GEODESIGN INC

GROUNDWATER MONITORING REPORT: OCTOBER 2016

1700 through 1750 Webster Street
Oakland, California

For
San Francisco Bay Regional Water Quality Control Board
November 14, 2016

GeoDesign Project: Gerding-188-04

GeoDesign Inc

November 14, 2016

San Francisco Bay Regional Water Quality Control Board
1515 Clay Street, Suite 1400
Oakland, CA 94612

Attention: Cherie McCaulou

Groundwater Monitoring Report: October 2016
1700 through 1750 Webster Street
Oakland, California
GeoDesign Project: Gerding-188-04

On behalf of 1700 Webster, LLC, GeoDesign has prepared this report, which summarizes the results of groundwater monitoring performed at 1700 through 1750 Webster Street in Oakland, California, on October 12, 2016. Please call us if you have questions regarding this report or any aspect of the project.

Sincerely,

GeoDesign, Inc.

Robert E. Belding, R.G. (Oregon)
Principal Geologist

cc: Brent Gaulke, 1700 Webster, LLC (via email only)
Kelly Saito, 1700 Webster, LLC (via email only)
Dave Daterman, 1700 Webster, LLC (via email only)
Christopher J. Baldassari, PES Environmental, Inc. (via email only)

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Attachments
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1.0 INTRODUCTION

On behalf of 1700 Webster, LLC, GeoDesign has prepared this report, which summarizes the results of groundwater monitoring performed at 1700 through 1750 Webster Street in Oakland, California, (project site) on October 12, 2016. This sampling event has been conducted to satisfy the San Francisco Bay Regional Water Quality Control Board's request for additional groundwater monitoring data (San Francisco Bay Regional Water Quality Control Board, 2016). The project site is shown relative to surrounding physical features on Figure 1. The layout of the project site is shown on Figure 2. Acronyms and abbreviations used herein are defined at the end of this document.

2.0 BACKGROUND

GeoDesign previously conducted a Phase I ESA and limited Phase II ESA of the 1700-1710 Webster Street site (GeoDesign, Inc., 2015), which revealed the former presence of a gasoline and oil service station in the southwestern portion of the project site. Records detailing the removal of the former service station were not obtained, and it is unclear whether the former USTs were removed from the project site prior to construction of the existing building.

The limited Phase II ESA conducted by GeoDesign identified (1) petroleum hydrocarbon contamination in soil and groundwater primarily obtained from depths near the water table (depths ranging between 20 and 35 feet BGS), (2) petroleum hydrocarbon contamination in shallow soil in the southwestern portion of the 1700-1710 site (proximate to the former on-site fueling area), and (3) HVOC impacts to groundwater and soil vapor, which appears to originate from an up-gradient source.

In May 2015 groundwater monitoring wells MW-01 through MW-04 were installed at the project site, which (in addition to off-site well MW-6 [located in the Webster Street ROW]) were surveyed by Mark Thomas & Company of Oakland, California. For comparison purposes, surveyed elevations of off-site groundwater monitoring wells MW-2, MW-3, MW-6, A-1, A-2, and A-3 were obtained from previous environmental reports by others and have been converted (as appropriate) to correspond with the City of Oakland datum. The surveyed elevations of these wells are provided in Table 1. The approximate locations of these wells are shown on Figure 2.

Groundwater monitoring wells MW-01 through MW-04 were previously monitored in May 2015, August, 2015, November 2015, February 2016, and July 2016. In addition to the groundwater monitoring wells located at 1700-1710 Webster Street, off-site groundwater monitoring well MW-6 was also periodically monitored. The results of the May 2015, August 2015, November 2015, and February 2016 groundwater monitoring event are presented in our April 2016 SCM (GeoDesign, 2016). The results of the October 2016 groundwater monitoring event are shown in Tables 1 through 3.

3.0 REGIONAL AND LOCAL GEOLOGY

The project site is located in the California Coast Ranges section of the Pacific Border physiographic province. Locally, the project site is situated on alluvial deposits located

southwest of the southwestward-facing front of the Berkeley Hills and Hayward fault zone (Radbruch, 1957). In general, subsurface conditions encountered beneath the 1700-1710 Webster Street site consist of three geologic units: artificial fill material, Merritt sand, and sand-silt-clay mixtures of the Temescal formation or the Alameda formation (Radbruch, 1959).

Unconfined groundwater conditions exist beneath the 1700-1710 Webster Street structure. A shallow water-bearing zone consisting of highly permeable sand is present at depths ranging from approximately 14 to 30 feet BGS and is underlain by a silty clay layer. Rainfall in the project site vicinity occurs primarily between November and March, and the average rainfall is approximately 23 inches per year (Pangea Environmental Services, Inc., 2012).

Groundwater has been measured in project site wells at depths ranging between approximately 23 and 20 feet BGS (elevations of 6.0 to 8.5 feet per nearby City of Oakland benchmark). Groundwater elevation data collected by GeoDesign indicates that groundwater beneath the project site flows to the north with occasional northwesterly and northeasterly fluctuations.

4.0 OCTOBER 2016 GROUNDWATER MONITORING EVENT

On October 12, 2016 GeoDesign conducted groundwater monitoring of four monitoring wells located at the project site and six monitoring wells located west and north of the project site. The completed scope of services conducted for the October 2016 monitoring event included the following:

- Accessed on-site groundwater monitoring wells MW-01, MW-02, MW-03, and MW-04 and off-site groundwater monitoring wells A-1, A-2, A-3, MW-2, MW-3, and MW-6.
- After allowing groundwater levels to equilibrate for at least 30 to 45 minutes, measured the depth to groundwater in each well using a Geotech ET portable water level meter.
- Purged and sampled each monitoring well using a peristaltic pump and new disposable HDPE and silicon tubing. While purging water from each well, measured field stabilization parameters.
- Submitted the groundwater samples to ESC Lab Sciences of Mt. Juliet, Tennessee, for the chemical analyses specified in Section 5.0.
- Summarized the findings in this report.

Depths to groundwater measured in these wells ranged from approximately 20 to 23 feet BGS. As shown on Figure 2, groundwater beneath the project site generally flows to the north with northwesterly and northeasterly fluctuations. Groundwater level measurements obtained during the October 12, 2016 monitoring event are presented in Table 1. This information is consistent with measurements taken during previous groundwater monitoring events discussed in Section 3.0.

GeoDesign purged and sampled each monitoring well using a peristaltic pump and new disposable HDPE and silicon tubing. While purging water from each well, GeoDesign measured field stabilization parameters in general accordance with EPA guidance (EPA, 2010). Field

stabilization parameters included temperature, specific conductance, ORP, dissolved oxygen, pH, and turbidity. The field measurements obtained during the October 12, 2016 monitoring event are presented in Table 1.

Ten groundwater samples (MW-01, MW-02, MW-03, MW-04, A-1, A-2, A-3, MW-2, MW-3, and MW-6) were collected during the October 12, 2016 monitoring event. Groundwater samples collected for chemical analysis were placed in laboratory-prepared sample jars and kept cool in an ice chest until delivery to the laboratory. Standard chain-of-custody procedures were observed during transport of the samples to the laboratory.

GeoDesign generated one 55-gallon, steel drum of IDW consisting of monitoring well purge water and decontamination water. The drum was labeled appropriately and disposed of as non-hazardous waste by Big Sky Enterprises of Benicia, California, on October 25, 2016.

5.0 CHEMICAL ANALYTICAL PROGRAM

Ten groundwater samples (MW-01, MW-02, MW-03, MW-04, A-1, A-2, A-3, MW-2, MW-3, and MW-6) were transported under chain-of-custody procedures to ESC Lab Sciences of Mt. Juliet, Tennessee, for the following analyses:

- GRO by EPA Method 8015
- DRO and RRO (C12-C40) by EPA Methods 3511/8015
- VOCs by EPA Method 8260B

The chemical analytical laboratory results are summarized in Tables 2 and 3 and are discussed below. Chemical analytical program details, the laboratory report, and chain-of-custody documentation are presented in the Appendix.

6.0 REGULATORY SCREENING LEVELS

The following regulatory screening levels are compared to the October 2016 groundwater chemical analytical results:

- San Francisco Bay RWQCB *Tier I ESLs*
- San Francisco Bay RWQCB *Odor Nuisance Levels: Drinking Water*
- San Francisco Bay RWQCB *Groundwater Gross Contamination Levels*
- San Francisco Bay RWQCB V*apor Intrusion from Groundwater: Residential and Commercial/Industrial Fine to Coarse* scenarios
- San Francisco Bay RWQCB *Direct Exposure to Human Health: Groundwater MCLs*
- San Francisco Bay RWQCB *Direct Exposure to Human Health: Groundwater Health Risk Based* scenario

A comparison of the chemical analytical results to above-noted regulatory criteria and background concentrations are shown in Tables 2 and 3 and are discussed below.

7.0 GROUNDWATER CHEMICAL ANALYTICAL RESULTS

The following sections summarize the groundwater chemical analytical results from the October 12, 2016 groundwater monitoring event. The VOC chemical analytical results from the October 12, 2016 monitoring event are generally consistent with the results of previous groundwater monitoring events noted in Section 3.0. The October 2016 results were used to create the chemical-specific isocontours presented on Figures 3 and 4.

7.1 GRO

GRO were detected in groundwater samples MW-01, MW-03, MW-04, A-1, A-2, A-3, MW-2, MW-3, and MW-6 at concentrations ranging between 391 and 45,400 µg/L, which are greater than the *Tier 1 ESL* and *Drinking Water: Odor Nuisance Level* (100 µg/L) and/or the *Direct Exposure Health Risk Based MCL* and *Direct Exposure Human Health Risk Level* (220 µg/L) but less than the *Gross Contamination Level* (50,000 µg/L). GRO were not detected in groundwater sample MW-02 at a concentration greater than the laboratory RDL of 100 µg/L.

7.2 DRO AND RRO

DRO (C12-C22) were detected in groundwater samples MW-03, MW-04, A-1, A-2, A-3, MW-2, MW-3, and MW-6 at concentrations ranging between 261 and 1,880 µg/L, which are greater than the *Tier 1 ESL* (100 µg/L), the *Drinking Water: Odor Nuisance Level* (100 µg/L), the *Direct Exposure Health Risk Based MCL* (150 µg/L), and the *Direct Exposure Human Health Risk Level* (150 µg/L) but less than the *Gross Contamination Level* (2,500 µg/L). RRO (C22-C40) were not detected at concentrations greater than laboratory RDLs in the groundwater samples analyzed.

7.3 PETROLEUM-RELATED VOCs

Several petroleum-related VOCs were detected in each of the above-noted groundwater samples at concentrations greater than laboratory RDLs. These detected concentrations were often greater than the screening levels noted in Section 6.0. The detections that are associated with screening level exceedances are further discussed in the following sections.

7.3.1 Benzene

Benzene was detected in the following groundwater samples during the October 2016 monitoring event:

- Benzene was detected in groundwater samples A-2 and A-3 at concentrations of 175.0 µg/L and 463.0 µg/L, respectively. These detected concentrations are greater than the *Tier 1 ESL* (1.0 µg/L), the *Direct Exposure Health Risk Based MCL* (1.0 µg/L), the *Direct Exposure Human Health Risk Level* (0.15 µg/L), the *Deep Groundwater VI: Residential Fine to Coarse Scenario* screening level (30 µg/L), the *Deep Groundwater VI Commercial/Industrial Fine to Coarse Scenario* screening level (260 µg/L), and the *Odor Nuisance Level: Drinking Water* (170 µg/L) but less than the corresponding *Gross Contamination Level* (50,000).
- Benzene was detected in groundwater samples A-1 and MW-6 at concentrations of 140 µg/L and 51.9 µg/L, respectively. These detected concentrations are greater than the corresponding *Tier 1 ESL*, the *Direct Exposure Health Risk Based MCL*, the *Direct Exposure Human Health Risk Level*, and the *Deep Groundwater VI: Residential Fine to Coarse Scenario*

screening level (30 µg/L) but less than the corresponding *Deep Groundwater VI Commercial/Industrial Fine to Coarse Scenario* screening level, the *Odor Nuisance Level: Drinking Water*, and the *Gross Contamination Level*.
- Benzene was detected in groundwater sample MW-01 at a concentration of 1.08 µg/L, which is greater than the *Tier 1 ESL*, the *Direct Exposure Health Risk Based MCL*, and the *Direct Exposure Human Health Risk Level* but less than all other corresponding screening levels.

7.3.2 Toluene

Toluene was detected in the following groundwater samples during the October 2016 monitoring event:

- Toluene was detected in groundwater samples MW-03, MW-04, A-2, and A-3 at concentrations ranging between 170 and 10,700 µg/L. These detected concentrations are greater than the *Tier 1 ESL* (40 µg/L), the *Odor Nuisance Level Drinking Water* screening level (40 µg/L), the *Direct Exposure Health Risk Based MCL* (40 µg/L), and the *Direct Exposure Human Health Risk Level* (150 µg/L) but less than all other corresponding screening levels.
- Toluene was detected in groundwater sample A-1 at a concentration of 70.7 µg/L, which is greater than the corresponding *Tier 1 ESL*, the *Odor Nuisance Level Drinking Water* screening level, and the *Direct Exposure Health Risk Based MCL* but less than all other corresponding screening levels.

7.3.3 Ethylbenzene

Ethylbenzene was detected in the following groundwater samples during the October 2016 monitoring event:

- Ethylbenzene was detected in groundwater samples MW-03, MW-04, A-2, and MW-6 at concentrations ranging between 507 and 1,750 µg/L. These detected concentrations are greater than the *Tier 1 ESL* (13 µg/L), the *Odor Nuisance Level Drinking Water* screening level (30 µg/L), the *Direct Exposure Health Risk Based MCL* (30 µg/L), the *Direct Exposure Human Health Risk Level* (1.5 µg/L), and the *Deep Groundwater VI: Residential Fine to Coarse Scenario* screening level (370 µg/L) but less than all other corresponding screening levels.
- Ethylbenzene was detected in groundwater sample A-1 at a concentration of 186 µg/L, which is greater than the corresponding *Tier 1 ESL*, the *Odor Nuisance Level Drinking Water* screening level, the *Direct Exposure Health Risk Based MCL*, and the *Direct Exposure Human Health Risk Level* but less than all other corresponding screening levels.
- Ethylbenzene was detected in groundwater samples MW-01 and MW-2 at concentrations of 12.8 µg/L and 5.42 µg/L, respectively. These detected concentrations are greater than the *Direct Exposure Human Health Risk Level* but less than all other corresponding screening levels.

7.3.4 Total Xylenes

Total xylenes were detected in the following groundwater samples during the October 2016 monitoring event:

- Total xylenes were detected in groundwater samples MW-03, MW-04, A-2, A-3, and MW-6 at concentrations ranging between 461 and 6,940 µg/L. These detected concentrations are greater than the *Tier 1 ESL* (20 µg/L), the *Odor Nuisance Level Drinking Water* screening level (20 µg/L), the *Direct Exposure Health Risk Based MCL* (20 µg/L), and the *Direct Exposure Human Health Risk Level* (190 µg/L) but less than all other corresponding screening levels.
- Total xylenes were detected in groundwater sample A-1 at a concentration of 58.0 µg/L, which is greater than the corresponding *Tier 1 ESL*, the *Odor Nuisance Level Drinking Water* screening level, and the *Direct Exposure Health Risk Based MCL* but less than all other corresponding screening levels.

7.3.5 Naphthalene

Naphthalene was detected in the following groundwater samples during the October 2016 monitoring event:

- Naphthalene was detected in groundwater samples MW-04, A-2, and A-3 at concentrations ranging between 183 and 364 µg/L. These detected concentrations are greater than the *Tier 1 ESL* (0.12 µg/L), the *Odor Nuisance Level Drinking Water* screening level (21 µg/L), the *Direct Exposure Health Risk Based MCL* (0.12 µg/L), the *Direct Exposure Human Health Risk Level* (0.12 µg/L), and the *Deep Groundwater VI: Residential Fine to Coarse Scenario* screening level (180 µg/L) but less than all other corresponding screening levels.
- Naphthalene was detected in groundwater sample MW-6 at a concentration of 137 µg/L, which is greater than the corresponding *Tier 1 ESL*, the *Odor Nuisance Level Drinking Water* screening level, the *Direct Exposure Health Risk Based MCL*, and the *Direct Exposure Human Health Risk Level* but less than all other corresponding screening levels.
- Naphthalene was detected in groundwater sample MW-2 at a concentration of 8.93 µg/L, which is greater than the corresponding *Tier 1 ESL*, the *Direct Exposure Health Risk Based MCL*, and the *Direct Exposure Human Health Risk Level* but less than all other corresponding screening levels.

7.4 OTHER VOCS

Several other VOCs were detected in in one or more of the above-noted groundwater samples at concentrations greater than laboratory RDLs. These detected concentrations were often greater than the screening levels noted in Section 6.0. Based on (1) the concentrations observed, (2) the groundwater flow direction in the project site vicinity, and (3) previous up-gradient ROW investigations performed by GeoDesign (GeoDesign, 2016), the following sections summarize VOCs that appear to have migrated towards the project site from up-gradient sources.

7.4.1 PCE

PCE was detected in groundwater samples MW-01, MW-02, MW-2, and MW-3, as summarized below:

- PCE was detected in groundwater samples MW-01, MW-02, and MW-2 at concentrations of 48.3 µg/L, 6.52 µg/L, and 37.6 µg/L, respectively. These detected concentrations are greater than the corresponding *Tier 1 ESL* (3 µg/L), the *Direct Exposure Health Risk Based MCL* (5 µg/L), and the *Direct Exposure Human Health Risk Level* (0.06 µg/L) but less than all other corresponding screening levels.

- PCE was detected in groundwater sample MW-3 at a concentration of 1.89 µg/L, which is greater than the corresponding *Direct Exposure Human Health Risk Level* (0.06 µg/L) but less than all other corresponding screening levels.

7.4.2 TCE

TCE was detected in groundwater samples MW-01 and MW-2 at concentrations of 4.35 µg/L and 1.67 µg/L, respectively. These detected concentrations are greater than the corresponding *Health Risk Based and MCL* (0.71 µg/L) but are less than all other corresponding screening levels.

7.4.3 Carbon Tetrachloride

Carbon tetrachloride was detected in groundwater samples MW-01 and MW-2 at concentrations of 1.36 µg/L and 2.28 µg/L. respectively. These detected concentrations are greater than the corresponding *Tier 1 ESL* (0.22 µg/L), the *Direct Exposure Health Risk Based MCL* (0.5 µg/L), and the *Direct Exposure Human Health Risk Level* (0.1 µg/L) but are less than all other corresponding screening levels.

8.0 CONCLUSION

GeoDesign conducted a groundwater monitoring event at the project site on October 12, 2016, which included the collection and chemical analysis of ten groundwater samples (MW-01, MW-02, MW-03, MW-04, A-1, A-2, A-3, MW-2, MW-3, and MW-6). This sampling event has been conducted to satisfy the San Francisco Bay Regional Water Quality Control Board's request for additional groundwater monitoring data (San Francisco Bay Regional Water Quality Control Board, 2016).

Although some screening level exceedances are noted herein, the April 2016 SCM (GeoDesign, 2016) indicates that the only beneficial groundwater use in the project site vicinity is the unlikely re-use of groundwater beneath the project site as a drinking water source. The April 2016 SCM identified direct contact with construction and excavation workers as the only current potential scenario for groundwater beneath the project site to be encountered by humans. However, based on the existing infrastructure (municipal water supply), the depth to groundwater, and the urban nature of the project site vicinity, is unlikely that shallow groundwater will be used before water quality objectives are restored by natural attenuation.

Groundwater has been monitored and sampled in the project site vicinity for up to 25 years. Based on a comparison of the October 2016 data to historical maximum detected concentrations (GeoDesign, 2016), petroleum hydrocarbons and VOCs in groundwater have significantly diminished since they were identified in the project site vicinity. When considering (1) the age of the release, (2) the time that has elapsed since removal of fuel pumps from the project site and the adjoining Douglas Parking Company site, (3) the analytical data obtained during our investigation, and (4) the results of previous investigations completed in the vicinity of the project site, it is our professional opinion that the observed contaminant plume should be considered mature and stable.

9.0 LIMITATIONS

This report has been prepared for use by 1700 Webster, LLC. GeoDesign makes no warranties or guarantees regarding the accuracy or completeness of information provided or compiled by others. There is always a potential that areas with contamination that were not identified at the project site. GeoDesign cannot be responsible if the standards of all appropriate inquiry or regulatory definitions of hazardous substance change or if you are required to meet more stringent standards in the future. This report is not intended for use by others, and the information contained herein is not applicable to other sites. Reliance on this report by other parties is strictly at the risk of those parties, and GeoDesign will grant no third party reliance unless specifically requested in writing by our client for whom this report was prepared.

Within the limitations of scope, schedule, and budget, our services have been executed in accordance with the generally accepted environmental science practices in this area at the time this report was prepared. No warranty or other conditions, express or implied, should be understood.

♦ ♦ ♦

Please call us if you have questions regarding this report or any aspect of the project.

Sincerely,

GeoDesign, Inc.

Andrew S. Blake, R.G. (Oregon)
Senior Project Geologist

Tacia C. Miller, P.E.
Senior Associate Engineer

Signed 11/14/2016

Robert E. Belding, R.G. (Oregon)
Principal Geologist

REFERENCES

EPA, 2010. Low Stress (low flow) Purging and Sampling Procedure for the Collection of Groundwater Samples from Monitoring Wells. January 19.

