March 26, 2018

SEMI ANNUAL GROUNDWATER MONITORING REPORT, FIRST SEMESTER 2018

Property Identification:
Zimmerman Property
3442 Adeline Street
Oakland, California

AEI Project No. 281939
ACDEH Site No RO0002936
Global ID T0600183099

Prepared for:
Steffi R. Zimmerman Trust
c/o Mr. Bill Mouat
3289 Lomas Verdes Place
Lafayette, California

Prepared by:
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March 26, 2018

Ms. Karel Detterman
Alameda County Environmental Health
1131 Harbor Parkway, Suite 250
Alameda, California 94502

Subject: Perjury Statement and Report Transmittal
Zimmerman Property
3442 Adeline Street
Oakland, CA
AEI Project No. 281939
ACDEH Fuel Leak Case No. RO0002936

Dear Ms. Detterman:

I declare under penalty of perjury that the information and/or recommendations contained in the attached report, *Semi Annual Groundwater Monitoring Report, First Semester 2018* dated March 26, 2018 for the above-referenced site are true and correct to the best of my knowledge.

If you have questions or need additional information, please contact me at (925) 457 - 5607 or Ms. Jacqueline Day at AEI Consultants at (858) 531-6297.

Sincerely,

Bill Mouat

Bill Mouat

Representative of the Steffi R. Zimmerman Trust

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APPENDICES

SIGNATURES

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1. INTRODUCTION

On behalf of the Steffi Zimmerman Trust ("the Trust"), AEI Consultants (AEI) has prepared this report documenting the groundwater monitoring and soil vapor sampling performed during the first semester of 2018 at 3442 Adeline Street in the City of Oakland, Alameda County, California ("the Site"). Groundwater monitoring and soil vapor sampling is currently performed at the Site on a semi-annual basis to address a petroleum hydrocarbon release from a former underground storage tank (UST) under the oversight of the Alameda County Department of Environmental Health (DEH). This report documents the procedures and findings of the semiannual groundwater monitoring and soil vapor sampling event performed on January 17 and 18, 2018.

2. SITE SETTING

The Site is an approximately one-acre parcel located on the southwest corner of 35th Street and Chestnut Street in an urban mixed commercial/industrial and residential area of the city of Oakland in California. The Site is fully developed with two conjoined warehouse buildings and attached canopy. Ground cover at the site consists of concrete paving throughout with no asphalt and no landscaped areas. Within the interior of easternmost warehouse building, the concrete paving is overlain by artificial turf or heavy rubber mats. The Site is fully enclosed by exterior walls to on-site improvements where present and a perimeter fence where no buildings are present. Access to the site is through a gate along Adeline street or through four roll-up doors along chestnut street. The general location of the Site is depicted in Figure 1 while the layout of the Site is depicted on Figure 2.

The Site is currently enrolled in the California State Water Resources Control Board's Underground Storage Tank (UST) Clean Up Fund (CUF) and is registered on the Waterboard's Geotracker database under global ID T0600183099. The Site is enrolled in the UST CUF due to the historic presence of a 3,750-gallon steel single-wall UST from a location immediately adjacent to the eastern property boundary which was removed from the ground on February 22, 2000 by the Clearwater Group (Clearwater). Sidewall soil and grab groundwater samples collected during the removal of the UST indicate that a release of petroleum hydrocarbons had occurred from the UST. Subsurface investigations to characterize the lateral and vertical extent of the petroleum hydrocarbon release and remedial activities have been conducted at the Site from 2006 to 2016.

There are currently nineteen (19) permanent soil gas probes (VB-6 through VB-22), seven (7) monitoring wells (MW-1 through MW-7), one air sparge well (IW-1), and four de-watering wells (BF-1, BF-2, BF-3, and BF-5) installed at the Site. Details pertaining to the construction of the monitoring wells, air sparge well, and dewatering wells are included in Table 1.

The Site is currently undergoing assessment in pursuit of closure under the California State Water Resources Control Board Low-Threat Underground Storage Tank Case Closure Policy (LTCP).

3. STATUS REPORT

This section summarizes the activities conducted during the first semester of 2018 and the activities proposed for the next reporting semester.

3.1. Activities Conducted – First Semester 2018

The following activities were conducted during the first semester of 2018.

- Performed the groundwater monitoring event for the first semester of 2018 on January 17, 2018.
- Performed the soil vapor sampling event for the first semester of 2018 on January 17 and 18, 2018.
- AEI uploaded associated electronic data files (EDFs) to the State Water Resource Control Board's GeoTracker database for the Semi Annual Groundwater Monitoring Report – First Semester 2018 report.

3.2. Activities Proposed – Second Semester 2018

The following activities are anticipated for the second semester of 2018:

- Implement additional subsurface investigation in pending ACDEH review and acceptance of the *Data Gap Investigation, Updated Conceptual Site Model, and Additional Subsurface Investigation Work Plan* dated September 12, 2017.
- Conduct a semi-annual groundwater monitoring and soil vapor sampling event in the July 2018, pending approval by the ACDEH.

4. SUMMARY OF GROUNDWATER MONITORING ACTIVITIES

This section describes the groundwater monitoring activities performed during the reporting period.

4.1. Monitoring Well Condition Assessment

Prior to conducting sampling activities, AEI conducted a monitoring well condition assessment of each of the wells to be sampled (MW-1 through MW-7, IW-1, BF-1, and BF-5). This assessment consisted of inspecting the condition of the casing, well box, well plug, bolts, and lid for indications of wear or failure. Bolts were replaced for wells MW-1, MW-7, IW-1, BF-1, and BF-5. A well lid is missing for MW-3 and a 10-pound weight is being used as a well lid. Monitoring well construction details, including total depth and screened intervals are summarized in Table 1. Field data sheets are included in Appendix A.

4.2. Groundwater Elevation Gauging

Prior to purging and sampling activities, AEI removed the well caps from each of the ten (10) groundwater wells to be monitored (MW-1 through MW-7, IW-1, BF-1, and BF-5) and allowed for groundwater elevation to equilibrate with atmospheric pressure. Following the equilibration with ambient pressure, depth to groundwater from the top of the well casing was gauged using a flat tape electric water level meter laser marked in 0.01-foot increments. Depth to groundwater was then used in conjunction with the surveyed top of casing elevations to calculate groundwater elevation.

4.3. Groundwater Sampling Activities

Following groundwater level measurements, groundwater samples were collected from the groundwater monitoring wells scheduled for sampling, including MW-1 through MW-7, BF-1, BF-5, and IW-1. Each well was first purged using low flow purging techniques. Purging and sampling was conducted using a peristaltic pump and water quality parameters were monitored at approximately five-minute intervals using a Horiba U-52 water quality meter equipped with a flow through cell. During purging and sampling, the pump intake was situated at the center of the saturated screened interval and flow rate was adjusted to be in equilibrium with the recharge rate of the well. The recharge rate of the monitoring well was determined by adjusting the flow rate of the pump to the maximum flow possible without inducing a measurable drawdown. Groundwater was purged until water quality parameters [eg: temperature, pH, specific conductivity, dissolved oxygen (DO), and oxidation-reduction potential (ORP), and turbidity] reached their respective stabilization criteria at which point a groundwater sample was collected.

Groundwater samples from each of the wells sampled were collected in laboratory-supplied, hydrochloride acid preserved 40-milliliter (mL) volatile organic analysis vials (VOAs). VOAs were sealed with no visible headspace and preserved with hydrochloric acid. Each VOA was sealed, labeled, and placed in an ice-chilled cooler. Samples were then transported under chain of custody protocols to McCampbell Analytical, Inc. of Pittsburg, California.

Groundwater field data sheets presenting the sampling details are included as Appendix A.

4.4. Laboratory Analyses

Groundwater samples collected were transported under chain-of-custody documentation to McCampbell Analytical, Incorporated of Pittsburg, California. The following laboratory analysis were completed as part of this investigation:

- Total Petroleum Hydrocarbons (TPH) as gasoline (TPH-g) and TPH as diesel (TPH-d) using US EPA Testing Method 8015B, modified.
- Benzene, toluene, ethylbenzene, and xylenes (collectively "BTEX compounds"), naphthalene, and fuel oxygenates using US EPA Testing Method 8260B.

4.5. Purge Water Wastes

The purge groundwater waste generated during sampling of the groundwater monitoring wells was containerized in a 55-gallon DOT-approved drum. The waste was removed from the Site on February 15, 2018 and properly disposed. A copy of the disposal documentation is included in Appendix B.

5. SUMMARY OF SOIL VAPOR SAMPLING ACTIVITIES

This section describes the soil vapor sampling activities performed during the reporting period. Soil gas sampling activities were conducted in general accordance with the *Active Soil Gas Investigations Advisory* dated July 2015 (the *Advisory*) by the California Environmental Protection Agency (Cal-EPA) Department of Toxic Substance Control (DTSC), et la. Nineteen (19) permanent soil vapor probes were monitored as part of the semi-annual monitoring activities.

5.1. Soil Vapor Sample Collection

Soil vapor sample collection was attempted from the existing soil vapor probes (VB-4 through VB-22) on January 17 and 18, 2018. Samples were collected in accordance with the procedures outlined in the Advisory and with the methods proposed in the Updated Site Conceptual Model and Soil and Soil Vapor Investigation Report dated November 15, 2016 and technical comment provided in the Directive dated May 12, 2017. Soil vapor samples were collected separately into sorbent tubes and one-liter evacuated canisters as follows:

- Evacuated canister samples were collected through a laboratory-supplied regulator set at 200 milliliters per minute into one-liter evacuated canisters. Each canister was individually checked, tested and certified by the laboratory for air tightness and proper vacuum prior to shipping. Prior to sampling, a minimum of three probe volumes were purged from each vapor probe. Sampling manifolds included dual vacuum gauges to monitor down-hole vacuum and sample container vacuum. The initial and final sample container vacuum for each sample was recorded and samples were completed with a slight vacuum remaining to ensure sample integrity during transport.
- Sorbent tube samples were collected, following evacuated canister sampling, by installing the tube in-line with the vapor probe and inducing a vacuum. Sorbent tube samples were collected by extracting a total of 60 milliliters of soil vapor at a rate of approximately 200 millimeters per minute through the sorption media using a syringe equipped with a three-way valve to allow for venting. Flow rate was regulated using a critical orifice. Sorbent tubes were labeled and placed into an ice-chilled cooler immediately following sampling. Evacuated canister soil vapor samples were transferred under appropriate chain-of-custody documentation to ESC Lab Sciences of Mt. Juliet, Tennessee. Sorbent tube soil vapor samples were transferred under chain-of-custody documentation to Eurofins Air Toxics of Folsom, California.

For quality assurance and quality control (QA/QC) purposes, soil vapor sample equipment was tested for leaks by conducting a vacuum tightness shut-in test prior to sampling and by conducting a leak check test during purging and sampling. The leak check test was conducted by encapsulating the surface completion of the vapor probe and the vapor sampling assembly within a shroud. An atmosphere of at least 15% helium was then induced and maintained within the shroud throughout the duration of the sampling.

No anomalies or variations to sampling methods are reported for the January 17 and 18, 2018 sampling event except the following:

- Sampling of probe VB-14 was attempted on January 17, 2018, however, down-hole vacuum pressure equilibrated during sampling, resulting in no-flow/low-flow conditions, which inhibited further sample collection. A sample volume of approximately 38 milliliters (ml) was collected in the Summa canister before the no-flow/low-flow conditions occurred. Due to the no-flow/low-flow conditions, a soil vapor sample for naphthalene could not be collected for VB-14 using the sorbent tube.
- Sampling of probes VB-6, VB-8, VB-11, VB-13, and VB-15 were attempted on January 17, 2018, however, groundwater was observed in the sample tubing. Therefore, soil vapor samples could not be collected. This is the third consecutive sampling event in which VB-6 was unable to be sampled due to low flow or shallow groundwater conditions. AEI

recommends that if VB-6 is unable to be sampled during the next vapor sampling event, a replacement soil vapor probe with a greater bore hole diameter be installed in the vicinity of VB-6 within the nearest high permeability zone encountered below five feet bgs.

- Sampling of VB-19 was attempted on January 19, 2018, however, the well was covered and inaccessible for sampling. Therefore, soil vapor samples could not be collected from VB-19.

5.2. Laboratory Analyses

The following laboratory analyses were completed on soil vapor samples collected as part of this investigation:

- TPH-g, BTEX, and methyl tertiary butyl ether (MTBE) using US EPA Testing Method TO-15.
- Metabolic gases (oxygen, carbon dioxide, and methane) and leak check compound helium using ASTM D1946.
- Naphthalene using US EPA Testing Method Modified TO-17.

6. DISCUSSION OF RESULTS

This section presents the results of the hydrogeology encountered and the groundwater and soil vapor sample results.

6.1. Site Hydrogeology

Groundwater elevation data from the January 17, 2018 and previous groundwater monitoring events are summarized in Table 2. A groundwater potentiometric surface interpolated from the January 17, 2018 data is depicted in Figure 3. Average depth to groundwater observed during the event in the groundwater monitoring wells was approximately 7.32 feet bgs and based on the potentiometric surface drawn, groundwater flow is generally to the southwest with an approximate hydraulic gradient of 0.027 feet per feet. The groundwater elevation from IW-1 was excluded due to the horizontal construction of the well and from MW-7 due to an inconsistent elevation reading this event. The measurement will be confirmed during the next monitoring event. The calculated direction and magnitude of the groundwater gradient are consistent with historical observations. Hydrographs depicting changes in depth to groundwater for each of the monitoring wells are provided in Appendix D. Based on the previous depth to groundwater data, groundwater elevation has decreased an average of 0.08 feet since the June 2017 event.

6.2. Groundwater Sample Analytical Results

Table 4 presents a summary of selected compounds detected in groundwater during the first semester of 2018 event and historical groundwater monitoring events. Figures 4 and 5 present the isoconcentration contours for dissolved concentrations of TPH-g and benzene in groundwater, respectively, for the January 2018 sampling event. Laboratory analytical reports are included as Appendix C.

The sample results for the January 2018 sampling event can be summarized as follows:

- None of the target analytes (TPH-g, benzene, and MTBE) were detected at or above their respective laboratory method reporting limits in groundwater samples collected from four (4) monitoring wells (MW-1, IW-1, BF-1, or BF-5), consistent with historical results.
- TPH-g was detected in four (4) of the ten (10) groundwater samples collected during the event, observed at a maximum concentration of 10,000 micrograms per liter (µg/L). TPHg concentrations in perimeter and downgradient wells MW-5 and MW-6 have shown a slight increase during this sampling event, observed at concentrations of 650 µg/L and 1,700 µg/L, respectively. However, concentrations are below historical maximums for each well respectively.
- Benzene was detected in six (6) of the ten (10) groundwater samples collected during the event at a maximum concentration of 870 µg/L, in groundwater collected from well MW-7. Benzene concentrations in perimeter and downgradient wells MW-4, MW-5, and MW-6 have shown a slight increase during this sampling event, observed at a maximum concentration of 160 µg/L (MW-5); however, concentrations are below historical maximums for each well respectively.
- MTBE continues to not be detected at or above the laboratory method reporting limits in the groundwater samples collected and analyzed.

The observed concentrations of residual petroleum hydrocarbons in groundwater continue to be meet Class 3 for Groundwater-Specific Criteria under the LTCP.

6.3. Soil Vapor Sample Analytical Results

Table 6 presents a summary of the soil vapor samples collected during the January 2018 event and historical events. Figures 6, 7, and 8 present isoconcentration contours for TPH-g, benzene, and oxygen in soil vapor samples collected and analyzed as part of this event respectively. Laboratory analytical reports are included in Appendix C. For this Site, the zoning has been changed by the City of Oakland to be residential, therefore the analytical results generated are compared to the LTCP assuming an exposure pathway under residential land use scenario. The results can be summarized as follows:

- Oxygen was detected above the 4% level necessary to meet the aerobic bioattenuation zone Scenario 4 under the LTCP in each of the vapor samples collected as part of this event, with the exception of soil vapor samples collected from VB-4, VB-9, and VB-12DUP where there appears to be a laboratory error.
- Methane was not detected above the laboratory method reporting limit of 0.40% in the soil vapor samples collected as part of this event with the exception of probe VB-4, which yielded a methane concentration of 0.815%. Methane does not have an established soil gas LTCP criteria.
- TPH-g was detected in 12 of the 13 soil vapor samples collected as part of this event, observed at a maximum concentration of 66,700,000 micrograms per meter (µg/m^3), in probe VB-4. TPH-g does not have an established soil gas LTCP criteria.
- Benzene was detected in four (4) of the 13 the soil vapor samples analyzed at a maximum concentration of 6,190 µg/m^3 in probe VB-9. The applicable LTCP soil gas criteria (most conservative residential scenario) for benzene is <85 µg/m^3 where no bioattenuation zone is

present and <85,000 µg/m^3 where a bioattenuation zone is present. With the exception of VB-4, VB-9, VB-12DUP (which had noted laboratory errors) and VB-12, the Site meets the LTCP for benzene in soil vapor under the bioattenuation zone scenario, which was shown to be present as noted above.

- Ethylbenzene was detected in 1 of the 13 the soil vapor samples analyzed at a concentration of 2,700 µg/m^3 (VB-4) The applicable LTCP soil gas criteria (most conservative residential scenario) for ethylbenzene is <1,100 µg/m^3 where no bioattenuation zone is present and <1,100,000 µg/m^3 where a bioattenuation zone is present. With the exception of VB-4 (which had a noted laboratory error), the Site meets the LTCP for ethylbenzene in soil vapor under the bioattenuation zone scenario, which was shown to be present as noted above.
- Naphthalene was not detected of 83 µg/m^3 in the samples collected as part of this event. The applicable LTCP soil gas criteria (most conservative residential scenario) for naphthalene is <310 µg/m^3 where no bioattenuation zone is present and <310,000 µg/m^3 where a bioattenuation zone is present. Based on the current levels of naphthalene at or below 83 µg/m^3 (the laboratory method reporting limit), the Site meets the LTCP for naphthalene in soil vapor under both the bioattenuation and non-bioattenuation scenarios.
- Toluene was detected in 1 of the 13 soil vapor samples at a concentration of 5,110 µg/m^3 in probe VB-4. Xylenes were not detected in any of the samples at or above the laboratory method reporting limit in samples collected as part of this event. Toluene and xylenes do not have an established soil gas LTCP criteria.
- MTBE was not detected in the soil gas samples collected as part of this event. MTBE does not have an established soil gas LTCP criteria.
- The tracer gas, helium, was not detected in the soil vapor samples collected. Therefore, no significant leaks were observed during sampling, and these soil gas data are deemed valid.

7. LABORATORY QUALITY ASSURANCE / QUALITY CONTROL MEASURES

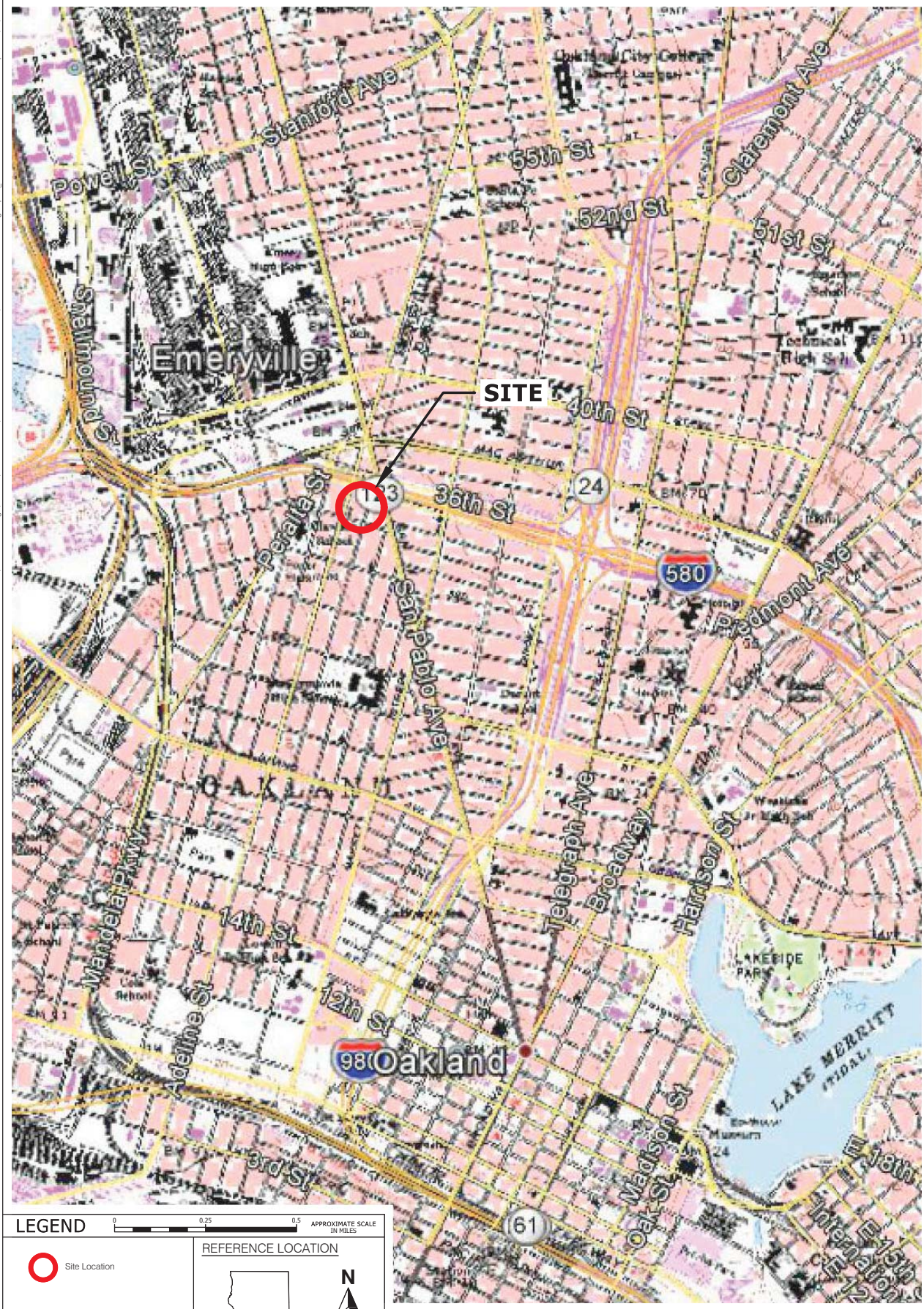
Standard Quality Assurance/Quality Control (QA/QC) measures were implemented during the sample collection, transport, and chemical analysis process. The QA/QC measures consisted evaluating laboratory performance of surrogate spike recovery, matrix spike/matrix spike duplicate (MS/MSD), method blank, sample duplicate, and laboratory control spike (LCS) analyses. The primary objective of these QA/QC measures is to ensure that resulting analytical data are reproducible, are of adequate quality for their intended use, and are representative of actual conditions. The soil vapor samples for VB-9, VB-12DUP, and VB-22 had laboratory notations for analytes (TPH-g and oxygen) being detected in the associated method blank samples. No other anomalies were found in the data resulting from analysis of samples collected during the first semester of 2018.

8. CLOSING

Based on the findings of this routine semi-annual groundwater monitoring event, AEI recommends one additional semi-annual groundwater monitoring event to confirm concentration trends in groundwater remain below LTCP for closure and continued semi-annual soil vapor sampling to evaluate concentration trends. In addition, AEI recommends preparing a work plan

for further assessment as presented in *Report on Data Gap Investigation, Updated Conceptual Site Model, and Closure Evaluation* dated September 12, 2017.

FIGURES



LEGEND

0 0.25 0.5 APPROXIMATE SCALE IN MILES

Site Location

REFERENCE LOCATION

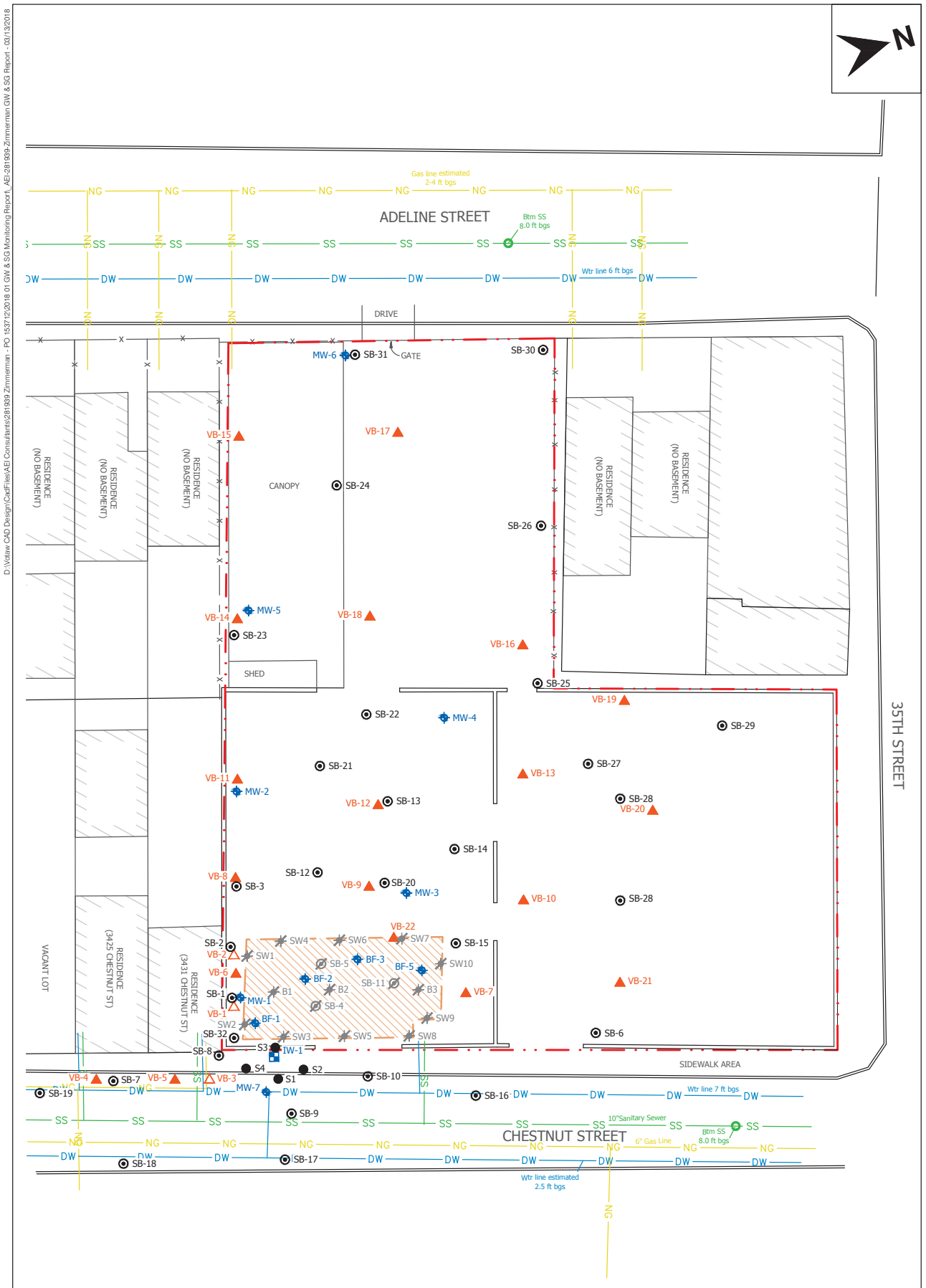
Map Source:
USGS 7.5 Minute
Topographic Quadrangle Map,
South San Fancisco, CA - 1999

AEI Consultants
2500 Camino Diablo
Walnut Creek, California

SITE LOCATION MAP

3442 ADELINE STREET
OAKLAND, CA 94608

FIGURE #1
Project No. #281939



LEGEND

0 30 60 APPROXIMATE SCALE IN FEET or MILES

- SB-1 AEI Soil Boring
- S-1 Clear Water Soil Sample
- SW1 Base Soil Sample
- B-1 Sidewall Soil Sample
- VB-1 Temporary Soil Vapor Probe
- VB-4 Permanent Soil Vapor Probe
- BF-1 Backfill Well Casings
- MW-1 Monitoring Well Casings
- IW-1 Injection Well
- Abandon AEI Soil Boring
- Abandon Base Soil Sample
- Site Boundary
- DW Domestic Water
- SS Sanitary Sewer
- NG Natural Gas
- Interim Source Removal Excavation (2009)

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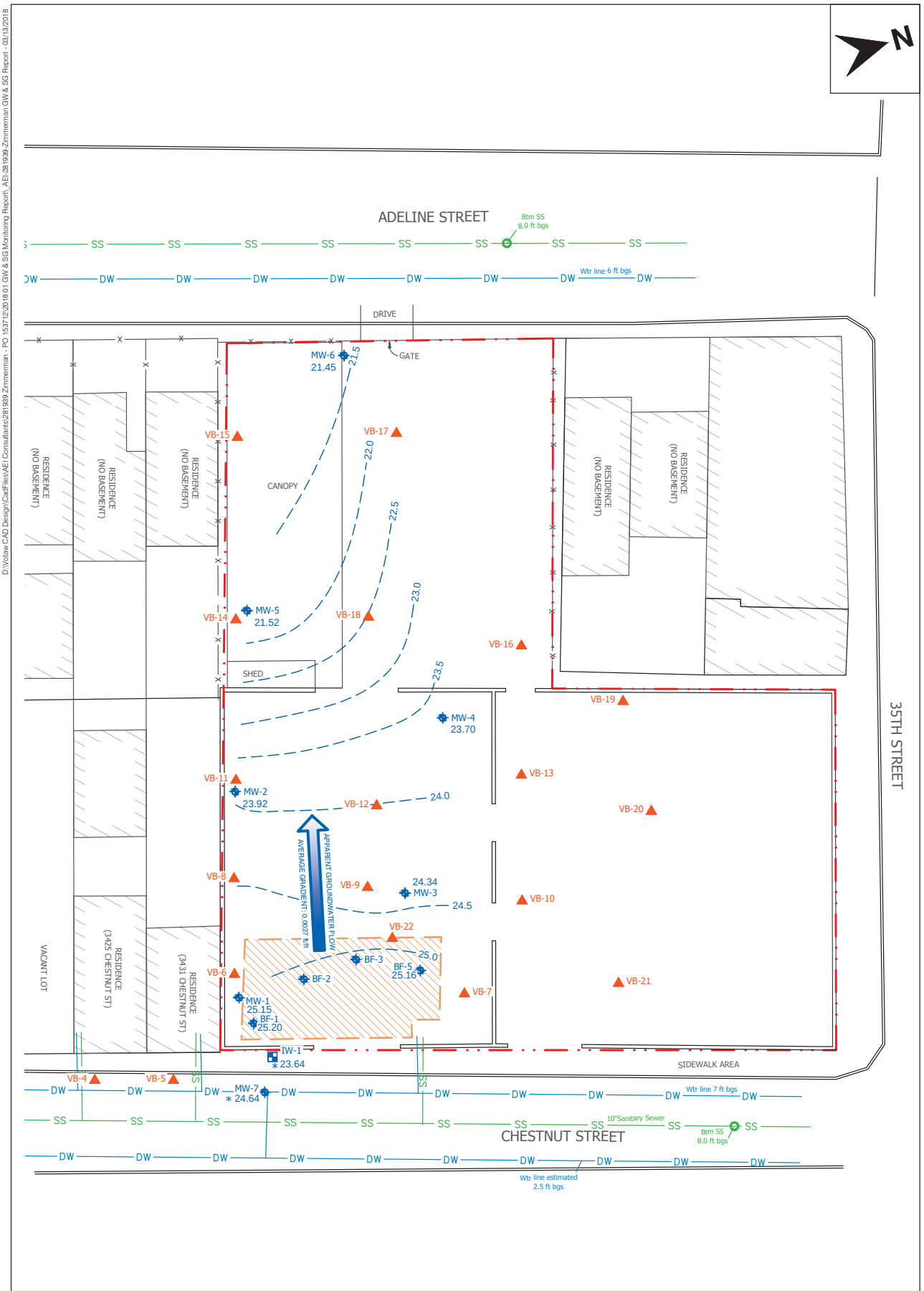
2500 Camino Diablo
Walnut Creek, California

SITE PLAN

3442 ADELINE STREET
OAKLAND, CA 94608

FIGURE 2
Project No. 281939



LEGEND

0 30 60 APPROXIMATE SCALE IN FEET or MILES

- VB-4 Permanent Soil Vapor Probe
- BF-1 Backfill Well Casings
- MW-1 Monitoring Well Casings
- IW-1 Injection Well
- 27.5 Groundwater Potentiometric Surface (feet NAVD88)
- Site Boundary
- DW Domestic Water
- SS Sanitary Sewer
- Interim Source Removal Excavation (2009)
- * Not Used in Contouring

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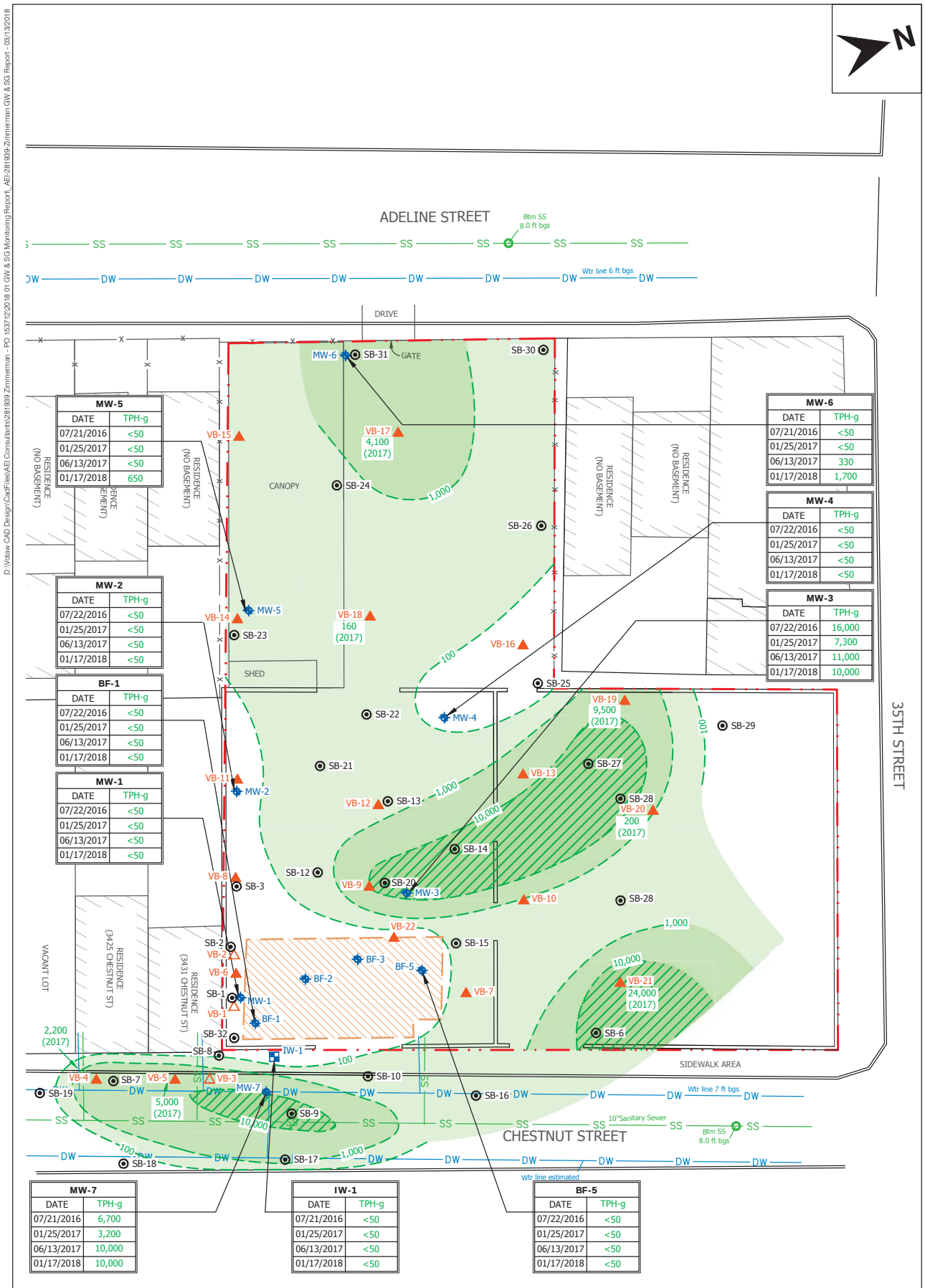
GROUNDWATER POTENTIOMETRIC SURFACE JANUARY 2018

3442 ADELINE STREET
OAKLAND, CA 94608

FIGURE 3
Project No. 281939



MW-5	
DATE	TPH-g
07/21/2016	<50
01/25/2017	<50
06/13/2017	<50
01/17/2018	650

MW-2	
DATE	TPH-g
07/22/2016	<50
01/25/2017	<50
06/13/2017	<50
01/17/2018	<50

BF-1	
DATE	TPH-g
07/22/2016	<50
01/25/2017	<50
06/13/2017	<50
01/17/2018	<50

MW-1	
DATE	TPH-g
07/22/2016	<50
01/25/2017	<50
06/13/2017	<50
01/17/2018	<50

MW-6	
DATE	TPH-g
07/21/2016	<50
01/25/2017	<50
06/13/2017	330
01/17/2018	1,700

MW-4	
DATE	TPH-g
07/22/2016	<50
01/25/2017	<50
06/13/2017	<50
01/17/2018	<50

MW-3	
DATE	TPH-g
07/22/2016	16,000
01/25/2017	7,300
06/13/2017	11,000
01/17/2018	10,000

MW-7	
DATE	TPH-g
07/21/2016	6,700
01/25/2017	3,200
06/13/2017	10,000
01/17/2018	10,000

IW-1	
DATE	TPH-g
07/21/2016	<50
01/25/2017	<50
06/13/2017	<50
01/17/2018	<50

BF-5	
DATE	TPH-g
07/22/2016	<50
01/25/2017	<50
06/13/2017	<50
01/17/2018	<50

LEGEND

SB-1 AEI Soil Boring
VB-1 Temporary Soil Vapor Probe
VB-4 Permanent Soil Vapor Probe
BF-1 Backfill Well Casings
MW-1 Monitoring Well Casings
IW-1 Injection Well

Site Boundary
DW Domestic Water
SS Sanitary Sewer
Interim Source Removal Excavation (2009)
100 TPH-g Isoconcentration Contour (µg/L)
<0.50 (2017) Grab Groundwater TPH-G Analytical Result (µg/L) / Grab Groundwater Sample Collection Year
Micrograms/Liter (µg/L)

