Program	Identification Number	Expiration Date
California	State	2706	06-30-20

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	1,1,1,2-Tetrachloroethane
8260B		Water	1,1,1-Trichloroethane
8260B		Water	1,1,2,2-Tetrachloroethane
8260B		Water	1,1,2-Trichloro-1,2,2-trifluoroethane
8260B		Water	1,1,2-Trichloroethane
8260B		Water	1,1-Dichloroethane
8260B		Water	1,1-Dichloroethene
8260B		Water	1,1-Dichloropropene
8260B		Water	1,2,3-Trichlorobenzene
8260B		Water	1,2,3-Trichloropropane
8260B		Water	1,2,4-Trichlorobenzene
8260B		Water	1,2,4-Trimethylbenzene
8260B		Water	1,2-Dibromo-3-Chloropropane
8260B		Water	1,2-Dibromoethane (EDB)
8260B		Water	1,2-Dichlorobenzene
8260B		Water	1,2-Dichloroethane
8260B		Water	1,2-Dichloropropane
8260B		Water	1,3,5-Trimethylbenzene
8260B		Water	1,3-Dichlorobenzene
8260B		Water	1,3-Dichloropropane
8260B		Water	1,4-Dichlorobenzene
8260B		Water	2,2-Dichloropropane
8260B		Water	2-Chlorotoluene
8260B		Water	4-Chlorotoluene
8260B		Water	Acetone
8260B		Water	Benzene
8260B		Water	Bromobenzene
8260B		Water	Bromochloromethane
8260B		Water	Bromodichloromethane
8260B		Water	Bromoform
8260B		Water	Bromomethane
8260B		Water	Carbon tetrachloride
8260B		Water	Chlorobenzene
8260B		Water	Chloroethane
8260B		Water	Chloroform
8260B		Water	Chloromethane
8260B		Water	cis-1,2-Dichloroethene
8260B		Water	cis-1,3-Dichloropropene
8260B		Water	Dibromochloromethane
8260B		Water	Dibromomethane
8260B		Water	Dichlorodifluoromethane
8260B		Water	Ethane, 1,2-dichloro-1,1,2-trifluoro-
8260B		Water	Ethylbenzene
8260B		Water	Hexachlorobutadiene
8260B		Water	Isopropyl alcohol

Laboratory: Eurofins Calscience Irvine (Continued)

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

Authority		Program		Identification Number	Expiration Date
California		State		2706	06-30-20
8260B			Water	Isopropylbenzene	
8260B			Water	m,p-Xylene	
8260B			Water	Methylene Chloride	
8260B			Water	Methyl-t-Butyl Ether (MTBE)	
8260B			Water	Naphthalene	
8260B			Water	n-Butylbenzene	
8260B			Water	N-Propylbenzene	
8260B			Water	o-Xylene	
8260B			Water	p-Isopropyltoluene	
8260B			Water	sec-Butylbenzene	
8260B			Water	Styrene	
8260B			Water	Tentatively Identified Compound	
8260B			Water	tert-Butylbenzene	
8260B			Water	Tetrachloroethene	
8260B			Water	Toluene	
8260B			Water	trans-1,2-Dichloroethene	
8260B			Water	trans-1,3-Dichloropropene	
8260B			Water	Trichloroethene	
8260B			Water	Trichlorofluoromethane	
8260B			Water	Unknown	
8260B			Water	Vinyl chloride	
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: 1/20 /20	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 Chem. - 2020 Semi-Ann. GWM Feb	☐ 1 week			
Site: Omega Chemical	☐ 2 days			Job / SDG No.:
P O #: 3139G/E742	☐ 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_20200120	1/20 /20	0755	Grab	GW	5			x	x	
OC_GW_DPE-4_20200120	1/20 /20	0820	Grab	GW	5			x	x	
OC_GW_DPE-5_20200120	1/20 /20	0945	Grab	GW	5			x	x	
OC_GW_DPE-8_20200120	1/20 /20	0845	Grab	GW	5			x	x	
OC_GW_DPE-9_20200120	1/20 /20	1315	Grab	GW	5			x	x	
OC_GW_DPE-7D_20200120	1/20 /20	1218	Grab	GW	5			x	x	
OC_GW_DPE-10D_20200120	1/20 /20	1238	Grab	GW	5			x	x	
OC_TB 202001	1/ /20		Grab	H2O	2			x		

440-259516 Chain of Custody

1/21/2020

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 | 43509 | Cooler Temp. (°C): Obs'd: _____ Corr'd. _____ Therm ID No.: _____

Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
[signature]	JLA	1/21/20 1405	[signature] Rivera	EC-IRV	1/21/20 1405
Relinquished by: CWR	Company: EC-IRV	Date/Time: 1/21/20 1510	Received by:	Company:	Date/Time:
Relinquished by:	Company:	Date/Time:	Received in Laboratory by: [signature]	Company: EC-IRV	Date/Time: 1/21/20 1510

1.8/1.6, 1.9/1.7, 2.5/1.9 #89

Login Sample Receipt Checklist

Client: Jacob & Hefner Associates P.C.

Job Number: 440-259516-1
SDG Number: Omega Chemical

Login Number: 259516
List Number: 1
Creator: Soderblom, Tim

List Source: Eurofins 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	

ANALYTICAL REPORT

Eurofins Calscience Irvine
17461 Derian Ave
Suite 100
Irvine, CA 92614-5817
Tel: (949)261-1022

Laboratory Job ID: 440-259517-1
Laboratory Sample Delivery Group: Omega Chemical
Client Project/Site: Omega Chemical -2020 Semi-Annual GWM Feb

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

Attn: Trent Henderson

Authorized for release by:
1/29/2020 4:02:24 PM

Danielle Roberts, Senior Project Manager
(949)260-3249
danielle.roberts@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 -2020 Semi-Annual GWM Feb

Job ID: 440-259517-1
SDG: Omega Chemical

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
440-259517-1	OC_GW_OW-3B_20200120	Water	01/20/20 14:30	01/21/20 15:10	
440-259517-2	OC_GW_OW-8B_20200121	Water	01/21/20 07:54	01/21/20 15:10	
440-259517-3	OC_GW_OW-12_20200120	Water	01/20/20 08:39	01/21/20 15:10	
440-259517-4	OC_TB1_20200120	Water	01/20/20 07:00	01/21/20 15:10	
440-259517-5	OC_GW_OW-1B_20200121	Water	01/21/20 09:38	01/21/20 15:10	
440-259517-6	OC_GW_OW-3B_20200120K	Water	01/20/20 14:35	01/21/20 15:10	
440-259517-7	OC_GW_OW-8B_20200121K	Water	01/21/20 07:58	01/21/20 15:10	
440-259517-8	OC_TB2_20200120	Water	01/20/20 07:00	01/21/20 15:10	
440-259517-9	OC_GW_OW-3BN_20200120	Water	01/20/20 15:33	01/21/20 15:10	
440-259517-10	OC_GW_OW-11N_20200121	Water	01/21/20 14:00	01/21/20 15:10	

Job ID: 440-259517-1

Laboratory: Eurofins Calscience Irvine

Narrative

Job Narrative
440-259517-1

Comments
No additional comments.

Receipt
The samples were received on 1/21/2020 3:10 PM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperatures of the 3 coolers at receipt time were 1.6º C, 1.7º C and 1.9º C.

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

GC/MS Semi VOA
Method 8270C SIM: The method blank for preparation batch 440-591747 and analytical batch 440-591979 contained 1,4-Dioxane above the method detection limit. This target analyte concentration was less than the reporting limit (RL); therefore, re-extraction and/or re-analysis of samples was not performed.

Method 8270C SIM: The method blank for preparation batch 440-591971 and analytical batch 440-592177 contained 1,4-Dioxane above the method detection limit. This target analyte concentration was less than the reporting limit (RL); therefore, re-extraction and/or re-analysis of samples was not performed.

Method 8270C SIM: The method blank for preparation batch 440-592386 and 440-592386 and analytical batch 440-592598 contained 1,4-Dioxane above the method detection limit. This target analyte concentration was less than the reporting limit (RL). Re-extraction and re-analysis of samples was performed with concurring results. Associated sample is reported with possible high bias for 1,4-Dioxane.

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

Organic Prep
Method 3520C: Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD) associated with 8270C preparation batch 440-591747. LCS was performed in duplicate to provide precision of data.

Method 3520C: Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD) associated with 8270C preparation batch 440-591971. LCS was performed in duplicate to provide precision of data.

Method 3520C: Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD) associated with 8270C preparation batch 440-592386. LCS was performed in duplicate to provide precision of data.

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 -2020 Semi-Annual GWM Feb

Job ID: 440-259517-1
SDG: Omega Chemical

Client Sample ID: OC_GW_OW-3B_20200120 — Lab Sample ID: 440-259517-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,1,2-Trichloro-1,2,2-trifluoroethane	0.67	J	5.0	0.50	ug/L	1		8260B	Total/NA
1,2,3-Trichlorobenzene	0.71	J	1.0	0.40	ug/L	1		8260B	Total/NA
Hexachlorobutadiene	0.62	J	1.0	0.25	ug/L	1		8260B	Total/NA
Naphthalene	0.55	J	1.0	0.40	ug/L	1		8260B	Total/NA
Tetrachloroethene	12		1.0	0.25	ug/L	1		8260B	Total/NA

Client Sample ID: OC_GW_OW-8B_20200121 — Lab Sample ID: 440-259517-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Tetrachloroethene	29		1.0	0.25	ug/L	1		8260B	Total/NA

Client Sample ID: OC_GW_OW-12_20200120 — Lab Sample ID: 440-259517-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,1,1-Trichloroethane	50		25	6.3	ug/L	25		8260B	Total/NA
1,1,2-Trichloro-1,2,2-trifluoroethane	1300		130	13	ug/L	25		8260B	Total/NA
1,1-Dichloroethene	51		25	6.3	ug/L	25		8260B	Total/NA
Chloroform	38		25	6.3	ug/L	25		8260B	Total/NA
Tetrachloroethene	1500		25	6.3	ug/L	25		8260B	Total/NA
Trichloroethene	150		25	6.3	ug/L	25		8260B	Total/NA
Trichlorofluoromethane	26		25	6.3	ug/L	25		8260B	Total/NA
1,4-Dioxane	3.2	B	0.49	0.098	ug/L	1		8270C SIM	Total/NA

Client Sample ID: OC_TB1_20200120 — Lab Sample ID: 440-259517-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Tetrachloroethene	0.34	J	1.0	0.25	ug/L	1		8260B	Total/NA

Client Sample ID: OC_GW_OW-1B_20200121 — Lab Sample ID: 440-259517-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,1,2-Trichloro-1,2,2-trifluoroethane	5.3		5.0	0.50	ug/L	1		8260B	Total/NA
Tetrachloroethene	5.0		1.0	0.25	ug/L	1		8260B	Total/NA
Trichlorofluoromethane	1.8		1.0	0.25	ug/L	1		8260B	Total/NA
1,4-Dioxane	0.59	B	0.49	0.098	ug/L	1		8270C SIM	Total/NA

Client Sample ID: OC_GW_OW-3B_20200120K — Lab Sample ID: 440-259517-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Tetrachloroethene	11		1.0	0.25	ug/L	1		8260B	Total/NA

Client Sample ID: OC_GW_OW-8B_20200121K — Lab Sample ID: 440-259517-7

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Tetrachloroethene	29		1.0	0.25	ug/L	1		8260B	Total/NA

Client Sample ID: OC_TB2_20200120 — Lab Sample ID: 440-259517-8

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Tetrachloroethene	0.31	J	1.0	0.25	ug/L	1		8260B	Total/NA

Client Sample ID: OC_GW_OW-3BN_20200120 — Lab Sample ID: 440-259517-9

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Acetone	48		10	10	ug/L	1		8260B	Total/NA

This Detection Summary does not include radiochemical test results.

Detection Summary

Client: Jacob & Hefner Associates P.C.
Project/Site: Omega Chemical -2020 Semi-Annual GWM Feb

Job ID: 440-259517-1
SDG: Omega Chemical

Client Sample ID: OC_GW_OW-11N_20200121

Lab Sample ID: 440-259517-10

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Acetone	63		10	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 -2020 Semi-Annual GWM Feb

Job ID: 440-259517-1
SDG: Omega Chemical

Client Sample ID: OC_GW_OW-3B_20200120

Lab Sample ID: 440-259517-1

Date Collected: 01/20/20 14:30
Matrix: Water
Date Received: 01/21/20 15:10

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			01/23/20 11:16	1
1,1,1-Trichloroethane	ND		1.0	0.25	ug/L			01/23/20 11:16	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.25	ug/L			01/23/20 11:16	1
1,1,2-Trichloro-1,2,2-trifluoroethane	**0.67**	**J**	5.0	0.50	ug/L			01/23/20 11:16	1
1,1,2-Trichloroethane	ND		1.0	0.25	ug/L			01/23/20 11:16	1
1,1-Dichloroethane	ND		1.0	0.25	ug/L			01/23/20 11:16	1
1,1-Dichloroethene	ND		1.0	0.25	ug/L			01/23/20 11:16	1
1,1-Dichloropropene	ND		1.0	0.25	ug/L			01/23/20 11:16	1
1,2,3-Trichlorobenzene	**0.71**	**J**	1.0	0.40	ug/L			01/23/20 11:16	1
1,2,3-Trichloropropane	ND		1.0	0.40	ug/L			01/23/20 11:16	1
1,2,4-Trichlorobenzene	ND		1.0	0.40	ug/L			01/23/20 11:16	1
1,2,4-Trimethylbenzene	ND		1.0	0.25	ug/L			01/23/20 11:16	1
1,2-Dibromo-3-Chloropropane	ND		5.0	0.50	ug/L			01/23/20 11:16	1
1,2-Dibromoethane (EDB)	ND		1.0	0.25	ug/L			01/23/20 11:16	1
1,2-Dichlorobenzene	ND		1.0	0.25	ug/L			01/23/20 11:16	1
1,2-Dichloroethane	ND		1.0	0.25	ug/L			01/23/20 11:16	1
1,2-Dichloropropane	ND		1.0	0.25	ug/L			01/23/20 11:16	1
1,3,5-Trimethylbenzene	ND		1.0	0.25	ug/L			01/23/20 11:16	1
1,3-Dichlorobenzene	ND		1.0	0.25	ug/L			01/23/20 11:16	1
1,3-Dichloropropane	ND		1.0	0.25	ug/L			01/23/20 11:16	1
1,4-Dichlorobenzene	ND		1.0	0.25	ug/L			01/23/20 11:16	1
2,2-Dichloropropane	ND		1.0	0.40	ug/L			01/23/20 11:16	1
2-Chlorotoluene	ND		1.0	0.25	ug/L			01/23/20 11:16	1
4-Chlorotoluene	ND		1.0	0.25	ug/L			01/23/20 11:16	1
Acetone	ND		10	10	ug/L			01/23/20 11:16	1
Benzene	ND		0.50	0.25	ug/L			01/23/20 11:16	1
Bromobenzene	ND		1.0	0.25	ug/L			01/23/20 11:16	1
Bromochloromethane	ND		1.0	0.25	ug/L			01/23/20 11:16	1
Bromodichloromethane	ND		1.0	0.25	ug/L			01/23/20 11:16	1
Bromoform	ND		1.0	0.40	ug/L			01/23/20 11:16	1
Bromomethane	ND		1.0	0.25	ug/L			01/23/20 11:16	1
Carbon tetrachloride	ND		0.50	0.25	ug/L			01/23/20 11:16	1
Chlorobenzene	ND		1.0	0.25	ug/L			01/23/20 11:16	1
Chloroethane	ND		1.0	0.40	ug/L			01/23/20 11:16	1
Chloroform	ND		1.0	0.25	ug/L			01/23/20 11:16	1
Chloromethane	ND		1.0	0.25	ug/L			01/23/20 11:16	1
cis-1,2-Dichloroethene	ND		1.0	0.25	ug/L			01/23/20 11:16	1
cis-1,3-Dichloropropene	ND		0.50	0.25	ug/L			01/23/20 11:16	1
Dibromochloromethane	ND		1.0	0.25	ug/L			01/23/20 11:16	1
Dibromomethane	ND		1.0	0.25	ug/L			01/23/20 11:16	1
Dichlorodifluoromethane	ND		1.0	0.40	ug/L			01/23/20 11:16	1
Ethylbenzene	ND		1.0	0.25	ug/L			01/23/20 11:16	1
Hexachlorobutadiene	**0.62**	**J**	1.0	0.25	ug/L			01/23/20 11:16	1
Isopropyl alcohol	ND		250	180	ug/L			01/23/20 11:16	1
Isopropylbenzene	ND		1.0	0.25	ug/L			01/23/20 11:16	1
m,p-Xylene	ND		1.0	0.50	ug/L			01/23/20 11:16	1
Methylene Chloride	ND		5.0	0.88	ug/L			01/23/20 11:16	1
Methyl-t-Butyl Ether (MTBE)	ND		1.0	0.25	ug/L			01/23/20 11:16	1
Naphthalene	**0.55**	**J**	1.0	0.40	ug/L			01/23/20 11:16	1

Client Sample ID: OC_GW_OW-3B_20200120

Lab Sample ID: 440-259517-1

Date Collected: 01/20/20 14:30
Matrix: Water
Date Received: 01/21/20 15:10

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			01/23/20 11:16	1
N-Propylbenzene	ND		1.0	0.25	ug/L			01/23/20 11:16	1
o-Xylene	ND		1.0	0.25	ug/L			01/23/20 11:16	1
p-Isopropyltoluene	ND		1.0	0.25	ug/L			01/23/20 11:16	1
sec-Butylbenzene	ND		1.0	0.25	ug/L			01/23/20 11:16	1
Styrene	ND		1.0	0.25	ug/L			01/23/20 11:16	1
tert-Butylbenzene	ND		1.0	0.25	ug/L			01/23/20 11:16	1
Tetrachloroethene	**12**		1.0	0.25	ug/L			01/23/20 11:16	1
Toluene	ND		1.0	0.25	ug/L			01/23/20 11:16	1
trans-1,2-Dichloroethene	ND		1.0	0.25	ug/L			01/23/20 11:16	1
trans-1,3-Dichloropropene	ND		0.50	0.25	ug/L			01/23/20 11:16	1
Trichloroethene	ND		1.0	0.25	ug/L			01/23/20 11:16	1
Trichlorofluoromethane	ND		1.0	0.25	ug/L			01/23/20 11:16	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Tentatively Identified Compound	*None*		*ug/L*					*01/23/20 11:16*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*102*		*70 - 130*		*01/23/20 11:16*	*1*
4-Bromofluorobenzene (Surr)	*99*		*80 - 120*		*01/23/20 11:16*	*1*
Dibromofluoromethane (Surr)	*102*		*76 - 132*		*01/23/20 11:16*	*1*
Toluene-d8 (Surr)	*104*		*80 - 128*		*01/23/20 11:16*	*1*

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Vinyl chloride	ND		0.50	0.25	ug/L			01/23/20 11:00	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Unknown	*1000*	*T J*	*ug/L*		*1.75*			*01/23/20 11:00*	*1*
Unknown	*24*	*T J*	*ug/L*		*15.68*			*01/23/20 11:00*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*111*		*70 - 130*		*01/23/20 11:00*	*1*
4-Bromofluorobenzene (Surr)	*106*		*80 - 120*		*01/23/20 11:00*	*1*
Dibromofluoromethane (Surr)	*110*		*76 - 132*		*01/23/20 11:00*	*1*
Toluene-d8 (Surr)	*104*		*80 - 128*		*01/23/20 11:00*	*1*

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	ND		0.49	0.098	ug/L		01/22/20 07:00	01/23/20 16:06	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,4-Dioxane-d8 (Surr)	*57*		*27 - 120*	*01/22/20 07:00*	*01/23/20 16:06*	*1*

Client Sample ID: OC_GW_OW-8B_20200121

Lab Sample ID: 440-259517-2

Date Collected: 01/21/20 07:54
Matrix: Water
Date Received: 01/21/20 15:10

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			01/23/20 11:40	1
1,1,1-Trichloroethane	ND		1.0	0.25	ug/L			01/23/20 11:40	1

Client Sample ID: OC_GW_OW-8B_20200121

Lab Sample ID: 440-259517-2

Date Collected: 01/21/20 07:54
Matrix: Water
Date Received: 01/21/20 15:10

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			01/23/20 11:40	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		5.0	0.50	ug/L			01/23/20 11:40	1
1,1,2-Trichloroethane	ND		1.0	0.25	ug/L			01/23/20 11:40	1
1,1-Dichloroethane	ND		1.0	0.25	ug/L			01/23/20 11:40	1
1,1-Dichloroethene	ND		1.0	0.25	ug/L			01/23/20 11:40	1
1,1-Dichloropropene	ND		1.0	0.25	ug/L			01/23/20 11:40	1
1,2,3-Trichlorobenzene	ND		1.0	0.40	ug/L			01/23/20 11:40	1
1,2,3-Trichloropropane	ND		1.0	0.40	ug/L			01/23/20 11:40	1
1,2,4-Trichlorobenzene	ND		1.0	0.40	ug/L			01/23/20 11:40	1
1,2,4-Trimethylbenzene	ND		1.0	0.25	ug/L			01/23/20 11:40	1
1,2-Dibromo-3-Chloropropane	ND		5.0	0.50	ug/L			01/23/20 11:40	1
1,2-Dibromoethane (EDB)	ND		1.0	0.25	ug/L			01/23/20 11:40	1
1,2-Dichlorobenzene	ND		1.0	0.25	ug/L			01/23/20 11:40	1
1,2-Dichloroethane	ND		1.0	0.25	ug/L			01/23/20 11:40	1
1,2-Dichloropropane	ND		1.0	0.25	ug/L			01/23/20 11:40	1
1,3,5-Trimethylbenzene	ND		1.0	0.25	ug/L			01/23/20 11:40	1
1,3-Dichlorobenzene	ND		1.0	0.25	ug/L			01/23/20 11:40	1
1,3-Dichloropropane	ND		1.0	0.25	ug/L			01/23/20 11:40	1
1,4-Dichlorobenzene	ND		1.0	0.25	ug/L			01/23/20 11:40	1
2,2-Dichloropropane	ND		1.0	0.40	ug/L			01/23/20 11:40	1
2-Chlorotoluene	ND		1.0	0.25	ug/L			01/23/20 11:40	1
4-Chlorotoluene	ND		1.0	0.25	ug/L			01/23/20 11:40	1
Acetone	ND		10	10	ug/L			01/23/20 11:40	1
Benzene	ND		0.50	0.25	ug/L			01/23/20 11:40	1
Bromobenzene	ND		1.0	0.25	ug/L			01/23/20 11:40	1
Bromochloromethane	ND		1.0	0.25	ug/L			01/23/20 11:40	1
Bromodichloromethane	ND		1.0	0.25	ug/L			01/23/20 11:40	1
Bromoform	ND		1.0	0.40	ug/L			01/23/20 11:40	1
Bromomethane	ND		1.0	0.25	ug/L			01/23/20 11:40	1
Carbon tetrachloride	ND		0.50	0.25	ug/L			01/23/20 11:40	1
Chlorobenzene	ND		1.0	0.25	ug/L			01/23/20 11:40	1
Chloroethane	ND		1.0	0.40	ug/L			01/23/20 11:40	1
Chloroform	ND		1.0	0.25	ug/L			01/23/20 11:40	1
Chloromethane	ND		1.0	0.25	ug/L			01/23/20 11:40	1
cis-1,2-Dichloroethene	ND		1.0	0.25	ug/L			01/23/20 11:40	1
cis-1,3-Dichloropropene	ND		0.50	0.25	ug/L			01/23/20 11:40	1
Dibromochloromethane	ND		1.0	0.25	ug/L			01/23/20 11:40	1
Dibromomethane	ND		1.0	0.25	ug/L			01/23/20 11:40	1
Dichlorodifluoromethane	ND		1.0	0.40	ug/L			01/23/20 11:40	1
Ethylbenzene	ND		1.0	0.25	ug/L			01/23/20 11:40	1
Hexachlorobutadiene	ND		1.0	0.25	ug/L			01/23/20 11:40	1
Isopropyl alcohol	ND		250	180	ug/L			01/23/20 11:40	1
Isopropylbenzene	ND		1.0	0.25	ug/L			01/23/20 11:40	1
m,p-Xylene	ND		1.0	0.50	ug/L			01/23/20 11:40	1
Methylene Chloride	ND		5.0	0.88	ug/L			01/23/20 11:40	1
Methyl-t-Butyl Ether (MTBE)	ND		1.0	0.25	ug/L			01/23/20 11:40	1
Naphthalene	ND		1.0	0.40	ug/L			01/23/20 11:40	1
n-Butylbenzene	ND		1.0	0.40	ug/L			01/23/20 11:40	1
N-Propylbenzene	ND		1.0	0.25	ug/L			01/23/20 11:40	1

Client Sample ID: OC_GW_OW-8B_20200121

Lab Sample ID: 440-259517-2

Date Collected: 01/21/20 07:54
Matrix: Water
Date Received: 01/21/20 15:10

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
o-Xylene	ND		1.0	0.25	ug/L			01/23/20 11:40	1
p-Isopropyltoluene	ND		1.0	0.25	ug/L			01/23/20 11:40	1
sec-Butylbenzene	ND		1.0	0.25	ug/L			01/23/20 11:40	1
Styrene	ND		1.0	0.25	ug/L			01/23/20 11:40	1
tert-Butylbenzene	ND		1.0	0.25	ug/L			01/23/20 11:40	1
Tetrachloroethene	**29**		1.0	0.25	ug/L			01/23/20 11:40	1
Toluene	ND		1.0	0.25	ug/L			01/23/20 11:40	1
trans-1,2-Dichloroethene	ND		1.0	0.25	ug/L			01/23/20 11:40	1
trans-1,3-Dichloropropene	ND		0.50	0.25	ug/L			01/23/20 11:40	1
Trichloroethene	ND		1.0	0.25	ug/L			01/23/20 11:40	1
Trichlorofluoromethane	ND		1.0	0.25	ug/L			01/23/20 11:40	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Tentatively Identified Compound	*None*		*ug/L*					*01/23/20 11:40*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*104*		*70 - 130*		*01/23/20 11:40*	*1*
4-Bromofluorobenzene (Surr)	*98*		*80 - 120*		*01/23/20 11:40*	*1*
Dibromofluoromethane (Surr)	*102*		*76 - 132*		*01/23/20 11:40*	*1*
Toluene-d8 (Surr)	*104*		*80 - 128*		*01/23/20 11:40*	*1*

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Vinyl chloride	ND		0.50	0.25	ug/L			01/23/20 11:29	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Unknown	*1400*	*T J*	*ug/L*		*1.74*			*01/23/20 11:29*	*1*
Unknown	*11*	*T J*	*ug/L*		*15.71*			*01/23/20 11:29*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*118*		*70 - 130*		*01/23/20 11:29*	*1*
4-Bromofluorobenzene (Surr)	*97*		*80 - 120*		*01/23/20 11:29*	*1*
Dibromofluoromethane (Surr)	*112*		*76 - 132*		*01/23/20 11:29*	*1*
Toluene-d8 (Surr)	*105*		*80 - 128*		*01/23/20 11:29*	*1*

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	ND		0.49	0.098	ug/L		01/23/20 06:45	01/24/20 10:59	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,4-Dioxane-d8 (Surr)	*63*		*27 - 120*	*01/23/20 06:45*	*01/24/20 10:59*	*1*

Client Sample ID: OC_GW_OW-12_20200120

Lab Sample ID: 440-259517-3

Date Collected: 01/20/20 08:39
Matrix: Water
Date Received: 01/21/20 15:10

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		25	6.3	ug/L			01/23/20 10:06	25
1,1,1-Trichloroethane	**50**		25	6.3	ug/L			01/23/20 10:06	25
1,1,2,2-Tetrachloroethane	ND		25	6.3	ug/L			01/23/20 10:06	25

Client Sample ID: OC_GW_OW-12_20200120

Lab Sample ID: 440-259517-3

Date Collected: 01/20/20 08:39
Matrix: Water
Date Received: 01/21/20 15:10

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,2-Trichloro-1,2,2-trifluoroethane	**1300**		130	13	ug/L			01/23/20 10:06	25
1,1,2-Trichloroethane	ND		25	6.3	ug/L			01/23/20 10:06	25
1,1-Dichloroethane	ND		25	6.3	ug/L			01/23/20 10:06	25
1,1-Dichloroethene	**51**		25	6.3	ug/L			01/23/20 10:06	25
1,1-Dichloropropene	ND		25	6.3	ug/L			01/23/20 10:06	25
1,2,3-Trichlorobenzene	ND		25	10	ug/L			01/23/20 10:06	25
1,2,3-Trichloropropane	ND		25	10	ug/L			01/23/20 10:06	25
1,2,4-Trichlorobenzene	ND		25	10	ug/L			01/23/20 10:06	25
1,2,4-Trimethylbenzene	ND		25	6.3	ug/L			01/23/20 10:06	25
1,2-Dibromo-3-Chloropropane	ND		130	13	ug/L			01/23/20 10:06	25
1,2-Dibromoethane (EDB)	ND		25	6.3	ug/L			01/23/20 10:06	25
1,2-Dichlorobenzene	ND		25	6.3	ug/L			01/23/20 10:06	25
1,2-Dichloroethane	ND		25	6.3	ug/L			01/23/20 10:06	25
1,2-Dichloropropane	ND		25	6.3	ug/L			01/23/20 10:06	25
1,3,5-Trimethylbenzene	ND		25	6.3	ug/L			01/23/20 10:06	25
1,3-Dichlorobenzene	ND		25	6.3	ug/L			01/23/20 10:06	25
1,3-Dichloropropane	ND		25	6.3	ug/L			01/23/20 10:06	25
1,4-Dichlorobenzene	ND		25	6.3	ug/L			01/23/20 10:06	25
2,2-Dichloropropane	ND		25	10	ug/L			01/23/20 10:06	25
2-Chlorotoluene	ND		25	6.3	ug/L			01/23/20 10:06	25
4-Chlorotoluene	ND		25	6.3	ug/L			01/23/20 10:06	25
Acetone	ND		250	250	ug/L			01/23/20 10:06	25
Benzene	ND		13	6.3	ug/L			01/23/20 10:06	25
Bromobenzene	ND		25	6.3	ug/L			01/23/20 10:06	25
Bromochloromethane	ND		25	6.3	ug/L			01/23/20 10:06	25
Bromodichloromethane	ND		25	6.3	ug/L			01/23/20 10:06	25
Bromoform	ND		25	10	ug/L			01/23/20 10:06	25
Bromomethane	ND		25	6.3	ug/L			01/23/20 10:06	25
Carbon tetrachloride	ND		13	6.3	ug/L			01/23/20 10:06	25
Chlorobenzene	ND		25	6.3	ug/L			01/23/20 10:06	25
Chloroethane	ND		25	10	ug/L			01/23/20 10:06	25
Chloroform	**38**		25	6.3	ug/L			01/23/20 10:06	25
Chloromethane	ND		25	6.3	ug/L			01/23/20 10:06	25
cis-1,2-Dichloroethene	ND		25	6.3	ug/L			01/23/20 10:06	25
cis-1,3-Dichloropropene	ND		13	6.3	ug/L			01/23/20 10:06	25
Dibromochloromethane	ND		25	6.3	ug/L			01/23/20 10:06	25
Dibromomethane	ND		25	6.3	ug/L			01/23/20 10:06	25
Dichlorodifluoromethane	ND		25	10	ug/L			01/23/20 10:06	25
Ethylbenzene	ND		25	6.3	ug/L			01/23/20 10:06	25
Hexachlorobutadiene	ND		25	6.3	ug/L			01/23/20 10:06	25
Isopropyl alcohol	ND		6300	4400	ug/L			01/23/20 10:06	25
Isopropylbenzene	ND		25	6.3	ug/L			01/23/20 10:06	25
m,p-Xylene	ND		25	13	ug/L			01/23/20 10:06	25
Methylene Chloride	ND		130	22	ug/L			01/23/20 10:06	25
Methyl-t-Butyl Ether (MTBE)	ND		25	6.3	ug/L			01/23/20 10:06	25
Naphthalene	ND		25	10	ug/L			01/23/20 10:06	25
n-Butylbenzene	ND		25	10	ug/L			01/23/20 10:06	25
N-Propylbenzene	ND		25	6.3	ug/L			01/23/20 10:06	25
o-Xylene	ND		25	6.3	ug/L			01/23/20 10:06	25

Client Sample ID: OC_GW_OW-12_20200120

Lab Sample ID: 440-259517-3
Date Collected: 01/20/20 08:39
Matrix: Water
Date Received: 01/21/20 15:10

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
p-Isopropyltoluene	ND		25	6.3	ug/L			01/23/20 10:06	25
sec-Butylbenzene	ND		25	6.3	ug/L			01/23/20 10:06	25
Styrene	ND		25	6.3	ug/L			01/23/20 10:06	25
tert-Butylbenzene	ND		25	6.3	ug/L			01/23/20 10:06	25
Tetrachloroethene	**1500**		25	6.3	ug/L			01/23/20 10:06	25
Toluene	ND		25	6.3	ug/L			01/23/20 10:06	25
trans-1,2-Dichloroethene	ND		25	6.3	ug/L			01/23/20 10:06	25
trans-1,3-Dichloropropene	ND		13	6.3	ug/L			01/23/20 10:06	25
Trichloroethene	**150**		25	6.3	ug/L			01/23/20 10:06	25
Trichlorofluoromethane	**26**		25	6.3	ug/L			01/23/20 10:06	25

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Tentatively Identified Compound	*None*		*ug/L*					*01/23/20 10:06*	*25*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*102*		*70 - 130*		*01/23/20 10:06*	*25*
4-Bromofluorobenzene (Surr)	*99*		*80 - 120*		*01/23/20 10:06*	*25*
Dibromofluoromethane (Surr)	*103*		*76 - 132*		*01/23/20 10:06*	*25*
Toluene-d8 (Surr)	*105*		*80 - 128*		*01/23/20 10:06*	*25*

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Vinyl chloride	ND		13	6.3	ug/L			01/23/20 09:32	25

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Unknown	*4400*	*T J*	*ug/L*		*1.75*			*01/23/20 09:32*	*25*
Unknown	*64*	*T J*	*ug/L*		*2.16*			*01/23/20 09:32*	*25*
Unknown	*680*	*T J*	*ug/L*		*16.13*			*01/23/20 09:32*	*25*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*109*		*70 - 130*		*01/23/20 09:32*	*25*
4-Bromofluorobenzene (Surr)	*100*		*80 - 120*		*01/23/20 09:32*	*25*
Dibromofluoromethane (Surr)	*107*		*76 - 132*		*01/23/20 09:32*	*25*
Toluene-d8 (Surr)	*105*		*80 - 128*		*01/23/20 09:32*	*25*

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**	**B**	0.49	0.098	ug/L		01/22/20 07:00	01/23/20 16:28	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,4-Dioxane-d8 (Surr)	*49*		*27 - 120*	*01/22/20 07:00*	*01/23/20 16:28*	*1*

Client Sample ID: OC_TB1_20200120

Lab Sample ID: 440-259517-4
Date Collected: 01/20/20 07:00
Matrix: Water
Date Received: 01/21/20 15:10

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			01/23/20 12:03	1
1,1,1-Trichloroethane	ND		1.0	0.25	ug/L			01/23/20 12:03	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.25	ug/L			01/23/20 12:03	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		5.0	0.50	ug/L			01/23/20 12:03	1

Client Sample Results

Client: Jacob & Hefner Associates P.C.
Project/Site: Omega Chemical -2020 Semi-Annual GWM Feb

Job ID: 440-259517-1
SDG: Omega Chemical

Client Sample ID: OC_TB1_20200120

Lab Sample ID: 440-259517-4

Date Collected: 01/20/20 07:00
Matrix: Water
Date Received: 01/21/20 15:10

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,2-Trichloroethane	ND		1.0	0.25	ug/L			01/23/20 12:03	1
1,1-Dichloroethane	ND		1.0	0.25	ug/L			01/23/20 12:03	1
1,1-Dichloroethene	ND		1.0	0.25	ug/L			01/23/20 12:03	1
1,1-Dichloropropene	ND		1.0	0.25	ug/L			01/23/20 12:03	1
1,2,3-Trichlorobenzene	ND		1.0	0.40	ug/L			01/23/20 12:03	1
1,2,3-Trichloropropane	ND		1.0	0.40	ug/L			01/23/20 12:03	1
1,2,4-Trichlorobenzene	ND		1.0	0.40	ug/L			01/23/20 12:03	1
1,2,4-Trimethylbenzene	ND		1.0	0.25	ug/L			01/23/20 12:03	1
1,2-Dibromo-3-Chloropropane	ND		5.0	0.50	ug/L			01/23/20 12:03	1
1,2-Dibromoethane (EDB)	ND		1.0	0.25	ug/L			01/23/20 12:03	1
1,2-Dichlorobenzene	ND		1.0	0.25	ug/L			01/23/20 12:03	1
1,2-Dichloroethane	ND		1.0	0.25	ug/L			01/23/20 12:03	1
1,2-Dichloropropane	ND		1.0	0.25	ug/L			01/23/20 12:03	1
1,3,5-Trimethylbenzene	ND		1.0	0.25	ug/L			01/23/20 12:03	1
1,3-Dichlorobenzene	ND		1.0	0.25	ug/L			01/23/20 12:03	1
1,3-Dichloropropane	ND		1.0	0.25	ug/L			01/23/20 12:03	1
1,4-Dichlorobenzene	ND		1.0	0.25	ug/L			01/23/20 12:03	1
2,2-Dichloropropane	ND		1.0	0.40	ug/L			01/23/20 12:03	1
2-Chlorotoluene	ND		1.0	0.25	ug/L			01/23/20 12:03	1
4-Chlorotoluene	ND		1.0	0.25	ug/L			01/23/20 12:03	1
Acetone	ND		10	10	ug/L			01/23/20 12:03	1
Benzene	ND		0.50	0.25	ug/L			01/23/20 12:03	1
Bromobenzene	ND		1.0	0.25	ug/L			01/23/20 12:03	1
Bromochloromethane	ND		1.0	0.25	ug/L			01/23/20 12:03	1
Bromodichloromethane	ND		1.0	0.25	ug/L			01/23/20 12:03	1
Bromoform	ND		1.0	0.40	ug/L			01/23/20 12:03	1
Bromomethane	ND		1.0	0.25	ug/L			01/23/20 12:03	1
Carbon tetrachloride	ND		0.50	0.25	ug/L			01/23/20 12:03	1
Chlorobenzene	ND		1.0	0.25	ug/L			01/23/20 12:03	1
Chloroethane	ND		1.0	0.40	ug/L			01/23/20 12:03	1
Chloroform	ND		1.0	0.25	ug/L			01/23/20 12:03	1
Chloromethane	ND		1.0	0.25	ug/L			01/23/20 12:03	1
cis-1,2-Dichloroethene	ND		1.0	0.25	ug/L			01/23/20 12:03	1
cis-1,3-Dichloropropene	ND		0.50	0.25	ug/L			01/23/20 12:03	1
Dibromochloromethane	ND		1.0	0.25	ug/L			01/23/20 12:03	1
Dibromomethane	ND		1.0	0.25	ug/L			01/23/20 12:03	1
Dichlorodifluoromethane	ND		1.0	0.40	ug/L			01/23/20 12:03	1
Ethylbenzene	ND		1.0	0.25	ug/L			01/23/20 12:03	1
Hexachlorobutadiene	ND		1.0	0.25	ug/L			01/23/20 12:03	1
Isopropyl alcohol	ND		250	180	ug/L			01/23/20 12:03	1
Isopropylbenzene	ND		1.0	0.25	ug/L			01/23/20 12:03	1
m,p-Xylene	ND		1.0	0.50	ug/L			01/23/20 12:03	1
Methylene Chloride	ND		5.0	0.88	ug/L			01/23/20 12:03	1
Methyl-t-Butyl Ether (MTBE)	ND		1.0	0.25	ug/L			01/23/20 12:03	1
Naphthalene	ND		1.0	0.40	ug/L			01/23/20 12:03	1
n-Butylbenzene	ND		1.0	0.40	ug/L			01/23/20 12:03	1
N-Propylbenzene	ND		1.0	0.25	ug/L			01/23/20 12:03	1
o-Xylene	ND		1.0	0.25	ug/L			01/23/20 12:03	1
p-Isopropyltoluene	ND		1.0	0.25	ug/L			01/23/20 12:03	1

Client Sample ID: OC_TB1_20200120

Lab Sample ID: 440-259517-4
Matrix: Water
Date Collected: 01/20/20 07:00
Date Received: 01/21/20 15:10

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
sec-Butylbenzene	ND		1.0	0.25	ug/L			01/23/20 12:03	1
Styrene	ND		1.0	0.25	ug/L			01/23/20 12:03	1
tert-Butylbenzene	ND		1.0	0.25	ug/L			01/23/20 12:03	1
Tetrachloroethene	**0.34**	**J**	1.0	0.25	ug/L			01/23/20 12:03	1
Toluene	ND		1.0	0.25	ug/L			01/23/20 12:03	1
trans-1,2-Dichloroethene	ND		1.0	0.25	ug/L			01/23/20 12:03	1
trans-1,3-Dichloropropene	ND		0.50	0.25	ug/L			01/23/20 12:03	1
Trichloroethene	ND		1.0	0.25	ug/L			01/23/20 12:03	1
Trichlorofluoromethane	ND		1.0	0.25	ug/L			01/23/20 12:03	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Tentatively Identified Compound	*None*		*ug/L*					*01/23/20 12:03*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*103*		*70 - 130*		*01/23/20 12:03*	*1*
4-Bromofluorobenzene (Surr)	*99*		*80 - 120*		*01/23/20 12:03*	*1*
Dibromofluoromethane (Surr)	*103*		*76 - 132*		*01/23/20 12:03*	*1*
Toluene-d8 (Surr)	*105*		*80 - 128*		*01/23/20 12:03*	*1*

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Vinyl chloride	ND		0.50	0.25	ug/L			01/23/20 11:58	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Unknown	*55*	*T J*	*ug/L*		*1.69*			*01/23/20 11:58*	*1*
Unknown	*4.1*	*T J*	*ug/L*		*2.16*			*01/23/20 11:58*	*1*
Unknown	*8.2*	*T J*	*ug/L*		*16.43*			*01/23/20 11:58*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*114*		*70 - 130*		*01/23/20 11:58*	*1*
4-Bromofluorobenzene (Surr)	*103*		*80 - 120*		*01/23/20 11:58*	*1*
Dibromofluoromethane (Surr)	*108*		*76 - 132*		*01/23/20 11:58*	*1*
Toluene-d8 (Surr)	*106*		*80 - 128*		*01/23/20 11:58*	*1*

Client Sample ID: OC_GW_OW-1B_20200121

Lab Sample ID: 440-259517-5
Matrix: Water
Date Collected: 01/21/20 09:38
Date Received: 01/21/20 15:10

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			01/23/20 12:27	1
1,1,1-Trichloroethane	ND		1.0	0.25	ug/L			01/23/20 12:27	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.25	ug/L			01/23/20 12:27	1
1,1,2-Trichloro-1,2,2-trifluoroethane	**5.3**		5.0	0.50	ug/L			01/23/20 12:27	1
1,1,2-Trichloroethane	ND		1.0	0.25	ug/L			01/23/20 12:27	1
1,1-Dichloroethane	ND		1.0	0.25	ug/L			01/23/20 12:27	1
1,1-Dichloroethene	ND		1.0	0.25	ug/L			01/23/20 12:27	1
1,1-Dichloropropene	ND		1.0	0.25	ug/L			01/23/20 12:27	1
1,2,3-Trichlorobenzene	ND		1.0	0.40	ug/L			01/23/20 12:27	1
1,2,3-Trichloropropane	ND		1.0	0.40	ug/L			01/23/20 12:27	1

Client Sample Results

Client: Jacob & Hefner Associates P.C.
Project/Site: Omega Chemical -2020 Semi-Annual GWM Feb

Job ID: 440-259517-1
SDG: Omega Chemical

Client Sample ID: OC_GW_OW-1B_20200121

Lab Sample ID: 440-259517-5

Date Collected: 01/21/20 09:38
Matrix: Water
Date Received: 01/21/20 15:10

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4-Trichlorobenzene	ND		1.0	0.40	ug/L			01/23/20 12:27	1
1,2,4-Trimethylbenzene	ND		1.0	0.25	ug/L			01/23/20 12:27	1
1,2-Dibromo-3-Chloropropane	ND		5.0	0.50	ug/L			01/23/20 12:27	1
1,2-Dibromoethane (EDB)	ND		1.0	0.25	ug/L			01/23/20 12:27	1
1,2-Dichlorobenzene	ND		1.0	0.25	ug/L			01/23/20 12:27	1
1,2-Dichloroethane	ND		1.0	0.25	ug/L			01/23/20 12:27	1
1,2-Dichloropropane	ND		1.0	0.25	ug/L			01/23/20 12:27	1
1,3,5-Trimethylbenzene	ND		1.0	0.25	ug/L			01/23/20 12:27	1
1,3-Dichlorobenzene	ND		1.0	0.25	ug/L			01/23/20 12:27	1
1,3-Dichloropropane	ND		1.0	0.25	ug/L			01/23/20 12:27	1
1,4-Dichlorobenzene	ND		1.0	0.25	ug/L			01/23/20 12:27	1
2,2-Dichloropropane	ND		1.0	0.40	ug/L			01/23/20 12:27	1
2-Chlorotoluene	ND		1.0	0.25	ug/L			01/23/20 12:27	1
4-Chlorotoluene	ND		1.0	0.25	ug/L			01/23/20 12:27	1
Acetone	ND		10	10	ug/L			01/23/20 12:27	1
Benzene	ND		0.50	0.25	ug/L			01/23/20 12:27	1
Bromobenzene	ND		1.0	0.25	ug/L			01/23/20 12:27	1
Bromochloromethane	ND		1.0	0.25	ug/L			01/23/20 12:27	1
Bromodichloromethane	ND		1.0	0.25	ug/L			01/23/20 12:27	1
Bromoform	ND		1.0	0.40	ug/L			01/23/20 12:27	1
Bromomethane	ND		1.0	0.25	ug/L			01/23/20 12:27	1
Carbon tetrachloride	ND		0.50	0.25	ug/L			01/23/20 12:27	1
Chlorobenzene	ND		1.0	0.25	ug/L			01/23/20 12:27	1
Chloroethane	ND		1.0	0.40	ug/L			01/23/20 12:27	1
Chloroform	ND		1.0	0.25	ug/L			01/23/20 12:27	1
Chloromethane	ND		1.0	0.25	ug/L			01/23/20 12:27	1
cis-1,2-Dichloroethene	ND		1.0	0.25	ug/L			01/23/20 12:27	1
cis-1,3-Dichloropropene	ND		0.50	0.25	ug/L			01/23/20 12:27	1
Dibromochloromethane	ND		1.0	0.25	ug/L			01/23/20 12:27	1
Dibromomethane	ND		1.0	0.25	ug/L			01/23/20 12:27	1
Dichlorodifluoromethane	ND		1.0	0.40	ug/L			01/23/20 12:27	1
Ethylbenzene	ND		1.0	0.25	ug/L			01/23/20 12:27	1
Hexachlorobutadiene	ND		1.0	0.25	ug/L			01/23/20 12:27	1
Isopropyl alcohol	ND		250	180	ug/L			01/23/20 12:27	1
Isopropylbenzene	ND		1.0	0.25	ug/L			01/23/20 12:27	1
m,p-Xylene	ND		1.0	0.50	ug/L			01/23/20 12:27	1
Methylene Chloride	ND		5.0	0.88	ug/L			01/23/20 12:27	1
Methyl-t-Butyl Ether (MTBE)	ND		1.0	0.25	ug/L			01/23/20 12:27	1
Naphthalene	ND		1.0	0.40	ug/L			01/23/20 12:27	1
n-Butylbenzene	ND		1.0	0.40	ug/L			01/23/20 12:27	1
N-Propylbenzene	ND		1.0	0.25	ug/L			01/23/20 12:27	1
o-Xylene	ND		1.0	0.25	ug/L			01/23/20 12:27	1
p-Isopropyltoluene	ND		1.0	0.25	ug/L			01/23/20 12:27	1
sec-Butylbenzene	ND		1.0	0.25	ug/L			01/23/20 12:27	1
Styrene	ND		1.0	0.25	ug/L			01/23/20 12:27	1
tert-Butylbenzene	ND		1.0	0.25	ug/L			01/23/20 12:27	1
Tetrachloroethene	**5.0**		1.0	0.25	ug/L			01/23/20 12:27	1
Toluene	ND		1.0	0.25	ug/L			01/23/20 12:27	1
trans-1,2-Dichloroethene	ND		1.0	0.25	ug/L			01/23/20 12:27	1

Client Sample ID: OC_GW_OW-1B_20200121

Lab Sample ID: 440-259517-5

Date Collected: 01/21/20 09:38
Matrix: Water
Date Received: 01/21/20 15:10

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			01/23/20 12:27	1
Trichloroethene	ND		1.0	0.25	ug/L			01/23/20 12:27	1
Trichlorofluoromethane	**1.8**		1.0	0.25	ug/L			01/23/20 12:27	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Tentatively Identified Compound	*None*		*ug/L*					*01/23/20 12:27*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*104*		*70 - 130*		*01/23/20 12:27*	*1*
4-Bromofluorobenzene (Surr)	*99*		*80 - 120*		*01/23/20 12:27*	*1*
Dibromofluoromethane (Surr)	*104*		*76 - 132*		*01/23/20 12:27*	*1*
Toluene-d8 (Surr)	*104*		*80 - 128*		*01/23/20 12:27*	*1*

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Vinyl chloride	ND		0.50	0.25	ug/L			01/23/20 12:28	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Unknown	*820*	*T J*	*ug/L*		*1.74*			*01/23/20 12:28*	*1*
Unknown	*3.0*	*T J*	*ug/L*		*2.64*			*01/23/20 12:28*	*1*
Unknown	*26*	*T J*	*ug/L*		*15.52*			*01/23/20 12:28*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*120*		*70 - 130*		*01/23/20 12:28*	*1*
4-Bromofluorobenzene (Surr)	*99*		*80 - 120*		*01/23/20 12:28*	*1*
Dibromofluoromethane (Surr)	*115*		*76 - 132*		*01/23/20 12:28*	*1*
Toluene-d8 (Surr)	*100*		*80 - 128*		*01/23/20 12:28*	*1*

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	**0.59**	**B**	0.49	0.098	ug/L		01/27/20 10:20	01/28/20 10:50	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,4-Dioxane-d8 (Surr)	*50*		*27 - 120*	*01/27/20 10:20*	*01/28/20 10:50*	*1*

Client Sample ID: OC_GW_OW-3B_20200120K

Lab Sample ID: 440-259517-6

Date Collected: 01/20/20 14:35
Matrix: Water
Date Received: 01/21/20 15:10

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			01/23/20 12:51	1
1,1,1-Trichloroethane	ND		1.0	0.25	ug/L			01/23/20 12:51	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.25	ug/L			01/23/20 12:51	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		5.0	0.50	ug/L			01/23/20 12:51	1
1,1,2-Trichloroethane	ND		1.0	0.25	ug/L			01/23/20 12:51	1
1,1-Dichloroethane	ND		1.0	0.25	ug/L			01/23/20 12:51	1
1,1-Dichloroethene	ND		1.0	0.25	ug/L			01/23/20 12:51	1
1,1-Dichloropropene	ND		1.0	0.25	ug/L			01/23/20 12:51	1
1,2,3-Trichlorobenzene	ND		1.0	0.40	ug/L			01/23/20 12:51	1
1,2,3-Trichloropropane	ND		1.0	0.40	ug/L			01/23/20 12:51	1
1,2,4-Trichlorobenzene	ND		1.0	0.40	ug/L			01/23/20 12:51	1

Client Sample Results

Client: Jacob & Hefner Associates P.C.
Project/Site: Omega Chemical -2020 Semi-Annual GWM Feb

Job ID: 440-259517-1
SDG: Omega Chemical

Client Sample ID: OC_GW_OW-3B_20200120K

Lab Sample ID: 440-259517-6

Date Collected: 01/20/20 14:35
Matrix: Water
Date Received: 01/21/20 15:10

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4-Trimethylbenzene	ND		1.0	0.25	ug/L			01/23/20 12:51	1
1,2-Dibromo-3-Chloropropane	ND		5.0	0.50	ug/L			01/23/20 12:51	1
1,2-Dibromoethane (EDB)	ND		1.0	0.25	ug/L			01/23/20 12:51	1
1,2-Dichlorobenzene	ND		1.0	0.25	ug/L			01/23/20 12:51	1
1,2-Dichloroethane	ND		1.0	0.25	ug/L			01/23/20 12:51	1
1,2-Dichloropropane	ND		1.0	0.25	ug/L			01/23/20 12:51	1
1,3,5-Trimethylbenzene	ND		1.0	0.25	ug/L			01/23/20 12:51	1
1,3-Dichlorobenzene	ND		1.0	0.25	ug/L			01/23/20 12:51	1
1,3-Dichloropropane	ND		1.0	0.25	ug/L			01/23/20 12:51	1
1,4-Dichlorobenzene	ND		1.0	0.25	ug/L			01/23/20 12:51	1
2,2-Dichloropropane	ND		1.0	0.40	ug/L			01/23/20 12:51	1
2-Chlorotoluene	ND		1.0	0.25	ug/L			01/23/20 12:51	1
4-Chlorotoluene	ND		1.0	0.25	ug/L			01/23/20 12:51	1
Acetone	ND		10	10	ug/L			01/23/20 12:51	1
Benzene	ND		0.50	0.25	ug/L			01/23/20 12:51	1
Bromobenzene	ND		1.0	0.25	ug/L			01/23/20 12:51	1
Bromochloromethane	ND		1.0	0.25	ug/L			01/23/20 12:51	1
Bromodichloromethane	ND		1.0	0.25	ug/L			01/23/20 12:51	1
Bromoform	ND		1.0	0.40	ug/L			01/23/20 12:51	1
Bromomethane	ND		1.0	0.25	ug/L			01/23/20 12:51	1
Carbon tetrachloride	ND		0.50	0.25	ug/L			01/23/20 12:51	1
Chlorobenzene	ND		1.0	0.25	ug/L			01/23/20 12:51	1
Chloroethane	ND		1.0	0.40	ug/L			01/23/20 12:51	1
Chloroform	ND		1.0	0.25	ug/L			01/23/20 12:51	1
Chloromethane	ND		1.0	0.25	ug/L			01/23/20 12:51	1
cis-1,2-Dichloroethene	ND		1.0	0.25	ug/L			01/23/20 12:51	1
cis-1,3-Dichloropropene	ND		0.50	0.25	ug/L			01/23/20 12:51	1
Dibromochloromethane	ND		1.0	0.25	ug/L			01/23/20 12:51	1
Dibromomethane	ND		1.0	0.25	ug/L			01/23/20 12:51	1
Dichlorodifluoromethane	ND		1.0	0.40	ug/L			01/23/20 12:51	1
Ethylbenzene	ND		1.0	0.25	ug/L			01/23/20 12:51	1
Hexachlorobutadiene	ND		1.0	0.25	ug/L			01/23/20 12:51	1
Isopropyl alcohol	ND		250	180	ug/L			01/23/20 12:51	1
Isopropylbenzene	ND		1.0	0.25	ug/L			01/23/20 12:51	1
m,p-Xylene	ND		1.0	0.50	ug/L			01/23/20 12:51	1
Methylene Chloride	ND		5.0	0.88	ug/L			01/23/20 12:51	1
Methyl-t-Butyl Ether (MTBE)	ND		1.0	0.25	ug/L			01/23/20 12:51	1
Naphthalene	ND		1.0	0.40	ug/L			01/23/20 12:51	1
n-Butylbenzene	ND		1.0	0.40	ug/L			01/23/20 12:51	1
N-Propylbenzene	ND		1.0	0.25	ug/L			01/23/20 12:51	1
o-Xylene	ND		1.0	0.25	ug/L			01/23/20 12:51	1
p-Isopropyltoluene	ND		1.0	0.25	ug/L			01/23/20 12:51	1
sec-Butylbenzene	ND		1.0	0.25	ug/L			01/23/20 12:51	1
Styrene	ND		1.0	0.25	ug/L			01/23/20 12:51	1
tert-Butylbenzene	ND		1.0	0.25	ug/L			01/23/20 12:51	1
Tetrachloroethene	**11**		1.0	0.25	ug/L			01/23/20 12:51	1
Toluene	ND		1.0	0.25	ug/L			01/23/20 12:51	1
trans-1,2-Dichloroethene	ND		1.0	0.25	ug/L			01/23/20 12:51	1
trans-1,3-Dichloropropene	ND		0.50	0.25	ug/L			01/23/20 12:51	1

Client Sample ID: OC_GW_OW-3B_20200120K

Lab Sample ID: 440-259517-6
Date Collected: 01/20/20 14:35
Matrix: Water
Date Received: 01/21/20 15:10

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Trichloroethene	ND		1.0	0.25	ug/L			01/23/20 12:51	1
Trichlorofluoromethane	ND		1.0	0.25	ug/L			01/23/20 12:51	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Tentatively Identified Compound	*None*		*ug/L*					*01/23/20 12:51*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*103*		*70 - 130*		*01/23/20 12:51*	*1*
4-Bromofluorobenzene (Surr)	*99*		*80 - 120*		*01/23/20 12:51*	*1*
Dibromofluoromethane (Surr)	*102*		*76 - 132*		*01/23/20 12:51*	*1*
Toluene-d8 (Surr)	*103*		*80 - 128*		*01/23/20 12:51*	*1*

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Vinyl chloride	ND		0.50	0.25	ug/L			01/23/20 12:57	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Unknown	*1100*	*T J*	*ug/L*		*1.75*			*01/23/20 12:57*	*1*
Unknown	*8.7*	*T J*	*ug/L*		*16.33*			*01/23/20 12:57*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*121*		*70 - 130*		*01/23/20 12:57*	*1*
4-Bromofluorobenzene (Surr)	*102*		*80 - 120*		*01/23/20 12:57*	*1*
Dibromofluoromethane (Surr)	*114*		*76 - 132*		*01/23/20 12:57*	*1*
Toluene-d8 (Surr)	*101*		*80 - 128*		*01/23/20 12:57*	*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		01/22/20 07:00	01/23/20 16:49	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,4-Dioxane-d8 (Surr)	*57*		*27 - 120*	*01/22/20 07:00*	*01/23/20 16:49*	*1*

Client Sample ID: OC_GW_OW-8B_20200121K

Lab Sample ID: 440-259517-7
Date Collected: 01/21/20 07:58
Matrix: Water
Date Received: 01/21/20 15:10

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			01/23/20 13:14	1
1,1,1-Trichloroethane	ND		1.0	0.25	ug/L			01/23/20 13:14	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.25	ug/L			01/23/20 13:14	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		5.0	0.50	ug/L			01/23/20 13:14	1
1,1,2-Trichloroethane	ND		1.0	0.25	ug/L			01/23/20 13:14	1
1,1-Dichloroethane	ND		1.0	0.25	ug/L			01/23/20 13:14	1
1,1-Dichloroethene	ND		1.0	0.25	ug/L			01/23/20 13:14	1
1,1-Dichloropropene	ND		1.0	0.25	ug/L			01/23/20 13:14	1
1,2,3-Trichlorobenzene	ND		1.0	0.40	ug/L			01/23/20 13:14	1
1,2,3-Trichloropropane	ND		1.0	0.40	ug/L			01/23/20 13:14	1
1,2,4-Trichlorobenzene	ND		1.0	0.40	ug/L			01/23/20 13:14	1
1,2,4-Trimethylbenzene	ND		1.0	0.25	ug/L			01/23/20 13:14	1
1,2-Dibromo-3-Chloropropane	ND		5.0	0.50	ug/L			01/23/20 13:14	1

Client Sample Results

Client: Jacob & Hefner Associates P.C.
Project/Site: Omega Chemical -2020 Semi-Annual GWM Feb

Job ID: 440-259517-1
SDG: Omega Chemical

Client Sample ID: OC_GW_OW-8B_20200121K

Lab Sample ID: 440-259517-7

Date Collected: 01/21/20 07:58
Matrix: Water
Date Received: 01/21/20 15:10

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			01/23/20 13:14	1
1,2-Dichlorobenzene	ND		1.0	0.25	ug/L			01/23/20 13:14	1
1,2-Dichloroethane	ND		1.0	0.25	ug/L			01/23/20 13:14	1
1,2-Dichloropropane	ND		1.0	0.25	ug/L			01/23/20 13:14	1
1,3,5-Trimethylbenzene	ND		1.0	0.25	ug/L			01/23/20 13:14	1
1,3-Dichlorobenzene	ND		1.0	0.25	ug/L			01/23/20 13:14	1
1,3-Dichloropropane	ND		1.0	0.25	ug/L			01/23/20 13:14	1
1,4-Dichlorobenzene	ND		1.0	0.25	ug/L			01/23/20 13:14	1
2,2-Dichloropropane	ND		1.0	0.40	ug/L			01/23/20 13:14	1
2-Chlorotoluene	ND		1.0	0.25	ug/L			01/23/20 13:14	1
4-Chlorotoluene	ND		1.0	0.25	ug/L			01/23/20 13:14	1
Acetone	ND		10	10	ug/L			01/23/20 13:14	1
Benzene	ND		0.50	0.25	ug/L			01/23/20 13:14	1
Bromobenzene	ND		1.0	0.25	ug/L			01/23/20 13:14	1
Bromochloromethane	ND		1.0	0.25	ug/L			01/23/20 13:14	1
Bromodichloromethane	ND		1.0	0.25	ug/L			01/23/20 13:14	1
Bromoform	ND		1.0	0.40	ug/L			01/23/20 13:14	1
Bromomethane	ND		1.0	0.25	ug/L			01/23/20 13:14	1
Carbon tetrachloride	ND		0.50	0.25	ug/L			01/23/20 13:14	1
Chlorobenzene	ND		1.0	0.25	ug/L			01/23/20 13:14	1
Chloroethane	ND		1.0	0.40	ug/L			01/23/20 13:14	1
Chloroform	ND		1.0	0.25	ug/L			01/23/20 13:14	1
Chloromethane	ND		1.0	0.25	ug/L			01/23/20 13:14	1
cis-1,2-Dichloroethene	ND		1.0	0.25	ug/L			01/23/20 13:14	1
cis-1,3-Dichloropropene	ND		0.50	0.25	ug/L			01/23/20 13:14	1
Dibromochloromethane	ND		1.0	0.25	ug/L			01/23/20 13:14	1
Dibromomethane	ND		1.0	0.25	ug/L			01/23/20 13:14	1
Dichlorodifluoromethane	ND		1.0	0.40	ug/L			01/23/20 13:14	1
Ethylbenzene	ND		1.0	0.25	ug/L			01/23/20 13:14	1
Hexachlorobutadiene	ND		1.0	0.25	ug/L			01/23/20 13:14	1
Isopropyl alcohol	ND		250	180	ug/L			01/23/20 13:14	1
Isopropylbenzene	ND		1.0	0.25	ug/L			01/23/20 13:14	1
m,p-Xylene	ND		1.0	0.50	ug/L			01/23/20 13:14	1
Methylene Chloride	ND		5.0	0.88	ug/L			01/23/20 13:14	1
Methyl-t-Butyl Ether (MTBE)	ND		1.0	0.25	ug/L			01/23/20 13:14	1
Naphthalene	ND		1.0	0.40	ug/L			01/23/20 13:14	1
n-Butylbenzene	ND		1.0	0.40	ug/L			01/23/20 13:14	1
N-Propylbenzene	ND		1.0	0.25	ug/L			01/23/20 13:14	1
o-Xylene	ND		1.0	0.25	ug/L			01/23/20 13:14	1
p-Isopropyltoluene	ND		1.0	0.25	ug/L			01/23/20 13:14	1
sec-Butylbenzene	ND		1.0	0.25	ug/L			01/23/20 13:14	1
Styrene	ND		1.0	0.25	ug/L			01/23/20 13:14	1
tert-Butylbenzene	ND		1.0	0.25	ug/L			01/23/20 13:14	1
Tetrachloroethene	**29**		1.0	0.25	ug/L			01/23/20 13:14	1
Toluene	ND		1.0	0.25	ug/L			01/23/20 13:14	1
trans-1,2-Dichloroethene	ND		1.0	0.25	ug/L			01/23/20 13:14	1
trans-1,3-Dichloropropene	ND		0.50	0.25	ug/L			01/23/20 13:14	1
Trichloroethene	ND		1.0	0.25	ug/L			01/23/20 13:14	1
Trichlorofluoromethane	ND		1.0	0.25	ug/L			01/23/20 13:14	1

Client Sample ID: OC_GW_OW-8B_20200121K

Lab Sample ID: 440-259517-7

Date Collected: 01/21/20 07:58
Matrix: Water
Date Received: 01/21/20 15:10

Tentatively Identified Compound	Est. Result	Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Tentatively Identified Compound	None		ug/L					01/23/20 13:14	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	98		70 - 130		01/23/20 13:14	1
4-Bromofluorobenzene (Surr)	104		80 - 120		01/23/20 13:14	1
Dibromofluoromethane (Surr)	101		76 - 132		01/23/20 13:14	1
Toluene-d8 (Surr)	106		80 - 128		01/23/20 13:14	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Vinyl chloride	ND		0.50	0.25	ug/L			01/23/20 13:27	1

Tentatively Identified Compound	Est. Result	Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Unknown	1100	T J	ug/L		1.75			01/23/20 13:27	1
Unknown	15	T J	ug/L		15.86			01/23/20 13:27	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	120		70 - 130		01/23/20 13:27	1
4-Bromofluorobenzene (Surr)	98		80 - 120		01/23/20 13:27	1
Dibromofluoromethane (Surr)	113		76 - 132		01/23/20 13:27	1
Toluene-d8 (Surr)	105		80 - 128		01/23/20 13:27	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		01/23/20 06:45	01/24/20 11:42	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,4-Dioxane-d8 (Surr)	54		27 - 120	01/23/20 06:45	01/24/20 11:42	1

Client Sample ID: OC_TB2_20200120

Lab Sample ID: 440-259517-8

Date Collected: 01/20/20 07:00
Matrix: Water
Date Received: 01/21/20 15:10

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			01/23/20 13:38	1
1,1,1-Trichloroethane	ND		1.0	0.25	ug/L			01/23/20 13:38	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.25	ug/L			01/23/20 13:38	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		5.0	0.50	ug/L			01/23/20 13:38	1
1,1,2-Trichloroethane	ND		1.0	0.25	ug/L			01/23/20 13:38	1
1,1-Dichloroethane	ND		1.0	0.25	ug/L			01/23/20 13:38	1
1,1-Dichloroethene	ND		1.0	0.25	ug/L			01/23/20 13:38	1
1,1-Dichloropropene	ND		1.0	0.25	ug/L			01/23/20 13:38	1
1,2,3-Trichlorobenzene	ND		1.0	0.40	ug/L			01/23/20 13:38	1
1,2,3-Trichloropropane	ND		1.0	0.40	ug/L			01/23/20 13:38	1
1,2,4-Trichlorobenzene	ND		1.0	0.40	ug/L			01/23/20 13:38	1
1,2,4-Trimethylbenzene	ND		1.0	0.25	ug/L			01/23/20 13:38	1
1,2-Dibromo-3-Chloropropane	ND		5.0	0.50	ug/L			01/23/20 13:38	1
1,2-Dibromoethane (EDB)	ND		1.0	0.25	ug/L			01/23/20 13:38	1
1,2-Dichlorobenzene	ND		1.0	0.25	ug/L			01/23/20 13:38	1
1,2-Dichloroethane	ND		1.0	0.25	ug/L			01/23/20 13:38	1
1,2-Dichloropropane	ND		1.0	0.25	ug/L			01/23/20 13:38	1

Client Sample Results

Client: Jacob & Hefner Associates P.C.
Project/Site: Omega Chemical -2020 Semi-Annual GWM Feb

Job ID: 440-259517-1
SDG: Omega Chemical

Client Sample ID: OC_TB2_20200120

Lab Sample ID: 440-259517-8

Date Collected: 01/20/20 07:00
Matrix: Water
Date Received: 01/21/20 15:10

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,3,5-Trimethylbenzene	ND		1.0	0.25	ug/L			01/23/20 13:38	1
1,3-Dichlorobenzene	ND		1.0	0.25	ug/L			01/23/20 13:38	1
1,3-Dichloropropane	ND		1.0	0.25	ug/L			01/23/20 13:38	1
1,4-Dichlorobenzene	ND		1.0	0.25	ug/L			01/23/20 13:38	1
2,2-Dichloropropane	ND		1.0	0.40	ug/L			01/23/20 13:38	1
2-Chlorotoluene	ND		1.0	0.25	ug/L			01/23/20 13:38	1
4-Chlorotoluene	ND		1.0	0.25	ug/L			01/23/20 13:38	1
Acetone	ND		10	10	ug/L			01/23/20 13:38	1
Benzene	ND		0.50	0.25	ug/L			01/23/20 13:38	1
Bromobenzene	ND		1.0	0.25	ug/L			01/23/20 13:38	1
Bromochloromethane	ND		1.0	0.25	ug/L			01/23/20 13:38	1
Bromodichloromethane	ND		1.0	0.25	ug/L			01/23/20 13:38	1
Bromoform	ND		1.0	0.40	ug/L			01/23/20 13:38	1
Bromomethane	ND		1.0	0.25	ug/L			01/23/20 13:38	1
Carbon tetrachloride	ND		0.50	0.25	ug/L			01/23/20 13:38	1
Chlorobenzene	ND		1.0	0.25	ug/L			01/23/20 13:38	1
Chloroethane	ND		1.0	0.40	ug/L			01/23/20 13:38	1
Chloroform	ND		1.0	0.25	ug/L			01/23/20 13:38	1
Chloromethane	ND		1.0	0.25	ug/L			01/23/20 13:38	1
cis-1,2-Dichloroethene	ND		1.0	0.25	ug/L			01/23/20 13:38	1
cis-1,3-Dichloropropene	ND		0.50	0.25	ug/L			01/23/20 13:38	1
Dibromochloromethane	ND		1.0	0.25	ug/L			01/23/20 13:38	1
Dibromomethane	ND		1.0	0.25	ug/L			01/23/20 13:38	1
Dichlorodifluoromethane	ND		1.0	0.40	ug/L			01/23/20 13:38	1
Ethylbenzene	ND		1.0	0.25	ug/L			01/23/20 13:38	1
Hexachlorobutadiene	ND		1.0	0.25	ug/L			01/23/20 13:38	1
Isopropyl alcohol	ND		250	180	ug/L			01/23/20 13:38	1
Isopropylbenzene	ND		1.0	0.25	ug/L			01/23/20 13:38	1
m,p-Xylene	ND		1.0	0.50	ug/L			01/23/20 13:38	1
Methylene Chloride	ND		5.0	0.88	ug/L			01/23/20 13:38	1
Methyl-t-Butyl Ether (MTBE)	ND		1.0	0.25	ug/L			01/23/20 13:38	1
Naphthalene	ND		1.0	0.40	ug/L			01/23/20 13:38	1
n-Butylbenzene	ND		1.0	0.40	ug/L			01/23/20 13:38	1
N-Propylbenzene	ND		1.0	0.25	ug/L			01/23/20 13:38	1
o-Xylene	ND		1.0	0.25	ug/L			01/23/20 13:38	1
p-Isopropyltoluene	ND		1.0	0.25	ug/L			01/23/20 13:38	1
sec-Butylbenzene	ND		1.0	0.25	ug/L			01/23/20 13:38	1
Styrene	ND		1.0	0.25	ug/L			01/23/20 13:38	1
tert-Butylbenzene	ND		1.0	0.25	ug/L			01/23/20 13:38	1
Tetrachloroethene	**0.31**	**J**	1.0	0.25	ug/L			01/23/20 13:38	1
Toluene	ND		1.0	0.25	ug/L			01/23/20 13:38	1
trans-1,2-Dichloroethene	ND		1.0	0.25	ug/L			01/23/20 13:38	1
trans-1,3-Dichloropropene	ND		0.50	0.25	ug/L			01/23/20 13:38	1
Trichloroethene	ND		1.0	0.25	ug/L			01/23/20 13:38	1
Trichlorofluoromethane	ND		1.0	0.25	ug/L			01/23/20 13:38	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Tentatively Identified Compound	*None*		*ug/L*					*01/23/20 13:38*	*1*

Client Sample ID: OC_TB2_20200120

Lab Sample ID: 440-259517-8

Date Collected: 01/20/20 07:00
Matrix: Water
Date Received: 01/21/20 15:10

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*104*		*70 - 130*		*01/23/20 13:38*	*1*
4-Bromofluorobenzene (Surr)	*96*		*80 - 120*		*01/23/20 13:38*	*1*
Dibromofluoromethane (Surr)	*101*		*76 - 132*		*01/23/20 13:38*	*1*
Toluene-d8 (Surr)	*103*		*80 - 128*		*01/23/20 13:38*	*1*

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Vinyl chloride	ND		0.50	0.25	ug/L			01/23/20 13:56	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Unknown	*66*	*T J*	*ug/L*		*1.69*			*01/23/20 13:56*	*1*
Unknown	*2.5*	*T J*	*ug/L*		*3.21*			*01/23/20 13:56*	*1*
Unknown	*14*	*T J*	*ug/L*		*16.09*			*01/23/20 13:56*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*120*		*70 - 130*		*01/23/20 13:56*	*1*
4-Bromofluorobenzene (Surr)	*102*		*80 - 120*		*01/23/20 13:56*	*1*
Dibromofluoromethane (Surr)	*113*		*76 - 132*		*01/23/20 13:56*	*1*
Toluene-d8 (Surr)	*102*		*80 - 128*		*01/23/20 13:56*	*1*

Client Sample ID: OC_GW_OW-3BN_20200120

Lab Sample ID: 440-259517-9

Date Collected: 01/20/20 15:33
Matrix: Water
Date Received: 01/21/20 15:10

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			01/23/20 14:02	1
1,1,1-Trichloroethane	ND		1.0	0.25	ug/L			01/23/20 14:02	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.25	ug/L			01/23/20 14:02	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		5.0	0.50	ug/L			01/23/20 14:02	1
1,1,2-Trichloroethane	ND		1.0	0.25	ug/L			01/23/20 14:02	1
1,1-Dichloroethane	ND		1.0	0.25	ug/L			01/23/20 14:02	1
1,1-Dichloroethene	ND		1.0	0.25	ug/L			01/23/20 14:02	1
1,1-Dichloropropene	ND		1.0	0.25	ug/L			01/23/20 14:02	1
1,2,3-Trichlorobenzene	ND		1.0	0.40	ug/L			01/23/20 14:02	1
1,2,3-Trichloropropane	ND		1.0	0.40	ug/L			01/23/20 14:02	1
1,2,4-Trichlorobenzene	ND		1.0	0.40	ug/L			01/23/20 14:02	1
1,2,4-Trimethylbenzene	ND		1.0	0.25	ug/L			01/23/20 14:02	1
1,2-Dibromo-3-Chloropropane	ND		5.0	0.50	ug/L			01/23/20 14:02	1
1,2-Dibromoethane (EDB)	ND		1.0	0.25	ug/L			01/23/20 14:02	1
1,2-Dichlorobenzene	ND		1.0	0.25	ug/L			01/23/20 14:02	1
1,2-Dichloroethane	ND		1.0	0.25	ug/L			01/23/20 14:02	1
1,2-Dichloropropane	ND		1.0	0.25	ug/L			01/23/20 14:02	1
1,3,5-Trimethylbenzene	ND		1.0	0.25	ug/L			01/23/20 14:02	1
1,3-Dichlorobenzene	ND		1.0	0.25	ug/L			01/23/20 14:02	1
1,3-Dichloropropane	ND		1.0	0.25	ug/L			01/23/20 14:02	1
1,4-Dichlorobenzene	ND		1.0	0.25	ug/L			01/23/20 14:02	1
2,2-Dichloropropane	ND		1.0	0.40	ug/L			01/23/20 14:02	1
2-Chlorotoluene	ND		1.0	0.25	ug/L			01/23/20 14:02	1
4-Chlorotoluene	ND		1.0	0.25	ug/L			01/23/20 14:02	1
Acetone	**48**		10	10	ug/L			01/23/20 14:02	1

Client Sample ID: OC_GW_OW-3BN_20200120

Lab Sample ID: 440-259517-9

Date Collected: 01/20/20 15:33
Matrix: Water
Date Received: 01/21/20 15:10

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			01/23/20 14:02	1
Bromobenzene	ND		1.0	0.25	ug/L			01/23/20 14:02	1
Bromochloromethane	ND		1.0	0.25	ug/L			01/23/20 14:02	1
Bromodichloromethane	ND		1.0	0.25	ug/L			01/23/20 14:02	1
Bromoform	ND		1.0	0.40	ug/L			01/23/20 14:02	1
Bromomethane	ND		1.0	0.25	ug/L			01/23/20 14:02	1
Carbon tetrachloride	ND		0.50	0.25	ug/L			01/23/20 14:02	1
Chlorobenzene	ND		1.0	0.25	ug/L			01/23/20 14:02	1
Chloroethane	ND		1.0	0.40	ug/L			01/23/20 14:02	1
Chloroform	ND		1.0	0.25	ug/L			01/23/20 14:02	1
Chloromethane	ND		1.0	0.25	ug/L			01/23/20 14:02	1
cis-1,2-Dichloroethene	ND		1.0	0.25	ug/L			01/23/20 14:02	1
cis-1,3-Dichloropropene	ND		0.50	0.25	ug/L			01/23/20 14:02	1
Dibromochloromethane	ND		1.0	0.25	ug/L			01/23/20 14:02	1
Dibromomethane	ND		1.0	0.25	ug/L			01/23/20 14:02	1
Dichlorodifluoromethane	ND		1.0	0.40	ug/L			01/23/20 14:02	1
Ethylbenzene	ND		1.0	0.25	ug/L			01/23/20 14:02	1
Hexachlorobutadiene	ND		1.0	0.25	ug/L			01/23/20 14:02	1
Isopropyl alcohol	ND		250	180	ug/L			01/23/20 14:02	1
Isopropylbenzene	ND		1.0	0.25	ug/L			01/23/20 14:02	1
m,p-Xylene	ND		1.0	0.50	ug/L			01/23/20 14:02	1
Methylene Chloride	ND		5.0	0.88	ug/L			01/23/20 14:02	1
Methyl-t-Butyl Ether (MTBE)	ND		1.0	0.25	ug/L			01/23/20 14:02	1
Naphthalene	ND		1.0	0.40	ug/L			01/23/20 14:02	1
n-Butylbenzene	ND		1.0	0.40	ug/L			01/23/20 14:02	1
N-Propylbenzene	ND		1.0	0.25	ug/L			01/23/20 14:02	1
o-Xylene	ND		1.0	0.25	ug/L			01/23/20 14:02	1
p-Isopropyltoluene	ND		1.0	0.25	ug/L			01/23/20 14:02	1
sec-Butylbenzene	ND		1.0	0.25	ug/L			01/23/20 14:02	1
Styrene	ND		1.0	0.25	ug/L			01/23/20 14:02	1
tert-Butylbenzene	ND		1.0	0.25	ug/L			01/23/20 14:02	1
Tetrachloroethene	ND		1.0	0.25	ug/L			01/23/20 14:02	1
Toluene	ND		1.0	0.25	ug/L			01/23/20 14:02	1
trans-1,2-Dichloroethene	ND		1.0	0.25	ug/L			01/23/20 14:02	1
trans-1,3-Dichloropropene	ND		0.50	0.25	ug/L			01/23/20 14:02	1
Trichloroethene	ND		1.0	0.25	ug/L			01/23/20 14:02	1
Trichlorofluoromethane	ND		1.0	0.25	ug/L			01/23/20 14:02	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Unknown	*8.3*	*T J*	*ug/L*		*5.09*			*01/23/20 14:02*	*1*
Unknown	*6.5*	*T J*	*ug/L*		*6.54*			*01/23/20 14:02*	*1*
2-Butanone, 3,3-dimethyl-	*5.7*	*T J N*	*ug/L*		*8.51*	*75-97-8*		*01/23/20 14:02*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*104*		*70 - 130*		*01/23/20 14:02*	*1*
4-Bromofluorobenzene (Surr)	*103*		*80 - 120*		*01/23/20 14:02*	*1*
Dibromofluoromethane (Surr)	*104*		*76 - 132*		*01/23/20 14:02*	*1*
Toluene-d8 (Surr)	*102*		*80 - 128*		*01/23/20 14:02*	*1*

Client Sample Results

Client: Jacob & Hefner Associates P.C.
Project/Site: Omega Chemical -2020 Semi-Annual GWM Feb

Job ID: 440-259517-1
SDG: Omega Chemical

Client Sample ID: OC_GW_OW-3BN_20200120

Lab Sample ID: 440-259517-9
Date Collected: 01/20/20 15:33
Matrix: Water
Date Received: 01/21/20 15:10

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Vinyl chloride	ND		0.50	0.25	ug/L			01/23/20 14:25	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Unknown	*64*	*T J*	*ug/L*		*1.69*			*01/23/20 14:25*	*1*
Unknown	*5.0*	*T J*	*ug/L*		*4.97*			*01/23/20 14:25*	*1*
Unknown	*3.1*	*T J*	*ug/L*		*6.96*			*01/23/20 14:25*	*1*
Unknown	*24*	*T J*	*ug/L*		*16.35*			*01/23/20 14:25*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*123*		*70 - 130*		*01/23/20 14:25*	*1*
4-Bromofluorobenzene (Surr)	*104*		*80 - 120*		*01/23/20 14:25*	*1*
Dibromofluoromethane (Surr)	*107*		*76 - 132*		*01/23/20 14:25*	*1*
Toluene-d8 (Surr)	*105*		*80 - 128*		*01/23/20 14:25*	*1*

Client Sample ID: OC_GW_OW-11N_20200121

Lab Sample ID: 440-259517-10
Date Collected: 01/21/20 14:00
Matrix: Water
Date Received: 01/21/20 15:10

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			01/23/20 14:25	1
1,1,1-Trichloroethane	ND		1.0	0.25	ug/L			01/23/20 14:25	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.25	ug/L			01/23/20 14:25	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		5.0	0.50	ug/L			01/23/20 14:25	1
1,1,2-Trichloroethane	ND		1.0	0.25	ug/L			01/23/20 14:25	1
1,1-Dichloroethane	ND		1.0	0.25	ug/L			01/23/20 14:25	1
1,1-Dichloroethene	ND		1.0	0.25	ug/L			01/23/20 14:25	1
1,1-Dichloropropene	ND		1.0	0.25	ug/L			01/23/20 14:25	1
1,2,3-Trichlorobenzene	ND		1.0	0.40	ug/L			01/23/20 14:25	1
1,2,3-Trichloropropane	ND		1.0	0.40	ug/L			01/23/20 14:25	1
1,2,4-Trichlorobenzene	ND		1.0	0.40	ug/L			01/23/20 14:25	1
1,2,4-Trimethylbenzene	ND		1.0	0.25	ug/L			01/23/20 14:25	1
1,2-Dibromo-3-Chloropropane	ND		5.0	0.50	ug/L			01/23/20 14:25	1
1,2-Dibromoethane (EDB)	ND		1.0	0.25	ug/L			01/23/20 14:25	1
1,2-Dichlorobenzene	ND		1.0	0.25	ug/L			01/23/20 14:25	1
1,2-Dichloroethane	ND		1.0	0.25	ug/L			01/23/20 14:25	1
1,2-Dichloropropane	ND		1.0	0.25	ug/L			01/23/20 14:25	1
1,3,5-Trimethylbenzene	ND		1.0	0.25	ug/L			01/23/20 14:25	1
1,3-Dichlorobenzene	ND		1.0	0.25	ug/L			01/23/20 14:25	1
1,3-Dichloropropane	ND		1.0	0.25	ug/L			01/23/20 14:25	1
1,4-Dichlorobenzene	ND		1.0	0.25	ug/L			01/23/20 14:25	1
2,2-Dichloropropane	ND		1.0	0.40	ug/L			01/23/20 14:25	1
2-Chlorotoluene	ND		1.0	0.25	ug/L			01/23/20 14:25	1
4-Chlorotoluene	ND		1.0	0.25	ug/L			01/23/20 14:25	1
Acetone	**63**		10	10	ug/L			01/23/20 14:25	1
Benzene	ND		0.50	0.25	ug/L			01/23/20 14:25	1
Bromobenzene	ND		1.0	0.25	ug/L			01/23/20 14:25	1
Bromochloromethane	ND		1.0	0.25	ug/L			01/23/20 14:25	1
Bromodichloromethane	ND		1.0	0.25	ug/L			01/23/20 14:25	1
Bromoform	ND		1.0	0.40	ug/L			01/23/20 14:25	1

Client Sample ID: OC_GW_OW-11N_20200121

Lab Sample ID: 440-259517-10

Date Collected: 01/21/20 14:00
Matrix: Water
Date Received: 01/21/20 15:10

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bromomethane	ND		1.0	0.25	ug/L			01/23/20 14:25	1
Carbon tetrachloride	ND		0.50	0.25	ug/L			01/23/20 14:25	1
Chlorobenzene	ND		1.0	0.25	ug/L			01/23/20 14:25	1
Chloroethane	ND		1.0	0.40	ug/L			01/23/20 14:25	1
Chloroform	ND		1.0	0.25	ug/L			01/23/20 14:25	1
Chloromethane	ND		1.0	0.25	ug/L			01/23/20 14:25	1
cis-1,2-Dichloroethene	ND		1.0	0.25	ug/L			01/23/20 14:25	1
cis-1,3-Dichloropropene	ND		0.50	0.25	ug/L			01/23/20 14:25	1
Dibromochloromethane	ND		1.0	0.25	ug/L			01/23/20 14:25	1
Dibromomethane	ND		1.0	0.25	ug/L			01/23/20 14:25	1
Dichlorodifluoromethane	ND		1.0	0.40	ug/L			01/23/20 14:25	1
Ethylbenzene	ND		1.0	0.25	ug/L			01/23/20 14:25	1
Hexachlorobutadiene	ND		1.0	0.25	ug/L			01/23/20 14:25	1
Isopropyl alcohol	ND		250	180	ug/L			01/23/20 14:25	1
Isopropylbenzene	ND		1.0	0.25	ug/L			01/23/20 14:25	1
m,p-Xylene	ND		1.0	0.50	ug/L			01/23/20 14:25	1
Methylene Chloride	ND		5.0	0.88	ug/L			01/23/20 14:25	1
Methyl-t-Butyl Ether (MTBE)	ND		1.0	0.25	ug/L			01/23/20 14:25	1
Naphthalene	ND		1.0	0.40	ug/L			01/23/20 14:25	1
n-Butylbenzene	ND		1.0	0.40	ug/L			01/23/20 14:25	1
N-Propylbenzene	ND		1.0	0.25	ug/L			01/23/20 14:25	1
o-Xylene	ND		1.0	0.25	ug/L			01/23/20 14:25	1
p-Isopropyltoluene	ND		1.0	0.25	ug/L			01/23/20 14:25	1
sec-Butylbenzene	ND		1.0	0.25	ug/L			01/23/20 14:25	1
Styrene	ND		1.0	0.25	ug/L			01/23/20 14:25	1
tert-Butylbenzene	ND		1.0	0.25	ug/L			01/23/20 14:25	1
Tetrachloroethene	ND		1.0	0.25	ug/L			01/23/20 14:25	1
Toluene	ND		1.0	0.25	ug/L			01/23/20 14:25	1
trans-1,2-Dichloroethene	ND		1.0	0.25	ug/L			01/23/20 14:25	1
trans-1,3-Dichloropropene	ND		0.50	0.25	ug/L			01/23/20 14:25	1
Trichloroethene	ND		1.0	0.25	ug/L			01/23/20 14:25	1
Trichlorofluoromethane	ND		1.0	0.25	ug/L			01/23/20 14:25	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Unknown	*7.5*	*T J*	*ug/L*		*5.09*			*01/23/20 14:25*	*1*
Unknown	*6.3*	*T J*	*ug/L*		*6.54*			*01/23/20 14:25*	*1*
2-Butanone, 3,3-dimethyl-	*5.6*	*T J N*	*ug/L*		*8.51*	*75-97-8*		*01/23/20 14:25*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*104*		*70 - 130*		*01/23/20 14:25*	*1*
4-Bromofluorobenzene (Surr)	*98*		*80 - 120*		*01/23/20 14:25*	*1*
Dibromofluoromethane (Surr)	*100*		*76 - 132*		*01/23/20 14:25*	*1*
Toluene-d8 (Surr)	*103*		*80 - 128*		*01/23/20 14:25*	*1*

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Vinyl chloride	ND		0.50	0.25	ug/L			01/23/20 14:55	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Unknown	*78*	*T J*	*ug/L*		*1.75*			*01/23/20 14:55*	*1*

Client Sample Results

Client: Jacob & Hefner Associates P.C.
Project/Site: Omega Chemical -2020 Semi-Annual GWM Feb

Job ID: 440-259517-1
SDG: Omega Chemical

Client Sample ID: OC_GW_OW-11N_20200121

Lab Sample ID: 440-259517-10

Date Collected: 01/21/20 14:00
Date Received: 01/21/20 15:10

Matrix: Water

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

Tentatively Identified Compound	Est. Result	Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Unknown	5.1	T J	ug/L		4.97			01/23/20 14:55	1
Unknown	3.7	T J	ug/L		6.96			01/23/20 14:55	1
Unknown	16	T J	ug/L		16.40			01/23/20 14:55	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	127		70 - 130		01/23/20 14:55	1
4-Bromofluorobenzene (Surr)	101		80 - 120		01/23/20 14:55	1
Dibromofluoromethane (Surr)	111		76 - 132		01/23/20 14:55	1
Toluene-d8 (Surr)	104		80 - 128		01/23/20 14:55	1

Surrogate Summary

Client: Jacob & Hefner Associates P.C.
Project/Site: Omega Chemical -2020 Semi-Annual GWM Feb

Job ID: 440-259517-1
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)
440-259517-1	OC_GW_OW-3B_20200120	102	99	102	104
440-259517-1 - RA	OC_GW_OW-3B_20200120	111	106	110	104
440-259517-2	OC_GW_OW-8B_20200121	104	98	102	104
440-259517-2 - RA	OC_GW_OW-8B_20200121	118	97	112	105
440-259517-3	OC_GW_OW-12_20200120	102	99	103	105
440-259517-3 - RA	OC_GW_OW-12_20200120	109	100	107	105
440-259517-3 MS	OC_GW_OW-12_20200120	100	102	103	103
440-259517-3 MS	OC_GW_OW-12_20200120	108	101	101	102
440-259517-3 MSD	OC_GW_OW-12_20200120	100	103	103	104
440-259517-3 MSD	OC_GW_OW-12_20200120	111	99	105	102
440-259517-4	OC_TB1_20200120	103	99	103	105
440-259517-4 - RA	OC_TB1_20200120	114	103	108	106
440-259517-5	OC_GW_OW-1B_20200121	104	99	104	104
440-259517-5 - RA	OC_GW_OW-1B_20200121	120	99	115	100
440-259517-6	OC_GW_OW-3B_20200120K	103	99	102	103
440-259517-6 - RA	OC_GW_OW-3B_20200120K	121	102	114	101
440-259517-7	OC_GW_OW-8B_20200121K	98	104	101	106
440-259517-7 - RA	OC_GW_OW-8B_20200121K	120	98	113	105
440-259517-8	OC_TB2_20200120	104	96	101	103
440-259517-8 - RA	OC_TB2_20200120	120	102	113	102
440-259517-9	OC_GW_OW-3BN_20200120	104	103	104	102
440-259517-9 - RA	OC_GW_OW-3BN_20200120	123	104	107	105
440-259517-10	OC_GW_OW-11N_20200121	104	98	100	103
440-259517-10 - RA	OC_GW_OW-11N_20200121	127	101	111	104
LCS 440-591946/1002	Lab Control Sample	100	99	99	97
LCS 440-591946/1003	Lab Control Sample	101	101	99	102
LCS 440-591969/1002	Lab Control Sample	97	98	103	91
MB 440-591946/4	Method Blank	102	101	102	102
MB 440-591969/5	Method Blank	102	103	103	104

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)
440-259517-1	OC_GW_OW-3B_20200120	57
440-259517-2	OC_GW_OW-8B_20200121	63
440-259517-3	OC_GW_OW-12_20200120	49
440-259517-5	OC_GW_OW-1B_20200121	50
440-259517-5	OC_GW_OW-1B_20200121	50
440-259517-6	OC_GW_OW-3B_20200120K	57
440-259517-7	OC_GW_OW-8B_20200121K	54
LCS 440-591747/2-A	Lab Control Sample	54

Surrogate Summary

Client: Jacob & Hefner Associates P.C.
Project/Site: Omega Chemical -2020 Semi-Annual GWM Feb

Job ID: 440-259517-1
SDG: Omega Chemical

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

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

		Percent Surrogate Recovery (Acceptance Limits)							
Lab Sample ID	**Client Sample ID**	**DXE (27-120)**							
LCS 440-591971/2-A	Lab Control Sample	48							
LCS 440-592386/2-A	Lab Control Sample	54							
LCSD 440-591747/3-A	Lab Control Sample Dup	57							
LCSD 440-591971/3-A	Lab Control Sample Dup	57							
LCSD 440-592386/3-A	Lab Control Sample Dup	53							
MB 440-591747/1-A	Method Blank	68							
MB 440-591971/1-A	Method Blank	58							
MB 440-592386/1-A	Method Blank	56							

Surrogate Legend

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

Method Summary

Client: Jacob & Hefner Associates P.C.
Project/Site: Omega Chemical -2020 Semi-Annual GWM Feb

Job ID: 440-259517-1
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 = Eurofins Calscience 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 -2020 Semi-Annual GWM Feb

Job ID: 440-259517-1
SDG: Omega Chemical

Client Sample ID: OC_GW_OW-3B_20200120 — Lab Sample ID: 440-259517-1

Date Collected: 01/20/20 14:30 — **Matrix: Water**
Date Received: 01/21/20 15:10

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	591946	01/23/20 11:16	RM	TAL IRV
Total/NA	Analysis	8260B	RA	1	10 mL	10 mL	591969	01/23/20 11:00	GMA	TAL IRV
Total/NA	Prep	3520C			1025 mL	1.0 mL	591747	01/22/20 07:00	NAM	TAL IRV
Total/NA	Analysis	8270C SIM		1			591979	01/23/20 16:06	HN	TAL IRV

Client Sample ID: OC_GW_OW-8B_20200121 — Lab Sample ID: 440-259517-2

Date Collected: 01/21/20 07:54 — **Matrix: Water**
Date Received: 01/21/20 15:10

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	591946	01/23/20 11:40	RM	TAL IRV
Total/NA	Analysis	8260B	RA	1	10 mL	10 mL	591969	01/23/20 11:29	GMA	TAL IRV
Total/NA	Prep	3520C			1025 mL	1.0 mL	591971	01/23/20 06:45	NAM	TAL IRV
Total/NA	Analysis	8270C SIM		1			592177	01/24/20 10:59	HN	TAL IRV

Client Sample ID: OC_GW_OW-12_20200120 — Lab Sample ID: 440-259517-3

Date Collected: 01/20/20 08:39 — **Matrix: Water**
Date Received: 01/21/20 15:10

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		25	10 mL	10 mL	591946	01/23/20 10:06	RM	TAL IRV
Total/NA	Analysis	8260B	RA	25	10 mL	10 mL	591969	01/23/20 09:32	GMA	TAL IRV
Total/NA	Prep	3520C			1025 mL	1.0 mL	591747	01/22/20 07:00	NAM	TAL IRV
Total/NA	Analysis	8270C SIM		1			591979	01/23/20 16:28	HN	TAL IRV

Client Sample ID: OC_TB1_20200120 — Lab Sample ID: 440-259517-4

Date Collected: 01/20/20 07:00 — **Matrix: Water**
Date Received: 01/21/20 15:10

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	591946	01/23/20 12:03	RM	TAL IRV
Total/NA	Analysis	8260B	RA	1	10 mL	10 mL	591969	01/23/20 11:58	GMA	TAL IRV

Client Sample ID: OC_GW_OW-1B_20200121 — Lab Sample ID: 440-259517-5

Date Collected: 01/21/20 09:38 — **Matrix: Water**
Date Received: 01/21/20 15:10

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	591946	01/23/20 12:27	RM	TAL IRV
Total/NA	Analysis	8260B	RA	1	10 mL	10 mL	591969	01/23/20 12:28	GMA	TAL IRV
Total/NA	Prep	3520C			1030 mL	1.0 mL	591971	01/23/20 06:45	NAM	TAL IRV
Total/NA	Analysis	8270C SIM		1			592177	01/24/20 11:20	HN	TAL IRV
Total/NA	Prep	3520C			1025 mL	1.0 mL	592386	01/27/20 10:20	NAM	TAL IRV
Total/NA	Analysis	8270C SIM		1			592598	01/28/20 10:50	L1B	TAL IRV

Lab Chronicle

Client: Jacob & Hefner Associates P.C.
Project/Site: Omega Chemical -2020 Semi-Annual GWM Feb

Job ID: 440-259517-1
SDG: Omega Chemical

Client Sample ID: OC_GW_OW-3B_20200120K — Lab Sample ID: 440-259517-6

Date Collected: 01/20/20 14:35 — **Matrix: Water**
Date Received: 01/21/20 15:10

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	591946	01/23/20 12:51	RM	TAL IRV
Total/NA	Analysis	8260B	RA	1	10 mL	10 mL	591969	01/23/20 12:57	GMA	TAL IRV
Total/NA	Prep	3520C			1020 mL	1.0 mL	591747	01/22/20 07:00	NAM	TAL IRV
Total/NA	Analysis	8270C SIM		1			591979	01/23/20 16:49	HN	TAL IRV

Client Sample ID: OC_GW_OW-8B_20200121K — Lab Sample ID: 440-259517-7

Date Collected: 01/21/20 07:58 — **Matrix: Water**
Date Received: 01/21/20 15:10

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	591946	01/23/20 13:14	RM	TAL IRV
Total/NA	Analysis	8260B	RA	1	10 mL	10 mL	591969	01/23/20 13:27	GMA	TAL IRV
Total/NA	Prep	3520C			1015 mL	1.0 mL	591971	01/23/20 06:45	NAM	TAL IRV
Total/NA	Analysis	8270C SIM		1			592177	01/24/20 11:42	HN	TAL IRV

Client Sample ID: OC_TB2_20200120 — Lab Sample ID: 440-259517-8

Date Collected: 01/20/20 07:00 — **Matrix: Water**
Date Received: 01/21/20 15:10

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	591946	01/23/20 13:38	RM	TAL IRV
Total/NA	Analysis	8260B	RA	1	10 mL	10 mL	591969	01/23/20 13:56	GMA	TAL IRV

Client Sample ID: OC_GW_OW-3BN_20200120 — Lab Sample ID: 440-259517-9

Date Collected: 01/20/20 15:33 — **Matrix: Water**
Date Received: 01/21/20 15:10

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	591946	01/23/20 14:02	RM	TAL IRV
Total/NA	Analysis	8260B	RA	1	10 mL	10 mL	591969	01/23/20 14:25	GMA	TAL IRV

Client Sample ID: OC_GW_OW-11N_20200121 — Lab Sample ID: 440-259517-10

Date Collected: 01/21/20 14:00 — **Matrix: Water**
Date Received: 01/21/20 15:10

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	591946	01/23/20 14:25	RM	TAL IRV
Total/NA	Analysis	8260B	RA	1	10 mL	10 mL	591969	01/23/20 14:55	GMA	TAL IRV

Laboratory References:

TAL IRV = Eurofins Calscience 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 440-591946/4
Matrix: Water
Analysis Batch: 591946

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			01/23/20 07:45	1
1,1,1-Trichloroethane	ND		1.0	0.25	ug/L			01/23/20 07:45	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.25	ug/L			01/23/20 07:45	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		5.0	0.50	ug/L			01/23/20 07:45	1
1,1,2-Trichloroethane	ND		1.0	0.25	ug/L			01/23/20 07:45	1
1,1-Dichloroethane	ND		1.0	0.25	ug/L			01/23/20 07:45	1
1,1-Dichloroethene	ND		1.0	0.25	ug/L			01/23/20 07:45	1
1,1-Dichloropropene	ND		1.0	0.25	ug/L			01/23/20 07:45	1
1,2,3-Trichlorobenzene	ND		1.0	0.40	ug/L			01/23/20 07:45	1
1,2,3-Trichloropropane	ND		1.0	0.40	ug/L			01/23/20 07:45	1
1,2,4-Trichlorobenzene	ND		1.0	0.40	ug/L			01/23/20 07:45	1
1,2,4-Trimethylbenzene	ND		1.0	0.25	ug/L			01/23/20 07:45	1
1,2-Dibromo-3-Chloropropane	ND		5.0	0.50	ug/L			01/23/20 07:45	1
1,2-Dibromoethane (EDB)	ND		1.0	0.25	ug/L			01/23/20 07:45	1
1,2-Dichlorobenzene	ND		1.0	0.25	ug/L			01/23/20 07:45	1
1,2-Dichloroethane	ND		1.0	0.25	ug/L			01/23/20 07:45	1
1,2-Dichloropropane	ND		1.0	0.25	ug/L			01/23/20 07:45	1
1,3,5-Trimethylbenzene	ND		1.0	0.25	ug/L			01/23/20 07:45	1
1,3-Dichlorobenzene	ND		1.0	0.25	ug/L			01/23/20 07:45	1
1,3-Dichloropropane	ND		1.0	0.25	ug/L			01/23/20 07:45	1
1,4-Dichlorobenzene	ND		1.0	0.25	ug/L			01/23/20 07:45	1
2,2-Dichloropropane	ND		1.0	0.40	ug/L			01/23/20 07:45	1
2-Chlorotoluene	ND		1.0	0.25	ug/L			01/23/20 07:45	1
4-Chlorotoluene	ND		1.0	0.25	ug/L			01/23/20 07:45	1
Acetone	ND		10	10	ug/L			01/23/20 07:45	1
Benzene	ND		0.50	0.25	ug/L			01/23/20 07:45	1
Bromobenzene	ND		1.0	0.25	ug/L			01/23/20 07:45	1
Bromochloromethane	ND		1.0	0.25	ug/L			01/23/20 07:45	1
Bromodichloromethane	ND		1.0	0.25	ug/L			01/23/20 07:45	1
Bromoform	ND		1.0	0.40	ug/L			01/23/20 07:45	1
Bromomethane	ND		1.0	0.25	ug/L			01/23/20 07:45	1
Carbon tetrachloride	ND		0.50	0.25	ug/L			01/23/20 07:45	1
Chlorobenzene	ND		1.0	0.25	ug/L			01/23/20 07:45	1
Chloroethane	ND		1.0	0.40	ug/L			01/23/20 07:45	1
Chloroform	ND		1.0	0.25	ug/L			01/23/20 07:45	1
Chloromethane	ND		1.0	0.25	ug/L			01/23/20 07:45	1
cis-1,2-Dichloroethene	ND		1.0	0.25	ug/L			01/23/20 07:45	1
cis-1,3-Dichloropropene	ND		0.50	0.25	ug/L			01/23/20 07:45	1
Dibromochloromethane	ND		1.0	0.25	ug/L			01/23/20 07:45	1
Dibromomethane	ND		1.0	0.25	ug/L			01/23/20 07:45	1
Dichlorodifluoromethane	ND		1.0	0.40	ug/L			01/23/20 07:45	1
Ethylbenzene	ND		1.0	0.25	ug/L			01/23/20 07:45	1
Hexachlorobutadiene	ND		1.0	0.25	ug/L			01/23/20 07:45	1
Isopropyl alcohol	ND		250	180	ug/L			01/23/20 07:45	1
Isopropylbenzene	ND		1.0	0.25	ug/L			01/23/20 07:45	1
m,p-Xylene	ND		1.0	0.50	ug/L			01/23/20 07:45	1
Methylene Chloride	ND		5.0	0.88	ug/L			01/23/20 07:45	1
Methyl-t-Butyl Ether (MTBE)	ND		1.0	0.25	ug/L			01/23/20 07:45	1

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

Lab Sample ID: MB 440-591946/4
Matrix: Water
Analysis Batch: 591946

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			01/23/20 07:45	1
n-Butylbenzene	ND		1.0	0.40	ug/L			01/23/20 07:45	1
N-Propylbenzene	ND		1.0	0.25	ug/L			01/23/20 07:45	1
o-Xylene	ND		1.0	0.25	ug/L			01/23/20 07:45	1
p-Isopropyltoluene	ND		1.0	0.25	ug/L			01/23/20 07:45	1
sec-Butylbenzene	ND		1.0	0.25	ug/L			01/23/20 07:45	1
Styrene	ND		1.0	0.25	ug/L			01/23/20 07:45	1
tert-Butylbenzene	ND		1.0	0.25	ug/L			01/23/20 07:45	1
Tetrachloroethene	ND		1.0	0.25	ug/L			01/23/20 07:45	1
Toluene	ND		1.0	0.25	ug/L			01/23/20 07:45	1
trans-1,2-Dichloroethene	ND		1.0	0.25	ug/L			01/23/20 07:45	1
trans-1,3-Dichloropropene	ND		0.50	0.25	ug/L			01/23/20 07:45	1
Trichloroethene	ND		1.0	0.25	ug/L			01/23/20 07:45	1
Trichlorofluoromethane	ND		1.0	0.25	ug/L			01/23/20 07:45	1

Tentatively Identified Compound	*MB Est. Result*	*MB Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Methacrylonitrile	*3.66*	*J*	*ug/L*		*6.57*	*126-98-7*		*01/23/20 07:45*	*1*
2-Ethyl-1-butanol	*16.3*	*J*	*ug/L*		*10.28*	*97-95-0*		*01/23/20 07:45*	*1*
Cyclohexanone	*37.7*	*J*	*ug/L*		*11.49*	*108-94-1*		*01/23/20 07:45*	*1*
1,3,5-Trichlorobenzene	*0.841*	*J*	*ug/L*		*14.65*	*108-70-3*		*01/23/20 07:45*	*1*
Tentatively Identified Compound	*None*		*ug/L*					*01/23/20 07:45*	*1*

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*102*		*70 - 130*		*01/23/20 07:45*	*1*
4-Bromofluorobenzene (Surr)	*101*		*80 - 120*		*01/23/20 07:45*	*1*
Dibromofluoromethane (Surr)	*102*		*76 - 132*		*01/23/20 07:45*	*1*
Toluene-d8 (Surr)	*102*		*80 - 128*		*01/23/20 07:45*	*1*

Lab Sample ID: LCS 440-591946/1002
Matrix: Water
Analysis Batch: 591946

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	24.2		ug/L		97	60 - 141
1,1,1-Trichloroethane	25.0	24.1		ug/L		96	70 - 130
1,1,2,2-Tetrachloroethane	25.0	27.1		ug/L		108	63 - 130
1,1,2-Trichloro-1,2,2-trifluoroethane	25.0	23.1		ug/L		92	60 - 140
1,1,2-Trichloroethane	25.0	24.3		ug/L		97	70 - 130
1,1-Dichloroethane	25.0	23.5		ug/L		94	64 - 130
1,1-Dichloroethene	25.0	22.2		ug/L		89	70 - 130
1,1-Dichloropropene	25.0	23.7		ug/L		95	70 - 130
1,2,3-Trichlorobenzene	25.0	23.4		ug/L		94	60 - 140
1,2,3-Trichloropropane	25.0	24.1		ug/L		96	63 - 130
1,2,4-Trichlorobenzene	25.0	24.4		ug/L		98	60 - 140
1,2,4-Trimethylbenzene	25.0	24.0		ug/L		96	70 - 135
1,2-Dibromo-3-Chloropropane	25.0	24.3		ug/L		97	52 - 140
1,2-Dibromoethane (EDB)	25.0	24.5		ug/L		98	70 - 130

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

Lab Sample ID: LCS 440-591946/1002
Matrix: Water
Analysis Batch: 591946

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,2-Dichlorobenzene	25.0	22.8		ug/L		91	70 - 130
1,2-Dichloroethane	25.0	24.1		ug/L		97	57 - 138
1,2-Dichloropropane	25.0	25.0		ug/L		100	67 - 130
1,3,5-Trimethylbenzene	25.0	24.1		ug/L		96	70 - 136
1,3-Dichlorobenzene	25.0	25.1		ug/L		100	70 - 130
1,3-Dichloropropane	25.0	22.3		ug/L		89	70 - 130
1,4-Dichlorobenzene	25.0	24.7		ug/L		99	70 - 130
2,2-Dichloropropane	25.0	28.3		ug/L		113	68 - 141
2-Chlorotoluene	25.0	24.1		ug/L		96	70 - 130
4-Chlorotoluene	25.0	22.7		ug/L		91	70 - 130
Acetone	125	140		ug/L		112	10 - 150
Benzene	25.0	23.8		ug/L		95	68 - 130
Bromobenzene	25.0	23.4		ug/L		94	70 - 130
Bromochloromethane	25.0	24.8		ug/L		99	70 - 130
Bromodichloromethane	25.0	25.4		ug/L		101	70 - 132
Bromoform	25.0	24.7		ug/L		99	60 - 148
Bromomethane	25.0	22.5		ug/L		90	64 - 139
Carbon tetrachloride	25.0	24.7		ug/L		99	60 - 150
Chlorobenzene	25.0	22.8		ug/L		91	70 - 130
Chloroethane	25.0	23.7		ug/L		95	64 - 135
Chloroform	25.0	24.7		ug/L		99	70 - 130
Chloromethane	25.0	20.0		ug/L		80	47 - 140
cis-1,2-Dichloroethene	25.0	22.9		ug/L		91	70 - 133
cis-1,3-Dichloropropene	25.0	24.0		ug/L		96	70 - 133
Dibromochloromethane	25.0	24.6		ug/L		98	69 - 145
Dibromomethane	25.0	24.8		ug/L		99	70 - 130
Dichlorodifluoromethane	25.0	18.1		ug/L		72	29 - 150
Ethylbenzene	25.0	22.1		ug/L		88	70 - 130
Hexachlorobutadiene	25.0	26.5		ug/L		106	10 - 150
Isopropylbenzene	25.0	22.5		ug/L		90	70 - 136
m,p-Xylene	25.0	23.7		ug/L		95	70 - 130
Methylene Chloride	25.0	22.8		ug/L		91	52 - 130
Methyl-t-Butyl Ether (MTBE)	25.0	27.9		ug/L		111	63 - 131
Naphthalene	25.0	23.6		ug/L		94	60 - 140
n-Butylbenzene	25.0	26.4		ug/L		106	65 - 150
N-Propylbenzene	25.0	22.5		ug/L		90	67 - 139
o-Xylene	25.0	23.1		ug/L		92	70 - 130
p-Isopropyltoluene	25.0	24.6		ug/L		98	70 - 132
sec-Butylbenzene	25.0	27.4		ug/L		110	70 - 138
Styrene	25.0	23.3		ug/L		93	70 - 134
tert-Butylbenzene	25.0	25.8		ug/L		103	70 - 130
Tetrachloroethene	25.0	23.4		ug/L		94	70 - 130
Toluene	25.0	22.2		ug/L		89	70 - 130
trans-1,2-Dichloroethene	25.0	22.6		ug/L		90	70 - 130
trans-1,3-Dichloropropene	25.0	23.5		ug/L		94	70 - 132
Trichloroethene	25.0	23.0		ug/L		92	70 - 130
Trichlorofluoromethane	25.0	22.1		ug/L		88	60 - 150

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

Lab Sample ID: LCS 440-591946/1002
Matrix: Water
Analysis Batch: 591946

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

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	100		70 - 130
4-Bromofluorobenzene (Surr)	99		80 - 120
Dibromofluoromethane (Surr)	99		76 - 132
Toluene-d8 (Surr)	97		80 - 128

Lab Sample ID: LCS 440-591946/1003
Matrix: Water
Analysis Batch: 591946

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	208	J	ug/L		83	49 - 142		

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	101		70 - 130
4-Bromofluorobenzene (Surr)	101		80 - 120
Dibromofluoromethane (Surr)	99		76 - 132
Toluene-d8 (Surr)	102		80 - 128

Lab Sample ID: 440-259517-3 MS
Matrix: Water
Analysis Batch: 591946

Client Sample ID: OC_GW_OW-12_20200120
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		250	244		ug/L		98	60 - 149		
1,1,1-Trichloroethane	50		250	295		ug/L		98	70 - 130		
1,1,2,2-Tetrachloroethane	ND		250	298		ug/L		119	63 - 130		
1,1,2-Trichloro-1,2,2-trifluoroethane	1300		250	1490	4	ug/L		66	60 - 140		
1,1,2-Trichloroethane	ND		250	253		ug/L		101	70 - 130		
1,1-Dichloroethane	ND		250	242		ug/L		97	65 - 130		
1,1-Dichloroethene	51		250	274		ug/L		89	70 - 130		
1,1-Dichloropropene	ND		250	232		ug/L		93	64 - 130		
1,2,3-Trichlorobenzene	ND		250	202		ug/L		81	60 - 140		
1,2,3-Trichloropropane	ND		250	249		ug/L		100	60 - 130		
1,2,4-Trichlorobenzene	ND		250	212		ug/L		85	60 - 140		
1,2,4-Trimethylbenzene	ND		250	248		ug/L		99	70 - 130		
1,2-Dibromo-3-Chloropropane	ND		250	232		ug/L		93	48 - 140		
1,2-Dibromoethane (EDB)	ND		250	253		ug/L		101	70 - 131		
1,2-Dichlorobenzene	ND		250	233		ug/L		93	70 - 130		
1,2-Dichloroethane	ND		250	244		ug/L		98	56 - 146		
1,2-Dichloropropane	ND		250	248		ug/L		99	69 - 130		
1,3,5-Trimethylbenzene	ND		250	245		ug/L		98	70 - 130		
1,3-Dichlorobenzene	ND		250	248		ug/L		99	70 - 130		
1,3-Dichloropropane	ND		250	237		ug/L		95	70 - 130		
1,4-Dichlorobenzene	ND		250	248		ug/L		99	70 - 130		
2,2-Dichloropropane	ND		250	258		ug/L		103	69 - 138		
2-Chlorotoluene	ND		250	242		ug/L		97	70 - 130		
4-Chlorotoluene	ND		250	232		ug/L		93	70 - 130		

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

Lab Sample ID: 440-259517-3 MS
Matrix: Water
Analysis Batch: 591946

Client Sample ID: OC_GW_OW-12_20200120
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Acetone	ND		1250	1040		ug/L		83	10 - 150
Benzene	ND		250	240		ug/L		96	66 - 130
Bromobenzene	ND		250	242		ug/L		97	70 - 130
Bromochloromethane	ND		250	242		ug/L		97	70 - 130
Bromodichloromethane	ND		250	254		ug/L		102	70 - 138
Bromoform	ND		250	246		ug/L		99	59 - 150
Bromomethane	ND		250	206		ug/L		82	62 - 131
Carbon tetrachloride	ND		250	240		ug/L		96	60 - 150
Chlorobenzene	ND		250	245		ug/L		98	70 - 130
Chloroethane	ND		250	211		ug/L		85	68 - 130
Chloroform	38		250	288		ug/L		100	70 - 130
Chloromethane	ND		250	187		ug/L		75	39 - 144
cis-1,2-Dichloroethene	ND		250	226		ug/L		90	70 - 130
cis-1,3-Dichloropropene	ND		250	249		ug/L		100	70 - 133
Dibromochloromethane	ND		250	251		ug/L		100	70 - 148
Dibromomethane	ND		250	243		ug/L		97	70 - 130
Dichlorodifluoromethane	ND		250	161		ug/L		65	25 - 142
Ethylbenzene	ND		250	235		ug/L		94	70 - 130
Hexachlorobutadiene	ND		250	214		ug/L		86	10 - 150
Isopropyl alcohol	ND		6250	5050	J	ug/L		81	46 - 142
Isopropylbenzene	ND		250	236		ug/L		94	70 - 132
m,p-Xylene	ND		250	248		ug/L		99	70 - 133
Methylene Chloride	ND		250	250		ug/L		100	52 - 130
Methyl-t-Butyl Ether (MTBE)	ND		250	244		ug/L		98	70 - 130
Naphthalene	ND		250	210		ug/L		84	60 - 140
n-Butylbenzene	ND		250	257		ug/L		103	61 - 149
N-Propylbenzene	ND		250	232		ug/L		93	66 - 135
o-Xylene	ND		250	239		ug/L		96	70 - 133
p-Isopropyltoluene	ND		250	245		ug/L		98	70 - 130
sec-Butylbenzene	ND		250	272		ug/L		109	67 - 134
Styrene	ND		250	242		ug/L		97	29 - 150
tert-Butylbenzene	ND		250	257		ug/L		103	70 - 130
Tetrachloroethene	1500		250	1810	4	ug/L		119	70 - 137
Toluene	ND		250	243		ug/L		97	70 - 130
trans-1,2-Dichloroethene	ND		250	227		ug/L		91	70 - 130
trans-1,3-Dichloropropene	ND		250	244		ug/L		98	70 - 138
Trichloroethene	150		250	387		ug/L		93	70 - 130
Trichlorofluoromethane	26		250	241		ug/L		86	60 - 150

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*100*		*70 - 130*
4-Bromofluorobenzene (Surr)	*102*		*80 - 120*
Dibromofluoromethane (Surr)	*103*		*76 - 132*
Toluene-d8 (Surr)	*103*		*80 - 128*

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

Lab Sample ID: 440-259517-3 MSD
Matrix: Water
Analysis Batch: 591946

Client Sample ID: OC_GW_OW-12_20200120
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		250	240		ug/L		96	60 - 149	2	20
1,1,1-Trichloroethane	50		250	287		ug/L		95	70 - 130	3	20
1,1,2,2-Tetrachloroethane	ND		250	307		ug/L		123	63 - 130	3	30
1,1,2-Trichloro-1,2,2-trifluoroethane	1300		250	1430	4	ug/L		44	60 - 140	4	20
1,1,2-Trichloroethane	ND		250	258		ug/L		103	70 - 130	2	25
1,1-Dichloroethane	ND		250	233		ug/L		93	65 - 130	3	20
1,1-Dichloroethene	51		250	259		ug/L		83	70 - 130	6	20
1,1-Dichloropropene	ND		250	225		ug/L		90	64 - 130	3	20
1,2,3-Trichlorobenzene	ND		250	234		ug/L		94	60 - 140	15	20
1,2,3-Trichloropropane	ND		250	253		ug/L		101	60 - 130	2	30
1,2,4-Trichlorobenzene	ND		250	237		ug/L		95	60 - 140	11	20
1,2,4-Trimethylbenzene	ND		250	244		ug/L		98	70 - 130	1	25
1,2-Dibromo-3-Chloropropane	ND		250	257		ug/L		103	48 - 140	10	30
1,2-Dibromoethane (EDB)	ND		250	253		ug/L		101	70 - 131	0	25
1,2-Dichlorobenzene	ND		250	236		ug/L		94	70 - 130	1	20
1,2-Dichloroethane	ND		250	240		ug/L		96	56 - 146	2	20
1,2-Dichloropropane	ND		250	243		ug/L		97	69 - 130	2	20
1,3,5-Trimethylbenzene	ND		250	245		ug/L		98	70 - 130	0	20
1,3-Dichlorobenzene	ND		250	254		ug/L		102	70 - 130	3	20
1,3-Dichloropropane	ND		250	233		ug/L		93	70 - 130	2	25
1,4-Dichlorobenzene	ND		250	249		ug/L		99	70 - 130	0	20
2,2-Dichloropropane	ND		250	246		ug/L		99	69 - 138	5	25
2-Chlorotoluene	ND		250	235		ug/L		94	70 - 130	3	20
4-Chlorotoluene	ND		250	227		ug/L		91	70 - 130	2	20
Acetone	ND		1250	1200		ug/L		96	10 - 150	15	35
Benzene	ND		250	230		ug/L		92	66 - 130	4	20
Bromobenzene	ND		250	235		ug/L		94	70 - 130	3	20
Bromochloromethane	ND		250	245		ug/L		98	70 - 130	1	25
Bromodichloromethane	ND		250	253		ug/L		101	70 - 138	0	20
Bromoform	ND		250	248		ug/L		99	59 - 150	1	25
Bromomethane	ND		250	192		ug/L		77	62 - 131	7	25
Carbon tetrachloride	ND		250	235		ug/L		94	60 - 150	2	25
Chlorobenzene	ND		250	236		ug/L		94	70 - 130	4	20
Chloroethane	ND		250	208		ug/L		83	68 - 130	2	25
Chloroform	38		250	280		ug/L		97	70 - 130	3	20
Chloromethane	ND		250	181		ug/L		72	39 - 144	3	25
cis-1,2-Dichloroethene	ND		250	225		ug/L		90	70 - 130	1	20
cis-1,3-Dichloropropene	ND		250	242		ug/L		97	70 - 133	3	20
Dibromochloromethane	ND		250	248		ug/L		99	70 - 148	1	25
Dibromomethane	ND		250	237		ug/L		95	70 - 130	3	25
Dichlorodifluoromethane	ND		250	153		ug/L		61	25 - 142	6	30
Ethylbenzene	ND		250	230		ug/L		92	70 - 130	2	20
Hexachlorobutadiene	ND		250	238		ug/L		95	10 - 150	10	20
Isopropyl alcohol	ND		6250	6440		ug/L		103	46 - 142	24	40
Isopropylbenzene	ND		250	228		ug/L		91	70 - 132	3	20
m,p-Xylene	ND		250	237		ug/L		95	70 - 133	5	25
Methylene Chloride	ND		250	209		ug/L		84	52 - 130	18	20
Methyl-t-Butyl Ether (MTBE)	ND		250	244		ug/L		98	70 - 130	0	25

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

Lab Sample ID: 440-259517-3 MSD — **Client Sample ID: OC_GW_OW-12_20200120**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 591946

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Naphthalene	ND		250	238		ug/L		95	60 - 140	13	30
n-Butylbenzene	ND		250	255		ug/L		102	61 - 149	1	20
N-Propylbenzene	ND		250	232		ug/L		93	66 - 135	0	20
o-Xylene	ND		250	238		ug/L		95	70 - 133	1	20
p-Isopropyltoluene	ND		250	244		ug/L		98	70 - 130	0	20
sec-Butylbenzene	ND		250	269		ug/L		108	67 - 134	1	20
Styrene	ND		250	238		ug/L		95	29 - 150	1	35
tert-Butylbenzene	ND		250	254		ug/L		101	70 - 130	1	20
Tetrachloroethene	1500		250	1720	4	ug/L		82	70 - 137	5	20
Toluene	ND		250	236		ug/L		95	70 - 130	3	20
trans-1,2-Dichloroethene	ND		250	221		ug/L		88	70 - 130	3	20
trans-1,3-Dichloropropene	ND		250	247		ug/L		99	70 - 138	1	25
Trichloroethene	150		250	370		ug/L		87	70 - 130	4	20
Trichlorofluoromethane	26		250	235		ug/L		83	60 - 150	3	25

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*100*		*70 - 130*
4-Bromofluorobenzene (Surr)	*103*		*80 - 120*
Dibromofluoromethane (Surr)	*103*		*76 - 132*
Toluene-d8 (Surr)	*104*		*80 - 128*

Lab Sample ID: MB 440-591969/5 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 591969

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Vinyl chloride	ND		0.50	0.25	ug/L			01/23/20 08:57	1

Tentatively Identified Compound	*MB Est. Result*	*MB Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Tentatively Identified Compound	*None*		*ug/L*					*01/23/20 08:57*	*1*

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*102*		*70 - 130*		*01/23/20 08:57*	*1*
4-Bromofluorobenzene (Surr)	*103*		*80 - 120*		*01/23/20 08:57*	*1*
Dibromofluoromethane (Surr)	*103*		*76 - 132*		*01/23/20 08:57*	*1*
Toluene-d8 (Surr)	*104*		*80 - 128*		*01/23/20 08:57*	*1*

Lab Sample ID: LCS 440-591969/1002 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 591969

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Vinyl chloride			25.0	25.6		ug/L		102	59 - 133		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*97*		*70 - 130*
4-Bromofluorobenzene (Surr)	*98*		*80 - 120*

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

Lab Sample ID: LCS 440-591969/1002 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 591969

Surrogate	LCS %Recovery	LCS Qualifier	Limits
Dibromofluoromethane (Surr)	103		76 - 132
Toluene-d8 (Surr)	91		80 - 128

Lab Sample ID: 440-259517-3 MS — **Client Sample ID: OC_GW_OW-12_20200120**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 591969

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Vinyl chloride	ND		250	206		ug/L		82	50 - 137

Surrogate	MS %Recovery	MS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	108		70 - 130
4-Bromofluorobenzene (Surr)	101		80 - 120
Dibromofluoromethane (Surr)	101		76 - 132
Toluene-d8 (Surr)	102		80 - 128

Lab Sample ID: 440-259517-3 MSD — **Client Sample ID: OC_GW_OW-12_20200120**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 591969

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Vinyl chloride	ND		250	223		ug/L		89	50 - 137	8	30

Surrogate	MSD %Recovery	MSD Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	111		70 - 130
4-Bromofluorobenzene (Surr)	99		80 - 120
Dibromofluoromethane (Surr)	105		76 - 132
Toluene-d8 (Surr)	102		80 - 128

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

Lab Sample ID: MB 440-591747/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 591979 — **Prep Batch: 591747**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	0.130	J	0.50	0.10	ug/L		01/22/20 07:00	01/23/20 10:03	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,4-Dioxane-d8 (Surr)	68		27 - 120	01/22/20 07:00	01/23/20 10:03	1

Lab Sample ID: LCS 440-591747/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 591979 — **Prep Batch: 591747**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,4-Dioxane	2.00	1.22		ug/L		61	36 - 120

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

Lab Sample ID: LCS 440-591747/2-A
Matrix: Water
Analysis Batch: 591979

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 591747

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1,4-Dioxane-d8 (Surr)	54		27 - 120

Lab Sample ID: LCSD 440-591747/3-A
Matrix: Water
Analysis Batch: 591979

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 591747

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,4-Dioxane			2.00	1.31		ug/L		65	36 - 120	7	35

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
1,4-Dioxane-d8 (Surr)	57		27 - 120

Lab Sample ID: MB 440-591971/1-A
Matrix: Water
Analysis Batch: 592177

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 591971

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	0.118	J	0.50	0.10	ug/L		01/23/20 06:45	01/24/20 08:50	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,4-Dioxane-d8 (Surr)	58		27 - 120	01/23/20 06:45	01/24/20 08:50	1

Lab Sample ID: LCS 440-591971/2-A
Matrix: Water
Analysis Batch: 592177

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 591971

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
1,4-Dioxane			2.00	1.09		ug/L		54	36 - 120		

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1,4-Dioxane-d8 (Surr)	48		27 - 120

Lab Sample ID: LCSD 440-591971/3-A
Matrix: Water
Analysis Batch: 592177

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 591971

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,4-Dioxane			2.00	1.29		ug/L		65	36 - 120	17	35

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
1,4-Dioxane-d8 (Surr)	57		27 - 120

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

Lab Sample ID: MB 440-592386/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 592598 — **Prep Batch: 592386**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	0.121	J	0.50	0.10	ug/L		01/27/20 06:44	01/28/20 09:45	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,4-Dioxane-d8 (Surr)	*56*		*27 - 120*	*01/27/20 06:44*	*01/28/20 09:45*	*1*

Lab Sample ID: LCS 440-592386/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 592598 — **Prep Batch: 592386**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,4-Dioxane	2.00	1.26		ug/L		63	36 - 120

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1,4-Dioxane-d8 (Surr)	*54*		*27 - 120*

Lab Sample ID: LCSD 440-592386/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 592598 — **Prep Batch: 592386**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,4-Dioxane	2.00	1.17		ug/L		58	36 - 120	7	35

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
1,4-Dioxane-d8 (Surr)	*53*		*27 - 120*

QC Association Summary

Client: Jacob & Hefner Associates P.C.
Project/Site: Omega Chemical -2020 Semi-Annual GWM Feb

Job ID: 440-259517-1
SDG: Omega Chemical

GC/MS VOA

Analysis Batch: 591946

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-259517-1	OC_GW_OW-3B_20200120	Total/NA	Water	8260B	
440-259517-2	OC_GW_OW-8B_20200121	Total/NA	Water	8260B	
440-259517-3	OC_GW_OW-12_20200120	Total/NA	Water	8260B	
440-259517-4	OC_TB1_20200120	Total/NA	Water	8260B	
440-259517-5	OC_GW_OW-1B_20200121	Total/NA	Water	8260B	
440-259517-6	OC_GW_OW-3B_20200120K	Total/NA	Water	8260B	
440-259517-7	OC_GW_OW-8B_20200121K	Total/NA	Water	8260B	
440-259517-8	OC_TB2_20200120	Total/NA	Water	8260B	
440-259517-9	OC_GW_OW-3BN_20200120	Total/NA	Water	8260B	
440-259517-10	OC_GW_OW-11N_20200121	Total/NA	Water	8260B	
MB 440-591946/4	Method Blank	Total/NA	Water	8260B	
LCS 440-591946/1002	Lab Control Sample	Total/NA	Water	8260B	
LCS 440-591946/1003	Lab Control Sample	Total/NA	Water	8260B	
440-259517-3 MS	OC_GW_OW-12_20200120	Total/NA	Water	8260B	
440-259517-3 MSD	OC_GW_OW-12_20200120	Total/NA	Water	8260B	

Analysis Batch: 591969

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-259517-1 - RA	OC_GW_OW-3B_20200120	Total/NA	Water	8260B	
440-259517-2 - RA	OC_GW_OW-8B_20200121	Total/NA	Water	8260B	
440-259517-3 - RA	OC_GW_OW-12_20200120	Total/NA	Water	8260B	
440-259517-4 - RA	OC_TB1_20200120	Total/NA	Water	8260B	
440-259517-5 - RA	OC_GW_OW-1B_20200121	Total/NA	Water	8260B	
440-259517-6 - RA	OC_GW_OW-3B_20200120K	Total/NA	Water	8260B	
440-259517-7 - RA	OC_GW_OW-8B_20200121K	Total/NA	Water	8260B	
440-259517-8 - RA	OC_TB2_20200120	Total/NA	Water	8260B	
440-259517-9 - RA	OC_GW_OW-3BN_20200120	Total/NA	Water	8260B	
440-259517-10 - RA	OC_GW_OW-11N_20200121	Total/NA	Water	8260B	
MB 440-591969/5	Method Blank	Total/NA	Water	8260B	
LCS 440-591969/1002	Lab Control Sample	Total/NA	Water	8260B	
440-259517-3 MS	OC_GW_OW-12_20200120	Total/NA	Water	8260B	
440-259517-3 MSD	OC_GW_OW-12_20200120	Total/NA	Water	8260B	

GC/MS Semi VOA

Prep Batch: 591747

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-259517-1	OC_GW_OW-3B_20200120	Total/NA	Water	3520C	
440-259517-3	OC_GW_OW-12_20200120	Total/NA	Water	3520C	
440-259517-6	OC_GW_OW-3B_20200120K	Total/NA	Water	3520C	
MB 440-591747/1-A	Method Blank	Total/NA	Water	3520C	
LCS 440-591747/2-A	Lab Control Sample	Total/NA	Water	3520C	
LCSD 440-591747/3-A	Lab Control Sample Dup	Total/NA	Water	3520C	

Prep Batch: 591971

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-259517-2	OC_GW_OW-8B_20200121	Total/NA	Water	3520C	
440-259517-5	OC_GW_OW-1B_20200121	Total/NA	Water	3520C	
440-259517-7	OC_GW_OW-8B_20200121K	Total/NA	Water	3520C	
MB 440-591971/1-A	Method Blank	Total/NA	Water	3520C	
LCS 440-591971/2-A	Lab Control Sample	Total/NA	Water	3520C	

GC/MS Semi VOA (Continued)

Prep Batch: 591971 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCSD 440-591971/3-A	Lab Control Sample Dup	Total/NA	Water	3520C	

Analysis Batch: 591979

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-259517-1	OC_GW_OW-3B_20200120	Total/NA	Water	8270C SIM	591747
440-259517-3	OC_GW_OW-12_20200120	Total/NA	Water	8270C SIM	591747
440-259517-6	OC_GW_OW-3B_20200120K	Total/NA	Water	8270C SIM	591747
MB 440-591747/1-A	Method Blank	Total/NA	Water	8270C SIM	591747
LCS 440-591747/2-A	Lab Control Sample	Total/NA	Water	8270C SIM	591747
LCSD 440-591747/3-A	Lab Control Sample Dup	Total/NA	Water	8270C SIM	591747

Analysis Batch: 592177

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-259517-2	OC_GW_OW-8B_20200121	Total/NA	Water	8270C SIM	591971
440-259517-5	OC_GW_OW-1B_20200121	Total/NA	Water	8270C SIM	591971
440-259517-7	OC_GW_OW-8B_20200121K	Total/NA	Water	8270C SIM	591971
MB 440-591971/1-A	Method Blank	Total/NA	Water	8270C SIM	591971
LCS 440-591971/2-A	Lab Control Sample	Total/NA	Water	8270C SIM	591971
LCSD 440-591971/3-A	Lab Control Sample Dup	Total/NA	Water	8270C SIM	591971

Prep Batch: 592386

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-259517-5	OC_GW_OW-1B_20200121	Total/NA	Water	3520C	
MB 440-592386/1-A	Method Blank	Total/NA	Water	3520C	
LCS 440-592386/2-A	Lab Control Sample	Total/NA	Water	3520C	
LCSD 440-592386/3-A	Lab Control Sample Dup	Total/NA	Water	3520C	

Analysis Batch: 592598

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-259517-5	OC_GW_OW-1B_20200121	Total/NA	Water	8270C SIM	592386
MB 440-592386/1-A	Method Blank	Total/NA	Water	8270C SIM	592386
LCS 440-592386/2-A	Lab Control Sample	Total/NA	Water	8270C SIM	592386
LCSD 440-592386/3-A	Lab Control Sample Dup	Total/NA	Water	8270C SIM	592386

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
4	MS, MSD: The analyte present in the original sample is greater than 4 times the matrix spike concentration; therefore, control limits are not applicable.
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
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
N	Presumptive evidence of material.
T	Result is a tentatively identified compound (TIC) and an estimated value.

