April 23, 2018

Ms. Karel Detterman, PG
Hazardous Materials Specialist
Alameda County Environmental Health
1131 Harbor Bay Parkway
Alameda, California 94502

Subject: **Transmittal – Report on Additional Investigation, Rev. 1**
27501 Loyola Avenue, Hayward, California
Site Cleanup Program Case No. RO0003150

Dear Ms. Detterman:

Please find enclosed the *Report on Additional Investigation, Rev. 1* for the property located at 27501 Loyola Avenue in Hayward, California (RO0003150). The activities presented in the report were performed to in accordance with the conditionally approved *Work Plan, Additional Investigation* dated November 6, 2017, and updated to address the recent request for additional detail on sampling procedures and documentation.

Recent investigation activities have been on-going since March of 2016 with the intent of confirming that the existing closure dated July 16, 2001 for release from the former Shell-branded gasoline station remained appropriate and protective of residential use at the Site. The subsequent soil, soil gas, and groundwater samples have shown that the residual petroleum hydrocarbons present at the Site following closure do not exceed health protective concentrations for a residential use scenario. Therefore, we request that the DEH acknowledge that sufficient additional investigation activities have been performed to close the data gaps previously identified in the data collection efforts prior to the July 16, 2001 closure, and allow proposed residential use of the Site.

“I have read and acknowledge the content, recommendations and/or conclusions contained in the attached document or report submitted on my behalf to ACDEH’s FTP server and the SWRCB’s GeoTracker website.”

If you have any questions or need additional information, please do not hesitate to call me at (925) 918-0637, or Mr. Trent Weise with AEI Consultants at (408) 559-7600.

Sincerely,

Mr. Daniel Bo

AEI Consultants
520 3rd Street, Suite 209, Oakland, CA 94607
Tel: 510.907.3145 Fax: 510.338.3192

April 23, 2018

Ms. Karel Detterman, PG
Alameda County Environmental Health
1131 Harbor Bay Parkway
Alameda, California 94502
Submitted Via Electronic Upload to DEH FTP and GeoTracker (T10000003150)

Subject: **Report on Additional Investigation, Rev. 1**
27501 Loyola Avenue,Hayward, California
Site Cleanup Program Case No. RO0003150
AEI Project No. 335476

Dear Ms. Detterman:

On behalf of Harvest Investments, AEI Consultants (AEI) appreciates the opportunity to submit this revised document that presents the results of the final investigation at 27501 Loyola Avenue, Hayward, California ("the Site"). Figure 1 presents the Site location and vicinity. This report documents the implementation of the *Work Plan, Additional Investigation* dated November 6, 2017 and conditionally approved by the Alameda County Department of Environmental Health- (DEH) in their letter dated December 18, 2017. This report presents a revision to the report originally submitted on February 6, 2018 addressing the requests from the DEH provided in electronic mail messages dated April 16 and April 17, 2018. This revised report includes additional documentation of the field sampling procedures.

The DEH requested the following additional activities to close the identified data gaps related to the release from the former service station at the Site and to complete the characterization of potential risks to the future residential use of the Site, including:

- Resampling each of the recently installed soil gas probes (SG-1 through SG-4) to provide an additional temporal data point.
- Install and sample one additional soil gas probe, SG-5, in the vicinity of the former waste oil underground storage tank (UST).
- Advance two soil borings to collect soil and groundwater samples, one adjacent to SG-1 and one in the vicinity of the former waste oil UST, and SG-5.

Recent investigation activities have been on-going since March of 2016 with the intent of confirming that the existing closure dated July 16, 2001 for release from the former Shell-branded gasoline station remained appropriate and protective of residential use at the Site. The subsequent soil, soil gas, and groundwater samples have shown that the residual petroleum hydrocarbons present at the Site following closure do not exceed health protective concentrations for a residential use scenario. Therefore, AEI recommends that the DEH acknowledge that sufficient additional investigation activities have been performed to close the data gaps previously identified in the data collection efforts prior to the July 16, 2001 closure, and allow proposed residential use of the Site. The completed investigation activities are presented below.

INVESTIGATION ACTIVITIES

To meet the request of the DEH, AEI implemented the following scope of work for this investigation as presented below.

Preliminary Field Activities

The existing Site-specific health and safety plan was updated for this proposed scope of work, reviewed by on-site personnel, and kept on-site for the duration of the fieldwork. Drilling permits were obtained from Alameda County Public Works Agency (ACPWA) for this investigation. A copy of the drilling permit is included in Appendix A. The public underground utility locating service Underground Service Alert (USA) was notified to identify public utilities in the work area at least 48 hours prior to drilling activities.

Soil and Groundwater Sampling

On January 4, 2018, AEI advanced two soil borings (SB-5 and SB-6) at the Site to a total depth of 16-feet bgs to collect soil and groundwater samples at the locations shown on Figure 2. AEI contracted a State of California-licensed drilling company, Environmental Control Associates, Inc. (ECA), to advance each soil boring using a track-mounted direct push drilling rig. Soil core was collected continuously as the borehole was advanced. The soil core was described using the Unified Soil Classification System (USCS) and Munsell Soil Color Chart. The soil core was also screened with a photo ionization detector (PID) for the presence of volatile organic compounds (VOCs). Soil description, color, odor, PID measurements, and other notable features were recorded on field boring logs. Completed soil boring logs are included in Appendix B.

Soil samples were collected from each soil boring at depths of 2.5, and 7.5-feet bgs for chemical analysis. Soil samples were collected in approximate six-inch sections of the acetate liner, capped with Teflon™ tape and plastic endcaps, labeled with a unique identifier, and placed in an ice-chilled cooler for transport under chain-of-custody protocol to the laboratory for analysis. The soil samples were analyzed for total petroleum hydrocarbons as gasoline (TPHg) and VOCs using US EPA Testing Method 8260B, and total petroleum hydrocarbons as diesel (TPHd) and motor oil (TPHmo) using US EPA Testing Method 8015B, modified.

Upon reaching the total depth of 16-feet, a temporary well was constructed by emplacing a new disposable well-screen within the open borehole. Groundwater was observed between the depths of 11.21 and 11.35-feet bgs in the open borehole. Groundwater was then extracted using new tubing and a peristaltic pump. Collected groundwater was decanted in the appropriately-preserved, laboratory-supplied, bottleware that was sealed, labeled with a unique identifier, and placed in ice-chilled cooler for transport under chain-of-custody protocol to the laboratory for analysis. Collected groundwater samples were analyzed for VOCs using US EPA Testing Method 8260B.

Soil Gas Sampling

On January 4, 2018, AEI collected soil gas samples from the previously installed soil gas probes (SG-1 through SG-4) and installed and sampled one additional soil gas probe (SG-5). The soil gas probe locations are shown on Figure 2.

To construct the additional soil gas probe, a soil boring was advanced to approximately 5.5-feet bgs and a permanent soil gas probe was constructed in general accordance with the *Advisory –*

Active Soil Gas Investigations, dated July 2015 and issued by the California Department of Toxic Substances Control (DTSC) and Los Angeles and San Francisco Regional Water Quality Control Boards. Each soil vapor probe was constructed with a vapor screen attached to ¼-inch diameter Teflon™ or equivalent tubing placed at approximately five feet bgs and covered with approximately one-foot of sand. The soil gas probe was then sealed by backfilling the remaining section of borehole with cement to the surface. The soil gas probe was protected within a well box. Soil description and soil vapor probe construction details are shown on the completed soil boring log included in Appendix B.

After waiting the *Advisory*-recommended equilibration time of a minimum of two-hours, the newly installed soil gas probe and existing soil gas probes were sampled. Soil gas samples were collected from each of the constructed soil gas probes using laboratory-supplied, batch-certified clean, one-liter evacuated canisters and flow regulators set at approximately 150 milliliters per minute (mL/min). Sampling was performed following a shut-in test of the sampling equipment, a leak test, and purging of the sample tubing and screen was conducted. The sampling apparatus was placed within a shroud and helium was added to the shroud as a leak check compound. The percentage of helium was monitored with a helium detector (calibrated by the rental company) and recorded on a sampling field data sheet. The helium concentration within the shroud was monitoring and maintained during sampling. After approximately five minutes (depending on the down-hole vacuum), or -5 in Hg vacuum in the canister, each canister was closed and removed from the sampling line and the final canister vacuum was recorded. Soil gas sampling information was recorded on a field data sheet including the canister and regulatory number, regulator flow rate, shut in test information, sample date, purge start and end time, sampling start and end time, helium concentration in the shroud, starting and ending sample canister vacuum. The field datasheet is included in Appendix C. As shown on the field data sheet, a small concentration of helium was measured in the sample train as during the leak check process. The concentration was less than five-percent of the helium concentration within the shroud, within allowable limits, and sampling was conducted.

When sampling is completed, the canister sample was sealed with a gas tight cap, appropriately labeled, and entered onto a chain-of-custody documentation for delivery to the laboratory. Each soil gas sample was analyzed for VOCs using US EPA Test Method TO-15, and oxygen, carbon dioxide, methane, and the leak check compound helium using ASTM D1945, as requested in the December 18, 2017 work plan conditional approval.

Soil Boring Destruction

Following sample collection, the soil borings, SB-5 and SB-6, were destroyed as required by ACPWA.

Investigation Derived Waste

Investigation derived waste was stored on-site in sealed, labeled, department of transportation (DOT) approved 5-gallon buckets. Disposal will depend upon the receipt of the analytical results.

INVESTIGATION RESULTS

This section presents the results of the investigation performed including the geology and hydrogeology encountered and the soil, groundwater, and soil vapor results.

Geology and Hydrogeology

Shallow soils encountered consist of low plasticity silty clays from the surface to a depth of eight to sixteen feet below ground surface. In soil boring SB-6 a four-foot layer of silty-sand was observed between 10 and 14 feet bgs. Upon completion of the soil borings, groundwater was observed between the depths of 11.21 and 11.35 feet bgs. Completed soil boring logs from the investigation are provided in Appendix B.

Soil Sample Analytical Results

Table 1 presents a summary of the soil sample results for recent and historical samples. Chain-of-custody documentation and the certified analytical report for soil are provided in Appendix D. As shown in Table 1, the soil samples collected and analyzed as part of this investigation did not identify significant chemical concentrations in soil. The results can be summarized as follows:

- TPHg was not detected at or above the laboratory method detection limit in each of the four soil samples collected and analyzed.
- TPHd and TPHmo were detected in one of the four soil samples collected and analyzed, observed at concentrations of 1.70 and 8.10 milligrams per kilogram (mg/kg) in the soil samples collected at 2.5-feet bgs from soil boring SB-6.
- Benzene, toluene, ethylbenzene, and xylenes, collectively BTEX compounds, were not detected at or above the laboratory method detection limit in each of the four soil samples collected and analyzed.
- No other VOCs were observed in the soil samples collected and analyzed.

In reviewing the continued closure of the Site under the California State Water Resources Control Board Low-Threat Underground Storage Tank Cleanup Policy (LTCP), the DEH requested a table presenting the soil samples and results for shallow soil samples collected at the Site, summarized for depths between 0 to 5-feet below ground surface and 5 to 10-feet bgs. Table 2, enclosed, presents the requested summary of soil sample results. As requested by the DEH in the conditional approval letter, the table has been updated to include the actual detection limits for the previously reported non-detected (ND) results. Although, the detection limits for all of the ND results were not available. Sample locations are shown on Figure 2. The following observations can be made:

- A total of 27 soil samples have been collected between the depths of 0 and 5-feet, and 15 soil samples have been collected between the depths of 5 and 10-feet bgs.
- Soil samples have been collected and analyzed for petroleum hydrocarbons, volatile organic compounds (VOCs), metals (arsenic, cadmium, chromium, lead, nickel, and zinc), organochlorine pesticides, polychlorinated biphenyls (PCBs), polyaromatic hydrocarbons (PAHs), and semi-volatile organic compounds (SVOCs).
- No chemicals nor metals were detected at concentrations above their respective Environmental Screening Level (ESL) for residential land use as shown in Table 2, with the exception of one soil sample that yielded lead at a concentration of 83 mg/kg, which is only slightly above the ESL of 80 mg/kg.

Therefore, there does not appear to be residual petroleum hydrocarbons nor VOCs in soil at the Site that would represent an unacceptable risk to future residential use of the Site.

Grab-Groundwater Analytical Results

Table 3 presents a summary of the groundwater sample analytical results. Chain-of-custody documentation and the certified analytical report for groundwater are provided in Appendix D. The purpose of collecting the groundwater samples were to characterize whether the low concentrations of VOCs, specifically PCE, previously observed in soil gas were also present in groundwater at the Site. The results can be summarized as follows:

- PCE was not observed in either of the two groundwater samples collected and analyzed at or above the laboratory method reporting limit. Due to other analytes in the groundwater sample collected from SB-6, the reporting was raised. Therefore, we requested the laboratory report results above the method detection limit, and no PCE was observed. Therefore, it does not appear that PCE observed in soil vapor has reached groundwater at significant concentrations.
- Ethylbenzene was the only BTEX compound observed in the two groundwater samples collected and analyzed. Ethylbenzene was detected in the groundwater samples collected from soil boring SB-6 at a concentration of 69 micrograms per liter (µg/L).
- Naphthalene was observed in one of the two groundwater samples, detected at a concentration of 1,100 µg/L in the groundwater sample collected from soil boring SB-6. Although the concentration observed is above the ESL for the protection of residential indoor air of 180 µg/L (Deep Groundwater, Res: Fine to Coarse Scenario), naphthalene has not been observed in the soil gas samples collected at the Site above the soil gas ESL for the protection of residential indoor air. Therefore, no further action is necessary regarding naphthalene.
- The groundwater sample collected from soil boring SB-6 also yielded n-butylbenzene at a concentration of 100 µg/L, n-propyl benzene at a concentration of 870 µg/L, and isopropyl benzene at a concentration of 290 µg/L. No environmental screening levels are available for these chemicals.
- No other VOCs were detected in the groundwater samples collected and analyzed.

The purpose of the groundwater samples collected at the Site was to identified whether VOCs that may have been present in the waste oil UST, as observed in two of the previous soil gas samples collected and analyzed, were not also present in groundwater beneath the Site because historical VOC data for groundwater was not located in the historical record. The two groundwater samples collected confirm that there has not been a significant release of non-petroleum VOCs to groundwater at the Site.

Soil Vapor Analytical Results

Table 4 presents a summary of the current and historical soil vapor sample analytical results. Chain-of-custody documentation and the certified analytical report for soil vapor are provided in Appendix D. The results can be summarized as follows:

- PCE was not detected at or above the laboratory method detection limit in the five soil gas samples collected and analyzed.
- TCE was observed in one of the five soil gas samples collected and analyzed, observed at a concentration of 6.72 micrograms per cubic meter (µg/m3), which is two orders of magnitude below the ESL for the protection of residential indoor air of 240 µg/m^3. TCE was not observed in the four samples collected in July 2017.

- Only the soil gas sample collected from soil gas probe SG-5 yielded BTEX compounds. Specifically, benzene was observed at a concentration of 4.01 µg/m^3, and ethylbenzene was observed at a concentration of 7.22 µg/m^3, each were observed well below their respective ESLs of 48 and 560 µg/m^3, respectively. The previously observed low detections of BTEX compounds observed in the soil gas samples collected from soil gas probes SG-1 through SG-4 during July 2017 sampling event were not observed during this sampling event.
- Naphthalene was not observed in the five soil gas samples collected during this sampling event. Naphthalene was previously detected in one sample, SG-1, at a concentration of 31 µg/m^3, which is below the ESL of 41 µg/m^3.
- Methane was detected in one of the five soil gas samples collected, observed at a concentration of 0.00156 percent in the sample collected from SG-5.
- Oxygen was detected in each of the soil gas samples collected and analyzed, observed at concentrations between 16.8 and 17.3 percent. Oxygen concentrations are generally increased from the July 2017 sampling event, which is consistent with the lower chemical concentrations observed in soil gas samples collected suggesting the aerobic degradation of petroleum hydrocarbons in the subsurface.
- Carbon dioxide was observed in two of the five soil gas samples collected and analyzed, observed at concentrations of 0.693 percent (SG-1) and 0.734 percent (SG-4). These concentrations are generally consistent with those previously observed at the Site.
- Other VOCs were observed in the soil gas samples collected and analyzed as shown on Table 4, with none of them exceeding their respective ESLs, where available.
- Helium was used within the sampling shroud as the leak check compound. Helium was not detected in the samples collected and analyzed. Therefore, these soil gas data are considered to accurate, and not impacted by a detected leak during sampling.

The purpose of the additional soil gas sampling performed was to 1) resample soil gas probes SG-1 through SG-4 to provide a second data point, and 2) install and sample a soil gas probe in the immediate vicinity of the former waste oil UST. As noted in the above summary, no chemicals were observed in the soil gas samples at concentrations exceeding their respective ESLs for the protection of residential indoor air quality. The second data point collected from soil gas probes SG-1 through SG-4 show that over a period of approximately six-months, chemical concentrations do not vary significantly. Therefore, the residual petroleum hydrocarbons observed in soil, groundwater, and/or soil gas at the Site do not pose unacceptable risk to indoor air quality at the Site. The ESLs presented above were calculated with a selected attenuation factor for existing construction. Therefore, the ESLs are additionally protective since the proposed residential buildings will be new and therefore likely have less cracks and vapor migration pathways than the assumed existing construction attenuation factors for the ESLs.