0 30 60 APPROXIMATE SCALE IN FEET or MILES

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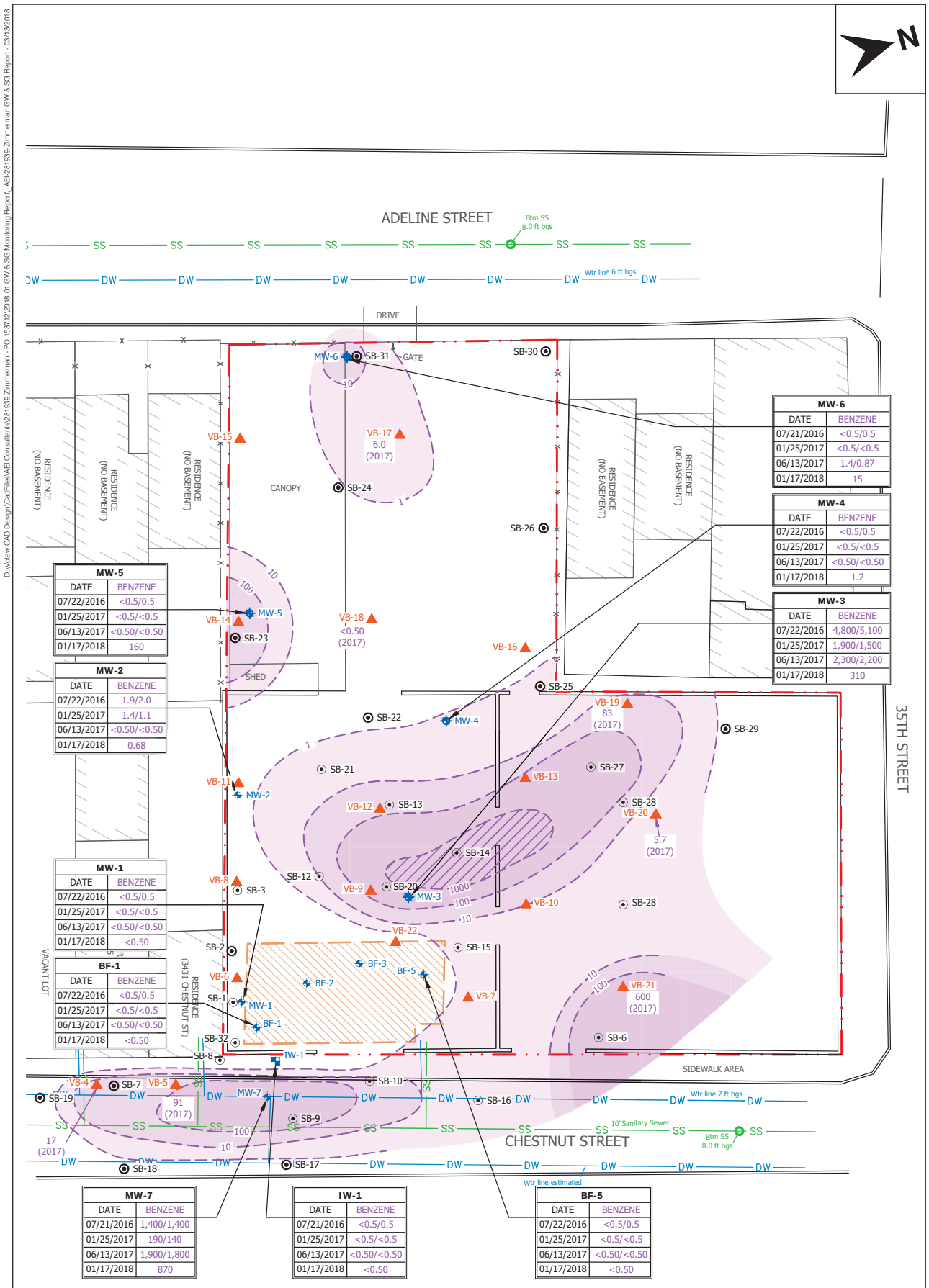
Walnut Creek, California

TPH-g IN GROUNDWATER JANUARY 2018

3442 ADELINE STREET
OAKLAND, CA 94608

FIGURE 4
Project No. 281939



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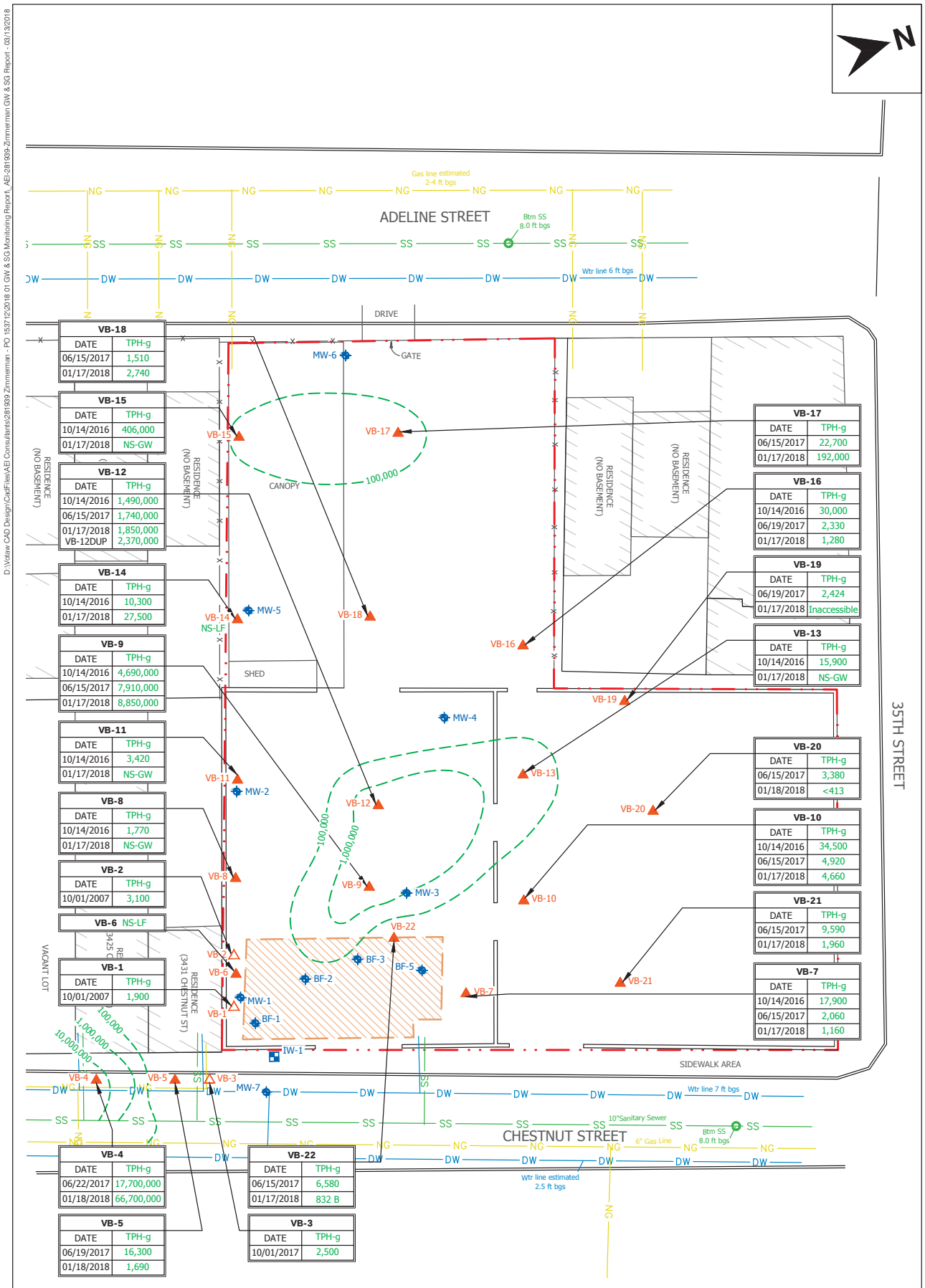
Walnut Creek, California

BENZENE IN GROUNDWATER JANUARY 2018

3442 ADELINE STREET
OAKLAND, CA 94608

FIGURE 5
Project No. 281939



VB-18	
DATE	TPH-g
06/15/2017	1,510
01/17/2018	2,740

VB-15	
DATE	TPH-g
10/14/2016	406,000
01/17/2018	NS-GW

VB-12	
DATE	TPH-g
10/14/2016	1,490,000
06/15/2017	1,740,000
01/17/2018	1,850,000
VB-12DUP	2,370,000

VB-14	
DATE	TPH-g
10/14/2016	10,300
01/17/2018	27,500

VB-9	
DATE	TPH-g
10/14/2016	4,690,000
06/15/2017	7,910,000
01/17/2018	8,850,000

VB-11	
DATE	TPH-g
10/14/2016	3,420
01/17/2018	NS-GW

VB-8	
DATE	TPH-g
10/14/2016	1,770
01/17/2018	NS-GW

VB-2	
DATE	TPH-g
10/01/2007	3,100

VB-6	NS-LF

VB-1	
DATE	TPH-g
10/01/2007	1,900

VB-4	
DATE	TPH-g
06/22/2017	17,700,000
01/18/2018	66,700,000

VB-5	
DATE	TPH-g
06/19/2017	16,300
01/18/2018	1,690

VB-22	
DATE	TPH-g
06/15/2017	6,580
01/17/2018	832 B

VB-3	
DATE	TPH-g
10/01/2017	2,500

VB-17	
DATE	TPH-g
06/15/2017	22,700
01/17/2018	192,000

VB-16	
DATE	TPH-g
10/14/2016	30,000
06/19/2017	2,330
01/17/2018	1,280

VB-19	
DATE	TPH-g
06/19/2017	2,424
01/17/2018	Inaccessible

VB-13	
DATE	TPH-g
10/14/2016	15,900
01/17/2018	NS-GW

VB-20	
DATE	TPH-g
06/15/2017	3,380
01/18/2018	<413

VB-10	
DATE	TPH-g
10/14/2016	34,500
06/15/2017	4,920
01/17/2018	4,660

VB-21	
DATE	TPH-g
06/15/2017	9,590
01/17/2018	1,960

VB-7	
DATE	TPH-g
10/14/2016	17,900
06/15/2017	2,060
01/17/2018	1,160

LEGEND

- VB-1 Temporary Soil Vapor Probe
- VB-4 Permanent Soil Vapor Probe
- BF-1 Backfill Well Casings
- MW-1 Monitoring Well Casings
- IW-1 Injection Well
- NS-LF Not Sampled-Low Flow
- NS-GW Not Sampled-Groundwater
- B Same Analyte is Found in Method Blank

- Site Boundary
- DW Domestic Water
- SS Sanitary Sewer
- NG Natural Gas
- Interim Source Removal Excavation (2009)
- 100,000 TPH-g Isoconcentration Contour (µg/m^3) Dashed where inferred

Micrograms/Meter Cubed (µg/m^3)

0 30 60 APPROXIMATE SCALE IN FEET or MILES

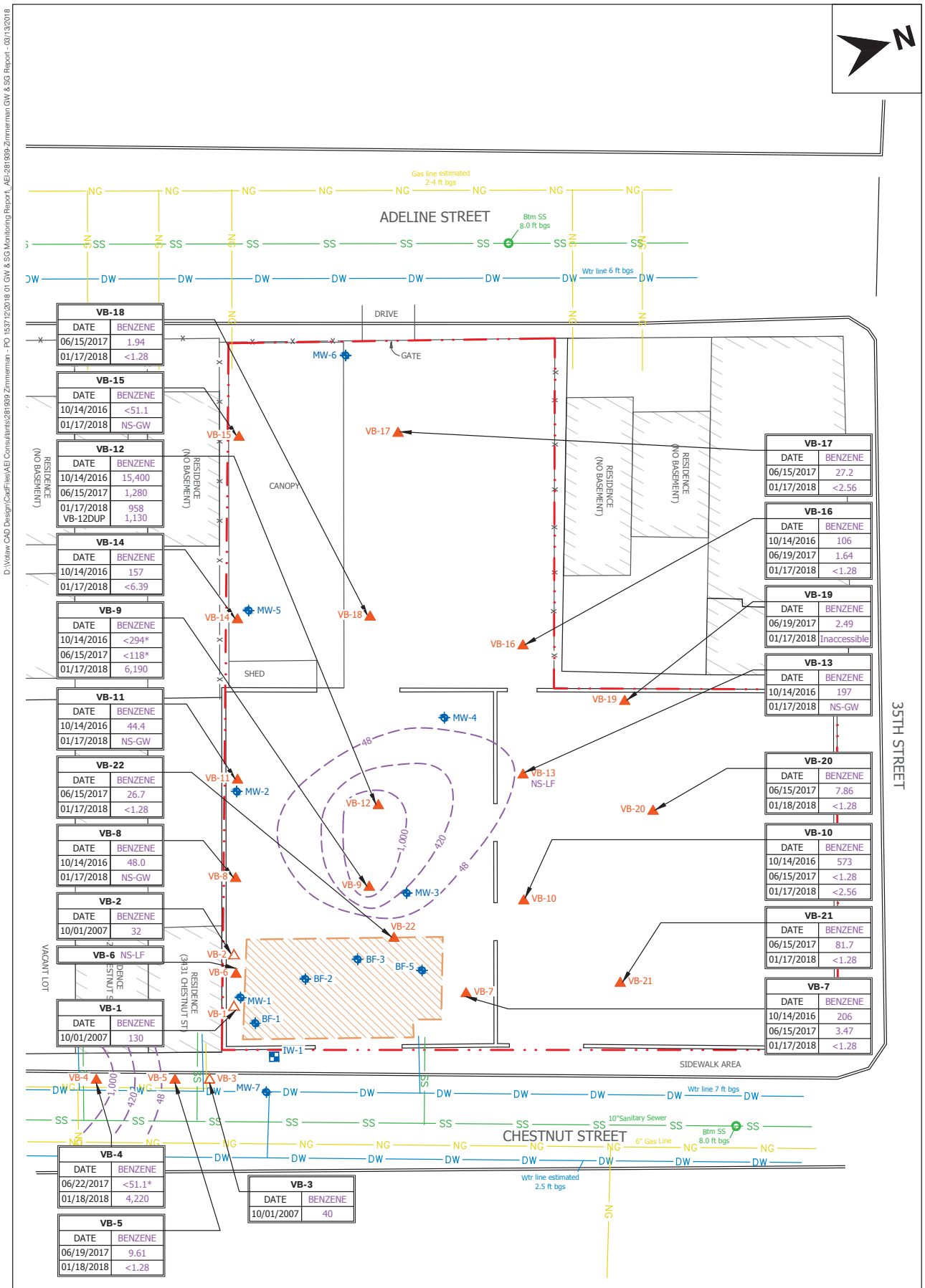
AEI Consultants

2500 Camino Diablo
Walnut Creek, California

TPH-g IN SOIL VAPOR JANUARY 2018

3442 ADELINE STREET
OAKLAND, CA 94608

FIGURE 6
Project No. 281939



VB-18	
DATE	BENZENE
06/15/2017	1.94
01/17/2018	<1.28

VB-15	
DATE	BENZENE
10/14/2016	<51.1
01/17/2018	NS-GW

VB-12	
DATE	BENZENE
10/14/2016	15,400
06/15/2017	1,280
01/17/2018 VB-12DUP	958 1,130

VB-14	
DATE	BENZENE
10/14/2016	157
01/17/2018	<6.39

VB-9	
DATE	BENZENE
10/14/2016	<294*
06/15/2017	<118*
01/17/2018	6,190

VB-11	
DATE	BENZENE
10/14/2016	44.4
01/17/2018	NS-GW

VB-22	
DATE	BENZENE
06/15/2017	26.7
01/17/2018	<1.28

VB-8	
DATE	BENZENE
10/14/2016	48.0
01/17/2018	NS-GW

VB-2	
DATE	BENZENE
10/01/2007	32

VB-6 NS-LF	

VB-1	
DATE	BENZENE
10/01/2007	130

VB-4	
DATE	BENZENE
06/22/2017	<51.1*
01/18/2018	4,220

VB-5	
DATE	BENZENE
06/19/2017	9.61
01/18/2018	<1.28

VB-3	
DATE	BENZENE
10/01/2007	40

VB-17	
DATE	BENZENE
06/15/2017	27.2
01/17/2018	<2.56

VB-16	
DATE	BENZENE
10/14/2016	106
06/19/2017	1.64
01/17/2018	<1.28

VB-19	
DATE	BENZENE
06/19/2017	2.49
01/17/2018	Inaccessible

VB-13	
DATE	BENZENE
10/14/2016	197
01/17/2018	NS-GW

VB-20	
DATE	BENZENE
06/15/2017	7.86
01/18/2018	<1.28

VB-10	
DATE	BENZENE
10/14/2016	573
06/15/2017	<1.28
01/17/2018	<2.56

VB-21	
DATE	BENZENE
06/15/2017	81.7
01/17/2018	<1.28

VB-7	
DATE	BENZENE
10/14/2016	206
06/15/2017	3.47
01/17/2018	<1.28

LEGEND

0 30 60 APPROXIMATE SCALE IN FEET or MILES

- VB-1 Temporary Soil Vapor Probe
- VB-4 Permanent Soil Vapor Probe
- BF-1 Backfill Well Casings
- MW-1 Monitoring Well Casings
- IW-1 Injection Well
- NS-LF Not Sampled-Low Flow
- NS-GW Not Sampled-Groundwater
- * Analyte Reported in Method Blank

- Site Boundary
- DW Domestic Water
- SS Sanitary Sewer
- NG Natural Gas
- Interim Source Removal Excavation (2009)
- 48 Benzene in Soil Vapor Isoconcentration Contour (µg/L) Dashed where inferred

Micrograms/Liter (µg/L)

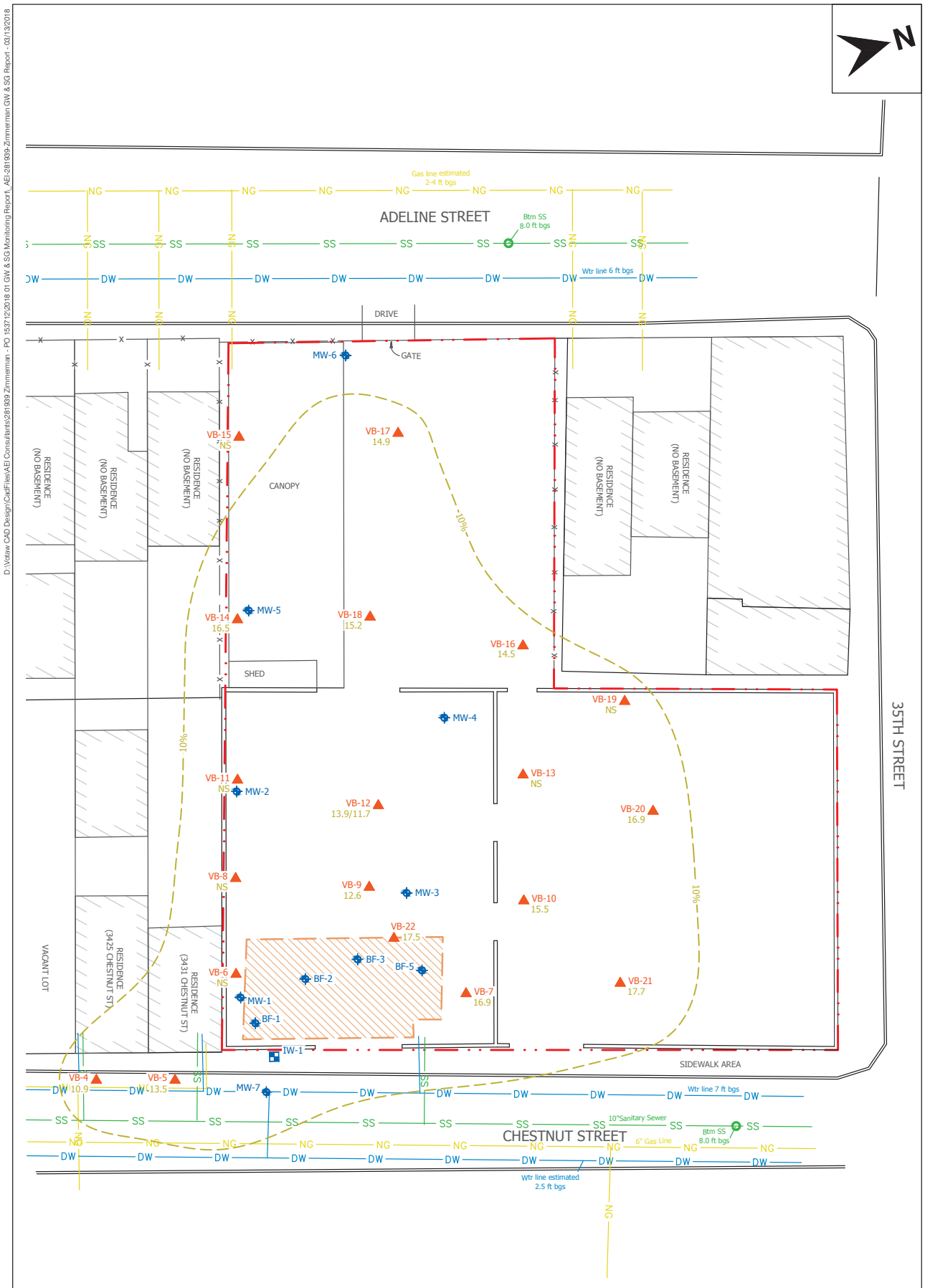
AEI Consultants

2500 Camino Diablo
Walnut Creek, California

BENZENE IN SOIL VAPOR JANUARY 2017

3442 ADELINE STREET
OAKLAND, CA 94608

FIGURE 7
Project No. 281939



AEI Consultants

2500 Camino Diablo
Walnut Creek, California

OXYGEN IN SOIL VAPOR JANUARY 2018

3442 ADELINE STREET
OAKLAND, CA 94608

FIGURE 8
Project No. 281939

TABLES

TABLE 1
Well Construction Details
Zimmerman Property
3442 Adeline Street
Oakland, CA

Well ID	Date Installed	Top of Casing Elevation (ft)	Well Box Rim Elevation (ft)	Well Depth (ft bgs)	Casing Material	Casing Diameter (in)	Sceened Interval (ft bgs)	Slot Size (in)	Sand Interval (ft bgs)	Sand Size
BF-1	03/09/09	31.87	32.14	13	PVC	4	9-13	0.020	8-13	# 2/12
BF-2	03/09/09	NA	NA	13	PVC	4	9-13	0.020	8-13	# 2/12
BF-3	03/09/09	NA	NA	13	PVC	4	8-13	0.020	7-13	# 2/12
BF-5	03/09/09	32.28	32.59	13	PVC	4	8-13	0.020	7-13	# 2/12
MW-1	04/01/09	31.12	32.13	17	PVC	4	7-17	0.020	6-17	# 2/12
MW-2	04/01/09	31.19	31.43	17	PVC	4	7-17	0.020	6-17	# 2/12
MW-3	04/01/09	32.07	32.39	17	PVC	4	7-17	0.020	6-17	# 2/12
MW-4	04/02/09	31.68	31.98	17	PVC	2	7-17	0.020	6-17	# 2/12
MW-5	05/12/09	30.39	30.82	17	PVC	2	7-17	0.020	6-17	# 2/12
MW-6	04/02/09	29.34	29.96	17	PVC	2	7-17	0.020	6-17	# 2/12
MW-7	05/13/09	31.04	31.45	17	PVC	2	7-17	0.020	6-17	# 2/12
IW-1	05/12/09	31.66	31.90	15	SS	2	13-15	40 mesh	12-15	# 2/12

Notes:

Elevations provided in reference to North American Vertical Datum 1988

bgs	below ground surface
ft	feet
in	inches
PVC	polyvinylchloride
SS	stainless steel
NA	no available information

TABLE 2
Groundwater Elevation Data
Zimmerman Property
3442 Adeline Street
Oakland, CA

Well ID (Screen Interval)	Date Collected	Top of Casing Elevation (ft)	Depth to Water (ft)	Groundwater Elevation (ft)
MW-1 (7-17)	06/10/09	31.12	7.01	24.11
	08/27/09	31.12	6.96	24.16
	12/15/09	31.12	5.96	25.16
	03/12/10	31.12	5.06	26.06
	10/21/10	31.12	7.00	24.12
	05/05/11	31.12	5.88	25.24
	04/25/12	31.12	5.33	25.79
	12/12/12	31.12	5.35	25.77
	04/04/13	31.12	6.63	24.49
	04/30/14	31.12	5.42	25.70
	01/12/16	31.12	6.07	25.05
	07/22/16	31.12	8.85	22.27
	01/25/17	31.12	4.16	26.96
	06/13/17	31.12	6.37	24.75
	01/17/18	31.12	5.97	25.15
MW-2 (7-17)	06/10/09	31.19	9.50	21.69
	08/27/09	31.19	10.50	20.69
	12/15/09	31.19	8.68	22.51
	03/12/10	31.19	5.09	26.10
	10/21/10	31.19	7.51	23.68
	05/05/11	31.19	6.68	24.51
	04/25/12	31.19	5.58	25.61
	12/12/12	31.19	6.47	24.72
	04/04/13	31.19	7.56	23.63
	04/30/14	31.19	6.62	24.57
	01/13/16	31.19	7.06	24.13
	07/22/16	31.19	9.94	21.25
	01/25/17	31.19	4.27	26.92
	06/13/17	31.19	8.22	22.97
	01/17/18	31.19	7.27	23.92
MW-3 (7-17)	06/10/09	32.07	8.44	23.63
	08/27/09	32.07	8.59	23.48
	12/15/09	32.07	7.66	24.41
	03/12/10	Well inaccessible		
	10/21/10	Well inaccessible		
	07/22/16	32.07	9.98	22.09
	01/25/17	32.07	4.79	27.28
	06/13/17	32.07	7.74	24.33
	01/17/18	32.07	7.73	24.34

TABLE 2
Groundwater Elevation Data
Zimmerman Property
3442 Adeline Street
Oakland, CA

Well ID (Screen Interval)	Date Collected	Top of Casing Elevation (ft)	Depth to Water (ft)	Groundwater Elevation (ft)
MW-4 (7-17)	06/10/09	31.68	9.45	22.23
	08/27/09	31.68	10.29	21.39
	12/15/09	31.68	8.19	23.49
	03/12/10	31.68	5.45	26.23
	10/21/10	31.68	9.93	21.75
	05/05/11	31.68	6.60	25.08
	04/25/12	31.68	5.73	25.95
	12/12/12	31.68	6.21	25.47
	04/04/13	31.68	7.88	23.80
	04/30/14	31.68	6.92	24.76
	01/13/16	31.68	6.34	25.34
	07/22/16	31.68	10.50	21.18
	01/25/17	31.68	4.01	27.67
	06/13/17	31.68	7.94	23.74
	01/17/18	31.68	7.98	23.70
MW-5 (7-17)	06/10/09	30.39	9.13	21.26
	08/27/09	30.39	9.54	20.85
	12/15/09	30.39	8.33	22.06
	03/12/10	Well inaccessible		
	10/21/10	30.39	6.85	23.54
	05/05/11	30.39	3.25	27.14
	04/25/12	30.39	4.50	25.89
	12/12/12	30.39	5.43	24.96
	04/04/13	30.39	7.25	23.14
	04/30/14	Well inaccessible		
	01/12/16	30.39	5.65	24.74
	07/21/16	30.39	9.75	20.64
	01/25/17	30.39	3.08	27.31
	06/13/17	30.39	7.30	23.09
	01/17/18	30.39	8.87	21.52
MW-6 (7-17)	06/10/09	29.34	9.98	19.36
	08/27/09	29.34	11.84	17.50
	12/15/09	29.34	8.33	21.01
	03/12/10	29.34	4.66	24.68
	10/21/10	29.34	10.00	19.34
	05/05/11	29.34	5.59	23.75
	04/25/12	29.34	4.82	24.52
	12/20/12	29.34	5.23	24.11
	04/04/13	29.34	7.37	21.97
	04/30/14	29.34	5.89	23.45
	01/12/16	29.34	5.67	23.67
	07/21/16	29.34	10.40	18.94

TABLE 2
Groundwater Elevation Data
Zimmerman Property
3442 Adeline Street
Oakland, CA

Well ID (Screen Interval)	Date Collected	Top of Casing Elevation (ft)	Depth to Water (ft)	Groundwater Elevation (ft)
MW-6	01/25/17	29.34	3.59	25.75
(continued)	06/13/17	29.34	7.42	21.92
	01/17/18	29.34	7.89	21.45
MW-7	06/10/09	31.04	6.53	24.51
(7-17)	08/27/09	31.04	6.19	24.85
	12/15/09	31.04	5.71	25.33
	03/12/10	31.04	5.34	25.70
	10/21/10	31.04	6.59	24.45
	05/05/11	31.04	5.98	25.06
	04/25/12	31.04	5.71	25.33
	12/20/12	Well inaccessible		
	04/04/13	31.04	6.18	24.86
	04/30/14	31.04	6.29	24.75
	01/12/16	31.04	5.61	25.43
	07/21/16	31.04	7.36	23.68
	01/25/17	31.04	4.61	26.43
	06/13/17	31.04	6.00	25.04
	01/17/18	31.04	6.40	24.64
IW-1	06/10/09	31.66	7.65	24.01
(13-15)	08/27/09	31.66	7.70	23.96
	12/15/09	31.66	10.99	20.67
	03/12/10	31.66	6.00	25.66
	10/21/10	31.66	9.35	22.31
	05/05/11	31.66	6.73	24.93
	04/25/12	31.66	8.05	23.61
	12/20/12	31.66	12.88	18.78
	04/04/13	31.66	12.81	18.85
	04/30/14	31.66	6.01	25.65
	01/12/16	31.66	6.33	25.33
	07/21/16	31.66	8.31	23.35
	01/25/17	31.66	5.48	26.18
	06/13/17	31.66	6.31	25.35
	01/17/18	31.66	8.02	23.64
BF-1	07/21/16	31.87	8.40	23.47
	01/25/17	31.87	4.56	27.31
	06/13/17	31.87	6.82	25.05
	01/17/18	31.87	6.67	25.20
BF-5	07/21/16	32.28	8.95	23.33
	01/25/17	32.28	5.12	27.16
	06/13/17	32.28	7.35	24.93
	01/17/18	32.28	7.12	25.16

TABLE 2
Groundwater Elevation Data

Zimmerman Property
3442 Adeline Street
Oakland, CA

Well ID (Screen Interval)	Date Collected	Top of Casing Elevation (ft)	Depth to Water (ft)	Groundwater Elevation (ft)

Notes:

Data from current reporting period
Elevations provided in feet above North American Vertical Datum 1988

TABLE 3
Summary of Groundwater Elevation and Flow

Zimmerman Property
3442 Adeline Street
Oakland, CA

Date	Average Water Table Elevation (ft)	Change from Previous Episode (ft)	Flow Direction (gradient) (ft/ft)
6/10/2009	22.40	----	West (0.019)
8/27/2009	21.85	-0.55	West (0.019)
12/15/2009	23.42	1.58	West (0.018)
3/12/2010	25.75	2.33	West (0.004)
10/21/2010	22.81	-2.94	North Northwest (0.041)
5/5/2011	25.13	2.32	West (0.01)
4/25/2012	25.52	0.38	West (0.01)
12/20/2012	25.01	-0.51	West (0.01)
4/4/2013	23.41	-1.60	West (0.01)
4/30/2014	24.62	1.21	West (0.01)
1/12-13/2016	24.55	-0.07	West (0.01)
7/21-22/2016	20.91	-3.64	West (0.01)
1/12 & 1/25/2017	26.98	6.07	West (0.01)
6/13/2017	23.98	-3.00	West (0.01)
1/17/2018	23.90	-0.08	Southwest (0.027)

Notes:
Data from current reporting period
Elevations provided in reference to North American Vertical Datum 1988

TABLE 4
Summary of Groundwater Monitoring Well Analytical Data
Zimmerman Property
3442 Adeline Street
Oakland, CA

Sample ID	Date	Depth to Water (ft)	TPH-g (µg/L)	TPH-d (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethyl-benzene (µg/L)	Xylenes (µg/L)	MTBE (µg/L)
MW-1	04/17/09	7.01	220	97	10	<0.5	3.0	5.4	<5.0
	08/27/09	6.96	7,000	----	610	10	320	220	<180
	09/17/09	----	92	----	0.91	0.70	<0.5	<0.5	<15
	12/15/09	5.96	2500	----	170	6.4	66	120	<50
	03/12/10	5.06	500	----	4.0	1.1	0.6	0.7	<5.0
	10/21/10	7.00	<50	----	<0.5	<0.5	<0.5	<0.5	<5.0
	05/05/11	5.88	<50	----	<0.5	<0.5	<0.5	<0.5	<5.0
	04/25/12	5.33	<50	----	<0.5	<0.5	<0.5	<0.5	<5.0
	12/20/12	5.35	<50	----	<0.5	<0.5	<0.5	<0.5	<5.0
	04/04/13	6.63	<50	----	<0.5	<0.5	<0.5	<0.5	<5.0
	04/30/14	5.42	83	----	<0.5	0.53	<0.5	<0.5	<5.0
	01/12/16	6.07	<50	----	<0.5	<0.5	<0.5	<1.5	<5.0
	07/22/16	8.85	<50	----	<0.5/0.5	<0.5	<0.5	<1.5	<5.0
	01/25/17	4.16	<50	----	<0.5/<0.5	<0.5/<0.5	<0.5/<0.5	<1.5/<0.5	<5.0/<0.5
	06/13/17	6.37	<50	----	<0.50/<0.50	<0.50/<0.50	<0.50/<0.50	<1.5/<0.50	<5.0/<0.50
	01/17/18	5.97	<50	<50	<0.50	<0.50	<0.50	<0.50	<0.50
MW-2	04/17/09	9.50	7,000	2,200	850	19	93	470	<100
	08/27/09	10.50	26,000	----	3,600	<25	1,200	3,000	<1,200
	12/15/09	8.68	25,000	----	2,900	70	1,500	2,400	<250
	03/12/10	5.69	7,300	----	590	7.0	6.4	680	<350
	10/21/10	7.51	1,900	----	140	1.4	28	140	<15
	05/05/11	6.68	27,000	----	2,300	13	1,700	2,600	<180
	04/25/12	5.58	9,600	----	440	8.8	260	920	<120
	12/20/12	6.47	2,900	----	63	2.6	21	85	<35
	04/04/13	7.56	7,900	----	960	10	380	690	<150
	04/30/14	6.62	<50	----	<0.5	<0.5	<0.5	<0.5	<5.0
	01/13/16	7.06	330	----	97	<0.5	2.5	14	<5.0
	07/22/16	9.94	<50	----	1.9/2.0	<0.5	<0.5	<1.5	<5.0
	01/25/17	4.27	<50	----	1.4/1.1	<0.5/<0.5	0.56/<0.5	1.6/1.1	<5.0/<0.5
	06/13/17	8.22	<50	----	<0.50/<0.50	<0.50/<0.50	<0.50/<0.50	<1.5/<0.50	<5.0/<0.50
	01/17/18	7.27	<50	<50	0.68	<0.50	<0.50	<0.50	<0.50
MW-3	04/17/09	8.44	10,000	2,200	930	5.6	270	920	<110
	08/27/09	8.59	17,000	----	3,800	38	730	710	<250
	09/17/09	----	260	----	1.8	1.0	<0.5	2.1	<15
	10/14/09	----	1,800	----	220	13	37	130	<30
	12/15/09	7.66	4,900	----	890	13	160	130	<50
	03/12/10	Well inaccessible							
	10/21/10	Well inaccessible							
	07/22/16	9.98	16,000	----	4,800/5,100	28	52	42	<150
	01/25/17	4.79	7,300	----	1,900/1,500	17/<25	99/80	59/37	<200/<25
	06/13/17	7.74	11,000	----	2,300/2,200	<25/<50	110/96	<75/<50	<250/<50
	01/17/18	7.73	10,000	1,400	310	<10	<10	<10	<10

TABLE 4
Summary of Groundwater Monitoring Well Analytical Data
Zimmerman Property
3442 Adeline Street
Oakland, CA

Sample ID	Date	Depth to Water (ft)	TPH-g (µg/L)	TPH-d (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethyl-benzene (µg/L)	Xylenes (µg/L)	MTBE (µg/L)
MW-4	04/17/09	9.45	4,700	1,200	140	2.0	28	18	<30
	08/27/09	10.29	4,300	----	75	11	8.6	3.4	<25
	12/15/09	8.19	3,000	----	64	11	5.6	3.3	<15
	03/12/10	5.45	6,100	----	1,200	14	170	6.2	<35
	10/21/10	9.93	1,900	----	120	4.7	5.7	1.8	<15
	05/05/11	6.60	4,900	----	560	2.6	41	17	<25
	04/25/12	5.73	330	----	23	1.4	2.0	4.2	<5.0
	12/20/12	6.21	150	----	5.8	<0.5	<0.5	<0.5	<5.0
	04/04/13	7.88	1,000	----	30	4.6	0.61	0.65	<5.0
	04/30/14	6.92	<50	----	<0.5	<0.5	<0.5	<0.5	<5.0
	01/13/16	6.34	<50	----	<0.5	<0.5	<0.5	<1.5	<5.0
	07/22/16	10.50	<50	----	<0.5/0.5	<0.5	<0.5	<1.5	<5.0
	01/25/17	4.01	<50	----	<0.5/<0.5	<0.5/<0.5	<0.5/<0.5	<1.5/<0.5	<5.0/<0.5
	06/13/17	7.94	<50	----	<0.50/<0.50	<0.50/<0.50	<0.50/<0.50	<1.5/<0.50	<5.0/<0.50
	01/17/18	7.98	<50	<50	1.2	<0.50	<0.50	<0.50	<0.50
MW-5	05/22/09	9.13	14,000	2,800	3,000	12	340	420	<100
	08/27/09	9.54	25,000	----	3,300	36	110	160	<400
	12/15/09	8.33	8,200	----	1,200	6.9	300	610	<250
	03/12/10	Well inaccessible							
	10/21/10	6.85	<50	----	1.3	<0.5	<0.5	<0.5	<5.0
	05/05/11	3.25	790	----	140	1.0	29	30	<20
	04/25/12	4.51	67	----	3.4	<0.5	1.4	0.83	<5.0
	12/20/12	5.43	<50	----	<0.5	<0.5	<0.5	<0.5	<5.0
	04/04/13	7.25	<50	----	<0.5	<0.5	<0.5	<0.5	<5.0
	04/30/14	Well inaccessible			----	----	----	----	----
	01/12/16	5.65	110	----	2.7	<0.5	<0.5	<1.5	<5.0
	07/21/16	9.75	<50	----	<0.5/0.5	<0.5	<0.5	<1.5	<5.0
	01/25/17	3.08	<50	----	<0.5/<0.5	<0.5/<0.5	<0.5/<0.5	<1.5/<0.5	<5.0/<0.5
	06/13/17	7.36	<50	----	<0.50/<0.50	<0.50/<0.50	<0.50/<0.50	<1.5/<0.50	<5.0/<0.50
	01/17/18	8.87	650	67	160	<2.5	<2.5	<2.5	<2.5
MW-6	04/17/09	9.98	5,600	1,000	210	3.0	180	160	<300
	08/27/09	11.84	2,200	----	98	7.9	20	1.1	<120
	12/15/09	8.59	4,700	----	370	6.9	260	300	<250
	03/12/10	4.66	9,300	----	210	12	250	110	<90
	10/21/10	10.00	380	----	35	1.2	4.6	3.8	<5.0
	05/05/11	5.59	7,000	----	80	2.9	120	28	<75
	04/25/12	4.82	7,400	----	99	11.0	100	27	<150
	12/20/12	5.23	5,500	----	81	3.1	78	16	<50
	04/04/13	7.37	5,300	----	76	5.7	50	12	<70
	04/30/14	5.89	670	----	12	2.4	2.3	0.77	<5.0
	01/12/16	5.67	63	----	1.8	<0.5	<0.5	<1.5	<5.0
	07/21/16	10.40	<50	----	<0.5/0.5	<0.5	<0.5	<1.5	<5.0
	01/25/17	3.59	<50	----	<0.5/<0.5	<0.5/<0.5	<0.5/<0.5	<1.5/<0.5	<5.0/<0.5
	06/13/17	7.42	330	----	1.4/0.87	<0.50/<0.50	2.3/2.2	<1.5/<0.50	<5.0/<0.50
	01/17/18	7.89	1,700	280	15	0.88	3.5	1.1	<0.50

TABLE 4
Summary of Groundwater Monitoring Well Analytical Data
Zimmerman Property
3442 Adeline Street
Oakland, CA