GC/MS Semi VOA

Qualifier	Qualifier Description
B	Compound was found in the blank and sample.
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 -2020 Semi-Annual GWM Feb

Job ID: 440-259517-1
SDG: Omega Chemical

Laboratory: Eurofins Calscience Irvine

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

Authority	Program	Identification Number	Expiration Date
California	State	2706	06-30-20

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	1,1,1,2-Tetrachloroethane
8260B		Water	1,1,1-Trichloroethane
8260B		Water	1,1,2,2-Tetrachloroethane
8260B		Water	1,1,2-Trichloro-1,2,2-trifluoroethane
8260B		Water	1,1,2-Trichloroethane
8260B		Water	1,1-Dichloroethane
8260B		Water	1,1-Dichloroethene
8260B		Water	1,1-Dichloropropene
8260B		Water	1,2,3-Trichlorobenzene
8260B		Water	1,2,3-Trichloropropane
8260B		Water	1,2,4-Trichlorobenzene
8260B		Water	1,2,4-Trimethylbenzene
8260B		Water	1,2-Dibromo-3-Chloropropane
8260B		Water	1,2-Dibromoethane (EDB)
8260B		Water	1,2-Dichlorobenzene
8260B		Water	1,2-Dichloroethane
8260B		Water	1,2-Dichloropropane
8260B		Water	1,3,5-Trimethylbenzene
8260B		Water	1,3-Dichlorobenzene
8260B		Water	1,3-Dichloropropane
8260B		Water	1,4-Dichlorobenzene
8260B		Water	2,2-Dichloropropane
8260B		Water	2-Butanone, 3,3-dimethyl-
8260B		Water	2-Chlorotoluene
8260B		Water	4-Chlorotoluene
8260B		Water	Acetone
8260B		Water	Benzene
8260B		Water	Bromobenzene
8260B		Water	Bromochloromethane
8260B		Water	Bromodichloromethane
8260B		Water	Bromoform
8260B		Water	Bromomethane
8260B		Water	Carbon tetrachloride
8260B		Water	Chlorobenzene
8260B		Water	Chloroethane
8260B		Water	Chloroform
8260B		Water	Chloromethane
8260B		Water	cis-1,2-Dichloroethene
8260B		Water	cis-1,3-Dichloropropene
8260B		Water	Dibromochloromethane
8260B		Water	Dibromomethane
8260B		Water	Dichlorodifluoromethane
8260B		Water	Ethylbenzene
8260B		Water	Hexachlorobutadiene
8260B		Water	Isopropyl alcohol

Laboratory: Eurofins Calscience Irvine (Continued)

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

Authority		Program		Identification Number	Expiration Date
California		State		2706	06-30-20
8260B			Water	Isopropylbenzene	
8260B			Water	m,p-Xylene	
8260B			Water	Methylene Chloride	
8260B			Water	Methyl-t-Butyl Ether (MTBE)	
8260B			Water	Naphthalene	
8260B			Water	n-Butylbenzene	
8260B			Water	N-Propylbenzene	
8260B			Water	o-Xylene	
8260B			Water	p-Isopropyltoluene	
8260B			Water	sec-Butylbenzene	
8260B			Water	Styrene	
8260B			Water	Tentatively Identified Compound	
8260B			Water	tert-Butylbenzene	
8260B			Water	Tetrachloroethene	
8260B			Water	Toluene	
8260B			Water	trans-1,2-Dichloroethene	
8260B			Water	trans-1,3-Dichloropropene	
8260B			Water	Trichloroethene	
8260B			Water	Trichlorofluoromethane	
8260B			Water	Unknown	
8260B			Water	Vinyl chloride	
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: 1/20 /20	COC No:
De Maximis - Jaime Dinello	Tel/Fax: (949) 453-1045 / (949) 453-1047	Lab Contact: Danielle Roberts	Carrier:	1 of 3 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 Chem. - 2020 Semi-Ann. GWM Feb	☐ 1 week			
Site: Omega Chemical	☐ 2 days			Job / SDG No.
P O #: 3139G/E742	☐ 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-1_202001	1/ /2020		Grab	GW	5			x	x	
OC_GW_OW-1B_202001	1/ /2020		Grab	GW	5			x	x	
OC_GW_OW-2_202001	1/ /2020		Grab	GW	5			x	x	
OC_GW_OW-3_202001	1/ /2020		Grab	GW	5			x	x	
OC_GW_OW-3B_202001~~20~~	1/~~20~~/2020	1430	Grab	GW	5			x	x	
OC_GW_OW-7_202001	1/ /2020		Grab	GW	5			x	x	
OC_GW_OW-8_202001	1/ /2020		Grab	GW	5			x	x	
OC_GW_OW-8B_202001 21	1/~~21~~/2020	0754	Grab	GW	5			x	x	1/21/20 LD
OC_GW_OW-9_202001	1/ /2020		Grab	GW	5			x	x	
OC_GW_OW-10_202001	1/ /2020		Grab	GW	5			x	x	
OC_GW_OW-12_202001~~20~~	1/~~20~~2020	0839	Grab	GW	5			x	x	
OC_TB 1 _202001~~20~~	1/~~20~~/2020	0700	Grab	H2O	2			x		

440-259517 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 | 43509 | Cooler Temp. (°C): Obs'd:_____ Corr'd._____ Therm ID No._____

Relinquished by:	Company:	Date/Time:	Received by	Company	Date/Time:
[signature]	JHA	1/21/20 1405	[signature] Rivera	EC-IRV	1/21/20 1405
Relinquished by: [signature]	Company: EC-IRV	Date/Time: 1/21/20 1510	Received by:	Company	Date/Time:
Relinquished by:	Company.	Date/Time	Received in Laboratory by: [signature]	Company: EC-IRV	Date/Time: 1/21/20 1510

1.8/1.6, 1.9/1.7, 2.1/1.9 #89

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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: 1/ 20 /20	COC No:
De Maximis - Jaime Dinello	Tel/Fax: (949) 453-1045 / (949) 453-1047	Lab Contact: Danielle Roberts	Carrier:	2 of 3 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 Chem. - 2020 Semi-Ann. GWM Feb	☐ 1 week			
Site: Omega Chemical	☐ 2 days			Job / SDG No.:
P O #: 3139G/E742	☐ 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-1_202001	1/ /2020		Grab	GW	5			x	x	
OC_GW_OW-1B_202001 21	1/21/2020	0938	Grab	GW	5			x	x	
OC_GW_OW-2_202001	1/ /2020		Grab	GW	5			x	x	
OC_GW_OW-3_202001	1/ /2020		Grab	GW	5			x	x	
OC_GW_OW-3B_202001 20K	1/20/2020	1435	Grab	GW	5			x	x	
OC_GW_OW-7_202001	1/ /2020		Grab	GW	5			x	x	
OC_GW_OW-8_202001	1/ /2020		Grab	GW	5			x	x	
OC_GW_OW-8B_202001 21K	1/21/2020	0758	Grab	GW	5			x	x	
OC_GW_OW-9_202001	1/ /2020		Grab	GW	5			x	x	
OC_GW_OW-10_202001	1/ /2020		Grab	GW	5			x	x	
OC_GW_OW-12_202001	1/ /2020		Grab	GW	5			x	x	
OC_TB 2_202001 20	1/20/2020	0700	Grab	H2O	2			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 | 43509 | Cooler Temp. (°C): Obs'd: _____ Corr'd: _____ | Therm ID No _____

Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
[signature]	JHA	1/21/20 1405	Wendy Rivera	EC-IRV	1/21/20 1405
Relinquished by: CWR	Company: EC-IRV	1/21/20 1510	Received by:	Company:	Date/Time.
Relinquished by:	Company:	Date/Time:	Received in Laboratory by: [signature]	Company: EC-IRV	Date/Time: 1/21/20 1510

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: 2/ /20	COC No:
De Maximis - Jaime Dinello	Tel/Fax: (949) 453-1045 / (949) 453-1047	Lab Contact: Danielle Roberts	Carrier:	3 of 3 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 Chem. - 2020 Semi-Ann. GWM Feb	☐ 1 week			
Site: Omega Chemical	☐ 2 days			Job / SDG No.:
P O #. 3139G/E742	☐ 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-3B N_202001 20	1/20/2020	1533	Grab	GW	3			x		
OC_GW_OW-11 N_202001 21	1/21/2020	1400	Grab	GW	3			x		
OC_GW_OW- N_202001	1/ /2020		Grab	GW	3			x		
OC_GW_OW- N_202001	1/ /2020		Grab	GW	3			x		
OC_GW_OW- N_202001	1/ /2020		Grab	GW	3			x		
OC_GW_OW- N_202001	1/ /2020		Grab	GW	3			x		
OC_GW_OW- N_202001	1/ /2020		Grab	GW	3			x		
OC_GW_OW- N_202001	1/ /2020		Grab	GW	3			x		
OC_GW_OW- N_202001	1/ /2020		Grab	GW	3			x		
OC_GW_OW- N_202001	1/ /2020		Grab	GW	3			x		
OC_GW_OW- N_202001	1/ /2020		Grab	GW	3			x		
OC_TB _202001	1/ /2020		Grab	H2O	2			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 | 43509 | Cooler Temp. (°C): Obs'd:_____ Corr'd:_____ Therm ID No.:_____

Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
[signature]	J Hu	1/21/20 1405	[signature]	EC-IRV	1/21/20 1405
Relinquished by: CWR	Company: EC-IRV	1/21/20 1510	Received by:	Company:	Date/Time:
Relinquished by:	Company:	Date/Time:	Received in Laboratory by: [signature]	Company: EC-IRV	Date/Time: 1/21/20 LD

Login Sample Receipt Checklist

Client: Jacob & Hefner Associates P.C.

Job Number: 440-259517-1
SDG Number: Omega Chemical

Login Number: 259517
List Number: 1
Creator: Soderblom, Tim

List Source: Eurofins 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	

ANALYTICAL REPORT

Eurofins Calscience Irvine
17461 Derian Ave
Suite 100
Irvine, CA 92614-5817
Tel: (949)261-1022

Laboratory Job ID: 440-259637-1
Laboratory Sample Delivery Group: Omega Chemical
Client Project/Site: Omega Chemical -2020 Semi-Annual GWM Feb

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

Attn: Trent Henderson

Authorized for release by:
1/31/2020 7:50:25 AM

Danielle Roberts, Senior Project Manager
(949)260-3249
danielle.roberts@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 -2020 Semi-Annual GWM Feb

Job ID: 440-259637-1
SDG: Omega Chemical

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
440-259637-1	OC_GW_OW-13B_20200123	Water	01/23/20 10:34	01/23/20 14:55	
440-259637-2	OC_GW_PZ-9_20200123	Water	01/23/20 07:55	01/23/20 14:55	

Job ID: 440-259637-1

Laboratory: Eurofins Calscience Irvine

Narrative

Job Narrative
440-259637-1

Comments
No additional comments.

Receipt
The samples were received on 1/23/2020 2:55 PM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 5.1º C.

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

GC/MS Semi VOA
Method 8270C SIM: The method blank for preparation batch 440-592345 and analytical batch 440-592397 contained 1,4-Dioxane above the method detection limit (MDL). Associated sample(s) were not re-extracted and/or re-analyzed because results were greater than 10X the value found in the method blank.

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

Organic Prep
Method 3520C: The following sample was diluted due to the nature of the sample matrix: OC_GW_PZ-9_20200123 (440-259637-2) at 100 mL (10X). Elevated reporting limits (RLs) are provided.

Method 3520C: Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD) associated with 8270C preparation batch 440-592345. LCS was performed in duplicate to provide precision of data.

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 -2020 Semi-Annual GWM Feb

Job ID: 440-259637-1
SDG: Omega Chemical

Client Sample ID: OC_GW_OW-13B_20200123 — Lab Sample ID: 440-259637-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Tetrachloroethene - RA	23		1.0	0.25	ug/L	1		8260B	Total/NA

Client Sample ID: OC_GW_PZ-9_20200123 — Lab Sample ID: 440-259637-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,1,2-Trichloro-1,2,2-trifluoroethane	53		5.0	0.50	ug/L	1		8260B	Total/NA
1,1,2-Trichloroethane	0.81	J	1.0	0.25	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	37		1.0	0.25	ug/L	1		8260B	Total/NA
1,2-Dichloroethane	8.2		1.0	0.25	ug/L	1		8260B	Total/NA
Chloroform	31		1.0	0.25	ug/L	1		8260B	Total/NA
cis-1,2-Dichloroethene	0.44	J	1.0	0.25	ug/L	1		8260B	Total/NA
trans-1,2-Dichloroethene	0.39	J	1.0	0.25	ug/L	1		8260B	Total/NA
Trichloroethene	21		1.0	0.25	ug/L	1		8260B	Total/NA
Trichlorofluoromethane	17		1.0	0.25	ug/L	1		8260B	Total/NA
Tetrachloroethene - DL	290		10	2.5	ug/L	10		8260B	Total/NA
1,4-Dioxane	280	B	5.0	1.0	ug/L	1		8270C SIM	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample Results

Client: Jacob & Hefner Associates P.C.
Project/Site: Omega Chemical -2020 Semi-Annual GWM Feb

Job ID: 440-259637-1
SDG: Omega Chemical

Client Sample ID: OC_GW_OW-13B_20200123

Lab Sample ID: 440-259637-1

Date Collected: 01/23/20 10:34
Matrix: Water
Date Received: 01/23/20 14:55

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			01/24/20 14:30	1
1,1,1-Trichloroethane	ND		1.0	0.25	ug/L			01/24/20 14:30	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.25	ug/L			01/24/20 14:30	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		5.0	0.50	ug/L			01/24/20 14:30	1
1,1,2-Trichloroethane	ND		1.0	0.25	ug/L			01/24/20 14:30	1
1,1-Dichloroethane	ND		1.0	0.25	ug/L			01/24/20 14:30	1
1,1-Dichloroethene	ND		1.0	0.25	ug/L			01/24/20 14:30	1
1,1-Dichloropropene	ND		1.0	0.25	ug/L			01/24/20 14:30	1
1,2,3-Trichlorobenzene	ND		1.0	0.40	ug/L			01/24/20 14:30	1
1,2,3-Trichloropropane	ND		1.0	0.40	ug/L			01/24/20 14:30	1
1,2,4-Trichlorobenzene	ND		1.0	0.40	ug/L			01/24/20 14:30	1
1,2,4-Trimethylbenzene	ND		1.0	0.25	ug/L			01/24/20 14:30	1
1,2-Dibromo-3-Chloropropane	ND		5.0	0.50	ug/L			01/24/20 14:30	1
1,2-Dibromoethane (EDB)	ND		1.0	0.25	ug/L			01/24/20 14:30	1
1,2-Dichlorobenzene	ND		1.0	0.25	ug/L			01/24/20 14:30	1
1,2-Dichloroethane	ND		1.0	0.25	ug/L			01/24/20 14:30	1
1,2-Dichloropropane	ND		1.0	0.25	ug/L			01/24/20 14:30	1
1,3,5-Trimethylbenzene	ND		1.0	0.25	ug/L			01/24/20 14:30	1
1,3-Dichlorobenzene	ND		1.0	0.25	ug/L			01/24/20 14:30	1
1,3-Dichloropropane	ND		1.0	0.25	ug/L			01/24/20 14:30	1
1,4-Dichlorobenzene	ND		1.0	0.25	ug/L			01/24/20 14:30	1
2,2-Dichloropropane	ND		1.0	0.40	ug/L			01/24/20 14:30	1
2-Chlorotoluene	ND		1.0	0.25	ug/L			01/24/20 14:30	1
4-Chlorotoluene	ND		1.0	0.25	ug/L			01/24/20 14:30	1
Acetone	ND		10	10	ug/L			01/24/20 14:30	1
Benzene	ND		0.50	0.25	ug/L			01/24/20 14:30	1
Bromobenzene	ND		1.0	0.25	ug/L			01/24/20 14:30	1
Bromochloromethane	ND		1.0	0.25	ug/L			01/24/20 14:30	1
Bromodichloromethane	ND		1.0	0.25	ug/L			01/24/20 14:30	1
Bromoform	ND		1.0	0.40	ug/L			01/24/20 14:30	1
Bromomethane	ND		1.0	0.25	ug/L			01/24/20 14:30	1
Carbon tetrachloride	ND		0.50	0.25	ug/L			01/24/20 14:30	1
Chlorobenzene	ND		1.0	0.25	ug/L			01/24/20 14:30	1
Chloroethane	ND		1.0	0.40	ug/L			01/24/20 14:30	1
Chloroform	ND		1.0	0.25	ug/L			01/24/20 14:30	1
Chloromethane	ND		1.0	0.25	ug/L			01/24/20 14:30	1
cis-1,2-Dichloroethene	ND		1.0	0.25	ug/L			01/24/20 14:30	1
cis-1,3-Dichloropropene	ND		0.50	0.25	ug/L			01/24/20 14:30	1
Dibromochloromethane	ND		1.0	0.25	ug/L			01/24/20 14:30	1
Dibromomethane	ND		1.0	0.25	ug/L			01/24/20 14:30	1
Ethylbenzene	ND		1.0	0.25	ug/L			01/24/20 14:30	1
Isopropyl alcohol	ND		250	180	ug/L			01/24/20 14:30	1
Isopropylbenzene	ND		1.0	0.25	ug/L			01/24/20 14:30	1
m,p-Xylene	ND		1.0	0.50	ug/L			01/24/20 14:30	1
Methylene Chloride	ND		5.0	0.88	ug/L			01/24/20 14:30	1
Methyl-t-Butyl Ether (MTBE)	ND		1.0	0.25	ug/L			01/24/20 14:30	1
Naphthalene	ND		1.0	0.40	ug/L			01/24/20 14:30	1
n-Butylbenzene	ND		1.0	0.40	ug/L			01/24/20 14:30	1
N-Propylbenzene	ND		1.0	0.25	ug/L			01/24/20 14:30	1

Client Sample ID: OC_GW_OW-13B_20200123

Lab Sample ID: 440-259637-1

Date Collected: 01/23/20 10:34
Matrix: Water
Date Received: 01/23/20 14:55

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
o-Xylene	ND		1.0	0.25	ug/L			01/24/20 14:30	1
p-Isopropyltoluene	ND		1.0	0.25	ug/L			01/24/20 14:30	1
sec-Butylbenzene	ND		1.0	0.25	ug/L			01/24/20 14:30	1
Styrene	ND		1.0	0.25	ug/L			01/24/20 14:30	1
tert-Butylbenzene	ND		1.0	0.25	ug/L			01/24/20 14:30	1
Toluene	ND		1.0	0.25	ug/L			01/24/20 14:30	1
trans-1,2-Dichloroethene	ND		1.0	0.25	ug/L			01/24/20 14:30	1
trans-1,3-Dichloropropene	ND		0.50	0.25	ug/L			01/24/20 14:30	1
Trichloroethene	ND		1.0	0.25	ug/L			01/24/20 14:30	1
Trichlorofluoromethane	ND		1.0	0.25	ug/L			01/24/20 14:30	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Tentatively Identified Compound	*None*		*ug/L*					*01/24/20 14:30*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*99*		*70 - 130*		*01/24/20 14:30*	*1*
4-Bromofluorobenzene (Surr)	*102*		*80 - 120*		*01/24/20 14:30*	*1*
Dibromofluoromethane (Surr)	*101*		*76 - 132*		*01/24/20 14:30*	*1*
Toluene-d8 (Surr)	*104*		*80 - 128*		*01/24/20 14:30*	*1*

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dichlorodifluoromethane	ND		1.0	0.40	ug/L			01/24/20 14:36	1
Hexachlorobutadiene	ND		1.0	0.25	ug/L			01/24/20 14:36	1
Tetrachloroethene	**23**		1.0	0.25	ug/L			01/24/20 14:36	1
Vinyl chloride	ND		0.50	0.25	ug/L			01/24/20 14:36	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Unknown	*1400*	*T J*	*ug/L*		*1.75*			*01/24/20 14:36*	*1*
Unknown	*7.3*	*T J*	*ug/L*		*16.33*			*01/24/20 14:36*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*127*		*70 - 130*		*01/24/20 14:36*	*1*
4-Bromofluorobenzene (Surr)	*97*		*80 - 120*		*01/24/20 14:36*	*1*
Dibromofluoromethane (Surr)	*116*		*76 - 132*		*01/24/20 14:36*	*1*
Toluene-d8 (Surr)	*101*		*80 - 128*		*01/24/20 14:36*	*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		01/26/20 06:34	01/27/20 14:27	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,4-Dioxane-d8 (Surr)	*63*		*27 - 120*	*01/26/20 06:34*	*01/27/20 14:27*	*1*

Client Sample ID: OC_GW_PZ-9_20200123

Lab Sample ID: 440-259637-2

Date Collected: 01/23/20 07:55
Matrix: Water
Date Received: 01/23/20 14:55

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			01/24/20 14:53	1
1,1,1-Trichloroethane	ND		1.0	0.25	ug/L			01/24/20 14:53	1

Client Sample ID: OC_GW_PZ-9_20200123

Lab Sample ID: 440-259637-2

Date Collected: 01/23/20 07:55
Matrix: Water
Date Received: 01/23/20 14:55

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			01/24/20 14:53	1
1,1,2-Trichloro-1,2,2-trifluoroethane	**53**		5.0	0.50	ug/L			01/24/20 14:53	1
1,1,2-Trichloroethane	**0.81**	**J**	1.0	0.25	ug/L			01/24/20 14:53	1
1,1-Dichloroethane	**0.98**	**J**	1.0	0.25	ug/L			01/24/20 14:53	1
1,1-Dichloroethene	**37**		1.0	0.25	ug/L			01/24/20 14:53	1
1,1-Dichloropropene	ND		1.0	0.25	ug/L			01/24/20 14:53	1
1,2,3-Trichlorobenzene	ND		1.0	0.40	ug/L			01/24/20 14:53	1
1,2,3-Trichloropropane	ND		1.0	0.40	ug/L			01/24/20 14:53	1
1,2,4-Trichlorobenzene	ND		1.0	0.40	ug/L			01/24/20 14:53	1
1,2,4-Trimethylbenzene	ND		1.0	0.25	ug/L			01/24/20 14:53	1
1,2-Dibromo-3-Chloropropane	ND		5.0	0.50	ug/L			01/24/20 14:53	1
1,2-Dibromoethane (EDB)	ND		1.0	0.25	ug/L			01/24/20 14:53	1
1,2-Dichlorobenzene	ND		1.0	0.25	ug/L			01/24/20 14:53	1
1,2-Dichloroethane	**8.2**		1.0	0.25	ug/L			01/24/20 14:53	1
1,2-Dichloropropane	ND		1.0	0.25	ug/L			01/24/20 14:53	1
1,3,5-Trimethylbenzene	ND		1.0	0.25	ug/L			01/24/20 14:53	1
1,3-Dichlorobenzene	ND		1.0	0.25	ug/L			01/24/20 14:53	1
1,3-Dichloropropane	ND		1.0	0.25	ug/L			01/24/20 14:53	1
1,4-Dichlorobenzene	ND		1.0	0.25	ug/L			01/24/20 14:53	1
2,2-Dichloropropane	ND		1.0	0.40	ug/L			01/24/20 14:53	1
2-Chlorotoluene	ND		1.0	0.25	ug/L			01/24/20 14:53	1
4-Chlorotoluene	ND		1.0	0.25	ug/L			01/24/20 14:53	1
Acetone	ND		10	10	ug/L			01/24/20 14:53	1
Benzene	ND		0.50	0.25	ug/L			01/24/20 14:53	1
Bromobenzene	ND		1.0	0.25	ug/L			01/24/20 14:53	1
Bromochloromethane	ND		1.0	0.25	ug/L			01/24/20 14:53	1
Bromodichloromethane	ND		1.0	0.25	ug/L			01/24/20 14:53	1
Bromoform	ND		1.0	0.40	ug/L			01/24/20 14:53	1
Bromomethane	ND		1.0	0.25	ug/L			01/24/20 14:53	1
Carbon tetrachloride	ND		0.50	0.25	ug/L			01/24/20 14:53	1
Chlorobenzene	ND		1.0	0.25	ug/L			01/24/20 14:53	1
Chloroethane	ND		1.0	0.40	ug/L			01/24/20 14:53	1
Chloroform	**31**		1.0	0.25	ug/L			01/24/20 14:53	1
Chloromethane	ND		1.0	0.25	ug/L			01/24/20 14:53	1
cis-1,2-Dichloroethene	**0.44**	**J**	1.0	0.25	ug/L			01/24/20 14:53	1
cis-1,3-Dichloropropene	ND		0.50	0.25	ug/L			01/24/20 14:53	1
Dibromochloromethane	ND		1.0	0.25	ug/L			01/24/20 14:53	1
Dibromomethane	ND		1.0	0.25	ug/L			01/24/20 14:53	1
Ethylbenzene	ND		1.0	0.25	ug/L			01/24/20 14:53	1
Isopropyl alcohol	ND		250	180	ug/L			01/24/20 14:53	1
Isopropylbenzene	ND		1.0	0.25	ug/L			01/24/20 14:53	1
m,p-Xylene	ND		1.0	0.50	ug/L			01/24/20 14:53	1
Methylene Chloride	ND		5.0	0.88	ug/L			01/24/20 14:53	1
Methyl-t-Butyl Ether (MTBE)	ND		1.0	0.25	ug/L			01/24/20 14:53	1
Naphthalene	ND		1.0	0.40	ug/L			01/24/20 14:53	1
n-Butylbenzene	ND		1.0	0.40	ug/L			01/24/20 14:53	1
N-Propylbenzene	ND		1.0	0.25	ug/L			01/24/20 14:53	1
o-Xylene	ND		1.0	0.25	ug/L			01/24/20 14:53	1
p-Isopropyltoluene	ND		1.0	0.25	ug/L			01/24/20 14:53	1

Client Sample Results

Client: Jacob & Hefner Associates P.C.
Project/Site: Omega Chemical -2020 Semi-Annual GWM Feb

Job ID: 440-259637-1
SDG: Omega Chemical

Client Sample ID: OC_GW_PZ-9_20200123

Lab Sample ID: 440-259637-2
Date Collected: 01/23/20 07:55
Matrix: Water
Date Received: 01/23/20 14:55

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
sec-Butylbenzene	ND		1.0	0.25	ug/L			01/24/20 14:53	1
Styrene	ND		1.0	0.25	ug/L			01/24/20 14:53	1
tert-Butylbenzene	ND		1.0	0.25	ug/L			01/24/20 14:53	1
Toluene	ND		1.0	0.25	ug/L			01/24/20 14:53	1
trans-1,2-Dichloroethene	**0.39**	**J**	1.0	0.25	ug/L			01/24/20 14:53	1
trans-1,3-Dichloropropene	ND		0.50	0.25	ug/L			01/24/20 14:53	1
Trichloroethene	**21**		1.0	0.25	ug/L			01/24/20 14:53	1
Trichlorofluoromethane	**17**		1.0	0.25	ug/L			01/24/20 14:53	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Unknown	*13*	*T J*	*ug/L*		*14.50*			*01/24/20 14:53*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*100*		*70 - 130*		*01/24/20 14:53*	*1*
4-Bromofluorobenzene (Surr)	*101*		*80 - 120*		*01/24/20 14:53*	*1*
Dibromofluoromethane (Surr)	*103*		*76 - 132*		*01/24/20 14:53*	*1*
Toluene-d8 (Surr)	*106*		*80 - 128*		*01/24/20 14:53*	*1*

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Tetrachloroethene	**290**		10	2.5	ug/L			01/25/20 16:58	10

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Tentatively Identified Compound	*None*		*ug/L*					*01/25/20 16:58*	*10*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*97*		*70 - 130*		*01/25/20 16:58*	*10*
4-Bromofluorobenzene (Surr)	*102*		*80 - 120*		*01/25/20 16:58*	*10*
Dibromofluoromethane (Surr)	*101*		*76 - 132*		*01/25/20 16:58*	*10*
Toluene-d8 (Surr)	*109*		*80 - 128*		*01/25/20 16:58*	*10*

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dichlorodifluoromethane	ND		1.0	0.40	ug/L			01/24/20 15:06	1
Hexachlorobutadiene	ND		1.0	0.25	ug/L			01/24/20 15:06	1
Vinyl chloride	ND		0.50	0.25	ug/L			01/24/20 15:06	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Unknown	*1100*	*T J*	*ug/L*		*1.75*			*01/24/20 15:06*	*1*
Unknown	*5.6*	*T J*	*ug/L*		*8.55*			*01/24/20 15:06*	*1*
Unknown	*7.5*	*T J*	*ug/L*		*16.23*			*01/24/20 15:06*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*126*		*70 - 130*		*01/24/20 15:06*	*1*
4-Bromofluorobenzene (Surr)	*99*		*80 - 120*		*01/24/20 15:06*	*1*
Dibromofluoromethane (Surr)	*118*		*76 - 132*		*01/24/20 15:06*	*1*
Toluene-d8 (Surr)	*101*		*80 - 128*		*01/24/20 15:06*	*1*

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	**280**	**B**	5.0	1.0	ug/L		01/26/20 06:34	01/27/20 14:48	1

Client Sample Results

Client: Jacob & Hefner Associates P.C.
Project/Site: Omega Chemical -2020 Semi-Annual GWM Feb

Job ID: 440-259637-1
SDG: Omega Chemical

Client Sample ID: OC_GW_PZ-9_20200123

Lab Sample ID: 440-259637-2

Date Collected: 01/23/20 07:55
Date Received: 01/23/20 14:55

Matrix: Water

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,4-Dioxane-d8 (Surr)	61		27 - 120	01/26/20 06:34	01/27/20 14:48	1

Surrogate Summary

Client: Jacob & Hefner Associates P.C.
Project/Site: Omega Chemical -2020 Semi-Annual GWM Feb

Job ID: 440-259637-1
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)
440-259637-1	OC_GW_OW-13B_20200123	99	102	101	104
440-259637-1 - RA	OC_GW_OW-13B_20200123	127	97	116	101
440-259637-2	OC_GW_PZ-9_20200123	100	101	103	106
440-259637-2 - RA	OC_GW_PZ-9_20200123	126	99	118	101
440-259637-2 - DL	OC_GW_PZ-9_20200123	97	102	101	109
440-259640-A-1 MS	Matrix Spike	101	95	103	102
440-259640-A-1 MS	Matrix Spike	117	101	106	102
440-259640-A-1 MSD	Matrix Spike Duplicate	101	98	101	104
440-259640-A-1 MSD	Matrix Spike Duplicate	108	103	106	105
440-259693-C-2 MS	Matrix Spike	97	96	102	103
440-259693-C-2 MSD	Matrix Spike Duplicate	95	96	99	102
LCS 440-592171/1002	Lab Control Sample	99	95	98	104
LCS 440-592171/1003	Lab Control Sample	103	102	101	106
LCS 440-592172/1002	Lab Control Sample	111	99	103	103
LCS 440-592330/1002	Lab Control Sample	94	95	99	102
MB 440-592171/4	Method Blank	103	100	99	103
MB 440-592172/5	Method Blank	116	105	109	101
MB 440-592330/5	Method Blank	95	101	100	107

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)
440-259637-1	OC_GW_OW-13B_20200123	63
440-259637-2	OC_GW_PZ-9_20200123	61
LCS 440-592345/2-A	Lab Control Sample	57
LCSD 440-592345/3-A	Lab Control Sample Dup	65
MB 440-592345/1-A	Method Blank	63

Surrogate Legend

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

Method Summary

Client: Jacob & Hefner Associates P.C.
Project/Site: Omega Chemical -2020 Semi-Annual GWM Feb

Job ID: 440-259637-1
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 = Eurofins Calscience 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 -2020 Semi-Annual GWM Feb

Job ID: 440-259637-1
SDG: Omega Chemical

Client Sample ID: OC_GW_OW-13B_20200123

Lab Sample ID: 440-259637-1

Date Collected: 01/23/20 10:34
Matrix: Water
Date Received: 01/23/20 14:55

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	592171	01/24/20 14:30	RM	TAL IRV
Total/NA	Analysis	8260B	RA	1	10 mL	10 mL	592172	01/24/20 14:36	RM	TAL IRV
Total/NA	Prep	3520C			1010 mL	1.0 mL	592345	01/26/20 06:34	NAM	TAL IRV
Total/NA	Analysis	8270C SIM		1			592397	01/27/20 14:27	HN	TAL IRV

Client Sample ID: OC_GW_PZ-9_20200123

Lab Sample ID: 440-259637-2

Date Collected: 01/23/20 07:55
Matrix: Water
Date Received: 01/23/20 14:55

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	10	10 mL	10 mL	592330	01/25/20 16:58	GMA	TAL IRV
Total/NA	Analysis	8260B		1	10 mL	10 mL	592171	01/24/20 14:53	RM	TAL IRV
Total/NA	Analysis	8260B	RA	1	10 mL	10 mL	592172	01/24/20 15:06	RM	TAL IRV
Total/NA	Prep	3520C			100 mL	1.0 mL	592345	01/26/20 06:34	NAM	TAL IRV
Total/NA	Analysis	8270C SIM		1			592397	01/27/20 14:48	HN	TAL IRV

Laboratory References:

TAL IRV = Eurofins Calscience 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 440-592171/4
Matrix: Water
Analysis Batch: 592171

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			01/24/20 09:15	1
1,1,1-Trichloroethane	ND		1.0	0.25	ug/L			01/24/20 09:15	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.25	ug/L			01/24/20 09:15	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		5.0	0.50	ug/L			01/24/20 09:15	1
1,1,2-Trichloroethane	ND		1.0	0.25	ug/L			01/24/20 09:15	1
1,1-Dichloroethane	ND		1.0	0.25	ug/L			01/24/20 09:15	1
1,1-Dichloroethene	ND		1.0	0.25	ug/L			01/24/20 09:15	1
1,1-Dichloropropene	ND		1.0	0.25	ug/L			01/24/20 09:15	1
1,2,3-Trichlorobenzene	ND		1.0	0.40	ug/L			01/24/20 09:15	1
1,2,3-Trichloropropane	ND		1.0	0.40	ug/L			01/24/20 09:15	1
1,2,4-Trichlorobenzene	ND		1.0	0.40	ug/L			01/24/20 09:15	1
1,2,4-Trimethylbenzene	ND		1.0	0.25	ug/L			01/24/20 09:15	1
1,2-Dibromo-3-Chloropropane	ND		5.0	0.50	ug/L			01/24/20 09:15	1
1,2-Dibromoethane (EDB)	ND		1.0	0.25	ug/L			01/24/20 09:15	1
1,2-Dichlorobenzene	ND		1.0	0.25	ug/L			01/24/20 09:15	1
1,2-Dichloroethane	ND		1.0	0.25	ug/L			01/24/20 09:15	1
1,2-Dichloropropane	ND		1.0	0.25	ug/L			01/24/20 09:15	1
1,3,5-Trimethylbenzene	ND		1.0	0.25	ug/L			01/24/20 09:15	1
1,3-Dichlorobenzene	ND		1.0	0.25	ug/L			01/24/20 09:15	1
1,3-Dichloropropane	ND		1.0	0.25	ug/L			01/24/20 09:15	1
1,4-Dichlorobenzene	ND		1.0	0.25	ug/L			01/24/20 09:15	1
2,2-Dichloropropane	ND		1.0	0.40	ug/L			01/24/20 09:15	1
2-Chlorotoluene	ND		1.0	0.25	ug/L			01/24/20 09:15	1
4-Chlorotoluene	ND		1.0	0.25	ug/L			01/24/20 09:15	1
Acetone	ND		10	10	ug/L			01/24/20 09:15	1
Benzene	ND		0.50	0.25	ug/L			01/24/20 09:15	1
Bromobenzene	ND		1.0	0.25	ug/L			01/24/20 09:15	1
Bromochloromethane	ND		1.0	0.25	ug/L			01/24/20 09:15	1
Bromodichloromethane	ND		1.0	0.25	ug/L			01/24/20 09:15	1
Bromoform	ND		1.0	0.40	ug/L			01/24/20 09:15	1
Bromomethane	ND		1.0	0.25	ug/L			01/24/20 09:15	1
Carbon tetrachloride	ND		0.50	0.25	ug/L			01/24/20 09:15	1
Chlorobenzene	ND		1.0	0.25	ug/L			01/24/20 09:15	1
Chloroethane	ND		1.0	0.40	ug/L			01/24/20 09:15	1
Chloroform	ND		1.0	0.25	ug/L			01/24/20 09:15	1
Chloromethane	ND		1.0	0.25	ug/L			01/24/20 09:15	1
cis-1,2-Dichloroethene	ND		1.0	0.25	ug/L			01/24/20 09:15	1
cis-1,3-Dichloropropene	ND		0.50	0.25	ug/L			01/24/20 09:15	1
Dibromochloromethane	ND		1.0	0.25	ug/L			01/24/20 09:15	1
Dibromomethane	ND		1.0	0.25	ug/L			01/24/20 09:15	1
Ethylbenzene	ND		1.0	0.25	ug/L			01/24/20 09:15	1
Isopropyl alcohol	ND		250	180	ug/L			01/24/20 09:15	1
Isopropylbenzene	ND		1.0	0.25	ug/L			01/24/20 09:15	1
m,p-Xylene	ND		1.0	0.50	ug/L			01/24/20 09:15	1
Methylene Chloride	ND		5.0	0.88	ug/L			01/24/20 09:15	1
Methyl-t-Butyl Ether (MTBE)	ND		1.0	0.25	ug/L			01/24/20 09:15	1
Naphthalene	ND		1.0	0.40	ug/L			01/24/20 09:15	1
n-Butylbenzene	ND		1.0	0.40	ug/L			01/24/20 09:15	1

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

Lab Sample ID: MB 440-592171/4
Matrix: Water
Analysis Batch: 592171

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
N-Propylbenzene	ND		1.0	0.25	ug/L			01/24/20 09:15	1
o-Xylene	ND		1.0	0.25	ug/L			01/24/20 09:15	1
p-Isopropyltoluene	ND		1.0	0.25	ug/L			01/24/20 09:15	1
sec-Butylbenzene	ND		1.0	0.25	ug/L			01/24/20 09:15	1
Styrene	ND		1.0	0.25	ug/L			01/24/20 09:15	1
tert-Butylbenzene	ND		1.0	0.25	ug/L			01/24/20 09:15	1
Toluene	ND		1.0	0.25	ug/L			01/24/20 09:15	1
trans-1,2-Dichloroethene	ND		1.0	0.25	ug/L			01/24/20 09:15	1
trans-1,3-Dichloropropene	ND		0.50	0.25	ug/L			01/24/20 09:15	1
Trichloroethene	ND		1.0	0.25	ug/L			01/24/20 09:15	1
Trichlorofluoromethane	ND		1.0	0.25	ug/L			01/24/20 09:15	1

Tentatively Identified Compound	*MB Est. Result*	*MB Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Tentatively Identified Compound	*None*		*ug/L*					*01/24/20 09:15*	*1*

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*103*		*70 - 130*		*01/24/20 09:15*	*1*
4-Bromofluorobenzene (Surr)	*100*		*80 - 120*		*01/24/20 09:15*	*1*
Dibromofluoromethane (Surr)	*99*		*76 - 132*		*01/24/20 09:15*	*1*
Toluene-d8 (Surr)	*103*		*80 - 128*		*01/24/20 09:15*	*1*

Lab Sample ID: LCS 440-592171/1002
Matrix: Water
Analysis Batch: 592171

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	26.6		ug/L		106	60 - 141
1,1,1-Trichloroethane	25.0	24.2		ug/L		97	70 - 130
1,1,2,2-Tetrachloroethane	25.0	27.5		ug/L		110	63 - 130
1,1,2-Trichloro-1,2,2-trifluoroethane	25.0	22.9		ug/L		92	60 - 140
1,1,2-Trichloroethane	25.0	26.4		ug/L		106	70 - 130
1,1-Dichloroethane	25.0	23.5		ug/L		94	64 - 130
1,1-Dichloroethene	25.0	21.5		ug/L		86	70 - 130
1,1-Dichloropropene	25.0	23.4		ug/L		93	70 - 130
1,2,3-Trichlorobenzene	25.0	24.3		ug/L		97	60 - 140
1,2,3-Trichloropropane	25.0	25.3		ug/L		101	63 - 130
1,2,4-Trichlorobenzene	25.0	25.3		ug/L		101	60 - 140
1,2,4-Trimethylbenzene	25.0	24.3		ug/L		97	70 - 135
1,2-Dibromo-3-Chloropropane	25.0	25.9		ug/L		104	52 - 140
1,2-Dibromoethane (EDB)	25.0	26.4		ug/L		105	70 - 130
1,2-Dichlorobenzene	25.0	23.6		ug/L		94	70 - 130
1,2-Dichloroethane	25.0	24.2		ug/L		97	57 - 138
1,2-Dichloropropane	25.0	25.3		ug/L		101	67 - 130
1,3,5-Trimethylbenzene	25.0	24.2		ug/L		97	70 - 136
1,3-Dichlorobenzene	25.0	25.5		ug/L		102	70 - 130
1,3-Dichloropropane	25.0	24.2		ug/L		97	70 - 130
1,4-Dichlorobenzene	25.0	25.5		ug/L		102	70 - 130

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

Lab Sample ID: LCS 440-592171/1002
Matrix: Water
Analysis Batch: 592171

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
2,2-Dichloropropane	25.0	28.7		ug/L		115	68 - 141
2-Chlorotoluene	25.0	23.6		ug/L		95	70 - 130
4-Chlorotoluene	25.0	22.7		ug/L		91	70 - 130
Acetone	125	137		ug/L		110	10 - 150
Benzene	25.0	23.8		ug/L		95	68 - 130
Bromobenzene	25.0	23.8		ug/L		95	70 - 130
Bromochloromethane	25.0	25.2		ug/L		101	70 - 130
Bromodichloromethane	25.0	25.9		ug/L		103	70 - 132
Bromoform	25.0	27.6		ug/L		111	60 - 148
Bromomethane	25.0	20.8		ug/L		83	64 - 139
Carbon tetrachloride	25.0	24.4		ug/L		97	60 - 150
Chlorobenzene	25.0	24.6		ug/L		98	70 - 130
Chloroethane	25.0	22.3		ug/L		89	64 - 135
Chloroform	25.0	24.8		ug/L		99	70 - 130
Chloromethane	25.0	18.4		ug/L		74	47 - 140
cis-1,2-Dichloroethene	25.0	22.7		ug/L		91	70 - 133
cis-1,3-Dichloropropene	25.0	25.6		ug/L		102	70 - 133
Dibromochloromethane	25.0	26.5		ug/L		106	69 - 145
Dibromomethane	25.0	24.6		ug/L		98	70 - 130
Ethylbenzene	25.0	23.8		ug/L		95	70 - 130
Isopropylbenzene	25.0	24.2		ug/L		97	70 - 136
m,p-Xylene	25.0	25.4		ug/L		101	70 - 130
Methylene Chloride	25.0	22.4		ug/L		89	52 - 130
Methyl-t-Butyl Ether (MTBE)	25.0	25.4		ug/L		102	63 - 131
Naphthalene	25.0	24.6		ug/L		98	60 - 140
n-Butylbenzene	25.0	27.1		ug/L		108	65 - 150
N-Propylbenzene	25.0	22.4		ug/L		90	67 - 139
o-Xylene	25.0	25.3		ug/L		101	70 - 130
p-Isopropyltoluene	25.0	24.9		ug/L		100	70 - 132
sec-Butylbenzene	25.0	27.3		ug/L		109	70 - 138
Styrene	25.0	25.4		ug/L		102	70 - 134
tert-Butylbenzene	25.0	25.7		ug/L		103	70 - 130
Toluene	25.0	23.7		ug/L		95	70 - 130
trans-1,2-Dichloroethene	25.0	22.5		ug/L		90	70 - 130
trans-1,3-Dichloropropene	25.0	25.1		ug/L		100	70 - 132
Trichloroethene	25.0	22.7		ug/L		91	70 - 130
Trichlorofluoromethane	25.0	21.1		ug/L		84	60 - 150

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*99*		*70 - 130*
4-Bromofluorobenzene (Surr)	*95*		*80 - 120*
Dibromofluoromethane (Surr)	*98*		*76 - 132*
Toluene-d8 (Surr)	*104*		*80 - 128*

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

Lab Sample ID: LCS 440-592171/1003
Matrix: Water
Analysis Batch: 592171

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	226	J	ug/L		90	49 - 142		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*103*		*70 - 130*
4-Bromofluorobenzene (Surr)	*102*		*80 - 120*
Dibromofluoromethane (Surr)	*101*		*76 - 132*
Toluene-d8 (Surr)	*106*		*80 - 128*

Lab Sample ID: 440-259640-A-1 MS
Matrix: Water
Analysis Batch: 592171

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		1000	1060		ug/L		106	60 - 149		
1,1,1-Trichloroethane	ND		1000	1010		ug/L		101	70 - 130		
1,1,2,2-Tetrachloroethane	ND	F1	1000	1290		ug/L		129	63 - 130		
1,1,2-Trichloro-1,2,2-trifluoroethane	140	J	1000	1180		ug/L		104	60 - 140		
1,1,2-Trichloroethane	ND		1000	1100		ug/L		110	70 - 130		
1,1-Dichloroethane	ND		1000	1030		ug/L		103	65 - 130		
1,1-Dichloroethene	210		1000	1200		ug/L		99	70 - 130		
1,1-Dichloropropene	ND		1000	948		ug/L		95	64 - 130		
1,2,3-Trichlorobenzene	ND		1000	1070		ug/L		107	60 - 140		
1,2,3-Trichloropropane	ND		1000	1050		ug/L		105	60 - 130		
1,2,4-Trichlorobenzene	ND		1000	1100		ug/L		110	60 - 140		
1,2,4-Trimethylbenzene	ND		1000	1050		ug/L		105	70 - 130		
1,2-Dibromo-3-Chloropropane	ND		1000	1120		ug/L		112	48 - 140		
1,2-Dibromoethane (EDB)	ND		1000	1090		ug/L		109	70 - 131		
1,2-Dichlorobenzene	ND		1000	1030		ug/L		103	70 - 130		
1,2-Dichloroethane	61	J	1000	1090		ug/L		103	56 - 146		
1,2-Dichloropropane	ND		1000	1040		ug/L		104	69 - 130		
1,3,5-Trimethylbenzene	ND		1000	1030		ug/L		103	70 - 130		
1,3-Dichlorobenzene	ND		1000	1070		ug/L		107	70 - 130		
1,3-Dichloropropane	ND		1000	1040		ug/L		104	70 - 130		
1,4-Dichlorobenzene	ND		1000	1070		ug/L		107	70 - 130		
2,2-Dichloropropane	ND		1000	1020		ug/L		102	69 - 138		
2-Chlorotoluene	ND		1000	980		ug/L		98	70 - 130		
4-Chlorotoluene	ND		1000	951		ug/L		95	70 - 130		
Acetone	ND		5000	5290		ug/L		106	10 - 150		
Benzene	ND		1000	987		ug/L		99	66 - 130		
Bromobenzene	ND		1000	987		ug/L		99	70 - 130		
Bromochloromethane	ND		1000	1040		ug/L		104	70 - 130		
Bromodichloromethane	ND		1000	1080		ug/L		108	70 - 138		
Bromoform	ND		1000	1070		ug/L		107	59 - 150		
Bromomethane	ND		1000	902		ug/L		90	62 - 131		
Carbon tetrachloride	ND		1000	998		ug/L		100	60 - 150		
Chlorobenzene	ND		1000	1010		ug/L		101	70 - 130		
Chloroethane	ND		1000	1000		ug/L		100	68 - 130		

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

Lab Sample ID: 440-259640-A-1 MS
Matrix: Water
Analysis Batch: 592171

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
Chloroform	260		1000	1300		ug/L		104	70 - 130
Chloromethane	ND		1000	842		ug/L		84	39 - 144
cis-1,2-Dichloroethene	ND		1000	962		ug/L		96	70 - 130
cis-1,3-Dichloropropene	ND		1000	1030		ug/L		103	70 - 133
Dibromochloromethane	ND		1000	1100		ug/L		110	70 - 148
Dibromomethane	ND		1000	1040		ug/L		104	70 - 130
Ethylbenzene	ND		1000	999		ug/L		100	70 - 130
Isopropyl alcohol	ND		25000	23600	J	ug/L		94	46 - 142
Isopropylbenzene	ND		1000	1020		ug/L		102	70 - 132
m,p-Xylene	ND		1000	1030		ug/L		103	70 - 133
Methylene Chloride	ND		1000	986		ug/L		99	52 - 130
Methyl-t-Butyl Ether (MTBE)	ND		1000	1040		ug/L		104	70 - 130
Naphthalene	ND		1000	1080		ug/L		108	60 - 140
n-Butylbenzene	ND		1000	1150		ug/L		115	61 - 149
N-Propylbenzene	ND		1000	965		ug/L		96	66 - 135
o-Xylene	ND		1000	1040		ug/L		104	70 - 133
p-Isopropyltoluene	ND		1000	1040		ug/L		104	70 - 130
sec-Butylbenzene	ND		1000	1130		ug/L		113	67 - 134
Styrene	ND		1000	1030		ug/L		103	29 - 150
tert-Butylbenzene	ND		1000	1040		ug/L		104	70 - 130
Toluene	ND		1000	999		ug/L		100	70 - 130
trans-1,2-Dichloroethene	ND		1000	972		ug/L		97	70 - 130
trans-1,3-Dichloropropene	ND		1000	1040		ug/L		104	70 - 138
Trichloroethene	150		1000	1080		ug/L		93	70 - 130
Trichlorofluoromethane	53	J	1000	1090		ug/L		103	60 - 150

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*101*		*70 - 130*
4-Bromofluorobenzene (Surr)	*95*		*80 - 120*
Dibromofluoromethane (Surr)	*103*		*76 - 132*
Toluene-d8 (Surr)	*102*		*80 - 128*

Lab Sample ID: 440-259640-A-1 MSD
Matrix: Water
Analysis Batch: 592171

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		1000	1100		ug/L		110	60 - 149	4	20
1,1,1-Trichloroethane	ND		1000	1030		ug/L		103	70 - 130	2	20
1,1,2,2-Tetrachloroethane	ND	F1	1000	1330	F1	ug/L		133	63 - 130	3	30
1,1,2-Trichloro-1,2,2-trifluoroethane	140	J	1000	1120		ug/L		98	60 - 140	6	20
1,1,2-Trichloroethane	ND		1000	1130		ug/L		113	70 - 130	2	25
1,1-Dichloroethane	ND		1000	1020		ug/L		102	65 - 130	1	20
1,1-Dichloroethene	210		1000	1160		ug/L		95	70 - 130	4	20
1,1-Dichloropropene	ND		1000	920		ug/L		92	64 - 130	3	20
1,2,3-Trichlorobenzene	ND		1000	1110		ug/L		111	60 - 140	4	20
1,2,3-Trichloropropane	ND		1000	1190		ug/L		119	60 - 130	13	30
1,2,4-Trichlorobenzene	ND		1000	1080		ug/L		108	60 - 140	1	20

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

Lab Sample ID: 440-259640-A-1 MSD
Matrix: Water
Analysis Batch: 592171

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		1000	1080		ug/L		108	70 - 130	2	25
1,2-Dibromo-3-Chloropropane	ND		1000	1200		ug/L		120	48 - 140	7	30
1,2-Dibromoethane (EDB)	ND		1000	1120		ug/L		112	70 - 131	3	25
1,2-Dichlorobenzene	ND		1000	1030		ug/L		103	70 - 130	0	20
1,2-Dichloroethane	61	J	1000	1090		ug/L		103	56 - 146	0	20
1,2-Dichloropropane	ND		1000	1070		ug/L		107	69 - 130	3	20
1,3,5-Trimethylbenzene	ND		1000	1050		ug/L		105	70 - 130	2	20
1,3-Dichlorobenzene	ND		1000	1070		ug/L		107	70 - 130	1	20
1,3-Dichloropropane	ND		1000	1050		ug/L		105	70 - 130	0	25
1,4-Dichlorobenzene	ND		1000	1090		ug/L		109	70 - 130	2	20
2,2-Dichloropropane	ND		1000	1020		ug/L		102	69 - 138	0	25
2-Chlorotoluene	ND		1000	1020		ug/L		102	70 - 130	4	20
4-Chlorotoluene	ND		1000	991		ug/L		99	70 - 130	4	20
Acetone	ND		5000	5680		ug/L		114	10 - 150	7	35
Benzene	ND		1000	1000		ug/L		100	66 - 130	2	20
Bromobenzene	ND		1000	1030		ug/L		103	70 - 130	4	20
Bromochloromethane	ND		1000	1050		ug/L		105	70 - 130	1	25
Bromodichloromethane	ND		1000	1080		ug/L		108	70 - 138	0	20
Bromoform	ND		1000	1070		ug/L		107	59 - 150	0	25
Bromomethane	ND		1000	879		ug/L		88	62 - 131	3	25
Carbon tetrachloride	ND		1000	1040		ug/L		104	60 - 150	4	25
Chlorobenzene	ND		1000	1030		ug/L		103	70 - 130	1	20
Chloroethane	ND		1000	925		ug/L		92	68 - 130	8	25
Chloroform	260		1000	1300		ug/L		104	70 - 130	0	20
Chloromethane	ND		1000	796		ug/L		80	39 - 144	6	25
cis-1,2-Dichloroethene	ND		1000	959		ug/L		96	70 - 130	0	20
cis-1,3-Dichloropropene	ND		1000	1050		ug/L		105	70 - 133	2	20
Dibromochloromethane	ND		1000	1100		ug/L		110	70 - 148	0	25
Dibromomethane	ND		1000	1040		ug/L		104	70 - 130	0	25
Ethylbenzene	ND		1000	986		ug/L		99	70 - 130	1	20
Isopropyl alcohol	ND		25000	22600	J	ug/L		90	46 - 142	4	40
Isopropylbenzene	ND		1000	1010		ug/L		101	70 - 132	1	20
m,p-Xylene	ND		1000	1050		ug/L		105	70 - 133	2	25
Methylene Chloride	ND		1000	994		ug/L		99	52 - 130	1	20
Methyl-t-Butyl Ether (MTBE)	ND		1000	1070		ug/L		107	70 - 130	3	25
Naphthalene	ND		1000	1150		ug/L		115	60 - 140	6	30
n-Butylbenzene	ND		1000	1160		ug/L		116	61 - 149	1	20
N-Propylbenzene	ND		1000	996		ug/L		100	66 - 135	3	20
o-Xylene	ND		1000	1030		ug/L		103	70 - 133	1	20
p-Isopropyltoluene	ND		1000	1080		ug/L		108	70 - 130	4	20
sec-Butylbenzene	ND		1000	1190		ug/L		119	67 - 134	5	20
Styrene	ND		1000	1040		ug/L		104	29 - 150	1	35
tert-Butylbenzene	ND		1000	1080		ug/L		108	70 - 130	4	20
Toluene	ND		1000	1010		ug/L		101	70 - 130	1	20
trans-1,2-Dichloroethene	ND		1000	981		ug/L		98	70 - 130	1	20
trans-1,3-Dichloropropene	ND		1000	1050		ug/L		105	70 - 138	0	25
Trichloroethene	150		1000	1090		ug/L		94	70 - 130	1	20
Trichlorofluoromethane	53	J	1000	1020		ug/L		96	60 - 150	7	25

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

Lab Sample ID: 440-259640-A-1 MSD
Matrix: Water
Analysis Batch: 592171

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

Surrogate	MSD %Recovery	MSD Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	101		70 - 130
4-Bromofluorobenzene (Surr)	98		80 - 120
Dibromofluoromethane (Surr)	101		76 - 132
Toluene-d8 (Surr)	104		80 - 128

Lab Sample ID: MB 440-592172/5
Matrix: Water
Analysis Batch: 592172

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dichlorodifluoromethane	ND		1.0	0.40	ug/L			01/24/20 10:03	1
Hexachlorobutadiene	ND		1.0	0.25	ug/L			01/24/20 10:03	1
Isopropyl alcohol	ND		250	180	ug/L			01/24/20 10:03	1
Tetrachloroethene	ND		1.0	0.25	ug/L			01/24/20 10:03	1
Vinyl chloride	ND		0.50	0.25	ug/L			01/24/20 10:03	1

Tentatively Identified Compound	MB Est. Result	MB Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Tentatively Identified Compound	None		ug/L					01/24/20 10:03	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	116		70 - 130		01/24/20 10:03	1
4-Bromofluorobenzene (Surr)	105		80 - 120		01/24/20 10:03	1
Dibromofluoromethane (Surr)	109		76 - 132		01/24/20 10:03	1
Toluene-d8 (Surr)	101		80 - 128		01/24/20 10:03	1

Lab Sample ID: LCS 440-592172/1002
Matrix: Water
Analysis Batch: 592172

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Dichlorodifluoromethane	25.0	17.0		ug/L		68	29 - 150
Hexachlorobutadiene	25.0	31.1		ug/L		124	10 - 150
Tetrachloroethene	25.0	29.4		ug/L		117	70 - 130
Vinyl chloride	25.0	22.4		ug/L		90	59 - 133

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	111		70 - 130
4-Bromofluorobenzene (Surr)	99		80 - 120
Dibromofluoromethane (Surr)	103		76 - 132
Toluene-d8 (Surr)	103		80 - 128

Lab Sample ID: 440-259640-A-1 MS
Matrix: Water
Analysis Batch: 592172

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
Dichlorodifluoromethane	ND		1000	718		ug/L		72	25 - 142

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

Lab Sample ID: 440-259640-A-1 MS
Matrix: Water
Analysis Batch: 592172

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
Hexachlorobutadiene	ND		1000	1200		ug/L		120	10 - 150
Tetrachloroethene	4000	F1	1000	4890		ug/L		92	70 - 137
Vinyl chloride	ND		1000	892		ug/L		89	50 - 137

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*117*		*70 - 130*
4-Bromofluorobenzene (Surr)	*101*		*80 - 120*
Dibromofluoromethane (Surr)	*106*		*76 - 132*
Toluene-d8 (Surr)	*102*		*80 - 128*

Lab Sample ID: 440-259640-A-1 MSD
Matrix: Water
Analysis Batch: 592172

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
Dichlorodifluoromethane	ND		1000	704		ug/L		70	25 - 142	2	30
Hexachlorobutadiene	ND		1000	1160		ug/L		116	10 - 150	3	20
Tetrachloroethene	4000	F1	1000	4620	F1	ug/L		65	70 - 137	6	20
Vinyl chloride	ND		1000	854		ug/L		85	50 - 137	4	30

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*108*		*70 - 130*
4-Bromofluorobenzene (Surr)	*103*		*80 - 120*
Dibromofluoromethane (Surr)	*106*		*76 - 132*
Toluene-d8 (Surr)	*105*		*80 - 128*

Lab Sample ID: MB 440-592330/5
Matrix: Water
Analysis Batch: 592330

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			01/25/20 15:08	1

Tentatively Identified Compound	*MB Est. Result*	*MB Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Tentatively Identified Compound	*None*		*ug/L*					*01/25/20 15:08*	*1*

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*95*		*70 - 130*		*01/25/20 15:08*	*1*
4-Bromofluorobenzene (Surr)	*101*		*80 - 120*		*01/25/20 15:08*	*1*
Dibromofluoromethane (Surr)	*100*		*76 - 132*		*01/25/20 15:08*	*1*
Toluene-d8 (Surr)	*107*		*80 - 128*		*01/25/20 15:08*	*1*

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

Lab Sample ID: LCS 440-592330/1002
Matrix: Water
Analysis Batch: 592330

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	26.9		ug/L		108	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*94*		*70 - 130*
4-Bromofluorobenzene (Surr)	*95*		*80 - 120*
Dibromofluoromethane (Surr)	*99*		*76 - 132*
Toluene-d8 (Surr)	*102*		*80 - 128*

Lab Sample ID: 440-259693-C-2 MS
Matrix: Water
Analysis Batch: 592330

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	72		100	172		ug/L		100	70 - 137		

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*97*		*70 - 130*
4-Bromofluorobenzene (Surr)	*96*		*80 - 120*
Dibromofluoromethane (Surr)	*102*		*76 - 132*
Toluene-d8 (Surr)	*103*		*80 - 128*

Lab Sample ID: 440-259693-C-2 MSD
Matrix: Water
Analysis Batch: 592330

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	72		100	178		ug/L		106	70 - 137	3	20

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*95*		*70 - 130*
4-Bromofluorobenzene (Surr)	*96*		*80 - 120*
Dibromofluoromethane (Surr)	*99*		*76 - 132*
Toluene-d8 (Surr)	*102*		*80 - 128*

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

Lab Sample ID: MB 440-592345/1-A
Matrix: Water
Analysis Batch: 592397

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 592345

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	0.131	J	0.50	0.10	ug/L		01/26/20 06:34	01/27/20 08:44	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,4-Dioxane-d8 (Surr)	*63*		*27 - 120*	*01/26/20 06:34*	*01/27/20 08:44*	*1*

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

Lab Sample ID: LCS 440-592345/2-A
Matrix: Water
Analysis Batch: 592397

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 592345

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
1,4-Dioxane			2.00	1.35		ug/L		68	36 - 120		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1,4-Dioxane-d8 (Surr)	*57*		*27 - 120*

Lab Sample ID: LCSD 440-592345/3-A
Matrix: Water
Analysis Batch: 592397

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 592345

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,4-Dioxane			2.00	1.43		ug/L		72	36 - 120	6	35

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
1,4-Dioxane-d8 (Surr)	*65*		*27 - 120*

QC Association Summary

Client: Jacob & Hefner Associates P.C.
Project/Site: Omega Chemical -2020 Semi-Annual GWM Feb

Job ID: 440-259637-1
SDG: Omega Chemical

GC/MS VOA

Analysis Batch: 592171

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-259637-1	OC_GW_OW-13B_20200123	Total/NA	Water	8260B	
440-259637-2	OC_GW_PZ-9_20200123	Total/NA	Water	8260B	
MB 440-592171/4	Method Blank	Total/NA	Water	8260B	
LCS 440-592171/1002	Lab Control Sample	Total/NA	Water	8260B	
LCS 440-592171/1003	Lab Control Sample	Total/NA	Water	8260B	
440-259640-A-1 MS	Matrix Spike	Total/NA	Water	8260B	
440-259640-A-1 MSD	Matrix Spike Duplicate	Total/NA	Water	8260B	

Analysis Batch: 592172

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-259637-1 - RA	OC_GW_OW-13B_20200123	Total/NA	Water	8260B	
440-259637-2 - RA	OC_GW_PZ-9_20200123	Total/NA	Water	8260B	
MB 440-592172/5	Method Blank	Total/NA	Water	8260B	
LCS 440-592172/1002	Lab Control Sample	Total/NA	Water	8260B	
440-259640-A-1 MS	Matrix Spike	Total/NA	Water	8260B	
440-259640-A-1 MSD	Matrix Spike Duplicate	Total/NA	Water	8260B	

Analysis Batch: 592330

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-259637-2 - DL	OC_GW_PZ-9_20200123	Total/NA	Water	8260B	
MB 440-592330/5	Method Blank	Total/NA	Water	8260B	
LCS 440-592330/1002	Lab Control Sample	Total/NA	Water	8260B	
440-259693-C-2 MS	Matrix Spike	Total/NA	Water	8260B	
440-259693-C-2 MSD	Matrix Spike Duplicate	Total/NA	Water	8260B	

GC/MS Semi VOA

Prep Batch: 592345

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-259637-1	OC_GW_OW-13B_20200123	Total/NA	Water	3520C	
440-259637-2	OC_GW_PZ-9_20200123	Total/NA	Water	3520C	
MB 440-592345/1-A	Method Blank	Total/NA	Water	3520C	
LCS 440-592345/2-A	Lab Control Sample	Total/NA	Water	3520C	
LCSD 440-592345/3-A	Lab Control Sample Dup	Total/NA	Water	3520C	

Analysis Batch: 592397

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-259637-1	OC_GW_OW-13B_20200123	Total/NA	Water	8270C SIM	592345
440-259637-2	OC_GW_PZ-9_20200123	Total/NA	Water	8270C SIM	592345
MB 440-592345/1-A	Method Blank	Total/NA	Water	8270C SIM	592345
LCS 440-592345/2-A	Lab Control Sample	Total/NA	Water	8270C SIM	592345
LCSD 440-592345/3-A	Lab Control Sample Dup	Total/NA	Water	8270C SIM	592345

Definitions/Glossary

Client: Jacob & Hefner Associates P.C.
Project/Site: Omega Chemical -2020 Semi-Annual GWM Feb

Job ID: 440-259637-1
SDG: Omega Chemical

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.

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
B	Compound was found in the blank and sample.
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 -2020 Semi-Annual GWM Feb

Job ID: 440-259637-1
SDG: Omega Chemical

Laboratory: Eurofins Calscience Irvine

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

Authority	Program	Identification Number	Expiration Date
California	State	2706	06-30-20

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	1,1,1,2-Tetrachloroethane
8260B		Water	1,1,1-Trichloroethane
8260B		Water	1,1,2,2-Tetrachloroethane
8260B		Water	1,1,2-Trichloro-1,2,2-trifluoroethane
8260B		Water	1,1,2-Trichloroethane
8260B		Water	1,1-Dichloroethane
8260B		Water	1,1-Dichloroethene
8260B		Water	1,1-Dichloropropene
8260B		Water	1,2,3-Trichlorobenzene
8260B		Water	1,2,3-Trichloropropane
8260B		Water	1,2,4-Trichlorobenzene
8260B		Water	1,2,4-Trimethylbenzene
8260B		Water	1,2-Dibromo-3-Chloropropane
8260B		Water	1,2-Dibromoethane (EDB)
8260B		Water	1,2-Dichlorobenzene
8260B		Water	1,2-Dichloroethane
8260B		Water	1,2-Dichloropropane
8260B		Water	1,3,5-Trimethylbenzene
8260B		Water	1,3-Dichlorobenzene
8260B		Water	1,3-Dichloropropane
8260B		Water	1,4-Dichlorobenzene
8260B		Water	2,2-Dichloropropane
8260B		Water	2-Chlorotoluene
8260B		Water	4-Chlorotoluene
8260B		Water	Acetone
8260B		Water	Benzene
8260B		Water	Bromobenzene
8260B		Water	Bromochloromethane
8260B		Water	Bromodichloromethane
8260B		Water	Bromoform
8260B		Water	Bromomethane
8260B		Water	Carbon tetrachloride
8260B		Water	Chlorobenzene
8260B		Water	Chloroethane
8260B		Water	Chloroform
8260B		Water	Chloromethane
8260B		Water	cis-1,2-Dichloroethene
8260B		Water	cis-1,3-Dichloropropene
8260B		Water	Dibromochloromethane
8260B		Water	Dibromomethane
8260B		Water	Dichlorodifluoromethane
8260B		Water	Ethylbenzene
8260B		Water	Hexachlorobutadiene
8260B		Water	Isopropyl alcohol
8260B		Water	Isopropylbenzene

Laboratory: Eurofins Calscience Irvine (Continued)

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

Authority		Program		Identification Number	Expiration Date
California		State		2706	06-30-20
8260B			Water	m,p-Xylene	
8260B			Water	Methylene Chloride	
8260B			Water	Methyl-t-Butyl Ether (MTBE)	
8260B			Water	Naphthalene	
8260B			Water	n-Butylbenzene	
8260B			Water	N-Propylbenzene	
8260B			Water	o-Xylene	
8260B			Water	p-Isopropyltoluene	
8260B			Water	sec-Butylbenzene	
8260B			Water	Styrene	
8260B			Water	Tentatively Identified Compound	
8260B			Water	tert-Butylbenzene	
8260B			Water	Tetrachloroethene	
8260B			Water	Toluene	
8260B			Water	trans-1,2-Dichloroethene	
8260B			Water	trans-1,3-Dichloropropene	
8260B			Water	Trichloroethene	
8260B			Water	Trichlorofluoromethane	
8260B			Water	Unknown	
8260B			Water	Vinyl chloride	
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: 2/23 /20	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 Chem. - 2020 Semi-Ann. GWM Feb	☐ 1 week			
Site: Omega Chemical	☐ 2 days			Job / SDG No.:
P O #: 3139G/E742	☐ 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: JLL 1/23/20
OC_GW_OW-11_202001	1/ /2020		Grab	GW	5			x	x	
OC_GW_OW-13B_202001 23	1/23/2020	1034	Grab	GW	5			x	x	
OC_GW_PZ-3_202001	1/ /2020		Grab	GW	5			x	x	
OC_GW_PZ-9_202001 23	1/23/2020	~~1238~~ 1255	Grab	GW	5			x	x	
OC_TB _202001	1/ /2020		Grab	H20	2			x		

440-259637 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 | 43509 | Cooler Temp. (°C): Obs'd: 4.0 Corr'd: 4.5 5.1 | Therm ID No. IR-2V

	Company	Date/Time		Company	Date/Time
Relinquished by:	JHO	1/23/20 1355	Received by:	EC-IRV	1/23/20 1355
Relinquished by:	EC-IRV	1/23/20 1455	Received by:	Company:	Date/Time:
Relinquished by:	Company:	Date/Time:	Received in Laboratory by:	EC IRV	1/23/20 1455

Login Sample Receipt Checklist

Client: Jacob & Hefner Associates P.C.

Job Number: 440-259637-1
SDG Number: Omega Chemical

Login Number: 259637
List Number: 1
Creator: Soderblom, Tim

List Source: Eurofins 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	

ANALYTICAL REPORT

Eurofins Calscience Irvine
17461 Derian Ave
Suite 100
Irvine, CA 92614-5817
Tel: (949)261-1022

Laboratory Job ID: 440-259640-1
Laboratory Sample Delivery Group: Omega Chemical
Client Project/Site: Omega Chemical-2020 Semi-annual GWM Feb
Revision: 1

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

Attn: Trent Henderson

Authorized for release by:
2/4/2020 11:03:20 AM

Danielle Roberts, Senior Project Manager
(949)260-3249
danielle.roberts@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-2020 Semi-annual GWM Feb

Job ID: 440-259640-1
SDG: Omega Chemical

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
440-259640-1	OC_GW_OW-9_20200122	Water	01/22/20 11:30	01/23/20 14:55	
440-259640-2	OC_GW_OW-10_20200123	Water	01/23/20 08:25	01/23/20 14:55	
440-259640-3	OC_TB_20200123	Water	01/23/20 07:00	01/23/20 14:55	

Job ID: 440-259640-1

Laboratory: Eurofins Calscience Irvine

Narrative

Job Narrative
440-259640-1

Comments
No additional comments.

Receipt
The samples were received on 1/23/2020 2:55 PM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 5.1º C.

GC/MS VOA
Method 8260B: The matrix spike duplicate (MSD) recoveries for analytical batch 440-592172 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.

GC/MS Semi VOA
Method 8270C SIM: The method blank for preparation batch 440-592345 and analytical batch 440-592397 contained 1,4-Dioxane above the method detection limit. This target analyte concentration was less than the reporting limit (RL); therefore, re-extraction and/or re-analysis of samples was not performed.

Method 8270C SIM: The method blank for preparation batch 440-592345 and analytical batch 440-592397 contained 1,4-Dioxane above the method detection limit (MDL). Associated sample(s) were not re-extracted and/or re-analyzed because results were greater than 10X the value found in the method blank.

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

Organic Prep
Method 3520C: The following sample was diluted due to the nature of the sample matrix: OC_GW_OW-9_20200122 (440-259640-1) at 50 mL (20X). Elevated reporting limits (RLs) are provided.

Method 3520C: Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD) associated with 8270C preparation batch 440-592345. LCS was performed in duplicate to provide precision of data.

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-2020 Semi-annual GWM Feb

Job ID: 440-259640-1
SDG: Omega Chemical

Client Sample ID: OC_GW_OW-9_20200122 — Lab Sample ID: 440-259640-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,1,2-Trichloro-1,2,2-trifluoroethane	140	J	500	50	ug/L	100		8260B	Total/NA
1,1-Dichloroethene	210		100	25	ug/L	100		8260B	Total/NA
1,2-Dichloroethane	61	J	100	25	ug/L	100		8260B	Total/NA
Chloroform	260		100	25	ug/L	100		8260B	Total/NA
Trichloroethene	150		100	25	ug/L	100		8260B	Total/NA
Trichlorofluoromethane	53	J	100	25	ug/L	100		8260B	Total/NA
Tetrachloroethene - RA	4000	F1	100	25	ug/L	100		8260B	Total/NA
1,4-Dioxane	850	B	10	2.0	ug/L	1		8270C SIM	Total/NA

Client Sample ID: OC_GW_OW-10_20200123 — Lab Sample ID: 440-259640-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,1,2-Trichloro-1,2,2-trifluoroethane	7.2		5.0	0.50	ug/L	1		8260B	Total/NA
1,1-Dichloroethene	13		1.0	0.25	ug/L	1		8260B	Total/NA
Chloroform	0.67	J	1.0	0.25	ug/L	1		8260B	Total/NA
Trichloroethene	2.0		1.0	0.25	ug/L	1		8260B	Total/NA
Trichlorofluoromethane	3.8		1.0	0.25	ug/L	1		8260B	Total/NA
Tetrachloroethene - RA	19		1.0	0.25	ug/L	1		8260B	Total/NA
1,4-Dioxane	0.20	J B	0.49	0.098	ug/L	1		8270C SIM	Total/NA

Client Sample ID: OC_TB_20200123 — Lab Sample ID: 440-259640-3

No Detections.

This Detection Summary does not include radiochemical test results.

Client Sample Results

Client: Jacob & Hefner Associates P.C.
Project/Site: Omega Chemical-2020 Semi-annual GWM Feb

Job ID: 440-259640-1
SDG: Omega Chemical

Client Sample ID: OC_GW_OW-9_20200122

Lab Sample ID: 440-259640-1

Date Collected: 01/22/20 11:30
Matrix: Water
Date Received: 01/23/20 14:55

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		100	25	ug/L			01/24/20 10:57	100
1,1,1-Trichloroethane	ND		100	25	ug/L			01/24/20 10:57	100
1,1,2,2-Tetrachloroethane	ND	F1	100	25	ug/L			01/24/20 10:57	100
1,1,2-Trichloro-1,2,2-trifluoroethane	**140**	**J**	500	50	ug/L			01/24/20 10:57	100
1,1,2-Trichloroethane	ND		100	25	ug/L			01/24/20 10:57	100
1,1-Dichloroethane	ND		100	25	ug/L			01/24/20 10:57	100
1,1-Dichloroethene	**210**		100	25	ug/L			01/24/20 10:57	100
1,1-Dichloropropene	ND		100	25	ug/L			01/24/20 10:57	100
1,2,3-Trichlorobenzene	ND		100	40	ug/L			01/24/20 10:57	100
1,2,3-Trichloropropane	ND		100	40	ug/L			01/24/20 10:57	100
1,2,4-Trichlorobenzene	ND		100	40	ug/L			01/24/20 10:57	100
1,2,4-Trimethylbenzene	ND		100	25	ug/L			01/24/20 10:57	100
1,2-Dibromo-3-Chloropropane	ND		500	50	ug/L			01/24/20 10:57	100
1,2-Dibromoethane (EDB)	ND		100	25	ug/L			01/24/20 10:57	100
1,2-Dichlorobenzene	ND		100	25	ug/L			01/24/20 10:57	100
1,2-Dichloroethane	**61**	**J**	100	25	ug/L			01/24/20 10:57	100
1,2-Dichloropropane	ND		100	25	ug/L			01/24/20 10:57	100
1,3,5-Trimethylbenzene	ND		100	25	ug/L			01/24/20 10:57	100
1,3-Dichlorobenzene	ND		100	25	ug/L			01/24/20 10:57	100
1,3-Dichloropropane	ND		100	25	ug/L			01/24/20 10:57	100
1,4-Dichlorobenzene	ND		100	25	ug/L			01/24/20 10:57	100
2,2-Dichloropropane	ND		100	40	ug/L			01/24/20 10:57	100
2-Chlorotoluene	ND		100	25	ug/L			01/24/20 10:57	100
4-Chlorotoluene	ND		100	25	ug/L			01/24/20 10:57	100
Acetone	ND		1000	1000	ug/L			01/24/20 10:57	100
Benzene	ND		50	25	ug/L			01/24/20 10:57	100
Bromobenzene	ND		100	25	ug/L			01/24/20 10:57	100
Bromochloromethane	ND		100	25	ug/L			01/24/20 10:57	100
Bromodichloromethane	ND		100	25	ug/L			01/24/20 10:57	100
Bromoform	ND		100	40	ug/L			01/24/20 10:57	100
Bromomethane	ND		100	25	ug/L			01/24/20 10:57	100
Carbon tetrachloride	ND		50	25	ug/L			01/24/20 10:57	100
Chlorobenzene	ND		100	25	ug/L			01/24/20 10:57	100
Chloroethane	ND		100	40	ug/L			01/24/20 10:57	100
Chloroform	**260**		100	25	ug/L			01/24/20 10:57	100
Chloromethane	ND		100	25	ug/L			01/24/20 10:57	100
cis-1,2-Dichloroethene	ND		100	25	ug/L			01/24/20 10:57	100
cis-1,3-Dichloropropene	ND		50	25	ug/L			01/24/20 10:57	100
Dibromochloromethane	ND		100	25	ug/L			01/24/20 10:57	100
Dibromomethane	ND		100	25	ug/L			01/24/20 10:57	100
Ethylbenzene	ND		100	25	ug/L			01/24/20 10:57	100
Isopropyl alcohol	ND		25000	18000	ug/L			01/24/20 10:57	100
Isopropylbenzene	ND		100	25	ug/L			01/24/20 10:57	100
m,p-Xylene	ND		100	50	ug/L			01/24/20 10:57	100
Methylene Chloride	ND		500	88	ug/L			01/24/20 10:57	100
Methyl-t-Butyl Ether (MTBE)	ND		100	25	ug/L			01/24/20 10:57	100
Naphthalene	ND		100	40	ug/L			01/24/20 10:57	100
n-Butylbenzene	ND		100	40	ug/L			01/24/20 10:57	100
N-Propylbenzene	ND		100	25	ug/L			01/24/20 10:57	100

Client Sample ID: OC_GW_OW-9_20200122

Lab Sample ID: 440-259640-1

Date Collected: 01/22/20 11:30
Matrix: Water
Date Received: 01/23/20 14:55

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
o-Xylene	ND		100	25	ug/L			01/24/20 10:57	100
p-Isopropyltoluene	ND		100	25	ug/L			01/24/20 10:57	100
sec-Butylbenzene	ND		100	25	ug/L			01/24/20 10:57	100
Styrene	ND		100	25	ug/L			01/24/20 10:57	100
tert-Butylbenzene	ND		100	25	ug/L			01/24/20 10:57	100
Toluene	ND		100	25	ug/L			01/24/20 10:57	100
trans-1,2-Dichloroethene	ND		100	25	ug/L			01/24/20 10:57	100
trans-1,3-Dichloropropene	ND		50	25	ug/L			01/24/20 10:57	100
Trichloroethene	**150**		100	25	ug/L			01/24/20 10:57	100
Trichlorofluoromethane	**53**	**J**	100	25	ug/L			01/24/20 10:57	100

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Tentatively Identified Compound	*None*		*ug/L*					*01/24/20 10:57*	*100*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*99*		*70 - 130*		*01/24/20 10:57*	*100*
4-Bromofluorobenzene (Surr)	*101*		*80 - 120*		*01/24/20 10:57*	*100*
Dibromofluoromethane (Surr)	*101*		*76 - 132*		*01/24/20 10:57*	*100*
Toluene-d8 (Surr)	*106*		*80 - 128*		*01/24/20 10:57*	*100*

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dichlorodifluoromethane	ND		100	40	ug/L			01/24/20 10:41	100
Hexachlorobutadiene	ND		100	25	ug/L			01/24/20 10:41	100
Tetrachloroethene	**4000**	**F1**	100	25	ug/L			01/24/20 10:41	100
Vinyl chloride	ND		50	25	ug/L			01/24/20 10:41	100

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Tentatively Identified Compound	*None*		*ug/L*					*01/24/20 10:41*	*100*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*117*		*70 - 130*		*01/24/20 10:41*	*100*
4-Bromofluorobenzene (Surr)	*96*		*80 - 120*		*01/24/20 10:41*	*100*
Dibromofluoromethane (Surr)	*110*		*76 - 132*		*01/24/20 10:41*	*100*
Toluene-d8 (Surr)	*100*		*80 - 128*		*01/24/20 10:41*	*100*

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	**850**	**B**	10	2.0	ug/L		01/26/20 06:34	01/27/20 15:08	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,4-Dioxane-d8 (Surr)	*59*		*27 - 120*	*01/26/20 06:34*	*01/27/20 15:08*	*1*

Client Sample ID: OC_GW_OW-10_20200123

Lab Sample ID: 440-259640-2

Date Collected: 01/23/20 08:25
Matrix: Water
Date Received: 01/23/20 14:55

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			01/24/20 12:32	1
1,1,1-Trichloroethane	ND		1.0	0.25	ug/L			01/24/20 12:32	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.25	ug/L			01/24/20 12:32	1

Client Sample ID: OC_GW_OW-10_20200123

Lab Sample ID: 440-259640-2

Date Collected: 01/23/20 08:25
Matrix: Water
Date Received: 01/23/20 14:55

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,2-Trichloro-1,2,2-trifluoroethane	**7.2**		5.0	0.50	ug/L			01/24/20 12:32	1
1,1,2-Trichloroethane	ND		1.0	0.25	ug/L			01/24/20 12:32	1
1,1-Dichloroethane	ND		1.0	0.25	ug/L			01/24/20 12:32	1
1,1-Dichloroethene	**13**		1.0	0.25	ug/L			01/24/20 12:32	1
1,1-Dichloropropene	ND		1.0	0.25	ug/L			01/24/20 12:32	1
1,2,3-Trichlorobenzene	ND		1.0	0.40	ug/L			01/24/20 12:32	1
1,2,3-Trichloropropane	ND		1.0	0.40	ug/L			01/24/20 12:32	1
1,2,4-Trichlorobenzene	ND		1.0	0.40	ug/L			01/24/20 12:32	1
1,2,4-Trimethylbenzene	ND		1.0	0.25	ug/L			01/24/20 12:32	1
1,2-Dibromo-3-Chloropropane	ND		5.0	0.50	ug/L			01/24/20 12:32	1
1,2-Dibromoethane (EDB)	ND		1.0	0.25	ug/L			01/24/20 12:32	1
1,2-Dichlorobenzene	ND		1.0	0.25	ug/L			01/24/20 12:32	1
1,2-Dichloroethane	ND		1.0	0.25	ug/L			01/24/20 12:32	1
1,2-Dichloropropane	ND		1.0	0.25	ug/L			01/24/20 12:32	1
1,3,5-Trimethylbenzene	ND		1.0	0.25	ug/L			01/24/20 12:32	1
1,3-Dichlorobenzene	ND		1.0	0.25	ug/L			01/24/20 12:32	1
1,3-Dichloropropane	ND		1.0	0.25	ug/L			01/24/20 12:32	1
1,4-Dichlorobenzene	ND		1.0	0.25	ug/L			01/24/20 12:32	1
2,2-Dichloropropane	ND		1.0	0.40	ug/L			01/24/20 12:32	1
2-Chlorotoluene	ND		1.0	0.25	ug/L			01/24/20 12:32	1
4-Chlorotoluene	ND		1.0	0.25	ug/L			01/24/20 12:32	1
Acetone	ND		10	10	ug/L			01/24/20 12:32	1
Benzene	ND		0.50	0.25	ug/L			01/24/20 12:32	1
Bromobenzene	ND		1.0	0.25	ug/L			01/24/20 12:32	1
Bromochloromethane	ND		1.0	0.25	ug/L			01/24/20 12:32	1
Bromodichloromethane	ND		1.0	0.25	ug/L			01/24/20 12:32	1
Bromoform	ND		1.0	0.40	ug/L			01/24/20 12:32	1
Bromomethane	ND		1.0	0.25	ug/L			01/24/20 12:32	1
Carbon tetrachloride	ND		0.50	0.25	ug/L			01/24/20 12:32	1
Chlorobenzene	ND		1.0	0.25	ug/L			01/24/20 12:32	1
Chloroethane	ND		1.0	0.40	ug/L			01/24/20 12:32	1
Chloroform	**0.67**	**J**	1.0	0.25	ug/L			01/24/20 12:32	1
Chloromethane	ND		1.0	0.25	ug/L			01/24/20 12:32	1
cis-1,2-Dichloroethene	ND		1.0	0.25	ug/L			01/24/20 12:32	1
cis-1,3-Dichloropropene	ND		0.50	0.25	ug/L			01/24/20 12:32	1
Dibromochloromethane	ND		1.0	0.25	ug/L			01/24/20 12:32	1
Dibromomethane	ND		1.0	0.25	ug/L			01/24/20 12:32	1
Ethylbenzene	ND		1.0	0.25	ug/L			01/24/20 12:32	1
Isopropyl alcohol	ND		250	180	ug/L			01/24/20 12:32	1
Isopropylbenzene	ND		1.0	0.25	ug/L			01/24/20 12:32	1
m,p-Xylene	ND		1.0	0.50	ug/L			01/24/20 12:32	1
Methylene Chloride	ND		5.0	0.88	ug/L			01/24/20 12:32	1
Methyl-t-Butyl Ether (MTBE)	ND		1.0	0.25	ug/L			01/24/20 12:32	1
Naphthalene	ND		1.0	0.40	ug/L			01/24/20 12:32	1
n-Butylbenzene	ND		1.0	0.40	ug/L			01/24/20 12:32	1
N-Propylbenzene	ND		1.0	0.25	ug/L			01/24/20 12:32	1
o-Xylene	ND		1.0	0.25	ug/L			01/24/20 12:32	1
p-Isopropyltoluene	ND		1.0	0.25	ug/L			01/24/20 12:32	1
sec-Butylbenzene	ND		1.0	0.25	ug/L			01/24/20 12:32	1

Client Sample ID: OC_GW_OW-10_20200123

Lab Sample ID: 440-259640-2
Date Collected: 01/23/20 08:25
Matrix: Water
Date Received: 01/23/20 14:55

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Styrene	ND		1.0	0.25	ug/L			01/24/20 12:32	1
tert-Butylbenzene	ND		1.0	0.25	ug/L			01/24/20 12:32	1
Toluene	ND		1.0	0.25	ug/L			01/24/20 12:32	1
trans-1,2-Dichloroethene	ND		1.0	0.25	ug/L			01/24/20 12:32	1
trans-1,3-Dichloropropene	ND		0.50	0.25	ug/L			01/24/20 12:32	1
Trichloroethene	**2.0**		1.0	0.25	ug/L			01/24/20 12:32	1
Trichlorofluoromethane	**3.8**		1.0	0.25	ug/L			01/24/20 12:32	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Unknown	*5.2*	*T J*	*ug/L*		*3.21*			*01/24/20 12:32*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*104*		*70 - 130*		*01/24/20 12:32*	*1*
4-Bromofluorobenzene (Surr)	*99*		*80 - 120*		*01/24/20 12:32*	*1*
Dibromofluoromethane (Surr)	*103*		*76 - 132*		*01/24/20 12:32*	*1*
Toluene-d8 (Surr)	*105*		*80 - 128*		*01/24/20 12:32*	*1*

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dichlorodifluoromethane	ND		1.0	0.40	ug/L			01/24/20 12:09	1
Hexachlorobutadiene	ND		1.0	0.25	ug/L			01/24/20 12:09	1
Tetrachloroethene	**19**		1.0	0.25	ug/L			01/24/20 12:09	1
Vinyl chloride	ND		0.50	0.25	ug/L			01/24/20 12:09	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Unknown	*1500*	*T J*	*ug/L*		*1.75*			*01/24/20 12:09*	*1*
Unknown	*24*	*T J*	*ug/L*		*16.05*			*01/24/20 12:09*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*123*		*70 - 130*		*01/24/20 12:09*	*1*
4-Bromofluorobenzene (Surr)	*99*		*80 - 120*		*01/24/20 12:09*	*1*
Dibromofluoromethane (Surr)	*115*		*76 - 132*		*01/24/20 12:09*	*1*
Toluene-d8 (Surr)	*103*		*80 - 128*		*01/24/20 12:09*	*1*

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	**0.20**	**J B**	0.49	0.098	ug/L		01/26/20 06:34	01/27/20 15:30	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,4-Dioxane-d8 (Surr)	*56*		*27 - 120*	*01/26/20 06:34*	*01/27/20 15:30*	*1*

Client Sample ID: OC_TB_20200123

Lab Sample ID: 440-259640-3
Date Collected: 01/23/20 07:00
Matrix: Water
Date Received: 01/23/20 14:55

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			01/24/20 12:55	1
1,1,1-Trichloroethane	ND		1.0	0.25	ug/L			01/24/20 12:55	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.25	ug/L			01/24/20 12:55	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		5.0	0.50	ug/L			01/24/20 12:55	1
1,1,2-Trichloroethane	ND		1.0	0.25	ug/L			01/24/20 12:55	1

Client Sample ID: OC_TB_20200123

Lab Sample ID: 440-259640-3

Date Collected: 01/23/20 07:00
Matrix: Water
Date Received: 01/23/20 14:55

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethane	ND		1.0	0.25	ug/L			01/24/20 12:55	1
1,1-Dichloroethene	ND		1.0	0.25	ug/L			01/24/20 12:55	1
1,1-Dichloropropene	ND		1.0	0.25	ug/L			01/24/20 12:55	1
1,2,3-Trichlorobenzene	ND		1.0	0.40	ug/L			01/24/20 12:55	1
1,2,3-Trichloropropane	ND		1.0	0.40	ug/L			01/24/20 12:55	1
1,2,4-Trichlorobenzene	ND		1.0	0.40	ug/L			01/24/20 12:55	1
1,2,4-Trimethylbenzene	ND		1.0	0.25	ug/L			01/24/20 12:55	1
1,2-Dibromo-3-Chloropropane	ND		5.0	0.50	ug/L			01/24/20 12:55	1
1,2-Dibromoethane (EDB)	ND		1.0	0.25	ug/L			01/24/20 12:55	1
1,2-Dichlorobenzene	ND		1.0	0.25	ug/L			01/24/20 12:55	1
1,2-Dichloroethane	ND		1.0	0.25	ug/L			01/24/20 12:55	1
1,2-Dichloropropane	ND		1.0	0.25	ug/L			01/24/20 12:55	1
1,3,5-Trimethylbenzene	ND		1.0	0.25	ug/L			01/24/20 12:55	1
1,3-Dichlorobenzene	ND		1.0	0.25	ug/L			01/24/20 12:55	1
1,3-Dichloropropane	ND		1.0	0.25	ug/L			01/24/20 12:55	1
1,4-Dichlorobenzene	ND		1.0	0.25	ug/L			01/24/20 12:55	1
2,2-Dichloropropane	ND		1.0	0.40	ug/L			01/24/20 12:55	1
2-Chlorotoluene	ND		1.0	0.25	ug/L			01/24/20 12:55	1
4-Chlorotoluene	ND		1.0	0.25	ug/L			01/24/20 12:55	1
Acetone	ND		10	10	ug/L			01/24/20 12:55	1
Benzene	ND		0.50	0.25	ug/L			01/24/20 12:55	1
Bromobenzene	ND		1.0	0.25	ug/L			01/24/20 12:55	1
Bromochloromethane	ND		1.0	0.25	ug/L			01/24/20 12:55	1
Bromodichloromethane	ND		1.0	0.25	ug/L			01/24/20 12:55	1
Bromoform	ND		1.0	0.40	ug/L			01/24/20 12:55	1
Bromomethane	ND		1.0	0.25	ug/L			01/24/20 12:55	1
Carbon tetrachloride	ND		0.50	0.25	ug/L			01/24/20 12:55	1
Chlorobenzene	ND		1.0	0.25	ug/L			01/24/20 12:55	1
Chloroethane	ND		1.0	0.40	ug/L			01/24/20 12:55	1
Chloroform	ND		1.0	0.25	ug/L			01/24/20 12:55	1
Chloromethane	ND		1.0	0.25	ug/L			01/24/20 12:55	1
cis-1,2-Dichloroethene	ND		1.0	0.25	ug/L			01/24/20 12:55	1
cis-1,3-Dichloropropene	ND		0.50	0.25	ug/L			01/24/20 12:55	1
Dibromochloromethane	ND		1.0	0.25	ug/L			01/24/20 12:55	1
Dibromomethane	ND		1.0	0.25	ug/L			01/24/20 12:55	1
Ethylbenzene	ND		1.0	0.25	ug/L			01/24/20 12:55	1
Isopropyl alcohol	ND		250	180	ug/L			01/24/20 12:55	1
Isopropylbenzene	ND		1.0	0.25	ug/L			01/24/20 12:55	1
m,p-Xylene	ND		1.0	0.50	ug/L			01/24/20 12:55	1
Methylene Chloride	ND		5.0	0.88	ug/L			01/24/20 12:55	1
Methyl-t-Butyl Ether (MTBE)	ND		1.0	0.25	ug/L			01/24/20 12:55	1
Naphthalene	ND		1.0	0.40	ug/L			01/24/20 12:55	1
n-Butylbenzene	ND		1.0	0.40	ug/L			01/24/20 12:55	1
N-Propylbenzene	ND		1.0	0.25	ug/L			01/24/20 12:55	1
o-Xylene	ND		1.0	0.25	ug/L			01/24/20 12:55	1
p-Isopropyltoluene	ND		1.0	0.25	ug/L			01/24/20 12:55	1
sec-Butylbenzene	ND		1.0	0.25	ug/L			01/24/20 12:55	1
Styrene	ND		1.0	0.25	ug/L			01/24/20 12:55	1
tert-Butylbenzene	ND		1.0	0.25	ug/L			01/24/20 12:55	1

Client Sample Results

Client: Jacob & Hefner Associates P.C.
Project/Site: Omega Chemical-2020 Semi-annual GWM Feb

Job ID: 440-259640-1
SDG: Omega Chemical

Client Sample ID: OC_TB_20200123

Lab Sample ID: 440-259640-3

Date Collected: 01/23/20 07:00
Matrix: Water
Date Received: 01/23/20 14:55

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			01/24/20 12:55	1
trans-1,2-Dichloroethene	ND		1.0	0.25	ug/L			01/24/20 12:55	1
trans-1,3-Dichloropropene	ND		0.50	0.25	ug/L			01/24/20 12:55	1
Trichloroethene	ND		1.0	0.25	ug/L			01/24/20 12:55	1
Trichlorofluoromethane	ND		1.0	0.25	ug/L			01/24/20 12:55	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Tentatively Identified Compound	*None*		*ug/L*					*01/24/20 12:55*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*103*		*70 - 130*		*01/24/20 12:55*	*1*
4-Bromofluorobenzene (Surr)	*101*		*80 - 120*		*01/24/20 12:55*	*1*
Dibromofluoromethane (Surr)	*104*		*76 - 132*		*01/24/20 12:55*	*1*
Toluene-d8 (Surr)	*106*		*80 - 128*		*01/24/20 12:55*	*1*

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dichlorodifluoromethane	ND		1.0	0.40	ug/L			01/24/20 12:39	1
Hexachlorobutadiene	ND		1.0	0.25	ug/L			01/24/20 12:39	1
Tetrachloroethene	ND		1.0	0.25	ug/L			01/24/20 12:39	1
Vinyl chloride	ND		0.50	0.25	ug/L			01/24/20 12:39	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Unknown	*63*	*T J*	*ug/L*		*1.70*			*01/24/20 12:39*	*1*
Unknown	*4.2*	*T J*	*ug/L*		*2.16*			*01/24/20 12:39*	*1*
Unknown	*21*	*T J*	*ug/L*		*16.09*			*01/24/20 12:39*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*120*		*70 - 130*		*01/24/20 12:39*	*1*
4-Bromofluorobenzene (Surr)	*101*		*80 - 120*		*01/24/20 12:39*	*1*
Dibromofluoromethane (Surr)	*110*		*76 - 132*		*01/24/20 12:39*	*1*
Toluene-d8 (Surr)	*101*		*80 - 128*		*01/24/20 12:39*	*1*

Surrogate Summary

Client: Jacob & Hefner Associates P.C.
Project/Site: Omega Chemical-2020 Semi-annual GWM Feb

Job ID: 440-259640-1
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)
440-259640-1	OC_GW_OW-9_20200122	99	101	101	106
440-259640-1 - RA	OC_GW_OW-9_20200122	117	96	110	100
440-259640-1 MS	OC_GW_OW-9_20200122	101	95	103	102
440-259640-1 MS	OC_GW_OW-9_20200122	117	101	106	102
440-259640-1 MSD	OC_GW_OW-9_20200122	101	98	101	104
440-259640-1 MSD	OC_GW_OW-9_20200122	108	103	106	105
440-259640-2	OC_GW_OW-10_20200123	104	99	103	105
440-259640-2 - RA	OC_GW_OW-10_20200123	123	99	115	103
440-259640-3	OC_TB_20200123	103	101	104	106
440-259640-3 - RA	OC_TB_20200123	120	101	110	101
LCS 440-592171/1002	Lab Control Sample	99	95	98	104
LCS 440-592171/1003	Lab Control Sample	103	102	101	106
LCS 440-592172/1002	Lab Control Sample	111	99	103	103
MB 440-592171/4	Method Blank	103	100	99	103
MB 440-592172/5	Method Blank	116	105	109	101

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)
440-259640-1	OC_GW_OW-9_20200122	59
440-259640-2	OC_GW_OW-10_20200123	56
LCS 440-592345/2-A	Lab Control Sample	57
LCSD 440-592345/3-A	Lab Control Sample Dup	65
MB 440-592345/1-A	Method Blank	63

Surrogate Legend

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

Method Summary

Client: Jacob & Hefner Associates P.C.
Project/Site: Omega Chemical-2020 Semi-annual GWM Feb

Job ID: 440-259640-1
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 = Eurofins Calscience 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-2020 Semi-annual GWM Feb

Job ID: 440-259640-1
SDG: Omega Chemical

Client Sample ID: OC_GW_OW-9_20200122 — Lab Sample ID: 440-259640-1

Date Collected: 01/22/20 11:30 — **Matrix: Water**
Date Received: 01/23/20 14:55

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		100	10 mL	10 mL	592171	01/24/20 10:57	RM	TAL IRV
Total/NA	Analysis	8260B	RA	100	10 mL	10 mL	592172	01/24/20 10:41	RM	TAL IRV
Total/NA	Prep	3520C			50 mL	1.0 mL	592345	01/26/20 06:34	NAM	TAL IRV
Total/NA	Analysis	8270C SIM		1			592397	01/27/20 15:08	HN	TAL IRV

Client Sample ID: OC_GW_OW-10_20200123 — Lab Sample ID: 440-259640-2

Date Collected: 01/23/20 08:25 — **Matrix: Water**
Date Received: 01/23/20 14:55

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	592171	01/24/20 12:32	RM	TAL IRV
Total/NA	Analysis	8260B	RA	1	10 mL	10 mL	592172	01/24/20 12:09	RM	TAL IRV
Total/NA	Prep	3520C			1025 mL	1.0 mL	592345	01/26/20 06:34	NAM	TAL IRV
Total/NA	Analysis	8270C SIM		1			592397	01/27/20 15:30	HN	TAL IRV

Client Sample ID: OC_TB_20200123 — Lab Sample ID: 440-259640-3

Date Collected: 01/23/20 07:00 — **Matrix: Water**
Date Received: 01/23/20 14:55

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	592171	01/24/20 12:55	RM	TAL IRV
Total/NA	Analysis	8260B	RA	1	10 mL	10 mL	592172	01/24/20 12:39	RM	TAL IRV

Laboratory References:

TAL IRV = Eurofins Calscience 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 440-592171/4
Matrix: Water
Analysis Batch: 592171

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			01/24/20 09:15	1
1,1,1-Trichloroethane	ND		1.0	0.25	ug/L			01/24/20 09:15	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.25	ug/L			01/24/20 09:15	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		5.0	0.50	ug/L			01/24/20 09:15	1
1,1,2-Trichloroethane	ND		1.0	0.25	ug/L			01/24/20 09:15	1
1,1-Dichloroethane	ND		1.0	0.25	ug/L			01/24/20 09:15	1
1,1-Dichloroethene	ND		1.0	0.25	ug/L			01/24/20 09:15	1
1,1-Dichloropropene	ND		1.0	0.25	ug/L			01/24/20 09:15	1
1,2,3-Trichlorobenzene	ND		1.0	0.40	ug/L			01/24/20 09:15	1
1,2,3-Trichloropropane	ND		1.0	0.40	ug/L			01/24/20 09:15	1
1,2,4-Trichlorobenzene	ND		1.0	0.40	ug/L			01/24/20 09:15	1
1,2,4-Trimethylbenzene	ND		1.0	0.25	ug/L			01/24/20 09:15	1
1,2-Dibromo-3-Chloropropane	ND		5.0	0.50	ug/L			01/24/20 09:15	1
1,2-Dibromoethane (EDB)	ND		1.0	0.25	ug/L			01/24/20 09:15	1
1,2-Dichlorobenzene	ND		1.0	0.25	ug/L			01/24/20 09:15	1
1,2-Dichloroethane	ND		1.0	0.25	ug/L			01/24/20 09:15	1
1,2-Dichloropropane	ND		1.0	0.25	ug/L			01/24/20 09:15	1
1,3,5-Trimethylbenzene	ND		1.0	0.25	ug/L			01/24/20 09:15	1
1,3-Dichlorobenzene	ND		1.0	0.25	ug/L			01/24/20 09:15	1
1,3-Dichloropropane	ND		1.0	0.25	ug/L			01/24/20 09:15	1
1,4-Dichlorobenzene	ND		1.0	0.25	ug/L			01/24/20 09:15	1
2,2-Dichloropropane	ND		1.0	0.40	ug/L			01/24/20 09:15	1
2-Chlorotoluene	ND		1.0	0.25	ug/L			01/24/20 09:15	1
4-Chlorotoluene	ND		1.0	0.25	ug/L			01/24/20 09:15	1
Acetone	ND		10	10	ug/L			01/24/20 09:15	1
Benzene	ND		0.50	0.25	ug/L			01/24/20 09:15	1
Bromobenzene	ND		1.0	0.25	ug/L			01/24/20 09:15	1
Bromochloromethane	ND		1.0	0.25	ug/L			01/24/20 09:15	1
Bromodichloromethane	ND		1.0	0.25	ug/L			01/24/20 09:15	1
Bromoform	ND		1.0	0.40	ug/L			01/24/20 09:15	1
Bromomethane	ND		1.0	0.25	ug/L			01/24/20 09:15	1
Carbon tetrachloride	ND		0.50	0.25	ug/L			01/24/20 09:15	1
Chlorobenzene	ND		1.0	0.25	ug/L			01/24/20 09:15	1
Chloroethane	ND		1.0	0.40	ug/L			01/24/20 09:15	1
Chloroform	ND		1.0	0.25	ug/L			01/24/20 09:15	1
Chloromethane	ND		1.0	0.25	ug/L			01/24/20 09:15	1
cis-1,2-Dichloroethene	ND		1.0	0.25	ug/L			01/24/20 09:15	1
cis-1,3-Dichloropropene	ND		0.50	0.25	ug/L			01/24/20 09:15	1
Dibromochloromethane	ND		1.0	0.25	ug/L			01/24/20 09:15	1
Dibromomethane	ND		1.0	0.25	ug/L			01/24/20 09:15	1
Ethylbenzene	ND		1.0	0.25	ug/L			01/24/20 09:15	1
Isopropyl alcohol	ND		250	180	ug/L			01/24/20 09:15	1
Isopropylbenzene	ND		1.0	0.25	ug/L			01/24/20 09:15	1
m,p-Xylene	ND		1.0	0.50	ug/L			01/24/20 09:15	1
Methylene Chloride	ND		5.0	0.88	ug/L			01/24/20 09:15	1
Methyl-t-Butyl Ether (MTBE)	ND		1.0	0.25	ug/L			01/24/20 09:15	1
Naphthalene	ND		1.0	0.40	ug/L			01/24/20 09:15	1
n-Butylbenzene	ND		1.0	0.40	ug/L			01/24/20 09:15	1