CLOSING

The data presented above have sufficiently closed the previously identified data gaps in the July 16, 2001 closure of the former Shell-branded gasoline service station. The subsequent soil, soil gas, and groundwater samples have shown that the residual petroleum hydrocarbons present at the Site following closure do not exceed health protective concentrations for a residential use scenario. Therefore, AEI recommends that the DEH acknowledge that sufficient additional investigation activities have been performed to close the data gaps previously identified in the data collection efforts prior to the July 16, 2001 closure, and allow proposed residential use of the Site. If there are any questions regarding our investigation, please do not hesitate to contact Mr. Trent Weise at (408) 559-7600.

Sincerely,
AEI Consultants

Nina Abdollahian, GIT
Staff Geologist

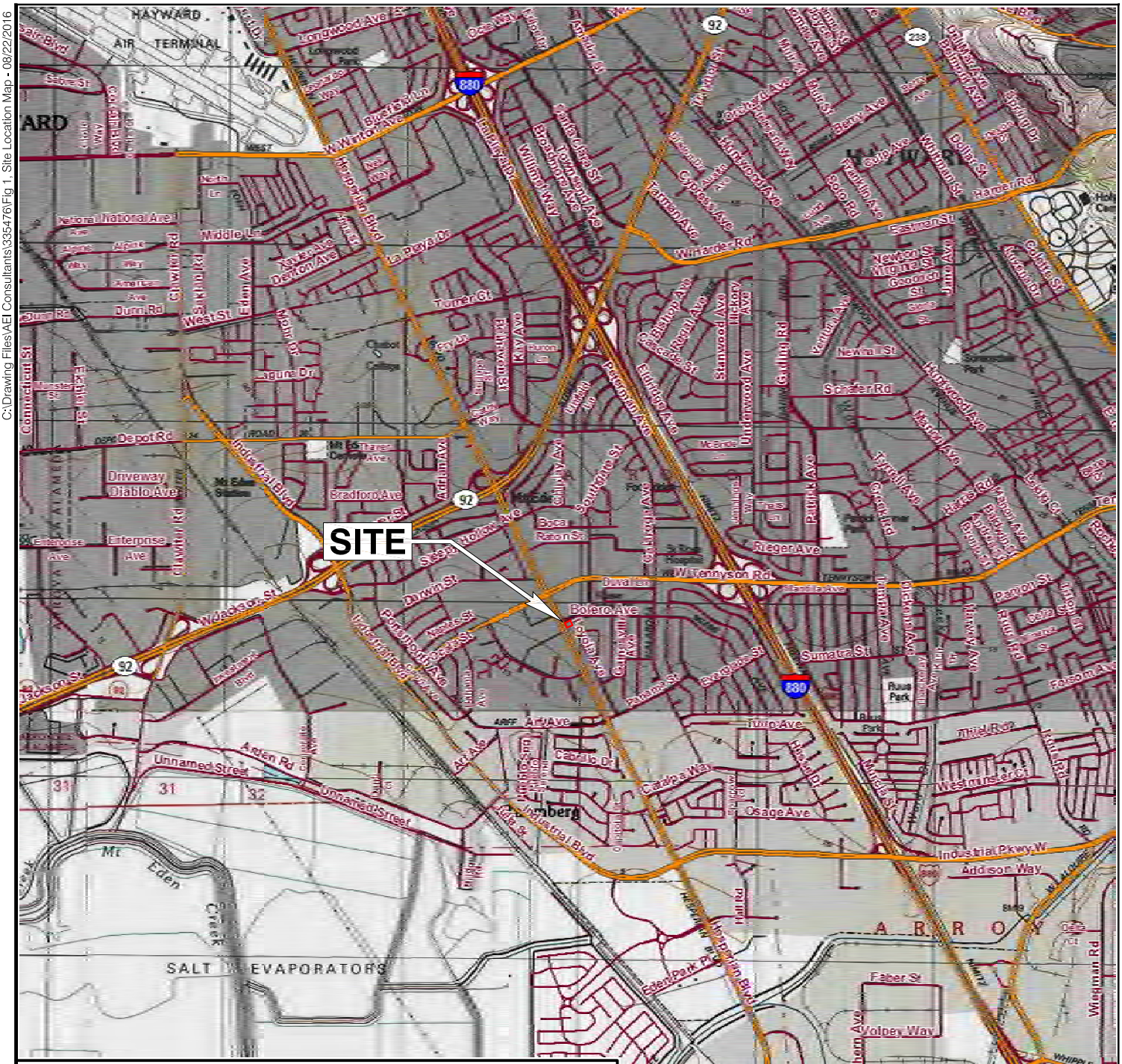
Trent A. Weise, P.E.
Vice President

Enclosures

TABLES

AEI Consultants

C:\Drawing Files\AEI Consultants\335476\Fig 1. Site Location Map - 08/22/2016

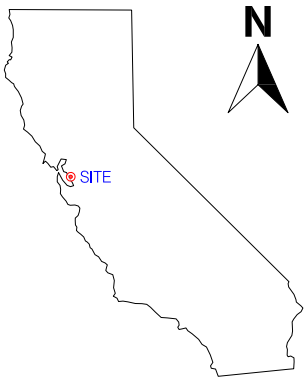


LEGEND

0 0.5 1.0 APPROXIMATE SCALE IN MILES

Site Location

REFERENCE LOCATION



Map Source:
USGS 7.5 Minute
Topographic Quadrangle Map,
Hayward, CA - 1993,
Photorevised 1996

AEI Consultants

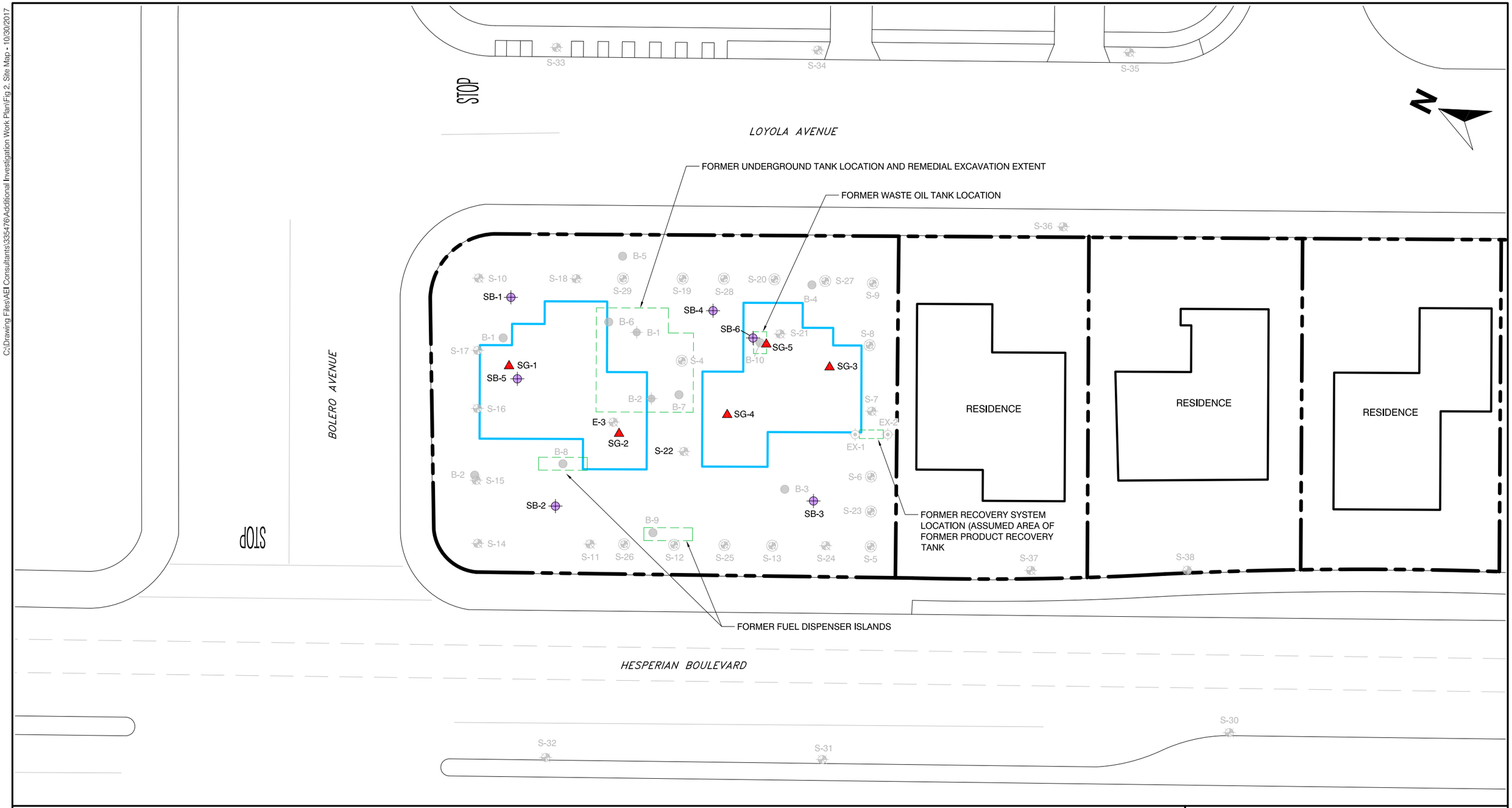
3880 South Bascom Avenue, San Jose, California

SITE LOCATION MAP

27501 Loyola Avenue
Hayward, California

FIGURE 1
Project No. 335476

C:\Drawing Files\AEI Consultants\335476\Additional Investigation Work Plan\Fig 2. Site Map - 10/30/2017



LEGEND

- SB-1 — Soil Boring Location
- SG-1 — Soil Gas Probe
- S-29 — Destroyed Extraction Well
- S-35 — Destroyed Groundwater Monitoring Well
- B-10 — Former Soil Boring (Cambria 2001)
- B-1 — Former Soil Boring (Soil Subsequently Excavated)
- EX-2 — Confirmation Soil Sample (Locations Estimated; locations described as on ends of product recovery UST excavation)
- Footprint of Proposed Development
- Approximate Property Boundary

0 30 60 APPROXIMATE SCALE IN FEET

NOTE:
Base Map Sources:
Google Earth, Image Date 10/30/2015
Shell Plot Plan, 12/1979
Woodward-Clyde Consultants Map, 04/1989
EMCON Associates Report, 10/20/1984

AEI Consultants
2500 Camino Diablo, Walnut Creek, California

SITE PLAN

27501 Loyola Avenue
Hayward, California

FIGURE 2
Project No. 335476

FIGURES

AEI Consultants

TABLE 1
Soil Sample Data Summary (TPH and VOCs)
Former Shell Service Station
27501 Loyola Avenue
Hayward, California

Sample ID	Date Sampled	Sample Depth (feet bgs)	TPH (mg/kg)	TPHg (mg/kg)	TPHd (mg/kg)	TPHmo (mg/kg)	BTEX (mg/kg)	Benzene (mg/kg)	Toluene (mg/kg)	Ethyl-benzene (mg/kg)	Xylenes (mg/kg)	4-Isopropyl-toluene (mg/kg)	Acetone (mg/kg)	2-Butanone (mg/kg)	Other VOCs (mg/kg)
ESL (Residential, Shallow)			--	740	230	11,000	--	0.023	970	5.1	560	--	--	--	--
Recent Soil Sample Results															
SB-1-0.5	07/18/17	0.5	--	0.111 J, J3	<44.8	319[a]	--	0.000368 J	<0.00114	<0.00114	<0.00343	<0.00114	0.0423 J	0.00872 J	ND
SB-1-2.5	07/18/17	2.5	--	0.0560 J	<4.78	2.11[a] J	--	0.000358 J	<0.00120	<0.00120	<0.00259	<0.00120	<0.0598	<0.0120	ND
SB-2-0.5	07/18/17	0.5	--	0.0827 J	<46.3	268[a]	--	0.000545 J	<0.00116	0.000348 J	0.00135 J	<0.00116	0.0175 J	<0.0116	ND
SB-2-2.5	07/18/17	2.5	--	<0.109	<4.34	3.52[a] J, J6	--	0.000298 J	<0.00109	<0.00109	<0.00326	<0.00109	<0.0543	<0.0109	ND
SB-3-0.5	07/18/17	0.5	--	<0.117	<4.68	<9.36[a]	--	0.000363 J	<0.00130	<0.00130	<0.00390	<0.00130	0.0202 J	<0.0130	ND
SB-3-2.5	07/18/17	2.5	--	<0.555	<4.44	<8.88[a]	--	<0.00111	<0.00111	<0.00111	<0.00333	<0.00111	<0.0555	<0.0111	ND
SB-4-0.5	07/18/17	0.5	--	0.0458 J	<4.62	<9.24[a]	--	<0.00116	<0.00116	<0.00116	<0.00347	<0.00116	<0.0578	<0.0116	ND
SB-5-2.5	01/04/18	2.5	--	<1.0	<1.0	<5.0	--	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.10	<0.020	ND
SB-5-7.5	01/04/18	7.5	--	<1.0	<1.0	<5.0	--	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.10	<0.020	ND
SB-6-2.5	01/04/18	2.5	--	<1.0	1.70	8.10	--	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.10	<0.020	ND
SB-6-7.5	01/04/18	7.5	--	<1.0	<1.0	<5.0	--	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.10	<0.020	ND
Historical Soil Sample Results															
~~E-1-4~~	~~7/24/1984~~	~~4-5.5~~	--	~~1,500~~	--	--	--	--	--	--	--	--	--	--	--
~~E-1-9~~	~~7/24/1984~~	~~9-10.5~~	--	~~8,700~~	--	--	--	--	--	--	--	--	--	--	--
~~0.5-1[1]~~	~~7/24/1984~~	~~4-5.5~~	--	~~14~~	--	--	--	--	--	--	--	--	--	--	--
~~E-2-9~~	~~7/24/1984~~	~~9-10.5~~	--	~~1,800~~	--	--	--	--	--	--	--	--	--	--	--
E-3-4	7/24/1984	4-5.5	--	<1	--	--	--	--	--	--	--	--	--	--	--
E-3-9	7/24/1984	9-10.5	--	1	--	--	--	--	--	--	--	--	--	--	--
S-30-11	06/25/89	9.5-11	--	<5	--	--	--	<0.05	<0.1	<0.1	<0.3	--	--	--	--
S-30-31	06/25/89	29.5-31	--	<5	--	--	--	<0.05	<0.1	<0.1	<0.3	--	--	--	--
S-31-9	06/25/89	9-10.5	--	<5	--	--	--	<0.05	<0.1	<0.1	<0.3	--	--	--	--
S-31-31	06/25/89	29.5-31	--	<5	--	--	--	<0.05	<0.1	<0.1	<0.3	--	--	--	--
S-32-9	06/25/89	9-10.5	--	<5	--	--	--	<0.05	<0.1	<0.1	<0.3	--	--	--	--
S-32-31	06/25/89	29.5-31	--	<5	--	--	--	<0.05	<0.1	<0.1	<0.3	--	--	--	--
S-33-9	06/25/89	9-10.5	--	<5	--	--	--	<0.05	<0.1	<0.1	<0.3	--	--	--	--
S-33-24	06/25/89	24-25.5	--	<5	--	--	--	<0.05	<0.1	<0.1	<0.3	--	--	--	--
S-34-9	06/25/89	9-10.5	--	<5	--	--	--	<0.05	<0.1	<0.1	<0.3	--	--	--	--
S-34-24	06/25/89	22.5-24	--	<5	--	--	--	<0.05	<0.1	<0.1	<0.3	--	--	--	--
S-35-11	06/25/89	9.5-11	--	<5	--	--	--	<0.05	<0.1	<0.1	<0.3	--	--	--	--
S-35-23	06/25/89	21.5-23	--	<5	--	--	--	<0.05	<0.1	<0.1	<0.3	--	--	--	--
S-36-10'	06/25/89	10	ND	--	--	--	--	ND	ND	ND	ND	--	--	--	--
S-36-25'	06/25/89	25	ND	--	--	--	--	ND	ND	ND	ND	--	--	--	--
S-37-11'	06/25/89	11	ND	--	--	--	--	ND	ND	ND	ND	--	--	--	--
S-37-21'	06/25/89	21	ND	--	--	--	--	ND	ND	ND	ND	--	--	--	--
S-37-31'	06/25/89	31	ND	--	--	--	--	ND	ND	ND	ND	--	--	--	--
S-38-10'	07/12/89	10	ND	--	--	--	--	ND	ND	ND	ND	--	--	--	--
EX-1	12/15/93	5	<1	--	--	--	--	<0.005	<0.005	<0.005	<0.005	--	--	--	--
EX-2	12/15/93	5	<1	--	--	--	--	<0.005	<0.005	<0.005	<0.005	--	--	--	--