Sample ID	Date	Depth to Water (ft)	TPH-g (µg/L)	TPH-d (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethyl-benzene (µg/L)	Xylenes (µg/L)	MTBE (µg/L)
MW-7	04/17/09	6.53	12,000	3,700	1,000	37	100	36	<120
	08/27/09	6.19	12,000	----	550	30	130	33	<100
	12/15/09	5.71	9,600	----	620	26	140	20	<100
	03/12/10	5.34	10,000	----	850	33	87	28	<25
	10/21/10	6.59	7,900	----	1,100	22	44	21	<180
	05/05/11	5.98	9,300	----	690	23	42	21	<200
	04/25/12	5.71	8,600	----	1,000	31	10	20	<75
	12/20/12	Well inaccessible							
	04/04/13	6.18	12,000	----	2,800	51	96	37	<210
	04/30/14	6.29	220	----	39	0.75	0.53	<0.5	<5.0
	01/12/16	5.61	1,800	----	400	6.8	9.7	7.6	31
	07/21/16	7.36	6,700	----	1,400/1,400	29	36	28	<400
	01/25/17	4.61	3,200	----	190/140	8.0/5.1	7.2/7.0	11/6.7	<150/<5.0
	06/13/17	6.00	10,000	----	1,900/1,800	46/<25	180/120	85/52	<250/<25
	01/17/18	6.40	10,000	1,400	870	<25	<25	<25	<25
IW-1	05/22/09	7.65	1,200	680	58	2.7	2.3	18	<15
	08/27/09	7.70	160	----	4.1	0.5	0.8	1.6	<5.0
	09/17/09	----	300	----	8.0	1.5	1.4	0.85	<5.0
	12/15/09	10.99	220	----	5.4	1.4	0.65	0.7	<5.0
	03/12/10	6.00	<50	----	1.9	<0.5	<0.5	<0.5	<5.0
	10/21/10	9.35	<50	**----**	<0.5	<0.5	<0.5	<0.5	<5.0
	05/05/11	6.73	<50	**----**	<0.5	<0.5	<0.5	<0.5	<5.0
	04/25/12	8.05	<50	**----**	0.91	<0.5	<0.5	0.57	<5.0
	12/20/12	12.88	<50	----	<0.5	<0.5	<0.5	<0.5	<5.0
	04/04/13	12.81	<50	----	<0.5	<0.5	<0.5	<0.5	<5.0
	04/30/14	6.01	<50	----	<0.5	<0.5	<0.5	<0.5	<5.0
	01/12/16	6.33	<50	----	<0.5	<0.5	<0.5	<1.5	<5.0
	07/21/16	6.33	<50	----	<0.5/0.5	<0.5	<0.5	<1.5	<5.0
	01/25/17	5.48	<50	----	<0.5/<0.5	<0.5/<0.5	<0.5/<0.5	<1.5/<0.5	<5.0/<0.5
	06/13/17	6.31	<50	----	<0.50/<0.50	<0.50/<0.50	<0.50/<0.50	<1.5/<0.50	<5.0/<0.50
	01/17/18	8.02	<50	<50	<0.50	<0.50	<0.50	<0.50	<0.50
BF-1	03/27/09	----	19,000	----	890	27	460	1,200	<250
	06/17/09	----	6,700	----	840	19	170	150	<150
	08/10/09	----	11,000	----	710	14	440	290	<120
	08/27/09	----	9,600	----	590	14	350	220	<90
	09/13/09	----	<50	----	1.2	<0.5	<0.5	<0.5	<5.0
	10/14/09	----	2,400	----	83	1.9	5.0	120	<10
	12/11/09	6.70	200	----	12	<0.5	2.2	9.6	<5.0
	03/12/10	5.61	<50	----	2.9	<0.5	<0.5	<0.5	<0.5
	10/21/10	7.95	560	----	68	1.5	6.7	25	<5.0
	05/05/11	6.25	<50	----	0.65	<0.5	<0.5	<0.5	<5.0
	04/25/12	5.85	<50	----	<0.5	<0.5	<0.5	<0.5	<5.0
	12/20/12	5.82	<50	----	<0.5	<0.5	<0.5	<0.5	<5.0
	04/04/13	6.78	<50	----	<0.5	<0.5	<0.5	<0.5	<5.0
	04/30/14	5.36	<50	----	<0.5	<0.5	<0.5	<0.5	<5.0
	01/12/16	6.58	<50	----	<0.5	<0.5	<0.5	<1.5	<5.0
	07/22/16	8.40	<50	----	<0.5/0.5	<0.5	<0.5	<1.5	<5.0
	01/25/17	4.56	<50	----	<0.5/<0.5	<0.5/<0.5	<0.5/<0.5	<1.5/<0.5	<5.0/<0.5
	06/13/17	6.82	<50	----	<0.50/<0.50	<0.50/<0.50	<0.50/<0.50	<1.5/<0.50	<5.0/<0.50
	01/17/18	6.67	<50	<50	<0.50	<0.50	<0.50	<0.50	<0.50

TABLE 4
Summary of Groundwater Monitoring Well Analytical Data
Zimmerman Property
3442 Adeline Street
Oakland, CA

Sample ID	Date	Depth to Water (ft)	TPH-g (µg/L)	TPH-d (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethyl-benzene (µg/L)	Xylenes (µg/L)	MTBE (µg/L)
BF-5	08/27/09	----	170	----	32	0.55	4.2	220	<25
	10/14/09	----	<50	----	<0.5	<0.5	<0.5	<0.5	<5.0
	12/11/09	7.25	130	**----**	40	<0.5	0.91	<0.5	<5.0
	03/12/10	6.09	<50	**----**	4.3	<0.5	0.91	<0.5	<5.0
	10/21/10	8.62	80	**----**	8.8	<0.5	1.4	4.5	<5.0
	05/05/11	6.75	<50	**----**	<0.5	<0.5	<0.5	<0.5	<5.0
	04/25/12	6.37	<50	**----**	<0.5	<0.5	<0.5	<0.5	<5.0
	12/20/12	6.33	<50	----	<0.5	<0.5	<0.5	<0.5	<5.0
	04/04/13	7.25	<50	----	<0.5	<0.5	<0.5	<0.5	<5.0
	04/30/14	5.83	<50	----	<0.5	<0.5	<0.5	<0.5	<5.0
	01/12/16	7.09	<50	----	<0.5	<0.5	<0.5	<1.5	<5.0
	07/22/16	8.95	<50	----	<0.5/0.5	<0.5	<0.5	<1.5	<5.0
	01/25/17	5.12	<50	----	<0.5/<0.5	<0.5/<0.5	<0.5/<0.5	<1.5/<0.5	<5.0/<0.5
	06/13/17	7.35	<50	----	<0.50/<0.50	<0.50/<0.50	<0.50/<0.50	<1.5/<0.50	<5.0/<0.50
	01/17/18	7.12	<50	<50	<0.50	<0.50	<0.50	<0.50	<0.50

Notes:

µg/L	micrograms of analyte per liter of sample	190 / 140	Sample analyzed by US EPA Methods 8021 and 8260B
	Data from current reporting period		
MTBE	methyl tert-butyl ether		
TPH-d	total petroleum hydrocarbons as diesel		
TPH-g	total petroleum hydrocarbons as gasoline		
---	No Data		

TABLE 5
Summary of Grab Groundwater Analytical Data
Zimmerman Property
3442 Adeline Street
Oakland, CA

Sample ID	Date	TPH-g	TPH-d	Benzene	Toluene	Ethyl-Benzene	Xylenes	MTBE	TAME	ETBE	TBA	DIPE
		µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
Pit Water	02/22/00	7,400	34,000	3,300	930	400	6,200	---	---	---	---	---
S-1	6/23/06	20,000	<10,000	980	70	1,500	1,100	---	---	---	---	---
S-2	6/23/06	31,000	<4,000	7,000	260	920	2,800	---	---	---	---	---
S-3	6/23/06	23,000	<1,500	490	67	1,200	3,300	---	---	---	---	---
S-4	6/23/06	120,000	<40,000	200	<15	3,500	2,900	---	---	---	---	---
SB-1	10/1/2007	28,000	6,100	2,000	77	1,600	4,100	<25	<25	<25	<250	<25
SB-2	10/1/2007	640	300	1.8	2.2	1.1	4.9	<0.5	<0.5	<0.5	<5.0	<0.5
SB-3	10/1/2007	84	<50	2.4	<0.5	4.2	11	<0.5	<0.5	<0.5	<5.0	<0.5
SB-4	10/1/2007	20,000	2,200	6,600	110	390	430	<17	<17	<17	430	<17
SB-5	10/1/2007	22,000	7,400	1,900	86	1,200	2,100	<5.0	<5.0	<5.0	120	<5.0
SB-6	10/1/2007	440	---	17	<0.5	0.99	2.2	2.0	<0.5	<0.5	18	<0.5
SB-7	10/3/2007	2,000	1,000	30	5.1	56	82	6.1	<0.5	<0.5.	<5.0	<0.5
SB-8	10/3/2007	6,700	1,600	110	6.3	160	140	<0.5	<0.5	<0.5	12	<0.5
SB-9	10/3/2007	11,000	5,700	440	14	720	1,000	<1.7	<1.7	<1.7	37	<1.7
SB-10	10/3/2007	17,000	1,700	3,800	55	420	830	<10	<10	<10	510	11

TABLE 5
Summary of Grab Groundwater Analytical Data
Zimmerman Property
3442 Adeline Street
Oakland, CA

Sample ID	Date	TPH-g	TPH-d	Benzene	Toluene	Ethyl-Benzene	Xylenes	MTBE	TAME	ETBE	TBA	DIPE
		µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
SB-11	10/3/2007	83,000	4,300	10,000	640	2,700	7,900	<25	<25	<25	840	<25
SB-12	12/20/2007	35,000	4,900	5,200	110	1,000	1,800	<450	---	---	---	---
SB-13	12/20/2007	29,000	5,100	5,300	80	1,400	3,900	<250	---	---	---	---
SB-14	12/20/2007	23,000	12,000	2,600	15	1,500	1,800	<240	---	---	---	---
SB-15	12/20/2007	36,000	3,000	7,700	190	1,600	4,700	<350	---	---	---	---
SB-16	12/20/2007	88	480	0.60	<0.5	<0.5	0.83	<5.0	---	---	---	---
SB-17	12/20/2007	1,100	320	<0.5	6.2	<0.5	4.2	<5.0	---	---	---	---
SB-18	12/20/2007	<50	1,800	<0.5	<0.5	<0.5	<0.5	<5.0	---	---	---	---
SB-19	12/20/2007	<50	280	<0.5	<0.5	<0.5	<0.5	<5.0	---	---	---	---
SB-20	12/20/2007	28,000	3,900	3,400	22	1,200	930	<160	---	---	---	---
SB-21	12/21/2007	8,100	1,200	1,600	<5.0	160	84	<50	---	---	---	---
SB-22	12/21/2007	2,600	620	110	0.90	150	55	<10	---	---	---	---
SB-23	5/14/2008	46,000	4,800	9,000	40	2,300	5,200	<450	---	---	---	---
SB-24	5/14/2008	11,000	2,900	80	<5.0	440	290	<50	---	---	---	---
SB-25	5/9/2008	3,600	1,300	42	1.90	65	36	<5.0	---	---	---	---

TABLE 5
Summary of Grab Groundwater Analytical Data
Zimmerman Property
3442 Adeline Street
Oakland, CA

Sample ID	Date	TPH-g	TPH-d	Benzene	Toluene	Ethyl-Benzene	Xylenes	MTBE	TAME	ETBE	TBA	DIPE
		µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
SB-26	5/14/2008	2,300	770	22	2.1	<1.0	2.4	<10	---	---	---	---
SB-27	5/14/2008	740	180	7.4	3.70	<0.5	1.0	<5.0	---	---	---	---
SB-28	5/16/2008	290	72	1.3	0.93	2.7	4.0	<5.0	---	---	---	---
SB-29	5/16/2008	<50	<50	<0.5	<0.5	<0.5	<0.5	<5.0	---	---	---	---
SB-30	5/14/2008	<50	<50	<0.5	<0.5	<0.5	<0.5	<5.0	---	---	---	---
SB-31	5/14/2008	5,100	770	270	6.3	79	7.2	<110	---	---	---	---
VB-4	6/13/2017	2,200	710	17	1.1	4.0	1.7	<5.0	<5.0	<5.0	11	<5.0
VB-5	6/13/2017	5,000	4,400	91	<5.0	93	25	<5.0	<5.0	<5.0	<20	<5.0
VB-17	6/13/2017	4,100	1,400	6.0	<0.50	18	1.4	<0.50	<0.50	<0.50	<2.0	<0.50
VB-18	6/13/2017	160	260	<0.50	<0.50	3.0	0.9	<0.50	<0.50	<0.50	<2.0	<0.50
VB-19	6/13/2017	9,500	2,200	83	<5.0	40	<5.0	<5.0	<5.0	<5.0	<20	<5.0
VB-20	6/13/2017	200	65	5.7	5.6	0.72	1.1	<0.50	<0.50	<0.50	13	<0.50
VB-21	6/13/2017	29,000	24,000	600	<25	150	<25	<25	<25	<25	<100	<25

Notes:

µg/L	micrograms of analyte per liter of sample	TAME	tert-amyl methyl ether	TPH-g	total petroleum hydrocarbons as gasoline
DIPE	Di-isopropyl Ether	TBA	tertiary butyl alcohol	MTBE	methyl tert-butyl ether
ETBE	ethyl tert-butyl ether	TPH-d	total petroleum hydrocarbons as diesel	---	No Data

TABLE 6
Summary of Soil Vapor Analytical Data
Zimmerman Property
3442 Adeline Street
Oakland, CA 94608

Boring	Date	TPH-g µg/m³	Benzene µg/m³	Toluene µg/m³	Ethyl-benzene µg/m³	Xylenes µg/m³	MTBE µg/m³	Naphthalene µg/m³	Oxygen %	Carbon Monoxide %	Carbon Dioxide %	Methane %	Leak Check Result
VB-1	10/1/2007	1,900	130	35	<8.8	<27	<48	---	---	---	---	---	NL
VB-2	10/1/2007	3,100	32	42	11	50	<48	---	---	---	---	---	NL
VB-3	10/1/2007	2,500	40	42	16	49	<48	---	---	---	---	---	NL
VB-4	6/22/2017	17,700,000	<51.1*	---	---	---	---	<83	5.24	---	4.22	2.37	NL
	1/18/2018	66,700,000	4,220	5,110	2,700	<5200	<1,440	<83	10.9 B	---	3.04	0.815	<2.06%
VB-5	6/19/2017	16,300	9.61	25.8	23.6	124.4	<1.44	<83	10.7	---	2.87	<0.400	<0.04%
	1/18/2017	1,690	<1.28	<1.51	<1.73	<5.20	<1.44	<83	13.5	---	3.18	<0.400	<1.43%
VB-7	10/14/2016	17,900	206	1,090	148	636	<18	<25	12.8	<2.00	0.65	<0.400	4.0%
	6/15/2017	2,060	3.47	<1.51	<1.73	<5.20	<1.44	<83	10.9	---	2.39	<0.400	1.0%
	1/17/2018	1,160	<1.28	<1.51	<1.73	<5.20	<1.44	<83	16.9	---	0.877	<0.400	<1.1%
VB-8	10/14/2016	1,770	48.0	287	25.3	119.4	<1.44	<6.60	13.6	<2.00	1.55	<0.400	0.6%
VB-9	10/14/2016	4,690,000	<294 *	<1,510	<347	<1,041	<288	<25 Q	<2.00	<2.00	10.9	0.806	<0.04%
	6/15/2017	7,910,000	<118 *	847	385	1,038	169	<83	3.81	---	4.76	<0.400	<0.04%
	1/17/2018	8,850,000	6,190	<1,510	<1,730	<5200	<1,440	<83	12.6 B	---	4.23	<0.400	<1.5%
VB-10	10/14/2016	34,500	573	827	77.3	87.7	<18	<25	3.40	<2.00	3.93	<0.400	4.8%
	6/15/2017	4,920	<1.28	12.3	3.35	14.69	<1.44	<83	13.5	---	2.37	<0.400	0.6%
	1/17/2018	4,660	<2.56	<3.01	<3.47	<10.41	<2.88	<83	15.5	---	2.37	<0.400	<1.83%
VB-11	10/14/2016	3,420	44.4	343	62.3	272.5	<1.44	<6.6	7.81	<2.00	1.83	<0.400	1.5%
VB-12	10/14/2016	1,490,000	15,400	<603	<694	<2,084	<577	<25 Q	<2.00	<2.00	13.6	0.416	<0.05%
	6/15/2017	1,740,000	1,280	231	311	1,288	<21.1	<83	2.85	---	9.72	<0.400	<0.03%
	1/17/2018	1,850,000	958	<603	728	<2,084	<577	<83	13.9	---	3.43	<0.400	<0.94%
VB-12DUP	1/17/2018	2,370,000	1,130	<603	<694	<2,084	<577	<83	11.7 B	---	5.63	<0.800	<0.94%
VB-13	10/14/2016	15,900	197	855	73.6	322.7	<1.44	<6.6	13.6	<2.00	<0.500	<0.400	6.0%

TABLE 6
Summary of Soil Vapor Analytical Data
Zimmerman Property
3442 Adeline Street
Oakland, CA 94608

Boring	Date	TPH-g µg/m³	Benzene µg/m³	Toluene µg/m³	Ethyl-benzene µg/m³	Xylenes µg/m³	MTBE µg/m³	Naphthalene µg/m³	Oxygen %	Carbon Monoxide %	Carbon Dioxide %	Methane %	Leak Check Result
VB-14	10/14/2016	10,300	157	605	63.1	270.2	<1.44	<6.6	10.9	<2.00	2.35	<0.400	4.7%
	1/17/2018	27,500	<6.39	<7.53	<8.67	<25.97	<7.21	---	16.5	---	<0.500	<0.400	<1.65%
VB-15	10/14/2016	406,000	<51.1	<60.3	<69.4	<208	95.1	<25 Q	2.09	<2.00	10.4	<0.400	1.2%
VB-16	10/14/2016	30,000	106	1,010	116	538	<18	<6.6	11.1	<2.00	2.97	<0.400	4.5%
	6/19/2017	2,330	1.64	4.91	<1.73	7.79	<0.400	<83	14.1	---	<0.500	<0.400	<0.04%
	1/17/2018	1,280	<1.28	<1.51	<1.73	<5.20	<1.44	<83	14.5	---	2.52	<0.400	<1.57%
VB-17	6/15/2017	22,700	27.2	55.3	13.6	52.7	<1.44	<83	8.82	---	3.14	<0.400	0.6%
	1/17/2018	192,000	<2.56	4.01	<3.47	9.98	<2.88	<83	14.9	---	1.56	<0.400	<0.62%
VB-18	6/15/2017	1,510	1.94	8.60	<1.73	6.63	<1.44	<83	4.71	---	4.36	<0.400	0.8%
	1/17/2018	2,740	<1.28	<1.51	<1.73	<5.20	<1.44	<83	15.2	---	2.20	<0.400	<1.83%
VB-19	6/19/2017	2,424	2.49	29.4	5.82	48.6	<1.44	<83	13.6	---	1.04	<0.400	<0.04%
VB-20	6/15/2017	3,380	7.86	50.8	6.23	38.28	<0.400	<83	11.7	---	3.58	<0.400	0.5%
	1/18/2018	<413	<1.28	<1.51	<1.73	<5.20	<1.44	<83	16.9	---	1.45	<0.400	<1.94%
VB-21	6/15/2017	9,590	81.7	644	56.7	272.6	<1.44	<83	14.7	---	<0.500	<0.400	0.2%
	1/17/2018	1,960	<1.28	<1.51	<1.73	<5.20	<1.44	<83	17.7	---	<0.500	<0.400	<0.76%
VB-22	6/15/2017	6,580	26.7	7.43	1.93	<5.20	<1.44	<83	7.13	---	1.76	<0.400	0.6%
	1/17/2018	832 B	<1.28	<1.51	<1.73	<5.20	<1.44	<83	17.5	---	<0.500	<0.400	<1.5%

Notes:

	Analytical data from the current reporting period	µg/m³	micrograms of analyte per cubic meter of sample under standard conditions
---	No Data	MTBE	methyl tert-butyl ether
(a)	Results determined using a field Helium meter	NL	Non-helium leak check compounds were not reported as present
(b)	isopropyl alcohol used as a leack check compound	**Q**	The internal standard associated with the analyte exceeded acceptable limits
(c)	1,1-difluoroethane used as a leack check compound	**B**	The same analyte is found in the associated blank
*	Analyte reported at the method detection limit	TPH-g	total petroleum hydrocarbons as gasoline
% Leak	Ratio of the concentration of the leak check compound in the shroud to the concentraiton of the leak check compound in the sample		

Soil vapor samples collected from probes at an approximate depth of 5 feet below ground surface.

APPENDIX A

FIELD DATA SHEETS

WELL GAUGING DATA

Project # 180117-DL1 Date 1/17/18 Client AEI

Site 3442 Adeline Rd Oakland

Well ID	Time	Well Size (in.)	Sheen / Odor	Depth to Immiscible Liquid (ft.)	Thickness of Immiscible Liquid (ft.)	Volume of Immiscibles Removed (ml)	Depth to water (ft.)	Depth to well bottom (ft.)	Survey Point: TOB or (TOC)	Notes
MW-7	0845	2					6.40	16.55		
IW-1	0850	2					8.02	15.30		
BF-5	0900	4					7.12	13.23		
MW-1	0855	4					5.97	16.94		
BF-1	0905	4					6.67	12.65		
MW-3	1005	4					7.73	17.30		
MW-4	1000	2					7.98	17.32		
MW-6	0853	2					7.89	17.26		
MW-5	0918	2					8.87	13.21		
~~MW-4~~	~~1000~~	~~2~~ (DUP)								
MW-2	0942	4					7.27	17.20	↓	
~~MW-3~~	~~1005~~	~~4~~ (DUP)								

LOW FLOW WELL MONITORING DATA SHEET

Project #: 180117-DL1	Client: AEI
Sampler: JS	Start Date: 1/17/18
Well I.D.: BF-1	Well Diameter: 2 3 (4) 6 8 ___
Total Well Depth: 12.65	Depth to Water Pre: 6.67 Post: 6.70
Depth to Free Product: —	Thickness of Free Product (feet): —
Referenced to: (PVC) Grade	Flow Cell Type: YSI Pro Plus

Purge Method: 2" Grundfos Pump (Peristaltic Pump) Bladder Pump
Sampling Method: Dedicated Tubing (New Tubing) Other ___
Flow Rate: 100 mL/min Pump Depth: 8'

Start @ 1247 Time	Temp. (°C or °F)	pH	Cond. (mS or µS)	Turbidity (NTUs)	D.O. (mg/L)	ORP (mV)	Water Removed (gals. or mL)	DTW / Observations
1250	19.1	6.71	1362	1	0.99	125.6	300	6.67 / No Color No ODOR
1253	19.1	6.70	1365	1	0.91	125.2	600	6.67 / "
1256	19.1	6.69	1366	1	0.59	123.3	9000	6.69 / "
1259	19.1	6.69	1366	1	0.30	121.5	1200	6.70 / "
1302	19.0	6.68	1368	1	0.13	120.9	1500	6.70 / "
1305	19.0	6.67	1367	1	0.12	120.1	1800	6.70 / "
1308	19.0	6.67	1368	1	0.11	119.2	2100	6.70 / "

Did well dewater? Yes (No) Amount actually evacuated: 2100 mL
Sampling Time: 1309 Sampling Date: 1/17/18
Sample I.D.: BF-1 Laboratory: McCampbell
Analyzed for: TPH-G BTEX MTBE TPH-D (Other:) See COC
Equipment Blank I.D.: @ Time Duplicate I.D.:

LOW FLOW WELL MONITORING DATA SHEET

Project #: 180117-DL1	Client: AEI
Sampler: JS	Start Date: 1/17/18
Well I.D.: BF-5	Well Diameter: 2 3 (4) 6 8 ___
Total Well Depth: 13.23	Depth to Water Pre: 7.12 Post: 7.14
Depth to Free Product: —	Thickness of Free Product (feet): —
Referenced to: (PVC) Grade	Flow Cell Type: YSI Pro Plus

Purge Method: 2" Grundfos Pump (Peristaltic Pump) Bladder Pump
Sampling Method: (Dedicated) Tubing New Tubing Other ___

Flow Rate: 100 mL/min Pump Depth: 10'

Start @ 1127 Time	Temp. (°C or °F)	pH	Cond. (mS or µS)	Turbidity (NTUs)	D.O. (mg/L)	ORP (mV)	Water Removed (gals. or mL)	DTW / Observations
1130	19.3	6.43	1479	100+	2.29	17.1	300	7.14 / No Color No Odor
1133	19.3	6.44	1457	84	1.60	15.2	600	7.14 / "
1136	19.3	6.46	1451	61	1.36	16.5	900	7.14 / "
1139	19.3	6.52	1436	22	0.62	22.4	1200	7.14 / "
1142	19.3	6.54	1433	21	0.60	22.9	1500	7.14 / "
1145	19.3	6.54	1430	20	0.57	23.6	1800	7.14 / "

Did well dewater? Yes (No) Amount actually evacuated: 1800 mL
Sampling Time: 1146 Sampling Date: 1/17/18
Sample I.D.: BF-5 Laboratory: McCampbell
Analyzed for: TPH-G BTEX MTBE TPH-D (Other): See COC
Equipment Blank I.D.: @ Time Duplicate I.D.:

LOW FLOW WELL MONITORING DATA SHEET

Project #: 160117-DL1	Client: AEI
Sampler: JS	Start Date: 1/17/18
Well I.D.: MW-1	Well Diameter: 2 3 (4) 6 8 ___
Total Well Depth: 16.94	Depth to Water Pre: 5.97 Post: 6.18
Depth to Free Product: —	Thickness of Free Product (feet): —
Referenced to: (PVC) Grade	Flow Cell Type: YSI Pro Plus

Purge Method: 2" Grundfos Pump (Peristaltic Pump) Bladder Pump
Sampling Method: Dedicated Tubing New Tubing Other ___
Flow Rate: 100 mL/min Pump Depth: 7'

Start @1206 Time	Temp. (°C or °F)	pH	Cond. (mS or (µS))	Turbidity (NTUs)	D.O. (mg/L)	ORP (mV)	Water Removed (gals. or (mL))	DTW / Observations
1209	18.6	6.64	1181	9	4.13	171.9	300	6.01 / No Color No ODOR
1212	18.6	6.65	1182	7	3.72	168.4	600	6.04 / No Color No ODOR
1215	18.6	6.65	1181	5	3.59	167.3	900	6.04 / "
1218	18.7	6.65	1181	5	3.26	162.8	1200	6.08 / "
1221	18.7	6.65	1179	4	3.22	160.4	1500	6.10 / "
1224	18.7	6.64	1177	4	3.19	159.9	1800	6.18 / "

Did well dewater? Yes (No) Amount actually evacuated: 1800 mL
Sampling Time: 1225 Sampling Date: 1/17/18
Sample I.D.: MW-1 Laboratory: McCampbell
Analyzed for: TPH-G BTEX MTBE TPH-D (Other): See COC
Equipment Blank I.D.: @ Time Duplicate I.D.:

LOW FLOW WELL MONITORING DATA SHEET

Project #: 180117-DL1	Client: AET
Sampler: DL	Start Date: 1/17/18
Well I.D.: MW-2	Well Diameter: 2 3 (4) 6 8 ____
Total Well Depth: 17.20	Depth to Water Pre: 7.27 Post: 7.40
Depth to Free Product:	Thickness of Free Product (feet):
Referenced to: (PVC) Grade	Flow Cell Type: YSI Pro Plus

Purge Method: 2" Grundfos Pump ~~Peristaltic Pump~~ Bladder Pump
Sampling Method: ~~Dedicated Tubing~~ New Tubing Other ____
Flow Rate: 100 mL/min Pump Depth: 15'

@1254 Time	Temp. (°C or °F)	pH	Cond. (mS or µS)	Turbidity (NTUs)	D.O. (mg/L)	ORP (mV)	Water Removed (gals. or (mL))	DTW / Observations
1257	17.9	6.27	651	8	0.91	29.0	300	7.29
1300	18.1	6.31	653	4	0.76	32.7	600	7.31
1303	18.2	6.30	643	3	0.57	35.9	900	7.33
1306	18.2	6.30	640	3	0.51	37.7	1200	7.35
1309	18.3	6.30	640	2	0.50	38.0	1500	7.38
1312	18.3	6.30	639	2	0.50	39.1	1800	7.40

Did well dewater? Yes (No) Amount actually evacuated: 1800
Sampling Time: 1320 Sampling Date: 1/17/18
Sample I.D.: MW-2 Laboratory: MCCampbell
Analyzed for: TPH-G BTEX MTBE TPH-D Other: See CoC
Equipment Blank I.D.: @ Time Duplicate I.D.:

LOW FLOW WELL MONITORING DATA SHEET

Project #: 180117-D21	Client: AEI
Sampler: DL	Start Date: 1/17/18
Well I.D.: MW-3	Well Diameter: 2 3 (4) 6 8 ___
Total Well Depth: 17.30	Depth to Water Pre: 7.73 Post: 7.92
Depth to Free Product:	Thickness of Free Product (feet):
Referenced to: (PVC) Grade	Flow Cell Type: YSI Pro Plus

Purge Method: 2" Grundfos Pump | Peristaltic Pump | Bladder Pump
Sampling Method: ~~Dedicated Tubing~~ | New Tubing | Other ___
Flow Rate: 100 mL/min | Pump Depth: 15'

@1217 Time	Temp. (°C or °F)	pH	Cond. (mS or µS)	Turbidity (NTUs)	D.O. (mg/L)	ORP (mV)	Water Removed (gals. or mL)	DTW / Observations
1220	18.6	6.66	1149	4	0.47	-87.2	360	7.73
1223	18.9	6.70	1193	2	0.31	-92.3	600	7.76
1226	18.9	6.71	1203	2	0.23	-93.8	900	7.80
1229	19.0	6.71	1205	2	0.22	-96.7	1200	7.84
1232	19.0	6.71	1204	2	0.21	-97.0	1500	7.87
1235	19.0	6.71	1204	2	0.21	-96.9	1800	7.92

Did well dewater? Yes (No) | Amount actually evacuated: 1800
Sampling Time: 1240 | Sampling Date: 1/17/18
Sample I.D.: MW-3 | Laboratory: MCCampbell
Analyzed for: TPH-G BTEX MTBE TPH-D | Other: See CoC
Equipment Blank I.D.: @ Time | Duplicate I.D.:

LOW FLOW WELL MONITORING DATA SHEET

Project #: 180117-DL1	Client: AEI
Sampler: DL	Start Date: 1/17/18
Well I.D.: MW-4	Well Diameter: (2) 3 4 6 8 ____
Total Well Depth: 17.32	Depth to Water Pre: 7.98 Post: 8.15
Depth to Free Product:	Thickness of Free Product (feet):
Referenced to: (PVC) Grade	Flow Cell Type: YSI Pro Plus

Purge Method: 2" Grundfos Pump ~~Peristaltic Pump~~ Bladder Pump
Sampling Method: ~~Dedicated Tubing~~ New Tubing Other ____

Flow Rate: 100 mL/min Pump Depth: 15'

@1143 Time	Temp. (°C or °F)	pH	Cond. (mS or µS)	Turbidity (NTUs)	D.O. (mg/L)	ORP (mV)	Water Removed (gals. or mL)	DTW / Observations
1146	17.5	6.19	526	18	0.86	65.0	300	7.98
1149	17.9	6.15	521	14	0.70	71.8	600	8.01
1152	18.1	6.14	502	11	1.60	76.0	900	8.05
1155	18.1	6.15	477	9	3.44	88.2	1200	8.09
1158	18.1	6.15	476	9	3.40	89.9	1500	8.12
1201	18.1	6.15	473	8	3.36	90.7	1800	8.15

Did well dewater? Yes (No) Amount actually evacuated: 1800

Sampling Time: 1210 Sampling Date: 1/17/18

Sample I.D.: MW-4 Laboratory: MCCampbell

Analyzed for: TPH-G BTEX MTBE TPH-D Other: See COC

Equipment Blank I.D.: @ Time Duplicate I.D.:

LOW FLOW WELL MONITORING DATA SHEET

Project #: 180117-DL1	Client: AEI
Sampler: DL	Start Date: 1/17/18
Well I.D.: MW-5	Well Diameter: (2) 3 4 6 8 ____
Total Well Depth: 13.21	Depth to Water Pre: 8.87 Post: 8.97
Depth to Free Product:	Thickness of Free Product (feet):
Referenced to: (PVC) Grade	Flow Cell Type: YSI Pro Plus

Purge Method: 2" Grundfos Pump ~~Peristaltic Pump~~ Bladder Pump
Sampling Method: ~~Dedicated Tubing~~ New Tubing Other ____

Flow Rate: 100 ml/min Pump Depth: 12'

@1102 Time	Temp. (°C or °F)	pH	Cond. (mS or µS)	Turbidity (NTUs)	D.O. (mg/L)	ORP (mV)	Water Removed (gals. or mL)	DTW / Observations
1105	15.6	6.66	1128	19	0.59	37.8	~~618~~ 300	8.87
1108	15.6	6.68	1138	19	0.52	35.8	600	8.90
1111	15.7	6.69	1146	20	0.46	34.0	900	8.92
1114	15.7	6.70	1151	20	0.40	33.2	1200	8.94
1117	15.8	6.70	1152	19	0.39	32.8	1500	8.95
1120	15.7	6.71	1156	19	0.38	31.5	1800	8.97

Did well dewater? Yes (No) Amount actually evacuated: 1800

Sampling Time: 1125 Sampling Date: 1/17/18

Sample I.D.: MW-5 Laboratory: MCCampbell

Analyzed for: TPH-G BTEX MTBE TPH-D Other: See COC

Equipment Blank I.D.: @ Time Duplicate I.D.:

LOW FLOW WELL MONITORING DATA SHEET

Project #: 180117-DL1	Client: AEI
Sampler: DL	Start Date: 1/17/18
Well I.D.: MW-6	Well Diameter: (2) 3 4 6 8 ____
Total Well Depth: 17.26	Depth to Water Pre: 7.89 Post: 7.94
Depth to Free Product:	Thickness of Free Product (feet):
Referenced to: ~~PVC~~ Grade	Flow Cell Type: YSI Pro Plus

Purge Method: 2" Grundfos Pump | Peristaltic Pump | Bladder Pump
Sampling Method: ~~Dedicated Tubing~~ | New Tubing | Other ____

Flow Rate: 100 ml/min | Pump Depth: 15'

@1025 Time	Temp. (°C or °F)	pH	Cond. (mS or ~~µS~~)	Turbidity (NTUs)	D.O. (mg/L)	ORP (mV)	Water Removed (gals. or mL)	DTW / Observations
1028	16.3	6.60	717	12	1.05	-26.7	300	7.89
1031	16.4	6.64	721	10	0.78	-34.1	600	7.89
1034	16.5	6.66	720	10	0.65	-36.5	900	7.90
1037	16.6	6.67	717	8	0.51	-38.5	1200	7.91
1040	16.6	6.67	716	8	0.50	-38.8	1600	7.93
1043	16.6	6.66	715	7	0.49	-38.8	1800	7.94

Did well dewater? Yes ~~No~~ | Amount actually evacuated: 1800

Sampling Time: 1050 | Sampling Date: 1/17/18

Sample I.D.: MW-6 | Laboratory: MCCampbell

Analyzed for: TPH-G BTEX MTBE TPH-D | Other: See CoC

Equipment Blank I.D.: @ Time | Duplicate I.D.:

LOW FLOW WELL MONITORING DATA SHEET

Project #: 180117-DL1	Client: AEI
Sampler: JS	Start Date: 1/17/18
Well I.D.: MW-7	Well Diameter: (2) 3 4 6 8 ___
Total Well Depth: 16.55	Depth to Water Pre: 6.40 Post: 6.57
Depth to Free Product: —	Thickness of Free Product (feet): —
Referenced to: (PVC) Grade	Flow Cell Type: YSI Pro Plus

Purge Method: 2" Grundfos Pump (Peristaltic Pump) Bladder Pump
Sampling Method: Dedicated Tubing New Tubing Other ___
Flow Rate: 100 mL/min Pump Depth: 8'

Start @ 1041 Time	Temp. (°C or °F)	pH	Cond. (mS or (µS))	Turbidity (NTUs)	D.O. (mg/L)	ORP (mV)	Water Removed (gals. or (mL))	DTW / Observations
1044	19.1	6.47	1533	40	2.12	-63.7	300	6.44 / No Color NOD DOI
1047	18.9	6.38	1531	33	1.66	-74.8	600	6.49 / "
1050	18.9	6.39	1501	26	0.88	-85.4	900	6.51 / "
1053	18.9	6.43	1463	24	0.56	-94.3	1200	6.54 / "
1056	18.9	6.45	1458	24	0.54	-97.9	1500	6.55 / "
1059	19.0	6.48	1447	22	0.52	-101.9	1800	6.57 / "

Did well dewater? Yes (No) Amount actually evacuated: 1800 mL
Sampling Time: 1100 Sampling Date: 1/17/18
Sample I.D.: MW-7 Laboratory: McCampbell
Analyzed for: TPH-G BTEX MTBE TPH-D (Other): See COC
Equipment Blank I.D.: @ Time Duplicate I.D.:

LOW FLOW WELL MONITORING DATA SHEET

Project #: 180117-DL1	Client: AEI
Sampler: JS	Start Date: 1/17/18
Well I.D.: IW-1	Well Diameter: (2) 3 4 6 8 ___
Total Well Depth: 15.30	Depth to Water Pre: 8.02 Post: 8.21
Depth to Free Product: —	Thickness of Free Product (feet): —
Referenced to: (PVC) Grade	Flow Cell Type: YSI Pro Plus

Purge Method: 2" Grundfos Pump (Peristaltic) Pump Bladder Pump
Sampling Method: Dedicated Tubing New Tubing Other ___

Flow Rate: 100 mL/min Pump Depth: 10'

Start @ 1013 Time	Temp. (°C) or °F)	pH	Cond. (mS or (µS))	Turbidity (NTUs)	D.O. (mg/L)	ORP (mV)	Water Removed (gals. or (mL))	DTW / Observations
1016	19.0	6.12	2278	6	5.37	121.4	300	8.12 / No Color No Odor
1019	19.1	6.29	2122	6	3.95	79.8	600	8.14 / "
1022	19.0	6.39	2069	6	3.98	-15.1	900	8.18 / "
1025	18.9	6.40	2050	5	3.92	-20.1	1200	8.21 / "
1028	18.8	6.40	1933	5	3.58	-27.5	1500	8.21 / "
1031	18.8	6.40	1928	4	3.50	-31.9	1800	8.21 / "
1034	18.8	6.40	1905	4	3.43	-36.5	2100	8.21 / "

Did well dewater? Yes (No) Amount actually evacuated: ~~1800~~ 2100 mL

Sampling Time: 1035 Sampling Date: 1/17/18

Sample I.D.: IW-1 Laboratory: McCampbell

Analyzed for: TPH-G BTEX MTBE TPH-D (Other): See COC

Equipment Blank I.D.: @ Time Duplicate I.D.:

WELLHEAD INSPECTION CHECKLIST

Client AIE Date 1/17/18

Site Address 3442 Adeline St. Oakland, CA

Job Number 180117-DL1 Technician DL, JS

Well ID	Well Inspected - No Corrective Action Required	Water Bailed From Wellbox	Wellbox Components Cleaned	Cap Replaced	Lock Replaced	Other Action Taken (explain below)	Well Not Inspected (explain below)	Repair Order Submitted
MW-7						X		
IW-1						X		
BF-5						X		
MW-1						X		
BF-1						X		
MW-3	~~X~~ DL					X		
MW-4	X							
MW-6	X	X						
MW-5	X							
MW-2	X							

NOTES: MW-7: -1/2 Bolts 1/2 Tabs Broken; IW-1: -1/2 Bolts
BF-5: -2/2 Bolts; MW-1: -1/2 Bolts; BF-1: -2/2 Bolts
MW-3: 10 lb weight being used as well lid

TEST EQUIPMENT CALIBRATION LOG

PROJECT NAME	AEI @ 3442 Adeline St. Oakland, CA			PROJECT NUMBER	18017-DL1		
EQUIPMENT NAME	EQUIPMENT NUMBER	DATE/TIME OF TEST	STANDARDS USED	EQUIPMENT READING	CALIBRATED TO: OR WITHIN 10%:	TEMP. °C	INITIALS
YSI Pro plus	16M101741	1/17/18 @ 0920	pH: 7 10 4	pH: 7.01 10.02 3.99	Yes	15.8	JS
↓	↓	↓	Cond: 3900 µS	Cond: 3899 µS	Yes	15.6	JS
↓	↓	↓	ORP: 245.0mV @ 16.0°C	ORP: 245.1mV @ 16.0°C	Yes	16.0	JS
↓	↓	↓	D.O. 100%	D.O 99.9%	Yes		JS

TEST EQUIPMENT CALIBRATION LOG

PROJECT NAME 3412 Adeline St				PROJECT NUMBER 18017-DC1			
EQUIPMENT NAME	EQUIPMENT NUMBER	DATE/TIME OF TEST	STANDARDS USED	EQUIPMENT READING	CALIBRATED TO: OR WITHIN 10%:	TEMP.	INITIALS
YSI Pro Plus	14F101212	1/17/18 0615	PH 4/7/10 Cond 3900	4.02/7.00/10.01 3903	Y	19	DC
↓	↓	↓	ORP 237 DO 100.1	238.7 99.1	Y	20	DL

SOIL VAPOR SAMPLING FIELD DATA
3442 Adeline Street, Oakland, California

Date	Sample ID	Canister #	Regulator #	Leak test start time	Start Leak Vaccum Pressure (in-Hg)	Leak test stop time	End Leak Vaccum Pressure (in-Hg)	Start Purge Time	End Purge Time	Began sampling Time	Initial vacuum (in-Hg)	End sampling Time	Final vacuum (in-Hg)	He shroud (%)	He Detected (PPM)
1/17/18	VB-4	7337	8595	1342	-28	1349	-28	1202	1208	1210	-28	1218	-5	16	B
	VB-5	6524 5446	7455	1346	-29	1355	-28	0858	0904	0910 5	-29	0915	-5	25%	∅
	VB-6	5230	8613	1351	-28	1402	-28								
	VB-7	7363	7797	1402	-24	1415	-22	1521	1527	1530	-26	1535	-5	30	∅
	VB-8	6285	8634	1415	-27	1435	-27								
	VB-9	6586	8603	1440	-28	1454	-27	1255	1301	1308	-29	1316	-5	22.0	2000
	VB-10	8942	8627	1456	-26	1504	-26	1602	1604	1611	-26	1635	-5	18	3000
	VB-11	7913	8619	1503	-28	1515	-28								
	VB-12	5370	7781	1518	-29	1517	-29	1205	1211	1213	-30+	1219	-5	35	∅
	VB-13	5385	7145	1515	-28	1522	-27	1020	1026			Groundwater		25%	
	VB-14	5733	7142	1520	-27	1527	-27	1037	1043	1046	-26	1055	-25	20	25 A
	VB-15	6927	8625	1530	-27.5	1620	-22								
	VB-16	5156	5907	1535	-23.5	1630	-23.5	0947	0953	0957	0957 -24	-2 1005	-5	21	∅
	VB-17	7904	7457	1540	-29	1630	-29								
	VB-18	5228	6828	1545	-28.5	1620	-28.5	0903	0909	0912	-30+	0918	-5.0	18.0	∅
	VB-19	7965	6812	1550	-24.5	1620	-24.5								
	VB-20	7274	6028	1552	-30	1625	-30	1113	1119	1122	-30+	1127	-5	17%	∅
	VB-21	5837	7441	1558	-21	1620	-21								
	VB-22	5506	7442	1605	-29	1620	-29	1353	1358	1401	-29.5	1408	-5	22	∅
	VB-22 Duplicate	7281	8372	1610	-30	1620	-30	1205	1211	1213	-30	1218	-5	35	∅

Notes: VB-14, downhole vaccum to -9.5, would not sample, likely groundwater
VB-10, downhole to -12

File: Soil Vapor sampling Field Data Form - He

SOIL VAPOR SAMPLING FIELD DATA
3442 Adeline Street, Oakland, California

Date	Sample ID	Canister #	Regulator #	Leak test start time	Start Leak Vaccum Pressure (in-Hg)	Leak test stop time	End Leak Vaccum Pressure (in-Hg)	Start Purge Time	End Purge Time	Began sampling Time	Initial vacuum (in-Hg)	End sampling Time	Final vacuum (in-Hg)	He shroud (%)	He Detected (PPM)
1/17/18	VB-4	7337	8595												
	VB-5	6524	7455												
	VB-6	5230	8613					1423	1428	water in tubing				40%	
	VB-7	7363	7797												
X	VB-8	6285	8639					—	water in tubing				—		
X	VB-9	6586	8603												
	VB-10	8942	8622												
X	VB-11	7913	8619					1252	1257	water in tube				45%	
	VB-12	5370	7781												
	VB-13	5385	7145												
X	VB-14	5733	7142												
X	VB-15	6927	8625					1031	1036	WATER in tubes				55.6%	
	VB-16	5156	5907												
X	VB-17	7909	7457	[illegible]	[illegible]	[illegible]		918	923	930	+30	934	5	53%	0
X	VB-18	5228	6828												
	VB-19	7965	6812												
	VB-20	7274	6028												
	VB-21	5837	7441					1541	1546	1550	20	1553	5	43.3%	330
	VB-22	5506	7442												
	Pup	7281	8372												

Notes:

APPENDIX B

WASTE DISPOSAL DOCUMENTATION

ADVANCED ENVIRONMENTAL SERVICES

CALIFORNIA ENVIRONMENTAL SERVICES

13645 Ben Dier Lane
Baker City, OR 97814

415.699.6207
Fax 541.523.1870

Log #: _____

NON-HAZARDOUS WASTE MANIFEST

GENERATOR

Generator: Steffi Zimmerman Trust Location:

Address: Address: 3442 Adeline Street

Oakland, CA

Phone #: Phone No.:

Approval Number	55 - Gallon Drum(s) Non-Hazardous	Net Weight (Tons)
PHLF14359	1	
	20 Gallon Drum(s) Non-Hazardous	

Description of Material

Non-Regulated Petroleum
Contaminated Material
Non-DOT/RCRA Regulated

I hereby certify that the above named material does not contain free liquids as defined by 40 CFR Part 260.10 or any other applicable state law, is not a hazardous waste as defined by 40 CFR Part 261 or any applicable state law, is not a DOT hazardous substance as defined by 49 CFR Part 172 or any applicable state law, has been properly described, classified and packaged, and is in proper condition for transportation according to applicable regulations.