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

Lab Sample ID: MB 440-592171/4
Matrix: Water
Analysis Batch: 592171

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
N-Propylbenzene	ND		1.0	0.25	ug/L			01/24/20 09:15	1
o-Xylene	ND		1.0	0.25	ug/L			01/24/20 09:15	1
p-Isopropyltoluene	ND		1.0	0.25	ug/L			01/24/20 09:15	1
sec-Butylbenzene	ND		1.0	0.25	ug/L			01/24/20 09:15	1
Styrene	ND		1.0	0.25	ug/L			01/24/20 09:15	1
tert-Butylbenzene	ND		1.0	0.25	ug/L			01/24/20 09:15	1
Toluene	ND		1.0	0.25	ug/L			01/24/20 09:15	1
trans-1,2-Dichloroethene	ND		1.0	0.25	ug/L			01/24/20 09:15	1
trans-1,3-Dichloropropene	ND		0.50	0.25	ug/L			01/24/20 09:15	1
Trichloroethene	ND		1.0	0.25	ug/L			01/24/20 09:15	1
Trichlorofluoromethane	ND		1.0	0.25	ug/L			01/24/20 09:15	1

Tentatively Identified Compound	*MB Est. Result*	*MB Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Tentatively Identified Compound	*None*		*ug/L*					*01/24/20 09:15*	*1*

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*103*		*70 - 130*		*01/24/20 09:15*	*1*
4-Bromofluorobenzene (Surr)	*100*		*80 - 120*		*01/24/20 09:15*	*1*
Dibromofluoromethane (Surr)	*99*		*76 - 132*		*01/24/20 09:15*	*1*
Toluene-d8 (Surr)	*103*		*80 - 128*		*01/24/20 09:15*	*1*

Lab Sample ID: LCS 440-592171/1002
Matrix: Water
Analysis Batch: 592171

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	26.6		ug/L		106	60 - 141
1,1,1-Trichloroethane	25.0	24.2		ug/L		97	70 - 130
1,1,2,2-Tetrachloroethane	25.0	27.5		ug/L		110	63 - 130
1,1,2-Trichloro-1,2,2-trifluoroethane	25.0	22.9		ug/L		92	60 - 140
1,1,2-Trichloroethane	25.0	26.4		ug/L		106	70 - 130
1,1-Dichloroethane	25.0	23.5		ug/L		94	64 - 130
1,1-Dichloroethene	25.0	21.5		ug/L		86	70 - 130
1,1-Dichloropropene	25.0	23.4		ug/L		93	70 - 130
1,2,3-Trichlorobenzene	25.0	24.3		ug/L		97	60 - 140
1,2,3-Trichloropropane	25.0	25.3		ug/L		101	63 - 130
1,2,4-Trichlorobenzene	25.0	25.3		ug/L		101	60 - 140
1,2,4-Trimethylbenzene	25.0	24.3		ug/L		97	70 - 135
1,2-Dibromo-3-Chloropropane	25.0	25.9		ug/L		104	52 - 140
1,2-Dibromoethane (EDB)	25.0	26.4		ug/L		105	70 - 130
1,2-Dichlorobenzene	25.0	23.6		ug/L		94	70 - 130
1,2-Dichloroethane	25.0	24.2		ug/L		97	57 - 138
1,2-Dichloropropane	25.0	25.3		ug/L		101	67 - 130
1,3,5-Trimethylbenzene	25.0	24.2		ug/L		97	70 - 136
1,3-Dichlorobenzene	25.0	25.5		ug/L		102	70 - 130
1,3-Dichloropropane	25.0	24.2		ug/L		97	70 - 130
1,4-Dichlorobenzene	25.0	25.5		ug/L		102	70 - 130

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

Lab Sample ID: LCS 440-592171/1002
Matrix: Water
Analysis Batch: 592171

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
2,2-Dichloropropane	25.0	28.7		ug/L		115	68 - 141
2-Chlorotoluene	25.0	23.6		ug/L		95	70 - 130
4-Chlorotoluene	25.0	22.7		ug/L		91	70 - 130
Acetone	125	137		ug/L		110	10 - 150
Benzene	25.0	23.8		ug/L		95	68 - 130
Bromobenzene	25.0	23.8		ug/L		95	70 - 130
Bromochloromethane	25.0	25.2		ug/L		101	70 - 130
Bromodichloromethane	25.0	25.9		ug/L		103	70 - 132
Bromoform	25.0	27.6		ug/L		111	60 - 148
Bromomethane	25.0	20.8		ug/L		83	64 - 139
Carbon tetrachloride	25.0	24.4		ug/L		97	60 - 150
Chlorobenzene	25.0	24.6		ug/L		98	70 - 130
Chloroethane	25.0	22.3		ug/L		89	64 - 135
Chloroform	25.0	24.8		ug/L		99	70 - 130
Chloromethane	25.0	18.4		ug/L		74	47 - 140
cis-1,2-Dichloroethene	25.0	22.7		ug/L		91	70 - 133
cis-1,3-Dichloropropene	25.0	25.6		ug/L		102	70 - 133
Dibromochloromethane	25.0	26.5		ug/L		106	69 - 145
Dibromomethane	25.0	24.6		ug/L		98	70 - 130
Ethylbenzene	25.0	23.8		ug/L		95	70 - 130
Isopropylbenzene	25.0	24.2		ug/L		97	70 - 136
m,p-Xylene	25.0	25.4		ug/L		101	70 - 130
Methylene Chloride	25.0	22.4		ug/L		89	52 - 130
Methyl-t-Butyl Ether (MTBE)	25.0	25.4		ug/L		102	63 - 131
Naphthalene	25.0	24.6		ug/L		98	60 - 140
n-Butylbenzene	25.0	27.1		ug/L		108	65 - 150
N-Propylbenzene	25.0	22.4		ug/L		90	67 - 139
o-Xylene	25.0	25.3		ug/L		101	70 - 130
p-Isopropyltoluene	25.0	24.9		ug/L		100	70 - 132
sec-Butylbenzene	25.0	27.3		ug/L		109	70 - 138
Styrene	25.0	25.4		ug/L		102	70 - 134
tert-Butylbenzene	25.0	25.7		ug/L		103	70 - 130
Tetrachloroethene	25.0	25.5		ug/L		102	70 - 130
Toluene	25.0	23.7		ug/L		95	70 - 130
trans-1,2-Dichloroethene	25.0	22.5		ug/L		90	70 - 130
trans-1,3-Dichloropropene	25.0	25.1		ug/L		100	70 - 132
Trichloroethene	25.0	22.7		ug/L		91	70 - 130
Trichlorofluoromethane	25.0	21.1		ug/L		84	60 - 150

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*99*		*70 - 130*
4-Bromofluorobenzene (Surr)	*95*		*80 - 120*
Dibromofluoromethane (Surr)	*98*		*76 - 132*
Toluene-d8 (Surr)	*104*		*80 - 128*

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

Lab Sample ID: LCS 440-592171/1003
Matrix: Water
Analysis Batch: 592171

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	226	J	ug/L		90	49 - 142		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*103*		*70 - 130*
4-Bromofluorobenzene (Surr)	*102*		*80 - 120*
Dibromofluoromethane (Surr)	*101*		*76 - 132*
Toluene-d8 (Surr)	*106*		*80 - 128*

Lab Sample ID: 440-259640-1 MS
Matrix: Water
Analysis Batch: 592171

Client Sample ID: OC_GW_OW-9_20200122
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		1000	1060		ug/L		106	60 - 149		
1,1,1-Trichloroethane	ND		1000	1010		ug/L		101	70 - 130		
1,1,2,2-Tetrachloroethane	ND	F1	1000	1290		ug/L		129	63 - 130		
1,1,2-Trichloro-1,2,2-trifluoroethane	140	J	1000	1180		ug/L		104	60 - 140		
1,1,2-Trichloroethane	ND		1000	1100		ug/L		110	70 - 130		
1,1-Dichloroethane	ND		1000	1030		ug/L		103	65 - 130		
1,1-Dichloroethene	210		1000	1200		ug/L		99	70 - 130		
1,1-Dichloropropene	ND		1000	948		ug/L		95	64 - 130		
1,2,3-Trichlorobenzene	ND		1000	1070		ug/L		107	60 - 140		
1,2,3-Trichloropropane	ND		1000	1050		ug/L		105	60 - 130		
1,2,4-Trichlorobenzene	ND		1000	1100		ug/L		110	60 - 140		
1,2,4-Trimethylbenzene	ND		1000	1050		ug/L		105	70 - 130		
1,2-Dibromo-3-Chloropropane	ND		1000	1120		ug/L		112	48 - 140		
1,2-Dibromoethane (EDB)	ND		1000	1090		ug/L		109	70 - 131		
1,2-Dichlorobenzene	ND		1000	1030		ug/L		103	70 - 130		
1,2-Dichloroethane	61	J	1000	1090		ug/L		103	56 - 146		
1,2-Dichloropropane	ND		1000	1040		ug/L		104	69 - 130		
1,3,5-Trimethylbenzene	ND		1000	1030		ug/L		103	70 - 130		
1,3-Dichlorobenzene	ND		1000	1070		ug/L		107	70 - 130		
1,3-Dichloropropane	ND		1000	1040		ug/L		104	70 - 130		
1,4-Dichlorobenzene	ND		1000	1070		ug/L		107	70 - 130		
2,2-Dichloropropane	ND		1000	1020		ug/L		102	69 - 138		
2-Chlorotoluene	ND		1000	980		ug/L		98	70 - 130		
4-Chlorotoluene	ND		1000	951		ug/L		95	70 - 130		
Acetone	ND		5000	5290		ug/L		106	10 - 150		
Benzene	ND		1000	987		ug/L		99	66 - 130		
Bromobenzene	ND		1000	987		ug/L		99	70 - 130		
Bromochloromethane	ND		1000	1040		ug/L		104	70 - 130		
Bromodichloromethane	ND		1000	1080		ug/L		108	70 - 138		
Bromoform	ND		1000	1070		ug/L		107	59 - 150		
Bromomethane	ND		1000	902		ug/L		90	62 - 131		
Carbon tetrachloride	ND		1000	998		ug/L		100	60 - 150		
Chlorobenzene	ND		1000	1010		ug/L		101	70 - 130		
Chloroethane	ND		1000	1000		ug/L		100	68 - 130		

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

Lab Sample ID: 440-259640-1 MS
Matrix: Water
Analysis Batch: 592171

Client Sample ID: OC_GW_OW-9_20200122
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloroform	260		1000	1300		ug/L		104	70 - 130
Chloromethane	ND		1000	842		ug/L		84	39 - 144
cis-1,2-Dichloroethene	ND		1000	962		ug/L		96	70 - 130
cis-1,3-Dichloropropene	ND		1000	1030		ug/L		103	70 - 133
Dibromochloromethane	ND		1000	1100		ug/L		110	70 - 148
Dibromomethane	ND		1000	1040		ug/L		104	70 - 130
Ethylbenzene	ND		1000	999		ug/L		100	70 - 130
Isopropyl alcohol	ND		25000	23600	J	ug/L		94	46 - 142
Isopropylbenzene	ND		1000	1020		ug/L		102	70 - 132
m,p-Xylene	ND		1000	1030		ug/L		103	70 - 133
Methylene Chloride	ND		1000	986		ug/L		99	52 - 130
Methyl-t-Butyl Ether (MTBE)	ND		1000	1040		ug/L		104	70 - 130
Naphthalene	ND		1000	1080		ug/L		108	60 - 140
n-Butylbenzene	ND		1000	1150		ug/L		115	61 - 149
N-Propylbenzene	ND		1000	965		ug/L		96	66 - 135
o-Xylene	ND		1000	1040		ug/L		104	70 - 133
p-Isopropyltoluene	ND		1000	1040		ug/L		104	70 - 130
sec-Butylbenzene	ND		1000	1130		ug/L		113	67 - 134
Styrene	ND		1000	1030		ug/L		103	29 - 150
tert-Butylbenzene	ND		1000	1040		ug/L		104	70 - 130
Tetrachloroethene	3400	B	1000	4410		ug/L		102	70 - 137
Toluene	ND		1000	999		ug/L		100	70 - 130
trans-1,2-Dichloroethene	ND		1000	972		ug/L		97	70 - 130
trans-1,3-Dichloropropene	ND		1000	1040		ug/L		104	70 - 138
Trichloroethene	150		1000	1080		ug/L		93	70 - 130
Trichlorofluoromethane	53	J	1000	1090		ug/L		103	60 - 150

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*101*		*70 - 130*
4-Bromofluorobenzene (Surr)	*95*		*80 - 120*
Dibromofluoromethane (Surr)	*103*		*76 - 132*
Toluene-d8 (Surr)	*102*		*80 - 128*

Lab Sample ID: 440-259640-1 MSD
Matrix: Water
Analysis Batch: 592171

Client Sample ID: OC_GW_OW-9_20200122
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		1000	1100		ug/L		110	60 - 149	4	20
1,1,1-Trichloroethane	ND		1000	1030		ug/L		103	70 - 130	2	20
1,1,2,2-Tetrachloroethane	ND	F1	1000	1330	F1	ug/L		133	63 - 130	3	30
1,1,2-Trichloro-1,2,2-trifluoroethane	140	J	1000	1120		ug/L		98	60 - 140	6	20
1,1,2-Trichloroethane	ND		1000	1130		ug/L		113	70 - 130	2	25
1,1-Dichloroethane	ND		1000	1020		ug/L		102	65 - 130	1	20
1,1-Dichloroethene	210		1000	1160		ug/L		95	70 - 130	4	20
1,1-Dichloropropene	ND		1000	920		ug/L		92	64 - 130	3	20
1,2,3-Trichlorobenzene	ND		1000	1110		ug/L		111	60 - 140	4	20
1,2,3-Trichloropropane	ND		1000	1190		ug/L		119	60 - 130	13	30

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

Lab Sample ID: 440-259640-1 MSD
Matrix: Water
Analysis Batch: 592171

Client Sample ID: OC_GW_OW-9_20200122
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-Trichlorobenzene	ND		1000	1080		ug/L		108	60 - 140	1	20
1,2,4-Trimethylbenzene	ND		1000	1080		ug/L		108	70 - 130	2	25
1,2-Dibromo-3-Chloropropane	ND		1000	1200		ug/L		120	48 - 140	7	30
1,2-Dibromoethane (EDB)	ND		1000	1120		ug/L		112	70 - 131	3	25
1,2-Dichlorobenzene	ND		1000	1030		ug/L		103	70 - 130	0	20
1,2-Dichloroethane	61	J	1000	1090		ug/L		103	56 - 146	0	20
1,2-Dichloropropane	ND		1000	1070		ug/L		107	69 - 130	3	20
1,3,5-Trimethylbenzene	ND		1000	1050		ug/L		105	70 - 130	2	20
1,3-Dichlorobenzene	ND		1000	1070		ug/L		107	70 - 130	1	20
1,3-Dichloropropane	ND		1000	1050		ug/L		105	70 - 130	0	25
1,4-Dichlorobenzene	ND		1000	1090		ug/L		109	70 - 130	2	20
2,2-Dichloropropane	ND		1000	1020		ug/L		102	69 - 138	0	25
2-Chlorotoluene	ND		1000	1020		ug/L		102	70 - 130	4	20
4-Chlorotoluene	ND		1000	991		ug/L		99	70 - 130	4	20
Acetone	ND		5000	5680		ug/L		114	10 - 150	7	35
Benzene	ND		1000	1000		ug/L		100	66 - 130	2	20
Bromobenzene	ND		1000	1030		ug/L		103	70 - 130	4	20
Bromochloromethane	ND		1000	1050		ug/L		105	70 - 130	1	25
Bromodichloromethane	ND		1000	1080		ug/L		108	70 - 138	0	20
Bromoform	ND		1000	1070		ug/L		107	59 - 150	0	25
Bromomethane	ND		1000	879		ug/L		88	62 - 131	3	25
Carbon tetrachloride	ND		1000	1040		ug/L		104	60 - 150	4	25
Chlorobenzene	ND		1000	1030		ug/L		103	70 - 130	1	20
Chloroethane	ND		1000	925		ug/L		92	68 - 130	8	25
Chloroform	260		1000	1300		ug/L		104	70 - 130	0	20
Chloromethane	ND		1000	796		ug/L		80	39 - 144	6	25
cis-1,2-Dichloroethene	ND		1000	959		ug/L		96	70 - 130	0	20
cis-1,3-Dichloropropene	ND		1000	1050		ug/L		105	70 - 133	2	20
Dibromochloromethane	ND		1000	1100		ug/L		110	70 - 148	0	25
Dibromomethane	ND		1000	1040		ug/L		104	70 - 130	0	25
Ethylbenzene	ND		1000	986		ug/L		99	70 - 130	1	20
Isopropyl alcohol	ND		25000	22600	J	ug/L		90	46 - 142	4	40
Isopropylbenzene	ND		1000	1010		ug/L		101	70 - 132	1	20
m,p-Xylene	ND		1000	1050		ug/L		105	70 - 133	2	25
Methylene Chloride	ND		1000	994		ug/L		99	52 - 130	1	20
Methyl-t-Butyl Ether (MTBE)	ND		1000	1070		ug/L		107	70 - 130	3	25
Naphthalene	ND		1000	1150		ug/L		115	60 - 140	6	30
n-Butylbenzene	ND		1000	1160		ug/L		116	61 - 149	1	20
N-Propylbenzene	ND		1000	996		ug/L		100	66 - 135	3	20
o-Xylene	ND		1000	1030		ug/L		103	70 - 133	1	20
p-Isopropyltoluene	ND		1000	1080		ug/L		108	70 - 130	4	20
sec-Butylbenzene	ND		1000	1190		ug/L		119	67 - 134	5	20
Styrene	ND		1000	1040		ug/L		104	29 - 150	1	35
tert-Butylbenzene	ND		1000	1080		ug/L		108	70 - 130	4	20
Tetrachloroethene	3400	B	1000	4430		ug/L		103	70 - 137	0	20
Toluene	ND		1000	1010		ug/L		101	70 - 130	1	20
trans-1,2-Dichloroethene	ND		1000	981		ug/L		98	70 - 130	1	20
trans-1,3-Dichloropropene	ND		1000	1050		ug/L		105	70 - 138	0	25
Trichloroethene	150		1000	1090		ug/L		94	70 - 130	1	20

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

Lab Sample ID: 440-259640-1 MSD — **Client Sample ID: OC_GW_OW-9_20200122**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 592171

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Trichlorofluoromethane	53	J	1000	1020		ug/L		96	60 - 150	7	25

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*101*		*70 - 130*
4-Bromofluorobenzene (Surr)	*98*		*80 - 120*
Dibromofluoromethane (Surr)	*101*		*76 - 132*
Toluene-d8 (Surr)	*104*		*80 - 128*

Lab Sample ID: MB 440-592172/5 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 592172

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dichlorodifluoromethane	ND		1.0	0.40	ug/L			01/24/20 10:03	1
Hexachlorobutadiene	ND		1.0	0.25	ug/L			01/24/20 10:03	1
Isopropyl alcohol	ND		250	180	ug/L			01/24/20 10:03	1
Tetrachloroethene	ND		1.0	0.25	ug/L			01/24/20 10:03	1
Vinyl chloride	ND		0.50	0.25	ug/L			01/24/20 10:03	1

Tentatively Identified Compound	*MB Est. Result*	*MB Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Tentatively Identified Compound	*None*		*ug/L*					*01/24/20 10:03*	*1*

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*116*		*70 - 130*		*01/24/20 10:03*	*1*
4-Bromofluorobenzene (Surr)	*105*		*80 - 120*		*01/24/20 10:03*	*1*
Dibromofluoromethane (Surr)	*109*		*76 - 132*		*01/24/20 10:03*	*1*
Toluene-d8 (Surr)	*101*		*80 - 128*		*01/24/20 10:03*	*1*

Lab Sample ID: LCS 440-592172/1002 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 592172

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Dichlorodifluoromethane	25.0	17.0		ug/L		68	29 - 150
Hexachlorobutadiene	25.0	31.1		ug/L		124	10 - 150
Tetrachloroethene	25.0	29.4		ug/L		117	70 - 130
Vinyl chloride	25.0	22.4		ug/L		90	59 - 133

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*111*		*70 - 130*
4-Bromofluorobenzene (Surr)	*99*		*80 - 120*
Dibromofluoromethane (Surr)	*103*		*76 - 132*
Toluene-d8 (Surr)	*103*		*80 - 128*

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

Lab Sample ID: 440-259640-1 MS — **Client Sample ID: OC_GW_OW-9_20200122**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 592172

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Dichlorodifluoromethane	ND		1000	718		ug/L		72	25 - 142
Hexachlorobutadiene	ND		1000	1200		ug/L		120	10 - 150
Tetrachloroethene	4000	F1	1000	4890		ug/L		92	70 - 137
Vinyl chloride	ND		1000	892		ug/L		89	50 - 137

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*117*		*70 - 130*
4-Bromofluorobenzene (Surr)	*101*		*80 - 120*
Dibromofluoromethane (Surr)	*106*		*76 - 132*
Toluene-d8 (Surr)	*102*		*80 - 128*

Lab Sample ID: 440-259640-1 MSD — **Client Sample ID: OC_GW_OW-9_20200122**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 592172

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Dichlorodifluoromethane	ND		1000	704		ug/L		70	25 - 142	2	30
Hexachlorobutadiene	ND		1000	1160		ug/L		116	10 - 150	3	20
Tetrachloroethene	4000	F1	1000	4620	F1	ug/L		65	70 - 137	6	20
Vinyl chloride	ND		1000	854		ug/L		85	50 - 137	4	30

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*108*		*70 - 130*
4-Bromofluorobenzene (Surr)	*103*		*80 - 120*
Dibromofluoromethane (Surr)	*106*		*76 - 132*
Toluene-d8 (Surr)	*105*		*80 - 128*

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

Lab Sample ID: MB 440-592345/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 592397 — **Prep Batch: 592345**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	0.131	J	0.50	0.10	ug/L		01/26/20 06:34	01/27/20 08:44	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,4-Dioxane-d8 (Surr)	*63*		*27 - 120*	*01/26/20 06:34*	*01/27/20 08:44*	*1*

Lab Sample ID: LCS 440-592345/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 592397 — **Prep Batch: 592345**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,4-Dioxane	2.00	1.35		ug/L		68	36 - 120

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

Lab Sample ID: LCS 440-592345/2-A
Matrix: Water
Analysis Batch: 592397

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 592345

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1,4-Dioxane-d8 (Surr)	*57*		*27 - 120*

Lab Sample ID: LCSD 440-592345/3-A
Matrix: Water
Analysis Batch: 592397

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 592345

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,4-Dioxane			2.00	1.43		ug/L		72	36 - 120	6	35

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
1,4-Dioxane-d8 (Surr)	*65*		*27 - 120*

QC Association Summary

Client: Jacob & Hefner Associates P.C.
Project/Site: Omega Chemical-2020 Semi-annual GWM Feb

Job ID: 440-259640-1
SDG: Omega Chemical

GC/MS VOA

Analysis Batch: 592171

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-259640-1	OC_GW_OW-9_20200122	Total/NA	Water	8260B	
440-259640-2	OC_GW_OW-10_20200123	Total/NA	Water	8260B	
440-259640-3	OC_TB_20200123	Total/NA	Water	8260B	
MB 440-592171/4	Method Blank	Total/NA	Water	8260B	
LCS 440-592171/1002	Lab Control Sample	Total/NA	Water	8260B	
LCS 440-592171/1003	Lab Control Sample	Total/NA	Water	8260B	
440-259640-1 MS	OC_GW_OW-9_20200122	Total/NA	Water	8260B	
440-259640-1 MSD	OC_GW_OW-9_20200122	Total/NA	Water	8260B	

Analysis Batch: 592172

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-259640-1 - RA	OC_GW_OW-9_20200122	Total/NA	Water	8260B	
440-259640-2 - RA	OC_GW_OW-10_20200123	Total/NA	Water	8260B	
440-259640-3 - RA	OC_TB_20200123	Total/NA	Water	8260B	
MB 440-592172/5	Method Blank	Total/NA	Water	8260B	
LCS 440-592172/1002	Lab Control Sample	Total/NA	Water	8260B	
440-259640-1 MS	OC_GW_OW-9_20200122	Total/NA	Water	8260B	
440-259640-1 MSD	OC_GW_OW-9_20200122	Total/NA	Water	8260B	

GC/MS Semi VOA

Prep Batch: 592345

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-259640-1	OC_GW_OW-9_20200122	Total/NA	Water	3520C	
440-259640-2	OC_GW_OW-10_20200123	Total/NA	Water	3520C	
MB 440-592345/1-A	Method Blank	Total/NA	Water	3520C	
LCS 440-592345/2-A	Lab Control Sample	Total/NA	Water	3520C	
LCSD 440-592345/3-A	Lab Control Sample Dup	Total/NA	Water	3520C	

Analysis Batch: 592397

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-259640-1	OC_GW_OW-9_20200122	Total/NA	Water	8270C SIM	592345
440-259640-2	OC_GW_OW-10_20200123	Total/NA	Water	8270C SIM	592345
MB 440-592345/1-A	Method Blank	Total/NA	Water	8270C SIM	592345
LCS 440-592345/2-A	Lab Control Sample	Total/NA	Water	8270C SIM	592345
LCSD 440-592345/3-A	Lab Control Sample Dup	Total/NA	Water	8270C SIM	592345

Definitions/Glossary

Client: Jacob & Hefner Associates P.C.
Project/Site: Omega Chemical-2020 Semi-annual GWM Feb

Job ID: 440-259640-1
SDG: Omega Chemical

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.

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
B	Compound was found in the blank and sample.
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-2020 Semi-annual GWM Feb

Job ID: 440-259640-1
SDG: Omega Chemical

Laboratory: Eurofins Calscience Irvine

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

Authority	Program	Identification Number	Expiration Date
California	State	2706	06-30-20

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	1,1,1,2-Tetrachloroethane
8260B		Water	1,1,1-Trichloroethane
8260B		Water	1,1,2,2-Tetrachloroethane
8260B		Water	1,1,2-Trichloro-1,2,2-trifluoroethane
8260B		Water	1,1,2-Trichloroethane
8260B		Water	1,1-Dichloroethane
8260B		Water	1,1-Dichloroethene
8260B		Water	1,1-Dichloropropene
8260B		Water	1,2,3-Trichlorobenzene
8260B		Water	1,2,3-Trichloropropane
8260B		Water	1,2,4-Trichlorobenzene
8260B		Water	1,2,4-Trimethylbenzene
8260B		Water	1,2-Dibromo-3-Chloropropane
8260B		Water	1,2-Dibromoethane (EDB)
8260B		Water	1,2-Dichlorobenzene
8260B		Water	1,2-Dichloroethane
8260B		Water	1,2-Dichloropropane
8260B		Water	1,3,5-Trimethylbenzene
8260B		Water	1,3-Dichlorobenzene
8260B		Water	1,3-Dichloropropane
8260B		Water	1,4-Dichlorobenzene
8260B		Water	2,2-Dichloropropane
8260B		Water	2-Chlorotoluene
8260B		Water	4-Chlorotoluene
8260B		Water	Acetone
8260B		Water	Benzene
8260B		Water	Bromobenzene
8260B		Water	Bromochloromethane
8260B		Water	Bromodichloromethane
8260B		Water	Bromoform
8260B		Water	Bromomethane
8260B		Water	Carbon tetrachloride
8260B		Water	Chlorobenzene
8260B		Water	Chloroethane
8260B		Water	Chloroform
8260B		Water	Chloromethane
8260B		Water	cis-1,2-Dichloroethene
8260B		Water	cis-1,3-Dichloropropene
8260B		Water	Dibromochloromethane
8260B		Water	Dibromomethane
8260B		Water	Dichlorodifluoromethane
8260B		Water	Ethylbenzene
8260B		Water	Hexachlorobutadiene
8260B		Water	Isopropyl alcohol
8260B		Water	Isopropylbenzene

Laboratory: Eurofins Calscience Irvine (Continued)

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

Authority	Program	Identification Number	Expiration Date
California	State	2706	06-30-20

8260B		Water	m,p-Xylene
8260B		Water	Methylene Chloride
8260B		Water	Methyl-t-Butyl Ether (MTBE)
8260B		Water	Naphthalene
8260B		Water	n-Butylbenzene
8260B		Water	N-Propylbenzene
8260B		Water	o-Xylene
8260B		Water	p-Isopropyltoluene
8260B		Water	sec-Butylbenzene
8260B		Water	Styrene
8260B		Water	Tentatively Identified Compound
8260B		Water	tert-Butylbenzene
8260B		Water	Tetrachloroethene
8260B		Water	Toluene
8260B		Water	trans-1,2-Dichloroethene
8260B		Water	trans-1,3-Dichloropropene
8260B		Water	Trichloroethene
8260B		Water	Trichlorofluoromethane
8260B		Water	Unknown
8260B		Water	Vinyl chloride
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: 2/23 /20	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 Chem. - 2020 Semi-Ann. GWM Feb	☐ 1 week			
Site: Omega Chemical	☐ 2 days			Job / SDG No.:
P O #: 3139G/E742	☐ 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-1_202001	1/ /2020		Grab	GW	5			x	x	
OC_GW_OW-1B_202001	1/ /2020		Grab	GW	5			x	x	
OC_GW_OW-2_202001	1/ /2020		Grab	GW	5			x	x	
OC_GW_OW-3_202001	1/ /2020		Grab	GW	5			x	x	
OC_GW_OW-3B_202001	1/ /2020		Grab	GW	5			x	x	
OC_GW_OW-7_202001	1/ /2020		Grab	GW	5			x	x	
OC_GW_OW-8_202001	1/ /2020		Grab	GW	5			x	x	
OC_GW_OW-8B_202001	1/ /2020		Grab	GW	5			x	x	
OC_GW_OW-9_202001 ~~23~~ 22	1/~~23~~22/2020	1130	Grab	GW	5			x	x	
OC_GW_OW-10_202001 23	1/23/2020	0825	Grab	GW	5			x	x	
OC_GW_OW-12_202001	1/ /2020		Grab	GW	5			x	x	
OC_TB _202001 23	1/23/2020	0700	Grab	H2O	2			x		

SLL 1/23/20

440-259640 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 | 43509 | Cooler Temp. (°C): Obs'd: 4.8 Corr'd: 4.5.1 | Therm ID No.: IR-04

Relinquished by:	Company:	Date/Time:	Received by:	Company	Date/Time:
	JHA	1/23/20 1355		EC-IRV	1/23/20 1355
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
	EC-IRV	1/23/20 1455			
Relinquished by:	Company:	Date/Time:	Received in Laboratory by:	Company:	Date/Time:
				EC IRV	1/23/20 1455

Login Sample Receipt Checklist

Client: Jacob & Hefner Associates P.C.

Job Number: 440-259640-1
SDG Number: Omega Chemical

Login Number: 259640
List Number: 1
Creator: Soderblom, Tim

List Source: Eurofins 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	

ANALYTICAL REPORT

Eurofins Calscience Irvine
17461 Derian Ave
Suite 100
Irvine, CA 92614-5817
Tel: (949)261-1022

Laboratory Job ID: 440-259641-1
Laboratory Sample Delivery Group: Omega Chemical
Client Project/Site: Omega Chemical-2020 Semi-Annual GWM Feb

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

Attn: Trent Henderson

Authorized for release by:
1/31/2020 9:27:37 AM

Danielle Roberts, Senior Project Manager
(949)260-3249
danielle.roberts@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-2020 Semi-Annual GWM Feb

Job ID: 440-259641-1
SDG: Omega Chemical

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
440-259641-1	OC_GW_OW-10N_20200122	Water	01/22/20 13:00	01/23/20 14:55	
440-259641-2	OC_GW_OW-10_20200123K	Water	01/23/20 08:28	01/23/20 14:55	
440-259641-3	OC_GW_OW-13BN_20200123	Water	01/23/20 11:17	01/23/20 14:55	

Job ID: 440-259641-1

Laboratory: Eurofins Calscience Irvine

Narrative

Job Narrative
440-259641-1

Comments
No additional comments.

Receipt
The samples were received on 1/23/2020 2:55 PM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 5.1º C.

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

GC/MS Semi VOA
Method 8270C SIM: The method blank for preparation batch 440-592345 and analytical batch 440-592397 contained 1,4-Dioxane above the method detection limit. This target analyte concentration was less than the reporting limit (RL); therefore, re-extraction and/or re-analysis of samples was not performed.

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

Organic Prep
Method 3520C: Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD) associated with 8270C preparation batch 440-592345. LCS was performed in duplicate to provide precision of data.

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-2020 Semi-Annual GWM Feb

Job ID: 440-259641-1
SDG: Omega Chemical

Client Sample ID: OC_GW_OW-10N_20200122 — Lab Sample ID: 440-259641-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Acetone	42		10	10	ug/L	1		8260B	Total/NA

Client Sample ID: OC_GW_OW-10_20200123K — Lab Sample ID: 440-259641-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,1,2-Trichloro-1,2,2-trifluoroethane	6.0		5.0	0.50	ug/L	1		8260B	Total/NA
1,1-Dichloroethene	12		1.0	0.25	ug/L	1		8260B	Total/NA
Trichloroethene	1.2		1.0	0.25	ug/L	1		8260B	Total/NA
Trichlorofluoromethane	3.3		1.0	0.25	ug/L	1		8260B	Total/NA
Tetrachloroethene - RA	19		1.0	0.25	ug/L	1		8260B	Total/NA
1,4-Dioxane	0.25	J B	0.49	0.099	ug/L	1		8270C SIM	Total/NA

Client Sample ID: OC_GW_OW-13BN_20200123 — Lab Sample ID: 440-259641-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Acetone	51		10	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-2020 Semi-Annual GWM Feb

Job ID: 440-259641-1
SDG: Omega Chemical

Client Sample ID: OC_GW_OW-10N_20200122

Lab Sample ID: 440-259641-1

Date Collected: 01/22/20 13:00
Matrix: Water
Date Received: 01/23/20 14:55

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			01/24/20 13:18	1
1,1,1-Trichloroethane	ND		1.0	0.25	ug/L			01/24/20 13:18	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.25	ug/L			01/24/20 13:18	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		5.0	0.50	ug/L			01/24/20 13:18	1
1,1,2-Trichloroethane	ND		1.0	0.25	ug/L			01/24/20 13:18	1
1,1-Dichloroethane	ND		1.0	0.25	ug/L			01/24/20 13:18	1
1,1-Dichloroethene	ND		1.0	0.25	ug/L			01/24/20 13:18	1
1,1-Dichloropropene	ND		1.0	0.25	ug/L			01/24/20 13:18	1
1,2,3-Trichlorobenzene	ND		1.0	0.40	ug/L			01/24/20 13:18	1
1,2,3-Trichloropropane	ND		1.0	0.40	ug/L			01/24/20 13:18	1
1,2,4-Trichlorobenzene	ND		1.0	0.40	ug/L			01/24/20 13:18	1
1,2,4-Trimethylbenzene	ND		1.0	0.25	ug/L			01/24/20 13:18	1
1,2-Dibromo-3-Chloropropane	ND		5.0	0.50	ug/L			01/24/20 13:18	1
1,2-Dibromoethane (EDB)	ND		1.0	0.25	ug/L			01/24/20 13:18	1
1,2-Dichlorobenzene	ND		1.0	0.25	ug/L			01/24/20 13:18	1
1,2-Dichloroethane	ND		1.0	0.25	ug/L			01/24/20 13:18	1
1,2-Dichloropropane	ND		1.0	0.25	ug/L			01/24/20 13:18	1
1,3,5-Trimethylbenzene	ND		1.0	0.25	ug/L			01/24/20 13:18	1
1,3-Dichlorobenzene	ND		1.0	0.25	ug/L			01/24/20 13:18	1
1,3-Dichloropropane	ND		1.0	0.25	ug/L			01/24/20 13:18	1
1,4-Dichlorobenzene	ND		1.0	0.25	ug/L			01/24/20 13:18	1
2,2-Dichloropropane	ND		1.0	0.40	ug/L			01/24/20 13:18	1
2-Chlorotoluene	ND		1.0	0.25	ug/L			01/24/20 13:18	1
4-Chlorotoluene	ND		1.0	0.25	ug/L			01/24/20 13:18	1
Acetone	**42**		10	10	ug/L			01/24/20 13:18	1
Benzene	ND		0.50	0.25	ug/L			01/24/20 13:18	1
Bromobenzene	ND		1.0	0.25	ug/L			01/24/20 13:18	1
Bromochloromethane	ND		1.0	0.25	ug/L			01/24/20 13:18	1
Bromodichloromethane	ND		1.0	0.25	ug/L			01/24/20 13:18	1
Bromoform	ND		1.0	0.40	ug/L			01/24/20 13:18	1
Bromomethane	ND		1.0	0.25	ug/L			01/24/20 13:18	1
Carbon tetrachloride	ND		0.50	0.25	ug/L			01/24/20 13:18	1
Chlorobenzene	ND		1.0	0.25	ug/L			01/24/20 13:18	1
Chloroethane	ND		1.0	0.40	ug/L			01/24/20 13:18	1
Chloroform	ND		1.0	0.25	ug/L			01/24/20 13:18	1
Chloromethane	ND		1.0	0.25	ug/L			01/24/20 13:18	1
cis-1,2-Dichloroethene	ND		1.0	0.25	ug/L			01/24/20 13:18	1
cis-1,3-Dichloropropene	ND		0.50	0.25	ug/L			01/24/20 13:18	1
Dibromochloromethane	ND		1.0	0.25	ug/L			01/24/20 13:18	1
Dibromomethane	ND		1.0	0.25	ug/L			01/24/20 13:18	1
Ethylbenzene	ND		1.0	0.25	ug/L			01/24/20 13:18	1
Isopropyl alcohol	ND		250	180	ug/L			01/24/20 13:18	1
Isopropylbenzene	ND		1.0	0.25	ug/L			01/24/20 13:18	1
m,p-Xylene	ND		1.0	0.50	ug/L			01/24/20 13:18	1
Methylene Chloride	ND		5.0	0.88	ug/L			01/24/20 13:18	1
Methyl-t-Butyl Ether (MTBE)	ND		1.0	0.25	ug/L			01/24/20 13:18	1
Naphthalene	ND		1.0	0.40	ug/L			01/24/20 13:18	1
n-Butylbenzene	ND		1.0	0.40	ug/L			01/24/20 13:18	1
N-Propylbenzene	ND		1.0	0.25	ug/L			01/24/20 13:18	1

Client Sample ID: OC_GW_OW-10N_20200122

Lab Sample ID: 440-259641-1

Date Collected: 01/22/20 13:00
Matrix: Water
Date Received: 01/23/20 14:55

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
o-Xylene	ND		1.0	0.25	ug/L			01/24/20 13:18	1
p-Isopropyltoluene	ND		1.0	0.25	ug/L			01/24/20 13:18	1
sec-Butylbenzene	ND		1.0	0.25	ug/L			01/24/20 13:18	1
Styrene	ND		1.0	0.25	ug/L			01/24/20 13:18	1
tert-Butylbenzene	ND		1.0	0.25	ug/L			01/24/20 13:18	1
Toluene	ND		1.0	0.25	ug/L			01/24/20 13:18	1
trans-1,2-Dichloroethene	ND		1.0	0.25	ug/L			01/24/20 13:18	1
trans-1,3-Dichloropropene	ND		0.50	0.25	ug/L			01/24/20 13:18	1
Trichloroethene	ND		1.0	0.25	ug/L			01/24/20 13:18	1
Trichlorofluoromethane	ND		1.0	0.25	ug/L			01/24/20 13:18	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Unknown	*6.8*	*T J*	*ug/L*		*5.08*			*01/24/20 13:18*	*1*
Unknown	*6.4*	*T J*	*ug/L*		*6.54*			*01/24/20 13:18*	*1*
2-Butanone, 3,3-dimethyl-	*5.3*	*T J N*	*ug/L*		*8.51*	*75-97-8*		*01/24/20 13:18*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*102*		*70 - 130*		*01/24/20 13:18*	*1*
4-Bromofluorobenzene (Surr)	*104*		*80 - 120*		*01/24/20 13:18*	*1*
Dibromofluoromethane (Surr)	*102*		*76 - 132*		*01/24/20 13:18*	*1*
Toluene-d8 (Surr)	*108*		*80 - 128*		*01/24/20 13:18*	*1*

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dichlorodifluoromethane	ND		1.0	0.40	ug/L			01/24/20 13:08	1
Hexachlorobutadiene	ND		1.0	0.25	ug/L			01/24/20 13:08	1
Tetrachloroethene	ND		1.0	0.25	ug/L			01/24/20 13:08	1
Vinyl chloride	ND		0.50	0.25	ug/L			01/24/20 13:08	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Unknown	*14*	*T J*	*ug/L*		*1.66*			*01/24/20 13:08*	*1*
Unknown	*69*	*T J*	*ug/L*		*1.75*			*01/24/20 13:08*	*1*
Unknown	*5.1*	*T J*	*ug/L*		*4.97*			*01/24/20 13:08*	*1*
Unknown	*3.3*	*T J*	*ug/L*		*6.96*			*01/24/20 13:08*	*1*
Unknown	*19*	*T J*	*ug/L*		*16.23*			*01/24/20 13:08*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*123*		*70 - 130*		*01/24/20 13:08*	*1*
4-Bromofluorobenzene (Surr)	*103*		*80 - 120*		*01/24/20 13:08*	*1*
Dibromofluoromethane (Surr)	*113*		*76 - 132*		*01/24/20 13:08*	*1*
Toluene-d8 (Surr)	*100*		*80 - 128*		*01/24/20 13:08*	*1*

Client Sample ID: OC_GW_OW-10_20200123K

Lab Sample ID: 440-259641-2

Date Collected: 01/23/20 08:28
Matrix: Water
Date Received: 01/23/20 14:55

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			01/24/20 13:42	1
1,1,1-Trichloroethane	ND		1.0	0.25	ug/L			01/24/20 13:42	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.25	ug/L			01/24/20 13:42	1

Client Sample ID: OC_GW_OW-10_20200123K

Lab Sample ID: 440-259641-2

Date Collected: 01/23/20 08:28
Matrix: Water
Date Received: 01/23/20 14:55

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,2-Trichloro-1,2,2-trifluoroethane	**6.0**		5.0	0.50	ug/L			01/24/20 13:42	1
1,1,2-Trichloroethane	ND		1.0	0.25	ug/L			01/24/20 13:42	1
1,1-Dichloroethane	ND		1.0	0.25	ug/L			01/24/20 13:42	1
1,1-Dichloroethene	**12**		1.0	0.25	ug/L			01/24/20 13:42	1
1,1-Dichloropropene	ND		1.0	0.25	ug/L			01/24/20 13:42	1
1,2,3-Trichlorobenzene	ND		1.0	0.40	ug/L			01/24/20 13:42	1
1,2,3-Trichloropropane	ND		1.0	0.40	ug/L			01/24/20 13:42	1
1,2,4-Trichlorobenzene	ND		1.0	0.40	ug/L			01/24/20 13:42	1
1,2,4-Trimethylbenzene	ND		1.0	0.25	ug/L			01/24/20 13:42	1
1,2-Dibromo-3-Chloropropane	ND		5.0	0.50	ug/L			01/24/20 13:42	1
1,2-Dibromoethane (EDB)	ND		1.0	0.25	ug/L			01/24/20 13:42	1
1,2-Dichlorobenzene	ND		1.0	0.25	ug/L			01/24/20 13:42	1
1,2-Dichloroethane	ND		1.0	0.25	ug/L			01/24/20 13:42	1
1,2-Dichloropropane	ND		1.0	0.25	ug/L			01/24/20 13:42	1
1,3,5-Trimethylbenzene	ND		1.0	0.25	ug/L			01/24/20 13:42	1
1,3-Dichlorobenzene	ND		1.0	0.25	ug/L			01/24/20 13:42	1
1,3-Dichloropropane	ND		1.0	0.25	ug/L			01/24/20 13:42	1
1,4-Dichlorobenzene	ND		1.0	0.25	ug/L			01/24/20 13:42	1
2,2-Dichloropropane	ND		1.0	0.40	ug/L			01/24/20 13:42	1
2-Chlorotoluene	ND		1.0	0.25	ug/L			01/24/20 13:42	1
4-Chlorotoluene	ND		1.0	0.25	ug/L			01/24/20 13:42	1
Acetone	ND		10	10	ug/L			01/24/20 13:42	1
Benzene	ND		0.50	0.25	ug/L			01/24/20 13:42	1
Bromobenzene	ND		1.0	0.25	ug/L			01/24/20 13:42	1
Bromochloromethane	ND		1.0	0.25	ug/L			01/24/20 13:42	1
Bromodichloromethane	ND		1.0	0.25	ug/L			01/24/20 13:42	1
Bromoform	ND		1.0	0.40	ug/L			01/24/20 13:42	1
Bromomethane	ND		1.0	0.25	ug/L			01/24/20 13:42	1
Carbon tetrachloride	ND		0.50	0.25	ug/L			01/24/20 13:42	1
Chlorobenzene	ND		1.0	0.25	ug/L			01/24/20 13:42	1
Chloroethane	ND		1.0	0.40	ug/L			01/24/20 13:42	1
Chloroform	ND		1.0	0.25	ug/L			01/24/20 13:42	1
Chloromethane	ND		1.0	0.25	ug/L			01/24/20 13:42	1
cis-1,2-Dichloroethene	ND		1.0	0.25	ug/L			01/24/20 13:42	1
cis-1,3-Dichloropropene	ND		0.50	0.25	ug/L			01/24/20 13:42	1
Dibromochloromethane	ND		1.0	0.25	ug/L			01/24/20 13:42	1
Dibromomethane	ND		1.0	0.25	ug/L			01/24/20 13:42	1
Ethylbenzene	ND		1.0	0.25	ug/L			01/24/20 13:42	1
Isopropyl alcohol	ND		250	180	ug/L			01/24/20 13:42	1
Isopropylbenzene	ND		1.0	0.25	ug/L			01/24/20 13:42	1
m,p-Xylene	ND		1.0	0.50	ug/L			01/24/20 13:42	1
Methylene Chloride	ND		5.0	0.88	ug/L			01/24/20 13:42	1
Methyl-t-Butyl Ether (MTBE)	ND		1.0	0.25	ug/L			01/24/20 13:42	1
Naphthalene	ND		1.0	0.40	ug/L			01/24/20 13:42	1
n-Butylbenzene	ND		1.0	0.40	ug/L			01/24/20 13:42	1
N-Propylbenzene	ND		1.0	0.25	ug/L			01/24/20 13:42	1
o-Xylene	ND		1.0	0.25	ug/L			01/24/20 13:42	1
p-Isopropyltoluene	ND		1.0	0.25	ug/L			01/24/20 13:42	1
sec-Butylbenzene	ND		1.0	0.25	ug/L			01/24/20 13:42	1

Client Sample ID: OC_GW_OW-10_20200123K

Lab Sample ID: 440-259641-2

Date Collected: 01/23/20 08:28
Matrix: Water
Date Received: 01/23/20 14:55

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Styrene	ND		1.0	0.25	ug/L			01/24/20 13:42	1
tert-Butylbenzene	ND		1.0	0.25	ug/L			01/24/20 13:42	1
Toluene	ND		1.0	0.25	ug/L			01/24/20 13:42	1
trans-1,2-Dichloroethene	ND		1.0	0.25	ug/L			01/24/20 13:42	1
trans-1,3-Dichloropropene	ND		0.50	0.25	ug/L			01/24/20 13:42	1
Trichloroethene	**1.2**		1.0	0.25	ug/L			01/24/20 13:42	1
Trichlorofluoromethane	**3.3**		1.0	0.25	ug/L			01/24/20 13:42	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Tentatively Identified Compound	*None*		*ug/L*					*01/24/20 13:42*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*103*		*70 - 130*		*01/24/20 13:42*	*1*
4-Bromofluorobenzene (Surr)	*100*		*80 - 120*		*01/24/20 13:42*	*1*
Dibromofluoromethane (Surr)	*103*		*76 - 132*		*01/24/20 13:42*	*1*
Toluene-d8 (Surr)	*105*		*80 - 128*		*01/24/20 13:42*	*1*

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dichlorodifluoromethane	ND		1.0	0.40	ug/L			01/24/20 13:38	1
Hexachlorobutadiene	ND		1.0	0.25	ug/L			01/24/20 13:38	1
Tetrachloroethene	**19**		1.0	0.25	ug/L			01/24/20 13:38	1
Vinyl chloride	ND		0.50	0.25	ug/L			01/24/20 13:38	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Unknown	*1800*	*T J*	*ug/L*		*1.74*			*01/24/20 13:38*	*1*
Unknown	*2.9*	*T J*	*ug/L*		*2.97*			*01/24/20 13:38*	*1*
Unknown	*17*	*T J*	*ug/L*		*16.36*			*01/24/20 13:38*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*122*		*70 - 130*		*01/24/20 13:38*	*1*
4-Bromofluorobenzene (Surr)	*102*		*80 - 120*		*01/24/20 13:38*	*1*
Dibromofluoromethane (Surr)	*108*		*76 - 132*		*01/24/20 13:38*	*1*
Toluene-d8 (Surr)	*105*		*80 - 128*		*01/24/20 13:38*	*1*

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	**0.25**	**J B**	0.49	0.099	ug/L		01/26/20 06:34	01/27/20 15:51	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,4-Dioxane-d8 (Surr)	*62*		*27 - 120*	*01/26/20 06:34*	*01/27/20 15:51*	*1*

Client Sample ID: OC_GW_OW-13BN_20200123

Lab Sample ID: 440-259641-3

Date Collected: 01/23/20 11:17
Matrix: Water
Date Received: 01/23/20 14:55

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			01/24/20 14:06	1
1,1,1-Trichloroethane	ND		1.0	0.25	ug/L			01/24/20 14:06	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.25	ug/L			01/24/20 14:06	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		5.0	0.50	ug/L			01/24/20 14:06	1

Client Sample Results

Client: Jacob & Hefner Associates P.C.
Project/Site: Omega Chemical-2020 Semi-Annual GWM Feb

Job ID: 440-259641-1
SDG: Omega Chemical

Client Sample ID: OC_GW_OW-13BN_20200123

Lab Sample ID: 440-259641-3

Date Collected: 01/23/20 11:17
Matrix: Water
Date Received: 01/23/20 14:55

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,2-Trichloroethane	ND		1.0	0.25	ug/L			01/24/20 14:06	1
1,1-Dichloroethane	ND		1.0	0.25	ug/L			01/24/20 14:06	1
1,1-Dichloroethene	ND		1.0	0.25	ug/L			01/24/20 14:06	1
1,1-Dichloropropene	ND		1.0	0.25	ug/L			01/24/20 14:06	1
1,2,3-Trichlorobenzene	ND		1.0	0.40	ug/L			01/24/20 14:06	1
1,2,3-Trichloropropane	ND		1.0	0.40	ug/L			01/24/20 14:06	1
1,2,4-Trichlorobenzene	ND		1.0	0.40	ug/L			01/24/20 14:06	1
1,2,4-Trimethylbenzene	ND		1.0	0.25	ug/L			01/24/20 14:06	1
1,2-Dibromo-3-Chloropropane	ND		5.0	0.50	ug/L			01/24/20 14:06	1
1,2-Dibromoethane (EDB)	ND		1.0	0.25	ug/L			01/24/20 14:06	1
1,2-Dichlorobenzene	ND		1.0	0.25	ug/L			01/24/20 14:06	1
1,2-Dichloroethane	ND		1.0	0.25	ug/L			01/24/20 14:06	1
1,2-Dichloropropane	ND		1.0	0.25	ug/L			01/24/20 14:06	1
1,3,5-Trimethylbenzene	ND		1.0	0.25	ug/L			01/24/20 14:06	1
1,3-Dichlorobenzene	ND		1.0	0.25	ug/L			01/24/20 14:06	1
1,3-Dichloropropane	ND		1.0	0.25	ug/L			01/24/20 14:06	1
1,4-Dichlorobenzene	ND		1.0	0.25	ug/L			01/24/20 14:06	1
2,2-Dichloropropane	ND		1.0	0.40	ug/L			01/24/20 14:06	1
2-Chlorotoluene	ND		1.0	0.25	ug/L			01/24/20 14:06	1
4-Chlorotoluene	ND		1.0	0.25	ug/L			01/24/20 14:06	1
Acetone	**51**		10	10	ug/L			01/24/20 14:06	1
Benzene	ND		0.50	0.25	ug/L			01/24/20 14:06	1
Bromobenzene	ND		1.0	0.25	ug/L			01/24/20 14:06	1
Bromochloromethane	ND		1.0	0.25	ug/L			01/24/20 14:06	1
Bromodichloromethane	ND		1.0	0.25	ug/L			01/24/20 14:06	1
Bromoform	ND		1.0	0.40	ug/L			01/24/20 14:06	1
Bromomethane	ND		1.0	0.25	ug/L			01/24/20 14:06	1
Carbon tetrachloride	ND		0.50	0.25	ug/L			01/24/20 14:06	1
Chlorobenzene	ND		1.0	0.25	ug/L			01/24/20 14:06	1
Chloroethane	ND		1.0	0.40	ug/L			01/24/20 14:06	1
Chloroform	ND		1.0	0.25	ug/L			01/24/20 14:06	1
Chloromethane	ND		1.0	0.25	ug/L			01/24/20 14:06	1
cis-1,2-Dichloroethene	ND		1.0	0.25	ug/L			01/24/20 14:06	1
cis-1,3-Dichloropropene	ND		0.50	0.25	ug/L			01/24/20 14:06	1
Dibromochloromethane	ND		1.0	0.25	ug/L			01/24/20 14:06	1
Dibromomethane	ND		1.0	0.25	ug/L			01/24/20 14:06	1
Ethylbenzene	ND		1.0	0.25	ug/L			01/24/20 14:06	1
Isopropyl alcohol	ND		250	180	ug/L			01/24/20 14:06	1
Isopropylbenzene	ND		1.0	0.25	ug/L			01/24/20 14:06	1
m,p-Xylene	ND		1.0	0.50	ug/L			01/24/20 14:06	1
Methylene Chloride	ND		5.0	0.88	ug/L			01/24/20 14:06	1
Methyl-t-Butyl Ether (MTBE)	ND		1.0	0.25	ug/L			01/24/20 14:06	1
Naphthalene	ND		1.0	0.40	ug/L			01/24/20 14:06	1
n-Butylbenzene	ND		1.0	0.40	ug/L			01/24/20 14:06	1
N-Propylbenzene	ND		1.0	0.25	ug/L			01/24/20 14:06	1
o-Xylene	ND		1.0	0.25	ug/L			01/24/20 14:06	1
p-Isopropyltoluene	ND		1.0	0.25	ug/L			01/24/20 14:06	1
sec-Butylbenzene	ND		1.0	0.25	ug/L			01/24/20 14:06	1
Styrene	ND		1.0	0.25	ug/L			01/24/20 14:06	1

Client Sample Results

Client: Jacob & Hefner Associates P.C.
Project/Site: Omega Chemical-2020 Semi-Annual GWM Feb

Job ID: 440-259641-1
SDG: Omega Chemical

Client Sample ID: OC_GW_OW-13BN_20200123

Lab Sample ID: 440-259641-3

Date Collected: 01/23/20 11:17
Matrix: Water
Date Received: 01/23/20 14:55

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
tert-Butylbenzene	ND		1.0	0.25	ug/L			01/24/20 14:06	1
Toluene	ND		1.0	0.25	ug/L			01/24/20 14:06	1
trans-1,2-Dichloroethene	ND		1.0	0.25	ug/L			01/24/20 14:06	1
trans-1,3-Dichloropropene	ND		0.50	0.25	ug/L			01/24/20 14:06	1
Trichloroethene	ND		1.0	0.25	ug/L			01/24/20 14:06	1
Trichlorofluoromethane	ND		1.0	0.25	ug/L			01/24/20 14:06	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Unknown	*4.5*	*T J*	*ug/L*		*5.09*			*01/24/20 14:06*	*1*
Unknown	*5.9*	*T J*	*ug/L*		*6.54*			*01/24/20 14:06*	*1*
2-Butanone, 3,3-dimethyl-	*5.4*	*T J N*	*ug/L*		*8.51*	*75-97-8*		*01/24/20 14:06*	*1*
1-Octanol, 2-methyl-	*3.2*	*T J N*	*ug/L*		*14.12*	*818-81-5*		*01/24/20 14:06*	*1*
Nonanol	*5.8*	*T J N*	*ug/L*		*14.50*	*28473-21-4*		*01/24/20 14:06*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*104*		*70 - 130*		*01/24/20 14:06*	*1*
4-Bromofluorobenzene (Surr)	*101*		*80 - 120*		*01/24/20 14:06*	*1*
Dibromofluoromethane (Surr)	*104*		*76 - 132*		*01/24/20 14:06*	*1*
Toluene-d8 (Surr)	*105*		*80 - 128*		*01/24/20 14:06*	*1*

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dichlorodifluoromethane	ND		1.0	0.40	ug/L			01/24/20 14:07	1
Hexachlorobutadiene	ND		1.0	0.25	ug/L			01/24/20 14:07	1
Tetrachloroethene	ND		1.0	0.25	ug/L			01/24/20 14:07	1
Vinyl chloride	ND		0.50	0.25	ug/L			01/24/20 14:07	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Unknown	*130*	*T J*	*ug/L*		*1.74*			*01/24/20 14:07*	*1*
Unknown	*5.3*	*T J*	*ug/L*		*2.18*			*01/24/20 14:07*	*1*
Unknown	*5.2*	*T J*	*ug/L*		*4.97*			*01/24/20 14:07*	*1*
Unknown	*3.4*	*T J*	*ug/L*		*6.96*			*01/24/20 14:07*	*1*
Unknown	*20*	*T J*	*ug/L*		*16.34*			*01/24/20 14:07*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*130*		*70 - 130*		*01/24/20 14:07*	*1*
4-Bromofluorobenzene (Surr)	*103*		*80 - 120*		*01/24/20 14:07*	*1*
Dibromofluoromethane (Surr)	*116*		*76 - 132*		*01/24/20 14:07*	*1*
Toluene-d8 (Surr)	*101*		*80 - 128*		*01/24/20 14:07*	*1*

Surrogate Summary

Client: Jacob & Hefner Associates P.C.
Project/Site: Omega Chemical-2020 Semi-Annual GWM Feb

Job ID: 440-259641-1
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)
440-259640-A-1 MS	Matrix Spike	101	95	103	102
440-259640-A-1 MS	Matrix Spike	117	101	106	102
440-259640-A-1 MSD	Matrix Spike Duplicate	101	98	101	104
440-259640-A-1 MSD	Matrix Spike Duplicate	108	103	106	105
440-259641-1	OC_GW_OW-10N_20200122	102	104	102	108
440-259641-1 - RA	OC_GW_OW-10N_20200122	123	103	113	100
440-259641-2	OC_GW_OW-10_20200123K	103	100	103	105
440-259641-2 - RA	OC_GW_OW-10_20200123K	122	102	108	105
440-259641-3	OC_GW_OW-13BN_20200123	104	101	104	105
440-259641-3 - RA	OC_GW_OW-13BN_20200123	130	103	116	101
LCS 440-592171/1002	Lab Control Sample	99	95	98	104
LCS 440-592171/1003	Lab Control Sample	103	102	101	106
LCS 440-592172/1002	Lab Control Sample	111	99	103	103
MB 440-592171/4	Method Blank	103	100	99	103
MB 440-592172/5	Method Blank	116	105	109	101

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)
440-259641-2	OC_GW_OW-10_20200123K	62
LCS 440-592345/2-A	Lab Control Sample	57
LCSD 440-592345/3-A	Lab Control Sample Dup	65
MB 440-592345/1-A	Method Blank	63

Surrogate Legend

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

Method Summary

Client: Jacob & Hefner Associates P.C.
Project/Site: Omega Chemical-2020 Semi-Annual GWM Feb

Job ID: 440-259641-1
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 = Eurofins Calscience 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-2020 Semi-Annual GWM Feb

Job ID: 440-259641-1
SDG: Omega Chemical

Client Sample ID: OC_GW_OW-10N_20200122 — Lab Sample ID: 440-259641-1

Date Collected: 01/22/20 13:00 — **Matrix: Water**
Date Received: 01/23/20 14:55

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	592171	01/24/20 13:18	RM	TAL IRV
Total/NA	Analysis	8260B	RA	1	10 mL	10 mL	592172	01/24/20 13:08	RM	TAL IRV

Client Sample ID: OC_GW_OW-10_20200123K — Lab Sample ID: 440-259641-2

Date Collected: 01/23/20 08:28 — **Matrix: Water**
Date Received: 01/23/20 14:55

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	592171	01/24/20 13:42	RM	TAL IRV
Total/NA	Analysis	8260B	RA	1	10 mL	10 mL	592172	01/24/20 13:38	RM	TAL IRV
Total/NA	Prep	3520C			1015 mL	1.0 mL	592345	01/26/20 06:34	NAM	TAL IRV
Total/NA	Analysis	8270C SIM		1			592397	01/27/20 15:51	HN	TAL IRV

Client Sample ID: OC_GW_OW-13BN_20200123 — Lab Sample ID: 440-259641-3

Date Collected: 01/23/20 11:17 — **Matrix: Water**
Date Received: 01/23/20 14:55

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	592171	01/24/20 14:06	RM	TAL IRV
Total/NA	Analysis	8260B	RA	1	10 mL	10 mL	592172	01/24/20 14:07	RM	TAL IRV

Laboratory References:

TAL IRV = Eurofins Calscience 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 440-592171/4
Matrix: Water
Analysis Batch: 592171

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			01/24/20 09:15	1
1,1,1-Trichloroethane	ND		1.0	0.25	ug/L			01/24/20 09:15	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.25	ug/L			01/24/20 09:15	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		5.0	0.50	ug/L			01/24/20 09:15	1
1,1,2-Trichloroethane	ND		1.0	0.25	ug/L			01/24/20 09:15	1
1,1-Dichloroethane	ND		1.0	0.25	ug/L			01/24/20 09:15	1
1,1-Dichloroethene	ND		1.0	0.25	ug/L			01/24/20 09:15	1
1,1-Dichloropropene	ND		1.0	0.25	ug/L			01/24/20 09:15	1
1,2,3-Trichlorobenzene	ND		1.0	0.40	ug/L			01/24/20 09:15	1
1,2,3-Trichloropropane	ND		1.0	0.40	ug/L			01/24/20 09:15	1
1,2,4-Trichlorobenzene	ND		1.0	0.40	ug/L			01/24/20 09:15	1
1,2,4-Trimethylbenzene	ND		1.0	0.25	ug/L			01/24/20 09:15	1
1,2-Dibromo-3-Chloropropane	ND		5.0	0.50	ug/L			01/24/20 09:15	1
1,2-Dibromoethane (EDB)	ND		1.0	0.25	ug/L			01/24/20 09:15	1
1,2-Dichlorobenzene	ND		1.0	0.25	ug/L			01/24/20 09:15	1
1,2-Dichloroethane	ND		1.0	0.25	ug/L			01/24/20 09:15	1
1,2-Dichloropropane	ND		1.0	0.25	ug/L			01/24/20 09:15	1
1,3,5-Trimethylbenzene	ND		1.0	0.25	ug/L			01/24/20 09:15	1
1,3-Dichlorobenzene	ND		1.0	0.25	ug/L			01/24/20 09:15	1
1,3-Dichloropropane	ND		1.0	0.25	ug/L			01/24/20 09:15	1
1,4-Dichlorobenzene	ND		1.0	0.25	ug/L			01/24/20 09:15	1
2,2-Dichloropropane	ND		1.0	0.40	ug/L			01/24/20 09:15	1
2-Chlorotoluene	ND		1.0	0.25	ug/L			01/24/20 09:15	1
4-Chlorotoluene	ND		1.0	0.25	ug/L			01/24/20 09:15	1
Acetone	ND		10	10	ug/L			01/24/20 09:15	1
Benzene	ND		0.50	0.25	ug/L			01/24/20 09:15	1
Bromobenzene	ND		1.0	0.25	ug/L			01/24/20 09:15	1
Bromochloromethane	ND		1.0	0.25	ug/L			01/24/20 09:15	1
Bromodichloromethane	ND		1.0	0.25	ug/L			01/24/20 09:15	1
Bromoform	ND		1.0	0.40	ug/L			01/24/20 09:15	1
Bromomethane	ND		1.0	0.25	ug/L			01/24/20 09:15	1
Carbon tetrachloride	ND		0.50	0.25	ug/L			01/24/20 09:15	1
Chlorobenzene	ND		1.0	0.25	ug/L			01/24/20 09:15	1
Chloroethane	ND		1.0	0.40	ug/L			01/24/20 09:15	1
Chloroform	ND		1.0	0.25	ug/L			01/24/20 09:15	1
Chloromethane	ND		1.0	0.25	ug/L			01/24/20 09:15	1
cis-1,2-Dichloroethene	ND		1.0	0.25	ug/L			01/24/20 09:15	1
cis-1,3-Dichloropropene	ND		0.50	0.25	ug/L			01/24/20 09:15	1
Dibromochloromethane	ND		1.0	0.25	ug/L			01/24/20 09:15	1
Dibromomethane	ND		1.0	0.25	ug/L			01/24/20 09:15	1
Ethylbenzene	ND		1.0	0.25	ug/L			01/24/20 09:15	1
Isopropyl alcohol	ND		250	180	ug/L			01/24/20 09:15	1
Isopropylbenzene	ND		1.0	0.25	ug/L			01/24/20 09:15	1
m,p-Xylene	ND		1.0	0.50	ug/L			01/24/20 09:15	1
Methylene Chloride	ND		5.0	0.88	ug/L			01/24/20 09:15	1
Methyl-t-Butyl Ether (MTBE)	ND		1.0	0.25	ug/L			01/24/20 09:15	1
Naphthalene	ND		1.0	0.40	ug/L			01/24/20 09:15	1
n-Butylbenzene	ND		1.0	0.40	ug/L			01/24/20 09:15	1

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

Lab Sample ID: MB 440-592171/4
Matrix: Water
Analysis Batch: 592171

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
N-Propylbenzene	ND		1.0	0.25	ug/L			01/24/20 09:15	1
o-Xylene	ND		1.0	0.25	ug/L			01/24/20 09:15	1
p-Isopropyltoluene	ND		1.0	0.25	ug/L			01/24/20 09:15	1
sec-Butylbenzene	ND		1.0	0.25	ug/L			01/24/20 09:15	1
Styrene	ND		1.0	0.25	ug/L			01/24/20 09:15	1
tert-Butylbenzene	ND		1.0	0.25	ug/L			01/24/20 09:15	1
Toluene	ND		1.0	0.25	ug/L			01/24/20 09:15	1
trans-1,2-Dichloroethene	ND		1.0	0.25	ug/L			01/24/20 09:15	1
trans-1,3-Dichloropropene	ND		0.50	0.25	ug/L			01/24/20 09:15	1
Trichloroethene	ND		1.0	0.25	ug/L			01/24/20 09:15	1
Trichlorofluoromethane	ND		1.0	0.25	ug/L			01/24/20 09:15	1

Tentatively Identified Compound	*MB Est. Result*	*MB Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Tentatively Identified Compound	*None*		*ug/L*					*01/24/20 09:15*	*1*

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*103*		*70 - 130*		*01/24/20 09:15*	*1*
4-Bromofluorobenzene (Surr)	*100*		*80 - 120*		*01/24/20 09:15*	*1*
Dibromofluoromethane (Surr)	*99*		*76 - 132*		*01/24/20 09:15*	*1*
Toluene-d8 (Surr)	*103*		*80 - 128*		*01/24/20 09:15*	*1*

Lab Sample ID: LCS 440-592171/1002
Matrix: Water
Analysis Batch: 592171

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	26.6		ug/L		106	60 - 141
1,1,1-Trichloroethane	25.0	24.2		ug/L		97	70 - 130
1,1,2,2-Tetrachloroethane	25.0	27.5		ug/L		110	63 - 130
1,1,2-Trichloro-1,2,2-trifluoroethane	25.0	22.9		ug/L		92	60 - 140
1,1,2-Trichloroethane	25.0	26.4		ug/L		106	70 - 130
1,1-Dichloroethane	25.0	23.5		ug/L		94	64 - 130
1,1-Dichloroethene	25.0	21.5		ug/L		86	70 - 130
1,1-Dichloropropene	25.0	23.4		ug/L		93	70 - 130
1,2,3-Trichlorobenzene	25.0	24.3		ug/L		97	60 - 140
1,2,3-Trichloropropane	25.0	25.3		ug/L		101	63 - 130
1,2,4-Trichlorobenzene	25.0	25.3		ug/L		101	60 - 140
1,2,4-Trimethylbenzene	25.0	24.3		ug/L		97	70 - 135
1,2-Dibromo-3-Chloropropane	25.0	25.9		ug/L		104	52 - 140
1,2-Dibromoethane (EDB)	25.0	26.4		ug/L		105	70 - 130
1,2-Dichlorobenzene	25.0	23.6		ug/L		94	70 - 130
1,2-Dichloroethane	25.0	24.2		ug/L		97	57 - 138
1,2-Dichloropropane	25.0	25.3		ug/L		101	67 - 130
1,3,5-Trimethylbenzene	25.0	24.2		ug/L		97	70 - 136
1,3-Dichlorobenzene	25.0	25.5		ug/L		102	70 - 130
1,3-Dichloropropane	25.0	24.2		ug/L		97	70 - 130
1,4-Dichlorobenzene	25.0	25.5		ug/L		102	70 - 130

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

Lab Sample ID: LCS 440-592171/1002
Matrix: Water
Analysis Batch: 592171

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
2,2-Dichloropropane	25.0	28.7		ug/L		115	68 - 141
2-Chlorotoluene	25.0	23.6		ug/L		95	70 - 130
4-Chlorotoluene	25.0	22.7		ug/L		91	70 - 130
Acetone	125	137		ug/L		110	10 - 150
Benzene	25.0	23.8		ug/L		95	68 - 130
Bromobenzene	25.0	23.8		ug/L		95	70 - 130
Bromochloromethane	25.0	25.2		ug/L		101	70 - 130
Bromodichloromethane	25.0	25.9		ug/L		103	70 - 132
Bromoform	25.0	27.6		ug/L		111	60 - 148
Bromomethane	25.0	20.8		ug/L		83	64 - 139
Carbon tetrachloride	25.0	24.4		ug/L		97	60 - 150
Chlorobenzene	25.0	24.6		ug/L		98	70 - 130
Chloroethane	25.0	22.3		ug/L		89	64 - 135
Chloroform	25.0	24.8		ug/L		99	70 - 130
Chloromethane	25.0	18.4		ug/L		74	47 - 140
cis-1,2-Dichloroethene	25.0	22.7		ug/L		91	70 - 133
cis-1,3-Dichloropropene	25.0	25.6		ug/L		102	70 - 133
Dibromochloromethane	25.0	26.5		ug/L		106	69 - 145
Dibromomethane	25.0	24.6		ug/L		98	70 - 130
Ethylbenzene	25.0	23.8		ug/L		95	70 - 130
Isopropylbenzene	25.0	24.2		ug/L		97	70 - 136
m,p-Xylene	25.0	25.4		ug/L		101	70 - 130
Methylene Chloride	25.0	22.4		ug/L		89	52 - 130
Methyl-t-Butyl Ether (MTBE)	25.0	25.4		ug/L		102	63 - 131
Naphthalene	25.0	24.6		ug/L		98	60 - 140
n-Butylbenzene	25.0	27.1		ug/L		108	65 - 150
N-Propylbenzene	25.0	22.4		ug/L		90	67 - 139
o-Xylene	25.0	25.3		ug/L		101	70 - 130
p-Isopropyltoluene	25.0	24.9		ug/L		100	70 - 132
sec-Butylbenzene	25.0	27.3		ug/L		109	70 - 138
Styrene	25.0	25.4		ug/L		102	70 - 134
tert-Butylbenzene	25.0	25.7		ug/L		103	70 - 130
Toluene	25.0	23.7		ug/L		95	70 - 130
trans-1,2-Dichloroethene	25.0	22.5		ug/L		90	70 - 130
trans-1,3-Dichloropropene	25.0	25.1		ug/L		100	70 - 132
Trichloroethene	25.0	22.7		ug/L		91	70 - 130
Trichlorofluoromethane	25.0	21.1		ug/L		84	60 - 150

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*99*		*70 - 130*
4-Bromofluorobenzene (Surr)	*95*		*80 - 120*
Dibromofluoromethane (Surr)	*98*		*76 - 132*
Toluene-d8 (Surr)	*104*		*80 - 128*

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

Lab Sample ID: LCS 440-592171/1003
Matrix: Water
Analysis Batch: 592171

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	226	J	ug/L		90	49 - 142		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*103*		*70 - 130*
4-Bromofluorobenzene (Surr)	*102*		*80 - 120*
Dibromofluoromethane (Surr)	*101*		*76 - 132*
Toluene-d8 (Surr)	*106*		*80 - 128*

Lab Sample ID: 440-259640-A-1 MS
Matrix: Water
Analysis Batch: 592171

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		1000	1060		ug/L		106	60 - 149		
1,1,1-Trichloroethane	ND		1000	1010		ug/L		101	70 - 130		
1,1,2,2-Tetrachloroethane	ND	F1	1000	1290		ug/L		129	63 - 130		
1,1,2-Trichloro-1,2,2-trifluoroethane	140	J	1000	1180		ug/L		104	60 - 140		
1,1,2-Trichloroethane	ND		1000	1100		ug/L		110	70 - 130		
1,1-Dichloroethane	ND		1000	1030		ug/L		103	65 - 130		
1,1-Dichloroethene	210		1000	1200		ug/L		99	70 - 130		
1,1-Dichloropropene	ND		1000	948		ug/L		95	64 - 130		
1,2,3-Trichlorobenzene	ND		1000	1070		ug/L		107	60 - 140		
1,2,3-Trichloropropane	ND		1000	1050		ug/L		105	60 - 130		
1,2,4-Trichlorobenzene	ND		1000	1100		ug/L		110	60 - 140		
1,2,4-Trimethylbenzene	ND		1000	1050		ug/L		105	70 - 130		
1,2-Dibromo-3-Chloropropane	ND		1000	1120		ug/L		112	48 - 140		
1,2-Dibromoethane (EDB)	ND		1000	1090		ug/L		109	70 - 131		
1,2-Dichlorobenzene	ND		1000	1030		ug/L		103	70 - 130		
1,2-Dichloroethane	61	J	1000	1090		ug/L		103	56 - 146		
1,2-Dichloropropane	ND		1000	1040		ug/L		104	69 - 130		
1,3,5-Trimethylbenzene	ND		1000	1030		ug/L		103	70 - 130		
1,3-Dichlorobenzene	ND		1000	1070		ug/L		107	70 - 130		
1,3-Dichloropropane	ND		1000	1040		ug/L		104	70 - 130		
1,4-Dichlorobenzene	ND		1000	1070		ug/L		107	70 - 130		
2,2-Dichloropropane	ND		1000	1020		ug/L		102	69 - 138		
2-Chlorotoluene	ND		1000	980		ug/L		98	70 - 130		
4-Chlorotoluene	ND		1000	951		ug/L		95	70 - 130		
Acetone	ND		5000	5290		ug/L		106	10 - 150		
Benzene	ND		1000	987		ug/L		99	66 - 130		
Bromobenzene	ND		1000	987		ug/L		99	70 - 130		
Bromochloromethane	ND		1000	1040		ug/L		104	70 - 130		
Bromodichloromethane	ND		1000	1080		ug/L		108	70 - 138		
Bromoform	ND		1000	1070		ug/L		107	59 - 150		
Bromomethane	ND		1000	902		ug/L		90	62 - 131		
Carbon tetrachloride	ND		1000	998		ug/L		100	60 - 150		
Chlorobenzene	ND		1000	1010		ug/L		101	70 - 130		
Chloroethane	ND		1000	1000		ug/L		100	68 - 130		

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

Lab Sample ID: 440-259640-A-1 MS
Matrix: Water
Analysis Batch: 592171

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
Chloroform	260		1000	1300		ug/L		104	70 - 130
Chloromethane	ND		1000	842		ug/L		84	39 - 144
cis-1,2-Dichloroethene	ND		1000	962		ug/L		96	70 - 130
cis-1,3-Dichloropropene	ND		1000	1030		ug/L		103	70 - 133
Dibromochloromethane	ND		1000	1100		ug/L		110	70 - 148
Dibromomethane	ND		1000	1040		ug/L		104	70 - 130
Ethylbenzene	ND		1000	999		ug/L		100	70 - 130
Isopropyl alcohol	ND		25000	23600	J	ug/L		94	46 - 142
Isopropylbenzene	ND		1000	1020		ug/L		102	70 - 132
m,p-Xylene	ND		1000	1030		ug/L		103	70 - 133
Methylene Chloride	ND		1000	986		ug/L		99	52 - 130
Methyl-t-Butyl Ether (MTBE)	ND		1000	1040		ug/L		104	70 - 130
Naphthalene	ND		1000	1080		ug/L		108	60 - 140
n-Butylbenzene	ND		1000	1150		ug/L		115	61 - 149
N-Propylbenzene	ND		1000	965		ug/L		96	66 - 135
o-Xylene	ND		1000	1040		ug/L		104	70 - 133
p-Isopropyltoluene	ND		1000	1040		ug/L		104	70 - 130
sec-Butylbenzene	ND		1000	1130		ug/L		113	67 - 134
Styrene	ND		1000	1030		ug/L		103	29 - 150
tert-Butylbenzene	ND		1000	1040		ug/L		104	70 - 130
Toluene	ND		1000	999		ug/L		100	70 - 130
trans-1,2-Dichloroethene	ND		1000	972		ug/L		97	70 - 130
trans-1,3-Dichloropropene	ND		1000	1040		ug/L		104	70 - 138
Trichloroethene	150		1000	1080		ug/L		93	70 - 130
Trichlorofluoromethane	53	J	1000	1090		ug/L		103	60 - 150

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*101*		*70 - 130*
4-Bromofluorobenzene (Surr)	*95*		*80 - 120*
Dibromofluoromethane (Surr)	*103*		*76 - 132*
Toluene-d8 (Surr)	*102*		*80 - 128*

Lab Sample ID: 440-259640-A-1 MSD
Matrix: Water
Analysis Batch: 592171

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		1000	1100		ug/L		110	60 - 149	4	20
1,1,1-Trichloroethane	ND		1000	1030		ug/L		103	70 - 130	2	20
1,1,2,2-Tetrachloroethane	ND	F1	1000	1330	F1	ug/L		133	63 - 130	3	30
1,1,2-Trichloro-1,2,2-trifluoroethane	140	J	1000	1120		ug/L		98	60 - 140	6	20
1,1,2-Trichloroethane	ND		1000	1130		ug/L		113	70 - 130	2	25
1,1-Dichloroethane	ND		1000	1020		ug/L		102	65 - 130	1	20
1,1-Dichloroethene	210		1000	1160		ug/L		95	70 - 130	4	20
1,1-Dichloropropene	ND		1000	920		ug/L		92	64 - 130	3	20
1,2,3-Trichlorobenzene	ND		1000	1110		ug/L		111	60 - 140	4	20
1,2,3-Trichloropropane	ND		1000	1190		ug/L		119	60 - 130	13	30
1,2,4-Trichlorobenzene	ND		1000	1080		ug/L		108	60 - 140	1	20

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

Lab Sample ID: 440-259640-A-1 MSD
Matrix: Water
Analysis Batch: 592171

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		1000	1080		ug/L		108	70 - 130	2	25
1,2-Dibromo-3-Chloropropane	ND		1000	1200		ug/L		120	48 - 140	7	30
1,2-Dibromoethane (EDB)	ND		1000	1120		ug/L		112	70 - 131	3	25
1,2-Dichlorobenzene	ND		1000	1030		ug/L		103	70 - 130	0	20
1,2-Dichloroethane	61	J	1000	1090		ug/L		103	56 - 146	0	20
1,2-Dichloropropane	ND		1000	1070		ug/L		107	69 - 130	3	20
1,3,5-Trimethylbenzene	ND		1000	1050		ug/L		105	70 - 130	2	20
1,3-Dichlorobenzene	ND		1000	1070		ug/L		107	70 - 130	1	20
1,3-Dichloropropane	ND		1000	1050		ug/L		105	70 - 130	0	25
1,4-Dichlorobenzene	ND		1000	1090		ug/L		109	70 - 130	2	20
2,2-Dichloropropane	ND		1000	1020		ug/L		102	69 - 138	0	25
2-Chlorotoluene	ND		1000	1020		ug/L		102	70 - 130	4	20
4-Chlorotoluene	ND		1000	991		ug/L		99	70 - 130	4	20
Acetone	ND		5000	5680		ug/L		114	10 - 150	7	35
Benzene	ND		1000	1000		ug/L		100	66 - 130	2	20
Bromobenzene	ND		1000	1030		ug/L		103	70 - 130	4	20
Bromochloromethane	ND		1000	1050		ug/L		105	70 - 130	1	25
Bromodichloromethane	ND		1000	1080		ug/L		108	70 - 138	0	20
Bromoform	ND		1000	1070		ug/L		107	59 - 150	0	25
Bromomethane	ND		1000	879		ug/L		88	62 - 131	3	25
Carbon tetrachloride	ND		1000	1040		ug/L		104	60 - 150	4	25
Chlorobenzene	ND		1000	1030		ug/L		103	70 - 130	1	20
Chloroethane	ND		1000	925		ug/L		92	68 - 130	8	25
Chloroform	260		1000	1300		ug/L		104	70 - 130	0	20
Chloromethane	ND		1000	796		ug/L		80	39 - 144	6	25
cis-1,2-Dichloroethene	ND		1000	959		ug/L		96	70 - 130	0	20
cis-1,3-Dichloropropene	ND		1000	1050		ug/L		105	70 - 133	2	20
Dibromochloromethane	ND		1000	1100		ug/L		110	70 - 148	0	25
Dibromomethane	ND		1000	1040		ug/L		104	70 - 130	0	25
Ethylbenzene	ND		1000	986		ug/L		99	70 - 130	1	20
Isopropyl alcohol	ND		25000	22600	J	ug/L		90	46 - 142	4	40
Isopropylbenzene	ND		1000	1010		ug/L		101	70 - 132	1	20
m,p-Xylene	ND		1000	1050		ug/L		105	70 - 133	2	25
Methylene Chloride	ND		1000	994		ug/L		99	52 - 130	1	20
Methyl-t-Butyl Ether (MTBE)	ND		1000	1070		ug/L		107	70 - 130	3	25
Naphthalene	ND		1000	1150		ug/L		115	60 - 140	6	30
n-Butylbenzene	ND		1000	1160		ug/L		116	61 - 149	1	20
N-Propylbenzene	ND		1000	996		ug/L		100	66 - 135	3	20
o-Xylene	ND		1000	1030		ug/L		103	70 - 133	1	20
p-Isopropyltoluene	ND		1000	1080		ug/L		108	70 - 130	4	20
sec-Butylbenzene	ND		1000	1190		ug/L		119	67 - 134	5	20
Styrene	ND		1000	1040		ug/L		104	29 - 150	1	35
tert-Butylbenzene	ND		1000	1080		ug/L		108	70 - 130	4	20
Toluene	ND		1000	1010		ug/L		101	70 - 130	1	20
trans-1,2-Dichloroethene	ND		1000	981		ug/L		98	70 - 130	1	20
trans-1,3-Dichloropropene	ND		1000	1050		ug/L		105	70 - 138	0	25
Trichloroethene	150		1000	1090		ug/L		94	70 - 130	1	20
Trichlorofluoromethane	53	J	1000	1020		ug/L		96	60 - 150	7	25

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

Lab Sample ID: 440-259640-A-1 MSD
Matrix: Water
Analysis Batch: 592171

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

Surrogate	MSD %Recovery	MSD Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	101		70 - 130
4-Bromofluorobenzene (Surr)	98		80 - 120
Dibromofluoromethane (Surr)	101		76 - 132
Toluene-d8 (Surr)	104		80 - 128

Lab Sample ID: MB 440-592172/5
Matrix: Water
Analysis Batch: 592172

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dichlorodifluoromethane	ND		1.0	0.40	ug/L			01/24/20 10:03	1
Hexachlorobutadiene	ND		1.0	0.25	ug/L			01/24/20 10:03	1
Isopropyl alcohol	ND		250	180	ug/L			01/24/20 10:03	1
Tetrachloroethene	ND		1.0	0.25	ug/L			01/24/20 10:03	1
Vinyl chloride	ND		0.50	0.25	ug/L			01/24/20 10:03	1

Tentatively Identified Compound	MB Est. Result	MB Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Tentatively Identified Compound	None		ug/L					01/24/20 10:03	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	116		70 - 130		01/24/20 10:03	1
4-Bromofluorobenzene (Surr)	105		80 - 120		01/24/20 10:03	1
Dibromofluoromethane (Surr)	109		76 - 132		01/24/20 10:03	1
Toluene-d8 (Surr)	101		80 - 128		01/24/20 10:03	1

Lab Sample ID: LCS 440-592172/1002
Matrix: Water
Analysis Batch: 592172

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Dichlorodifluoromethane	25.0	17.0		ug/L		68	29 - 150
Hexachlorobutadiene	25.0	31.1		ug/L		124	10 - 150
Tetrachloroethene	25.0	29.4		ug/L		117	70 - 130
Vinyl chloride	25.0	22.4		ug/L		90	59 - 133

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	111		70 - 130
4-Bromofluorobenzene (Surr)	99		80 - 120
Dibromofluoromethane (Surr)	103		76 - 132
Toluene-d8 (Surr)	103		80 - 128

Lab Sample ID: 440-259640-A-1 MS
Matrix: Water
Analysis Batch: 592172

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
Dichlorodifluoromethane	ND		1000	718		ug/L		72	25 - 142

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

Lab Sample ID: 440-259640-A-1 MS
Matrix: Water
Analysis Batch: 592172

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
Hexachlorobutadiene	ND		1000	1200		ug/L		120	10 - 150
Tetrachloroethene	4000	F1	1000	4890		ug/L		92	70 - 137
Vinyl chloride	ND		1000	892		ug/L		89	50 - 137

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*117*		*70 - 130*
4-Bromofluorobenzene (Surr)	*101*		*80 - 120*
Dibromofluoromethane (Surr)	*106*		*76 - 132*
Toluene-d8 (Surr)	*102*		*80 - 128*

Lab Sample ID: 440-259640-A-1 MSD
Matrix: Water
Analysis Batch: 592172

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
Dichlorodifluoromethane	ND		1000	704		ug/L		70	25 - 142	2	30
Hexachlorobutadiene	ND		1000	1160		ug/L		116	10 - 150	3	20
Tetrachloroethene	4000	F1	1000	4620	F1	ug/L		65	70 - 137	6	20
Vinyl chloride	ND		1000	854		ug/L		85	50 - 137	4	30

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*108*		*70 - 130*
4-Bromofluorobenzene (Surr)	*103*		*80 - 120*
Dibromofluoromethane (Surr)	*106*		*76 - 132*
Toluene-d8 (Surr)	*105*		*80 - 128*

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

Lab Sample ID: MB 440-592345/1-A
Matrix: Water
Analysis Batch: 592397

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 592345

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	0.131	J	0.50	0.10	ug/L		01/26/20 06:34	01/27/20 08:44	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,4-Dioxane-d8 (Surr)	*63*		*27 - 120*	*01/26/20 06:34*	*01/27/20 08:44*	*1*

Lab Sample ID: LCS 440-592345/2-A
Matrix: Water
Analysis Batch: 592397

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 592345

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,4-Dioxane			2.00	1.35		ug/L		68	36 - 120

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1,4-Dioxane-d8 (Surr)	*57*		*27 - 120*

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

Lab Sample ID: LCSD 440-592345/3-A
Matrix: Water
Analysis Batch: 592397

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 592345

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,4-Dioxane			2.00	1.43		ug/L		72	36 - 120	6	35

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
1,4-Dioxane-d8 (Surr)	*65*		*27 - 120*

QC Association Summary

Client: Jacob & Hefner Associates P.C.
Project/Site: Omega Chemical-2020 Semi-Annual GWM Feb

Job ID: 440-259641-1
SDG: Omega Chemical

GC/MS VOA

Analysis Batch: 592171

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-259641-1	OC_GW_OW-10N_20200122	Total/NA	Water	8260B	
440-259641-2	OC_GW_OW-10_20200123K	Total/NA	Water	8260B	
440-259641-3	OC_GW_OW-13BN_20200123	Total/NA	Water	8260B	
MB 440-592171/4	Method Blank	Total/NA	Water	8260B	
LCS 440-592171/1002	Lab Control Sample	Total/NA	Water	8260B	
LCS 440-592171/1003	Lab Control Sample	Total/NA	Water	8260B	
440-259640-A-1 MS	Matrix Spike	Total/NA	Water	8260B	
440-259640-A-1 MSD	Matrix Spike Duplicate	Total/NA	Water	8260B	

Analysis Batch: 592172

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-259641-1 - RA	OC_GW_OW-10N_20200122	Total/NA	Water	8260B	
440-259641-2 - RA	OC_GW_OW-10_20200123K	Total/NA	Water	8260B	
440-259641-3 - RA	OC_GW_OW-13BN_20200123	Total/NA	Water	8260B	
MB 440-592172/5	Method Blank	Total/NA	Water	8260B	
LCS 440-592172/1002	Lab Control Sample	Total/NA	Water	8260B	
440-259640-A-1 MS	Matrix Spike	Total/NA	Water	8260B	
440-259640-A-1 MSD	Matrix Spike Duplicate	Total/NA	Water	8260B	

GC/MS Semi VOA

Prep Batch: 592345

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-259641-2	OC_GW_OW-10_20200123K	Total/NA	Water	3520C	
MB 440-592345/1-A	Method Blank	Total/NA	Water	3520C	
LCS 440-592345/2-A	Lab Control Sample	Total/NA	Water	3520C	
LCSD 440-592345/3-A	Lab Control Sample Dup	Total/NA	Water	3520C	

Analysis Batch: 592397

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-259641-2	OC_GW_OW-10_20200123K	Total/NA	Water	8270C SIM	592345
MB 440-592345/1-A	Method Blank	Total/NA	Water	8270C SIM	592345
LCS 440-592345/2-A	Lab Control Sample	Total/NA	Water	8270C SIM	592345
LCSD 440-592345/3-A	Lab Control Sample Dup	Total/NA	Water	8270C SIM	592345

Definitions/Glossary

Client: Jacob & Hefner Associates P.C.
Project/Site: Omega Chemical-2020 Semi-Annual GWM Feb

Job ID: 440-259641-1
SDG: Omega Chemical

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.

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
B	Compound was found in the blank and sample.
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-2020 Semi-Annual GWM Feb

Job ID: 440-259641-1
SDG: Omega Chemical

Laboratory: Eurofins Calscience Irvine

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

Authority	Program	Identification Number	Expiration Date
California	State	2706	06-30-20

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	1,1,1,2-Tetrachloroethane
8260B		Water	1,1,1-Trichloroethane
8260B		Water	1,1,2,2-Tetrachloroethane
8260B		Water	1,1,2-Trichloro-1,2,2-trifluoroethane
8260B		Water	1,1,2-Trichloroethane
8260B		Water	1,1-Dichloroethane
8260B		Water	1,1-Dichloroethene
8260B		Water	1,1-Dichloropropene
8260B		Water	1,2,3-Trichlorobenzene
8260B		Water	1,2,3-Trichloropropane
8260B		Water	1,2,4-Trichlorobenzene
8260B		Water	1,2,4-Trimethylbenzene
8260B		Water	1,2-Dibromo-3-Chloropropane
8260B		Water	1,2-Dibromoethane (EDB)
8260B		Water	1,2-Dichlorobenzene
8260B		Water	1,2-Dichloroethane
8260B		Water	1,2-Dichloropropane
8260B		Water	1,3,5-Trimethylbenzene
8260B		Water	1,3-Dichlorobenzene
8260B		Water	1,3-Dichloropropane
8260B		Water	1,4-Dichlorobenzene
8260B		Water	1-Octanol, 2-methyl-
8260B		Water	2,2-Dichloropropane
8260B		Water	2-Butanone, 3,3-dimethyl-
8260B		Water	2-Chlorotoluene
8260B		Water	4-Chlorotoluene
8260B		Water	Acetone
8260B		Water	Benzene
8260B		Water	Bromobenzene
8260B		Water	Bromochloromethane
8260B		Water	Bromodichloromethane
8260B		Water	Bromoform
8260B		Water	Bromomethane
8260B		Water	Carbon tetrachloride
8260B		Water	Chlorobenzene
8260B		Water	Chloroethane
8260B		Water	Chloroform
8260B		Water	Chloromethane
8260B		Water	cis-1,2-Dichloroethene
8260B		Water	cis-1,3-Dichloropropene
8260B		Water	Dibromochloromethane
8260B		Water	Dibromomethane
8260B		Water	Dichlorodifluoromethane
8260B		Water	Ethylbenzene
8260B		Water	Hexachlorobutadiene

Laboratory: Eurofins Calscience Irvine (Continued)

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

Authority	Program	Identification Number	Expiration Date
California	State	2706	06-30-20

8260B		Water	Isopropyl alcohol
8260B		Water	Isopropylbenzene
8260B		Water	m,p-Xylene
8260B		Water	Methylene Chloride
8260B		Water	Methyl-t-Butyl Ether (MTBE)
8260B		Water	Naphthalene
8260B		Water	n-Butylbenzene
8260B		Water	Nonanol
8260B		Water	N-Propylbenzene
8260B		Water	o-Xylene
8260B		Water	p-Isopropyltoluene
8260B		Water	sec-Butylbenzene
8260B		Water	Styrene
8260B		Water	Tentatively Identified Compound
8260B		Water	tert-Butylbenzene
8260B		Water	Tetrachloroethene
8260B		Water	Toluene
8260B		Water	trans-1,2-Dichloroethene
8260B		Water	trans-1,3-Dichloropropene
8260B		Water	Trichloroethene
8260B		Water	Trichlorofluoromethane
8260B		Water	Unknown
8260B		Water	Vinyl chloride
8270C SIM	3520C	Water	1,4-Dioxane

TestAmerica Irvine
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Irvine, CA 92614
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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: 2/23 /20	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 Chem. - 2020 Semi-Ann. GWM Feb	☐ 1 week			Job / SDG No.:
Site: Omega Chemical	☐ 2 days			
P O #: 3139G/E742	☐ 1 day			JLK 1/23/20

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- 10 N_20200122	1/22/2020	1300	Grab	GW	3			x		
OC_GW_OW-10K_202001 23K (EA)	1/23/2020	0828	Grab	GW	3			x	X	
OC_GW_OW-13B N_202001 23	1/23/2020	1117	Grab	GW	3			x		
OC_GW_OW- N_202001	1/ /2020		Grab	GW	3			x		
OC_GW_OW- N_202001	1/ /2020		Grab	GW	3			x		
OC_GW_OW- N_202001	1/ /2020		Grab	GW	3			x		
OC_GW_OW- N_202001	1/ /2020		Grab	GW	3			x		
OC_GW_OW- N_202001	1/ /2020		Grab	GW	3			x		
OC_GW_OW- N_202001	1/ /2020		Grab	GW	3			x		
OC_GW_OW- N_202001	1/ /2020		Grab	GW	3			x		
OC_GW_OW- N_202001	1/ /2020		Grab	GW	3			x		
OC_TB _202001	1/ /2020		Grab	H2O	2			x		

440-259641 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 | 43509 | Cooler Temp (°C): Obs'd: 4.8 Corr'd. 5.1 | Therm ID No. IR-24

	Company	Date/Time		Company	Date/Time
Relinquished by:	JLKD	1/23/20 1355	Received by:	EC-IAV	1/23/20 1355
Relinquished by:	EC-IAV	1/23/20 1355	Received by:		
Relinquished by:			Received in Laboratory by:	EC IRV	1/23/20 1455

Login Sample Receipt Checklist

Client: Jacob & Hefner Associates P.C.

Job Number: 440-259641-1
SDG Number: Omega Chemical

Login Number: 259641
List Number: 1
Creator: Soderblom, Tim

List Source: Eurofins 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	

ANALYTICAL REPORT

Eurofins Calscience Irvine
17461 Derian Ave
Suite 100
Irvine, CA 92614-5817
Tel: (949)261-1022

Laboratory Job ID: 440-260299-1
Client Project/Site: Omega Chemical - GWCS Monthly

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

Attn: Trent Henderson

Authorized for release by:
2/12/2020 10:38:47 AM
Martin Kim, Project Management Assistant I
martin.kim@testamericainc.com

Designee for

Danielle Roberts, Senior Project Manager
(949)260-3249
danielle.roberts@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 - GWCS Monthly

Job ID: 440-260299-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
440-260299-1	OC_SP220B_EFF_020420	Water	02/04/20 11:40	02/05/20 10:43	
440-260299-2	OC_SP210_INF_020420	Water	02/04/20 11:50	02/05/20 10:43	
440-260299-3	OC_TB_020420	Water	02/04/20 11:30	02/05/20 10:43	

Job ID: 440-260299-1

Laboratory: Eurofins Calscience Irvine

Narrative

Job Narrative
440-260299-1

Comments
No additional comments.

Receipt
The samples were received on 2/5/2020 10:43 AM; 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 8260B: The continuing calibration verification (CCV) associated with batch 440-594037 recovered above the upper control limit for Vinyl chloride, 1,3-Dichloropropane and 1,2-Dichloropropane. 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_020420 (440-260299-1), OC_SP210_INF_020420 (440-260299-2), OC_TB_020420 (440-260299-3) and (CCVIS 440-594037/4).

Method 8260B: The laboratory control sample (LCS) for analytical batch 440-594037 recovered outside control limits for the following analyte: 1,3-Dichloropropane. This analyte was biased high in the LCS and was not detected in the associated samples; therefore, the data have been reported.

Method 8260B: The sample duplicate (/DUP) precision for analytical batch 440-594037 was outside control limits. Sample matrix interference and/or non-homogeneity are suspected.

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
Method 3520C: Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD) associated with 8270C preparation batch 440-594068. LCS was performed in duplicate to provide precision of data.

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 - GWCS Monthly

Job ID: 440-260299-1

Client Sample ID: OC_SP220B_EFF_020420 — Lab Sample ID: 440-260299-1

Analyte	Result	Qualifier	RL		Unit	Dil Fac	D	Method	Prep Type
1,4-Dioxane	11		0.49		ug/L	1		8270C SIM	Total/NA

Client Sample ID: OC_SP210_INF_020420 — Lab Sample ID: 440-260299-2

Analyte	Result	Qualifier	RL		Unit	Dil Fac	D	Method	Prep Type
1,1,2-Trichloro-1,2,2-trifluoroethane	88		5.0		ug/L	1		8260B	Total/NA
1,1-Dichloroethene	27		1.0		ug/L	1		8260B	Total/NA
1,2-Dichloroethane	1.9		1.0		ug/L	1		8260B	Total/NA
Chloroform	10		1.0		ug/L	1		8260B	Total/NA
Trichloroethene	22		1.0		ug/L	1		8260B	Total/NA
Trichlorofluoromethane	13		1.0		ug/L	1		8260B	Total/NA
Tetrachloroethene - DL	200		10		ug/L	10		8260B	Total/NA

Client Sample ID: OC_TB_020420 — Lab Sample ID: 440-260299-3

No Detections.

This Detection Summary does not include radiochemical test results.

Client Sample Results

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

Job ID: 440-260299-1

Client Sample ID: OC_SP220B_EFF_020420

Lab Sample ID: 440-260299-1

Date Collected: 02/04/20 11:40

Matrix: Water

Date Received: 02/05/20 10:43

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			02/06/20 16:05	1
1,1,1-Trichloroethane	ND		1.0		ug/L			02/06/20 16:05	1
1,1,2,2-Tetrachloroethane	ND		1.0		ug/L			02/06/20 16:05	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		5.0		ug/L			02/06/20 16:05	1
1,1,2-Trichloroethane	ND		1.0		ug/L			02/06/20 16:05	1
1,1-Dichloroethane	ND		1.0		ug/L			02/06/20 16:05	1
1,1-Dichloroethene	ND		1.0		ug/L			02/06/20 16:05	1
1,1-Dichloropropene	ND		1.0		ug/L			02/06/20 16:05	1
1,2,3-Trichlorobenzene	ND		1.0		ug/L			02/06/20 16:05	1
1,2,3-Trichloropropane	ND		1.0		ug/L			02/06/20 16:05	1
1,2,4-Trichlorobenzene	ND		1.0		ug/L			02/06/20 16:05	1
1,2,4-Trimethylbenzene	ND		1.0		ug/L			02/06/20 16:05	1
1,2-Dibromo-3-Chloropropane	ND		5.0		ug/L			02/06/20 16:05	1
1,2-Dibromoethane (EDB)	ND		1.0		ug/L			02/06/20 16:05	1
1,2-Dichlorobenzene	ND		1.0		ug/L			02/06/20 16:05	1
1,2-Dichloroethane	ND		1.0		ug/L			02/06/20 16:05	1
1,2-Dichloropropane	ND		1.0		ug/L			02/06/20 16:05	1
1,3,5-Trimethylbenzene	ND		1.0		ug/L			02/06/20 16:05	1
1,3-Dichlorobenzene	ND		1.0		ug/L			02/06/20 16:05	1
1,3-Dichloropropane	ND	*	1.0		ug/L			02/06/20 16:05	1
1,4-Dichlorobenzene	ND		1.0		ug/L			02/06/20 16:05	1
2,2-Dichloropropane	ND		1.0		ug/L			02/06/20 16:05	1
2-Chlorotoluene	ND		1.0		ug/L			02/06/20 16:05	1
4-Chlorotoluene	ND		1.0		ug/L			02/06/20 16:05	1
Acetone	ND		10		ug/L			02/06/20 16:05	1
Benzene	ND		0.50		ug/L			02/06/20 16:05	1
Bromobenzene	ND		1.0		ug/L			02/06/20 16:05	1
Bromochloromethane	ND		1.0		ug/L			02/06/20 16:05	1
Bromodichloromethane	ND		1.0		ug/L			02/06/20 16:05	1
Bromoform	ND		1.0		ug/L			02/06/20 16:05	1
Bromomethane	ND		1.0		ug/L			02/06/20 16:05	1
Carbon tetrachloride	ND		0.50		ug/L			02/06/20 16:05	1
Chlorobenzene	ND		1.0		ug/L			02/06/20 16:05	1
Chloroethane	ND		1.0		ug/L			02/06/20 16:05	1
Chloroform	ND		1.0		ug/L			02/06/20 16:05	1
Chloromethane	ND		1.0		ug/L			02/06/20 16:05	1
cis-1,2-Dichloroethene	ND		1.0		ug/L			02/06/20 16:05	1
cis-1,3-Dichloropropene	ND		0.50		ug/L			02/06/20 16:05	1
Dibromochloromethane	ND		1.0		ug/L			02/06/20 16:05	1
Dibromomethane	ND		1.0		ug/L			02/06/20 16:05	1
Dichlorodifluoromethane	ND		1.0		ug/L			02/06/20 16:05	1
Ethylbenzene	ND		1.0		ug/L			02/06/20 16:05	1
Hexachlorobutadiene	ND		1.0		ug/L			02/06/20 16:05	1
Isopropylbenzene	ND		1.0		ug/L			02/06/20 16:05	1
m,p-Xylene	ND		1.0		ug/L			02/06/20 16:05	1
Methylene Chloride	ND		5.0		ug/L			02/06/20 16:05	1
Methyl-t-Butyl Ether (MTBE)	ND		1.0		ug/L			02/06/20 16:05	1
Naphthalene	ND		1.0		ug/L			02/06/20 16:05	1
n-Butylbenzene	ND		1.0		ug/L			02/06/20 16:05	1

Client Sample ID: OC_SP220B_EFF_020420

Lab Sample ID: 440-260299-1

Date Collected: 02/04/20 11:40

Matrix: Water

Date Received: 02/05/20 10:43

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
N-Propylbenzene	ND		1.0	ug/L			02/06/20 16:05	1
o-Xylene	ND		1.0	ug/L			02/06/20 16:05	1
p-Isopropyltoluene	ND		1.0	ug/L			02/06/20 16:05	1
sec-Butylbenzene	ND		1.0	ug/L			02/06/20 16:05	1
Styrene	ND		1.0	ug/L			02/06/20 16:05	1
tert-Butylbenzene	ND		1.0	ug/L			02/06/20 16:05	1
Tetrachloroethene	ND		1.0	ug/L			02/06/20 16:05	1
Toluene	ND		1.0	ug/L			02/06/20 16:05	1
trans-1,2-Dichloroethene	ND		1.0	ug/L			02/06/20 16:05	1
trans-1,3-Dichloropropene	ND		0.50	ug/L			02/06/20 16:05	1
Trichloroethene	ND		1.0	ug/L			02/06/20 16:05	1
Trichlorofluoromethane	ND		1.0	ug/L			02/06/20 16:05	1
Vinyl chloride	ND		0.50	ug/L			02/06/20 16:05	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*111*		*70 - 130*		*02/06/20 16:05*	*1*
4-Bromofluorobenzene (Surr)	*105*		*80 - 120*		*02/06/20 16:05*	*1*
Dibromofluoromethane (Surr)	*103*		*76 - 132*		*02/06/20 16:05*	*1*
Toluene-d8 (Surr)	*108*		*80 - 128*		*02/06/20 16:05*	*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			02/07/20 12:42	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*99*		*70 - 130*		*02/07/20 12:42*	*1*
4-Bromofluorobenzene (Surr)	*101*		*80 - 120*		*02/07/20 12:42*	*1*
Dibromofluoromethane (Surr)	*99*		*76 - 132*		*02/07/20 12:42*	*1*
Toluene-d8 (Surr)	*100*		*80 - 128*		*02/07/20 12:42*	*1*

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	**11**		0.49	ug/L		02/06/20 08:16	02/07/20 09:43	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,4-Dioxane-d8 (Surr)	*50*		*27 - 120*	*02/06/20 08:16*	*02/07/20 09:43*	*1*

Client Sample ID: OC_SP210_INF_020420

Lab Sample ID: 440-260299-2

Date Collected: 02/04/20 11:50

Matrix: Water

Date Received: 02/05/20 10:43

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			02/06/20 16:32	1
1,1,1-Trichloroethane	ND		1.0	ug/L			02/06/20 16:32	1
1,1,2,2-Tetrachloroethane	ND		1.0	ug/L			02/06/20 16:32	1
1,1,2-Trichloro-1,2,2-trifluoroetha ne	**88**		5.0	ug/L			02/06/20 16:32	1
1,1,2-Trichloroethane	ND		1.0	ug/L			02/06/20 16:32	1
1,1-Dichloroethane	ND		1.0	ug/L			02/06/20 16:32	1
1,1-Dichloroethene	**27**		1.0	ug/L			02/06/20 16:32	1

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

Job ID: 440-260299-1

Client Sample ID: OC_SP210_INF_020420

Lab Sample ID: 440-260299-2

Date Collected: 02/04/20 11:50

Matrix: Water

Date Received: 02/05/20 10:43

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloropropene	ND		1.0	ug/L			02/06/20 16:32	1
1,2,3-Trichlorobenzene	ND		1.0	ug/L			02/06/20 16:32	1
1,2,3-Trichloropropane	ND		1.0	ug/L			02/06/20 16:32	1
1,2,4-Trichlorobenzene	ND		1.0	ug/L			02/06/20 16:32	1
1,2,4-Trimethylbenzene	ND		1.0	ug/L			02/06/20 16:32	1
1,2-Dibromo-3-Chloropropane	ND		5.0	ug/L			02/06/20 16:32	1
1,2-Dibromoethane (EDB)	ND		1.0	ug/L			02/06/20 16:32	1
1,2-Dichlorobenzene	ND		1.0	ug/L			02/06/20 16:32	1
1,2-Dichloroethane	**1.9**		1.0	ug/L			02/06/20 16:32	1
1,2-Dichloropropane	ND		1.0	ug/L			02/06/20 16:32	1
1,3,5-Trimethylbenzene	ND		1.0	ug/L			02/06/20 16:32	1
1,3-Dichlorobenzene	ND		1.0	ug/L			02/06/20 16:32	1
1,3-Dichloropropane	ND	*	1.0	ug/L			02/06/20 16:32	1
1,4-Dichlorobenzene	ND		1.0	ug/L			02/06/20 16:32	1
2,2-Dichloropropane	ND		1.0	ug/L			02/06/20 16:32	1
2-Chlorotoluene	ND		1.0	ug/L			02/06/20 16:32	1
4-Chlorotoluene	ND		1.0	ug/L			02/06/20 16:32	1
Acetone	ND		10	ug/L			02/06/20 16:32	1
Benzene	ND		0.50	ug/L			02/06/20 16:32	1
Bromobenzene	ND		1.0	ug/L			02/06/20 16:32	1
Bromochloromethane	ND		1.0	ug/L			02/06/20 16:32	1
Bromodichloromethane	ND		1.0	ug/L			02/06/20 16:32	1
Bromoform	ND		1.0	ug/L			02/06/20 16:32	1
Bromomethane	ND		1.0	ug/L			02/06/20 16:32	1
Carbon tetrachloride	ND		0.50	ug/L			02/06/20 16:32	1
Chlorobenzene	ND		1.0	ug/L			02/06/20 16:32	1
Chloroethane	ND		1.0	ug/L			02/06/20 16:32	1
Chloroform	**10**		1.0	ug/L			02/06/20 16:32	1
Chloromethane	ND		1.0	ug/L			02/06/20 16:32	1
cis-1,2-Dichloroethene	ND		1.0	ug/L			02/06/20 16:32	1
cis-1,3-Dichloropropene	ND		0.50	ug/L			02/06/20 16:32	1
Dibromochloromethane	ND		1.0	ug/L			02/06/20 16:32	1
Dibromomethane	ND		1.0	ug/L			02/06/20 16:32	1
Dichlorodifluoromethane	ND		1.0	ug/L			02/06/20 16:32	1
Ethylbenzene	ND		1.0	ug/L			02/06/20 16:32	1
Hexachlorobutadiene	ND		1.0	ug/L			02/06/20 16:32	1
Isopropylbenzene	ND		1.0	ug/L			02/06/20 16:32	1
m,p-Xylene	ND		1.0	ug/L			02/06/20 16:32	1
Methylene Chloride	ND		5.0	ug/L			02/06/20 16:32	1
Methyl-t-Butyl Ether (MTBE)	ND		1.0	ug/L			02/06/20 16:32	1
Naphthalene	ND		1.0	ug/L			02/06/20 16:32	1
n-Butylbenzene	ND		1.0	ug/L			02/06/20 16:32	1
N-Propylbenzene	ND		1.0	ug/L			02/06/20 16:32	1
o-Xylene	ND		1.0	ug/L			02/06/20 16:32	1
p-Isopropyltoluene	ND		1.0	ug/L			02/06/20 16:32	1
sec-Butylbenzene	ND		1.0	ug/L			02/06/20 16:32	1
Styrene	ND		1.0	ug/L			02/06/20 16:32	1
tert-Butylbenzene	ND		1.0	ug/L			02/06/20 16:32	1
Toluene	ND		1.0	ug/L			02/06/20 16:32	1

Client Sample ID: OC_SP210_INF_020420

Lab Sample ID: 440-260299-2

Date Collected: 02/04/20 11:50

Matrix: Water

Date Received: 02/05/20 10:43

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
trans-1,2-Dichloroethene	ND		1.0	ug/L			02/06/20 16:32	1
trans-1,3-Dichloropropene	ND		0.50	ug/L			02/06/20 16:32	1
Trichloroethene	**22**		1.0	ug/L			02/06/20 16:32	1
Trichlorofluoromethane	**13**		1.0	ug/L			02/06/20 16:32	1
Vinyl chloride	ND		0.50	ug/L			02/06/20 16:32	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*112*		*70 - 130*		*02/06/20 16:32*	*1*
4-Bromofluorobenzene (Surr)	*108*		*80 - 120*		*02/06/20 16:32*	*1*
Dibromofluoromethane (Surr)	*104*		*76 - 132*		*02/06/20 16:32*	*1*
Toluene-d8 (Surr)	*106*		*80 - 128*		*02/06/20 16:32*	*1*

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Tetrachloroethene	**200**		10	ug/L			02/07/20 04:43	10

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*98*		*70 - 130*		*02/07/20 04:43*	*10*
4-Bromofluorobenzene (Surr)	*101*		*80 - 120*		*02/07/20 04:43*	*10*
Dibromofluoromethane (Surr)	*97*		*76 - 132*		*02/07/20 04:43*	*10*
Toluene-d8 (Surr)	*100*		*80 - 128*		*02/07/20 04:43*	*10*

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Isopropyl alcohol	ND		250	ug/L			02/07/20 13:09	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*98*		*70 - 130*		*02/07/20 13:09*	*1*
4-Bromofluorobenzene (Surr)	*99*		*80 - 120*		*02/07/20 13:09*	*1*
Dibromofluoromethane (Surr)	*99*		*76 - 132*		*02/07/20 13:09*	*1*
Toluene-d8 (Surr)	*98*		*80 - 128*		*02/07/20 13:09*	*1*

Client Sample ID: OC_TB_020420

Lab Sample ID: 440-260299-3

Date Collected: 02/04/20 11:30

Matrix: Water

Date Received: 02/05/20 10:43

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			02/06/20 16:59	1
1,1,1-Trichloroethane	ND		1.0	ug/L			02/06/20 16:59	1
1,1,2,2-Tetrachloroethane	ND		1.0	ug/L			02/06/20 16:59	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		5.0	ug/L			02/06/20 16:59	1
1,1,2-Trichloroethane	ND		1.0	ug/L			02/06/20 16:59	1
1,1-Dichloroethane	ND		1.0	ug/L			02/06/20 16:59	1
1,1-Dichloroethene	ND		1.0	ug/L			02/06/20 16:59	1
1,1-Dichloropropene	ND		1.0	ug/L			02/06/20 16:59	1
1,2,3-Trichlorobenzene	ND		1.0	ug/L			02/06/20 16:59	1
1,2,3-Trichloropropane	ND		1.0	ug/L			02/06/20 16:59	1
1,2,4-Trichlorobenzene	ND		1.0	ug/L			02/06/20 16:59	1
1,2,4-Trimethylbenzene	ND		1.0	ug/L			02/06/20 16:59	1
1,2-Dibromo-3-Chloropropane	ND		5.0	ug/L			02/06/20 16:59	1

Client Sample ID: OC_TB_020420

Lab Sample ID: 440-260299-3

Date Collected: 02/04/20 11:30

Matrix: Water

Date Received: 02/05/20 10:43

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dibromoethane (EDB)	ND		1.0		ug/L			02/06/20 16:59	1
1,2-Dichlorobenzene	ND		1.0		ug/L			02/06/20 16:59	1
1,2-Dichloroethane	ND		1.0		ug/L			02/06/20 16:59	1
1,2-Dichloropropane	ND		1.0		ug/L			02/06/20 16:59	1
1,3,5-Trimethylbenzene	ND		1.0		ug/L			02/06/20 16:59	1
1,3-Dichlorobenzene	ND		1.0		ug/L			02/06/20 16:59	1
1,3-Dichloropropane	ND	*	1.0		ug/L			02/06/20 16:59	1
1,4-Dichlorobenzene	ND		1.0		ug/L			02/06/20 16:59	1
2,2-Dichloropropane	ND		1.0		ug/L			02/06/20 16:59	1
2-Chlorotoluene	ND		1.0		ug/L			02/06/20 16:59	1
4-Chlorotoluene	ND		1.0		ug/L			02/06/20 16:59	1
Acetone	ND		10		ug/L			02/06/20 16:59	1
Benzene	ND		0.50		ug/L			02/06/20 16:59	1
Bromobenzene	ND		1.0		ug/L			02/06/20 16:59	1
Bromochloromethane	ND		1.0		ug/L			02/06/20 16:59	1
Bromodichloromethane	ND		1.0		ug/L			02/06/20 16:59	1
Bromoform	ND		1.0		ug/L			02/06/20 16:59	1
Bromomethane	ND		1.0		ug/L			02/06/20 16:59	1
Carbon tetrachloride	ND		0.50		ug/L			02/06/20 16:59	1
Chlorobenzene	ND		1.0		ug/L			02/06/20 16:59	1
Chloroethane	ND		1.0		ug/L			02/06/20 16:59	1
Chloroform	ND		1.0		ug/L			02/06/20 16:59	1
Chloromethane	ND		1.0		ug/L			02/06/20 16:59	1
cis-1,2-Dichloroethene	ND		1.0		ug/L			02/06/20 16:59	1
cis-1,3-Dichloropropene	ND		0.50		ug/L			02/06/20 16:59	1
Dibromochloromethane	ND		1.0		ug/L			02/06/20 16:59	1
Dibromomethane	ND		1.0		ug/L			02/06/20 16:59	1
Dichlorodifluoromethane	ND		1.0		ug/L			02/06/20 16:59	1
Ethylbenzene	ND		1.0		ug/L			02/06/20 16:59	1
Hexachlorobutadiene	ND		1.0		ug/L			02/06/20 16:59	1
Isopropyl alcohol	ND		250		ug/L			02/07/20 14:04	1
Isopropylbenzene	ND		1.0		ug/L			02/06/20 16:59	1
m,p-Xylene	ND		1.0		ug/L			02/06/20 16:59	1
Methylene Chloride	ND		5.0		ug/L			02/06/20 16:59	1
Methyl-t-Butyl Ether (MTBE)	ND		1.0		ug/L			02/06/20 16:59	1
Naphthalene	ND		1.0		ug/L			02/06/20 16:59	1
n-Butylbenzene	ND		1.0		ug/L			02/06/20 16:59	1
N-Propylbenzene	ND		1.0		ug/L			02/06/20 16:59	1
o-Xylene	ND		1.0		ug/L			02/06/20 16:59	1
p-Isopropyltoluene	ND		1.0		ug/L			02/06/20 16:59	1
sec-Butylbenzene	ND		1.0		ug/L			02/06/20 16:59	1
Styrene	ND		1.0		ug/L			02/06/20 16:59	1
tert-Butylbenzene	ND		1.0		ug/L			02/06/20 16:59	1
Tetrachloroethene	ND		1.0		ug/L			02/06/20 16:59	1
Toluene	ND		1.0		ug/L			02/06/20 16:59	1
trans-1,2-Dichloroethene	ND		1.0		ug/L			02/06/20 16:59	1
trans-1,3-Dichloropropene	ND		0.50		ug/L			02/06/20 16:59	1
Trichloroethene	ND		1.0		ug/L			02/06/20 16:59	1
Trichlorofluoromethane	ND		1.0		ug/L			02/06/20 16:59	1

Client Sample Results

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

Job ID: 440-260299-1

Client Sample ID: OC_TB_020420

Lab Sample ID: 440-260299-3

Date Collected: 02/04/20 11:30

Matrix: Water

Date Received: 02/05/20 10:43

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Vinyl chloride	ND		0.50		ug/L			02/06/20 16:59	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*109*		*70 - 130*		*02/06/20 16:59*	*1*
1,2-Dichloroethane-d4 (Surr)	*94*		*70 - 130*		*02/07/20 14:04*	*1*
4-Bromofluorobenzene (Surr)	*104*		*80 - 120*		*02/06/20 16:59*	*1*
4-Bromofluorobenzene (Surr)	*102*		*80 - 120*		*02/07/20 14:04*	*1*
Dibromofluoromethane (Surr)	*104*		*76 - 132*		*02/06/20 16:59*	*1*
Dibromofluoromethane (Surr)	*98*		*76 - 132*		*02/07/20 14:04*	*1*
Toluene-d8 (Surr)	*108*		*80 - 128*		*02/06/20 16:59*	*1*
Toluene-d8 (Surr)	*100*		*80 - 128*		*02/07/20 14:04*	*1*