TABLE 1
Soil Sample Data Summary (TPH and VOCs)
Former Shell Service Station
27501 Loyola Avenue
Hayward, California

Sample ID	Date Sampled	Sample Depth (feet bgs)	TPH (mg/kg)	TPHg (mg/kg)	TPHd (mg/kg)	TPHmo (mg/kg)	BTEX (mg/kg)	Benzene (mg/kg)	Toluene (mg/kg)	Ethyl-benzene (mg/kg)	Xylenes (mg/kg)	4-Isopropyl-toluene (mg/kg)	Acetone (mg/kg)	2-Butanone (mg/kg)	Other VOCs (mg/kg)
ESL (Residential, Shallow)			--	740	230	11,000	--	0.023	970	5.1	560	--	--	--	--
B-7-1	04/03/01	0.5-1.0	--	<1	<5	14.50	<0.005	--	--	--	--	--	--	--	--
B-7-3	04/03/01	3.0-3.5	--	<1	<5	<10	<0.005	--	--	--	--	--	--	--	--
B-7-6	04/03/01	6.0-6.5	--	<1	<5	<10	<0.005	--	--	--	--	--	--	--	--
B-8-1	04/03/01	0.5-1.0	--	<1	<5	17.2	<0.005	--	--	--	--	--	--	--	--
B-8-3	04/03/01	3.0-3.5	--	<1	<5	11.2	<0.005	--	--	--	--	--	--	--	--
B-8-6	04/03/01	6.0-6.5	--	<1	<5	<10	<0.005	--	--	--	--	--	--	--	--
B-9-1	04/03/01	0.5-1.0	--	<1	--	--	<0.005	--	--	--	--	--	--	--	--
B-9-3	04/03/01	3.0-3.5	--	<1	--	--	<0.005	--	--	--	--	--	--	--	--
B-9-6	04/03/01	6.0-6.5	--	<1	--	--	<0.005	--	--	--	--	--	--	--	--
B-10-1	04/03/01	0.5-1.0	--	<1	<5	15.2	<0.005	--	--	--	--	ND	ND	ND	ND
B-10-3	04/03/01	3.0-3.5	--	<1	<5	<10	<0.005	--	--	--	--	0.0059	ND	ND	ND
B-10-6	04/03/01	6.0-6.5	--	<1	<5	12.8	<0.005	--	--	--	--	ND	ND	ND	ND

Notes:

TPH = total petroleum hydrocarbons
TPHg = total petroleum hydrocarbons n the gasoline range
TPHd = total petroleum hydrocarbons in the diesel range
TPHmo = total petroleum hydrocaarbons In the motor oil range
BTEX = benzene, toluene, ethylbenzne, and xylenes
VOC = volatile organic compound
bgs = below ground surface
mg/kg = milligrams per kilogram
ND = Not detected above laboratory reporting limits; reporting limit not available from reports researched
J = The identification of the analyte is acceptable; the reported value is an estimate.
J3 = The associated batch QC was outside the established quality control range for precision.
J6 = The sample matrix interfered with the ability to make any accurate determination; spike value is low.
Strikeout text = Soil subsequently excavated
-- = Not analyzed or not applicable
a = TPH-mo result is C22-C32 and C32-C40 combined.
ESL = Environmental Screening Level, Summary of Soil ESLs, Table S-1, Direct Exposure and Table S-1, Residential: Shallow Soil Exposure (February 2016)

Historical nalytical information based on review of:

Letter by Gettler-Ryan Inc. dated November 19, 1987.
Case Closure Summary by City of Hayward Fire Department, dated June 19, 1996.
Human Health Risk Assessment by Cambria, dated May 10, 2001.

TABLE 2
Summary of Shallow Soil Sample Results
Former Shell Service Station
27501 Loyola Avenue
Hayward, California

Sample ID	Date Sampled	Sample Depth (feet bgs)	TPH (mg/kg)	TPHg (mg/kg)	TPHd (mg/kg)	TPHmo (mg/kg)	BTEX (mg/kg)	Benzene (mg/kg)	Toluene (mg/kg)	Ethyl-benzene (mg/kg)	Xylenes (mg/kg)	Arsenic (mg/kg)	Cadmium (mg/kg)	Total Chromium (mg/kg)	Lead (mg/kg)	Nickel (mg/kg)	Zinc (mg/kg)	4,4'-DDD (mg/kg)	4,4'-DDE (mg/kg)	4,4'-DDT (mg/kg)	PCBs (mg/kg)	PAHs (mg/kg)	SVOCs (mg/kg)
ESL (Residential, Shallow)			--	740	230	11,000	--	0.023	970	5.1	560	0.067	39	--	80	820	23,000	2.7	1.9	1.9	0.25	--	--
Soil Samples Collected Between 0 and 5-feet bgs.																							
SB-1-0.5	07/18/17	0.5	--	0.111 J, J3	<44.8	319[a]	--	0.000368 J	<0.00114	<0.00114	<0.00343	--	--	--	**83.0**	--	--	--	--	--	--	--	--
SB-1-2.5	07/18/17	2.5	--	0.0560 J	<4.78	2.11[a] J	--	0.000358 J	<0.00120	<0.00120	<0.00259	--	--	--	6.80	--	--	--	--	--	--	--	--
SB-2-0.5	07/18/17	0.5	--	0.0827 J	<46.3	268[a]	--	0.000545 J	<0.00116	0.000348 J	0.00135 J	--	--	--	26.5	--	--	--	--	--	--	--	--
SB-2-2.5	07/18/17	2.5	--	<0.109	<4.34	3.52[a] J, J6	--	0.000298 J	<0.00109	<0.00109	<0.00326	--	--	--	10.5	--	--	--	--	--	--	--	--
SB-3-0.5	07/18/17	0.5	--	<0.117	<4.68	<9.36[a]	--	0.000363 J	<0.00130	<0.00130	<0.00390	--	--	--	5.29	--	--	--	--	--	--	--	--
SB-3-2.5	07/18/17	2.5	--	<0.555	<4.44	<8.88[a]	--	<0.00111	<0.00111	<0.00111	<0.00333	--	--	--	6.56	--	--	--	--	--	--	--	--
SB-4-0.5	07/18/17	0.5	--	0.0458 J	<4.62	<9.24[a]	--	<0.00116	<0.00116	<0.00116	<0.00347	--	--	--	7.78	--	--	--	--	--	--	ND	--
SG-3-2.5	07/18/17	2.5	--	--	--	--	--	--	--	--	--	--	--	--	7.78	--	--	--	--	--	--	ND	--
SG-4-0.5	07/18/17	0.5	--	--	--	--	--	--	--	--	--	--	--	--	7.78	--	--	--	--	--	--	ND	--
SB-5-2.5	01/04/18	2.5	--	<1	<1	<5	--	<0.0050	<0.0050	<0.0050	<0.0050	--	--	--	--	--	--	--	--	--	--	--	--
SB-6-2.5	01/04/18	2.5	--	<1	1.70	8.10	--	<0.0050	<0.0050	<0.0050	<0.0050	--	--	--	--	--	--	--	--	--	--	--	--
E-3-4	7/24/1984	4-5.5	--	<1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
EX-1	12/15/93	5	<1	--	--	--	--	<0.005	<0.005	<0.005	<0.005	--	--	--	9.3	--	--	--	--	--	--	--	--
EX-2	12/15/93	5	<1	--	--	--	--	<0.005	<0.005	<0.005	<0.005	--	--	--	9.8	--	--	--	--	--	--	--	--
B-1-1	04/03/01	0.5-1.0	--	--	--	--	--	--	--	--	--	2.18	<0.943	36.6	15.5	48.3	77.8	ND	ND	ND	--	ND	--
B-2-1	04/03/01	0.5-1.0	--	--	--	--	--	--	--	--	--	<1.92	--	--	<7.21	--	--	--	--	--	--	--	--
B-3-1	04/03/01	0.5-1.0	--	--	--	--	--	--	--	--	--	5.10	<0.962	34.1	8.1	44.6	351	0.0300	0.260	0.175	--	ND	--
B-4-1	04/03/01	0.5-1.0	--	--	--	--	--	--	--	--	--	2.42	--	--	<7.21	--	--	--	--	--	--	--	--
B-5-1	04/03/01	0.5-1.0	--	--	--	--	--	--	--	--	--	3.72	--	--	<7.08	--	--	--	--	--	--	--	--
B-7-1	04/03/01	0.5-1.0	--	<1	<5	14.50	<0.005	--	--	--	--	2.59	--	--	<6.94	--	--	--	--	--	--	--	--
B-7-3	04/03/01	3.0-3.5	--	<1	<5	<10	<0.005	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
B-8-1	04/03/01	0.5-1.0	--	<1	<5	17.2	<0.005	--	--	--	--	4.32	<0.962	28.5	7.11	38.6	53.6	0.0104	0.054	0.0612	--	ND	--
B-8-3	04/03/01	3.0-3.5	--	<1	<5	11.2	<0.005	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
B-9-1	04/03/01	0.5-1.0	--	<1	--	--	<0.005	--	--	--	--	3.09	--	--	<6.36	--	--	--	--	--	--	--	--
B-9-3	04/03/01	3.0-3.5	--	<1	--	--	<0.005	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
B-10-1	04/03/01	0.5-1.0	--	<1	<5	15.2	<0.005	--	--	--	--	4.81	<0.862	37.1	8.69	41.2	85.5	0.0229	0.327	0.019	ND	ND	ND
B-10-3	04/03/01	3.0-3.5	--	<1	<5	<10	<0.005	--	--	--	--	--	--	--	--	--	--	--	--	--	ND	--	ND

TABLE 2
Summary of Shallow Soil Sample Results
Former Shell Service Station
27501 Loyola Avenue
Hayward, California

Sample ID	Date Sampled	Sample Depth (feet bgs)	TPH (mg/kg)	TPHg (mg/kg)	TPHd (mg/kg)	TPHmo (mg/kg)	BTEX (mg/kg)	Benzene (mg/kg)	Toluene (mg/kg)	Ethyl-benzene (mg/kg)	Xylenes (mg/kg)	Arsenic (mg/kg)	Cadmium (mg/kg)	Total Chromium (mg/kg)	Lead (mg/kg)	Nickel (mg/kg)	Zinc (mg/kg)	4,4'-DDD (mg/kg)	4,4'-DDE (mg/kg)	4,4'-DDT (mg/kg)	PCBs (mg/kg)	PAHs (mg/kg)	SVOCs (mg/kg)
ESL (Residential, Shallow)			--	740	230	11,000	--	0.023	970	5.1	560	0.067	39	--	80	820	23,000	2.7	1.9	1.9	0.25	--	--
Soil Samples Collected Between 5 and 10-feet bgs.																							
B-7-6	04/03/01	6.0-6.5	--	<1	<5	<10	<0.005	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
B-8-6	04/03/01	6.0-6.5	--	<1	<5	<10	<0.005	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
B-9-6	04/03/01	6.0-6.5	--	<1	--	--	<0.005	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
B-10-6	04/03/01	6.0-6.5	--	<1	<5	12.8	<0.005	--	--	--	--	--	--	--	--	--	--	--	--	--	ND	--	ND
E-3-9	7/24/1984	9-10.5	--	1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
S-30-11	06/25/89	9.5-11	--	<5	--	--	--	<0.05	<0.1	<0.1	<0.3	--	--	--	--	--	--	--	--	--	--	--	--
S-31-9	06/25/89	9-10.5	--	<5	--	--	--	<0.05	<0.1	<0.1	<0.3	--	--	--	--	--	--	--	--	--	--	--	--
S-32-9	06/25/89	9-10.5	--	<5	--	--	--	<0.05	<0.1	<0.1	<0.3	--	--	--	--	--	--	--	--	--	--	--	--
S-33-9	06/25/89	9-10.5	--	<5	--	--	--	<0.05	<0.1	<0.1	<0.3	--	--	--	--	--	--	--	--	--	--	--	--
S-34-9	06/25/89	9-10.5	--	<5	--	--	--	<0.05	<0.1	<0.1	<0.3	--	--	--	--	--	--	--	--	--	--	--	--
S-35-11	06/25/89	9.5-11	--	<5	--	--	--	<0.05	<0.1	<0.1	<0.3	--	--	--	--	--	--	--	--	--	--	--	--
S-36-10'	06/25/89	10	ND	--	--	--	--	ND	ND	ND	ND	--	--	--	--	--	--	--	--	--	--	--	--
S-38-10'	07/12/89	10	ND	--	--	--	--	ND	ND	ND	ND	--	--	--	--	--	--	--	--	--	--	--	--
SB-5-7.5	01/04/18	7.5	--	<1	<1	<5	--	<0.0050	<0.0050	<0.0050	<0.0050	--	--	--	--	--	--	--	--	--	--	--	--
SB-6-7.5	01/04/18	7.5	--	<1	<1	<5	--	<0.0050	<0.0050	<0.0050	<0.0050	--	--	--	--	--	--	--	--	--	--	--	--

Notes:
4,4'-DDD = 4,4'-dichlorodiphenyldichloroethane
4,4'-DDE = 4,4'-dichlorodiphenyldichloroethylene
4,4'-DDT = 4,4'-dichlorodiphenyltrichloroethane
PCB = polychlorinated biphenyl
PAH = polycyclic aromatic hydrocarbons
SVOC = semi volatile organic compound
bgs = below ground surface
mg/kg = milligrams per kilogram
ND = Not detected above laboratory reporting limits
-- = Not analyzed
ESL = Environmental Screening Level, Summary of Soil ESLs, Table S-1, Direct Exposure and Table S-1, Residential: Shallow Soil Exposure (February 2016)
TPH = total petroleum hydrocarbons
TPHg = total petroleum hydrocarbons n the gasoline range
TPHd = total petroleum hydrocarbons in the diesel range
TPHmo = total petroleum hydrocaarbons In the motor oil range
BTEX = benzene, toluene, ethylbenzne, and xylenes
VOC = volatile organic compound
bgs = below ground surface
J = The identification of the analyte is acceptable; the reported value is an estimate.
J3 = The associated batch QC was outside the established quality control range for precision.
J6 = The sample matrix interfered with the ability to make any accurate determination; spike value is low.
a = TPH-mo result is C22-C32 and C32-C40 combined.

Historical analytical information based on review of:
Letter by Gettler-Ryan Inc. dated November 19, 1987.
Case Closure Summary by City of Hayward Fire Department, dated June 19, 1996.
Human Health Risk Assessment by Cambria, dated May 10, 2001.

TABLE 2
Summary of Groundwater Sample Results
Former Shell Service Station
27501 Loyola Avenue
Hayward, California

Sample ID	Date Sampled	Sample Depth (feet bgs)	PCE (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethyl-benzene (µg/L)	Xylenes (µg/L)	Naphthalene (µg/L)	Styrene (µg/L)	sec-Butyl benzene (µg/L)	n-Butyl benzene (µg/L)	n-Propyl benzene (µg/L)	Isopropylbenzene (µg/L)	Other VOCs (µg/L)
SB-5-W	01/04/18	11.35	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	ND
SB-6-W	01/04/18	11.21	<8.20 MDL	<5.10 MDL	9.7 J	69	<25.0 MDL	1,100	6.3 J	42 J	100	870	290	ND

Notes:
ug/L = micrograms per liter
<0.50 = analyte not detected at or above the laboratory method reporting limit shown
<0.50 MDL = analyte not detected at or above the laboratory method detection limit shown
ND = Not detected above laboratory reporting limits.
VOC = volatile organic compound
bgs = below ground surface

TABLE 4
SOIL GAS SAMPLE DATA SUMMARY
27501 Loyola Avenue, Hayward, California

Location ID	Date	Depth (feet bgs)	Benzene (µg/m^3)	Toluene (µg/m^3)	Ethylbenzene (µg/m^3)	Total Xylenes (µg/m^3)	Naphthalene (µg/m^3)	PCE (µg/m^3)	TCE (µg/m^3)	Methane (%)	Oxygen (%)	Carbon Dioxide (%)	Leak Check Helium (%)
SG-1	7/21/2017	5	3.76	20.4	43.3	142.7	31	3.36	<2.14	<0.400	14.2	0.886	<0.01
	1/4/2018	5	<1.28	<1.51	<1.73	<5.2	<6.60	<2.72	6.72	<0.001	17.0	0.693	<1.00
SG-2	7/21/2017	5	1.43	8.22	8.24	9.65	<17	<2.72	<2.14	<0.400	5.23	<0.500	<0.01
	1/4/2018	5	<1.28	<1.51	<1.73	<5.2	<6.60	<2.72	<2.14	<0.001	17.3	<0.500	<1.00
SG-3	7/21/2017	5	<1.28	6.56	2.35	<5.20	<17	4.34	<2.14	<0.400	14.7	1.03	<0.01
	1/4/2018	5	<1.28	<1.51	<1.73	<5.2	<6.60	<2.72	<2.14	<0.001	17.1	<0.500	<1.00
SG-4	7/21/2017	5	<1.28	2.35	5.27	9.31	<17	<2.72	<2.14	<0.400	9.49	0.871	<0.01
	1/4/2018	5	<5.94	<1.51	<1.73	<5.2	<6.60	<2.72	<2.14	<0.001	16.8	0.734	<1.00
SG-5	1/4/2018	5	4.01	34.8	7.22	30.68	<6.60	<2.72	<2.14	0.00156	17.1	<0.500	<1.00
Comparison Values:													
ESL_{VI} (res)			48	160,000	560	52,000	41	240	240	NE	NE	NE	NE
% Methane			N/A	N/A	N/A	N/A	N/A	N/A	N/A	5	N/A	N/A	N/A