Signature Generator Authorized Agenr Name Date

TRANSPORTER

Transporter Name: BIG SKY ENT. Driver Name: Jeff Rhodes

Address: CHANNEL ST Vehicle License No./State:

BENICIA, CA Truck Number: 301

I hereby certify that the above named material was picked up at the generator site listed above and was delivered without incident to the destination listed below

Driver Signature Jeff Rhodes Jeff Rhodes FEB 15 2018

Driver Signature Print Driver Name Date

DESTINATION

Facility Name: Potrero Landfill Phone: 707.429.9600

Address: 3675 Potrero Hills Lane, Suisun City, CA

I hereby certify that the above named material has been accepted and to the best of my knowledge the foregoing is true and accurate.

Signature Authorized Agent Name Receipt Date

APPENDIX C

LABORATORY ANALYTICAL AND CHAIN OF CUSTODY DOCUMENTATION

McCampbell Analytical, Inc.
"When Quality Counts"

Analytical Report

WorkOrder: 1801982

Report Created for: AEI Consultants

2500 Camino Diablo, Ste.#200
Walnut Creek, CA 94597

Project Contact: Jacqueline Day
Project P.O.:
Project: 3442 Adeline St. Oakland, CA

Project Received: 01/18/2018

Analytical Report reviewed & approved for release on 01/25/2018 by:

Heidi Fruhlinger
Project Manager

1534 Willow Pass Rd. Pittsburg, CA 94565 ♦ TEL: (877) 252-9262 ♦ FAX: (925) 252-9269 ♦ www.mccampbell.com
CA ELAP 1644 ♦ NELAP 4033 ORELAP

McCampbell Analytical, Inc.
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Glossary of Terms & Qualifier Definitions

Client: AEI Consultants
Project: 3442 Adeline St. Oakland, CA
WorkOrder: 1801982

Glossary Abbreviation

%D	Serial Dilution Percent Difference
95% Interval	95% Confident Interval
DF	Dilution Factor
DI WET	(DISTLC) Waste Extraction Test using DI water
DISS	Dissolved (direct analysis of 0.45 µm filtered and acidified water sample)
DLT	Dilution Test (Serial Dilution)
DUP	Duplicate
EDL	Estimated Detection Limit
ERS	External reference sample. Second source calibration verification.
ITEF	International Toxicity Equivalence Factor
LCS	Laboratory Control Sample
MB	Method Blank
MB % Rec	% Recovery of Surrogate in Method Blank, if applicable
MDL	Method Detection Limit
ML	Minimum Level of Quantitation
MS	Matrix Spike
MSD	Matrix Spike Duplicate
N/A	Not Applicable
ND	Not detected at or above the indicated MDL or RL
NR	Data Not Reported due to matrix interference or insufficient sample amount.
PDS	Post Digestion Spike
PDSD	Post Digestion Spike Duplicate
PF	Prep Factor
RD	Relative Difference
RL	Reporting Limit (The RL is the lowest calibration standard in a multipoint calibration.)
RPD	Relative Percent Deviation
RRT	Relative Retention Time
SPK Val	Spike Value
SPKRef Val	Spike Reference Value
SPLP	Synthetic Precipitation Leachate Procedure
ST	Sorbent Tube
TCLP	Toxicity Characteristic Leachate Procedure
TEQ	Toxicity Equivalents
WET (STLC)	Waste Extraction Test (Soluble Threshold Limit Concentration)

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Glossary of Terms & Qualifier Definitions

Client: AEI Consultants
Project: 3442 Adeline St. Oakland, CA
WorkOrder: 1801982

Analytical Qualifiers

S	Surrogate spike recovery outside accepted recovery limits
c2	Surrogate recovery outside of the control limits due to matrix interference.
d1	Weakly modified or unmodified gasoline is significant
d9	No recognizable pattern
e2/e4	Diesel range compounds are significant; no recognizable pattern; and/or Gasoline range compounds are significant.
e2	Diesel range compounds are significant; no recognizable pattern
e4/e2	Gasoline range compounds are significant.; and/or Diesel range compounds are significant; no recognizable pattern

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Analytical Report

Client:	AEI Consultants	**WorkOrder:**	1801982
Date Received:	1/18/18 14:35	**Extraction Method:**	SW5030B
Date Prepared:	1/23/18-1/25/18	**Analytical Method:**	SW8260B
Project:	3442 Adeline St. Oakland, CA	**Unit:**	µg/L

Volatile Organics

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
BF-1	1801982-001B	Water	01/17/2018 13:09	GC10 01241834.D	152193

Analytes	Result	RL	DF	Date Analyzed
tert-Amyl methyl ether (TAME)	ND	0.50	1	01/25/2018 05:32
Benzene	ND	0.50	1	01/25/2018 05:32
t-Butyl alcohol (TBA)	**2.2**	2.0	1	01/25/2018 05:32
Diisopropyl ether (DIPE)	ND	0.50	1	01/25/2018 05:32
Ethylbenzene	ND	0.50	1	01/25/2018 05:32
Ethyl tert-butyl ether (ETBE)	ND	0.50	1	01/25/2018 05:32
Methyl-t-butyl ether (MTBE)	ND	0.50	1	01/25/2018 05:32
Naphthalene	ND	0.50	1	01/25/2018 05:32
Toluene	ND	0.50	1	01/25/2018 05:32
Xylenes, Total	ND	0.50	1	01/25/2018 05:32

Surrogates	REC (%)	Limits	
Dibromofluoromethane	106	78-134	01/25/2018 05:32
Toluene-d8	109	82-120	01/25/2018 05:32
4-BFB	91	69-131	01/25/2018 05:32

Analyst(s): KF

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
BF-5	1801982-002B	Water	01/17/2018 11:46	GC16 01231813.D	152062

Analytes	Result	RL	DF	Date Analyzed
tert-Amyl methyl ether (TAME)	ND	0.50	1	01/23/2018 15:29
Benzene	ND	0.50	1	01/23/2018 15:29
t-Butyl alcohol (TBA)	ND	2.0	1	01/23/2018 15:29
Diisopropyl ether (DIPE)	ND	0.50	1	01/23/2018 15:29
Ethylbenzene	ND	0.50	1	01/23/2018 15:29
Ethyl tert-butyl ether (ETBE)	ND	0.50	1	01/23/2018 15:29
Methyl-t-butyl ether (MTBE)	ND	0.50	1	01/23/2018 15:29
Naphthalene	ND	0.50	1	01/23/2018 15:29
Toluene	ND	0.50	1	01/23/2018 15:29
Xylenes, Total	ND	0.50	1	01/23/2018 15:29

Surrogates	REC (%)	Limits	
Dibromofluoromethane	104	78-134	01/23/2018 15:29
Toluene-d8	87	82-120	01/23/2018 15:29
4-BFB	78	69-131	01/23/2018 15:29

Analyst(s): KF

(Cont.)

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Analytical Report

Client:	AEI Consultants	**WorkOrder:**	1801982
Date Received:	1/18/18 14:35	**Extraction Method:**	SW5030B
Date Prepared:	1/23/18-1/25/18	**Analytical Method:**	SW8260B
Project:	3442 Adeline St. Oakland, CA	**Unit:**	µg/L

Volatile Organics

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
MW-1	1801982-003B	Water	01/17/2018 12:25	GC16 01231814.D	152062

Analytes	Result	RL	DF	Date Analyzed
tert-Amyl methyl ether (TAME)	ND	0.50	1	01/23/2018 16:08
Benzene	ND	0.50	1	01/23/2018 16:08
t-Butyl alcohol (TBA)	ND	2.0	1	01/23/2018 16:08
Diisopropyl ether (DIPE)	ND	0.50	1	01/23/2018 16:08
Ethylbenzene	ND	0.50	1	01/23/2018 16:08
Ethyl tert-butyl ether (ETBE)	ND	0.50	1	01/23/2018 16:08
Methyl-t-butyl ether (MTBE)	ND	0.50	1	01/23/2018 16:08
Naphthalene	ND	0.50	1	01/23/2018 16:08
Toluene	ND	0.50	1	01/23/2018 16:08
Xylenes, Total	ND	0.50	1	01/23/2018 16:08

Surrogates	REC (%)	Limits	
Dibromofluoromethane	104	78-134	01/23/2018 16:08
Toluene-d8	87	82-120	01/23/2018 16:08
4-BFB	79	69-131	01/23/2018 16:08

Analyst(s): KF

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
MW-2	1801982-004B	Water	01/17/2018 13:20	GC16 01231834.D	152062

Analytes	Result	RL	DF	Date Analyzed
tert-Amyl methyl ether (TAME)	ND	0.50	1	01/24/2018 05:43
Benzene	**0.68**	0.50	1	01/24/2018 05:43
t-Butyl alcohol (TBA)	**6.6**	2.0	1	01/24/2018 05:43
Diisopropyl ether (DIPE)	ND	0.50	1	01/24/2018 05:43
Ethylbenzene	ND	0.50	1	01/24/2018 05:43
Ethyl tert-butyl ether (ETBE)	ND	0.50	1	01/24/2018 05:43
Methyl-t-butyl ether (MTBE)	ND	0.50	1	01/24/2018 05:43
Naphthalene	ND	0.50	1	01/24/2018 05:43
Toluene	ND	0.50	1	01/24/2018 05:43
Xylenes, Total	ND	0.50	1	01/24/2018 05:43

Surrogates	REC (%)	Limits	
Dibromofluoromethane	98	78-134	01/24/2018 05:43
Toluene-d8	90	82-120	01/24/2018 05:43
4-BFB	78	69-131	01/24/2018 05:43

Analyst(s): KF

(Cont.)

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Analytical Report

Client:	AEI Consultants	**WorkOrder:**	1801982
Date Received:	1/18/18 14:35	**Extraction Method:**	SW5030B
Date Prepared:	1/23/18-1/25/18	**Analytical Method:**	SW8260B
Project:	3442 Adeline St. Oakland, CA	**Unit:**	µg/L

Volatile Organics

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
MW-3	1801982-005B	Water	01/17/2018 12:40	GC16 01241827.D	152116

Analytes	Result	RL	DF	Date Analyzed
tert-Amyl methyl ether (TAME)	ND	10	20	01/25/2018 01:25
Benzene	**310**	10	20	01/25/2018 01:25
t-Butyl alcohol (TBA)	**79**	40	20	01/25/2018 01:25
Diisopropyl ether (DIPE)	ND	10	20	01/25/2018 01:25
Ethylbenzene	ND	10	20	01/25/2018 01:25
Ethyl tert-butyl ether (ETBE)	ND	10	20	01/25/2018 01:25
Methyl-t-butyl ether (MTBE)	ND	10	20	01/25/2018 01:25
Naphthalene	ND	10	20	01/25/2018 01:25
Toluene	ND	10	20	01/25/2018 01:25
Xylenes, Total	ND	10	20	01/25/2018 01:25

Surrogates	REC (%)	Limits	
Dibromofluoromethane	99	78-134	01/25/2018 01:25
Toluene-d8	94	82-120	01/25/2018 01:25
4-BFB	78	69-131	01/25/2018 01:25

Analyst(s): KF

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
MW-4	1801982-006B	Water	01/17/2018 12:10	GC10 01231826.D	152116

Analytes	Result	RL	DF	Date Analyzed
tert-Amyl methyl ether (TAME)	ND	0.50	1	01/24/2018 00:56
Benzene	**1.2**	0.50	1	01/24/2018 00:56
t-Butyl alcohol (TBA)	ND	2.0	1	01/24/2018 00:56
Diisopropyl ether (DIPE)	ND	0.50	1	01/24/2018 00:56
Ethylbenzene	ND	0.50	1	01/24/2018 00:56
Ethyl tert-butyl ether (ETBE)	ND	0.50	1	01/24/2018 00:56
Methyl-t-butyl ether (MTBE)	ND	0.50	1	01/24/2018 00:56
Naphthalene	ND	0.50	1	01/24/2018 00:56
Toluene	ND	0.50	1	01/24/2018 00:56
Xylenes, Total	ND	0.50	1	01/24/2018 00:56

Surrogates	REC (%)	Limits	
Dibromofluoromethane	106	78-134	01/24/2018 00:56
Toluene-d8	111	82-120	01/24/2018 00:56
4-BFB	96	69-131	01/24/2018 00:56

Analyst(s): KF

(Cont.)

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Analytical Report

Client:	AEI Consultants	**WorkOrder:**	1801982
Date Received:	1/18/18 14:35	**Extraction Method:**	SW5030B
Date Prepared:	1/23/18-1/25/18	**Analytical Method:**	SW8260B
Project:	3442 Adeline St. Oakland, CA	**Unit:**	µg/L

Volatile Organics

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
MW-5	1801982-007B	Water	01/17/2018 11:25	GC16 01241828.D	152116

Analytes	Result	RL	DF	Date Analyzed
tert-Amyl methyl ether (TAME)	ND	2.5	5	01/25/2018 02:05
Benzene	**160**	2.5	5	01/25/2018 02:05
t-Butyl alcohol (TBA)	ND	10	5	01/25/2018 02:05
Diisopropyl ether (DIPE)	ND	2.5	5	01/25/2018 02:05
Ethylbenzene	ND	2.5	5	01/25/2018 02:05
Ethyl tert-butyl ether (ETBE)	ND	2.5	5	01/25/2018 02:05
Methyl-t-butyl ether (MTBE)	ND	2.5	5	01/25/2018 02:05
Naphthalene	ND	2.5	5	01/25/2018 02:05
Toluene	ND	2.5	5	01/25/2018 02:05
Xylenes, Total	ND	2.5	5	01/25/2018 02:05

Surrogates	REC (%)	Limits	
Dibromofluoromethane	98	78-134	01/25/2018 02:05
Toluene-d8	89	82-120	01/25/2018 02:05
4-BFB	81	69-131	01/25/2018 02:05

Analyst(s): KF

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
MW-6	1801982-008B	Water	01/17/2018 10:50	GC10 01231828.D	152116

Analytes	Result	RL	DF	Date Analyzed
tert-Amyl methyl ether (TAME)	ND	0.50	1	01/24/2018 02:14
Benzene	**15**	0.50	1	01/24/2018 02:14
t-Butyl alcohol (TBA)	ND	2.0	1	01/24/2018 02:14
Diisopropyl ether (DIPE)	ND	0.50	1	01/24/2018 02:14
Ethylbenzene	**3.5**	0.50	1	01/24/2018 02:14
Ethyl tert-butyl ether (ETBE)	ND	0.50	1	01/24/2018 02:14
Methyl-t-butyl ether (MTBE)	ND	0.50	1	01/24/2018 02:14
Naphthalene	**3.7**	0.50	1	01/24/2018 02:14
Toluene	**0.88**	0.50	1	01/24/2018 02:14
Xylenes, Total	**1.1**	0.50	1	01/24/2018 02:14

Surrogates	REC (%)	Limits	
Dibromofluoromethane	89	78-134	01/24/2018 02:14
Toluene-d8	113	82-120	01/24/2018 02:14
4-BFB	117	69-131	01/24/2018 02:14

Analyst(s): KF

(Cont.)

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Analytical Report

Client:	AEI Consultants	**WorkOrder:**	1801982
Date Received:	1/18/18 14:35	**Extraction Method:**	SW5030B
Date Prepared:	1/23/18-1/25/18	**Analytical Method:**	SW8260B
Project:	3442 Adeline St. Oakland, CA	**Unit:**	µg/L

Volatile Organics

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
MW-7	1801982-009B	Water	01/17/2018 11:00	GC16 01241829.D	152116

Analytes	Result	RL	DF	Date Analyzed
tert-Amyl methyl ether (TAME)	ND	25	50	01/25/2018 02:44
Benzene	**870**	25	50	01/25/2018 02:44
t-Butyl alcohol (TBA)	ND	100	50	01/25/2018 02:44
Diisopropyl ether (DIPE)	ND	25	50	01/25/2018 02:44
Ethylbenzene	ND	25	50	01/25/2018 02:44
Ethyl tert-butyl ether (ETBE)	ND	25	50	01/25/2018 02:44
Methyl-t-butyl ether (MTBE)	ND	25	50	01/25/2018 02:44
Naphthalene	ND	25	50	01/25/2018 02:44
Toluene	ND	25	50	01/25/2018 02:44
Xylenes, Total	ND	25	50	01/25/2018 02:44

Surrogates	REC (%)	Limits	
Dibromofluoromethane	100	78-134	01/25/2018 02:44
Toluene-d8	91	82-120	01/25/2018 02:44
4-BFB	81	69-131	01/25/2018 02:44

Analyst(s): KF

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
IW-1	1801982-010B	Water	01/17/2018 10:35	GC10 01231830.D	152116

Analytes	Result	RL	DF	Date Analyzed
tert-Amyl methyl ether (TAME)	ND	0.50	1	01/24/2018 03:31
Benzene	ND	0.50	1	01/24/2018 03:31
t-Butyl alcohol (TBA)	**3.1**	2.0	1	01/24/2018 03:31
Diisopropyl ether (DIPE)	ND	0.50	1	01/24/2018 03:31
Ethylbenzene	ND	0.50	1	01/24/2018 03:31
Ethyl tert-butyl ether (ETBE)	ND	0.50	1	01/24/2018 03:31
Methyl-t-butyl ether (MTBE)	ND	0.50	1	01/24/2018 03:31
Naphthalene	ND	0.50	1	01/24/2018 03:31
Toluene	ND	0.50	1	01/24/2018 03:31
Xylenes, Total	ND	0.50	1	01/24/2018 03:31

Surrogates	REC (%)	Limits	
Dibromofluoromethane	108	78-134	01/24/2018 03:31
Toluene-d8	112	82-120	01/24/2018 03:31
4-BFB	101	69-131	01/24/2018 03:31

Analyst(s): KF

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Analytical Report

Client:	AEI Consultants	**WorkOrder:**	1801982
Date Received:	1/18/18 14:35	**Extraction Method:**	SW5030B
Date Prepared:	1/19/18-1/23/18	**Analytical Method:**	SW8021B/8015Bm
Project:	3442 Adeline St. Oakland, CA	**Unit:**	µg/L

Gasoline Range (C6-C12) Volatile Hydrocarbons as Gasoline with BTEX and MTBE

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
BF-1	1801982-001A	Water	01/17/2018 13:09	GC7 01191819.D	151998

Analytes	Result	RL	DF	Date Analyzed
TPH(g) (C6-C12)	ND	50	1	01/19/2018 20:28
MTBE	---	5.0	1	01/19/2018 20:28
Benzene	---	0.50	1	01/19/2018 20:28
Toluene	---	0.50	1	01/19/2018 20:28
Ethylbenzene	---	0.50	1	01/19/2018 20:28
Xylenes	---	0.50	1	01/19/2018 20:28

Surrogates	REC (%)	Limits	
aaa-TFT	94	90-117	01/19/2018 20:28

Analyst(s): TD

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
BF-5	1801982-002A	Water	01/17/2018 11:46	GC7 01191820.D	151998

Analytes	Result	RL	DF	Date Analyzed
TPH(g) (C6-C12)	ND	50	1	01/19/2018 20:57
MTBE	---	5.0	1	01/19/2018 20:57
Benzene	---	0.50	1	01/19/2018 20:57
Toluene	---	0.50	1	01/19/2018 20:57
Ethylbenzene	---	0.50	1	01/19/2018 20:57
Xylenes	---	0.50	1	01/19/2018 20:57

Surrogates	REC (%)	Limits	
aaa-TFT	94	90-117	01/19/2018 20:57

Analyst(s): TD

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Analytical Report

Client:	AEI Consultants	**WorkOrder:**	1801982
Date Received:	1/18/18 14:35	**Extraction Method:**	SW5030B
Date Prepared:	1/19/18-1/23/18	**Analytical Method:**	SW8021B/8015Bm
Project:	3442 Adeline St. Oakland, CA	**Unit:**	µg/L

Gasoline Range (C6-C12) Volatile Hydrocarbons as Gasoline with BTEX and MTBE

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
MW-1	1801982-003A	Water	01/17/2018 12:25	GC7 01191827.D	151998

Analytes	Result	RL	DF	Date Analyzed
TPH(g) (C6-C12)	ND	50	1	01/20/2018 00:24
MTBE	---	5.0	1	01/20/2018 00:24
Benzene	---	0.50	1	01/20/2018 00:24
Toluene	---	0.50	1	01/20/2018 00:24
Ethylbenzene	---	0.50	1	01/20/2018 00:24
Xylenes	---	0.50	1	01/20/2018 00:24

Surrogates	REC (%)	Limits	
aaa-TFT	92	90-117	01/20/2018 00:24

Analyst(s): TD

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
MW-2	1801982-004A	Water	01/17/2018 13:20	GC7 01191828.D	151998

Analytes	Result	RL	DF	Date Analyzed
TPH(g) (C6-C12)	ND	50	1	01/20/2018 00:53
MTBE	---	5.0	1	01/20/2018 00:53
Benzene	---	0.50	1	01/20/2018 00:53
Toluene	---	0.50	1	01/20/2018 00:53
Ethylbenzene	---	0.50	1	01/20/2018 00:53
Xylenes	---	0.50	1	01/20/2018 00:53

Surrogates	REC (%)	Limits	
aaa-TFT	101	90-117	01/20/2018 00:53

Analyst(s): TD

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Analytical Report

Client:	AEI Consultants	**WorkOrder:**	1801982
Date Received:	1/18/18 14:35	**Extraction Method:**	SW5030B
Date Prepared:	1/19/18-1/23/18	**Analytical Method:**	SW8021B/8015Bm
Project:	3442 Adeline St. Oakland, CA	**Unit:**	µg/L

Gasoline Range (C6-C12) Volatile Hydrocarbons as Gasoline with BTEX and MTBE

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
MW-3	**1801982-005A**	**Water**	**01/17/2018 12:40**	**GC7 01191812.D**	**151998**

Analytes	Result	RL	DF	Date Analyzed
TPH(g) (C6-C12)	**10,000**	2500	50	01/19/2018 17:01
MTBE	---	250	50	01/19/2018 17:01
Benzene	---	25	50	01/19/2018 17:01
Toluene	---	25	50	01/19/2018 17:01
Ethylbenzene	---	25	50	01/19/2018 17:01
Xylenes	---	25	50	01/19/2018 17:01

Surrogates	REC (%)	Limits	
aaa-TFT	112	90-117	01/19/2018 17:01

Analyst(s): TD Analytical Comments: d1

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
MW-4	**1801982-006A**	**Water**	**01/17/2018 12:10**	**GC7 01191830.D**	**151998**

Analytes	Result	RL	DF	Date Analyzed
TPH(g) (C6-C12)	ND	50	1	01/20/2018 01:52
MTBE	---	5.0	1	01/20/2018 01:52
Benzene	---	0.50	1	01/20/2018 01:52
Toluene	---	0.50	1	01/20/2018 01:52
Ethylbenzene	---	0.50	1	01/20/2018 01:52
Xylenes	---	0.50	1	01/20/2018 01:52

Surrogates	REC (%)	Limits	
aaa-TFT	98	90-117	01/20/2018 01:52

Analyst(s): TD Analytical Comments: c2

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Analytical Report

Client:	AEI Consultants	**WorkOrder:**	1801982
Date Received:	1/18/18 14:35	**Extraction Method:**	SW5030B
Date Prepared:	1/19/18-1/23/18	**Analytical Method:**	SW8021B/8015Bm
Project:	3442 Adeline St. Oakland, CA	**Unit:**	µg/L

Gasoline Range (C6-C12) Volatile Hydrocarbons as Gasoline with BTEX and MTBE

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
MW-5	**1801982-007A**	**Water**	**01/17/2018 11:25**	**GC7 01191835.D**	**151998**

Analytes	Result	RL	DF	Date Analyzed
TPH(g) (C6-C12)	**650**	50	1	01/20/2018 04:19
MTBE	---	5.0	1	01/20/2018 04:19
Benzene	---	5.0	10	01/23/2018 07:17
Toluene	---	0.50	1	01/20/2018 04:19
Ethylbenzene	---	0.50	1	01/20/2018 04:19
Xylenes	---	0.50	1	01/20/2018 04:19

Surrogates	REC (%)	Qualifiers	Limits	
aaa-TFT	189	S	90-117	01/20/2018 04:19

Analyst(s): TD Analytical Comments: d1,d9,c2

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
MW-6	**1801982-008A**	**Water**	**01/17/2018 10:50**	**GC7 01191836.D**	**151998**

Analytes	Result	RL	DF	Date Analyzed
TPH(g) (C6-C12)	**1700**	50	1	01/20/2018 04:49
MTBE	---	5.0	1	01/20/2018 04:49
Benzene	---	0.50	1	01/20/2018 04:49
Toluene	---	0.50	1	01/20/2018 04:49
Ethylbenzene	---	0.50	1	01/20/2018 04:49
Xylenes	---	0.50	1	01/20/2018 04:49

Surrogates	REC (%)	Qualifiers	Limits	
aaa-TFT	118	S	90-117	01/20/2018 04:49

Analyst(s): TD Analytical Comments: d1,d9

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Analytical Report

Client:	AEI Consultants	**WorkOrder:**	1801982
Date Received:	1/18/18 14:35	**Extraction Method:**	SW5030B
Date Prepared:	1/19/18-1/23/18	**Analytical Method:**	SW8021B/8015Bm
Project:	3442 Adeline St. Oakland, CA	**Unit:**	µg/L

Gasoline Range (C6-C12) Volatile Hydrocarbons as Gasoline with BTEX and MTBE

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
MW-7	**1801982-009A**	**Water**	**01/17/2018 11:00**	**GC7 01191837.D**	**151998**

Analytes	Result	RL	DF	Date Analyzed
TPH(g) (C6-C12)	**10,000**	500	10	01/20/2018 05:18
MTBE	---	50	10	01/20/2018 05:18
Benzene	---	5.0	10	01/20/2018 05:18
Toluene	---	5.0	10	01/20/2018 05:18
Ethylbenzene	---	5.0	10	01/20/2018 05:18
Xylenes	---	5.0	10	01/20/2018 05:18

Surrogates	REC (%)	Qualifiers	Limits	
aaa-TFT	86	S	90-117	01/20/2018 05:18

Analyst(s): TD Analytical Comments: d1,c2

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
IW-1	**1801982-010A**	**Water**	**01/17/2018 10:35**	**GC7 01191838.D**	**151998**

Analytes	Result	RL	DF	Date Analyzed
TPH(g) (C6-C12)	ND	50	1	01/20/2018 05:47
MTBE	---	5.0	1	01/20/2018 05:47
Benzene	---	0.50	1	01/20/2018 05:47
Toluene	---	0.50	1	01/20/2018 05:47
Ethylbenzene	---	0.50	1	01/20/2018 05:47
Xylenes	---	0.50	1	01/20/2018 05:47

Surrogates	REC (%)	Qualifiers	Limits	
aaa-TFT	82	S	90-117	01/20/2018 05:47

Analyst(s): TD Analytical Comments: c2

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Analytical Report

Client:	AEI Consultants	**WorkOrder:**	1801982
Date Received:	1/18/18 14:35	**Extraction Method:**	SW3510C
Date Prepared:	1/18/18-1/22/18	**Analytical Method:**	SW8015B
Project:	3442 Adeline St. Oakland, CA	**Unit:**	µg/L

Total Extractable Petroleum Hydrocarbons w/out SG Clean-Up

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
BF-1	1801982-001A	Water	01/17/2018 13:09	GC39A 01191818.D	151880

Analytes	Result	RL	DF	Date Analyzed
TPH-Diesel (C10-C23)	ND	50	1	01/19/2018 20:36
Surrogates	**REC (%)**	**Limits**		
	93	61-139		01/19/2018 20:36

Analyst(s): JIS

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
BF-5	1801982-002A	Water	01/17/2018 11:46	GC39A 01191826.D	151880

Analytes	Result	RL	DF	Date Analyzed
TPH-Diesel (C10-C23)	ND	50	1	01/19/2018 23:11
Surrogates	**REC (%)**	**Limits**		
	94	61-139		01/19/2018 23:11

Analyst(s): JIS

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
MW-1	1801982-003A	Water	01/17/2018 12:25	GC39B 01191817.D	151880

Analytes	Result	RL	DF	Date Analyzed
TPH-Diesel (C10-C23)	ND	50	1	01/19/2018 20:36
Surrogates	**REC (%)**	**Limits**		
	96	61-139		01/19/2018 20:36

Analyst(s): JIS

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
MW-2	1801982-004A	Water	01/17/2018 13:20	GC6A 01241812.D	152033

Analytes	Result	RL	DF	Date Analyzed
TPH-Diesel (C10-C23)	ND	50	1	01/24/2018 16:29
Surrogates	**REC (%)**	**Limits**		
C9	99	61-139		01/24/2018 16:29

Analyst(s): JIS

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Analytical Report

Client:	AEI Consultants	**WorkOrder:**	1801982
Date Received:	1/18/18 14:35	**Extraction Method:**	SW3510C
Date Prepared:	1/18/18-1/22/18	**Analytical Method:**	SW8015B
Project:	3442 Adeline St. Oakland, CA	**Unit:**	µg/L

Total Extractable Petroleum Hydrocarbons w/out SG Clean-Up

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
MW-3	1801982-005A	Water	01/17/2018 12:40	GC39B 01181863.D	151880

Analytes	Result	RL	DF	Date Analyzed
TPH-Diesel (C10-C23)	**1400**	50	1	01/19/2018 11:53
Surrogates	REC (%)	Limits		
	98	61-139		01/19/2018 11:53

Analyst(s): JIS Analytical Comments: e2/e4

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
MW-4	1801982-006A	Water	01/17/2018 12:10	GC39A 01191822.D	151880

Analytes	Result	RL	DF	Date Analyzed
TPH-Diesel (C10-C23)	ND	50	1	01/19/2018 21:54
Surrogates	REC (%)	Limits		
	93	61-139		01/19/2018 21:54

Analyst(s): JIS

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
MW-5	1801982-007A	Water	01/17/2018 11:25	GC39B 01191809.D	151880

Analytes	Result	RL	DF	Date Analyzed
TPH-Diesel (C10-C23)	**67**	50	1	01/19/2018 18:01
Surrogates	REC (%)	Limits		
	96	61-139		01/19/2018 18:01

Analyst(s): JIS Analytical Comments: e2

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
MW-6	1801982-008A	Water	01/17/2018 10:50	GC39B 01191813.D	151880

Analytes	Result	RL	DF	Date Analyzed
TPH-Diesel (C10-C23)	**280**	50	1	01/19/2018 19:18
Surrogates	REC (%)	Limits		
	97	61-139		01/19/2018 19:18

Analyst(s): JIS Analytical Comments: e4/e2

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Analytical Report

Client:	AEI Consultants	**WorkOrder:**	1801982
Date Received:	1/18/18 14:35	**Extraction Method:**	SW3510C
Date Prepared:	1/18/18-1/22/18	**Analytical Method:**	SW8015B
Project:	3442 Adeline St. Oakland, CA	**Unit:**	µg/L

Total Extractable Petroleum Hydrocarbons w/out SG Clean-Up

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
MW-7	1801982-009A	Water	01/17/2018 11:00	GC39A 01191814.D	151880

Analytes	Result	RL	DF	Date Analyzed
TPH-Diesel (C10-C23)	**1400**	50	1	01/19/2018 19:18

Surrogates	REC (%)	Limits	
	93	61-139	01/19/2018 19:18

Analyst(s): JIS Analytical Comments: e4/e2

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
IW-1	1801982-010A	Water	01/17/2018 10:35	GC39A 01191810.D	151880

Analytes	Result	RL	DF	Date Analyzed
TPH-Diesel (C10-C23)	ND	50	1	01/19/2018 18:01

Surrogates	REC (%)	Limits	
	91	61-139	01/19/2018 18:01

Analyst(s): JIS

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Quality Control Report

Client:	AEI Consultants	**WorkOrder:**	1801982
Date Prepared:	1/23/18	**BatchID:**	152062
Date Analyzed:	1/23/18	**Extraction Method:**	SW5030B
Instrument:	GC16	**Analytical Method:**	SW8260B
Matrix:	Water	**Unit:**	µg/L
Project:	3442 Adeline St. Oakland, CA	**Sample ID:**	MB/LCS/LCSD-152062

QC Summary Report for SW8260B

Analyte	MB Result	RL	SPK Val	MB SS %REC	MB SS Limits
Acetone	ND	10	-	-	-
tert-Amyl methyl ether (TAME)	ND	0.50	-	-	-
Benzene	ND	0.50	-	-	-
Bromobenzene	ND	0.50	-	-	-
Bromochloromethane	ND	0.50	-	-	-
Bromodichloromethane	ND	0.50	-	-	-
Bromoform	ND	0.50	-	-	-
Bromomethane	ND	0.50	-	-	-
2-Butanone (MEK)	ND	2.0	-	-	-
t-Butyl alcohol (TBA)	ND	2.0	-	-	-
n-Butyl benzene	ND	0.50	-	-	-
sec-Butyl benzene	ND	0.50	-	-	-
tert-Butyl benzene	ND	0.50	-	-	-
Carbon Disulfide	ND	0.50	-	-	-
Carbon Tetrachloride	ND	0.50	-	-	-
Chlorobenzene	ND	0.50	-	-	-
Chloroethane	ND	0.50	-	-	-
Chloroform	ND	0.50	-	-	-
Chloromethane	ND	0.50	-	-	-
2-Chlorotoluene	ND	0.50	-	-	-
4-Chlorotoluene	ND	0.50	-	-	-
Dibromochloromethane	ND	0.50	-	-	-
1,2-Dibromo-3-chloropropane	ND	0.20	-	-	-
1,2-Dibromoethane (EDB)	ND	0.50	-	-	-
Dibromomethane	ND	0.50	-	-	-
1,2-Dichlorobenzene	ND	0.50	-	-	-
1,3-Dichlorobenzene	ND	0.50	-	-	-
1,4-Dichlorobenzene	ND	0.50	-	-	-
Dichlorodifluoromethane	ND	0.50	-	-	-
1,1-Dichloroethane	ND	0.50	-	-	-
1,2-Dichloroethane (1,2-DCA)	ND	0.50	-	-	-
1,1-Dichloroethene	ND	0.50	-	-	-
cis-1,2-Dichloroethene	ND	0.50	-	-	-
trans-1,2-Dichloroethene	ND	0.50	-	-	-
1,2-Dichloropropane	ND	0.50	-	-	-
1,3-Dichloropropane	ND	0.50	-	-	-
2,2-Dichloropropane	ND	0.50	-	-	-
1,1-Dichloropropene	ND	0.50	-	-	-
cis-1,3-Dichloropropene	ND	0.50	-	-	-

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Quality Control Report

Client:	AEI Consultants	**WorkOrder:**	1801982
Date Prepared:	1/23/18	**BatchID:**	152062
Date Analyzed:	1/23/18	**Extraction Method:**	SW5030B
Instrument:	GC16	**Analytical Method:**	SW8260B
Matrix:	Water	**Unit:**	µg/L
Project:	3442 Adeline St. Oakland, CA	**Sample ID:**	MB/LCS/LCSD-152062

QC Summary Report for SW8260B

Analyte	MB Result	RL	SPK Val	MB SS %REC	MB SS Limits
trans-1,3-Dichloropropene	ND	0.50	-	-	-
Diisopropyl ether (DIPE)	ND	0.50	-	-	-
Ethylbenzene	ND	0.50	-	-	-
Ethyl tert-butyl ether (ETBE)	ND	0.50	-	-	-
Freon 113	ND	0.50	-	-	-
Hexachlorobutadiene	ND	0.50	-	-	-
Hexachloroethane	ND	0.50	-	-	-
2-Hexanone	ND	0.50	-	-	-
Isopropylbenzene	ND	0.50	-	-	-
4-Isopropyl toluene	ND	0.50	-	-	-
Methyl-t-butyl ether (MTBE)	ND	0.50	-	-	-
Methylene chloride	ND	0.50	-	-	-
4-Methyl-2-pentanone (MIBK)	ND	0.50	-	-	-
Naphthalene	ND	0.50	-	-	-
n-Propyl benzene	ND	0.50	-	-	-
Styrene	ND	0.50	-	-	-
1,1,1,2-Tetrachloroethane	ND	0.50	-	-	-
1,1,2,2-Tetrachloroethane	ND	0.50	-	-	-
Tetrachloroethene	ND	0.50	-	-	-
Toluene	ND	0.50	-	-	-
1,2,3-Trichlorobenzene	ND	0.50	-	-	-
1,2,4-Trichlorobenzene	ND	0.50	-	-	-
1,1,1-Trichloroethane	ND	0.50	-	-	-
1,1,2-Trichloroethane	ND	0.50	-	-	-
Trichloroethene	ND	0.50	-	-	-
Trichlorofluoromethane	ND	0.50	-	-	-
1,2,3-Trichloropropane	ND	0.50	-	-	-
1,2,4-Trimethylbenzene	ND	0.50	-	-	-
1,3,5-Trimethylbenzene	ND	0.50	-	-	-
Vinyl Chloride	ND	0.50	-	-	-
Xylenes, Total	ND	0.50	-	-	-
Surrogate Recovery					
Dibromofluoromethane	25.79		25	103	91-133
Toluene-d8	22.67		25	91	87-127
4-BFB	2.044		2.5	82	66-140