Surrogate Summary

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

Job ID: 440-260299-1

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)
320-58322-E-3 MS	Matrix Spike	98	100	101	97
320-58322-E-3 MSD	Matrix Spike Duplicate	89	101	92	95
440-260230-C-3 DU	Duplicate	105	109	98	108
440-260230-C-3 MS	Matrix Spike	108	103	98	100
440-260230-C-3 MSD	Matrix Spike Duplicate	105	105	99	103
440-260299-1	OC_SP220B_EFF_020420	111	105	103	108
440-260299-1 - RA	OC_SP220B_EFF_020420	99	101	99	100
440-260299-2	OC_SP210_INF_020420	112	108	104	106
440-260299-2 - DL	OC_SP210_INF_020420	98	101	97	100
440-260299-2 - RA	OC_SP210_INF_020420	98	99	99	98
440-260299-3	OC_TB_020420	109	104	104	108
440-260299-3	OC_TB_020420	94	102	98	100
720-97277-A-3 MS	Matrix Spike	97	101	96	100
720-97277-A-3 MSD	Matrix Spike Duplicate	92	96	97	100
LCS 440-594037/1004	Lab Control Sample	94	107	92	107
LCS 440-594220/1002	Lab Control Sample	92	100	98	99
LCS 440-594274/1002	Lab Control Sample	89	97	93	100
LCS 440-594274/1003	Lab Control Sample	87	104	93	103
MB 440-594037/5	Method Blank	102	106	99	109
MB 440-594220/4	Method Blank	95	100	99	101
MB 440-594274/4	Method Blank	98	103	101	100

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)
440-260299-1	OC_SP220B_EFF_020420	50
LCS 440-594068/2-A	Lab Control Sample	63
LCSD 440-594068/3-A	Lab Control Sample Dup	53
MB 440-594068/1-A	Method Blank	54

Surrogate Legend

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

Method Summary

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

Job ID: 440-260299-1

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 = Eurofins Calscience 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 - GWCS Monthly

Job ID: 440-260299-1

Client Sample ID: OC_SP220B_EFF_020420

Lab Sample ID: 440-260299-1

Date Collected: 02/04/20 11:40
Matrix: Water
Date Received: 02/05/20 10:43

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B	RA	1	10 mL	10 mL	594274	02/07/20 12:42	GMA	TAL IRV
Total/NA	Analysis	8260B		1	10 mL	10 mL	594037	02/06/20 16:05	TCN	TAL IRV
Total/NA	Prep	3520C			1030 mL	1.0 mL	594068	02/06/20 08:16	NAM	TAL IRV
Total/NA	Analysis	8270C SIM		1			594310	02/07/20 09:43	L1B	TAL IRV

Client Sample ID: OC_SP210_INF_020420

Lab Sample ID: 440-260299-2

Date Collected: 02/04/20 11:50
Matrix: Water
Date Received: 02/05/20 10:43

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B	DL	10	10 mL	10 mL	594220	02/07/20 04:43	OH1	TAL IRV
Total/NA	Analysis	8260B	RA	1	10 mL	10 mL	594274	02/07/20 13:09	GMA	TAL IRV
Total/NA	Analysis	8260B		1	10 mL	10 mL	594037	02/06/20 16:32	TCN	TAL IRV

Client Sample ID: OC_TB_020420

Lab Sample ID: 440-260299-3

Date Collected: 02/04/20 11:30
Matrix: Water
Date Received: 02/05/20 10:43

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	594274	02/07/20 14:04	GMA	TAL IRV
Total/NA	Analysis	8260B		1	10 mL	10 mL	594037	02/06/20 16:59	TCN	TAL IRV

Laboratory References:

TAL IRV = Eurofins Calscience 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 440-594037/5
Matrix: Water
Analysis Batch: 594037

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			02/06/20 08:34	1
1,1,1-Trichloroethane	ND		1.0		ug/L			02/06/20 08:34	1
1,1,2,2-Tetrachloroethane	ND		1.0		ug/L			02/06/20 08:34	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		5.0		ug/L			02/06/20 08:34	1
1,1,2-Trichloroethane	ND		1.0		ug/L			02/06/20 08:34	1
1,1-Dichloroethane	ND		1.0		ug/L			02/06/20 08:34	1
1,1-Dichloroethene	ND		1.0		ug/L			02/06/20 08:34	1
1,1-Dichloropropene	ND		1.0		ug/L			02/06/20 08:34	1
1,2,3-Trichlorobenzene	ND		1.0		ug/L			02/06/20 08:34	1
1,2,3-Trichloropropane	ND		1.0		ug/L			02/06/20 08:34	1
1,2,4-Trichlorobenzene	ND		1.0		ug/L			02/06/20 08:34	1
1,2,4-Trimethylbenzene	ND		1.0		ug/L			02/06/20 08:34	1
1,2-Dibromo-3-Chloropropane	ND		5.0		ug/L			02/06/20 08:34	1
1,2-Dibromoethane (EDB)	ND		1.0		ug/L			02/06/20 08:34	1
1,2-Dichlorobenzene	ND		1.0		ug/L			02/06/20 08:34	1
1,2-Dichloroethane	ND		1.0		ug/L			02/06/20 08:34	1
1,2-Dichloropropane	ND		1.0		ug/L			02/06/20 08:34	1
1,3,5-Trimethylbenzene	ND		1.0		ug/L			02/06/20 08:34	1
1,3-Dichlorobenzene	ND		1.0		ug/L			02/06/20 08:34	1
1,3-Dichloropropane	ND		1.0		ug/L			02/06/20 08:34	1
1,4-Dichlorobenzene	ND		1.0		ug/L			02/06/20 08:34	1
2,2-Dichloropropane	ND		1.0		ug/L			02/06/20 08:34	1
2-Chlorotoluene	ND		1.0		ug/L			02/06/20 08:34	1
4-Chlorotoluene	ND		1.0		ug/L			02/06/20 08:34	1
Acetone	ND		10		ug/L			02/06/20 08:34	1
Benzene	ND		0.50		ug/L			02/06/20 08:34	1
Bromobenzene	ND		1.0		ug/L			02/06/20 08:34	1
Bromochloromethane	ND		1.0		ug/L			02/06/20 08:34	1
Bromodichloromethane	ND		1.0		ug/L			02/06/20 08:34	1
Bromoform	ND		1.0		ug/L			02/06/20 08:34	1
Bromomethane	ND		1.0		ug/L			02/06/20 08:34	1
Carbon tetrachloride	ND		0.50		ug/L			02/06/20 08:34	1
Chlorobenzene	ND		1.0		ug/L			02/06/20 08:34	1
Chloroethane	ND		1.0		ug/L			02/06/20 08:34	1
Chloroform	ND		1.0		ug/L			02/06/20 08:34	1
Chloromethane	ND		1.0		ug/L			02/06/20 08:34	1
cis-1,2-Dichloroethene	ND		1.0		ug/L			02/06/20 08:34	1
cis-1,3-Dichloropropene	ND		0.50		ug/L			02/06/20 08:34	1
Dibromochloromethane	ND		1.0		ug/L			02/06/20 08:34	1
Dibromomethane	ND		1.0		ug/L			02/06/20 08:34	1
Dichlorodifluoromethane	ND		1.0		ug/L			02/06/20 08:34	1
Ethylbenzene	ND		1.0		ug/L			02/06/20 08:34	1
Hexachlorobutadiene	ND		1.0		ug/L			02/06/20 08:34	1
Isopropylbenzene	ND		1.0		ug/L			02/06/20 08:34	1
m,p-Xylene	ND		1.0		ug/L			02/06/20 08:34	1
Methylene Chloride	ND		5.0		ug/L			02/06/20 08:34	1
Methyl-t-Butyl Ether (MTBE)	ND		1.0		ug/L			02/06/20 08:34	1
Naphthalene	ND		1.0		ug/L			02/06/20 08:34	1

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

Lab Sample ID: MB 440-594037/5
Matrix: Water
Analysis Batch: 594037

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

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
n-Butylbenzene	ND		1.0	ug/L			02/06/20 08:34	1
N-Propylbenzene	ND		1.0	ug/L			02/06/20 08:34	1
o-Xylene	ND		1.0	ug/L			02/06/20 08:34	1
p-Isopropyltoluene	ND		1.0	ug/L			02/06/20 08:34	1
sec-Butylbenzene	ND		1.0	ug/L			02/06/20 08:34	1
Styrene	ND		1.0	ug/L			02/06/20 08:34	1
tert-Butylbenzene	ND		1.0	ug/L			02/06/20 08:34	1
Tetrachloroethene	ND		1.0	ug/L			02/06/20 08:34	1
Toluene	ND		1.0	ug/L			02/06/20 08:34	1
trans-1,2-Dichloroethene	ND		1.0	ug/L			02/06/20 08:34	1
trans-1,3-Dichloropropene	ND		0.50	ug/L			02/06/20 08:34	1
Trichloroethene	ND		1.0	ug/L			02/06/20 08:34	1
Trichlorofluoromethane	ND		1.0	ug/L			02/06/20 08:34	1
Vinyl chloride	ND		0.50	ug/L			02/06/20 08:34	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*102*		*70 - 130*		*02/06/20 08:34*	*1*
4-Bromofluorobenzene (Surr)	*106*		*80 - 120*		*02/06/20 08:34*	*1*
Dibromofluoromethane (Surr)	*99*		*76 - 132*		*02/06/20 08:34*	*1*
Toluene-d8 (Surr)	*109*		*80 - 128*		*02/06/20 08:34*	*1*

Lab Sample ID: LCS 440-594037/1004
Matrix: Water
Analysis Batch: 594037

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	27.7		ug/L		111	60 - 141
1,1,1-Trichloroethane	25.0	24.2		ug/L		97	70 - 130
1,1,2,2-Tetrachloroethane	25.0	32.2		ug/L		129	63 - 130
1,1,2-Trichloroethane	25.0	31.9		ug/L		128	70 - 130
1,1-Dichloroethane	25.0	28.8		ug/L		115	64 - 130
1,1-Dichloroethene	25.0	24.5		ug/L		98	70 - 130
1,1-Dichloropropene	25.0	26.7		ug/L		107	70 - 130
1,2,3-Trichlorobenzene	25.0	26.3		ug/L		105	60 - 140
1,2,3-Trichloropropane	25.0	29.0		ug/L		116	63 - 130
1,2,4-Trichlorobenzene	25.0	26.6		ug/L		106	60 - 140
1,2,4-Trimethylbenzene	25.0	28.5		ug/L		114	70 - 135
1,2-Dibromo-3-Chloropropane	25.0	31.4		ug/L		126	52 - 140
1,2-Dibromoethane (EDB)	25.0	28.6		ug/L		115	70 - 130
1,2-Dichlorobenzene	25.0	28.2		ug/L		113	70 - 130
1,2-Dichloroethane	25.0	26.2		ug/L		105	57 - 138
1,2-Dichloropropane	25.0	32.5		ug/L		130	67 - 130
1,3,5-Trimethylbenzene	25.0	28.4		ug/L		114	70 - 136
1,3-Dichlorobenzene	25.0	28.6		ug/L		114	70 - 130
1,3-Dichloropropane	25.0	33.0	*	ug/L		132	70 - 130
1,4-Dichlorobenzene	25.0	28.4		ug/L		114	70 - 130
2,2-Dichloropropane	25.0	24.9		ug/L		100	68 - 141
2-Chlorotoluene	25.0	29.4		ug/L		117	70 - 130

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

Lab Sample ID: LCS 440-594037/1004
Matrix: Water
Analysis Batch: 594037

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
4-Chlorotoluene	25.0	30.0		ug/L		120	70 - 130
Acetone	125	158		ug/L		127	10 - 150
Benzene	25.0	29.3		ug/L		117	68 - 130
Bromobenzene	25.0	27.9		ug/L		112	70 - 130
Bromochloromethane	25.0	24.5		ug/L		98	70 - 130
Bromodichloromethane	25.0	28.4		ug/L		114	70 - 132
Bromoform	25.0	34.2		ug/L		137	60 - 148
Bromomethane	25.0	26.5		ug/L		106	64 - 139
Carbon tetrachloride	25.0	23.1		ug/L		92	60 - 150
Chlorobenzene	25.0	27.9		ug/L		112	70 - 130
Chloroethane	25.0	30.1		ug/L		120	64 - 135
Chloroform	25.0	26.5		ug/L		106	70 - 130
Chloromethane	25.0	31.4		ug/L		126	47 - 140
cis-1,2-Dichloroethene	25.0	26.7		ug/L		107	70 - 133
cis-1,3-Dichloropropene	25.0	31.0		ug/L		124	70 - 133
Dibromochloromethane	25.0	30.2		ug/L		121	69 - 145
Dibromomethane	25.0	26.4		ug/L		106	70 - 130
Dichlorodifluoromethane	25.0	20.4		ug/L		82	29 - 150
Ethylbenzene	25.0	28.8		ug/L		115	70 - 130
Hexachlorobutadiene	25.0	28.6		ug/L		114	10 - 150
Isopropylbenzene	25.0	27.7		ug/L		111	70 - 136
m,p-Xylene	25.0	27.8		ug/L		111	70 - 130
Methylene Chloride	25.0	25.9		ug/L		104	52 - 130
Methyl-t-Butyl Ether (MTBE)	25.0	22.4		ug/L		90	63 - 131
Naphthalene	25.0	23.0		ug/L		92	60 - 140
n-Butylbenzene	25.0	30.2		ug/L		121	65 - 150
N-Propylbenzene	25.0	29.7		ug/L		119	67 - 139
o-Xylene	25.0	27.9		ug/L		112	70 - 130
p-Isopropyltoluene	25.0	28.3		ug/L		113	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	26.9		ug/L		108	70 - 130
Tetrachloroethene	25.0	26.7		ug/L		107	70 - 130
Toluene	25.0	29.4		ug/L		117	70 - 130
trans-1,2-Dichloroethene	25.0	25.0		ug/L		100	70 - 130
trans-1,3-Dichloropropene	25.0	29.6		ug/L		118	70 - 132
Trichloroethene	25.0	25.0		ug/L		100	70 - 130
Trichlorofluoromethane	25.0	23.2		ug/L		93	60 - 150
Vinyl chloride	25.0	30.8		ug/L		123	59 - 133

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*94*		*70 - 130*
4-Bromofluorobenzene (Surr)	*107*		*80 - 120*
Dibromofluoromethane (Surr)	*92*		*76 - 132*
Toluene-d8 (Surr)	*107*		*80 - 128*

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

Lab Sample ID: 440-260230-C-3 MS
Matrix: Water
Analysis Batch: 594037

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		10.0	7.85		ug/L		79	60 - 149
1,1,1-Trichloroethane	ND		10.0	7.15		ug/L		72	70 - 130
1,1,2,2-Tetrachloroethane	ND		10.0	9.93		ug/L		99	63 - 130
1,1,2-Trichloroethane	ND		10.0	9.19		ug/L		92	70 - 130
1,1-Dichloroethane	ND		10.0	8.81		ug/L		88	65 - 130
1,1-Dichloroethene	ND	F1	10.0	6.80	F1	ug/L		68	70 - 130
1,1-Dichloropropene	ND		10.0	8.25		ug/L		82	64 - 130
1,2,3-Trichlorobenzene	ND		10.0	7.81		ug/L		78	60 - 140
1,2,3-Trichloropropane	ND		10.0	8.43		ug/L		84	60 - 130
1,2,4-Trichlorobenzene	ND		10.0	7.79		ug/L		78	60 - 140
1,2,4-Trimethylbenzene	ND		10.0	7.63		ug/L		76	70 - 130
1,2-Dibromo-3-Chloropropane	ND		10.0	8.96		ug/L		90	48 - 140
1,2-Dibromoethane (EDB)	ND		10.0	8.32		ug/L		83	70 - 131
1,2-Dichlorobenzene	ND		10.0	8.97		ug/L		82	70 - 130
1,2-Dichloroethane	ND		10.0	8.58		ug/L		86	56 - 146
1,2-Dichloropropane	ND		10.0	10.5		ug/L		105	69 - 130
1,3,5-Trimethylbenzene	ND		10.0	7.28		ug/L		73	70 - 130
1,3-Dichlorobenzene	ND		10.0	8.10		ug/L		81	70 - 130
1,3-Dichloropropane	ND	*	10.0	9.75		ug/L		97	70 - 130
1,4-Dichlorobenzene	ND		10.0	8.41		ug/L		81	70 - 130
2,2-Dichloropropane	ND		10.0	7.42		ug/L		74	69 - 138
2-Chlorotoluene	ND		10.0	7.85		ug/L		78	70 - 130
4-Chlorotoluene	ND		10.0	7.89		ug/L		79	70 - 130
Acetone	ND		50.0	55.0		ug/L		110	10 - 150
Benzene	ND		10.0	9.12		ug/L		91	66 - 130
Bromobenzene	ND		10.0	7.79		ug/L		78	70 - 130
Bromochloromethane	ND		10.0	7.56		ug/L		76	70 - 130
Bromodichloromethane	ND		10.0	9.57		ug/L		96	70 - 138
Bromoform	ND		10.0	9.56		ug/L		96	59 - 150
Bromomethane	ND		10.0	7.86		ug/L		79	62 - 131
Carbon tetrachloride	ND		10.0	6.60		ug/L		66	60 - 150
Chlorobenzene	ND		10.0	8.24		ug/L		82	70 - 130
Chloroethane	ND		10.0	8.88		ug/L		89	68 - 130
Chloroform	5.5		10.0	13.6		ug/L		82	70 - 130
Chloromethane	ND		10.0	8.66		ug/L		87	39 - 144
cis-1,2-Dichloroethene	ND		10.0	8.94		ug/L		86	70 - 130
cis-1,3-Dichloropropene	ND		10.0	8.70		ug/L		87	70 - 133
Dibromochloromethane	ND		10.0	8.60		ug/L		86	70 - 148
Dibromomethane	ND		10.0	8.15		ug/L		82	70 - 130
Dichlorodifluoromethane	ND		10.0	5.47		ug/L		55	25 - 142
Ethylbenzene	ND		10.0	7.82		ug/L		78	70 - 130
Hexachlorobutadiene	ND		10.0	8.24		ug/L		82	10 - 150
Isopropylbenzene	ND		10.0	7.26		ug/L		73	70 - 132
m,p-Xylene	ND		10.0	7.16		ug/L		72	70 - 133
Methylene Chloride	ND		10.0	8.23		ug/L		82	52 - 130
Methyl-t-Butyl Ether (MTBE)	ND	F1	10.0	6.71	F1	ug/L		67	70 - 130
Naphthalene	ND		10.0	6.40		ug/L		64	60 - 140
n-Butylbenzene	ND		10.0	8.06		ug/L		81	61 - 149

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

Lab Sample ID: 440-260230-C-3 MS
Matrix: Water
Analysis Batch: 594037

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
N-Propylbenzene	ND		10.0	7.69		ug/L		77	66 - 135
o-Xylene	ND		10.0	7.67		ug/L		77	70 - 133
p-Isopropyltoluene	ND		10.0	7.41		ug/L		74	70 - 130
sec-Butylbenzene	ND		10.0	7.72		ug/L		77	67 - 134
Styrene	ND		10.0	7.22		ug/L		72	29 - 150
tert-Butylbenzene	ND	F1	10.0	6.90	F1	ug/L		69	70 - 130
Tetrachloroethene	ND		10.0	7.63		ug/L		76	70 - 137
Toluene	ND		10.0	8.29		ug/L		83	70 - 130
trans-1,2-Dichloroethene	ND		10.0	7.16		ug/L		72	70 - 130
trans-1,3-Dichloropropene	ND		10.0	8.38		ug/L		84	70 - 138
Trichloroethene	58		10.0	64.3	4	ug/L		66	70 - 130
Trichlorofluoromethane	ND		10.0	6.66		ug/L		67	60 - 150
Vinyl chloride	ND		10.0	9.34		ug/L		93	50 - 137

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*108*		*70 - 130*
4-Bromofluorobenzene (Surr)	*103*		*80 - 120*
Dibromofluoromethane (Surr)	*98*		*76 - 132*
Toluene-d8 (Surr)	*100*		*80 - 128*

Lab Sample ID: 440-260230-C-3 MSD
Matrix: Water
Analysis Batch: 594037

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		10.0	8.71		ug/L		87	60 - 149	10	20
1,1,1-Trichloroethane	ND		10.0	7.94		ug/L		79	70 - 130	10	20
1,1,2,2-Tetrachloroethane	ND		10.0	10.4		ug/L		104	63 - 130	5	30
1,1,2-Trichloroethane	ND		10.0	10.1		ug/L		101	70 - 130	9	25
1,1-Dichloroethane	ND		10.0	9.66		ug/L		97	65 - 130	9	20
1,1-Dichloroethene	ND	F1	10.0	7.82		ug/L		78	70 - 130	14	20
1,1-Dichloropropene	ND		10.0	9.21		ug/L		92	64 - 130	11	20
1,2,3-Trichlorobenzene	ND		10.0	8.83		ug/L		88	60 - 140	12	20
1,2,3-Trichloropropane	ND		10.0	8.88		ug/L		89	60 - 130	5	30
1,2,4-Trichlorobenzene	ND		10.0	8.72		ug/L		87	60 - 140	11	20
1,2,4-Trimethylbenzene	ND		10.0	8.85		ug/L		88	70 - 130	15	25
1,2-Dibromo-3-Chloropropane	ND		10.0	8.66		ug/L		87	48 - 140	3	30
1,2-Dibromoethane (EDB)	ND		10.0	8.90		ug/L		89	70 - 131	7	25
1,2-Dichlorobenzene	ND		10.0	9.97		ug/L		92	70 - 130	11	20
1,2-Dichloroethane	ND		10.0	9.19		ug/L		92	56 - 146	7	20
1,2-Dichloropropane	ND		10.0	11.4		ug/L		114	69 - 130	8	20
1,3,5-Trimethylbenzene	ND		10.0	8.42		ug/L		84	70 - 130	15	20
1,3-Dichlorobenzene	ND		10.0	9.10		ug/L		91	70 - 130	12	20
1,3-Dichloropropane	ND	*	10.0	10.5		ug/L		105	70 - 130	7	25
1,4-Dichlorobenzene	ND		10.0	9.25		ug/L		89	70 - 130	9	20
2,2-Dichloropropane	ND		10.0	8.09		ug/L		81	69 - 138	9	25
2-Chlorotoluene	ND		10.0	9.09		ug/L		91	70 - 130	15	20
4-Chlorotoluene	ND		10.0	9.20		ug/L		92	70 - 130	15	20

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

Lab Sample ID: 440-260230-C-3 MSD
Matrix: Water
Analysis Batch: 594037

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		50.0	50.3		ug/L		101	10 - 150	9	35
Benzene	ND		10.0	10.0		ug/L		100	66 - 130	9	20
Bromobenzene	ND		10.0	8.77		ug/L		88	70 - 130	12	20
Bromochloromethane	ND		10.0	8.32		ug/L		83	70 - 130	10	25
Bromodichloromethane	ND		10.0	10.4		ug/L		104	70 - 138	8	20
Bromoform	ND		10.0	10.4		ug/L		104	59 - 150	9	25
Bromomethane	ND		10.0	8.21		ug/L		82	62 - 131	4	25
Carbon tetrachloride	ND		10.0	7.57		ug/L		76	60 - 150	14	25
Chlorobenzene	ND		10.0	9.39		ug/L		94	70 - 130	13	20
Chloroethane	ND		10.0	9.76		ug/L		98	68 - 130	9	25
Chloroform	5.5		10.0	14.1		ug/L		87	70 - 130	3	20
Chloromethane	ND		10.0	9.46		ug/L		95	39 - 144	9	25
cis-1,2-Dichloroethene	ND		10.0	9.75		ug/L		95	70 - 130	9	20
cis-1,3-Dichloropropene	ND		10.0	9.89		ug/L		99	70 - 133	13	20
Dibromochloromethane	ND		10.0	9.54		ug/L		95	70 - 148	10	25
Dibromomethane	ND		10.0	8.81		ug/L		88	70 - 130	8	25
Dichlorodifluoromethane	ND		10.0	6.19		ug/L		62	25 - 142	12	30
Ethylbenzene	ND		10.0	8.94		ug/L		89	70 - 130	13	20
Hexachlorobutadiene	ND		10.0	9.22		ug/L		92	10 - 150	11	20
Isopropylbenzene	ND		10.0	8.32		ug/L		83	70 - 132	14	20
m,p-Xylene	ND		10.0	8.43		ug/L		84	70 - 133	16	25
Methylene Chloride	ND		10.0	8.96		ug/L		90	52 - 130	9	20
Methyl-t-Butyl Ether (MTBE)	ND	F1	10.0	7.37		ug/L		74	70 - 130	9	25
Naphthalene	ND		10.0	7.10		ug/L		71	60 - 140	10	30
n-Butylbenzene	ND		10.0	9.17		ug/L		92	61 - 149	13	20
N-Propylbenzene	ND		10.0	8.93		ug/L		89	66 - 135	15	20
o-Xylene	ND		10.0	8.59		ug/L		86	70 - 133	11	20
p-Isopropyltoluene	ND		10.0	8.41		ug/L		84	70 - 130	13	20
sec-Butylbenzene	ND		10.0	8.69		ug/L		87	67 - 134	12	20
Styrene	ND		10.0	8.36		ug/L		84	29 - 150	15	35
tert-Butylbenzene	ND	F1	10.0	7.98		ug/L		80	70 - 130	14	20
Tetrachloroethene	ND		10.0	8.67		ug/L		87	70 - 137	13	20
Toluene	ND		10.0	9.35		ug/L		93	70 - 130	12	20
trans-1,2-Dichloroethene	ND		10.0	8.15		ug/L		82	70 - 130	13	20
trans-1,3-Dichloropropene	ND		10.0	9.50		ug/L		95	70 - 138	12	25
Trichloroethene	58		10.0	63.1	4	ug/L		54	70 - 130	2	20
Trichlorofluoromethane	ND		10.0	7.33		ug/L		73	60 - 150	10	25
Vinyl chloride	ND		10.0	9.65		ug/L		96	50 - 137	3	30

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*105*		*70 - 130*
4-Bromofluorobenzene (Surr)	*105*		*80 - 120*
Dibromofluoromethane (Surr)	*99*		*76 - 132*
Toluene-d8 (Surr)	*103*		*80 - 128*

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

Lab Sample ID: 440-260230-C-3 DU
Matrix: Water
Analysis Batch: 594037

Client Sample ID: Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
1,1,1,2-Tetrachloroethane	ND			ND		ug/L				NC	20
1,1,1-Trichloroethane	ND			ND		ug/L				NC	20
1,1,2,2-Tetrachloroethane	ND			ND		ug/L				NC	30
1,1,2-Trichloro-1,2,2-trifluoroethane	ND			ND		ug/L				NC	20
1,1,2-Trichloroethane	ND			ND		ug/L				NC	25
1,1-Dichloroethane	ND			ND		ug/L				NC	20
1,1-Dichloroethene	ND	F1		ND		ug/L				NC	20
1,1-Dichloropropene	ND			ND		ug/L				NC	20
1,2,3-Trichlorobenzene	ND			ND		ug/L				NC	20
1,2,3-Trichloropropane	ND			ND		ug/L				NC	30
1,2,4-Trichlorobenzene	ND			ND		ug/L				NC	20
1,2,4-Trimethylbenzene	ND			ND		ug/L				NC	25
1,2-Dibromo-3-Chloropropane	ND			ND		ug/L				NC	30
1,2-Dibromoethane (EDB)	ND			ND		ug/L				NC	25
1,2-Dichlorobenzene	ND			ND		ug/L				NC	20
1,2-Dichloroethane	ND			ND		ug/L				NC	20
1,2-Dichloropropane	ND			ND		ug/L				NC	20
1,3,5-Trimethylbenzene	ND			ND		ug/L				NC	20
1,3-Dichlorobenzene	ND			ND		ug/L				NC	20
1,3-Dichloropropane	ND	*		ND	*	ug/L				NC	25
1,4-Dichlorobenzene	ND			ND		ug/L				NC	20
2,2-Dichloropropane	ND			ND		ug/L				NC	25
2-Chlorotoluene	ND			ND		ug/L				NC	20
4-Chlorotoluene	ND			ND		ug/L				NC	20
Acetone	ND			ND		ug/L				NC	35
Benzene	ND			ND		ug/L				NC	20
Bromobenzene	ND			ND		ug/L				NC	20
Bromochloromethane	ND			ND		ug/L				NC	25
Bromodichloromethane	ND			ND		ug/L				NC	20
Bromoform	ND			ND		ug/L				NC	25
Bromomethane	ND			ND		ug/L				NC	25
Carbon tetrachloride	ND			ND		ug/L				NC	25
Chlorobenzene	ND			ND		ug/L				NC	20
Chloroethane	ND			ND		ug/L				NC	25
Chloroform	5.5			4.36	F3	ug/L				22	20
Chloromethane	ND			ND		ug/L				NC	25
cis-1,2-Dichloroethene	ND			ND		ug/L				NC	20
cis-1,3-Dichloropropene	ND			ND		ug/L				NC	20
Dibromochloromethane	ND			ND		ug/L				NC	25
Dibromomethane	ND			ND		ug/L				NC	25
Dichlorodifluoromethane	ND			ND		ug/L				NC	30
Ethylbenzene	ND			ND		ug/L				NC	20
Hexachlorobutadiene	ND			ND		ug/L				NC	20
Isopropylbenzene	ND			ND		ug/L				NC	20
m,p-Xylene	ND			ND		ug/L				NC	25
Methylene Chloride	ND			ND		ug/L				NC	20
Methyl-t-Butyl Ether (MTBE)	ND	F1		ND		ug/L				NC	25
Naphthalene	ND			ND		ug/L				NC	30

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

Lab Sample ID: 440-260230-C-3 DU — **Client Sample ID: Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 594037

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
n-Butylbenzene	ND			ND		ug/L				NC	20
N-Propylbenzene	ND			ND		ug/L				NC	20
o-Xylene	ND			ND		ug/L				NC	20
p-Isopropyltoluene	ND			ND		ug/L				NC	20
sec-Butylbenzene	ND			ND		ug/L				NC	20
Styrene	ND			ND		ug/L				NC	35
tert-Butylbenzene	ND	F1		ND		ug/L				NC	20
Tetrachloroethene	ND			ND		ug/L				NC	20
Toluene	ND			ND		ug/L				NC	20
trans-1,2-Dichloroethene	ND			ND		ug/L				NC	20
trans-1,3-Dichloropropene	ND			ND		ug/L				NC	25
Trichloroethene	58			42.2	F3	ug/L				31	20
Trichlorofluoromethane	ND			ND		ug/L				NC	25
Vinyl chloride	ND			ND		ug/L				NC	30

Surrogate	*DU %Recovery*	*DU Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*105*		*70 - 130*
4-Bromofluorobenzene (Surr)	*109*		*80 - 120*
Dibromofluoromethane (Surr)	*98*		*76 - 132*
Toluene-d8 (Surr)	*108*		*80 - 128*

Lab Sample ID: MB 440-594220/4 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 594220

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Tetrachloroethene	ND		1.0		ug/L			02/06/20 19:58	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*95*		*70 - 130*		*02/06/20 19:58*	*1*
4-Bromofluorobenzene (Surr)	*100*		*80 - 120*		*02/06/20 19:58*	*1*
Dibromofluoromethane (Surr)	*99*		*76 - 132*		*02/06/20 19:58*	*1*
Toluene-d8 (Surr)	*101*		*80 - 128*		*02/06/20 19:58*	*1*

Lab Sample ID: LCS 440-594220/1002 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 594220

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Tetrachloroethene			25.0	27.8		ug/L		111	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*92*		*70 - 130*
4-Bromofluorobenzene (Surr)	*100*		*80 - 120*
Dibromofluoromethane (Surr)	*98*		*76 - 132*
Toluene-d8 (Surr)	*99*		*80 - 128*

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

Lab Sample ID: 720-97277-A-3 MS — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 594220

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Tetrachloroethene	ND		10.0	10.5		ug/L		105	70 - 137

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*97*		*70 - 130*
4-Bromofluorobenzene (Surr)	*101*		*80 - 120*
Dibromofluoromethane (Surr)	*96*		*76 - 132*
Toluene-d8 (Surr)	*100*		*80 - 128*

Lab Sample ID: 720-97277-A-3 MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 594220

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Tetrachloroethene	ND		10.0	10.9		ug/L		109	70 - 137	4	20

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*92*		*70 - 130*
4-Bromofluorobenzene (Surr)	*96*		*80 - 120*
Dibromofluoromethane (Surr)	*97*		*76 - 132*
Toluene-d8 (Surr)	*100*		*80 - 128*

Lab Sample ID: MB 440-594274/4 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 594274

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Isopropyl alcohol	ND		250	ug/L			02/07/20 08:35	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*98*		*70 - 130*		*02/07/20 08:35*	*1*
4-Bromofluorobenzene (Surr)	*103*		*80 - 120*		*02/07/20 08:35*	*1*
Dibromofluoromethane (Surr)	*101*		*76 - 132*		*02/07/20 08:35*	*1*
Toluene-d8 (Surr)	*100*		*80 - 128*		*02/07/20 08:35*	*1*

Lab Sample ID: LCS 440-594274/1002 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 594274

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1,1,2-Tetrachloroethane	25.0	26.1		ug/L		105	60 - 141
1,1,1-Trichloroethane	25.0	27.1		ug/L		109	70 - 130
1,1,2,2-Tetrachloroethane	25.0	25.6		ug/L		102	63 - 130
1,1,2-Trichloroethane	25.0	25.3		ug/L		101	70 - 130
1,1-Dichloroethane	25.0	26.4		ug/L		105	64 - 130
1,1-Dichloroethene	25.0	27.9		ug/L		112	70 - 130
1,1-Dichloropropene	25.0	28.6		ug/L		114	70 - 130
1,2,3-Trichlorobenzene	25.0	26.1		ug/L		104	60 - 140
1,2,3-Trichloropropane	25.0	23.7		ug/L		95	63 - 130

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

Lab Sample ID: LCS 440-594274/1002
Matrix: Water
Analysis Batch: 594274

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,2,4-Trichlorobenzene	25.0	25.7		ug/L		103	60 - 140
1,2,4-Trimethylbenzene	25.0	27.3		ug/L		109	70 - 135
1,2-Dibromo-3-Chloropropane	25.0	22.1		ug/L		89	52 - 140
1,2-Dibromoethane (EDB)	25.0	26.5		ug/L		106	70 - 130
1,2-Dichlorobenzene	25.0	25.5		ug/L		102	70 - 130
1,2-Dichloroethane	25.0	23.4		ug/L		94	57 - 138
1,2-Dichloropropane	25.0	25.2		ug/L		101	67 - 130
1,3,5-Trimethylbenzene	25.0	27.4		ug/L		110	70 - 136
1,3-Dichlorobenzene	25.0	25.4		ug/L		102	70 - 130
1,3-Dichloropropane	25.0	24.6		ug/L		98	70 - 130
1,4-Dichlorobenzene	25.0	25.5		ug/L		102	70 - 130
2,2-Dichloropropane	25.0	29.5		ug/L		118	68 - 141
2-Chlorotoluene	25.0	26.5		ug/L		106	70 - 130
4-Chlorotoluene	25.0	26.0		ug/L		104	70 - 130
Acetone	125	109		ug/L		87	10 - 150
Benzene	25.0	25.8		ug/L		103	68 - 130
Bromobenzene	25.0	25.3		ug/L		101	70 - 130
Bromochloromethane	25.0	24.2		ug/L		97	70 - 130
Bromodichloromethane	25.0	26.1		ug/L		104	70 - 132
Bromoform	25.0	25.2		ug/L		101	60 - 148
Bromomethane	25.0	25.5		ug/L		102	64 - 139
Carbon tetrachloride	25.0	26.7		ug/L		107	60 - 150
Chlorobenzene	25.0	26.6		ug/L		106	70 - 130
Chloroethane	25.0	26.3		ug/L		105	64 - 135
Chloroform	25.0	25.9		ug/L		104	70 - 130
Chloromethane	25.0	24.5		ug/L		98	47 - 140
cis-1,2-Dichloroethene	25.0	26.4		ug/L		106	70 - 133
cis-1,3-Dichloropropene	25.0	26.2		ug/L		105	70 - 133
Dibromochloromethane	25.0	24.4		ug/L		98	69 - 145
Dibromomethane	25.0	26.2		ug/L		105	70 - 130
Dichlorodifluoromethane	25.0	26.7		ug/L		107	29 - 150
Ethylbenzene	25.0	27.1		ug/L		108	70 - 130
Hexachlorobutadiene	25.0	28.0		ug/L		112	10 - 150
Isopropylbenzene	25.0	28.7		ug/L		115	70 - 136
m,p-Xylene	25.0	28.1		ug/L		112	70 - 130
Methylene Chloride	25.0	22.9		ug/L		91	52 - 130
Methyl-t-Butyl Ether (MTBE)	25.0	23.4		ug/L		94	63 - 131
Naphthalene	25.0	23.9		ug/L		96	60 - 140
n-Butylbenzene	25.0	29.3		ug/L		117	65 - 150
N-Propylbenzene	25.0	27.5		ug/L		110	67 - 139
o-Xylene	25.0	28.1		ug/L		112	70 - 130
p-Isopropyltoluene	25.0	28.6		ug/L		114	70 - 132
sec-Butylbenzene	25.0	29.1		ug/L		116	70 - 138
Styrene	25.0	26.2		ug/L		105	70 - 134
tert-Butylbenzene	25.0	28.1		ug/L		112	70 - 130
Tetrachloroethene	25.0	28.5		ug/L		114	70 - 130
Toluene	25.0	26.3		ug/L		105	70 - 130
trans-1,2-Dichloroethene	25.0	26.3		ug/L		105	70 - 130
trans-1,3-Dichloropropene	25.0	26.3		ug/L		105	70 - 132

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

Lab Sample ID: LCS 440-594274/1002
Matrix: Water
Analysis Batch: 594274

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Trichloroethene	25.0	27.6		ug/L		111	70 - 130
Trichlorofluoromethane	25.0	27.7		ug/L		111	60 - 150
Vinyl chloride	25.0	26.7		ug/L		107	59 - 133

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*89*		*70 - 130*
4-Bromofluorobenzene (Surr)	*97*		*80 - 120*
Dibromofluoromethane (Surr)	*93*		*76 - 132*
Toluene-d8 (Surr)	*100*		*80 - 128*

Lab Sample ID: LCS 440-594274/1003
Matrix: Water
Analysis Batch: 594274

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	222	J	ug/L		89	49 - 142

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*87*		*70 - 130*
4-Bromofluorobenzene (Surr)	*104*		*80 - 120*
Dibromofluoromethane (Surr)	*93*		*76 - 132*
Toluene-d8 (Surr)	*103*		*80 - 128*

Lab Sample ID: 320-58322-E-3 MS
Matrix: Water
Analysis Batch: 594274

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
Isopropyl alcohol	ND		250	ND		ug/L		96	46 - 142

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*98*		*70 - 130*
4-Bromofluorobenzene (Surr)	*100*		*80 - 120*
Dibromofluoromethane (Surr)	*101*		*76 - 132*
Toluene-d8 (Surr)	*97*		*80 - 128*

Lab Sample ID: 320-58322-E-3 MSD
Matrix: Water
Analysis Batch: 594274

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	ND		ug/L		99	46 - 142	3	40

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*89*		*70 - 130*
4-Bromofluorobenzene (Surr)	*101*		*80 - 120*
Dibromofluoromethane (Surr)	*92*		*76 - 132*

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

Lab Sample ID: 320-58322-E-3 MSD
Matrix: Water
Analysis Batch: 594274

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

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
Toluene-d8 (Surr)	*95*		*80 - 128*

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

Lab Sample ID: MB 440-594068/1-A
Matrix: Water
Analysis Batch: 594310

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 594068

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	ND		0.50		ug/L		02/06/20 08:16	02/07/20 10:26	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,4-Dioxane-d8 (Surr)	*54*		*27 - 120*	*02/06/20 08:16*	*02/07/20 10:26*	*1*

Lab Sample ID: LCS 440-594068/2-A
Matrix: Water
Analysis Batch: 594310

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 594068

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
1,4-Dioxane			2.00	1.59		ug/L		80	36 - 120		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1,4-Dioxane-d8 (Surr)	*63*		*27 - 120*

Lab Sample ID: LCSD 440-594068/3-A
Matrix: Water
Analysis Batch: 594310

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 594068

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,4-Dioxane			2.00	1.28		ug/L		64	36 - 120	22	35

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
1,4-Dioxane-d8 (Surr)	*53*		*27 - 120*

QC Association Summary

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

Job ID: 440-260299-1

GC/MS VOA

Analysis Batch: 594037

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-260299-1	OC_SP220B_EFF_020420	Total/NA	Water	8260B	
440-260299-2	OC_SP210_INF_020420	Total/NA	Water	8260B	
440-260299-3	OC_TB_020420	Total/NA	Water	8260B	
MB 440-594037/5	Method Blank	Total/NA	Water	8260B	
LCS 440-594037/1004	Lab Control Sample	Total/NA	Water	8260B	
440-260230-C-3 MS	Matrix Spike	Total/NA	Water	8260B	
440-260230-C-3 MSD	Matrix Spike Duplicate	Total/NA	Water	8260B	
440-260230-C-3 DU	Duplicate	Total/NA	Water	8260B	

Analysis Batch: 594220

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-260299-2 - DL	OC_SP210_INF_020420	Total/NA	Water	8260B	
MB 440-594220/4	Method Blank	Total/NA	Water	8260B	
LCS 440-594220/1002	Lab Control Sample	Total/NA	Water	8260B	
720-97277-A-3 MS	Matrix Spike	Total/NA	Water	8260B	
720-97277-A-3 MSD	Matrix Spike Duplicate	Total/NA	Water	8260B	

Analysis Batch: 594274

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-260299-1 - RA	OC_SP220B_EFF_020420	Total/NA	Water	8260B	
440-260299-2 - RA	OC_SP210_INF_020420	Total/NA	Water	8260B	
440-260299-3	OC_TB_020420	Total/NA	Water	8260B	
MB 440-594274/4	Method Blank	Total/NA	Water	8260B	
LCS 440-594274/1002	Lab Control Sample	Total/NA	Water	8260B	
LCS 440-594274/1003	Lab Control Sample	Total/NA	Water	8260B	
320-58322-E-3 MS	Matrix Spike	Total/NA	Water	8260B	
320-58322-E-3 MSD	Matrix Spike Duplicate	Total/NA	Water	8260B	

GC/MS Semi VOA

Prep Batch: 594068

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-260299-1	OC_SP220B_EFF_020420	Total/NA	Water	3520C	
MB 440-594068/1-A	Method Blank	Total/NA	Water	3520C	
LCS 440-594068/2-A	Lab Control Sample	Total/NA	Water	3520C	
LCSD 440-594068/3-A	Lab Control Sample Dup	Total/NA	Water	3520C	

Analysis Batch: 594310

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-260299-1	OC_SP220B_EFF_020420	Total/NA	Water	8270C SIM	594068
MB 440-594068/1-A	Method Blank	Total/NA	Water	8270C SIM	594068
LCS 440-594068/2-A	Lab Control Sample	Total/NA	Water	8270C SIM	594068
LCSD 440-594068/3-A	Lab Control Sample Dup	Total/NA	Water	8270C SIM	594068

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
*	LCS or LCSD is outside acceptance limits.
4	MS, MSD: The analyte present in the original sample is greater than 4 times the matrix spike concentration; therefore, control limits are not applicable.
F1	MS and/or MSD Recovery is outside acceptance limits.
F3	Duplicate RPD exceeds the control limit
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 - GWCS Monthly

Job ID: 440-260299-1

Laboratory: Eurofins Calscience Irvine

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

Authority	Program	Identification Number	Expiration Date
California	State	2706	06-30-20

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	1,1,1,2-Tetrachloroethane
8260B		Water	1,1,1-Trichloroethane
8260B		Water	1,1,2,2-Tetrachloroethane
8260B		Water	1,1,2-Trichloro-1,2,2-trifluoroethane
8260B		Water	1,1,2-Trichloroethane
8260B		Water	1,1-Dichloroethane
8260B		Water	1,1-Dichloroethene
8260B		Water	1,1-Dichloropropene
8260B		Water	1,2,3-Trichlorobenzene
8260B		Water	1,2,3-Trichloropropane
8260B		Water	1,2,4-Trichlorobenzene
8260B		Water	1,2,4-Trimethylbenzene
8260B		Water	1,2-Dibromo-3-Chloropropane
8260B		Water	1,2-Dibromoethane (EDB)
8260B		Water	1,2-Dichlorobenzene
8260B		Water	1,2-Dichloroethane
8260B		Water	1,2-Dichloropropane
8260B		Water	1,3,5-Trimethylbenzene
8260B		Water	1,3-Dichlorobenzene
8260B		Water	1,3-Dichloropropane
8260B		Water	1,4-Dichlorobenzene
8260B		Water	2,2-Dichloropropane
8260B		Water	2-Chlorotoluene
8260B		Water	4-Chlorotoluene
8260B		Water	Acetone
8260B		Water	Benzene
8260B		Water	Bromobenzene
8260B		Water	Bromochloromethane
8260B		Water	Bromodichloromethane
8260B		Water	Bromoform
8260B		Water	Bromomethane
8260B		Water	Carbon tetrachloride
8260B		Water	Chlorobenzene
8260B		Water	Chloroethane
8260B		Water	Chloroform
8260B		Water	Chloromethane
8260B		Water	cis-1,2-Dichloroethene
8260B		Water	cis-1,3-Dichloropropene
8260B		Water	Dibromochloromethane
8260B		Water	Dibromomethane
8260B		Water	Dichlorodifluoromethane
8260B		Water	Ethylbenzene
8260B		Water	Hexachlorobutadiene
8260B		Water	Isopropyl alcohol
8260B		Water	Isopropylbenzene

Laboratory: Eurofins Calscience Irvine (Continued)

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

Authority		Program		Identification Number	Expiration Date
California		State		2706	06-30-20
8260B			Water	m,p-Xylene	
8260B			Water	Methylene Chloride	
8260B			Water	Methyl-t-Butyl Ether (MTBE)	
8260B			Water	Naphthalene	
8260B			Water	n-Butylbenzene	
8260B			Water	N-Propylbenzene	
8260B			Water	o-Xylene	
8260B			Water	p-Isopropyltoluene	
8260B			Water	sec-Butylbenzene	
8260B			Water	Styrene	
8260B			Water	tert-Butylbenzene	
8260B			Water	Tetrachloroethene	
8260B			Water	Toluene	
8260B			Water	trans-1,2-Dichloroethene	
8260B			Water	trans-1,3-Dichloropropene	
8260B			Water	Trichloroethene	
8260B			Water	Trichlorofluoromethane	
8260B			Water	Vinyl chloride	
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: 2/4/2020	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 - GWCS 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_020420	2/4/2020	1140	Grab	GW	5			x	x	
OC_SP210_INF_020420	2/4/2020	1150	Grab	GW	3			x		
OC_TB_020420	2/4/2020	1130		H2O	2			x		

2/5/20 LD

440-260299 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: 2.9 Corr'd: 2.4 Therm ID No. 93

Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
	JHA	2/5/20 1043			
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
Relinquished by:	Company:	Date/Time:	Received in Laboratory by:	Company: EC 1121	Date/Time: 2/5/20 1043

Login Sample Receipt Checklist

Client: Jacob & Hefner Associates P.C.

Job Number: 440-260299-1

Login Number: 260299

List Source: Eurofins Irvine

List Number: 1

Creator: Dolidze, Lado

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	

ANALYTICAL REPORT

Eurofins Calscience Irvine
17461 Derian Ave
Suite 100
Irvine, CA 92614-5817
Tel: (949)261-1022

Laboratory Job ID: 440-261356-1
Laboratory Sample Delivery Group: Omega Site
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:
2/28/2020 3:06:24 PM

Danielle Roberts, Senior Project Manager
(949)260-3249
danielle.roberts@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

Job ID: 440-261356-1
SDG: Omega Site

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
440-261356-1	Composite_20200221	Water	02/21/20 09:30	02/21/20 13:00	
440-261356-2	Grab_20200221	Water	02/21/20 09:35	02/21/20 13:00	

Job ID: 440-261356-1

Laboratory: Eurofins Calscience Irvine

Narrative

Job Narrative
440-261356-1

Comments
No additional comments.

Receipt
The samples were received on 2/21/2020 1:00 PM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 3.7º C.

GC/MS VOA
Method 8260B: The continuing calibration verification (CCV) associated with batch 440-596872 recovered above the upper control limit for Vinyl chloride, Dichlorodifluoromethane and 2,2-Dichloropropane. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported. The following samples are impacted: Grab_20200221 (440-261356-2) and (CCVIS 440-596872/2).

Method 8260B: The laboratory control sample (LCS) and laboratory control sample duplicate (LCSD) for analytical batch 440-596872 recovered outside control limits for the following analytes: Vinyl chloride, Dichlorodifluoromethane and 2,2-Dichloropropane. These analytes were biased high in the LCS and were not detected in the associated samples; therefore, the data have been reported.

Method 8260B: The following sample(s) was collected in a properly preserved vial; however, the pH of 4 was outside the required criteria when verified by the laboratory. The sample was analyzed within the 7-day holding time specified for unpreserved samples: Grab_20200221 (440-261356-2).

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

GC/MS Semi VOA
Method 8270C: The laboratory control sample (LCS) and / or laboratory control sample duplicate (LCSD) for preparation batch 440-596798 and analytical batch 440-597124 recovered outside control limits for the following analytes: Hexachlorobutadiene. These analytes were biased high in the LCS and were not detected in the associated samples; therefore, the data have been reported.

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

Organic Prep
Methods 3520C, 8270: Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD) associated with 8270C preparation batch 440-596798. LCS was performed in duplicate to provide precision of data.

Method 3520C: Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD) associated with 8270C preparation batch 440-596797. LCS was performed in duplicate to provide precision of data.

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

Job ID: 440-261356-1
SDG: Omega Site

Client Sample ID: Composite_20200221 — Lab Sample ID: 440-261356-1

Analyte	Result	Qualifier	RL		Unit	Dil Fac	D	Method	Prep Type
Total Suspended Solids	4.8		1.0		mg/L	1		SM 2540D	Total/NA

Client Sample ID: Grab_20200221 — Lab Sample ID: 440-261356-2

Analyte	Result	Qualifier	RL		Unit	Dil Fac	D	Method	Prep Type
1,4-Dioxane	13		0.49		ug/L	1		8270C SIM	Total/NA
pH	8.7	HF	0.1		SU	1		SM 4500 H+ B	Total/NA
Field pH	8.73				SU	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

Job ID: 440-261356-1
SDG: Omega Site

Client Sample ID: Composite_20200221

Lab Sample ID: 440-261356-1
Date Collected: 02/21/20 09:30
Matrix: Water
Date Received: 02/21/20 13:00

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids	**4.8**		1.0	mg/L			02/21/20 18:00	1
Chemical Oxygen Demand	ND		20	mg/L			02/25/20 13:53	1

Client Sample ID: Grab_20200221

Lab Sample ID: 440-261356-2
Date Collected: 02/21/20 09:35
Matrix: Water
Date Received: 02/21/20 13:00

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			02/24/20 13:07	1
1,1,1-Trichloroethane	ND		1.0	ug/L			02/24/20 13:07	1
2-Chloroethyl vinyl ether	ND		2.0	ug/L			02/22/20 14:42	1
1,1,2,2-Tetrachloroethane	ND		1.0	ug/L			02/24/20 13:07	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		5.0	ug/L			02/24/20 13:07	1
Acrolein	ND		5.0	ug/L			02/22/20 14:42	1
1,1,2-Trichloroethane	ND		1.0	ug/L			02/24/20 13:07	1
Acrylonitrile	ND		2.0	ug/L			02/22/20 14:42	1
1,1-Dichloroethane	ND		1.0	ug/L			02/24/20 13:07	1
1,1-Dichloroethene	ND		1.0	ug/L			02/24/20 13:07	1
1,1-Dichloropropene	ND		1.0	ug/L			02/24/20 13:07	1
Total Volatile Organic Compounds	ND		150	ug/L			02/22/20 14:42	1
1,2,3-Trichlorobenzene	ND		1.0	ug/L			02/24/20 13:07	1
1,2,3-Trichloropropane	ND		1.0	ug/L			02/24/20 13:07	1
1,2,4-Trichlorobenzene	ND		1.0	ug/L			02/24/20 13:07	1
1,2,4-Trimethylbenzene	ND		1.0	ug/L			02/24/20 13:07	1
1,2-Dibromo-3-Chloropropane	ND		5.0	ug/L			02/24/20 13:07	1
1,2-Dibromoethane (EDB)	ND		1.0	ug/L			02/24/20 13:07	1
1,2-Dichlorobenzene	ND		1.0	ug/L			02/24/20 13:07	1
1,2-Dichloroethane	ND		1.0	ug/L			02/24/20 13:07	1
1,2-Dichloropropane	ND		1.0	ug/L			02/24/20 13:07	1
1,3,5-Trimethylbenzene	ND		1.0	ug/L			02/24/20 13:07	1
1,3-Dichlorobenzene	ND		1.0	ug/L			02/24/20 13:07	1
1,3-Dichloropropane	ND		1.0	ug/L			02/24/20 13:07	1
1,4-Dichlorobenzene	ND		1.0	ug/L			02/24/20 13:07	1
2,2-Dichloropropane	ND	*	1.0	ug/L			02/24/20 13:07	1
2-Chlorotoluene	ND		1.0	ug/L			02/24/20 13:07	1
4-Chlorotoluene	ND		1.0	ug/L			02/24/20 13:07	1
Acetone	ND		10	ug/L			02/24/20 13:07	1
Benzene	ND		0.50	ug/L			02/24/20 13:07	1
Bromobenzene	ND		1.0	ug/L			02/24/20 13:07	1
Bromochloromethane	ND		1.0	ug/L			02/24/20 13:07	1
Bromodichloromethane	ND		1.0	ug/L			02/24/20 13:07	1
Bromoform	ND		1.0	ug/L			02/24/20 13:07	1
Bromomethane	ND		1.0	ug/L			02/24/20 13:07	1
Carbon tetrachloride	ND		0.50	ug/L			02/24/20 13:07	1
Chlorobenzene	ND		1.0	ug/L			02/24/20 13:07	1
Chloroethane	ND		1.0	ug/L			02/24/20 13:07	1
Chloroform	ND		1.0	ug/L			02/24/20 13:07	1
Chloromethane	ND		1.0	ug/L			02/24/20 13:07	1
cis-1,2-Dichloroethene	ND		1.0	ug/L			02/24/20 13:07	1

Client Sample Results

Client: Jacob & Hefner Associates P.C.
Project/Site: Omega Chemical Wastewater

Job ID: 440-261356-1
SDG: Omega Site

Client Sample ID: Grab_20200221

Date Collected: 02/21/20 09:35
Date Received: 02/21/20 13:00

Lab Sample ID: 440-261356-2

Matrix: Water

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
cis-1,3-Dichloropropene	ND		0.50	ug/L			02/24/20 13:07	1
Dibromochloromethane	ND		1.0	ug/L			02/24/20 13:07	1
Dibromomethane	ND		1.0	ug/L			02/24/20 13:07	1
Dichlorodifluoromethane	ND	*	1.0	ug/L			02/24/20 13:07	1
Ethylbenzene	ND		1.0	ug/L			02/24/20 13:07	1
Hexachlorobutadiene	ND		1.0	ug/L			02/24/20 13:07	1
Isopropylbenzene	ND		1.0	ug/L			02/24/20 13:07	1
m,p-Xylene	ND		1.0	ug/L			02/24/20 13:07	1
Methylene Chloride	ND		5.0	ug/L			02/24/20 13:07	1
Methyl-t-Butyl Ether (MTBE)	ND		1.0	ug/L			02/24/20 13:07	1
Naphthalene	ND		1.0	ug/L			02/24/20 13:07	1
n-Butylbenzene	ND		1.0	ug/L			02/24/20 13:07	1
N-Propylbenzene	ND		1.0	ug/L			02/24/20 13:07	1
o-Xylene	ND		1.0	ug/L			02/24/20 13:07	1
p-Isopropyltoluene	ND		1.0	ug/L			02/24/20 13:07	1
sec-Butylbenzene	ND		1.0	ug/L			02/24/20 13:07	1
Styrene	ND		1.0	ug/L			02/24/20 13:07	1
tert-Butylbenzene	ND		1.0	ug/L			02/24/20 13:07	1
Tetrachloroethene	ND		1.0	ug/L			02/24/20 13:07	1
Toluene	ND		1.0	ug/L			02/24/20 13:07	1
trans-1,2-Dichloroethene	ND		1.0	ug/L			02/24/20 13:07	1
trans-1,3-Dichloropropene	ND		0.50	ug/L			02/24/20 13:07	1
Trichloroethene	ND		1.0	ug/L			02/24/20 13:07	1
Trichlorofluoromethane	ND		1.0	ug/L			02/24/20 13:07	1
Vinyl chloride	ND	*	0.50	ug/L			02/24/20 13:07	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*104*		*70 - 130*		*02/22/20 14:42*	*1*
4-Bromofluorobenzene (Surr)	*102*		*80 - 120*		*02/22/20 14:42*	*1*
Dibromofluoromethane (Surr)	*101*		*76 - 132*		*02/22/20 14:42*	*1*
Toluene-d8 (Surr)	*103*		*80 - 128*		*02/22/20 14:42*	*1*
1,2-Dichloroethane-d4 (Surr)	*109*		*70 - 130*		*02/24/20 13:07*	*1*
4-Bromofluorobenzene (Surr)	*103*		*80 - 120*		*02/24/20 13:07*	*1*
Dibromofluoromethane (Surr)	*104*		*76 - 132*		*02/24/20 13:07*	*1*
Toluene-d8 (Surr)	*108*		*80 - 128*		*02/24/20 13:07*	*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			02/28/20 12:32	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*111*		*70 - 130*		*02/28/20 12:32*	*1*
4-Bromofluorobenzene (Surr)	*100*		*80 - 120*		*02/28/20 12:32*	*1*
Dibromofluoromethane (Surr)	*106*		*76 - 132*		*02/28/20 12:32*	*1*
Toluene-d8 (Surr)	*104*		*80 - 128*		*02/28/20 12:32*	*1*

Method: 8270C SIM - 1,4 Dioxane by SIM

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	**13**		0.49	ug/L		02/22/20 08:22	02/24/20 12:03	1

Client Sample Results

Client: Jacob & Hefner Associates P.C.
Project/Site: Omega Chemical Wastewater

Job ID: 440-261356-1
SDG: Omega Site

Client Sample ID: Grab_20200221

Date Collected: 02/21/20 09:35
Date Received: 02/21/20 13:00

Lab Sample ID: 440-261356-2

Matrix: Water

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,4-Dioxane-d8 (Surr)	*52*		*27 - 120*	*02/22/20 08:22*	*02/24/20 12:03*	*1*

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4-Trichlorobenzene	ND		9.7	ug/L		02/22/20 08:25	02/25/20 19:35	1
1,2-Dichlorobenzene	ND		9.7	ug/L		02/22/20 08:25	02/25/20 19:35	1
1,2-Diphenylhydrazine(as Azobenzene)	ND		19	ug/L		02/22/20 08:25	02/25/20 19:35	1
1,3-Dichlorobenzene	ND		9.7	ug/L		02/22/20 08:25	02/25/20 19:35	1
1,4-Dichlorobenzene	ND		9.7	ug/L		02/22/20 08:25	02/25/20 19:35	1
2,4,5-Trichlorophenol	ND		19	ug/L		02/22/20 08:25	02/25/20 19:35	1
2,4,6-Trichlorophenol	ND		19	ug/L		02/22/20 08:25	02/25/20 19:35	1
2,4-Dichlorophenol	ND		9.7	ug/L		02/22/20 08:25	02/25/20 19:35	1
2,4-Dimethylphenol	ND		19	ug/L		02/22/20 08:25	02/25/20 19:35	1
2,4-Dinitrophenol	ND		39	ug/L		02/22/20 08:25	02/25/20 19:35	1
2,4-Dinitrotoluene	ND		9.7	ug/L		02/22/20 08:25	02/25/20 19:35	1
2,6-Dinitrotoluene	ND		9.7	ug/L		02/22/20 08:25	02/25/20 19:35	1
2-Chloronaphthalene	ND		9.7	ug/L		02/22/20 08:25	02/25/20 19:35	1
2-Chlorophenol	ND		9.7	ug/L		02/22/20 08:25	02/25/20 19:35	1
2-Methylnaphthalene	ND		9.7	ug/L		02/22/20 08:25	02/25/20 19:35	1
2-Methylphenol	ND		9.7	ug/L		02/22/20 08:25	02/25/20 19:35	1
2-Nitroaniline	ND		19	ug/L		02/22/20 08:25	02/25/20 19:35	1
2-Nitrophenol	ND		9.7	ug/L		02/22/20 08:25	02/25/20 19:35	1
3,3'-Dichlorobenzidine	ND		39	ug/L		02/22/20 08:25	02/25/20 19:35	1
3-Methylphenol + 4-Methylphenol	ND		9.7	ug/L		02/22/20 08:25	02/25/20 19:35	1
3-Nitroaniline	ND		19	ug/L		02/22/20 08:25	02/25/20 19:35	1
4,6-Dinitro-2-methylphenol	ND		19	ug/L		02/22/20 08:25	02/25/20 19:35	1
4-Bromophenyl phenyl ether	ND		9.7	ug/L		02/22/20 08:25	02/25/20 19:35	1
4-Chloro-3-methylphenol	ND		19	ug/L		02/22/20 08:25	02/25/20 19:35	1
4-Chloroaniline	ND		9.7	ug/L		02/22/20 08:25	02/25/20 19:35	1
4-Chlorophenyl phenyl ether	ND		9.7	ug/L		02/22/20 08:25	02/25/20 19:35	1
4-Nitroaniline	ND		19	ug/L		02/22/20 08:25	02/25/20 19:35	1
4-Nitrophenol	ND		19	ug/L		02/22/20 08:25	02/25/20 19:35	1
Acenaphthene	ND		9.7	ug/L		02/22/20 08:25	02/25/20 19:35	1
Acenaphthylene	ND		9.7	ug/L		02/22/20 08:25	02/25/20 19:35	1
Aniline	ND		9.7	ug/L		02/22/20 08:25	02/25/20 19:35	1
Anthracene	ND		9.7	ug/L		02/22/20 08:25	02/25/20 19:35	1
Benzidine	ND		39	ug/L		02/22/20 08:25	02/25/20 19:35	1
Benzo[a]anthracene	ND		9.7	ug/L		02/22/20 08:25	02/25/20 19:35	1
Benzo[a]pyrene	ND		9.7	ug/L		02/22/20 08:25	02/25/20 19:35	1
Benzo[b]fluoranthene	ND		9.7	ug/L		02/22/20 08:25	02/25/20 19:35	1
Benzo[g,h,i]perylene	ND		9.7	ug/L		02/22/20 08:25	02/25/20 19:35	1
Benzo[k]fluoranthene	ND		9.7	ug/L		02/22/20 08:25	02/25/20 19:35	1
Benzoic acid	ND		19	ug/L		02/22/20 08:25	02/25/20 19:35	1
Benzyl alcohol	ND		19	ug/L		02/22/20 08:25	02/25/20 19:35	1
bis (2-chloroisopropyl) ether	ND		9.7	ug/L		02/22/20 08:25	02/25/20 19:35	1
Bis(2-chloroethoxy)methane	ND		9.7	ug/L		02/22/20 08:25	02/25/20 19:35	1
Bis(2-chloroethyl)ether	ND		9.7	ug/L		02/22/20 08:25	02/25/20 19:35	1
Bis(2-ethylhexyl) phthalate	ND		19	ug/L		02/22/20 08:25	02/25/20 19:35	1
Butyl benzyl phthalate	ND		19	ug/L		02/22/20 08:25	02/25/20 19:35	1

Client Sample Results

Client: Jacob & Hefner Associates P.C.
Project/Site: Omega Chemical Wastewater

Job ID: 440-261356-1
SDG: Omega Site

Client Sample ID: Grab_20200221

Date Collected: 02/21/20 09:35
Date Received: 02/21/20 13:00

Lab Sample ID: 440-261356-2

Matrix: Water

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chrysene	ND		9.7	ug/L		02/22/20 08:25	02/25/20 19:35	1
Dibenz(a,h)anthracene	ND		19	ug/L		02/22/20 08:25	02/25/20 19:35	1
Dibenzofuran	ND		9.7	ug/L		02/22/20 08:25	02/25/20 19:35	1
Diethyl phthalate	ND		9.7	ug/L		02/22/20 08:25	02/25/20 19:35	1
Dimethyl phthalate	ND		9.7	ug/L		02/22/20 08:25	02/25/20 19:35	1
Di-n-butyl phthalate	ND		19	ug/L		02/22/20 08:25	02/25/20 19:35	1
Di-n-octyl phthalate	ND		19	ug/L		02/22/20 08:25	02/25/20 19:35	1
Fluoranthene	ND		9.7	ug/L		02/22/20 08:25	02/25/20 19:35	1
Fluorene	ND		9.7	ug/L		02/22/20 08:25	02/25/20 19:35	1
Hexachlorobenzene	ND		9.7	ug/L		02/22/20 08:25	02/25/20 19:35	1
Hexachlorobutadiene	ND	*	9.7	ug/L		02/22/20 08:25	02/25/20 19:35	1
Hexachlorocyclopentadiene	ND		19	ug/L		02/22/20 08:25	02/25/20 19:35	1
Hexachloroethane	ND		9.7	ug/L		02/22/20 08:25	02/25/20 19:35	1
Indeno[1,2,3-cd]pyrene	ND		19	ug/L		02/22/20 08:25	02/25/20 19:35	1
Isophorone	ND		9.7	ug/L		02/22/20 08:25	02/25/20 19:35	1
Naphthalene	ND		9.7	ug/L		02/22/20 08:25	02/25/20 19:35	1
Nitrobenzene	ND		19	ug/L		02/22/20 08:25	02/25/20 19:35	1
N-Nitrosodimethylamine	ND		19	ug/L		02/22/20 08:25	02/25/20 19:35	1
N-Nitrosodi-n-propylamine	ND		9.7	ug/L		02/22/20 08:25	02/25/20 19:35	1
N-Nitrosodiphenylamine	ND		9.7	ug/L		02/22/20 08:25	02/25/20 19:35	1
Pentachlorophenol	ND		19	ug/L		02/22/20 08:25	02/25/20 19:35	1
Phenanthrene	ND		9.7	ug/L		02/22/20 08:25	02/25/20 19:35	1
Phenol	ND		9.7	ug/L		02/22/20 08:25	02/25/20 19:35	1
Pyrene	ND		9.7	ug/L		02/22/20 08:25	02/25/20 19:35	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol (Surr)	*73*		*40 - 120*	*02/22/20 08:25*	*02/25/20 19:35*	*1*
2-Fluorobiphenyl	*69*		*50 - 120*	*02/22/20 08:25*	*02/25/20 19:35*	*1*
2-Fluorophenol (Surr)	*61*		*30 - 120*	*02/22/20 08:25*	*02/25/20 19:35*	*1*
Nitrobenzene-d5 (Surr)	*68*		*45 - 120*	*02/22/20 08:25*	*02/25/20 19:35*	*1*
Phenol-d6 (Surr)	*36*		*35 - 120*	*02/22/20 08:25*	*02/25/20 19:35*	*1*
Terphenyl-d14 (Surr)	*36*		*10 - 150*	*02/22/20 08:25*	*02/25/20 19:35*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
pH	**8.7**	**HF**	0.1	SU			02/25/20 16:31	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfide, Dissolved	ND	HF	0.050	mg/L		02/26/20 15:20	02/26/20 16:38	1

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Field pH	**8.73**			SU			02/21/20 09:35	1

Surrogate Summary

Client: Jacob & Hefner Associates P.C.
Project/Site: Omega Chemical Wastewater

Job ID: 440-261356-1
SDG: Omega Site

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)
320-58882-A-1 MS	Matrix Spike	102	96	101	100
320-58882-A-1 MSD	Matrix Spike Duplicate	106	99	100	98
440-261340-A-7 MS	Matrix Spike	106	104	103	100
440-261340-A-7 MSD	Matrix Spike Duplicate	103	103	99	101
440-261356-2	Grab_20200221	104	102	101	103
440-261356-2	Grab_20200221	109	103	104	108
440-261356-2 - RA	Grab_20200221	111	100	106	104
440-261421-H-1 MS	Matrix Spike	101	109	100	100
440-261421-H-1 MSD	Matrix Spike Duplicate	101	103	96	104
LCS 440-596793/1002	Lab Control Sample	100	99	101	96
LCS 440-596872/1002	Lab Control Sample	100	107	97	102
LCS 440-597804/1003	Lab Control Sample	106	100	100	102
LCSD 440-596872/6	Lab Control Sample Dup	103	106	99	97
MB 440-596793/5	Method Blank	106	100	99	102
MB 440-596872/5	Method Blank	101	104	98	105
MB 440-597804/4	Method Blank	107	102	103	104

Surrogate Legend

DCA = 1,2-Dichloroethane-d4 (Surr)
BFB = 4-Bromofluorobenzene (Surr)
DBFM = Dibromofluoromethane (Surr)
TOL = Toluene-d8 (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)
440-261356-2	Grab_20200221	73	69	61	68	36	36
LCS 440-596798/2-A	Lab Control Sample	81	74	64	80	71	90
LCSD 440-596798/3-A	Lab Control Sample Dup	78	72	58	78	66	88
MB 440-596798/1-A	Method Blank	77	74	60	75	63	93

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)
440-261356-2	Grab_20200221	52
LCS 440-596797/2-A	Lab Control Sample	54
LCSD 440-596797/3-A	Lab Control Sample Dup	59

Surrogate Summary

Client: Jacob & Hefner Associates P.C.
Project/Site: Omega Chemical Wastewater

Job ID: 440-261356-1
SDG: Omega Site

Method: 8270C SIM - 1,4 Dioxane by SIM (Continued)

Matrix: Water

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)							
Lab Sample ID	**Client Sample ID**	**DXE (27-120)**							
MB 440-596797/1-A	Method Blank	57							

Surrogate Legend

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

Method Summary

Client: Jacob & Hefner Associates P.C.
Project/Site: Omega Chemical Wastewater

Job ID: 440-261356-1
SDG: Omega Site

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 = Eurofins Calscience 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

Job ID: 440-261356-1
SDG: Omega Site

Client Sample ID: Composite_20200221

Lab Sample ID: 440-261356-1

Date Collected: 02/21/20 09:30
Matrix: Water
Date Received: 02/21/20 13:00

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	596729	02/21/20 18:00	KL	TAL IRV
Total/NA	Analysis	SM 5220D		1	2 mL	2 mL	597209	02/25/20 13:53	KYP	TAL IRV

Client Sample ID: Grab_20200221

Lab Sample ID: 440-261356-2

Date Collected: 02/21/20 09:35
Matrix: Water
Date Received: 02/21/20 13:00

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	596793	02/22/20 14:42	AYL	TAL IRV
Total/NA	Analysis	8260B		1	10 mL	10 mL	596872	02/24/20 13:07	TCN	TAL IRV
Total/NA	Analysis	8260B	RA	1	10 mL	10 mL	597804	02/28/20 12:32	TCN	TAL IRV
Total/NA	Prep	3520C			1035 mL	2.0 mL	596798	02/22/20 08:25	ACT	TAL IRV
Total/NA	Analysis	8270C		1			597276	02/25/20 19:35	JS1	TAL IRV
Total/NA	Prep	3520C			1025 mL	1.0 mL	596797	02/22/20 08:22	ACT	TAL IRV
Total/NA	Analysis	8270C SIM		1			596921	02/24/20 12:03	JS1	TAL IRV
Total/NA	Analysis	SM 4500 H+ B		1			597205	02/25/20 16:31	HZ	TAL IRV
Dissolved	Prep	SM 4500 S2 B			7.5 mL	7.5 mL	597458	02/26/20 15:20	KMY	TAL IRV
Dissolved	Analysis	SM 4500 S2 D		1			597479	02/26/20 16:38	KMY	TAL IRV
Total/NA	Analysis	Field Sampling		1			596849	02/21/20 09:35	A1W	TAL IRV

Laboratory References:

TAL IRV = Eurofins Calscience 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 440-596793/5
Matrix: Water
Analysis Batch: 596793

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			02/22/20 10:40	1
Acrolein	ND		5.0		ug/L			02/22/20 10:40	1
Acrylonitrile	ND		2.0		ug/L			02/22/20 10:40	1
Total Volatile Organic Compounds	ND		150		ug/L			02/22/20 10:40	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*106*		*70 - 130*		*02/22/20 10:40*	*1*
4-Bromofluorobenzene (Surr)	*100*		*80 - 120*		*02/22/20 10:40*	*1*
Dibromofluoromethane (Surr)	*99*		*76 - 132*		*02/22/20 10:40*	*1*
Toluene-d8 (Surr)	*102*		*80 - 128*		*02/22/20 10:40*	*1*

Lab Sample ID: LCS 440-596793/1002
Matrix: Water
Analysis Batch: 596793

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	25.7		ug/L		103	37 - 150
Acrolein	24.7	15.5		ug/L		63	10 - 145
Acrylonitrile	250	256		ug/L		103	48 - 140
Total Volatile Organic Compounds	5370	4250		ug/L		79	

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*100*		*70 - 130*
4-Bromofluorobenzene (Surr)	*99*		*80 - 120*
Dibromofluoromethane (Surr)	*101*		*76 - 132*
Toluene-d8 (Surr)	*96*		*80 - 128*

Lab Sample ID: 440-261340-A-7 MS
Matrix: Water
Analysis Batch: 596793

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
2-Chloroethyl vinyl ether	ND		10.0	ND		ug/L		14	10 - 140
Acrolein	ND		9.88	9.52		ug/L		96	10 - 147
Acrylonitrile	ND		100	119		ug/L		119	38 - 144
Total Volatile Organic Compounds	ND		3770	2800		ug/L		74	

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*106*		*70 - 130*
4-Bromofluorobenzene (Surr)	*104*		*80 - 120*
Dibromofluoromethane (Surr)	*103*		*76 - 132*
Toluene-d8 (Surr)	*100*		*80 - 128*

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

Lab Sample ID: 440-261340-A-7 MSD
Matrix: Water
Analysis Batch: 596793

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
2-Chloroethyl vinyl ether	ND		10.0	ND		ug/L		12	10 - 140	13	35
Acrolein	ND		9.88	9.07		ug/L		92	10 - 147	5	40
Acrylonitrile	ND		100	113		ug/L		113	38 - 144	5	40
Total Volatile Organic Compounds	ND		3770	2570		ug/L		68		9	

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*103*		*70 - 130*
4-Bromofluorobenzene (Surr)	*103*		*80 - 120*
Dibromofluoromethane (Surr)	*99*		*76 - 132*
Toluene-d8 (Surr)	*101*		*80 - 128*

Lab Sample ID: MB 440-596872/5
Matrix: Water
Analysis Batch: 596872

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			02/24/20 09:11	1
1,1,1-Trichloroethane	ND		1.0		ug/L			02/24/20 09:11	1
1,1,2,2-Tetrachloroethane	ND		1.0		ug/L			02/24/20 09:11	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		5.0		ug/L			02/24/20 09:11	1
1,1,2-Trichloroethane	ND		1.0		ug/L			02/24/20 09:11	1
1,1-Dichloroethane	ND		1.0		ug/L			02/24/20 09:11	1
1,1-Dichloroethene	ND		1.0		ug/L			02/24/20 09:11	1
1,1-Dichloropropene	ND		1.0		ug/L			02/24/20 09:11	1
1,2,3-Trichlorobenzene	ND		1.0		ug/L			02/24/20 09:11	1
1,2,3-Trichloropropane	ND		1.0		ug/L			02/24/20 09:11	1
1,2,4-Trichlorobenzene	ND		1.0		ug/L			02/24/20 09:11	1
1,2,4-Trimethylbenzene	ND		1.0		ug/L			02/24/20 09:11	1
1,2-Dibromo-3-Chloropropane	ND		5.0		ug/L			02/24/20 09:11	1
1,2-Dibromoethane (EDB)	ND		1.0		ug/L			02/24/20 09:11	1
1,2-Dichlorobenzene	ND		1.0		ug/L			02/24/20 09:11	1
1,2-Dichloroethane	ND		1.0		ug/L			02/24/20 09:11	1
1,2-Dichloropropane	ND		1.0		ug/L			02/24/20 09:11	1
1,3,5-Trimethylbenzene	ND		1.0		ug/L			02/24/20 09:11	1
1,3-Dichlorobenzene	ND		1.0		ug/L			02/24/20 09:11	1
1,3-Dichloropropane	ND		1.0		ug/L			02/24/20 09:11	1
1,4-Dichlorobenzene	ND		1.0		ug/L			02/24/20 09:11	1
2,2-Dichloropropane	ND		1.0		ug/L			02/24/20 09:11	1
2-Chlorotoluene	ND		1.0		ug/L			02/24/20 09:11	1
4-Chlorotoluene	ND		1.0		ug/L			02/24/20 09:11	1
Acetone	ND		10		ug/L			02/24/20 09:11	1
Benzene	ND		0.50		ug/L			02/24/20 09:11	1
Bromobenzene	ND		1.0		ug/L			02/24/20 09:11	1
Bromochloromethane	ND		1.0		ug/L			02/24/20 09:11	1
Bromodichloromethane	ND		1.0		ug/L			02/24/20 09:11	1
Bromoform	ND		1.0		ug/L			02/24/20 09:11	1
Bromomethane	ND		1.0		ug/L			02/24/20 09:11	1

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

Lab Sample ID: MB 440-596872/5
Matrix: Water
Analysis Batch: 596872

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

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Carbon tetrachloride	ND		0.50	ug/L			02/24/20 09:11	1
Chlorobenzene	ND		1.0	ug/L			02/24/20 09:11	1
Chloroethane	ND		1.0	ug/L			02/24/20 09:11	1
Chloroform	ND		1.0	ug/L			02/24/20 09:11	1
Chloromethane	ND		1.0	ug/L			02/24/20 09:11	1
cis-1,2-Dichloroethene	ND		1.0	ug/L			02/24/20 09:11	1
cis-1,3-Dichloropropene	ND		0.50	ug/L			02/24/20 09:11	1
Dibromochloromethane	ND		1.0	ug/L			02/24/20 09:11	1
Dibromomethane	ND		1.0	ug/L			02/24/20 09:11	1
Dichlorodifluoromethane	ND		1.0	ug/L			02/24/20 09:11	1
Ethylbenzene	ND		1.0	ug/L			02/24/20 09:11	1
Hexachlorobutadiene	ND		1.0	ug/L			02/24/20 09:11	1
Isopropylbenzene	ND		1.0	ug/L			02/24/20 09:11	1
m,p-Xylene	ND		1.0	ug/L			02/24/20 09:11	1
Methylene Chloride	ND		5.0	ug/L			02/24/20 09:11	1
Methyl-t-Butyl Ether (MTBE)	ND		1.0	ug/L			02/24/20 09:11	1
Naphthalene	ND		1.0	ug/L			02/24/20 09:11	1
n-Butylbenzene	ND		1.0	ug/L			02/24/20 09:11	1
N-Propylbenzene	ND		1.0	ug/L			02/24/20 09:11	1
o-Xylene	ND		1.0	ug/L			02/24/20 09:11	1
p-Isopropyltoluene	ND		1.0	ug/L			02/24/20 09:11	1
sec-Butylbenzene	ND		1.0	ug/L			02/24/20 09:11	1
Styrene	ND		1.0	ug/L			02/24/20 09:11	1
tert-Butylbenzene	ND		1.0	ug/L			02/24/20 09:11	1
Tetrachloroethene	ND		1.0	ug/L			02/24/20 09:11	1
Toluene	ND		1.0	ug/L			02/24/20 09:11	1
trans-1,2-Dichloroethene	ND		1.0	ug/L			02/24/20 09:11	1
trans-1,3-Dichloropropene	ND		0.50	ug/L			02/24/20 09:11	1
Trichloroethene	ND		1.0	ug/L			02/24/20 09:11	1
Trichlorofluoromethane	ND		1.0	ug/L			02/24/20 09:11	1
Vinyl chloride	ND		0.50	ug/L			02/24/20 09:11	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*101*		*70 - 130*		*02/24/20 09:11*	*1*
4-Bromofluorobenzene (Surr)	*104*		*80 - 120*		*02/24/20 09:11*	*1*
Dibromofluoromethane (Surr)	*98*		*76 - 132*		*02/24/20 09:11*	*1*
Toluene-d8 (Surr)	*105*		*80 - 128*		*02/24/20 09:11*	*1*

Lab Sample ID: LCS 440-596872/1002
Matrix: Water
Analysis Batch: 596872

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	24.9		ug/L		100	60 - 141
1,1,1-Trichloroethane	25.0	27.2		ug/L		109	70 - 130
1,1,2,2-Tetrachloroethane	25.0	25.3		ug/L		101	63 - 130
1,1,2-Trichloro-1,2,2-trifluoroethane	25.0	29.9		ug/L		120	60 - 140
1,1,2-Trichloroethane	25.0	24.9		ug/L		100	70 - 130

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

Lab Sample ID: LCS 440-596872/1002
Matrix: Water
Analysis Batch: 596872

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1-Dichloroethane	25.0	27.7		ug/L		111	64 - 130
1,1-Dichloroethene	25.0	26.1		ug/L		105	70 - 130
1,1-Dichloropropene	25.0	28.4		ug/L		114	70 - 130
1,2,3-Trichlorobenzene	25.0	24.6		ug/L		99	60 - 140
1,2,3-Trichloropropane	25.0	27.5		ug/L		110	63 - 130
1,2,4-Trichlorobenzene	25.0	26.1		ug/L		104	60 - 140
1,2,4-Trimethylbenzene	25.0	25.8		ug/L		103	70 - 135
1,2-Dibromo-3-Chloropropane	25.0	22.9		ug/L		92	52 - 140
1,2-Dibromoethane (EDB)	25.0	26.1		ug/L		104	70 - 130
1,2-Dichlorobenzene	25.0	25.6		ug/L		103	70 - 130
1,2-Dichloroethane	25.0	24.9		ug/L		100	57 - 138
1,2-Dichloropropane	25.0	25.9		ug/L		104	67 - 130
1,3,5-Trimethylbenzene	25.0	27.7		ug/L		111	70 - 136
1,3-Dichlorobenzene	25.0	27.3		ug/L		109	70 - 130
1,3-Dichloropropane	25.0	25.9		ug/L		103	70 - 130
1,4-Dichlorobenzene	25.0	27.0		ug/L		108	70 - 130
2,2-Dichloropropane	25.0	34.1		ug/L		137	68 - 141
2-Chlorotoluene	25.0	26.2		ug/L		105	70 - 130
4-Chlorotoluene	25.0	28.0		ug/L		112	70 - 130
Acetone	125	145		ug/L		116	10 - 150
Benzene	25.0	25.4		ug/L		101	68 - 130
Bromobenzene	25.0	26.5		ug/L		106	70 - 130
Bromochloromethane	25.0	25.1		ug/L		101	70 - 130
Bromodichloromethane	25.0	24.7		ug/L		99	70 - 132
Bromoform	25.0	23.7		ug/L		95	60 - 148
Bromomethane	25.0	30.4		ug/L		121	64 - 139
Carbon tetrachloride	25.0	26.1		ug/L		104	60 - 150
Chlorobenzene	25.0	26.3		ug/L		105	70 - 130
Chloroethane	25.0	27.8		ug/L		111	64 - 135
Chloroform	25.0	24.8		ug/L		99	70 - 130
Chloromethane	25.0	33.9		ug/L		136	47 - 140
cis-1,2-Dichloroethene	25.0	24.2		ug/L		97	70 - 133
cis-1,3-Dichloropropene	25.0	28.0		ug/L		112	70 - 133
Dibromochloromethane	25.0	23.9		ug/L		96	69 - 145
Dibromomethane	25.0	23.3		ug/L		93	70 - 130
Dichlorodifluoromethane	25.0	38.0	*	ug/L		152	29 - 150
Ethylbenzene	25.0	26.2		ug/L		105	70 - 130
Hexachlorobutadiene	25.0	27.8		ug/L		111	10 - 150
Isopropylbenzene	25.0	26.1		ug/L		104	70 - 136
m,p-Xylene	25.0	26.0		ug/L		104	70 - 130
Methylene Chloride	25.0	25.1		ug/L		101	52 - 130
Methyl-t-Butyl Ether (MTBE)	25.0	24.9		ug/L		99	63 - 131
Naphthalene	25.0	24.3		ug/L		97	60 - 140
n-Butylbenzene	25.0	26.8		ug/L		107	65 - 150
N-Propylbenzene	25.0	27.1		ug/L		108	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	27.1		ug/L		108	70 - 138
Styrene	25.0	26.6		ug/L		106	70 - 134

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

Lab Sample ID: LCS 440-596872/1002
Matrix: Water
Analysis Batch: 596872

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
tert-Butylbenzene	25.0	27.0		ug/L		108	70 - 130
Tetrachloroethene	25.0	25.8		ug/L		103	70 - 130
Toluene	25.0	25.0		ug/L		100	70 - 130
trans-1,2-Dichloroethene	25.0	27.2		ug/L		109	70 - 130
trans-1,3-Dichloropropene	25.0	30.1		ug/L		121	70 - 132
Trichloroethene	25.0	26.4		ug/L		106	70 - 130
Trichlorofluoromethane	25.0	27.8		ug/L		111	60 - 150
Vinyl chloride	25.0	34.1	*	ug/L		136	59 - 133

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*100*		*70 - 130*
4-Bromofluorobenzene (Surr)	*107*		*80 - 120*
Dibromofluoromethane (Surr)	*97*		*76 - 132*
Toluene-d8 (Surr)	*102*		*80 - 128*

Lab Sample ID: LCSD 440-596872/6
Matrix: Water
Analysis Batch: 596872

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

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,1,1,2-Tetrachloroethane	25.0	24.2		ug/L		97	60 - 141	3	20
1,1,1-Trichloroethane	25.0	28.0		ug/L		112	70 - 130	3	20
1,1,2,2-Tetrachloroethane	25.0	24.8		ug/L		99	63 - 130	2	25
1,1,2-Trichloro-1,2,2-trifluoroethane	25.0	29.5		ug/L		118	60 - 140	2	20
1,1,2-Trichloroethane	25.0	23.9		ug/L		96	70 - 130	4	20
1,1-Dichloroethane	25.0	28.2		ug/L		113	64 - 130	1	20
1,1-Dichloroethene	25.0	25.3		ug/L		101	70 - 130	3	20
1,1-Dichloropropene	25.0	29.9		ug/L		120	70 - 130	5	20
1,2,3-Trichlorobenzene	25.0	24.5		ug/L		98	60 - 140	1	20
1,2,3-Trichloropropane	25.0	26.3		ug/L		105	63 - 130	5	20
1,2,4-Trichlorobenzene	25.0	26.1		ug/L		104	60 - 140	0	20
1,2,4-Trimethylbenzene	25.0	26.5		ug/L		106	70 - 135	3	20
1,2-Dibromo-3-Chloropropane	25.0	23.0		ug/L		92	52 - 140	0	30
1,2-Dibromoethane (EDB)	25.0	24.0		ug/L		96	70 - 130	8	20
1,2-Dichlorobenzene	25.0	24.6		ug/L		98	70 - 130	4	20
1,2-Dichloroethane	25.0	24.7		ug/L		99	57 - 138	1	20
1,2-Dichloropropane	25.0	24.9		ug/L		100	67 - 130	4	20
1,3,5-Trimethylbenzene	25.0	28.0		ug/L		112	70 - 136	1	20
1,3-Dichlorobenzene	25.0	26.8		ug/L		107	70 - 130	2	20
1,3-Dichloropropane	25.0	24.8		ug/L		99	70 - 130	4	20
1,4-Dichlorobenzene	25.0	26.9		ug/L		108	70 - 130	0	20
2,2-Dichloropropane	25.0	35.6	*	ug/L		142	68 - 141	4	25
2-Chlorotoluene	25.0	26.8		ug/L		107	70 - 130	2	20
4-Chlorotoluene	25.0	28.0		ug/L		112	70 - 130	0	20
Acetone	125	137		ug/L		109	10 - 150	6	30
Benzene	25.0	25.6		ug/L		102	68 - 130	1	20
Bromobenzene	25.0	26.5		ug/L		106	70 - 130	0	20
Bromochloromethane	25.0	25.2		ug/L		101	70 - 130	0	20

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

Lab Sample ID: LCSD 440-596872/6
Matrix: Water
Analysis Batch: 596872

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

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Bromodichloromethane	25.0	24.3		ug/L		97	70 - 132	1	20
Bromoform	25.0	22.5		ug/L		90	60 - 148	5	25
Bromomethane	25.0	31.1		ug/L		125	64 - 139	3	20
Carbon tetrachloride	25.0	27.1		ug/L		109	60 - 150	4	25
Chlorobenzene	25.0	24.6		ug/L		98	70 - 130	7	20
Chloroethane	25.0	29.9		ug/L		120	64 - 135	7	20
Chloroform	25.0	25.0		ug/L		100	70 - 130	1	20
Chloromethane	25.0	33.5		ug/L		134	47 - 140	1	25
cis-1,2-Dichloroethene	25.0	25.1		ug/L		101	70 - 133	4	20
cis-1,3-Dichloropropene	25.0	26.1		ug/L		104	70 - 133	7	25
Dibromochloromethane	25.0	24.3		ug/L		97	69 - 145	2	20
Dibromomethane	25.0	22.9		ug/L		92	70 - 130	2	20
Dichlorodifluoromethane	25.0	38.3	*	ug/L		153	29 - 150	1	30
Ethylbenzene	25.0	25.6		ug/L		102	70 - 130	2	20
Hexachlorobutadiene	25.0	27.4		ug/L		110	10 - 150	1	20
Isopropylbenzene	25.0	25.9		ug/L		104	70 - 136	1	20
m,p-Xylene	25.0	25.6		ug/L		102	70 - 130	2	20
Methylene Chloride	25.0	24.4		ug/L		98	52 - 130	3	20
Methyl-t-Butyl Ether (MTBE)	25.0	24.4		ug/L		98	63 - 131	2	25
Naphthalene	25.0	23.8		ug/L		95	60 - 140	2	25
n-Butylbenzene	25.0	27.5		ug/L		110	65 - 150	3	20
N-Propylbenzene	25.0	27.5		ug/L		110	67 - 139	2	20
o-Xylene	25.0	26.7		ug/L		107	70 - 130	1	20
p-Isopropyltoluene	25.0	27.0		ug/L		108	70 - 132	1	20
sec-Butylbenzene	25.0	27.3		ug/L		109	70 - 138	1	20
Styrene	25.0	25.7		ug/L		103	70 - 134	3	20
tert-Butylbenzene	25.0	27.1		ug/L		109	70 - 130	0	20
Tetrachloroethene	25.0	25.5		ug/L		102	70 - 130	1	20
Toluene	25.0	24.4		ug/L		98	70 - 130	3	20
trans-1,2-Dichloroethene	25.0	27.8		ug/L		111	70 - 130	2	20
trans-1,3-Dichloropropene	25.0	27.5		ug/L		110	70 - 132	9	20
Trichloroethene	25.0	26.8		ug/L		107	70 - 130	1	20
Trichlorofluoromethane	25.0	32.4		ug/L		129	60 - 150	15	20
Vinyl chloride	25.0	34.2	*	ug/L		137	59 - 133	0	30

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*103*		*70 - 130*
4-Bromofluorobenzene (Surr)	*106*		*80 - 120*
Dibromofluoromethane (Surr)	*99*		*76 - 132*
Toluene-d8 (Surr)	*97*		*80 - 128*

Lab Sample ID: 440-261421-H-1 MS
Matrix: Water
Analysis Batch: 596872

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		10.0	10.6		ug/L		106	60 - 149
1,1,1-Trichloroethane	ND		10.0	10.2		ug/L		102	70 - 130

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

Lab Sample ID: 440-261421-H-1 MS
Matrix: Water
Analysis Batch: 596872

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
1,1,2,2-Tetrachloroethane	ND		10.0	12.2		ug/L		122	63 - 130
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		10.0	11.9		ug/L		119	60 - 140
1,1,2-Trichloroethane	ND		10.0	11.0		ug/L		110	70 - 130
1,1-Dichloroethane	ND		10.0	10.4		ug/L		104	65 - 130
1,1-Dichloroethene	ND		10.0	12.2		ug/L		122	70 - 130
1,1-Dichloropropene	ND		10.0	10.8		ug/L		108	64 - 130
1,2,3-Trichlorobenzene	ND		10.0	10.4		ug/L		104	60 - 140
1,2,3-Trichloropropane	ND		10.0	12.5		ug/L		125	60 - 130
1,2,4-Trichlorobenzene	ND		10.0	10.4		ug/L		104	60 - 140
1,2,4-Trimethylbenzene	ND		10.0	11.2		ug/L		112	70 - 130
1,2-Dibromo-3-Chloropropane	ND		10.0	9.71		ug/L		97	48 - 140
1,2-Dibromoethane (EDB)	ND		10.0	10.8		ug/L		108	70 - 131
1,2-Dichlorobenzene	ND		10.0	10.4		ug/L		104	70 - 130
1,2-Dichloroethane	ND		10.0	10.4		ug/L		104	56 - 146
1,2-Dichloropropane	ND		10.0	11.0		ug/L		110	69 - 130
1,3,5-Trimethylbenzene	ND		10.0	11.3		ug/L		113	70 - 130
1,3-Dichlorobenzene	ND		10.0	10.4		ug/L		104	70 - 130
1,3-Dichloropropane	ND		10.0	10.4		ug/L		104	70 - 130
1,4-Dichlorobenzene	ND		10.0	10.9		ug/L		109	70 - 130
2,2-Dichloropropane	ND	*	10.0	12.5		ug/L		125	69 - 138
2-Chlorotoluene	ND		10.0	10.7		ug/L		107	70 - 130
4-Chlorotoluene	ND		10.0	10.9		ug/L		109	70 - 130
Acetone	ND	F1	50.0	87.0	F1	ug/L		174	10 - 150
Benzene	ND		10.0	10.4		ug/L		104	66 - 130
Bromobenzene	ND		10.0	10.9		ug/L		109	70 - 130
Bromochloromethane	ND		10.0	10.1		ug/L		101	70 - 130
Bromodichloromethane	ND		10.0	9.95		ug/L		99	70 - 138
Bromoform	ND		10.0	10.1		ug/L		101	59 - 150
Bromomethane	ND		10.0	11.3		ug/L		113	62 - 131
Carbon tetrachloride	ND		10.0	9.74		ug/L		97	60 - 150
Chlorobenzene	ND		10.0	10.4		ug/L		104	70 - 130
Chloroethane	ND		10.0	11.6		ug/L		116	68 - 130
Chloroform	ND		10.0	10.3		ug/L		101	70 - 130
Chloromethane	ND		10.0	12.6		ug/L		126	39 - 144
cis-1,2-Dichloroethene	ND		10.0	9.61		ug/L		96	70 - 130
cis-1,3-Dichloropropene	ND		10.0	11.0		ug/L		110	70 - 133
Dibromochloromethane	ND		10.0	10.0		ug/L		100	70 - 148
Dibromomethane	ND		10.0	10.4		ug/L		104	70 - 130
Dichlorodifluoromethane	ND	*	10.0	12.9		ug/L		129	25 - 142
Ethylbenzene	ND		10.0	10.8		ug/L		108	70 - 130
Hexachlorobutadiene	ND		10.0	11.0		ug/L		110	10 - 150
Isopropylbenzene	ND		10.0	10.5		ug/L		105	70 - 132
m,p-Xylene	ND		10.0	9.96		ug/L		100	70 - 133
Methylene Chloride	ND		10.0	10.2		ug/L		102	52 - 130
Methyl-t-Butyl Ether (MTBE)	ND		10.0	10.6		ug/L		106	70 - 130
Naphthalene	ND		10.0	10.9		ug/L		103	60 - 140
n-Butylbenzene	ND		10.0	11.1		ug/L		111	61 - 149
N-Propylbenzene	ND		10.0	11.5		ug/L		115	66 - 135

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

Lab Sample ID: 440-261421-H-1 MS
Matrix: Water
Analysis Batch: 596872

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
o-Xylene	ND		10.0	10.7		ug/L		107	70 - 133
p-Isopropyltoluene	ND		10.0	11.0		ug/L		110	70 - 130
sec-Butylbenzene	ND		10.0	11.0		ug/L		110	67 - 134
Styrene	ND		10.0	10.4		ug/L		104	29 - 150
tert-Butylbenzene	ND		10.0	10.9		ug/L		109	70 - 130
Tetrachloroethene	ND		10.0	10.7		ug/L		107	70 - 137
Toluene	ND		10.0	10.5		ug/L		105	70 - 130
trans-1,2-Dichloroethene	ND		10.0	10.2		ug/L		102	70 - 130
trans-1,3-Dichloropropene	ND		10.0	11.3		ug/L		113	70 - 138
Trichloroethene	ND		10.0	10.3		ug/L		103	70 - 130
Trichlorofluoromethane	ND		10.0	10.8		ug/L		108	60 - 150
Vinyl chloride	ND	*	10.0	12.3		ug/L		123	50 - 137

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*101*		*70 - 130*
4-Bromofluorobenzene (Surr)	*109*		*80 - 120*
Dibromofluoromethane (Surr)	*100*		*76 - 132*
Toluene-d8 (Surr)	*100*		*80 - 128*

Lab Sample ID: 440-261421-H-1 MSD
Matrix: Water
Analysis Batch: 596872

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		10.0	9.72		ug/L		97	60 - 149	8	20
1,1,1-Trichloroethane	ND		10.0	9.72		ug/L		97	70 - 130	5	20
1,1,2,2-Tetrachloroethane	ND		10.0	11.7		ug/L		117	63 - 130	3	30
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		10.0	11.1		ug/L		111	60 - 140	7	20
1,1,2-Trichloroethane	ND		10.0	10.6		ug/L		106	70 - 130	3	25
1,1-Dichloroethane	ND		10.0	10.3		ug/L		103	65 - 130	0	20
1,1-Dichloroethene	ND		10.0	11.4		ug/L		114	70 - 130	6	20
1,1-Dichloropropene	ND		10.0	10.5		ug/L		105	64 - 130	3	20
1,2,3-Trichlorobenzene	ND		10.0	9.72		ug/L		97	60 - 140	7	20
1,2,3-Trichloropropane	ND		10.0	12.4		ug/L		124	60 - 130	1	30
1,2,4-Trichlorobenzene	ND		10.0	10.2		ug/L		102	60 - 140	2	20
1,2,4-Trimethylbenzene	ND		10.0	10.4		ug/L		104	70 - 130	7	25
1,2-Dibromo-3-Chloropropane	ND		10.0	9.23		ug/L		92	48 - 140	5	30
1,2-Dibromoethane (EDB)	ND		10.0	10.6		ug/L		106	70 - 131	2	25
1,2-Dichlorobenzene	ND		10.0	9.82		ug/L		98	70 - 130	6	20
1,2-Dichloroethane	ND		10.0	10.4		ug/L		104	56 - 146	1	20
1,2-Dichloropropane	ND		10.0	10.9		ug/L		109	69 - 130	1	20
1,3,5-Trimethylbenzene	ND		10.0	10.3		ug/L		103	70 - 130	9	20
1,3-Dichlorobenzene	ND		10.0	9.93		ug/L		99	70 - 130	4	20
1,3-Dichloropropane	ND		10.0	10.7		ug/L		107	70 - 130	2	25
1,4-Dichlorobenzene	ND		10.0	9.98		ug/L		100	70 - 130	9	20
2,2-Dichloropropane	ND	*	10.0	12.6		ug/L		126	69 - 138	0	25
2-Chlorotoluene	ND		10.0	9.96		ug/L		100	70 - 130	7	20
4-Chlorotoluene	ND		10.0	10.4		ug/L		104	70 - 130	4	20

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

Lab Sample ID: 440-261421-H-1 MSD
Matrix: Water
Analysis Batch: 596872

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	F1	50.0	76.9	F1	ug/L		154	10 - 150	12	35
Benzene	ND		10.0	9.95		ug/L		100	66 - 130	4	20
Bromobenzene	ND		10.0	10.1		ug/L		101	70 - 130	8	20
Bromochloromethane	ND		10.0	9.66		ug/L		97	70 - 130	4	25
Bromodichloromethane	ND		10.0	9.98		ug/L		100	70 - 138	0	20
Bromoform	ND		10.0	10.1		ug/L		101	59 - 150	0	25
Bromomethane	ND		10.0	11.2		ug/L		112	62 - 131	1	25
Carbon tetrachloride	ND		10.0	9.54		ug/L		95	60 - 150	2	25
Chlorobenzene	ND		10.0	10.4		ug/L		104	70 - 130	1	20
Chloroethane	ND		10.0	11.0		ug/L		110	68 - 130	5	25
Chloroform	ND		10.0	10.5		ug/L		103	70 - 130	2	20
Chloromethane	ND		10.0	11.5		ug/L		115	39 - 144	9	25
cis-1,2-Dichloroethene	ND		10.0	9.61		ug/L		96	70 - 130	0	20
cis-1,3-Dichloropropene	ND		10.0	11.7		ug/L		117	70 - 133	7	20
Dibromochloromethane	ND		10.0	10.1		ug/L		101	70 - 148	1	25
Dibromomethane	ND		10.0	9.78		ug/L		98	70 - 130	6	25
Dichlorodifluoromethane	ND	*	10.0	11.9		ug/L		119	25 - 142	8	30
Ethylbenzene	ND		10.0	10.5		ug/L		105	70 - 130	2	20
Hexachlorobutadiene	ND		10.0	9.86		ug/L		99	10 - 150	11	20
Isopropylbenzene	ND		10.0	10.6		ug/L		106	70 - 132	1	20
m,p-Xylene	ND		10.0	10.2		ug/L		102	70 - 133	2	25
Methylene Chloride	ND		10.0	10.1		ug/L		101	52 - 130	1	20
Methyl-t-Butyl Ether (MTBE)	ND		10.0	10.3		ug/L		103	70 - 130	3	25
Naphthalene	ND		10.0	10.2		ug/L		97	60 - 140	6	30
n-Butylbenzene	ND		10.0	10.3		ug/L		103	61 - 149	8	20
N-Propylbenzene	ND		10.0	10.8		ug/L		108	66 - 135	6	20
o-Xylene	ND		10.0	10.8		ug/L		108	70 - 133	1	20
p-Isopropyltoluene	ND		10.0	9.65		ug/L		96	70 - 130	13	20
sec-Butylbenzene	ND		10.0	9.97		ug/L		100	67 - 134	10	20
Styrene	ND		10.0	10.6		ug/L		106	29 - 150	2	35
tert-Butylbenzene	ND		10.0	9.86		ug/L		99	70 - 130	10	20
Tetrachloroethene	ND		10.0	10.7		ug/L		107	70 - 137	0	20
Toluene	ND		10.0	10.4		ug/L		104	70 - 130	1	20
trans-1,2-Dichloroethene	ND		10.0	9.59		ug/L		96	70 - 130	6	20
trans-1,3-Dichloropropene	ND		10.0	12.4		ug/L		124	70 - 138	9	25
Trichloroethene	ND		10.0	9.47		ug/L		95	70 - 130	8	20
Trichlorofluoromethane	ND		10.0	10.4		ug/L		104	60 - 150	4	25
Vinyl chloride	ND	*	10.0	11.8		ug/L		118	50 - 137	4	30

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*101*		*70 - 130*
4-Bromofluorobenzene (Surr)	*103*		*80 - 120*
Dibromofluoromethane (Surr)	*96*		*76 - 132*
Toluene-d8 (Surr)	*104*		*80 - 128*

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

Lab Sample ID: MB 440-597804/4 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 597804

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Isopropyl alcohol	ND		250		ug/L			02/28/20 10:02	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*107*		*70 - 130*		*02/28/20 10:02*	*1*
4-Bromofluorobenzene (Surr)	*102*		*80 - 120*		*02/28/20 10:02*	*1*
Dibromofluoromethane (Surr)	*103*		*76 - 132*		*02/28/20 10:02*	*1*
Toluene-d8 (Surr)	*104*		*80 - 128*		*02/28/20 10:02*	*1*

Lab Sample ID: LCS 440-597804/1003 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 597804

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Isopropyl alcohol			250	197	J	ug/L		79	49 - 142		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*106*		*70 - 130*
4-Bromofluorobenzene (Surr)	*100*		*80 - 120*
Dibromofluoromethane (Surr)	*100*		*76 - 132*
Toluene-d8 (Surr)	*102*		*80 - 128*

Lab Sample ID: 320-58882-A-1 MS — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 597804

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Isopropyl alcohol	ND		250	ND		ug/L		93	46 - 142		

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*102*		*70 - 130*
4-Bromofluorobenzene (Surr)	*96*		*80 - 120*
Dibromofluoromethane (Surr)	*101*		*76 - 132*
Toluene-d8 (Surr)	*100*		*80 - 128*

Lab Sample ID: 320-58882-A-1 MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 597804

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Isopropyl alcohol	ND		250	ND		ug/L		92	46 - 142	1	40

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*106*		*70 - 130*
4-Bromofluorobenzene (Surr)	*99*		*80 - 120*
Dibromofluoromethane (Surr)	*100*		*76 - 132*
Toluene-d8 (Surr)	*98*		*80 - 128*

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

Lab Sample ID: MB 440-596798/1-A
Matrix: Water
Analysis Batch: 597124

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 596798

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
1,2,4-Trichlorobenzene	ND		10		ug/L		02/22/20 08:25	02/25/20 10:50	1
1,2-Dichlorobenzene	ND		10		ug/L		02/22/20 08:25	02/25/20 10:50	1
1,2-Diphenylhydrazine(as Azobenzene)	ND		20		ug/L		02/22/20 08:25	02/25/20 10:50	1
1,3-Dichlorobenzene	ND		10		ug/L		02/22/20 08:25	02/25/20 10:50	1
1,4-Dichlorobenzene	ND		10		ug/L		02/22/20 08:25	02/25/20 10:50	1
2,4,5-Trichlorophenol	ND		20		ug/L		02/22/20 08:25	02/25/20 10:50	1
2,4,6-Trichlorophenol	ND		20		ug/L		02/22/20 08:25	02/25/20 10:50	1
2,4-Dichlorophenol	ND		10		ug/L		02/22/20 08:25	02/25/20 10:50	1
2,4-Dimethylphenol	ND		20		ug/L		02/22/20 08:25	02/25/20 10:50	1
2,4-Dinitrophenol	ND		40		ug/L		02/22/20 08:25	02/25/20 10:50	1
2,4-Dinitrotoluene	ND		10		ug/L		02/22/20 08:25	02/25/20 10:50	1
2,6-Dinitrotoluene	ND		10		ug/L		02/22/20 08:25	02/25/20 10:50	1
2-Chloronaphthalene	ND		10		ug/L		02/22/20 08:25	02/25/20 10:50	1
2-Chlorophenol	ND		10		ug/L		02/22/20 08:25	02/25/20 10:50	1
2-Methylnaphthalene	ND		10		ug/L		02/22/20 08:25	02/25/20 10:50	1
2-Methylphenol	ND		10		ug/L		02/22/20 08:25	02/25/20 10:50	1
2-Nitroaniline	ND		20		ug/L		02/22/20 08:25	02/25/20 10:50	1
2-Nitrophenol	ND		10		ug/L		02/22/20 08:25	02/25/20 10:50	1
3,3'-Dichlorobenzidine	ND		40		ug/L		02/22/20 08:25	02/25/20 10:50	1
3-Methylphenol + 4-Methylphenol	ND		10		ug/L		02/22/20 08:25	02/25/20 10:50	1
3-Nitroaniline	ND		20		ug/L		02/22/20 08:25	02/25/20 10:50	1
4,6-Dinitro-2-methylphenol	ND		20		ug/L		02/22/20 08:25	02/25/20 10:50	1
4-Bromophenyl phenyl ether	ND		10		ug/L		02/22/20 08:25	02/25/20 10:50	1
4-Chloro-3-methylphenol	ND		20		ug/L		02/22/20 08:25	02/25/20 10:50	1
4-Chloroaniline	ND		10		ug/L		02/22/20 08:25	02/25/20 10:50	1
4-Chlorophenyl phenyl ether	ND		10		ug/L		02/22/20 08:25	02/25/20 10:50	1
4-Nitroaniline	ND		20		ug/L		02/22/20 08:25	02/25/20 10:50	1
4-Nitrophenol	ND		20		ug/L		02/22/20 08:25	02/25/20 10:50	1
Acenaphthene	ND		10		ug/L		02/22/20 08:25	02/25/20 10:50	1
Acenaphthylene	ND		10		ug/L		02/22/20 08:25	02/25/20 10:50	1
Aniline	ND		10		ug/L		02/22/20 08:25	02/25/20 10:50	1
Anthracene	ND		10		ug/L		02/22/20 08:25	02/25/20 10:50	1
Benzidine	ND		40		ug/L		02/22/20 08:25	02/25/20 10:50	1
Benzo[a]anthracene	ND		10		ug/L		02/22/20 08:25	02/25/20 10:50	1
Benzo[a]pyrene	ND		10		ug/L		02/22/20 08:25	02/25/20 10:50	1
Benzo[b]fluoranthene	ND		10		ug/L		02/22/20 08:25	02/25/20 10:50	1
Benzo[g,h,i]perylene	ND		10		ug/L		02/22/20 08:25	02/25/20 10:50	1
Benzo[k]fluoranthene	ND		10		ug/L		02/22/20 08:25	02/25/20 10:50	1
Benzoic acid	ND		20		ug/L		02/22/20 08:25	02/25/20 10:50	1
Benzyl alcohol	ND		20		ug/L		02/22/20 08:25	02/25/20 10:50	1
bis (2-chloroisopropyl) ether	ND		10		ug/L		02/22/20 08:25	02/25/20 10:50	1
Bis(2-chloroethoxy)methane	ND		10		ug/L		02/22/20 08:25	02/25/20 10:50	1
Bis(2-chloroethyl)ether	ND		10		ug/L		02/22/20 08:25	02/25/20 10:50	1
Bis(2-ethylhexyl) phthalate	ND		20		ug/L		02/22/20 08:25	02/25/20 10:50	1
Butyl benzyl phthalate	ND		20		ug/L		02/22/20 08:25	02/25/20 10:50	1
Chrysene	ND		10		ug/L		02/22/20 08:25	02/25/20 10:50	1
Dibenz(a,h)anthracene	ND		20		ug/L		02/22/20 08:25	02/25/20 10:50	1
Dibenzofuran	ND		10		ug/L		02/22/20 08:25	02/25/20 10:50	1

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

Lab Sample ID: MB 440-596798/1-A
Matrix: Water
Analysis Batch: 597124

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 596798

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Diethyl phthalate	ND		10	ug/L		02/22/20 08:25	02/25/20 10:50	1
Dimethyl phthalate	ND		10	ug/L		02/22/20 08:25	02/25/20 10:50	1
Di-n-butyl phthalate	ND		20	ug/L		02/22/20 08:25	02/25/20 10:50	1
Di-n-octyl phthalate	ND		20	ug/L		02/22/20 08:25	02/25/20 10:50	1
Fluoranthene	ND		10	ug/L		02/22/20 08:25	02/25/20 10:50	1
Fluorene	ND		10	ug/L		02/22/20 08:25	02/25/20 10:50	1
Hexachlorobenzene	ND		10	ug/L		02/22/20 08:25	02/25/20 10:50	1
Hexachlorobutadiene	ND		10	ug/L		02/22/20 08:25	02/25/20 10:50	1
Hexachlorocyclopentadiene	ND		20	ug/L		02/22/20 08:25	02/25/20 10:50	1
Hexachloroethane	ND		10	ug/L		02/22/20 08:25	02/25/20 10:50	1
Indeno[1,2,3-cd]pyrene	ND		20	ug/L		02/22/20 08:25	02/25/20 10:50	1
Isophorone	ND		10	ug/L		02/22/20 08:25	02/25/20 10:50	1
Naphthalene	ND		10	ug/L		02/22/20 08:25	02/25/20 10:50	1
Nitrobenzene	ND		20	ug/L		02/22/20 08:25	02/25/20 10:50	1
N-Nitrosodimethylamine	ND		20	ug/L		02/22/20 08:25	02/25/20 10:50	1
N-Nitrosodi-n-propylamine	ND		10	ug/L		02/22/20 08:25	02/25/20 10:50	1
N-Nitrosodiphenylamine	ND		10	ug/L		02/22/20 08:25	02/25/20 10:50	1
Pentachlorophenol	ND		20	ug/L		02/22/20 08:25	02/25/20 10:50	1
Phenanthrene	ND		10	ug/L		02/22/20 08:25	02/25/20 10:50	1
Phenol	ND		10	ug/L		02/22/20 08:25	02/25/20 10:50	1
Pyrene	ND		10	ug/L		02/22/20 08:25	02/25/20 10:50	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol (Surr)	*77*		*40 - 120*	*02/22/20 08:25*	*02/25/20 10:50*	*1*
2-Fluorobiphenyl	*74*		*50 - 120*	*02/22/20 08:25*	*02/25/20 10:50*	*1*
2-Fluorophenol (Surr)	*60*		*30 - 120*	*02/22/20 08:25*	*02/25/20 10:50*	*1*
Nitrobenzene-d5 (Surr)	*75*		*45 - 120*	*02/22/20 08:25*	*02/25/20 10:50*	*1*
Phenol-d6 (Surr)	*63*		*35 - 120*	*02/22/20 08:25*	*02/25/20 10:50*	*1*
Terphenyl-d14 (Surr)	*93*		*10 - 150*	*02/22/20 08:25*	*02/25/20 10:50*	*1*

Lab Sample ID: LCS 440-596798/2-A
Matrix: Water
Analysis Batch: 597124

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 596798

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,2,4-Trichlorobenzene	100	76.2		ug/L		76	25 - 84
1,2-Dichlorobenzene	100	67.8		ug/L		68	24 - 85
1,2-Diphenylhydrazine(as Azobenzene)	100	79.8		ug/L		80	44 - 113
1,3-Dichlorobenzene	100	65.5		ug/L		66	20 - 80
1,4-Dichlorobenzene	100	68.6		ug/L		69	22 - 81
2,4,5-Trichlorophenol	100	80.8		ug/L		81	24 - 121
2,4,6-Trichlorophenol	100	81.8		ug/L		82	20 - 121
2,4-Dichlorophenol	100	76.0		ug/L		76	23 - 113
2,4-Dimethylphenol	100	72.8		ug/L		73	39 - 94
2,4-Dinitrophenol	200	150		ug/L		75	23 - 134
2,4-Dinitrotoluene	100	82.5		ug/L		83	54 - 115
2,6-Dinitrotoluene	100	77.0		ug/L		77	50 - 115
2-Chloronaphthalene	100	80.8		ug/L		81	34 - 102

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

Lab Sample ID: LCS 440-596798/2-A
Matrix: Water
Analysis Batch: 597124

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 596798

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
2-Chlorophenol	100	68.1		ug/L		68	20 - 106
2-Methylnaphthalene	100	76.1		ug/L		76	34 - 98
2-Methylphenol	100	72.8		ug/L		73	36 - 103
2-Nitroaniline	100	74.5		ug/L		74	48 - 111
2-Nitrophenol	100	67.7		ug/L		68	20 - 117
3,3'-Dichlorobenzidine	100	74.8		ug/L		75	22 - 97
3-Methylphenol + 4-Methylphenol	100	80.3		ug/L		80	35 - 106
3-Nitroaniline	100	62.3		ug/L		62	51 - 116
4,6-Dinitro-2-methylphenol	200	165		ug/L		82	28 - 139
4-Bromophenyl phenyl ether	100	80.3		ug/L		80	42 - 113
4-Chloro-3-methylphenol	100	83.3		ug/L		83	44 - 110
4-Chloroaniline	100	67.3		ug/L		67	42 - 109
4-Chlorophenyl phenyl ether	100	86.4		ug/L		86	38 - 115
4-Nitroaniline	100	70.4		ug/L		70	50 - 116
4-Nitrophenol	200	190		ug/L		95	26 - 132
Acenaphthene	100	77.8		ug/L		78	37 - 107
Acenaphthylene	100	73.8		ug/L		74	39 - 107
Aniline	100	68.8		ug/L		69	27 - 115
Anthracene	100	82.2		ug/L		82	42 - 120
Benzidine	100	20.6	J	ug/L		21	5 - 150
Benzo[a]anthracene	100	85.5		ug/L		85	42 - 115
Benzo[a]pyrene	100	75.3		ug/L		75	41 - 117
Benzo[b]fluoranthene	100	79.1		ug/L		79	36 - 113
Benzo[g,h,i]perylene	100	83.2		ug/L		83	37 - 115
Benzo[k]fluoranthene	100	82.3		ug/L		82	42 - 122
Benzoic acid	100	68.8		ug/L		69	15 - 121
Benzyl alcohol	100	65.5		ug/L		66	39 - 106
bis (2-chloroisopropyl) ether	100	78.6		ug/L		79	38 - 104
Bis(2-chloroethoxy)methane	100	76.6		ug/L		77	47 - 104
Bis(2-chloroethyl)ether	100	74.4		ug/L		74	42 - 99
Bis(2-ethylhexyl) phthalate	100	84.8		ug/L		85	43 - 124
Butyl benzyl phthalate	100	80.2		ug/L		80	44 - 122
Chrysene	100	89.7		ug/L		90	42 - 118
Dibenz(a,h)anthracene	100	80.5		ug/L		80	40 - 114
Dibenzofuran	100	81.4		ug/L		81	37 - 113
Diethyl phthalate	100	84.1		ug/L		84	51 - 120
Dimethyl phthalate	100	80.8		ug/L		81	49 - 113
Di-n-butyl phthalate	100	83.5		ug/L		84	47 - 125
Di-n-octyl phthalate	100	76.9		ug/L		77	42 - 125
Fluoranthene	100	83.4		ug/L		83	44 - 119
Fluorene	100	83.3		ug/L		83	39 - 116
Hexachlorobenzene	100	83.9		ug/L		84	43 - 112
Hexachlorobutadiene	100	80.4	*	ug/L		80	14 - 77
Hexachlorocyclopentadiene	100	32.3		ug/L		32	10 - 77
Hexachloroethane	100	71.4		ug/L		71	13 - 75
Indeno[1,2,3-cd]pyrene	100	97.7		ug/L		98	35 - 116
Isophorone	100	78.3		ug/L		78	48 - 107
Naphthalene	100	74.0		ug/L		74	33 - 95
Nitrobenzene	100	77.5		ug/L		78	42 - 99

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

Lab Sample ID: LCS 440-596798/2-A
Matrix: Water
Analysis Batch: 597124

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 596798

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
N-Nitrosodimethylamine	100	66.8		ug/L		67	35 - 96
N-Nitrosodi-n-propylamine	100	83.1		ug/L		83	44 - 111
N-Nitrosodiphenylamine	100	80.9		ug/L		81	46 - 116
Pentachlorophenol	200	145		ug/L		72	26 - 136
Phenanthrene	100	81.7		ug/L		82	43 - 120
Phenol	100	75.7		ug/L		76	25 - 99
Pyrene	100	81.3		ug/L		81	43 - 119

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
2,4,6-Tribromophenol (Surr)	*81*		*40 - 120*
2-Fluorobiphenyl	*74*		*50 - 120*
2-Fluorophenol (Surr)	*64*		*30 - 120*
Nitrobenzene-d5 (Surr)	*80*		*45 - 120*
Phenol-d6 (Surr)	*71*		*35 - 120*
Terphenyl-d14 (Surr)	*90*		*10 - 150*

Lab Sample ID: LCSD 440-596798/3-A
Matrix: Water
Analysis Batch: 597124

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 596798

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,2,4-Trichlorobenzene	100	74.6		ug/L		75	25 - 84	2	35
1,2-Dichlorobenzene	100	66.4		ug/L		66	24 - 85	2	35
1,2-Diphenylhydrazine(as Azobenzene)	100	77.1		ug/L		77	44 - 113	4	35
1,3-Dichlorobenzene	100	61.3		ug/L		61	20 - 80	7	35
1,4-Dichlorobenzene	100	64.5		ug/L		64	22 - 81	6	35
2,4,5-Trichlorophenol	100	80.1		ug/L		80	24 - 121	1	35
2,4,6-Trichlorophenol	100	80.5		ug/L		80	20 - 121	2	35
2,4-Dichlorophenol	100	75.8		ug/L		76	23 - 113	0	35
2,4-Dimethylphenol	100	69.8		ug/L		70	39 - 94	4	35
2,4-Dinitrophenol	200	143		ug/L		72	23 - 134	4	35
2,4-Dinitrotoluene	100	82.2		ug/L		82	54 - 115	0	35
2,6-Dinitrotoluene	100	75.8		ug/L		76	50 - 115	2	35
2-Chloronaphthalene	100	78.0		ug/L		78	34 - 102	4	35
2-Chlorophenol	100	63.2		ug/L		63	20 - 106	8	35
2-Methylnaphthalene	100	75.8		ug/L		76	34 - 98	0	35
2-Methylphenol	100	68.1		ug/L		68	36 - 103	7	35
2-Nitroaniline	100	74.2		ug/L		74	48 - 111	0	35
2-Nitrophenol	100	67.7		ug/L		68	20 - 117	0	35
3,3'-Dichlorobenzidine	100	72.4		ug/L		72	22 - 97	3	35
3-Methylphenol + 4-Methylphenol	100	75.3		ug/L		75	35 - 106	6	35
3-Nitroaniline	100	62.6		ug/L		63	51 - 116	1	35
4,6-Dinitro-2-methylphenol	200	166		ug/L		83	28 - 139	1	35
4-Bromophenyl phenyl ether	100	77.0		ug/L		77	42 - 113	4	35
4-Chloro-3-methylphenol	100	83.2		ug/L		83	44 - 110	0	35
4-Chloroaniline	100	68.7		ug/L		69	42 - 109	2	35
4-Chlorophenyl phenyl ether	100	84.7		ug/L		85	38 - 115	2	35
4-Nitroaniline	100	69.0		ug/L		69	50 - 116	2	35

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

Lab Sample ID: LCSD 440-596798/3-A
Matrix: Water
Analysis Batch: 597124

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 596798

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
4-Nitrophenol			200	186		ug/L		93	26 - 132	2	35
Acenaphthene			100	76.6		ug/L		77	37 - 107	2	35
Acenaphthylene			100	72.1		ug/L		72	39 - 107	2	35
Aniline			100	65.1		ug/L		65	27 - 115	6	35
Anthracene			100	77.5		ug/L		78	42 - 120	6	35
Benzidine			100	ND		ug/L		15	5 - 150	32	35
Benzo[a]anthracene			100	83.6		ug/L		84	42 - 115	2	35
Benzo[a]pyrene			100	73.2		ug/L		73	41 - 117	3	35
Benzo[b]fluoranthene			100	76.5		ug/L		77	36 - 113	3	35
Benzo[g,h,i]perylene			100	80.1		ug/L		80	37 - 115	4	35
Benzo[k]fluoranthene			100	79.4		ug/L		79	42 - 122	4	35
Benzoic acid			100	72.9		ug/L		73	15 - 121	6	35
Benzyl alcohol			100	69.0		ug/L		69	39 - 106	5	35
bis (2-chloroisopropyl) ether			100	73.3		ug/L		73	38 - 104	7	35
Bis(2-chloroethoxy)methane			100	74.3		ug/L		74	47 - 104	3	35
Bis(2-chloroethyl)ether			100	69.3		ug/L		69	42 - 99	7	35
Bis(2-ethylhexyl) phthalate			100	81.0		ug/L		81	43 - 124	5	35
Butyl benzyl phthalate			100	77.9		ug/L		78	44 - 122	3	35
Chrysene			100	89.1		ug/L		89	42 - 118	1	35
Dibenz(a,h)anthracene			100	78.4		ug/L		78	40 - 114	3	35
Dibenzofuran			100	79.1		ug/L		79	37 - 113	3	35
Diethyl phthalate			100	84.4		ug/L		84	51 - 120	0	35
Dimethyl phthalate			100	79.6		ug/L		80	49 - 113	1	35
Di-n-butyl phthalate			100	80.3		ug/L		80	47 - 125	4	35
Di-n-octyl phthalate			100	73.8		ug/L		74	42 - 125	4	35
Fluoranthene			100	80.9		ug/L		81	44 - 119	3	35
Fluorene			100	82.2		ug/L		82	39 - 116	1	35
Hexachlorobenzene			100	80.1		ug/L		80	43 - 112	5	35
Hexachlorobutadiene			100	78.0	*	ug/L		78	14 - 77	3	35
Hexachlorocyclopentadiene			100	32.9		ug/L		33	10 - 77	2	35
Hexachloroethane			100	67.0		ug/L		67	13 - 75	6	35
Indeno[1,2,3-cd]pyrene			100	96.0		ug/L		96	35 - 116	2	35
Isophorone			100	77.1		ug/L		77	48 - 107	2	35
Naphthalene			100	73.3		ug/L		73	33 - 95	1	35
Nitrobenzene			100	74.8		ug/L		75	42 - 99	4	35
N-Nitrosodimethylamine			100	63.2		ug/L		63	35 - 96	5	35
N-Nitrosodi-n-propylamine			100	77.8		ug/L		78	44 - 111	7	35
N-Nitrosodiphenylamine			100	79.7		ug/L		80	46 - 116	1	35
Pentachlorophenol			200	147		ug/L		73	26 - 136	1	35
Phenanthrene			100	78.2		ug/L		78	43 - 120	4	35
Phenol			100	70.3		ug/L		70	25 - 99	7	35
Pyrene			100	78.6		ug/L		79	43 - 119	3	35

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
2,4,6-Tribromophenol (Surr)	*78*		*40 - 120*
2-Fluorobiphenyl	*72*		*50 - 120*
2-Fluorophenol (Surr)	*58*		*30 - 120*
Nitrobenzene-d5 (Surr)	*78*		*45 - 120*

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

Lab Sample ID: LCSD 440-596798/3-A
Matrix: Water
Analysis Batch: 597124

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 596798

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
Phenol-d6 (Surr)	*66*		*35 - 120*
Terphenyl-d14 (Surr)	*88*		*10 - 150*

Method: 8270C SIM - 1,4 Dioxane by SIM

Lab Sample ID: MB 440-596797/1-A
Matrix: Water
Analysis Batch: 596921

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 596797

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	ND		0.50		ug/L		02/22/20 08:22	02/24/20 10:58	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,4-Dioxane-d8 (Surr)	*57*		*27 - 120*	*02/22/20 08:22*	*02/24/20 10:58*	*1*

Lab Sample ID: LCS 440-596797/2-A
Matrix: Water
Analysis Batch: 596921

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 596797

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
1,4-Dioxane			2.00	1.15		ug/L		58	36 - 120		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1,4-Dioxane-d8 (Surr)	*54*		*27 - 120*

Lab Sample ID: LCSD 440-596797/3-A
Matrix: Water
Analysis Batch: 596921

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 596797

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,4-Dioxane			2.00	1.21		ug/L		61	36 - 120	5	35

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
1,4-Dioxane-d8 (Surr)	*59*		*27 - 120*

Method: SM 2540D - Solids, Total Suspended (TSS)

Lab Sample ID: MB 440-596729/1
Matrix: Water
Analysis Batch: 596729

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			02/21/20 18:00	1

Method: SM 2540D - Solids, Total Suspended (TSS) (Continued)

Lab Sample ID: LCS 440-596729/2 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 596729

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Total Suspended Solids			1000	1020		mg/L		102	85 - 115		

Lab Sample ID: 440-261355-C-1 DU — **Client Sample ID: Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 596729

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Total Suspended Solids	1600			1570		mg/L				2	10

Method: SM 4500 H+ B - pH

Lab Sample ID: 440-261408-A-11 DU — **Client Sample ID: Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 597205

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
pH	8.7			8.7		SU				0.1	2

Method: SM 4500 S2 D - Sulfide, Total

Lab Sample ID: MB 440-597458/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Dissolved**
Analysis Batch: 597479 — **Prep Batch: 597458**

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Sulfide, Dissolved	ND		0.050		mg/L		02/26/20 15:20	02/26/20 16:37	1

Lab Sample ID: LCS 440-597458/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Dissolved**
Analysis Batch: 597479 — **Prep Batch: 597458**

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Sulfide, Dissolved			0.500	0.517		mg/L		103	80 - 120		

Lab Sample ID: LCSD 440-597458/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Dissolved**
Analysis Batch: 597479 — **Prep Batch: 597458**

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Sulfide, Dissolved			0.500	0.459		mg/L		92	80 - 120	12	20

Lab Sample ID: 550-138200-D-1-B MS — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Dissolved**
Analysis Batch: 597479 — **Prep Batch: 597458**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Sulfide, Dissolved	ND	HF	0.500	0.478	HF	mg/L		96	70 - 130		

Method: SM 4500 S2 D - Sulfide, Total (Continued)

Lab Sample ID: 550-138200-D-1-C MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Dissolved**
Analysis Batch: 597479 — **Prep Batch: 597458**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Sulfide, Dissolved	ND	HF	0.500	0.492	HF	mg/L		98	70 - 130	3	30

Method: SM 5220D - COD

Lab Sample ID: MB 440-597209/3 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 597209

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chemical Oxygen Demand	ND		20	mg/L			02/25/20 13:51	1

Lab Sample ID: LCS 440-597209/4 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 597209

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chemical Oxygen Demand	200	199		mg/L		100	90 - 110

Lab Sample ID: 440-261356-1 MS — **Client Sample ID: Composite_20200221**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 597209

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Chemical Oxygen Demand	ND		200	191		mg/L		96	70 - 120

Lab Sample ID: 440-261356-1 MSD — **Client Sample ID: Composite_20200221**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 597209

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chemical Oxygen Demand	ND		200	195		mg/L		98	70 - 120	2	15

QC Association Summary

Client: Jacob & Hefner Associates P.C.
Project/Site: Omega Chemical Wastewater

Job ID: 440-261356-1
SDG: Omega Site

GC/MS VOA

Analysis Batch: 596793

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-261356-2	Grab_20200221	Total/NA	Water	8260B	
MB 440-596793/5	Method Blank	Total/NA	Water	8260B	
LCS 440-596793/1002	Lab Control Sample	Total/NA	Water	8260B	
440-261340-A-7 MS	Matrix Spike	Total/NA	Water	8260B	
440-261340-A-7 MSD	Matrix Spike Duplicate	Total/NA	Water	8260B	

Analysis Batch: 596872

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-261356-2	Grab_20200221	Total/NA	Water	8260B	
MB 440-596872/5	Method Blank	Total/NA	Water	8260B	
LCS 440-596872/1002	Lab Control Sample	Total/NA	Water	8260B	
LCSD 440-596872/6	Lab Control Sample Dup	Total/NA	Water	8260B	
440-261421-H-1 MS	Matrix Spike	Total/NA	Water	8260B	
440-261421-H-1 MSD	Matrix Spike Duplicate	Total/NA	Water	8260B	

Analysis Batch: 597804

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-261356-2 - RA	Grab_20200221	Total/NA	Water	8260B	
MB 440-597804/4	Method Blank	Total/NA	Water	8260B	
LCS 440-597804/1003	Lab Control Sample	Total/NA	Water	8260B	
320-58882-A-1 MS	Matrix Spike	Total/NA	Water	8260B	
320-58882-A-1 MSD	Matrix Spike Duplicate	Total/NA	Water	8260B	

GC/MS Semi VOA

Prep Batch: 596797

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-261356-2	Grab_20200221	Total/NA	Water	3520C	
MB 440-596797/1-A	Method Blank	Total/NA	Water	3520C	
LCS 440-596797/2-A	Lab Control Sample	Total/NA	Water	3520C	
LCSD 440-596797/3-A	Lab Control Sample Dup	Total/NA	Water	3520C	

Prep Batch: 596798

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-261356-2	Grab_20200221	Total/NA	Water	3520C	
MB 440-596798/1-A	Method Blank	Total/NA	Water	3520C	
LCS 440-596798/2-A	Lab Control Sample	Total/NA	Water	3520C	
LCSD 440-596798/3-A	Lab Control Sample Dup	Total/NA	Water	3520C	

Analysis Batch: 596921

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-261356-2	Grab_20200221	Total/NA	Water	8270C SIM	596797
MB 440-596797/1-A	Method Blank	Total/NA	Water	8270C SIM	596797
LCS 440-596797/2-A	Lab Control Sample	Total/NA	Water	8270C SIM	596797
LCSD 440-596797/3-A	Lab Control Sample Dup	Total/NA	Water	8270C SIM	596797

Analysis Batch: 597124

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 440-596798/1-A	Method Blank	Total/NA	Water	8270C	596798
LCS 440-596798/2-A	Lab Control Sample	Total/NA	Water	8270C	596798
LCSD 440-596798/3-A	Lab Control Sample Dup	Total/NA	Water	8270C	596798

QC Association Summary

Client: Jacob & Hefner Associates P.C.
Project/Site: Omega Chemical Wastewater

Job ID: 440-261356-1
SDG: Omega Site

GC/MS Semi VOA

Analysis Batch: 597276

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-261356-2	Grab_20200221	Total/NA	Water	8270C	596798

General Chemistry

Analysis Batch: 596729

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-261356-1	Composite_20200221	Total/NA	Water	SM 2540D	
MB 440-596729/1	Method Blank	Total/NA	Water	SM 2540D	
LCS 440-596729/2	Lab Control Sample	Total/NA	Water	SM 2540D	
440-261355-C-1 DU	Duplicate	Total/NA	Water	SM 2540D	

Analysis Batch: 597205

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-261356-2	Grab_20200221	Total/NA	Water	SM 4500 H+ B	
440-261408-A-11 DU	Duplicate	Total/NA	Water	SM 4500 H+ B	

Analysis Batch: 597209

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-261356-1	Composite_20200221	Total/NA	Water	SM 5220D	
MB 440-597209/3	Method Blank	Total/NA	Water	SM 5220D	
LCS 440-597209/4	Lab Control Sample	Total/NA	Water	SM 5220D	
440-261356-1 MS	Composite_20200221	Total/NA	Water	SM 5220D	
440-261356-1 MSD	Composite_20200221	Total/NA	Water	SM 5220D	

Prep Batch: 597458

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-261356-2	Grab_20200221	Dissolved	Water	SM 4500 S2 B	
MB 440-597458/1-A	Method Blank	Dissolved	Water	SM 4500 S2 B	
LCS 440-597458/2-A	Lab Control Sample	Dissolved	Water	SM 4500 S2 B	
LCSD 440-597458/3-A	Lab Control Sample Dup	Dissolved	Water	SM 4500 S2 B	
550-138200-D-1-B MS	Matrix Spike	Dissolved	Water	SM 4500 S2 B	
550-138200-D-1-C MSD	Matrix Spike Duplicate	Dissolved	Water	SM 4500 S2 B	

Analysis Batch: 597479

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-261356-2	Grab_20200221	Dissolved	Water	SM 4500 S2 D	597458
MB 440-597458/1-A	Method Blank	Dissolved	Water	SM 4500 S2 D	597458
LCS 440-597458/2-A	Lab Control Sample	Dissolved	Water	SM 4500 S2 D	597458
LCSD 440-597458/3-A	Lab Control Sample Dup	Dissolved	Water	SM 4500 S2 D	597458
550-138200-D-1-B MS	Matrix Spike	Dissolved	Water	SM 4500 S2 D	597458
550-138200-D-1-C MSD	Matrix Spike Duplicate	Dissolved	Water	SM 4500 S2 D	597458

Field Service / Mobile Lab

Analysis Batch: 596849

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-261356-2	Grab_20200221	Total/NA	Water	Field Sampling	

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
*	LCS or LCSD is outside acceptance limits.
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.