GeoDesign, Inc., 2015. *Environmental Services Report; 1710 Webster Street; Oakland, California.*

GeoDesign, Inc., 2016. *Site Conceptual Model; 1700 and 1710 Webster Street; Oakland, California.*

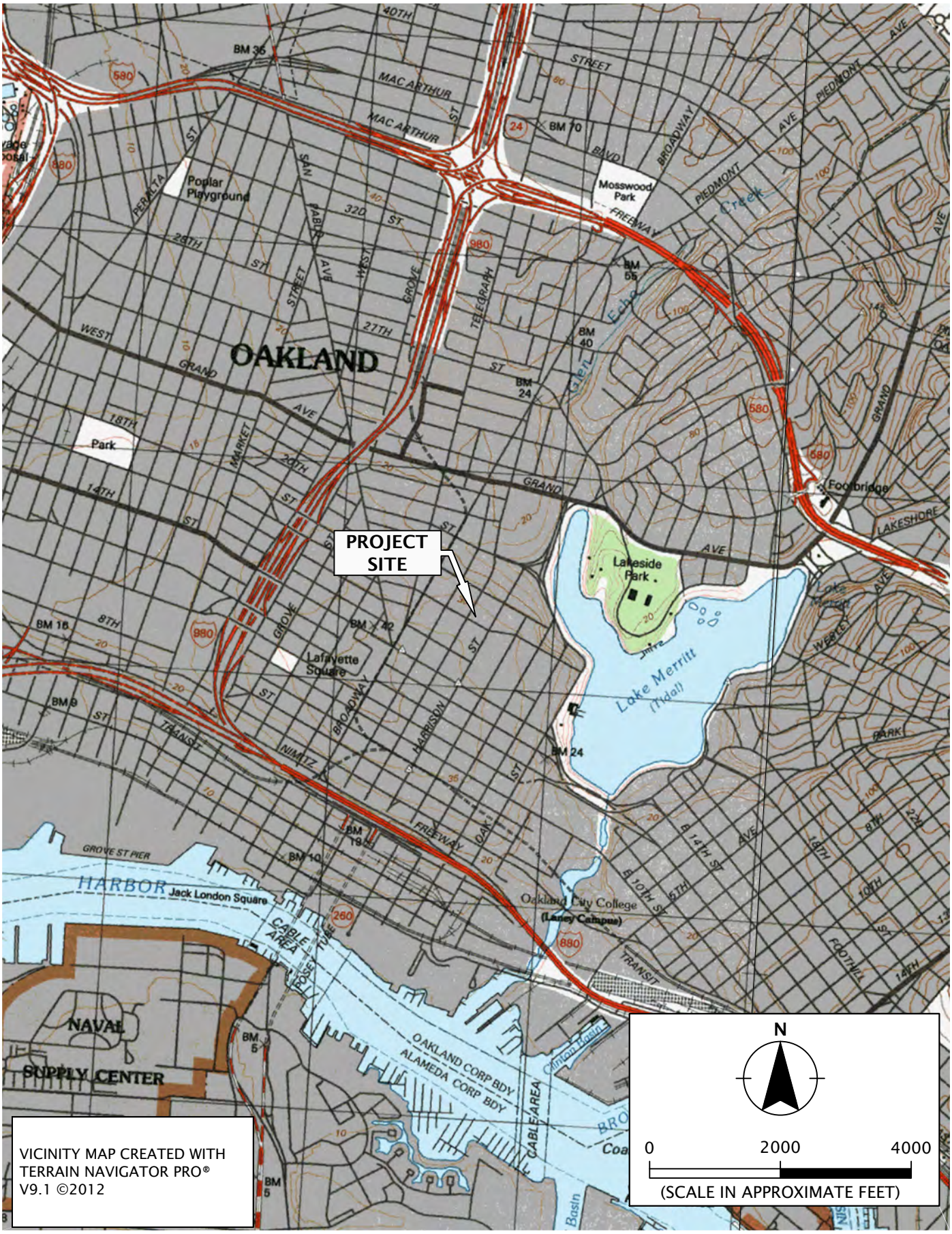
Pangea Environmental Services, Inc. (2012). *Sensitive Receptor Survey, Conduit Study and Site Conceptual Model, Douglas Parking Company, 1721 Webster Street, Oakland, California, ACEH File No. 4070.*

Radbruch, D. H., 1957. Aerial and Engineering Geology of the Oakland West Quadrangle, California, Map I-239. Department of the Interior, United States Geological Survey.

Radbruch, D. H., 1959. Former Shoreline Features Along the East Side of San Francisco Bay, California. Map I-298. Department of the Interior, United States Geological Survey.

San Francisco Bay Regional Water Quality Control Board, 2016). Letter Re: Approval of Site Conceptual Model and Site Management Plan and Requirement for Project Schedule, Vapor Mitigation System Design, Site Management Implementation Report, and Proposed Deed Restriction for 1700-1710 Webster Street, Oakland, Alameda. September 27.

FIGURES



GEODESIGN INC
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GERDING-188-04	**VICINITY MAP**	
NOVEMBER 2016	1700 THROUGH 1750 WEBSTER STREET OAKLAND, CA	**FIGURE 1**

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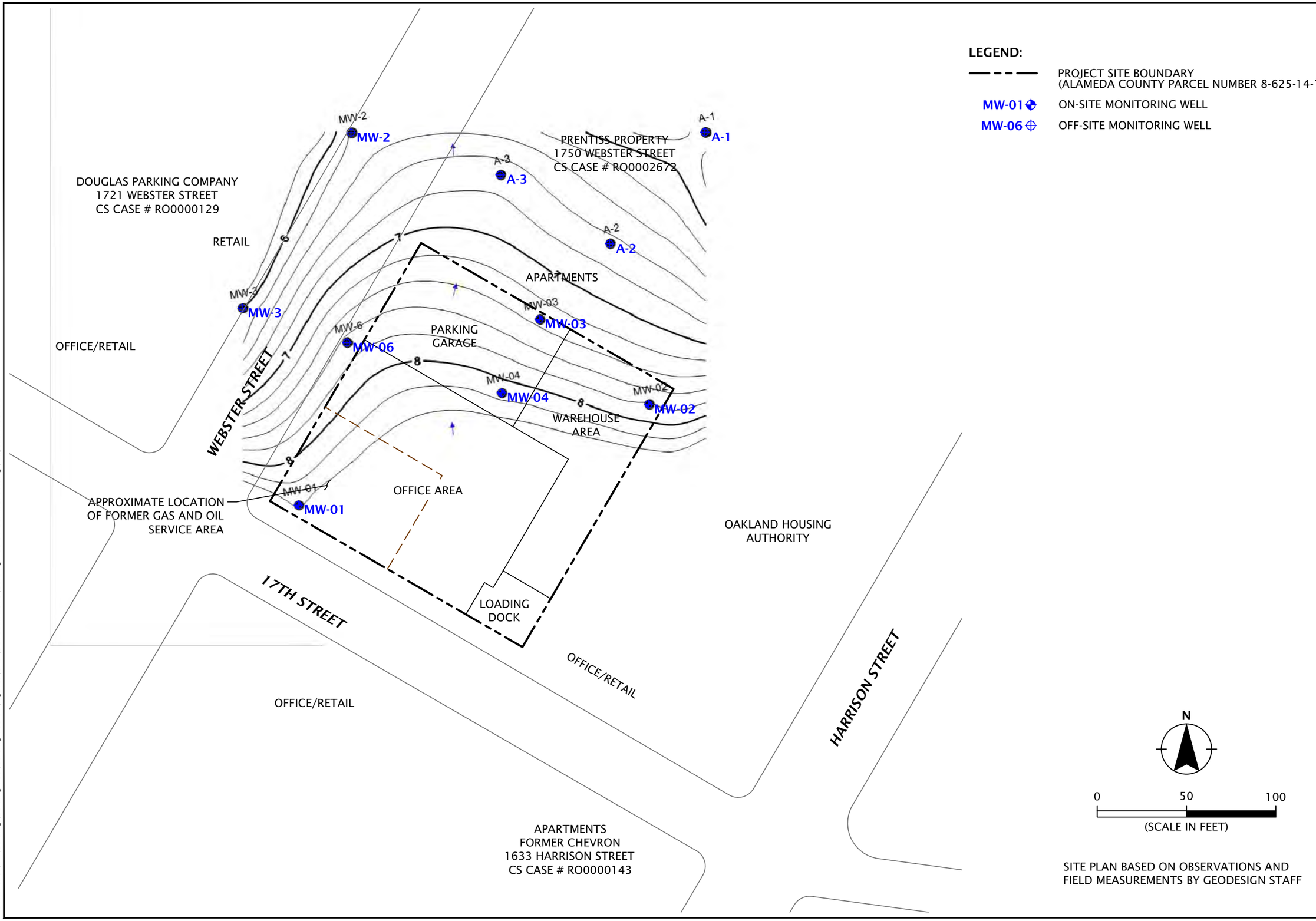

SITE PLAN BASED ON OBSERVATIONS AND FIELD MEASUREMENTS BY GEODESIGN STAFF

SITE PLAN WITH GROUNDWATER CONTOURS

1700 THROUGH 1750 WEBSTER STREET
OAKLAND, CA

FIGURE 2

GERDING-188-04

NOVEMBER 2016

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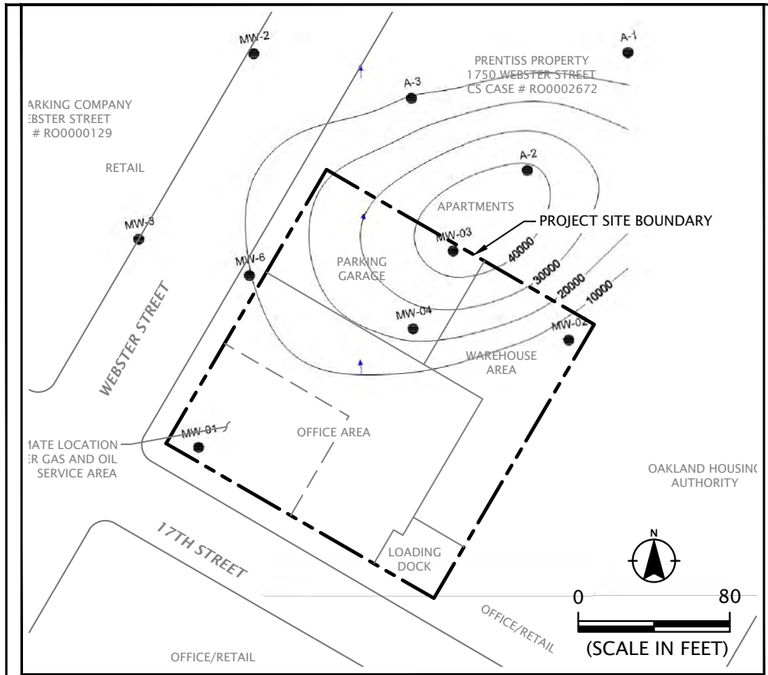
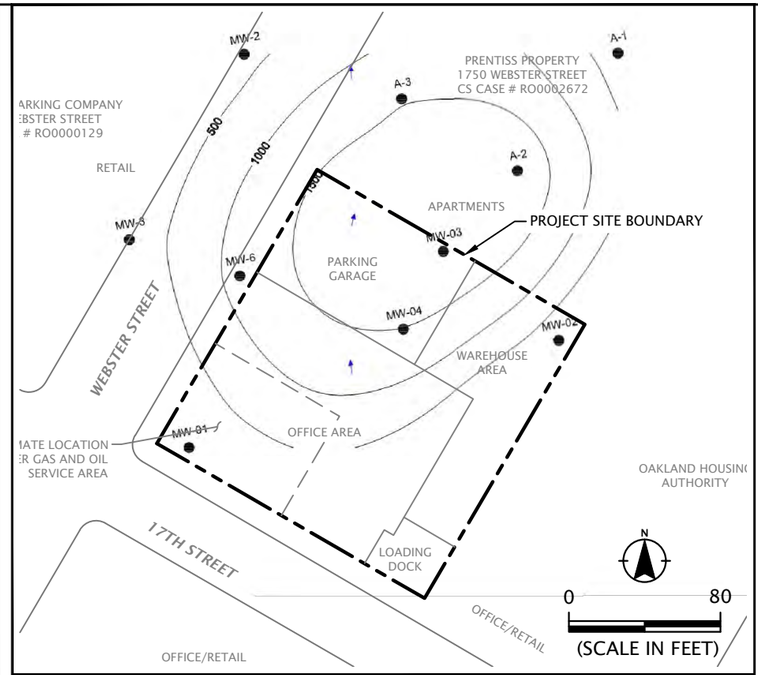


GRO ISOCONTOURS
AND GROUNDWATER FLOW DIRECTIONS



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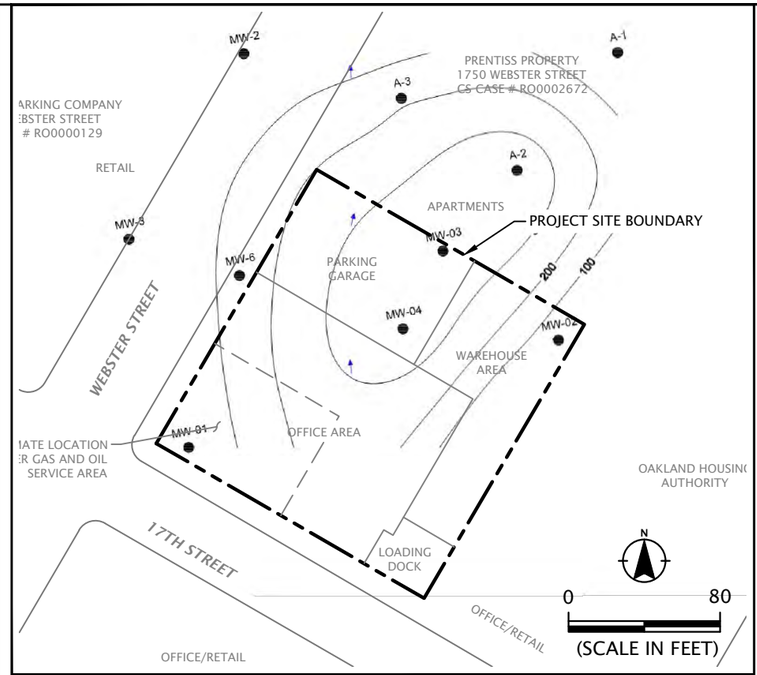

NAPTHALENE ISOCONTOURS
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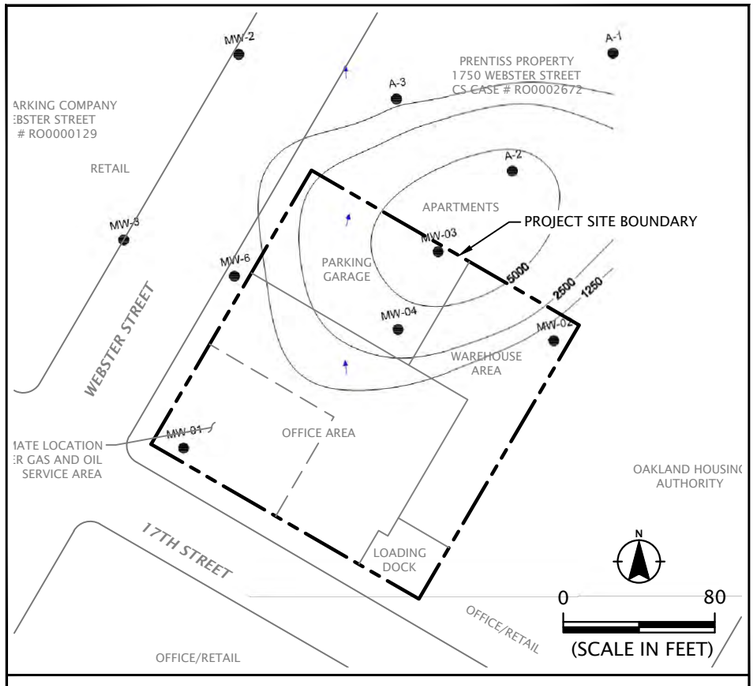

XYLENES ISOCONTOURS
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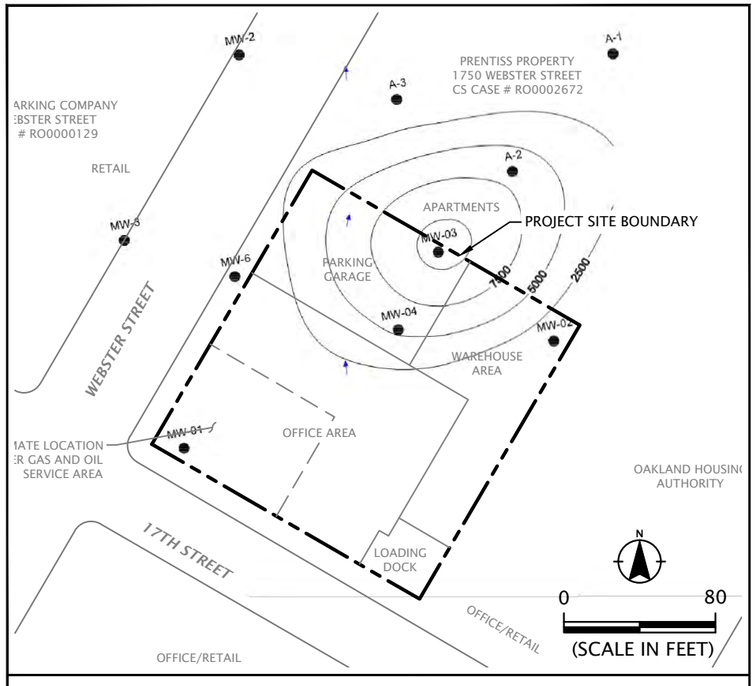

TOLUENE ISOCONTOURS
AND GROUNDWATER FLOW DIRECTIONS

CHEMICAL-SPECIFIC ISOCONTOURS AND GROUNDWATER FLOW DIRECTIONS

1700 THROUGH 1750 WEBSTER STREET
OAKLAND, CA

FIGURE 3

GERDING-188-04

NOVEMBER 2016

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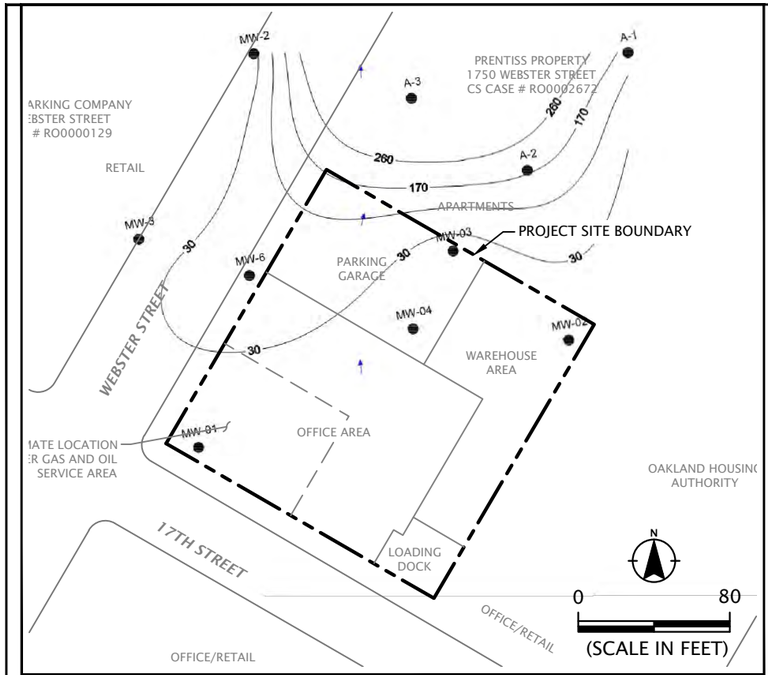
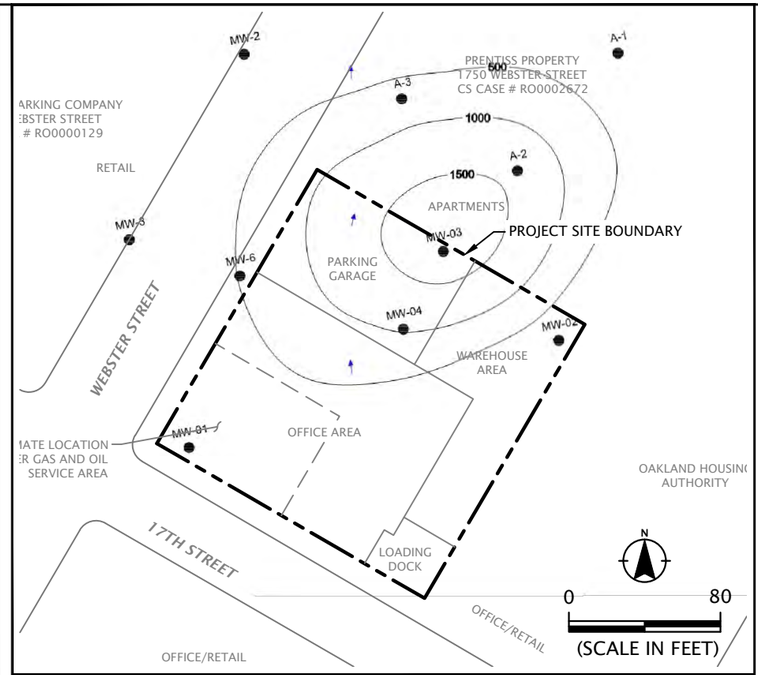