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Quality Control Report

Client:	AEI Consultants	**WorkOrder:**	1801982
Date Prepared:	1/23/18	**BatchID:**	152062
Date Analyzed:	1/23/18	**Extraction Method:**	SW5030B
Instrument:	GC16	**Analytical Method:**	SW8260B
Matrix:	Water	**Unit:**	µg/L
Project:	3442 Adeline St. Oakland, CA	**Sample ID:**	MB/LCS/LCSD-152062

QC Summary Report for SW8260B

Analyte	LCS Result	LCSD Result	SPK Val	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Limit
Acetone	171	179	200	85	89	47-122	4.49	20
tert-Amyl methyl ether (TAME)	8.63	8.86	10	86	89	62-121	2.65	20
Benzene	8.60	8.82	10	86	88	74-121	2.57	20
Bromobenzene	7.98	7.94	10	80	79	63-127	0.601	20
Bromochloromethane	8.57	8.96	10	86	90	70-126	4.54	20
Bromodichloromethane	8.29	8.42	10	83	84	66-127	1.61	20
Bromoform	7.09	7.53	10	71	75	60-119	6.02	20
Bromomethane	15.1	14.5	10	151	145	32-155	3.56	20
2-Butanone (MEK)	31.0	32.8	40	78	82	51-117	5.44	20
t-Butyl alcohol (TBA)	30.2	31.9	40	76	80	41-122	5.41	20
n-Butyl benzene	9.20	9.18	10	92	92	73-137	0	20
sec-Butyl benzene	9.36	9.17	10	94	92	71-137	2.01	20
tert-Butyl benzene	8.48	8.22	10	85	82	61-136	3.13	20
Carbon Disulfide	8.48	8.64	10	85	86	61-139	1.94	20
Carbon Tetrachloride	9.43	9.60	10	94	96	69-137	1.87	20
Chlorobenzene	8.50	8.52	10	85	85	71-122	0	20
Chloroethane	9.43	9.22	10	94	92	54-132	2.23	20
Chloroform	9.00	9.18	10	90	92	73-122	1.96	20
Chloromethane	10.2	9.11	10	102	91	48-136	11.2	20
2-Chlorotoluene	9.25	9.08	10	93	91	65-134	1.81	20
4-Chlorotoluene	8.50	8.43	10	85	84	65-130	0.891	20
Dibromochloromethane	8.02	8.25	10	80	83	65-121	2.91	20
1,2-Dibromo-3-chloropropane	2.86	2.84	4	72	71	41-132	1.00	20
1,2-Dibromoethane (EDB)	7.36	7.57	10	74	76	67-125	2.79	20
Dibromomethane	7.96	8.21	10	80	82	68-121	3.04	20
1,2-Dichlorobenzene	8.36	8.33	10	84	83	69-128	0.406	20
1,3-Dichlorobenzene	8.87	8.94	10	89	89	71-131	0	20
1,4-Dichlorobenzene	8.37	8.50	10	84	85	70-128	1.45	20
Dichlorodifluoromethane	8.12	7.85	10	81	79	21-158	3.36	20
1,1-Dichloroethane	8.73	8.94	10	87	89	73-123	2.37	20
1,2-Dichloroethane (1,2-DCA)	8.86	9.10	10	89	91	61-127	2.61	20
1,1-Dichloroethene	8.44	8.58	10	84	86	68-130	1.70	20
cis-1,2-Dichloroethene	8.34	8.52	10	83	85	72-123	2.15	20
trans-1,2-Dichloroethene	8.65	8.90	10	87	89	64-138	2.86	20
1,2-Dichloropropane	8.38	8.40	10	84	84	71-121	0	20
1,3-Dichloropropane	7.58	7.91	10	76	79	69-120	4.25	20
2,2-Dichloropropane	9.17	9.28	10	92	93	64-142	1.25	20
1,1-Dichloropropene	9.13	8.75	10	91	87	70-130	4.23	20
cis-1,3-Dichloropropene	7.61	7.88	10	76	79	58-136	3.53	20

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Quality Control Report

Client:	AEI Consultants	**WorkOrder:**	1801982
Date Prepared:	1/23/18	**BatchID:**	152062
Date Analyzed:	1/23/18	**Extraction Method:**	SW5030B
Instrument:	GC16	**Analytical Method:**	SW8260B
Matrix:	Water	**Unit:**	µg/L
Project:	3442 Adeline St. Oakland, CA	**Sample ID:**	MB/LCS/LCSD-152062

QC Summary Report for SW8260B

Analyte	LCS Result	LCSD Result	SPK Val	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Limit
trans-1,3-Dichloropropene	8.60	8.91	10	86	89	66-119	3.49	20
Diisopropyl ether (DIPE)	8.81	9.00	10	88	90	66-123	2.11	20
Ethylbenzene	8.65	8.64	10	86	86	71-125	0	20
Ethyl tert-butyl ether (ETBE)	9.03	9.36	10	90	94	67-122	3.49	20
Freon 113	9.16	9.28	10	92	93	68-132	1.28	20
Hexachlorobutadiene	8.57	8.03	10	86	80	56-155	6.52	20
Hexachloroethane	8.70	8.62	10	87	86	61-129	0.911	20
2-Hexanone	6.36	6.88	10	64	69	51-115	7.83	20
Isopropylbenzene	8.57	8.57	10	86	86	66-134	0	20
4-Isopropyl toluene	8.73	8.72	10	87	87	70-136	0	20
Methyl-t-butyl ether (MTBE)	8.63	9.09	10	86	91	64-118	5.18	20
Methylene chloride	8.60	8.84	10	86	88	62-121	2.80	20
4-Methyl-2-pentanone (MIBK)	6.32	6.95	10	63	70	51-115	9.56	20
Naphthalene	8.65	8.26	10	87	83	55-137	4.65	20
n-Propyl benzene	9.54	9.06	10	95	91	63-140	5.20	20
Styrene	7.63	7.79	10	76	78	62-133	2.03	20
1,1,1,2-Tetrachloroethane	8.44	8.58	10	84	86	69-128	1.67	20
1,1,2,2-Tetrachloroethane	6.62	7.05	10	66	71	60-118	6.28	20
Tetrachloroethene	7.50	7.64	10	75	76	63-136	1.81	20
Toluene	8.09	8.24	10	81	82	67-124	1.87	20
1,2,3-Trichlorobenzene	9.53	8.68	10	95	87	57-145	9.39	20
1,2,4-Trichlorobenzene	8.41	7.91	10	84	79	60-144	6.03	20
1,1,1-Trichloroethane	8.93	9.15	10	89	91	70-133	2.45	20
1,1,2-Trichloroethane	7.33	7.69	10	73	77	65-125	4.79	20
Trichloroethene	8.21	8.33	10	82	83	67-133	1.51	20
Trichlorofluoromethane	9.70	9.94	10	97	99	59-145	2.46	20
1,2,3-Trichloropropane	7.22	7.55	10	72	76	65-115	4.55	20
1,2,4-Trimethylbenzene	8.45	8.44	10	85	84	67-136	0.161	20
1,3,5-Trimethylbenzene	8.64	8.54	10	86	85	68-135	1.13	20
Vinyl Chloride	10.1	9.52	10	101	95	53-146	5.78	20
Xylenes, Total	25.7	25.6	30	86	85	68-128	0.240	20
Surrogate Recovery								
Dibromofluoromethane	24.9	25.1	25	100	100	91-133	0	20
Toluene-d8	23.4	23.8	25	94	95	87-127	1.34	20
4-BFB	2.15	2.10	2.5	86	84	66-140	2.15	20

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Quality Control Report

Client:	AEI Consultants	**WorkOrder:**	1801982
Date Prepared:	1/23/18	**BatchID:**	152116
Date Analyzed:	1/23/18	**Extraction Method:**	SW5030B
Instrument:	GC10	**Analytical Method:**	SW8260B
Matrix:	Water	**Unit:**	µg/L
Project:	3442 Adeline St. Oakland, CA	**Sample ID:**	MB/LCS/LCSD-152116

QC Summary Report for SW8260B

Analyte	MB Result	RL	SPK Val	MB SS %REC	MB SS Limits
Acetone	ND	10	-	-	-
tert-Amyl methyl ether (TAME)	ND	0.50	-	-	-
Benzene	ND	0.50	-	-	-
Bromobenzene	ND	0.50	-	-	-
Bromochloromethane	ND	0.50	-	-	-
Bromodichloromethane	ND	0.50	-	-	-
Bromoform	ND	0.50	-	-	-
Bromomethane	ND	0.50	-	-	-
2-Butanone (MEK)	ND	2.0	-	-	-
t-Butyl alcohol (TBA)	ND	2.0	-	-	-
n-Butyl benzene	ND	0.50	-	-	-
sec-Butyl benzene	ND	0.50	-	-	-
tert-Butyl benzene	ND	0.50	-	-	-
Carbon Disulfide	ND	0.50	-	-	-
Carbon Tetrachloride	ND	0.50	-	-	-
Chlorobenzene	ND	0.50	-	-	-
Chloroethane	ND	0.50	-	-	-
Chloroform	ND	0.50	-	-	-
Chloromethane	ND	0.50	-	-	-
2-Chlorotoluene	ND	0.50	-	-	-
4-Chlorotoluene	ND	0.50	-	-	-
Dibromochloromethane	ND	0.50	-	-	-
1,2-Dibromo-3-chloropropane	ND	0.20	-	-	-
1,2-Dibromoethane (EDB)	ND	0.50	-	-	-
Dibromomethane	ND	0.50	-	-	-
1,2-Dichlorobenzene	ND	0.50	-	-	-
1,3-Dichlorobenzene	ND	0.50	-	-	-
1,4-Dichlorobenzene	ND	0.50	-	-	-
Dichlorodifluoromethane	ND	0.50	-	-	-
1,1-Dichloroethane	ND	0.50	-	-	-
1,2-Dichloroethane (1,2-DCA)	ND	0.50	-	-	-
1,1-Dichloroethene	ND	0.50	-	-	-
cis-1,2-Dichloroethene	ND	0.50	-	-	-
trans-1,2-Dichloroethene	ND	0.50	-	-	-
1,2-Dichloropropane	ND	0.50	-	-	-
1,3-Dichloropropane	ND	0.50	-	-	-
2,2-Dichloropropane	ND	0.50	-	-	-
1,1-Dichloropropene	ND	0.50	-	-	-
cis-1,3-Dichloropropene	ND	0.50	-	-	-

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Quality Control Report

Client:	AEI Consultants	**WorkOrder:**	1801982
Date Prepared:	1/23/18	**BatchID:**	152116
Date Analyzed:	1/23/18	**Extraction Method:**	SW5030B
Instrument:	GC10	**Analytical Method:**	SW8260B
Matrix:	Water	**Unit:**	µg/L
Project:	3442 Adeline St. Oakland, CA	**Sample ID:**	MB/LCS/LCSD-152116

QC Summary Report for SW8260B

Analyte	MB Result	RL	SPK Val	MB SS %REC	MB SS Limits
trans-1,3-Dichloropropene	ND	0.50	-	-	-
Diisopropyl ether (DIPE)	ND	0.50	-	-	-
Ethylbenzene	ND	0.50	-	-	-
Ethyl tert-butyl ether (ETBE)	ND	0.50	-	-	-
Freon 113	ND	0.50	-	-	-
Hexachlorobutadiene	ND	0.50	-	-	-
Hexachloroethane	ND	0.50	-	-	-
2-Hexanone	ND	0.50	-	-	-
Isopropylbenzene	ND	0.50	-	-	-
4-Isopropyl toluene	ND	0.50	-	-	-
Methyl-t-butyl ether (MTBE)	ND	0.50	-	-	-
Methylene chloride	ND	0.50	-	-	-
4-Methyl-2-pentanone (MIBK)	ND	0.50	-	-	-
Naphthalene	ND	0.50	-	-	-
n-Propyl benzene	ND	0.50	-	-	-
Styrene	ND	0.50	-	-	-
1,1,1,2-Tetrachloroethane	ND	0.50	-	-	-
1,1,2,2-Tetrachloroethane	ND	0.50	-	-	-
Tetrachloroethene	ND	0.50	-	-	-
Toluene	ND	0.50	-	-	-
1,2,3-Trichlorobenzene	ND	0.50	-	-	-
1,2,4-Trichlorobenzene	ND	0.50	-	-	-
1,1,1-Trichloroethane	ND	0.50	-	-	-
1,1,2-Trichloroethane	ND	0.50	-	-	-
Trichloroethene	ND	0.50	-	-	-
Trichlorofluoromethane	ND	0.50	-	-	-
1,2,3-Trichloropropane	ND	0.50	-	-	-
1,2,4-Trimethylbenzene	ND	0.50	-	-	-
1,3,5-Trimethylbenzene	ND	0.50	-	-	-
Vinyl Chloride	ND	0.50	-	-	-
Xylenes, Total	ND	0.50	-	-	-
Surrogate Recovery					
Dibromofluoromethane	26.36		25	105	91-133
Toluene-d8	28.18		25	113	87-127
4-BFB	2.338		2.5	94	66-140

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Quality Control Report

Client:	AEI Consultants	**WorkOrder:**	1801982
Date Prepared:	1/23/18	**BatchID:**	152116
Date Analyzed:	1/23/18	**Extraction Method:**	SW5030B
Instrument:	GC10	**Analytical Method:**	SW8260B
Matrix:	Water	**Unit:**	µg/L
Project:	3442 Adeline St. Oakland, CA	**Sample ID:**	MB/LCS/LCSD-152116

QC Summary Report for SW8260B

Analyte	LCS Result	LCSD Result	SPK Val	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Limit
Acetone	200	196	200	100	98	47-122	1.97	20
tert-Amyl methyl ether (TAME)	9.81	9.46	10	98	95	62-121	3.63	20
Benzene	10.3	9.68	10	103	97	74-121	6.28	20
Bromobenzene	10.4	9.55	10	104	95	63-127	8.64	20
Bromochloromethane	10.1	9.54	10	101	95	70-126	6.06	20
Bromodichloromethane	9.87	9.43	10	99	94	66-127	4.55	20
Bromoform	10.6	10.1	10	106	101	60-119	4.97	20
Bromomethane	12.5	11.2	10	125	112	32-155	11.0	20
2-Butanone (MEK)	36.5	35.4	40	91	88	51-117	3.18	20
t-Butyl alcohol (TBA)	35.6	35.8	40	89	89	41-122	0	20
n-Butyl benzene	11.5	10.3	10	115	103	73-137	11.3	20
sec-Butyl benzene	11.5	10.5	10	115	105	71-137	8.66	20
tert-Butyl benzene	11.8	10.8	10	117	108	61-136	8.35	20
Carbon Disulfide	9.40	8.82	10	94	88	61-139	6.47	20
Carbon Tetrachloride	9.98	9.37	10	100	94	69-137	6.35	20
Chlorobenzene	10.1	9.55	10	101	96	71-122	5.90	20
Chloroethane	10.4	9.04	10	104	90	54-132	13.7	20
Chloroform	9.83	9.37	10	98	94	73-122	4.71	20
Chloromethane	10.7	9.22	10	107	92	48-136	15.0	20
2-Chlorotoluene	10.4	9.63	10	104	96	65-134	7.31	20
4-Chlorotoluene	10.2	9.53	10	102	95	65-130	6.65	20
Dibromochloromethane	9.93	9.51	10	99	95	65-121	4.36	20
1,2-Dibromo-3-chloropropane	3.89	3.84	4	97	96	41-132	1.41	20
1,2-Dibromoethane (EDB)	9.67	9.25	10	97	93	67-125	4.42	20
Dibromomethane	9.74	9.42	10	97	94	68-121	3.39	20
1,2-Dichlorobenzene	10.5	9.98	10	105	100	69-128	5.03	20
1,3-Dichlorobenzene	11.0	10.3	10	111	103	71-131	7.17	20
1,4-Dichlorobenzene	10.9	10.2	10	109	102	70-128	6.49	20
Dichlorodifluoromethane	8.10	7.25	10	81	72	21-158	11.1	20
1,1-Dichloroethane	9.86	9.32	10	99	93	73-123	5.62	20
1,2-Dichloroethane (1,2-DCA)	9.52	9.11	10	95	91	61-127	4.42	20
1,1-Dichloroethene	9.46	8.84	10	95	88	68-130	6.75	20
cis-1,2-Dichloroethene	9.71	9.19	10	97	92	72-123	5.55	20
trans-1,2-Dichloroethene	9.80	9.22	10	98	92	64-138	6.13	20
1,2-Dichloropropane	9.84	9.49	10	98	95	71-121	3.62	20
1,3-Dichloropropane	9.49	8.90	10	95	89	69-120	6.43	20
2,2-Dichloropropane	9.67	9.03	10	97	90	64-142	6.79	20
1,1-Dichloropropene	9.66	8.95	10	97	90	70-130	7.53	20
cis-1,3-Dichloropropene	9.69	9.18	10	97	92	58-136	5.32	20

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Quality Control Report

Client:	AEI Consultants	**WorkOrder:**	1801982
Date Prepared:	1/23/18	**BatchID:**	152116
Date Analyzed:	1/23/18	**Extraction Method:**	SW5030B
Instrument:	GC10	**Analytical Method:**	SW8260B
Matrix:	Water	**Unit:**	µg/L
Project:	3442 Adeline St. Oakland, CA	**Sample ID:**	MB/LCS/LCSD-152116

QC Summary Report for SW8260B

Analyte	LCS Result	LCSD Result	SPK Val	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Limit
trans-1,3-Dichloropropene	10.2	9.73	10	102	97	66-119	4.97	20
Diisopropyl ether (DIPE)	10.4	9.98	10	104	100	66-123	3.95	20
Ethylbenzene	10.7	10.0	10	107	100	71-125	6.81	20
Ethyl tert-butyl ether (ETBE)	9.98	9.63	10	100	96	67-122	3.62	20
Freon 113	9.30	8.69	10	93	87	68-132	6.78	20
Hexachlorobutadiene	10.7	10.1	10	107	101	56-155	6.34	20
Hexachloroethane	10.7	9.64	10	107	96	61-129	10.1	20
2-Hexanone	10.0	9.78	10	100	98	51-115	2.71	20
Isopropylbenzene	10.8	10.2	10	108	102	66-134	5.45	20
4-Isopropyl toluene	11.4	10.3	10	114	103	70-136	9.64	20
Methyl-t-butyl ether (MTBE)	9.27	8.97	10	93	90	64-118	3.31	20
Methylene chloride	9.22	8.86	10	92	89	62-121	4.09	20
4-Methyl-2-pentanone (MIBK)	9.84	9.38	10	98	94	51-115	4.85	20
Naphthalene	10.1	10.0	10	101	100	55-137	0.773	20
n-Propyl benzene	10.4	9.72	10	104	97	63-140	6.34	20
Styrene	9.55	9.39	10	96	94	62-133	1.70	20
1,1,1,2-Tetrachloroethane	10.2	9.37	10	102	94	69-128	8.07	20
1,1,2,2-Tetrachloroethane	10.6	9.86	10	106	99	60-118	6.81	20
Tetrachloroethene	9.97	9.22	10	100	92	63-136	7.77	20
Toluene	9.71	9.14	10	97	91	67-124	6.07	20
1,2,3-Trichlorobenzene	10.1	9.88	10	101	99	57-145	1.89	20
1,2,4-Trichlorobenzene	10.1	9.60	10	101	96	60-144	5.46	20
1,1,1-Trichloroethane	9.82	9.21	10	98	92	70-133	6.40	20
1,1,2-Trichloroethane	9.68	9.22	10	97	92	65-125	4.88	20
Trichloroethene	9.84	9.20	10	98	92	67-133	6.71	20
Trichlorofluoromethane	9.54	8.90	10	95	89	59-145	6.97	20
1,2,3-Trichloropropane	10.3	9.83	10	103	98	65-115	5.10	20
1,2,4-Trimethylbenzene	11.2	10.2	10	112	102	67-136	9.63	20
1,3,5-Trimethylbenzene	11.0	10.0	10	110	100	68-135	9.45	20
Vinyl Chloride	10.7	9.42	10	107	94	53-146	12.8	20
Xylenes, Total	29.8	28.8	30	99	96	68-128	3.52	20
Surrogate Recovery								
Dibromofluoromethane	26.4	26.7	25	105	107	91-133	1.34	20
Toluene-d8	28.5	28.4	25	114	113	87-127	0.536	20
4-BFB	2.57	2.58	2.5	103	103	66-140	0	20

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Quality Control Report

Client:	AEI Consultants	**WorkOrder:**	1801982
Date Prepared:	1/24/18	**BatchID:**	152193
Date Analyzed:	1/24/18	**Extraction Method:**	SW5030B
Instrument:	GC10	**Analytical Method:**	SW8260B
Matrix:	Water	**Unit:**	µg/L
Project:	3442 Adeline St. Oakland, CA	**Sample ID:**	MB/LCS/LCSD-152193

QC Summary Report for SW8260B

Analyte	MB Result	RL	SPK Val	MB SS %REC	MB SS Limits
Acetone	ND	10	-	-	-
tert-Amyl methyl ether (TAME)	ND	0.50	-	-	-
Benzene	ND	0.50	-	-	-
Bromobenzene	ND	0.50	-	-	-
Bromochloromethane	ND	0.50	-	-	-
Bromodichloromethane	ND	0.50	-	-	-
Bromoform	ND	0.50	-	-	-
Bromomethane	ND	0.50	-	-	-
2-Butanone (MEK)	ND	2.0	-	-	-
t-Butyl alcohol (TBA)	ND	2.0	-	-	-
n-Butyl benzene	ND	0.50	-	-	-
sec-Butyl benzene	ND	0.50	-	-	-
tert-Butyl benzene	ND	0.50	-	-	-
Carbon Disulfide	ND	0.50	-	-	-
Carbon Tetrachloride	ND	0.50	-	-	-
Chlorobenzene	ND	0.50	-	-	-
Chloroethane	ND	0.50	-	-	-
Chloroform	ND	0.50	-	-	-
Chloromethane	ND	0.50	-	-	-
2-Chlorotoluene	ND	0.50	-	-	-
4-Chlorotoluene	ND	0.50	-	-	-
Dibromochloromethane	ND	0.50	-	-	-
1,2-Dibromo-3-chloropropane	ND	0.20	-	-	-
1,2-Dibromoethane (EDB)	ND	0.50	-	-	-
Dibromomethane	ND	0.50	-	-	-
1,2-Dichlorobenzene	ND	0.50	-	-	-
1,3-Dichlorobenzene	ND	0.50	-	-	-
1,4-Dichlorobenzene	ND	0.50	-	-	-
Dichlorodifluoromethane	ND	0.50	-	-	-
1,1-Dichloroethane	ND	0.50	-	-	-
1,2-Dichloroethane (1,2-DCA)	ND	0.50	-	-	-
1,1-Dichloroethene	ND	0.50	-	-	-
cis-1,2-Dichloroethene	ND	0.50	-	-	-
trans-1,2-Dichloroethene	ND	0.50	-	-	-
1,2-Dichloropropane	ND	0.50	-	-	-
1,3-Dichloropropane	ND	0.50	-	-	-
2,2-Dichloropropane	ND	0.50	-	-	-
1,1-Dichloropropene	ND	0.50	-	-	-
cis-1,3-Dichloropropene	ND	0.50	-	-	-

(Cont.)

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Quality Control Report

Client:	AEI Consultants	**WorkOrder:**	1801982
Date Prepared:	1/24/18	**BatchID:**	152193
Date Analyzed:	1/24/18	**Extraction Method:**	SW5030B
Instrument:	GC10	**Analytical Method:**	SW8260B
Matrix:	Water	**Unit:**	µg/L
Project:	3442 Adeline St. Oakland, CA	**Sample ID:**	MB/LCS/LCSD-152193

QC Summary Report for SW8260B

Analyte	MB Result	RL	SPK Val	MB SS %REC	MB SS Limits
trans-1,3-Dichloropropene	ND	0.50	-	-	-
Diisopropyl ether (DIPE)	ND	0.50	-	-	-
Ethylbenzene	ND	0.50	-	-	-
Ethyl tert-butyl ether (ETBE)	ND	0.50	-	-	-
Freon 113	ND	0.50	-	-	-
Hexachlorobutadiene	ND	0.50	-	-	-
Hexachloroethane	ND	0.50	-	-	-
2-Hexanone	ND	0.50	-	-	-
Isopropylbenzene	ND	0.50	-	-	-
4-Isopropyl toluene	ND	0.50	-	-	-
Methyl-t-butyl ether (MTBE)	ND	0.50	-	-	-
Methylene chloride	ND	0.50	-	-	-
4-Methyl-2-pentanone (MIBK)	ND	0.50	-	-	-
Naphthalene	ND	0.50	-	-	-
n-Propyl benzene	ND	0.50	-	-	-
Styrene	ND	0.50	-	-	-
1,1,1,2-Tetrachloroethane	ND	0.50	-	-	-
1,1,2,2-Tetrachloroethane	ND	0.50	-	-	-
Tetrachloroethene	ND	0.50	-	-	-
Toluene	ND	0.50	-	-	-
1,2,3-Trichlorobenzene	ND	0.50	-	-	-
1,2,4-Trichlorobenzene	ND	0.50	-	-	-
1,1,1-Trichloroethane	ND	0.50	-	-	-
1,1,2-Trichloroethane	ND	0.50	-	-	-
Trichloroethene	ND	0.50	-	-	-
Trichlorofluoromethane	ND	0.50	-	-	-
1,2,3-Trichloropropane	ND	0.50	-	-	-
1,2,4-Trimethylbenzene	ND	0.50	-	-	-
1,3,5-Trimethylbenzene	ND	0.50	-	-	-
Vinyl Chloride	ND	0.50	-	-	-
Xylenes, Total	ND	0.50	-	-	-
Surrogate Recovery					
Dibromofluoromethane	26.06		25	104	91-133
Toluene-d8	27.8		25	111	87-127
4-BFB	2.307		2.5	92	66-140

(Cont.)

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Quality Control Report

Client:	AEI Consultants	**WorkOrder:**	1801982
Date Prepared:	1/24/18	**BatchID:**	152193
Date Analyzed:	1/24/18	**Extraction Method:**	SW5030B
Instrument:	GC10	**Analytical Method:**	SW8260B
Matrix:	Water	**Unit:**	µg/L
Project:	3442 Adeline St. Oakland, CA	**Sample ID:**	MB/LCS/LCSD-152193

QC Summary Report for SW8260B

Analyte	LCS Result	LCSD Result	SPK Val	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Limit
Acetone	202	196	200	101	98	47-122	3.15	20
tert-Amyl methyl ether (TAME)	9.48	9.36	10	95	94	62-121	1.27	20
Benzene	10.5	10.4	10	105	104	74-121	0.925	20
Bromobenzene	10.1	10.2	10	101	102	63-127	1.33	20
Bromochloromethane	10.2	9.89	10	102	99	70-126	3.43	20
Bromodichloromethane	9.84	9.76	10	98	98	66-127	0	20
Bromoform	9.98	9.76	10	100	98	60-119	2.24	20
Bromomethane	12.9	12.7	10	129	127	32-155	1.39	20
2-Butanone (MEK)	36.8	35.6	40	92	89	51-117	3.45	20
t-Butyl alcohol (TBA)	35.4	34.4	40	89	86	41-122	2.80	20
n-Butyl benzene	11.2	11.1	10	112	111	73-137	1.19	20
sec-Butyl benzene	11.5	11.3	10	115	113	71-137	1.95	20
tert-Butyl benzene	10.6	11.5	10	106	115	61-136	8.04	20
Carbon Disulfide	9.43	9.30	10	94	93	61-139	1.33	20
Carbon Tetrachloride	9.97	9.82	10	100	98	69-137	1.53	20
Chlorobenzene	10.2	9.97	10	102	100	71-122	2.67	20
Chloroethane	10.5	10.5	10	105	105	54-132	0	20
Chloroform	9.96	9.87	10	100	99	73-122	0.935	20
Chloromethane	11.0	10.9	10	110	109	48-136	1.42	20
2-Chlorotoluene	10.4	10.2	10	104	102	65-134	1.85	20
4-Chlorotoluene	10.2	9.99	10	102	100	65-130	1.75	20
Dibromochloromethane	9.61	9.32	10	96	93	65-121	3.05	20
1,2-Dibromo-3-chloropropane	3.48	3.48	4	87	87	41-132	0	20
1,2-Dibromoethane (EDB)	9.21	8.94	10	92	89	67-125	3.00	20
Dibromomethane	9.64	9.39	10	96	94	68-121	2.60	20
1,2-Dichlorobenzene	10.5	10.3	10	105	103	69-128	2.15	20
1,3-Dichlorobenzene	11.1	10.9	10	111	109	71-131	1.72	20
1,4-Dichlorobenzene	10.9	10.6	10	109	106	70-128	2.59	20
Dichlorodifluoromethane	8.30	7.97	10	83	80	21-158	3.97	20
1,1-Dichloroethane	9.95	9.94	10	99	99	73-123	0	20
1,2-Dichloroethane (1,2-DCA)	9.51	9.41	10	95	94	61-127	1.08	20
1,1-Dichloroethene	9.50	9.31	10	95	93	68-130	1.95	20
cis-1,2-Dichloroethene	9.79	9.81	10	98	98	72-123	0	20
trans-1,2-Dichloroethene	9.92	9.71	10	99	97	64-138	2.09	20
1,2-Dichloropropane	9.99	9.93	10	100	99	71-121	0.586	20
1,3-Dichloropropane	9.00	8.75	10	90	87	69-120	2.91	20
2,2-Dichloropropane	9.74	9.55	10	97	96	64-142	1.97	20
1,1-Dichloropropene	9.74	9.53	10	97	95	70-130	2.10	20
cis-1,3-Dichloropropene	9.43	9.25	10	94	92	58-136	1.96	20

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Quality Control Report

Client:	AEI Consultants	**WorkOrder:**	1801982
Date Prepared:	1/24/18	**BatchID:**	152193
Date Analyzed:	1/24/18	**Extraction Method:**	SW5030B
Instrument:	GC10	**Analytical Method:**	SW8260B
Matrix:	Water	**Unit:**	µg/L
Project:	3442 Adeline St. Oakland, CA	**Sample ID:**	MB/LCS/LCSD-152193

QC Summary Report for SW8260B

Analyte	LCS Result	LCSD Result	SPK Val	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Limit
trans-1,3-Dichloropropene	10.0	9.74	10	100	97	66-119	2.64	20
Diisopropyl ether (DIPE)	10.7	10.6	10	107	106	66-123	0.986	20
Ethylbenzene	10.8	10.5	10	108	105	71-125	3.35	20
Ethyl tert-butyl ether (ETBE)	10.0	9.86	10	100	99	67-122	1.61	20
Freon 113	9.36	9.28	10	94	93	68-132	0.908	20
Hexachlorobutadiene	10.7	10.5	10	107	105	56-155	1.61	20
Hexachloroethane	10.3	10.4	10	103	104	61-129	0.917	20
2-Hexanone	9.40	9.19	10	94	92	51-115	2.31	20
Isopropylbenzene	11.2	10.6	10	111	106	66-134	4.54	20
4-Isopropyl toluene	11.3	11.2	10	113	112	70-136	1.36	20
Methyl-t-butyl ether (MTBE)	9.02	8.80	10	90	88	64-118	2.45	20
Methylene chloride	9.42	9.36	10	94	94	62-121	0	20
4-Methyl-2-pentanone (MIBK)	9.17	8.87	10	92	89	51-115	3.38	20
Naphthalene	9.47	9.40	10	95	94	55-137	0.748	20
n-Propyl benzene	10.5	10.2	10	105	102	63-140	2.60	20
Styrene	9.87	9.46	10	99	95	62-133	4.22	20
1,1,1,2-Tetrachloroethane	9.92	9.78	10	99	98	69-128	1.44	20
1,1,2,2-Tetrachloroethane	9.58	9.68	10	96	97	60-118	1.06	20
Tetrachloroethene	9.95	9.67	10	100	97	63-136	2.92	20
Toluene	9.69	9.54	10	97	95	67-124	1.62	20
1,2,3-Trichlorobenzene	9.76	9.63	10	98	96	57-145	1.33	20
1,2,4-Trichlorobenzene	9.91	9.68	10	99	97	60-144	2.40	20
1,1,1-Trichloroethane	9.95	9.78	10	99	98	70-133	1.70	20
1,1,2-Trichloroethane	9.25	9.13	10	92	91	65-125	1.26	20
Trichloroethene	9.94	9.85	10	99	98	67-133	0.928	20
Trichlorofluoromethane	9.54	9.36	10	95	94	59-145	1.88	20
1,2,3-Trichloropropane	9.52	9.70	10	95	97	65-115	1.84	20
1,2,4-Trimethylbenzene	11.0	11.1	10	110	111	67-136	0.908	20
1,3,5-Trimethylbenzene	10.8	10.8	10	108	108	68-135	0	20
Vinyl Chloride	10.8	10.6	10	108	106	53-146	1.57	20
Xylenes, Total	31.0	29.6	30	103	99	68-128	4.64	20
Surrogate Recovery								
Dibromofluoromethane	26.2	26.5	25	105	106	91-133	1.24	20
Toluene-d8	27.9	28.2	25	112	113	87-127	1.09	20
4-BFB	2.45	2.54	2.5	98	102	66-140	3.58	20

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Quality Control Report

Client:	AEI Consultants	**WorkOrder:**	1801982
Date Prepared:	1/19/18 - 1/20/18	**BatchID:**	151998
Date Analyzed:	1/19/18 - 1/20/18	**Extraction Method:**	SW5030B
Instrument:	GC7	**Analytical Method:**	SW8021B/8015Bm
Matrix:	Water	**Unit:**	µg/L
Project:	3442 Adeline St. Oakland, CA	**Sample ID:**	MB/LCS-151998 1801982-001AMS/MSD

QC Summary Report for SW8021B/8015Bm

Analyte	MB Result	RL	SPK Val	MB SS %REC	MB SS Limits
TPH(g) (C6-C12)	ND	50	-	-	-
MTBE	ND	5.0	-	-	-
Benzene	ND	0.50	-	-	-
Toluene	ND	0.50	-	-	-
Ethylbenzene	ND	0.50	-	-	-
Xylenes	ND	0.50	-	-	-
Surrogate Recovery					
aaa-TFT	9.19		10	92	89-116

Analyte	LCS Result	LCSD Result	SPK Val	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Limit
TPH(btex)	56.6	-	60	94	-	78-116	-	-
MTBE	9.79	-	10	98	-	72-122	-	-
Benzene	10.2	-	10	102	-	81-123	-	-
Toluene	11.5	-	10	115	-	83-129	-	-
Ethylbenzene	10.6	-	10	106	-	88-126	-	-
Xylenes	31.8	-	30	106	-	87-131	-	-
Surrogate Recovery								
aaa-TFT	10.2	-	10	102	-	89-116	-	-

Analyte	MS Result	MSD Result	SPK Val	SPKRef Val	MS %REC	MSD %REC	MS/MSD Limits	RPD	RPD Limit
TPH(btex)	61.0	63.6	60	ND	102	106	63-133	4.23	20
MTBE	10.2	10.2	10	ND	102	102	69-122	0	20
Benzene	11.2	11.2	10	ND	110	111	84-125	0.523	20
Toluene	12.0	12.0	10	ND	120	120	87-131	0	20
Ethylbenzene	11.4	11.6	10	ND	114	116	92-126	1.67	20
Xylenes	33.4	33.6	30	ND	111	112	88-132	0.717	20
Surrogate Recovery									
aaa-TFT	10.7	10.6	10		107	106	90-117	1.01	20

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Quality Control Report

Client:	AEI Consultants	**WorkOrder:**	1801982
Date Prepared:	1/18/18	**BatchID:**	151880
Date Analyzed:	1/19/18	**Extraction Method:**	SW3510C
Instrument:	GC39A	**Analytical Method:**	SW8015B
Matrix:	Water	**Unit:**	µg/L
Project:	3442 Adeline St. Oakland, CA	**Sample ID:**	MB/LCS/LCSD-151880

QC Report for SW8015D w/out SG Clean-Up

Analyte	MB Result	RL	SPK Val	MB SS %REC	MB SS Limits
TPH-Diesel (C10-C23)	ND	50	-	-	-
TPH-Motor Oil (C18-C36)	ND	250	-	-	-
Surrogate Recovery					
C9	544		625	87	68-127

Analyte	LCS Result	LCSD Result	SPK Val	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Limit
TPH-Diesel (C10-C23)	968	963	1000	97	96	86-142	0.537	30
Surrogate Recovery								
C9	551	556	625	88	89	68-127	0.889	30

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Quality Control Report

Client:	AEI Consultants	**WorkOrder:**	1801982
Date Prepared:	1/22/18	**BatchID:**	152033
Date Analyzed:	1/22/18 - 1/23/18	**Extraction Method:**	SW3510C
Instrument:	GC9a	**Analytical Method:**	SW8015B
Matrix:	Water	**Unit:**	µg/L
Project:	3442 Adeline St. Oakland, CA	**Sample ID:**	MB/LCS/LCSD-152033

QC Report for SW8015D w/out SG Clean-Up

Analyte	MB Result	RL	SPK Val	MB SS %REC	MB SS Limits
TPH-Diesel (C10-C23)	ND	50	-	-	-
TPH-Motor Oil (C18-C36)	ND	250	-	-	-
Surrogate Recovery					
C9	577		625	92	68-127

Analyte	LCS Result	LCSD Result	SPK Val	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Limit
TPH-Diesel (C10-C23)	1040	1060	1000	104	106	86-142	1.80	30
Surrogate Recovery								
C9	574	585	625	92	94	68-127	1.86	30

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CHAIN-OF-CUSTODY RECORD

WorkOrder: 1801982 **ClientCode: AEL**

☐ WaterTrax ☐ WriteOn ☐ EDF ☐ Excel ☑ EQuIS ☑ Email ☐ HardCopy ☐ ThirdParty ☐ J-flag
☑ Detection Summary ☑ Dry-Weight

Report to:
Jacqueline Day
AEI Consultants
2500 Camino Diablo, Ste.#200
Walnut Creek, CA 94597
(925) 283-6000 FAX: (925) 944-2895

Email: jday@aeiconsultants.com
cc/3rd Party:
PO:
Project: 180117-DLI;

Bill to:
Accounts Payable
AEI Consultants
2500 Camino Diablo, Ste. #200
Walnut Creek, CA 94597
AccountsPayable@AEIConsultants.com

Requested TAT: 5 days;

Date Received: 01/18/2018
Date Logged: 01/18/2018

Lab ID	Client ID	Matrix	Collection Date	Hold	Requested Tests (See legend below)											
					1	2	3	4	5	6	7	8	9	10	11	12
1801982-001	BF-1	Water	1/17/2018 13:09	☐	B	A	A									
1801982-002	BF-5	Water	1/17/2018 11:46	☐	B	A	A									
1801982-003	MW-1	Water	1/17/2018 12:25	☐	B	A	A									
1801982-004	MW-2	Water	1/17/2018 13:20	☐	B	A	A									
1801982-005	MW-3	Water	1/17/2018 12:40	☐	B	A	A									
1801982-006	MW-4	Water	1/17/2018 12:10	☐	B	A	A									
1801982-007	MW-5	Water	1/17/2018 11:25	☐	B	A	A									
1801982-008	MW-6	Water	1/17/2018 10:50	☐	B	A	A									
1801982-009	MW-7	Water	1/17/2018 11:00	☐	B	A	A									
1801982-010	IW-1	Water	1/17/2018 10:35	☐	B	A	A									

Test Legend:

1	8260VOC_W	2	G-MBTEX_W	3	TPH(DMO)_W	4	
5		6		7		8	
9		10		11		12	

Prepared by: Alexandra Iniguez

The following SampIDs: 001A, 002A, 003A, 004A, 005A, 006A, 007A, 008A, 009A, 010A contain testgroup Multi Range_W.