GC/MS Semi VOA

Qualifier	Qualifier Description
*	LCS or LCSD 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.

General Chemistry

Qualifier	Qualifier Description
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

Job ID: 440-261356-1
SDG: Omega Site

Laboratory: Eurofins Calscience Irvine

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

Authority	Program	Identification Number	Expiration Date
California	State	2706	06-30-20

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	Dichlorodifluoromethane
8260B		Water	Total Volatile Organic Compounds
8270C	3520C	Water	2,4,6-Tribromophenol (Surr)
8270C	3520C	Water	2-Fluorobiphenyl
8270C SIM	3520C	Water	1,4-Dioxane
Field Sampling		Water	Field pH

Eurofins Calscience Irvine
17461 Derian Ave Suite 100
Irvine, CA 92614-5817
Phone: 949-261-1022 Fax: 949-260-3297

Chain of Custody Record

eurofins Calscience

Client Information	Sampler: F Reyes	Lab PM: Roberts, Danielle C	Carrier Tracking No(s):	COC No. 440-180623-32732.1
Client Contact: Pamela Henriksen	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: phenriksen@jacobandhefner.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	2-21-20	9:30	C	Water			X	X						2	Isco Set up
Grab	2-21-20	9:35	G	Water					X	X	X	X	X	12	02-20-20 @ 9:00
															= 393506
															02-21-20 @ 9:00
								2/21/2020							= 401040
											A.K				
															Field Grab
															PH= 8.73

440-261356 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: 2-21-20 1300	Company: B-T	Received by:	Date/Time: 2/21/20 1300	Company: EC-Irv
Relinquished by:	Date/Time:	Company:	Received by:	Date/Time:	Company:
Relinquished by:	Date/Time:	Company:	Received by:	Date/Time:	Company:

Custody Seals Intact: Δ Yes Δ No
Custody Seal No.:
Cooler Temperature(s) °C and Other Remarks: Tap 3.7/3.7 1293

Ver: 01/16/2019

Login Sample Receipt Checklist

Client: Jacob & Hefner Associates P.C.

Job Number: 440-261356-1
SDG Number: Omega Site

Login Number: 261356
List Number: 1
Creator: Soderblom, Tim

List Source: Eurofins 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	

ANALYTICAL REPORT

Eurofins Calscience Irvine
17461 Derian Ave
Suite 100
Irvine, CA 92614-5817
Tel: (949)261-1022

Laboratory Job ID: 440-262641-1
Laboratory Sample Delivery Group: Omega Chemical
Client Project/Site: Omega Chemical - GWCS Monthly

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

Attn: Trent Henderson

Authorized for release by:
3/17/2020 4:01:47 PM

Danielle Roberts, Senior Project Manager
(949)260-3249
danielle.roberts@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 - GWCS Monthly

Job ID: 440-262641-1
SDG: Omega Chemical

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
440-262641-1	OC_SP220B_EFF_031020	Water	03/10/20 10:30	03/11/20 15:51	
440-262641-2	OC_SP210_INF_031020	Water	03/10/20 10:35	03/11/20 10:56	
440-262641-3	OC_TB_031020	Water	03/10/20 10:00	03/11/20 10:56	

Job ID: 440-262641-1

Laboratory: Eurofins Calscience Irvine

Narrative

Job Narrative
440-262641-1

Comments
No additional comments.

Receipt
The samples were received on 3/11/2020 10:56 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 4.9º C.

GC/MS VOA
Method 8260B: The continuing calibration verification (CCV) associated with batch 440-600239 recovered above the upper control limit for 1,1,1-Trichloroethane, 2,2-Dichloropropane, Carbon tetrachloride, Trichlorofluoromethane and Chloroform. 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_031020 (440-262641-1), OC_SP210_INF_031020 (440-262641-2), OC_TB_031020 (440-262641-3) and (CCVIS 440-600239/2).

Method 8260B: The laboratory control sample (LCS) for analytical batch 440-600239 recovered outside control limits for the following analytes: 1,1,1-Trichloroethane and 2,2-Dichloropropane. These analytes were biased high in the LCS and were not detected in the associated samples; therefore, the data have been reported.

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 - GWCS Monthly

Job ID: 440-262641-1
SDG: Omega Chemical

Client Sample ID: OC_SP220B_EFF_031020 — Lab Sample ID: 440-262641-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Methylene Chloride	0.97	J	5.0	0.88	ug/L	1		8260B	Total/NA
1,4-Dioxane	18		0.49	0.097	ug/L	1		8270C SIM	Total/NA

Client Sample ID: OC_SP210_INF_031020 — Lab Sample ID: 440-262641-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,1-Dichloroethene	38		1.0	0.25	ug/L	1		8260B	Total/NA
1,2-Dichloroethane	3.1		1.0	0.25	ug/L	1		8260B	Total/NA
Trichloroethene	28		1.0	0.25	ug/L	1		8260B	Total/NA
1,1,2-Trichloro-1,2,2-trifluoroethane - DL	120		25	2.5	ug/L	5		8260B	Total/NA
Tetrachloroethene - DL	270		5.0	1.3	ug/L	5		8260B	Total/NA
1,1,1-Trichloroethane - RA	0.76	J	1.0	0.25	ug/L	1		8260B	Total/NA
Chloroform - RA	15		1.0	0.25	ug/L	1		8260B	Total/NA
Trichlorofluoromethane - RA	24		1.0	0.25	ug/L	1		8260B	Total/NA

Client Sample ID: OC_TB_031020 — Lab Sample ID: 440-262641-3

No Detections.

This Detection Summary does not include radiochemical test results.

Client Sample Results

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

Job ID: 440-262641-1
SDG: Omega Chemical

Client Sample ID: OC_SP220B_EFF_031020

Lab Sample ID: 440-262641-1

Date Collected: 03/10/20 10:30
Matrix: Water
Date Received: 03/11/20 15:51

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			03/12/20 20:48	1
1,1,1-Trichloroethane	ND	*	1.0	0.25	ug/L			03/12/20 20:48	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.25	ug/L			03/12/20 20:48	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		5.0	0.50	ug/L			03/12/20 20:48	1
1,1,2-Trichloroethane	ND		1.0	0.25	ug/L			03/12/20 20:48	1
1,1-Dichloroethane	ND		1.0	0.25	ug/L			03/12/20 20:48	1
1,1-Dichloroethene	ND		1.0	0.25	ug/L			03/12/20 20:48	1
1,1-Dichloropropene	ND		1.0	0.25	ug/L			03/12/20 20:48	1
1,2,3-Trichlorobenzene	ND		1.0	0.40	ug/L			03/12/20 20:48	1
1,2,3-Trichloropropane	ND		1.0	0.40	ug/L			03/12/20 20:48	1
1,2,4-Trichlorobenzene	ND		1.0	0.40	ug/L			03/12/20 20:48	1
1,2,4-Trimethylbenzene	ND		1.0	0.25	ug/L			03/12/20 20:48	1
1,2-Dibromo-3-Chloropropane	ND		5.0	0.50	ug/L			03/12/20 20:48	1
1,2-Dibromoethane (EDB)	ND		1.0	0.25	ug/L			03/12/20 20:48	1
1,2-Dichlorobenzene	ND		1.0	0.25	ug/L			03/12/20 20:48	1
1,2-Dichloroethane	ND		1.0	0.25	ug/L			03/12/20 20:48	1
1,2-Dichloropropane	ND		1.0	0.25	ug/L			03/12/20 20:48	1
1,3,5-Trimethylbenzene	ND		1.0	0.25	ug/L			03/12/20 20:48	1
1,3-Dichlorobenzene	ND		1.0	0.25	ug/L			03/12/20 20:48	1
1,3-Dichloropropane	ND		1.0	0.25	ug/L			03/12/20 20:48	1
1,4-Dichlorobenzene	ND		1.0	0.25	ug/L			03/12/20 20:48	1
2,2-Dichloropropane	ND	*	1.0	0.40	ug/L			03/12/20 20:48	1
2-Chlorotoluene	ND		1.0	0.25	ug/L			03/12/20 20:48	1
4-Chlorotoluene	ND		1.0	0.25	ug/L			03/12/20 20:48	1
Acetone	ND		10	10	ug/L			03/12/20 20:48	1
Benzene	ND		0.50	0.25	ug/L			03/12/20 20:48	1
Bromobenzene	ND		1.0	0.25	ug/L			03/12/20 20:48	1
Bromochloromethane	ND		1.0	0.25	ug/L			03/12/20 20:48	1
Bromodichloromethane	ND		1.0	0.25	ug/L			03/12/20 20:48	1
Bromoform	ND		1.0	0.40	ug/L			03/12/20 20:48	1
Bromomethane	ND		1.0	0.25	ug/L			03/12/20 20:48	1
Carbon tetrachloride	ND		0.50	0.25	ug/L			03/12/20 20:48	1
Chlorobenzene	ND		1.0	0.25	ug/L			03/12/20 20:48	1
Chloroethane	ND		1.0	0.40	ug/L			03/12/20 20:48	1
Chloroform	ND		1.0	0.25	ug/L			03/12/20 20:48	1
Chloromethane	ND		1.0	0.25	ug/L			03/12/20 20:48	1
cis-1,2-Dichloroethene	ND		1.0	0.25	ug/L			03/12/20 20:48	1
cis-1,3-Dichloropropene	ND		0.50	0.25	ug/L			03/12/20 20:48	1
Dibromochloromethane	ND		1.0	0.25	ug/L			03/12/20 20:48	1
Dibromomethane	ND		1.0	0.25	ug/L			03/12/20 20:48	1
Dichlorodifluoromethane	ND		1.0	0.40	ug/L			03/12/20 20:48	1
Ethylbenzene	ND		1.0	0.25	ug/L			03/12/20 20:48	1
Hexachlorobutadiene	ND		1.0	0.25	ug/L			03/12/20 20:48	1
Isopropyl alcohol	ND		250	180	ug/L			03/12/20 20:48	1
Isopropylbenzene	ND		1.0	0.25	ug/L			03/12/20 20:48	1
m,p-Xylene	ND		1.0	0.50	ug/L			03/12/20 20:48	1
Methylene Chloride	**0.97**	**J**	5.0	0.88	ug/L			03/12/20 20:48	1
Methyl-t-Butyl Ether (MTBE)	ND		1.0	0.25	ug/L			03/12/20 20:48	1
Naphthalene	ND		1.0	0.40	ug/L			03/12/20 20:48	1

Client Sample ID: OC_SP220B_EFF_031020

Lab Sample ID: 440-262641-1

Date Collected: 03/10/20 10:30
Matrix: Water
Date Received: 03/11/20 15:51

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			03/12/20 20:48	1
N-Propylbenzene	ND		1.0	0.25	ug/L			03/12/20 20:48	1
o-Xylene	ND		1.0	0.25	ug/L			03/12/20 20:48	1
p-Isopropyltoluene	ND		1.0	0.25	ug/L			03/12/20 20:48	1
sec-Butylbenzene	ND		1.0	0.25	ug/L			03/12/20 20:48	1
Styrene	ND		1.0	0.25	ug/L			03/12/20 20:48	1
tert-Butylbenzene	ND		1.0	0.25	ug/L			03/12/20 20:48	1
Tetrachloroethene	ND		1.0	0.25	ug/L			03/12/20 20:48	1
Toluene	ND		1.0	0.25	ug/L			03/12/20 20:48	1
trans-1,2-Dichloroethene	ND		1.0	0.25	ug/L			03/12/20 20:48	1
trans-1,3-Dichloropropene	ND		0.50	0.25	ug/L			03/12/20 20:48	1
Trichloroethene	ND		1.0	0.25	ug/L			03/12/20 20:48	1
Trichlorofluoromethane	ND		1.0	0.25	ug/L			03/12/20 20:48	1
Vinyl chloride	ND		0.50	0.25	ug/L			03/12/20 20:48	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*129*		*70 - 130*		*03/12/20 20:48*	*1*
4-Bromofluorobenzene (Surr)	*103*		*80 - 120*		*03/12/20 20:48*	*1*
Dibromofluoromethane (Surr)	*112*		*76 - 132*		*03/12/20 20:48*	*1*
Toluene-d8 (Surr)	*100*		*80 - 128*		*03/12/20 20:48*	*1*

Method: 8270C SIM - 1,4 Dioxane by SIM

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	**18**		0.49	0.097	ug/L		03/12/20 07:30	03/13/20 10:21	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,4-Dioxane-d8 (Surr)	*67*		*27 - 120*	*03/12/20 07:30*	*03/13/20 10:21*	*1*

Client Sample ID: OC_SP210_INF_031020

Lab Sample ID: 440-262641-2

Date Collected: 03/10/20 10:35
Matrix: Water
Date Received: 03/11/20 10:56

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			03/12/20 21:15	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.25	ug/L			03/12/20 21:15	1
1,1,2-Trichloroethane	ND		1.0	0.25	ug/L			03/12/20 21:15	1
1,1-Dichloroethane	ND		1.0	0.25	ug/L			03/12/20 21:15	1
1,1-Dichloroethene	**38**		1.0	0.25	ug/L			03/12/20 21:15	1
1,1-Dichloropropene	ND		1.0	0.25	ug/L			03/12/20 21:15	1
1,2,3-Trichlorobenzene	ND		1.0	0.40	ug/L			03/12/20 21:15	1
1,2,3-Trichloropropane	ND		1.0	0.40	ug/L			03/12/20 21:15	1
1,2,4-Trichlorobenzene	ND		1.0	0.40	ug/L			03/12/20 21:15	1
1,2,4-Trimethylbenzene	ND		1.0	0.25	ug/L			03/12/20 21:15	1
1,2-Dibromo-3-Chloropropane	ND		5.0	0.50	ug/L			03/12/20 21:15	1
1,2-Dibromoethane (EDB)	ND		1.0	0.25	ug/L			03/12/20 21:15	1
1,2-Dichlorobenzene	ND		1.0	0.25	ug/L			03/12/20 21:15	1
1,2-Dichloroethane	**3.1**		1.0	0.25	ug/L			03/12/20 21:15	1
1,2-Dichloropropane	ND		1.0	0.25	ug/L			03/12/20 21:15	1
1,3,5-Trimethylbenzene	ND		1.0	0.25	ug/L			03/12/20 21:15	1
1,3-Dichlorobenzene	ND		1.0	0.25	ug/L			03/12/20 21:15	1

Client Sample Results

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

Job ID: 440-262641-1
SDG: Omega Chemical

Client Sample ID: OC_SP210_INF_031020

Lab Sample ID: 440-262641-2

Date Collected: 03/10/20 10:35
Matrix: Water
Date Received: 03/11/20 10:56

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			03/12/20 21:15	1
1,4-Dichlorobenzene	ND		1.0	0.25	ug/L			03/12/20 21:15	1
2,2-Dichloropropane	ND	*	1.0	0.40	ug/L			03/12/20 21:15	1
2-Chlorotoluene	ND		1.0	0.25	ug/L			03/12/20 21:15	1
4-Chlorotoluene	ND		1.0	0.25	ug/L			03/12/20 21:15	1
Acetone	ND		10	10	ug/L			03/12/20 21:15	1
Benzene	ND		0.50	0.25	ug/L			03/12/20 21:15	1
Bromobenzene	ND		1.0	0.25	ug/L			03/12/20 21:15	1
Bromochloromethane	ND		1.0	0.25	ug/L			03/12/20 21:15	1
Bromodichloromethane	ND		1.0	0.25	ug/L			03/12/20 21:15	1
Bromoform	ND		1.0	0.40	ug/L			03/12/20 21:15	1
Bromomethane	ND		1.0	0.25	ug/L			03/12/20 21:15	1
Carbon tetrachloride	ND		0.50	0.25	ug/L			03/12/20 21:15	1
Chlorobenzene	ND		1.0	0.25	ug/L			03/12/20 21:15	1
Chloroethane	ND		1.0	0.40	ug/L			03/12/20 21:15	1
Chloromethane	ND		1.0	0.25	ug/L			03/12/20 21:15	1
cis-1,2-Dichloroethene	ND		1.0	0.25	ug/L			03/12/20 21:15	1
cis-1,3-Dichloropropene	ND		0.50	0.25	ug/L			03/12/20 21:15	1
Dibromochloromethane	ND		1.0	0.25	ug/L			03/12/20 21:15	1
Dibromomethane	ND		1.0	0.25	ug/L			03/12/20 21:15	1
Dichlorodifluoromethane	ND		1.0	0.40	ug/L			03/12/20 21:15	1
Ethylbenzene	ND		1.0	0.25	ug/L			03/12/20 21:15	1
Hexachlorobutadiene	ND		1.0	0.25	ug/L			03/12/20 21:15	1
Isopropyl alcohol	ND		250	180	ug/L			03/12/20 21:15	1
Isopropylbenzene	ND		1.0	0.25	ug/L			03/12/20 21:15	1
m,p-Xylene	ND		1.0	0.50	ug/L			03/12/20 21:15	1
Methylene Chloride	ND		5.0	0.88	ug/L			03/12/20 21:15	1
Methyl-t-Butyl Ether (MTBE)	ND		1.0	0.25	ug/L			03/12/20 21:15	1
Naphthalene	ND		1.0	0.40	ug/L			03/12/20 21:15	1
n-Butylbenzene	ND		1.0	0.40	ug/L			03/12/20 21:15	1
N-Propylbenzene	ND		1.0	0.25	ug/L			03/12/20 21:15	1
o-Xylene	ND		1.0	0.25	ug/L			03/12/20 21:15	1
p-Isopropyltoluene	ND		1.0	0.25	ug/L			03/12/20 21:15	1
sec-Butylbenzene	ND		1.0	0.25	ug/L			03/12/20 21:15	1
Styrene	ND		1.0	0.25	ug/L			03/12/20 21:15	1
tert-Butylbenzene	ND		1.0	0.25	ug/L			03/12/20 21:15	1
Toluene	ND		1.0	0.25	ug/L			03/12/20 21:15	1
trans-1,2-Dichloroethene	ND		1.0	0.25	ug/L			03/12/20 21:15	1
trans-1,3-Dichloropropene	ND		0.50	0.25	ug/L			03/12/20 21:15	1
Trichloroethene	**28**		1.0	0.25	ug/L			03/12/20 21:15	1
Vinyl chloride	ND		0.50	0.25	ug/L			03/12/20 21:15	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*125*		*70 - 130*		*03/12/20 21:15*	*1*
4-Bromofluorobenzene (Surr)	*106*		*80 - 120*		*03/12/20 21:15*	*1*
Dibromofluoromethane (Surr)	*111*		*76 - 132*		*03/12/20 21:15*	*1*
Toluene-d8 (Surr)	*100*		*80 - 128*		*03/12/20 21:15*	*1*

Client Sample Results

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

Job ID: 440-262641-1
SDG: Omega Chemical

Client Sample ID: OC_SP210_INF_031020

Lab Sample ID: 440-262641-2
Date Collected: 03/10/20 10:35
Matrix: Water
Date Received: 03/11/20 10:56

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	120		25	2.5	ug/L			03/13/20 13:34	5
Tetrachloroethene	270		5.0	1.3	ug/L			03/13/20 13:34	5

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*106*		*70 - 130*		*03/13/20 13:34*	*5*
4-Bromofluorobenzene (Surr)	*87*		*80 - 120*		*03/13/20 13:34*	*5*
Dibromofluoromethane (Surr)	*114*		*76 - 132*		*03/13/20 13:34*	*5*
Toluene-d8 (Surr)	*98*		*80 - 128*		*03/13/20 13:34*	*5*

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	0.76	J	1.0	0.25	ug/L			03/13/20 13:06	1
Chloroform	15		1.0	0.25	ug/L			03/13/20 13:06	1
Trichlorofluoromethane	24		1.0	0.25	ug/L			03/13/20 13:06	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*107*		*70 - 130*		*03/13/20 13:06*	*1*
4-Bromofluorobenzene (Surr)	*87*		*80 - 120*		*03/13/20 13:06*	*1*
Dibromofluoromethane (Surr)	*111*		*76 - 132*		*03/13/20 13:06*	*1*
Toluene-d8 (Surr)	*97*		*80 - 128*		*03/13/20 13:06*	*1*

Client Sample ID: OC_TB_031020

Lab Sample ID: 440-262641-3
Date Collected: 03/10/20 10:00
Matrix: Water
Date Received: 03/11/20 10:56

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			03/12/20 21:42	1
1,1,1-Trichloroethane	ND	*	1.0	0.25	ug/L			03/12/20 21:42	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.25	ug/L			03/12/20 21:42	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		5.0	0.50	ug/L			03/12/20 21:42	1
1,1,2-Trichloroethane	ND		1.0	0.25	ug/L			03/12/20 21:42	1
1,1-Dichloroethane	ND		1.0	0.25	ug/L			03/12/20 21:42	1
1,1-Dichloroethene	ND		1.0	0.25	ug/L			03/12/20 21:42	1
1,1-Dichloropropene	ND		1.0	0.25	ug/L			03/12/20 21:42	1
1,2,3-Trichlorobenzene	ND		1.0	0.40	ug/L			03/12/20 21:42	1
1,2,3-Trichloropropane	ND		1.0	0.40	ug/L			03/12/20 21:42	1
1,2,4-Trichlorobenzene	ND		1.0	0.40	ug/L			03/12/20 21:42	1
1,2,4-Trimethylbenzene	ND		1.0	0.25	ug/L			03/12/20 21:42	1
1,2-Dibromo-3-Chloropropane	ND		5.0	0.50	ug/L			03/12/20 21:42	1
1,2-Dibromoethane (EDB)	ND		1.0	0.25	ug/L			03/12/20 21:42	1
1,2-Dichlorobenzene	ND		1.0	0.25	ug/L			03/12/20 21:42	1
1,2-Dichloroethane	ND		1.0	0.25	ug/L			03/12/20 21:42	1
1,2-Dichloropropane	ND		1.0	0.25	ug/L			03/12/20 21:42	1
1,3,5-Trimethylbenzene	ND		1.0	0.25	ug/L			03/12/20 21:42	1
1,3-Dichlorobenzene	ND		1.0	0.25	ug/L			03/12/20 21:42	1
1,3-Dichloropropane	ND		1.0	0.25	ug/L			03/12/20 21:42	1
1,4-Dichlorobenzene	ND		1.0	0.25	ug/L			03/12/20 21:42	1
2,2-Dichloropropane	ND	*	1.0	0.40	ug/L			03/12/20 21:42	1
2-Chlorotoluene	ND		1.0	0.25	ug/L			03/12/20 21:42	1

Client Sample Results

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

Job ID: 440-262641-1
SDG: Omega Chemical

Client Sample ID: OC_TB_031020

Lab Sample ID: 440-262641-3

Date Collected: 03/10/20 10:00
Matrix: Water
Date Received: 03/11/20 10:56

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			03/12/20 21:42	1
Acetone	ND		10	10	ug/L			03/12/20 21:42	1
Benzene	ND		0.50	0.25	ug/L			03/12/20 21:42	1
Bromobenzene	ND		1.0	0.25	ug/L			03/12/20 21:42	1
Bromochloromethane	ND		1.0	0.25	ug/L			03/12/20 21:42	1
Bromodichloromethane	ND		1.0	0.25	ug/L			03/12/20 21:42	1
Bromoform	ND		1.0	0.40	ug/L			03/12/20 21:42	1
Bromomethane	ND		1.0	0.25	ug/L			03/12/20 21:42	1
Carbon tetrachloride	ND		0.50	0.25	ug/L			03/12/20 21:42	1
Chlorobenzene	ND		1.0	0.25	ug/L			03/12/20 21:42	1
Chloroethane	ND		1.0	0.40	ug/L			03/12/20 21:42	1
Chloroform	ND		1.0	0.25	ug/L			03/12/20 21:42	1
Chloromethane	ND		1.0	0.25	ug/L			03/12/20 21:42	1
cis-1,2-Dichloroethene	ND		1.0	0.25	ug/L			03/12/20 21:42	1
cis-1,3-Dichloropropene	ND		0.50	0.25	ug/L			03/12/20 21:42	1
Dibromochloromethane	ND		1.0	0.25	ug/L			03/12/20 21:42	1
Dibromomethane	ND		1.0	0.25	ug/L			03/12/20 21:42	1
Dichlorodifluoromethane	ND		1.0	0.40	ug/L			03/12/20 21:42	1
Ethylbenzene	ND		1.0	0.25	ug/L			03/12/20 21:42	1
Hexachlorobutadiene	ND		1.0	0.25	ug/L			03/12/20 21:42	1
Isopropyl alcohol	ND		250	180	ug/L			03/12/20 21:42	1
Isopropylbenzene	ND		1.0	0.25	ug/L			03/12/20 21:42	1
m,p-Xylene	ND		1.0	0.50	ug/L			03/12/20 21:42	1
Methylene Chloride	ND		5.0	0.88	ug/L			03/12/20 21:42	1
Methyl-t-Butyl Ether (MTBE)	ND		1.0	0.25	ug/L			03/12/20 21:42	1
Naphthalene	ND		1.0	0.40	ug/L			03/12/20 21:42	1
n-Butylbenzene	ND		1.0	0.40	ug/L			03/12/20 21:42	1
N-Propylbenzene	ND		1.0	0.25	ug/L			03/12/20 21:42	1
o-Xylene	ND		1.0	0.25	ug/L			03/12/20 21:42	1
p-Isopropyltoluene	ND		1.0	0.25	ug/L			03/12/20 21:42	1
sec-Butylbenzene	ND		1.0	0.25	ug/L			03/12/20 21:42	1
Styrene	ND		1.0	0.25	ug/L			03/12/20 21:42	1
tert-Butylbenzene	ND		1.0	0.25	ug/L			03/12/20 21:42	1
Tetrachloroethene	ND		1.0	0.25	ug/L			03/12/20 21:42	1
Toluene	ND		1.0	0.25	ug/L			03/12/20 21:42	1
trans-1,2-Dichloroethene	ND		1.0	0.25	ug/L			03/12/20 21:42	1
trans-1,3-Dichloropropene	ND		0.50	0.25	ug/L			03/12/20 21:42	1
Trichloroethene	ND		1.0	0.25	ug/L			03/12/20 21:42	1
Trichlorofluoromethane	ND		1.0	0.25	ug/L			03/12/20 21:42	1
Vinyl chloride	ND		0.50	0.25	ug/L			03/12/20 21:42	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*126*		*70 - 130*		*03/12/20 21:42*	*1*
4-Bromofluorobenzene (Surr)	*105*		*80 - 120*		*03/12/20 21:42*	*1*
Dibromofluoromethane (Surr)	*107*		*76 - 132*		*03/12/20 21:42*	*1*
Toluene-d8 (Surr)	*98*		*80 - 128*		*03/12/20 21:42*	*1*

Surrogate Summary

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

Job ID: 440-262641-1
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)**
440-262512-C-8 MS	Matrix Spike	107	82	110	94
440-262512-C-8 MSD	Matrix Spike Duplicate	110	83	110	97
440-262641-1	OC_SP220B_EFF_031020	129	103	112	100
440-262641-2	OC_SP210_INF_031020	125	106	111	100
440-262641-2 - RA	OC_SP210_INF_031020	107	87	111	97
440-262641-2 - DL	OC_SP210_INF_031020	106	87	114	98
440-262641-3	OC_TB_031020	126	105	107	98
440-262643-E-1 MS	Matrix Spike	118	102	103	97
440-262643-E-1 MSD	Matrix Spike Duplicate	130	103	110	95
LCS 440-600239/1002	Lab Control Sample	118	102	109	97
LCS 440-600239/1003	Lab Control Sample	115	104	105	97
LCS 440-600341/1002	Lab Control Sample	110	87	111	92
MB 440-600239/4	Method Blank	118	105	109	101
MB 440-600341/6	Method Blank	109	85	113	99

Surrogate Legend

DCA = 1,2-Dichloroethane-d4 (Surr)
BFB = 4-Bromofluorobenzene (Surr)
DBFM = Dibromofluoromethane (Surr)
TOL = Toluene-d8 (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)**
440-262638-D-5-A MS	Matrix Spike	50
440-262638-D-5-B MSD	Matrix Spike Duplicate	56
440-262641-1	OC_SP220B_EFF_031020	67
LCS 440-600092/3-A	Lab Control Sample	57
MB 440-600092/1-A	Method Blank	68

Surrogate Legend

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

Method Summary

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

Job ID: 440-262641-1
SDG: Omega Chemical

Method	Method Description	Protocol	Laboratory
8260B	Volatile Organic Compounds (GC/MS)	SW846	TAL IRV
8270C SIM	1,4 Dioxane by 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 = Eurofins Calscience 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 - GWCS Monthly

Job ID: 440-262641-1
SDG: Omega Chemical

Client Sample ID: OC_SP220B_EFF_031020 — Lab Sample ID: 440-262641-1

Date Collected: 03/10/20 10:30 — **Matrix: Water**
Date Received: 03/11/20 15:51

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	600239	03/12/20 20:48	WC	TAL IRV
Total/NA	Prep	3520C			1030 mL	1.0 mL	600092	03/12/20 07:30	ACT	TAL IRV
Total/NA	Analysis	8270C SIM		1			600371	03/13/20 10:21	HN	TAL IRV

Client Sample ID: OC_SP210_INF_031020 — Lab Sample ID: 440-262641-2

Date Collected: 03/10/20 10:35 — **Matrix: Water**
Date Received: 03/11/20 10:56

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	600341	03/13/20 13:06	GMA	TAL IRV
Total/NA	Analysis	8260B	DL	5	10 mL	10 mL	600341	03/13/20 13:34	GMA	TAL IRV
Total/NA	Analysis	8260B		1	10 mL	10 mL	600239	03/12/20 21:15	WC	TAL IRV

Client Sample ID: OC_TB_031020 — Lab Sample ID: 440-262641-3

Date Collected: 03/10/20 10:00 — **Matrix: Water**
Date Received: 03/11/20 10:56

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	600239	03/12/20 21:42	WC	TAL IRV

Laboratory References:

TAL IRV = Eurofins Calscience 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 440-600239/4
Matrix: Water
Analysis Batch: 600239

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			03/12/20 19:26	1
1,1,1-Trichloroethane	ND		1.0	0.25	ug/L			03/12/20 19:26	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.25	ug/L			03/12/20 19:26	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		5.0	0.50	ug/L			03/12/20 19:26	1
1,1,2-Trichloroethane	ND		1.0	0.25	ug/L			03/12/20 19:26	1
1,1-Dichloroethane	ND		1.0	0.25	ug/L			03/12/20 19:26	1
1,1-Dichloroethene	ND		1.0	0.25	ug/L			03/12/20 19:26	1
1,1-Dichloropropene	ND		1.0	0.25	ug/L			03/12/20 19:26	1
1,2,3-Trichlorobenzene	ND		1.0	0.40	ug/L			03/12/20 19:26	1
1,2,3-Trichloropropane	ND		1.0	0.40	ug/L			03/12/20 19:26	1
1,2,4-Trichlorobenzene	ND		1.0	0.40	ug/L			03/12/20 19:26	1
1,2,4-Trimethylbenzene	ND		1.0	0.25	ug/L			03/12/20 19:26	1
1,2-Dibromo-3-Chloropropane	ND		5.0	0.50	ug/L			03/12/20 19:26	1
1,2-Dibromoethane (EDB)	ND		1.0	0.25	ug/L			03/12/20 19:26	1
1,2-Dichlorobenzene	ND		1.0	0.25	ug/L			03/12/20 19:26	1
1,2-Dichloroethane	ND		1.0	0.25	ug/L			03/12/20 19:26	1
1,2-Dichloropropane	ND		1.0	0.25	ug/L			03/12/20 19:26	1
1,3,5-Trimethylbenzene	ND		1.0	0.25	ug/L			03/12/20 19:26	1
1,3-Dichlorobenzene	ND		1.0	0.25	ug/L			03/12/20 19:26	1
1,3-Dichloropropane	ND		1.0	0.25	ug/L			03/12/20 19:26	1
1,4-Dichlorobenzene	ND		1.0	0.25	ug/L			03/12/20 19:26	1
2,2-Dichloropropane	ND		1.0	0.40	ug/L			03/12/20 19:26	1
2-Chlorotoluene	ND		1.0	0.25	ug/L			03/12/20 19:26	1
4-Chlorotoluene	ND		1.0	0.25	ug/L			03/12/20 19:26	1
Acetone	ND		10	10	ug/L			03/12/20 19:26	1
Benzene	ND		0.50	0.25	ug/L			03/12/20 19:26	1
Bromobenzene	ND		1.0	0.25	ug/L			03/12/20 19:26	1
Bromochloromethane	ND		1.0	0.25	ug/L			03/12/20 19:26	1
Bromodichloromethane	ND		1.0	0.25	ug/L			03/12/20 19:26	1
Bromoform	ND		1.0	0.40	ug/L			03/12/20 19:26	1
Bromomethane	ND		1.0	0.25	ug/L			03/12/20 19:26	1
Carbon tetrachloride	ND		0.50	0.25	ug/L			03/12/20 19:26	1
Chlorobenzene	ND		1.0	0.25	ug/L			03/12/20 19:26	1
Chloroethane	ND		1.0	0.40	ug/L			03/12/20 19:26	1
Chloroform	ND		1.0	0.25	ug/L			03/12/20 19:26	1
Chloromethane	ND		1.0	0.25	ug/L			03/12/20 19:26	1
cis-1,2-Dichloroethene	ND		1.0	0.25	ug/L			03/12/20 19:26	1
cis-1,3-Dichloropropene	ND		0.50	0.25	ug/L			03/12/20 19:26	1
Dibromochloromethane	ND		1.0	0.25	ug/L			03/12/20 19:26	1
Dibromomethane	ND		1.0	0.25	ug/L			03/12/20 19:26	1
Dichlorodifluoromethane	ND		1.0	0.40	ug/L			03/12/20 19:26	1
Ethylbenzene	ND		1.0	0.25	ug/L			03/12/20 19:26	1
Hexachlorobutadiene	ND		1.0	0.25	ug/L			03/12/20 19:26	1
Isopropyl alcohol	ND		250	180	ug/L			03/12/20 19:26	1
Isopropylbenzene	ND		1.0	0.25	ug/L			03/12/20 19:26	1
m,p-Xylene	ND		1.0	0.50	ug/L			03/12/20 19:26	1
Methylene Chloride	ND		5.0	0.88	ug/L			03/12/20 19:26	1
Methyl-t-Butyl Ether (MTBE)	ND		1.0	0.25	ug/L			03/12/20 19:26	1

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

Lab Sample ID: MB 440-600239/4
Matrix: Water
Analysis Batch: 600239

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			03/12/20 19:26	1
n-Butylbenzene	ND		1.0	0.40	ug/L			03/12/20 19:26	1
N-Propylbenzene	ND		1.0	0.25	ug/L			03/12/20 19:26	1
o-Xylene	ND		1.0	0.25	ug/L			03/12/20 19:26	1
p-Isopropyltoluene	ND		1.0	0.25	ug/L			03/12/20 19:26	1
sec-Butylbenzene	ND		1.0	0.25	ug/L			03/12/20 19:26	1
Styrene	ND		1.0	0.25	ug/L			03/12/20 19:26	1
tert-Butylbenzene	ND		1.0	0.25	ug/L			03/12/20 19:26	1
Tetrachloroethene	ND		1.0	0.25	ug/L			03/12/20 19:26	1
Toluene	ND		1.0	0.25	ug/L			03/12/20 19:26	1
trans-1,2-Dichloroethene	ND		1.0	0.25	ug/L			03/12/20 19:26	1
trans-1,3-Dichloropropene	ND		0.50	0.25	ug/L			03/12/20 19:26	1
Trichloroethene	ND		1.0	0.25	ug/L			03/12/20 19:26	1
Trichlorofluoromethane	ND		1.0	0.25	ug/L			03/12/20 19:26	1
Vinyl chloride	ND		0.50	0.25	ug/L			03/12/20 19:26	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*118*		*70 - 130*		*03/12/20 19:26*	*1*
4-Bromofluorobenzene (Surr)	*105*		*80 - 120*		*03/12/20 19:26*	*1*
Dibromofluoromethane (Surr)	*109*		*76 - 132*		*03/12/20 19:26*	*1*
Toluene-d8 (Surr)	*101*		*80 - 128*		*03/12/20 19:26*	*1*

Lab Sample ID: LCS 440-600239/1002
Matrix: Water
Analysis Batch: 600239

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	27.4		ug/L		109	60 - 141
1,1,1-Trichloroethane	25.0	34.6	*	ug/L		138	70 - 130
1,1,2,2-Tetrachloroethane	25.0	23.8		ug/L		95	63 - 130
1,1,2-Trichloro-1,2,2-trifluoroethane	25.0	29.7		ug/L		119	60 - 140
1,1,2-Trichloroethane	25.0	24.4		ug/L		97	70 - 130
1,1-Dichloroethane	25.0	28.1		ug/L		112	64 - 130
1,1-Dichloroethene	25.0	27.2		ug/L		109	70 - 130
1,1-Dichloropropene	25.0	30.1		ug/L		120	70 - 130
1,2,3-Trichlorobenzene	25.0	25.3		ug/L		101	60 - 140
1,2,3-Trichloropropane	25.0	26.4		ug/L		106	63 - 130
1,2,4-Trichlorobenzene	25.0	25.6		ug/L		102	60 - 140
1,2,4-Trimethylbenzene	25.0	27.3		ug/L		109	70 - 135
1,2-Dibromo-3-Chloropropane	25.0	24.1		ug/L		97	52 - 140
1,2-Dibromoethane (EDB)	25.0	25.5		ug/L		102	70 - 130
1,2-Dichlorobenzene	25.0	24.3		ug/L		97	70 - 130
1,2-Dichloroethane	25.0	29.7		ug/L		119	57 - 138
1,2-Dichloropropane	25.0	26.9		ug/L		108	67 - 130
1,3,5-Trimethylbenzene	25.0	26.7		ug/L		107	70 - 136
1,3-Dichlorobenzene	25.0	25.0		ug/L		100	70 - 130
1,3-Dichloropropane	25.0	23.3		ug/L		93	70 - 130
1,4-Dichlorobenzene	25.0	24.1		ug/L		96	70 - 130

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

Lab Sample ID: LCS 440-600239/1002
Matrix: Water
Analysis Batch: 600239

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
2,2-Dichloropropane	25.0	36.9	*	ug/L		148	68 - 141
2-Chlorotoluene	25.0	26.4		ug/L		105	70 - 130
4-Chlorotoluene	25.0	26.2		ug/L		105	70 - 130
Acetone	125	122		ug/L		97	10 - 150
Benzene	25.0	25.4		ug/L		102	68 - 130
Bromobenzene	25.0	24.1		ug/L		96	70 - 130
Bromochloromethane	25.0	25.9		ug/L		104	70 - 130
Bromodichloromethane	25.0	31.1		ug/L		124	70 - 132
Bromoform	25.0	26.8		ug/L		107	60 - 148
Bromomethane	25.0	24.4		ug/L		97	64 - 139
Carbon tetrachloride	25.0	36.2		ug/L		145	60 - 150
Chlorobenzene	25.0	24.7		ug/L		99	70 - 130
Chloroethane	25.0	24.3		ug/L		97	64 - 135
Chloroform	25.0	30.0		ug/L		120	70 - 130
Chloromethane	25.0	23.5		ug/L		94	47 - 140
cis-1,2-Dichloroethene	25.0	26.9		ug/L		107	70 - 133
cis-1,3-Dichloropropene	25.0	25.6		ug/L		102	70 - 133
Dibromochloromethane	25.0	26.4		ug/L		106	69 - 145
Dibromomethane	25.0	28.2		ug/L		113	70 - 130
Dichlorodifluoromethane	25.0	25.9		ug/L		104	29 - 150
Ethylbenzene	25.0	26.7		ug/L		107	70 - 130
Hexachlorobutadiene	25.0	28.2		ug/L		113	10 - 150
Isopropylbenzene	25.0	27.5		ug/L		110	70 - 136
m,p-Xylene	25.0	25.5		ug/L		102	70 - 130
Methylene Chloride	25.0	22.5		ug/L		90	52 - 130
Methyl-t-Butyl Ether (MTBE)	25.0	23.7		ug/L		95	63 - 131
Naphthalene	25.0	22.3		ug/L		89	60 - 140
n-Butylbenzene	25.0	26.5		ug/L		106	65 - 150
N-Propylbenzene	25.0	26.1		ug/L		104	67 - 139
o-Xylene	25.0	26.1		ug/L		104	70 - 130
p-Isopropyltoluene	25.0	27.0		ug/L		108	70 - 132
sec-Butylbenzene	25.0	26.2		ug/L		105	70 - 138
Styrene	25.0	27.2		ug/L		109	70 - 134
tert-Butylbenzene	25.0	27.2		ug/L		109	70 - 130
Tetrachloroethene	25.0	27.6		ug/L		111	70 - 130
Toluene	25.0	24.3		ug/L		97	70 - 130
trans-1,2-Dichloroethene	25.0	26.5		ug/L		106	70 - 130
trans-1,3-Dichloropropene	25.0	26.9		ug/L		108	70 - 132
Trichloroethene	25.0	29.6		ug/L		118	70 - 130
Trichlorofluoromethane	25.0	35.5		ug/L		142	60 - 150
Vinyl chloride	25.0	25.1		ug/L		100	59 - 133

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*118*		*70 - 130*
4-Bromofluorobenzene (Surr)	*102*		*80 - 120*
Dibromofluoromethane (Surr)	*109*		*76 - 132*
Toluene-d8 (Surr)	*97*		*80 - 128*

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

Lab Sample ID: LCS 440-600239/1003
Matrix: Water
Analysis Batch: 600239

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	219	J	ug/L		88	49 - 142		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*115*		*70 - 130*
4-Bromofluorobenzene (Surr)	*104*		*80 - 120*
Dibromofluoromethane (Surr)	*105*		*76 - 132*
Toluene-d8 (Surr)	*97*		*80 - 128*

Lab Sample ID: 440-262643-E-1 MS
Matrix: Water
Analysis Batch: 600239

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		10.0	10.3		ug/L		103	60 - 149		
1,1,1-Trichloroethane	ND	*	10.0	12.1		ug/L		121	70 - 130		
1,1,2,2-Tetrachloroethane	ND		10.0	10.4		ug/L		104	63 - 130		
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		10.0	9.57		ug/L		96	60 - 140		
1,1,2-Trichloroethane	ND		10.0	9.27		ug/L		93	70 - 130		
1,1-Dichloroethane	ND		10.0	10.1		ug/L		101	65 - 130		
1,1-Dichloroethene	ND		10.0	9.24		ug/L		92	70 - 130		
1,1-Dichloropropene	ND		10.0	10.8		ug/L		108	64 - 130		
1,2,3-Trichlorobenzene	ND		10.0	10.1		ug/L		101	60 - 140		
1,2,3-Trichloropropane	ND		10.0	9.41		ug/L		94	60 - 130		
1,2,4-Trichlorobenzene	ND		10.0	10.0		ug/L		100	60 - 140		
1,2,4-Trimethylbenzene	ND		10.0	11.0		ug/L		110	70 - 130		
1,2-Dibromo-3-Chloropropane	ND		10.0	9.44		ug/L		94	48 - 140		
1,2-Dibromoethane (EDB)	ND		10.0	9.82		ug/L		98	70 - 131		
1,2-Dichlorobenzene	ND		10.0	9.41		ug/L		94	70 - 130		
1,2-Dichloroethane	ND		10.0	11.9		ug/L		119	56 - 146		
1,2-Dichloropropane	ND		10.0	9.69		ug/L		97	69 - 130		
1,3,5-Trimethylbenzene	ND		10.0	10.1		ug/L		101	70 - 130		
1,3-Dichlorobenzene	ND		10.0	9.47		ug/L		95	70 - 130		
1,3-Dichloropropane	ND		10.0	9.97		ug/L		100	70 - 130		
1,4-Dichlorobenzene	ND		10.0	9.62		ug/L		96	70 - 130		
2,2-Dichloropropane	ND	*	10.0	13.1		ug/L		131	69 - 138		
2-Chlorotoluene	ND		10.0	9.96		ug/L		100	70 - 130		
4-Chlorotoluene	ND		10.0	9.85		ug/L		99	70 - 130		
Acetone	ND		50.0	37.3		ug/L		75	10 - 150		
Benzene	ND		10.0	8.88		ug/L		89	66 - 130		
Bromobenzene	ND		10.0	9.17		ug/L		92	70 - 130		
Bromochloromethane	ND		10.0	9.13		ug/L		91	70 - 130		
Bromodichloromethane	ND		10.0	11.5		ug/L		115	70 - 138		
Bromoform	ND		10.0	10.3		ug/L		103	59 - 150		
Bromomethane	ND		10.0	8.30		ug/L		83	62 - 131		
Carbon tetrachloride	ND		10.0	12.4		ug/L		124	60 - 150		
Chlorobenzene	ND		10.0	9.40		ug/L		94	70 - 130		
Chloroethane	ND		10.0	8.17		ug/L		82	68 - 130		

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

Lab Sample ID: 440-262643-E-1 MS
Matrix: Water
Analysis Batch: 600239

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
Chloroform	3.1		10.0	13.3		ug/L		102	70 - 130
Chloromethane	ND		10.0	7.84		ug/L		78	39 - 144
cis-1,2-Dichloroethene	ND		10.0	9.46		ug/L		95	70 - 130
cis-1,3-Dichloropropene	ND		10.0	9.45		ug/L		95	70 - 133
Dibromochloromethane	ND		10.0	10.5		ug/L		105	70 - 148
Dibromomethane	ND		10.0	10.7		ug/L		107	70 - 130
Dichlorodifluoromethane	ND		10.0	8.65		ug/L		87	25 - 142
Ethylbenzene	ND		10.0	9.72		ug/L		97	70 - 130
Hexachlorobutadiene	ND		10.0	11.3		ug/L		113	10 - 150
Isopropyl alcohol	ND		250	264		ug/L		106	46 - 142
Isopropylbenzene	ND		10.0	10.1		ug/L		101	70 - 132
m,p-Xylene	ND		10.0	9.63		ug/L		96	70 - 133
Methylene Chloride	ND		10.0	8.22		ug/L		82	52 - 130
Methyl-t-Butyl Ether (MTBE)	ND		10.0	8.04		ug/L		80	70 - 130
Naphthalene	ND		10.0	8.96		ug/L		90	60 - 140
n-Butylbenzene	ND		10.0	10.5		ug/L		105	61 - 149
N-Propylbenzene	ND		10.0	9.38		ug/L		94	66 - 135
o-Xylene	ND		10.0	9.95		ug/L		99	70 - 133
p-Isopropyltoluene	ND		10.0	9.80		ug/L		98	70 - 130
sec-Butylbenzene	ND		10.0	9.98		ug/L		100	67 - 134
Styrene	ND		10.0	10.1		ug/L		101	29 - 150
tert-Butylbenzene	ND		10.0	9.86		ug/L		99	70 - 130
Tetrachloroethene	1.5		10.0	11.5		ug/L		99	70 - 137
Toluene	ND		10.0	8.85		ug/L		89	70 - 130
trans-1,2-Dichloroethene	ND		10.0	8.84		ug/L		88	70 - 130
trans-1,3-Dichloropropene	ND		10.0	11.3		ug/L		113	70 - 138
Trichloroethene	ND		10.0	10.4		ug/L		104	70 - 130
Trichlorofluoromethane	ND		10.0	12.2		ug/L		122	60 - 150
Vinyl chloride	ND		10.0	8.54		ug/L		85	50 - 137

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*118*		*70 - 130*
4-Bromofluorobenzene (Surr)	*102*		*80 - 120*
Dibromofluoromethane (Surr)	*103*		*76 - 132*
Toluene-d8 (Surr)	*97*		*80 - 128*

Lab Sample ID: 440-262643-E-1 MSD
Matrix: Water
Analysis Batch: 600239

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		10.0	10.8		ug/L		108	60 - 149	4	20
1,1,1-Trichloroethane	ND	*	10.0	13.0		ug/L		130	70 - 130	8	20
1,1,2,2-Tetrachloroethane	ND		10.0	10.6		ug/L		106	63 - 130	1	30
1,1,2-Trichloro-1,2,2-trifluoroetha ne	ND		10.0	11.0		ug/L		110	60 - 140	14	20
1,1,2-Trichloroethane	ND		10.0	9.43		ug/L		94	70 - 130	2	25
1,1-Dichloroethane	ND		10.0	11.2		ug/L		112	65 - 130	11	20
1,1-Dichloroethene	ND		10.0	9.86		ug/L		99	70 - 130	7	20

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

Lab Sample ID: 440-262643-E-1 MSD
Matrix: Water
Analysis Batch: 600239

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-Dichloropropene	ND		10.0	11.5		ug/L		115	64 - 130	6	20
1,2,3-Trichlorobenzene	ND		10.0	11.5		ug/L		115	60 - 140	13	20
1,2,3-Trichloropropane	ND		10.0	11.0		ug/L		110	60 - 130	16	30
1,2,4-Trichlorobenzene	ND		10.0	10.8		ug/L		108	60 - 140	8	20
1,2,4-Trimethylbenzene	ND		10.0	11.4		ug/L		114	70 - 130	3	25
1,2-Dibromo-3-Chloropropane	ND		10.0	12.4		ug/L		124	48 - 140	27	30
1,2-Dibromoethane (EDB)	ND		10.0	10.2		ug/L		102	70 - 131	4	25
1,2-Dichlorobenzene	ND		10.0	10.3		ug/L		103	70 - 130	9	20
1,2-Dichloroethane	ND		10.0	12.5		ug/L		125	56 - 146	5	20
1,2-Dichloropropane	ND		10.0	10.5		ug/L		105	69 - 130	8	20
1,3,5-Trimethylbenzene	ND		10.0	10.8		ug/L		108	70 - 130	7	20
1,3-Dichlorobenzene	ND		10.0	10.2		ug/L		102	70 - 130	8	20
1,3-Dichloropropane	ND		10.0	9.60		ug/L		96	70 - 130	4	25
1,4-Dichlorobenzene	ND		10.0	9.81		ug/L		98	70 - 130	2	20
2,2-Dichloropropane	ND	*	10.0	13.2		ug/L		132	69 - 138	1	25
2-Chlorotoluene	ND		10.0	10.6		ug/L		106	70 - 130	6	20
4-Chlorotoluene	ND		10.0	10.5		ug/L		105	70 - 130	6	20
Acetone	ND		50.0	42.9		ug/L		86	10 - 150	14	35
Benzene	ND		10.0	9.54		ug/L		95	66 - 130	7	20
Bromobenzene	ND		10.0	10.1		ug/L		101	70 - 130	10	20
Bromochloromethane	ND		10.0	9.86		ug/L		99	70 - 130	8	25
Bromodichloromethane	ND		10.0	11.9		ug/L		119	70 - 138	4	20
Bromoform	ND		10.0	11.5		ug/L		115	59 - 150	12	25
Bromomethane	ND		10.0	9.25		ug/L		93	62 - 131	11	25
Carbon tetrachloride	ND		10.0	13.6		ug/L		136	60 - 150	10	25
Chlorobenzene	ND		10.0	9.93		ug/L		99	70 - 130	5	20
Chloroethane	ND		10.0	9.43		ug/L		94	68 - 130	14	25
Chloroform	3.1		10.0	14.5		ug/L		113	70 - 130	8	20
Chloromethane	ND		10.0	8.82		ug/L		88	39 - 144	12	25
cis-1,2-Dichloroethene	ND		10.0	9.91		ug/L		99	70 - 130	5	20
cis-1,3-Dichloropropene	ND		10.0	10.4		ug/L		104	70 - 133	9	20
Dibromochloromethane	ND		10.0	10.7		ug/L		107	70 - 148	2	25
Dibromomethane	ND		10.0	10.8		ug/L		108	70 - 130	1	25
Dichlorodifluoromethane	ND		10.0	9.77		ug/L		98	25 - 142	12	30
Ethylbenzene	ND		10.0	10.0		ug/L		100	70 - 130	3	20
Hexachlorobutadiene	ND		10.0	11.7		ug/L		117	10 - 150	4	20
Isopropyl alcohol	ND		250	269		ug/L		108	46 - 142	2	40
Isopropylbenzene	ND		10.0	10.3		ug/L		103	70 - 132	2	20
m,p-Xylene	ND		10.0	10.2		ug/L		102	70 - 133	6	25
Methylene Chloride	ND		10.0	8.80		ug/L		88	52 - 130	7	20
Methyl-t-Butyl Ether (MTBE)	ND		10.0	8.72		ug/L		87	70 - 130	8	25
Naphthalene	ND		10.0	10.5		ug/L		105	60 - 140	16	30
n-Butylbenzene	ND		10.0	11.3		ug/L		113	61 - 149	7	20
N-Propylbenzene	ND		10.0	10.1		ug/L		101	66 - 135	8	20
o-Xylene	ND		10.0	9.98		ug/L		100	70 - 133	0	20
p-Isopropyltoluene	ND		10.0	11.0		ug/L		110	70 - 130	12	20
sec-Butylbenzene	ND		10.0	10.7		ug/L		107	67 - 134	7	20
Styrene	ND		10.0	10.2		ug/L		102	29 - 150	0	35
tert-Butylbenzene	ND		10.0	10.6		ug/L		106	70 - 130	8	20

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

Lab Sample ID: 440-262643-E-1 MSD
Matrix: Water
Analysis Batch: 600239

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	1.5		10.0	11.4		ug/L		99	70 - 137	1	20
Toluene	ND		10.0	9.26		ug/L		93	70 - 130	4	20
trans-1,2-Dichloroethene	ND		10.0	9.61		ug/L		96	70 - 130	8	20
trans-1,3-Dichloropropene	ND		10.0	10.9		ug/L		109	70 - 138	3	25
Trichloroethene	ND		10.0	10.9		ug/L		109	70 - 130	5	20
Trichlorofluoromethane	ND		10.0	12.6		ug/L		126	60 - 150	4	25
Vinyl chloride	ND		10.0	8.99		ug/L		90	50 - 137	5	30

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*130*		*70 - 130*
4-Bromofluorobenzene (Surr)	*103*		*80 - 120*
Dibromofluoromethane (Surr)	*110*		*76 - 132*
Toluene-d8 (Surr)	*95*		*80 - 128*

Lab Sample ID: MB 440-600341/6
Matrix: Water
Analysis Batch: 600341

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-Trichloroethane	ND		1.0	0.25	ug/L			03/13/20 09:55	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		5.0	0.50	ug/L			03/13/20 09:55	1
1,2-Dichloroethane	ND		1.0	0.25	ug/L			03/13/20 09:55	1
Chloroform	ND		1.0	0.25	ug/L			03/13/20 09:55	1
Tetrachloroethene	ND		1.0	0.25	ug/L			03/13/20 09:55	1
Trichlorofluoromethane	ND		1.0	0.25	ug/L			03/13/20 09:55	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*109*		*70 - 130*		*03/13/20 09:55*	*1*
4-Bromofluorobenzene (Surr)	*85*		*80 - 120*		*03/13/20 09:55*	*1*
Dibromofluoromethane (Surr)	*113*		*76 - 132*		*03/13/20 09:55*	*1*
Toluene-d8 (Surr)	*99*		*80 - 128*		*03/13/20 09:55*	*1*

Lab Sample ID: LCS 440-600341/1002
Matrix: Water
Analysis Batch: 600341

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1,1-Trichloroethane	25.0	32.5		ug/L		130	70 - 130
1,1,2-Trichloro-1,2,2-trifluoroethane	25.0	28.9		ug/L		116	60 - 140
1,2-Dichloroethane	25.0	25.2		ug/L		101	57 - 138
Chloroform	25.0	26.1		ug/L		105	70 - 130
Tetrachloroethene	25.0	28.4		ug/L		114	70 - 130
Trichlorofluoromethane	25.0	34.3		ug/L		137	60 - 150

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*110*		*70 - 130*
4-Bromofluorobenzene (Surr)	*87*		*80 - 120*

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

Lab Sample ID: LCS 440-600341/1002
Matrix: Water
Analysis Batch: 600341

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

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
Dibromofluoromethane (Surr)	*111*		*76 - 132*
Toluene-d8 (Surr)	*92*		*80 - 128*

Lab Sample ID: 440-262512-C-8 MS
Matrix: Water
Analysis Batch: 600341

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-Trichloroethane	ND		10.0	11.7		ug/L		117	70 - 130
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		10.0	9.76		ug/L		98	60 - 140
1,2-Dichloroethane	ND		10.0	9.82		ug/L		98	56 - 146
Chloroform	ND		10.0	9.63		ug/L		96	70 - 130
Tetrachloroethene	ND		10.0	10.5		ug/L		105	70 - 137
Trichlorofluoromethane	ND		10.0	11.3		ug/L		113	60 - 150

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*107*		*70 - 130*
4-Bromofluorobenzene (Surr)	*82*		*80 - 120*
Dibromofluoromethane (Surr)	*110*		*76 - 132*
Toluene-d8 (Surr)	*94*		*80 - 128*

Lab Sample ID: 440-262512-C-8 MSD
Matrix: Water
Analysis Batch: 600341

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-Trichloroethane	ND		10.0	12.5		ug/L		125	70 - 130	7	20
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		10.0	10.6		ug/L		106	60 - 140	9	20
1,2-Dichloroethane	ND		10.0	9.98		ug/L		100	56 - 146	2	20
Chloroform	ND		10.0	10.1		ug/L		101	70 - 130	5	20
Tetrachloroethene	ND		10.0	11.3		ug/L		113	70 - 137	7	20
Trichlorofluoromethane	ND		10.0	11.8		ug/L		118	60 - 150	4	25

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*110*		*70 - 130*
4-Bromofluorobenzene (Surr)	*83*		*80 - 120*
Dibromofluoromethane (Surr)	*110*		*76 - 132*
Toluene-d8 (Surr)	*97*		*80 - 128*

Method: 8270C SIM - 1,4 Dioxane by SIM

Lab Sample ID: MB 440-600092/1-A
Matrix: Water
Analysis Batch: 600371

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 600092

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	ND		0.50	0.10	ug/L		03/12/20 07:30	03/13/20 08:34	1

Method: 8270C SIM - 1,4 Dioxane by SIM (Continued)

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,4-Dioxane-d8 (Surr)	68		27 - 120	03/12/20 07:30	03/13/20 08:34	1

Lab Sample ID: LCS 440-600092/3-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 600371 — **Prep Batch: 600092**

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
1,4-Dioxane			2.00	1.20		ug/L		60	36 - 120		

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1,4-Dioxane-d8 (Surr)	57		27 - 120

Lab Sample ID: 440-262638-D-5-A MS — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 600371 — **Prep Batch: 600092**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
1,4-Dioxane	ND		1.99	1.12		ug/L		56	10 - 150		

Surrogate	MS %Recovery	MS Qualifier	Limits
1,4-Dioxane-d8 (Surr)	50		27 - 120

Lab Sample ID: 440-262638-D-5-B MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 600371 — **Prep Batch: 600092**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,4-Dioxane	ND		1.96	1.28		ug/L		65	10 - 150	13	35

Surrogate	MSD %Recovery	MSD Qualifier	Limits
1,4-Dioxane-d8 (Surr)	56		27 - 120

QC Association Summary

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

Job ID: 440-262641-1
SDG: Omega Chemical

GC/MS VOA

Analysis Batch: 600239

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-262641-1	OC_SP220B_EFF_031020	Total/NA	Water	8260B	
440-262641-2	OC_SP210_INF_031020	Total/NA	Water	8260B	
440-262641-3	OC_TB_031020	Total/NA	Water	8260B	
MB 440-600239/4	Method Blank	Total/NA	Water	8260B	
LCS 440-600239/1002	Lab Control Sample	Total/NA	Water	8260B	
LCS 440-600239/1003	Lab Control Sample	Total/NA	Water	8260B	
440-262643-E-1 MS	Matrix Spike	Total/NA	Water	8260B	
440-262643-E-1 MSD	Matrix Spike Duplicate	Total/NA	Water	8260B	

Analysis Batch: 600341

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-262641-2 - RA	OC_SP210_INF_031020	Total/NA	Water	8260B	
440-262641-2 - DL	OC_SP210_INF_031020	Total/NA	Water	8260B	
MB 440-600341/6	Method Blank	Total/NA	Water	8260B	
LCS 440-600341/1002	Lab Control Sample	Total/NA	Water	8260B	
440-262512-C-8 MS	Matrix Spike	Total/NA	Water	8260B	
440-262512-C-8 MSD	Matrix Spike Duplicate	Total/NA	Water	8260B	

GC/MS Semi VOA

Prep Batch: 600092

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-262641-1	OC_SP220B_EFF_031020	Total/NA	Water	3520C	
MB 440-600092/1-A	Method Blank	Total/NA	Water	3520C	
LCS 440-600092/3-A	Lab Control Sample	Total/NA	Water	3520C	
440-262638-D-5-A MS	Matrix Spike	Total/NA	Water	3520C	
440-262638-D-5-B MSD	Matrix Spike Duplicate	Total/NA	Water	3520C	

Analysis Batch: 600371

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-262641-1	OC_SP220B_EFF_031020	Total/NA	Water	8270C SIM	600092
MB 440-600092/1-A	Method Blank	Total/NA	Water	8270C SIM	600092
LCS 440-600092/3-A	Lab Control Sample	Total/NA	Water	8270C SIM	600092
440-262638-D-5-A MS	Matrix Spike	Total/NA	Water	8270C SIM	600092
440-262638-D-5-B MSD	Matrix Spike Duplicate	Total/NA	Water	8270C SIM	600092

Definitions/Glossary

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

Job ID: 440-262641-1
SDG: Omega Chemical

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
*	LCS or LCSD 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 - GWCS Monthly

Job ID: 440-262641-1
SDG: Omega Chemical

Laboratory: Eurofins Calscience Irvine

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

Authority	Program	Identification Number	Expiration Date
California	State	2706	06-30-20

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	Dichlorodifluoromethane
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: 3/10/2020	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 - GWCS 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_031020	3/10/2020	1030	Grab	GW	5			x	x	
OC_SP210_INF_031020	3/10/2020	1035	Grab	GW	3			x		
OC_TB_031020	3/10/2020	1000		H2O	2			x		

440-262641 Chain of Custody

3/11/20
AK

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: 4.9 Corr'd: 4.9 Therm ID No.: 89

Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
[signature]	JHA	3/11/20 1056			
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
			[signature]		
Relinquished by:	Company:	Date/Time:	Received in Laboratory by:	Company:	Date/Time:
				EC IRV	3/11/20 1056

Login Sample Receipt Checklist

Client: Jacob & Hefner Associates P.C.

Job Number: 440-262641-1
SDG Number: Omega Chemical

Login Number: 262641
List Number: 1
Creator: Dolidze, Lado

List Source: Eurofins 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	

DATA VALIDATION

FOR

SEMI-ANNUAL GROUND WATER MONITORING
OMEGA CHEMICAL SITE
WHITTIER CALIFORNIA

ORGANIC ANALYSIS DATA
Volatile Organics and 1,4-Dioxane in Water

Laboratory Job Nos.

440-259517-1
440-259640-1
440-259641-1

Analyses Performed By:

Eurofins Calscience Irvine
Irvine, CA

For:

de maximis, inc.
1322 Scott Street
Suite 104
San Diego, CA 92106

Data Validation By:

ddms, inc.
St. Paul, Minnesota 55108

April 7, 2020

1547-3139C/ekd/das
Omega\1st Qtr Semi-Annual GW.docx

EXECUTIVE SUMMARY

Validation of the volatile organic and semi-volatile organic (1,4-dioxane only) analysis data prepared by Eurofins Calscience Irvine for nine ground water samples, three trip blanks (TB), and four rinse blanks from the Omega Chemical Site has been completed by de maximis Data Management Solutions, Inc. (ddms). Stage 4 validation was performed on two samples (**bolded below**), which represent 10% of the total number of ground water samples received and analyzed by Eurofins Calscience Irvine. A Stage 2B review was performed on the remaining samples. The data were reported by the laboratory under Job Nos. 440-259517-1, 440-259640-1, and 440-259641-1. The following samples were reported:

SDG	Sample ID	VOCs	1,4-Dioxane
440-259517-1	**OC_GW_OW-3B_20200120**	X	X
	OC_GW_OW-8B_20200121	X	X
	OC_GW_OW-12_20200120	X	X
	OC_TB1_20200120	X	
	OC_GW_OW-1B_20200121	X	X
	OC_GW_OW-3B_20200120K	X	X
	OC_GW_OW-8B_20200121K	X	X
	OC_TB2_20200120	X	
	OC_GW_OW-3BN_20200120	X	
	OC_GW_OW-11N_20200121	X	
440-259640-1	OC_GW_OW-9_20200122	X	X
	OC_GW_OW-10_20200123	X	X
	OC_TB_20200123	X	
440-259641-1	OC_GW_OW-10N_20200122	X	
	OC_GW_OW-10_20200123K	X	X
	OC_GW_OW-13BN_20200123	X	

Based on the validation effort, the following data qualifiers were applied:

- Results for dichlorodifluoromethane in OC_GW_OW-3B_20200120, OC_GW_OW-8B_20200121, OC_GW_OW-12_20200120, OC_TB1_20200120, OC_GW_OW-1B_20200121, OC_GW_OW-3B_20200120K, OC_GW_OW-8B_20200121K, OC_TB2_20200120, OC_GW_OW-3BN_20200120, and OC_GW_OW-11N_20200121 were qualified as estimated (UJ) due to a low response in the associated continuing calibration (CC) standard and low matrix spike/matrix spike duplicate (MS/MSD) recoveries.

- Results for chloromethane and dichlorodifluoromethane in OC_GW_OW-9_20200122, OC_GW_OW-10_20200123, and OC_TB_20200123 were qualified as estimated (UJ) due to low responses in the associated CC standard.

- Results for dichlorodifluoromethane in OC_GW_OW-9_20200122, OC_GW_OW-10_20200123, OC_TB_20200123, OC_GW_OW-10N_20200122, OC_GW_OW-10_20200123K, and OC_GW_OW-13BN_20200123 were qualified as estimated (UJ) due to a low laboratory control sample (LCS) recovery.

- Results for 1,1,2-trichloro-1,2,2-trifluoroethane and 1,2,3-trichlorobenzene in OC_GW_OW-3B_20200120, OC_GW_OW-3B_20200120K, and OC_GW_OW-3BN_20200120 were qualified as estimated (J, UJ) due to lack of confirmation at low concentrations in the field duplicate analysis.

- Results for hexachlorobutadiene and naphthalene in OC_GW_OW-12_20200120, OC_GW_OW-3B_20200120, OC_GW_OW-3B_20200120K, and OC_GW_OW-3BN_20200120 were qualified as estimated (J, UJ) due to lack of confirmation at low concentrations in the field duplicate analysis.

- Results for chloroform in OC_GW_OW-10_20200123, OC_TB_20200123, OC_GW_OW-10_20200123K, and OC_GW_OW-13BN_20200123 were qualified as estimated (J, UJ) due to lack of confirmation at low concentrations in the field duplicate analysis.

- The volatile organic tentatively identified compound (TIC) at retention times (RTs) of 1.7 or 1.8 minutes (carbon dioxide) in all samples except OC_GW_OW-9_20200122 was removed by the validator because, based on professional judgment, it is not a true sample component.

- The volatile organic TICs at RTs of 15.5, 15.7, 16.1, 16.2, 16.3, or 16.4 minutes (siloxane compounds, indicative of column bleed) in all samples except OC_GW_OW-9_20200122 were removed by the validator because, based on professional judgment, they are not true sample components.

- Results for 1,4-dioxane in OC_GW_OW-1B_20200121, OC_GW_OW-1B_20200121 RE, OC_GW_OW-10_20200123, and OC_GW_OW-10_20200123K were qualified as not detected (U) at the reporting limit or the reported value, whichever is higher, due to associated method blank contamination.

- Results for 1,4-dioxane in all samples were qualified as estimated with potential low bias (J-, UJ) due to low surrogate and LCS/LCS duplicate (LCSD) recoveries.

All other results were determined to be valid as reported.

Documentation issues are discussed in Section II. This report should be considered <u>part of the data packages</u> for all future distributions of the data.

INTRODUCTION

Analyses were performed in accordance with USEPA SW846 Method 8260B and Method 8270C Selected Ion Monitoring (SIM). The laboratory provided 'Level 4' data packages 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. It is assumed that the data package represents the best efforts of the laboratory and has already been subjected to adequate 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 USEPA 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 January 20, 21, 22, and 23, 2020. The samples were received at the laboratory on January 21 and 23, 2020.

The temperatures of the coolers upon receipt at the laboratory ranged from 1.6°C to 5.1°C. Most of the receipt temperatures were below the lower acceptance limit (acceptable range is 4ºC ±2ºC). No action was necessary due to the slightly low cooler temperatures. Documentation of proper pH was included in the data packages. All samples were prepared and analyzed within method holding times.

II. Documentation

The following documentation issues were observed during the validation effort:

- The volatile organic TIC at RTs of 1.7 or 1.8 minutes (carbon dioxide) in all samples except OC_GW_OW-9_20200122 was removed by the validator because it is not true a sample component.

- Sample OC_GW_OW-1B_20200121 was re-extracted and re-analyzed, apparently to confirm the result for 1,4-dioxane reported in the initial sample analysis. Both analyses of this sample were referred to as an initial analysis on the electronic data deliverable. However, the analysis performed on January 28, 2020 was the re-analysis of this sample.

At the discretion of the data user, the laboratory may be contacted and requested to revise the laboratory data packages.

The remainder of this report discusses the review effort for each of the parameters. 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	Y

Review Element	Acceptable?
Surrogates	Y
Laboratory Control Samples (LCS)/ LCS Duplicates (LCSD)	N
Field Duplicates	N
Matrix Spike (MS)/Matrix Spike Duplicate (MSD)	N
Internal Standard Responses	Y
Compound Identification	N

Calibration

Results for all associated initial calibrations (IC) were reported in support of sample analyses. Although the standards and IC summary forms included more compounds than were specifically applicable to these analyses, all project-specified target analytes were included. For the relevant target analytes, the reported average relative response factors (RRFs) were greater than the evaluation criterion (QC >0.05) and the relative standard deviations (RSDs) were acceptable (QC <20% RSD) or the correlation coefficient was acceptable (≥0.99). An initial calibration verification (ICV) standard was analyzed immediately following each IC. ICV standard results were acceptable (QC ≤<30%D).

Summary forms were provided for all applicable CC standards. Reported RRFs and percent difference (%D) or percent drift (also %D) values were acceptable (QC <20%), except as summarized below. Where excursions represented an increase in instrument sensitivity and the compound was not detected, no data required qualification and these instances are not detailed below.

Instrument	CC Date	Compound	%D	Affected Samples
GCMS34	1/23/20	Dichlorodifluoromethane	28	OC_GW_OW-3B_20200120 OC_GW_OW-8B_20200121 OC_GW_OW-12_20200120 OC_TB1_20200120 OC_GW_OW-1B_20200121 OC_GW_OW-3B_20200120K OC_GW_OW-8B_20200121K OC_TB2_20200120 OC_GW_OW-3BN_20200120 OC_GW_OW-11N_20200121
GCMS34	1/24/20	Chloromethane	26	OC_GW_OW-9_20200122 OC_GW_OW-10_20200123 OC_TB_20200123
GCMS56	1/24/20	Dichlorodifluoromethane	32	OC_GW_OW-9_20200122 OC_GW_OW-10_20200123 OC_TB_20200123

All of high %Ds listed above represent a decrease in instrument response, and results for these compounds in the affected samples were qualified as estimated (UJ) due to the low responses.

Laboratory Control Sample (LCS)

All percent recoveries (%Rs) were acceptable (70-130%R), with the following exceptions:

LCS/LCSD	Compound	LCS %R	Affected Samples
440-592172	Dichlorodifluoromethane	68	OC_GW_OW-9_20200122 OC_GW_OW-10_20200123 OC_TB_20200123 OC_GW_OW-10N_20200122 OC_GW_OW-10_20200123K OC_GW_OW-13BN_20200123

Sample results were qualified as estimated (UJ) due to low LCS recoveries.

Field Duplicates

Three field duplicate pairs were submitted with this set of samples:

1. OC_GW_OW-3B_20200120 / OC_GW_0W-3B_20200120K
2. OC_GW_OW-8B_20200121 / OC_GW_OW-8B_20200121K
3. OC_GW_OW-10_20200123 / OC_GW_OW-10_20200123K

Precision between paired field duplicate results was acceptable (relative percent differences [RPDs] ≤30), with the following exceptions:

Analyte	Sample Concentration (µg/L)	Duplicate Concentration (µg/L)	Qualifiers Applied
OC_GW_OW-3B_20200120 / OC_GW_0W-3B_20200120K			
1,1,2-Trichloro-1,2,2-trifluoroethane	0.67 J	5.0 U	J, UJ
1,2,3-Trichlorobenzene	0.71 J	1.0 U	J, UJ
Hexachlorobutadiene	0.62 J	1.0 U	J, UJ
Naphthalene	0.55 J	1.0 U	J, UJ
OC_GW_OW-10_20200123 / OC_GW_OW-10_20200123K			
Chloroform	0.67 J	1.0 U	J, UJ

Results for 1,1,2-trichloro-1,2,2-trifluoroethane and 1,2,3-trichlorobenzene in OC_GW_OW-3B_20200120, OC_GW_OW-3B_20200120K, and OC_GW_OW-3BN_20200120, for hexachlorobutadiene, and naphthalene in OC_GW_OW-12_20200120, OC_GW_OW-3B_20200120, OC_GW_OW-3B_20200120K, and OC_GW_OW-3BN_20200120, and for chloroform in OC_GW_OW-10_20200123, OC_TB_20200123, OC_GW_OW-10_20200123K, and OC_GW_OW-13BN_20200123 were qualified as estimated (J, UJ) due to lack of confirmation at low concentrations in the field duplicate analysis.

Matrix Spike/Matrix Spike Duplicate

An MS/MSD pair was prepared and analyzed with each analytical batch containing site samples. Percent recoveries were within the validation limits of 70-130% and RPD values were acceptable (≤20 RPD), with the following exceptions:

Analyte	MS %R	MSD %R	RPD	Affected Samples	Qualifier Applied
Parent Sample: OC_GW_OW-12_20200120					
Dichlorodifluoromethane	65	61	A	OC_GW_OW-3B_20200120 OC_GW_OW-8B_20200121 OC_GW_OW-12_20200120 OC_TB1_20200120 OC_GW_OW-1B_20200121 OC_GW_OW-3B_20200120K OC_GW_OW-8B_20200121K OC_TB2_20200120 OC_GW_OW-3BN_20200120 OC_GW_OW-11N_20200121	UJ

A = Acceptable

Compound Identification

The TIC at RTs of 1.7 or 1.8 minutes (carbon dioxide) in all samples except OC_GW_OW-9_20200122 was removed by the validator because, based on professional judgment, it is not a true sample component.

The TICs at RTs of 15.5, 15.7, 16.1, 16.2, 16.3, or 16.4 minutes (siloxane compounds, indicative of column bleed) in all samples except OC_GW_OW-9_20200122 were removed by the validator because, based on professional judgment, they are not true sample components.

IV. SVOCs – 1,4-Dioxane only

Review Element	Acceptable?
GC/MS Instrument Tunes	Y
Calibration - IC, ICV, CC	Y
Laboratory and Field Blanks	N
Surrogates	N
LCS/LCSD	N
Field Duplicates	Y
MS/MSD	NA
Internal Standard Responses	Y
Compound Identification	Y

Blanks

A method blank was prepared and analyzed with each extraction batch. 1,4-Dioxane was detected in the following method blanks:

Method Blank	Concentration (µg/L)	Affected Samples	Qualifier Applied
440-591971	0.12 J	OC_GW_OW-1B_20200121	U
440-592386	0.12 J	OC_GW_OW-1B_20200121 RE	U
440-592345	0.13 J	OC_GW_OW-10_20200123 OC_GW_OW-10_20200123K	U

The above results were qualified as not detected (U) at the reporting limit or the reported value, whichever was higher, due to associated method blank contamination.

The concentration of 1,4-dioxane in the initial analysis of OC_GW_OW-1B_20200121 was just above the reporting limit. The laboratory apparently re-extracted and re-analyzed this sample to confirm the detection of this analyte, and 1,4-dioxane was detected at comparable concentrations in both sample analyses. However, since 1,4-dioxane was detected in both associated method blanks, both sample results were qualified because they were less than or equal to five times the associated method blank concentration. Since the re-analysis offers no improvement over or additional information regarding the initial analysis, the result for 1,4-dioxane in OC_GW_OW-1B_20200121 was taken from the initial sample analysis. The re-extraction result was marked as not reportable.

Surrogates

The results for 1,4-dioxane in all samples were qualified as estimated with potential low bias (J-, UJ) due to low surrogate recoveries (50-63%; acceptance limits 70-130%R).

Laboratory Control Sample

Results for 1,4-dioxane in all samples were qualified as estimated with potential low bias (J-, UJ) due to low LCS and LCSD recoveries (54-65%R; acceptance limits 70-130%R).

ddms

ATTACHMENT A

DATA SUMMARY FORMS
440-259517-1
440-259640-1
440-259641-1

DATA SUMMARY TABLE
Omega Chemical
First Quarter 2020 Semi-Annual Groundwater
(ug/L)

	Field Sample ID	**OC_GW_OW-11N_20200121**		**OC_GW_OW-12_20200120**		**OC_GW_OW-1B_20200121**	
	Sample Type	RB		N		N	
	Lab Sample ID	440-259517-10		440-259517-3		440-259517-5	
RL	**Dilution Factor**	1		1, 25		1	
1	1,1,1,2-Tetrachloroethane	1	U	25	U	1	U
1	1,1,1-Trichloroethane (TCA)	1	U	**50**		1	U
1	1,1,2,2-Tetrachloroethane	1	U	25	U	1	U
1	1,1,2-Trichloroethane	1	U	25	U	1	U
1	1,1-Dichloroethane	1	U	25	U	1	U
1	1,1-Dichloroethene	1	U	**51**		1	U
1	1,1-Dichloropropene	1	U	25	U	1	U
1	1,2,3-Trichlorobenzene	1	U	25	U	1	U
1	1,2,3-Trichloropropane	1	U	25	U	1	U
1	1,2,4-Trichlorobenzene	1	U	25	U	1	U
1	1,2,4-Trimethylbenzene	1	U	25	U	1	U
5	1,2-Dibromo-3-chloropropane	5	U	130	U	5	U
1	1,2-Dibromoethane (EDB)	1	U	25	U	1	U
1	1,2-Dichlorobenzene	1	U	25	U	1	U
1	1,2-Dichloroethane	1	U	25	U	1	U
1	1,2-Dichloropropane	1	U	25	U	1	U
1	1,3,5-Trimethylbenzene	1	U	25	U	1	U
1	1,3-Dichlorobenzene	1	U	25	U	1	U
1	1,3-Dichloropropane	1	U	25	U	1	U
1	1,4-Dichlorobenzene	1	U	25	U	1	U
1	2,2-Dichloropropane	1	U	25	U	1	U
1	2-Chlorotoluene	1	U	25	U	1	U
1	4-Chlorotoluene	1	U	25	U	1	U
10	Acetone	**63**		250	U	10	U
0.5	Benzene	0.5	U	13	U	0.5	U
1	Bromobenzene	1	U	25	U	1	U
1	Bromochloromethane	1	U	25	U	1	U
1	Bromodichloromethane	1	U	25	U	1	U
1	Bromoform	1	U	25	U	1	U
1	Bromomethane	1	U	25	U	1	U
0.5	Carbon tetrachloride	0.5	U	13	U	0.5	U
1	Chlorobenzene	1	U	25	U	1	U
1	Chloroethane	1	U	25	U	1	U
1	Chloroform	1	U	**38**		1	U
1	Chloromethane	1	U	25	U	1	U
1	cis-1,2-Dichloroethene	1	U	25	U	1	U
0.5	cis-1,3-Dichloropropene	0.5	U	13	U	0.5	U
1	Dibromochloromethane	1	U	25	U	1	U
1	Dibromomethane	1	U	25	U	1	U
1	Ethylbenzene	1	U	25	U	1	U
1	Freon 11	1	U	**26**		**1.8**	
5	Freon 113	5	U	**1300**		**5.3**	
1	Freon 12	1	**UJ**	25	**UJ**	1	**UJ**
1	Hexachlorobutadiene	1	U	25	**UJ**	1	U
250	Isopropyl Alcohol (Isopropanol)	250	U	6300	U	250	U
1	Isopropylbenzene	1	U	25	U	1	U
1	m,p-Xylene	1	U	25	U	1	U
1	Methyl Tert-Butyl Ether	1	U	25	U	1	U
5	Methylene chloride	5	U	130	U	5	U
1	Naphthalene	1	U	25	**UJ**	1	U
1	N-butylbenzene	1	U	25	U	1	U
1	o-Xylene	1	U	25	U	1	U
1	p-Isopropyltoluene	1	U	25	U	1	U
1	Propylbenzene	1	U	25	U	1	U
1	sec-Butylbenzene	1	U	25	U	1	U
1	Styrene	1	U	25	U	1	U
1	tert-Butylbenzene	1	U	25	U	1	U
1	Tetrachloroethene (PCE)	1	U	**1500**		**5**	
1	Toluene	1	U	25	U	1	U
1	trans-1,2-Dichloroethene	1	U	25	U	1	U
0.5	trans-1,3-Dichloropropene	0.5	U	13	U	0.5	U
1	Trichloroethene (TCE)	1	U	**150**		1	U
0.5	Vinyl chloride	0.5	U	13	U	0.5	U
0.5	1,4-Dioxane			**3.2**	**J-**	0.49	**UJ**

DATA SUMMARY TABLE
Omega Chemical
First Quarter 2020 Semi-Annual Groundwater
(ug/L)

	Field Sample ID	OC_GW_OW-3B_20200120		OC_GW_OW-3B_20200120K		OC_GW_OW-3BN_20200120	
	Sample Type	N		FD		RB	
	Lab Sample ID	440-259517-1		440-259517-6		440-259517-9	
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	**0.71**	**J**	1	**UJ**	1	**UJ**
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	**48**	
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	**0.67**	**J**	5	**UJ**	5	**UJ**
1	Freon 12	1	**UJ**	1	**UJ**	1	**UJ**
1	Hexachlorobutadiene	**0.62**	**J**	1	**UJ**	1	**UJ**
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	**0.55**	**J**	1	**UJ**	1	**UJ**
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)	**12**		**11**		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
0.5	1,4-Dioxane	0.49	**UJ**	0.49	**UJ**		

DATA SUMMARY TABLE
Omega Chemical
First Quarter 2020 Semi-Annual Groundwater
(ug/L)

	Field Sample ID	**OC_GW_OW-8B_20200121**		**OC_GW_OW-8B_20200121K**		**OC_TB1_20200120**	
	Sample Type	N		FD		TB	
	Lab Sample ID	440-259517-2		440-259517-7		440-259517-4	
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	5	U	5	U
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)	**29**		**29**		**0.34**	**J**
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
0.5	1,4-Dioxane	0.49	**UJ**	0.49	**UJ**		

DATA SUMMARY TABLE
Omega Chemical
First Quarter 2020 Semi-Annual Groundwater
(ug/L)

	Field Sample ID	**OC_TB2_20200120**	
	Sample Type	TB	
	Lab Sample ID	440-259517-8	
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	**UJ**
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)	**0.31**	**J**
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
0.5	1,4-Dioxane		

DATA SUMMARY TABLE
Omega Chemical
First Quarter 2020 Semi-Annual Groundwater
(ug/L)

	Field Sample ID	OC_GW_OW-10_20200123		OC_GW_OW-9_20200122		OC_TB_20200123	
	Sample Type	N		N		TB	
	Lab Sample ID	440-259640-2		440-259640-1		440-259640-3	
RL	Dilution Factor	1		1, 100		1	
1	1,1,1,2-Tetrachloroethane	1	U	100	U	1	U
1	1,1,1-Trichloroethane (TCA)	1	U	100	U	1	U
1	1,1,2,2-Tetrachloroethane	1	U	100	U	1	U
1	1,1,2-Trichloroethane	1	U	100	U	1	U
1	1,1-Dichloroethane	1	U	100	U	1	U
1	1,1-Dichloroethene	**13**		**210**		1	U
1	1,1-Dichloropropene	1	U	100	U	1	U
1	1,2,3-Trichlorobenzene	1	U	100	U	1	U
1	1,2,3-Trichloropropane	1	U	100	U	1	U
1	1,2,4-Trichlorobenzene	1	U	100	U	1	U
1	1,2,4-Trimethylbenzene	1	U	100	U	1	U
5	1,2-Dibromo-3-chloropropane	5	U	500	U	5	U
1	1,2-Dibromoethane (EDB)	1	U	100	U	1	U
1	1,2-Dichlorobenzene	1	U	100	U	1	U
1	1,2-Dichloroethane	1	U	**61**	**J**	1	U
1	1,2-Dichloropropane	1	U	100	U	1	U
1	1,3,5-Trimethylbenzene	1	U	100	U	1	U
1	1,3-Dichlorobenzene	1	U	100	U	1	U
1	1,3-Dichloropropane	1	U	100	U	1	U
1	1,4-Dichlorobenzene	1	U	100	U	1	U
1	2,2-Dichloropropane	1	U	100	U	1	U
1	2-Chlorotoluene	1	U	100	U	1	U
1	4-Chlorotoluene	1	U	100	U	1	U
10	Acetone	10	U	1000	U	10	U
0.5	Benzene	0.5	U	50	U	0.5	U
1	Bromobenzene	1	U	100	U	1	U
1	Bromochloromethane	1	U	100	U	1	U
1	Bromodichloromethane	1	U	100	U	1	U
1	Bromoform	1	U	100	U	1	U
1	Bromomethane	1	U	100	U	1	U
0.5	Carbon tetrachloride	0.5	U	50	U	0.5	U
1	Chlorobenzene	1	U	100	U	1	U
1	Chloroethane	1	U	100	U	1	U
1	Chloroform	**0.67**	**J**	**260**		1	**UJ**
1	Chloromethane	1	**UJ**	100	**UJ**	1	**UJ**
1	cis-1,2-Dichloroethene	1	U	100	U	1	U
0.5	cis-1,3-Dichloropropene	0.5	U	50	U	0.5	U
1	Dibromochloromethane	1	U	100	U	1	U
1	Dibromomethane	1	U	100	U	1	U
1	Ethylbenzene	1	U	100	U	1	U
1	Freon 11	**3.8**		**53**	**J**	1	U
5	Freon 113	**7.2**		**140**	**J**	5	U
1	Freon 12	1	**UJ**	100	**UJ**	1	**UJ**
1	Hexachlorobutadiene	1	U	100	U	1	U
250	Isopropyl Alcohol (Isopropanol)	250	U	25000	U	250	U
1	Isopropylbenzene	1	U	100	U	1	U
1	m,p-Xylene	1	U	100	U	1	U
1	Methyl Tert-Butyl Ether	1	U	100	U	1	U
5	Methylene chloride	5	U	500	U	5	U
1	Naphthalene	1	U	100	U	1	U
1	N-butylbenzene	1	U	100	U	1	U
1	o-Xylene	1	U	100	U	1	U
1	p-Isopropyltoluene	1	U	100	U	1	U
1	Propylbenzene	1	U	100	U	1	U
1	sec-Butylbenzene	1	U	100	U	1	U
1	Styrene	1	U	100	U	1	U
1	tert-Butylbenzene	1	U	100	U	1	U
1	Tetrachloroethene (PCE)	**19**		**4000**		1	U
1	Toluene	1	U	100	U	1	U
1	trans-1,2-Dichloroethene	1	U	100	U	1	U
0.5	trans-1,3-Dichloropropene	0.5	U	50	U	0.5	U
1	Trichloroethene (TCE)	**2**		**150**		1	U
0.5	Vinyl chloride	0.5	U	50	U	0.5	U
0.5	1,4-Dioxane	0.49	**UJ**	**850**	**J-**		

DATA SUMMARY TABLE
Omega Chemical
First Quarter 2020 Semi-Annual Groundwater
(ug/L)

	Field Sample ID	OC_GW_OW-10_20200123K		OC_GW_OW-10N_20200122		OC_GW_OW-13BN_20200123	
	Sample Type	FD		RB		RB	
	Lab Sample ID	440-259641-2		440-259641-1		440-259641-3	
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	**12**		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	**42**		**51**	
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	**UJ**	1	U	1	**UJ**
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	**3.3**		1	U	1	U
5	Freon 113	**6**		5	U	5	U
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	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)	**1.2**		1	U	1	U
0.5	Vinyl chloride	0.5	U	0.5	U	0.5	U
0.5	1,4-Dioxane	0.49	**UJ**				

DATA VALIDATION

FOR

GROUND WATER MONITORING
OMEGA CHEMICAL SITE
WHITTIER CALIFORNIA

ORGANIC ANALYSIS DATA
Volatile Organics and 1,4-Dioxane in Water

Laboratory Job Nos.

440-259513-1
440-259515-1
440-259516-1
440-259637-1

Analyses Performed By:

Eurofins Calscience Irvine
Irvine, CA

For:

de maximis, inc.
1322 Scott Street
Suite 104
San Diego, CA 92106

Data Validation By:

ddms, inc.
St. Paul, Minnesota 55108

April 7, 2020

1547-3139C/ekd/das
Omega\1st Qtr GW.docx

EXECUTIVE SUMMARY

Validation of the volatile organic and semi-volatile organic (1,4-dioxane only) analysis data prepared by Eurofins Calscience Irvine for 13 ground water samples and one trip blank (TB) from the Omega Chemical Site has been completed by de maximis Data Management Solutions, Inc. (ddms). A Stage 2B review was performed on the samples. The data were reported by the laboratory under Job Nos. 440-259513-1, 440-259515-1, 440-259516-1, and 440-259637-1. The following samples were reported:

SDG	Sample ID	VOCs	1,4-Dioxane
440-259513-1	OC_GW_OW-11_202001	X	X
440-259515-1	OC_GW_EW-3_20200121	X	X
	OC_GW_EW-4_20200120	X	X
	OC_GW_EW-5_20200121	X	X
	OC_TB_20200121	X	
440-259516-1	OC_GW_DPE-3_20200120	X	X
	OC_GW_DPE-4_20200120	X	X
	OC_GW_DPE-5_20200120	X	X
	OC_GW_DPE-8_20200120	X	X
	OC_GW_DPE-9_20200120	X	X
	OC_GW_DPE-7D_20200120	X	X
	OC_GW_DPE-10D_20200120	X	X
440-259637-1	OC_GW_OW-13B_20200123	X	X
	OC_GW_PZ-9_20200123	X	X

Based on the validation effort, the following data qualifiers were applied:

- Results for dichlorodifluoromethane in OC_GW_DPE-7D_20200120, OC_GW_DPE-9_20200120, and OC_GW_DPE-10D_20200120 were qualified as estimated (UJ) due to a low response in the associated initial calibration verification (ICV) standard.

- Results for dichlorodifluoromethane in OC_GW_OW-11_202001, OC_GW_EW-3_20200121, OC_GW_EW-4_20200120, OC_GW_EW-5_20200121, OC_TB_20200121, OC_GW_DPE-3_20200120, OC_GW_DPE-4_20200120, OC_GW_DPE-5_20200120, and OC_GW_DPE-8_20200120 were qualified as estimated (UJ) due to a low response in the associated continuing calibration (CC) standard.

- Results for chloromethane and dichlorodifluoromethane in OC_GW_OW-13B_20200123 and OC_GW_PZ-9_20200123 were qualified as estimated (UJ)

due to low responses for these compounds in associated CC standards. Results for dichlorodifluoromethane in these samples were also qualified as estimated (UJ) due to a low laboratory control sample (LCS) recovery.

- Results for isopropyl alcohol in OC_GW_DPE-9_20200120, OC_GW_DPE-7D_20200120, and OC_GW_DPE-10D_20200120 were rejected (R) because this compound was not recovered in the associated matrix spike (MS). Results for isopropyl alcohol in these samples were also qualified as estimated (UJ) due to a low response in the associated CC standard. The “R” qualifier takes precedence.

- Results for dichlorodifluoromethane in OC_GW_OW-11_202001, OC_GW_EW-3_20200121, OC_GW_EW-4_20200120, OC_GW_EW-5_20200121, OC_TB_20200121, OC_GW_DPE-3_20200120, OC_GW_DPE-4_20200120, OC_GW_DPE-5_20200120, and OC_GW_DPE-8_20200120 were qualified as estimated (UJ) due to low MS/MSD recoveries.

- Results for 1,4-dioxane in OC_GW_EW-4_20200120, OC_GW_EW-3_20200121, and OC_GW_EW-5_20200121 were qualified as not detected (U) at the reporting limit or at the reported value, whichever is higher, due to associated method blank contamination.

- Results for 1,4-dioxane in all samples were qualified as estimated with potential low bias (J-, UJ) due to low surrogate recoveries and low LCS and LCS duplicate (LCSD) recoveries.

All other results were determined to be valid as reported.

This report should be considered <u>part of the data packages</u> for all future distributions of the data.

INTRODUCTION

Analyses were performed in accordance with USEPA SW846 Method 8260B and Method 8270C Selected Ion Monitoring (SIM). The laboratory provided 'Level 4' data packages 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. It is assumed that the data package represents the best efforts of the laboratory and has already been subjected to adequate 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 USEPA 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 January 20, 21, and 23, 2020. The samples were received at the laboratory on January 21 and 23, 2020.

The temperatures of the coolers upon receipt at the laboratory ranged from 1.6°C to 5.1°C. Most of the receipt temperatures were below the lower acceptance limit (acceptable range is 4ºC ±2ºC). No action was necessary due to the slightly low cooler temperatures. 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 discusses the review effort for each of the parameters. 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	Y
Surrogates	Y
Laboratory Control Samples (LCS)/ LCS Duplicates (LCSD)	N
Field Duplicates	N/A
Matrix Spike (MS)/Matrix Spike Duplicate (MSD)	N
Internal Standard Response	Y
Compound Identification	Y

N/A = Not applicable

Calibration

Summary results for all associated initial calibrations (IC) were reported in support of sample analyses. Although the standards and IC summary forms included more compounds than were specifically applicable to these analyses, all project-specified

target analytes were included. For the relevant target analytes, the reported average relative response factors (RRFs) were greater than the evaluation criterion (QC >0.05) and the relative standard deviations (RSDs) were acceptable (QC <20% RSD) or the correlation coefficient was acceptable (≥0.99). An ICV standard was analyzed immediately following each IC. All ICV standard results were acceptable (QC <30%D), with the following exception:

ICV Standard	Analyte	%D	Affected Samples	Qualifier Applied
11/5/19 @ 21:11, GCMS58	Dichlorodifluoromethane	46	OC_GW_DPE-7D_20200120 OC_GW_DPE-9_20200120 OC_GW_DPE-10D_20200120	UJ

The high %D for dichlorodifluoromethane represented a decrease in instrument response, and results for this compound in the samples listed above were qualified as estimated (UJ) due to the low response.

Summary forms were provided for all applicable CC standards. Reported RRFs and percent difference (%D) or percent drift (also %D) values were acceptable (QC <20%), except as summarized below. Where excursions represented an increase in instrument sensitivity and the compound was not detected, no data required qualification and these instances are not detailed below.

Instrument	CC Date	Compound	%D	Affected Samples
GCMS34	1/23/20	Dichlorodifluoromethane	28	OC_GW_OW-11_202001 OC_GW_EW-3_20200121 OC_GW_EW-4_20200120 OC_GW_EW-5_20200121 OC_TB_20200121 OC_GW_DPE-3_20200120 OC_GW_DPE-4_20200120 OC_GW_DPE-5_20200120 OC_GW_DPE-8_20200120
GCMS43	1/23/20	Isopropyl Alcohol	25	OC_GW_DPE-9_20200120 OC_GW_DPE-7D_20200120 OC_GW_DPE-10D_20200120
GCMS34	1/24/20	Chloromethane	26	OC_GW_OW-13B_20200123 OC_GW_PZ-9_20200123
GCMS56	1/24/20	Dichlorodifluoromethane	32	OC_GW_OW-13B_20200123 OC_GW_PZ-9_20200123

For all compounds listed above, the high %Ds represent a decrease in instrument response, and results for these compounds in the affected samples were qualified as estimated (UJ) due to the low responses.

Laboratory Control Sample (LCS)

All percent recoveries (%Rs) were acceptable (70-130%R), with the following exception:

LCS	Compound	LCS %R	Affected Samples	Qualifier Applied
440-592172	Dichlorodifluoromethane	68	OC_GW_OW-13B_20200123 OC_GW_PZ-9_20200123	UJ

Sample results were qualified as estimated (UJ) due to the low LCS recovery.

Matrix Spike/Matrix Spike Duplicate

An MS/MSD pair was prepared and analyzed with each analytical batch containing site samples. Percent recoveries were within the validation limits of 70-130% and relative percent difference (RPD) values were acceptable (≤20 RPD), with the following exceptions:

Analyte	MS %R	MSD %R	RPD	Affected Samples	Qualifier Applied
Parent Sample: OC_GW_DPE-9_20200120					
Isopropyl Alcohol	0	A	A	OC_GW_DPE-9_20200120 OC_GW_DPE-7D_20200120 OC_GW_DPE-10D_20200120	R
Parent Sample: OC_GW_OW-12_20200120 (reported in Job No. 440-259517-1)					
Dichlorodifluoromethane	65	61	A	OC_GW_OW-11_202001 OC_GW_EW-3_20200121 OC_GW_EW-4_20200120 OC_GW_EW-5_20200121 OC_TB_20200121 OC_GW_DPE-3_20200120 OC_GW_DPE-4_20200120 OC_GW_DPE-5_20200120 OC_GW_DPE-8_20200120	UJ

A = Acceptable

Since the recovery of isopropyl alcohol in the MS was less than 10%, results for this compound in the affected samples were rejected (R). Results for dichlorodifluoromethane in the affected samples were qualified as estimated (UJ) due to the low MS/MSD recoveries for this analyte.

IV. SVOCs – 1,4-Dioxane only

Review Element	Acceptable?
GC/MS Instrument Tunes	Y
Calibration - IC, ICV, CC	Y
Laboratory and Field Blanks	N
Surrogates	N
LCS/LCSD	N
Field Duplicates	N/A
MS/MSD	N/A
Internal Standard Responses	Y

Review Element	Acceptable?
Compound Identification	Y

N/A = Not applicable

Blanks

A method blank was prepared and analyzed with each extraction batch. 1,4-Dioxane was detected in the following method blanks:

Method Blank	Concentration (µg/L)	Affected Samples	Qualifier Applied
440-591747	0.13 J	OC_GW_EW-4_20200120	U
440-591971	0.12 J	OC_GW_EW-3_20200121 OC_GW_EW-5_20200121	U

Results for 1,4-dioxane in the affected samples were qualified as not detected (U) at the reporting limit or at the reported value, whichever is higher, due to associated method blank contamination.

Surrogates

The results for 1,4-dioxane in all samples were qualified as estimated with potential low bias (J-, UJ) due to low surrogate recoveries (37-63%R; acceptance limits 70-130%R).