Notes:

(J4)	The associated batch QC was outside the established quality control range for accuracy
<RL	Less than the reporting limit
µg/m^3	Micrograms per cubic meter
bgs	Below ground surface
Bold	Result exceeds a comparison value
cis-1,2-DCE	cis-1,2-Dichloroethene
MEK	2-Butanone or methyl ethyl ketone
N/A	Not applicable
NE	Not established
PCE	Tetrachloroethene
TCE	Trichloroethene
TPH-g	Total petroleum hydrocarbons as gasoline
trans-1,2-DCE	trans-1,2-Dichloroethene

Comparison Values:

ESL_{VI}(res): SFB RWQCB Environmental screening level derived from the subslab/soil gas vapor intrusion human health risk levels under a residential use scenario

% Methane: Detected percentages of methane were noted not to exceed the regulatory limit of 5% (established for nearby monitoring wells associated with the former landfill at the Site

TABLE 4
SOIL GAS SAMPLE DATA SUMMARY
27501 Loyola Avenue, Hayward, California

Location ID	Date	Acetone (µg/m^3)	Bromo-dichloromethane (µg/m^3)	Carbon Disulfide (µg/m^3)	Chloroform (µg/m^3)	Chloromethane (µg/m^3)	Cyclohexane (µg/m^3)	1,4-Dioxane (µg/m^3)	Ethanol (µg/m^3)	4-Ethyl toluene (µg/m^3)
SG-1	7/21/2017	48.1	3.41	2.24	6.25	0.833	13.0	3.75	12.8	2.74
	1/4/2018	<5.94	<2.68	<1.24	<1.95	<0.826	<1.38	<1.44	5.70	<1.96
SG-2	7/21/2017	6.65	<2.68	1.73	<1.95	<0.826	9.83	<1.44	9.39	<1.96
	1/4/2018	7.15	<2.68	<1.24	<1.95	<0.826	<1.38	<1.44	12.7	<1.96
SG-3	7/21/2017	36.3	<2.68	1.35	<1.95	1.68	3.07	<1.44	29.2	<1.96
	1/4/2018	7.94	<2.68	<1.24	1.95	<0.826	<1.38	<1.44	5.39	<1.96
SG-4	7/21/2017	9.70	<2.68	1.30	<1.95	<0.826	4.40	<1.44	9.63	<1.96
	1/4/2018	<5.94	<2.68	<1.24	<1.95	<0.826	<1.38	<1.44	3.63	<1.96
SG-5	1/4/2018	25.9	<2.68	<1.24	<1.95	<0.826	6.20	<1.44	24.5	7.78
Comparison Values:										
ESL_{VI} (res)		16,000,000	38	NE	61	47,000	NE	180	NE	NE
% Methane		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Notes:

(J4)	(J4)	The associated batch QC was outside the established quality control range for accuracy
<RL	<RL	Less than the reporting limit
µg/m^3	µg/m^3	Micrograms per cubic meter
bgs	bgs	Below ground surface
Bold	**Bold**	Result exceeds a comparison value
cis-1,2-DCE	cis-1,2-DCE	cis-1,2-Dichloroethene
MEK	MEK	2-Butanone or methyl ethyl ketone
N/A	N/A	Not applicable
NE	NE	Not established
PCE	PCE	Tetrachloroethene
TCE	TCE	Trichloroethene
TPH-g	TPH-g	Total petroleum hydrocarbons as gasoline
trans-1,2-DCE	trans-1,2-DCE	trans-1,2-Dichloroethene

Comparison Values:

ESL_{VI}(res): SFB RWQCB Environmental screening level derived from the subslab/soil gas vapor intrusion human health risk levels under a residential use scenario

% Methane: Detected percentages of methane were noted not to exceed the regulatory limit of 5% (established for nearby monitoring wells associated with the former landfill at the Site

TABLE 4
SOIL GAS SAMPLE DATA SUMMARY
27501 Loyola Avenue, Hayward, California

Location ID	Date	n-Hexane (µg/m^3)	2-Propanol (µg/m^3)	Propene (µg/m^3)	1,2,4-Trimethyl benzene (µg/m^3)	1,3,5-Trimethyl benzene (µg/m^3)	2,2,4-Trimethyl pentane (µg/m^3)	Tetra-hydrofuran (µg/m^3)	1,1-Difluoro ethane (µg/m^3)	Other VOCs (µg/m^3)
SG-1	7/21/2017	<1.41	7.49	<1.38	2.65	-	-	1.49	2.00	<RL
	1/4/2018	<1.41	<6.15	<1.38	<1.96	<1.96	<1.87	<1.18	1.50	<RL
SG-2	7/21/2017	<1.41	<6.15	2.10	<1.96	-	-	<1.18	<1.08	<RL
	1/4/2018	<1.41	7.24	<1.38	<1.96	<1.96	<1.87	<1.18	2.23	<RL
SG-3	7/21/2017	<1.41	<6.15	<1.38	<1.96	-	-	<1.18	3.09	<RL
	1/4/2018	<1.41	<6.15	<1.38	<1.96	<1.96	<1.87	<1.18	3.16	<RL
SG-4	7/21/2017	1.56	<6.15	<1.38	<1.96	-	-	<1.18	<1.08	<RL
	1/4/2018	<1.41	<6.15	<1.38	<1.96	<1.96	<1.87	<1.18	1.85	<RL
SG-5	1/4/2018	13.5	19	<1.38	8.54	2.14	23.2	<1.18	4.79	<RL
Comparison Values:										
ESL_{VI} (res)		NE	NE	NE	NE	NE	NE	NE	NE	N/A
% Methane		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Notes:

(J4)	(J4)	The associated batch QC was outside the established quality control range for accuracy
<RL	<RL	Less than the reporting limit
µg/m^3	µg/m^3	Micrograms per cubic meter
bgs	bgs	Below ground surface
Bold	**Bold**	Result exceeds a comparison value
cis-1,2-DCE	cis-1,2-DCE	cis-1,2-Dichloroethene
MEK	MEK	2-Butanone or methyl ethyl ketone
N/A	N/A	Not applicable
NE	NE	Not established
PCE	PCE	Tetrachloroethene
TCE	TCE	Trichloroethene
TPH-g	TPH-g	Total petroleum hydrocarbons as gasoline
trans-1,2-DCE	trans-1,2-DCE	trans-1,2-Dichloroethene

Comparison Values:

ESL_{VI}(res): SFB RWQCB Environmental screening level derived from the subslab/soil gas vapor intrusion human health risk levels under a residential use scenario

% Methane: Detected percentages of methane were noted not to exceed the regulatory limit of 5% (established for nearby monitoring wells associated with the former landfill at the Site

APPENDIX A
Permits

AEI Consultants

Alameda County Public Works Agency - Water Resources Well Permit

Public Works Agency
Alameda County

399 Elmhurst Street
Hayward, CA 94544-1395
Telephone: (510)670-6633 Fax:(510)782-1939

Application Approved on: 12/28/2017 By jamesy

Permit Numbers: W2017-0979 to W2017-0980
Permits Valid from 01/04/2018 to 01/04/2018

Application Id:	1510949027198	**City of Project Site:**	Hayward
Site Location:	27501 Loyola Ave, Hayward, CA 94545, USA-		
Project Start Date:	01/04/2018	**Completion Date:**	01/04/2018
Assigned Inspector:	Contact Eneyew Amberber at (510) 670-5759 or eneyew@acpwa.org		

Applicant:	AEI Consultants - William Banker-Hix 2500 Camino Diablo, WALNUT CREEK, CA 94595	**Phone:** 925-746-6050
Property Owner:	Daniel Bo 3942 Valley Ave, Pleasanton, CA 94566	**Phone:** 925-918-0637
Client:	Daniel Bo 3942 Valley Ave, Pleasanton, CA 94566	**Phone:** 925-918-0637
Contact:	William Banker-Hix	**Phone:** 805-674-7835 **Cell:** 805-674-7835

	Total Due:	$530.00
Receipt Number: WR2017-0623	**Total Amount Paid:**	$530.00
Payer Name : William Banker-Hix	Paid By: VISA	**PAID IN FULL**

Works Requesting Permits:

Borehole(s) for Investigation-Environmental/Monitorinig Study - 3 Boreholes
Driller: Environmental Control Associates - Lic #: 695970 - Method: DP **Work Total: $265.00**

Specifications

Permit Number	Issued Dt	Expire Dt	# Boreholes	Hole Diam	Max Depth
W2017-0979	12/28/2017	04/04/2018	3	2.25 in.	20.00 ft

Specific Work Permit Conditions

1. Backfill bore hole by tremie with cement grout or cement grout/sand mixture. Upper two-three feet replaced in kind or with compacted cuttings. All cuttings remaining or unused shall be containerized and hauled off site. The containers shall be clearly labeled to the ownership of the container and labeled hazardous or non-hazardous.

2. Boreholes shall not be left open for a period of more than 24 hours. All boreholes left open more than 24 hours will need approval from Alameda County Public Works Agency, Water Resources Section. All boreholes shall be backfilled according to permit destruction requirements and all concrete material and asphalt material shall be to Caltrans Spec or County/City Codes. No borehole(s) shall be left in a manner to act as a conduit at any time.

3. Permittee shall assume entire responsibility for all activities and uses under this permit and shall indemnify, defend and save the Alameda County Public Works Agency, its officers, agents, and employees free and harmless from any and all expense, cost, liability in connection with or resulting from the exercise of this Permit including, but not limited to, properly damage, personal injury and wrongful death.

4. Applicant shall contact assigned inspector listed on the top of the permit at least five (5) working days prior to starting, once the permit has been approved. Confirm the scheduled date(s) at least 24 hours prior to drilling.

5. Copy of approved drilling permit must be on site at all times. Failure to present or show proof of the approved permit application on site shall result in a fine of $500.00.

6. Electronic Reporting Regulations (Chapter 30, Division 3 of Title 23 & Division 3 of Title 27, CCR) require electronic submission of any report or data required by a regulatory agency from a cleanup site. Submission dates are set by a Regional Water Board or by a regulatory agency. Once a report/data is successfully uploaded, as required, you have met the reporting requirement (i.e. the compliance measure for electronic submittals is the actual upload itself). The upload date should be on or prior to the regulatory due date.

7. NOTE:
Under California laws, the owner/operator are responsible for reporting the contamination to the governmental regulatory agencies under Section 25295(a). The owner/operator is liable for civil penalties under Section 25299(a)(4) and criminal penalties under Section 25299(d) for failure to report a leak. The owner/operator is liable for civil penalties under Section 25299(b)(4) for knowing failure to ensure compliance with the law by the operator. These penalty provisions do not apply to a potential buyer.

8. Prior to any drilling activities onto any public right-of-ways, it shall be the applicants responsibilities to contact and coordinate a Underground Service Alert (USA), obtain encroachment permit(s), excavation permit(s) or any other permits required for that City or to the County and follow all City or County Ordinances. It shall also be the applicants responsibilities to provide to the Cities or to Alameda County a Traffic Safety Plan for any lane closures or detours planned. No work shall begin until all the permits and requirements have been approved or obtained.

9. Permit is valid only for the purpose specified herein. No changes in construction procedures, as described on this permit application. Boreholes shall not be converted to monitoring wells, without a permit application process.

Well Construction-Vapor monitoring well-Vapor monitoring well - 1 Wells
Driller: Environmental Control Associates - Lic #: 695970 - Method: DP **Work Total: $265.00**

Specifications

Permit #	Issued Date	Expire Date	Owner Well Id	Hole Diam.	Casing Diam.	Seal Depth	Max. Depth
W2017-0980	12/28/2017	04/04/2018	SG-5	2.25 in.	2.25 in.	4.00 ft	5.50 ft

Specific Work Permit Conditions

1. Drilling Permit(s) can be voided/ cancelled only in writing. It is the applicant's responsibility to notify Alameda County Public Works Agency, Water Resources Section in writing for an extension or to cancel the drilling permit application. No drilling permit application(s) shall be extended beyond ninety (90) days from the original start date. Applicants may not cancel a drilling permit application after the completion date of the permit issued has passed.

2. Compliance with the above well-sealing specifications shall not exempt the well-sealing contractor from complying with appropriate state reporting-requirements related to well destruction (Sections 13750 through 13755 (Division 7, Chapter 10, Article 3) of the California Water Code). Contractor must complete State DWR Form 188 and mail original to the Alameda County Public Works Agency, Water Resources Section, within 30 days, including permit number and site map.

3. Permittee shall assume entire responsibility for all activities and uses under this permit and shall indemnify, defend and save the Alameda County Public Works Agency, its officers, agents, and employees free and harmless from any and all expense, cost, liability in connection with or resulting from the exercise of this Permit including, but not limited to, properly damage, personal injury and wrongful death.

4. Permittee, permittee's contractors, consultants or agents shall be responsible to assure that all material or waters generated during drilling, boring destruction, and/or other activities associated with this Permit will be safely handled, properly managed, and disposed of according to all applicable federal, state, and local statutes regulating such. In no

case shall these materials and/or waters be allowed to enter, or potentially enter, on or off-site storm sewers, dry wells, or waterways or be allowed to move off the property where work is being completed.

5. Prior to any drilling activities, it shall be the applicant's responsibility to contact and coordinate an Underground Service Alert (USA), obtain encroachment permit(s), excavation permit(s) or any other permits or agreements required for that Federal, State, County or City, and follow all City or County Ordinances. No work shall begin until all the permits and requirements have been approved or obtained. It shall also be the applicants responsibilities to provide to the Cities or to Alameda County an Traffic Safety Plan for any lane closures or detours planned.

6. No changes in construction procedures or well type shall change, as described on this permit application. This permit may be voided if it contains incorrect information.

7. Applicant shall submit the copies of the approved encroachment permit to this office within 10 days.

8. Applicant shall contact assigned inspector listed on the top of the permit at least five (5) working days prior to starting, once the permit has been approved. Confirm the scheduled date(s) at least 24 hours prior to drilling.

9. Wells shall have a Christy box or similar structure with a locking cap or cover. Well(s) shall be kept locked at all times. Well(s) that become damaged by traffic or construction shall be repaired in a timely manner or destroyed immediately (through permit process). No well(s) shall be left in a manner to act as a conduit at any time.

10. Copy of approved drilling permit must be on site at all times. Failure to present or show proof of the approved permit application on site shall result in a fine of $500.00.

11. Electronic Reporting Regulations (Chapter 30, Division 3 of Title 23 & Division 3 of Title 27, CCR) require electronic submission of any report or data required by a regulatory agency from a cleanup site. Submission dates are set by a Regional Water Board or by a regulatory agency. Once a report/data is successfully uploaded, as required, you have met the reporting requirement (i.e. the compliance measure for electronic submittals is the actual upload itself). The upload date should be on or prior to the regulatory due date.

12. Vapor monitoring wells above water level constructed with tubing maybe be backfilled with pancake-batter consistency bentonite. Minimum surface seal thickness is two inches of cement grout around well box.

Vapor monitoring wells above water level constructed with pvc pipe shall have a minimum seal depth (Neat Cement Seal) of 2 feet below ground surface (BGS). Minimum surface seal thickness is two inches of cement grout around well box. All other conditions for monitoring well construction shall apply.

APPENDIX B
Soil Boring Logs

AEI Consultants

AEI Consultants
3880 S. Bascom Avenue, Suite 109
San Jose, CA 95124
Telephone: 408-559-7600

BORING NUMBER SB-5

CLIENT Harvest Investments
PROJECT NAME Harvest Investments
PROJECT NUMBER 335476
PROJECT LOCATION Hayward, California
DATE STARTED 1/4/18 **COMPLETED** 1/4/18
GROUND ELEVATION _____ **HOLE SIZE** 2.25 inches
DRILLING CONTRACTOR Environmental Control Associates, Inc.
GROUND WATER LEVELS:
DRILLING METHOD Direct Push
▽ **AT TIME OF DRILLING** 11.35 ft
LOGGED BY Nina Abdollahian **CHECKED BY** T. Weise
▼ **AT END OF DRILLING** 11.35 ft
NOTES _____
AFTER DRILLING ---

DEPTH (ft)	SAMPLE TYPE NUMBER	BLOW COUNTS	PID DATA (ppm)	GRAPHIC LOG	MATERIAL DESCRIPTION	COMPLETION
0					SANDY GRAVEL (GP) very dark grayish brown (10YR 3/2), loose, dry, subangular gravel, no odor	
					2.0	
	SB-5-2.5		1.9		SILTY CLAY (CL) very dark gray (10YR 3/1), very stiff, dry, no odor, low plasticity	
					4.0	
5			1.2		SILTY CLAY (CL) light olive brown (2.5Y 5/3), very stiff, dry, trace gravel, no odor, low plasticity	
	SB-5-5.5		1.5		color change at 7 feet bgs, dark grayish brown (2.5Y 4/2)	
					moist at 8 feet bgs	
	SB-5-7.5		1.2		8.0 SILTY CLAY (CL) dark grayish brown (2.5Y 4/2) soft, dry, no odor, low plasticity	
					9.0	
10			0.3		10.0 CLAY (CL) dark grayish brown (2.5Y 4/2), medium stiff, dry, no odor, low plasticity	
					▼ SILTY CLAY (CL) dark grayish brown (2.5Y 4/2), soft, moist, with sand, no odor, low plasticity	
	SB-5-11.5		1.2		wet at 12 feet bgs	
					13.0 SILTY CLAY (CL) dark greenish gray (GLEY 1 4/5G_/1), soft, wet, strong odor, low plasticity	
15			114.4		2 inch sand lense at 14 feet bgs	
					16.0	
			1.9		color change at 15 feet bgs, yellowish brown (10YR 5/4)	

Bottom of borehole at 16.0 feet.