Comments:

NOTE: Soil samples are discarded 60 days after results are reported unless other arrangements are made (Water samples are 30 days).
Hazardous samples will be returned to client or disposed of at client expense.

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WORK ORDER SUMMARY

Client Name: AEI CONSULTANTS
Client Contact: Jacqueline Day
Contact's Email: jday@aeiconsultants.com

Project: 180117-DLI;
Comments:

Work Order: 1801982
QC Level: LEVEL 2
Date Logged: 1/18/2018

☐ WaterTrax ☐ WriteOn ☐ EDF ☐ Excel ☐ Fax ☑ Email ☐ HardCopy ☐ ThirdParty ☐ J-flag

Lab ID	Client ID	Matrix	Test Name	Containers /Composites	Bottle & Preservative	De-chlorinated	Collection Date & Time	TAT	Sediment Content	Hold	SubOut
1801982-001A	BF-1	Water	Multi-Range TPH(g,d,mo) by EPA 8015Bm	4	2 VOAs w/HCL + 2-aVOAs (multi-range)	☐	1/17/2018 13:09	5 days		☐	
1801982-001B	BF-1	Water	SW8260B (VOCs) <Benzene, Diisopropyl ether (DIPE), Ethyl tert-butyl ether (ETBE), Ethylbenzene, Methyl-t-butyl ether (MTBE), tert-Amyl methyl ether (TAME), Toluene, Xylenes, Total>	2	VOA w/ HCl	☐	1/17/2018 13:09	5 days		☐	
1801982-002A	BF-5	Water	Multi-Range TPH(g,d,mo) by EPA 8015Bm	4	2 VOAs w/HCL + 2-aVOAs (multi-range)	☐	1/17/2018 11:46	5 days		☐	
1801982-002B	BF-5	Water	SW8260B (VOCs) <Benzene, Diisopropyl ether (DIPE), Ethyl tert-butyl ether (ETBE), Ethylbenzene, Methyl-t-butyl ether (MTBE), tert-Amyl methyl ether (TAME), Toluene, Xylenes, Total>	2	VOA w/ HCl	☐	1/17/2018 11:46	5 days		☐	
1801982-003A	MW-1	Water	Multi-Range TPH(g,d,mo) by EPA 8015Bm	4	2 VOAs w/HCL + 2-aVOAs (multi-range)	☐	1/17/2018 12:25	5 days		☐	
1801982-003B	MW-1	Water	SW8260B (VOCs) <Benzene, Diisopropyl ether (DIPE), Ethyl tert-butyl ether (ETBE), Ethylbenzene, Methyl-t-butyl ether (MTBE), tert-Amyl methyl ether (TAME), Toluene, Xylenes, Total>	2	VOA w/ HCl	☐	1/17/2018 12:25	5 days		☐	

NOTES: - STLC and TCLP extractions require 2 days to complete; therefore, all TATs begin after the extraction is completed (i.e., One-day TAT yields results in 3 days from sample submission).

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McCampbell Analytical, Inc.
"When Quality Counts"

1534 Willow Pass Road, Pittsburg, CA 94565-1701
Toll Free Telephone: (877) 252-9262 / Fax: (925) 252-9269
http://www.mccampbell.com / E-mail: main@mccampbell.com

WORK ORDER SUMMARY

Client Name: AEI CONSULTANTS **Project:** 180117-DLI; **Work Order:** 1801982
Client Contact: Jacqueline Day **QC Level:** LEVEL 2
Contact's Email: jday@aeiconsultants.com **Comments:** **Date Logged:** 1/18/2018

☐ WaterTrax ☐ WriteOn ☐ EDF ☐ Excel ☐ Fax ☑ Email ☐ HardCopy ☐ ThirdParty ☐ J-flag

Lab ID	Client ID	Matrix	Test Name	Containers /Composites	Bottle & Preservative	De-chlorinated	Collection Date & Time	TAT	Sediment Content	Hold	SubOut
1801982-004A	MW-2	Water	Multi-Range TPH(g,d,mo) by EPA 8015Bm	4	2 VOAs w/HCL + 2-aVOAs (multi-range)	☐	1/17/2018 13:20	5 days		☐	
1801982-004B	MW-2	Water	SW8260B (VOCs) <Benzene, Diisopropyl ether (DIPE), Ethyl tert-butyl ether (ETBE), Ethylbenzene, Methyl-t-butyl ether (MTBE), tert-Amyl methyl ether (TAME), Toluene, Xylenes, Total>	2	VOA w/ HCl	☐	1/17/2018 13:20	5 days		☐	
1801982-005A	MW-3	Water	Multi-Range TPH(g,d,mo) by EPA 8015Bm	4	2 VOAs w/HCL + 2-aVOAs (multi-range)	☐	1/17/2018 12:40	5 days		☐	
1801982-005B	MW-3	Water	SW8260B (VOCs) <Benzene, Diisopropyl ether (DIPE), Ethyl tert-butyl ether (ETBE), Ethylbenzene, Methyl-t-butyl ether (MTBE), tert-Amyl methyl ether (TAME), Toluene, Xylenes, Total>	2	VOA w/ HCl	☐	1/17/2018 12:40	5 days		☐	
1801982-006A	MW-4	Water	Multi-Range TPH(g,d,mo) by EPA 8015Bm	4	2 VOAs w/HCL + 2-aVOAs (multi-range)	☐	1/17/2018 12:10	5 days		☐	
1801982-006B	MW-4	Water	SW8260B (VOCs) <Benzene, Diisopropyl ether (DIPE), Ethyl tert-butyl ether (ETBE), Ethylbenzene, Methyl-t-butyl ether (MTBE), tert-Amyl methyl ether (TAME), Toluene, Xylenes, Total>	2	VOA w/ HCl	☐	1/17/2018 12:10	5 days		☐	

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WORK ORDER SUMMARY

Client Name: AEI CONSULTANTS **Project:** 180117-DLI; **Work Order:** 1801982
Client Contact: Jacqueline Day **QC Level:** LEVEL 2
Contact's Email: jday@aeiconsultants.com **Comments:** **Date Logged:** 1/18/2018

☐ WaterTrax ☐ WriteOn ☐ EDF ☐ Excel ☐ Fax ☑ Email ☐ HardCopy ☐ ThirdParty ☐ J-flag

Lab ID	Client ID	Matrix	Test Name	Containers /Composites	Bottle & Preservative	De-chlorinated	Collection Date & Time	TAT	Sediment Content	Hold	SubOut
1801982-007A	MW-5	Water	Multi-Range TPH(g,d,mo) by EPA 8015Bm	4	2 VOAs w/HCL + 2-aVOAs (multi-range)	☐	1/17/2018 11:25	5 days		☐	
1801982-007B	MW-5	Water	SW8260B (VOCs) <Benzene, Diisopropyl ether (DIPE), Ethyl tert-butyl ether (ETBE), Ethylbenzene, Methyl-t-butyl ether (MTBE), tert-Amyl methyl ether (TAME), Toluene, Xylenes, Total>	2	VOA w/ HCl	☐	1/17/2018 11:25	5 days		☐	
1801982-008A	MW-6	Water	Multi-Range TPH(g,d,mo) by EPA 8015Bm	4	2 VOAs w/HCL + 2-aVOAs (multi-range)	☐	1/17/2018 10:50	5 days		☐	
1801982-008B	MW-6	Water	SW8260B (VOCs) <Benzene, Diisopropyl ether (DIPE), Ethyl tert-butyl ether (ETBE), Ethylbenzene, Methyl-t-butyl ether (MTBE), tert-Amyl methyl ether (TAME), Toluene, Xylenes, Total>	2	VOA w/ HCl	☐	1/17/2018 10:50	5 days		☐	
1801982-009A	MW-7	Water	Multi-Range TPH(g,d,mo) by EPA 8015Bm	4	2 VOAs w/HCL + 2-aVOAs (multi-range)	☐	1/17/2018 11:00	5 days		☐	
1801982-009B	MW-7	Water	SW8260B (VOCs) <Benzene, Diisopropyl ether (DIPE), Ethyl tert-butyl ether (ETBE), Ethylbenzene, Methyl-t-butyl ether (MTBE), tert-Amyl methyl ether (TAME), Toluene, Xylenes, Total>	2	VOA w/ HCl	☐	1/17/2018 11:00	5 days		☐	

NOTES: - STLC and TCLP extractions require 2 days to complete; therefore, all TATs begin after the extraction is completed (i.e., One-day TAT yields results in 3 days from sample submission).

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WORK ORDER SUMMARY

Client Name: AEI CONSULTANTS **Project:** 180117-DLI; **Work Order:** 1801982
Client Contact: Jacqueline Day **QC Level:** LEVEL 2
Contact's Email: jday@aeiconsultants.com **Comments:** **Date Logged:** 1/18/2018

☐ WaterTrax ☐ WriteOn ☐ EDF ☐ Excel ☐ Fax ☑ Email ☐ HardCopy ☐ ThirdParty ☐ J-flag

Lab ID	Client ID	Matrix	Test Name	Containers /Composites	Bottle & Preservative	De-chlorinated	Collection Date & Time	TAT	Sediment Content	Hold	SubOut
1801982-010A	IW-1	Water	Multi-Range TPH(g,d,mo) by EPA 8015Bm	4	2 VOAs w/HCL + 2-aVOAs (multi-range)	☐	1/17/2018 10:35	5 days		☐	
1801982-010B	IW-1	Water	SW8260B (VOCs) <Benzene, Diisopropyl ether (DIPE), Ethyl tert-butyl ether (ETBE), Ethylbenzene, Methyl-t-butyl ether (MTBE), tert-Amyl methyl ether (TAME), Toluene, Xylenes, Total>	2	VOA w/ HCl	☐	1/17/2018 10:35	5 days		☐	

NOTES: - STLC and TCLP extractions require 2 days to complete; therefore, all TATs begin after the extraction is completed (i.e., One-day TAT yields results in 3 days from sample submission).

- MAI assumes that all material present in the provided sampling container is considered part of the sample - MAI does not exclude any material from the sample prior to sample preparation unless requested in writing by the client.

BLAINE
TECH SERVICES, INC.

1680 ROGERS AVENUE
SAN JOSE, CALIFORNIA 95112-1105
FAX (408) 573-7771
PHONE (408) 573-0555

CHAIN OF CUSTODY BTS # 180117-DL1

CLIENT: AEI Consultants

SITE: 3442 Adeline St.
Oakland, CA

LAB: McCampbell

DHS #

1801982

SPECAL INSTRUCTIONS

Invoice and Report to : AEI Consultants
Attn: Jacqueline Day

jday@aeiconsultants.com

SAMPLE I.D.	DATE	TIME	MATRIX S= SOIL W=H_2O	CONTAINERS TOTAL			TPH-g (8015M)	TPH-d (8015M)	BTEX, Napthalene, and fuel oxys (8260B)						CONDITION	LAB SAMPLE #
BF-1	1/17/18	1309	W	6	Various		X	X	X							
BF-5		1146	W	6	Various		X	X	X							
MW-1		1225	W	6	Various		X	X	X							
MW-2		1320	W	6	Various		X	X	X							
MW-3		1240	W	6	Various		X	X	X							
MW-4		1210	W	6	Various		X	X	X							
MW-5		1125	W	6	Various		X	X	X							
MW-6		1050	W	6	Various		X	X	X							
MW-7		1100	W	6	Various		X	X	X							
IW-1		1035	W	6	Various		X	X	X							

SAMPLING COMPLETED: DATE 1/17/18 TIME 1345

SAMPLING PERFORMED BY: Liam Dooley, Jeff Stromberg

RESULTS NEEDED NO LATER THAN: Standard TAT

RELEASED BY	DATE	TIME	RECEIVED BY	DATE	TIME
	1/17/18	1630		1/17/18	1630
	1/18/18	1220	Moises Vasquez	1/18/18	1220
Moises Vasquez	1/18/18	1775.		1/18/18	1435

SHIPPED VIA	DATE SENT	TIME SENT	COOLER #

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http://www.mccampbell.com / E-mail: main@mccampbell.com

Sample Receipt Checklist

Client Name: **AEI Consultants**
Project: **180117-DLI;**

WorkOrder №: **1801982** Matrix: Water
Carrier: Moises Vasquez (contract courier)

Date and Time Received: **1/18/2018 14:35**
Date Logged: **1/18/2018**
Received by: Alexandra Iniguez
Logged by: Alexandra Iniguez

Chain of Custody (COC) Information

Chain of custody present?	Yes	☑	No	☐		
Chain of custody signed when relinquished and received?	Yes	☑	No	☐		
Chain of custody agrees with sample labels?	Yes	☑	No	☐		
Sample IDs noted by Client on COC?	Yes	☑	No	☐		
Date and Time of collection noted by Client on COC?	Yes	☑	No	☐		
Sampler's name noted on COC?	Yes	☑	No	☐		
COC agrees with Quote?	Yes	☐	No	☐	NA	☑

Sample Receipt Information

Custody seals intact on shipping container/cooler?	Yes	☑	No	☐	NA	☐
Shipping container/cooler in good condition?	Yes	☑	No	☐		
Samples in proper containers/bottles?	Yes	☑	No	☐		
Sample containers intact?	Yes	☑	No	☐		
Sufficient sample volume for indicated test?	Yes	☑	No	☐		

Sample Preservation and Hold Time (HT) Information

All samples received within holding time?	Yes	☑	No	☐	NA	☐
Sample/Temp Blank temperature	Temp: 5.3°C				NA	☐
Water - VOA vials have zero headspace / no bubbles?	Yes	☑	No	☐	NA	☐
Sample labels checked for correct preservation?	Yes	☑	No	☐		
pH acceptable upon receipt (Metal: <2; 522: <4; 218.7: >8)?	Yes	☐	No	☐	NA	☑
Samples Received on Ice?	Yes	☑	No	☐		
(Ice Type: WET ICE)						

UCMR Samples:

Total Chlorine tested and acceptable upon receipt for EPA 522?	Yes	☐	No	☐	NA	☑
Free Chlorine tested and acceptable upon receipt for EPA 218.7, 300.1, 537, 539?	Yes	☐	No	☐	NA	☑

Comments:

ANALYTICAL REPORT

January 26, 2018

AEI Consultants - CA

Sample Delivery Group:	L964179
Samples Received:	01/19/2018
Project Number:	281939
Description:	3442 Adeline Street,
Site:	3442 ADELINE STREET
Report To:	Jacqueline Day 2500 Camino Diablo Walnut Creek, CA 94597

Entire Report Reviewed By: Brian Ford

Brian Ford
Technical Service Representative

Results relate only to the items tested or calibrated and are reported as rounded values. This test report shall not be reproduced, except in full, without written approval of the laboratory. Where applicable, sampling conducted by ESC is performed per guidance provided in laboratory standard operating procedures: 060302, 060303, and 060304.

VB-4 L964179-01 Air

Collected by: William B Hix
Collected date/time: 01/18/18 12:18
Received date/time: 01/19/18 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC) by Method ASTM 1946	WG1065036	1	01/22/18 10:04	01/22/18 10:04	BG
Volatile Organic Compounds (MS) by Method TO-15	WG1064451	2000	01/19/18 15:09	01/19/18 15:09	AMC
Volatile Organic Compounds (MS) by Method TO-15	WG1065099	20000	01/22/18 20:07	01/22/18 20:07	AMC
Organic Compounds (GC) by Method D1946	WG1065274	1	01/23/18 09:19	01/23/18 09:19	BG

VB-5 L964179-02 Air

Collected by: William B Hix
Collected date/time: 01/18/18 09:15
Received date/time: 01/19/18 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC) by Method ASTM 1946	WG1065036	1	01/22/18 10:09	01/22/18 10:09	BG
Volatile Organic Compounds (MS) by Method TO-15	WG1064451	2	01/19/18 15:49	01/19/18 15:49	AMC
Organic Compounds (GC) by Method D1946	WG1065274	1	01/23/18 09:27	01/23/18 09:27	BG

VB-7 L964179-03 Air

Collected by: William B Hix
Collected date/time: 01/17/18 15:35
Received date/time: 01/19/18 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC) by Method ASTM 1946	WG1065036	1	01/22/18 10:12	01/22/18 10:12	BG
Volatile Organic Compounds (MS) by Method TO-15	WG1064451	2	01/19/18 16:30	01/19/18 16:30	AMC
Organic Compounds (GC) by Method D1946	WG1065274	1	01/23/18 09:33	01/23/18 09:33	BG

VB-9 L964179-04 Air

Collected by: William B Hix
Collected date/time: 01/17/18 13:16
Received date/time: 01/19/18 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC) by Method ASTM 1946	WG1065036	1	01/22/18 10:19	01/22/18 10:19	BG
Volatile Organic Compounds (MS) by Method TO-15	WG1064451	2000	01/19/18 17:08	01/19/18 17:08	AMC
Organic Compounds (GC) by Method D1946	WG1065274	1	01/23/18 09:40	01/23/18 09:40	BG

VB-10 L964179-05 Air

Collected by: William B Hix
Collected date/time: 01/17/18 16:35
Received date/time: 01/19/18 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC) by Method ASTM 1946	WG1065036	1	01/22/18 10:22	01/22/18 10:22	BG
Volatile Organic Compounds (MS) by Method TO-15	WG1064451	4	01/19/18 17:47	01/19/18 17:47	AMC
Organic Compounds (GC) by Method D1946	WG1065274	1	01/23/18 09:46	01/23/18 09:46	BG

VB-12 L964179-06 Air

Collected by: William B Hix
Collected date/time: 01/17/18 12:19
Received date/time: 01/19/18 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC) by Method ASTM 1946	WG1065036	1	01/22/18 11:11	01/22/18 11:11	BG
Volatile Organic Compounds (MS) by Method TO-15	WG1064451	800	01/19/18 18:25	01/19/18 18:25	AMC
Organic Compounds (GC) by Method D1946	WG1065274	1	01/23/18 09:52	01/23/18 09:52	BG

VB-12DUP L964179-07 Air

Collected by	Collected date/time	Received date/time
William B Hix	01/17/18 12:18	01/19/18 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC) by Method ASTM 1946	WG1065036	1	01/22/18 11:28	01/22/18 11:28	BG
Volatile Organic Compounds (MS) by Method TO-15	WG1064451	800	01/19/18 19:03	01/19/18 19:03	AMC
Organic Compounds (GC) by Method D1946	WG1065274	2	01/23/18 10:23	01/23/18 10:23	BG

VB-14 L964179-08 Air

Collected by	Collected date/time	Received date/time
William B Hix	01/17/18 10:55	01/19/18 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC) by Method ASTM 1946	WG1065036	1	01/22/18 11:34	01/22/18 11:34	BG
Volatile Organic Compounds (MS) by Method TO-15	WG1064451	10	01/19/18 14:26	01/19/18 14:26	AMC
Organic Compounds (GC) by Method D1946	WG1065274	1	01/23/18 10:30	01/23/18 10:30	BG

VB-16 L964179-09 Air

Collected by	Collected date/time	Received date/time
William B Hix	01/17/18 10:05	01/19/18 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC) by Method ASTM 1946	WG1065036	1	01/22/18 11:51	01/22/18 11:51	BG
Volatile Organic Compounds (MS) by Method TO-15	WG1064451	2	01/19/18 19:43	01/19/18 19:43	AMC
Organic Compounds (GC) by Method D1946	WG1065274	1	01/23/18 10:37	01/23/18 10:37	BG

VB-17 L964179-10 Air

Collected by	Collected date/time	Received date/time
William B Hix	01/17/18 09:34	01/19/18 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC) by Method ASTM 1946	WG1065036	1	01/22/18 11:54	01/22/18 11:54	BG
Volatile Organic Compounds (MS) by Method TO-15	WG1064451	4	01/19/18 20:22	01/19/18 20:22	AMC
Volatile Organic Compounds (MS) by Method TO-15	WG1065099	1000	01/22/18 20:50	01/22/18 20:50	AMC
Organic Compounds (GC) by Method D1946	WG1065274	1	01/23/18 10:45	01/23/18 10:45	BG

VB-18 L964179-11 Air

Collected by	Collected date/time	Received date/time
William B Hix	01/17/18 09:18	01/19/18 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC) by Method ASTM 1946	WG1065036	1	01/22/18 11:57	01/22/18 11:57	BG
Volatile Organic Compounds (MS) by Method TO-15	WG1064451	2	01/19/18 21:02	01/19/18 21:02	AMC
Organic Compounds (GC) by Method D1946	WG1065274	1	01/23/18 10:52	01/23/18 10:52	BG

VB-20 L964179-12 Air

Collected by	Collected date/time	Received date/time
William B Hix	01/18/18 11:27	01/19/18 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC) by Method ASTM 1946	WG1065036	1	01/22/18 12:01	01/22/18 12:01	BG
Volatile Organic Compounds (MS) by Method TO-15	WG1064451	2	01/19/18 21:43	01/19/18 21:43	AMC
Organic Compounds (GC) by Method D1946	WG1065274	1	01/23/18 10:58	01/23/18 10:58	BG

VB-21 L964179-13 Air

Collected by: William B Hix
Collected date/time: 01/17/18 15:53
Received date/time: 01/19/18 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC) by Method ASTM 1946	WG1065036	1	01/22/18 12:04	01/22/18 12:04	BG
Volatile Organic Compounds (MS) by Method TO-15	WG1064451	2	01/19/18 22:26	01/19/18 22:26	AMC
Organic Compounds (GC) by Method D1946	WG1065274	1	01/23/18 11:06	01/23/18 11:06	BG

VB-22 L964179-14 Air

Collected by: William B Hix
Collected date/time: 01/17/18 14:08
Received date/time: 01/19/18 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC) by Method ASTM 1946	WG1065036	1	01/22/18 12:07	01/22/18 12:07	BG
Volatile Organic Compounds (MS) by Method TO-15	WG1064451	2	01/19/18 23:07	01/19/18 23:07	AMC
Organic Compounds (GC) by Method D1946	WG1065274	1	01/23/18 11:13	01/23/18 11:13	BG

All sample aliquots were received at the correct temperature, in the proper containers, with the appropriate preservatives, and within method specified holding times, unless qualified or notated within the report. Where applicable, all MDL (LOD) and RDL (LOQ) values reported for environmental samples have been corrected for the dilution factor used in the analysis. All radiochemical sample results for solids are reported on a dry weight basis with the exception of tritium, carbon-14 and radon, unless wet weight was requested by the client. 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 ASTM 1946

Analyte	CAS #	Mol. Wt.	RDL	Result	Qualifier	Dilution	Batch
			%	%			
Helium	7440-59-7		1.00	ND		1	WG1065036

Volatile Organic Compounds (MS) by Method TO-15

Analyte	CAS #	Mol. Wt.	RDL1	RDL2	Result	Result	Qualifier	Dilution	Batch
			ppbv	ug/m3	ppbv	ug/m3			
TPH (GC/MS) Low Fraction	8006-61-9	101	1000000	4130000	16100000	66700000		20000	WG1065099
Benzene	71-43-2	78.10	400	1280	1320	4220		2000	WG1064451
Ethylbenzene	100-41-4	106	400	1730	623	2700		2000	WG1064451
MTBE	1634-04-4	88.10	400	1440	ND	ND		2000	WG1064451
Toluene	108-88-3	92.10	400	1510	1360	5110		2000	WG1064451
m&p-Xylene	1330-20-7	106	800	3470	ND	ND		2000	WG1064451
o-Xylene	95-47-6	106	400	1730	ND	ND		2000	WG1064451
(S) 1,4-Bromofluorobenzene	*460-00-4*	*175*	*60.0-140*		*103*				WG1064451
(S) 1,4-Bromofluorobenzene	*460-00-4*	*175*	*60.0-140*		*104*				WG1065099

Organic Compounds (GC) by Method D1946

Analyte	CAS #	Mol. Wt.	RDL	Result	Qualifier	Dilution	Batch
			%	%			
Oxygen	7782-44-7	32	2.00	10.9	B	1	WG1065274
Carbon Dioxide	124-38-9	44.01	0.500	3.04		1	WG1065274
Methane	74-82-8	16	0.400	0.815		1	WG1065274

Volatile Organic Compounds (GC) by Method ASTM 1946

Analyte	CAS #	Mol. Wt.	RDL	Result	Qualifier	Dilution	Batch
			%	%			
Helium	7440-59-7		1.00	ND		1	WG1065036

Volatile Organic Compounds (MS) by Method TO-15

Analyte	CAS #	Mol. Wt.	RDL1	RDL2	Result	Result	Qualifier	Dilution	Batch
			ppbv	ug/m3	ppbv	ug/m3			
TPH (GC/MS) Low Fraction	8006-61-9	101	100	413	409	1690		2	WG1064451
Benzene	71-43-2	78.10	0.400	1.28	ND	ND		2	WG1064451
Ethylbenzene	100-41-4	106	0.400	1.73	ND	ND		2	WG1064451
MTBE	1634-04-4	88.10	0.400	1.44	ND	ND		2	WG1064451
Toluene	108-88-3	92.10	0.400	1.51	ND	ND		2	WG1064451
m&p-Xylene	1330-20-7	106	0.800	3.47	ND	ND		2	WG1064451
o-Xylene	95-47-6	106	0.400	1.73	ND	ND		2	WG1064451
(S) 1,4-Bromofluorobenzene	*460-00-4*	*175*	*60.0-140*		*96.4*				WG1064451

Organic Compounds (GC) by Method D1946

Analyte	CAS #	Mol. Wt.	RDL	Result	Qualifier	Dilution	Batch
			%	%			
Oxygen	7782-44-7	32	2.00	13.5		1	WG1065274
Carbon Dioxide	124-38-9	44.01	0.500	3.18		1	WG1065274
Methane	74-82-8	16	0.400	ND		1	WG1065274

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

Volatile Organic Compounds (GC) by Method ASTM 1946

Analyte	CAS #	Mol. Wt.	RDL	Result	Qualifier	Dilution	Batch
			%	%			
Helium	7440-59-7		1.00	ND		1	WG1065036

Volatile Organic Compounds (MS) by Method TO-15

Analyte	CAS #	Mol. Wt.	RDL1	RDL2	Result	Result	Qualifier	Dilution	Batch
			ppbv	ug/m3	ppbv	ug/m3			
TPH (GC/MS) Low Fraction	8006-61-9	101	100	413	281	1160		2	WG1064451
Benzene	71-43-2	78.10	0.400	1.28	ND	ND		2	WG1064451
Ethylbenzene	100-41-4	106	0.400	1.73	ND	ND		2	WG1064451
MTBE	1634-04-4	88.10	0.400	1.44	ND	ND		2	WG1064451
Toluene	108-88-3	92.10	0.400	1.51	ND	ND		2	WG1064451
m&p-Xylene	1330-20-7	106	0.800	3.47	ND	ND		2	WG1064451
o-Xylene	95-47-6	106	0.400	1.73	ND	ND		2	WG1064451
(S) 1,4-Bromofluorobenzene	*460-00-4*	*175*	*60.0-140*		*97.3*				WG1064451

Organic Compounds (GC) by Method D1946

Analyte	CAS #	Mol. Wt.	RDL	Result	Qualifier	Dilution	Batch
			%	%			
Oxygen	7782-44-7	32	2.00	16.9		1	WG1065274
Carbon Dioxide	124-38-9	44.01	0.500	0.877		1	WG1065274
Methane	74-82-8	16	0.400	ND		1	WG1065274

Volatile Organic Compounds (GC) by Method ASTM 1946

Analyte	CAS #	Mol. Wt.	RDL	Result	Qualifier	Dilution	Batch
			%	%			
Helium	7440-59-7		1.00	ND		1	WG1065036

Volatile Organic Compounds (MS) by Method TO-15

Analyte	CAS #	Mol. Wt.	RDL1	RDL2	Result	Result	Qualifier	Dilution	Batch
			ppbv	ug/m3	ppbv	ug/m3			
TPH (GC/MS) Low Fraction	8006-61-9	101	100000	413000	2140000	8850000		2000	WG1064451
Benzene	71-43-2	78.10	400	1280	1940	6190		2000	WG1064451
Ethylbenzene	100-41-4	106	400	1730	ND	ND		2000	WG1064451
MTBE	1634-04-4	88.10	400	1440	ND	ND		2000	WG1064451
Toluene	108-88-3	92.10	400	1510	ND	ND		2000	WG1064451
m&p-Xylene	1330-20-7	106	800	3470	ND	ND		2000	WG1064451
o-Xylene	95-47-6	106	400	1730	ND	ND		2000	WG1064451
(S) 1,4-Bromofluorobenzene	*460-00-4*	*175*	*60.0-140*		*99.7*				WG1064451

Organic Compounds (GC) by Method D1946

Analyte	CAS #	Mol. Wt.	RDL	Result	Qualifier	Dilution	Batch
			%	%			
Oxygen	7782-44-7	32	2.00	12.6	B	1	WG1065274
Carbon Dioxide	124-38-9	44.01	0.500	4.23		1	WG1065274
Methane	74-82-8	16	0.400	ND		1	WG1065274

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

Volatile Organic Compounds (GC) by Method ASTM 1946

Analyte	CAS #	Mol. Wt.	RDL	Result	Qualifier	Dilution	Batch
			%	%			
Helium	7440-59-7		1.00	ND		1	WG1065036

Volatile Organic Compounds (MS) by Method TO-15

Analyte	CAS #	Mol. Wt.	RDL1	RDL2	Result	Result	Qualifier	Dilution	Batch
			ppbv	ug/m3	ppbv	ug/m3			
TPH (GC/MS) Low Fraction	8006-61-9	101	200	826	1130	4660		4	WG1064451
Benzene	71-43-2	78.10	0.800	2.56	ND	ND		4	WG1064451
Ethylbenzene	100-41-4	106	0.800	3.47	ND	ND		4	WG1064451
MTBE	1634-04-4	88.10	0.800	2.88	ND	ND		4	WG1064451
Toluene	108-88-3	92.10	0.800	3.01	ND	ND		4	WG1064451
m&p-Xylene	1330-20-7	106	1.60	6.94	ND	ND		4	WG1064451
o-Xylene	95-47-6	106	0.800	3.47	ND	ND		4	WG1064451
(S) 1,4-Bromofluorobenzene	*460-00-4*	*175*	*60.0-140*		*97.8*				WG1064451

Organic Compounds (GC) by Method D1946

Analyte	CAS #	Mol. Wt.	RDL	Result	Qualifier	Dilution	Batch
			%	%			
Oxygen	7782-44-7	32	2.00	15.5		1	WG1065274
Carbon Dioxide	124-38-9	44.01	0.500	2.37		1	WG1065274
Methane	74-82-8	16	0.400	ND		1	WG1065274

Volatile Organic Compounds (GC) by Method ASTM 1946

Analyte	CAS #	Mol. Wt.	RDL	Result	Qualifier	Dilution	Batch
			%	%			
Helium	7440-59-7		1.00	ND		1	WG1065036

Volatile Organic Compounds (MS) by Method TO-15

Analyte	CAS #	Mol. Wt.	RDL1	RDL2	Result	Result	Qualifier	Dilution	Batch
			ppbv	ug/m3	ppbv	ug/m3			
TPH (GC/MS) Low Fraction	8006-61-9	101	40000	165000	448000	1850000		800	WG1064451
Benzene	71-43-2	78.10	160	511	300	958		800	WG1064451
Ethylbenzene	100-41-4	106	160	694	168	728		800	WG1064451
MTBE	1634-04-4	88.10	160	577	ND	ND		800	WG1064451
Toluene	108-88-3	92.10	160	603	ND	ND		800	WG1064451
m&p-Xylene	1330-20-7	106	320	1390	ND	ND		800	WG1064451
o-Xylene	95-47-6	106	160	694	ND	ND		800	WG1064451
(S) 1,4-Bromofluorobenzene	*460-00-4*	*175*	*60.0-140*		*99.2*				WG1064451

Organic Compounds (GC) by Method D1946

Analyte	CAS #	Mol. Wt.	RDL	Result	Qualifier	Dilution	Batch
			%	%			
Oxygen	7782-44-7	32	2.00	13.9		1	WG1065274
Carbon Dioxide	124-38-9	44.01	0.500	3.43		1	WG1065274
Methane	74-82-8	16	0.400	ND		1	WG1065274

Volatile Organic Compounds (GC) by Method ASTM 1946

Analyte	CAS #	Mol. Wt.	RDL	Result	Qualifier	Dilution	Batch
			%	%			
Helium	7440-59-7		1.00	ND		1	WG1065036

Volatile Organic Compounds (MS) by Method TO-15

Analyte	CAS #	Mol. Wt.	RDL1	RDL2	Result	Result	Qualifier	Dilution	Batch
			ppbv	ug/m3	ppbv	ug/m3			
TPH (GC/MS) Low Fraction	8006-61-9	101	40000	165000	575000	2370000		800	WG1064451
Benzene	71-43-2	78.10	160	511	355	1130		800	WG1064451
Ethylbenzene	100-41-4	106	160	694	ND	ND		800	WG1064451
MTBE	1634-04-4	88.10	160	577	ND	ND		800	WG1064451
Toluene	108-88-3	92.10	160	603	ND	ND		800	WG1064451
m&p-Xylene	1330-20-7	106	320	1390	ND	ND		800	WG1064451
o-Xylene	95-47-6	106	160	694	ND	ND		800	WG1064451
(S) 1,4-Bromofluorobenzene	*460-00-4*	*175*	*60.0-140*		*100*				WG1064451

Organic Compounds (GC) by Method D1946

Analyte	CAS #	Mol. Wt.	RDL	Result	Qualifier	Dilution	Batch
			%	%			
Oxygen	7782-44-7	32	4.00	11.7	B	2	WG1065274
Carbon Dioxide	124-38-9	44.01	1.00	5.63		2	WG1065274
Methane	74-82-8	16	0.800	ND		2	WG1065274

Volatile Organic Compounds (GC) by Method ASTM 1946

Analyte	CAS #	Mol. Wt.	RDL	Result	Qualifier	Dilution	Batch
			%	%			
Helium	7440-59-7		1.00	ND		1	WG1065036

Volatile Organic Compounds (MS) by Method TO-15

Analyte	CAS #	Mol. Wt.	RDL1	RDL2	Result	Result	Qualifier	Dilution	Batch
			ppbv	ug/m3	ppbv	ug/m3			
TPH (GC/MS) Low Fraction	8006-61-9	101	500	2070	6650	27500		10	WG1064451
Benzene	71-43-2	78.10	2.00	6.39	ND	ND		10	WG1064451
Ethylbenzene	100-41-4	106	2.00	8.67	ND	ND		10	WG1064451
MTBE	1634-04-4	88.10	2.00	7.21	ND	ND		10	WG1064451
Toluene	108-88-3	92.10	2.00	7.53	ND	ND		10	WG1064451
m&p-Xylene	1330-20-7	106	4.00	17.3	ND	ND		10	WG1064451
o-Xylene	95-47-6	106	2.00	8.67	ND	ND		10	WG1064451
(S) 1,4-Bromofluorobenzene	*460-00-4*	*175*	*60.0-140*		*87.7*				WG1064451

Organic Compounds (GC) by Method D1946

Analyte	CAS #	Mol. Wt.	RDL	Result	Qualifier	Dilution	Batch
			%	%			
Oxygen	7782-44-7	32	2.00	16.5		1	WG1065274
Carbon Dioxide	124-38-9	44.01	0.500	ND		1	WG1065274
Methane	74-82-8	16	0.400	ND		1	WG1065274

Volatile Organic Compounds (GC) by Method ASTM 1946

Analyte	CAS #	Mol. Wt.	RDL	Result	Qualifier	Dilution	Batch
			%	%			
Helium	7440-59-7		1.00	ND		1	WG1065036

Volatile Organic Compounds (MS) by Method TO-15

Analyte	CAS #	Mol. Wt.	RDL1	RDL2	Result	Result	Qualifier	Dilution	Batch
			ppbv	ug/m3	ppbv	ug/m3			
TPH (GC/MS) Low Fraction	8006-61-9	101	100	413	309	1280		2	WG1064451
Benzene	71-43-2	78.10	0.400	1.28	ND	ND		2	WG1064451
Ethylbenzene	100-41-4	106	0.400	1.73	ND	ND		2	WG1064451
MTBE	1634-04-4	88.10	0.400	1.44	ND	ND		2	WG1064451
Toluene	108-88-3	92.10	0.400	1.51	ND	ND		2	WG1064451
m&p-Xylene	1330-20-7	106	0.800	3.47	ND	ND		2	WG1064451
o-Xylene	95-47-6	106	0.400	1.73	ND	ND		2	WG1064451
(S) 1,4-Bromofluorobenzene	*460-00-4*	*175*	*60.0-140*		*98.5*				WG1064451

Organic Compounds (GC) by Method D1946

Analyte	CAS #	Mol. Wt.	RDL	Result	Qualifier	Dilution	Batch
			%	%			
Oxygen	7782-44-7	32	2.00	14.5		1	WG1065274
Carbon Dioxide	124-38-9	44.01	0.500	2.52		1	WG1065274
Methane	74-82-8	16	0.400	ND		1	WG1065274

Volatile Organic Compounds (GC) by Method ASTM 1946

Analyte	CAS #	Mol. Wt.	RDL	Result	Qualifier	Dilution	Batch
			%	%			
Helium	7440-59-7		1.00	ND		1	WG1065036

Volatile Organic Compounds (MS) by Method TO-15

Analyte	CAS #	Mol. Wt.	RDL1	RDL2	Result	Result	Qualifier	Dilution	Batch
			ppbv	ug/m3	ppbv	ug/m3			
TPH (GC/MS) Low Fraction	8006-61-9	101	6910	28500	46600	192000		1000	WG1065099
Benzene	71-43-2	78.10	0.800	2.56	ND	ND		4	WG1064451
Ethylbenzene	100-41-4	106	0.800	3.47	ND	ND		4	WG1064451
MTBE	1634-04-4	88.10	0.800	2.88	ND	ND		4	WG1064451
Toluene	108-88-3	92.10	0.800	3.01	1.06	4.01		4	WG1064451
m&p-Xylene	1330-20-7	106	1.60	6.94	2.30	9.98		4	WG1064451
o-Xylene	95-47-6	106	0.800	3.47	ND	ND		4	WG1064451
(S) 1,4-Bromofluorobenzene	*460-00-4*	*175*	*60.0-140*		*114*				WG1064451
(S) 1,4-Bromofluorobenzene	*460-00-4*	*175*	*60.0-140*		*100*				WG1065099

Organic Compounds (GC) by Method D1946

Analyte	CAS #	Mol. Wt.	RDL	Result	Qualifier	Dilution	Batch
			%	%			
Oxygen	7782-44-7	32	2.00	14.9		1	WG1065274
Carbon Dioxide	124-38-9	44.01	0.500	1.56		1	WG1065274
Methane	74-82-8	16	0.400	ND		1	WG1065274

Volatile Organic Compounds (GC) by Method ASTM 1946

Analyte	CAS #	Mol. Wt.	RDL	Result	Qualifier	Dilution	Batch
			%	%			
Helium	7440-59-7		1.00	ND		1	WG1065036

Volatile Organic Compounds (MS) by Method TO-15

Analyte	CAS #	Mol. Wt.	RDL1	RDL2	Result	Result	Qualifier	Dilution	Batch
			ppbv	ug/m3	ppbv	ug/m3			
TPH (GC/MS) Low Fraction	8006-61-9	101	100	413	663	2740		2	WG1064451
Benzene	71-43-2	78.10	0.400	1.28	ND	ND		2	WG1064451
Ethylbenzene	100-41-4	106	0.400	1.73	ND	ND		2	WG1064451
MTBE	1634-04-4	88.10	0.400	1.44	ND	ND		2	WG1064451
Toluene	108-88-3	92.10	0.400	1.51	ND	ND		2	WG1064451
m&p-Xylene	1330-20-7	106	0.800	3.47	ND	ND		2	WG1064451
o-Xylene	95-47-6	106	0.400	1.73	ND	ND		2	WG1064451
(S) 1,4-Bromofluorobenzene	*460-00-4*	*175*	*60.0-140*		*100*				WG1064451

Organic Compounds (GC) by Method D1946

Analyte	CAS #	Mol. Wt.	RDL	Result	Qualifier	Dilution	Batch
			%	%			
Oxygen	7782-44-7	32	2.00	15.2		1	WG1065274
Carbon Dioxide	124-38-9	44.01	0.500	2.20		1	WG1065274
Methane	74-82-8	16	0.400	ND		1	WG1065274