Laboratory Control Sample

Results for 1,4-dioxane in all samples were qualified as estimated with potential low bias (J-, UJ) due to low LCS and LCSD recoveries (54-68%R; acceptance limits 70-130%R).

ddms

ATTACHMENT A

DATA SUMMARY FORMS
440-259513-1
440-259515-1
440-259516-1
440-259637-1

DATA SUMMARY TABLE
Omega Chemical
Groundwater - First Quarter 2020
(ug/L)

	Field Sample ID	OC_GW_OW-11_202001	
	Sample Type	N	
	Lab Sample ID	440-259513-1	
RL	Dilution Factor	1, 5	
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	**34**	
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	**0.64**	**J**
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	**15**	
5	Freon 113	**50**	
1	Freon 12	1	UJ
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
5	Tetrachloroethene (PCE)	**200**	
1	Toluene	1	U
1	trans-1,2-Dichloroethene	1	U
0.5	trans-1,3-Dichloropropene	0.5	U
1	Trichloroethene (TCE)	**33**	
0.5	Vinyl chloride	0.5	U
0.5	1,4-Dioxane	0.49	**UJ**

DATA SUMMARY TABLE
Omega Chemical
Groundwater - First Quarter 2020
(ug/L)

	Field Sample ID	OC_GW_EW-3_20200121		OC_GW_EW-4_20200120	
	Sample Type	N		N	
	Lab Sample ID	440-259515-1		440-259515-2	
RL	Dilution Factor	1		1	
1	1,1,1,2-Tetrachloroethane	1	U	1	U
1	1,1,1-Trichloroethane (TCA)	1	U	1	U
1	1,1,2,2-Tetrachloroethane	1	U	1	U
1	1,1,2-Trichloroethane	1	U	1	U
1	1,1-Dichloroethane	1	U	1	U
1	1,1-Dichloroethene	1	U	**0.41**	**J**
1	1,1-Dichloropropene	1	U	1	U
1	1,2,3-Trichlorobenzene	1	U	1	U
1	1,2,3-Trichloropropane	1	U	1	U
1	1,2,4-Trichlorobenzene	1	U	1	U
1	1,2,4-Trimethylbenzene	1	U	1	U
5	1,2-Dibromo-3-chloropropane	5	U	5	U
1	1,2-Dibromoethane (EDB)	1	U	1	U
1	1,2-Dichlorobenzene	1	U	1	U
1	1,2-Dichloroethane	1	U	1	U
1	1,2-Dichloropropane	1	U	1	U
1	1,3,5-Trimethylbenzene	1	U	1	U
1	1,3-Dichlorobenzene	1	U	1	U
1	1,3-Dichloropropane	1	U	1	U
1	1,4-Dichlorobenzene	1	U	1	U
1	2,2-Dichloropropane	1	U	1	U
1	2-Chlorotoluene	1	U	1	U
1	4-Chlorotoluene	1	U	1	U
10	Acetone	10	U	10	U
0.5	Benzene	0.5	U	0.5	U
1	Bromobenzene	1	U	1	U
1	Bromochloromethane	1	U	1	U
1	Bromodichloromethane	1	U	1	U
1	Bromoform	1	U	1	U
1	Bromomethane	1	U	1	U
0.5	Carbon tetrachloride	0.5	U	0.5	U
1	Chlorobenzene	1	U	1	U
1	Chloroethane	1	U	1	U
1	Chloroform	1	U	1	U
1	Chloromethane	1	U	1	U
1	cis-1,2-Dichloroethene	1	U	1	U
0.5	cis-1,3-Dichloropropene	0.5	U	0.5	U
1	Dibromochloromethane	1	U	1	U
1	Dibromomethane	1	U	1	U
1	Ethylbenzene	1	U	1	U
1	Freon 11	1	U	1	U
5	Freon 113	5	U	5	U
1	Freon 12	1	**UJ**	1	**UJ**
1	Hexachlorobutadiene	1	U	1	U
250	Isopropyl Alcohol (Isopropanol)	250	U	250	U
1	Isopropylbenzene	1	U	1	U
1	m,p-Xylene	1	U	1	U
1	Methyl Tert-Butyl Ether	1	U	1	U
5	Methylene chloride	5	U	5	U
1	Naphthalene	1	U	1	U
1	N-butylbenzene	1	U	1	U
1	o-Xylene	1	U	1	U
1	p-Isopropyltoluene	1	U	1	U
1	Propylbenzene	1	U	1	U
1	sec-Butylbenzene	1	U	1	U
1	Styrene	1	U	1	U
1	tert-Butylbenzene	1	U	1	U
1	Tetrachloroethene (PCE)	**1.6**		**1.6**	
1	Toluene	1	U	1	U
1	trans-1,2-Dichloroethene	1	U	1	U
0.5	trans-1,3-Dichloropropene	0.5	U	0.5	U
1	Trichloroethene (TCE)	1	U	1	U
0.5	Vinyl chloride	0.5	U	0.5	U
0.5	1,4-Dioxane	0.49	**UJ**	0.5	**UJ**

DATA SUMMARY TABLE
Omega Chemical
Groundwater - First Quarter 2020
(ug/L)

	Field Sample ID	OC_GW_EW-5_20200121		OC_TB_20200121	
	Sample Type	N		TB	
	Lab Sample ID	440-259515-3		440-259515-4	
RL	Dilution Factor	1		1	
1	1,1,1,2-Tetrachloroethane	1	U	1	U
1	1,1,1-Trichloroethane (TCA)	1	U	1	U
1	1,1,2,2-Tetrachloroethane	1	U	1	U
1	1,1,2-Trichloroethane	1	U	1	U
1	1,1-Dichloroethane	1	U	1	U
1	1,1-Dichloroethene	**15**		1	U
1	1,1-Dichloropropene	1	U	1	U
1	1,2,3-Trichlorobenzene	1	U	1	U
1	1,2,3-Trichloropropane	1	U	1	U
1	1,2,4-Trichlorobenzene	1	U	1	U
1	1,2,4-Trimethylbenzene	1	U	1	U
5	1,2-Dibromo-3-chloropropane	5	U	5	U
1	1,2-Dibromoethane (EDB)	1	U	1	U
1	1,2-Dichlorobenzene	1	U	1	U
1	1,2-Dichloroethane	1	U	1	U
1	1,2-Dichloropropane	1	U	1	U
1	1,3,5-Trimethylbenzene	1	U	1	U
1	1,3-Dichlorobenzene	1	U	1	U
1	1,3-Dichloropropane	1	U	1	U
1	1,4-Dichlorobenzene	1	U	1	U
1	2,2-Dichloropropane	1	U	1	U
1	2-Chlorotoluene	1	U	1	U
1	4-Chlorotoluene	1	U	1	U
10	Acetone	10	U	10	U
0.5	Benzene	0.5	U	0.5	U
1	Bromobenzene	1	U	1	U
1	Bromochloromethane	1	U	1	U
1	Bromodichloromethane	1	U	1	U
1	Bromoform	1	U	1	U
1	Bromomethane	1	U	1	U
0.5	Carbon tetrachloride	0.5	U	0.5	U
1	Chlorobenzene	1	U	1	U
1	Chloroethane	1	U	1	U
1	Chloroform	1	U	1	U
1	Chloromethane	1	U	1	U
1	cis-1,2-Dichloroethene	1	U	1	U
0.5	cis-1,3-Dichloropropene	0.5	U	0.5	U
1	Dibromochloromethane	1	U	1	U
1	Dibromomethane	1	U	1	U
1	Ethylbenzene	1	U	1	U
1	Freon 11	**35**		1	U
5	Freon 113	**55**		5	U
1	Freon 12	1	**UJ**	1	**UJ**
1	Hexachlorobutadiene	1	U	1	U
250	Isopropyl Alcohol (Isopropanol)	250	U	250	U
1	Isopropylbenzene	1	U	1	U
1	m,p-Xylene	1	U	1	U
1	Methyl Tert-Butyl Ether	1	U	1	U
5	Methylene chloride	5	U	5	U
1	Naphthalene	1	U	1	U
1	N-butylbenzene	1	U	1	U
1	o-Xylene	1	U	1	U
1	p-Isopropyltoluene	1	U	1	U
1	Propylbenzene	1	U	1	U
1	sec-Butylbenzene	1	U	1	U
1	Styrene	1	U	1	U
1	tert-Butylbenzene	1	U	1	U
1	Tetrachloroethene (PCE)	**16**		1	U
1	Toluene	1	U	1	U
1	trans-1,2-Dichloroethene	1	U	1	U
0.5	trans-1,3-Dichloropropene	0.5	U	0.5	U
1	Trichloroethene (TCE)	**1.7**		1	U
0.5	Vinyl chloride	0.5	U	0.5	U
0.5	1,4-Dioxane	0.49	**UJ**		

DATA SUMMARY TABLE
Omega Chemical
Groundwater - First Quarter 2020
(ug/L)

	Field Sample ID	OC_GW_DPE-10D_20200120		OC_GW_DPE-3_20200120		OC_GW_DPE-4_20200120	
	Sample Type	N		N		N	
	Lab Sample ID	440-259516-7		440-259516-1		440-259516-2	
RL	Dilution Factor	1, 10		1, 5		1, 10	
1	1,1,1,2-Tetrachloroethane	1	U	1	U	1	U
1	1,1,1-Trichloroethane (TCA)	1	U	**1.1**		**4**	
1	1,1,2,2-Tetrachloroethane	1	U	1	U	1	U
1	1,1,2-Trichloroethane	**0.36**	**J**	1	U	**0.34**	**J**
1	1,1-Dichloroethane	**0.69**	**J**	1	U	1	U
1	1,1-Dichloroethene	**47**		**4.8**		**25**	
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	**3.9**		**1.9**		**1.9**	
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	**21**		**2.9**		**20**	
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	**19**		**12**		**17**	
5	Freon 113	**64**		**120**		**470**	
1	Freon 12	1	**UJ**	1	**UJ**	1	**UJ**
1	Hexachlorobutadiene	1	U	1	U	1	U
250	Isopropyl Alcohol (Isopropanol)	250	**R**	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)	**320**		**130**		**510**	
1	Toluene	1	U	1	U	1	U
1	trans-1,2-Dichloroethene	**0.27**	**J**	1	U	1	U
0.5	trans-1,3-Dichloropropene	0.5	U	0.5	U	0.5	U
1	Trichloroethene (TCE)	**33**		**8**		**47**	
0.5	Vinyl chloride	0.5	U	0.5	U	0.5	U
0.5	1,4-Dioxane	**18**	**J-**	**3.8**	**J-**	**13**	**J-**

DATA SUMMARY TABLE
Omega Chemical
Groundwater - First Quarter 2020
(ug/L)

	Field Sample ID	OC_GW_DPE-5_20200120		OC_GW_DPE-7D_20200120		OC_GW_DPE-8_20200120	
	Sample Type	N		N		N	
	Lab Sample ID	440-259516-3		440-259516-6		440-259516-4	
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	**37**		**12**		**0.59**	**J**
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	**0.36**	**J**	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	**1.4**		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	**9.1**		**4.8**		**1.8**	
5	Freon 113	**14**		**14**		**3.1**	**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	**R**	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)	**88**		**54**		**17**	
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)	**8.5**		**22**		**3.2**	
0.5	Vinyl chloride	0.5	U	0.5	U	0.5	U
0.5	1,4-Dioxane	**2.8**	**J-**	0.49	**UJ**	**2.6**	**J-**

DATA SUMMARY TABLE
Omega Chemical
Groundwater - First Quarter 2020
(ug/L)

	Field Sample ID	**OC_GW_DPE-9_20200120**	
	Sample Type	N	
	Lab Sample ID	440-259516-5	
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	**12**	
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	**1.9**	
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	**7.1**	
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	**5.7**	
5	Freon 113	**14**	
1	Freon 12	1	**UJ**
1	Hexachlorobutadiene	1	U
250	Isopropyl Alcohol (Isopropanol)	250	**R**
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)	**96**	
1	Toluene	1	U
1	trans-1,2-Dichloroethene	1	U
0.5	trans-1,3-Dichloropropene	0.5	U
1	Trichloroethene (TCE)	**6.9**	
0.5	Vinyl chloride	0.5	U
0.5	1,4-Dioxane	**22**	**J-**

DATA SUMMARY TABLE
Omega Chemical
Groundwater - First Quarter 2020
(ug/L)

	Field Sample ID	OC_GW_OW-13B_20200123		OC_GW_PZ-9_20200123	
	Sample Type	N		N	
	Lab Sample ID	440-259637-1		440-259637-2	
RL	Dilution Factor	1		1, 10	
1	1,1,1,2-Tetrachloroethane	1	U	1	U
1	1,1,1-Trichloroethane (TCA)	1	U	1	U
1	1,1,2,2-Tetrachloroethane	1	U	1	U
1	1,1,2-Trichloroethane	1	U	**0.81**	**J**
1	1,1-Dichloroethane	1	U	**0.98**	**J**
1	1,1-Dichloroethene	1	U	**37**	
1	1,1-Dichloropropene	1	U	1	U
1	1,2,3-Trichlorobenzene	1	U	1	U
1	1,2,3-Trichloropropane	1	U	1	U
1	1,2,4-Trichlorobenzene	1	U	1	U
1	1,2,4-Trimethylbenzene	1	U	1	U
5	1,2-Dibromo-3-chloropropane	5	U	5	U
1	1,2-Dibromoethane (EDB)	1	U	1	U
1	1,2-Dichlorobenzene	1	U	1	U
1	1,2-Dichloroethane	1	U	**8.2**	
1	1,2-Dichloropropane	1	U	1	U
1	1,3,5-Trimethylbenzene	1	U	1	U
1	1,3-Dichlorobenzene	1	U	1	U
1	1,3-Dichloropropane	1	U	1	U
1	1,4-Dichlorobenzene	1	U	1	U
1	2,2-Dichloropropane	1	U	1	U
1	2-Chlorotoluene	1	U	1	U
1	4-Chlorotoluene	1	U	1	U
10	Acetone	10	U	10	U
0.5	Benzene	0.5	U	0.5	U
1	Bromobenzene	1	U	1	U
1	Bromochloromethane	1	U	1	U
1	Bromodichloromethane	1	U	1	U
1	Bromoform	1	U	1	U
1	Bromomethane	1	U	1	U
0.5	Carbon tetrachloride	0.5	U	0.5	U
1	Chlorobenzene	1	U	1	U
1	Chloroethane	1	U	1	U
1	Chloroform	1	U	**31**	
1	Chloromethane	1	**UJ**	1	**UJ**
1	cis-1,2-Dichloroethene	1	U	**0.44**	**J**
0.5	cis-1,3-Dichloropropene	0.5	U	0.5	U
1	Dibromochloromethane	1	U	1	U
1	Dibromomethane	1	U	1	U
1	Ethylbenzene	1	U	1	U
1	Freon 11	1	U	**17**	
5	Freon 113	5	U	**53**	
1	Freon 12	1	**UJ**	1	**UJ**
1	Hexachlorobutadiene	1	U	1	U
250	Isopropyl Alcohol (Isopropanol)	250	U	250	U
1	Isopropylbenzene	1	U	1	U
1	m,p-Xylene	1	U	1	U
1	Methyl Tert-Butyl Ether	1	U	1	U
5	Methylene chloride	5	U	5	U
1	Naphthalene	1	U	1	U
1	N-butylbenzene	1	U	1	U
1	o-Xylene	1	U	1	U
1	p-Isopropyltoluene	1	U	1	U
1	Propylbenzene	1	U	1	U
1	sec-Butylbenzene	1	U	1	U
1	Styrene	1	U	1	U
1	tert-Butylbenzene	1	U	1	U
1	Tetrachloroethene (PCE)	**23**		**290**	
1	Toluene	1	U	1	U
1	trans-1,2-Dichloroethene	1	U	**0.39**	**J**
0.5	trans-1,3-Dichloropropene	0.5	U	0.5	U
1	Trichloroethene (TCE)	1	U	**21**	
0.5	Vinyl chloride	0.5	U	0.5	U
0.5	1,4-Dioxane	0.5	**UJ**	**280**	**J-**

ATTACHMENT D

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
Office :(619)-546-8377, fax: (619) 546-9980
e-mail: edm@demaximis.com

April 10, 2020

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 – 1st Quarter 2020
Permit Number 20039, Surcharge Account Number 2113183

Dear Ms. Grace Robinson Hyde,

This letter transmits the 1st Quarter 2020 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

ROBERT C. FERRANTE
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: 01/01/2020 To: 03/31/2020 Report Due No Later Than : 04/15/2020

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: 2/21/2020

Daily Wastewater Discharge for Reporting Period
Average: 7,457 GPD
Maximum: 10,391 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			20.1		gpm	
Z01 Sample Day Total Flow			7,337		GPD	
101 pH	GRAB	Federal Daily Minimum 5.0 S.U. Local Daily Minimum 6.0 S.U.	8.7		S.U.	10256
151 Solids, Suspended	COMPOSITE		4.8		mg/L	10256
252 Sulfide, Soluble	GRAB	Local At Any Time 0.1 mg/L	ND	0.050	mg/L	10256
403 COD, Total	COMPOSITE		ND	20	mg/L	10256
696 1,4-Dioxane	GRAB		13		ug/L	10256
T09 TTO, Volatile	GRAB	Local At Any Time 1000 ug/L	LACSD calculates this value.		ug/L	
601 Methylene Chloride	GRAB		ND	5.0	ug/L	10256
602 Chloroform	GRAB		ND	1.0	ug/L	10256
603 1,1,1-Trichloroethane	GRAB		ND	1.0	ug/L	10256
604 Carbon Tetrachloride	GRAB		ND	0.50	ug/L	10256
605 1,1-Dichloroethene	GRAB		ND	1.0	ug/L	10256
606 Trichloroethylene	GRAB		ND	1.0	ug/L	10256
607 Tetrachloroethylene	GRAB		ND	1.0	ug/L	10256
608 Bromodichloromethane	GRAB		ND	1.0	ug/L	10256
609 Dibromochloromethane	GRAB		ND	1.0	ug/L	10256
610 Bromoform	GRAB		ND	1.0	ug/L	10256
611 Chlorobenzene	GRAB		ND	1.0	ug/L	10256
612 Vinyl Chloride	GRAB		ND	0.50	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

Printed on Recycled Paper

INDUSTRIAL WASTEWATER SELF MONITORING REPORT

Report due no later than : 04/15/2020

Permit Number: 20039
Facility ID: 2113183

Company Name: **Omega Chemical Site PRP Group LLC**

Sample Location: **20039A** Reporting Period From: **01/01/2020** To: **03/31/2020**

Parameter (1)	Sample Method (2)	Permit Limit (3)	Test Results (4)	Reporting Limit (5)	Unit (6)	Lab ID Code (7)
613 o-Dichlorobenzene	GRAB		ND	1.0	ug/L	10256
614 m-Dichlorobenzene	GRAB		ND	1.0	ug/L	10256
615 p-Dichlorobenzene	GRAB		ND	1.0	ug/L	10256
616 1,1-Dichloroethane	GRAB		ND	1.0	ug/L	10256
618 1,1,2-Trichloroethane	GRAB		ND	1.0	ug/L	10256
619 1,2-Dichloroethane	GRAB		ND	1.0	ug/L	10256
620 Benzene	GRAB		ND	0.5	ug/L	10256
621 Toluene	GRAB		ND	1.0	ug/L	10256
624 Ethyl Benzene	GRAB		ND	1.0	ug/L	10256
645 trans-1,2-Dichloroethylene	GRAB		ND	1.0	ug/L	10256
646 Bromomethane	GRAB		ND	1.0	ug/L	10256
647 Chloroethane	GRAB		ND	1.0	ug/L	10256
648 2-Chloroethylvinylether	GRAB		ND	2.0	ug/L	10256
649 Chloromethane	GRAB		ND	1.0	ug/L	10256
650 1,2-Dichloropropane	GRAB		ND	1.0	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	1.0	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	9.7	ug/L	10256
801 Acenaphthylene	GRAB		ND	9.7	ug/L	10256
802 Anthracene	GRAB		ND	9.7	ug/L	10256
803 Benzidine	GRAB		ND	39	ug/L	10256
804 Benzo(a)anthracene	GRAB		ND	9.7	ug/L	10256
805 Benzo(a)pyrene	GRAB		ND	9.7	ug/L	10256
806 Benzo(b)fluoranthene	GRAB		ND	9.7	ug/L	10256
807 Benzo(g.h.i.)perylene	GRAB		ND	9.7	ug/L	10256
808 Benzo(k)fluoranthene	GRAB		ND	9.7	ug/L	10256
809 Bis(2-cl-ethoxy)methane	GRAB		ND	9.7	ug/L	10256
810 Bis(2-chloroethyl)ether	GRAB		ND	9.7	ug/L	10256
811 Bis(2-cl-isopropyl)ether	GRAB		ND	9.7	ug/L	10256
812 bis(2-ethylhexyl) Phthalate	GRAB		ND	19	ug/L	10256
813 4-bromophenyl Phenylether	GRAB		ND	9.7	ug/L	10256
814 butylbenzyl Phthalate	GRAB		ND	19	ug/L	10256
815 2-Chloronaphthalene	GRAB		ND	9.7	ug/L	10256
816 4-Chlorophenylphenylether	GRAB		ND	9.7	ug/L	10256
817 Chrysene	GRAB		ND	9.7	ug/L	10256

INDUSTRIAL WASTEWATER SELF MONITORING REPORT

Report due no later than : 04/15/2020

Permit Number: 20039
Facility ID: 2113183

Company Name: **Omega Chemical Site PRP Group LLC**

Sample Location: **20039A** Reporting Period From: **01/01/2020** To: **03/31/2020**

Parameter (1)	Sample Method (2)	Permit Limit (3)	**Test Results (4)**	Reporting Limit (5)	Unit (6)	Lab ID Code (7)
818 dibenzo(a,h)Anthracene	GRAB		ND	19	ug/L	10256
822 3,3-Dichlorobenzidine	GRAB		ND	39	ug/L	10256
823 diethyl Phthalate	GRAB		ND	9.7	ug/L	10256
824 dimethyl Phthalate	GRAB		ND	9.7	ug/L	10256
825 di-n-butyl Phthalate	GRAB		ND	19	ug/L	10256
826 2,4-Dinitrotoluene	GRAB		ND	9.7	ug/L	10256
827 2,6-Dinitrotoluene	GRAB		ND	9.7	ug/L	10256
828 di-n-octyl Phthalate	GRAB		ND	19	ug/L	10256
829 1,2-Diphenylhydrazine	GRAB		ND	19	ug/L	10256
830 Fluoranthene	GRAB		ND	9.7	ug/L	10256
831 Fluorene	GRAB		ND	9.7	ug/L	10256
832 Hexachlorobenzene	GRAB		ND	9.7	ug/L	10256
833 Hexachlorobutadiene	GRAB		ND	9.7	ug/L	10256
834 Hexachlorocyclopentadiene	GRAB		ND	19	ug/L	10256
835 Hexachloroethane	GRAB		ND	9.7	ug/L	10256
836 Indeno(1,2,3-c,d)Pyrene	GRAB		ND	19	ug/L	10256
837 Isophorone	GRAB		ND	9.7	ug/L	10256
838 Naphthalene	GRAB		ND	9.7	ug/L	10256
839 Nitrobenzene	GRAB		ND	19	ug/L	10256
840 n-Nitrosodimethylamine	GRAB		ND	19	ug/L	10256
841 n-Nitrosodi-n-Propylamine	GRAB		ND	9.7	ug/L	10256
842 Phenanthrene	GRAB		ND	9.7	ug/L	10256
843 Pyrene	GRAB		ND	9.7	ug/L	10256
845 2-Chlorophenol (Organic-BNA)	GRAB		ND	9.7	ug/L	10256
846 1,2,4-Trichlorobenzene	GRAB		ND	9.7	ug/L	10256
847 2,4-Dichlorophenol (Organic-BNA)	GRAB		ND	9.7	ug/L	10256
848 2,4-Dimethylphenol (Organic-BNA)	GRAB		ND	19	ug/L	10256
849 2,4-Dinitrophenol	GRAB		ND	39	ug/L	10256
850 2-methyl-4,6-dinitrophenol	GRAB		ND	19	ug/L	10256
851 2-Nitrophenol	GRAB		ND	9.7	ug/L	10256
852 4-Nitrophenol	GRAB		ND	19	ug/L	10256
853 4-chloro-3-Methylphenol (Organic-BNA)	GRAB		ND	19	ug/L	10256
854 Pentachlorophenol (Organic-BNA)	GRAB		ND	19	ug/L	10256
855 Phenol	GRAB		ND	9.7	ug/L	10256

INDUSTRIAL WASTEWATER SELF MONITORING REPORT

Report due no later than : 04/15/2020

Permit Number: 20039
Facility ID: 2113183

Company Name: **Omega Chemical Site PRP Group LLC**

Sample Location: **20039A** Reporting Period From: **01/01/2020** To: **03/31/2020**

Parameter (1)	Sample Method (2)	Permit Limit (3)	**Test Results (4)**	Reporting Limit (5)	Unit (6)	Lab ID Code (7)
856 2,4,6-Trichlorophenol	GRAB		ND	19	ug/L	10256
857 n-Nitrosodiphenylamine	GRAB		ND	9.7	ug/L	10256

(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: *Nicole Bradley* Date: **4/10/2020**

Print name of official: Nicole Bradley Title: Project Manager on Behalf of OPOG

LACSD USE ONLY Monitoring ID: 558547

Lab Report? ☐ Yes ☐ No Signature? ☐ Yes ☐ No Date Received: _____ Initials: _____

SANITATION DISTRICTS OF LOS ANGELES COUNTY

ROBERT C. FERRANTE
CHIEF ENGINEER
AND GENERAL MANAGER

For information, please call Jyoti Banaji
(562) 699-7411 Ext. 2906

Page _____ of _____
Permit Number:
20039
Facility ID:
2113183

SUPPLEMENTAL MONITORING DATA (OPTIONAL)

It is not mandatory to perform supplemental monitoring of your facility's wastewater discharge. However, if you choose to perform additional testing, you must report the results of all analyses using this form. Supplemental monitoring data should not include results used in Self-Monitoring Reports.

Company Name: **Omega Chemical Site PRP Group LLC**

Sample Location: **20039A** Reporting Period From: **01/01/2020** To: **03/31/2020**

(Print) Name of Company Collecting Wastewater Sample:

Comments:

Parameter (1)	Sample Date	Sample Method (2)	**Test Results (3)**	Reporting Limit (4)	Unit	Lab ID Code (5)	LACSD Split (6)

(1) Include all laboratory test sheets for each reported parameter.
(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) Enter "ND" (Non Detect) for any result less than (<) the reporting limit.
(4) If the test result is "ND", enter the reporting limit; otherwise leave blank. The reporting limit can be found in your laboratory test sheet.
(5) Indicate the appropriate laboratory certification I.D. code for each testing parameter.
(6) If the results are from a split sample that was collected by the Sanitation Districts, write "Yes"; otherwise, leave blank.

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: _____ Date: _____

Print name of official: _____ Title: _____

LACSD USE ONLY - Non-Permit SMR

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

ANALYTICAL REPORT

Eurofins Calscience Irvine
17461 Derian Ave
Suite 100
Irvine, CA 92614-5817
Tel: (949)261-1022

Laboratory Job ID: 440-261356-1
Laboratory Sample Delivery Group: Omega Site
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:
2/28/2020 3:06:24 PM

Danielle Roberts, Senior Project Manager
(949)260-3249
danielle.roberts@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

Job ID: 440-261356-1
SDG: Omega Site

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
440-261356-1	Composite_20200221	Water	02/21/20 09:30	02/21/20 13:00	
440-261356-2	Grab_20200221	Water	02/21/20 09:35	02/21/20 13:00	

Job ID: 440-261356-1

Laboratory: Eurofins Calscience Irvine

Narrative

Job Narrative
440-261356-1

Comments
No additional comments.

Receipt
The samples were received on 2/21/2020 1:00 PM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 3.7º C.

GC/MS VOA
Method 8260B: The continuing calibration verification (CCV) associated with batch 440-596872 recovered above the upper control limit for Vinyl chloride, Dichlorodifluoromethane and 2,2-Dichloropropane. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported. The following samples are impacted: Grab_20200221 (440-261356-2) and (CCVIS 440-596872/2).

Method 8260B: The laboratory control sample (LCS) and laboratory control sample duplicate (LCSD) for analytical batch 440-596872 recovered outside control limits for the following analytes: Vinyl chloride, Dichlorodifluoromethane and 2,2-Dichloropropane. These analytes were biased high in the LCS and were not detected in the associated samples; therefore, the data have been reported.

Method 8260B: The following sample(s) was collected in a properly preserved vial; however, the pH of 4 was outside the required criteria when verified by the laboratory. The sample was analyzed within the 7-day holding time specified for unpreserved samples: Grab_20200221 (440-261356-2).

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

GC/MS Semi VOA
Method 8270C: The laboratory control sample (LCS) and / or laboratory control sample duplicate (LCSD) for preparation batch 440-596798 and analytical batch 440-597124 recovered outside control limits for the following analytes: Hexachlorobutadiene. These analytes were biased high in the LCS and were not detected in the associated samples; therefore, the data have been reported.

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

Organic Prep
Methods 3520C, 8270: Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD) associated with 8270C preparation batch 440-596798. LCS was performed in duplicate to provide precision of data.

Method 3520C: Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD) associated with 8270C preparation batch 440-596797. LCS was performed in duplicate to provide precision of data.

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

Job ID: 440-261356-1
SDG: Omega Site

Client Sample ID: Composite_20200221 — Lab Sample ID: 440-261356-1

Analyte	Result	Qualifier	RL		Unit	Dil Fac	D	Method	Prep Type
Total Suspended Solids	4.8		1.0		mg/L	1		SM 2540D	Total/NA

Client Sample ID: Grab_20200221 — Lab Sample ID: 440-261356-2

Analyte	Result	Qualifier	RL		Unit	Dil Fac	D	Method	Prep Type
1,4-Dioxane	13		0.49		ug/L	1		8270C SIM	Total/NA
pH	8.7	HF	0.1		SU	1		SM 4500 H+ B	Total/NA
Field pH	8.73				SU	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

Job ID: 440-261356-1
SDG: Omega Site

Client Sample ID: Composite_20200221

Lab Sample ID: 440-261356-1
Date Collected: 02/21/20 09:30
Matrix: Water
Date Received: 02/21/20 13:00

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids	**4.8**		1.0	mg/L			02/21/20 18:00	1
Chemical Oxygen Demand	ND		20	mg/L			02/25/20 13:53	1

Client Sample ID: Grab_20200221

Lab Sample ID: 440-261356-2
Date Collected: 02/21/20 09:35
Matrix: Water
Date Received: 02/21/20 13:00

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			02/24/20 13:07	1
1,1,1-Trichloroethane	ND		1.0	ug/L			02/24/20 13:07	1
2-Chloroethyl vinyl ether	ND		2.0	ug/L			02/22/20 14:42	1
1,1,2,2-Tetrachloroethane	ND		1.0	ug/L			02/24/20 13:07	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		5.0	ug/L			02/24/20 13:07	1
Acrolein	ND		5.0	ug/L			02/22/20 14:42	1
1,1,2-Trichloroethane	ND		1.0	ug/L			02/24/20 13:07	1
Acrylonitrile	ND		2.0	ug/L			02/22/20 14:42	1
1,1-Dichloroethane	ND		1.0	ug/L			02/24/20 13:07	1
1,1-Dichloroethene	ND		1.0	ug/L			02/24/20 13:07	1
1,1-Dichloropropene	ND		1.0	ug/L			02/24/20 13:07	1
Total Volatile Organic Compounds	ND		150	ug/L			02/22/20 14:42	1
1,2,3-Trichlorobenzene	ND		1.0	ug/L			02/24/20 13:07	1
1,2,3-Trichloropropane	ND		1.0	ug/L			02/24/20 13:07	1
1,2,4-Trichlorobenzene	ND		1.0	ug/L			02/24/20 13:07	1
1,2,4-Trimethylbenzene	ND		1.0	ug/L			02/24/20 13:07	1
1,2-Dibromo-3-Chloropropane	ND		5.0	ug/L			02/24/20 13:07	1
1,2-Dibromoethane (EDB)	ND		1.0	ug/L			02/24/20 13:07	1
1,2-Dichlorobenzene	ND		1.0	ug/L			02/24/20 13:07	1
1,2-Dichloroethane	ND		1.0	ug/L			02/24/20 13:07	1
1,2-Dichloropropane	ND		1.0	ug/L			02/24/20 13:07	1
1,3,5-Trimethylbenzene	ND		1.0	ug/L			02/24/20 13:07	1
1,3-Dichlorobenzene	ND		1.0	ug/L			02/24/20 13:07	1
1,3-Dichloropropane	ND		1.0	ug/L			02/24/20 13:07	1
1,4-Dichlorobenzene	ND		1.0	ug/L			02/24/20 13:07	1
2,2-Dichloropropane	ND	*	1.0	ug/L			02/24/20 13:07	1
2-Chlorotoluene	ND		1.0	ug/L			02/24/20 13:07	1
4-Chlorotoluene	ND		1.0	ug/L			02/24/20 13:07	1
Acetone	ND		10	ug/L			02/24/20 13:07	1
Benzene	ND		0.50	ug/L			02/24/20 13:07	1
Bromobenzene	ND		1.0	ug/L			02/24/20 13:07	1
Bromochloromethane	ND		1.0	ug/L			02/24/20 13:07	1
Bromodichloromethane	ND		1.0	ug/L			02/24/20 13:07	1
Bromoform	ND		1.0	ug/L			02/24/20 13:07	1
Bromomethane	ND		1.0	ug/L			02/24/20 13:07	1
Carbon tetrachloride	ND		0.50	ug/L			02/24/20 13:07	1
Chlorobenzene	ND		1.0	ug/L			02/24/20 13:07	1
Chloroethane	ND		1.0	ug/L			02/24/20 13:07	1
Chloroform	ND		1.0	ug/L			02/24/20 13:07	1
Chloromethane	ND		1.0	ug/L			02/24/20 13:07	1
cis-1,2-Dichloroethene	ND		1.0	ug/L			02/24/20 13:07	1

Client Sample ID: Grab_20200221

Date Collected: 02/21/20 09:35
Date Received: 02/21/20 13:00

Lab Sample ID: 440-261356-2

Matrix: Water

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
cis-1,3-Dichloropropene	ND		0.50	ug/L			02/24/20 13:07	1
Dibromochloromethane	ND		1.0	ug/L			02/24/20 13:07	1
Dibromomethane	ND		1.0	ug/L			02/24/20 13:07	1
Dichlorodifluoromethane	ND	*	1.0	ug/L			02/24/20 13:07	1
Ethylbenzene	ND		1.0	ug/L			02/24/20 13:07	1
Hexachlorobutadiene	ND		1.0	ug/L			02/24/20 13:07	1
Isopropylbenzene	ND		1.0	ug/L			02/24/20 13:07	1
m,p-Xylene	ND		1.0	ug/L			02/24/20 13:07	1
Methylene Chloride	ND		5.0	ug/L			02/24/20 13:07	1
Methyl-t-Butyl Ether (MTBE)	ND		1.0	ug/L			02/24/20 13:07	1
Naphthalene	ND		1.0	ug/L			02/24/20 13:07	1
n-Butylbenzene	ND		1.0	ug/L			02/24/20 13:07	1
N-Propylbenzene	ND		1.0	ug/L			02/24/20 13:07	1
o-Xylene	ND		1.0	ug/L			02/24/20 13:07	1
p-Isopropyltoluene	ND		1.0	ug/L			02/24/20 13:07	1
sec-Butylbenzene	ND		1.0	ug/L			02/24/20 13:07	1
Styrene	ND		1.0	ug/L			02/24/20 13:07	1
tert-Butylbenzene	ND		1.0	ug/L			02/24/20 13:07	1
Tetrachloroethene	ND		1.0	ug/L			02/24/20 13:07	1
Toluene	ND		1.0	ug/L			02/24/20 13:07	1
trans-1,2-Dichloroethene	ND		1.0	ug/L			02/24/20 13:07	1
trans-1,3-Dichloropropene	ND		0.50	ug/L			02/24/20 13:07	1
Trichloroethene	ND		1.0	ug/L			02/24/20 13:07	1
Trichlorofluoromethane	ND		1.0	ug/L			02/24/20 13:07	1
Vinyl chloride	ND	*	0.50	ug/L			02/24/20 13:07	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*104*		*70 - 130*		*02/22/20 14:42*	*1*
4-Bromofluorobenzene (Surr)	*102*		*80 - 120*		*02/22/20 14:42*	*1*
Dibromofluoromethane (Surr)	*101*		*76 - 132*		*02/22/20 14:42*	*1*
Toluene-d8 (Surr)	*103*		*80 - 128*		*02/22/20 14:42*	*1*
1,2-Dichloroethane-d4 (Surr)	*109*		*70 - 130*		*02/24/20 13:07*	*1*
4-Bromofluorobenzene (Surr)	*103*		*80 - 120*		*02/24/20 13:07*	*1*
Dibromofluoromethane (Surr)	*104*		*76 - 132*		*02/24/20 13:07*	*1*
Toluene-d8 (Surr)	*108*		*80 - 128*		*02/24/20 13:07*	*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			02/28/20 12:32	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*111*		*70 - 130*		*02/28/20 12:32*	*1*
4-Bromofluorobenzene (Surr)	*100*		*80 - 120*		*02/28/20 12:32*	*1*
Dibromofluoromethane (Surr)	*106*		*76 - 132*		*02/28/20 12:32*	*1*
Toluene-d8 (Surr)	*104*		*80 - 128*		*02/28/20 12:32*	*1*

Method: 8270C SIM - 1,4 Dioxane by SIM

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	**13**		0.49	ug/L		02/22/20 08:22	02/24/20 12:03	1

Client Sample Results

Client: Jacob & Hefner Associates P.C.
Project/Site: Omega Chemical Wastewater

Job ID: 440-261356-1
SDG: Omega Site

Client Sample ID: Grab_20200221

Date Collected: 02/21/20 09:35
Date Received: 02/21/20 13:00

Lab Sample ID: 440-261356-2

Matrix: Water

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,4-Dioxane-d8 (Surr)	*52*		*27 - 120*	*02/22/20 08:22*	*02/24/20 12:03*	*1*

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4-Trichlorobenzene	ND		9.7	ug/L		02/22/20 08:25	02/25/20 19:35	1
1,2-Dichlorobenzene	ND		9.7	ug/L		02/22/20 08:25	02/25/20 19:35	1
1,2-Diphenylhydrazine(as Azobenzene)	ND		19	ug/L		02/22/20 08:25	02/25/20 19:35	1
1,3-Dichlorobenzene	ND		9.7	ug/L		02/22/20 08:25	02/25/20 19:35	1
1,4-Dichlorobenzene	ND		9.7	ug/L		02/22/20 08:25	02/25/20 19:35	1
2,4,5-Trichlorophenol	ND		19	ug/L		02/22/20 08:25	02/25/20 19:35	1
2,4,6-Trichlorophenol	ND		19	ug/L		02/22/20 08:25	02/25/20 19:35	1
2,4-Dichlorophenol	ND		9.7	ug/L		02/22/20 08:25	02/25/20 19:35	1
2,4-Dimethylphenol	ND		19	ug/L		02/22/20 08:25	02/25/20 19:35	1
2,4-Dinitrophenol	ND		39	ug/L		02/22/20 08:25	02/25/20 19:35	1
2,4-Dinitrotoluene	ND		9.7	ug/L		02/22/20 08:25	02/25/20 19:35	1
2,6-Dinitrotoluene	ND		9.7	ug/L		02/22/20 08:25	02/25/20 19:35	1
2-Chloronaphthalene	ND		9.7	ug/L		02/22/20 08:25	02/25/20 19:35	1
2-Chlorophenol	ND		9.7	ug/L		02/22/20 08:25	02/25/20 19:35	1
2-Methylnaphthalene	ND		9.7	ug/L		02/22/20 08:25	02/25/20 19:35	1
2-Methylphenol	ND		9.7	ug/L		02/22/20 08:25	02/25/20 19:35	1
2-Nitroaniline	ND		19	ug/L		02/22/20 08:25	02/25/20 19:35	1
2-Nitrophenol	ND		9.7	ug/L		02/22/20 08:25	02/25/20 19:35	1
3,3'-Dichlorobenzidine	ND		39	ug/L		02/22/20 08:25	02/25/20 19:35	1
3-Methylphenol + 4-Methylphenol	ND		9.7	ug/L		02/22/20 08:25	02/25/20 19:35	1
3-Nitroaniline	ND		19	ug/L		02/22/20 08:25	02/25/20 19:35	1
4,6-Dinitro-2-methylphenol	ND		19	ug/L		02/22/20 08:25	02/25/20 19:35	1
4-Bromophenyl phenyl ether	ND		9.7	ug/L		02/22/20 08:25	02/25/20 19:35	1
4-Chloro-3-methylphenol	ND		19	ug/L		02/22/20 08:25	02/25/20 19:35	1
4-Chloroaniline	ND		9.7	ug/L		02/22/20 08:25	02/25/20 19:35	1
4-Chlorophenyl phenyl ether	ND		9.7	ug/L		02/22/20 08:25	02/25/20 19:35	1
4-Nitroaniline	ND		19	ug/L		02/22/20 08:25	02/25/20 19:35	1
4-Nitrophenol	ND		19	ug/L		02/22/20 08:25	02/25/20 19:35	1
Acenaphthene	ND		9.7	ug/L		02/22/20 08:25	02/25/20 19:35	1
Acenaphthylene	ND		9.7	ug/L		02/22/20 08:25	02/25/20 19:35	1
Aniline	ND		9.7	ug/L		02/22/20 08:25	02/25/20 19:35	1
Anthracene	ND		9.7	ug/L		02/22/20 08:25	02/25/20 19:35	1
Benzidine	ND		39	ug/L		02/22/20 08:25	02/25/20 19:35	1
Benzo[a]anthracene	ND		9.7	ug/L		02/22/20 08:25	02/25/20 19:35	1
Benzo[a]pyrene	ND		9.7	ug/L		02/22/20 08:25	02/25/20 19:35	1
Benzo[b]fluoranthene	ND		9.7	ug/L		02/22/20 08:25	02/25/20 19:35	1
Benzo[g,h,i]perylene	ND		9.7	ug/L		02/22/20 08:25	02/25/20 19:35	1
Benzo[k]fluoranthene	ND		9.7	ug/L		02/22/20 08:25	02/25/20 19:35	1
Benzoic acid	ND		19	ug/L		02/22/20 08:25	02/25/20 19:35	1
Benzyl alcohol	ND		19	ug/L		02/22/20 08:25	02/25/20 19:35	1
bis (2-chloroisopropyl) ether	ND		9.7	ug/L		02/22/20 08:25	02/25/20 19:35	1
Bis(2-chloroethoxy)methane	ND		9.7	ug/L		02/22/20 08:25	02/25/20 19:35	1
Bis(2-chloroethyl)ether	ND		9.7	ug/L		02/22/20 08:25	02/25/20 19:35	1
Bis(2-ethylhexyl) phthalate	ND		19	ug/L		02/22/20 08:25	02/25/20 19:35	1
Butyl benzyl phthalate	ND		19	ug/L		02/22/20 08:25	02/25/20 19:35	1

Client Sample ID: Grab_20200221

Date Collected: 02/21/20 09:35
Date Received: 02/21/20 13:00

Lab Sample ID: 440-261356-2

Matrix: Water

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chrysene	ND		9.7	ug/L		02/22/20 08:25	02/25/20 19:35	1
Dibenz(a,h)anthracene	ND		19	ug/L		02/22/20 08:25	02/25/20 19:35	1
Dibenzofuran	ND		9.7	ug/L		02/22/20 08:25	02/25/20 19:35	1
Diethyl phthalate	ND		9.7	ug/L		02/22/20 08:25	02/25/20 19:35	1
Dimethyl phthalate	ND		9.7	ug/L		02/22/20 08:25	02/25/20 19:35	1
Di-n-butyl phthalate	ND		19	ug/L		02/22/20 08:25	02/25/20 19:35	1
Di-n-octyl phthalate	ND		19	ug/L		02/22/20 08:25	02/25/20 19:35	1
Fluoranthene	ND		9.7	ug/L		02/22/20 08:25	02/25/20 19:35	1
Fluorene	ND		9.7	ug/L		02/22/20 08:25	02/25/20 19:35	1
Hexachlorobenzene	ND		9.7	ug/L		02/22/20 08:25	02/25/20 19:35	1
Hexachlorobutadiene	ND	*	9.7	ug/L		02/22/20 08:25	02/25/20 19:35	1
Hexachlorocyclopentadiene	ND		19	ug/L		02/22/20 08:25	02/25/20 19:35	1
Hexachloroethane	ND		9.7	ug/L		02/22/20 08:25	02/25/20 19:35	1
Indeno[1,2,3-cd]pyrene	ND		19	ug/L		02/22/20 08:25	02/25/20 19:35	1
Isophorone	ND		9.7	ug/L		02/22/20 08:25	02/25/20 19:35	1
Naphthalene	ND		9.7	ug/L		02/22/20 08:25	02/25/20 19:35	1
Nitrobenzene	ND		19	ug/L		02/22/20 08:25	02/25/20 19:35	1
N-Nitrosodimethylamine	ND		19	ug/L		02/22/20 08:25	02/25/20 19:35	1
N-Nitrosodi-n-propylamine	ND		9.7	ug/L		02/22/20 08:25	02/25/20 19:35	1
N-Nitrosodiphenylamine	ND		9.7	ug/L		02/22/20 08:25	02/25/20 19:35	1
Pentachlorophenol	ND		19	ug/L		02/22/20 08:25	02/25/20 19:35	1
Phenanthrene	ND		9.7	ug/L		02/22/20 08:25	02/25/20 19:35	1
Phenol	ND		9.7	ug/L		02/22/20 08:25	02/25/20 19:35	1
Pyrene	ND		9.7	ug/L		02/22/20 08:25	02/25/20 19:35	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol (Surr)	*73*		*40 - 120*	*02/22/20 08:25*	*02/25/20 19:35*	*1*
2-Fluorobiphenyl	*69*		*50 - 120*	*02/22/20 08:25*	*02/25/20 19:35*	*1*
2-Fluorophenol (Surr)	*61*		*30 - 120*	*02/22/20 08:25*	*02/25/20 19:35*	*1*
Nitrobenzene-d5 (Surr)	*68*		*45 - 120*	*02/22/20 08:25*	*02/25/20 19:35*	*1*
Phenol-d6 (Surr)	*36*		*35 - 120*	*02/22/20 08:25*	*02/25/20 19:35*	*1*
Terphenyl-d14 (Surr)	*36*		*10 - 150*	*02/22/20 08:25*	*02/25/20 19:35*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
pH	**8.7**	**HF**	0.1	SU			02/25/20 16:31	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfide, Dissolved	ND	HF	0.050	mg/L		02/26/20 15:20	02/26/20 16:38	1

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Field pH	**8.73**			SU			02/21/20 09:35	1

Surrogate Summary

Client: Jacob & Hefner Associates P.C.
Project/Site: Omega Chemical Wastewater

Job ID: 440-261356-1
SDG: Omega Site

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)
320-58882-A-1 MS	Matrix Spike	102	96	101	100
320-58882-A-1 MSD	Matrix Spike Duplicate	106	99	100	98
440-261340-A-7 MS	Matrix Spike	106	104	103	100
440-261340-A-7 MSD	Matrix Spike Duplicate	103	103	99	101
440-261356-2	Grab_20200221	104	102	101	103
440-261356-2	Grab_20200221	109	103	104	108
440-261356-2 - RA	Grab_20200221	111	100	106	104
440-261421-H-1 MS	Matrix Spike	101	109	100	100
440-261421-H-1 MSD	Matrix Spike Duplicate	101	103	96	104
LCS 440-596793/1002	Lab Control Sample	100	99	101	96
LCS 440-596872/1002	Lab Control Sample	100	107	97	102
LCS 440-597804/1003	Lab Control Sample	106	100	100	102
LCSD 440-596872/6	Lab Control Sample Dup	103	106	99	97
MB 440-596793/5	Method Blank	106	100	99	102
MB 440-596872/5	Method Blank	101	104	98	105
MB 440-597804/4	Method Blank	107	102	103	104

Surrogate Legend

DCA = 1,2-Dichloroethane-d4 (Surr)
BFB = 4-Bromofluorobenzene (Surr)
DBFM = Dibromofluoromethane (Surr)
TOL = Toluene-d8 (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)
440-261356-2	Grab_20200221	73	69	61	68	36	36
LCS 440-596798/2-A	Lab Control Sample	81	74	64	80	71	90
LCSD 440-596798/3-A	Lab Control Sample Dup	78	72	58	78	66	88
MB 440-596798/1-A	Method Blank	77	74	60	75	63	93

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)
440-261356-2	Grab_20200221	52
LCS 440-596797/2-A	Lab Control Sample	54
LCSD 440-596797/3-A	Lab Control Sample Dup	59

Surrogate Summary

Client: Jacob & Hefner Associates P.C.
Project/Site: Omega Chemical Wastewater

Job ID: 440-261356-1
SDG: Omega Site

Method: 8270C SIM - 1,4 Dioxane by SIM (Continued)

Matrix: Water

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)							
Lab Sample ID	**Client Sample ID**	**DXE (27-120)**							
MB 440-596797/1-A	Method Blank	57							

Surrogate Legend

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

Method Summary

Client: Jacob & Hefner Associates P.C.
Project/Site: Omega Chemical Wastewater

Job ID: 440-261356-1
SDG: Omega Site

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 = Eurofins Calscience 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

Job ID: 440-261356-1
SDG: Omega Site

Client Sample ID: Composite_20200221

Lab Sample ID: 440-261356-1

Date Collected: 02/21/20 09:30
Matrix: Water
Date Received: 02/21/20 13:00

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	596729	02/21/20 18:00	KL	TAL IRV
Total/NA	Analysis	SM 5220D		1	2 mL	2 mL	597209	02/25/20 13:53	KYP	TAL IRV

Client Sample ID: Grab_20200221

Lab Sample ID: 440-261356-2

Date Collected: 02/21/20 09:35
Matrix: Water
Date Received: 02/21/20 13:00

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	596793	02/22/20 14:42	AYL	TAL IRV
Total/NA	Analysis	8260B		1	10 mL	10 mL	596872	02/24/20 13:07	TCN	TAL IRV
Total/NA	Analysis	8260B	RA	1	10 mL	10 mL	597804	02/28/20 12:32	TCN	TAL IRV
Total/NA	Prep	3520C			1035 mL	2.0 mL	596798	02/22/20 08:25	ACT	TAL IRV
Total/NA	Analysis	8270C		1			597276	02/25/20 19:35	JS1	TAL IRV
Total/NA	Prep	3520C			1025 mL	1.0 mL	596797	02/22/20 08:22	ACT	TAL IRV
Total/NA	Analysis	8270C SIM		1			596921	02/24/20 12:03	JS1	TAL IRV
Total/NA	Analysis	SM 4500 H+ B		1			597205	02/25/20 16:31	HZ	TAL IRV
Dissolved	Prep	SM 4500 S2 B			7.5 mL	7.5 mL	597458	02/26/20 15:20	KMY	TAL IRV
Dissolved	Analysis	SM 4500 S2 D		1			597479	02/26/20 16:38	KMY	TAL IRV
Total/NA	Analysis	Field Sampling		1			596849	02/21/20 09:35	A1W	TAL IRV

Laboratory References:

TAL IRV = Eurofins Calscience 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 440-596793/5
Matrix: Water
Analysis Batch: 596793

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			02/22/20 10:40	1
Acrolein	ND		5.0		ug/L			02/22/20 10:40	1
Acrylonitrile	ND		2.0		ug/L			02/22/20 10:40	1
Total Volatile Organic Compounds	ND		150		ug/L			02/22/20 10:40	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*106*		*70 - 130*		*02/22/20 10:40*	*1*
4-Bromofluorobenzene (Surr)	*100*		*80 - 120*		*02/22/20 10:40*	*1*
Dibromofluoromethane (Surr)	*99*		*76 - 132*		*02/22/20 10:40*	*1*
Toluene-d8 (Surr)	*102*		*80 - 128*		*02/22/20 10:40*	*1*

Lab Sample ID: LCS 440-596793/1002
Matrix: Water
Analysis Batch: 596793

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	25.7		ug/L		103	37 - 150
Acrolein	24.7	15.5		ug/L		63	10 - 145
Acrylonitrile	250	256		ug/L		103	48 - 140
Total Volatile Organic Compounds	5370	4250		ug/L		79	

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*100*		*70 - 130*
4-Bromofluorobenzene (Surr)	*99*		*80 - 120*
Dibromofluoromethane (Surr)	*101*		*76 - 132*
Toluene-d8 (Surr)	*96*		*80 - 128*

Lab Sample ID: 440-261340-A-7 MS
Matrix: Water
Analysis Batch: 596793

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
2-Chloroethyl vinyl ether	ND		10.0	ND		ug/L		14	10 - 140
Acrolein	ND		9.88	9.52		ug/L		96	10 - 147
Acrylonitrile	ND		100	119		ug/L		119	38 - 144
Total Volatile Organic Compounds	ND		3770	2800		ug/L		74	

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*106*		*70 - 130*
4-Bromofluorobenzene (Surr)	*104*		*80 - 120*
Dibromofluoromethane (Surr)	*103*		*76 - 132*
Toluene-d8 (Surr)	*100*		*80 - 128*

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

Lab Sample ID: 440-261340-A-7 MSD
Matrix: Water
Analysis Batch: 596793

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
2-Chloroethyl vinyl ether	ND		10.0	ND		ug/L		12	10 - 140	13	35
Acrolein	ND		9.88	9.07		ug/L		92	10 - 147	5	40
Acrylonitrile	ND		100	113		ug/L		113	38 - 144	5	40
Total Volatile Organic Compounds	ND		3770	2570		ug/L		68		9	

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*103*		*70 - 130*
4-Bromofluorobenzene (Surr)	*103*		*80 - 120*
Dibromofluoromethane (Surr)	*99*		*76 - 132*
Toluene-d8 (Surr)	*101*		*80 - 128*

Lab Sample ID: MB 440-596872/5
Matrix: Water
Analysis Batch: 596872

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			02/24/20 09:11	1
1,1,1-Trichloroethane	ND		1.0		ug/L			02/24/20 09:11	1
1,1,2,2-Tetrachloroethane	ND		1.0		ug/L			02/24/20 09:11	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		5.0		ug/L			02/24/20 09:11	1
1,1,2-Trichloroethane	ND		1.0		ug/L			02/24/20 09:11	1
1,1-Dichloroethane	ND		1.0		ug/L			02/24/20 09:11	1
1,1-Dichloroethene	ND		1.0		ug/L			02/24/20 09:11	1
1,1-Dichloropropene	ND		1.0		ug/L			02/24/20 09:11	1
1,2,3-Trichlorobenzene	ND		1.0		ug/L			02/24/20 09:11	1
1,2,3-Trichloropropane	ND		1.0		ug/L			02/24/20 09:11	1
1,2,4-Trichlorobenzene	ND		1.0		ug/L			02/24/20 09:11	1
1,2,4-Trimethylbenzene	ND		1.0		ug/L			02/24/20 09:11	1
1,2-Dibromo-3-Chloropropane	ND		5.0		ug/L			02/24/20 09:11	1
1,2-Dibromoethane (EDB)	ND		1.0		ug/L			02/24/20 09:11	1
1,2-Dichlorobenzene	ND		1.0		ug/L			02/24/20 09:11	1
1,2-Dichloroethane	ND		1.0		ug/L			02/24/20 09:11	1
1,2-Dichloropropane	ND		1.0		ug/L			02/24/20 09:11	1
1,3,5-Trimethylbenzene	ND		1.0		ug/L			02/24/20 09:11	1
1,3-Dichlorobenzene	ND		1.0		ug/L			02/24/20 09:11	1
1,3-Dichloropropane	ND		1.0		ug/L			02/24/20 09:11	1
1,4-Dichlorobenzene	ND		1.0		ug/L			02/24/20 09:11	1
2,2-Dichloropropane	ND		1.0		ug/L			02/24/20 09:11	1
2-Chlorotoluene	ND		1.0		ug/L			02/24/20 09:11	1
4-Chlorotoluene	ND		1.0		ug/L			02/24/20 09:11	1
Acetone	ND		10		ug/L			02/24/20 09:11	1
Benzene	ND		0.50		ug/L			02/24/20 09:11	1
Bromobenzene	ND		1.0		ug/L			02/24/20 09:11	1
Bromochloromethane	ND		1.0		ug/L			02/24/20 09:11	1
Bromodichloromethane	ND		1.0		ug/L			02/24/20 09:11	1
Bromoform	ND		1.0		ug/L			02/24/20 09:11	1
Bromomethane	ND		1.0		ug/L			02/24/20 09:11	1

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

Lab Sample ID: MB 440-596872/5
Matrix: Water
Analysis Batch: 596872

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

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Carbon tetrachloride	ND		0.50	ug/L			02/24/20 09:11	1
Chlorobenzene	ND		1.0	ug/L			02/24/20 09:11	1
Chloroethane	ND		1.0	ug/L			02/24/20 09:11	1
Chloroform	ND		1.0	ug/L			02/24/20 09:11	1
Chloromethane	ND		1.0	ug/L			02/24/20 09:11	1
cis-1,2-Dichloroethene	ND		1.0	ug/L			02/24/20 09:11	1
cis-1,3-Dichloropropene	ND		0.50	ug/L			02/24/20 09:11	1
Dibromochloromethane	ND		1.0	ug/L			02/24/20 09:11	1
Dibromomethane	ND		1.0	ug/L			02/24/20 09:11	1
Dichlorodifluoromethane	ND		1.0	ug/L			02/24/20 09:11	1
Ethylbenzene	ND		1.0	ug/L			02/24/20 09:11	1
Hexachlorobutadiene	ND		1.0	ug/L			02/24/20 09:11	1
Isopropylbenzene	ND		1.0	ug/L			02/24/20 09:11	1
m,p-Xylene	ND		1.0	ug/L			02/24/20 09:11	1
Methylene Chloride	ND		5.0	ug/L			02/24/20 09:11	1
Methyl-t-Butyl Ether (MTBE)	ND		1.0	ug/L			02/24/20 09:11	1
Naphthalene	ND		1.0	ug/L			02/24/20 09:11	1
n-Butylbenzene	ND		1.0	ug/L			02/24/20 09:11	1
N-Propylbenzene	ND		1.0	ug/L			02/24/20 09:11	1
o-Xylene	ND		1.0	ug/L			02/24/20 09:11	1
p-Isopropyltoluene	ND		1.0	ug/L			02/24/20 09:11	1
sec-Butylbenzene	ND		1.0	ug/L			02/24/20 09:11	1
Styrene	ND		1.0	ug/L			02/24/20 09:11	1
tert-Butylbenzene	ND		1.0	ug/L			02/24/20 09:11	1
Tetrachloroethene	ND		1.0	ug/L			02/24/20 09:11	1
Toluene	ND		1.0	ug/L			02/24/20 09:11	1
trans-1,2-Dichloroethene	ND		1.0	ug/L			02/24/20 09:11	1
trans-1,3-Dichloropropene	ND		0.50	ug/L			02/24/20 09:11	1
Trichloroethene	ND		1.0	ug/L			02/24/20 09:11	1
Trichlorofluoromethane	ND		1.0	ug/L			02/24/20 09:11	1
Vinyl chloride	ND		0.50	ug/L			02/24/20 09:11	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*101*		*70 - 130*		*02/24/20 09:11*	*1*
4-Bromofluorobenzene (Surr)	*104*		*80 - 120*		*02/24/20 09:11*	*1*
Dibromofluoromethane (Surr)	*98*		*76 - 132*		*02/24/20 09:11*	*1*
Toluene-d8 (Surr)	*105*		*80 - 128*		*02/24/20 09:11*	*1*

Lab Sample ID: LCS 440-596872/1002
Matrix: Water
Analysis Batch: 596872

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	24.9		ug/L		100	60 - 141
1,1,1-Trichloroethane	25.0	27.2		ug/L		109	70 - 130
1,1,2,2-Tetrachloroethane	25.0	25.3		ug/L		101	63 - 130
1,1,2-Trichloro-1,2,2-trifluoroethane	25.0	29.9		ug/L		120	60 - 140
1,1,2-Trichloroethane	25.0	24.9		ug/L		100	70 - 130

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

Lab Sample ID: LCS 440-596872/1002
Matrix: Water
Analysis Batch: 596872

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1-Dichloroethane	25.0	27.7		ug/L		111	64 - 130
1,1-Dichloroethene	25.0	26.1		ug/L		105	70 - 130
1,1-Dichloropropene	25.0	28.4		ug/L		114	70 - 130
1,2,3-Trichlorobenzene	25.0	24.6		ug/L		99	60 - 140
1,2,3-Trichloropropane	25.0	27.5		ug/L		110	63 - 130
1,2,4-Trichlorobenzene	25.0	26.1		ug/L		104	60 - 140
1,2,4-Trimethylbenzene	25.0	25.8		ug/L		103	70 - 135
1,2-Dibromo-3-Chloropropane	25.0	22.9		ug/L		92	52 - 140
1,2-Dibromoethane (EDB)	25.0	26.1		ug/L		104	70 - 130
1,2-Dichlorobenzene	25.0	25.6		ug/L		103	70 - 130
1,2-Dichloroethane	25.0	24.9		ug/L		100	57 - 138
1,2-Dichloropropane	25.0	25.9		ug/L		104	67 - 130
1,3,5-Trimethylbenzene	25.0	27.7		ug/L		111	70 - 136
1,3-Dichlorobenzene	25.0	27.3		ug/L		109	70 - 130
1,3-Dichloropropane	25.0	25.9		ug/L		103	70 - 130
1,4-Dichlorobenzene	25.0	27.0		ug/L		108	70 - 130
2,2-Dichloropropane	25.0	34.1		ug/L		137	68 - 141
2-Chlorotoluene	25.0	26.2		ug/L		105	70 - 130
4-Chlorotoluene	25.0	28.0		ug/L		112	70 - 130
Acetone	125	145		ug/L		116	10 - 150
Benzene	25.0	25.4		ug/L		101	68 - 130
Bromobenzene	25.0	26.5		ug/L		106	70 - 130
Bromochloromethane	25.0	25.1		ug/L		101	70 - 130
Bromodichloromethane	25.0	24.7		ug/L		99	70 - 132
Bromoform	25.0	23.7		ug/L		95	60 - 148
Bromomethane	25.0	30.4		ug/L		121	64 - 139
Carbon tetrachloride	25.0	26.1		ug/L		104	60 - 150
Chlorobenzene	25.0	26.3		ug/L		105	70 - 130
Chloroethane	25.0	27.8		ug/L		111	64 - 135
Chloroform	25.0	24.8		ug/L		99	70 - 130
Chloromethane	25.0	33.9		ug/L		136	47 - 140
cis-1,2-Dichloroethene	25.0	24.2		ug/L		97	70 - 133
cis-1,3-Dichloropropene	25.0	28.0		ug/L		112	70 - 133
Dibromochloromethane	25.0	23.9		ug/L		96	69 - 145
Dibromomethane	25.0	23.3		ug/L		93	70 - 130
Dichlorodifluoromethane	25.0	38.0	*	ug/L		152	29 - 150
Ethylbenzene	25.0	26.2		ug/L		105	70 - 130
Hexachlorobutadiene	25.0	27.8		ug/L		111	10 - 150
Isopropylbenzene	25.0	26.1		ug/L		104	70 - 136
m,p-Xylene	25.0	26.0		ug/L		104	70 - 130
Methylene Chloride	25.0	25.1		ug/L		101	52 - 130
Methyl-t-Butyl Ether (MTBE)	25.0	24.9		ug/L		99	63 - 131
Naphthalene	25.0	24.3		ug/L		97	60 - 140
n-Butylbenzene	25.0	26.8		ug/L		107	65 - 150
N-Propylbenzene	25.0	27.1		ug/L		108	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	27.1		ug/L		108	70 - 138
Styrene	25.0	26.6		ug/L		106	70 - 134

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

Lab Sample ID: LCS 440-596872/1002
Matrix: Water
Analysis Batch: 596872

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
tert-Butylbenzene	25.0	27.0		ug/L		108	70 - 130
Tetrachloroethene	25.0	25.8		ug/L		103	70 - 130
Toluene	25.0	25.0		ug/L		100	70 - 130
trans-1,2-Dichloroethene	25.0	27.2		ug/L		109	70 - 130
trans-1,3-Dichloropropene	25.0	30.1		ug/L		121	70 - 132
Trichloroethene	25.0	26.4		ug/L		106	70 - 130
Trichlorofluoromethane	25.0	27.8		ug/L		111	60 - 150
Vinyl chloride	25.0	34.1	*	ug/L		136	59 - 133

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*100*		*70 - 130*
4-Bromofluorobenzene (Surr)	*107*		*80 - 120*
Dibromofluoromethane (Surr)	*97*		*76 - 132*
Toluene-d8 (Surr)	*102*		*80 - 128*

Lab Sample ID: LCSD 440-596872/6
Matrix: Water
Analysis Batch: 596872

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

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,1,1,2-Tetrachloroethane	25.0	24.2		ug/L		97	60 - 141	3	20
1,1,1-Trichloroethane	25.0	28.0		ug/L		112	70 - 130	3	20
1,1,2,2-Tetrachloroethane	25.0	24.8		ug/L		99	63 - 130	2	25
1,1,2-Trichloro-1,2,2-trifluoroethane	25.0	29.5		ug/L		118	60 - 140	2	20
1,1,2-Trichloroethane	25.0	23.9		ug/L		96	70 - 130	4	20
1,1-Dichloroethane	25.0	28.2		ug/L		113	64 - 130	1	20
1,1-Dichloroethene	25.0	25.3		ug/L		101	70 - 130	3	20
1,1-Dichloropropene	25.0	29.9		ug/L		120	70 - 130	5	20
1,2,3-Trichlorobenzene	25.0	24.5		ug/L		98	60 - 140	1	20
1,2,3-Trichloropropane	25.0	26.3		ug/L		105	63 - 130	5	20
1,2,4-Trichlorobenzene	25.0	26.1		ug/L		104	60 - 140	0	20
1,2,4-Trimethylbenzene	25.0	26.5		ug/L		106	70 - 135	3	20
1,2-Dibromo-3-Chloropropane	25.0	23.0		ug/L		92	52 - 140	0	30
1,2-Dibromoethane (EDB)	25.0	24.0		ug/L		96	70 - 130	8	20
1,2-Dichlorobenzene	25.0	24.6		ug/L		98	70 - 130	4	20
1,2-Dichloroethane	25.0	24.7		ug/L		99	57 - 138	1	20
1,2-Dichloropropane	25.0	24.9		ug/L		100	67 - 130	4	20
1,3,5-Trimethylbenzene	25.0	28.0		ug/L		112	70 - 136	1	20
1,3-Dichlorobenzene	25.0	26.8		ug/L		107	70 - 130	2	20
1,3-Dichloropropane	25.0	24.8		ug/L		99	70 - 130	4	20
1,4-Dichlorobenzene	25.0	26.9		ug/L		108	70 - 130	0	20
2,2-Dichloropropane	25.0	35.6	*	ug/L		142	68 - 141	4	25
2-Chlorotoluene	25.0	26.8		ug/L		107	70 - 130	2	20
4-Chlorotoluene	25.0	28.0		ug/L		112	70 - 130	0	20
Acetone	125	137		ug/L		109	10 - 150	6	30
Benzene	25.0	25.6		ug/L		102	68 - 130	1	20
Bromobenzene	25.0	26.5		ug/L		106	70 - 130	0	20
Bromochloromethane	25.0	25.2		ug/L		101	70 - 130	0	20

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

Lab Sample ID: LCSD 440-596872/6
Matrix: Water
Analysis Batch: 596872

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

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Bromodichloromethane	25.0	24.3		ug/L		97	70 - 132	1	20
Bromoform	25.0	22.5		ug/L		90	60 - 148	5	25
Bromomethane	25.0	31.1		ug/L		125	64 - 139	3	20
Carbon tetrachloride	25.0	27.1		ug/L		109	60 - 150	4	25
Chlorobenzene	25.0	24.6		ug/L		98	70 - 130	7	20
Chloroethane	25.0	29.9		ug/L		120	64 - 135	7	20
Chloroform	25.0	25.0		ug/L		100	70 - 130	1	20
Chloromethane	25.0	33.5		ug/L		134	47 - 140	1	25
cis-1,2-Dichloroethene	25.0	25.1		ug/L		101	70 - 133	4	20
cis-1,3-Dichloropropene	25.0	26.1		ug/L		104	70 - 133	7	25
Dibromochloromethane	25.0	24.3		ug/L		97	69 - 145	2	20
Dibromomethane	25.0	22.9		ug/L		92	70 - 130	2	20
Dichlorodifluoromethane	25.0	38.3	*	ug/L		153	29 - 150	1	30
Ethylbenzene	25.0	25.6		ug/L		102	70 - 130	2	20
Hexachlorobutadiene	25.0	27.4		ug/L		110	10 - 150	1	20
Isopropylbenzene	25.0	25.9		ug/L		104	70 - 136	1	20
m,p-Xylene	25.0	25.6		ug/L		102	70 - 130	2	20
Methylene Chloride	25.0	24.4		ug/L		98	52 - 130	3	20
Methyl-t-Butyl Ether (MTBE)	25.0	24.4		ug/L		98	63 - 131	2	25
Naphthalene	25.0	23.8		ug/L		95	60 - 140	2	25
n-Butylbenzene	25.0	27.5		ug/L		110	65 - 150	3	20
N-Propylbenzene	25.0	27.5		ug/L		110	67 - 139	2	20
o-Xylene	25.0	26.7		ug/L		107	70 - 130	1	20
p-Isopropyltoluene	25.0	27.0		ug/L		108	70 - 132	1	20
sec-Butylbenzene	25.0	27.3		ug/L		109	70 - 138	1	20
Styrene	25.0	25.7		ug/L		103	70 - 134	3	20
tert-Butylbenzene	25.0	27.1		ug/L		109	70 - 130	0	20
Tetrachloroethene	25.0	25.5		ug/L		102	70 - 130	1	20
Toluene	25.0	24.4		ug/L		98	70 - 130	3	20
trans-1,2-Dichloroethene	25.0	27.8		ug/L		111	70 - 130	2	20
trans-1,3-Dichloropropene	25.0	27.5		ug/L		110	70 - 132	9	20
Trichloroethene	25.0	26.8		ug/L		107	70 - 130	1	20
Trichlorofluoromethane	25.0	32.4		ug/L		129	60 - 150	15	20
Vinyl chloride	25.0	34.2	*	ug/L		137	59 - 133	0	30

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*103*		*70 - 130*
4-Bromofluorobenzene (Surr)	*106*		*80 - 120*
Dibromofluoromethane (Surr)	*99*		*76 - 132*
Toluene-d8 (Surr)	*97*		*80 - 128*

Lab Sample ID: 440-261421-H-1 MS
Matrix: Water
Analysis Batch: 596872

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		10.0	10.6		ug/L		106	60 - 149
1,1,1-Trichloroethane	ND		10.0	10.2		ug/L		102	70 - 130

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

Lab Sample ID: 440-261421-H-1 MS
Matrix: Water
Analysis Batch: 596872

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
1,1,2,2-Tetrachloroethane	ND		10.0	12.2		ug/L		122	63 - 130
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		10.0	11.9		ug/L		119	60 - 140
1,1,2-Trichloroethane	ND		10.0	11.0		ug/L		110	70 - 130
1,1-Dichloroethane	ND		10.0	10.4		ug/L		104	65 - 130
1,1-Dichloroethene	ND		10.0	12.2		ug/L		122	70 - 130
1,1-Dichloropropene	ND		10.0	10.8		ug/L		108	64 - 130
1,2,3-Trichlorobenzene	ND		10.0	10.4		ug/L		104	60 - 140
1,2,3-Trichloropropane	ND		10.0	12.5		ug/L		125	60 - 130
1,2,4-Trichlorobenzene	ND		10.0	10.4		ug/L		104	60 - 140
1,2,4-Trimethylbenzene	ND		10.0	11.2		ug/L		112	70 - 130
1,2-Dibromo-3-Chloropropane	ND		10.0	9.71		ug/L		97	48 - 140
1,2-Dibromoethane (EDB)	ND		10.0	10.8		ug/L		108	70 - 131
1,2-Dichlorobenzene	ND		10.0	10.4		ug/L		104	70 - 130
1,2-Dichloroethane	ND		10.0	10.4		ug/L		104	56 - 146
1,2-Dichloropropane	ND		10.0	11.0		ug/L		110	69 - 130
1,3,5-Trimethylbenzene	ND		10.0	11.3		ug/L		113	70 - 130
1,3-Dichlorobenzene	ND		10.0	10.4		ug/L		104	70 - 130
1,3-Dichloropropane	ND		10.0	10.4		ug/L		104	70 - 130
1,4-Dichlorobenzene	ND		10.0	10.9		ug/L		109	70 - 130
2,2-Dichloropropane	ND	*	10.0	12.5		ug/L		125	69 - 138
2-Chlorotoluene	ND		10.0	10.7		ug/L		107	70 - 130
4-Chlorotoluene	ND		10.0	10.9		ug/L		109	70 - 130
Acetone	ND	F1	50.0	87.0	F1	ug/L		174	10 - 150
Benzene	ND		10.0	10.4		ug/L		104	66 - 130
Bromobenzene	ND		10.0	10.9		ug/L		109	70 - 130
Bromochloromethane	ND		10.0	10.1		ug/L		101	70 - 130
Bromodichloromethane	ND		10.0	9.95		ug/L		99	70 - 138
Bromoform	ND		10.0	10.1		ug/L		101	59 - 150
Bromomethane	ND		10.0	11.3		ug/L		113	62 - 131
Carbon tetrachloride	ND		10.0	9.74		ug/L		97	60 - 150
Chlorobenzene	ND		10.0	10.4		ug/L		104	70 - 130
Chloroethane	ND		10.0	11.6		ug/L		116	68 - 130
Chloroform	ND		10.0	10.3		ug/L		101	70 - 130
Chloromethane	ND		10.0	12.6		ug/L		126	39 - 144
cis-1,2-Dichloroethene	ND		10.0	9.61		ug/L		96	70 - 130
cis-1,3-Dichloropropene	ND		10.0	11.0		ug/L		110	70 - 133
Dibromochloromethane	ND		10.0	10.0		ug/L		100	70 - 148
Dibromomethane	ND		10.0	10.4		ug/L		104	70 - 130
Dichlorodifluoromethane	ND	*	10.0	12.9		ug/L		129	25 - 142
Ethylbenzene	ND		10.0	10.8		ug/L		108	70 - 130
Hexachlorobutadiene	ND		10.0	11.0		ug/L		110	10 - 150
Isopropylbenzene	ND		10.0	10.5		ug/L		105	70 - 132
m,p-Xylene	ND		10.0	9.96		ug/L		100	70 - 133
Methylene Chloride	ND		10.0	10.2		ug/L		102	52 - 130
Methyl-t-Butyl Ether (MTBE)	ND		10.0	10.6		ug/L		106	70 - 130
Naphthalene	ND		10.0	10.9		ug/L		103	60 - 140
n-Butylbenzene	ND		10.0	11.1		ug/L		111	61 - 149
N-Propylbenzene	ND		10.0	11.5		ug/L		115	66 - 135

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

Lab Sample ID: 440-261421-H-1 MS
Matrix: Water
Analysis Batch: 596872

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
o-Xylene	ND		10.0	10.7		ug/L		107	70 - 133
p-Isopropyltoluene	ND		10.0	11.0		ug/L		110	70 - 130
sec-Butylbenzene	ND		10.0	11.0		ug/L		110	67 - 134
Styrene	ND		10.0	10.4		ug/L		104	29 - 150
tert-Butylbenzene	ND		10.0	10.9		ug/L		109	70 - 130
Tetrachloroethene	ND		10.0	10.7		ug/L		107	70 - 137
Toluene	ND		10.0	10.5		ug/L		105	70 - 130
trans-1,2-Dichloroethene	ND		10.0	10.2		ug/L		102	70 - 130
trans-1,3-Dichloropropene	ND		10.0	11.3		ug/L		113	70 - 138
Trichloroethene	ND		10.0	10.3		ug/L		103	70 - 130
Trichlorofluoromethane	ND		10.0	10.8		ug/L		108	60 - 150
Vinyl chloride	ND	*	10.0	12.3		ug/L		123	50 - 137

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*101*		*70 - 130*
4-Bromofluorobenzene (Surr)	*109*		*80 - 120*
Dibromofluoromethane (Surr)	*100*		*76 - 132*
Toluene-d8 (Surr)	*100*		*80 - 128*

Lab Sample ID: 440-261421-H-1 MSD
Matrix: Water
Analysis Batch: 596872

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		10.0	9.72		ug/L		97	60 - 149	8	20
1,1,1-Trichloroethane	ND		10.0	9.72		ug/L		97	70 - 130	5	20
1,1,2,2-Tetrachloroethane	ND		10.0	11.7		ug/L		117	63 - 130	3	30
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		10.0	11.1		ug/L		111	60 - 140	7	20
1,1,2-Trichloroethane	ND		10.0	10.6		ug/L		106	70 - 130	3	25
1,1-Dichloroethane	ND		10.0	10.3		ug/L		103	65 - 130	0	20
1,1-Dichloroethene	ND		10.0	11.4		ug/L		114	70 - 130	6	20
1,1-Dichloropropene	ND		10.0	10.5		ug/L		105	64 - 130	3	20
1,2,3-Trichlorobenzene	ND		10.0	9.72		ug/L		97	60 - 140	7	20
1,2,3-Trichloropropane	ND		10.0	12.4		ug/L		124	60 - 130	1	30
1,2,4-Trichlorobenzene	ND		10.0	10.2		ug/L		102	60 - 140	2	20
1,2,4-Trimethylbenzene	ND		10.0	10.4		ug/L		104	70 - 130	7	25
1,2-Dibromo-3-Chloropropane	ND		10.0	9.23		ug/L		92	48 - 140	5	30
1,2-Dibromoethane (EDB)	ND		10.0	10.6		ug/L		106	70 - 131	2	25
1,2-Dichlorobenzene	ND		10.0	9.82		ug/L		98	70 - 130	6	20
1,2-Dichloroethane	ND		10.0	10.4		ug/L		104	56 - 146	1	20
1,2-Dichloropropane	ND		10.0	10.9		ug/L		109	69 - 130	1	20
1,3,5-Trimethylbenzene	ND		10.0	10.3		ug/L		103	70 - 130	9	20
1,3-Dichlorobenzene	ND		10.0	9.93		ug/L		99	70 - 130	4	20
1,3-Dichloropropane	ND		10.0	10.7		ug/L		107	70 - 130	2	25
1,4-Dichlorobenzene	ND		10.0	9.98		ug/L		100	70 - 130	9	20
2,2-Dichloropropane	ND	*	10.0	12.6		ug/L		126	69 - 138	0	25
2-Chlorotoluene	ND		10.0	9.96		ug/L		100	70 - 130	7	20
4-Chlorotoluene	ND		10.0	10.4		ug/L		104	70 - 130	4	20

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

Lab Sample ID: 440-261421-H-1 MSD
Matrix: Water
Analysis Batch: 596872

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	F1	50.0	76.9	F1	ug/L		154	10 - 150	12	35
Benzene	ND		10.0	9.95		ug/L		100	66 - 130	4	20
Bromobenzene	ND		10.0	10.1		ug/L		101	70 - 130	8	20
Bromochloromethane	ND		10.0	9.66		ug/L		97	70 - 130	4	25
Bromodichloromethane	ND		10.0	9.98		ug/L		100	70 - 138	0	20
Bromoform	ND		10.0	10.1		ug/L		101	59 - 150	0	25
Bromomethane	ND		10.0	11.2		ug/L		112	62 - 131	1	25
Carbon tetrachloride	ND		10.0	9.54		ug/L		95	60 - 150	2	25
Chlorobenzene	ND		10.0	10.4		ug/L		104	70 - 130	1	20
Chloroethane	ND		10.0	11.0		ug/L		110	68 - 130	5	25
Chloroform	ND		10.0	10.5		ug/L		103	70 - 130	2	20
Chloromethane	ND		10.0	11.5		ug/L		115	39 - 144	9	25
cis-1,2-Dichloroethene	ND		10.0	9.61		ug/L		96	70 - 130	0	20
cis-1,3-Dichloropropene	ND		10.0	11.7		ug/L		117	70 - 133	7	20
Dibromochloromethane	ND		10.0	10.1		ug/L		101	70 - 148	1	25
Dibromomethane	ND		10.0	9.78		ug/L		98	70 - 130	6	25
Dichlorodifluoromethane	ND	*	10.0	11.9		ug/L		119	25 - 142	8	30
Ethylbenzene	ND		10.0	10.5		ug/L		105	70 - 130	2	20
Hexachlorobutadiene	ND		10.0	9.86		ug/L		99	10 - 150	11	20
Isopropylbenzene	ND		10.0	10.6		ug/L		106	70 - 132	1	20
m,p-Xylene	ND		10.0	10.2		ug/L		102	70 - 133	2	25
Methylene Chloride	ND		10.0	10.1		ug/L		101	52 - 130	1	20
Methyl-t-Butyl Ether (MTBE)	ND		10.0	10.3		ug/L		103	70 - 130	3	25
Naphthalene	ND		10.0	10.2		ug/L		97	60 - 140	6	30
n-Butylbenzene	ND		10.0	10.3		ug/L		103	61 - 149	8	20
N-Propylbenzene	ND		10.0	10.8		ug/L		108	66 - 135	6	20
o-Xylene	ND		10.0	10.8		ug/L		108	70 - 133	1	20
p-Isopropyltoluene	ND		10.0	9.65		ug/L		96	70 - 130	13	20
sec-Butylbenzene	ND		10.0	9.97		ug/L		100	67 - 134	10	20
Styrene	ND		10.0	10.6		ug/L		106	29 - 150	2	35
tert-Butylbenzene	ND		10.0	9.86		ug/L		99	70 - 130	10	20
Tetrachloroethene	ND		10.0	10.7		ug/L		107	70 - 137	0	20
Toluene	ND		10.0	10.4		ug/L		104	70 - 130	1	20
trans-1,2-Dichloroethene	ND		10.0	9.59		ug/L		96	70 - 130	6	20
trans-1,3-Dichloropropene	ND		10.0	12.4		ug/L		124	70 - 138	9	25
Trichloroethene	ND		10.0	9.47		ug/L		95	70 - 130	8	20
Trichlorofluoromethane	ND		10.0	10.4		ug/L		104	60 - 150	4	25
Vinyl chloride	ND	*	10.0	11.8		ug/L		118	50 - 137	4	30

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*101*		*70 - 130*
4-Bromofluorobenzene (Surr)	*103*		*80 - 120*
Dibromofluoromethane (Surr)	*96*		*76 - 132*
Toluene-d8 (Surr)	*104*		*80 - 128*

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

Lab Sample ID: MB 440-597804/4 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 597804

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Isopropyl alcohol	ND		250		ug/L			02/28/20 10:02	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*107*		*70 - 130*		*02/28/20 10:02*	*1*
4-Bromofluorobenzene (Surr)	*102*		*80 - 120*		*02/28/20 10:02*	*1*
Dibromofluoromethane (Surr)	*103*		*76 - 132*		*02/28/20 10:02*	*1*
Toluene-d8 (Surr)	*104*		*80 - 128*		*02/28/20 10:02*	*1*

Lab Sample ID: LCS 440-597804/1003 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 597804

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Isopropyl alcohol			250	197	J	ug/L		79	49 - 142		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*106*		*70 - 130*
4-Bromofluorobenzene (Surr)	*100*		*80 - 120*
Dibromofluoromethane (Surr)	*100*		*76 - 132*
Toluene-d8 (Surr)	*102*		*80 - 128*

Lab Sample ID: 320-58882-A-1 MS — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 597804

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Isopropyl alcohol	ND		250	ND		ug/L		93	46 - 142		

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*102*		*70 - 130*
4-Bromofluorobenzene (Surr)	*96*		*80 - 120*
Dibromofluoromethane (Surr)	*101*		*76 - 132*
Toluene-d8 (Surr)	*100*		*80 - 128*

Lab Sample ID: 320-58882-A-1 MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 597804

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Isopropyl alcohol	ND		250	ND		ug/L		92	46 - 142	1	40

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*106*		*70 - 130*
4-Bromofluorobenzene (Surr)	*99*		*80 - 120*
Dibromofluoromethane (Surr)	*100*		*76 - 132*
Toluene-d8 (Surr)	*98*		*80 - 128*

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

Lab Sample ID: MB 440-596798/1-A
Matrix: Water
Analysis Batch: 597124

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 596798

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
1,2,4-Trichlorobenzene	ND		10		ug/L		02/22/20 08:25	02/25/20 10:50	1
1,2-Dichlorobenzene	ND		10		ug/L		02/22/20 08:25	02/25/20 10:50	1
1,2-Diphenylhydrazine(as Azobenzene)	ND		20		ug/L		02/22/20 08:25	02/25/20 10:50	1
1,3-Dichlorobenzene	ND		10		ug/L		02/22/20 08:25	02/25/20 10:50	1
1,4-Dichlorobenzene	ND		10		ug/L		02/22/20 08:25	02/25/20 10:50	1
2,4,5-Trichlorophenol	ND		20		ug/L		02/22/20 08:25	02/25/20 10:50	1
2,4,6-Trichlorophenol	ND		20		ug/L		02/22/20 08:25	02/25/20 10:50	1
2,4-Dichlorophenol	ND		10		ug/L		02/22/20 08:25	02/25/20 10:50	1
2,4-Dimethylphenol	ND		20		ug/L		02/22/20 08:25	02/25/20 10:50	1
2,4-Dinitrophenol	ND		40		ug/L		02/22/20 08:25	02/25/20 10:50	1
2,4-Dinitrotoluene	ND		10		ug/L		02/22/20 08:25	02/25/20 10:50	1
2,6-Dinitrotoluene	ND		10		ug/L		02/22/20 08:25	02/25/20 10:50	1
2-Chloronaphthalene	ND		10		ug/L		02/22/20 08:25	02/25/20 10:50	1
2-Chlorophenol	ND		10		ug/L		02/22/20 08:25	02/25/20 10:50	1
2-Methylnaphthalene	ND		10		ug/L		02/22/20 08:25	02/25/20 10:50	1
2-Methylphenol	ND		10		ug/L		02/22/20 08:25	02/25/20 10:50	1
2-Nitroaniline	ND		20		ug/L		02/22/20 08:25	02/25/20 10:50	1
2-Nitrophenol	ND		10		ug/L		02/22/20 08:25	02/25/20 10:50	1
3,3'-Dichlorobenzidine	ND		40		ug/L		02/22/20 08:25	02/25/20 10:50	1
3-Methylphenol + 4-Methylphenol	ND		10		ug/L		02/22/20 08:25	02/25/20 10:50	1
3-Nitroaniline	ND		20		ug/L		02/22/20 08:25	02/25/20 10:50	1
4,6-Dinitro-2-methylphenol	ND		20		ug/L		02/22/20 08:25	02/25/20 10:50	1
4-Bromophenyl phenyl ether	ND		10		ug/L		02/22/20 08:25	02/25/20 10:50	1
4-Chloro-3-methylphenol	ND		20		ug/L		02/22/20 08:25	02/25/20 10:50	1
4-Chloroaniline	ND		10		ug/L		02/22/20 08:25	02/25/20 10:50	1
4-Chlorophenyl phenyl ether	ND		10		ug/L		02/22/20 08:25	02/25/20 10:50	1
4-Nitroaniline	ND		20		ug/L		02/22/20 08:25	02/25/20 10:50	1
4-Nitrophenol	ND		20		ug/L		02/22/20 08:25	02/25/20 10:50	1
Acenaphthene	ND		10		ug/L		02/22/20 08:25	02/25/20 10:50	1
Acenaphthylene	ND		10		ug/L		02/22/20 08:25	02/25/20 10:50	1
Aniline	ND		10		ug/L		02/22/20 08:25	02/25/20 10:50	1
Anthracene	ND		10		ug/L		02/22/20 08:25	02/25/20 10:50	1
Benzidine	ND		40		ug/L		02/22/20 08:25	02/25/20 10:50	1
Benzo[a]anthracene	ND		10		ug/L		02/22/20 08:25	02/25/20 10:50	1
Benzo[a]pyrene	ND		10		ug/L		02/22/20 08:25	02/25/20 10:50	1
Benzo[b]fluoranthene	ND		10		ug/L		02/22/20 08:25	02/25/20 10:50	1
Benzo[g,h,i]perylene	ND		10		ug/L		02/22/20 08:25	02/25/20 10:50	1
Benzo[k]fluoranthene	ND		10		ug/L		02/22/20 08:25	02/25/20 10:50	1
Benzoic acid	ND		20		ug/L		02/22/20 08:25	02/25/20 10:50	1
Benzyl alcohol	ND		20		ug/L		02/22/20 08:25	02/25/20 10:50	1
bis (2-chloroisopropyl) ether	ND		10		ug/L		02/22/20 08:25	02/25/20 10:50	1
Bis(2-chloroethoxy)methane	ND		10		ug/L		02/22/20 08:25	02/25/20 10:50	1
Bis(2-chloroethyl)ether	ND		10		ug/L		02/22/20 08:25	02/25/20 10:50	1
Bis(2-ethylhexyl) phthalate	ND		20		ug/L		02/22/20 08:25	02/25/20 10:50	1
Butyl benzyl phthalate	ND		20		ug/L		02/22/20 08:25	02/25/20 10:50	1
Chrysene	ND		10		ug/L		02/22/20 08:25	02/25/20 10:50	1
Dibenz(a,h)anthracene	ND		20		ug/L		02/22/20 08:25	02/25/20 10:50	1
Dibenzofuran	ND		10		ug/L		02/22/20 08:25	02/25/20 10:50	1

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

Lab Sample ID: MB 440-596798/1-A
Matrix: Water
Analysis Batch: 597124

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 596798

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Diethyl phthalate	ND		10		ug/L		02/22/20 08:25	02/25/20 10:50	1
Dimethyl phthalate	ND		10		ug/L		02/22/20 08:25	02/25/20 10:50	1
Di-n-butyl phthalate	ND		20		ug/L		02/22/20 08:25	02/25/20 10:50	1
Di-n-octyl phthalate	ND		20		ug/L		02/22/20 08:25	02/25/20 10:50	1
Fluoranthene	ND		10		ug/L		02/22/20 08:25	02/25/20 10:50	1
Fluorene	ND		10		ug/L		02/22/20 08:25	02/25/20 10:50	1
Hexachlorobenzene	ND		10		ug/L		02/22/20 08:25	02/25/20 10:50	1
Hexachlorobutadiene	ND		10		ug/L		02/22/20 08:25	02/25/20 10:50	1
Hexachlorocyclopentadiene	ND		20		ug/L		02/22/20 08:25	02/25/20 10:50	1
Hexachloroethane	ND		10		ug/L		02/22/20 08:25	02/25/20 10:50	1
Indeno[1,2,3-cd]pyrene	ND		20		ug/L		02/22/20 08:25	02/25/20 10:50	1
Isophorone	ND		10		ug/L		02/22/20 08:25	02/25/20 10:50	1
Naphthalene	ND		10		ug/L		02/22/20 08:25	02/25/20 10:50	1
Nitrobenzene	ND		20		ug/L		02/22/20 08:25	02/25/20 10:50	1
N-Nitrosodimethylamine	ND		20		ug/L		02/22/20 08:25	02/25/20 10:50	1
N-Nitrosodi-n-propylamine	ND		10		ug/L		02/22/20 08:25	02/25/20 10:50	1
N-Nitrosodiphenylamine	ND		10		ug/L		02/22/20 08:25	02/25/20 10:50	1
Pentachlorophenol	ND		20		ug/L		02/22/20 08:25	02/25/20 10:50	1
Phenanthrene	ND		10		ug/L		02/22/20 08:25	02/25/20 10:50	1
Phenol	ND		10		ug/L		02/22/20 08:25	02/25/20 10:50	1
Pyrene	ND		10		ug/L		02/22/20 08:25	02/25/20 10:50	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol (Surr)	*77*		*40 - 120*	*02/22/20 08:25*	*02/25/20 10:50*	*1*
2-Fluorobiphenyl	*74*		*50 - 120*	*02/22/20 08:25*	*02/25/20 10:50*	*1*
2-Fluorophenol (Surr)	*60*		*30 - 120*	*02/22/20 08:25*	*02/25/20 10:50*	*1*
Nitrobenzene-d5 (Surr)	*75*		*45 - 120*	*02/22/20 08:25*	*02/25/20 10:50*	*1*
Phenol-d6 (Surr)	*63*		*35 - 120*	*02/22/20 08:25*	*02/25/20 10:50*	*1*
Terphenyl-d14 (Surr)	*93*		*10 - 150*	*02/22/20 08:25*	*02/25/20 10:50*	*1*

Lab Sample ID: LCS 440-596798/2-A
Matrix: Water
Analysis Batch: 597124

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 596798

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,2,4-Trichlorobenzene	100	76.2		ug/L		76	25 - 84
1,2-Dichlorobenzene	100	67.8		ug/L		68	24 - 85
1,2-Diphenylhydrazine(as Azobenzene)	100	79.8		ug/L		80	44 - 113
1,3-Dichlorobenzene	100	65.5		ug/L		66	20 - 80
1,4-Dichlorobenzene	100	68.6		ug/L		69	22 - 81
2,4,5-Trichlorophenol	100	80.8		ug/L		81	24 - 121
2,4,6-Trichlorophenol	100	81.8		ug/L		82	20 - 121
2,4-Dichlorophenol	100	76.0		ug/L		76	23 - 113
2,4-Dimethylphenol	100	72.8		ug/L		73	39 - 94
2,4-Dinitrophenol	200	150		ug/L		75	23 - 134
2,4-Dinitrotoluene	100	82.5		ug/L		83	54 - 115
2,6-Dinitrotoluene	100	77.0		ug/L		77	50 - 115
2-Chloronaphthalene	100	80.8		ug/L		81	34 - 102

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

Lab Sample ID: LCS 440-596798/2-A
Matrix: Water
Analysis Batch: 597124

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 596798

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
2-Chlorophenol	100	68.1		ug/L		68	20 - 106
2-Methylnaphthalene	100	76.1		ug/L		76	34 - 98
2-Methylphenol	100	72.8		ug/L		73	36 - 103
2-Nitroaniline	100	74.5		ug/L		74	48 - 111
2-Nitrophenol	100	67.7		ug/L		68	20 - 117
3,3'-Dichlorobenzidine	100	74.8		ug/L		75	22 - 97
3-Methylphenol + 4-Methylphenol	100	80.3		ug/L		80	35 - 106
3-Nitroaniline	100	62.3		ug/L		62	51 - 116
4,6-Dinitro-2-methylphenol	200	165		ug/L		82	28 - 139
4-Bromophenyl phenyl ether	100	80.3		ug/L		80	42 - 113
4-Chloro-3-methylphenol	100	83.3		ug/L		83	44 - 110
4-Chloroaniline	100	67.3		ug/L		67	42 - 109
4-Chlorophenyl phenyl ether	100	86.4		ug/L		86	38 - 115
4-Nitroaniline	100	70.4		ug/L		70	50 - 116
4-Nitrophenol	200	190		ug/L		95	26 - 132
Acenaphthene	100	77.8		ug/L		78	37 - 107
Acenaphthylene	100	73.8		ug/L		74	39 - 107
Aniline	100	68.8		ug/L		69	27 - 115
Anthracene	100	82.2		ug/L		82	42 - 120
Benzidine	100	20.6	J	ug/L		21	5 - 150
Benzo[a]anthracene	100	85.5		ug/L		85	42 - 115
Benzo[a]pyrene	100	75.3		ug/L		75	41 - 117
Benzo[b]fluoranthene	100	79.1		ug/L		79	36 - 113
Benzo[g,h,i]perylene	100	83.2		ug/L		83	37 - 115
Benzo[k]fluoranthene	100	82.3		ug/L		82	42 - 122
Benzoic acid	100	68.8		ug/L		69	15 - 121
Benzyl alcohol	100	65.5		ug/L		66	39 - 106
bis (2-chloroisopropyl) ether	100	78.6		ug/L		79	38 - 104
Bis(2-chloroethoxy)methane	100	76.6		ug/L		77	47 - 104
Bis(2-chloroethyl)ether	100	74.4		ug/L		74	42 - 99
Bis(2-ethylhexyl) phthalate	100	84.8		ug/L		85	43 - 124
Butyl benzyl phthalate	100	80.2		ug/L		80	44 - 122
Chrysene	100	89.7		ug/L		90	42 - 118
Dibenz(a,h)anthracene	100	80.5		ug/L		80	40 - 114
Dibenzofuran	100	81.4		ug/L		81	37 - 113
Diethyl phthalate	100	84.1		ug/L		84	51 - 120
Dimethyl phthalate	100	80.8		ug/L		81	49 - 113
Di-n-butyl phthalate	100	83.5		ug/L		84	47 - 125
Di-n-octyl phthalate	100	76.9		ug/L		77	42 - 125
Fluoranthene	100	83.4		ug/L		83	44 - 119
Fluorene	100	83.3		ug/L		83	39 - 116
Hexachlorobenzene	100	83.9		ug/L		84	43 - 112
Hexachlorobutadiene	100	80.4	*	ug/L		80	14 - 77
Hexachlorocyclopentadiene	100	32.3		ug/L		32	10 - 77
Hexachloroethane	100	71.4		ug/L		71	13 - 75
Indeno[1,2,3-cd]pyrene	100	97.7		ug/L		98	35 - 116
Isophorone	100	78.3		ug/L		78	48 - 107
Naphthalene	100	74.0		ug/L		74	33 - 95
Nitrobenzene	100	77.5		ug/L		78	42 - 99

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

Lab Sample ID: LCS 440-596798/2-A
Matrix: Water
Analysis Batch: 597124

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 596798

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
N-Nitrosodimethylamine	100	66.8		ug/L		67	35 - 96
N-Nitrosodi-n-propylamine	100	83.1		ug/L		83	44 - 111
N-Nitrosodiphenylamine	100	80.9		ug/L		81	46 - 116
Pentachlorophenol	200	145		ug/L		72	26 - 136
Phenanthrene	100	81.7		ug/L		82	43 - 120
Phenol	100	75.7		ug/L		76	25 - 99
Pyrene	100	81.3		ug/L		81	43 - 119

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
2,4,6-Tribromophenol (Surr)	*81*		*40 - 120*
2-Fluorobiphenyl	*74*		*50 - 120*
2-Fluorophenol (Surr)	*64*		*30 - 120*
Nitrobenzene-d5 (Surr)	*80*		*45 - 120*
Phenol-d6 (Surr)	*71*		*35 - 120*
Terphenyl-d14 (Surr)	*90*		*10 - 150*

Lab Sample ID: LCSD 440-596798/3-A
Matrix: Water
Analysis Batch: 597124

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 596798

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,2,4-Trichlorobenzene	100	74.6		ug/L		75	25 - 84	2	35
1,2-Dichlorobenzene	100	66.4		ug/L		66	24 - 85	2	35
1,2-Diphenylhydrazine(as Azobenzene)	100	77.1		ug/L		77	44 - 113	4	35
1,3-Dichlorobenzene	100	61.3		ug/L		61	20 - 80	7	35
1,4-Dichlorobenzene	100	64.5		ug/L		64	22 - 81	6	35
2,4,5-Trichlorophenol	100	80.1		ug/L		80	24 - 121	1	35
2,4,6-Trichlorophenol	100	80.5		ug/L		80	20 - 121	2	35
2,4-Dichlorophenol	100	75.8		ug/L		76	23 - 113	0	35
2,4-Dimethylphenol	100	69.8		ug/L		70	39 - 94	4	35
2,4-Dinitrophenol	200	143		ug/L		72	23 - 134	4	35
2,4-Dinitrotoluene	100	82.2		ug/L		82	54 - 115	0	35
2,6-Dinitrotoluene	100	75.8		ug/L		76	50 - 115	2	35
2-Chloronaphthalene	100	78.0		ug/L		78	34 - 102	4	35
2-Chlorophenol	100	63.2		ug/L		63	20 - 106	8	35
2-Methylnaphthalene	100	75.8		ug/L		76	34 - 98	0	35
2-Methylphenol	100	68.1		ug/L		68	36 - 103	7	35
2-Nitroaniline	100	74.2		ug/L		74	48 - 111	0	35
2-Nitrophenol	100	67.7		ug/L		68	20 - 117	0	35
3,3'-Dichlorobenzidine	100	72.4		ug/L		72	22 - 97	3	35
3-Methylphenol + 4-Methylphenol	100	75.3		ug/L		75	35 - 106	6	35
3-Nitroaniline	100	62.6		ug/L		63	51 - 116	1	35
4,6-Dinitro-2-methylphenol	200	166		ug/L		83	28 - 139	1	35
4-Bromophenyl phenyl ether	100	77.0		ug/L		77	42 - 113	4	35
4-Chloro-3-methylphenol	100	83.2		ug/L		83	44 - 110	0	35
4-Chloroaniline	100	68.7		ug/L		69	42 - 109	2	35
4-Chlorophenyl phenyl ether	100	84.7		ug/L		85	38 - 115	2	35
4-Nitroaniline	100	69.0		ug/L		69	50 - 116	2	35

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

Lab Sample ID: LCSD 440-596798/3-A
Matrix: Water
Analysis Batch: 597124

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 596798

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
4-Nitrophenol			200	186		ug/L		93	26 - 132	2	35
Acenaphthene			100	76.6		ug/L		77	37 - 107	2	35
Acenaphthylene			100	72.1		ug/L		72	39 - 107	2	35
Aniline			100	65.1		ug/L		65	27 - 115	6	35
Anthracene			100	77.5		ug/L		78	42 - 120	6	35
Benzidine			100	ND		ug/L		15	5 - 150	32	35
Benzo[a]anthracene			100	83.6		ug/L		84	42 - 115	2	35
Benzo[a]pyrene			100	73.2		ug/L		73	41 - 117	3	35
Benzo[b]fluoranthene			100	76.5		ug/L		77	36 - 113	3	35
Benzo[g,h,i]perylene			100	80.1		ug/L		80	37 - 115	4	35
Benzo[k]fluoranthene			100	79.4		ug/L		79	42 - 122	4	35
Benzoic acid			100	72.9		ug/L		73	15 - 121	6	35
Benzyl alcohol			100	69.0		ug/L		69	39 - 106	5	35
bis (2-chloroisopropyl) ether			100	73.3		ug/L		73	38 - 104	7	35
Bis(2-chloroethoxy)methane			100	74.3		ug/L		74	47 - 104	3	35
Bis(2-chloroethyl)ether			100	69.3		ug/L		69	42 - 99	7	35
Bis(2-ethylhexyl) phthalate			100	81.0		ug/L		81	43 - 124	5	35
Butyl benzyl phthalate			100	77.9		ug/L		78	44 - 122	3	35
Chrysene			100	89.1		ug/L		89	42 - 118	1	35
Dibenz(a,h)anthracene			100	78.4		ug/L		78	40 - 114	3	35
Dibenzofuran			100	79.1		ug/L		79	37 - 113	3	35
Diethyl phthalate			100	84.4		ug/L		84	51 - 120	0	35
Dimethyl phthalate			100	79.6		ug/L		80	49 - 113	1	35
Di-n-butyl phthalate			100	80.3		ug/L		80	47 - 125	4	35
Di-n-octyl phthalate			100	73.8		ug/L		74	42 - 125	4	35
Fluoranthene			100	80.9		ug/L		81	44 - 119	3	35
Fluorene			100	82.2		ug/L		82	39 - 116	1	35
Hexachlorobenzene			100	80.1		ug/L		80	43 - 112	5	35
Hexachlorobutadiene			100	78.0	*	ug/L		78	14 - 77	3	35
Hexachlorocyclopentadiene			100	32.9		ug/L		33	10 - 77	2	35
Hexachloroethane			100	67.0		ug/L		67	13 - 75	6	35
Indeno[1,2,3-cd]pyrene			100	96.0		ug/L		96	35 - 116	2	35
Isophorone			100	77.1		ug/L		77	48 - 107	2	35
Naphthalene			100	73.3		ug/L		73	33 - 95	1	35
Nitrobenzene			100	74.8		ug/L		75	42 - 99	4	35
N-Nitrosodimethylamine			100	63.2		ug/L		63	35 - 96	5	35
N-Nitrosodi-n-propylamine			100	77.8		ug/L		78	44 - 111	7	35
N-Nitrosodiphenylamine			100	79.7		ug/L		80	46 - 116	1	35
Pentachlorophenol			200	147		ug/L		73	26 - 136	1	35
Phenanthrene			100	78.2		ug/L		78	43 - 120	4	35
Phenol			100	70.3		ug/L		70	25 - 99	7	35
Pyrene			100	78.6		ug/L		79	43 - 119	3	35

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
2,4,6-Tribromophenol (Surr)	*78*		*40 - 120*
2-Fluorobiphenyl	*72*		*50 - 120*
2-Fluorophenol (Surr)	*58*		*30 - 120*
Nitrobenzene-d5 (Surr)	*78*		*45 - 120*

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

Lab Sample ID: LCSD 440-596798/3-A
Matrix: Water
Analysis Batch: 597124

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 596798

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
Phenol-d6 (Surr)	*66*		*35 - 120*
Terphenyl-d14 (Surr)	*88*		*10 - 150*

Method: 8270C SIM - 1,4 Dioxane by SIM

Lab Sample ID: MB 440-596797/1-A
Matrix: Water
Analysis Batch: 596921

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 596797

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	ND		0.50		ug/L		02/22/20 08:22	02/24/20 10:58	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,4-Dioxane-d8 (Surr)	*57*		*27 - 120*	*02/22/20 08:22*	*02/24/20 10:58*	*1*

Lab Sample ID: LCS 440-596797/2-A
Matrix: Water
Analysis Batch: 596921

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 596797

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
1,4-Dioxane			2.00	1.15		ug/L		58	36 - 120		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1,4-Dioxane-d8 (Surr)	*54*		*27 - 120*

Lab Sample ID: LCSD 440-596797/3-A
Matrix: Water
Analysis Batch: 596921

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 596797

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,4-Dioxane			2.00	1.21		ug/L		61	36 - 120	5	35

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
1,4-Dioxane-d8 (Surr)	*59*		*27 - 120*

Method: SM 2540D - Solids, Total Suspended (TSS)

Lab Sample ID: MB 440-596729/1
Matrix: Water
Analysis Batch: 596729

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			02/21/20 18:00	1

Method: SM 2540D - Solids, Total Suspended (TSS) (Continued)

Lab Sample ID: LCS 440-596729/2 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 596729

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Total Suspended Solids			1000	1020		mg/L		102	85 - 115		

Lab Sample ID: 440-261355-C-1 DU — **Client Sample ID: Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 596729

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Total Suspended Solids	1600			1570		mg/L				2	10

Method: SM 4500 H+ B - pH

Lab Sample ID: 440-261408-A-11 DU — **Client Sample ID: Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 597205

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
pH	8.7			8.7		SU				0.1	2

Method: SM 4500 S2 D - Sulfide, Total

Lab Sample ID: MB 440-597458/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Dissolved**
Analysis Batch: 597479 — **Prep Batch: 597458**

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Sulfide, Dissolved	ND		0.050		mg/L		02/26/20 15:20	02/26/20 16:37	1

Lab Sample ID: LCS 440-597458/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Dissolved**
Analysis Batch: 597479 — **Prep Batch: 597458**

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Sulfide, Dissolved			0.500	0.517		mg/L		103	80 - 120		

Lab Sample ID: LCSD 440-597458/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Dissolved**
Analysis Batch: 597479 — **Prep Batch: 597458**

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Sulfide, Dissolved			0.500	0.459		mg/L		92	80 - 120	12	20

Lab Sample ID: 550-138200-D-1-B MS — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Dissolved**
Analysis Batch: 597479 — **Prep Batch: 597458**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Sulfide, Dissolved	ND	HF	0.500	0.478	HF	mg/L		96	70 - 130		

Method: SM 4500 S2 D - Sulfide, Total (Continued)

Lab Sample ID: 550-138200-D-1-C MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Dissolved**
Analysis Batch: 597479 — **Prep Batch: 597458**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Sulfide, Dissolved	ND	HF	0.500	0.492	HF	mg/L		98	70 - 130	3	30

Method: SM 5220D - COD

Lab Sample ID: MB 440-597209/3 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 597209

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chemical Oxygen Demand	ND		20	mg/L			02/25/20 13:51	1

Lab Sample ID: LCS 440-597209/4 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 597209

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chemical Oxygen Demand	200	199		mg/L		100	90 - 110

Lab Sample ID: 440-261356-1 MS — **Client Sample ID: Composite_20200221**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 597209

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Chemical Oxygen Demand	ND		200	191		mg/L		96	70 - 120

Lab Sample ID: 440-261356-1 MSD — **Client Sample ID: Composite_20200221**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 597209

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chemical Oxygen Demand	ND		200	195		mg/L		98	70 - 120	2	15

QC Association Summary

Client: Jacob & Hefner Associates P.C.
Project/Site: Omega Chemical Wastewater

Job ID: 440-261356-1
SDG: Omega Site

GC/MS VOA

Analysis Batch: 596793

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-261356-2	Grab_20200221	Total/NA	Water	8260B	
MB 440-596793/5	Method Blank	Total/NA	Water	8260B	
LCS 440-596793/1002	Lab Control Sample	Total/NA	Water	8260B	
440-261340-A-7 MS	Matrix Spike	Total/NA	Water	8260B	
440-261340-A-7 MSD	Matrix Spike Duplicate	Total/NA	Water	8260B	

Analysis Batch: 596872

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-261356-2	Grab_20200221	Total/NA	Water	8260B	
MB 440-596872/5	Method Blank	Total/NA	Water	8260B	
LCS 440-596872/1002	Lab Control Sample	Total/NA	Water	8260B	
LCSD 440-596872/6	Lab Control Sample Dup	Total/NA	Water	8260B	
440-261421-H-1 MS	Matrix Spike	Total/NA	Water	8260B	
440-261421-H-1 MSD	Matrix Spike Duplicate	Total/NA	Water	8260B	

Analysis Batch: 597804

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-261356-2 - RA	Grab_20200221	Total/NA	Water	8260B	
MB 440-597804/4	Method Blank	Total/NA	Water	8260B	
LCS 440-597804/1003	Lab Control Sample	Total/NA	Water	8260B	
320-58882-A-1 MS	Matrix Spike	Total/NA	Water	8260B	
320-58882-A-1 MSD	Matrix Spike Duplicate	Total/NA	Water	8260B	

GC/MS Semi VOA

Prep Batch: 596797

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-261356-2	Grab_20200221	Total/NA	Water	3520C	
MB 440-596797/1-A	Method Blank	Total/NA	Water	3520C	
LCS 440-596797/2-A	Lab Control Sample	Total/NA	Water	3520C	
LCSD 440-596797/3-A	Lab Control Sample Dup	Total/NA	Water	3520C	

Prep Batch: 596798

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-261356-2	Grab_20200221	Total/NA	Water	3520C	
MB 440-596798/1-A	Method Blank	Total/NA	Water	3520C	
LCS 440-596798/2-A	Lab Control Sample	Total/NA	Water	3520C	
LCSD 440-596798/3-A	Lab Control Sample Dup	Total/NA	Water	3520C	

Analysis Batch: 596921

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-261356-2	Grab_20200221	Total/NA	Water	8270C SIM	596797
MB 440-596797/1-A	Method Blank	Total/NA	Water	8270C SIM	596797
LCS 440-596797/2-A	Lab Control Sample	Total/NA	Water	8270C SIM	596797
LCSD 440-596797/3-A	Lab Control Sample Dup	Total/NA	Water	8270C SIM	596797

Analysis Batch: 597124

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 440-596798/1-A	Method Blank	Total/NA	Water	8270C	596798
LCS 440-596798/2-A	Lab Control Sample	Total/NA	Water	8270C	596798
LCSD 440-596798/3-A	Lab Control Sample Dup	Total/NA	Water	8270C	596798

QC Association Summary

Client: Jacob & Hefner Associates P.C.
Project/Site: Omega Chemical Wastewater

Job ID: 440-261356-1
SDG: Omega Site

GC/MS Semi VOA

Analysis Batch: 597276

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-261356-2	Grab_20200221	Total/NA	Water	8270C	596798

General Chemistry

Analysis Batch: 596729

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-261356-1	Composite_20200221	Total/NA	Water	SM 2540D	
MB 440-596729/1	Method Blank	Total/NA	Water	SM 2540D	
LCS 440-596729/2	Lab Control Sample	Total/NA	Water	SM 2540D	
440-261355-C-1 DU	Duplicate	Total/NA	Water	SM 2540D	

Analysis Batch: 597205

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-261356-2	Grab_20200221	Total/NA	Water	SM 4500 H+ B	
440-261408-A-11 DU	Duplicate	Total/NA	Water	SM 4500 H+ B	

Analysis Batch: 597209

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-261356-1	Composite_20200221	Total/NA	Water	SM 5220D	
MB 440-597209/3	Method Blank	Total/NA	Water	SM 5220D	
LCS 440-597209/4	Lab Control Sample	Total/NA	Water	SM 5220D	
440-261356-1 MS	Composite_20200221	Total/NA	Water	SM 5220D	
440-261356-1 MSD	Composite_20200221	Total/NA	Water	SM 5220D	

Prep Batch: 597458

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-261356-2	Grab_20200221	Dissolved	Water	SM 4500 S2 B	
MB 440-597458/1-A	Method Blank	Dissolved	Water	SM 4500 S2 B	
LCS 440-597458/2-A	Lab Control Sample	Dissolved	Water	SM 4500 S2 B	
LCSD 440-597458/3-A	Lab Control Sample Dup	Dissolved	Water	SM 4500 S2 B	
550-138200-D-1-B MS	Matrix Spike	Dissolved	Water	SM 4500 S2 B	
550-138200-D-1-C MSD	Matrix Spike Duplicate	Dissolved	Water	SM 4500 S2 B	

Analysis Batch: 597479

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-261356-2	Grab_20200221	Dissolved	Water	SM 4500 S2 D	597458
MB 440-597458/1-A	Method Blank	Dissolved	Water	SM 4500 S2 D	597458
LCS 440-597458/2-A	Lab Control Sample	Dissolved	Water	SM 4500 S2 D	597458
LCSD 440-597458/3-A	Lab Control Sample Dup	Dissolved	Water	SM 4500 S2 D	597458
550-138200-D-1-B MS	Matrix Spike	Dissolved	Water	SM 4500 S2 D	597458
550-138200-D-1-C MSD	Matrix Spike Duplicate	Dissolved	Water	SM 4500 S2 D	597458

Field Service / Mobile Lab

Analysis Batch: 596849

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-261356-2	Grab_20200221	Total/NA	Water	Field Sampling	

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
*	LCS or LCSD is outside acceptance limits.
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.

GC/MS Semi VOA

Qualifier	Qualifier Description
*	LCS or LCSD 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.

General Chemistry

Qualifier	Qualifier Description
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

Job ID: 440-261356-1
SDG: Omega Site

Laboratory: Eurofins Calscience Irvine

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

Authority	Program	Identification Number	Expiration Date
California	State	2706	06-30-20

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	Dichlorodifluoromethane
8260B		Water	Total Volatile Organic Compounds
8270C	3520C	Water	2,4,6-Tribromophenol (Surr)
8270C	3520C	Water	2-Fluorobiphenyl
8270C SIM	3520C	Water	1,4-Dioxane
Field Sampling		Water	Field pH

Eurofins Calscience Irvine
17461 Derian Ave Suite 100
Irvine, CA 92614-5817
Phone: 949-261-1022 Fax: 949-260-3297

Chain of Custody Record

eurofins Calscience

Client Information	Sampler: F Reyes	Lab PM: Roberts, Danielle C	Carrier Tracking No(s):	COC No. 440-180623-32732.1
Client Contact: Pamela Henriksen	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: phenriksen@jacobandhefner.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	2-21-20	9:30	C	Water			X	X						2	Isco Set up
Grab	2-21-20	9:35	G	Water					X	X	X	X	X	12	02-20-20 @ 9:00
															= 393506
															02-21-20 @ 9:00
								2/21/2020							= 401040
											A.K				
															Field Grab
															PH= 8.73

440-261356 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: 2-21-20 1300	Company: B-T	Received by:	Date/Time: 2/21/20 1300	Company: EC-Irv
Relinquished by:	Date/Time:	Company:	Received by:	Date/Time:	Company:
Relinquished by:	Date/Time:	Company:	Received by:	Date/Time:	Company:

Custody Seals Intact: Δ Yes Δ No
Custody Seal No.:
Cooler Temperature(s) °C and Other Remarks: Tap 3.7/3.7 1293

Ver: 01/16/2019

Login Sample Receipt Checklist

Client: Jacob & Hefner Associates P.C.

Job Number: 440-261356-1
SDG Number: Omega Site

Login Number: 261356
List Number: 1
Creator: Soderblom, Tim

List Source: Eurofins 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 E

PSVP Piezometric and Water Quality Data

Attachment E, Table E-1
Piezometric Monitoring Data
OU-1 Groundwater Containment Remedy, Omega Chemical Superfund Site
First Quarter 2020

Well No.	Top of Casing Elevation (feet MSL)	Screen Interval (feet MSL)	Date	Depth To Water (feet btoc)	Groundwater Elevation (feet MSL)
EW-1[1]	198.96	114.94 - 129.94	1/21/2020	86.80	112.16
EW-2[1]	197.87	113.77 - 128.77	1/21/2020	85.65	112.22
EW-3[1]	196.78	114.59 - 129.59	1/21/2020	83.10	113.68
EW-4[1]	195.79	112.73 - 127.73	1/20/2020	79.38	116.41
EW-5[1]	194.19	111.96 - 126.96	1/20/2020	81.75	112.44
PZ-1	200.26	112.65 - 132.65	1/21/2020	Dry	Dry
PZ-2	201.48	118.02 - 138.02	1/21/2020	Dry	Dry
PZ-3	203.72	114.40 - 134.40	1/21/2020	88.95	114.77
PZ-4	196.26	106.66 - 126.66	1/20/2020	70.71	125.55
OW1A	212.53	132.47 - 147.47	1/21/2020	Dry	Dry
OW1B	207.22	87.42 - 97.42	1/20/2020	96.44	110.78
OW2	202.33	123.23 - 143.23	1/22/2020	Dry	Dry
OW3A	198.58	116.13 - 136.13	1/21/2020	81.13	117.45
OW3B	197.38	75.79 - 85.79	1/20/2020	96.71	100.67
OW7	214.29	124.69 - 144.69	1/21/2020	Dry	Dry
OW8A	200.66	121.33 - 140.93	1/21/2020	78.40	122.26
OW8B	200.84	75.39 - 85.39	1/21/2020	100.07	100.77
OW9	198.07	108.42 - 128.42	1/22/2020	86.26	111.81
OW10	195.54	106.46 - 126.46	1/22/2020	78.10	117.44
OW12	208.42	108.97 - 128.97	1/20/2020	91.85	116.57

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
1. The depth to water shown are based on hand measurements. The subsequent time series charts are based on piezometer readings which may differ slightly.

Attachment E, Table E-2
PSVP Groundwater Analytical Summary
OU-1 Groundwater Containment Remedy, Omega Chemical Superfund Site
First Quarter 2020

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)	1/21/2020	ORIG	1.6	1.0 U	0.49 UJ	1.0 U	1.0 U	1.0 U	5.0 U	1.0 U	1.0 UJ
EW-4 (71 - 86)	1/20/2020	ORIG	1.6	1.0 U	0.54 UJ	1.0 U	0.41 J	1.0 U	5.0 U	1.0 U	1.0 UJ
EW-5 (70 - 85)	1/21/2020	ORIG	16	1.7	0.49 UJ	1.0 U	15	1.0 U	55	35	1.0 UJ
OW1A (62.5 - 77.5)	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry
OW1B (110 - 120)	1/21/2020	ORIG	5.0	1.0 U	0.61 UJ	1.0 U	1.0 U	1.0 U	5.3	1.8	1.0 UJ
OW2 (60 - 80)	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry
OW3A (63 - 83)	Dry - NS	Dry - NS	Dry - NS	Dry - NS	Dry - NS	Dry - NS	Dry - NS	Dry - NS	Dry - NS	Dry - NS	Dry - NS
OW3B (112 - 122)	1/20/2020	ORIG	12	1.0 U	0.49 UJ	1.0 U	1.0 U	1.0 U	0.67 J	1.0 U	1.0 UJ
	1/20/2020	DUP	11	1.0 U	0.49 UJ	1.0 U	1.0 U	1.0 U	5.0 UJ	1.0 U	1.0 UJ
OW7 (70.9 - 90.9)	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry
OW8A (60.4 - 80)	Dry - NS	Dry - NS	Dry - NS	Dry - NS	Dry - NS	Dry - NS	Dry - NS	Dry - NS	Dry - NS	Dry - NS	Dry - NS
OW8B (116 - 126)	1/21/2020	ORIG	29	1.0 U	0.49 UJ	1.0 U	1.0 U	1.0 U	5.0 U	1.0 U	1.0 UJ
	1/21/2020	DUP	29	1.0 U	0.49 UJ	1.0 U	1.0 U	1.0 U	5.0 U	1.0 U	1.0 UJ
OW9 (70 - 90)	1/22/2020	ORIG	4000	150	850 J-	100 U	210	61 J	140 J	53 J	100 UJ
OW10 (69.5 - 89.5)	1/23/2020	ORIG	19	2.0	0.20 UJ	1.0 U	13	1.0 U	7.2	3.8	1.0 UJ
	1/23/2020	DUP	19	1.2	0.25 UJ	1.0 U	12	1.0 U	6.0	3.3	1.0 UJ
OW12 (80 - 100)	1/20/2020	ORIG	1500	150	3.2 J-	50	51	25 U	1300	26	25 UJ

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

See data validation report in Attachment C.