AEI Consultants
3880 S. Bascom Avenue, Suite 109
San Jose, CA 95124
Telephone: 408-559-7600

BORING NUMBER SB-6

CLIENT Harvest Investments
PROJECT NAME Harvest Investments
PROJECT NUMBER 335476
PROJECT LOCATION Hayward, California
DATE STARTED 1/4/18 **COMPLETED** 1/4/18
GROUND ELEVATION _____ **HOLE SIZE** 2.25 inches
DRILLING CONTRACTOR Environmental Control Associates, Inc.
GROUND WATER LEVELS:
DRILLING METHOD Direct Push
AT TIME OF DRILLING 11.21 ft
LOGGED BY Nina Abdollahian **CHECKED BY** T. Weise
AT END OF DRILLING 11.21 ft
NOTES _____
AFTER DRILLING ---

DEPTH (ft)	SAMPLE TYPE NUMBER	BLOW COUNTS	PID DATA (ppm)	GRAPHIC LOG	MATERIAL DESCRIPTION	COMPLETION
0					0.5 TOPSOIL	
					1.0 SAND (SP) very dark grayish brown (10YR 3/2), loose, dry, with gravel, fine sand, some silt, no odor (FILL)	
	SB-6-2.5		0.8		SILTY CLAY (CL) very dark gray (10YR 3/1), stiff, dry, no odor, some roots, low plasticity	
					4.0 color change at 3 feet bgs brown (10YR 5/3)	
5			2.2		SILTY CLAY (CL) very dark gray (10YR 3/1), dry, stiff, no odor, low plasticity	
			1.8		color change at 6 feet bgs, dark grayish brown (10YR 4/2)	
	SB-6-7.5				8.0	
			2.2		SILTY CLAY (CL) dark grayish brown (10YR 4/2), medium stiff, dry, no odor, low plasticity	
10	SB-6-9.5				10.0	
			2.2		SILTY SAND (SP) dark greenish gray (10GY 4/1), loose, wet, brown mottling, strong odor	
	SB-6-11.5		2.6			
					14.0	
15					CLAY (CL) dark greenish gray (GLEY 1 4/5G_/1), soft, wet, strong odor, low plasticity	
	SB-6-15.5		7.9		16.0 Bottom of borehole at 16.0 feet.	

AEI Consultants
2500 Camino Diablo
94597
Telephone: 925-746-6044

BORING NUMBER SG-5

CLIENT Harvest Investments
PROJECT NAME Harvest Investments
PROJECT NUMBER 335476
PROJECT LOCATION Hayward, California
DATE STARTED 1/4/18 **COMPLETED** 1/4/18
GROUND ELEVATION _____ **HOLE SIZE** 2.25 inches
DRILLING CONTRACTOR Environmental Control Associates, Inc.
GROUND WATER LEVELS:
DRILLING METHOD Direct Push
AT TIME OF DRILLING ---
LOGGED BY Nina Abdollahian **CHECKED BY** T. Weise
AT END OF DRILLING ---
NOTES
AFTER DRILLING ---

DEPTH (ft)	SAMPLE TYPE NUMBER	BLOW COUNTS	PID DATA (ppm)	GRAPHIC LOG	MATERIAL DESCRIPTION	COMPLETION
0					SILTY CLAY (CL) very dark grayish brown (2.5Y 3/2), very stiff, dry, no odor, roots, low plasticity	Well Box
	SG-5-3		1.0			Neat Cement Grout
					3.0 SILTY CLAY (CL) olive brown (2.5Y 4/3), very stiff, dry, no odor, low plasticity	Dry Bentonite
5						Filter Pack: Sand
			0.8		5.5 Bottom of borehole at 5.5 feet.	

APPENDIX C
Field Data Sheet

AEI Consultants

SOIL VAPOR SAMPLING FIELD DATA
27501 Loyola Avenue
Hayward, California
AEI No. 335476

Sample ID	Canister #	Regulator #	Regulator Flow Rate (100-200 mL/min)	Shut-in Test Passed (Date and Time) [1]	Sample Date	Target Purge Volume (mL)	Start Purge Time	End Purge Time	Shroud Helium Concentration (>20%)	Sample Train Helium Concentration (<500 ppm)	Began sampling Time	Initial vacuum (>25 in-Hg)	End sampling Time	Final vacuum (3-5 in-Hg)	General Notes
4 SG-1	6100	8617	200	1/3/2018 11:42	1/4/18		1254	1259	91.1%	0	1302	29	1307	5	
3 SG-2	5752	6376	150	1/3/2018 11:47	1/4/18		1224	1229	46.5%	0	1232	28	1237	5	
1 SG-3	5227	6809	200	1/3/2018 11:57	1/4/18		1117	1122	29.3%	0	1126	25	1130	5	
2 SG-4	7954	8652	200	1/3/2018 12:08	1/4/18		1148	1153	35.4%	550	1158	29.5	1203	5	
5 SG-5	7914	6440	200	1/3/2018 12:17	1/4/18		1453	1458	36.4%	0	1502	26	1508	5	

Notes:

[1] = Shut-in Test - Induce 15" of Mercury vacuum; verify that no observable movement occurs over a 1 minute period.
Complete during pre-field

* RAN OUT of helium at SG-5, A NEW helium TANK was picked up to complete SAMPLING.

NINA Abdollahian

File: Soil Vapor sampling Field Data Form

APPENDIX D
Laboratory Analytical Reports

AEI Consultants

McCampbell Analytical, Inc.
"When Quality Counts"

Analytical Report

WorkOrder: 1801278 **Amended:** 02/06/2018

Report Created for: AEI Consultants

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

Project Contact: Nina Abdollahian
Project P.O.: 146720
Project: 335476; Hayward, Loyola

Project Received: 01/05/2018

Analytical Report reviewed & approved for release on 01/12/2018 by:

Heidi Fruhlinger
Project Manager

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

Glossary of Terms & Qualifier Definitions

Client: AEI Consultants
Project: 335476; Hayward, Loyola
WorkOrder: 1801278

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: 335476; Hayward, Loyola
WorkOrder: 1801278

Analytical Qualifiers

J	Result is less than the RL/ML but greater than the MDL. The reported concentration is an estimated value.
S	Surrogate spike recovery outside accepted recovery limits
a2	Sample diluted due to cluttered chromatogram
a3	Sample diluted due to high organic content.
b1	Aqueous sample that contains greater than ~1 vol. % sediment
c2	Surrogate recovery outside of the control limits due to matrix interference.
e2	Diesel range compounds are significant; no recognizable pattern
e7	Oil range compounds are significant

Quality Control Qualifiers

F1	MS/MSD recovery and/or RPD is out of acceptance criteria; LCS validates the prep batch.

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

Analytical Report

Client:	AEI Consultants	**WorkOrder:**	1801278
Date Received:	1/5/18 19:20	**Extraction Method:**	SW5030B
Date Prepared:	1/5/18	**Analytical Method:**	SW8260B
Project:	335476; Hayward, Loyola	**Unit:**	mg/kg

Volatile Organics

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SB-6-2.5	1801278-002A	Soil	01/04/2018 08:49	GC16 01091810.D	151211

Analytes	Result	RL	DF	Date Analyzed
Acetone	ND	0.10	1	01/09/2018 13:28
tert-Amyl methyl ether (TAME)	ND	0.0050	1	01/09/2018 13:28
Benzene	ND	0.0050	1	01/09/2018 13:28
Bromobenzene	ND	0.0050	1	01/09/2018 13:28
Bromochloromethane	ND	0.0050	1	01/09/2018 13:28
Bromodichloromethane	ND	0.0050	1	01/09/2018 13:28
Bromoform	ND	0.0050	1	01/09/2018 13:28
Bromomethane	ND	0.0050	1	01/09/2018 13:28
2-Butanone (MEK)	ND	0.020	1	01/09/2018 13:28
t-Butyl alcohol (TBA)	ND	0.050	1	01/09/2018 13:28
n-Butyl benzene	ND	0.0050	1	01/09/2018 13:28
sec-Butyl benzene	ND	0.0050	1	01/09/2018 13:28
tert-Butyl benzene	ND	0.0050	1	01/09/2018 13:28
Carbon Disulfide	ND	0.0050	1	01/09/2018 13:28
Carbon Tetrachloride	ND	0.0050	1	01/09/2018 13:28
Chlorobenzene	ND	0.0050	1	01/09/2018 13:28
Chloroethane	ND	0.0050	1	01/09/2018 13:28
Chloroform	ND	0.0050	1	01/09/2018 13:28
Chloromethane	ND	0.0050	1	01/09/2018 13:28
2-Chlorotoluene	ND	0.0050	1	01/09/2018 13:28
4-Chlorotoluene	ND	0.0050	1	01/09/2018 13:28
Dibromochloromethane	ND	0.0050	1	01/09/2018 13:28
1,2-Dibromo-3-chloropropane	ND	0.0040	1	01/09/2018 13:28
1,2-Dibromoethane (EDB)	ND	0.0040	1	01/09/2018 13:28
Dibromomethane	ND	0.0050	1	01/09/2018 13:28
1,2-Dichlorobenzene	ND	0.0050	1	01/09/2018 13:28
1,3-Dichlorobenzene	ND	0.0050	1	01/09/2018 13:28
1,4-Dichlorobenzene	ND	0.0050	1	01/09/2018 13:28
Dichlorodifluoromethane	ND	0.0050	1	01/09/2018 13:28
1,1-Dichloroethane	ND	0.0050	1	01/09/2018 13:28
1,2-Dichloroethane (1,2-DCA)	ND	0.0040	1	01/09/2018 13:28
1,1-Dichloroethene	ND	0.0050	1	01/09/2018 13:28
cis-1,2-Dichloroethene	ND	0.0050	1	01/09/2018 13:28
trans-1,2-Dichloroethene	ND	0.0050	1	01/09/2018 13:28
1,2-Dichloropropane	ND	0.0050	1	01/09/2018 13:28
1,3-Dichloropropane	ND	0.0050	1	01/09/2018 13:28
2,2-Dichloropropane	ND	0.0050	1	01/09/2018 13:28

(Cont.)

McCampbell Analytical, Inc.
"When Quality Counts"

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Toll Free Telephone: (877) 252-9262 / Fax: (925) 252-9269
http://www.mccampbell.com / E-mail: main@mccampbell.com

Analytical Report

Client:	AEI Consultants	**WorkOrder:**	1801278
Date Received:	1/5/18 19:20	**Extraction Method:**	SW5030B
Date Prepared:	1/5/18	**Analytical Method:**	SW8260B
Project:	335476; Hayward, Loyola	**Unit:**	mg/kg

Volatile Organics

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SB-6-2.5	1801278-002A	Soil	01/04/2018 08:49	GC16 01091810.D	151211

Analytes	Result	RL	DF	Date Analyzed
1,1-Dichloropropene	ND	0.0050	1	01/09/2018 13:28
cis-1,3-Dichloropropene	ND	0.0050	1	01/09/2018 13:28
trans-1,3-Dichloropropene	ND	0.0050	1	01/09/2018 13:28
Diisopropyl ether (DIPE)	ND	0.0050	1	01/09/2018 13:28
Ethylbenzene	ND	0.0050	1	01/09/2018 13:28
Ethyl tert-butyl ether (ETBE)	ND	0.0050	1	01/09/2018 13:28
Freon 113	ND	0.0050	1	01/09/2018 13:28
Hexachlorobutadiene	ND	0.0050	1	01/09/2018 13:28
Hexachloroethane	ND	0.0050	1	01/09/2018 13:28
2-Hexanone	ND	0.0050	1	01/09/2018 13:28
Isopropylbenzene	ND	0.0050	1	01/09/2018 13:28
4-Isopropyl toluene	ND	0.0050	1	01/09/2018 13:28
Methyl-t-butyl ether (MTBE)	ND	0.0050	1	01/09/2018 13:28
Methylene chloride	ND	0.0050	1	01/09/2018 13:28
4-Methyl-2-pentanone (MIBK)	ND	0.0050	1	01/09/2018 13:28
Naphthalene	ND	0.0050	1	01/09/2018 13:28
n-Propyl benzene	ND	0.0050	1	01/09/2018 13:28
Styrene	ND	0.0050	1	01/09/2018 13:28
1,1,1,2-Tetrachloroethane	ND	0.0050	1	01/09/2018 13:28
1,1,2,2-Tetrachloroethane	ND	0.0050	1	01/09/2018 13:28
Tetrachloroethene	ND	0.0050	1	01/09/2018 13:28
Toluene	ND	0.0050	1	01/09/2018 13:28
1,2,3-Trichlorobenzene	ND	0.0050	1	01/09/2018 13:28
1,2,4-Trichlorobenzene	ND	0.0050	1	01/09/2018 13:28
1,1,1-Trichloroethane	ND	0.0050	1	01/09/2018 13:28
1,1,2-Trichloroethane	ND	0.0050	1	01/09/2018 13:28
Trichloroethene	ND	0.0050	1	01/09/2018 13:28
Trichlorofluoromethane	ND	0.0050	1	01/09/2018 13:28
1,2,3-Trichloropropane	ND	0.0050	1	01/09/2018 13:28
1,2,4-Trimethylbenzene	ND	0.0050	1	01/09/2018 13:28
1,3,5-Trimethylbenzene	ND	0.0050	1	01/09/2018 13:28
Vinyl Chloride	ND	0.0050	1	01/09/2018 13:28
Xylenes, Total	ND	0.0050	1	01/09/2018 13:28

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Analytical Report

Client:	AEI Consultants	**WorkOrder:**	1801278
Date Received:	1/5/18 19:20	**Extraction Method:**	SW5030B
Date Prepared:	1/5/18	**Analytical Method:**	SW8260B
Project:	335476; Hayward, Loyola	**Unit:**	mg/kg

Volatile Organics

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SB-6-2.5	**1801278-002A**	**Soil**	**01/04/2018 08:49**	**GC16 01091810.D**	**151211**

Analytes	Result	RL	DF	Date Analyzed
Surrogates	REC (%)	Limits		
Dibromofluoromethane	111	82-136		01/09/2018 13:28
Toluene-d8	102	92-139		01/09/2018 13:28
4-BFB	116	82-135		01/09/2018 13:28
Benzene-d6	83	55-122		01/09/2018 13:28
Ethylbenzene-d10	91	58-141		01/09/2018 13:28
1,2-DCB-d4	71	51-107		01/09/2018 13:28

Analyst(s): AK

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Analytical Report

Client:	AEI Consultants	**WorkOrder:**	1801278
Date Received:	1/5/18 19:20	**Extraction Method:**	SW5030B
Date Prepared:	1/5/18	**Analytical Method:**	SW8260B
Project:	335476; Hayward, Loyola	**Unit:**	mg/kg

Volatile Organics

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SB-6-7.5	1801278-003A	Soil	01/04/2018 08:46	GC16 01091811.D	151211