BENZENE ISOCONTOURS AND GROUNDWATER FLOW DIRECTIONS



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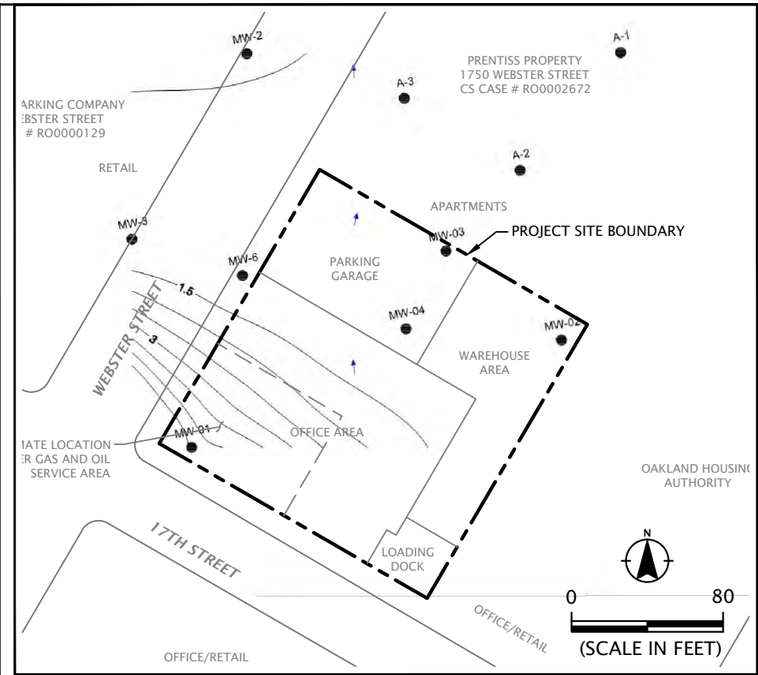

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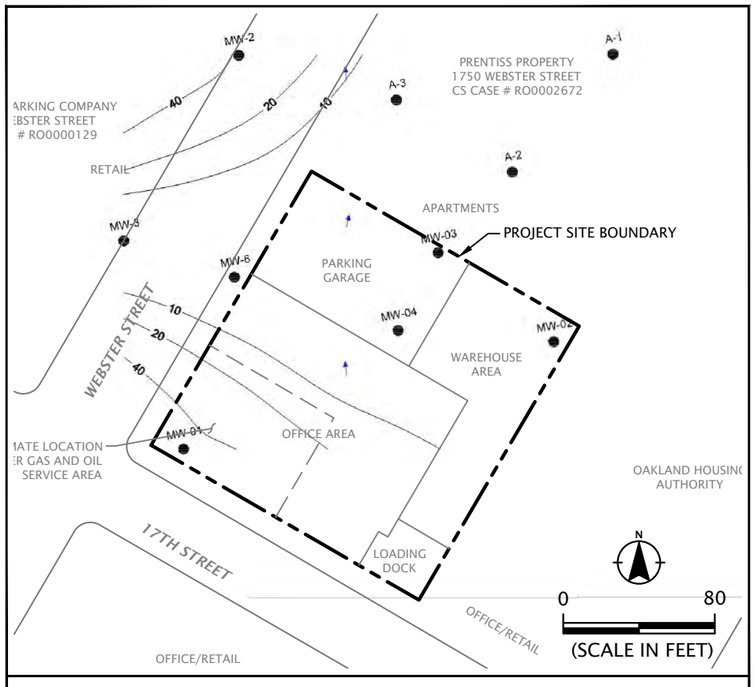
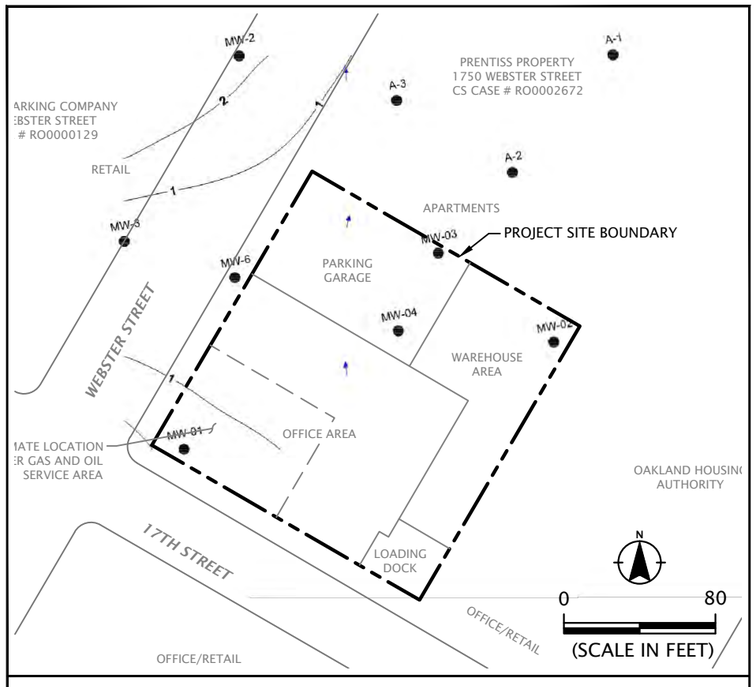


PCE ISOCONTOURS AND GROUNDWATER FLOW DIRECTIONS



CARBON TETRACHLORIDE ISOCONTOURS AND GROUNDWATER FLOW DIRECTIONS

CHEMICAL-SPECIFIC ISOCONTOURS AND GROUNDWATER FLOW DIRECTIONS

1700 THROUGH 1750 WEBSTER STREET
OAKLAND, CA

FIGURE 4

GERDING-188-04

NOVEMBER 2016

GEODESIGN INC
15575 SW Sequoia Parkway - Suite 100
Portland OR 97224
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File Name: J:\E-L\Gerding\Gerding-188\Gerding-188-04\Figures\CAD\OCTOBER 2016\Gerding-188-04-CGMR GW02.dwg | Layout: FIGURE 4

TABLES

TABLE 1
Summary of Groundwater Sample Field Measurements
1700 through 1750 Webster Street
Oakland, California

Sample I.D	Site	Approximate TOC Elevation (feet)	Depth to Water (feet)	Approximate Groundwater Elevation (feet)	Time	Volume Pudged (gallons)	Temperature (˚C)	Specific Conductance (µS/cm)	ORP (mV)	Dissolved Oxygen (percent)	pH	Turbidity (NTU)
MW-01	1700 and 1710 Webster Street	31.32[1]	22.95	8.37	1050	0.5	20.87	602	67.1	31.9	7.16	23.33
					1100		20.98	599	62.5	31.2	7.15	10.67
					1105		20.97	598	64.7	31.2	7.15	7.39
					1110		21.01	598	67.6	31.8	7.14	5.32
					1115		21.01	597	69.3	31.1	7.14	5.44
					1120		21.05	597	70.9	31.7	7.13	3.02
MW-02		29.24[1]	21.44	7.80	800	0.5	20.00	609	180.7	17.6	7.04	23.03
					805		20.09	598	126.2	29.7	7.04	11.32
					810		20.11	593	85.9	34.6	7.03	7.21
					815		20.15	592	67.2	36.7	7.03	4.77
					820		20.13	590	63.8	64.8	7.05	5.06
					825		20.11	589	54.4	22.9	7.02	3.42
MW-03		29.22[1]	21.89	7.33	850	0.5	18.94	555	-49.2	7.2	6.97	38.93
					855		18.90	546	-53.7	5.9	6.98	27.24
					900		18.90	540	-53.1	6.4	6.99	18.10
					905		18.90	537	-55.8	5.7	7.00	13.59
					910		18.90	530	-56.5	5.3	7.00	8.12
					915		18.89	529	-56.3	4.9	7.01	5.19
					920		18.87	527	-55.4	4.6	7.01	3.70
					925		18.87	525	-56.5	4.5	7.01	3.01
MW-04		29.43[1]	21.31	8.13	950	0.5	19.37	493	-27.7	11.4	7.07	38.66
					955		19.36	487	-32.4	9.2	7.07	28.88
					1000		19.36	485	-34.6	8.5	7.08	14.10
					1005		19.34	479	-37.4	8.1	7.08	8.98
					1010		19.34	478	-35.1	7.9	7.08	6.80
					1015		19.36	475	-36.4	7.2	7.08	3.11
					1020		19.39	475	-36.1	6.5	7.09	3.91
					1025		19.41	474	-37.6	6.1	7.09	1.13
A-1	1750 Webster Street	27.20[2]	21.32	5.88	1330	3	20.62	658	-3.6	8.9	6.91	9.77
					1335		20.77	660	-12.4	6.7	6.90	8.37
					1340		20.98	663	-14.9	5.6	6.89	6.04
					1345		21.19	666	-17.7	5.1	6.90	5.42
					1350		21.24	666	-18.4	4.5	6.89	5.46
					1355		21.32	668	-19.4	4.0	6.90	4.57

TABLE 1
Summary of Groundwater Sample Field Measurements
1700 through 1750 Webster Street
Oakland, California

Sample I.D	Site	Approximate TOC Elevation (feet)	Depth to Water (feet)	Approximate Groundwater Elevation (feet)	Time	Volume Pudged (gallons)	Temperature (˚C)	Specific Conductance (µS/cm)	ORP (mV)	Dissolved Oxygen (percent)	pH	Turbidity (NTU)
A-2	1750 Webster Street	28.31[2]	21.65	6.66	1240	3	18.19	625	-44.7	9.7	7.09	13.91
					1245		18.21	623	-48.8	5.9	7.08	9.07
					1250		18.21	620	-44.9	6.0	7.06	8.55
					1255		18.18	618	-49.6	6.3	7.05	5.29
					1300		18.14	617	-49.7	6.2	7.06	5.14
					1305		18.11	616	-49.7	5.6	7.05	4.21
A-3	1750 Webster Street	27.71[2]	21.01	6.70	1150	3	19.22	739	-58.5	4.0	7.09	26.91
					1155		19.13	738	-63.5	4.3	7.09	23.01
					1200		18.95	736	-64.9	3.7	7.09	21.60
					1205		18.90	737	-62.7	6.0	7.10	23.81
					1210		18.92	736	-67.2	3.6	7.10	19.30
					1215		18.85	736	-68.2	2.8	7.10	19.46
MW-2	1721 Webster Street	26.48[3]	20.26	6.22	1530	3	21.01	594	-5.8	7.4	7.09	1.67
					1535		20.93	596	-8.8	5.4	7.07	0.73
					1540		20.95	600	-8.1	5.5	7.06	1.20
					1545		20.91	600	-11.6	5.2	7.06	0.94
					1550		20.95	605	-14.5	5.1	7.06	0.62
MW-3		27.80[3]	21.76	6.04	1505	4	20.52	415	-37.1	6.2	6.97	2.59
					1510		20.51	413	-37.3	5.4	6.97	2.10
					1515		20.52	412	-35.7	5.1	6.95	1.65
MW-6		27.95[1]	20.30	7.65	1420	1	20.94	643	-61.3	6.0	6.94	7.01
					1425		20.83	643	-64.2	4.8	6.94	6.25
					1430		20.78	644	-67.0	3.8	6.94	5.56
					1435		20.60	641	-65.5	3.4	6.95	3.90
					1440		20.63	640	-65.0	3.2	6.95	3.44
					1445		20.70	641	-67.8	3.1	6.95	3.68

Notes:
1. Based on well monument elevations surveyed to City of Oakland Benchmark by Mark Thomas and Company, a licensed land surveyor in 2016.
2. Converted from MSL (NGVD) to City of Oakland Datum using the information provided by the City of Oakland (http://www2.oaklandnet.com/oakca1/groups/pwa/documents/report/oak049845.pdf)
3. Converted using the elevation of MW-6, which was surveyed to City of Oakland Benchmark by Mark Thomas and Company, a licensed land surveyor in 2016.

TABLE 2
Summary of Groundwater Sample Chemical Analytical Results[1]
Petroleum Hydrocarbons
1700 through 1750 Webster Street
Oakland, California

Sample I.D.	Sample Date	DRO and RRO by EPA Method 3511/8015 (µg/L)			GRO by EPA Method 8015 (µg/L)
		C12-C22	C22-C32	C32-C40	
MW-01	10/12/16	100 U	100 U	100 U	**410**
MW-02	10/12/16	100 U	100 U	100 U	100 U
MW-03	10/12/16	**1,880**	100 U	100 U	**45,400**
MW-04	10/12/16	**1,490**	100 U	100 U	**23,500**
A-1	10/12/16	**388**	100 U	100 U	**4,550**
A-2	10/12/16	**1,810**	100 U	100 U	**41,600**
A-3	10/12/16	**1,450**	100 U	100 U	**10,600**
MW-2	10/12/16	**359**	100 U	100 U	**391**
MW-3	10/12/16	**261**	100 U	100 U	**2,460**
MW-6	10/12/16	**1,140**	100 U	100 U	**9,570**
San Francisco Bay RWQCB ESLs[2]					
Tier 1 ESL		100	50,000		100
Odor Nuisance Level: Drinking Water		100	NE		100
Gross Contamination Level		2,500	50,000		50,000
Deep Groundwater VI: Residential Fine to Coarse Scenario		NE	NE		NE
Deep Groundwater VI: Commercial/Industrial Fine to Coarse Scenario		NE	NE		NE
Direct Exposure Human Health Risk Level: MCL		150	NE		220
Direct Exposure Human Health Risk Level: Health Risk Based		150	NE		220

TABLE 2
Summary of Groundwater Sample Chemical Analytical Results[1]
Petroleum Hydrocarbons
1700 through 1750 Webster Street
Oakland, California

Notes:
1. Chemical analysis performed by ESC Labs of Mt. Juliet, Tennessee.
2. RWQCB ESLs updated February 2016

U: not detected at a concentration greater than the laboratory RDL or PQL (shown)
Bolding indicates analyte detection.
Gray shading indicates analyte exceeds one or more applicable regulatory screening levels.
Yellow shading indicates the exceeded screening level(s).

TABLE 3
Summary of Groundwater Sample Chemical Analytical Results[1]
VOCS[2]
1700 through 1750 Webster Street
Oakland, California

Sample I.D.	Sample Date	VOCs by EPA Method 8260B (µg/L)																
		Benzene	n-Butylbenzene	sec-Butylbenzene	tert-Butylbenzene	Carbon Tetrachloride	Chloromethane	Ethylbenzene	Isopropylbenzene	Naphthalene	n-Propylbenzene	PCE	Toluene	TCE	1,2,3-Trimethylbenzene	1,2,4-Trimethylbenzene	1,3,5-Trimethylbenzene	Total Xylenes
MW-01	10/12/16	**1.08**	1.00 U	1.00 U	**0.99**	**1.36**	2.50 U	**12.8**	**4.14**	5.00 U	**4.74**	**48.3**	5.00 U	**4.35**	1.00 U	**3.46**	**3.00**	3.00 U
MW-02	10/12/16	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	2.50 U	1.00 U	1.00 U	5.00 U	1.00 U	**6.52**	5.00 U	1.00 U	1.00 U	1.00 U	1.00 U	3.00 U
MW-03	10/12/16	100.0 U	100.0 U	100.0 U	100.0 U	100.0 U	250.0 U	**1,750**	**121**	500 U	**204**	100.0 U	**10,700**	100.0 U	**455**	**1,470**	**336**	**6,940**
MW-04	10/12/16	50.0 U	50.0 U	50.0 U	50.0 U	50.0 U	125.0 U	**1,030**	**112**	**358**	**199**	50.0 U	**5,330**	50.0 U	**434**	**919**	**352**	**3,820**
A-1	10/12/16	**140**	10.0 U	10.0 U	**9.6**	10.0 U	25.0 U	**186**	**39**	50.0 U	**27**	10.0 U	**70.7**	10 U	**5.11**	**21**	10 U	**58.0**
A-2	10/12/16	**175.0**	100.0 U	100.0 U	100.0 U	100.0 U	250.0 U	**1,370**	**96**	**364**	**151**	100.0 U	**6,690**	100.0 U	**363**	**1290**	**303**	**6,010**
A-3	10/12/16	**463.0**	20.0 U	**7.5**	20.0 U	20.0 U	50.0 U	**743**	**52**	**183**	**101**	20.0 U	**170**	20.0 U	**90.5**	**501**	**32.6**	**843**
MW-2	10/12/16	1.00 U	**2.3**	**2.15**	**1.4**	**2.28**	2.50 U	**5.42**	**4**	**8.93**	**13**	**37.6**	5.00 U	**1.67**	**8**	**3**	**1**	**3.08**
MW-3	10/12/16	1.00 U	**3.9**	**3.4**	2.3	1.00 U	2.50 U	1.00 U	**9**	5.00 U	**49**	**1.89**	5.00 U	1.0 U	3 U	**179**	**61**	3.00 U
MW-6	10/12/16	**51.9**	20.0 U	20.0 U	11.0 U	20.0 U	**7.7** U	**507**	**52**	**137**	**109**	20.0 U	100 U	20.0 U	**139**	**442**	**10**	**461**
San Francisco Bay RWQCB ESLs[3]																		
Tier 1 ESL		1	NE	NE	NE	0.22	190	13	NE	0.12	NE	3	40	5	NE	NE	NE	20
Odor Nuisance Level: Drinking Water		170	NE	NE	NE	520	NE	30	NE	21	NE	170	40	310	NE	NE	NE	20
Gross Contamination Level		50,000	NE	NE	NE	50,000	50,000	50,000	NE	16,000	NE	50,000	50,000	50,000	NE	NE	NE	50,000
Deep Groundwater VI: Residential Fine to Coarse Scenario		30	NE	NE	NE	7.9	13,000	370	NE	180	NE	100	100,000	170	NE	NE	NE	38,000
Deep Groundwater VI Commercial/Industrial Fine to Coarse Scenario		260	NE	NE	NE	2.4	480,000	3,300	NE	1,600	NE	880	NE	1,500	NE	NE	NE	NE
Direct Exposure Human Health Risk Level: MCL		1	NE	NE	NE	0.5	190	30	NE	0.12	NE	5	40	5	NE	NE	NE	20
Direct Exposure Human Health Risk Level: Health Risk Based		0.15	NE	NE	NE	0.1	190	1.5	NE	0.12	NE	0.06	150	0.71	NE	NE	NE	190

Notes:
1. Chemical analysis performed by ESC Labs of Mt. Juliet, Tennessee.
2. Only analytes detected at concentrations greater than laboratory RDLs are shown. Refer to the laboratory report for the full list of analytes and their respective RDLs.
3. RWQCB ESLs updated February 2016
U: not detected at a concentration greater than the laboratory RDL (shown)
Bolding indicates analyte detection.
Gray shading indicates analyte exceeds one or more applicable regulatory screening levels.
Yellow shading indicates the exceeded screening level(s).

APPENDIX

APPENDIX

CHEMICAL ANALYTICAL PROGRAM

GENERAL

Chain-of-custody procedures were followed during handling and transport of the groundwater samples to the analytical laboratory. The laboratory holds the samples in cold storage pending extraction and/or analysis. The analytical results, analytical methods reference, and laboratory QC records are presented in this appendix. A summary of groundwater analytical results is presented in Tables 1 through 3.

REVIEW OF ANALYTICAL DATA

The analytical laboratory maintains an internal quality assurance program consisting of a combination of the following:

Surrogate Recoveries: Surrogates are organic compounds that are similar in nature to the analytes of concern but are not normally found in nature. The surrogates are added to QC and field samples prior to analysis. The percent recovery of the surrogate is calculated to demonstrate acceptable method performance.

Duplicates: Duplicates are obtained by splitting a sample into two parts. The two separate parts are carried through the analyses. The analytical results are then compared by calculating the RPD between the samples.

MS/MSD Recoveries: An MS sample is a sample that has been split into a second portion. The MSD is obtained by further splitting the MS sample. A known concentration of the analyte of interest is added to the MS and MSD samples. The analytical results for both samples are then compared for RPD and percent recovery to demonstrate acceptable method performance.

BS/BSD Recoveries: BS and BSD samples are obtained and analyzed in the same procedure as the MS/MSD samples; however, the laboratory blank sample is used to obtain the BS/BSD samples. The percent recovery and RPD of the known concentration of analyte of interest added to the BS/BSD sample is calculated after chemical analyses to demonstrate acceptable method performance.

SUMMARY OF ANALYTICAL DATA REVIEW

GeoDesign reviewed the attached analytical data report for data quality exceptions and deviations from acceptable method performance criteria. Based on our data review, it is our opinion that the analytical data are acceptable for their intended use.

ANALYTICAL REPORT

October 25, 2016

GeoDesign Inc.