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

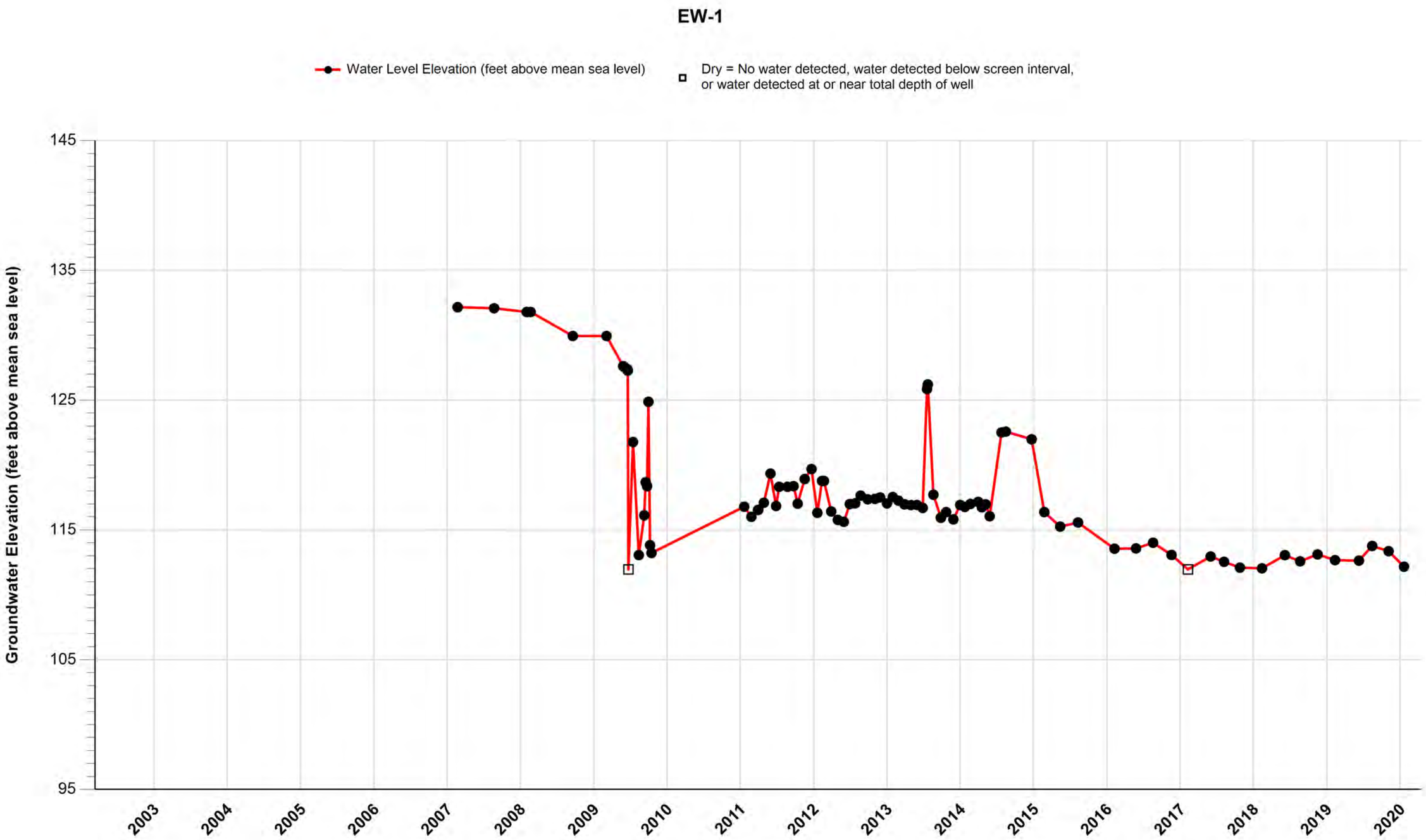
Dry = No water detected, water detected below the screen interval, or water detected at or near total depth of well

Dry - NS = insufficient water to sample

ORIG = primary sample

DUP = duplicate sample

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



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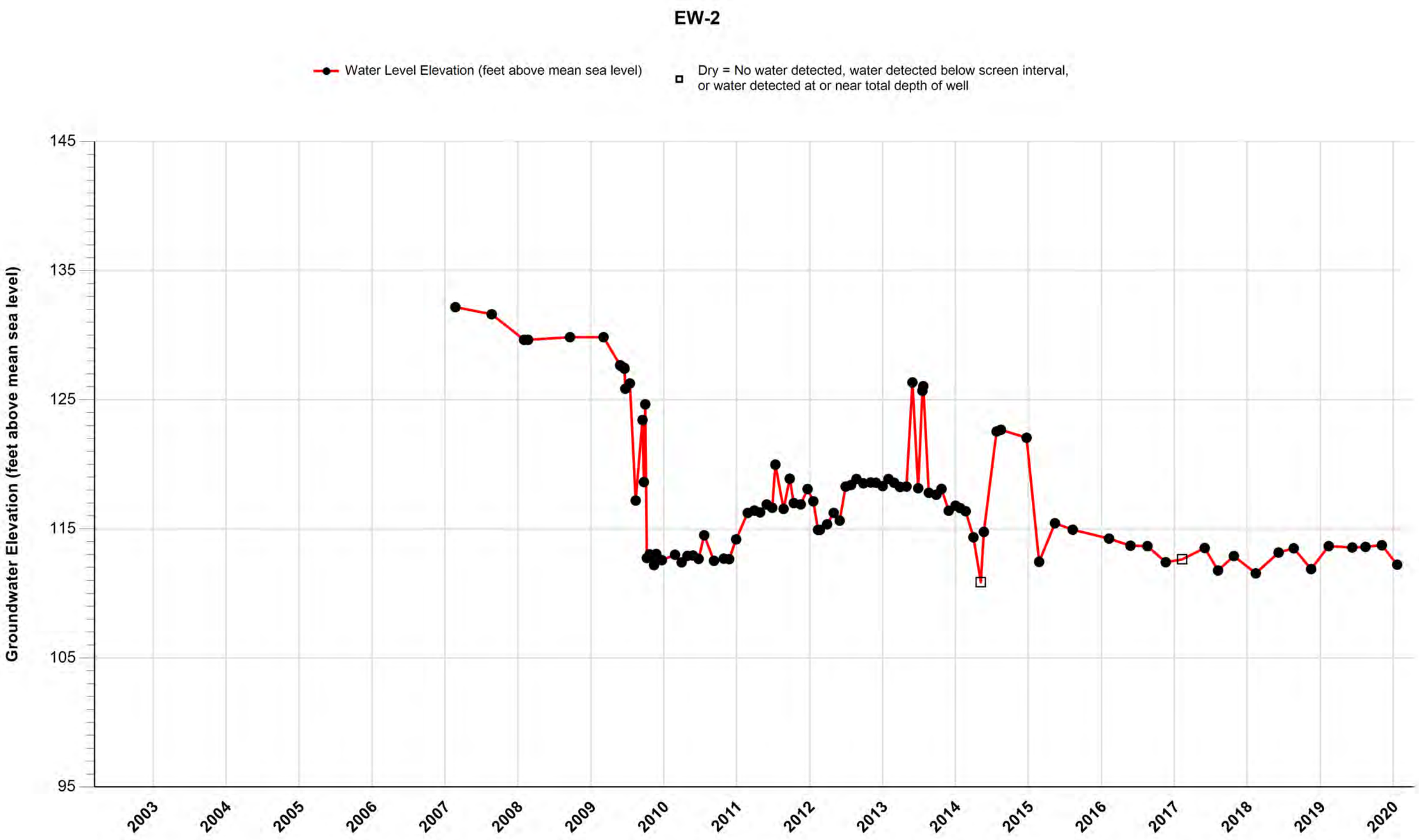

Attachment E, Figure E-3
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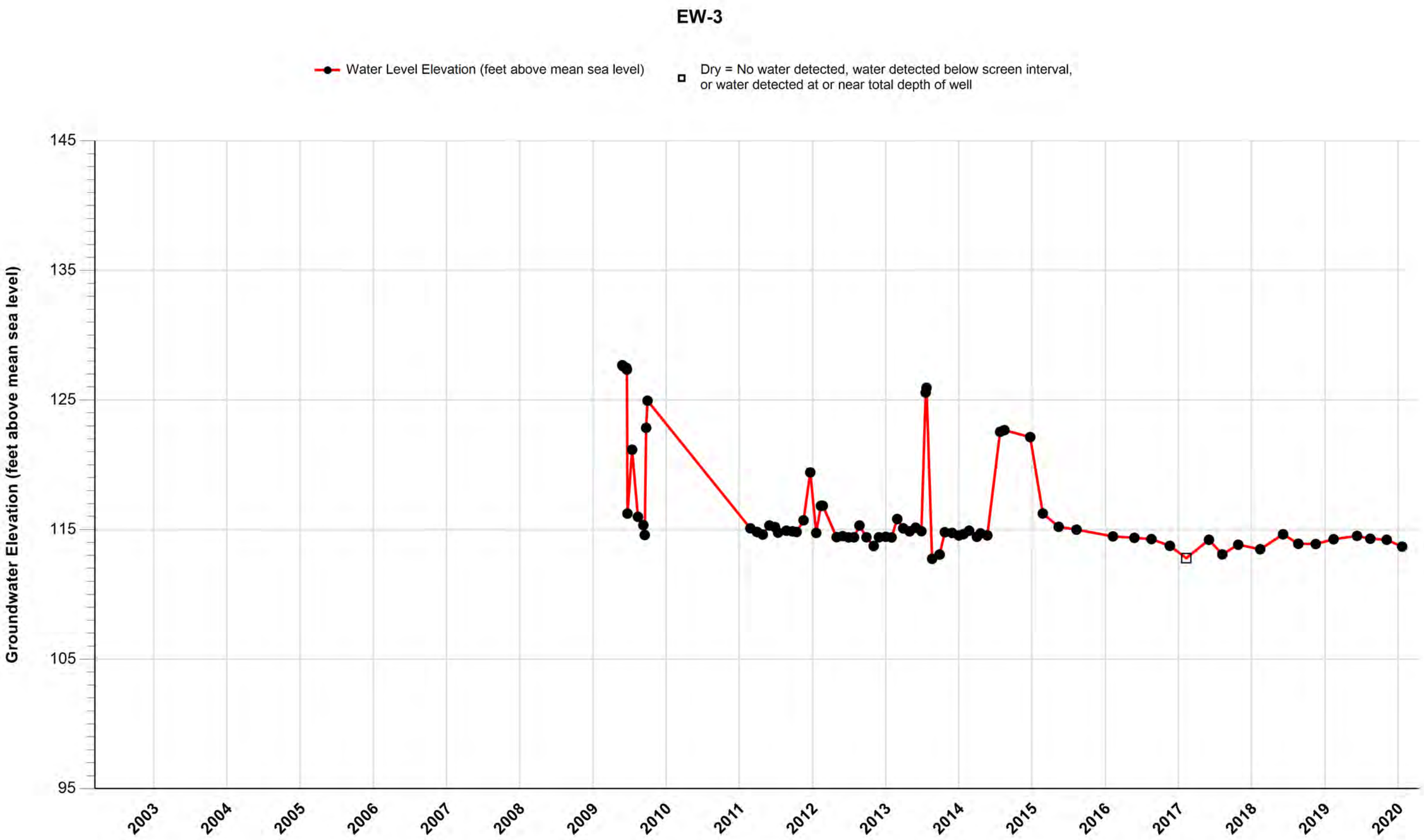

Attachment E, Figure E-4
OU-1 Groundwater Containment Remedy, Omega Chemical Superfund Site
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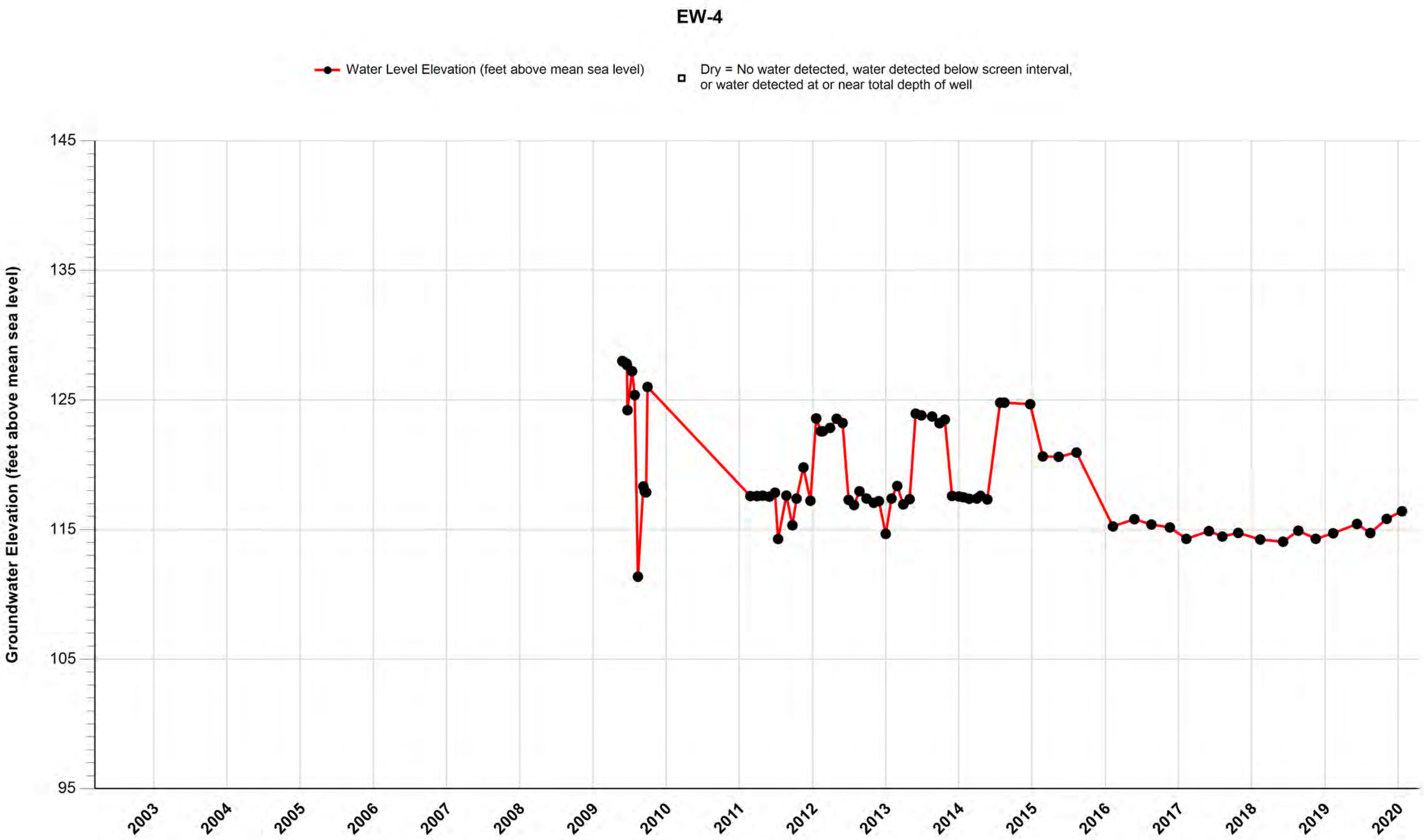

Attachment E, Figure E-5
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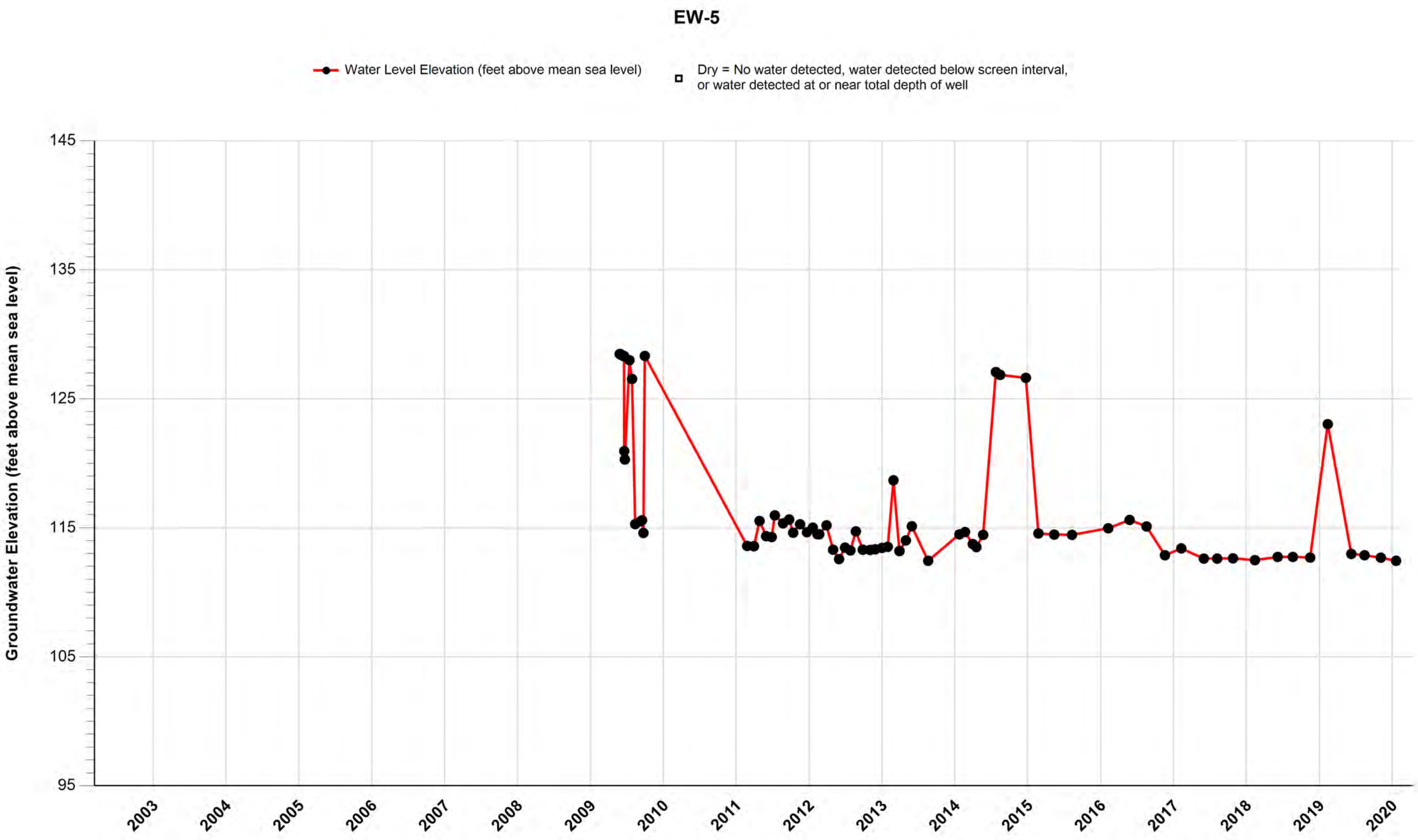

Attachment E, Figure E-6
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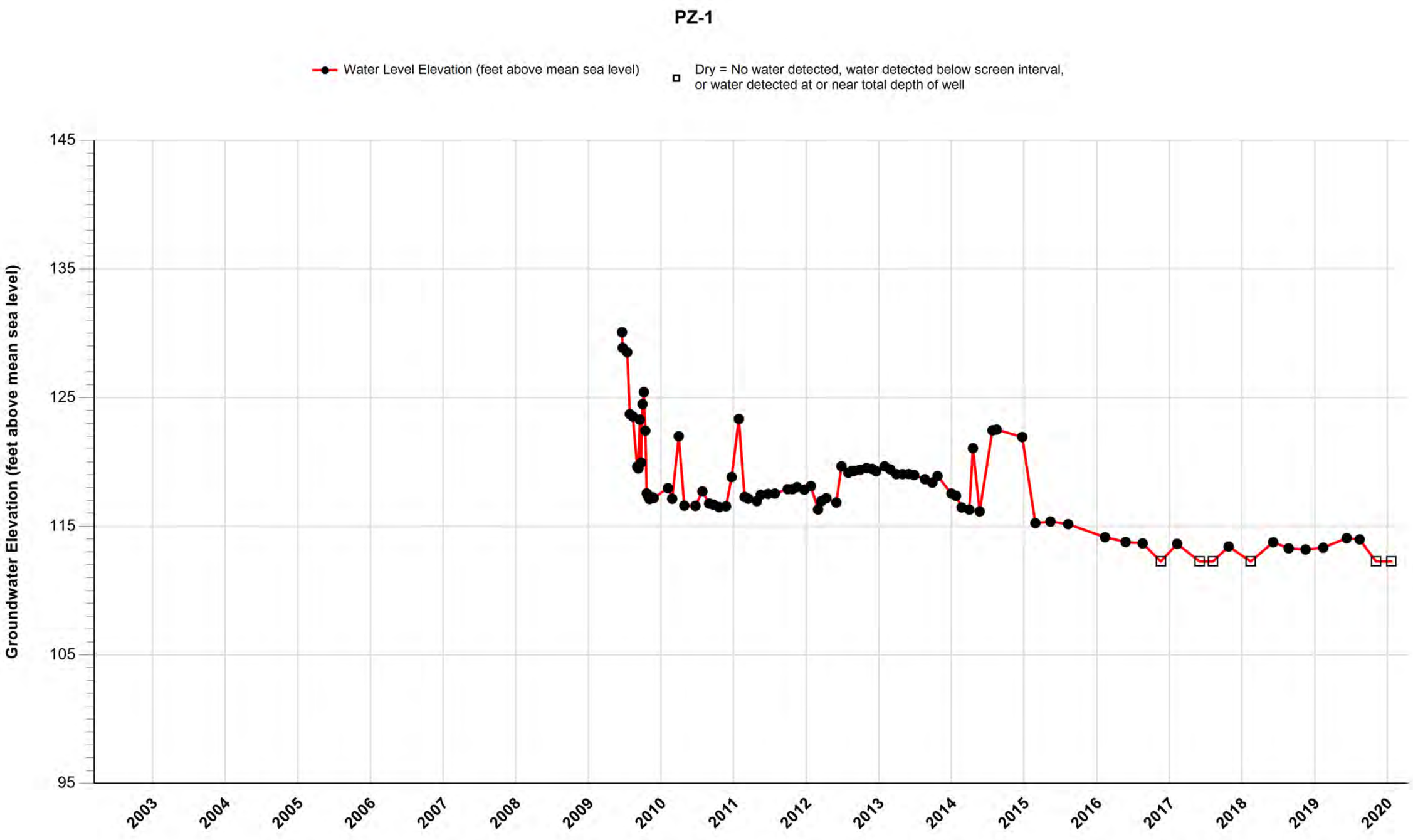

Attachment E, Figure E-7
OU-1 Groundwater Containment Remedy, Omega Chemical Superfund Site
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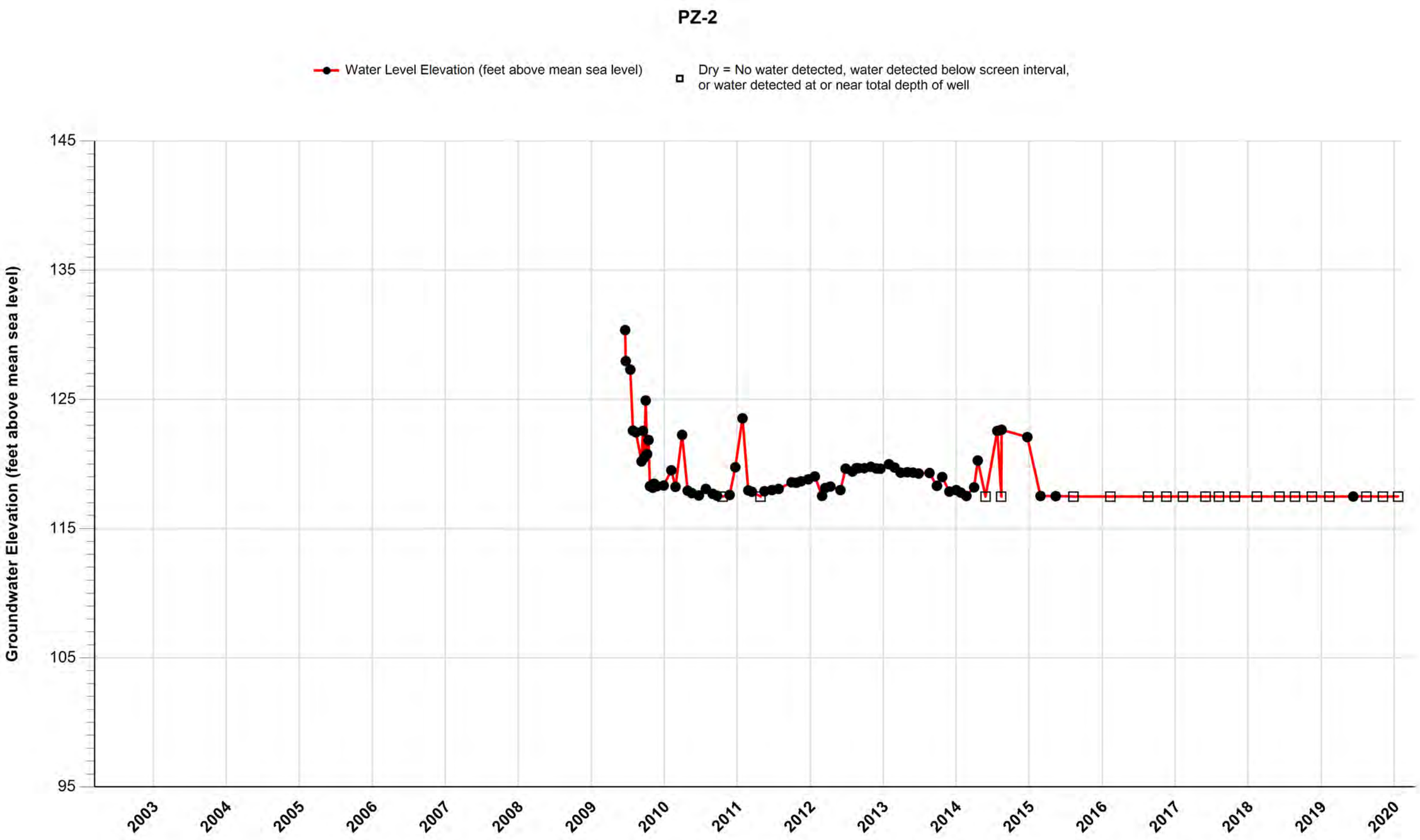

Attachment E, Figure E-8
OU-1 Groundwater Containment Remedy, Omega Chemical Superfund Site
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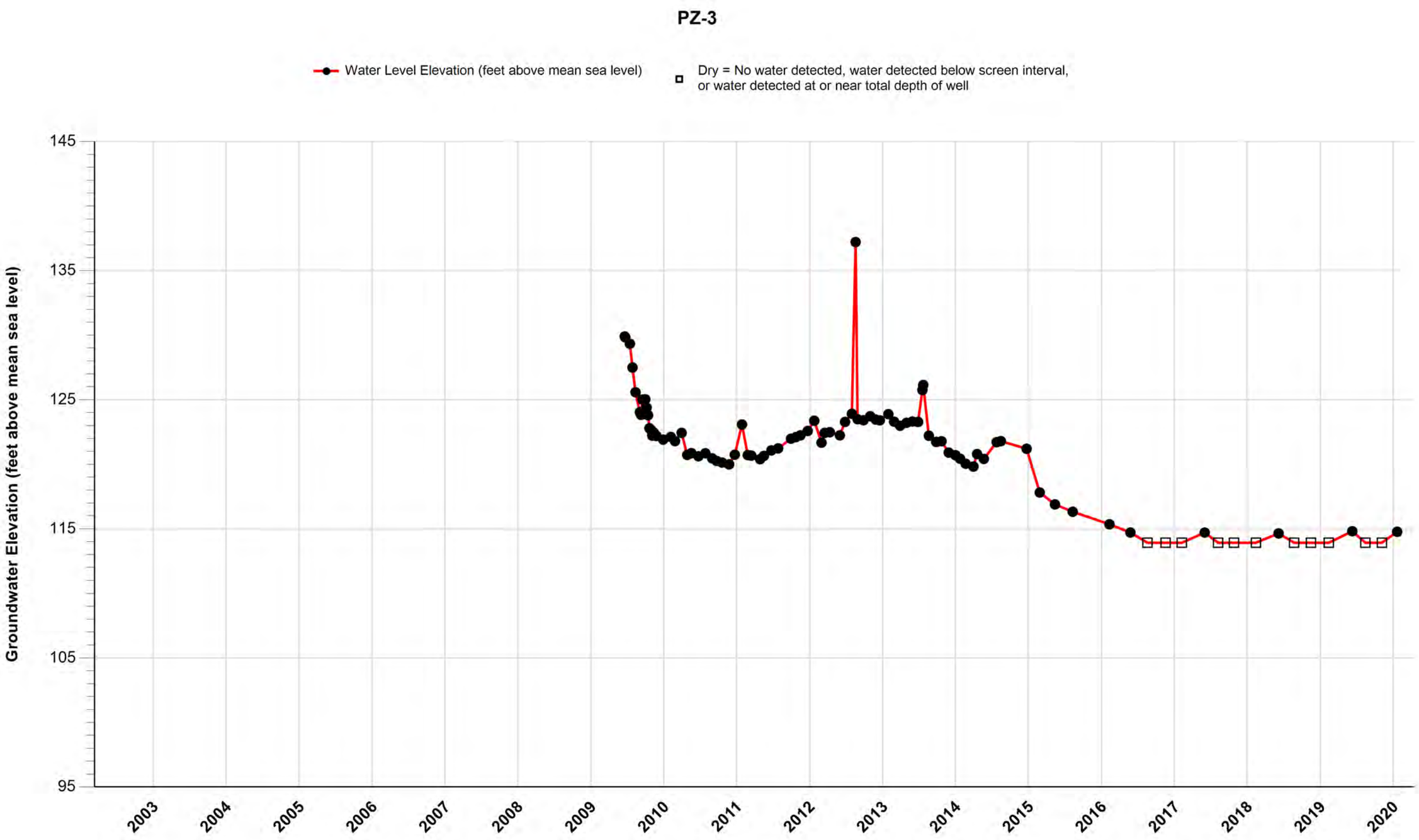

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OU-1 Groundwater Containment Remedy, Omega Chemical Superfund Site
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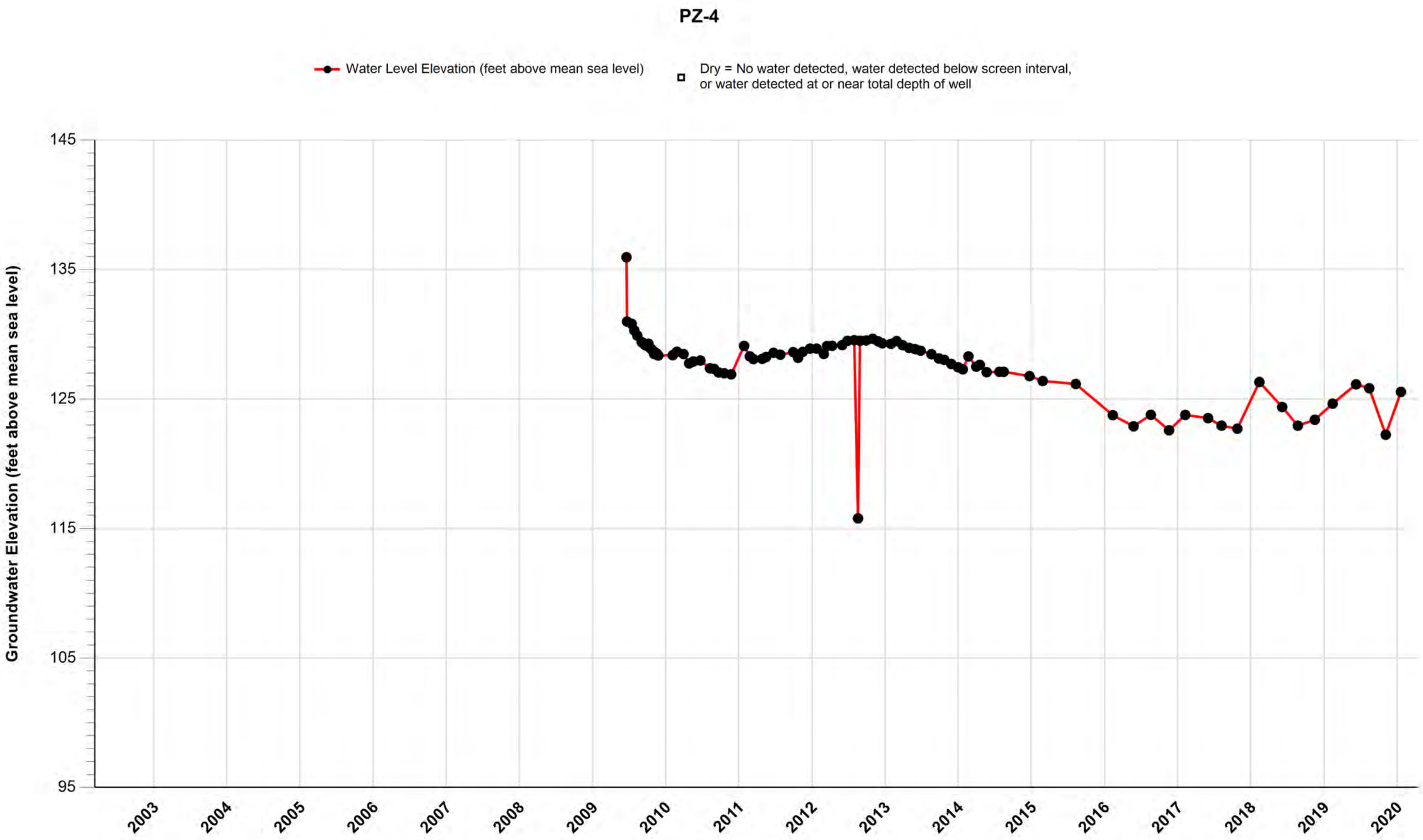

Attachment E, Figure E-10
OU-1 Groundwater Containment Remedy, Omega Chemical Superfund Site
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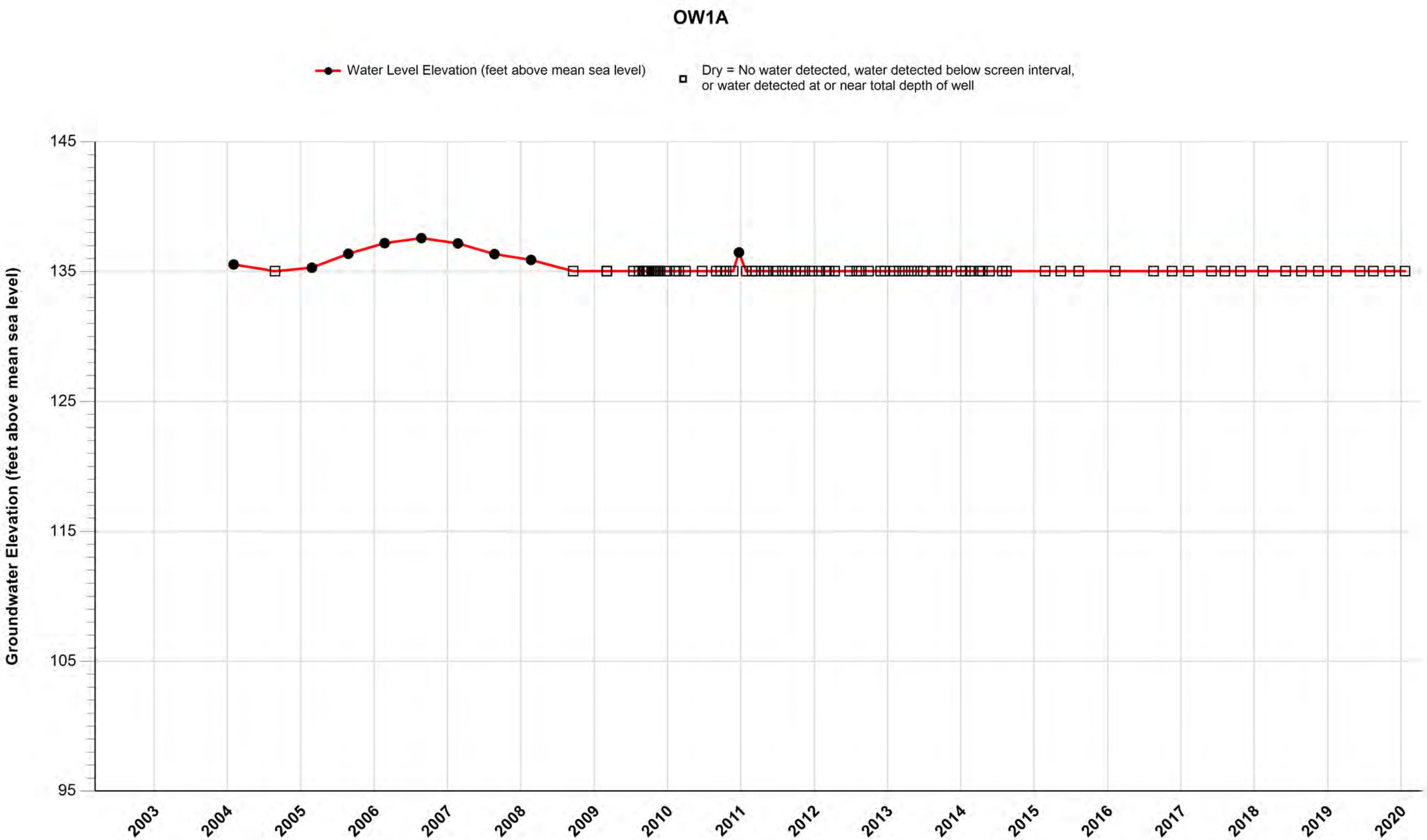

Attachment E, Figure E-11
OU-1 Groundwater Containment Remedy, Omega Chemical Superfund Site
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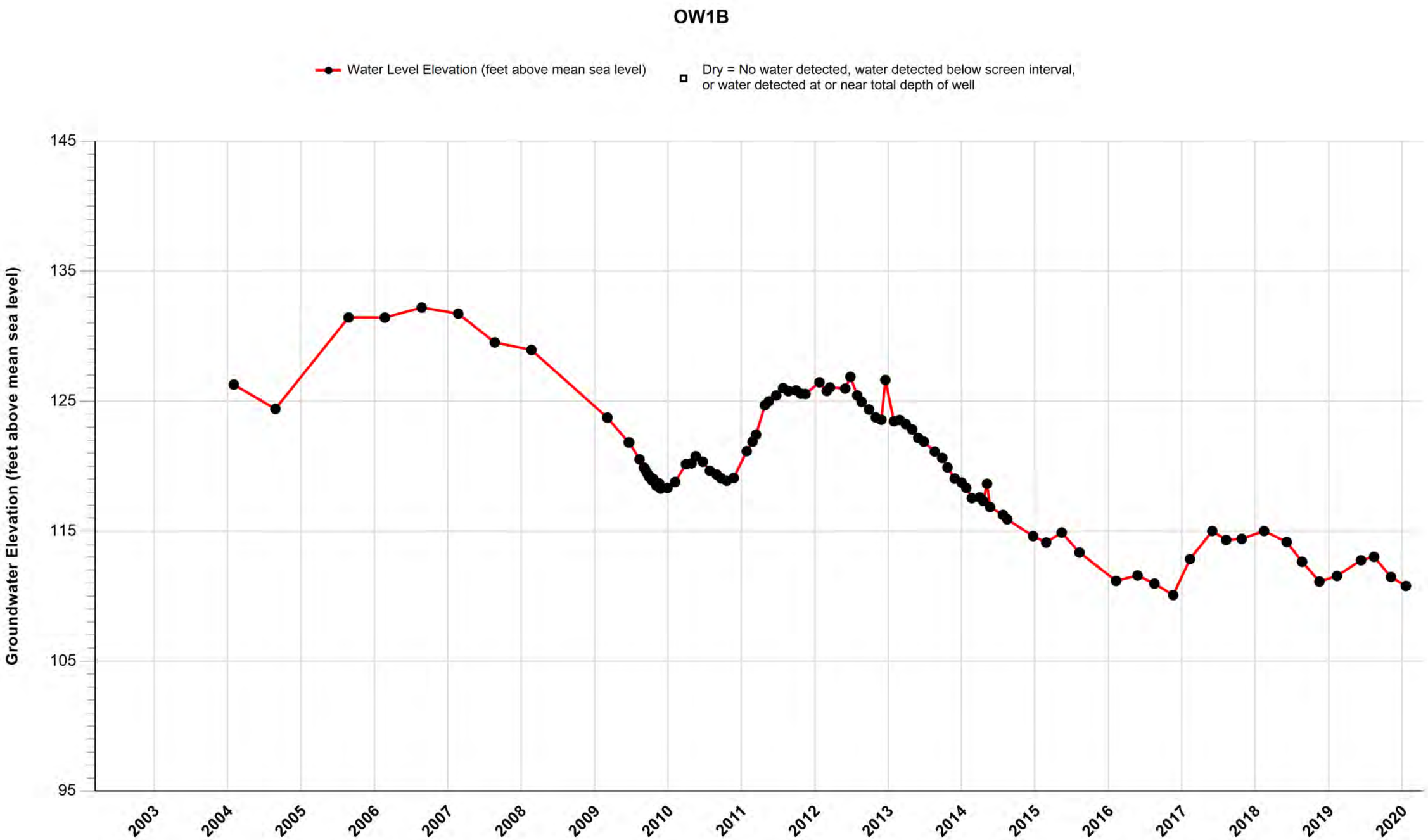

Attachment E, Figure E-12
OU-1 Groundwater Containment Remedy, Omega Chemical Superfund Site
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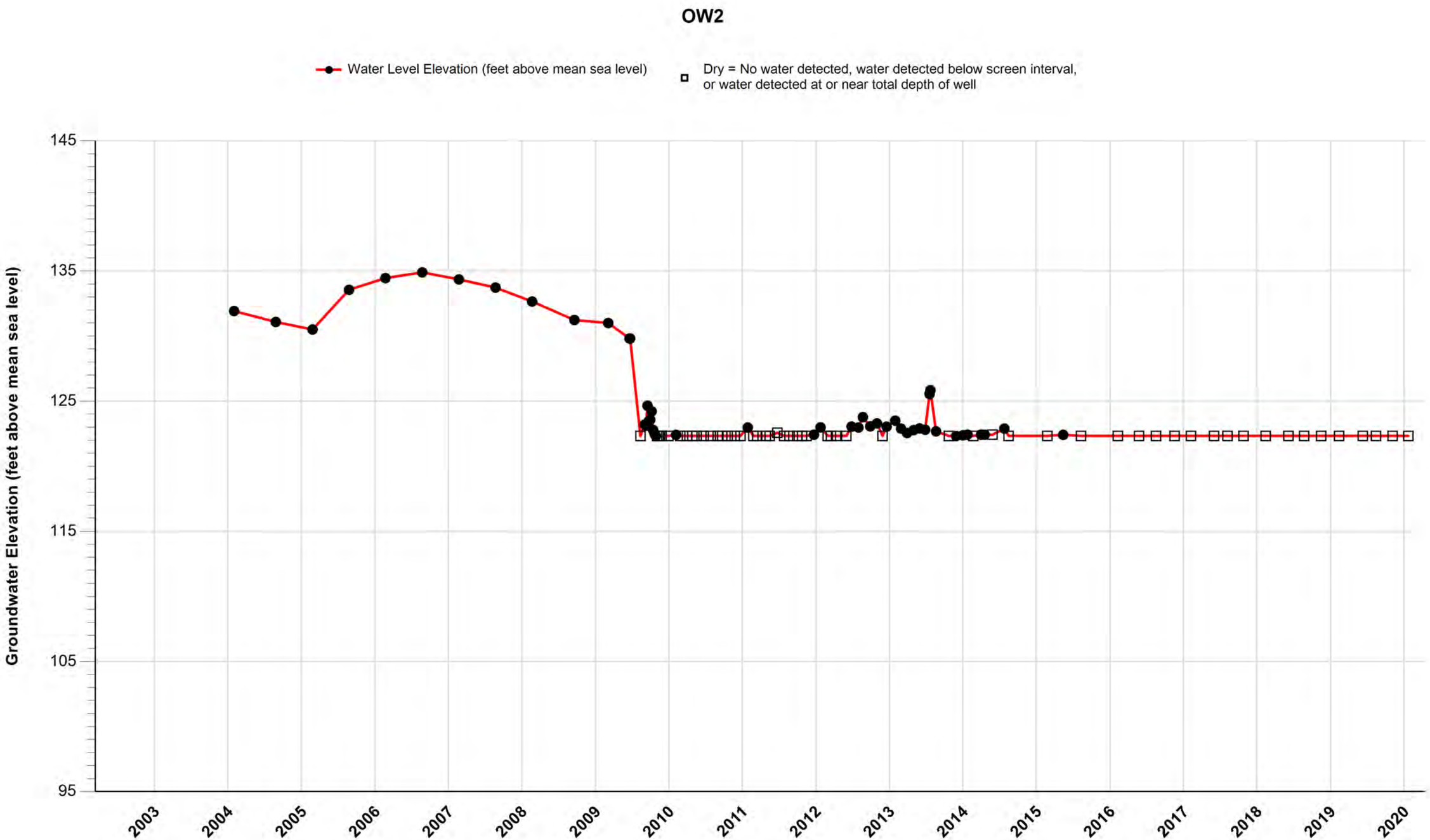

Attachment E, Figure E-13
OU-1 Groundwater Containment Remedy, Omega Chemical Superfund Site
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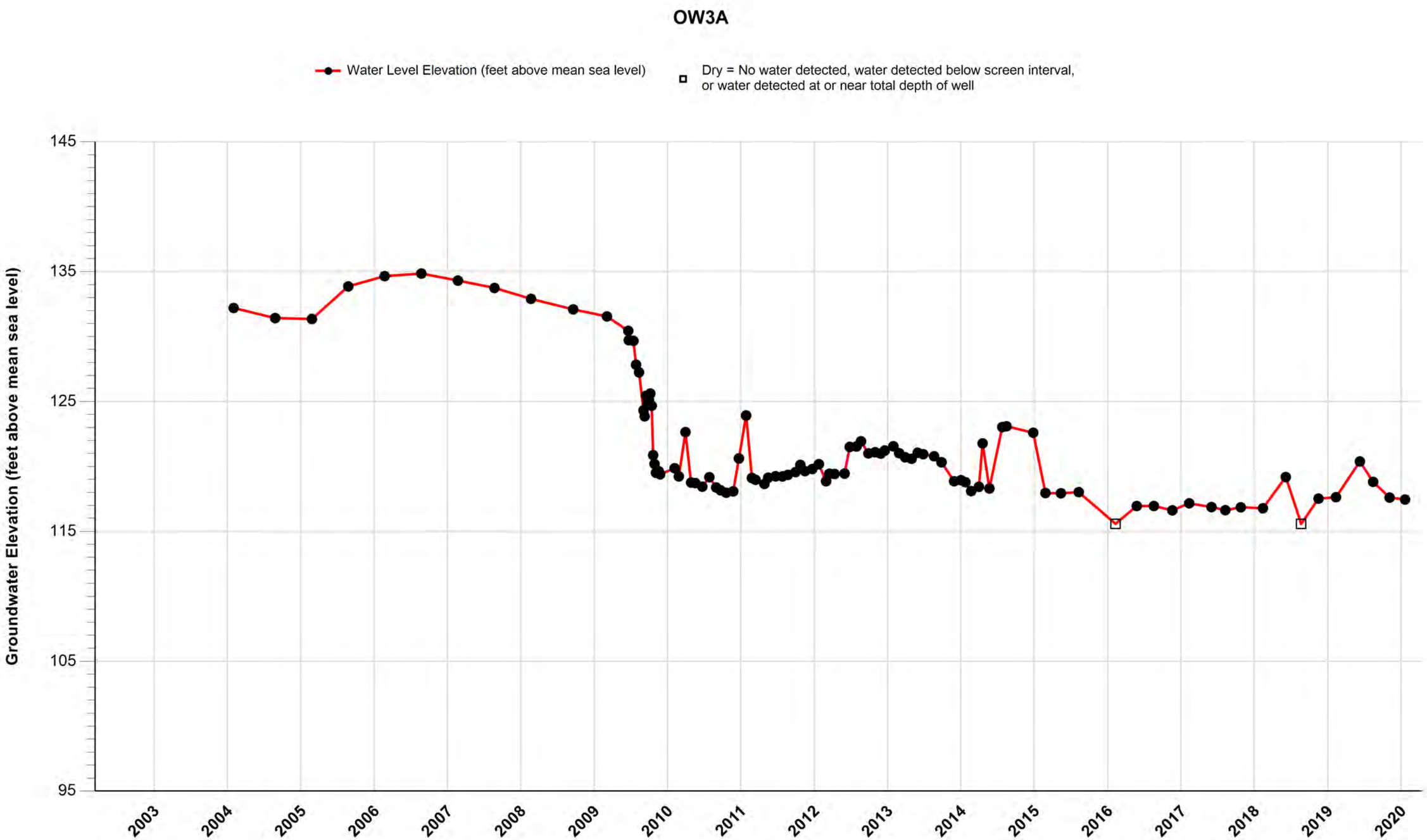

Attachment E, Figure E-14
OU-1 Groundwater Containment Remedy, Omega Chemical Superfund Site
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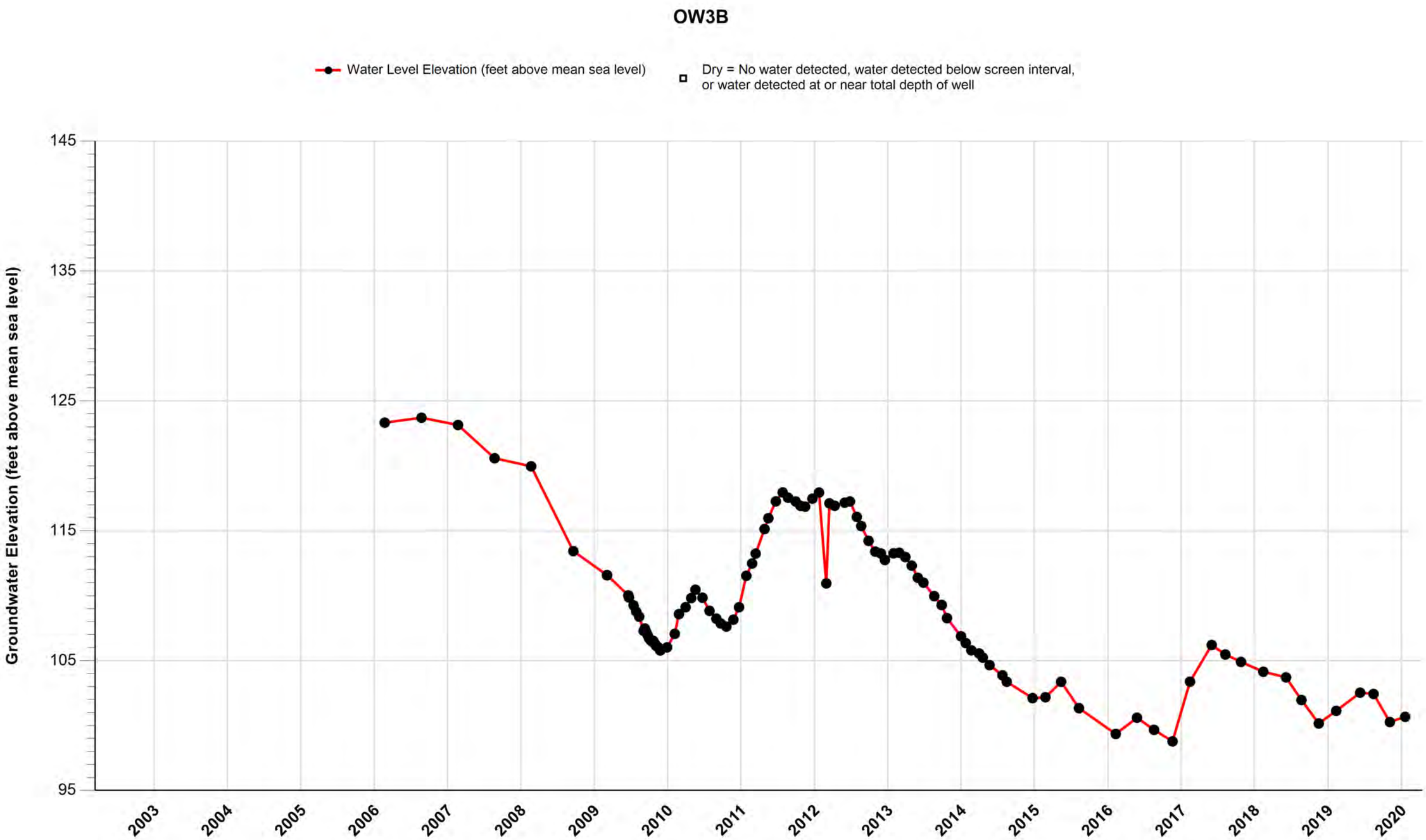

Attachment E, Figure E-15
OU-1 Groundwater Containment Remedy, Omega Chemical Superfund Site
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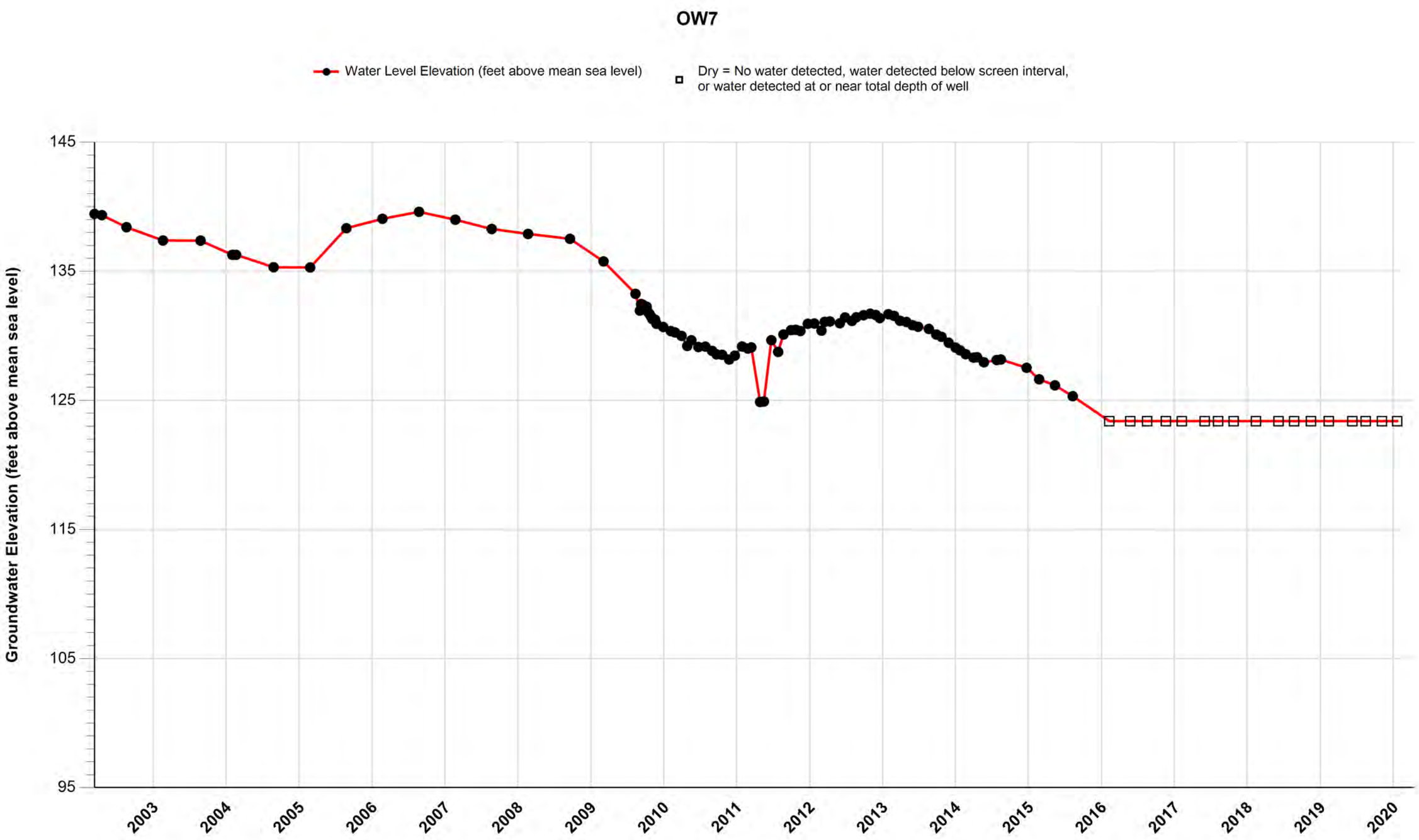

Attachment E, Figure E-16
OU-1 Groundwater Containment Remedy, Omega Chemical Superfund Site
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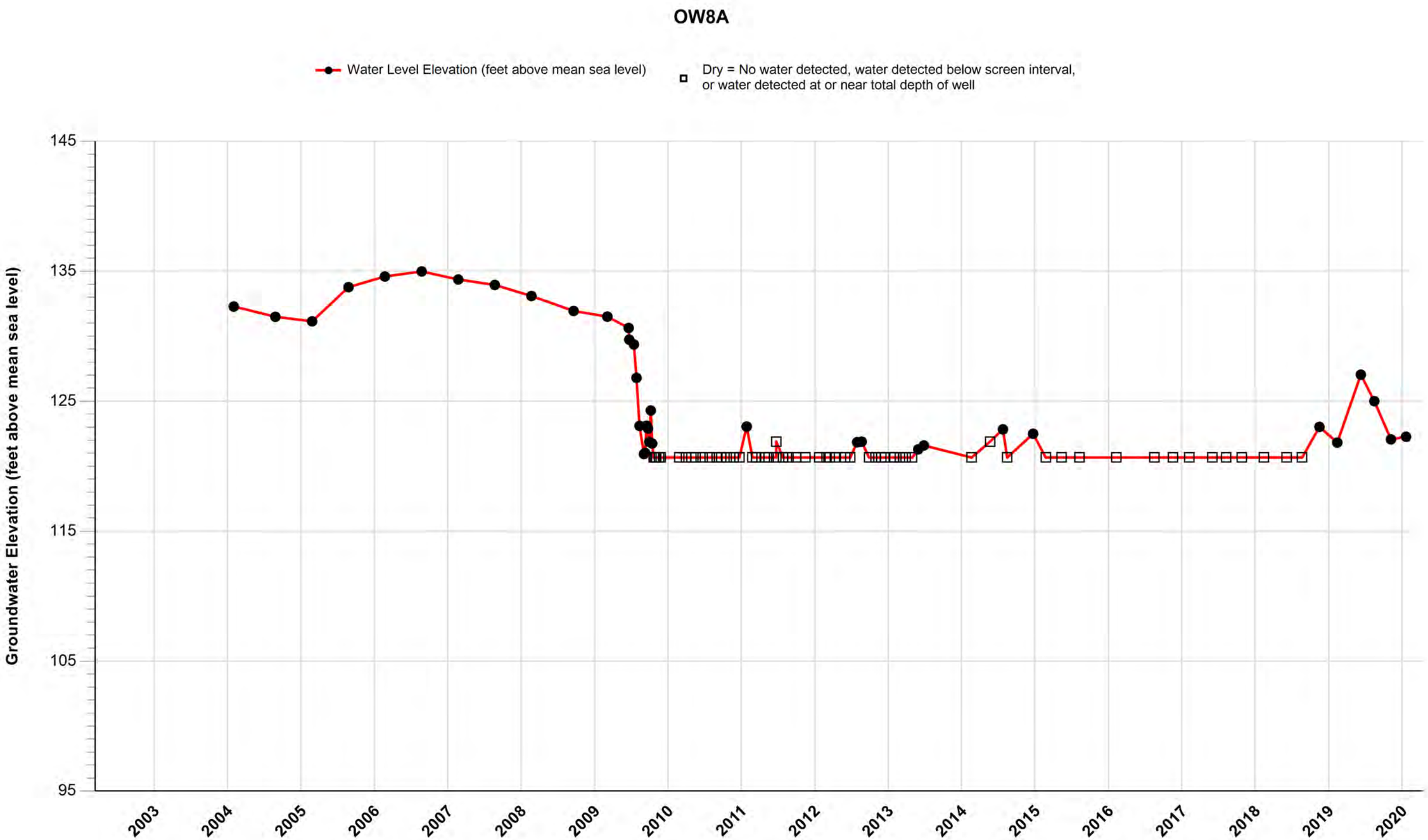

Attachment E, Figure E-17
OU-1 Groundwater Containment Remedy, Omega Chemical Superfund Site
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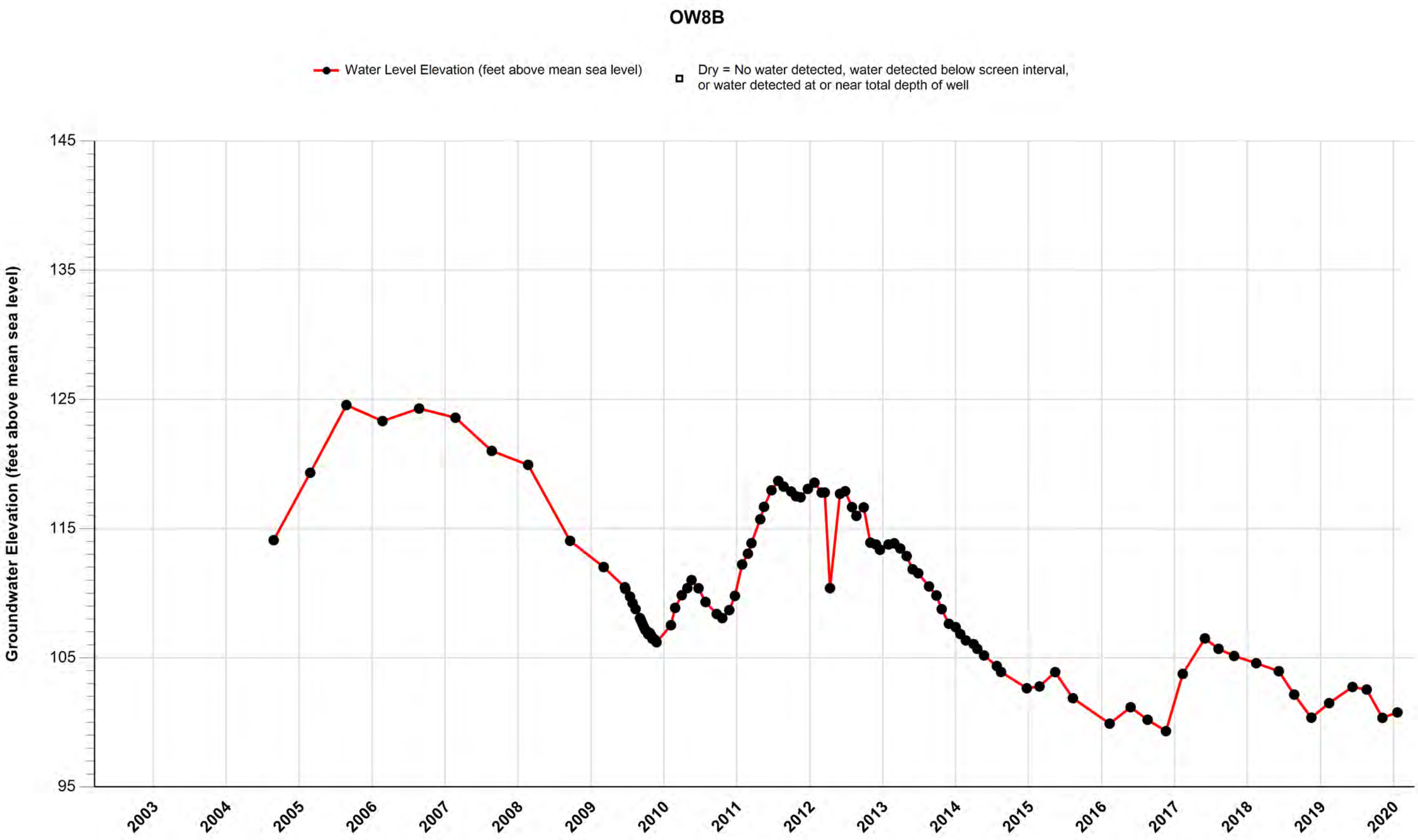

Attachment E, Figure E-18
OU-1 Groundwater Containment Remedy, Omega Chemical Superfund Site
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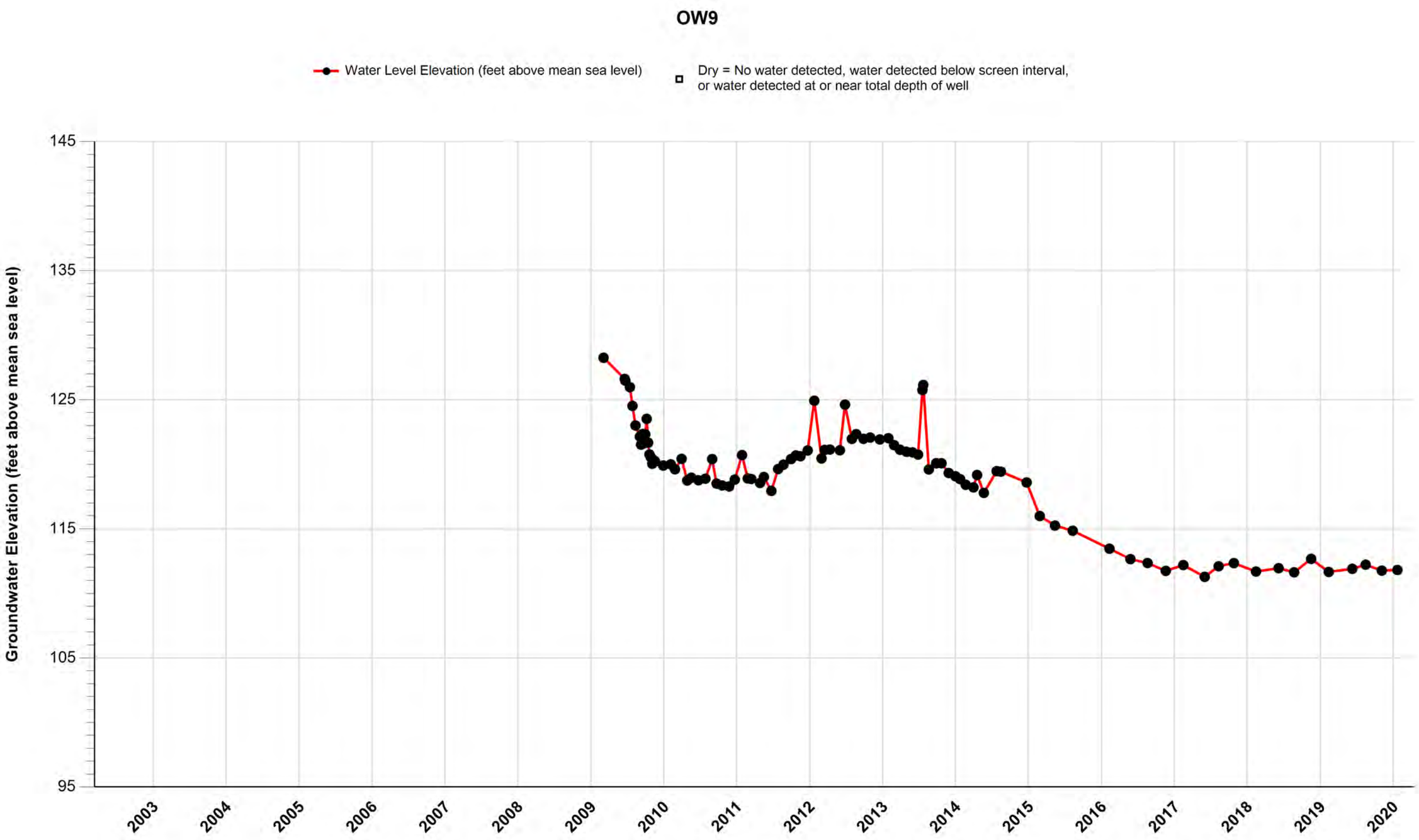
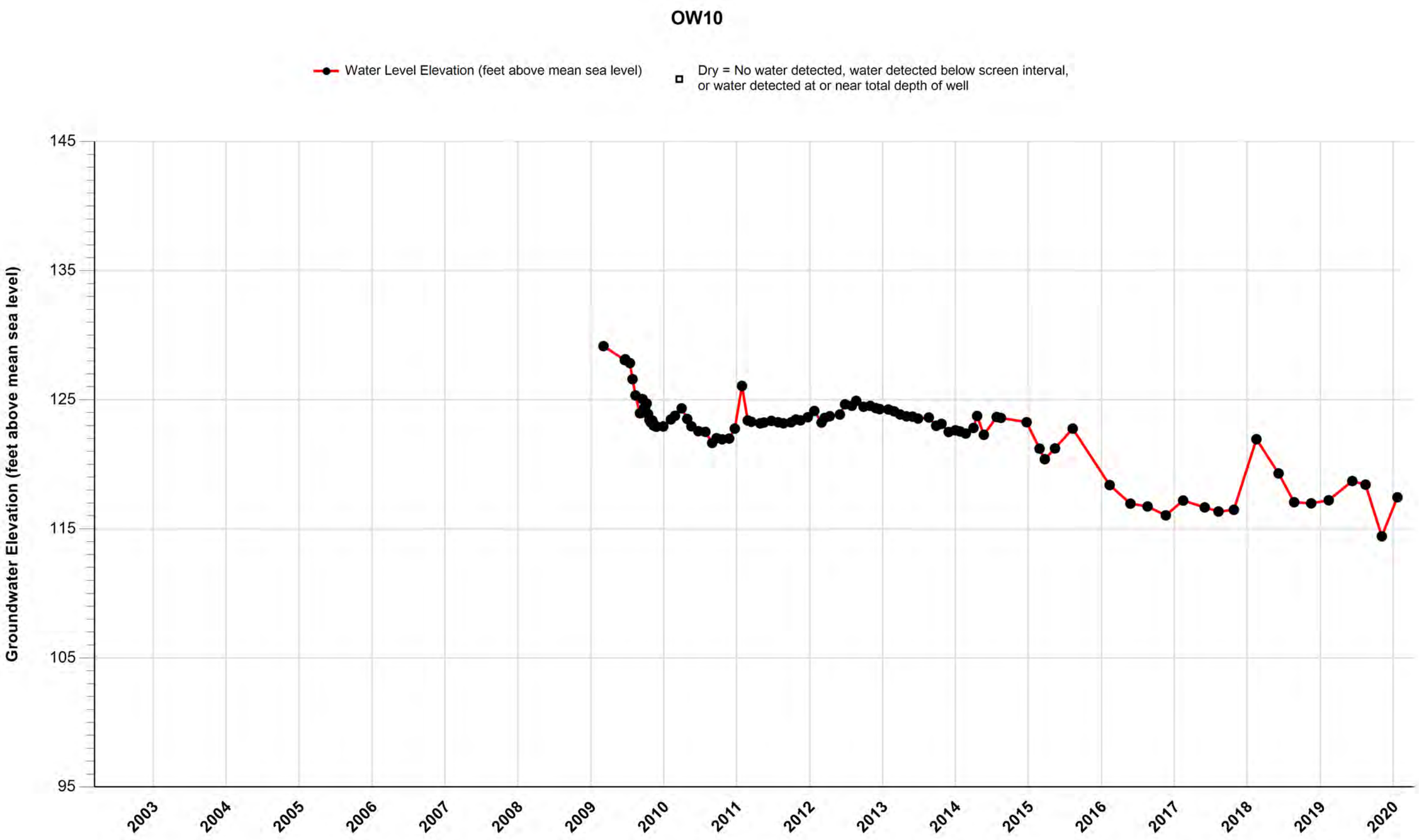


Attachment E, Figure E-19
OU-1 Groundwater Containment Remedy, Omega Chemical Superfund Site
PSVP Piezometric Data



Attachment E, Figure E-20
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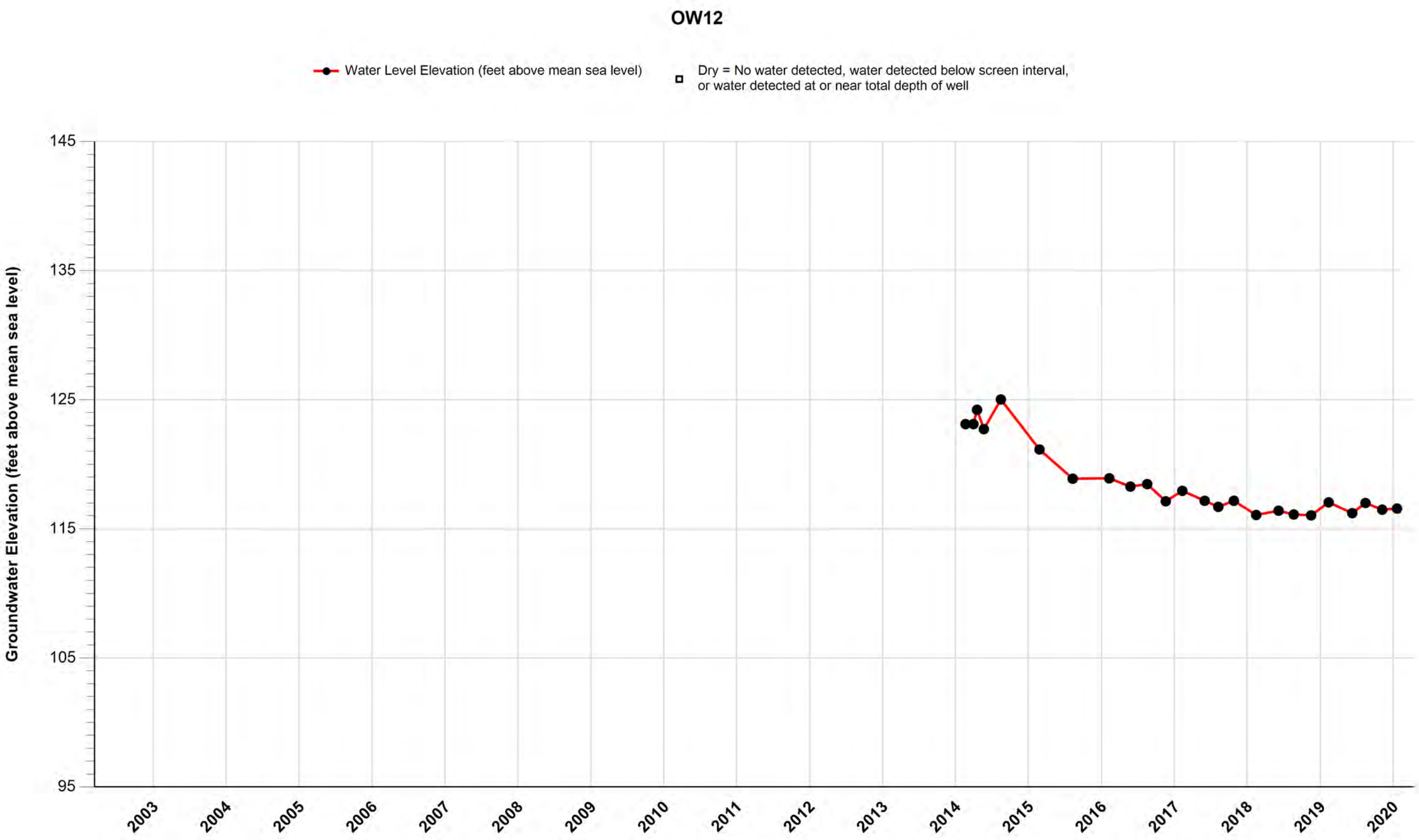
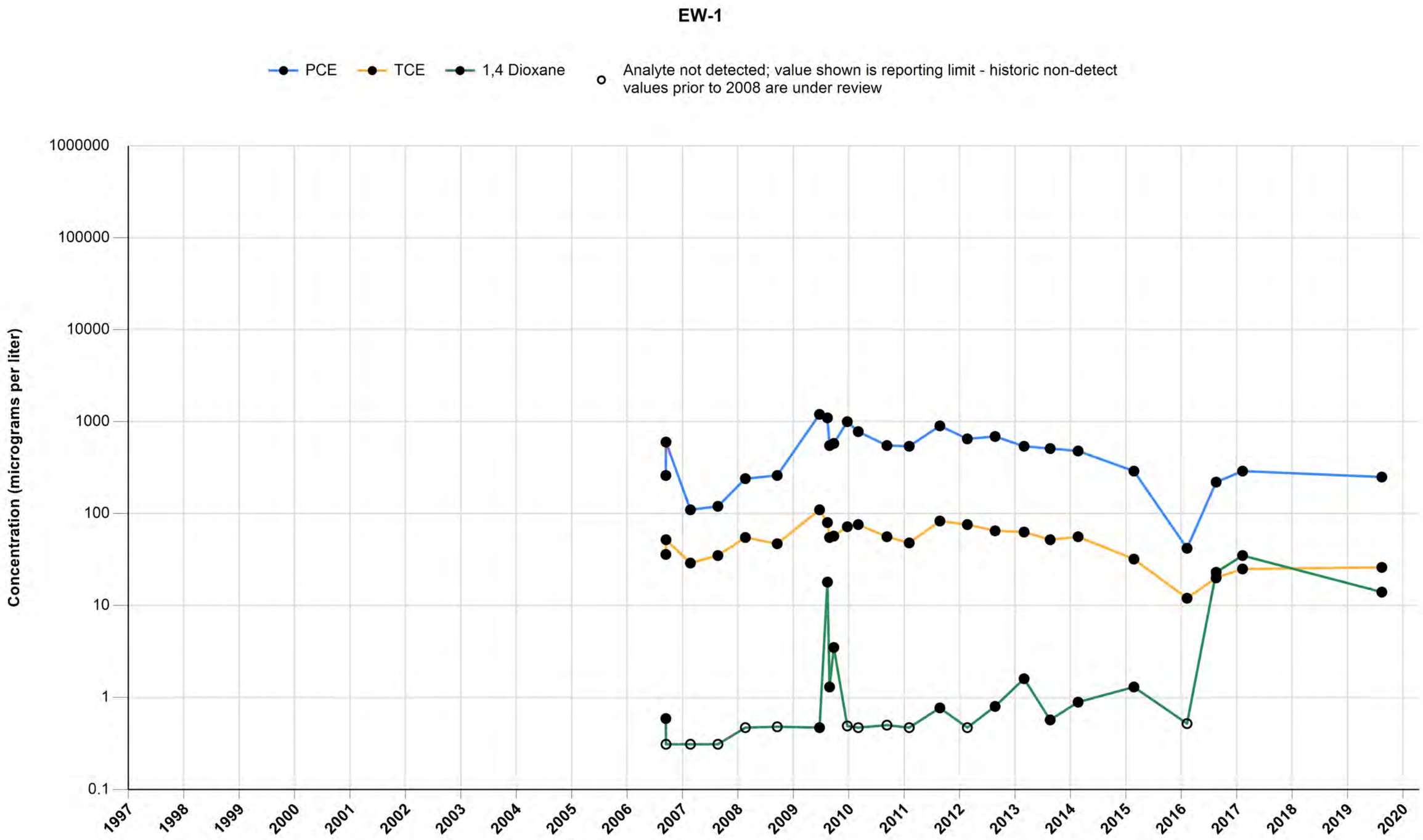


Attachment E, Figure E-21
OU-1 Groundwater Containment Remedy, Omega Chemical Superfund Site
Groundwater Analytical (PCE, TCE and 1,4-Dioxane)



Attachment E, Figure E-22
OU-1 Groundwater Containment Remedy, Omega Chemical Superfund Site
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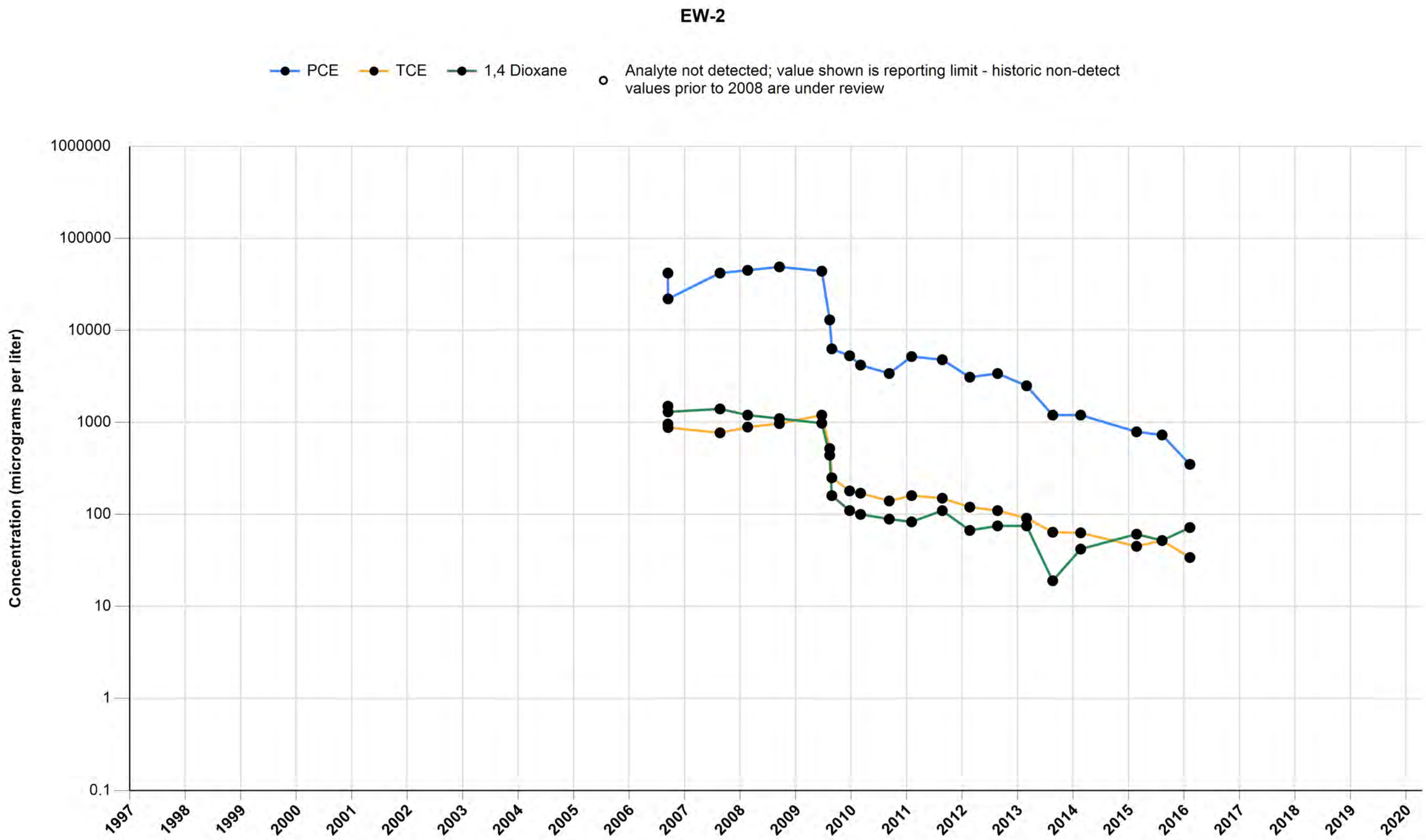
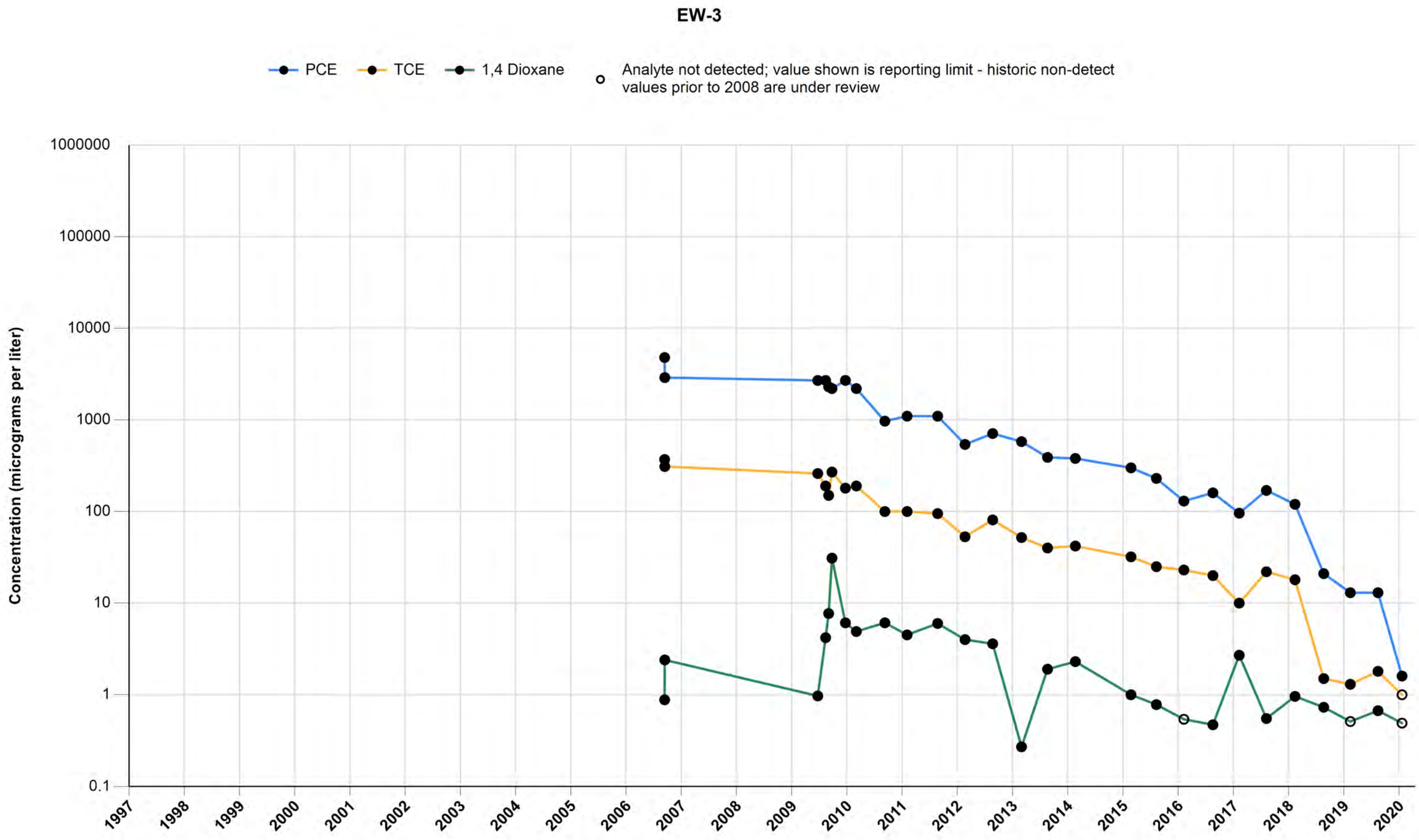


Attachment E, Figure E-23
OU-1 Groundwater Containment Remedy, Omega Chemical Superfund Site
Groundwater Analytical (PCE, TCE and 1,4-Dioxane)



Attachment E, Figure E-24
OU-1 Groundwater Containment Remedy, Omega Chemical Superfund Site
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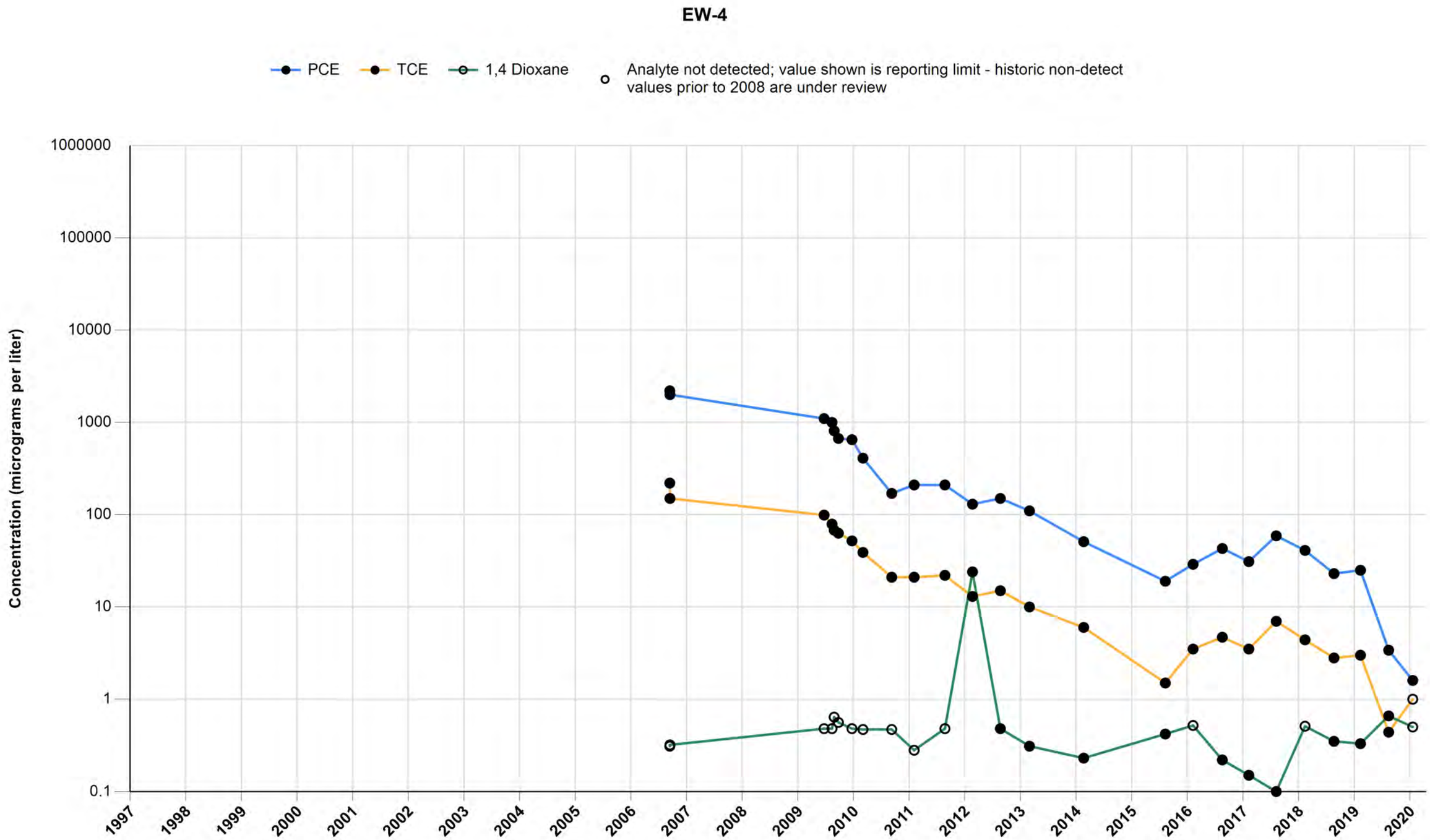

Attachment E, Figure E-25
OU-1 Groundwater Containment Remedy, Omega Chemical Superfund Site
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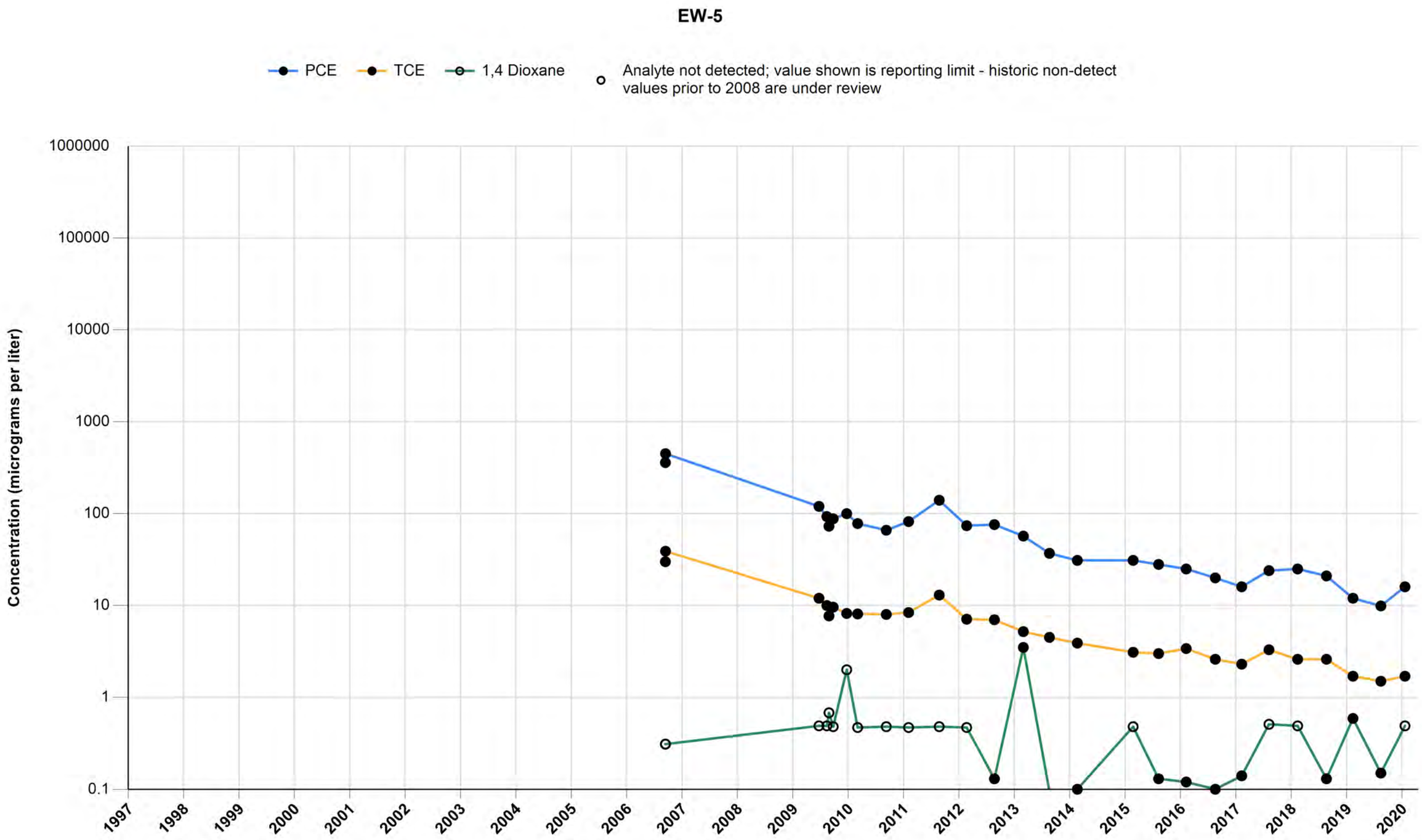
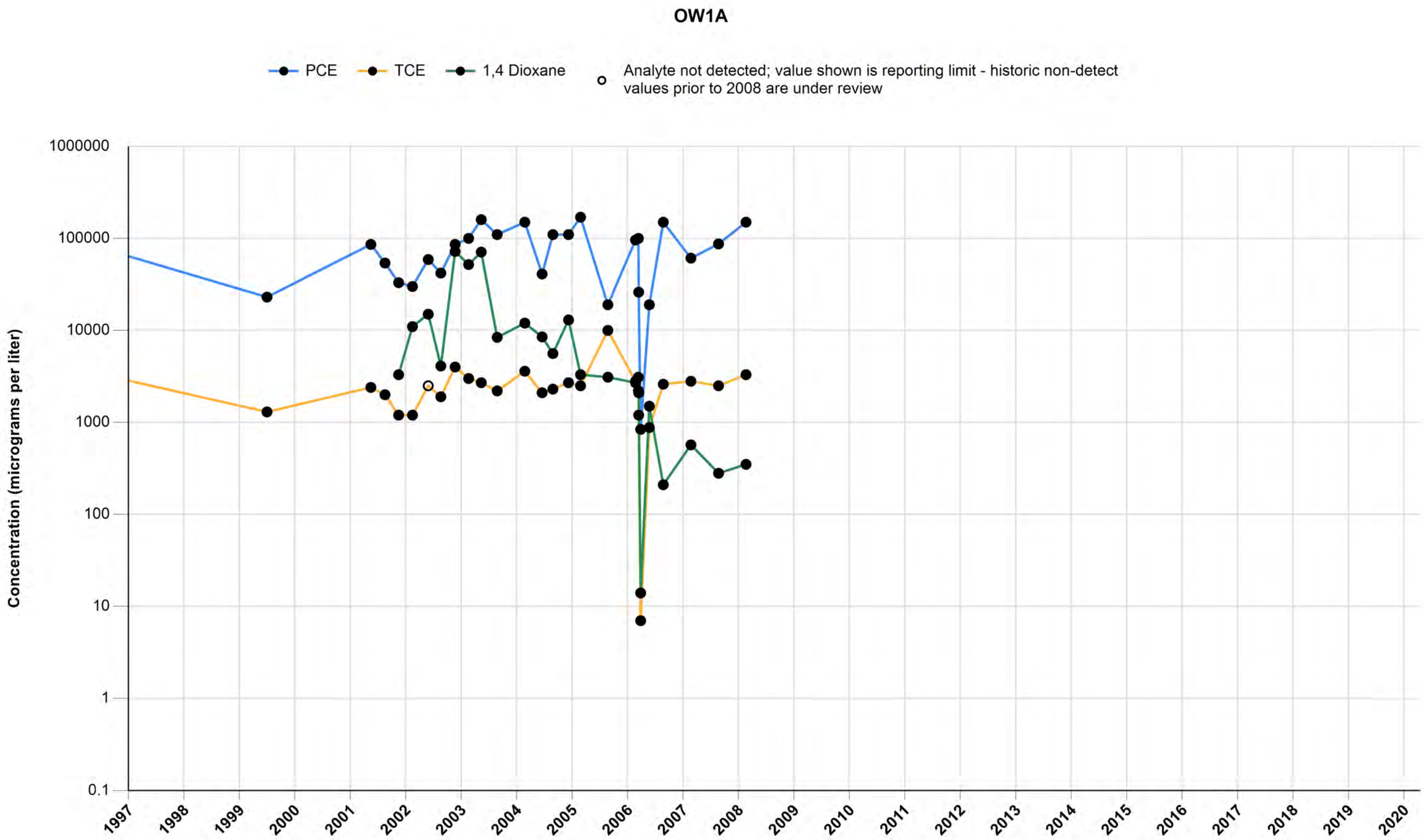
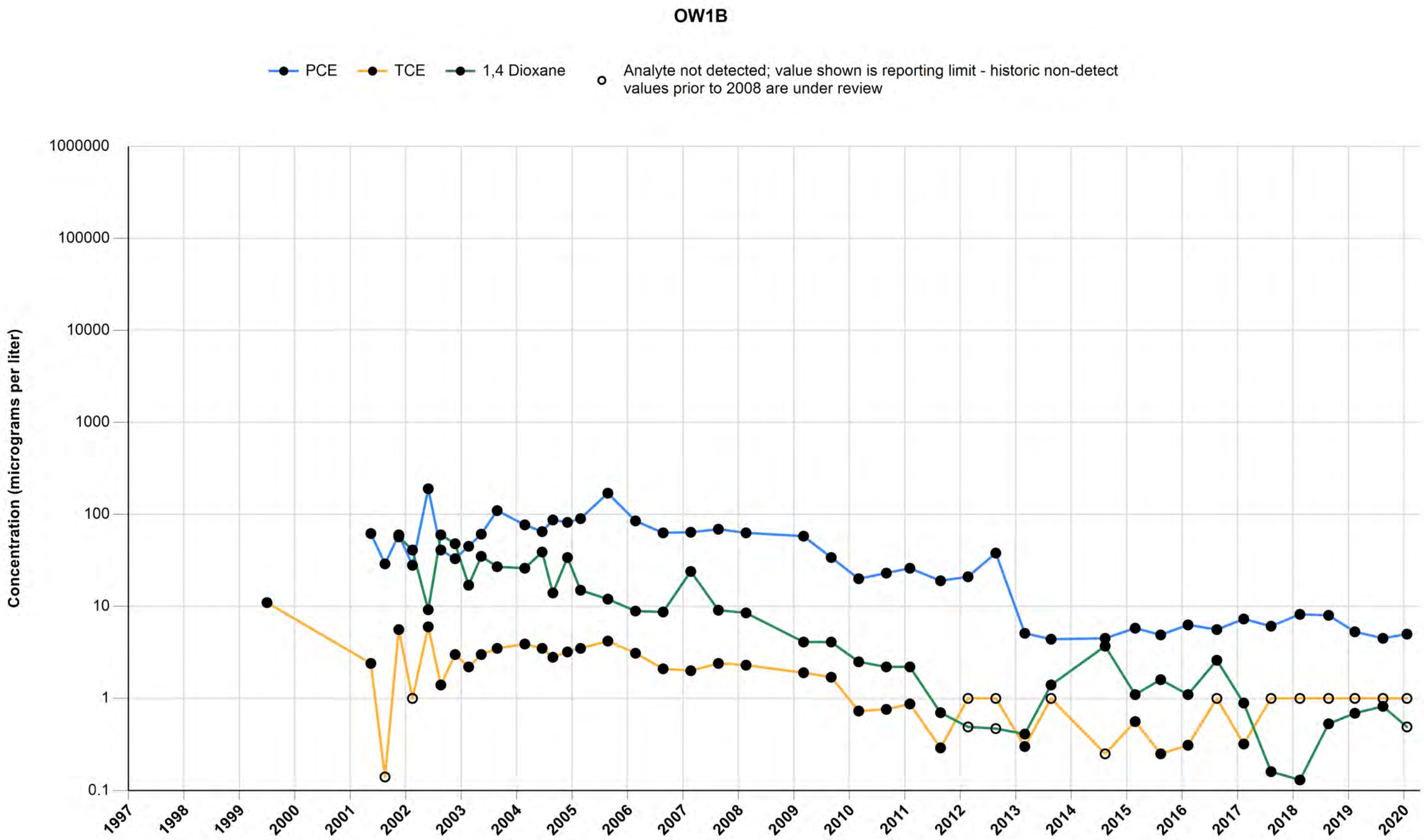


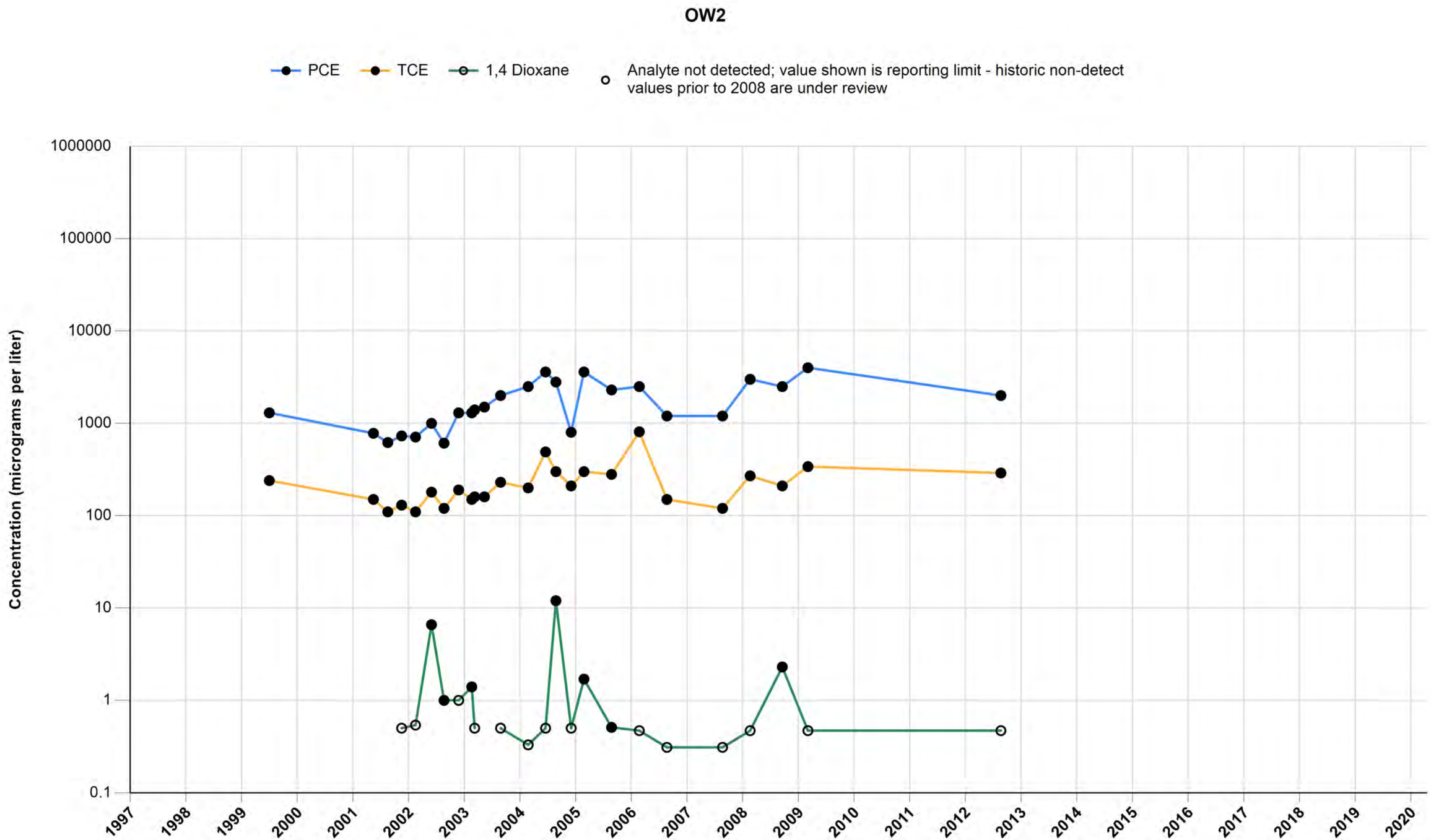
Attachment E, Figure E-26
OU-1 Groundwater Containment Remedy, Omega Chemical Superfund Site
Groundwater Analytical (PCE, TCE and 1,4-Dioxane)



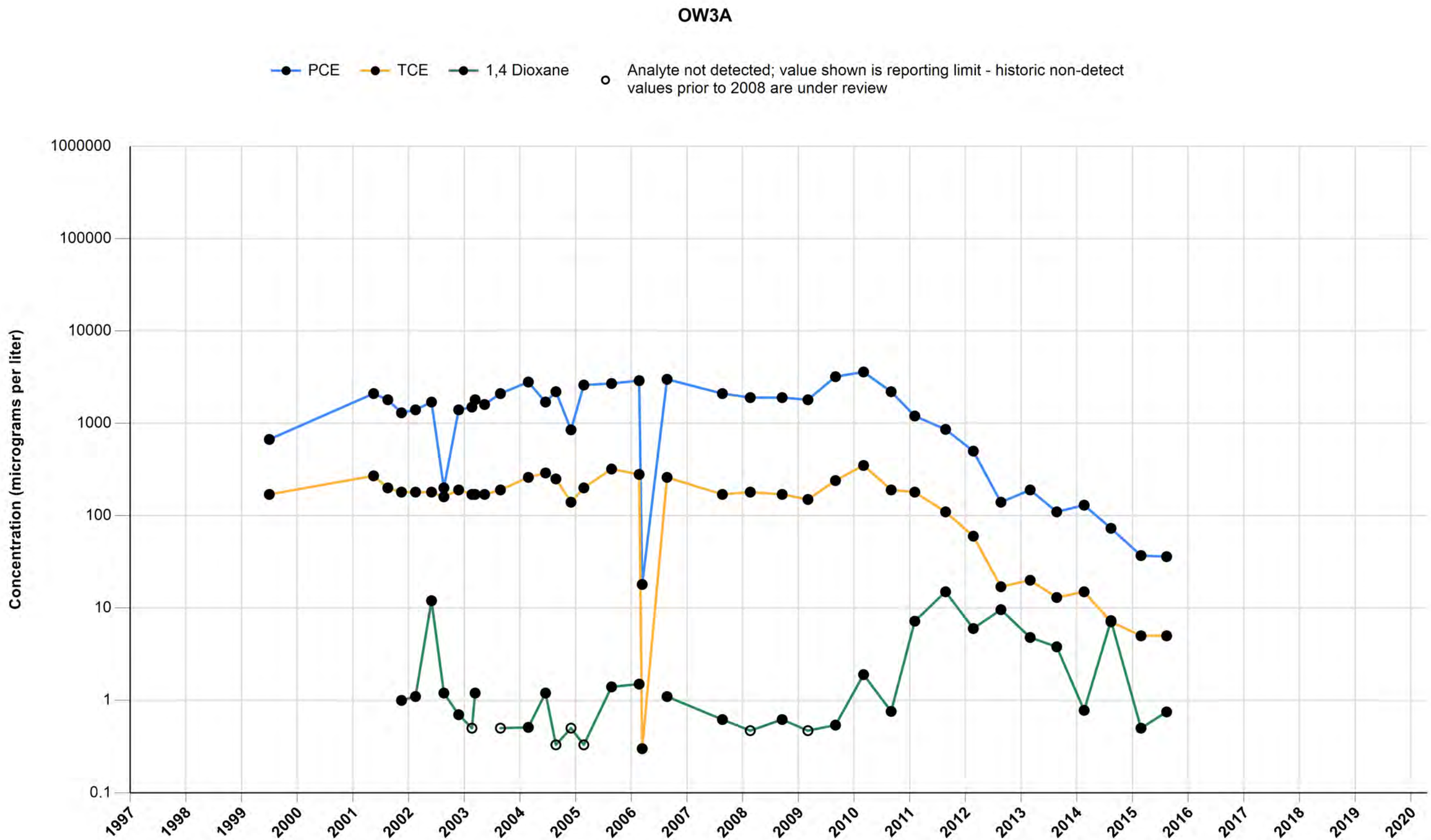
Attachment E, Figure E-27
OU-1 Groundwater Containment Remedy, Omega Chemical Superfund Site
Groundwater Analytical (PCE, TCE and 1,4-Dioxane)



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



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



Attachment E, Figure E-30
OU-1 Groundwater Containment Remedy, Omega Chemical Superfund Site
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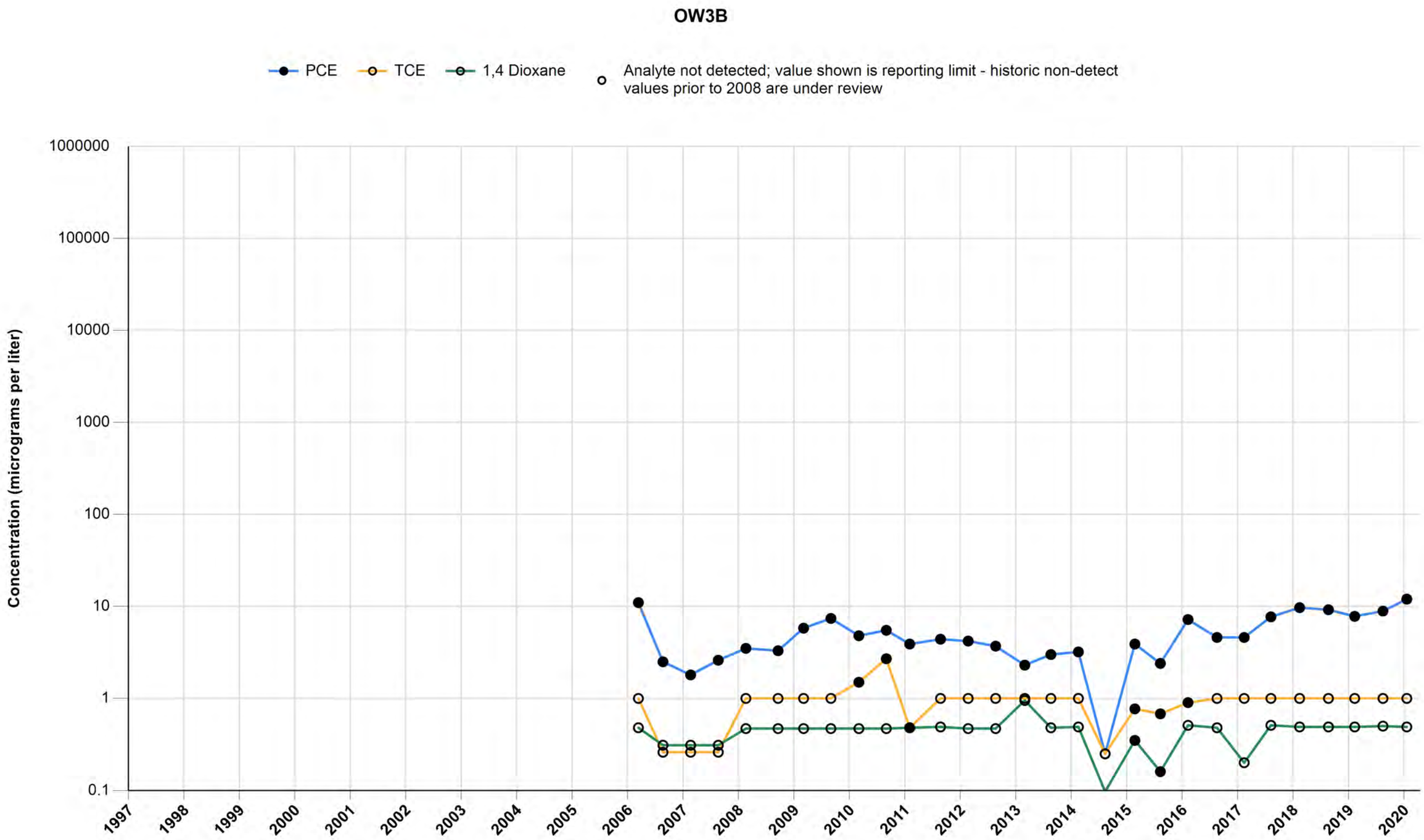

Attachment E, Figure E-31
OU-1 Groundwater Containment Remedy, Omega Chemical Superfund Site
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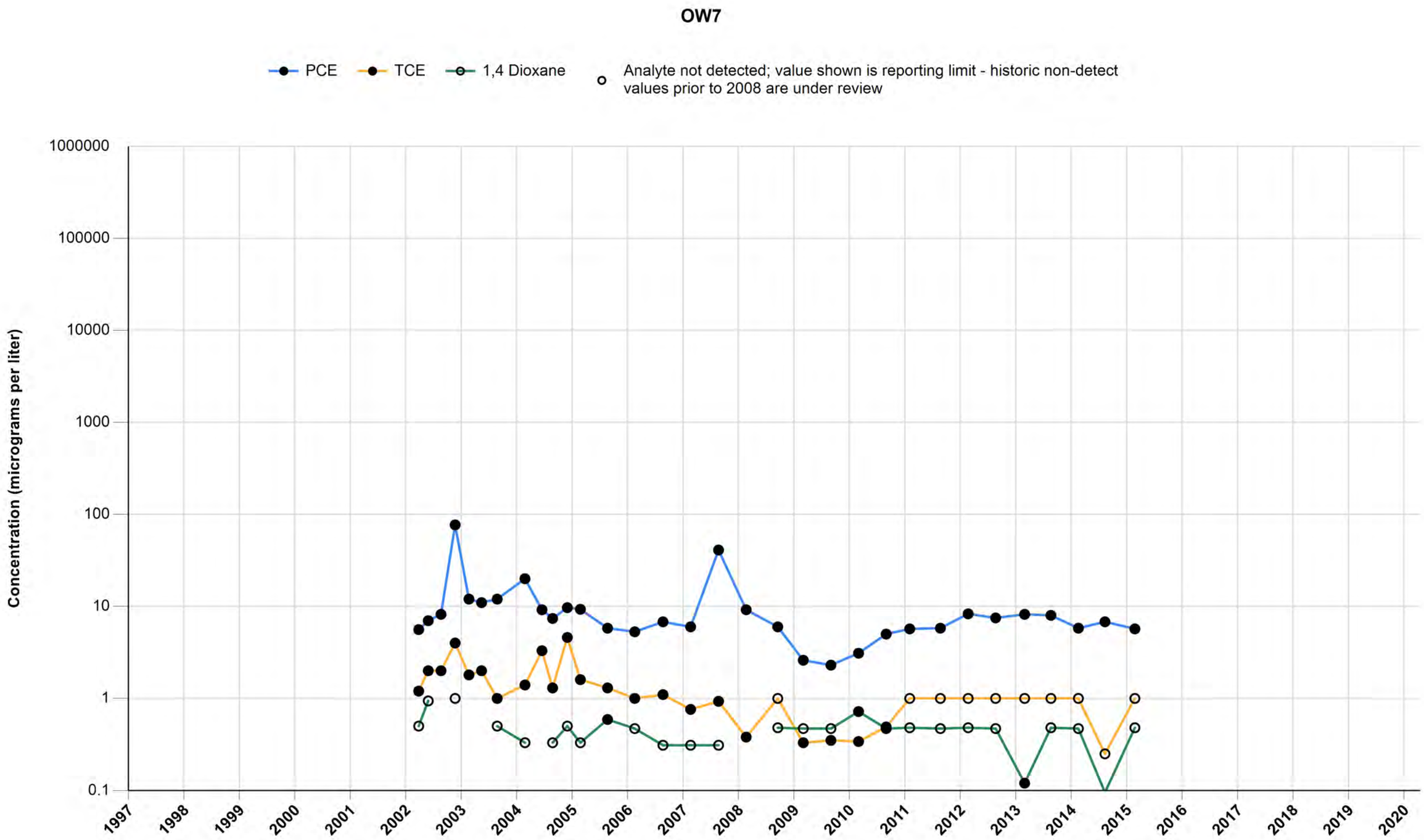

Attachment E, Figure E-32
OU-1 Groundwater Containment Remedy, Omega Chemical Superfund Site
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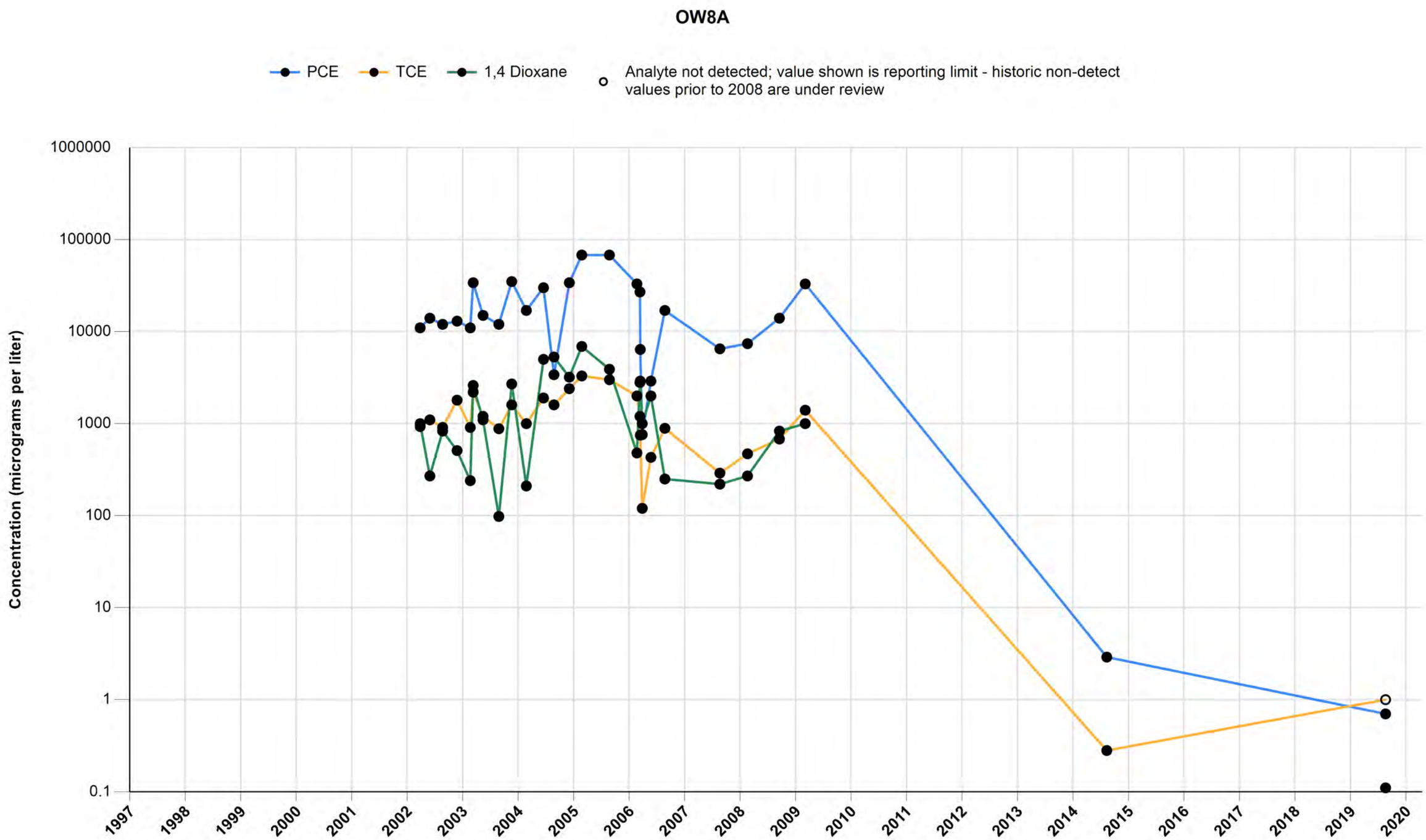

Attachment E, Figure E-33
OU-1 Groundwater Containment Remedy, Omega Chemical Superfund Site
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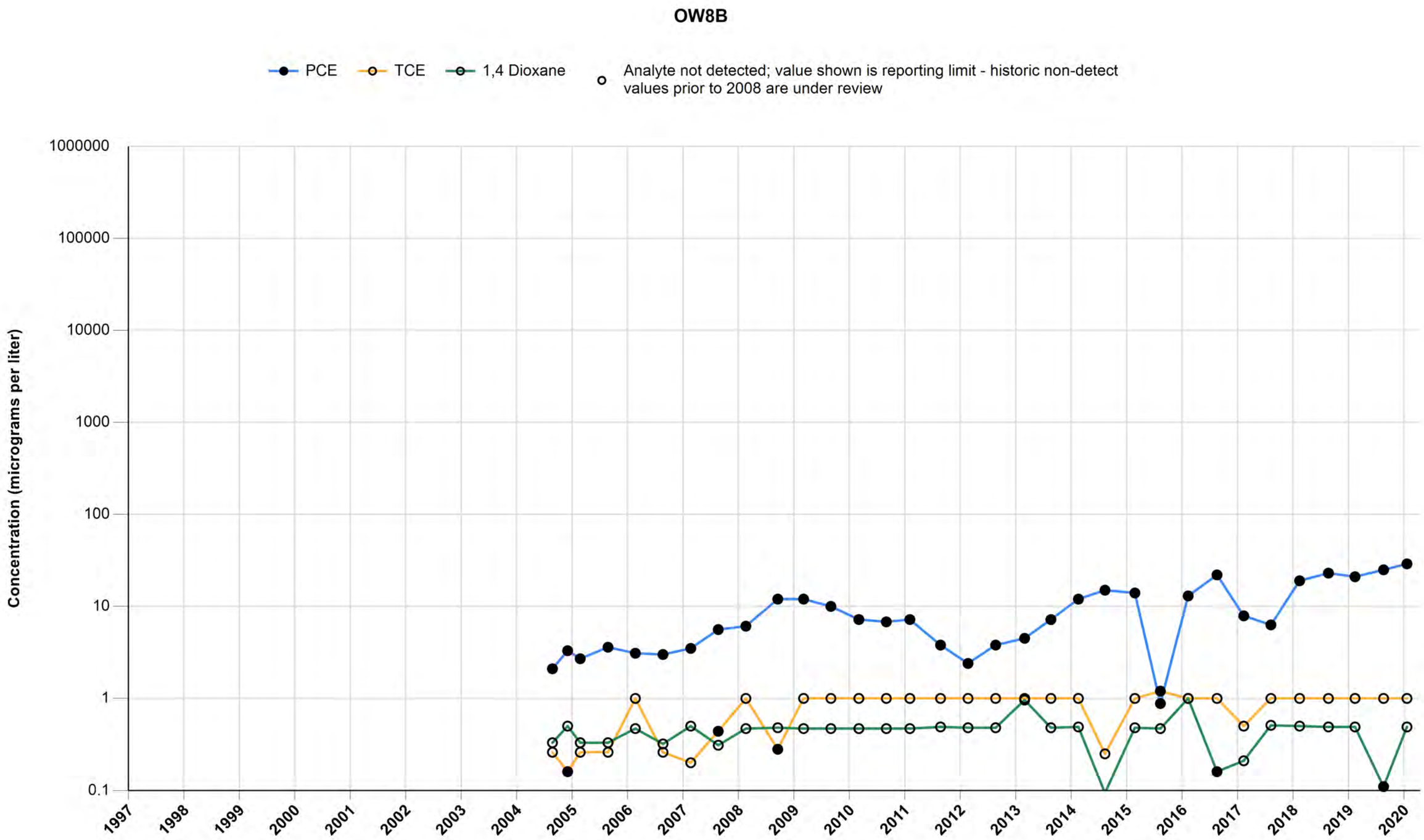

Attachment E, Figure E-34
OU-1 Groundwater Containment Remedy, Omega Chemical Superfund Site
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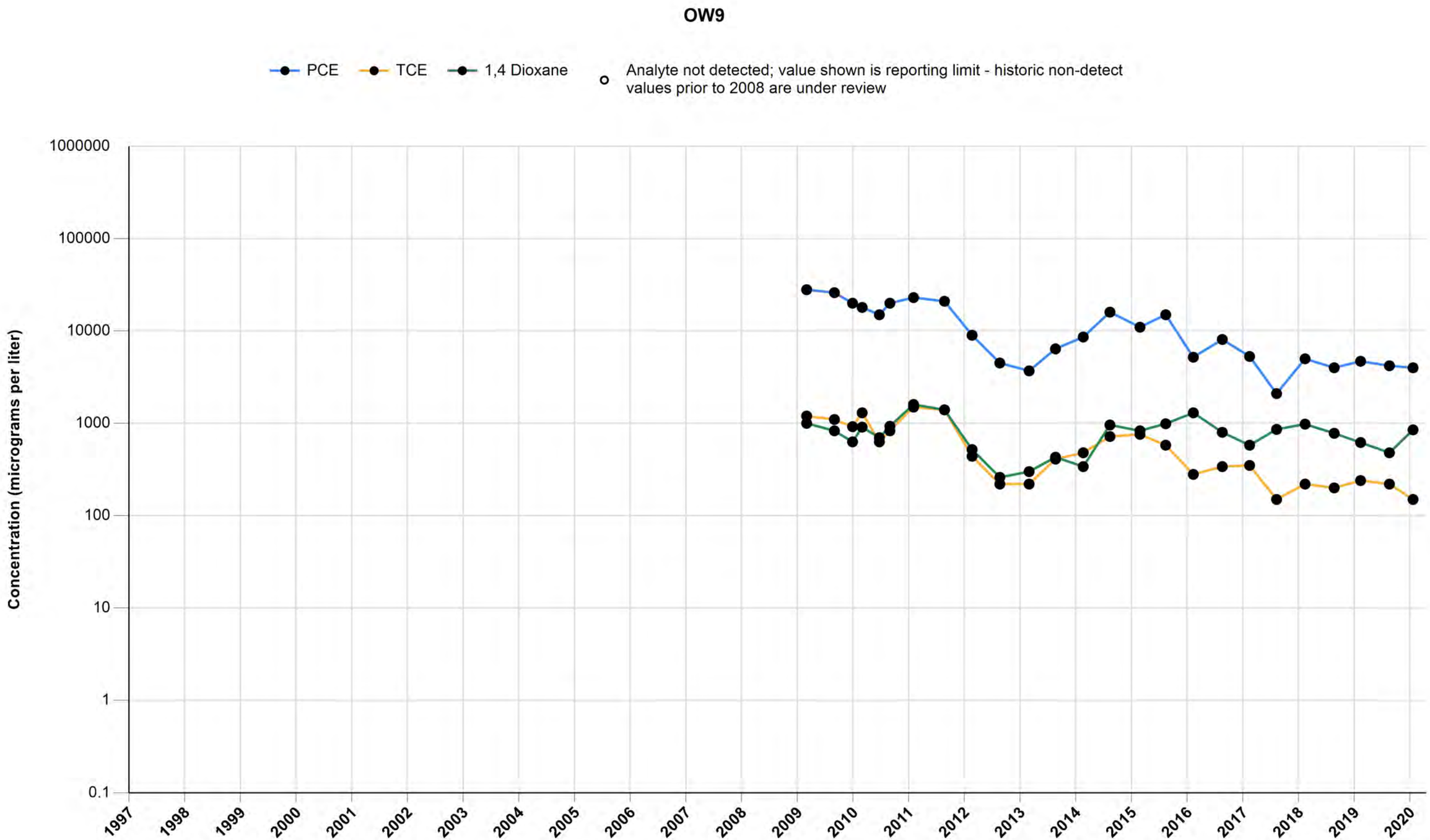

Attachment E, Figure E-35
OU-1 Groundwater Containment Remedy, Omega Chemical Superfund Site
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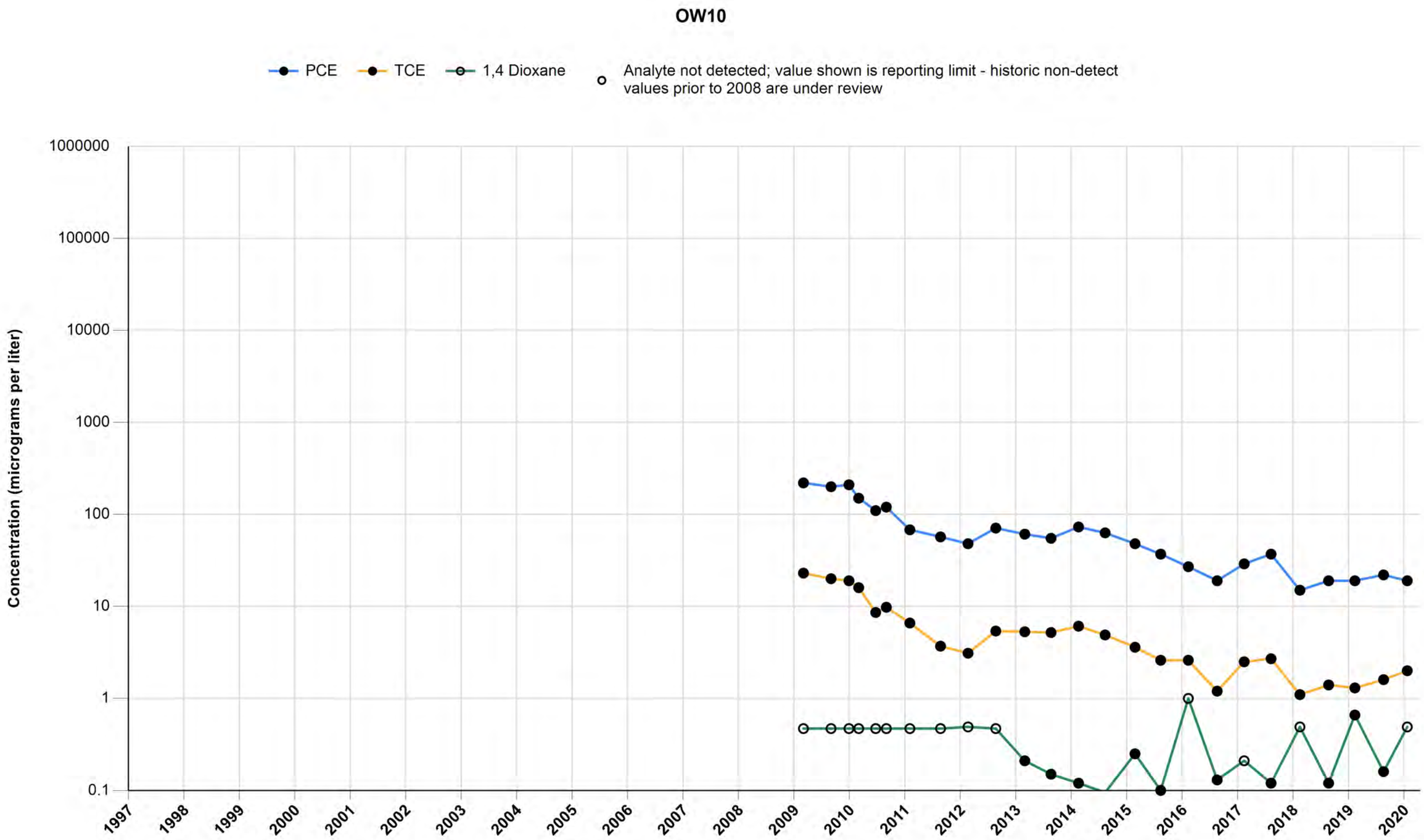
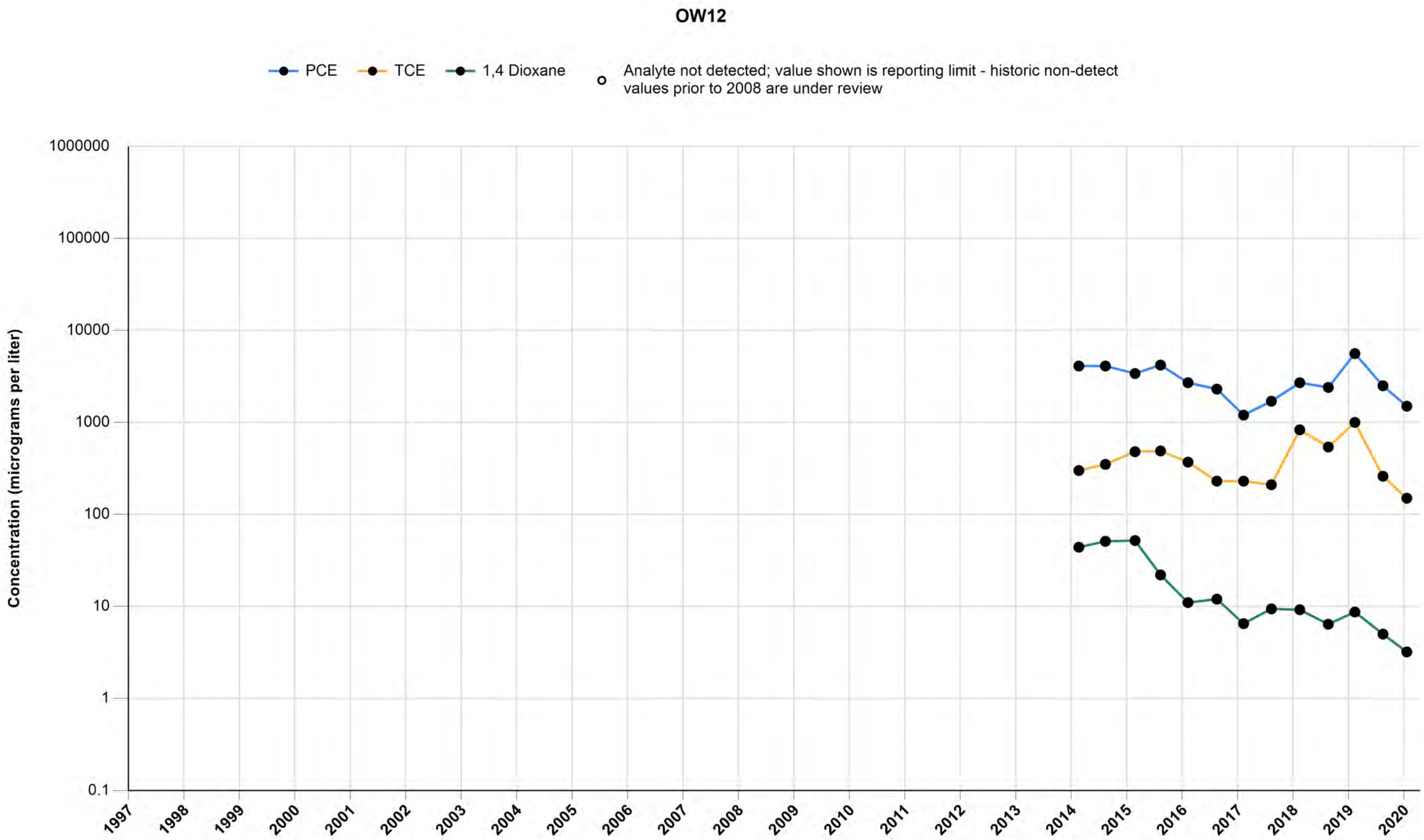


Attachment E, Figure E-36
OU-1 Groundwater Containment Remedy, Omega Chemical Superfund Site
Groundwater Analytical (PCE, TCE and 1,4-Dioxane)



ATTACHMENT F

Quarterly Groundwater Containment Review

Memorandum

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

From: *Matt Gamache, CDM Smith*

Date: *March 27, 2020*

Subject: *Omega Operable Unit 1 EE/CA Remedy*
Quarterly Groundwater Containment Review – January 20-22, 2020

This memorandum provides and discusses the first quarter 2020 (1Q2020) groundwater elevation contours based on the January 20-22, 2020 groundwater monitoring activities, and the response of the local groundwater table to the Omega Operable Unit (OU)-1 Groundwater Containment Remedy (GCR) operation, which was installed and began operating in 2009. The primary goal of the GCR 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.