Analytes	Result	RL	DF	Date Analyzed
Acetone	ND	0.10	1	01/09/2018 14:08
tert-Amyl methyl ether (TAME)	ND	0.0050	1	01/09/2018 14:08
Benzene	ND	0.0050	1	01/09/2018 14:08
Bromobenzene	ND	0.0050	1	01/09/2018 14:08
Bromochloromethane	ND	0.0050	1	01/09/2018 14:08
Bromodichloromethane	ND	0.0050	1	01/09/2018 14:08
Bromoform	ND	0.0050	1	01/09/2018 14:08
Bromomethane	ND	0.0050	1	01/09/2018 14:08
2-Butanone (MEK)	ND	0.020	1	01/09/2018 14:08
t-Butyl alcohol (TBA)	ND	0.050	1	01/09/2018 14:08
n-Butyl benzene	ND	0.0050	1	01/09/2018 14:08
sec-Butyl benzene	ND	0.0050	1	01/09/2018 14:08
tert-Butyl benzene	ND	0.0050	1	01/09/2018 14:08
Carbon Disulfide	ND	0.0050	1	01/09/2018 14:08
Carbon Tetrachloride	ND	0.0050	1	01/09/2018 14:08
Chlorobenzene	ND	0.0050	1	01/09/2018 14:08
Chloroethane	ND	0.0050	1	01/09/2018 14:08
Chloroform	ND	0.0050	1	01/09/2018 14:08
Chloromethane	ND	0.0050	1	01/09/2018 14:08
2-Chlorotoluene	ND	0.0050	1	01/09/2018 14:08
4-Chlorotoluene	ND	0.0050	1	01/09/2018 14:08
Dibromochloromethane	ND	0.0050	1	01/09/2018 14:08
1,2-Dibromo-3-chloropropane	ND	0.0040	1	01/09/2018 14:08
1,2-Dibromoethane (EDB)	ND	0.0040	1	01/09/2018 14:08
Dibromomethane	ND	0.0050	1	01/09/2018 14:08
1,2-Dichlorobenzene	ND	0.0050	1	01/09/2018 14:08
1,3-Dichlorobenzene	ND	0.0050	1	01/09/2018 14:08
1,4-Dichlorobenzene	ND	0.0050	1	01/09/2018 14:08
Dichlorodifluoromethane	ND	0.0050	1	01/09/2018 14:08
1,1-Dichloroethane	ND	0.0050	1	01/09/2018 14:08
1,2-Dichloroethane (1,2-DCA)	ND	0.0040	1	01/09/2018 14:08
1,1-Dichloroethene	ND	0.0050	1	01/09/2018 14:08
cis-1,2-Dichloroethene	ND	0.0050	1	01/09/2018 14:08
trans-1,2-Dichloroethene	ND	0.0050	1	01/09/2018 14:08
1,2-Dichloropropane	ND	0.0050	1	01/09/2018 14:08
1,3-Dichloropropane	ND	0.0050	1	01/09/2018 14:08
2,2-Dichloropropane	ND	0.0050	1	01/09/2018 14:08

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Analytical Report

Client:	AEI Consultants	**WorkOrder:**	1801278
Date Received:	1/5/18 19:20	**Extraction Method:**	SW5030B
Date Prepared:	1/5/18	**Analytical Method:**	SW8260B
Project:	335476; Hayward, Loyola	**Unit:**	mg/kg

Volatile Organics

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SB-6-7.5	1801278-003A	Soil	01/04/2018 08:46	GC16 01091811.D	151211

Analytes	Result	RL	DF	Date Analyzed
1,1-Dichloropropene	ND	0.0050	1	01/09/2018 14:08
cis-1,3-Dichloropropene	ND	0.0050	1	01/09/2018 14:08
trans-1,3-Dichloropropene	ND	0.0050	1	01/09/2018 14:08
Diisopropyl ether (DIPE)	ND	0.0050	1	01/09/2018 14:08
Ethylbenzene	ND	0.0050	1	01/09/2018 14:08
Ethyl tert-butyl ether (ETBE)	ND	0.0050	1	01/09/2018 14:08
Freon 113	ND	0.0050	1	01/09/2018 14:08
Hexachlorobutadiene	ND	0.0050	1	01/09/2018 14:08
Hexachloroethane	ND	0.0050	1	01/09/2018 14:08
2-Hexanone	ND	0.0050	1	01/09/2018 14:08
Isopropylbenzene	ND	0.0050	1	01/09/2018 14:08
4-Isopropyl toluene	ND	0.0050	1	01/09/2018 14:08
Methyl-t-butyl ether (MTBE)	ND	0.0050	1	01/09/2018 14:08
Methylene chloride	ND	0.0050	1	01/09/2018 14:08
4-Methyl-2-pentanone (MIBK)	ND	0.0050	1	01/09/2018 14:08
Naphthalene	ND	0.0050	1	01/09/2018 14:08
n-Propyl benzene	ND	0.0050	1	01/09/2018 14:08
Styrene	ND	0.0050	1	01/09/2018 14:08
1,1,1,2-Tetrachloroethane	ND	0.0050	1	01/09/2018 14:08
1,1,2,2-Tetrachloroethane	ND	0.0050	1	01/09/2018 14:08
Tetrachloroethene	ND	0.0050	1	01/09/2018 14:08
Toluene	ND	0.0050	1	01/09/2018 14:08
1,2,3-Trichlorobenzene	ND	0.0050	1	01/09/2018 14:08
1,2,4-Trichlorobenzene	ND	0.0050	1	01/09/2018 14:08
1,1,1-Trichloroethane	ND	0.0050	1	01/09/2018 14:08
1,1,2-Trichloroethane	ND	0.0050	1	01/09/2018 14:08
Trichloroethene	ND	0.0050	1	01/09/2018 14:08
Trichlorofluoromethane	ND	0.0050	1	01/09/2018 14:08
1,2,3-Trichloropropane	ND	0.0050	1	01/09/2018 14:08
1,2,4-Trimethylbenzene	ND	0.0050	1	01/09/2018 14:08
1,3,5-Trimethylbenzene	ND	0.0050	1	01/09/2018 14:08
Vinyl Chloride	ND	0.0050	1	01/09/2018 14:08
Xylenes, Total	ND	0.0050	1	01/09/2018 14:08

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Analytical Report

Client:	AEI Consultants	**WorkOrder:**	1801278
Date Received:	1/5/18 19:20	**Extraction Method:**	SW5030B
Date Prepared:	1/5/18	**Analytical Method:**	SW8260B
Project:	335476; Hayward, Loyola	**Unit:**	mg/kg

Volatile Organics

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SB-6-7.5	**1801278-003A**	**Soil**	**01/04/2018 08:46**	**GC16 01091811.D**	**151211**

Analytes	Result	RL	DF	Date Analyzed
Surrogates	**REC (%)**	**Limits**		
Dibromofluoromethane	112	82-136		01/09/2018 14:08
Toluene-d8	102	92-139		01/09/2018 14:08
4-BFB	115	82-135		01/09/2018 14:08
Benzene-d6	84	55-122		01/09/2018 14:08
Ethylbenzene-d10	92	58-141		01/09/2018 14:08
1,2-DCB-d4	71	51-107		01/09/2018 14:08

Analyst(s): AK

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Analytical Report

Client:	AEI Consultants	**WorkOrder:**	1801278
Date Received:	1/5/18 19:20	**Extraction Method:**	SW5030B
Date Prepared:	1/5/18	**Analytical Method:**	SW8260B
Project:	335476; Hayward, Loyola	**Unit:**	mg/kg

Volatile Organics

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SB-5-2.5	1801278-008A	Soil	01/04/2018 09:51	GC16 01091812.D	151211

Analytes	Result	RL	DF	Date Analyzed
Acetone	ND	0.10	1	01/09/2018 14:49
tert-Amyl methyl ether (TAME)	ND	0.0050	1	01/09/2018 14:49
Benzene	ND	0.0050	1	01/09/2018 14:49
Bromobenzene	ND	0.0050	1	01/09/2018 14:49
Bromochloromethane	ND	0.0050	1	01/09/2018 14:49
Bromodichloromethane	ND	0.0050	1	01/09/2018 14:49
Bromoform	ND	0.0050	1	01/09/2018 14:49
Bromomethane	ND	0.0050	1	01/09/2018 14:49
2-Butanone (MEK)	ND	0.020	1	01/09/2018 14:49
t-Butyl alcohol (TBA)	ND	0.050	1	01/09/2018 14:49
n-Butyl benzene	ND	0.0050	1	01/09/2018 14:49
sec-Butyl benzene	ND	0.0050	1	01/09/2018 14:49
tert-Butyl benzene	ND	0.0050	1	01/09/2018 14:49
Carbon Disulfide	ND	0.0050	1	01/09/2018 14:49
Carbon Tetrachloride	ND	0.0050	1	01/09/2018 14:49
Chlorobenzene	ND	0.0050	1	01/09/2018 14:49
Chloroethane	ND	0.0050	1	01/09/2018 14:49
Chloroform	ND	0.0050	1	01/09/2018 14:49
Chloromethane	ND	0.0050	1	01/09/2018 14:49
2-Chlorotoluene	ND	0.0050	1	01/09/2018 14:49
4-Chlorotoluene	ND	0.0050	1	01/09/2018 14:49
Dibromochloromethane	ND	0.0050	1	01/09/2018 14:49
1,2-Dibromo-3-chloropropane	ND	0.0040	1	01/09/2018 14:49
1,2-Dibromoethane (EDB)	ND	0.0040	1	01/09/2018 14:49
Dibromomethane	ND	0.0050	1	01/09/2018 14:49
1,2-Dichlorobenzene	ND	0.0050	1	01/09/2018 14:49
1,3-Dichlorobenzene	ND	0.0050	1	01/09/2018 14:49
1,4-Dichlorobenzene	ND	0.0050	1	01/09/2018 14:49
Dichlorodifluoromethane	ND	0.0050	1	01/09/2018 14:49
1,1-Dichloroethane	ND	0.0050	1	01/09/2018 14:49
1,2-Dichloroethane (1,2-DCA)	ND	0.0040	1	01/09/2018 14:49
1,1-Dichloroethene	ND	0.0050	1	01/09/2018 14:49
cis-1,2-Dichloroethene	ND	0.0050	1	01/09/2018 14:49
trans-1,2-Dichloroethene	ND	0.0050	1	01/09/2018 14:49
1,2-Dichloropropane	ND	0.0050	1	01/09/2018 14:49
1,3-Dichloropropane	ND	0.0050	1	01/09/2018 14:49
2,2-Dichloropropane	ND	0.0050	1	01/09/2018 14:49

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Analytical Report

Client:	AEI Consultants	**WorkOrder:**	1801278
Date Received:	1/5/18 19:20	**Extraction Method:**	SW5030B
Date Prepared:	1/5/18	**Analytical Method:**	SW8260B
Project:	335476; Hayward, Loyola	**Unit:**	mg/kg

Volatile Organics

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SB-5-2.5	1801278-008A	Soil	01/04/2018 09:51	GC16 01091812.D	151211

Analytes	Result	RL	DF	Date Analyzed
1,1-Dichloropropene	ND	0.0050	1	01/09/2018 14:49
cis-1,3-Dichloropropene	ND	0.0050	1	01/09/2018 14:49
trans-1,3-Dichloropropene	ND	0.0050	1	01/09/2018 14:49
Diisopropyl ether (DIPE)	ND	0.0050	1	01/09/2018 14:49
Ethylbenzene	ND	0.0050	1	01/09/2018 14:49
Ethyl tert-butyl ether (ETBE)	ND	0.0050	1	01/09/2018 14:49
Freon 113	ND	0.0050	1	01/09/2018 14:49
Hexachlorobutadiene	ND	0.0050	1	01/09/2018 14:49
Hexachloroethane	ND	0.0050	1	01/09/2018 14:49
2-Hexanone	ND	0.0050	1	01/09/2018 14:49
Isopropylbenzene	ND	0.0050	1	01/09/2018 14:49
4-Isopropyl toluene	ND	0.0050	1	01/09/2018 14:49
Methyl-t-butyl ether (MTBE)	ND	0.0050	1	01/09/2018 14:49
Methylene chloride	ND	0.0050	1	01/09/2018 14:49
4-Methyl-2-pentanone (MIBK)	ND	0.0050	1	01/09/2018 14:49
Naphthalene	ND	0.0050	1	01/09/2018 14:49
n-Propyl benzene	ND	0.0050	1	01/09/2018 14:49
Styrene	ND	0.0050	1	01/09/2018 14:49
1,1,1,2-Tetrachloroethane	ND	0.0050	1	01/09/2018 14:49
1,1,2,2-Tetrachloroethane	ND	0.0050	1	01/09/2018 14:49
Tetrachloroethene	ND	0.0050	1	01/09/2018 14:49
Toluene	ND	0.0050	1	01/09/2018 14:49
1,2,3-Trichlorobenzene	ND	0.0050	1	01/09/2018 14:49
1,2,4-Trichlorobenzene	ND	0.0050	1	01/09/2018 14:49
1,1,1-Trichloroethane	ND	0.0050	1	01/09/2018 14:49
1,1,2-Trichloroethane	ND	0.0050	1	01/09/2018 14:49
Trichloroethene	ND	0.0050	1	01/09/2018 14:49
Trichlorofluoromethane	ND	0.0050	1	01/09/2018 14:49
1,2,3-Trichloropropane	ND	0.0050	1	01/09/2018 14:49
1,2,4-Trimethylbenzene	ND	0.0050	1	01/09/2018 14:49
1,3,5-Trimethylbenzene	ND	0.0050	1	01/09/2018 14:49
Vinyl Chloride	ND	0.0050	1	01/09/2018 14:49
Xylenes, Total	ND	0.0050	1	01/09/2018 14:49

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Analytical Report

Client:	AEI Consultants	**WorkOrder:**	1801278
Date Received:	1/5/18 19:20	**Extraction Method:**	SW5030B
Date Prepared:	1/5/18	**Analytical Method:**	SW8260B
Project:	335476; Hayward, Loyola	**Unit:**	mg/kg

Volatile Organics

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SB-5-2.5	**1801278-008A**	**Soil**	**01/04/2018 09:51**	**GC16 01091812.D**	**151211**

Analytes	Result	RL	DF	Date Analyzed
Surrogates	**REC (%)**	**Limits**		
Dibromofluoromethane	112	82-136		01/09/2018 14:49
Toluene-d8	104	92-139		01/09/2018 14:49
4-BFB	116	82-135		01/09/2018 14:49
Benzene-d6	87	55-122		01/09/2018 14:49
Ethylbenzene-d10	96	58-141		01/09/2018 14:49
1,2-DCB-d4	74	51-107		01/09/2018 14:49

Analyst(s): AK

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Analytical Report

Client:	AEI Consultants	**WorkOrder:**	1801278
Date Received:	1/5/18 19:20	**Extraction Method:**	SW5030B
Date Prepared:	1/5/18	**Analytical Method:**	SW8260B
Project:	335476; Hayward, Loyola	**Unit:**	mg/kg

Volatile Organics

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SB-5-7.5	1801278-010A	Soil	01/04/2018 09:55	GC16 01091813.D	151211

Analytes	Result	RL	DF	Date Analyzed
Acetone	ND	0.10	1	01/09/2018 15:29
tert-Amyl methyl ether (TAME)	ND	0.0050	1	01/09/2018 15:29
Benzene	ND	0.0050	1	01/09/2018 15:29
Bromobenzene	ND	0.0050	1	01/09/2018 15:29
Bromochloromethane	ND	0.0050	1	01/09/2018 15:29
Bromodichloromethane	ND	0.0050	1	01/09/2018 15:29
Bromoform	ND	0.0050	1	01/09/2018 15:29
Bromomethane	ND	0.0050	1	01/09/2018 15:29
2-Butanone (MEK)	ND	0.020	1	01/09/2018 15:29
t-Butyl alcohol (TBA)	ND	0.050	1	01/09/2018 15:29
n-Butyl benzene	ND	0.0050	1	01/09/2018 15:29
sec-Butyl benzene	ND	0.0050	1	01/09/2018 15:29
tert-Butyl benzene	ND	0.0050	1	01/09/2018 15:29
Carbon Disulfide	ND	0.0050	1	01/09/2018 15:29
Carbon Tetrachloride	ND	0.0050	1	01/09/2018 15:29
Chlorobenzene	ND	0.0050	1	01/09/2018 15:29
Chloroethane	ND	0.0050	1	01/09/2018 15:29
Chloroform	ND	0.0050	1	01/09/2018 15:29
Chloromethane	ND	0.0050	1	01/09/2018 15:29
2-Chlorotoluene	ND	0.0050	1	01/09/2018 15:29
4-Chlorotoluene	ND	0.0050	1	01/09/2018 15:29
Dibromochloromethane	ND	0.0050	1	01/09/2018 15:29
1,2-Dibromo-3-chloropropane	ND	0.0040	1	01/09/2018 15:29
1,2-Dibromoethane (EDB)	ND	0.0040	1	01/09/2018 15:29
Dibromomethane	ND	0.0050	1	01/09/2018 15:29
1,2-Dichlorobenzene	ND	0.0050	1	01/09/2018 15:29
1,3-Dichlorobenzene	ND	0.0050	1	01/09/2018 15:29
1,4-Dichlorobenzene	ND	0.0050	1	01/09/2018 15:29
Dichlorodifluoromethane	ND	0.0050	1	01/09/2018 15:29
1,1-Dichloroethane	ND	0.0050	1	01/09/2018 15:29
1,2-Dichloroethane (1,2-DCA)	ND	0.0040	1	01/09/2018 15:29
1,1-Dichloroethene	ND	0.0050	1	01/09/2018 15:29
cis-1,2-Dichloroethene	ND	0.0050	1	01/09/2018 15:29
trans-1,2-Dichloroethene	ND	0.0050	1	01/09/2018 15:29
1,2-Dichloropropane	ND	0.0050	1	01/09/2018 15:29
1,3-Dichloropropane	ND	0.0050	1	01/09/2018 15:29
2,2-Dichloropropane	ND	0.0050	1	01/09/2018 15:29

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Analytical Report

Client:	AEI Consultants	**WorkOrder:**	1801278
Date Received:	1/5/18 19:20	**Extraction Method:**	SW5030B
Date Prepared:	1/5/18	**Analytical Method:**	SW8260B
Project:	335476; Hayward, Loyola	**Unit:**	mg/kg