Sample Delivery Group:	L865857
Samples Received:	10/13/2016
Project Number:	
Description:	Gerding - 188
Site:	OAKLAND, CA
Report To:	Andrew Blake 15575 SW Sequoia Pkwy. Suite 100 Portland, OR 97224

Entire Report Reviewed By:

Brian Ford

Technical Service Representative

MW-02 L865857-01 GW

Collected by: Andrew Blake | Collected date/time: 10/12/16 08:25 | Received date/time: 10/13/16 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Semi-Volatile Organic Compounds (GC) by Method 3511/8015	WG917685	1	10/18/16 16:12	10/19/16 21:02	TRF
Volatile Organic Compounds (GC) by Method 8015	WG917441	1	10/17/16 15:21	10/17/16 15:21	GLN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG917771	1	10/20/16 22:10	10/20/16 22:10	ACE

MW-03 L865857-02 GW

Collected by: Andrew Blake | Collected date/time: 10/12/16 09:25 | Received date/time: 10/13/16 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Semi-Volatile Organic Compounds (GC) by Method 3511/8015	WG917685	1	10/18/16 16:12	10/19/16 21:19	TRF
Volatile Organic Compounds (GC) by Method 8015	WG917441	10	10/21/16 16:19	10/21/16 16:19	LRL
Volatile Organic Compounds (GC/MS) by Method 8260B	WG917771	100	10/20/16 21:49	10/20/16 21:49	ACE

MW-04 L865857-03 GW

Collected by: Andrew Blake | Collected date/time: 10/12/16 10:25 | Received date/time: 10/13/16 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Semi-Volatile Organic Compounds (GC) by Method 3511/8015	WG917685	1	10/18/16 16:12	10/19/16 21:36	TRF
Volatile Organic Compounds (GC) by Method 8015	WG917441	5	10/21/16 16:42	10/21/16 16:42	LRL
Volatile Organic Compounds (GC/MS) by Method 8260B	WG917771	50	10/20/16 22:30	10/20/16 22:30	ACE

MW-01 L865857-04 GW

Collected by: Andrew Blake | Collected date/time: 10/12/16 11:20 | Received date/time: 10/13/16 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Semi-Volatile Organic Compounds (GC) by Method 3511/8015	WG917685	1	10/18/16 16:12	10/19/16 21:53	TRF
Volatile Organic Compounds (GC) by Method 8015	WG917441	1	10/21/16 17:04	10/21/16 17:04	LRL
Volatile Organic Compounds (GC/MS) by Method 8260B	WG917771	1	10/20/16 22:51	10/20/16 22:51	ACE

A-3 L865857-05 GW

Collected by: Andrew Blake | Collected date/time: 10/12/16 12:15 | Received date/time: 10/13/16 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Semi-Volatile Organic Compounds (GC) by Method 3511/8015	WG917685	1	10/18/16 16:12	10/19/16 22:10	TRF
Volatile Organic Compounds (GC) by Method 8015	WG917441	1	10/17/16 16:50	10/17/16 16:50	GLN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG917771	20	10/20/16 23:11	10/20/16 23:11	ACE

A-2 L865857-06 GW

Collected by: Andrew Blake | Collected date/time: 10/12/16 13:05 | Received date/time: 10/13/16 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Semi-Volatile Organic Compounds (GC) by Method 3511/8015	WG917685	1	10/18/16 16:12	10/19/16 22:27	TRF
Volatile Organic Compounds (GC) by Method 8015	WG917441	10	10/24/16 05:43	10/24/16 05:43	JHH
Volatile Organic Compounds (GC/MS) by Method 8260B	WG917771	100	10/20/16 23:32	10/20/16 23:32	ACE

A-1 L865857-07 GW

Collected by: Andrew Blake
Collected date/time: 10/12/16 13:55
Received date/time: 10/13/16 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Semi-Volatile Organic Compounds (GC) by Method 3511/8015	WG917685	1	10/18/16 16:12	10/19/16 22:44	TRF
Volatile Organic Compounds (GC) by Method 8015	WG917441	1	10/17/16 17:35	10/17/16 17:35	GLN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG917771	10	10/20/16 23:52	10/20/16 23:52	ACE

MW-6 L865857-08 GW

Collected by: Andrew Blake
Collected date/time: 10/12/16 14:45
Received date/time: 10/13/16 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Semi-Volatile Organic Compounds (GC) by Method 3511/8015	WG917685	1	10/18/16 16:12	10/19/16 23:01	TRF
Volatile Organic Compounds (GC) by Method 8015	WG917441	1	10/17/16 17:57	10/17/16 17:57	GLN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG917771	20	10/21/16 00:13	10/21/16 00:13	HJF

MW-3 L865857-09 GW

Collected by: Andrew Blake
Collected date/time: 10/12/16 15:15
Received date/time: 10/13/16 09:00

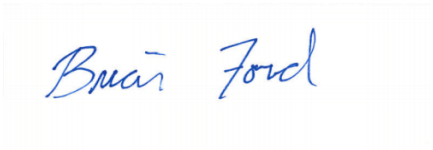
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Semi-Volatile Organic Compounds (GC) by Method 3511/8015	WG917685	1	10/18/16 16:12	10/19/16 23:18	TRF
Volatile Organic Compounds (GC) by Method 8015	WG917441	1	10/17/16 18:19	10/17/16 18:19	GLN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG917771	1	10/21/16 00:33	10/21/16 00:33	HJF

MW-2 L865857-10 GW

Collected by: Andrew Blake
Collected date/time: 10/12/16 15:50
Received date/time: 10/13/16 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Semi-Volatile Organic Compounds (GC) by Method 3511/8015	WG917685	1	10/18/16 16:12	10/19/16 23:35	TRF
Volatile Organic Compounds (GC) by Method 8015	WG917441	1	10/17/16 18:41	10/17/16 18:41	GLN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG917771	1	10/21/16 00:54	10/21/16 00:54	ACE

All sample aliquots were received at the correct temperature, in the proper containers, with the appropriate preservatives, and within method specified holding times. All MDL (LOD) and RDL (LOQ) values reported for environmental samples have been corrected for the dilution factor used in the analysis. All Method and Batch Quality Control are within established criteria except where addressed in this case narrative, a non-conformance form or properly qualified within the sample results. By my digital signature below, I affirm to the best of my knowledge, all problems/anomalies observed by the laboratory as having the potential to affect the quality of the data have been identified by the laboratory, and no information or data have been knowingly withheld that would affect the quality of the data.



Brian Ford
Technical Service Representative

Volatile Organic Compounds (GC) by Method 8015

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
TPHG C5 - C12	ND		100	1	10/17/2016 15:21	WG917441
(S) a,a,a-Trifluorotoluene(FID)	*98.7*		*62.0-128*		*10/17/2016 15:21*	WG917441

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Acetone	ND		50.0	1	10/20/2016 22:10	WG917771
Acrolein	ND	J4	50.0	1	10/20/2016 22:10	WG917771
Acrylonitrile	ND		10.0	1	10/20/2016 22:10	WG917771
Benzene	ND		1.00	1	10/20/2016 22:10	WG917771
Bromobenzene	ND		1.00	1	10/20/2016 22:10	WG917771
Bromodichloromethane	ND		1.00	1	10/20/2016 22:10	WG917771
Bromoform	ND		1.00	1	10/20/2016 22:10	WG917771
Bromomethane	ND		5.00	1	10/20/2016 22:10	WG917771
n-Butylbenzene	ND		1.00	1	10/20/2016 22:10	WG917771
sec-Butylbenzene	ND		1.00	1	10/20/2016 22:10	WG917771
tert-Butylbenzene	ND		1.00	1	10/20/2016 22:10	WG917771
Carbon tetrachloride	ND		1.00	1	10/20/2016 22:10	WG917771
Chlorobenzene	ND		1.00	1	10/20/2016 22:10	WG917771
Chlorodibromomethane	ND		1.00	1	10/20/2016 22:10	WG917771
Chloroethane	ND		5.00	1	10/20/2016 22:10	WG917771
Chloroform	ND		5.00	1	10/20/2016 22:10	WG917771
Chloromethane	ND		2.50	1	10/20/2016 22:10	WG917771
2-Chlorotoluene	ND		1.00	1	10/20/2016 22:10	WG917771
4-Chlorotoluene	ND		1.00	1	10/20/2016 22:10	WG917771
1,2-Dibromo-3-Chloropropane	ND		5.00	1	10/20/2016 22:10	WG917771
1,2-Dibromoethane	ND		1.00	1	10/20/2016 22:10	WG917771
Dibromomethane	ND		1.00	1	10/20/2016 22:10	WG917771
1,2-Dichlorobenzene	ND		1.00	1	10/20/2016 22:10	WG917771
1,3-Dichlorobenzene	ND		1.00	1	10/20/2016 22:10	WG917771
1,4-Dichlorobenzene	ND		1.00	1	10/20/2016 22:10	WG917771
Dichlorodifluoromethane	ND		5.00	1	10/20/2016 22:10	WG917771
1,1-Dichloroethane	ND		1.00	1	10/20/2016 22:10	WG917771
1,2-Dichloroethane	ND		1.00	1	10/20/2016 22:10	WG917771
1,1-Dichloroethene	ND		1.00	1	10/20/2016 22:10	WG917771
cis-1,2-Dichloroethene	ND		1.00	1	10/20/2016 22:10	WG917771
trans-1,2-Dichloroethene	ND		1.00	1	10/20/2016 22:10	WG917771
1,2-Dichloropropane	ND		1.00	1	10/20/2016 22:10	WG917771
1,1-Dichloropropene	ND		1.00	1	10/20/2016 22:10	WG917771
1,3-Dichloropropane	ND		1.00	1	10/20/2016 22:10	WG917771
cis-1,3-Dichloropropene	ND		1.00	1	10/20/2016 22:10	WG917771
trans-1,3-Dichloropropene	ND		1.00	1	10/20/2016 22:10	WG917771
2,2-Dichloropropane	ND		1.00	1	10/20/2016 22:10	WG917771
Di-isopropyl ether	ND		1.00	1	10/20/2016 22:10	WG917771
Ethylbenzene	ND		1.00	1	10/20/2016 22:10	WG917771
Hexachloro-1,3-butadiene	ND		1.00	1	10/20/2016 22:10	WG917771
Isopropylbenzene	ND		1.00	1	10/20/2016 22:10	WG917771
p-Isopropyltoluene	ND		1.00	1	10/20/2016 22:10	WG917771
2-Butanone (MEK)	ND		10.0	1	10/20/2016 22:10	WG917771
Methylene Chloride	ND		5.00	1	10/20/2016 22:10	WG917771
4-Methyl-2-pentanone (MIBK)	ND		10.0	1	10/20/2016 22:10	WG917771
Methyl tert-butyl ether	ND		1.00	1	10/20/2016 22:10	WG917771
Naphthalene	ND		5.00	1	10/20/2016 22:10	WG917771
n-Propylbenzene	ND		1.00	1	10/20/2016 22:10	WG917771
Styrene	ND		1.00	1	10/20/2016 22:10	WG917771

1 Cp
2 Tc
3 Ss
4 Cn
5 Sr
6 Qc
7 Gl
8 Al
9 Sc

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
1,1,1,2-Tetrachloroethane	ND		1.00	1	10/20/2016 22:10	WG917771
1,1,2,2-Tetrachloroethane	ND		1.00	1	10/20/2016 22:10	WG917771
1,1,2-Trichlorotrifluoroethane	ND		1.00	1	10/20/2016 22:10	WG917771
Tetrachloroethene	6.52		1.00	1	10/20/2016 22:10	WG917771
Toluene	ND		5.00	1	10/20/2016 22:10	WG917771
1,2,3-Trichlorobenzene	ND		1.00	1	10/20/2016 22:10	WG917771
1,2,4-Trichlorobenzene	ND		1.00	1	10/20/2016 22:10	WG917771
1,1,1-Trichloroethane	ND		1.00	1	10/20/2016 22:10	WG917771
1,1,2-Trichloroethane	ND		1.00	1	10/20/2016 22:10	WG917771
Trichloroethene	ND		1.00	1	10/20/2016 22:10	WG917771
Trichlorofluoromethane	ND		5.00	1	10/20/2016 22:10	WG917771
1,2,3-Trichloropropane	ND		2.50	1	10/20/2016 22:10	WG917771
1,2,4-Trimethylbenzene	ND		1.00	1	10/20/2016 22:10	WG917771
1,2,3-Trimethylbenzene	ND		1.00	1	10/20/2016 22:10	WG917771
1,3,5-Trimethylbenzene	ND		1.00	1	10/20/2016 22:10	WG917771
Vinyl chloride	ND		1.00	1	10/20/2016 22:10	WG917771
Xylenes, Total	ND		3.00	1	10/20/2016 22:10	WG917771
(S) Toluene-d8	*98.0*		*90.0-115*		*10/20/2016 22:10*	WG917771
(S) Dibromofluoromethane	*95.8*		*79.0-121*		*10/20/2016 22:10*	WG917771
(S) 4-Bromofluorobenzene	*102*		*80.1-120*		*10/20/2016 22:10*	WG917771

Semi-Volatile Organic Compounds (GC) by Method 3511/8015

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
C12-C22 Hydrocarbons	ND		100	1	10/19/2016 21:02	WG917685
C22-C32 Hydrocarbons	ND		100	1	10/19/2016 21:02	WG917685
C32-C40 Hydrocarbons	ND		100	1	10/19/2016 21:02	WG917685
(S) o-Terphenyl	*121*		*50.0-150*		*10/19/2016 21:02*	WG917685

Volatile Organic Compounds (GC) by Method 8015

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
TPHG C5 - C12	45400		1000	10	10/21/2016 16:19	WG917441
(S) a,a,a-Trifluorotoluene(FID)	*83.3*		*62.0-128*		*10/21/2016 16:19*	WG917441

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Acetone	ND		5000	100	10/20/2016 21:49	WG917771
Acrolein	ND	J4	5000	100	10/20/2016 21:49	WG917771
Acrylonitrile	ND		1000	100	10/20/2016 21:49	WG917771
Benzene	ND		100	100	10/20/2016 21:49	WG917771
Bromobenzene	ND		100	100	10/20/2016 21:49	WG917771
Bromodichloromethane	ND		100	100	10/20/2016 21:49	WG917771
Bromoform	ND		100	100	10/20/2016 21:49	WG917771
Bromomethane	ND		500	100	10/20/2016 21:49	WG917771
n-Butylbenzene	ND		100	100	10/20/2016 21:49	WG917771
sec-Butylbenzene	ND		100	100	10/20/2016 21:49	WG917771
tert-Butylbenzene	ND		100	100	10/20/2016 21:49	WG917771
Carbon tetrachloride	ND		100	100	10/20/2016 21:49	WG917771
Chlorobenzene	ND		100	100	10/20/2016 21:49	WG917771
Chlorodibromomethane	ND		100	100	10/20/2016 21:49	WG917771
Chloroethane	ND		500	100	10/20/2016 21:49	WG917771
Chloroform	ND		500	100	10/20/2016 21:49	WG917771
Chloromethane	ND	J3	250	100	10/20/2016 21:49	WG917771
2-Chlorotoluene	ND		100	100	10/20/2016 21:49	WG917771
4-Chlorotoluene	ND		100	100	10/20/2016 21:49	WG917771
1,2-Dibromo-3-Chloropropane	ND		500	100	10/20/2016 21:49	WG917771
1,2-Dibromoethane	ND		100	100	10/20/2016 21:49	WG917771
Dibromomethane	ND		100	100	10/20/2016 21:49	WG917771
1,2-Dichlorobenzene	ND		100	100	10/20/2016 21:49	WG917771
1,3-Dichlorobenzene	ND		100	100	10/20/2016 21:49	WG917771
1,4-Dichlorobenzene	ND		100	100	10/20/2016 21:49	WG917771
Dichlorodifluoromethane	ND		500	100	10/20/2016 21:49	WG917771
1,1-Dichloroethane	ND		100	100	10/20/2016 21:49	WG917771
1,2-Dichloroethane	ND		100	100	10/20/2016 21:49	WG917771
1,1-Dichloroethene	ND		100	100	10/20/2016 21:49	WG917771
cis-1,2-Dichloroethene	ND		100	100	10/20/2016 21:49	WG917771
trans-1,2-Dichloroethene	ND		100	100	10/20/2016 21:49	WG917771
1,2-Dichloropropane	ND		100	100	10/20/2016 21:49	WG917771
1,1-Dichloropropene	ND		100	100	10/20/2016 21:49	WG917771
1,3-Dichloropropane	ND		100	100	10/20/2016 21:49	WG917771
cis-1,3-Dichloropropene	ND		100	100	10/20/2016 21:49	WG917771
trans-1,3-Dichloropropene	ND		100	100	10/20/2016 21:49	WG917771
2,2-Dichloropropane	ND		100	100	10/20/2016 21:49	WG917771
Di-isopropyl ether	ND		100	100	10/20/2016 21:49	WG917771
Ethylbenzene	1750		100	100	10/20/2016 21:49	WG917771
Hexachloro-1,3-butadiene	ND		100	100	10/20/2016 21:49	WG917771
Isopropylbenzene	121		100	100	10/20/2016 21:49	WG917771
p-Isopropyltoluene	ND		100	100	10/20/2016 21:49	WG917771
2-Butanone (MEK)	ND		1000	100	10/20/2016 21:49	WG917771
Methylene Chloride	ND		500	100	10/20/2016 21:49	WG917771
4-Methyl-2-pentanone (MIBK)	ND		1000	100	10/20/2016 21:49	WG917771
Methyl tert-butyl ether	ND		100	100	10/20/2016 21:49	WG917771
Naphthalene	ND		500	100	10/20/2016 21:49	WG917771
n-Propylbenzene	204		100	100	10/20/2016 21:49	WG917771
Styrene	ND		100	100	10/20/2016 21:49	WG917771

1 Cp
2 Tc
3 Ss
4 Cn
5 Sr
6 Qc
7 Gl
8 Al
9 Sc

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
1,1,1,2-Tetrachloroethane	ND		100	100	10/20/2016 21:49	WG917771
1,1,2,2-Tetrachloroethane	ND		100	100	10/20/2016 21:49	WG917771
1,1,2-Trichlorotrifluoroethane	ND		100	100	10/20/2016 21:49	WG917771
Tetrachloroethene	ND		100	100	10/20/2016 21:49	WG917771
Toluene	10700		500	100	10/20/2016 21:49	WG917771
1,2,3-Trichlorobenzene	ND		100	100	10/20/2016 21:49	WG917771
1,2,4-Trichlorobenzene	ND		100	100	10/20/2016 21:49	WG917771
1,1,1-Trichloroethane	ND		100	100	10/20/2016 21:49	WG917771
1,1,2-Trichloroethane	ND		100	100	10/20/2016 21:49	WG917771
Trichloroethene	ND		100	100	10/20/2016 21:49	WG917771
Trichlorofluoromethane	ND		500	100	10/20/2016 21:49	WG917771
1,2,3-Trichloropropane	ND		250	100	10/20/2016 21:49	WG917771
1,2,4-Trimethylbenzene	1470		100	100	10/20/2016 21:49	WG917771
1,2,3-Trimethylbenzene	455		100	100	10/20/2016 21:49	WG917771
1,3,5-Trimethylbenzene	336		100	100	10/20/2016 21:49	WG917771
Vinyl chloride	ND		100	100	10/20/2016 21:49	WG917771
Xylenes, Total	6940		300	100	10/20/2016 21:49	WG917771
(S) Toluene-d8	*98.6*		*90.0-115*		*10/20/2016 21:49*	WG917771
(S) Dibromofluoromethane	*95.7*		*79.0-121*		*10/20/2016 21:49*	WG917771
(S) 4-Bromofluorobenzene	*103*		*80.1-120*		*10/20/2016 21:49*	WG917771

Semi-Volatile Organic Compounds (GC) by Method 3511/8015

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
C12-C22 Hydrocarbons	1880		100	1	10/19/2016 21:19	WG917685
C22-C32 Hydrocarbons	ND		100	1	10/19/2016 21:19	WG917685
C32-C40 Hydrocarbons	ND		100	1	10/19/2016 21:19	WG917685
(S) o-Terphenyl	*134*		*50.0-150*		*10/19/2016 21:19*	WG917685

1 Cp
2 Tc
3 Ss
4 Cn
5 Sr
6 Qc
7 Gl
8 Al
9 Sc

Volatile Organic Compounds (GC) by Method 8015

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
TPHG C5 - C12	23500		500	5	10/21/2016 16:42	WG917441
(S) a,a,a-Trifluorotoluene(FID)	*79.5*		*62.0-128*		*10/21/2016 16:42*	WG917441

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Acetone	ND		2500	50	10/20/2016 22:30	WG917771
Acrolein	ND	J4	2500	50	10/20/2016 22:30	WG917771
Acrylonitrile	ND		500	50	10/20/2016 22:30	WG917771
Benzene	ND		50.0	50	10/20/2016 22:30	WG917771
Bromobenzene	ND		50.0	50	10/20/2016 22:30	WG917771
Bromodichloromethane	ND		50.0	50	10/20/2016 22:30	WG917771
Bromoform	ND		50.0	50	10/20/2016 22:30	WG917771
Bromomethane	ND		250	50	10/20/2016 22:30	WG917771
n-Butylbenzene	ND		50.0	50	10/20/2016 22:30	WG917771
sec-Butylbenzene	ND		50.0	50	10/20/2016 22:30	WG917771
tert-Butylbenzene	ND		50.0	50	10/20/2016 22:30	WG917771
Carbon tetrachloride	ND		50.0	50	10/20/2016 22:30	WG917771
Chlorobenzene	ND		50.0	50	10/20/2016 22:30	WG917771
Chlorodibromomethane	ND		50.0	50	10/20/2016 22:30	WG917771
Chloroethane	ND		250	50	10/20/2016 22:30	WG917771
Chloroform	ND		250	50	10/20/2016 22:30	WG917771
Chloromethane	ND		125	50	10/20/2016 22:30	WG917771
2-Chlorotoluene	ND		50.0	50	10/20/2016 22:30	WG917771
4-Chlorotoluene	ND		50.0	50	10/20/2016 22:30	WG917771
1,2-Dibromo-3-Chloropropane	ND		250	50	10/20/2016 22:30	WG917771
1,2-Dibromoethane	ND		50.0	50	10/20/2016 22:30	WG917771
Dibromomethane	ND		50.0	50	10/20/2016 22:30	WG917771
1,2-Dichlorobenzene	ND		50.0	50	10/20/2016 22:30	WG917771
1,3-Dichlorobenzene	ND		50.0	50	10/20/2016 22:30	WG917771
1,4-Dichlorobenzene	ND		50.0	50	10/20/2016 22:30	WG917771
Dichlorodifluoromethane	ND		250	50	10/20/2016 22:30	WG917771
1,1-Dichloroethane	ND		50.0	50	10/20/2016 22:30	WG917771
1,2-Dichloroethane	ND		50.0	50	10/20/2016 22:30	WG917771
1,1-Dichloroethene	ND		50.0	50	10/20/2016 22:30	WG917771
cis-1,2-Dichloroethene	ND		50.0	50	10/20/2016 22:30	WG917771
trans-1,2-Dichloroethene	ND		50.0	50	10/20/2016 22:30	WG917771
1,2-Dichloropropane	ND		50.0	50	10/20/2016 22:30	WG917771
1,1-Dichloropropene	ND		50.0	50	10/20/2016 22:30	WG917771
1,3-Dichloropropane	ND		50.0	50	10/20/2016 22:30	WG917771
cis-1,3-Dichloropropene	ND		50.0	50	10/20/2016 22:30	WG917771
trans-1,3-Dichloropropene	ND		50.0	50	10/20/2016 22:30	WG917771
2,2-Dichloropropane	ND		50.0	50	10/20/2016 22:30	WG917771
Di-isopropyl ether	ND		50.0	50	10/20/2016 22:30	WG917771
Ethylbenzene	1030		50.0	50	10/20/2016 22:30	WG917771
Hexachloro-1,3-butadiene	ND		50.0	50	10/20/2016 22:30	WG917771
Isopropylbenzene	112		50.0	50	10/20/2016 22:30	WG917771
p-Isopropyltoluene	ND		50.0	50	10/20/2016 22:30	WG917771
2-Butanone (MEK)	ND		500	50	10/20/2016 22:30	WG917771
Methylene Chloride	ND		250	50	10/20/2016 22:30	WG917771
4-Methyl-2-pentanone (MIBK)	ND		500	50	10/20/2016 22:30	WG917771
Methyl tert-butyl ether	ND		50.0	50	10/20/2016 22:30	WG917771
Naphthalene	358		250	50	10/20/2016 22:30	WG917771
n-Propylbenzene	199		50.0	50	10/20/2016 22:30	WG917771
Styrene	ND		50.0	50	10/20/2016 22:30	WG917771