Volatile Organic Compounds (GC) by Method ASTM 1946

Analyte	CAS #	Mol. Wt.	RDL	Result	Qualifier	Dilution	Batch
			%	%			
Helium	7440-59-7		1.00	ND		1	WG1065036

Volatile Organic Compounds (MS) by Method TO-15

Analyte	CAS #	Mol. Wt.	RDL1	RDL2	Result	Result	Qualifier	Dilution	Batch
			ppbv	ug/m3	ppbv	ug/m3			
TPH (GC/MS) Low Fraction	8006-61-9	101	100	413	ND	ND		2	WG1064451
Benzene	71-43-2	78.10	0.400	1.28	ND	ND		2	WG1064451
Ethylbenzene	100-41-4	106	0.400	1.73	ND	ND		2	WG1064451
MTBE	1634-04-4	88.10	0.400	1.44	ND	ND		2	WG1064451
Toluene	108-88-3	92.10	0.400	1.51	ND	ND		2	WG1064451
m&p-Xylene	1330-20-7	106	0.800	3.47	ND	ND		2	WG1064451
o-Xylene	95-47-6	106	0.400	1.73	ND	ND		2	WG1064451
(S) 1,4-Bromofluorobenzene	*460-00-4*	*175*	*60.0-140*		*97.4*				WG1064451

Organic Compounds (GC) by Method D1946

Analyte	CAS #	Mol. Wt.	RDL	Result	Qualifier	Dilution	Batch
			%	%			
Oxygen	7782-44-7	32	2.00	16.9		1	WG1065274
Carbon Dioxide	124-38-9	44.01	0.500	1.45		1	WG1065274
Methane	74-82-8	16	0.400	ND		1	WG1065274

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

Volatile Organic Compounds (GC) by Method ASTM 1946

Analyte	CAS #	Mol. Wt.	RDL	Result	Qualifier	Dilution	Batch
			%	%			
Helium	7440-59-7		1.00	ND		1	WG1065036

Volatile Organic Compounds (MS) by Method TO-15

Analyte	CAS #	Mol. Wt.	RDL1	RDL2	Result	Result	Qualifier	Dilution	Batch
			ppbv	ug/m3	ppbv	ug/m3			
TPH (GC/MS) Low Fraction	8006-61-9	101	100	413	475	1960		2	WG1064451
Benzene	71-43-2	78.10	0.400	1.28	ND	ND		2	WG1064451
Ethylbenzene	100-41-4	106	0.400	1.73	ND	ND		2	WG1064451
MTBE	1634-04-4	88.10	0.400	1.44	ND	ND		2	WG1064451
Toluene	108-88-3	92.10	0.400	1.51	ND	ND		2	WG1064451
m&p-Xylene	1330-20-7	106	0.800	3.47	ND	ND		2	WG1064451
o-Xylene	95-47-6	106	0.400	1.73	ND	ND		2	WG1064451
(S) 1,4-Bromofluorobenzene	*460-00-4*	*175*	*60.0-140*		*97.9*				WG1064451

Organic Compounds (GC) by Method D1946

Analyte	CAS #	Mol. Wt.	RDL	Result	Qualifier	Dilution	Batch
			%	%			
Oxygen	7782-44-7	32	2.00	17.7		1	WG1065274
Carbon Dioxide	124-38-9	44.01	0.500	ND		1	WG1065274
Methane	74-82-8	16	0.400	ND		1	WG1065274

Volatile Organic Compounds (GC) by Method ASTM 1946

Analyte	CAS #	Mol. Wt.	RDL	Result	Qualifier	Dilution	Batch
			%	%			
Helium	7440-59-7		1.00	ND		1	WG1065036

Volatile Organic Compounds (MS) by Method TO-15

Analyte	CAS #	Mol. Wt.	RDL1	RDL2	Result	Result	Qualifier	Dilution	Batch
			ppbv	ug/m3	ppbv	ug/m3			
TPH (GC/MS) Low Fraction	8006-61-9	101	100	413	202	832	B	2	WG1064451
Benzene	71-43-2	78.10	0.400	1.28	ND	ND		2	WG1064451
Ethylbenzene	100-41-4	106	0.400	1.73	ND	ND		2	WG1064451
MTBE	1634-04-4	88.10	0.400	1.44	ND	ND		2	WG1064451
Toluene	108-88-3	92.10	0.400	1.51	ND	ND		2	WG1064451
m&p-Xylene	1330-20-7	106	0.800	3.47	ND	ND		2	WG1064451
o-Xylene	95-47-6	106	0.400	1.73	ND	ND		2	WG1064451
(S) 1,4-Bromofluorobenzene	*460-00-4*	*175*	*60.0-140*		*98.6*				WG1064451

Organic Compounds (GC) by Method D1946

Analyte	CAS #	Mol. Wt.	RDL	Result	Qualifier	Dilution	Batch
			%	%			
Oxygen	7782-44-7	32	2.00	17.5		1	WG1065274
Carbon Dioxide	124-38-9	44.01	0.500	ND		1	WG1065274
Methane	74-82-8	16	0.400	ND		1	WG1065274

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

Method Blank (MB)

(MB) R3280852-3 01/22/18 10:01

Analyte	MB Result %	MB Qualifier	MB MDL %	MB RDL %
Helium	U		0.330	1.00

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

(LCS) R3280852-1 01/22/18 09:54 • (LCSD) R3280852-2 01/22/18 09:58

Analyte	Spike Amount %	LCS Result %	LCSD Result %	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Helium	2.50	2.35	2.34	94.0	93.6	70.0-130			0.409	25

Method Blank (MB)

(MB) R3280515-3 01/19/18 10:13

Analyte	MB Result ppbv	MB Qualifier	MB MDL ppbv	MB RDL ppbv
Benzene	U		0.0460	0.200
Ethylbenzene	U		0.0506	0.200
MTBE	U		0.0505	0.200
Toluene	U		0.0499	0.200
m&p-Xylene	U		0.0946	0.400
o-Xylene	U		0.0633	0.200
TPH (GC/MS) Low Fraction	12.4	J	6.91	50.0
(S) 1,4-Bromofluorobenzene	*96.6*			*60.0-140*

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

(LCS) R3280515-1 01/19/18 08:51 • (LCSD) R3280515-2 01/19/18 09:31

Analyte	Spike Amount ppbv	LCS Result ppbv	LCSD Result ppbv	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
MTBE	3.75	4.00	4.03	107	108	70.0-130			0.957	25
Benzene	3.75	4.09	4.10	109	109	70.0-130			0.246	25
Toluene	3.75	4.24	4.24	113	113	70.0-130			0.142	25
Ethylbenzene	3.75	4.31	4.33	115	116	70.0-130			0.586	25
m&p-Xylene	7.50	8.74	8.81	117	117	70.0-130			0.732	25
o-Xylene	3.75	4.32	4.39	115	117	70.0-130			1.59	25
TPH (GC/MS) Low Fraction	176	189	190	107	108	70.0-130			0.451	25
(S) 1,4-Bromofluorobenzene				*99.1*	*101*	*60.0-140*				

Method Blank (MB)

(MB) R3281018-3 01/22/18 10:34

Analyte	MB Result ppbv	MB Qualifier	MB MDL ppbv	MB RDL ppbv
TPH (GC/MS) Low Fraction	U		6.91	50.0
(S) 1,4-Bromofluorobenzene	*97.8*			*60.0-140*

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

(LCS) R3281018-1 01/22/18 09:02 • (LCSD) R3281018-2 01/22/18 09:47

Analyte	Spike Amount ppbv	LCS Result ppbv	LCSD Result ppbv	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
TPH (GC/MS) Low Fraction	176	206	208	117	118	70.0-130			1.10	25
(S) 1,4-Bromofluorobenzene				*100*	*101*	*60.0-140*				

Method Blank (MB)

(MB) R3281095-3 01/23/18 09:12

Analyte	MB Result %	MB Qualifier	MB MDL %	MB RDL %
Oxygen	1.33	J	0.225	2.00
Carbon Dioxide	U		0.121	0.500
Methane	U		0.0584	0.400

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

(LCS) R3281095-1 01/23/18 08:49 • (LCSD) R3281095-2 01/23/18 09:05

Analyte	Spike Amount %	LCS Result %	LCSD Result %	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Oxygen	2.50	2.77	2.67	111	107	70.0-130			3.70	20
Carbon Dioxide	2.50	2.63	2.68	105	107	70.0-130			2.07	20
Methane	2.00	2.08	2.14	104	107	70.0-130			3.14	20

Guide to Reading and Understanding Your Laboratory Report

The information below is designed to better explain the various terms used in your report of analytical results from the Laboratory. This is not intended as a comprehensive explanation, and if you have additional questions please contact your project representative.

Abbreviations and Definitions

MDL	Method Detection Limit.
ND	Not detected at the Reporting Limit (or MDL where applicable).
RDL	Reported Detection Limit.
Rec.	Recovery.
RPD	Relative Percent Difference.
SDG	Sample Delivery Group.
(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.
U	Not detected at the Reporting Limit (or MDL where applicable).
Analyte	The name of the particular compound or analysis performed. Some Analyses and Methods will have multiple analytes reported.
Dilution	If the sample matrix contains an interfering material, or if concentrations of analytes in the sample are higher than the highest limit of concentration that the laboratory can accurately report, the sample may be diluted for analysis. If a value different than 1 is used in this field, the result reported has already been corrected for this factor.
Limits	These are the target % recovery ranges or % difference value that the laboratory has historically determined as normal for the method and analyte being reported. Successful QC Sample analysis will target all analytes recovered or duplicated within these ranges.
Qualifier	This column provides a letter and/or number designation that corresponds to additional information concerning the result reported. If a Qualifier is present, a definition per Qualifier is provided within the Glossary and Definitions page and potentially a discussion of possible implications of the Qualifier in the Case Narrative if applicable.
Result	The actual analytical final result (corrected for any sample specific characteristics) reported for your sample. If there was no measurable result returned for a specific analyte, the result in this column may state “ND” (Not Detected) or “BDL” (Below Detectable Levels). The information in the results column should always be accompanied by either an MDL (Method Detection Limit) or RDL (Reporting Detection Limit) that defines the lowest value that the laboratory could detect or report for this analyte.
Case Narrative (Cn)	A brief discussion about the included sample results, including a discussion of any non-conformances to protocol observed either at sample receipt by the laboratory from the field or during the analytical process. If present, there will be a section in the Case Narrative to discuss the meaning of any data qualifiers used in the report.
Quality Control Summary (Qc)	This section of the report includes the results of the laboratory quality control analyses required by procedure or analytical methods to assist in evaluating the validity of the results reported for your samples. These analyses are not being performed on your samples typically, but on laboratory generated material.
Sample Chain of Custody (Sc)	This is the document created in the field when your samples were initially collected. This is used to verify the time and date of collection, the person collecting the samples, and the analyses that the laboratory is requested to perform. This chain of custody also documents all persons (excluding commercial shippers) that have had control or possession of the samples from the time of collection until delivery to the laboratory for analysis.
Sample Results (Sr)	This section of your report will provide the results of all testing performed on your samples. These results are provided by sample ID and are separated by the analyses performed on each sample. The header line of each analysis section for each sample will provide the name and method number for the analysis reported.
Sample Summary (Ss)	This section of the Analytical Report defines the specific analyses performed for each sample ID, including the dates and times of preparation and/or analysis.

Qualifier	Description
B	The same analyte is found in the associated blank.
J	The identification of the analyte is acceptable; the reported value is an estimate.

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

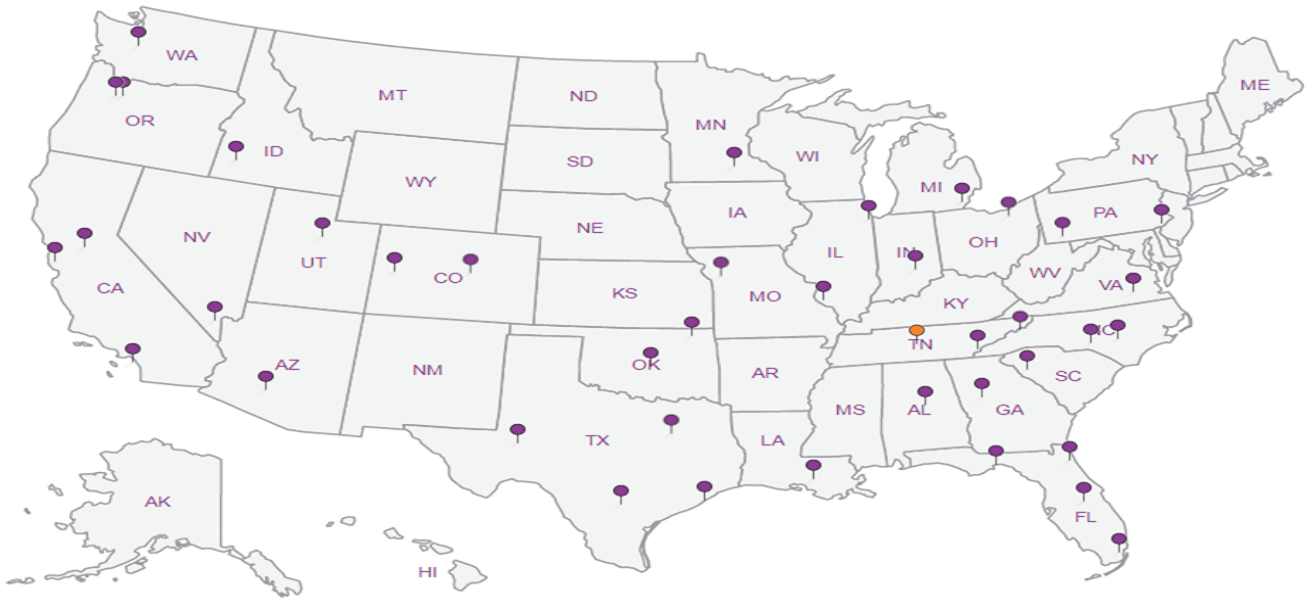
Third Party Federal Accreditations

A2LA – ISO 17025	1461.01	AIHA-LAP,LLC	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.



Company Name/Address:
AEI Consultants
2500 Camino Diablo, Walnut Creek, CA, 94597

Billing Information:
Same as company name

Report to: **jday@aeiconsultants.com**

Email To: **whix@aeiconsultants.com**

Project Description: 3442 Adeline Street,

City/State Collected: Oakland, California

Phone: **925-746-6050**
Fax:

Client Project # **281939**

Lab Project #

Collected by (print): William B Hix

Site/Facility ID #

P.O. # **151749**

Collected by (signature):

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

Date Results Needed
Five Days from recieved

Email? ___No ✓Yes
FAX? ___No ___Yes

Canister Pressure/Vacuum

Analysis
- BTEX, MTBE and TPH-g by TO-15
- Helium, oxygen, CO2 and methane by ASTM D 1946

Chain of Custody Page ___ of ___

ESC LAB SCIENCES
a subsidiary of Pace Analytical

12065 Lebanon Rd
Mount Juliet, TN 37122
Phone: 615-758-5858
Phone: 800-767-5859
Fax: 615-758-5859

L# 961179
T M185
Acctnum:
Template:
Prelogin:
TSR:
PB:
Shipped Via:

Sample ID	Sample Description	Can #	Date	Time	Initial	Final	BTEX, MTBE and TPH-g by TO-15	Helium, oxygen, CO2 and methane by ASTM D 1946			Rem./Contaminant	Sample # (lab only)
VB-4		7337	1/18/18	1218	-28	-5	X	X				01
VB-5		5446	1/18/18	0915	-29	-5	X	X				02
VB-7		7363	1/17/18	1535	-26	-5						03
VB-9		6586	1/17/18	1316	-29	-5	X	X				04
VB-10		8942	1/17/18	1635	-26	-5	X	X				05
VB-12		5370	1/17/18	1219	-30+	-5	X	X				06
VB-12DUP		7281	1/17/18	1218	-30	-5	X	X				07
VB-14		5733	1/17/18	1055	-26	-25	X	X				08
VB-16		5156	1/17/18	1005	-24	-5	X	X				09
VB-17		7909	1/17/18	0934	-30+	-5	X	X				10

Remarks: **Results five days from received** 4/99 3258 1064

Hold #

Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)	Samples returned via: ☐ UPS ☐ FedEx ☐ Courier ☐ ____	Condition: (lab use only)
	1/18/17	1500			
Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)	Temp: AMB °C Bottles Received: 14	COC Seal Intact: ___Y ___N ___NA
Relinquished by : (Signature)	Date:	Time:	Received for lab by: (Signature)	Date: 1/19/18 Time: 845	pH Checked: / NCF:

Company Name/Address:	Billing Information:	Analysis				Chain of Custody Page ___ of ___
AEI Consultants **2500 Camino Diablo, Walnut Creek, CA, 94597**	**Same as company name**	BTEX, MTBE and TPH-g by TO-15	Helium, oxygen, CO2 and methane by ASTM D 1946			ESC LABORATORY SCIENCES 12065 Lebanon Rd Mount Juliet, TN 37122 Phone: 615-758-5858 Phone: 800-767-5859 Fax: 615-758-5859
Report to: **jday@aeiconsultants.com**	Email To: **whix@aeiconsultants.com**					
Project Description: 3442 Adeline Street,	City/State Collected: Oakland, California					
Phone: **925-746-6050** Fax:	Client Project # **281939**	Lab Project #				L# 964179
Collected by (print): William B Hix	Site/Facility ID #	P.O. # **151749**				Table #
Collected by (signature): William B Hix	***Rush?*** (Lab MUST Be Notified) ___ Same Day .....200% ___ Next Day .....100% ___ Two Day .....50% ___ Three Day 25%	Date Results Needed: Five Days from recieved Email? ___No ✓Yes FAX? ___No ___Yes	Canister Pressure/Vacuum			Acctnum: Template: Prelogin: TSR: PB:

Sample ID	Sample Description	Can #	Date	Time	Initial	Final					Shipped Via: Rem./Contaminant	Sample # (lab only)
VB-18		5728	1/17/18	0918	-30+	-5	X	X				11
VB-~~19~~ 20		~~1965~~ 5774	1/18/18	1127	-30+	-5	X	X				12
VB-21		5837	1/17/18	1553	-30	-5	X	X				13
VB-22		5506	1/17/18	1408	-29.5	-5	X	X				14

Remarks: **Results five days from received**

Hold #

Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)	Samples returned via: ☐ UPS ☑ FedEx ☐ Courier ☐ ____	Condition: (lab use only)
William B Hix	1/18/18	1500			02
Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)	Temp: A°nB °C Bottles Received: 14	COC Seal Intact: ___Y ___N ✓NA
Relinquished by : (Signature)	Date:	Time:	Received for lab by: (Signature)	Date: 1/17/18 Time: 845	pH Checked: NCF:

ESC LAB SCIENCES
Cooler Receipt Form

Client: AEFLOWLLA	SDG#	96479
Cooler Received/Opened On: 1/19/18	Temperature:	AMB °C
Received by : Christian Kacar		
Signature:		

Receipt Check List	NP	Yes	No
COC Seal Present / Intact?	✓		
COC Signed / Accurate?		✓	
Bottles arrive intact?		✓	
Correct bottles used?		✓	
Sufficient volume sent?		✓	
If Applicable			
VOA Zero headspace?			
Preservation Correct / Checked?			

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2/1/2018
Mr. William Banker-Hix
AEI Consultants, Inc.
2500 Camino Diablo
Suite 200
Walnut Creek CA 94597

Project Name: Zimmerman
Project #: 281939
Workorder #: 1801309

Dear Mr. William Banker-Hix

The following report includes the data for the above referenced project for sample(s) received on 1/22/2018 at Air Toxics Ltd.

The data and associated QC analyzed by Modified TO-17 are compliant with the project requirements or laboratory criteria with the exception of the deviations noted in the attached case narrative.

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

Regards,

Rachel Selenis

Project Manager

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WORK ORDER #: 1801309

Work Order Summary

CLIENT:	Mr. William Banker-Hix AEI Consultants, Inc. 2500 Camino Diablo Suite 200 Walnut Creek, CA 94597	**BILL TO:**	Accounts Payable- Walnut Creek AEI Consultants, Inc. 2500 Camino Diablo Suite 200 Walnut Creek, CA 94597
PHONE:	925-283-6000	**P.O. #**	151748
FAX:	925-283-6121	**PROJECT #**	281939 Zimmerman
DATE RECEIVED:	01/22/2018	**CONTACT:**	Rachel Selenis
DATE COMPLETED:	01/30/2018		

FRACTION #	NAME	TEST
01A	VB-4	Modified TO-17
02A	VB-5	Modified TO-17
03A	VB-7	Modified TO-17
04A	VB-9	Modified TO-17
05A	VB-10	Modified TO-17
06A	VB-12	Modified TO-17
07A	VB-12DUP	Modified TO-17
08A(cancelled)	VB-14	Modified TO-17
09A	VB-16	Modified TO-17
10A	VB-17	Modified TO-17
11A	VB-18	Modified TO-17
12A	VB-20	Modified TO-17
13A	VB-21	Modified TO-17
14A	VB-22	Modified TO-17
15A	Lab Blank	Modified TO-17
16A	CCV	Modified TO-17
17A	LCS	Modified TO-17
17AA	LCSD	Modified TO-17

CERTIFIED BY:  DATE: 02/01/18

Technical Director

Certification numbers: AZ Licensure AZ0775, NJ NELAP - CA016, NY NELAP - 11291,
TX NELAP - T104704434-16-11, UT NELAP CA0093332016-7, VA NELAP - 8113, WA NELAP - C935
Name of Accreditation Body: NELAP/ORELAP (Oregon Environmental Laboratory Accreditation Program)
Accreditation number: CA300005, Effective date: 10/18/2016, Expiration date: 10/17/2017.
Eurofins Air Toxics Inc.. certifies that the test results contained in this report meet all requirements of the NELAC standards

LABORATORY NARRATIVE
Modified EPA Method TO-17 (VI Tubes)
AEI Consultants, Inc.
Workorder# 1801309

Fourteen TO-17 VI Tube samples were received on January 22, 2018. The laboratory performed the analysis via modified EPA Method TO-17 using GC/MS in the full scan mode. TO-17 'VI' sorbent tubes are thermally desorbed onto a secondary trap. The trap is thermally desorbed to elute the components into the GC/MS system for compound separation and detection.

A modification that may be applied to EPA Method TO-17 at the client's discretion is the requirement to transport sorbent tubes at 4 deg C. Laboratory studies demonstrate a high level of stability for VOCs on the TO-17 'VI' tube at room temperature for periods of up to 14 days. Tubes can be shipped to and from the field site at ambient conditions as long as the 14-day sample hold time is upheld. Trip blanks and field surrogate spikes are used as additional control measures to monitor recovery and background contribution during tube transport.

Since the TO-17 VI application significantly extends the scope of target compounds addressed in EPA Method TO-15 and TO-17, the laboratory has implemented several method modifications outlined in the table below. Specific project requirements may over-ride the laboratory modifications.

Requirement	***TO-17***	***ATL Modifications***
Distributed Volume Pairs	Collection of distributed volume pairs required for monitoring ambient air to insure high quality.	If site is well-characterized or performance previously verified, single tube sampling may be appropriate. Distributed pairs may be impractical for soil gas collection due to configuration and volume constraints.

Receiving Notes

The number of samples received did not match the information on the Chain of Custody (COC). Sample VB-14 was not received at Eurofins Air Toxics, Inc. despite notation on the COC.

Sample VB-14 was cancelled on 01/23/18 per client's request.

Analytical Notes

A sampling volume of 0.06 L was used to convert ng to ug/m3 for the associated Lab Blank.

Definition of Data Qualifying Flags

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

B - Compound present in blank (subtraction not performed).
J - Estimated value.
E - Exceeds instrument calibration range.
S - Saturated peak.
Q - Exceeds quality control limits.
U - Compound analyzed for but not detected above the reporting limit, LOD, or MDL value. See data page for project specific U-flag definition.
UJ- Non-detected compound associated with low bias in the CCV
N - The identification is based on presumptive evidence.

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

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

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Summary of Detected Compounds
MODIFIED METHOD TO-17

Client Sample ID: VB-4

Lab ID#: 1801309-01A

No Detections Were Found.

Client Sample ID: VB-5

Lab ID#: 1801309-02A

No Detections Were Found.

Client Sample ID: VB-7

Lab ID#: 1801309-03A

No Detections Were Found.

Client Sample ID: VB-9

Lab ID#: 1801309-04A

No Detections Were Found.

Client Sample ID: VB-10

Lab ID#: 1801309-05A

No Detections Were Found.

Client Sample ID: VB-12

Lab ID#: 1801309-06A

No Detections Were Found.

Client Sample ID: VB-12DUP

Lab ID#: 1801309-07A

No Detections Were Found.

Client Sample ID: VB-16

Lab ID#: 1801309-09A

No Detections Were Found.

Client Sample ID: VB-17

Lab ID#: 1801309-10A

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Summary of Detected Compounds
MODIFIED METHOD TO-17

Client Sample ID: VB-17

Lab ID#: 1801309-10A

No Detections Were Found.

Client Sample ID: VB-18

Lab ID#: 1801309-11A

No Detections Were Found.

Client Sample ID: VB-20

Lab ID#: 1801309-12A

No Detections Were Found.

Client Sample ID: VB-21

Lab ID#: 1801309-13A

No Detections Were Found.

Client Sample ID: VB-22

Lab ID#: 1801309-14A

No Detections Were Found.

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Client Sample ID: VB-4

Lab ID#: 1801309-01A

MODIFIED METHOD TO-17

File Name:	**18012507**	**Date of Extraction: NA**	**Date of Collection: 1/18/18 12:19:00 PM**
Dil. Factor:	**1.00**		**Date of Analysis: 1/25/18 11:05 AM**

Compound	Rpt. Limit (ng)	Rpt. Limit (ug/m3)	Amount (ng)	Amount (ug/m3)
Naphthalene	5.0	83	Not Detected	Not Detected

Air Sample Volume(L): 0.0600

Container Type: TO-17 Tube (Tenax-TA)

Surrogates	%Recovery	Method Limits
Naphthalene-d8	136	50-150

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Client Sample ID: VB-5

Lab ID#: 1801309-02A

MODIFIED METHOD TO-17

File Name:	**18012508**	**Date of Extraction: NA**	**Date of Collection: 1/18/18 9:16:00 AM**
Dil. Factor:	**1.00**		**Date of Analysis: 1/25/18 11:48 AM**

Compound	Rpt. Limit (ng)	Rpt. Limit (ug/m3)	Amount (ng)	Amount (ug/m3)
Naphthalene	5.0	83	Not Detected	Not Detected

Air Sample Volume(L): 0.0600

Container Type: TO-17 Tube (Tenax-TA)

Surrogates	%Recovery	Method Limits
Naphthalene-d8	128	50-150

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Client Sample ID: VB-7

Lab ID#: 1801309-03A

MODIFIED METHOD TO-17

File Name:	**18012509**	**Date of Extraction: NA**	**Date of Collection: 1/17/18 3:36:00 PM**
Dil. Factor:	**1.00**		**Date of Analysis: 1/25/18 12:32 PM**

Compound	Rpt. Limit (ng)	Rpt. Limit (ug/m3)	Amount (ng)	Amount (ug/m3)
Naphthalene	5.0	83	Not Detected	Not Detected

Air Sample Volume(L): 0.0600

Container Type: TO-17 Tube (Tenax-TA)

Surrogates	%Recovery	Method Limits
Naphthalene-d8	115	50-150

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Client Sample ID: VB-9
Lab ID#: 1801309-04A
MODIFIED METHOD TO-17

File Name:	**18012511**	**Date of Extraction: NA**	**Date of Collection: 1/17/18 1:17:00 PM**
Dil. Factor:	**1.00**		**Date of Analysis: 1/25/18 02:17 PM**

Compound	Rpt. Limit (ng)	Rpt. Limit (ug/m3)	Amount (ng)	Amount (ug/m3)
Naphthalene	5.0	83	Not Detected	Not Detected

Air Sample Volume(L): 0.0600
Container Type: TO-17 Tube (Tenax-TA)

Surrogates	%Recovery	Method Limits
Naphthalene-d8	134	50-150

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Client Sample ID: VB-10

Lab ID#: 1801309-05A

MODIFIED METHOD TO-17

File Name:	**18012512**	**Date of Extraction: NA**	**Date of Collection: 1/17/18 4:35:00 PM**
Dil. Factor:	**1.00**		**Date of Analysis: 1/25/18 03:00 PM**

Compound	Rpt. Limit (ng)	Rpt. Limit (ug/m3)	Amount (ng)	Amount (ug/m3)
Naphthalene	5.0	83	Not Detected	Not Detected

Air Sample Volume(L): 0.0600

Container Type: TO-17 Tube (Tenax-TA)

Surrogates	%Recovery	Method Limits
Naphthalene-d8	114	50-150

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Client Sample ID: VB-12

Lab ID#: 1801309-06A

MODIFIED METHOD TO-17

File Name:	**18012513**	**Date of Extraction: NA**	**Date of Collection: 1/17/18 12:19:00 PM**
Dil. Factor:	**1.00**		**Date of Analysis: 1/25/18 03:43 PM**

Compound	Rpt. Limit (ng)	Rpt. Limit (ug/m3)	Amount (ng)	Amount (ug/m3)
Naphthalene	5.0	83	Not Detected	Not Detected

Air Sample Volume(L): 0.0600

Container Type: TO-17 Tube (Tenax-TA)

Surrogates	%Recovery	Method Limits
Naphthalene-d8	131	50-150

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Client Sample ID: VB-12DUP

Lab ID#: 1801309-07A

MODIFIED METHOD TO-17

File Name:	**18012514**	**Date of Extraction: NA**	**Date of Collection: 1/17/18 12:18:00 PM**
Dil. Factor:	**1.00**		**Date of Analysis: 1/25/18 04:26 PM**

Compound	Rpt. Limit (ng)	Rpt. Limit (ug/m3)	Amount (ng)	Amount (ug/m3)
Naphthalene	5.0	83	Not Detected	Not Detected

Air Sample Volume(L): 0.0600

Container Type: TO-17 Tube (Tenax-TA)

Surrogates	%Recovery	Method Limits
Naphthalene-d8	130	50-150

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Client Sample ID: VB-16

Lab ID#: 1801309-09A

MODIFIED METHOD TO-17

File Name:	**18012515**	**Date of Extraction: NA**	**Date of Collection: 1/17/18 10:05:00 AM**
Dil. Factor:	**1.00**		**Date of Analysis: 1/25/18 05:09 PM**

Compound	Rpt. Limit (ng)	Rpt. Limit (ug/m3)	Amount (ng)	Amount (ug/m3)
Naphthalene	5.0	83	Not Detected	Not Detected

Air Sample Volume(L): 0.0600

Container Type: TO-17 Tube (Tenax-TA)

Surrogates	%Recovery	Method Limits
Naphthalene-d8	113	50-150

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Client Sample ID: VB-17

Lab ID#: 1801309-10A

MODIFIED METHOD TO-17

File Name:	**18012516**	**Date of Extraction: NA**	**Date of Collection: 1/17/18 9:34:00 AM**
Dil. Factor:	**1.00**		**Date of Analysis: 1/25/18 05:52 PM**

Compound	Rpt. Limit (ng)	Rpt. Limit (ug/m3)	Amount (ng)	Amount (ug/m3)
Naphthalene	5.0	83	Not Detected	Not Detected

Air Sample Volume(L): 0.0600

Container Type: TO-17 Tube (Tenax-TA)

Surrogates	%Recovery	Method Limits
Naphthalene-d8	117	50-150

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Client Sample ID: VB-18

Lab ID#: 1801309-11A

MODIFIED METHOD TO-17

File Name:	**18012517**	**Date of Extraction: NA**	**Date of Collection: 1/17/18 9:18:00 AM**
Dil. Factor:	**1.00**		**Date of Analysis: 1/25/18 06:35 PM**

Compound	Rpt. Limit (ng)	Rpt. Limit (ug/m3)	Amount (ng)	Amount (ug/m3)
Naphthalene	5.0	83	Not Detected	Not Detected

Air Sample Volume(L): 0.0600

Container Type: TO-17 Tube (Tenax-TA)

Surrogates	%Recovery	Method Limits
Naphthalene-d8	131	50-150

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Client Sample ID: VB-20

Lab ID#: 1801309-12A

MODIFIED METHOD TO-17

File Name:	**18012518**	**Date of Extraction: NA**	**Date of Collection: 1/18/18 11:27:00 AM**
Dil. Factor:	**1.00**		**Date of Analysis: 1/25/18 07:18 PM**

Compound	Rpt. Limit (ng)	Rpt. Limit (ug/m3)	Amount (ng)	Amount (ug/m3)
Naphthalene	5.0	83	Not Detected	Not Detected

Air Sample Volume(L): 0.0600

Container Type: TO-17 Tube (Tenax-TA)

Surrogates	%Recovery	Method Limits
Naphthalene-d8	120	50-150

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Client Sample ID: VB-21

Lab ID#: 1801309-13A

MODIFIED METHOD TO-17

File Name:	**18012519**	**Date of Extraction: NA**	**Date of Collection: 1/17/17 3:53:00 PM**
Dil. Factor:	**1.00**		**Date of Analysis: 1/25/18 08:00 PM**

Compound	Rpt. Limit (ng)	Rpt. Limit (ug/m3)	Amount (ng)	Amount (ug/m3)
Naphthalene	5.0	83	Not Detected	Not Detected

Air Sample Volume(L): 0.0600

Container Type: TO-17 Tube (Tenax-TA)

Surrogates	%Recovery	Method Limits
Naphthalene-d8	105	50-150

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Client Sample ID: VB-22

Lab ID#: 1801309-14A

MODIFIED METHOD TO-17

File Name:	**18012520**	**Date of Extraction: NA**	**Date of Collection: 1/17/17 2:08:00 PM**
Dil. Factor:	**1.00**		**Date of Analysis: 1/25/18 08:43 PM**

Compound	Rpt. Limit (ng)	Rpt. Limit (ug/m3)	Amount (ng)	Amount (ug/m3)
Naphthalene	5.0	83	Not Detected	Not Detected

Air Sample Volume(L): 0.0600

Container Type: TO-17 Tube (Tenax-TA)

Surrogates	%Recovery	Method Limits
Naphthalene-d8	111	50-150

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Client Sample ID: Lab Blank

Lab ID#: 1801309-15A

MODIFIED METHOD TO-17

File Name:	**18012506**	**Date of Extraction: NA**	**Date of Collection: NA**
Dil. Factor:	**1.00**		**Date of Analysis: 1/25/18 09:33 AM**

Compound	Rpt. Limit (ng)	Rpt. Limit (ug/m3)	Amount (ng)	Amount (ug/m3)
Naphthalene	5.0	83	Not Detected	Not Detected

Air Sample Volume(L): 0.0600

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
Naphthalene-d8	107	50-150

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Client Sample ID: CCV
Lab ID#: 1801309-16A
MODIFIED METHOD TO-17

File Name:	**18012502**	**Date of Extraction: NA**	**Date of Collection: NA**
Dil. Factor:	**1.00**		**Date of Analysis: 1/25/18 04:54 AM**

Compound	%Recovery
Naphthalene	105

Air Sample Volume(L): 1.00
Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
Naphthalene-d8	111	50-150

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Client Sample ID: LCS
Lab ID#: 1801309-17A
MODIFIED METHOD TO-17

File Name:	**18012503**	**Date of Extraction: NA**	**Date of Collection: NA**
Dil. Factor:	**1.00**		**Date of Analysis: 1/25/18 07:13 AM**

Compound	%Recovery	Method Limits
Naphthalene	128	70-130

Air Sample Volume(L): 1.00
Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
Naphthalene-d8	115	50-150

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Client Sample ID: LCSD
Lab ID#: 1801309-17AA
MODIFIED METHOD TO-17

File Name:	**18012504**	**Date of Extraction: NA**	**Date of Collection: NA**
Dil. Factor:	**1.00**		**Date of Analysis: 1/25/18 08:05 AM**

Compound	%Recovery	Method Limits
Naphthalene	130	70-130

Air Sample Volume(L): 1.00
Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
Naphthalene-d8	113	50-150

TO-17 SAMPLE COLLECTION

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CHAIN-OF-CUSTODY RECORD

Sample Transportation Notice
Relinquishing signature on this document indicates that sample is being shipped in compliance with all applicable local, State, Federal, national, and international laws, regulations and ordinances of any kind. Eurofins assumes no liability with respect to the collection, handling or shipping of these samples. Relinquishing signature also indicates agreement to hold harmless, defend, and indemnify Eurofins against any claim, demand, or action, of any kind, related to the collection, handling, or shipping of samples. D.O.T. Hotline (800) 467-4922.

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FOLSOM, CA 95630
(916) 985-1000 FAX (916) 985-1020

Page ____ of ____

Project Manager Jaqueline Day
Collected by: (Print and Sign) William B Hir
Company AEI Consultants Email Jday@aeiconsultants.com
Address 2500 Camino Diablo City Walnut Creek State CA Zip 94595
Phone 925-746-6000 Fax

Project Info:
P.O. # 151748
Project # 281939
Project Name Zimmerman

Turn Around Time: ☒ Normal ☐ Rush (specify)

Reporting Units: ☐ ppmv ☐ ppbv ☒ µg/m3 ☐ mg/m3

	Lab I.D.	Field Sample I.D. (Location)	Engraved or Stamped Tube #	Date of Collection (mm/dd/yy)	Start Time (hr : min)	Date of Retrieval (mm/dd/yy)	End Time (hr : min)	Pre-Test Flow Rate	Post-Test Flow Rate	Volume	Indoor Air	Outdoor Air	Soil Vapor	Other ( )
01A	VB-4			1/18/18	1219	1/18/18				60mL	☐	☐	☒	☐
02A	VB-5			1/18/18	0916	1/18/18				60mL	☐	☐	☒	☐
03A	VB-7			1/17/18	1536	1/17/18				60mL	☐	☐	☒	☐
04A	VB-9			1/17/18	1317	1/17/18				60mL	☐	☐	☒	☐
05A	VB-10			1/17/18	1635	1/17/18				60mL	☐	☐	☒	☐
06A	VB-12			1/17/18	1219	1/17/18				60mL	☐	☐	☒	☐
07A	VB-12Dup			1/17/18	1218	1/17/18				60mL	☐	☐	☒	☐
08A	VB-14			1/17/18	1055	1/17/18				60mL	☐	☐	☒	☐
09A	VB-16			1/17/18	1005	1/17/18				60mL	☐	☐	☒	☐
10A	VB-17			1/17/18	0934	1/17/18				60mL	☐	☐	☒	☐

Relinquished by: (signature) Date/Time: William B Hir 1/22/18
Relinquished by: (signature) Date/Time:
Relinquished by: (signature) Date/Time:

Received by: (signature) Date/Time: 1-22-18 1100
Received by: (signature) Date/Time:
Received by: (signature) Date/Time:

Notes:
Labeled tubes not on COC were not sampled or water got into sampling manifold

Lab Use Only	Shipper Name	Air Bill #	Temp (°C)	Condition	Custody Seals Intact?	Work Order #
	FAh		4°C	Good	Yes No (None)	1801309

TO-17 SAMPLE COLLECTION

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CHAIN-OF-CUSTODY RECORD

Sample Transportation Notice
Relinquishing signature on this document indicates that sample is being shipped in compliance with all applicable local, State, Federal, national, and international laws, regulations and ordinances of any kind. Eurofins assumes no liability with respect to the collection, handling or shipping of these samples. Relinquishing signature also indicates agreement to hold harmless, defend, and indemnify Eurofins against any claim, demand, or action, of any kind, related to the collection, handling, or shipping of samples. D.O.T. Hotline (800) 467-4922.