Volatile Organics

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SB-5-7.5	1801278-010A	Soil	01/04/2018 09:55	GC16 01091813.D	151211

Analytes	Result	RL	DF	Date Analyzed
1,1-Dichloropropene	ND	0.0050	1	01/09/2018 15:29
cis-1,3-Dichloropropene	ND	0.0050	1	01/09/2018 15:29
trans-1,3-Dichloropropene	ND	0.0050	1	01/09/2018 15:29
Diisopropyl ether (DIPE)	ND	0.0050	1	01/09/2018 15:29
Ethylbenzene	ND	0.0050	1	01/09/2018 15:29
Ethyl tert-butyl ether (ETBE)	ND	0.0050	1	01/09/2018 15:29
Freon 113	ND	0.0050	1	01/09/2018 15:29
Hexachlorobutadiene	ND	0.0050	1	01/09/2018 15:29
Hexachloroethane	ND	0.0050	1	01/09/2018 15:29
2-Hexanone	ND	0.0050	1	01/09/2018 15:29
Isopropylbenzene	ND	0.0050	1	01/09/2018 15:29
4-Isopropyl toluene	ND	0.0050	1	01/09/2018 15:29
Methyl-t-butyl ether (MTBE)	ND	0.0050	1	01/09/2018 15:29
Methylene chloride	ND	0.0050	1	01/09/2018 15:29
4-Methyl-2-pentanone (MIBK)	ND	0.0050	1	01/09/2018 15:29
Naphthalene	ND	0.0050	1	01/09/2018 15:29
n-Propyl benzene	ND	0.0050	1	01/09/2018 15:29
Styrene	ND	0.0050	1	01/09/2018 15:29
1,1,1,2-Tetrachloroethane	ND	0.0050	1	01/09/2018 15:29
1,1,2,2-Tetrachloroethane	ND	0.0050	1	01/09/2018 15:29
Tetrachloroethene	ND	0.0050	1	01/09/2018 15:29
Toluene	ND	0.0050	1	01/09/2018 15:29
1,2,3-Trichlorobenzene	ND	0.0050	1	01/09/2018 15:29
1,2,4-Trichlorobenzene	ND	0.0050	1	01/09/2018 15:29
1,1,1-Trichloroethane	ND	0.0050	1	01/09/2018 15:29
1,1,2-Trichloroethane	ND	0.0050	1	01/09/2018 15:29
Trichloroethene	ND	0.0050	1	01/09/2018 15:29
Trichlorofluoromethane	ND	0.0050	1	01/09/2018 15:29
1,2,3-Trichloropropane	ND	0.0050	1	01/09/2018 15:29
1,2,4-Trimethylbenzene	ND	0.0050	1	01/09/2018 15:29
1,3,5-Trimethylbenzene	ND	0.0050	1	01/09/2018 15:29
Vinyl Chloride	ND	0.0050	1	01/09/2018 15:29
Xylenes, Total	ND	0.0050	1	01/09/2018 15:29

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Analytical Report

Client:	AEI Consultants	**WorkOrder:**	1801278
Date Received:	1/5/18 19:20	**Extraction Method:**	SW5030B
Date Prepared:	1/5/18	**Analytical Method:**	SW8260B
Project:	335476; Hayward, Loyola	**Unit:**	mg/kg

Volatile Organics

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SB-5-7.5	**1801278-010A**	**Soil**	**01/04/2018 09:55**	**GC16 01091813.D**	**151211**

Analytes	Result	RL	DF	Date Analyzed
Surrogates	REC (%)	Limits		
Dibromofluoromethane	112	82-136		01/09/2018 15:29
Toluene-d8	99	92-139		01/09/2018 15:29
4-BFB	116	82-135		01/09/2018 15:29
Benzene-d6	85	55-122		01/09/2018 15:29
Ethylbenzene-d10	92	58-141		01/09/2018 15:29
1,2-DCB-d4	72	51-107		01/09/2018 15:29

Analyst(s): AK

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Analytical Report

Client:	AEI Consultants	**WorkOrder:**	1801278
Date Received:	1/5/18 19:20	**Extraction Method:**	SW5030B
Date Prepared:	1/9/18	**Analytical Method:**	SW8260B
Project:	335476; Hayward, Loyola	**Unit:**	µg/L

Volatile Organics

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SB-5-W	1801278-012A	Water	01/04/2018 09:35	GC18 01091817.D	151359

Analytes	Result	RL	DF	Date Analyzed
Acetone	ND	100	10	01/09/2018 17:52
tert-Amyl methyl ether (TAME)	ND	5.0	10	01/09/2018 17:52
Benzene	ND	5.0	10	01/09/2018 17:52
Bromobenzene	ND	5.0	10	01/09/2018 17:52
Bromochloromethane	ND	5.0	10	01/09/2018 17:52
Bromodichloromethane	ND	5.0	10	01/09/2018 17:52
Bromoform	ND	5.0	10	01/09/2018 17:52
Bromomethane	ND	5.0	10	01/09/2018 17:52
2-Butanone (MEK)	ND	20	10	01/09/2018 17:52
t-Butyl alcohol (TBA)	ND	20	10	01/09/2018 17:52
n-Butyl benzene	ND	5.0	10	01/09/2018 17:52
sec-Butyl benzene	ND	5.0	10	01/09/2018 17:52
tert-Butyl benzene	ND	5.0	10	01/09/2018 17:52
Carbon Disulfide	ND	5.0	10	01/09/2018 17:52
Carbon Tetrachloride	ND	5.0	10	01/09/2018 17:52
Chlorobenzene	ND	5.0	10	01/09/2018 17:52
Chloroethane	ND	5.0	10	01/09/2018 17:52
Chloroform	ND	5.0	10	01/09/2018 17:52
Chloromethane	ND	5.0	10	01/09/2018 17:52
2-Chlorotoluene	ND	5.0	10	01/09/2018 17:52
4-Chlorotoluene	ND	5.0	10	01/09/2018 17:52
Dibromochloromethane	ND	5.0	10	01/09/2018 17:52
1,2-Dibromo-3-chloropropane	ND	2.0	10	01/09/2018 17:52
1,2-Dibromoethane (EDB)	ND	5.0	10	01/09/2018 17:52
Dibromomethane	ND	5.0	10	01/09/2018 17:52
1,2-Dichlorobenzene	ND	5.0	10	01/09/2018 17:52
1,3-Dichlorobenzene	ND	5.0	10	01/09/2018 17:52
1,4-Dichlorobenzene	ND	5.0	10	01/09/2018 17:52
Dichlorodifluoromethane	ND	5.0	10	01/09/2018 17:52
1,1-Dichloroethane	ND	5.0	10	01/09/2018 17:52
1,2-Dichloroethane (1,2-DCA)	ND	5.0	10	01/09/2018 17:52
1,1-Dichloroethene	ND	5.0	10	01/09/2018 17:52
cis-1,2-Dichloroethene	ND	5.0	10	01/09/2018 17:52
trans-1,2-Dichloroethene	ND	5.0	10	01/09/2018 17:52
1,2-Dichloropropane	ND	5.0	10	01/09/2018 17:52
1,3-Dichloropropane	ND	5.0	10	01/09/2018 17:52
2,2-Dichloropropane	ND	5.0	10	01/09/2018 17:52

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Analytical Report

Client:	AEI Consultants	**WorkOrder:**	1801278
Date Received:	1/5/18 19:20	**Extraction Method:**	SW5030B
Date Prepared:	1/9/18	**Analytical Method:**	SW8260B
Project:	335476; Hayward, Loyola	**Unit:**	µg/L

Volatile Organics

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SB-5-W	1801278-012A	Water	01/04/2018 09:35	GC18 01091817.D	151359

Analytes	Result	RL	DF	Date Analyzed
1,1-Dichloropropene	ND	5.0	10	01/09/2018 17:52
cis-1,3-Dichloropropene	ND	5.0	10	01/09/2018 17:52
trans-1,3-Dichloropropene	ND	5.0	10	01/09/2018 17:52
Diisopropyl ether (DIPE)	ND	5.0	10	01/09/2018 17:52
Ethanol	ND	500	10	01/09/2018 17:52
Ethylbenzene	ND	5.0	10	01/09/2018 17:52
Ethyl tert-butyl ether (ETBE)	ND	5.0	10	01/09/2018 17:52
Freon 113	ND	5.0	10	01/09/2018 17:52
Hexachlorobutadiene	ND	5.0	10	01/09/2018 17:52
Hexachloroethane	ND	5.0	10	01/09/2018 17:52
2-Hexanone	ND	5.0	10	01/09/2018 17:52
Isopropylbenzene	ND	5.0	10	01/09/2018 17:52
4-Isopropyl toluene	ND	5.0	10	01/09/2018 17:52
Methyl-t-butyl ether (MTBE)	ND	5.0	10	01/09/2018 17:52
Methylene chloride	ND	5.0	10	01/09/2018 17:52
4-Methyl-2-pentanone (MIBK)	ND	5.0	10	01/09/2018 17:52
Naphthalene	ND	5.0	10	01/09/2018 17:52
n-Propyl benzene	ND	5.0	10	01/09/2018 17:52
Styrene	ND	5.0	10	01/09/2018 17:52
1,1,1,2-Tetrachloroethane	ND	5.0	10	01/09/2018 17:52
1,1,2,2-Tetrachloroethane	ND	5.0	10	01/09/2018 17:52
Tetrachloroethene	ND	5.0	10	01/09/2018 17:52
Toluene	ND	5.0	10	01/09/2018 17:52
1,2,3-Trichlorobenzene	ND	5.0	10	01/09/2018 17:52
1,2,4-Trichlorobenzene	ND	5.0	10	01/09/2018 17:52
1,1,1-Trichloroethane	ND	5.0	10	01/09/2018 17:52
1,1,2-Trichloroethane	ND	5.0	10	01/09/2018 17:52
Trichloroethene	ND	5.0	10	01/09/2018 17:52
Trichlorofluoromethane	ND	5.0	10	01/09/2018 17:52
1,2,3-Trichloropropane	ND	5.0	10	01/09/2018 17:52
1,2,4-Trimethylbenzene	ND	5.0	10	01/09/2018 17:52
1,3,5-Trimethylbenzene	ND	5.0	10	01/09/2018 17:52
Vinyl Chloride	ND	5.0	10	01/09/2018 17:52
Xylenes, Total	ND	5.0	10	01/09/2018 17:52

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Analytical Report

Client:	AEI Consultants	**WorkOrder:**	1801278
Date Received:	1/5/18 19:20	**Extraction Method:**	SW5030B
Date Prepared:	1/9/18	**Analytical Method:**	SW8260B
Project:	335476; Hayward, Loyola	**Unit:**	µg/L

Volatile Organics

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SB-5-W	**1801278-012A**	**Water**	**01/04/2018 09:35**	**GC18 01091817.D**	**151359**

Analytes	Result	RL	DF	Date Analyzed
Surrogates	REC (%)	Limits		
Dibromofluoromethane	108	78-134		01/09/2018 17:52
Toluene-d8	94	82-120		01/09/2018 17:52
4-BFB	89	69-131		01/09/2018 17:52

Analyst(s): AK Analytical Comments: a2,a3,b1

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Analytical Report

Client:	AEI Consultants	**WorkOrder:**	1801278
Date Received:	1/5/18 19:20	**Extraction Method:**	SW5030B
Date Prepared:	1/11/18	**Analytical Method:**	SW8260B
Project:	335476; Hayward, Loyola	**Unit:**	µg/L

Volatile Organics

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SB-6-W	**1801278-007A**	**Water**	**01/04/2018 09:04**	**GC28 01111825.D**	**151489**

Analytes	Result	Qualifiers	MDL	RL	DF	Date Analyzed
Acetone	ND		170	1000	100	01/11/2018 22:54
tert-Amyl methyl ether (TAME)	ND		22.0	50	100	01/11/2018 22:54
Benzene	ND		5.10	50	100	01/11/2018 22:54
Bromobenzene	ND		6.00	50	100	01/11/2018 22:54
Bromochloromethane	ND		9.00	50	100	01/11/2018 22:54
Bromodichloromethane	ND		20.0	50	100	01/11/2018 22:54
Bromoform	ND		6.60	50	100	01/11/2018 22:54
Bromomethane	ND		16.0	50	100	01/11/2018 22:54
2-Butanone (MEK)	ND		49.0	200	100	01/11/2018 22:54
t-Butyl alcohol (TBA)	ND		94.0	200	100	01/11/2018 22:54
n-Butyl benzene	**100**		8.40	50	100	01/11/2018 22:54
sec-Butyl benzene	**42**	J	6.00	50	100	01/11/2018 22:54
tert-Butyl benzene	ND		5.00	50	100	01/11/2018 22:54
Carbon Disulfide	ND		6.60	50	100	01/11/2018 22:54
Carbon Tetrachloride	ND		6.90	50	100	01/11/2018 22:54
Chlorobenzene	ND		5.00	50	100	01/11/2018 22:54
Chloroethane	ND		31.0	50	100	01/11/2018 22:54
Chloroform	ND		6.40	50	100	01/11/2018 22:54
Chloromethane	ND		13.0	50	100	01/11/2018 22:54
2-Chlorotoluene	ND		7.00	50	100	01/11/2018 22:54
4-Chlorotoluene	ND		7.00	50	100	01/11/2018 22:54
Dibromochloromethane	ND		8.00	50	100	01/11/2018 22:54
1,2-Dibromo-3-chloropropane	ND		12.0	20	100	01/11/2018 22:54
1,2-Dibromoethane (EDB)	ND		12.0	50	100	01/11/2018 22:54
Dibromomethane	ND		8.00	50	100	01/11/2018 22:54
1,2-Dichlorobenzene	ND		8.00	50	100	01/11/2018 22:54
1,3-Dichlorobenzene	ND		7.10	50	100	01/11/2018 22:54
1,4-Dichlorobenzene	ND		7.20	50	100	01/11/2018 22:54
Dichlorodifluoromethane	ND		6.30	50	100	01/11/2018 22:54
1,1-Dichloroethane	ND		6.00	50	100	01/11/2018 22:54
1,2-Dichloroethane (1,2-DCA)	ND		9.00	50	100	01/11/2018 22:54
1,1-Dichloroethene	ND		8.60	50	100	01/11/2018 22:54
cis-1,2-Dichloroethene	ND		5.00	50	100	01/11/2018 22:54
trans-1,2-Dichloroethene	ND		6.00	50	100	01/11/2018 22:54
1,2-Dichloropropane	ND		5.50	50	100	01/11/2018 22:54
1,3-Dichloropropane	ND		10.0	50	100	01/11/2018 22:54
2,2-Dichloropropane	ND		10.0	50	100	01/11/2018 22:54

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Analytical Report

Client:	AEI Consultants	**WorkOrder:**	1801278
Date Received:	1/5/18 19:20	**Extraction Method:**	SW5030B
Date Prepared:	1/11/18	**Analytical Method:**	SW8260B
Project:	335476; Hayward, Loyola	**Unit:**	µg/L

Volatile Organics

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SB-6-W	1801278-007A	Water	01/04/2018 09:04	GC28 01111825.D	151489

Analytes	Result	Qualifiers	MDL	RL	DF	Date Analyzed
1,1-Dichloropropene	ND		6.00	50	100	01/11/2018 22:54
cis-1,3-Dichloropropene	ND		9.00	50	100	01/11/2018 22:54
trans-1,3-Dichloropropene	ND		7.00	50	100	01/11/2018 22:54
Diisopropyl ether (DIPE)	ND		7.00	50	100	01/11/2018 22:54
Ethylbenzene	**69**		5.00	50	100	01/11/2018 22:54
Ethyl tert-butyl ether (ETBE)	ND		7.00	50	100	01/11/2018 22:54
Freon 113	ND		6.60	50	100	01/11/2018 22:54
Hexachlorobutadiene	ND		8.50	50	100	01/11/2018 22:54
Hexachloroethane	ND		6.00	50	100	01/11/2018 22:54
2-Hexanone	ND		44.0	50	100	01/11/2018 22:54
Isopropylbenzene	**290**		7.00	50	100	01/11/2018 22:54
4-Isopropyl toluene	ND		5.00	50	100	01/11/2018 22:54
Methyl-t-butyl ether (MTBE)	ND		10.0	50	100	01/11/2018 22:54
Methylene chloride	ND		5.20	50	100	01/11/2018 22:54
4-Methyl-2-pentanone (MIBK)	ND		24.0	50	100	01/11/2018 22:54
Naphthalene	**1100**		16.0	50	100	01/11/2018 22:54
n-Propyl benzene	**870**		6.00	50	100	01/11/2018 22:54
Styrene	**6.3**	J	6.00	50	100	01/11/2018 22:54
1,1,1,2-Tetrachloroethane	ND		7.00	50	100	01/11/2018 22:54
1,1,2,2-Tetrachloroethane	ND		11.0	50	100	01/11/2018 22:54
Tetrachloroethene	ND		8.20	50	100	01/11/2018 22:54
Toluene	**9.7**	J	4.00	50	100	01/11/2018 22:54
1,2,3-Trichlorobenzene	ND		11.0	50	100	01/11/2018 22:54
1,2,4-Trichlorobenzene	ND		8.60	50	100	01/11/2018 22:54
1,1,1-Trichloroethane	ND		5.00	50	100	01/11/2018 22:54
1,1,2-Trichloroethane	ND		8.00	50	100	01/11/2018 22:54
Trichloroethene	ND		6.00	50	100	01/11/2018 22:54
Trichlorofluoromethane	ND		4.70	50	100	01/11/2018 22:54
1,2,3-Trichloropropane	ND		14.0	50	100	01/11/2018 22:54
1,2,4-Trimethylbenzene	ND		6.50	50	100	01/11/2018 22:54
1,3,5-Trimethylbenzene	ND		7.00	50	100	01/11/2018 22:54
Vinyl Chloride	ND		7.00	50	100	01/11/2018 22:54
Xylenes, Total	ND		25.0	50	100	01/11/2018 22:54