1 Cp
2 Tc
3 Ss
4 Cn
5 Sr
6 Qc
7 Gl
8 Al
9 Sc

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
1,1,1,2-Tetrachloroethane	ND		50.0	50	10/20/2016 22:30	WG917771
1,1,2,2-Tetrachloroethane	ND		50.0	50	10/20/2016 22:30	WG917771
1,1,2-Trichlorotrifluoroethane	ND		50.0	50	10/20/2016 22:30	WG917771
Tetrachloroethene	ND		50.0	50	10/20/2016 22:30	WG917771
Toluene	5330		250	50	10/20/2016 22:30	WG917771
1,2,3-Trichlorobenzene	ND		50.0	50	10/20/2016 22:30	WG917771
1,2,4-Trichlorobenzene	ND		50.0	50	10/20/2016 22:30	WG917771
1,1,1-Trichloroethane	ND		50.0	50	10/20/2016 22:30	WG917771
1,1,2-Trichloroethane	ND		50.0	50	10/20/2016 22:30	WG917771
Trichloroethene	ND		50.0	50	10/20/2016 22:30	WG917771
Trichlorofluoromethane	ND		250	50	10/20/2016 22:30	WG917771
1,2,3-Trichloropropane	ND		125	50	10/20/2016 22:30	WG917771
1,2,4-Trimethylbenzene	919		50.0	50	10/20/2016 22:30	WG917771
1,2,3-Trimethylbenzene	434		50.0	50	10/20/2016 22:30	WG917771
1,3,5-Trimethylbenzene	352		50.0	50	10/20/2016 22:30	WG917771
Vinyl chloride	ND		50.0	50	10/20/2016 22:30	WG917771
Xylenes, Total	3820		150	50	10/20/2016 22:30	WG917771
(S) Toluene-d8	*97.7*		*90.0-115*		*10/20/2016 22:30*	WG917771
(S) Dibromofluoromethane	*94.9*		*79.0-121*		*10/20/2016 22:30*	WG917771
(S) 4-Bromofluorobenzene	*102*		*80.1-120*		*10/20/2016 22:30*	WG917771

Semi-Volatile Organic Compounds (GC) by Method 3511/8015

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
C12-C22 Hydrocarbons	1490		100	1	10/19/2016 21:36	WG917685
C22-C32 Hydrocarbons	ND		100	1	10/19/2016 21:36	WG917685
C32-C40 Hydrocarbons	ND		100	1	10/19/2016 21:36	WG917685
(S) o-Terphenyl	*124*		*50.0-150*		*10/19/2016 21:36*	WG917685

Volatile Organic Compounds (GC) by Method 8015

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
TPHG C5 - C12	410		100	1	10/21/2016 17:04	WG917441
(S) a,a,a-Trifluorotoluene(FID)	*89.7*		*62.0-128*		*10/21/2016 17:04*	WG917441

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Acetone	ND		50.0	1	10/20/2016 22:51	WG917771
Acrolein	ND	J4	50.0	1	10/20/2016 22:51	WG917771
Acrylonitrile	ND		10.0	1	10/20/2016 22:51	WG917771
Benzene	1.08		1.00	1	10/20/2016 22:51	WG917771
Bromobenzene	ND		1.00	1	10/20/2016 22:51	WG917771
Bromodichloromethane	ND		1.00	1	10/20/2016 22:51	WG917771
Bromoform	ND		1.00	1	10/20/2016 22:51	WG917771
Bromomethane	ND		5.00	1	10/20/2016 22:51	WG917771
n-Butylbenzene	ND		1.00	1	10/20/2016 22:51	WG917771
sec-Butylbenzene	ND		1.00	1	10/20/2016 22:51	WG917771
tert-Butylbenzene	ND		1.00	1	10/20/2016 22:51	WG917771
Carbon tetrachloride	1.36		1.00	1	10/20/2016 22:51	WG917771
Chlorobenzene	ND		1.00	1	10/20/2016 22:51	WG917771
Chlorodibromomethane	ND		1.00	1	10/20/2016 22:51	WG917771
Chloroethane	ND		5.00	1	10/20/2016 22:51	WG917771
Chloroform	ND		5.00	1	10/20/2016 22:51	WG917771
Chloromethane	ND		2.50	1	10/20/2016 22:51	WG917771
2-Chlorotoluene	ND		1.00	1	10/20/2016 22:51	WG917771
4-Chlorotoluene	ND		1.00	1	10/20/2016 22:51	WG917771
1,2-Dibromo-3-Chloropropane	ND		5.00	1	10/20/2016 22:51	WG917771
1,2-Dibromoethane	ND		1.00	1	10/20/2016 22:51	WG917771
Dibromomethane	ND		1.00	1	10/20/2016 22:51	WG917771
1,2-Dichlorobenzene	ND		1.00	1	10/20/2016 22:51	WG917771
1,3-Dichlorobenzene	ND		1.00	1	10/20/2016 22:51	WG917771
1,4-Dichlorobenzene	ND		1.00	1	10/20/2016 22:51	WG917771
Dichlorodifluoromethane	ND		5.00	1	10/20/2016 22:51	WG917771
1,1-Dichloroethane	ND		1.00	1	10/20/2016 22:51	WG917771
1,2-Dichloroethane	ND		1.00	1	10/20/2016 22:51	WG917771
1,1-Dichloroethene	ND		1.00	1	10/20/2016 22:51	WG917771
cis-1,2-Dichloroethene	ND		1.00	1	10/20/2016 22:51	WG917771
trans-1,2-Dichloroethene	ND		1.00	1	10/20/2016 22:51	WG917771
1,2-Dichloropropane	ND		1.00	1	10/20/2016 22:51	WG917771
1,1-Dichloropropene	ND		1.00	1	10/20/2016 22:51	WG917771
1,3-Dichloropropane	ND		1.00	1	10/20/2016 22:51	WG917771
cis-1,3-Dichloropropene	ND		1.00	1	10/20/2016 22:51	WG917771
trans-1,3-Dichloropropene	ND		1.00	1	10/20/2016 22:51	WG917771
2,2-Dichloropropane	ND		1.00	1	10/20/2016 22:51	WG917771
Di-isopropyl ether	ND		1.00	1	10/20/2016 22:51	WG917771
Ethylbenzene	12.8		1.00	1	10/20/2016 22:51	WG917771
Hexachloro-1,3-butadiene	ND		1.00	1	10/20/2016 22:51	WG917771
Isopropylbenzene	4.14		1.00	1	10/20/2016 22:51	WG917771
p-Isopropyltoluene	ND		1.00	1	10/20/2016 22:51	WG917771
2-Butanone (MEK)	ND		10.0	1	10/20/2016 22:51	WG917771
Methylene Chloride	ND		5.00	1	10/20/2016 22:51	WG917771
4-Methyl-2-pentanone (MIBK)	ND		10.0	1	10/20/2016 22:51	WG917771
Methyl tert-butyl ether	ND		1.00	1	10/20/2016 22:51	WG917771
Naphthalene	ND		5.00	1	10/20/2016 22:51	WG917771
n-Propylbenzene	4.74		1.00	1	10/20/2016 22:51	WG917771
Styrene	ND		1.00	1	10/20/2016 22:51	WG917771

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
1,1,1,2-Tetrachloroethane	ND		1.00	1	10/20/2016 22:51	WG917771
1,1,2,2-Tetrachloroethane	ND		1.00	1	10/20/2016 22:51	WG917771
1,1,2-Trichlorotrifluoroethane	ND		1.00	1	10/20/2016 22:51	WG917771
Tetrachloroethene	48.3		1.00	1	10/20/2016 22:51	WG917771
Toluene	ND		5.00	1	10/20/2016 22:51	WG917771
1,2,3-Trichlorobenzene	ND		1.00	1	10/20/2016 22:51	WG917771
1,2,4-Trichlorobenzene	ND		1.00	1	10/20/2016 22:51	WG917771
1,1,1-Trichloroethane	ND		1.00	1	10/20/2016 22:51	WG917771
1,1,2-Trichloroethane	ND		1.00	1	10/20/2016 22:51	WG917771
Trichloroethene	4.35		1.00	1	10/20/2016 22:51	WG917771
Trichlorofluoromethane	ND		5.00	1	10/20/2016 22:51	WG917771
1,2,3-Trichloropropane	ND		2.50	1	10/20/2016 22:51	WG917771
1,2,4-Trimethylbenzene	3.47		1.00	1	10/20/2016 22:51	WG917771
1,2,3-Trimethylbenzene	ND		1.00	1	10/20/2016 22:51	WG917771
1,3,5-Trimethylbenzene	3.00		1.00	1	10/20/2016 22:51	WG917771
Vinyl chloride	ND		1.00	1	10/20/2016 22:51	WG917771
Xylenes, Total	ND		3.00	1	10/20/2016 22:51	WG917771
(S) Toluene-d8	*97.6*		*90.0-115*		*10/20/2016 22:51*	WG917771
(S) Dibromofluoromethane	*95.4*		*79.0-121*		*10/20/2016 22:51*	WG917771
(S) 4-Bromofluorobenzene	*103*		*80.1-120*		*10/20/2016 22:51*	WG917771

Semi-Volatile Organic Compounds (GC) by Method 3511/8015

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
C12-C22 Hydrocarbons	ND		100	1	10/19/2016 21:53	WG917685
C22-C32 Hydrocarbons	ND		100	1	10/19/2016 21:53	WG917685
C32-C40 Hydrocarbons	ND		100	1	10/19/2016 21:53	WG917685
(S) o-Terphenyl	*120*		*50.0-150*		*10/19/2016 21:53*	WG917685

Volatile Organic Compounds (GC) by Method 8015

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
TPHG C5 - C12	10600		100	1	10/17/2016 16:50	WG917441
(S) a,a,a-Trifluorotoluene(FID)	*100*		*62.0-128*		*10/17/2016 16:50*	WG917441

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Acetone	ND		1000	20	10/20/2016 23:11	WG917771
Acrolein	ND	J4	1000	20	10/20/2016 23:11	WG917771
Acrylonitrile	ND		200	20	10/20/2016 23:11	WG917771
Benzene	463		20.0	20	10/20/2016 23:11	WG917771
Bromobenzene	ND		20.0	20	10/20/2016 23:11	WG917771
Bromodichloromethane	ND		20.0	20	10/20/2016 23:11	WG917771
Bromoform	ND		20.0	20	10/20/2016 23:11	WG917771
Bromomethane	ND		100	20	10/20/2016 23:11	WG917771
n-Butylbenzene	ND		20.0	20	10/20/2016 23:11	WG917771
sec-Butylbenzene	ND		20.0	20	10/20/2016 23:11	WG917771
tert-Butylbenzene	ND		20.0	20	10/20/2016 23:11	WG917771
Carbon tetrachloride	ND		20.0	20	10/20/2016 23:11	WG917771
Chlorobenzene	ND		20.0	20	10/20/2016 23:11	WG917771
Chlorodibromomethane	ND		20.0	20	10/20/2016 23:11	WG917771
Chloroethane	ND		100	20	10/20/2016 23:11	WG917771
Chloroform	ND		100	20	10/20/2016 23:11	WG917771
Chloromethane	ND		50.0	20	10/20/2016 23:11	WG917771
2-Chlorotoluene	ND		20.0	20	10/20/2016 23:11	WG917771
4-Chlorotoluene	ND		20.0	20	10/20/2016 23:11	WG917771
1,2-Dibromo-3-Chloropropane	ND		100	20	10/20/2016 23:11	WG917771
1,2-Dibromoethane	ND		20.0	20	10/20/2016 23:11	WG917771
Dibromomethane	ND		20.0	20	10/20/2016 23:11	WG917771
1,2-Dichlorobenzene	ND		20.0	20	10/20/2016 23:11	WG917771
1,3-Dichlorobenzene	ND		20.0	20	10/20/2016 23:11	WG917771
1,4-Dichlorobenzene	ND		20.0	20	10/20/2016 23:11	WG917771
Dichlorodifluoromethane	ND		100	20	10/20/2016 23:11	WG917771
1,1-Dichloroethane	ND		20.0	20	10/20/2016 23:11	WG917771
1,2-Dichloroethane	ND		20.0	20	10/20/2016 23:11	WG917771
1,1-Dichloroethene	ND		20.0	20	10/20/2016 23:11	WG917771
cis-1,2-Dichloroethene	ND		20.0	20	10/20/2016 23:11	WG917771
trans-1,2-Dichloroethene	ND		20.0	20	10/20/2016 23:11	WG917771
1,2-Dichloropropane	ND		20.0	20	10/20/2016 23:11	WG917771
1,1-Dichloropropene	ND		20.0	20	10/20/2016 23:11	WG917771
1,3-Dichloropropane	ND		20.0	20	10/20/2016 23:11	WG917771
cis-1,3-Dichloropropene	ND		20.0	20	10/20/2016 23:11	WG917771
trans-1,3-Dichloropropene	ND		20.0	20	10/20/2016 23:11	WG917771
2,2-Dichloropropane	ND		20.0	20	10/20/2016 23:11	WG917771
Di-isopropyl ether	ND		20.0	20	10/20/2016 23:11	WG917771
Ethylbenzene	743		20.0	20	10/20/2016 23:11	WG917771
Hexachloro-1,3-butadiene	ND		20.0	20	10/20/2016 23:11	WG917771
Isopropylbenzene	51.9		20.0	20	10/20/2016 23:11	WG917771
p-Isopropyltoluene	ND		20.0	20	10/20/2016 23:11	WG917771
2-Butanone (MEK)	ND		200	20	10/20/2016 23:11	WG917771
Methylene Chloride	ND		100	20	10/20/2016 23:11	WG917771
4-Methyl-2-pentanone (MIBK)	ND		200	20	10/20/2016 23:11	WG917771
Methyl tert-butyl ether	ND		20.0	20	10/20/2016 23:11	WG917771
Naphthalene	183		100	20	10/20/2016 23:11	WG917771
n-Propylbenzene	101		20.0	20	10/20/2016 23:11	WG917771
Styrene	ND		20.0	20	10/20/2016 23:11	WG917771

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
1,1,1,2-Tetrachloroethane	ND		20.0	20	10/20/2016 23:11	WG917771
1,1,2,2-Tetrachloroethane	ND		20.0	20	10/20/2016 23:11	WG917771
1,1,2-Trichlorotrifluoroethane	ND		20.0	20	10/20/2016 23:11	WG917771
Tetrachloroethene	ND		20.0	20	10/20/2016 23:11	WG917771
Toluene	170		100	20	10/20/2016 23:11	WG917771
1,2,3-Trichlorobenzene	ND		20.0	20	10/20/2016 23:11	WG917771
1,2,4-Trichlorobenzene	ND		20.0	20	10/20/2016 23:11	WG917771
1,1,1-Trichloroethane	ND		20.0	20	10/20/2016 23:11	WG917771
1,1,2-Trichloroethane	ND		20.0	20	10/20/2016 23:11	WG917771
Trichloroethene	ND		20.0	20	10/20/2016 23:11	WG917771
Trichlorofluoromethane	ND		100	20	10/20/2016 23:11	WG917771
1,2,3-Trichloropropane	ND		50.0	20	10/20/2016 23:11	WG917771
1,2,4-Trimethylbenzene	501		20.0	20	10/20/2016 23:11	WG917771
1,2,3-Trimethylbenzene	90.5		20.0	20	10/20/2016 23:11	WG917771
1,3,5-Trimethylbenzene	32.7		20.0	20	10/20/2016 23:11	WG917771
Vinyl chloride	ND		20.0	20	10/20/2016 23:11	WG917771
Xylenes, Total	843		60.0	20	10/20/2016 23:11	WG917771
(S) Toluene-d8	*98.0*		*90.0-115*		*10/20/2016 23:11*	WG917771
(S) Dibromofluoromethane	*96.2*		*79.0-121*		*10/20/2016 23:11*	WG917771
(S) 4-Bromofluorobenzene	*103*		*80.1-120*		*10/20/2016 23:11*	WG917771

Semi-Volatile Organic Compounds (GC) by Method 3511/8015

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
C12-C22 Hydrocarbons	1450		100	1	10/19/2016 22:10	WG917685
C22-C32 Hydrocarbons	ND		100	1	10/19/2016 22:10	WG917685
C32-C40 Hydrocarbons	ND		100	1	10/19/2016 22:10	WG917685
(S) o-Terphenyl	*120*		*50.0-150*		*10/19/2016 22:10*	WG917685

Volatile Organic Compounds (GC) by Method 8015

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
TPHG C5 - C12	41600		1000	10	10/24/2016 05:43	WG917441
(S) a,a,a-Trifluorotoluene(FID)	*98.4*		*62.0-128*		*10/24/2016 05:43*	WG917441

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Acetone	ND		5000	100	10/20/2016 23:32	WG917771
Acrolein	ND	J4	5000	100	10/20/2016 23:32	WG917771
Acrylonitrile	ND		1000	100	10/20/2016 23:32	WG917771
Benzene	175		100	100	10/20/2016 23:32	WG917771
Bromobenzene	ND		100	100	10/20/2016 23:32	WG917771
Bromodichloromethane	ND		100	100	10/20/2016 23:32	WG917771
Bromoform	ND		100	100	10/20/2016 23:32	WG917771
Bromomethane	ND		500	100	10/20/2016 23:32	WG917771
n-Butylbenzene	ND		100	100	10/20/2016 23:32	WG917771
sec-Butylbenzene	ND		100	100	10/20/2016 23:32	WG917771
tert-Butylbenzene	ND		100	100	10/20/2016 23:32	WG917771
Carbon tetrachloride	ND		100	100	10/20/2016 23:32	WG917771
Chlorobenzene	ND		100	100	10/20/2016 23:32	WG917771
Chlorodibromomethane	ND		100	100	10/20/2016 23:32	WG917771
Chloroethane	ND		500	100	10/20/2016 23:32	WG917771
Chloroform	ND		500	100	10/20/2016 23:32	WG917771
Chloromethane	ND		250	100	10/20/2016 23:32	WG917771
2-Chlorotoluene	ND		100	100	10/20/2016 23:32	WG917771
4-Chlorotoluene	ND		100	100	10/20/2016 23:32	WG917771
1,2-Dibromo-3-Chloropropane	ND		500	100	10/20/2016 23:32	WG917771
1,2-Dibromoethane	ND		100	100	10/20/2016 23:32	WG917771
Dibromomethane	ND		100	100	10/20/2016 23:32	WG917771
1,2-Dichlorobenzene	ND		100	100	10/20/2016 23:32	WG917771
1,3-Dichlorobenzene	ND		100	100	10/20/2016 23:32	WG917771
1,4-Dichlorobenzene	ND		100	100	10/20/2016 23:32	WG917771
Dichlorodifluoromethane	ND		500	100	10/20/2016 23:32	WG917771
1,1-Dichloroethane	ND		100	100	10/20/2016 23:32	WG917771
1,2-Dichloroethane	ND		100	100	10/20/2016 23:32	WG917771
1,1-Dichloroethene	ND		100	100	10/20/2016 23:32	WG917771
cis-1,2-Dichloroethene	ND		100	100	10/20/2016 23:32	WG917771
trans-1,2-Dichloroethene	ND		100	100	10/20/2016 23:32	WG917771
1,2-Dichloropropane	ND		100	100	10/20/2016 23:32	WG917771
1,1-Dichloropropene	ND		100	100	10/20/2016 23:32	WG917771
1,3-Dichloropropane	ND		100	100	10/20/2016 23:32	WG917771
cis-1,3-Dichloropropene	ND		100	100	10/20/2016 23:32	WG917771
trans-1,3-Dichloropropene	ND		100	100	10/20/2016 23:32	WG917771
2,2-Dichloropropane	ND		100	100	10/20/2016 23:32	WG917771
Di-isopropyl ether	ND		100	100	10/20/2016 23:32	WG917771
Ethylbenzene	1370		100	100	10/20/2016 23:32	WG917771
Hexachloro-1,3-butadiene	ND		100	100	10/20/2016 23:32	WG917771
Isopropylbenzene	ND		100	100	10/20/2016 23:32	WG917771
p-Isopropyltoluene	ND		100	100	10/20/2016 23:32	WG917771
2-Butanone (MEK)	ND		1000	100	10/20/2016 23:32	WG917771
Methylene Chloride	ND		500	100	10/20/2016 23:32	WG917771
4-Methyl-2-pentanone (MIBK)	ND		1000	100	10/20/2016 23:32	WG917771
Methyl tert-butyl ether	ND		100	100	10/20/2016 23:32	WG917771
Naphthalene	ND		500	100	10/20/2016 23:32	WG917771
n-Propylbenzene	151		100	100	10/20/2016 23:32	WG917771
Styrene	ND		100	100	10/20/2016 23:32	WG917771