Extraction wells (EWs) located along Putman Street are designed to provide a hydraulic barrier at the down-gradient boundary of OU-1 (Figure F-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 also have been 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, and are also shown on Figure F-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.

On January 20-22, 2020, in accordance with the approved Performance Standards Verification Plan (PSVP; CDM, 2007), water level elevations were measured manually 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 manually during 1Q2020. These data are plotted along with interpreted water level elevation contours (1-foot interval) on Figure F-1 and demonstrate that OU-1 groundwater is contained.

The water-level contour map (Figure F-1) for the measurement dates (January 20-22, 2020) demonstrates that flow from the former Omega Chemical property located at 12504 and 12515 Whittier Blvd. Whittier, California (property) is primarily converging along Putnam Street, around the OU-1 Soil

Remedy well DPE-9 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 January 20-22, 2020 water level data is 5.57 gpm, resulting in a similar capture zone to previous quarters.

Horizontal gradients within OU-1 are variable, at approximately 0.05 ft/ft from the property toward Putnam Street. The horizontal gradients between OW-3A and DPE-9 and between OW-9 and VE-10D (along and to the west of Putnam Street) were 0.05 ft/ft and 0.13 ft/ft, respectively on January 20-22, 2020, which are the same as those recorded in 4Q2019.

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 F-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.

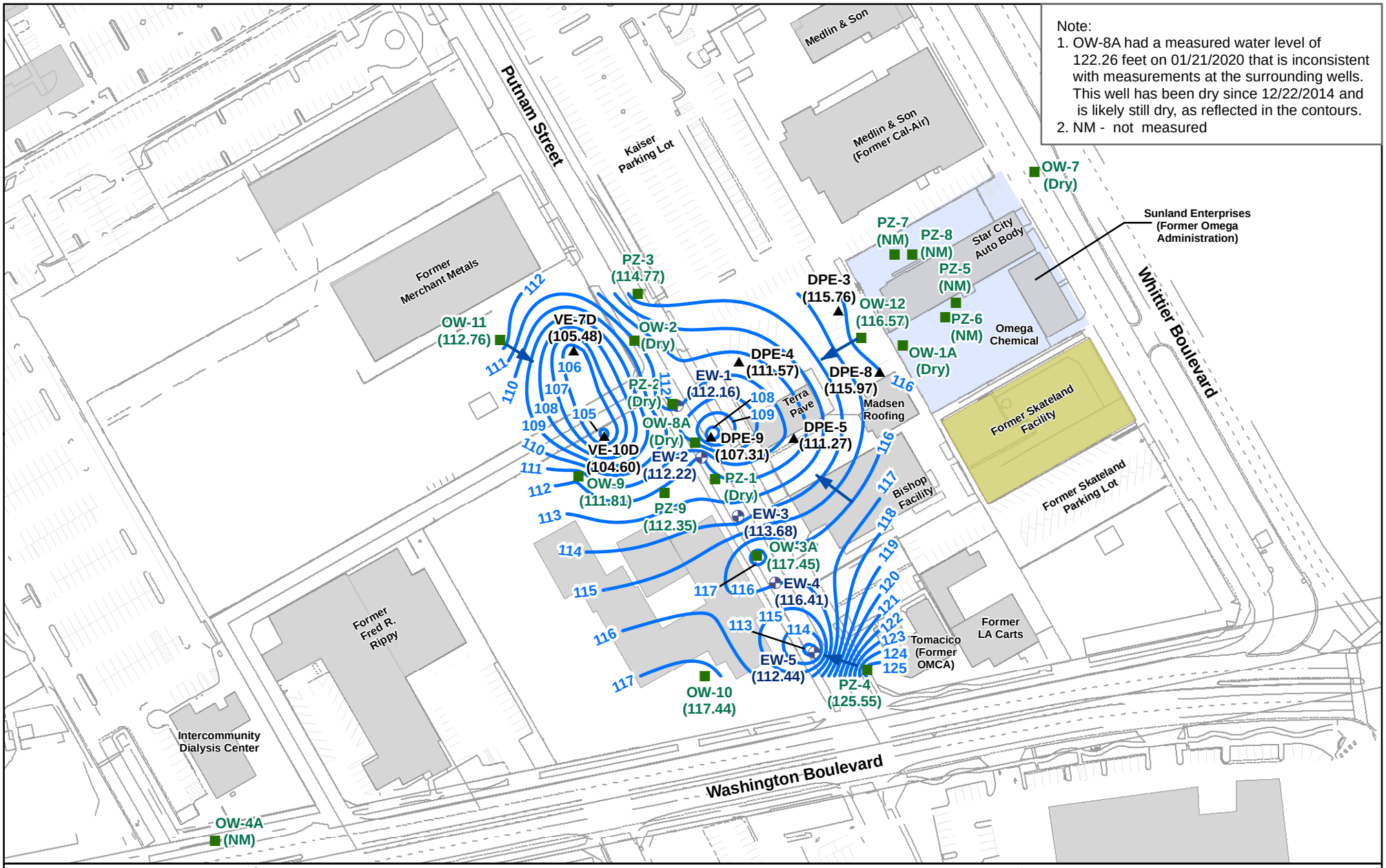
The A and B-zones show minimal hydraulic connection as evidenced by the significant difference in head between them. The lithologic data demonstrate the presence of a 30-foot thick layer of clayey silt or silty clay that underlies the A-zone and acts as a confining unit between these zones, as shown 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 F-3 and the cross sections themselves are shown in Figures F-4 (A-A') and A-5 (B-B'). In Figure F-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 F-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 F-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 again on 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 F-7) and OW-8A/OW-8B (Figure F-8).

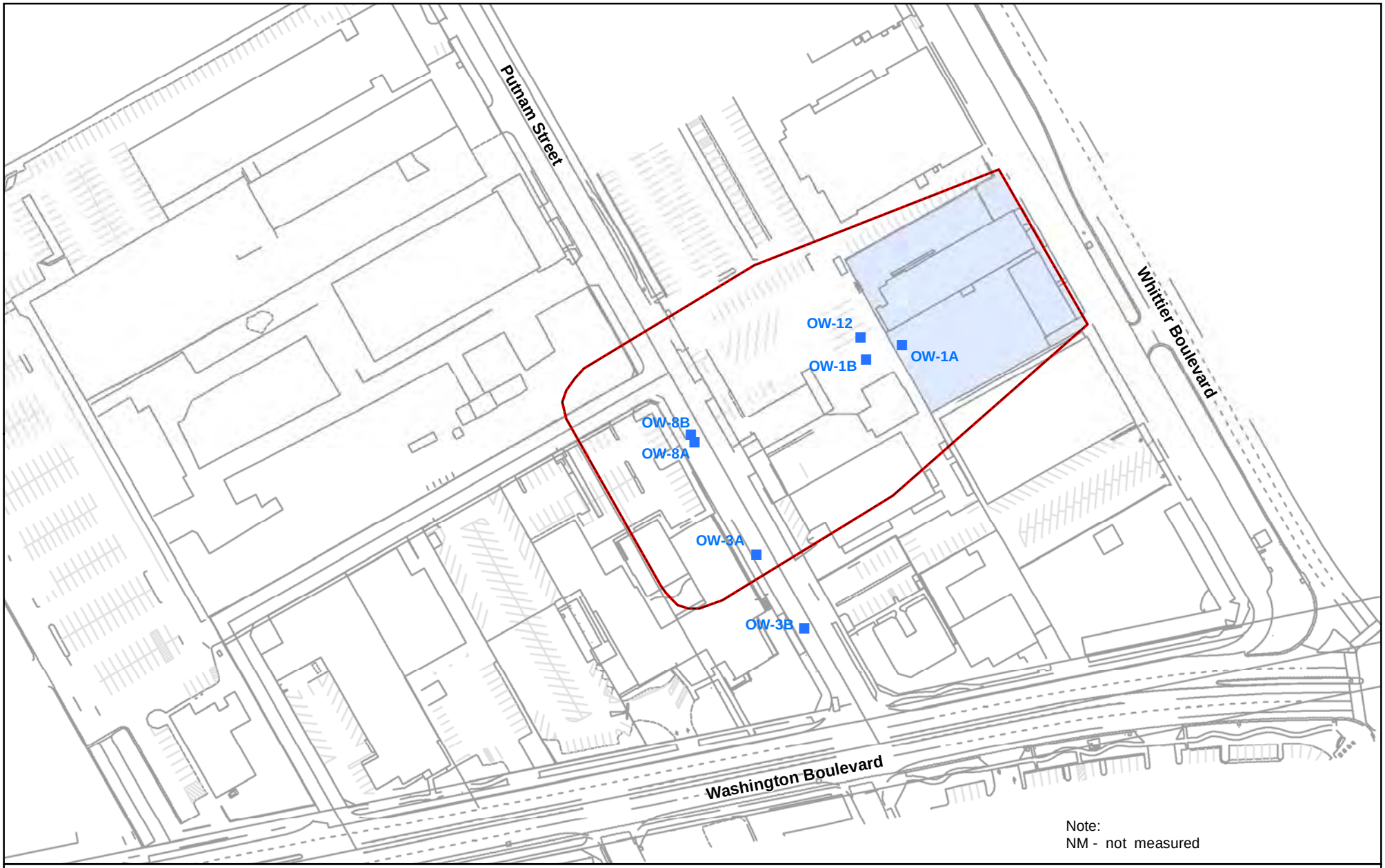
The area covered by the cone of depression in 1Q2020 is similar to what was observed and documented in 4Q2019 (CDM Smith, 2020) due to relatively consistent overall pumping. The combination of GCR extraction, OU-1 Soil Remedy extraction, and the regional drought conditions has essentially dewatered the A-Zone aquifer. As demonstrated on Figure F-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, 2020. *Omega Operable Unit 1 EE/CA Remedy Quarterly Groundwater Containment Review – November 5-7, 2019*. January 30, 2020.


Note:
1. OW-8A had a measured water level of 122.26 feet on 01/21/2020 that is inconsistent with measurements at the surrounding wells. This well has been dry since 12/22/2014 and is likely still dry, as reflected in the contours.
2. NM - not measured
Putnam Street
Kaiser Parking Lot
Medlin & Son
Medlin & Son (Former Cal-Air)
Former Merchant Metals
Sunland Enterprises (Former Omega Administration)
Star City Auto Body
Omega Chemical
Whittier Boulevard
Former Skateland Facility
Former Skateland Parking Lot
Madsen Roofing
Terra Pave
Bishop Facility
Former Fred R. Rippy
Intercommunity Dialysis Center
Tomacico (Former OMCA)
Former LA Carts
Washington Boulevard
OW-7 (Dry)
PZ-7 (NM)
PZ-8 (NM)
PZ-5 (NM)
PZ-6 (NM)
OW-1A (Dry)
OW-12 (116.57)
DPE-3 (115.76)
DPE-8 (115.97)
DPE-4 (111.57)
DPE-5 (111.27)
DPE-9 (107.31)
EW-1 (112.16)
EW-2 (112.22)
EW-3 (113.68)
EW-4 (116.41)
EW-5 (112.44)
OW-3A (117.45)
PZ-1 (Dry)
PZ-2 (Dry)
PZ-3 (114.77)
PZ-4 (125.55)
PZ-9 (112.35)
OW-2 (Dry)
OW-8A (Dry)
OW-9 (111.81)
OW-10 (117.44)
OW-11 (112.76)
OW-4A (NM)
VE-7D (105.48)
VE-10D (104.60)
Legend
Phase Ia Area
Former Omega Chemical Property
Existing Building
Former Building
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
January 20 - 22, 2020
Figure F-1



Note:
NM - not measured

Legend

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

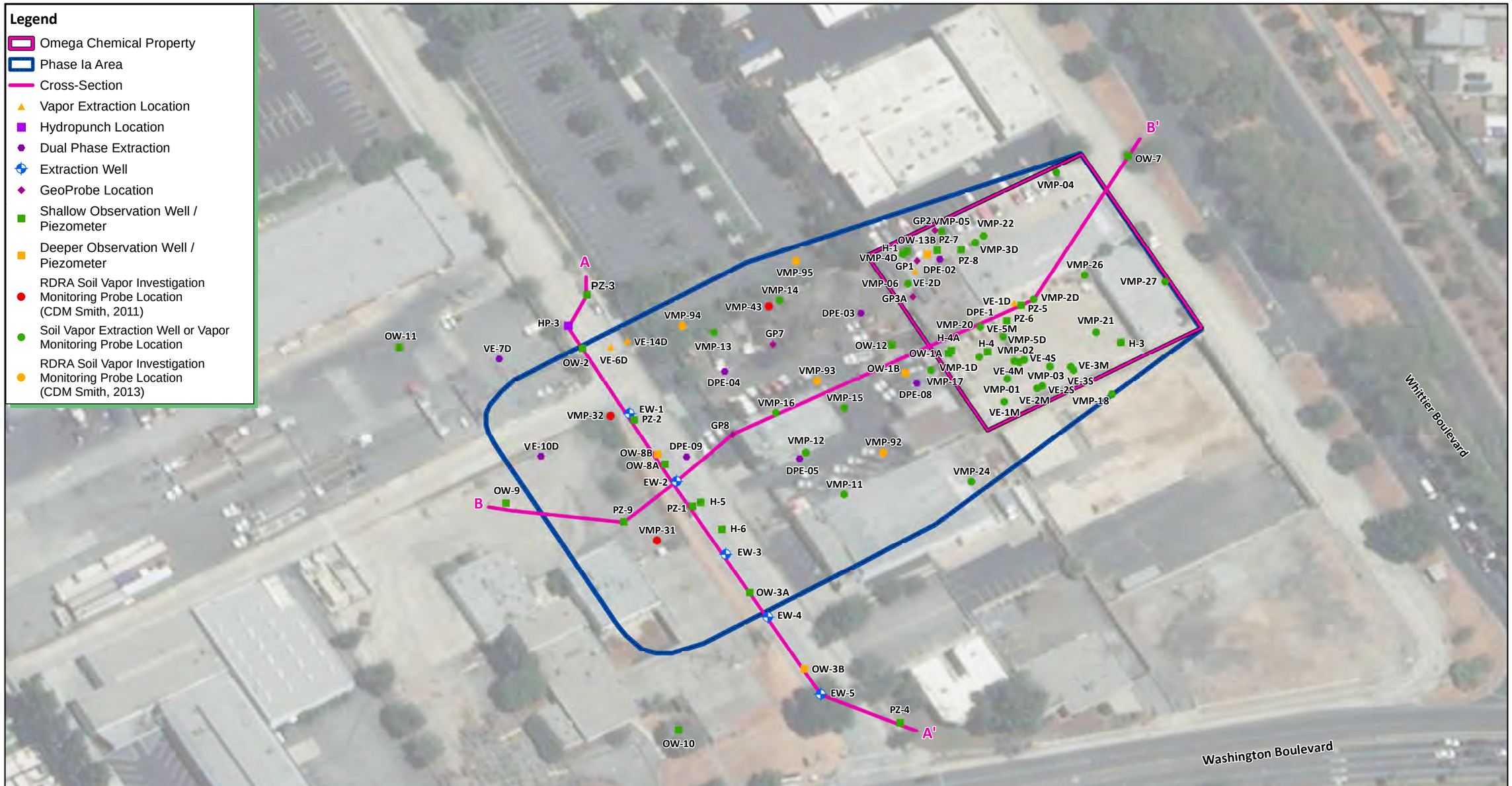
N

75 0 75
Feet

Omega Chemical
A-zone/B-zone Well Pairs

Figure F-2

CDM Smith



N

125 0 125

Feet

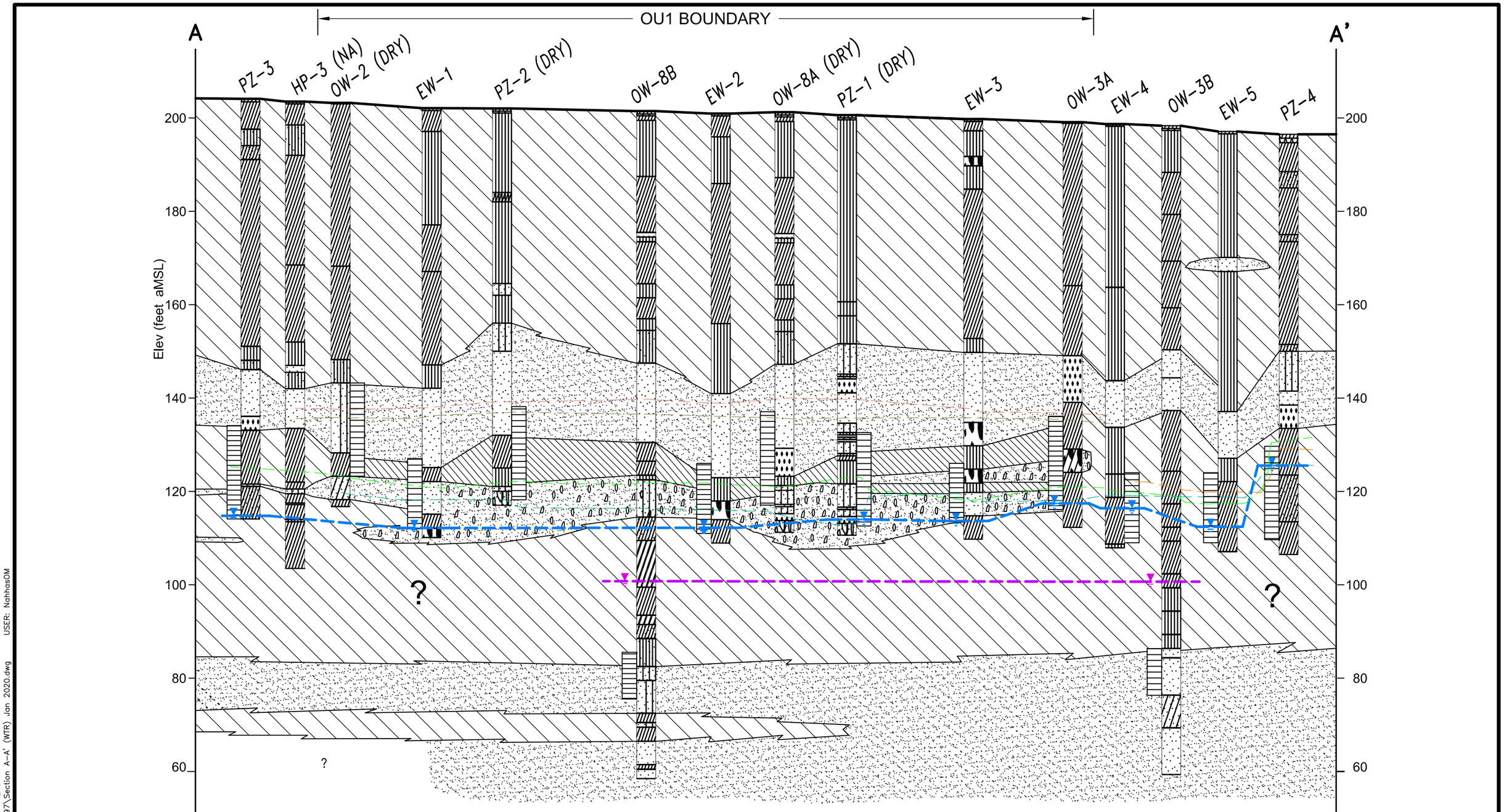
Omega Chemical

Cross-Section Plan View

Figure F-3

CDM Smith

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



CDM Smith
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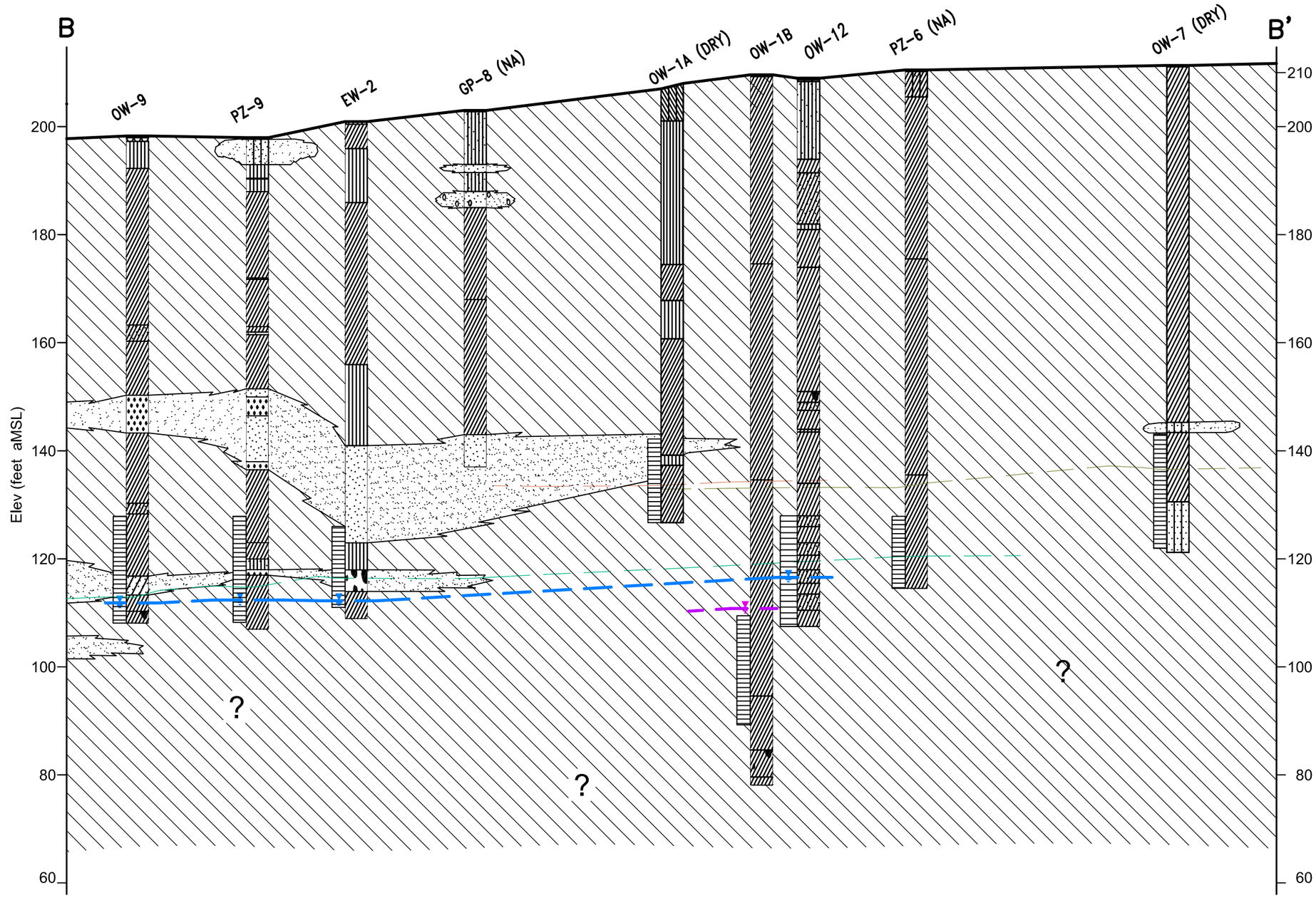
Fax (949) 725-3790

LEGEND

Gravel
Clayey Gravel
Poorly Graded Sand
Silt
Silty Sand
Clayey Silt or Silty Clay
Zone A Water Level (Jan 2020)
Zone B Water Level (Jan 2020)
Gravelly Clay
Clay
Well Graded Sand
Gravelly Sand
Clayey Sand
Well Screen

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

DATE: Feb 26, 2020 12:28pm XREFS:
DWG: C:\cdmxm\nahhasom\d1750197\Section A-A' (WTR) Jan 2020.dwg USER: NahhasOM



1" = 20'

10 0 20

Zone A Groundwater Elev (Aug 2001)
Zone A Groundwater Elev (Aug 2005)
Zone A Groundwater Elev (Aug 2016)
Zone A Groundwater Elev (Jan 2020)
Zone B Groundwater Elev (Jan 2020)
aMSL - above Mean Sea Level
NA - Not analyzed

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LEGEND

Gravel
Clayey Gravel
Poorly Graded Sand
Silt
Silty Sand
Clayey Silt or Silty Clay
Gravelly Clay
Clay
Well Graded Sand
Gravelly Sand
Clayey Sand
Well Screen
Zone A Water Level (Jan 2020)
Zone B Water Level (Jan 2020)

OMEGA
LITHOLOGIC CROSS-SECTION
B TO B'
Figure F-5

DATE: Feb 26, 2020 12:26pm XREFS:
DWG: C:\cdmxm\nahasom\d1750197\Section B-B' (WTR) Jan 2020.dwg USER: NahhasOM

Figure F-6
Omega Chemical Superfund Site
OW-1A, OW-1B, and OW-12 Well Hydrographs
2004 to 2020

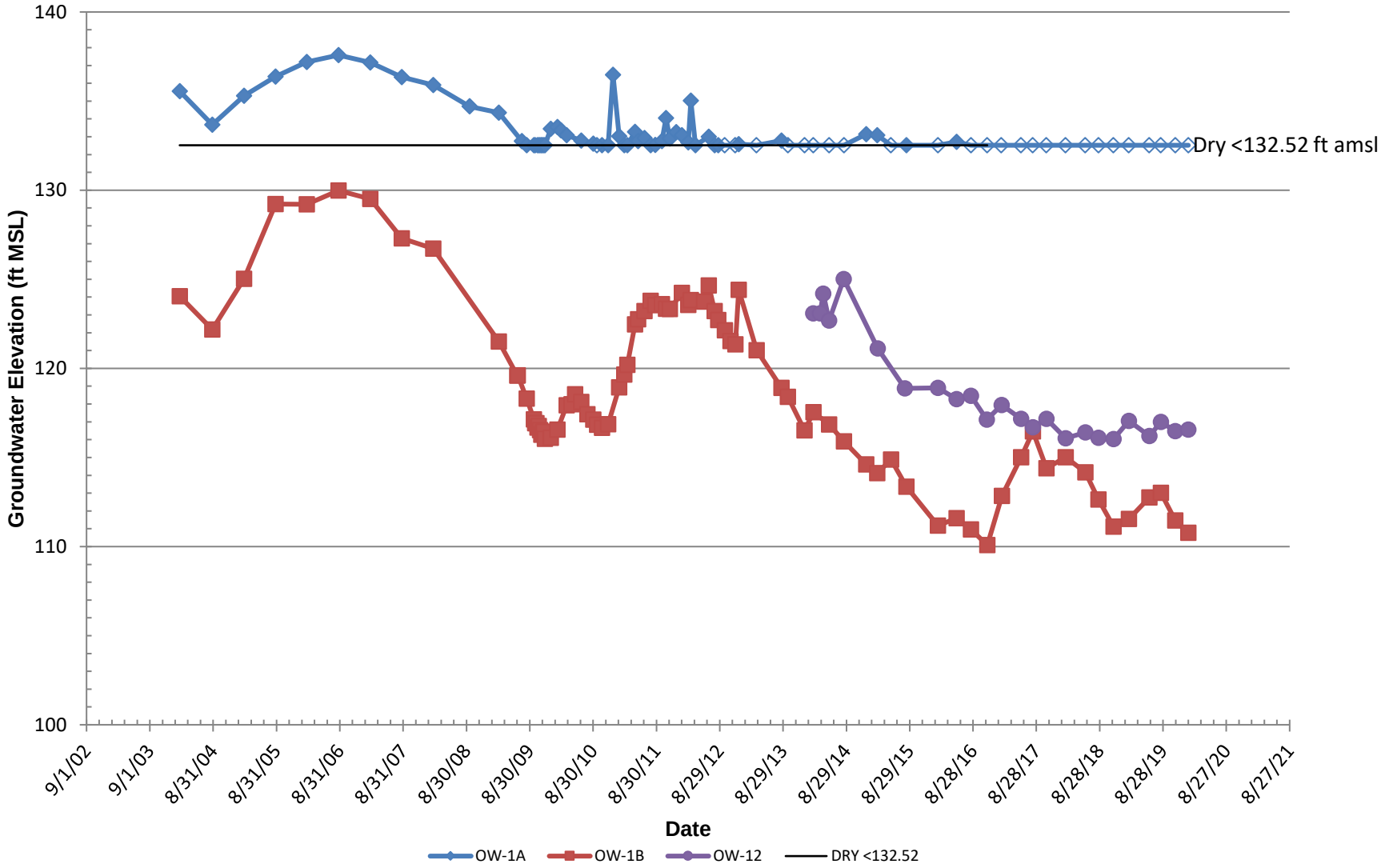


Figure F-7
Omega Chemical Superfund Site
OW-3A and OW-3B Well Hydrographs
2004 to 2020

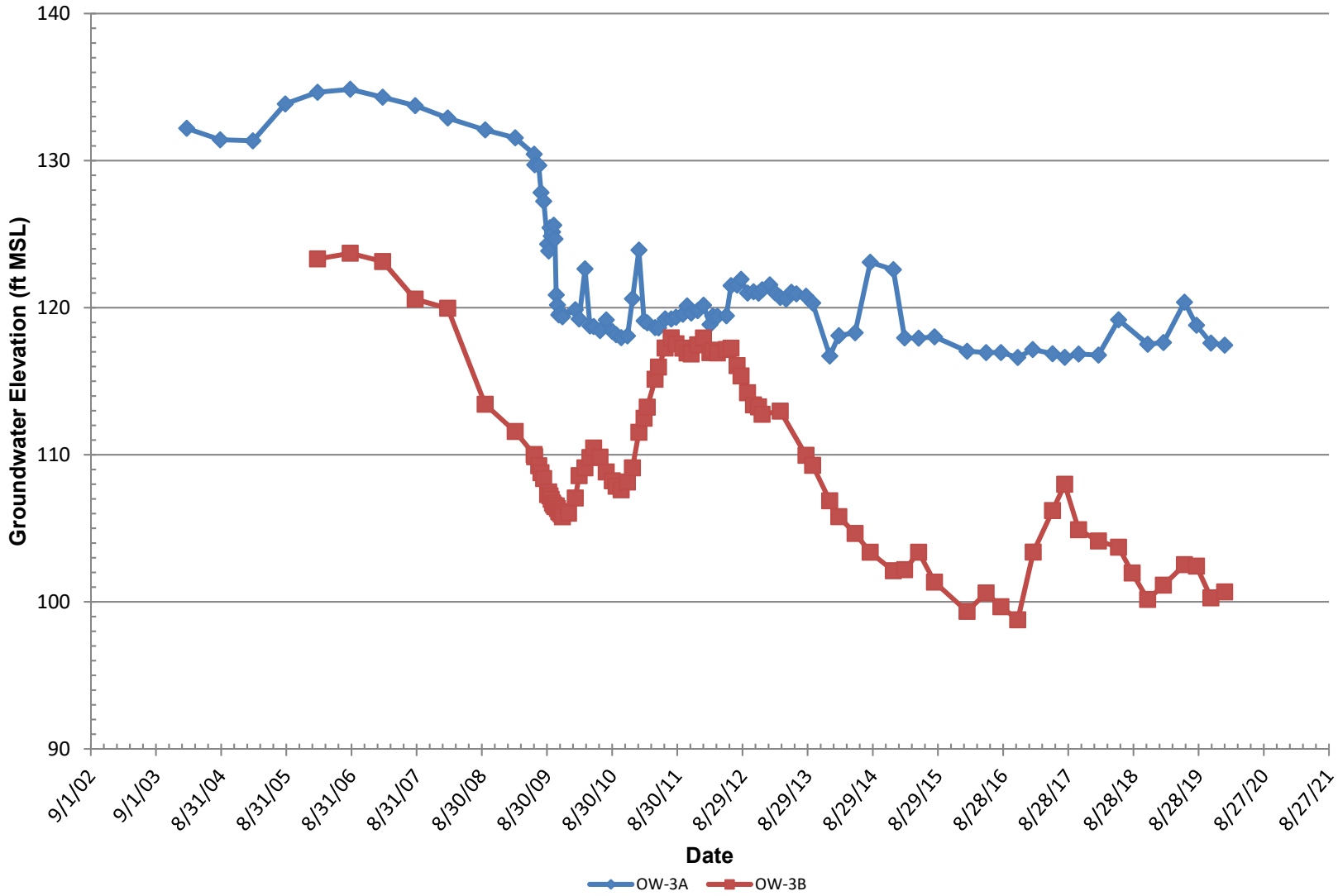
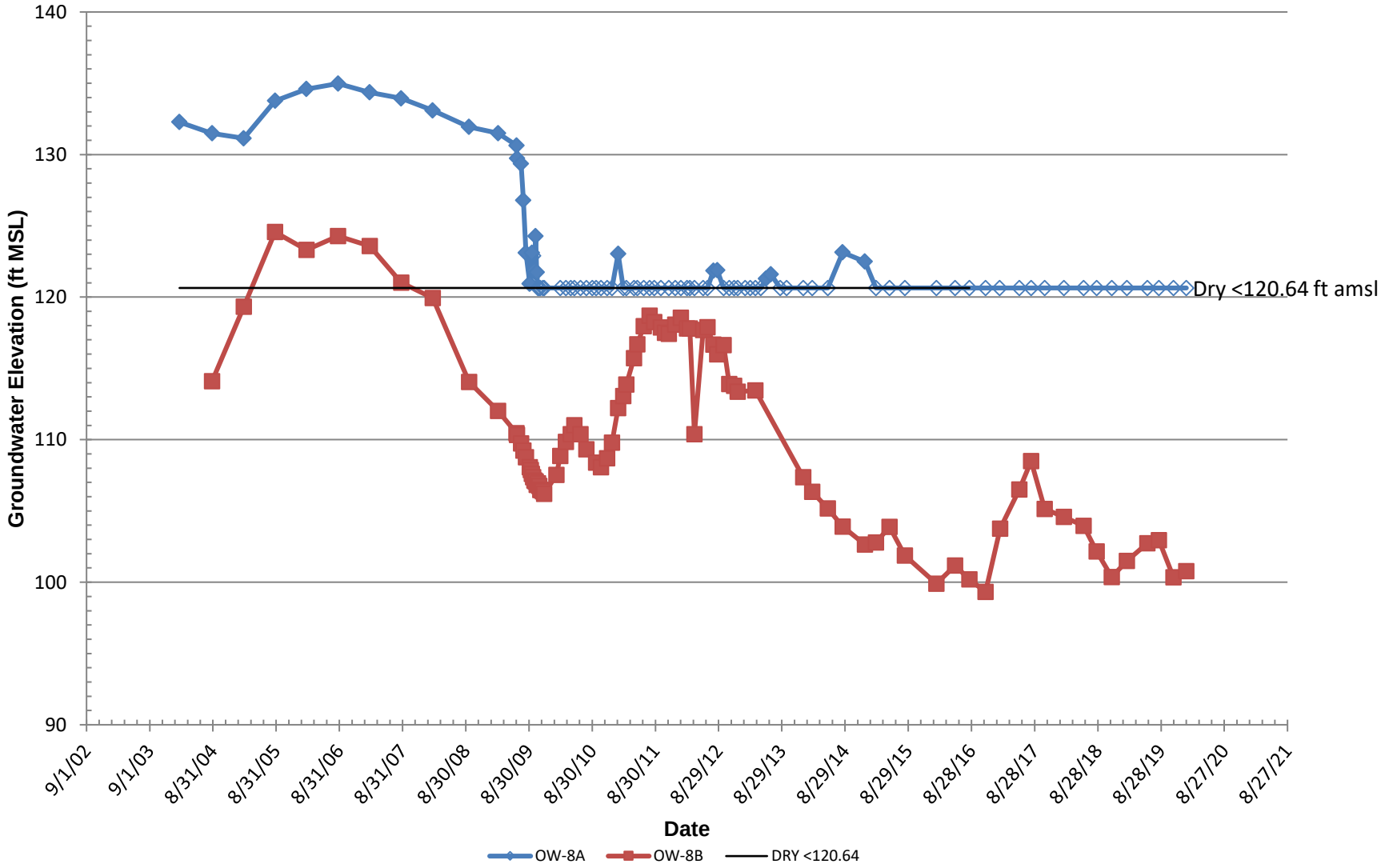


Figure F-8
Omega Chemical Superfund Site
OW-8A and OW-8B Well Hydrographs
2004 to 2020



ATTACHMENT G

Annual Groundwater Model Update and Particle Tracking Figures

(Not Included This Quarter)

ATTACHMENT H

Field Forms

GROUNDWATER GAUGING FORM
OMEGA CHEMICAL GROUNDWATER TREATMENT SYSTEM
WHITTIER, CA

DATE: 1/20, 1/21, 1/22 TECHNICIAN(S): K. Acho, P. Rocha

Well ID	Well Diameter	Time (hh:mm)	PID (ppm)	Depth to Water (ft btoc)	Previous Depth to Water (ft btoc)	Total Depth (ft btoc)	Previous Total Depth (ft btoc)	Screen Interval (ft btoc)	HMI (ft btoc)	
EW-1	6	1/21/20 0741	Ø	86.80	85.63	–	NM	72-87	86.36	OFF
EW-2	6	1/21/20 0818	Ø	85.65	86.04	–	NM	72-87	84.13	OFF
EW-3	6	1/21/20 0902	Ø	83.10	83.06	–	NM	70-85	82.57	
EW-4	6	1/20/20 1419	Ø	79.38	80.33	–	NM	71-86	78.04	OFF
EW-5	6	1/20/20 1417	Ø	81.75	81.85	–	NM	70-85	81.37	OFF
PZ-1	2	1/21/20 0820	0.077	DRY	DRY	87.30	87.25	68-88		
PZ-2	2	1/21/20 0736	0.130	DRY	DRY	84.30	84.41	64-84		
PZ-3	2	1/21/20 0753	0.060	88.95	DRY	89.00	89.01	69.8-89.8		
PZ-4	2	1/20/20 1400	0.139	70.71	74.02	89.09	89	70-90		
PZ-9	2	1/22/20 0927	0.050	85.62	85.55	89.00	90	70-90		
OW-1a	4	1/21/20 1225	Ø	DRY 79.27*	DRY	82.58	82.58	62.5-77.5		*WL below screen
OW-1b	4	1/20/20 0923	Ø	96.44	95.75	118.10	118.15	110-120		
OW-2	4	1/22/20 0750	0.062	DRY	DRY	79.50	79.49	60-80		
OW-3a	4	1/21/20	0.086	81.13	80.98	81.82	81.82	63-83		
OW-3b	4	1/20/20 1325	0.006	96.71	97.11	122.95	122	112-122		
OW-7	4	1/21/20 1059	Ø	DRY	DRY	89.15	89.1	70.9-90.9		
OW-8a	4	1/21/20 0635	0.053	78.40	78.6	79.03	79.04	60.4-80		
OW-8b	4	1/21/20 0638	0.042	100.07	100.49	126.00	126	116-126		
OW-9	4	1/22/20 0635	0.044	86.26	86.31	89.80	89.75	70-90		
OW-10	4	1/22/20 0815	Ø	78.10	81.12	89.15	89.02	69.5-89.5		
OW-11	4	1/21/20 1106	Ø	87.30	87.47	98.71	98.71	80-100		
OW-12	4	1/20/20 0730	0.0	91.85	91.94	100.0	100	80-100		
DPE-3	4	1/20/20 1034	NM	91.00	90.29	100.0	NM	40-100	92.45	OFF
DPE-4	4	1/20/20 0822	NM	91.40	91.45	100.0	NM	40-100	91.84	OFF
DPE-5	4	1/20/20 1304	NM	90.50	90.26	100.0	NM	40-100	92.21	OFF
DPE-8	4	1/20/20 0847	NM	85.40	87.97	100.0	NM	40-100	88.70	OFF
DPE-9	4	1/20/20 1320	NM	91.75	91.65	100.0	NM	40-100	91.88	OFF
DPE-7D	4	1/20/20 1224	NM	94.63	93.65	100.0	NM	40-100	94.00	OFF
DPE-10D	4	1/20/20 1240	NM	94.20	94.54	100.0	NM	40-100	93.78	OFF
OW-13B	4	1/23/20 0855	2.738	99.26	99.45	140.10	140.09	40-140		

JHA ENVIRONMENTAL

GROUNDWATER GAUGING FORM
OMEGA CHEMICAL GROUNDWATER TREATMENT SYSTEM
WHITTIER, CA

DATE: 2/7/20

TECHNICIAN(S): K. Azhar

Well ID	Well Diameter	Date & Time (hh:mm)	PID (ppm)	Depth to Water (ft btoc)	Previous Depth to Water (ft btoc)	Total Depth (ft btoc)	Previous Total Depth (ft btoc)	Screen Interval (ft btoc)
EW-1	6				86.80		NM	72-87
EW-2	6				85.65		NM	72-87
EW-3	6				83.10		NM	70-85
EW-4	6				79.38		NM	71-86
EW-5	6				81.75		NM	70-85
PZ-1	2				DRY		87.30	68-88
PZ-2	2				DRY		84.30	64-84
PZ-3	2				88.95		89.00	69.8-89.8
PZ-4	2				70.71		89.09	70-90
PZ-9	2				85.62		89.00	70-90
OW-1a	4				DRY		82.58	62.5-77.5
OW-1b	4				96.44		118.10	110-120
OW-2	4		NM		DRY		79.50	60-80
OW-3a	4				81.13		81.82	63-83
OW-3b	4				96.71		122.95	112-122
OW-7	4				DRY		89.15	70.9-90.9
OW-8a	4				78.40		79.03	60.4-80
OW-8b	4				100.07		126.00	116-126
OW-9	4				86.26		89.80	70-90
OW-10	4				78.10		89.15	69.5-89.5
OW-11	4				87.30		98.71	80-100

JHA ENVIRONMENTAL

				(mm.)	(HMI)				
OW-12	4					91.85		100.00	80-100
DPE-3	4					91.00		100.00	40-100
DPE-4	4		NM			91.40		100.00	40-100
DPE-5	4					90.50		100.00	40-100
DPE-8	4	2/7/20	1220	NM	87.35	90.69	85.40	NM	100.00	40-100
DPE-9	4						91.75		100.00	40-100
DPE-7D	4			NM			94.63		100.00	40-100
DPE-10D	4						94.20		100.00	40-100
OW-13B	4						99.26		140.10	40-140

JHA ENVIRONMENTAL

JHA ENVIRONMENTAL

Groundwater Monitoring Data Form

Well Information		Purging Information		Project Information		Well Information
Well ID #:	OW-12	**Date:**	1/20	**Site: Omega**		**Survey Monitoring Point (MP); TOC (N)**
Well Total Depth:	100.0	**Sampling Event:**	Jan. 2020 GWM	**Client Nam**	**De Maximis**	
Well Diameter:	4"	**Purge Equip:**	2" Grund fos Redi flo	**Project #:**	**E742**	Pump Information :
Screen Interval:	80-100	**Purging Method:**	3 vol.	**Consultant: JHA Env. Inc.**		**Pump Model:** Redi flo
Pump Depth:	99	**Sampling Equipment:**	–	**Sampler:**	KA, PR	**Single System Volume:** –

LNAPL PRESENT?	NAPL THICKNESS	DEPTH TO LNAPL (ft)	A DEPTH TO BOTTOM (ft)	B DEPTH TO WATER (ft)	C HEIGHT OF WATER COLUMN A-B=C	GALLONS PER FOOT					D ONE CASING VOLUME C X D = E	E THREE CASING VOLUMES E X 3
–	–	–	100.0	91.85	8.15	Well Dia	0.75"	2"	4"	6"	10.6	31.8
						Gals/ft	0.02	0.16	0.65	1.47	N/A	N/A

TIME (HH:MM)	Casing/ Screen	Flow Rate (gpm)	VOLUME (gallons)	DEPTH TO WATER (FT-BMP)	TEMP (deg C)	pH	Conductivity (mS/cm)	Dissolved Oxygen (mg/L)	Turbidity (NTU)	ORP (mV)	Comments
0748	–	~0.5	6	95.87	21.40	7.58	0.863	3.16	77.2	-145	clear, no odor
0800	–	~0.5	12	96.15	21.42	7.83	0.890	3.48	45.2	-41	" "
0812	–	~0.5	18	96.25	22.36	7.85	0.909	3.65	27.7	10	" "
0824	–	~0.5	24	96.32	23.64	7.86	0.937	3.76	22.1	32	" "
0836	–	~0.5	32	96.40	22.94	7.84	0.958	4.04	26.2	23	" "

TOC N = Top Of Casing North Side
FT-BMP = Feet Below Measuring Point

Purge Start Time	Purge End Time	Average Flow (gpm)	Total Gallons Purged	Total Casing Volumes Purged	80% Recovery DTW	Sampling Water Level	Control Box Settings	
0736	0842	~0.5	~33	3	–	96.40	Pump Speed: 233 HZ	Typ Flow: ~0.5
							Primary Sample ID= OC_GW_OW-12_20200120	
							Primary Sample Time: (hh:mm) 0839	

JHA ENVIRONMENTAL

Groundwater Monitoring Data Form

Well Information	Purging Information	Project Information	Well Information
Well ID #: DPE-3	**Date:** 1/20/20	**Site:** Omega	**Survey Monitoring Point (MP); TOC (N)**
Well Total Depth: 100	**Sampling Event:** Jan 2020 GWM	**Client Nam** De Maximis	
Well Diameter: 4"	**Purge Equip:** Dedicated Pump	**Project #:** E742	Pump Information :
Screen Interval: 40-100	**Purging Method:** Grab	**Consultant:** JHA Env. Inc.	**Pump Model:** –
Pump Depth: –	**Sampling Equipment:** –	**Sampler:** KA, PR	**Single System Volume:** –

LNAPL PRESENT?	NAPL THICKNESS	DEPTH TO LNAPL (ft)	A DEPTH TO BOTTOM (ft)	B DEPTH TO WATER (ft)	C HEIGHT OF WATER COLUMN A-B=C	GALLONS PER FOOT				D ONE CASING VOLUME C X D = E	E THREE CASING VOLUMES E X 3
–	–	–	–	91.00	–	Well Dia	0.75"	2"	4"	6"	–	–
						Gals/ft	0.02	0.16	0.65	1.47	N/A	N/A

TIME (HH:MM)	Casing/ Screen	Flow Rate (gpm)	VOLUME (gallons)	DEPTH TO WATER (FT-BMP)	TEMP (deg C)	pH	Conductivity (mS/cm)	Dissolved Oxygen (mg/L)	Turbidity (NTU)	ORP (mV)	Comments
0803	–	–	–	91.00	20.40	7.53	1.20	8.33	12.3	35	

TOC N = Top Of Casing North Side
FT-BMP = Feet Below Measuring Point

Purge Start Time	Purge End Time	Average Flow (gpm)	Total Gallons Purged	Total Casing Volumes Purged	80% Recovery DTW	Sampling Water Level	Control Box Settings	
							Pump Speed: –	**Typ Flow:** –
0755	0803	–	–	–	–	91.00	Primary Sample ID= DC_GW_DPE-3_20200120	
							Primary Sample Time: (hh:mm) 0755	

JHA ENVIRONMENTAL

Groundwater Monitoring Data Form

Well Information		Purging Information		Project Information		Well Information	
Well ID #: DPE-4		**Date:** 1/20/20		**Site: Omega**		**Survey Monitoring Point (MP); TOC (N)**	
Well Total Depth: 100		**Sampling Event:** Jan 2020 GWM		**Client Nam** De Maximis			
Well Diameter: 4"		**Purge Equip:** Dedicated Pump		**Project #:**	E742	Pump Information :	
Screen Interval: 40-100		**Purging Method:** Grab		**Consultant: JHA Env. Inc.**		**Pump Model:**	–
Pump Depth: –		**Sampling Equipment:** –		**Sampler:** EA, PR		**Single System Volume:**	–

LNAPL PRESENT?	NAPL THICKNESS	DEPTH TO LNAPL (ft)	A DEPTH TO BOTTOM (ft)	B DEPTH TO WATER (ft)	C HEIGHT OF WATER COLUMN A-B=C	GALLONS PER FOOT					D E ONE CASING VOLUME C X D = E	THREE CASING VOLUMES E X 3
–	–	–	–	91.40 (Manual) 98.87 (MM)	–	Well Dia	0.75"	2"	4"	6"	–	–
						Gals/ft	0.02	0.16	0.65	1.47	N/A	N/A

TIME (HH:MM)	Casing/ Screen	Flow Rate (gpm)	VOLUME (gallons)	DEPTH TO WATER (FT-BMP)	TEMP (deg C)	pH	Conductivity (mS/cm)	Dissolved Oxygen (mg/L)	Turbidity (NTU)	ORP (mV)	Comments
0824	–	–	–	91.40	21.33	7.61	1.02	4.09	6.0	65	

TOC N = Top Of Casing North Side
FT-BMP = Feet Below Measuring Point

Purge Start Time	Purge End Time	Average Flow (gpm)	Total Gallons Purged	Total Casing Volumes Purged	80% Recovery DTW	Sampling Water Level	Control Box Settings	
0820	0825	–	–	–	–	91.40	**Pump Speed:**	**Typ Flow:**
							Primary Sample ID= OC-GW-DPE-4_20200120	
							Primary Sample Time: (hh:mm) 0820	

JHA ENVIRONMENTAL

Groundwater Monitoring Data Form

Well Information		Purging Information		Project Information		Well Information	
Well ID #: DPE-8		**Date:** 1/20/20		**Site: Omega**		**Survey Monitoring Point (MP); TOC (N)**	
Well Total Depth: 100		**Sampling Event:** Jan 2020 GWM		**Client Name** De Maximis			
Well Diameter: 4"		**Purge Equip:** Dedicated Pump		**Project #:**	E742	Pump Information :	
Screen Interval: 40-100		**Purging Method:** Grab		**Consultant: JHA Env. Inc.**		**Pump Model:**	–
Pump Depth: –		**Sampling Equipment:** –		**Sampler:** KA, PK		**Single System Volume:** –	

LNAPL PRESENT?	NAPL THICKNESS	DEPTH TO LNAPL (ft)	DEPTH TO BOTTOM (ft) A	DEPTH TO WATER (ft) B	HEIGHT OF WATER COLUMN A-B=C C	GALLONS PER FOOT D				ONE CASING VOLUME C X D = E E	THREE CASING VOLUMES E X 3
–	–	–	–	85.40 (manual) 88.90 (HAD)	–	Well Dia	0.75"	2"	4"	6"	–	–
						Gals/ft	0.02	0.16	0.65	1.47	N/A	N/A

TIME (HH:MM)	Casing/ Screen	Flow Rate (gpm)	VOLUME (gallons)	DEPTH TO WATER (FT-BMP)	TEMP (deg C)	pH	Conductivity (mS/cm)	Dissolved Oxygen (mg/L)	Turbidity (NTU)	ORP (mV)	Comments
0849	–	–	–	~~19~~85.40	19.45	7.63	0.901	4.93	0.0	97	

TOC N = Top Of Casing North Side
FT-BMP = Feet Below Measuring Point

Purge Start Time	Purge End Time	Average Flow (gpm)	Total Gallons Purged	Total Casing Volumes Purged	80% Recovery DTW	Sampling Water Level	Control Box Settings: Pump Speed:	Typ Flow:
0845	0850	–	–	–	–	85.40	Primary Sample ID= OC-GW-DPE-8_20200120	
							Primary Sample Time: (hh:mm) 0845	

JHA ENVIRONMENTAL

Groundwater Monitoring Data Form

Well Information		Purging Information		Project Information		Well Information	
Well ID #: DPE-5		**Date:** 1/20/20		**Site: Omega**		**Survey Monitoring Point (MP); TOC (N)**	
Well Total Depth: 100		**Sampling Event:** Jan 2020 GWM		**Client Nam** De Maximis			
Well Diameter: 4		**Purge Equip:** Dedicated Pump		**Project #:**	E742	Pump Information :	
Screen Interval: 40-100		**Purging Method:** Grab		**Consultant: JHA Env. Inc.**		**Pump Model:**	–
Pump Depth: –		**Sampling Equipment:** –		**Sampler:** KD, PR		**Single System Volume:** –	

LNAPL PRESENT?	NAPL THICKNESS	DEPTH TO LNAPL (ft)	A DEPTH TO BOTTOM (ft)	B DEPTH TO WATER (ft)	C HEIGHT OF WATER COLUMN A-B=C	D GALLONS PER FOOT				E ONE CASING VOLUME C X D = E	THREE CASING VOLUMES E X 3
–	–	–	–	90.50 (manual) 92.21 (HM)	–	Well Dia	0.75"	2"	4" 6"	–	–
						Gals/ft	0.02	0.16	0.65 1.47	N/A	N/A

TIME (HH:MM)	Casing/ Screen	Flow Rate (gpm)	VOLUME (gallons)	DEPTH TO WATER (FT-BMP)	TEMP (deg C)	pH	Conductivity (mS/cm)	Dissolved Oxygen (mg/L)	Turbidity (NTU)	ORP (mV)	Comments
0940	–	–	–	90.50	19.57	7.36	1.10	5.05	5.2	181	

TOC N = Top Of Casing North Side
FT-BMP = Feet Below Measuring Point

Purge Start Time	Purge End Time	Average Flow (gpm)	Total Gallons Purged	Total Casing Volumes Purged	80% Recovery DTW	Sampling Water Level	Control Box Settings	
0938	0945	–	–	–	–	90.50	Pump Speed: –	Typ Flow: –
							Primary Sample ID= OC_GW_DPE-5_20200120	
							Primary Sample Time: (hh:mm) 0945	

JHA ENVIRONMENTAL

Groundwater Monitoring Data Form

Well Information		Purging Information		Project Information		Well Information	
Well ID #:	DW-1B	**Date:**	1/20/20	**Site:** Omega		**Survey Monitoring Point (MP); TOC (N)**	
Well Total Depth:	118.10	**Sampling Event:**	Jan 2020 GWM	**Client Name:**	De Maximis		
Well Diameter:	4"	**Purge Equip:**	2" Grundfos Rediflo	**Project #:**	E742	**Pump Information:**	
Screen Interval:	110-120	**Purging Method:**	3 vol. Purge	**Consultant:**	JHA Env. Inc.	**Pump Model:**	–
Pump Depth:	119	**Sampling Equipment:**	–	**Sampler:**	KD, PR	**Single System Volume:**	–

LNAPL PRESENT?	NAPL THICKNESS	DEPTH TO LNAPL (ft)	A DEPTH TO BOTTOM (ft)	B DEPTH TO WATER (ft)	C HEIGHT OF WATER COLUMN A-B=C	D GALLONS PER FOOT					E ONE CASING VOLUME C X D = E	THREE CASING VOLUMES E X 3
–	–	–	118.10 ~~8~~ –	96.44 ~~98.10~~	21.66	Well Dia	0.75"	2"	4"	6"	28.7	84.6
						Gals/ft	0.02	0.16	0.65	1.47	N/A	N/A

TIME (HH:MM)	Casing/ Screen	Flow Rate (gpm)	VOLUME (gallons)	DEPTH TO WATER (FT-BMP)	TEMP (deg C)	pH	Conductivity (mS/cm)	Dissolved Oxygen (mg/L)	Turbidity (NTU)	ORP (mV)	Comments
1009		~1.0	20	104.45	20.30	8.22	0.498	8.44	22.0	-3	
1029		~1.0	~~40~~	113.75	21.69	8.49	0.348	1.88	31.9	-69	
1040			~~60~~	WELL DRIED OUT							

TOC N = Top Of Casing North Side
FT-BMP = Feet Below Measuring Point

Purge Start Time	Purge End Time	Average Flow (gpm)	Total Gallons Purged	Total Casing Volumes Purged	80% Recovery DTW	Sampling Water Level	Control Box Settings	
0949	1040	~1.0	~40	< 2	100.77	95.29	**Pump Speed:** 243 Hz → 255 Hz → 273 Hz	**Typ Flow:** ~1.0
							Primary Sample ID= OC_GW_DW-1B_20200121	
							Primary Sample Time: (hh:mm) 0938	

1015 - Lowered pump to bottom and increased speed to 255 Hz
1033 - Flow dropped, increase speed to 273 Hz

JHA ENVIRONMENTAL

Groundwater Monitoring Data Form

Well Information		Purging Information		Project Information		Well Information	
Well ID #: DPE-7D		**Date:** 1/20/20		**Site: Omega**		**Survey Monitoring Point (MP); TOC (N)**	
Well Total Depth: 100		**Sampling Event:** Jan 2020 GWY		**Client Nam** De Maximis			
Well Diameter: 4"		**Purge Equip:** Dedicated Pump		**Project #:**	E742	Pump Information :	
Screen Interval: 90-100		**Purging Method:** Grab		**Consultant: JHA Env. Inc.**		**Pump Model:**	–
Pump Depth: –		**Sampling Equipment:** –		**Sampler:** KD, PR		**Single System Volume:** –	

LNAPL PRESENT?	NAPL THICKNESS	DEPTH TO LNAPL (ft)	A DEPTH TO BOTTOM (ft)	B DEPTH TO WATER (ft)	C HEIGHT OF WATER COLUMN A-B=C	GALLONS PER FOOT					D E ONE CASING VOLUME C X D = E	THREE CASING VOLUMES E X 3
–	–	–	–	94.63 (manual) 94.00 (HMI)	–	Well Dia	0.75"	2"	4"	6"	–	–
						Gals/ft	0.02	0.16	0.65	1.47	N/A	N/A

TIME (HH:MM)	Casing/ Screen	Flow Rate (gpm)	VOLUME (gallons)	DEPTH TO WATER (FT-BMP)	TEMP (deg C)	pH	Conductivity (mS/cm)	Dissolved Oxygen (mg/L)	Turbidity (NTU)	ORP (mV)	Comments
1218	–	–	–	94.63	18.24	7.66	1.13	6.70	4.0	141	

TOC N = Top Of Casing North Side
FT-BMP = Feet Below Measuring Point

Purge Start Time	Purge End Time	Average Flow (gpm)	Total Gallons Purged	Total Casing Volumes Purged	80% Recovery DTW	Sampling Water Level	Control Box Settings	
1214	1220	–	–	–	–	94.63	**Pump Speed:** –	**Typ Flow:** –
							Primary Sample ID= OC_GW_DPE-7D_20200120	
							Primary Sample Time: (hh:mm) 1218	

JHA ENVIRONMENTAL

Groundwater Monitoring Data Form

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Well Information		Purging Information		Project Information		Well Information	
Well ID #: DPE-10D		**Date:** 1/20/20		**Site: Omega**		**Survey Monitoring Point (MP); TOC (N)**	
Well Total Depth: 100		**Sampling Event:** Jan 2020 GWM		**Client Nam** De Maximis			
Well Diameter: 4"		**Purge Equip:** Dedicated Pump		**Project #:**	E742	Pump Information:	
Screen Interval: 40-100		**Purging Method:** Grab		**Consultant: JHA Env. Inc.**		**Pump Model:**	-
Pump Depth: -		**Sampling Equipment:** -		**Sampler:** KA, PK		**Single System Volume:** -	

LNAPL PRESENT?	NAPL THICKNESS	DEPTH TO LNAPL (ft)	DEPTH TO BOTTOM (ft) A	DEPTH TO WATER (ft) B	HEIGHT OF WATER COLUMN A-B=C C	GALLONS PER FOOT D				ONE CASING VOLUME C X D = E E	THREE CASING VOLUMES E X 3
-	-	-	-	94.20 (manual) 93.78 (HMI)	-	Well Dia	0.75"	2"	4"	6"	-	-
						Gals/ft	0.02	0.16	0.65	1.47	N/A	N/A

TIME (HH:MM)	Casing/ Screen	Flow Rate (gpm)	VOLUME (gallons)	DEPTH TO WATER (FT-BMP)	TEMP (deg C)	pH	Conductivity (mS/cm)	Dissolved Oxygen (mg/L)	Turbidity (NTU)	ORP (mV)	Comments
1236	-	3.1	-	94.20	17.16	7.74	1.30	9.86	5.1	118	

TOC N = Top Of Casing North Side
FT-BMP = Feet Below Measuring Point

Purge Start Time	Purge End Time	Average Flow (gpm)	Total Gallons Purged	Total Casing Volumes Purged	80% Recovery DTW	Sampling Water Level	Control Box Settings	
1236	1240	-	-	-	-	94.20	Pump Speed: -	Typ Flow: -
							Primary Sample ID= OC_GW_DPE-10D_20200120	
							Primary Sample Time: (hh:mm) 1238	

JHA ENVIRONMENTAL

Groundwater Monitoring Data Form

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Well Information	Purging Information	Project Information	Well Information
Well ID #: DPE-9	**Date:** 1/20/20	**Site:** Omega	**Survey Monitoring Point (MP); TOC (N)**
Well Total Depth: 100.0	**Sampling Event:** Jan 2020 GWM	**Client Nam** De Maximis	
Well Diameter: 4	**Purge Equip:** Dedicated Pump	**Project #:** E742	Pump Information :
Screen Interval: 40-100	**Purging Method:** Grab	**Consultant:** JHA Env. Inc.	**Pump Model:** –
Pump Depth: –	**Sampling Equipment:** –	**Sampler:** KA, PR	**Single System Volume:** –

LNAPL PRESENT?	NAPL THICKNESS	DEPTH TO LNAPL (ft)	A DEPTH TO BOTTOM (ft)	B DEPTH TO WATER (ft)	C HEIGHT OF WATER COLUMN A-B=C	D GALLONS PER FOOT					E ONE CASING VOLUME C X D = E	THREE CASING VOLUMES E X 3
–	–	–	–	91.75 (manual) 91.88 (HMI)	–	Well Dia	0.75"	2"	4"	6"	–	–
						Gals/ft	0.02	0.16	0.65	1.47	N/A	N/A

TIME (HH:MM)	Casing/ Screen	Flow Rate (gpm)	VOLUME (gallons)	DEPTH TO WATER (FT-BMP)	TEMP (deg C)	pH	Conductivity (mS/cm)	Dissolved Oxygen (mg/L)	Turbidity (NTU)	ORP (mV)	Comments
1320	–	–	–	91.75	20.43	7.88	1.07	5.05	39.7	120	

TOC N = Top Of Casing North Side
FT-BMP = Feet Below Measuring Point

Purge Start Time	Purge End Time	Average Flow (gpm)	Total Gallons Purged	Total Casing Volumes Purged	80% Recovery DTW	Sampling Water Level	Control Box Settings	
							Pump Speed:	Typ Flow:
1315	1320	–	–	–	–	91.75	Primary Sample ID= OC-GW-DPE-9_20200120	
							Primary Sample Time: (hh:mm) 1315	

JHA ENVIRONMENTAL

Groundwater Monitoring Data Form

Well Information		Purging Information		Project Information		Well Information	
Well ID #: OW-3B		**Date:** 1/20/20		**Site: Omega**		**Survey Monitoring Point (MP); TOC (N)**	
Well Total Depth: 122.95		**Sampling Event:** Jan 2020 GWM		**Client Nam** De Maximis			
Well Diameter: 4"		**Purge Equip:** 2" Grundfos Redi Flo		**Project #:**	E742	Pump Information:	
Screen Interval: 112-122		**Purging Method:** 3 vol.		**Consultant: JHA Env. Inc.**		**Pump Model:**	–
Pump Depth: 121		**Sampling Equipment:** –		**Sampler:** KA, PR		**Single System Volume:**	–

LNAPL PRESENT?	NAPL THICKNESS	DEPTH TO LNAPL (ft)	A DEPTH TO BOTTOM (ft)	B DEPTH TO WATER (ft)	C HEIGHT OF WATER COLUMN A-B=C	GALLONS PER FOOT					D ONE CASING VOLUME C X D = E	E THREE CASING VOLUMES E X 3
–	–	–	122.95	96.71	26.24	Well Dia	0.75"	2"	4" 1.50	6"	34.1	102.3
						Gals/ft	0.02	0.16	0.65	1.47	N/A	N/A

TIME (HH:MM)	Casing/ Screen	Flow Rate (gpm)	VOLUME (gallons)	DEPTH TO WATER (FT-BMP)	TEMP (deg C)	pH	Conductivity (mS/cm)	Dissolved Oxygen (mg/L)	Turbidity (NTU)	ORP (mV)	Comments
1345	–	~2.0	25	100.08	21.03	7.88	1.03	5.95	11.8	147	clear, no odor
1358	–	~2.0	50	100.08	21.34	7.77	1.03	5.45	5.2	150	" "
1411	–	~2.0	75	100.10	21.41	7.75	1.02	4.05	1.6	155	" "
1428	–	~2.0	105	100.10	21.06	7.87	1.02	4.12	4.5	149	" "

TOC N = Top Of Casing North Side
FT-BMP = Feet Below Measuring Point

Purge Start Time	Purge End Time	Average Flow (gpm)	Total Gallons Purged	Total Casing Volumes Purged	80% Recovery DTW	Sampling Water Level	Control Box Settings	
1332	1432	~2.0	~105	3	–	100.10	Pump Speed: 253 Hz	Typ Flow: ~2.0
							Primary Sample ID= OC-GW-OW-3B-20200120, OC-GW-OW-3B-20200120K	
							Primary Sample Time: (hh:mm) 1430	1435

JHA ENVIRONMENTAL

Groundwater Monitoring Data Form

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Well Information		Purging Information		Project Information		Well Information	
Well ID #: EW-5		**Date:** 1/20/20		**Site: Omega**		**Survey Monitoring Point (MP); TOC (N)**	
Well Total Depth: -		**Sampling Event:** Jan 2020 GWM		**Client Nam** De Maximis			
Well Diameter: 6"		**Purge Equip:** Dedicated Pump		**Project #:**	E742	Pump Information :	
Screen Interval: 70-85		**Purging Method:** Grab		**Consultant: JHA Env. Inc.**		**Pump Model:**	-
Pump Depth: -		**Sampling Equipment:** -		**Sampler:** KD, PR		**Single System Volume:** -	

LNAPL PRESENT?	NAPL THICKNESS	DEPTH TO LNAPL (ft)	A DEPTH TO BOTTOM (ft)	B DEPTH TO WATER (ft)	C HEIGHT OF WATER COLUMN A-B=C	GALLONS PER FOOT					E ONE CASING VOLUME C X D = E	THREE CASING VOLUMES E X 3
-	-	-	-	81.75 (manual) 81.37 (YSI)	-	Well Dia	0.75"	2"	4"	6"	-	-
						Gals/ft	0.02	0.16	0.65	1.47	N/A	N/A

TIME (HH:MM)	Casing/ Screen	Flow Rate (gpm)	VOLUME (gallons)	DEPTH TO WATER (FT-BMP)	TEMP (deg C)	pH	Conductivity (mS/cm)	Dissolved Oxygen (mg/L)	Turbidity (NTU)	ORP (mV)	Comments
1411	-	-	-	81.75	20.76	7.70	1.08	5.47	54.3	152	

TOC N = Top Of Casing North Side
FT-BMP = Feet Below Measuring Point

Purge Start Time	Purge End Time	Average Flow (gpm)	Total Gallons Purged	Total Casing Volumes Purged	80% Recovery DTW	Sampling Water Level	Control Box Settings	
1407	1411	-	-	-	-	81.75	Pump Speed: -	Typ Flow: -
							Primary Sample ID= OC_GW_EW-5_20200124	
							Primary Sample Time: (hh:mm) 1308	

JHA ENVIRONMENTAL

Groundwater Monitoring Data Form

Well Information		Purging Information		Project Information		Well Information	
Well ID #: EW-4		**Date:** 1/20/20		**Site: Omega**		**Survey Monitoring Point (MP); TOC (N)**	
Well Total Depth: -		**Sampling Event:** Jan 2020 GWM		**Client Nam** De Maximis			
Well Diameter: 6"		**Purge Equip:** Dedicated Pump		**Project #:**	E742	Pump Information:	
Screen Interval: 71-86		**Purging Method:** Grab		**Consultant: JHA Env. Inc.**		**Pump Model:**	-
Pump Depth: -		**Sampling Equipment:** —		**Sampler:** KP, RR		**Single System Volume:**	

LNAPL PRESENT?	NAPL THICKNESS	DEPTH TO LNAPL (ft)	A DEPTH TO BOTTOM (ft)	B DEPTH TO WATER (ft)	C HEIGHT OF WATER COLUMN A-B=C	D GALLONS PER FOOT				E ONE CASING VOLUME C X D = E	THREE CASING VOLUMES E X 3
-	-	-	-	79.38 (manual) 78.04 (HMI)	-	Well Dia	0.75"	2"	4" 6"	-	-
						Gals/ft	0.02	0.16	0.65 1.47	N/A	N/A

TIME (HH:MM)	Casing/ Screen	Flow Rate (gpm)	VOLUME (gallons)	DEPTH TO WATER (FT-BMP)	TEMP (deg C)	pH	Conductivity (mS/cm)	Dissolved Oxygen (mg/L)	Turbidity (NTU)	ORP (mV)	Comments
1422	-	-	-	79.38	20.40	8.29	0.840	8.65	14.4	146	

TOC N = Top Of Casing North Side
FT-BMP = Feet Below Measuring Point

Purge Start Time	Purge End Time	Average Flow (gpm)	Total Gallons Purged	Total Casing Volumes Purged	80% Recovery DTW	Sampling Water Level	Control Box Settings	
							Pump Speed: -	Typ Flow: -
1418	1422	-	-	-	-	79.38	Primary Sample ID= OC_GW-EW-4_20200120	
							Primary Sample Time: (hh:mm) 1420	

JHA ENVIRONMENTAL

Groundwater Monitoring Data Form

Well Information		Purging Information		Project Information		Well Information	
Well ID #: OW-8B		**Date:** 1/21/20		**Site:** Omega		**Survey Monitoring Point (MP); TOC (N)**	
Well Total Depth: 126		**Sampling Event:** Jan 2020 GWM		**Client Name:** De Maximis			
Well Diameter: 4"		**Purge Equip:** 2" Grundfos Redi Flo		**Project #:**	E742	Pump Information :	
Screen Interval: 116-126		**Purging Method:** 3 vol.		**Consultant:** JHA Env. Inc.		**Pump Model:**	—
Pump Depth: 125		**Sampling Equipment:** -		**Sampler:** KA, PR		**Single System Volume:** —	

LNAPL PRESENT?	NAPL THICKNESS	DEPTH TO LNAPL (ft)	A DEPTH TO BOTTOM (ft)	B DEPTH TO WATER (ft)	C HEIGHT OF WATER COLUMN A-B=C	GALLONS PER FOOT					E ONE CASING VOLUME C X D = E	THREE CASING VOLUMES E X 3
						Well Dia	0.75"	2"	4"	6"		
-	-	-	126.00	100.07	25.93	Gals/ft	0.02	0.16	0.65	1.47	33.7	101.1
									1.3		N/A	N/A

TIME (HH:MM)	Casing/ Screen	Flow Rate (gpm)	VOLUME (gallons)	DEPTH TO WATER (FT-BMP)	TEMP (deg C)	pH	Conductivity (mS/cm)	Dissolved Oxygen (mg/L)	Turbidity (NTU)	ORP (mV)	Comments
0713	-	~2.0	25	100.80	19.58	7.49	0.975	5.47	29.9	166	clear, no odor
0726	-	~2.0	50	100.82	20.07	7.69	0.993	5.28	12.9	193	" "
0739	-	~2.0	75	100.85	20.46	7.72	1.01	4.76	6.2	204	" "
0753	-	~2.0	100	100.86	20.28	7.75	1.01	4.94	3.1	216	" "

TOC N = Top Of Casing North Side
FT-BMP = Feet Below Measuring Point

Purge Start Time	Purge End Time	Average Flow (gpm)	Total Gallons Purged	Total Casing Volumes Purged	80% Recovery DTW	Sampling Water Level	Control Box Settings	
							Pump Speed: 267 Hz	**Typ Flow:** ~2.0
0701	0758	2.0	~103	3	—	100.86	Primary Sample ID= OC_GW_OW-8B_20200121, OC_GW_OW-8B_20200121K	
							Primary Sample Time: (hh:mm) 0754	0758

JHA ENVIRONMENTAL

Groundwater Monitoring Data Form

Well Information		Purging Information		Project Information		Well Information	
Well ID #: OW-8A		Date: 1/21/20		Site: Omega		Survey Monitoring Point (MP); TOC (N)	
Well Total Depth: 79.03		Sampling Event: Jan 2020 GWM		Client Name: De Maximis			
Well Diameter: 4"		Purge Equip: Hand bailer 2"		Project #:	E742	Pump Information:	
Screen Interval: 60.4-80		Purging Method: 3 vol.		Consultant: JHA Env. Inc.		Pump Model:	-
Pump Depth: -		Sampling Equipment: -		Sampler: KA, PR		Single System Volume: -	

LNAPL PRESENT?	NAPL THICKNESS	DEPTH TO LNAPL (ft)	A DEPTH TO BOTTOM (ft)	B DEPTH TO WATER (ft)	C HEIGHT OF WATER COLUMN A-B=C	GALLONS PER FOOT					D ONE CASING VOLUME C X D = E	E THREE CASING VOLUMES E X 3
-	-	-	79.03	78.40	0.63	Well Dia	0.75"	2"	4"	6"	0.82	2.5
						Gals/ft	0.02	0.16	0.65	1.47	N/A	N/A

TIME (HH:MM)	Casing/ Screen	Flow Rate (gpm)	VOLUME (gallons)	DEPTH TO WATER (FT-BMP)	TEMP (deg C)	pH	Conductivity (mS/cm)	Dissolved Oxygen (mg/L)	Turbidity (NTU)	ORP (mV)	Comments
0724	-	-	-	78.40	19.27	7.70	0.526	10.06	423	219	cloudy, brownish
			WELL	WENT	DRY.	MADE	SEVERAL	ATTEMPTS	TO		
			BAIL	OUT	WATER.	ONLY	ABLE	REMOVE	ENOUGH		
			WATER	FOR	1	WQ	READING				

TOC N = Top Of Casing North Side
FT-BMP = Feet Below Measuring Point

Purge Start Time	Purge End Time	Average Flow (gpm)	Total Gallons Purged	Total Casing Volumes Purged	80% Recovery DTW	Sampling Water Level
0724	0730	-	-	-	-	-

Control Box Settings	
Pump Speed: -	Typ Flow: -
Primary Sample ID= -	
Primary Sample Time: (hh:mm) -	

JHA ENVIRONMENTAL

Groundwater Monitoring Data Form

Well Information		Purging Information		Project Information		Well Information
Well ID #: EW-1		**Date:** 1/21/20		**Site: Omega**		**Survey Monitoring Point (MP); TOC (N)**
Well Total Depth: -		**Sampling Event:** Jan 2020 GWM		**Client Nam**	**De Maximis**	
Well Diameter: 6"		**Purge Equip:** Dedicated Pump		**Project #:**	**E742**	Pump Information :
Screen Interval: 72-87		**Purging Method:** Grab		**Consultant: JHA Env. Inc.**		**Pump Model:** -
Pump Depth: -		**Sampling Equipment:** -		**Sampler:** ED, PK		**Single System Volume:** -

LNAPL PRESENT?	NAPL THICKNESS	DEPTH TO LNAPL (ft)	A DEPTH TO BOTTOM (ft)	B DEPTH TO WATER (ft)	C HEIGHT OF WATER COLUMN A-B=C	GALLONS PER FOOT					E ONE CASING VOLUME C X D = E	THREE CASING VOLUMES E X 3
						Well Dia	0.75"	2"	4"	6"		
-	-	-	-	86.80 (manual) 86.36 (AMS)		Gals/ft	0.02	0.16	0.65	1.47	N/A	N/A

TIME (HH:MM)	Casing/ Screen	Flow Rate (gpm)	VOLUME (gallons)	DEPTH TO WATER (FT-BMP)	TEMP (deg C)	pH	Conductivity (mS/cm)	Dissolved Oxygen (mg/L)	Turbidity (NTU)	ORP (mV)	Comments
0741				NOT ENOUGH WATER TO SAMPLE							

TOC N = Top Of Casing North Side
FT-BMP = Feet Below Measuring Point

Purge Start Time	Purge End Time	Average Flow (gpm)	Total Gallons Purged	Total Casing Volumes Purged	80% Recovery DTW	Sampling Water Level	Control Box Settings	
							Pump Speed: -	**Typ Flow:** -
-	-	-	-	-	-	-	Primary Sample ID= -	
							Primary Sample Time: (hh:mm) -	

JHA ENVIRONMENTAL

Groundwater Monitoring Data Form

Well Information	Purging Information	Project Information	Well Information
Well ID #: PZ-3	**Date:** 1/21/20	**Site:** Omega	**Survey Monitoring Point (MP); TOC (N)**
Well Total Depth: 89.00	**Sampling Event:** Jan 2020 GWM	**Client Name:** De Maximis	
Well Diameter: 2	**Purge Equip:** –	**Project #:** E742	Pump Information :
Screen Interval: 69.8 - 89.8	**Purging Method:** –	**Consultant:** JHA Env. Inc.	**Pump Model:** –
Pump Depth: –	**Sampling Equipment:** –	**Sampler:** KP, PR	**Single System Volume:** –

LNAPL PRESENT?	NAPL THICKNESS	DEPTH TO LNAPL (ft)	A DEPTH TO BOTTOM (ft)	B DEPTH TO WATER (ft)	C HEIGHT OF WATER COLUMN A-B=C	GALLONS PER FOOT					D ONE CASING VOLUME C X D = E	E THREE CASING VOLUMES E X 3
						Well Dia	0.75"	2"	4"	6"		
–	–	–	89.00	88.95	0.05	Gals/ft	0.02	0.16	0.65	1.47	N/A	N/A

TIME (HH:MM)	Casing/ Screen	Flow Rate (gpm)	VOLUME (gallons)	DEPTH TO WATER (FT-BMP)	TEMP (deg C)	pH	Conductivity (mS/cm)	Dissolved Oxygen (mg/L)	Turbidity (NTU)	ORP (mV)	Comments
0753				NOT ENOUGH WATER TO PURGE							

TOC N = Top Of Casing North Side
FT-BMP = Feet Below Measuring Point

Purge Start Time	Purge End Time	Average Flow (gpm)	Total Gallons Purged	Total Casing Volumes Purged	80% Recovery DTW	Sampling Water Level	Control Box Settings	
–	–	–	–	–	–	–	**Pump Speed:** –	**Typ Flow:** –
							Primary Sample ID= –	
							Primary Sample Time: (hh:mm) –	

JHA ENVIRONMENTAL

Groundwater Monitoring Data Form

Well Information		Purging Information		Project Information		Well Information	
Well ID #: EW-2		**Date:** 1/21/20		**Site: Omega**		**Survey Monitoring Point (MP); TOC (N)**	
Well Total Depth: –		**Sampling Event:** Jan 2020 GWM		**Client Nam**	**De Maximis**		
Well Diameter: 6"		**Purge Equip:** Dedicated Pump		**Project #:**	**E742**	Pump Information :	
Screen Interval: 72-87		**Purging Method:** GWM		**Consultant: JHA Env. Inc.**		**Pump Model:**	–
Pump Depth: –		**Sampling Equipment:** –		**Sampler:** KA, PK		**Single System Volume:** –	

LNAPL PRESENT?	NAPL THICKNESS	DEPTH TO LNAPL (ft)	A DEPTH TO BOTTOM (ft)	B DEPTH TO WATER (ft)	C HEIGHT OF WATER COLUMN A-B=C	GALLONS PER FOOT				D ONE CASING VOLUME C X D = E	E THREE CASING VOLUMES E X 3
–	–	–	–	85.65 (measured) 84.13 (calc)		Well Dia	0.75"	2"	4" 6"	–	–
						Gals/ft	0.02	0.16	0.65 1.47	N/A	N/A

TIME (HH:MM)	Casing/ Screen	Flow Rate (gpm)	VOLUME (gallons)	DEPTH TO WATER (FT-BMP)	TEMP (deg C)	pH	Conductivity (mS/cm)	Dissolved Oxygen (mg/L)	Turbidity (NTU)	ORP (mV)	Comments
0818				NOT ENOUGH WATER TO SAMPLE							

TOC N = Top Of Casing North Side
FT-BMP = Feet Below Measuring Point

Purge Start Time	Purge End Time	Average Flow (gpm)	Total Gallons Purged	Total Casing Volumes Purged	80% Recovery DTW	Sampling Water Level	Control Box Settings	
–	–	–	–	–	–	–	**Pump Speed:** –	**Typ Flow:** –
							Primary Sample ID= –	
							Primary Sample Time: (hh:mm) –	

JHA ENVIRONMENTAL

Groundwater Monitoring Data Form

Well Information	Purging Information	Project Information	Well Information
Well ID #: OW-3	**Date:** 1/21/20	**Site:** Omega	**Survey Monitoring Point (MP); TOC (N)**
Well Total Depth: 81.82	**Sampling Event:** Jan 2020	**Client Nam** De Maximis	
Well Diameter: 4"	**Purge Equip:** Hand Bailer 2"	**Project #:** E742	Pump Information :
Screen Interval: 63-83	**Purging Method:** 3 vol	**Consultant:** JHA Env. Inc.	**Pump Model:** –
Pump Depth: –	**Sampling Equipment:** –	**Sampler:** KP, PR	**Single System Volume:** –

LNAPL PRESENT?	NAPL THICKNESS	DEPTH TO LNAPL (ft)	A DEPTH TO BOTTOM (ft)	B DEPTH TO WATER (ft)	C HEIGHT OF WATER COLUMN A-B=C	GALLONS PER FOOT					D ONE CASING VOLUME C X D = E	E THREE CASING VOLUMES E X 3
–	–	–	81.82	81.13	0.69	Well Dia	0.75"	2"	4"	6"	0.9	2.7
						Gals/ft	0.02	0.16	0.65 (1.20)	1.47	N/A	N/A

TIME (HH:MM)	Casing/ Screen	Flow Rate (gpm)	VOLUME (gallons)	DEPTH TO WATER (FT-BMP)	TEMP (deg C)	pH	Conductivity (mS/cm)	Dissolved Oxygen (mg/L)	Turbidity (NTU)	ORP (mV)	Comments
0835	–	–	–	81.13	19.21	8.79	0.475	4.71	178	190	lightly cloudy.
				MADE	SEVERAL	ATTEMPTS	TO	BAIL	OUT	WATER,	
				ONLY	ENOUGH	WATER	FOR	1	LOG	READING.	

TOC N = Top Of Casing North Side
FT-BMP = Feet Below Measuring Point

Purge Start Time	Purge End Time	Average Flow (gpm)	Total Gallons Purged	Total Casing Volumes Purged	80% Recovery DTW	Sampling Water Level	Control Box Settings	
0835	0845	–	–	–	–	–	**Pump Speed:** –	**Typ Flow:** –
							Primary Sample ID= –	
							Primary Sample Time: (hh:mm) –	

JHA ENVIRONMENTAL

Groundwater Monitoring Data Form

Page : 1 of 1

Well Information		Purging Information		Project Information		Well Information	
Well ID #: EW-3		**Date:** 1/21/20		**Site: Omega**		**Survey Monitoring Point (MP); TOC (N)**	
Well Total Depth: -		**Sampling Event:** Jan 2020 GWM		**Client Nam**	**De Maximis**		
Well Diameter: 6"		**Purge Equip:** Pedicated Pump		**Project #:**	**E742**	Pump Information :	
Screen Interval: 70-85		**Purging Method:** Grab		**Consultant: JHA Env. Inc.**		**Pump Model:**	-
Pump Depth: -		**Sampling Equipment:** -		**Sampler:** KA, PK		**Single System Volume:**	

LNAPL PRESENT?	NAPL THICKNESS	DEPTH TO LNAPL (ft)	A DEPTH TO BOTTOM (ft)	B DEPTH TO WATER (ft)	C HEIGHT OF WATER COLUMN A-B=C	GALLONS PER FOOT					D ONE CASING VOLUME C X D = E	E THREE CASING VOLUMES E X 3
-	-	-	-	83.10 (manual)	-	Well Dia	0.75"	2"	4"	6"	-	-
				82.57 (HMI)		Gals/ft	0.02	0.16	0.65	1.47	N/A	N/A

TIME (HH:MM)	Casing/ Screen	Flow Rate (gpm)	VOLUME (gallons)	DEPTH TO WATER (FT-BMP)	TEMP (deg C)	pH	Conductivity (mS/cm)	Dissolved Oxygen (mg/L)	Turbidity (NTU)	ORP (mV)	Comments
0905	-	-	-	83.10	16.03	8.13	0.382	9.29	23.7	194	

TOC N = Top Of Casing North Side
FT-BMP = Feet Below Measuring Point

Purge Start Time	Purge End Time	Average Flow (gpm)	Total Gallons Purged	Total Casing Volumes Purged	80% Recovery DTW	Sampling Water Level	Control Box Settings	
							Pump Speed: -	Typ Flow: -
0905	0910	-	-	-	-	83.10	Primary Sample ID= OC_GW_EW-3_20200121	
							Primary Sample Time: (hh:mm) 0907	

JHA ENVIRONMENTAL

Groundwater Monitoring Data Form

Well Information		Purging Information		Project Information		Well Information	
Well ID #: OW-7		**Date:** 1/21/20		**Site: Omega**		**Survey Monitoring Point (MP); TOC (N)**	
Well Total Depth: 89.15		**Sampling Event:** Jan 2020 GWM		**Client Nam** De Maximis			
Well Diameter: 4		**Purge Equip:** –		**Project #:**	E742	Pump Information :	
Screen Interval: 70.9-90.9		**Purging Method:** –		**Consultant: JHA Env. Inc.**		**Pump Model:**	–
Pump Depth: –		**Sampling Equipment:** –		**Sampler:** KD, PR		**Single System Volume:** –	

LNAPL PRESENT?	NAPL THICKNESS	DEPTH TO LNAPL (ft)	A DEPTH TO BOTTOM (ft)	B DEPTH TO WATER (ft)	C HEIGHT OF WATER COLUMN A-B=C	GALLONS PER FOOT					D ONE CASING VOLUME C X D = E	E THREE CASING VOLUMES E X 3
						Well Dia	0.75"	2"	4"	6"		
–	–	–	89.15	DRY	–	Gals/ft	0.02	0.16	0.65	1.47	N/A	N/A

TIME (HH:MM)	Casing/ Screen	Flow Rate (gpm)	VOLUME (gallons)	DEPTH TO WATER (FT-BMP)	TEMP (deg C)	pH	Conductivity (mS/cm)	Dissolved Oxygen (mg/L)	Turbidity (NTU)	ORP (mV)	Comments
1059				WELL	IS	DRY					

TOC N = Top Of Casing North Side
FT-BMP = Feet Below Measuring Point

Purge Start Time	Purge End Time	Average Flow (gpm)	Total Gallons Purged	Total Casing Volumes Purged	80% Recovery DTW	Sampling Water Level	Control Box Settings	
–	–	–	–	–	–	–	**Pump Speed:** –	**Typ Flow:** –
							Primary Sample ID= –	
							Primary Sample Time: (hh:mm) –	

JHA ENVIRONMENTAL

Groundwater Monitoring Data Form

Well Information		Purging Information		Project Information		Well Information	
Well ID #: OW-11		**Date:** 1/21/20		**Site:** Omega		**Survey Monitoring Point (MP); TOC (N)**	
Well Total Depth: 98.71		**Sampling Event:** Jan 2020 GWM		**Client Name** De Maximis			
Well Diameter: 4"		**Purge Equip:** 2" Grundfos Redi-flo		**Project #:**	E742	Pump Information:	
Screen Interval: 80-100		**Purging Method:** 3 vol.		**Consultant:** JHA Env. Inc.		**Pump Model:**	2" Grundfos Redi-flo
Pump Depth: ~98		**Sampling Equipment:** –		**Sampler:** KA PR		**Single System Volume:** –	

LNAPL PRESENT?	NAPL THICKNESS	DEPTH TO LNAPL (ft)	A DEPTH TO BOTTOM (ft)	B DEPTH TO WATER (ft)	C HEIGHT OF WATER COLUMN A-B=C	GALLONS PER FOOT					D ONE CASING VOLUME C X D = E	E THREE CASING VOLUMES E X 3
						Well Dia	0.75"	2"	4"	6"		
–	–	–	98.71	87.30	11.41	Gals/ft	0.02	0.16	0.65 1.30	1.47	14.8	44.4
											N/A	N/A

TIME (HH:MM)	Casing/ Screen	Flow Rate (gpm)	VOLUME (gallons)	DEPTH TO WATER (FT-BMP)	TEMP (deg C)	pH	Conductivity (mS/cm)	Dissolved Oxygen (mg/L)	Turbidity (NTU)	ORP (mV)	Comments
1123	–	~1.0	10	93.28	20.72	7.49	1.04	4.64	477	237	lightly cloudy, no odor
1133	–	~1.0	20	94.25	21.26	7.59	1.44	~~209~~ NA	123	208	" " "
1143	–	~1.0	30	94.85	21.62	7.61	1.28	~~456~~ 4.56	57.0	160	" " "
1158	–	~1.0	45	95.29	21.66	7.58	1.25	4.29	21.6	137	clear, no odor

TOC N = Top Of Casing North Side
FT-BMP = Feet Below Measuring Point

Purge Start Time	Purge End Time	Average Flow (gpm)	Total Gallons Purged	Total Casing Volumes Purged	80% Recovery DTW	Sampling Water Level	Control Box Settings	
							Pump Speed: 247 Hz	Typ Flow: ~1.0
1113	1202	1.0	~46	3	–	95.29	Primary Sample ID= OC_GW_OW-11_20200121	
							Primary Sample Time: (hh:mm) 1200	

JHA ENVIRONMENTAL

Groundwater Monitoring Data Form

Well Information		Purging Information		Project Information		Well Information	
Well ID #: OW-1		**Date:** 1/21/20		**Site: Omega**		**Survey Monitoring Point (MP); TOC (N)**	
Well Total Depth: 82.58		**Sampling Event:** Jan 2020		**Client Nam** De Maximis			
Well Diameter: 4		**Purge Equip:** –		**Project #:**	E742	Pump Information :	
Screen Interval: 62.5 - 77.5		**Purging Method:** –		**Consultant: JHA Env. Inc.**		**Pump Model:**	–
Pump Depth: –		**Sampling Equipment:** –		**Sampler:** KA, PR		**Single System Volume:**	–

LNAPL PRESENT?	NAPL THICKNESS	DEPTH TO LNAPL (ft)	A DEPTH TO BOTTOM (ft)	B DEPTH TO WATER (ft)	C HEIGHT OF WATER COLUMN A-B=C	D GALLONS PER FOOT					E ONE CASING VOLUME C X D = E	THREE CASING VOLUMES E X 3
–	–	–	82.58	DRY	–	Well Dia	0.75"	2"	4"	6"	–	–
						Gals/ft	0.02	0.16	0.65	1.47	N/A	N/A

TIME (HH:MM)	Casing/ Screen	Flow Rate (gpm)	VOLUME (gallons)	DEPTH TO WATER (FT-BMP)	TEMP (deg C)	pH	Conductivity (mS/cm)	Dissolved Oxygen (mg/L)	Turbidity (NTU)	ORP (mV)	Comments
1225				WELL IS	DRY						

TOC N = Top Of Casing North Side
FT-BMP = Feet Below Measuring Point

Purge Start Time	Purge End Time	Average Flow (gpm)	Total Gallons Purged	Total Casing Volumes Purged	80% Recovery DTW	Sampling Water Level	Control Box Settings	
–	–	–	–	–	–	–	Pump Speed: –	Typ Flow: –
							Primary Sample ID= –	
							Primary Sample Time: (hh:mm) –	

JHA ENVIRONMENTAL

Groundwater Monitoring Data Form

Well Information		Purging Information		Project Information		Well Information	
Well ID #: OW-9		**Date:** 1/22/20		**Site: Omega**		**Survey Monitoring Point (MP); TOC (N)**	
Well Total Depth: 89.80		**Sampling Event:** Jan 2020 GWM		**Client Nam** De Maximis			
Well Diameter: 4		**Purge Equip:** 2" Hand bailer		**Project #:**	E742	Pump Information :	
Screen Interval: 70-90		**Purging Method:** 3 vol.		**Consultant: JHA Env. Inc.**		**Pump Model:**	–
Pump Depth: –		**Sampling Equipment:** –		**Sampler:** PR		**Single System Volume:**	–

LNAPL PRESENT?	NAPL THICKNESS	DEPTH TO LNAPL (ft)	A DEPTH TO BOTTOM (ft)	B DEPTH TO WATER (ft)	C HEIGHT OF WATER COLUMN A-B=C	GALLONS PER FOOT					D E ONE CASING VOLUME C X D = E	THREE CASING VOLUMES E X 3
–	–	–	89.80	86.26	3.54	Well Dia	0.75"	2"	4"	6"	4.6	13.8
						Gals/ft	0.02	0.16	~~0.65~~ 1.30	1.47	N/A	N/A

TIME (HH:MM)	Casing/ Screen	Flow Rate (gpm)	VOLUME (gallons)	DEPTH TO WATER (FT-BMP)	TEMP (deg C)	pH	Conductivity (mS/cm)	Dissolved Oxygen (mg/L)	Turbidity (NTU)	ORP (mV)	Comments
0705	–	–	3	88.80	17.55	6.57	1.36	7.03	81.8	328	
0743	–	–	6	89.64	17.85	7.73	1.30	7.63	680	271	
0750	–	–	7	WELL	DRIED	OUT					

TOC N = Top Of Casing North Side
FT-BMP = Feet Below Measuring Point

Purge Start Time	Purge End Time	Average Flow (gpm)	Total Gallons Purged	Total Casing Volumes Purged	80% Recovery DTW	Sampling Water Level	Control Box Settings	
0638	0750	–	7	~1.5	86.97	86.34	Pump Speed: –	Typ Flow: –
							Primary Sample ID= OC-GW-OW-9_20200122	
							Primary Sample Time: (hh:mm) 1130	

JHA ENVIRONMENTAL

Groundwater Monitoring Data Form

Well Information		Purging Information		Project Information		Well Information	
Well ID #:	OW-2	**Date:**	1/22/20	**Site:**	Omega	**Survey Monitoring Point (MP); TOC (N)**	
Well Total Depth:	79.50	**Sampling Event:**	Jan 2020 GWM	**Client Nam**	De Maximis		
Well Diameter:	4	**Purge Equip:**	–	**Project #:**	E742	Pump Information :	
Screen Interval:	60-80	**Purging Method:**	–	**Consultant:**	JHA Env. Inc.	**Pump Model:**	–
Pump Depth:	–	**Sampling Equipment:**	–	**Sampler:**	–	**Single System Volume:**	–

LNAPL PRESENT?	NAPL THICKNESS	DEPTH TO LNAPL (ft)	A DEPTH TO BOTTOM (ft)	B DEPTH TO WATER (ft)	C HEIGHT OF WATER COLUMN A-B=C	D GALLONS PER FOOT					E ONE CASING VOLUME C X D = E	THREE CASING VOLUMES E X 3
–	–	–	79.50	DRY	–	Well Dia	0.75"	2"	4"	6"	–	–
						Gals/ft	0.02	0.16	0.65	1.47	N/A	N/A

TIME (HH:MM)	Casing/ Screen	Flow Rate (gpm)	VOLUME (gallons)	DEPTH TO WATER (FT-BMP)	TEMP (deg C)	pH	Conductivity (mS/cm)	Dissolved Oxygen (mg/L)	Turbidity (NTU)	ORP (mV)	Comments
0750				WELL	IS	DRY					

TOC N = Top Of Casing North Side
FT-BMP = Feet Below Measuring Point

Purge Start Time	Purge End Time	Average Flow (gpm)	Total Gallons Purged	Total Casing Volumes Purged	80% Recovery DTW	Sampling Water Level	Control Box Settings	
–	–	–	–	–	–	–	**Pump Speed:** –	**Typ Flow:** –
							Primary Sample ID= –	
							Primary Sample Time: (hh:mm) –	

JHA ENVIRONMENTAL

Groundwater Monitoring Data Form

Well Information		Purging Information		Project Information		Well Information	
Well ID #:	OW-10	**Date:**	1/22/20	**Site: Omega**		**Survey Monitoring Point (MP); TOC (N)**	
Well Total Depth:	89.15	**Sampling Event:**	Jan 2020 GWM	**Client Nam**	**De Maximis**		
Well Diameter:	4	**Purge Equip:**	2" Grundfos Redi Flo	**Project #:**	**E742**	Pump Information :	
Screen Interval:	69.5 - 89.5	**Purging Method:**	3 vol.	**Consultant: JHA Env. Inc.**		**Pump Model:**	-
Pump Depth:	~88.15	**Sampling Equipment:**	-	**Sampler:**	PK	**Single System Volume:**	-

LNAPL PRESENT?	NAPL THICKNESS	DEPTH TO LNAPL (ft)	A DEPTH TO BOTTOM (ft)	B DEPTH TO WATER (ft)	C HEIGHT OF WATER COLUMN A-B=C	D GALLONS PER FOOT					E ONE CASING VOLUME C X D = E	THREE CASING VOLUMES E X 3
						Well Dia	0.75"	2"	4"	6"	14.4	43.2
-	-	-	89.15	78.10	11.05	Gals/ft	0.02	0.16	~~0.65~~ 1.30	1.47	N/A	N/A

TIME (HH:MM)	Casing/ Screen	Flow Rate (gpm)	VOLUME (gallons)	DEPTH TO WATER (FT-BMP)	TEMP (deg C)	pH	Conductivity (mS/cm)	Dissolved Oxygen (mg/L)	Turbidity (NTU)	ORP (mV)	Comments
0840	-	0.5	10	83.90	22.09	7.58	1.28	4.13	306	33	
0900	-	0.5	20	86.70	21.57	7.71	1.29	5.60	237	55	
0902	-	0.5	21	WELL DRIED OUT							

TOC N = Top Of Casing North Side
FT-BMP = Feet Below Measuring Point

Purge Start Time	Purge End Time	Average Flow (gpm)	Total Gallons Purged	Total Casing Volumes Purged	80% Recovery DTW	Sampling Water Level	Control Box Settings	
							Pump Speed: 218 HZ	Typ Flow: 0.5
0820	0902	0.5	21	< 2	80.31	78.16	Primary Sample ID= OC_GW_OW-10_20200123, OC_GW_OW-10_20200123	
							Primary Sample Time: (hh:mm) 0825	0828

JHA ENVIRONMENTAL

Groundwater Monitoring Data Form

Well Information		Purging Information		Project Information		Well Information	
Well ID #: PZ-9		**Date:** 1/22/20		**Site: Omega**		**Survey Monitoring Point (MP); TOC (N)**	
Well Total Depth: 89.00		**Sampling Event:** Jan 2020 GWM		**Client Nam** De Maximis			
Well Diameter: 2		**Purge Equip:** 2" Hand bailer		**Project #:**	E742	Pump Information :	
Screen Interval: 70-90		**Purging Method:** 3 vol.		**Consultant: JHA Env. Inc.**		**Pump Model:**	–
Pump Depth: –		**Sampling Equipment:** –		**Sampler:** PR		**Single System Volume:** –	

LNAPL PRESENT?	NAPL THICKNESS	DEPTH TO LNAPL (ft)	A DEPTH TO BOTTOM (ft)	B DEPTH TO WATER (ft)	C HEIGHT OF WATER COLUMN A-B=C	GALLONS PER FOOT					D E ONE CASING VOLUME C X D = E	THREE CASING VOLUMES E X 3
–	–	–	89.00	85.62	3.38	Well Dia	0.75"	2"	4"	6"	1.1	3.3
						Gals/ft	0.02	0.16 0.32	0.65	1.47	N/A	N/A

TIME (HH:MM)	Casing/ Screen	Flow Rate (gpm)	VOLUME (gallons)	DEPTH TO WATER (FT-BMP)	TEMP (deg C)	pH	Conductivity (mS/cm)	Dissolved Oxygen (mg/L)	Turbidity (NTU)	ORP (mV)	Comments
0957	–	–	1	87.25	16.06	6.83	1.39	9.45	1000+	337	very turbid
1007	–	–	2	87.28	18.26	7.34	1.32	7.07	1000+	313	" "
1010	–	–	3	87.35	18.06	7.60	1.29	7.14	1000+	301	" "
				WELL	PURGED	OUT					

TOC N = Top Of Casing North Side
FT-BMP = Feet Below Measuring Point

Purge Start Time	Purge End Time	Average Flow (gpm)	Total Gallons Purged	Total Casing Volumes Purged	80% Recovery DTW	Sampling Water Level	Control Box Settings	
0930	1010	–	~3	<3	86.30	85.70	Pump Speed: –	Typ Flow: –
							Primary Sample ID= OC_GW_PZ-9_20200123	
							Primary Sample Time: (hh:mm) 0755	

JHA ENVIRONMENTAL

Groundwater Monitoring Data Form

Well Information	Purging Information	Project Information	Well Information
Well ID #: OW-13B	**Date:** 1/23/20	**Site:** Omega	**Survey Monitoring Point (MP); TOC (N)**
Well Total Depth: 140.10	**Sampling Event:** Jan 2020 GWM	**Client Name:** De Maximis	
Well Diameter: 4"	**Purge Equip:** 2" Grundfos & Redi Flo	**Project #:** E742	Pump Information :
Screen Interval: 40-140	**Purging Method:** 3 vol.	**Consultant:** JHA Env. Inc.	**Pump Model:** –
Pump Depth: 139	**Sampling Equipment:** –	**Sampler:** KS, PR	**Single System Volume:** –

LNAPL PRESENT?	NAPL THICKNESS	DEPTH TO LNAPL (ft)	A DEPTH TO BOTTOM (ft)	B DEPTH TO WATER (ft)	C HEIGHT OF WATER COLUMN A-B=C	D GALLONS PER FOOT					E ONE CASING VOLUME C X D = E	THREE CASING VOLUMES E X 3
–	–	–	140.10	99.26	40.84	Well Dia	0.75"	2"	4"	6"	53.1	159.3
						Gals/ft	0.02	0.16	0.65	1.47	N/A	N/A

TIME (HH:MM)	Casing/ Screen	Flow Rate (gpm)	VOLUME (gallons)	DEPTH TO WATER (FT-BMP)	TEMP (deg C)	pH	Conductivity (mS/cm)	Dissolved Oxygen (mg/L)	Turbidity (NTU)	ORP (mV)	Comments
0931	–	~2.0	40	120.10	18.94	7.67	1.02	3.75	265	127	lightly cloudy, no odor
0951	–	~2.0	80	122.10	20.11	7.63	1.01	3.30	94.6	148	" " "
1011	–	~2.0	120	122.55	19.88	7.65	1.03	3.52	62.6	170	" " "
1031	–	~2.0	160	122.68	20.20	7.67	1.01	3.38	74.1	184	" " "

TOC N = Top Of Casing North Side
FT-BMP = Feet Below Measuring Point

Purge Start Time	Purge End Time	Average Flow (gpm)	Total Gallons Purged	Total Casing Volumes Purged	80% Recovery DTW	Sampling Water Level	Control Box Settings	
							Pump Speed: 277 Hz	Typ Flow: ~2.0
0911	1036	2.0	~161	3	–	122.68	Primary Sample ID= OC-GW-OW-13B-20200123	
							Primary Sample Time: (hh:mm) 1034	

ATTACHMENT I

Annual Mann-Kendall Analyisis

(Not Included This Quarter)