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FOLSOM, CA 95630
(916) 985-1000 FAX (916) 985-1020

Page ____ of ____

Project Manager Jacqueline Day
Collected by: (Print and Sign) William B Hix
Company AEI Consultants Email jday@aeiconsultants.com
Address 2500 Camino Diablo City Walnut Creek State CA Zip 94595
Phone 925-746-6000 Fax

Project Info:
P.O. # 151748
Project # 281939
Project Name Zimmerman

Turn Around Time: ☒ Normal ☐ Rush ____ specify

Reporting Units: ☐ ppmv ☐ ppbv ☒ µg/m3 ☐ mg/m3

	Lab I.D.	Field Sample I.D. (Location)	Engraved or Stamped Tube #	Date of Collection (mm/dd/yy)	Start Time (hr : min)	Date of Retrieval (mm/dd/yy)	End Time (hr : min)	Pre-Test Flow Rate	Post-Test Flow Rate	Volume	Indoor Air	Outdoor Air	Soil Vapor	Other ( )
11A	VB-18			1/17/18	0918	1/17/18				60mL	☐	☐	☒	☐
12A	VB-~~19~~20			1/18/18	1127	1/18/18				60mL	☐	☐	☒	☐
13A	VB-21			1/17/18	1553	1/18/18				60mL	☐	☐	☒	☐
14A	VB-22			1/17/18	1408	1/17/18				60mL	☐	☐	☒	☐
											☐	☐	☐	☐
											☐	☐	☐	☐
											☐	☐	☐	☐
											☐	☐	☐	☐
											☐	☐	☐	☐
											☐	☐	☐	☐
											☐	☐	☐	☐

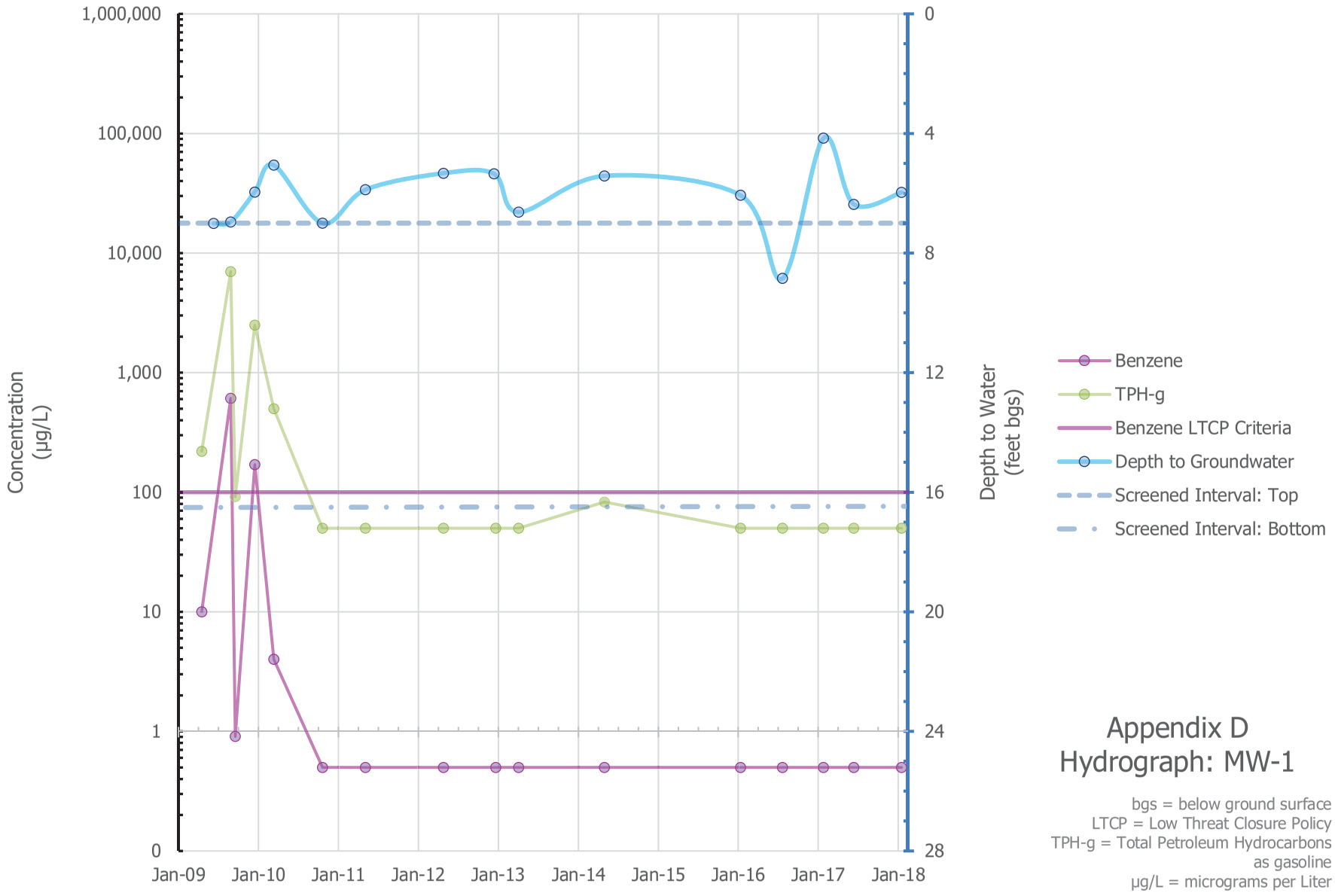
Relinquished by: (signature) William B Hix Date/Time 1/22/18
Received by: (signature) [signature] Date/Time 1-22-18 1100
Relinquished by: (signature) Date/Time
Received by: (signature) Date/Time
Relinquished by: (signature) Date/Time
Received by: (signature) Date/Time

Notes:
Labelrd tubes not on COC were not sampled and should not be ran

Lab Use Only	Shipper Name	Air Bill #	Temp (°C)	Condition	Custody Seals Intact?	Work Order #
	FedEx		4.8°C	Good	Yes No (None)	1801309

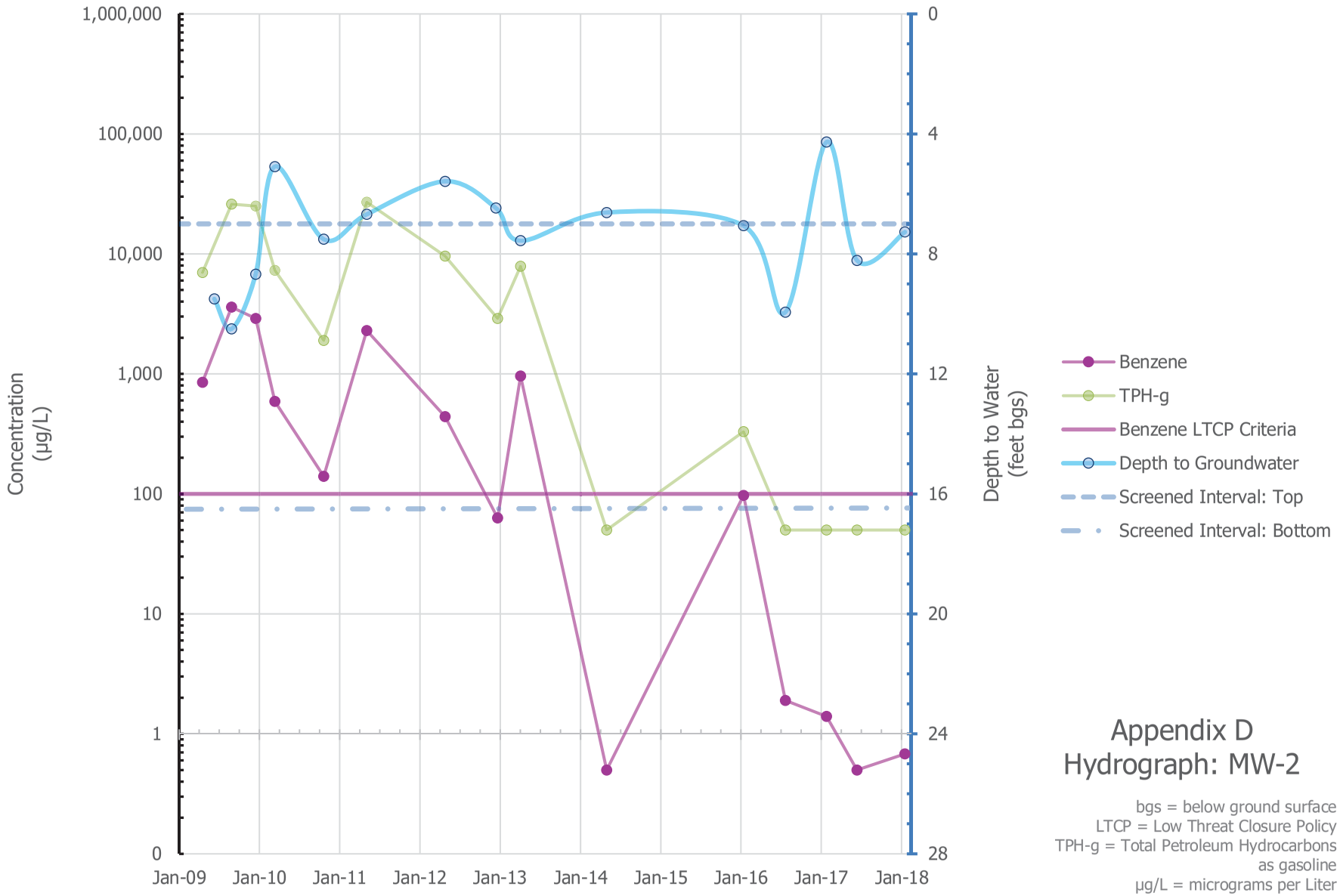
APPENDIX D

HYDROGRAPHS



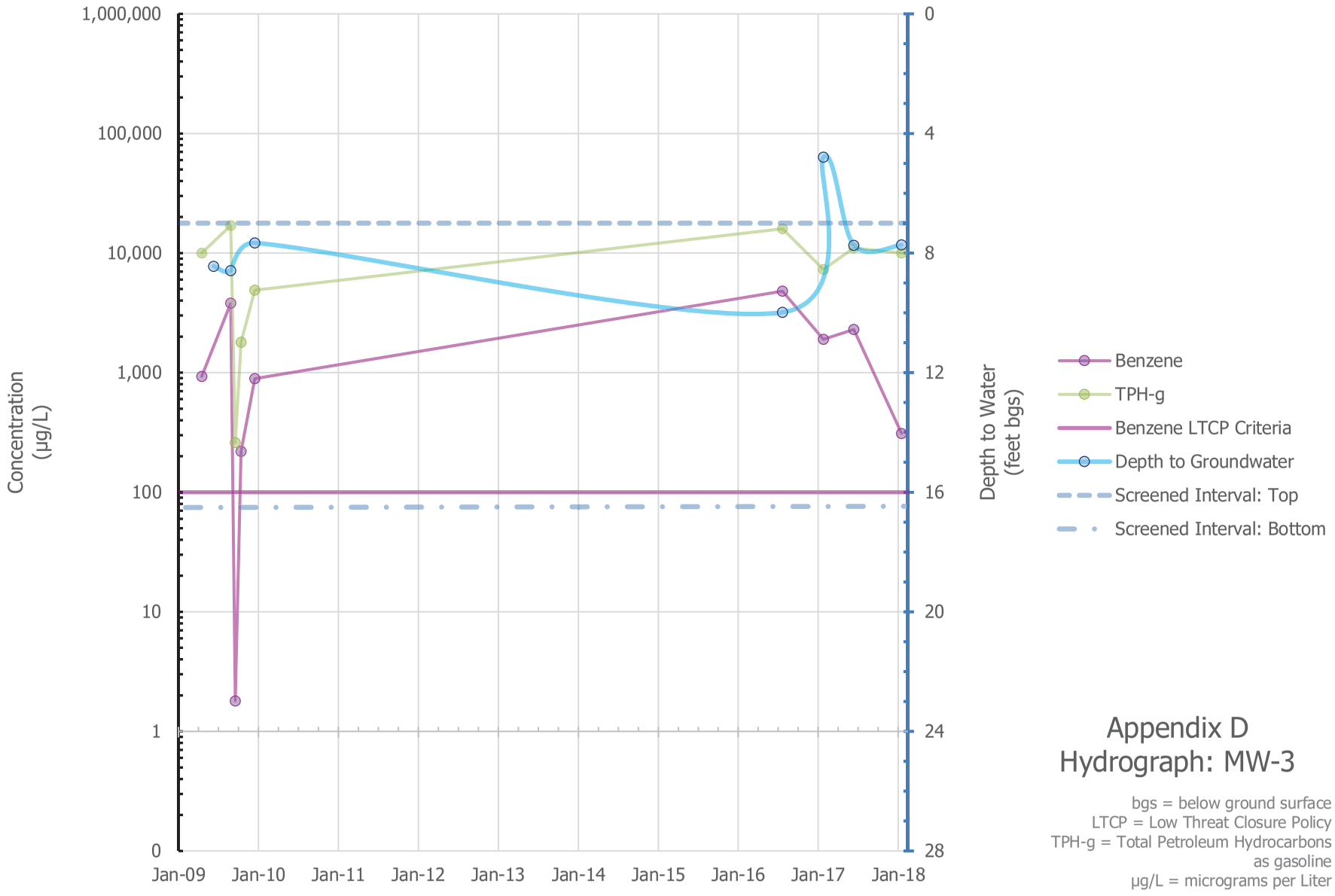
Appendix D
Hydrograph: MW-1

bgs = below ground surface
LTCP = Low Threat Closure Policy
TPH-g = Total Petroleum Hydrocarbons as gasoline
µg/L = micrograms per Liter



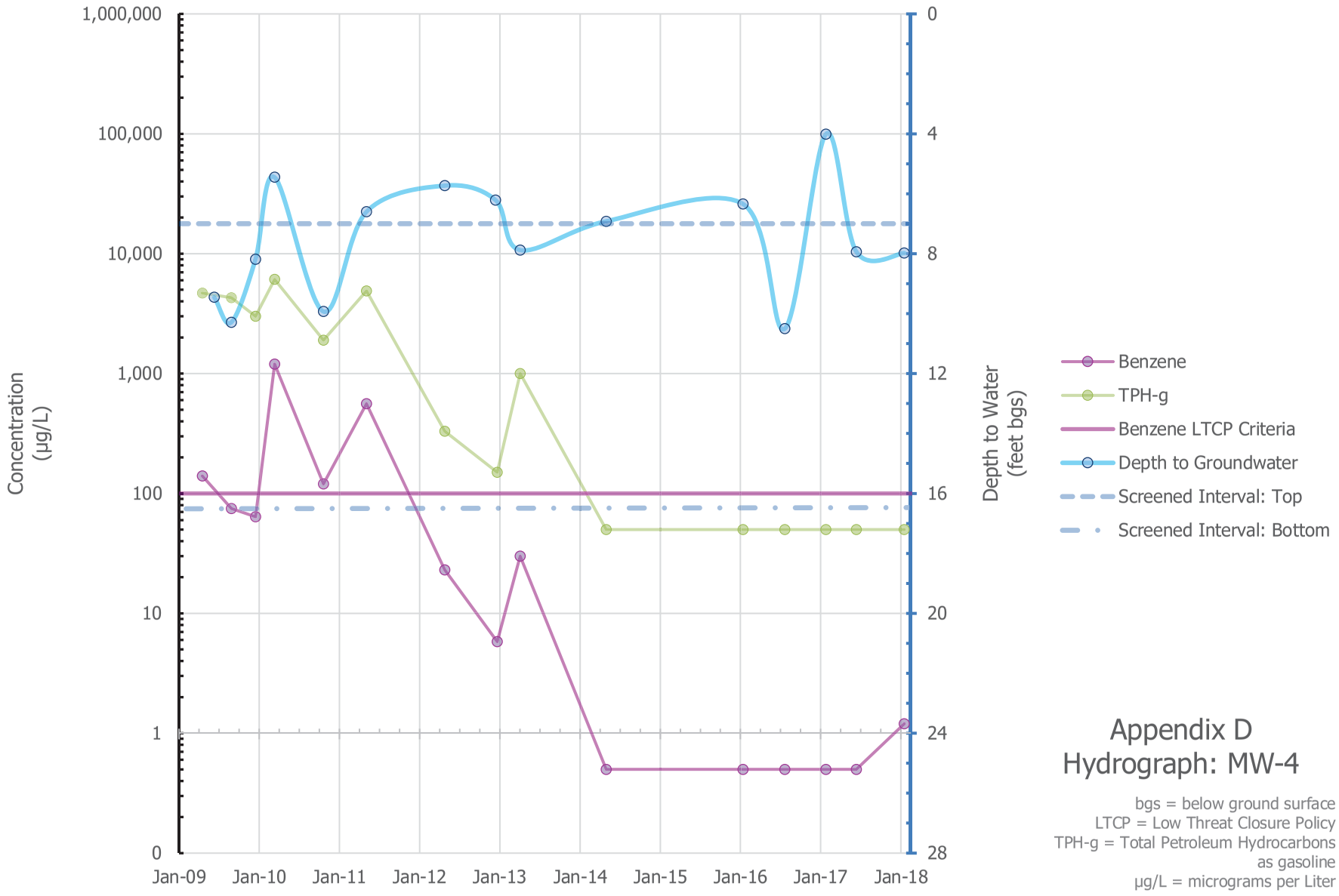
Appendix D
Hydrograph: MW-2

bgs = below ground surface
LTCP = Low Threat Closure Policy
TPH-g = Total Petroleum Hydrocarbons as gasoline
µg/L = micrograms per Liter



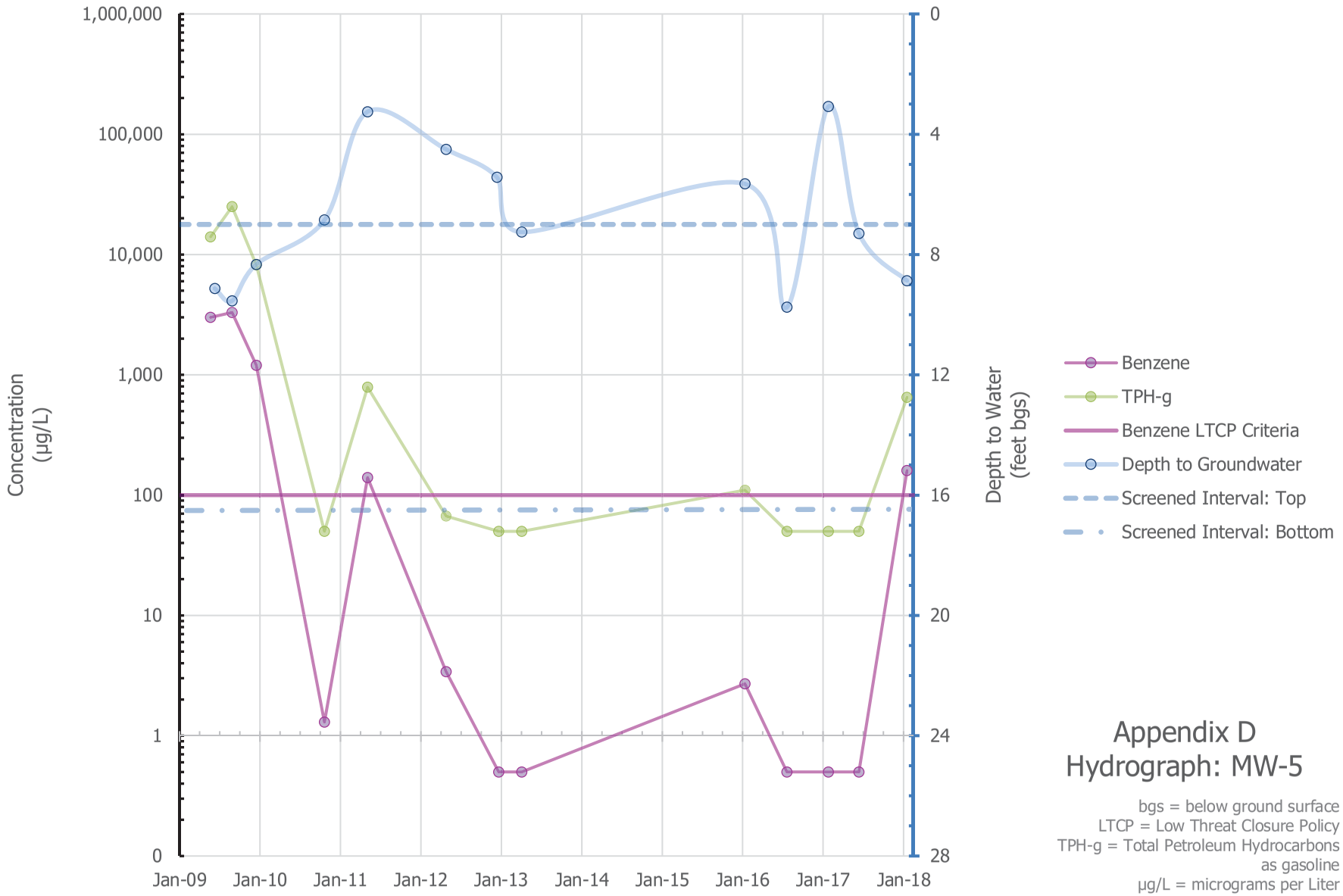
Appendix D
Hydrograph: MW-3

bgs = below ground surface
LTCP = Low Threat Closure Policy
TPH-g = Total Petroleum Hydrocarbons as gasoline
µg/L = micrograms per Liter



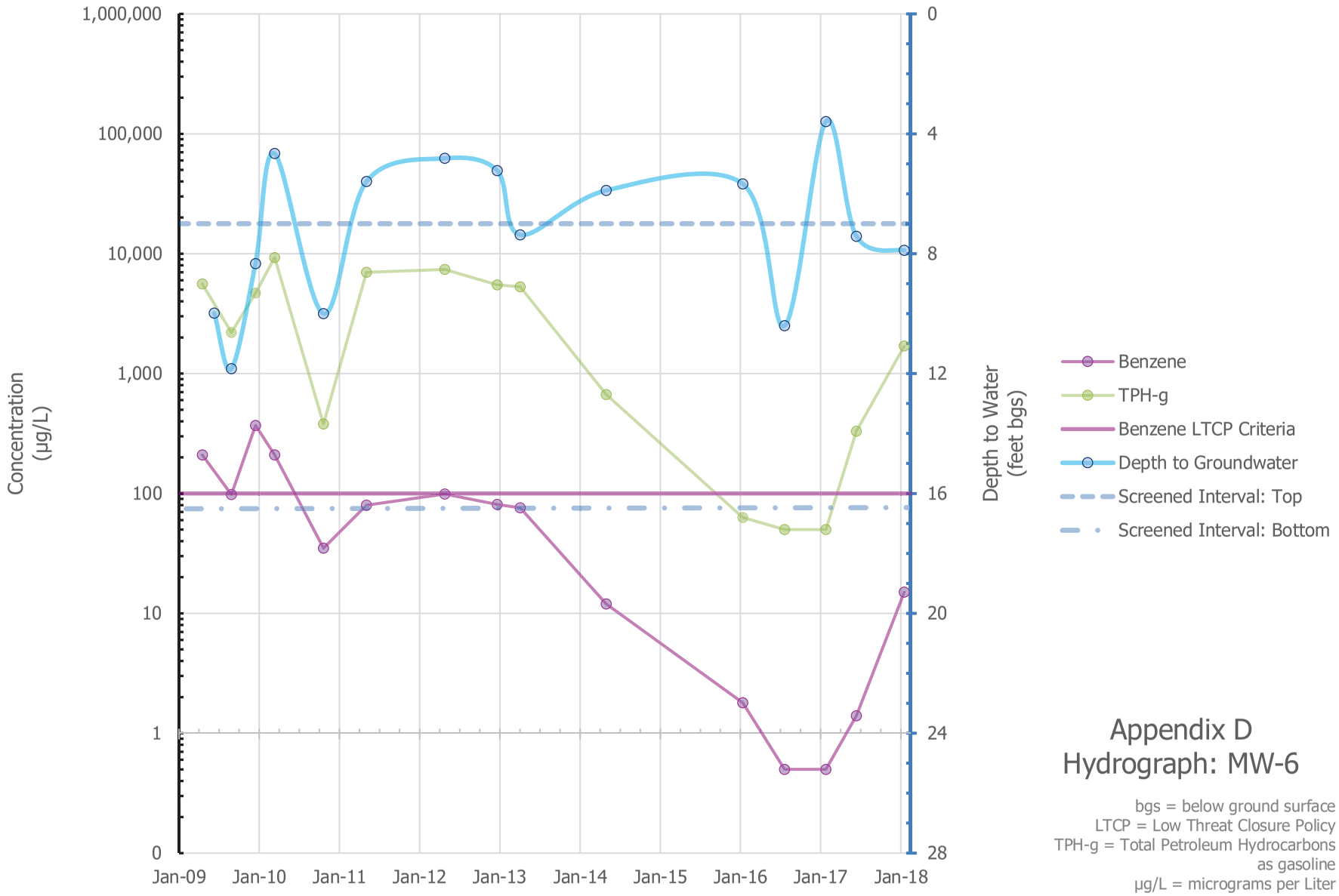
Appendix D
Hydrograph: MW-4

bgs = below ground surface
LTCP = Low Threat Closure Policy
TPH-g = Total Petroleum Hydrocarbons as gasoline
µg/L = micrograms per Liter



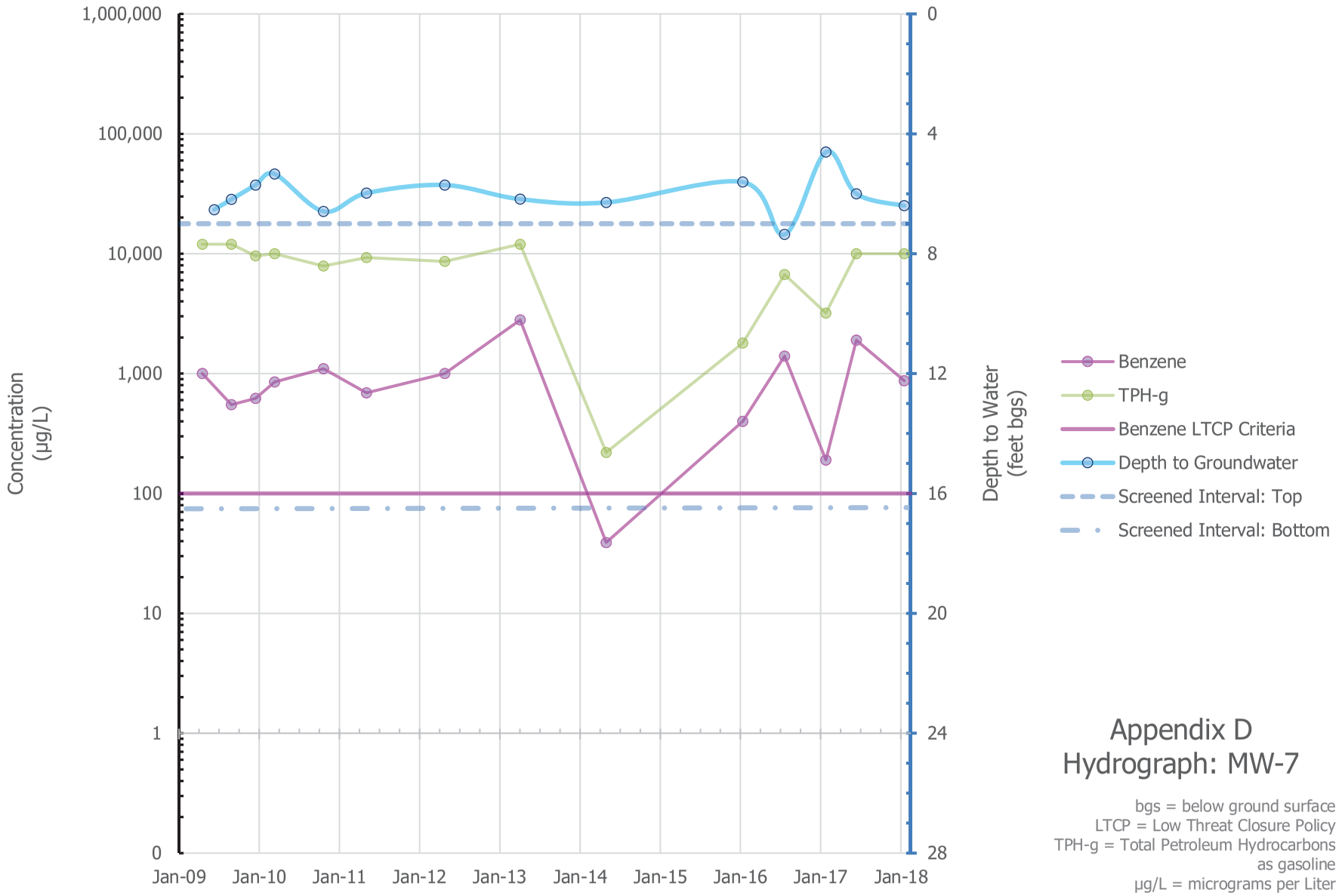
Appendix D
Hydrograph: MW-5

bgs = below ground surface
LTCP = Low Threat Closure Policy
TPH-g = Total Petroleum Hydrocarbons as gasoline
µg/L = micrograms per Liter



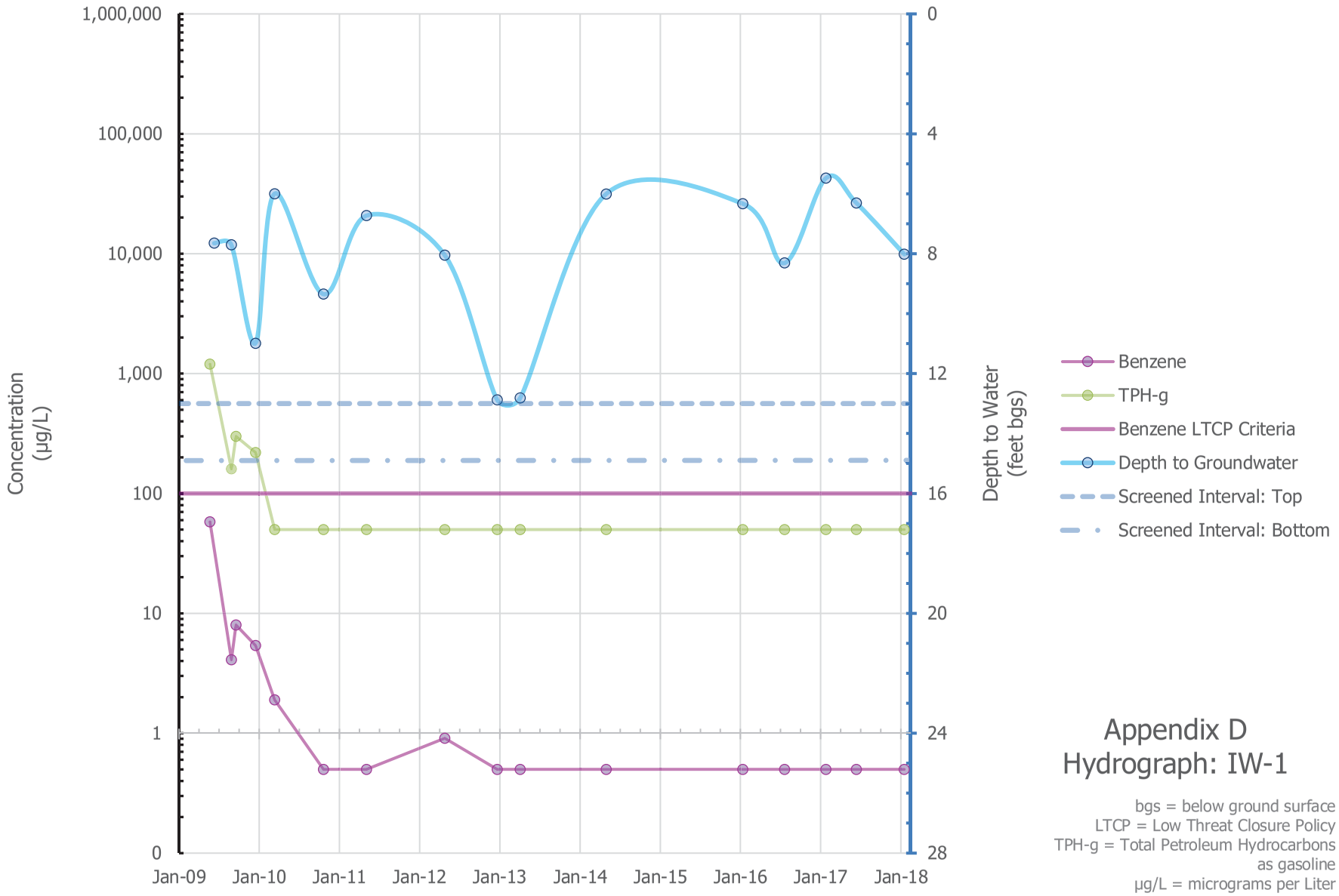
Appendix D
Hydrograph: MW-6

bgs = below ground surface
LTCP = Low Threat Closure Policy
TPH-g = Total Petroleum Hydrocarbons as gasoline
µg/L = micrograms per Liter



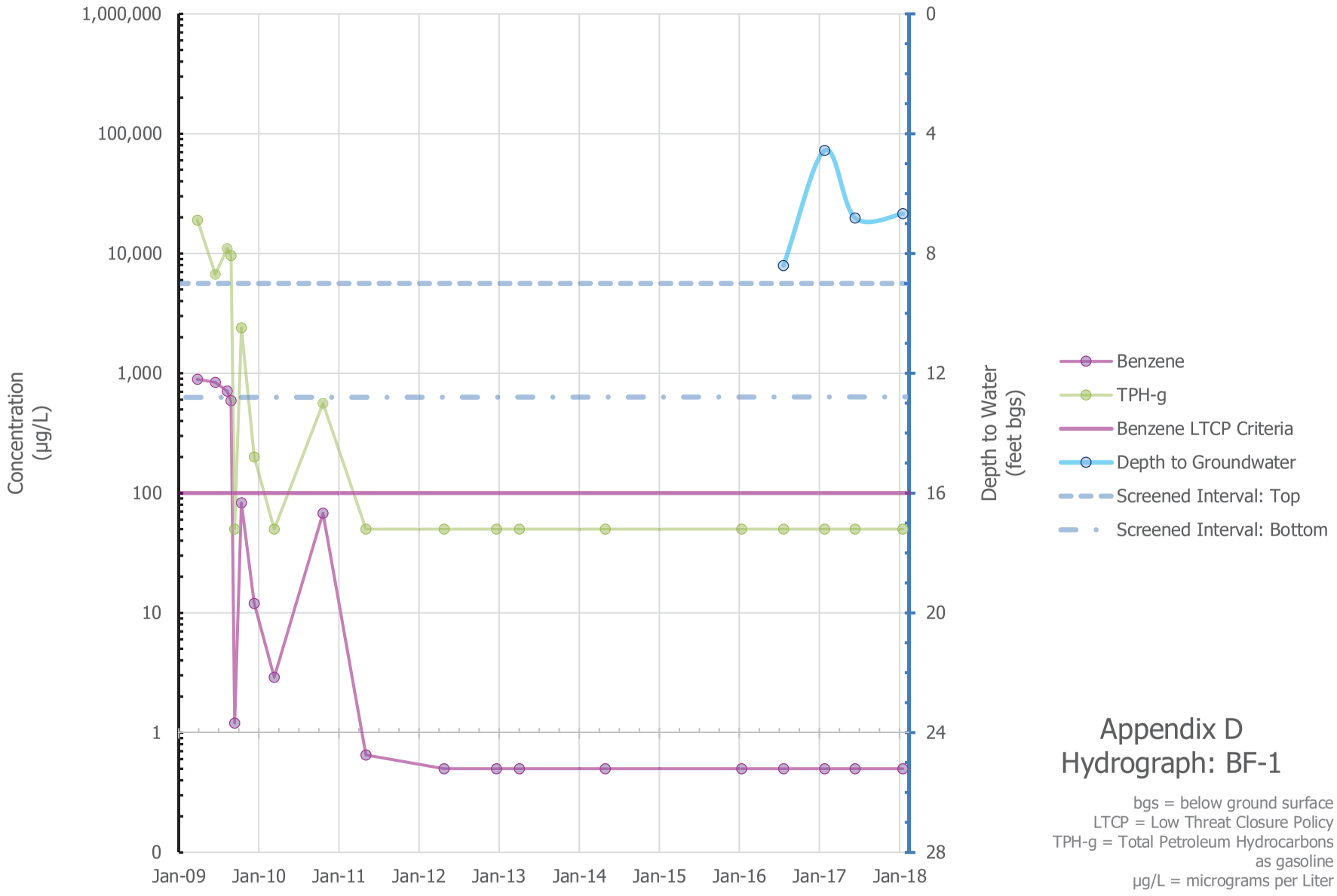
Appendix D
Hydrograph: MW-7

bgs = below ground surface
LTCP = Low Threat Closure Policy
TPH-g = Total Petroleum Hydrocarbons as gasoline
µg/L = micrograms per Liter



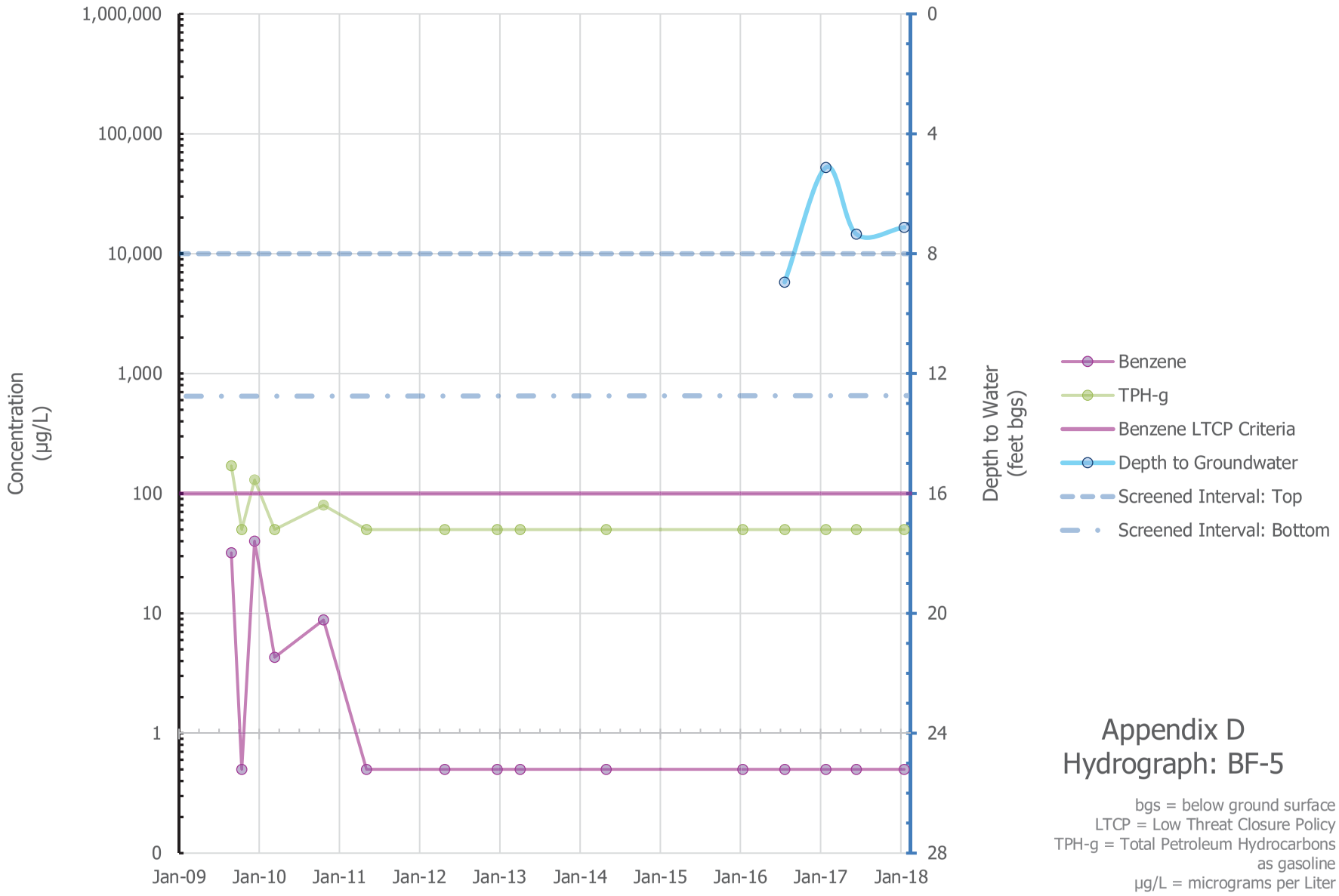
Appendix D
Hydrograph: IW-1

bgs = below ground surface
LTCP = Low Threat Closure Policy
TPH-g = Total Petroleum Hydrocarbons as gasoline
µg/L = micrograms per Liter



Appendix D
Hydrograph: BF-1

bgs = below ground surface
LTCP = Low Threat Closure Policy
TPH-g = Total Petroleum Hydrocarbons as gasoline
µg/L = micrograms per Liter



Appendix D
Hydrograph: BF-5

bgs = below ground surface
LTCP = Low Threat Closure Policy
TPH-g = Total Petroleum Hydrocarbons as gasoline
µg/L = micrograms per Liter