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
1,1,1,2-Tetrachloroethane	ND		100	100	10/20/2016 23:32	WG917771
1,1,2,2-Tetrachloroethane	ND		100	100	10/20/2016 23:32	WG917771
1,1,2-Trichlorotrifluoroethane	ND		100	100	10/20/2016 23:32	WG917771
Tetrachloroethene	ND		100	100	10/20/2016 23:32	WG917771
Toluene	6690		500	100	10/20/2016 23:32	WG917771
1,2,3-Trichlorobenzene	ND		100	100	10/20/2016 23:32	WG917771
1,2,4-Trichlorobenzene	ND		100	100	10/20/2016 23:32	WG917771
1,1,1-Trichloroethane	ND		100	100	10/20/2016 23:32	WG917771
1,1,2-Trichloroethane	ND		100	100	10/20/2016 23:32	WG917771
Trichloroethene	ND		100	100	10/20/2016 23:32	WG917771
Trichlorofluoromethane	ND		500	100	10/20/2016 23:32	WG917771
1,2,3-Trichloropropane	ND		250	100	10/20/2016 23:32	WG917771
1,2,4-Trimethylbenzene	1290		100	100	10/20/2016 23:32	WG917771
1,2,3-Trimethylbenzene	363		100	100	10/20/2016 23:32	WG917771
1,3,5-Trimethylbenzene	303		100	100	10/20/2016 23:32	WG917771
Vinyl chloride	ND		100	100	10/20/2016 23:32	WG917771
Xylenes, Total	6010		300	100	10/20/2016 23:32	WG917771
(S) Toluene-d8	*97.6*		*90.0-115*		*10/20/2016 23:32*	WG917771
(S) Dibromofluoromethane	*95.8*		*79.0-121*		*10/20/2016 23:32*	WG917771
(S) 4-Bromofluorobenzene	*103*		*80.1-120*		*10/20/2016 23:32*	WG917771

Semi-Volatile Organic Compounds (GC) by Method 3511/8015

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
C12-C22 Hydrocarbons	1810		100	1	10/19/2016 22:27	WG917685
C22-C32 Hydrocarbons	ND		100	1	10/19/2016 22:27	WG917685
C32-C40 Hydrocarbons	ND		100	1	10/19/2016 22:27	WG917685
(S) o-Terphenyl	*122*		*50.0-150*		*10/19/2016 22:27*	WG917685

Volatile Organic Compounds (GC) by Method 8015

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
TPHG C5 - C12	4550		100	1	10/17/2016 17:35	WG917441
(S) a,a,a-Trifluorotoluene(FID)	*99.6*		*62.0-128*		*10/17/2016 17:35*	WG917441

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Acetone	ND		500	10	10/20/2016 23:52	WG917771
Acrolein	ND	J4	500	10	10/20/2016 23:52	WG917771
Acrylonitrile	ND		100	10	10/20/2016 23:52	WG917771
Benzene	140		10.0	10	10/20/2016 23:52	WG917771
Bromobenzene	ND		10.0	10	10/20/2016 23:52	WG917771
Bromodichloromethane	ND		10.0	10	10/20/2016 23:52	WG917771
Bromoform	ND		10.0	10	10/20/2016 23:52	WG917771
Bromomethane	ND		50.0	10	10/20/2016 23:52	WG917771
n-Butylbenzene	ND		10.0	10	10/20/2016 23:52	WG917771
sec-Butylbenzene	ND		10.0	10	10/20/2016 23:52	WG917771
tert-Butylbenzene	ND		10.0	10	10/20/2016 23:52	WG917771
Carbon tetrachloride	ND		10.0	10	10/20/2016 23:52	WG917771
Chlorobenzene	ND		10.0	10	10/20/2016 23:52	WG917771
Chlorodibromomethane	ND		10.0	10	10/20/2016 23:52	WG917771
Chloroethane	ND		50.0	10	10/20/2016 23:52	WG917771
Chloroform	ND		50.0	10	10/20/2016 23:52	WG917771
Chloromethane	ND		25.0	10	10/20/2016 23:52	WG917771
2-Chlorotoluene	ND		10.0	10	10/20/2016 23:52	WG917771
4-Chlorotoluene	ND		10.0	10	10/20/2016 23:52	WG917771
1,2-Dibromo-3-Chloropropane	ND		50.0	10	10/20/2016 23:52	WG917771
1,2-Dibromoethane	ND		10.0	10	10/20/2016 23:52	WG917771
Dibromomethane	ND		10.0	10	10/20/2016 23:52	WG917771
1,2-Dichlorobenzene	ND		10.0	10	10/20/2016 23:52	WG917771
1,3-Dichlorobenzene	ND		10.0	10	10/20/2016 23:52	WG917771
1,4-Dichlorobenzene	ND		10.0	10	10/20/2016 23:52	WG917771
Dichlorodifluoromethane	ND		50.0	10	10/20/2016 23:52	WG917771
1,1-Dichloroethane	ND		10.0	10	10/20/2016 23:52	WG917771
1,2-Dichloroethane	ND		10.0	10	10/20/2016 23:52	WG917771
1,1-Dichloroethene	ND		10.0	10	10/20/2016 23:52	WG917771
cis-1,2-Dichloroethene	ND		10.0	10	10/20/2016 23:52	WG917771
trans-1,2-Dichloroethene	ND		10.0	10	10/20/2016 23:52	WG917771
1,2-Dichloropropane	ND		10.0	10	10/20/2016 23:52	WG917771
1,1-Dichloropropene	ND		10.0	10	10/20/2016 23:52	WG917771
1,3-Dichloropropane	ND		10.0	10	10/20/2016 23:52	WG917771
cis-1,3-Dichloropropene	ND		10.0	10	10/20/2016 23:52	WG917771
trans-1,3-Dichloropropene	ND		10.0	10	10/20/2016 23:52	WG917771
2,2-Dichloropropane	ND		10.0	10	10/20/2016 23:52	WG917771
Di-isopropyl ether	ND		10.0	10	10/20/2016 23:52	WG917771
Ethylbenzene	186		10.0	10	10/20/2016 23:52	WG917771
Hexachloro-1,3-butadiene	ND		10.0	10	10/20/2016 23:52	WG917771
Isopropylbenzene	39.0		10.0	10	10/20/2016 23:52	WG917771
p-Isopropyltoluene	ND		10.0	10	10/20/2016 23:52	WG917771
2-Butanone (MEK)	ND		100	10	10/20/2016 23:52	WG917771
Methylene Chloride	ND		50.0	10	10/20/2016 23:52	WG917771
4-Methyl-2-pentanone (MIBK)	ND		100	10	10/20/2016 23:52	WG917771
Methyl tert-butyl ether	ND		10.0	10	10/20/2016 23:52	WG917771
Naphthalene	ND		50.0	10	10/20/2016 23:52	WG917771
n-Propylbenzene	27.0		10.0	10	10/20/2016 23:52	WG917771
Styrene	ND		10.0	10	10/20/2016 23:52	WG917771

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
1,1,1,2-Tetrachloroethane	ND		10.0	10	10/20/2016 23:52	WG917771
1,1,2,2-Tetrachloroethane	ND		10.0	10	10/20/2016 23:52	WG917771
1,1,2-Trichlorotrifluoroethane	ND		10.0	10	10/20/2016 23:52	WG917771
Tetrachloroethene	ND		10.0	10	10/20/2016 23:52	WG917771
Toluene	70.7		50.0	10	10/20/2016 23:52	WG917771
1,2,3-Trichlorobenzene	ND		10.0	10	10/20/2016 23:52	WG917771
1,2,4-Trichlorobenzene	ND		10.0	10	10/20/2016 23:52	WG917771
1,1,1-Trichloroethane	ND		10.0	10	10/20/2016 23:52	WG917771
1,1,2-Trichloroethane	ND		10.0	10	10/20/2016 23:52	WG917771
Trichloroethene	ND		10.0	10	10/20/2016 23:52	WG917771
Trichlorofluoromethane	ND		50.0	10	10/20/2016 23:52	WG917771
1,2,3-Trichloropropane	ND		25.0	10	10/20/2016 23:52	WG917771
1,2,4-Trimethylbenzene	20.6		10.0	10	10/20/2016 23:52	WG917771
1,2,3-Trimethylbenzene	ND		10.0	10	10/20/2016 23:52	WG917771
1,3,5-Trimethylbenzene	ND		10.0	10	10/20/2016 23:52	WG917771
Vinyl chloride	ND		10.0	10	10/20/2016 23:52	WG917771
Xylenes, Total	58.0		30.0	10	10/20/2016 23:52	WG917771
(S) Toluene-d8	*97.3*		*90.0-115*		*10/20/2016 23:52*	WG917771
(S) Dibromofluoromethane	*94.9*		*79.0-121*		*10/20/2016 23:52*	WG917771
(S) 4-Bromofluorobenzene	*103*		*80.1-120*		*10/20/2016 23:52*	WG917771

Semi-Volatile Organic Compounds (GC) by Method 3511/8015

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
C12-C22 Hydrocarbons	388		100	1	10/19/2016 22:44	WG917685
C22-C32 Hydrocarbons	ND		100	1	10/19/2016 22:44	WG917685
C32-C40 Hydrocarbons	ND		100	1	10/19/2016 22:44	WG917685
(S) o-Terphenyl	*119*		*50.0-150*		*10/19/2016 22:44*	WG917685

Volatile Organic Compounds (GC) by Method 8015

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
TPHG C5 - C12	9570		100	1	10/17/2016 17:57	WG917441
(S) a,a,a-Trifluorotoluene(FID)	*98.7*		*62.0-128*		*10/17/2016 17:57*	WG917441

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Acetone	ND		1000	20	10/21/2016 00:13	WG917771
Acrolein	ND	J4	1000	20	10/21/2016 00:13	WG917771
Acrylonitrile	ND		200	20	10/21/2016 00:13	WG917771
Benzene	51.9		20.0	20	10/21/2016 00:13	WG917771
Bromobenzene	ND		20.0	20	10/21/2016 00:13	WG917771
Bromodichloromethane	ND		20.0	20	10/21/2016 00:13	WG917771
Bromoform	ND		20.0	20	10/21/2016 00:13	WG917771
Bromomethane	ND		100	20	10/21/2016 00:13	WG917771
n-Butylbenzene	ND		20.0	20	10/21/2016 00:13	WG917771
sec-Butylbenzene	ND		20.0	20	10/21/2016 00:13	WG917771
tert-Butylbenzene	ND		20.0	20	10/21/2016 00:13	WG917771
Carbon tetrachloride	ND		20.0	20	10/21/2016 00:13	WG917771
Chlorobenzene	ND		20.0	20	10/21/2016 00:13	WG917771
Chlorodibromomethane	ND		20.0	20	10/21/2016 00:13	WG917771
Chloroethane	ND		100	20	10/21/2016 00:13	WG917771
Chloroform	ND		100	20	10/21/2016 00:13	WG917771
Chloromethane	ND		50.0	20	10/21/2016 00:13	WG917771
2-Chlorotoluene	ND		20.0	20	10/21/2016 00:13	WG917771
4-Chlorotoluene	ND		20.0	20	10/21/2016 00:13	WG917771
1,2-Dibromo-3-Chloropropane	ND		100	20	10/21/2016 00:13	WG917771
1,2-Dibromoethane	ND		20.0	20	10/21/2016 00:13	WG917771
Dibromomethane	ND		20.0	20	10/21/2016 00:13	WG917771
1,2-Dichlorobenzene	ND		20.0	20	10/21/2016 00:13	WG917771
1,3-Dichlorobenzene	ND		20.0	20	10/21/2016 00:13	WG917771
1,4-Dichlorobenzene	ND		20.0	20	10/21/2016 00:13	WG917771
Dichlorodifluoromethane	ND		100	20	10/21/2016 00:13	WG917771
1,1-Dichloroethane	ND		20.0	20	10/21/2016 00:13	WG917771
1,2-Dichloroethane	ND		20.0	20	10/21/2016 00:13	WG917771
1,1-Dichloroethene	ND		20.0	20	10/21/2016 00:13	WG917771
cis-1,2-Dichloroethene	ND		20.0	20	10/21/2016 00:13	WG917771
trans-1,2-Dichloroethene	ND		20.0	20	10/21/2016 00:13	WG917771
1,2-Dichloropropane	ND		20.0	20	10/21/2016 00:13	WG917771
1,1-Dichloropropene	ND		20.0	20	10/21/2016 00:13	WG917771
1,3-Dichloropropane	ND		20.0	20	10/21/2016 00:13	WG917771
cis-1,3-Dichloropropene	ND		20.0	20	10/21/2016 00:13	WG917771
trans-1,3-Dichloropropene	ND		20.0	20	10/21/2016 00:13	WG917771
2,2-Dichloropropane	ND		20.0	20	10/21/2016 00:13	WG917771
Di-isopropyl ether	ND		20.0	20	10/21/2016 00:13	WG917771
Ethylbenzene	507		20.0	20	10/21/2016 00:13	WG917771
Hexachloro-1,3-butadiene	ND		20.0	20	10/21/2016 00:13	WG917771
Isopropylbenzene	51.8		20.0	20	10/21/2016 00:13	WG917771
p-Isopropyltoluene	ND		20.0	20	10/21/2016 00:13	WG917771
2-Butanone (MEK)	ND		200	20	10/21/2016 00:13	WG917771
Methylene Chloride	ND		100	20	10/21/2016 00:13	WG917771
4-Methyl-2-pentanone (MIBK)	ND		200	20	10/21/2016 00:13	WG917771
Methyl tert-butyl ether	ND		20.0	20	10/21/2016 00:13	WG917771
Naphthalene	137		100	20	10/21/2016 00:13	WG917771
n-Propylbenzene	109		20.0	20	10/21/2016 00:13	WG917771
Styrene	ND		20.0	20	10/21/2016 00:13	WG917771

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
1,1,1,2-Tetrachloroethane	ND		20.0	20	10/21/2016 00:13	WG917771
1,1,2,2-Tetrachloroethane	ND		20.0	20	10/21/2016 00:13	WG917771
1,1,2-Trichlorotrifluoroethane	ND		20.0	20	10/21/2016 00:13	WG917771
Tetrachloroethene	ND		20.0	20	10/21/2016 00:13	WG917771
Toluene	ND		100	20	10/21/2016 00:13	WG917771
1,2,3-Trichlorobenzene	ND		20.0	20	10/21/2016 00:13	WG917771
1,2,4-Trichlorobenzene	ND		20.0	20	10/21/2016 00:13	WG917771
1,1,1-Trichloroethane	ND		20.0	20	10/21/2016 00:13	WG917771
1,1,2-Trichloroethane	ND		20.0	20	10/21/2016 00:13	WG917771
Trichloroethene	ND		20.0	20	10/21/2016 00:13	WG917771
Trichlorofluoromethane	ND		100	20	10/21/2016 00:13	WG917771
1,2,3-Trichloropropane	ND		50.0	20	10/21/2016 00:13	WG917771
1,2,4-Trimethylbenzene	442		20.0	20	10/21/2016 00:13	WG917771
1,2,3-Trimethylbenzene	139		20.0	20	10/21/2016 00:13	WG917771
1,3,5-Trimethylbenzene	ND		20.0	20	10/21/2016 00:13	WG917771
Vinyl chloride	ND		20.0	20	10/21/2016 00:13	WG917771
Xylenes, Total	461		60.0	20	10/21/2016 00:13	WG917771
(S) Toluene-d8	*97.2*		*90.0-115*		*10/21/2016 00:13*	WG917771
(S) Dibromofluoromethane	*95.7*		*79.0-121*		*10/21/2016 00:13*	WG917771
(S) 4-Bromofluorobenzene	*103*		*80.1-120*		*10/21/2016 00:13*	WG917771

Semi-Volatile Organic Compounds (GC) by Method 3511/8015

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
C12-C22 Hydrocarbons	1140		100	1	10/19/2016 23:01	WG917685
C22-C32 Hydrocarbons	ND		100	1	10/19/2016 23:01	WG917685
C32-C40 Hydrocarbons	ND		100	1	10/19/2016 23:01	WG917685
(S) o-Terphenyl	*122*		*50.0-150*		*10/19/2016 23:01*	WG917685

Volatile Organic Compounds (GC) by Method 8015

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
TPHG C5 - C12	2460		100	1	10/17/2016 18:19	WG917441
(S) a,a,a-Trifluorotoluene(FID)	*98.3*		*62.0-128*		*10/17/2016 18:19*	WG917441

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Acetone	ND		50.0	1	10/21/2016 00:33	WG917771
Acrolein	ND	J4	50.0	1	10/21/2016 00:33	WG917771
Acrylonitrile	ND		10.0	1	10/21/2016 00:33	WG917771
Benzene	ND		1.00	1	10/21/2016 00:33	WG917771
Bromobenzene	ND		1.00	1	10/21/2016 00:33	WG917771
Bromodichloromethane	ND		1.00	1	10/21/2016 00:33	WG917771
Bromoform	ND		1.00	1	10/21/2016 00:33	WG917771
Bromomethane	ND		5.00	1	10/21/2016 00:33	WG917771
n-Butylbenzene	3.87		1.00	1	10/21/2016 00:33	WG917771
sec-Butylbenzene	3.41		1.00	1	10/21/2016 00:33	WG917771
tert-Butylbenzene	2.34		1.00	1	10/21/2016 00:33	WG917771
Carbon tetrachloride	ND		1.00	1	10/21/2016 00:33	WG917771
Chlorobenzene	ND		1.00	1	10/21/2016 00:33	WG917771
Chlorodibromomethane	ND		1.00	1	10/21/2016 00:33	WG917771
Chloroethane	ND		5.00	1	10/21/2016 00:33	WG917771
Chloroform	ND		5.00	1	10/21/2016 00:33	WG917771
Chloromethane	ND		2.50	1	10/21/2016 00:33	WG917771
2-Chlorotoluene	6.68		1.00	1	10/21/2016 00:33	WG917771
4-Chlorotoluene	ND		1.00	1	10/21/2016 00:33	WG917771
1,2-Dibromo-3-Chloropropane	ND		5.00	1	10/21/2016 00:33	WG917771
1,2-Dibromoethane	ND		1.00	1	10/21/2016 00:33	WG917771
Dibromomethane	ND		1.00	1	10/21/2016 00:33	WG917771
1,2-Dichlorobenzene	ND		1.00	1	10/21/2016 00:33	WG917771
1,3-Dichlorobenzene	ND		1.00	1	10/21/2016 00:33	WG917771
1,4-Dichlorobenzene	ND		1.00	1	10/21/2016 00:33	WG917771
Dichlorodifluoromethane	ND		5.00	1	10/21/2016 00:33	WG917771
1,1-Dichloroethane	ND		1.00	1	10/21/2016 00:33	WG917771
1,2-Dichloroethane	ND		1.00	1	10/21/2016 00:33	WG917771
1,1-Dichloroethene	ND		1.00	1	10/21/2016 00:33	WG917771
cis-1,2-Dichloroethene	ND		1.00	1	10/21/2016 00:33	WG917771
trans-1,2-Dichloroethene	ND		1.00	1	10/21/2016 00:33	WG917771
1,2-Dichloropropane	ND		1.00	1	10/21/2016 00:33	WG917771
1,1-Dichloropropene	ND		1.00	1	10/21/2016 00:33	WG917771
1,3-Dichloropropane	ND		1.00	1	10/21/2016 00:33	WG917771
cis-1,3-Dichloropropene	ND		1.00	1	10/21/2016 00:33	WG917771
trans-1,3-Dichloropropene	ND		1.00	1	10/21/2016 00:33	WG917771
2,2-Dichloropropane	ND		1.00	1	10/21/2016 00:33	WG917771
Di-isopropyl ether	ND		1.00	1	10/21/2016 00:33	WG917771
Ethylbenzene	ND		1.00	1	10/21/2016 00:33	WG917771
Hexachloro-1,3-butadiene	ND		1.00	1	10/21/2016 00:33	WG917771
Isopropylbenzene	9.45		1.00	1	10/21/2016 00:33	WG917771
p-Isopropyltoluene	ND		1.00	1	10/21/2016 00:33	WG917771
2-Butanone (MEK)	ND		10.0	1	10/21/2016 00:33	WG917771
Methylene Chloride	ND		5.00	1	10/21/2016 00:33	WG917771
4-Methyl-2-pentanone (MIBK)	ND		10.0	1	10/21/2016 00:33	WG917771
Methyl tert-butyl ether	ND		1.00	1	10/21/2016 00:33	WG917771
Naphthalene	ND		5.00	1	10/21/2016 00:33	WG917771
n-Propylbenzene	48.6		1.00	1	10/21/2016 00:33	WG917771
Styrene	ND		1.00	1	10/21/2016 00:33	WG917771

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
1,1,1,2-Tetrachloroethane	ND		1.00	1	10/21/2016 00:33	WG917771
1,1,2,2-Tetrachloroethane	ND		1.00	1	10/21/2016 00:33	WG917771
1,1,2-Trichlorotrifluoroethane	ND		1.00	1	10/21/2016 00:33	WG917771
Tetrachloroethene	1.89		1.00	1	10/21/2016 00:33	WG917771
Toluene	ND		5.00	1	10/21/2016 00:33	WG917771
1,2,3-Trichlorobenzene	ND		1.00	1	10/21/2016 00:33	WG917771
1,2,4-Trichlorobenzene	ND		1.00	1	10/21/2016 00:33	WG917771
1,1,1-Trichloroethane	ND		1.00	1	10/21/2016 00:33	WG917771
1,1,2-Trichloroethane	ND		1.00	1	10/21/2016 00:33	WG917771
Trichloroethene	ND		1.00	1	10/21/2016 00:33	WG917771
Trichlorofluoromethane	ND		5.00	1	10/21/2016 00:33	WG917771
1,2,3-Trichloropropane	ND		2.50	1	10/21/2016 00:33	WG917771
1,2,4-Trimethylbenzene	179		1.00	1	10/21/2016 00:33	WG917771
1,2,3-Trimethylbenzene	35.9		1.00	1	10/21/2016 00:33	WG917771
1,3,5-Trimethylbenzene	61.2		1.00	1	10/21/2016 00:33	WG917771
Vinyl chloride	ND		1.00	1	10/21/2016 00:33	WG917771
Xylenes, Total	ND		3.00	1	10/21/2016 00:33	WG917771
(S) Toluene-d8	*98.6*		*90.0-115*		*10/21/2016 00:33*	WG917771
(S) Dibromofluoromethane	*94.1*		*79.0-121*		*10/21/2016 00:33*	WG917771
(S) 4-Bromofluorobenzene	*103*		*80.1-120*		*10/21/2016 00:33*	WG917771

Semi-Volatile Organic Compounds (GC) by Method 3511/8015

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
C12-C22 Hydrocarbons	261		100	1	10/19/2016 23:18	WG917685
C22-C32 Hydrocarbons	ND		100	1	10/19/2016 23:18	WG917685
C32-C40 Hydrocarbons	ND		100	1	10/19/2016 23:18	WG917685
(S) o-Terphenyl	*121*		*50.0-150*		*10/19/2016 23:18*	WG917685

Volatile Organic Compounds (GC) by Method 8015

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
TPHG C5 - C12	391		100	1	10/17/2016 18:41	WG917441
(S) a,a,a-Trifluorotoluene(FID)	*99.3*		*62.0-128*		*10/17/2016 18:41*	WG917441

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Acetone	ND		50.0	1	10/21/2016 00:54	WG917771
Acrolein	ND	J4	50.0	1	10/21/2016 00:54	WG917771
Acrylonitrile	ND		10.0	1	10/21/2016 00:54	WG917771
Benzene	ND		1.00	1	10/21/2016 00:54	WG917771
Bromobenzene	ND		1.00	1	10/21/2016 00:54	WG917771
Bromodichloromethane	ND		1.00	1	10/21/2016 00:54	WG917771
Bromoform	ND		1.00	1	10/21/2016 00:54	WG917771
Bromomethane	ND		5.00	1	10/21/2016 00:54	WG917771
n-Butylbenzene	2.26		1.00	1	10/21/2016 00:54	WG917771
sec-Butylbenzene	2.15		1.00	1	10/21/2016 00:54	WG917771
tert-Butylbenzene	1.43		1.00	1	10/21/2016 00:54	WG917771
Carbon tetrachloride	2.28		1.00	1	10/21/2016 00:54	WG917771
Chlorobenzene	ND		1.00	1	10/21/2016 00:54	WG917771
Chlorodibromomethane	ND		1.00	1	10/21/2016 00:54	WG917771
Chloroethane	ND		5.00	1	10/21/2016 00:54	WG917771
Chloroform	ND		5.00	1	10/21/2016 00:54	WG917771
Chloromethane	ND		2.50	1	10/21/2016 00:54	WG917771
2-Chlorotoluene	ND		1.00	1	10/21/2016 00:54	WG917771
4-Chlorotoluene	ND		1.00	1	10/21/2016 00:54	WG917771
1,2-Dibromo-3-Chloropropane	ND		5.00	1	10/21/2016 00:54	WG917771
1,2-Dibromoethane	ND		1.00	1	10/21/2016 00:54	WG917771
Dibromomethane	ND		1.00	1	10/21/2016 00:54	WG917771
1,2-Dichlorobenzene	ND		1.00	1	10/21/2016 00:54	WG917771
1,3-Dichlorobenzene	ND		1.00	1	10/21/2016 00:54	WG917771
1,4-Dichlorobenzene	ND		1.00	1	10/21/2016 00:54	WG917771
Dichlorodifluoromethane	ND		5.00	1	10/21/2016 00:54	WG917771
1,1-Dichloroethane	ND		1.00	1	10/21/2016 00:54	WG917771
1,2-Dichloroethane	ND		1.00	1	10/21/2016 00:54	WG917771
1,1-Dichloroethene	ND		1.00	1	10/21/2016 00:54	WG917771
cis-1,2-Dichloroethene	ND		1.00	1	10/21/2016 00:54	WG917771
trans-1,2-Dichloroethene	ND		1.00	1	10/21/2016 00:54	WG917771
1,2-Dichloropropane	ND		1.00	1	10/21/2016 00:54	WG917771
1,1-Dichloropropene	ND		1.00	1	10/21/2016 00:54	WG917771
1,3-Dichloropropane	ND		1.00	1	10/21/2016 00:54	WG917771
cis-1,3-Dichloropropene	ND		1.00	1	10/21/2016 00:54	WG917771
trans-1,3-Dichloropropene	ND		1.00	1	10/21/2016 00:54	WG917771
2,2-Dichloropropane	ND		1.00	1	10/21/2016 00:54	WG917771
Di-isopropyl ether	ND		1.00	1	10/21/2016 00:54	WG917771
Ethylbenzene	5.42		1.00	1	10/21/2016 00:54	WG917771
Hexachloro-1,3-butadiene	ND		1.00	1	10/21/2016 00:54	WG917771
Isopropylbenzene	4.49		1.00	1	10/21/2016 00:54	WG917771
p-Isopropyltoluene	ND		1.00	1	10/21/2016 00:54	WG917771
2-Butanone (MEK)	ND		10.0	1	10/21/2016 00:54	WG917771
Methylene Chloride	ND		5.00	1	10/21/2016 00:54	WG917771
4-Methyl-2-pentanone (MIBK)	ND		10.0	1	10/21/2016 00:54	WG917771
Methyl tert-butyl ether	ND		1.00	1	10/21/2016 00:54	WG917771
Naphthalene	8.93		5.00	1	10/21/2016 00:54	WG917771
n-Propylbenzene	12.5		1.00	1	10/21/2016 00:54	WG917771
Styrene	ND		1.00	1	10/21/2016 00:54	WG917771

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
1,1,1,2-Tetrachloroethane	ND		1.00	1	10/21/2016 00:54	WG917771
1,1,2,2-Tetrachloroethane	ND		1.00	1	10/21/2016 00:54	WG917771
1,1,2-Trichlorotrifluoroethane	ND		1.00	1	10/21/2016 00:54	WG917771
Tetrachloroethene	37.6		1.00	1	10/21/2016 00:54	WG917771
Toluene	ND		5.00	1	10/21/2016 00:54	WG917771
1,2,3-Trichlorobenzene	ND		1.00	1	10/21/2016 00:54	WG917771
1,2,4-Trichlorobenzene	ND		1.00	1	10/21/2016 00:54	WG917771
1,1,1-Trichloroethane	ND		1.00	1	10/21/2016 00:54	WG917771
1,1,2-Trichloroethane	ND		1.00	1	10/21/2016 00:54	WG917771
Trichloroethene	1.67		1.00	1	10/21/2016 00:54	WG917771
Trichlorofluoromethane	ND		5.00	1	10/21/2016 00:54	WG917771
1,2,3-Trichloropropane	ND		2.50	1	10/21/2016 00:54	WG917771
1,2,4-Trimethylbenzene	3.00		1.00	1	10/21/2016 00:54	WG917771
1,2,3-Trimethylbenzene	8.07		1.00	1	10/21/2016 00:54	WG917771
1,3,5-Trimethylbenzene	ND		1.00	1	10/21/2016 00:54	WG917771
Vinyl chloride	ND		1.00	1	10/21/2016 00:54	WG917771
Xylenes, Total	3.08		3.00	1	10/21/2016 00:54	WG917771
(S) Toluene-d8	*98.3*		*90.0-115*		*10/21/2016 00:54*	WG917771
(S) Dibromofluoromethane	*96.2*		*79.0-121*		*10/21/2016 00:54*	WG917771
(S) 4-Bromofluorobenzene	*103*		*80.1-120*		*10/21/2016 00:54*	WG917771

Semi-Volatile Organic Compounds (GC) by Method 3511/8015

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
C12-C22 Hydrocarbons	359		100	1	10/19/2016 23:35	WG917685
C22-C32 Hydrocarbons	ND		100	1	10/19/2016 23:35	WG917685
C32-C40 Hydrocarbons	ND		100	1	10/19/2016 23:35	WG917685
(S) o-Terphenyl	*118*		*50.0-150*		*10/19/2016 23:35*	WG917685

Method Blank (MB)

(MB) R3172354-5 10/17/16 12:14

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
	ug/l		ug/l	ug/l
TPHG C5 - C12	U		30.4	100
(S) a,a,a-Trifluorotoluene(FID)	*98.8*			*62.0-128*

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3172354-3 10/17/16 11:07 • (LCSD) R3172354-4 10/17/16 11:29

Analyte	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
	ug/l	ug/l	ug/l	%	%	%			%	%
TPHG C5 - C12	5500	5470	5530	99.5	101	64.0-125			1.16	20
(S) a,a,a-Trifluorotoluene(FID)				*105*	*105*	*62.0-128*				

L865931-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L865931-01 10/17/16 13:52 • (MS) R3172354-6 10/17/16 14:14 • (MSD) R3172354-7 10/17/16 14:37

Analyte	Spike Amount	Original Result	MS Result	MSD Result	MS Rec.	MSD Rec.	Dilution	Rec. Limits	MS Qualifier	MSD Qualifier	RPD	RPD Limits
	ug/l	ug/l	ug/l	ug/l	%	%		%			%	%
TPHG C5 - C12	5500	ND	5220	5500	94.3	99.5	1	45.1-139			5.30	20
(S) a,a,a-Trifluorotoluene(FID)					*104*	*105*		*62.0-128*				

Method Blank (MB)

(MB) R3172436-3 10/20/16 20:07

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Acetone	U		10.0	50.0
Acrolein	U		8.87	50.0
Acrylonitrile	U		1.87	10.0
Benzene	U		0.331	1.00
Bromobenzene	U		0.352	1.00
Bromodichloromethane	U		0.380	1.00
Bromoform	U		0.469	1.00
Bromomethane	U		0.866	5.00
n-Butylbenzene	U		0.361	1.00
sec-Butylbenzene	U		0.365	1.00
tert-Butylbenzene	U		0.399	1.00
Carbon tetrachloride	U		0.379	1.00
Chlorobenzene	U		0.348	1.00
Chlorodibromomethane	U		0.327	1.00
Chloroethane	U		0.453	5.00
Chloroform	U		0.324	5.00
Chloromethane	U		0.276	2.50
2-Chlorotoluene	U		0.375	1.00
4-Chlorotoluene	U		0.351	1.00
1,2-Dibromo-3-Chloropropane	U		1.33	5.00
1,2-Dibromoethane	U		0.381	1.00
Dibromomethane	U		0.346	1.00
1,2-Dichlorobenzene	U		0.349	1.00
1,3-Dichlorobenzene	U		0.220	1.00
1,4-Dichlorobenzene	U		0.274	1.00
Dichlorodifluoromethane	U		0.551	5.00
1,1-Dichloroethane	U		0.259	1.00
1,2-Dichloroethane	U		0.361	1.00
1,1-Dichloroethene	U		0.398	1.00
cis-1,2-Dichloroethene	U		0.260	1.00
trans-1,2-Dichloroethene	U		0.396	1.00
1,2-Dichloropropane	U		0.306	1.00
1,1-Dichloropropene	U		0.352	1.00
1,3-Dichloropropane	U		0.366	1.00
cis-1,3-Dichloropropene	U		0.418	1.00
trans-1,3-Dichloropropene	U		0.419	1.00
2,2-Dichloropropane	U		0.321	1.00
Di-isopropyl ether	U		0.320	1.00
Ethylbenzene	U		0.384	1.00
Hexachloro-1,3-butadiene	U		0.256	1.00

Method Blank (MB)

(MB) R3172436-3 10/20/16 20:07

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Isopropylbenzene	U		0.326	1.00
p-Isopropyltoluene	U		0.350	1.00
2-Butanone (MEK)	U		3.93	10.0
Methylene Chloride	U		1.00	5.00
4-Methyl-2-pentanone (MIBK)	U		2.14	10.0
Methyl tert-butyl ether	U		0.367	1.00
Naphthalene	U		1.00	5.00
n-Propylbenzene	U		0.349	1.00
Styrene	U		0.307	1.00
1,1,1,2-Tetrachloroethane	U		0.385	1.00
1,1,2,2-Tetrachloroethane	U		0.130	1.00
Tetrachloroethene	U		0.372	1.00
Toluene	U		0.780	5.00
1,1,2-Trichlorotrifluoroethane	U		0.303	1.00
1,2,3-Trichlorobenzene	U		0.230	1.00
1,2,4-Trichlorobenzene	U		0.355	1.00
1,1,1-Trichloroethane	U		0.319	1.00
1,1,2-Trichloroethane	U		0.383	1.00
Trichloroethene	U		0.398	1.00
Trichlorofluoromethane	U		1.20	5.00
1,2,3-Trichloropropane	U		0.807	2.50
1,2,3-Trimethylbenzene	U		0.321	1.00
1,2,4-Trimethylbenzene	U		0.373	1.00
1,3,5-Trimethylbenzene	U		0.387	1.00
Vinyl chloride	U		0.259	1.00
Xylenes, Total	U		1.06	3.00
(S) Toluene-d8	*97.4*			*90.0-115*
(S) Dibromofluoromethane	*92.6*			*79.0-121*
(S) 4-Bromofluorobenzene	*104*			*80.1-120*

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3172436-1 10/20/16 18:45 • (LCSD) R3172436-2 10/20/16 19:05

Analyte	Spike Amount ug/l	LCS Result ug/l	LCSD Result ug/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Acetone	125	113	131	90.0	105	28.7-175			15.3	20.9
Acrolein	125	45.3	49.3	36.2	39.5	40.4-172	J4	J4	8.49	20
Acrylonitrile	125	104	117	83.5	93.5	58.2-145			11.2	20
Benzene	25.0	22.4	23.8	89.6	95.3	73.0-122			6.21	20

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3172436-1 10/20/16 18:45 • (LCSD) R3172436-2 10/20/16 19:05

Analyte	Spike Amount ug/l	LCS Result ug/l	LCSD Result ug/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Bromobenzene	25.0	23.4	25.2	93.8	101	81.5-115			7.10	20
Bromodichloromethane	25.0	24.6	25.6	98.5	103	75.5-121			4.09	20
Bromoform	25.0	24.2	27.2	96.9	109	71.5-131			11.7	20
Bromomethane	25.0	14.1	15.3	56.5	61.3	22.4-187			8.17	20
n-Butylbenzene	25.0	24.3	25.8	97.1	103	75.9-134			6.06	20
sec-Butylbenzene	25.0	24.3	26.4	97.2	106	80.6-126			8.42	20
tert-Butylbenzene	25.0	24.4	26.6	97.7	106	79.3-127			8.43	20
Carbon tetrachloride	25.0	23.7	24.7	94.6	98.9	70.9-129			4.45	20
Chlorobenzene	25.0	24.5	26.4	97.9	106	79.7-122			7.65	20
Chlorodibromomethane	25.0	24.9	26.9	99.6	108	78.2-124			7.91	20
Chloroethane	25.0	25.8	27.7	103	111	41.2-153			6.93	20
Chloroform	25.0	23.2	24.4	93.0	97.8	73.2-125			5.04	20
Chloromethane	25.0	27.6	28.0	110	112	55.8-134			1.30	20
2-Chlorotoluene	25.0	24.6	26.8	98.5	107	76.4-125			8.38	20
4-Chlorotoluene	25.0	24.7	26.7	99.0	107	81.5-121			7.58	20
1,2-Dibromo-3-Chloropropane	25.0	21.1	24.5	84.6	98.1	64.8-131			14.8	20
1,2-Dibromoethane	25.0	24.1	26.2	96.5	105	79.8-122			8.27	20
Dibromomethane	25.0	24.4	25.6	97.6	102	79.5-118			4.68	20
1,2-Dichlorobenzene	25.0	23.6	25.5	94.3	102	84.7-118			7.90	20
1,3-Dichlorobenzene	25.0	24.9	26.4	99.5	106	77.6-127			5.92	20
1,4-Dichlorobenzene	25.0	23.0	25.0	92.2	100	82.2-114			8.26	20
Dichlorodifluoromethane	25.0	26.4	28.0	106	112	56.0-134			6.00	20
1,1-Dichloroethane	25.0	22.7	24.0	90.9	96.1	71.7-127			5.63	20
1,2-Dichloroethane	25.0	22.1	23.0	88.6	91.9	65.3-126			3.66	20
1,1-Dichloroethene	25.0	26.8	28.0	107	112	59.9-137			4.73	20
cis-1,2-Dichloroethene	25.0	24.1	24.5	96.4	98.1	77.3-122			1.78	20
trans-1,2-Dichloroethene	25.0	23.9	25.3	95.8	101	72.6-125			5.33	20
1,2-Dichloropropane	25.0	23.5	24.4	94.1	97.8	77.4-125			3.81	20
1,1-Dichloropropene	25.0	23.8	25.2	95.2	101	72.5-127			5.55	20
1,3-Dichloropropane	25.0	23.1	25.1	92.6	100	80.6-115			7.89	20
cis-1,3-Dichloropropene	25.0	24.2	25.2	96.7	101	77.7-124			4.23	20
trans-1,3-Dichloropropene	25.0	23.7	24.6	94.7	98.5	73.5-127			3.99	20
2,2-Dichloropropane	25.0	24.1	25.8	96.2	103	61.3-134			7.16	20
Di-isopropyl ether	25.0	20.3	21.2	81.2	84.7	65.1-135			4.23	20
Ethylbenzene	25.0	24.3	26.8	97.0	107	80.9-121			10.1	20
Hexachloro-1,3-butadiene	25.0	22.7	24.6	90.9	98.6	73.7-133			8.13	20
Isopropylbenzene	25.0	24.5	26.8	97.9	107	81.6-124			8.87	20
p-Isopropyltoluene	25.0	25.3	27.5	101	110	77.6-129			8.38	20
2-Butanone (MEK)	125	109	124	86.8	99.5	46.4-155			13.6	20
Methylene Chloride	25.0	22.5	23.2	89.9	92.7	69.5-120			3.02	20

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3172436-1 10/20/16 18:45 • (LCSD) R3172436-2 10/20/16 19:05

Analyte	Spike Amount ug/l	LCS Result ug/l	LCSD Result ug/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
4-Methyl-2-pentanone (MIBK)	125	105	118	84.0	94.6	63.3-138			11.8	20
Methyl tert-butyl ether	25.0	20.7	21.9	83.0	87.7	70.1-125			5.50	20
Naphthalene	25.0	20.8	23.6	83.0	94.2	69.7-134			12.6	20
n-Propylbenzene	25.0	24.9	27.3	99.6	109	81.9-122			9.16	20
Styrene	25.0	25.5	28.3	102	113	79.9-124			10.6	20
1,1,1,2-Tetrachloroethane	25.0	25.3	26.6	101	106	78.5-125			5.29	20
1,1,2,2-Tetrachloroethane	25.0	22.1	24.7	88.2	98.6	79.3-123			11.1	20
Tetrachloroethene	25.0	25.7	28.4	103	113	73.5-130			9.77	20
Toluene	25.0	23.7	25.4	94.7	102	77.9-116			6.95	20
1,1,2-Trichlorotrifluoroethane	25.0	28.7	31.1	115	125	62.0-141			8.15	20
1,2,3-Trichlorobenzene	25.0	21.8	23.9	87.0	95.6	75.7-134			9.37	20
1,2,4-Trichlorobenzene	25.0	23.4	26.1	93.6	104	76.1-136			10.8	20
1,1,1-Trichloroethane	25.0	23.4	25.0	93.6	100	71.1-129			6.74	20
1,1,2-Trichloroethane	25.0	23.5	25.3	94.1	101	81.6-120			7.22	20
Trichloroethene	25.0	24.7	26.6	98.7	106	79.5-121			7.38	20
Trichlorofluoromethane	25.0	28.1	29.9	112	119	49.1-157			6.25	20
1,2,3-Trichloropropane	25.0	22.9	25.8	91.7	103	74.9-124			12.0	20
1,2,3-Trimethylbenzene	25.0	22.3	24.2	89.1	96.9	79.9-118			8.38	20
1,2,4-Trimethylbenzene	25.0	24.6	26.8	98.3	107	79.0-122			8.66	20
1,3,5-Trimethylbenzene	25.0	24.2	26.6	96.9	106	81.0-123			9.16	20
Vinyl chloride	25.0	24.9	26.3	99.6	105	61.5-134			5.45	20
Xylenes, Total	75.0	73.2	80.3	97.6	107	79.2-122			9.22	20
(S) Toluene-d8				*99.4*	*98.6*	*90.0-115*				
(S) Dibromofluoromethane				*98.9*	*94.7*	*79.0-121*				
(S) 4-Bromofluorobenzene				*102*	*102*	*80.1-120*				

L865857-02 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L865857-02 10/20/16 21:49 • (MS) R3172436-4 10/20/16 20:27 • (MSD) R3172436-5 10/20/16 20:47

Analyte	Spike Amount ug/l	Original Result ug/l	MS Result ug/l	MSD Result ug/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Acetone	125	ND	8870	8770	70.9	70.1	100	25.0-156			1.16	21.5
Acrolein	125	ND	18300	18300	146	147	100	34.0-194			0.250	21.5
Acrylonitrile	125	ND	14000	13800	112	110	100	55.9-161			1.35	20
Benzene	25.0	ND	2690	2610	107	104	100	58.6-133			2.84	20
Bromobenzene	25.0	ND	2930	2870	117	115	100	70.6-125			1.74	20
Bromodichloromethane	25.0	ND	2950	2930	118	117	100	69.2-127			0.800	20
Bromoform	25.0	ND	3140	3190	126	127	100	66.3-140			1.31	20
Bromomethane	25.0	ND	1730	1540	69.3	61.8	100	16.6-183			11.4	20.5

L865857-02 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L865857-02 10/20/16 21:49 • (MS) R3172436-4 10/20/16 20:27 • (MSD) R3172436-5 10/20/16 20:47

Analyte	Spike Amount ug/l	Original Result ug/l	MS Result ug/l	MSD Result ug/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
n-Butylbenzene	25.0	ND	2830	2790	113	112	100	64.8-145			1.43	20
sec-Butylbenzene	25.0	ND	2950	2880	118	115	100	66.8-139			2.25	20
tert-Butylbenzene	25.0	ND	3000	2950	120	118	100	67.1-138			1.73	20
Carbon tetrachloride	25.0	ND	2740	2690	110	108	100	60.6-139			1.97	20
Chlorobenzene	25.0	ND	3000	2920	120	117	100	70.1-130			2.45	20
Chlorodibromomethane	25.0	ND	3130	3070	125	123	100	71.6-132			2.13	20
Chloroethane	25.0	ND	3000	2850	120	114	100	33.3-155			5.05	20
Chloroform	25.0	ND	2810	2700	113	108	100	66.1-133			4.07	20
Chloromethane	25.0	ND	3120	1460	125	58.5	100	40.7-139		J3	72.4	20
2-Chlorotoluene	25.0	ND	3040	3000	122	120	100	66.9-134			1.46	20
4-Chlorotoluene	25.0	ND	3000	2960	120	118	100	66.8-134			1.27	20
1,2-Dibromo-3-Chloropropane	25.0	ND	2920	2930	117	117	100	63.9-142			0.340	20.2
1,2-Dibromoethane	25.0	ND	3100	3030	124	121	100	73.8-131			2.37	20
Dibromomethane	25.0	ND	2950	2920	118	117	100	72.8-127			0.880	20
1,2-Dichlorobenzene	25.0	ND	2930	2900	117	116	100	77.4-127			0.920	20
1,3-Dichlorobenzene	25.0	ND	3040	3000	122	120	100	67.9-136			1.30	20
1,4-Dichlorobenzene	25.0	ND	2820	2760	113	111	100	74.4-123			2.18	20
Dichlorodifluoromethane	25.0	ND	2840	2820	114	113	100	42.2-146			0.790	20
1,1-Dichloroethane	25.0	ND	2710	2620	108	105	100	64.0-134			3.36	20
1,2-Dichloroethane	25.0	ND	2680	2640	107	106	100	60.7-132			1.53	20
1,1-Dichloroethene	25.0	ND	3150	3040	126	122	100	48.8-144			3.32	20
cis-1,2-Dichloroethene	25.0	ND	2820	2750	113	110	100	60.6-136			2.49	20
trans-1,2-Dichloroethene	25.0	ND	2790	2750	111	110	100	61.0-132			1.16	20
1,2-Dichloropropane	25.0	ND	2800	2710	112	108	100	69.7-130			3.37	20
1,1-Dichloropropene	25.0	ND	2770	2690	111	108	100	61.5-136			2.80	20
1,3-Dichloropropane	25.0	ND	2920	2850	117	114	100	74.3-123			2.42	20
cis-1,3-Dichloropropene	25.0	ND	2910	2830	116	113	100	71.1-129			2.67	20
trans-1,3-Dichloropropene	25.0	ND	2830	2820	113	113	100	66.3-136			0.0700	20
2,2-Dichloropropane	25.0	ND	2890	2810	116	113	100	54.9-142			2.80	20
Di-isopropyl ether	25.0	ND	2390	2390	95.8	95.6	100	59.9-140			0.110	20
Ethylbenzene	25.0	1750	4760	4690	120	117	100	62.7-136			1.56	20
Hexachloro-1,3-butadiene	25.0	ND	2660	2640	106	106	100	61.1-144			0.670	20.1
Isopropylbenzene	25.0	121	3100	3040	119	117	100	67.4-136			1.95	20
p-Isopropyltoluene	25.0	ND	3100	3020	124	121	100	62.8-143			2.58	20
2-Butanone (MEK)	125	ND	11800	11600	94.3	93.1	100	45.0-156			1.20	20.8
Methylene Chloride	25.0	ND	2670	2640	107	106	100	61.5-125			1.03	20
4-Methyl-2-pentanone (MIBK)	125	ND	14100	14100	113	113	100	60.7-150			0.0100	20
Methyl tert-butyl ether	25.0	ND	2520	2520	101	101	100	61.4-136			0.280	20
Naphthalene	25.0	ND	3250	3290	114	115	100	61.8-143			1.00	20
n-Propylbenzene	25.0	204	3240	3160	121	118	100	63.2-139			2.27	20

L865857-02 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L865857-02 10/20/16 21:49 • (MS) R3172436-4 10/20/16 20:27 • (MSD) R3172436-5 10/20/16 20:47

Analyte	Spike Amount ug/l	Original Result ug/l	MS Result ug/l	MSD Result ug/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Styrene	25.0	ND	3100	3100	124	124	100	68.2-133			0.100	20
1,1,1,2-Tetrachloroethane	25.0	ND	3080	3060	123	122	100	70.5-132			0.780	20
1,1,2,2-Tetrachloroethane	25.0	ND	2970	2960	119	118	100	64.9-145			0.340	20
Tetrachloroethene	25.0	ND	3140	3060	126	122	100	57.4-141			2.67	20
Toluene	25.0	10700	13500	13300	111	104	100	67.8-124			1.30	20
1,1,2-Trichlorotrifluoroethane	25.0	ND	3340	3210	134	129	100	53.7-150			3.95	20
1,2,3-Trichlorobenzene	25.0	ND	2790	2740	112	110	100	65.7-143			1.66	20
1,2,4-Trichlorobenzene	25.0	ND	2970	2880	119	115	100	67.0-146			2.88	20
1,1,1-Trichloroethane	25.0	ND	2780	2710	111	109	100	58.7-134			2.52	20
1,1,2-Trichloroethane	25.0	ND	2920	2890	117	116	100	74.1-130			0.860	20
Trichloroethene	25.0	ND	2880	2790	115	112	100	48.9-148			3.36	20
Trichlorofluoromethane	25.0	ND	3170	2990	127	120	100	39.9-165			5.76	20
1,2,3-Trichloropropane	25.0	ND	3040	3010	122	120	100	71.5-134			0.920	20
1,2,3-Trimethylbenzene	25.0	455	3170	3120	109	107	100	62.7-133			1.72	20
1,2,4-Trimethylbenzene	25.0	1470	4490	4410	121	118	100	60.5-137			1.81	20
1,3,5-Trimethylbenzene	25.0	336	3310	3240	119	116	100	67.9-134			2.17	20
Vinyl chloride	25.0	ND	2830	2750	113	110	100	44.3-143			2.91	20
Xylenes, Total	75.0	6940	15800	15600	119	116	100	65.6-133			1.35	20
(S) Toluene-d8					*99.5*	*99.5*		*90.0-115*				
(S) Dibromofluoromethane					*96.2*	*95.7*		*79.0-121*				
(S) 4-Bromofluorobenzene					*103*	*102*		*80.1-120*				

Method Blank (MB)

(MB) R3171929-1 10/19/16 19:03

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
C12-C22 Hydrocarbons	U		33.0	100
C22-C32 Hydrocarbons	U		33.0	100
C32-C40 Hydrocarbons	U		33.0	100
(S) o-Terphenyl	*119*			*50.0-150*

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3171929-2 10/19/16 19:20 • (LCSD) R3171929-3 10/19/16 19:37

Analyte	Spike Amount ug/l	LCS Result ug/l	LCSD Result ug/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
C22-C32 Hydrocarbons	750	716	730	95.5	97.4	50.0-150			1.97	20
C12-C22 Hydrocarbons	750	990	1010	132	134	50.0-150			1.85	20
(S) o-Terphenyl				*124*	*121*	*50.0-150*				

Abbreviations and Definitions

SDG	Sample Delivery Group.
MDL	Method Detection Limit.
RDL	Reported Detection Limit.
ND	Not detected at the Reporting Limit (or MDL where applicable).
U	Not detected at the Reporting Limit (or MDL where applicable).
RPD	Relative Percent Difference.
Original Sample	The non-spiked sample in the prep batch used to determine the Relative Percent Difference (RPD) from a quality control sample. The Original Sample may not be included within the reported SDG.
(S)	Surrogate (Surrogate Standard) - Analytes added to every blank, sample, Laboratory Control Sample/Duplicate and Matrix Spike/Duplicate; used to evaluate analytical efficiency by measuring recovery. Surrogates are not expected to be detected in all environmental media.
Rec.	Recovery.

Qualifier	Description
J3	The associated batch QC was outside the established quality control range for precision.
J4	The associated batch QC was outside the established quality control range for accuracy.

ESC Lab Sciences is the only environmental laboratory accredited/certified to support your work nationwide from one location. One phone call, one point of contact, one laboratory. No other lab is as accessible or prepared to handle your needs throughout the country. Our capacity and capability from our single location laboratory is comparable to the collective totals of the network laboratories in our industry. The most significant benefit to our "one location" design is the design of our laboratory campus. The model is conducive to accelerated productivity, decreasing turn-around time, and preventing cross contamination, thus protecting sample integrity. Our focus on premium quality and prompt service allows us to be **YOUR LAB OF CHOICE.**
***** Not all certifications held by the laboratory are applicable to the results reported in the attached report.

State Accreditations

Alabama	40660
Alaska	UST-080
Arizona	AZ0612
Arkansas	88-0469
California	01157CA
Colorado	TN00003
Conneticut	PH-0197
Florida	E87487
Georgia	NELAP
Georgia [1]	923
Idaho	TN00003
Illinois	200008
Indiana	C-TN-01
Iowa	364
Kansas	E-10277
Kentucky [1]	90010
Kentucky [2]	16
Louisiana	AI30792
Maine	TN0002
Maryland	324
Massachusetts	M-TN003
Michigan	9958
Minnesota	047-999-395
Mississippi	TN00003
Missouri	340
Montana	CERT0086
Nebraska	NE-OS-15-05
Nevada	TN-03-2002-34
New Hampshire	2975
New Jersey–NELAP	TN002
New Mexico	TN00003
New York	11742
North Carolina	Env375
North Carolina [1]	DW21704
North Carolina [2]	41
North Dakota	R-140
Ohio–VAP	CL0069
Oklahoma	9915
Oregon	TN200002
Pennsylvania	68-02979
Rhode Island	221
South Carolina	84004
South Dakota	n/a
Tennessee [1 4]	2006
Texas	T 104704245-07-TX
Texas [5]	LAB0152
Utah	6157585858
Vermont	VT2006
Virginia	109
Washington	C1915
West Virginia	233
Wisconsin	9980939910
Wyoming	A2LA

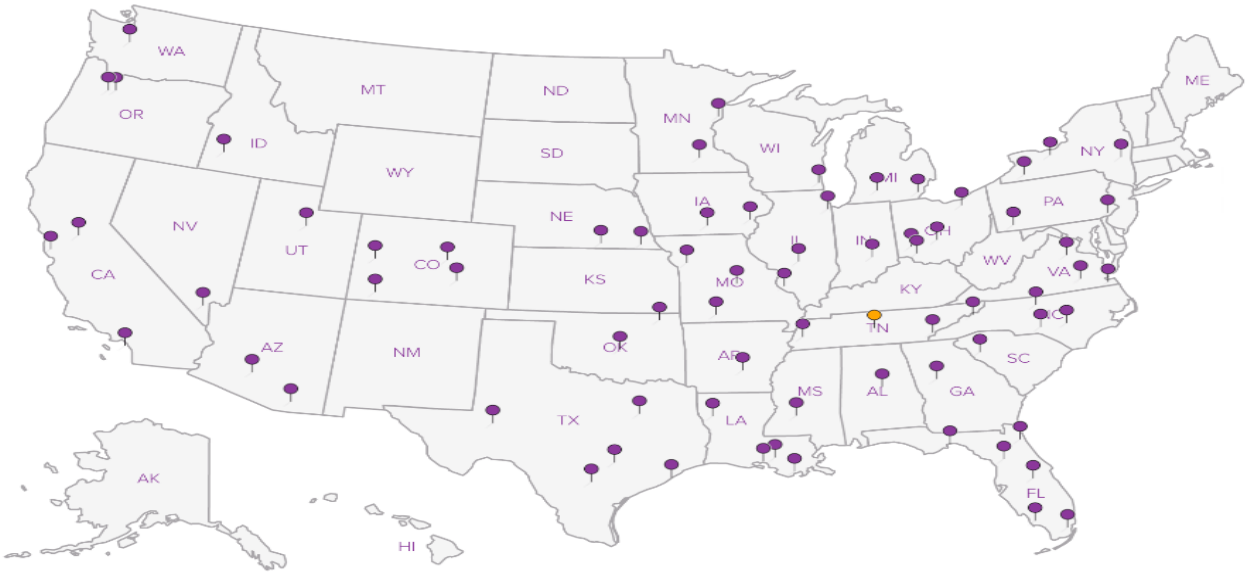
Third Party & Federal Accreditations

A2LA – ISO 17025	1461.01	AIHA	100789
A2LA – ISO 17025 [5]	1461.02	DOD	1461.01
Canada	1461.01	USDA	S-67674
EPA–Crypto	TN00003		

[1] Drinking Water [2] Underground Storage Tanks [3] Aquatic Toxicity [4] Chemical/Microbiological [5] Mold [n/a] Accreditation not applicable

Our Locations

ESC Lab Sciences has sixty-four client support centers that provide sample pickup and/or the delivery of sampling supplies. If you would like assistance from one of our support offices, please contact our main office. **ESC Lab Sciences performs all testing at our central laboratory.**



GeoDesign, Inc.
15575 SW Sequoia Parkway Ste. 100
Portland, OR. 97224

Billing Information:
GeoDesign, Inc.
15575 SW Sequoia Parkway
Ste. 100
Portland, OR. 97224

Report to: Andrew Blake
Email to: ablake@geodesigninc.com

Project Description: Gerding - 184
City/Sate Collected: Oakland, CA

Phone: 503-968-8787
FAX:
Client Project #: —
ESC Key:

Collected by: Andrew Blake
Site/Facility ID#: —
P.O.#: —

Collected by (signature):
Immediately Packed on Ice N (Y)

Rush? (Lab MUST Be Notified)
____ Same Day.....200%
____ Next Day.....100%
____ Two Day.....50%
____ Three Day.....25%

Date Results Needed:
Email? __No__Yes
FAX? __No__Yes

Analysis/Container/Preservative

Chain of Custody
Page 1 of 2

ESC LAB SCIENCES
12065 Lebanon Road
Mt. Juliet, TN 37122
Phone: (800) 767-5859
Phone: (615) 758-5858
Fax: (615) 758-5859

CoCode GEODESPO (lab use only)
Template/Prelogin
C119
Shipped Via

Sample ID	Comp/Grab	Matrix*	Depth	Date	Time	No. of Cntrs	GRO, DRO, ORO EPA 8015	VOCs EPA 8260	Remarks/Contaminant	Sample # (lab only)
MW-02		GW		10/12/16	0825	7	X	X		1865857-01
MW-03					0925		X	X		02
MW-04					1025		X	X		03
MW-01					1120		X	X		04
A-3					1215		X	X		05
A-2					1305		X	X		06
A-1					1355		X	X		07
MW-6					1445		X	X		08
MW-3					1515		X	X		09

*Matrix: **SS** - Soil/Solid **GW** - Groundwater **WW** - WasteWater **DW** - Drinking Water **OT** - Other _____

pH _____ Temp _____

Remarks:

Flow _____ Other _____

Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)	Samples returned via: ☐ UPS ☐ FedEx ☐ Courier ☐ _____	Condition: (lab use only)
	10/12/16	FedEx			NW 10/13/16
Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)	Temp: 2.6 / Bottles Received: 10 9L=VP	CoC Seals Intact: ___ Y ___ N ✓ NA
Relinquished by: (Signature)	Date:	Time:	Received for lab by: (Signature)	Date: 10-13-16 / Time: 9:00	pH Checked: / NCF:

GeoDesign, Inc.
15575 SW Sequoia Parkway Ste. 100
Portland, OR. 97224

Billing Information:
GeoDesign, Inc.
15575 SW Sequoia Parkway
Ste. 100
Portland, OR. 97224

Report to: Andrew Blake

Email to: ablake@geodesigninc.com

Project Description: Gerding - 184

City/Sate Collected: Oakland, CA

Phone: 503-968-8787
FAX:

Client Project #: —

ESC Key:

Collected by: Andrew Blake

Site/Facility ID#: —

P.O.#: —

Collected by (signature):

Immediately Packed on Ice N (Y)

Rush? (Lab MUST Be Notified)
____ Same Day.....200%
____ Next Day.....100%
____ Two Day.....50%
____ Three Day.....25%

Date Results Needed:

Email? __No X Yes

FAX? __No __Yes

Analysis/Container/Preservative

Sample ID	Comp/Grab	Matrix*	Depth	Date	Time	No. of Cntrs	GRO, DRO, ORO EPA 8015	VOCs EPA 8260	Remarks/Contaminant	Sample # (lab only)
MW-2	—	GW	—	10/12/16	1550	7	X	X		L865857-10

*Matrix: **SS** - Soil/Solid **GW** - Groundwater **WW** - WasteWater **DW** - Drinking Water **OT** - Other_____

Remarks:

pH _____ Temp _____

Flow _____ Other _____

Chain of Custody Page 1 of 1

ESC LAB SCIENCES
12065 Lebanon Road
Mt. Juliet, TN 37122
Phone: (800) 767-5859
Phone: (615) 758-5858
Fax: (615) 758-5859

CoCode GEODESPO (lab use only)

Template/Prelogin

Shipped Via:

Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)
	10/14/16	FEDEX	
Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)
Relinquished by: (Signature)	Date:	Time:	Received for lab by: (Signature)

Samples returned via: ☐ UPS ☐ FedEx ☐ Courier ☐ _____

Temp: 2.6 Bottles Received: 9T=VP70

Date: 10-13-16 Time: 9:00

Condition: (lab use only) JW1 10/18/16

CoC Seals Intact: ___ Y ___ N ___ NA ✓

pH Checked: NCF:

ESC
L·A·B S·C·I·E·N·C·E·S
YOUR LAB OF CHOICE

Cooler Receipt Form

Client: GEODESPOR		SDG#	L865857
Cooler Received/Opened On: 10/13/16	Temperature Upon Receipt:	2.6	°c
Received By: **Rickey Mosley**			
Signature: Rickey Mosley			

Receipt Check List	Yes	No	N/A
Were custody seals on outside of cooler and intact?			✓
Were custody papers properly filled out?	✓		
Did all bottles arrive in good condition?	✓		
Were correct bottles used for the analyses requested?	✓		
Was sufficient amount of sample sent in each bottle?	✓		
Were all applicable sample containers correctly preserved and checked for preservation? (Any not in accepted range noted on COC)			✓
If applicable, was an observable VOA headspace present?			✓
Non Conformance Generated. (If yes see attached NCF)			

Brian Ford

From: Andrew S. Blake <ablake@geodesigninc.com>
Sent: Tuesday, October 25, 2016 11:15 AM
To: Brian Ford
Subject: RE: ESC Lab Sciences Report for Gerding - 184 L865857

Hi Brian. Can you please change the job number to Gerding-188? Thanks!

Andrew S. Blake, R.G., L.G.
Senior Project Geologist

503.968.8787 p
503.968.3068 f
971.409.6980 m

GeoDesign, Inc.
15575 SW Sequoia Parkway – Suite 100
Portland, Oregon 97224
vcard
www.geodesigninc.com

-----Original Message-----
From: bford@esclabsciences.com [mailto:bford@esclabsciences.com]
Sent: Tuesday, October 25, 2016 8:51 AM
To: Andrew S. Blake
Subject: ESC Lab Sciences Report for Gerding - 184 L865857
Importance: High

Thank you for choosing ESC Lab Sciences!

Please find enclosed PDF files containing your laboratory analysis and chain of custody.

ESC is pleased to announce that we are accepting samples from 21 states for the new 3511 prep technique for PAHs by 8270 and 8270SIM. This technique allows for a 98% reduction in solvent usage, and requires only 2 to 3 40 mL non-preserved amber vials vs. the traditional 1 or 2 amber liter jars. Please contact your Technical Service Representative for details.

ESC is leading the laboratory industry with our On-line Data Management tools. Please contact your Technical Service Representative to learn how to create historical Excel tables or access data in real time using powerful and intuitive software that is only available at http://www.esclabsciences.com.

How are we doing? ESC would like to hear from you. Please take a moment and complete our customer feedback survey at https://www.surveymonkey.com/s/TCGLB7T.

ESC ... "Your Lab of Choice"

Brian Ford
Technical Service Representative
615-773-9772
bford@esclabsciences.com

ESC Lab Sciences
12065 Lebanon Rd
Mount Juliet, TN 37122
www.esclabsciences.com

Recipients configured to receive report file: ablake@geodesigninc.com

ACRONYMS AND ABBREVIATIONS

ACRONYMS AND ABBREVIATIONS

BGS	below ground surface
BS	blank spike
BSD	blank spike duplicate
DRO	diesel-range organics
EPA	U.S. Environmental Protection Agency
ESA	Environmental Site Assessment
ESL	Environmental Screening Level
GRO	gasoline-range organics
HDPE	high density polyethylene
HVOC	halogenated volatile organic compound
I.D.	identification
IDW	investigation-derived waste
MCL	Maximum Contaminant Level
MS	matrix spike
MSD	matrix spike duplicate
MSL	mean sea level
mV	millivolts
NE	not established
NGVD	National Geodetic Vertical Datum
NTU	nephelonetric turbidity unit
ORP	oxygen-reduction potential
PCE	tetrachloroethene
PQL	Practical Quantitation Limit
QC	quality control
RDL	reported detection limit
ROW	right-of-way
RPD	relative percent difference
RRO	residual-range organics
RWQCB	Regional Water Quality Control Board
SCM	Site Conceptual Model
TCE	trichloroethene
TOC	top of casing
µg/L	micrograms per liter
µS/cm	microSiemens per centimeter
UST	underground storage tank
VOC	volatile organic compound