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Analytical Report

Client:	AEI Consultants	**WorkOrder:**	1801278
Date Received:	1/5/18 19:20	**Extraction Method:**	SW5030B
Date Prepared:	1/11/18	**Analytical Method:**	SW8260B
Project:	335476; Hayward, Loyola	**Unit:**	µg/L

Volatile Organics

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SB-6-W	**1801278-007A**	**Water**	**01/04/2018 09:04**	**GC28 01111825.D**	**151489**

Analytes	Result	Qualifiers	MDL	RL	DF	Date Analyzed
Surrogates	REC (%)	Qualifiers		Limits		
Dibromofluoromethane	115			78-134		01/11/2018 22:54
Toluene-d8	128	S		82-120		01/11/2018 22:54
4-BFB	118			69-131		01/11/2018 22:54

Analyst(s): AK Analytical Comments: c2,b1

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Analytical Report

Client:	AEI Consultants	**WorkOrder:**	1801278
Date Received:	1/5/18 19:20	**Extraction Method:**	SW3550B
Date Prepared:	1/5/18	**Analytical Method:**	SW8015B
Project:	335476; Hayward, Loyola	**Unit:**	mg/Kg

Total Extractable Petroleum Hydrocarbons w/out SG Clean-Up

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SB-6-2.5	**1801278-002A**	**Soil**	**01/04/2018 08:49**	**GC9b 01081831.D**	**151259**

Analytes	Result	RL	DF	Date Analyzed
TPH-Diesel (C10-C23)	**1.7**	1.0	1	01/08/2018 20:05
TPH-Motor Oil (C18-C36)	**8.1**	5.0	1	01/08/2018 20:05

Surrogates	REC (%)	Limits	
C9	84	74-123	01/08/2018 20:05

Analyst(s): TK Analytical Comments: e7,e2

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SB-6-7.5	**1801278-003A**	**Soil**	**01/04/2018 08:46**	**GC9b 01081835.D**	**151259**

Analytes	Result	RL	DF	Date Analyzed
TPH-Diesel (C10-C23)	ND	1.0	1	01/08/2018 21:23
TPH-Motor Oil (C18-C36)	ND	5.0	1	01/08/2018 21:23

Surrogates	REC (%)	Limits	
C9	84	74-123	01/08/2018 21:23

Analyst(s): TK

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SB-5-2.5	**1801278-008A**	**Soil**	**01/04/2018 09:51**	**GC9b 01081827.D**	**151259**

Analytes	Result	RL	DF	Date Analyzed
TPH-Diesel (C10-C23)	ND	1.0	1	01/08/2018 18:48
TPH-Motor Oil (C18-C36)	ND	5.0	1	01/08/2018 18:48

Surrogates	REC (%)	Limits	
C9	81	74-123	01/08/2018 18:48

Analyst(s): TK

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Analytical Report

Client:	AEI Consultants	**WorkOrder:**	1801278
Date Received:	1/5/18 19:20	**Extraction Method:**	SW3550B
Date Prepared:	1/5/18	**Analytical Method:**	SW8015B
Project:	335476; Hayward, Loyola	**Unit:**	mg/Kg

Total Extractable Petroleum Hydrocarbons w/out SG Clean-Up

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SB-5-7.5	1801278-010A	Soil	01/04/2018 09:55	GC9b 01081823.D	151259

Analytes	Result	RL	DF	Date Analyzed
TPH-Diesel (C10-C23)	ND	1.0	1	01/08/2018 17:30
TPH-Motor Oil (C18-C36)	ND	5.0	1	01/08/2018 17:30

Surrogates	REC (%)	Limits	
C9	81	74-123	01/08/2018 17:30

Analyst(s): TK

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Quality Control Report

Client:	AEI Consultants	**WorkOrder:**	1801278
Date Prepared:	1/4/18	**BatchID:**	151211
Date Analyzed:	1/5/18 - 1/8/18	**Extraction Method:**	SW5030B
Instrument:	GC18, GC38	**Analytical Method:**	SW8260B
Matrix:	Soil	**Unit:**	mg/kg
Project:	335476; Hayward, Loyola	**Sample ID:**	MB/LCS-151211 1801192-004AMS/MSD

QC Summary Report for SW8260B

Analyte	MB Result	LCS Result	RL	SPK Val	MB SS %REC	LCS %REC	LCS Limits
Acetone	ND	1.09	0.10	1	-	109	48-156
tert-Amyl methyl ether (TAME)	ND	0.0403	0.0050	0.050	-	81	56-115
Benzene	ND	0.0435	0.0050	0.050	-	87	63-131
Bromobenzene	ND	0.0418	0.0050	0.050	-	84	66-127
Bromochloromethane	ND	0.0458	0.0050	0.050	-	92	64-124
Bromodichloromethane	ND	0.0415	0.0050	0.050	-	83	64-120
Bromoform	ND	0.0359	0.0050	0.050	-	72	48-92
Bromomethane	ND	0.0580	0.0050	0.050	-	116	25-163
2-Butanone (MEK)	ND	0.159	0.020	0.20	-	80	51-133
t-Butyl alcohol (TBA)	ND	0.166	0.050	0.20	-	83	52-129
n-Butyl benzene	ND	0.0623	0.0050	0.050	-	125	83-200
sec-Butyl benzene	ND	0.0635	0.0050	0.050	-	127	81-199
tert-Butyl benzene	ND	0.0555	0.0050	0.050	-	111	79-178
Carbon Disulfide	ND	0.0410	0.0050	0.050	-	82	64-136
Carbon Tetrachloride	ND	0.0433	0.0050	0.050	-	87	66-140
Chlorobenzene	ND	0.0432	0.0050	0.050	-	86	73-116
Chloroethane	ND	0.0457	0.0050	0.050	-	91	35-147
Chloroform	ND	0.0443	0.0050	0.050	-	89	65-130
Chloromethane	ND	0.0400	0.0050	0.050	-	80	30-137
2-Chlorotoluene	ND	0.0530	0.0050	0.050	-	106	75-152
4-Chlorotoluene	ND	0.0485	0.0050	0.050	-	97	71-148
Dibromochloromethane	ND	0.0395	0.0050	0.050	-	79	61-106
1,2-Dibromo-3-chloropropane	ND	0.0124	0.0040	0.020	-	62	36-120
1,2-Dibromoethane (EDB)	ND	0.0399	0.0040	0.050	-	80	67-118
Dibromomethane	ND	0.0407	0.0050	0.050	-	81	61-116
1,2-Dichlorobenzene	ND	0.0384	0.0050	0.050	-	77	59-106
1,3-Dichlorobenzene	ND	0.0485	0.0050	0.050	-	97	75-129
1,4-Dichlorobenzene	ND	0.0438	0.0050	0.050	-	88	66-127
Dichlorodifluoromethane	ND	0.0235	0.0050	0.050	-	47	13-74
1,1-Dichloroethane	ND	0.0450	0.0050	0.050	-	90	65-134
1,2-Dichloroethane (1,2-DCA)	ND	0.0431	0.0040	0.050	-	86	57-131
1,1-Dichloroethene	ND	0.0405	0.0050	0.050	-	81	62-127
cis-1,2-Dichloroethene	ND	0.0443	0.0050	0.050	-	89	66-130
trans-1,2-Dichloroethene	ND	0.0447	0.0050	0.050	-	89	60-131
1,2-Dichloropropane	ND	0.0430	0.0050	0.050	-	86	63-127
1,3-Dichloropropane	ND	0.0414	0.0050	0.050	-	83	68-124
2,2-Dichloropropane	ND	0.0421	0.0050	0.050	-	84	63-150

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Quality Control Report

Client:	AEI Consultants	**WorkOrder:**	1801278
Date Prepared:	1/4/18	**BatchID:**	151211
Date Analyzed:	1/5/18 - 1/8/18	**Extraction Method:**	SW5030B
Instrument:	GC18, GC38	**Analytical Method:**	SW8260B
Matrix:	Soil	**Unit:**	mg/kg
Project:	335476; Hayward, Loyola	**Sample ID:**	MB/LCS-151211 1801192-004AMS/MSD

QC Summary Report for SW8260B

Analyte	MB Result	LCS Result	RL	SPK Val	MB SS %REC	LCS %REC	LCS Limits
1,1-Dichloropropene	ND	0.0414	0.0050	0.050	-	83	67-134
cis-1,3-Dichloropropene	ND	0.0428	0.0050	0.050	-	86	65-138
trans-1,3-Dichloropropene	ND	0.0459	0.0050	0.050	-	92	66-124
Diisopropyl ether (DIPE)	ND	0.0465	0.0050	0.050	-	93	58-129
Ethylbenzene	ND	0.0464	0.0050	0.050	-	93	73-145
Ethyl tert-butyl ether (ETBE)	ND	0.0463	0.0050	0.050	-	93	62-125
Freon 113	ND	0.0374	0.0050	0.050	-	75	55-116
Hexachlorobutadiene	ND	0.0536	0.0050	0.050	-	107	75-178
Hexachloroethane	ND	0.0575	0.0050	0.050	-	115	75-152
2-Hexanone	ND	0.0331	0.0050	0.050	-	66	41-113
Isopropylbenzene	ND	0.0577	0.0050	0.050	-	115	67-172
4-Isopropyl toluene	ND	0.0584	0.0050	0.050	-	117	88-171
Methyl-t-butyl ether (MTBE)	ND	0.0470	0.0050	0.050	-	94	58-122
Methylene chloride	ND	0.0440	0.0050	0.050	-	88	57-140
4-Methyl-2-pentanone (MIBK)	ND	0.0348	0.0050	0.050	-	70	42-117
Naphthalene	ND	0.0187	0.0050	0.050	-	37	29-65
n-Propyl benzene	ND	0.0568	0.0050	0.050	-	114	85-174
Styrene	ND	0.0398	0.0050	0.050	-	80	63-126
1,1,1,2-Tetrachloroethane	ND	0.0436	0.0050	0.050	-	87	68-131
1,1,2,2-Tetrachloroethane	ND	0.0359	0.0050	0.050	-	72	45-121
Tetrachloroethene	ND	0.0437	0.0050	0.050	-	87	65-150
Toluene	ND	0.0441	0.0050	0.050	-	88	72-135
1,2,3-Trichlorobenzene	ND	0.0226	0.0050	0.050	-	45	35-80
1,2,4-Trichlorobenzene	ND	0.0300	0.0050	0.050	-	60	45-103
1,1,1-Trichloroethane	ND	0.0423	0.0050	0.050	-	85	67-137
1,1,2-Trichloroethane	ND	0.0397	0.0050	0.050	-	79	67-117
Trichloroethene	ND	0.0426	0.0050	0.050	-	85	62-135
Trichlorofluoromethane	ND	0.0383	0.0050	0.050	-	77	56-124
1,2,3-Trichloropropane	ND	0.0417	0.0050	0.050	-	83	58-133
1,2,4-Trimethylbenzene	ND	0.0534	0.0050	0.050	-	107	78-161
1,3,5-Trimethylbenzene	ND	0.0554	0.0050	0.050	-	111	85-170
Vinyl Chloride	ND	0.0436	0.0050	0.050	-	87	32-142
Xylenes, Total	ND	0.137	0.0050	0.15	-	91	70-137

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Quality Control Report

Client:	AEI Consultants	**WorkOrder:**	1801278
Date Prepared:	1/4/18	**BatchID:**	151211
Date Analyzed:	1/5/18 - 1/8/18	**Extraction Method:**	SW5030B
Instrument:	GC18, GC38	**Analytical Method:**	SW8260B
Matrix:	Soil	**Unit:**	mg/kg
Project:	335476; Hayward, Loyola	**Sample ID:**	MB/LCS-151211 1801192-004AMS/MSD

QC Summary Report for SW8260B

Analyte	MB Result	LCS Result	RL	SPK Val	MB SS %REC	LCS %REC	LCS Limits
Surrogate Recovery							
Dibromofluoromethane	0.136	0.134		0.12	108	107	87-127
Toluene-d8	0.139	0.140		0.12	111	112	93-141
4-BFB	0.0133	0.0122		0.012	107	98	84-137
Benzene-d6	0.0969	0.0918		0.10	97	92	67-131
Ethylbenzene-d10	0.110	0.108		0.10	110	108	78-153
1,2-DCB-d4	0.0759	0.0843		0.10	76	84	63-109

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Quality Control Report

Client:	AEI Consultants	**WorkOrder:**	1801278
Date Prepared:	1/4/18	**BatchID:**	151211
Date Analyzed:	1/5/18 - 1/8/18	**Extraction Method:**	SW5030B
Instrument:	GC18, GC38	**Analytical Method:**	SW8260B
Matrix:	Soil	**Unit:**	mg/kg
Project:	335476; Hayward, Loyola	**Sample ID:**	MB/LCS-151211 1801192-004AMS/MSD

QC Summary Report for SW8260B

Analyte	MS Result	MSD Result	SPK Val	SPKRef Val	MS %REC	MSD %REC	MS/MSD Limits	RPD	RPD Limit
Acetone	0.873	0.830	1	ND	87	83	36-141	5.09	20
tert-Amyl methyl ether (TAME)	0.0395	0.0374	0.050	ND	79	75	46-105	5.37	20
Benzene	0.0466	0.0442	0.050	ND	93	88	46-124	5.16	20
Bromobenzene	0.0436	0.0401	0.050	ND	87	80	50-119	8.30	20
Bromochloromethane	0.0448	0.0418	0.050	ND	90	84	42-122	6.76	20
Bromodichloromethane	0.0449	0.0427	0.050	ND	90	85	48-112	5.06	20
Bromoform	0.0324	0.0302	0.050	ND	65	60	36-90	6.79	20
Bromomethane	0.0472	0.0452	0.050	ND	94	90	10-149	4.44	20
2-Butanone (MEK)	0.160	0.154	0.20	ND	72	70	43-114	3.75	20
t-Butyl alcohol (TBA)	0.143	0.130	0.20	ND	72	65	33-123	9.29	20
n-Butyl benzene	0.0616	0.0568	0.050	ND	123	114	40-185	8.11	20
sec-Butyl benzene	0.0645	0.0599	0.050	ND	129	120	40-183	7.34	20
tert-Butyl benzene	0.0546	0.0505	0.050	ND	109	101	44-168	7.79	20
Carbon Disulfide	0.0440	0.0417	0.050	ND	88	83	23-139	5.39	20
Carbon Tetrachloride	0.0454	0.0430	0.050	ND	91	86	43-133	5.30	20
Chlorobenzene	0.0418	0.0393	0.050	ND	84	79	51-115	6.11	20
Chloroethane	0.0438	0.0428	0.050	ND	88	86	16-138	2.51	20
Chloroform	0.0453	0.0429	0.050	ND	91	86	54-117	5.28	20
Chloromethane	0.0351	0.0346	0.050	ND	70	69	14-128	1.32	20
2-Chlorotoluene	0.0482	0.0460	0.050	ND	96	92	54-141	4.65	20
4-Chlorotoluene	0.0464	0.0435	0.050	ND	93	87	52-134	6.54	20
Dibromochloromethane	0.0366	0.0341	0.050	ND	73	68	46-102	7.30	20
1,2-Dibromo-3-chloropropane	0.0126	0.0119	0.020	ND	63	59	16-120	6.22	20
1,2-Dibromoethane (EDB)	0.0362	0.0342	0.050	ND	72	68	48-113	5.77	20
Dibromomethane	0.0407	0.0386	0.050	ND	81	77	44-110	5.33	20
1,2-Dichlorobenzene	0.0382	0.0362	0.050	ND	76	72	43-106	5.39	20
1,3-Dichlorobenzene	0.0465	0.0436	0.050	ND	93	87	49-128	6.41	20
1,4-Dichlorobenzene	0.0431	0.0408	0.050	ND	86	82	48-120	5.35	20
Dichlorodifluoromethane	0.0177	0.0171	0.050	ND	35	34	8-63	3.65	20
1,1-Dichloroethane	0.0485	0.0459	0.050	ND	97	92	50-122	5.41	20
1,2-Dichloroethane (1,2-DCA)	0.0415	0.0405	0.050	ND	83	81	46-116	2.49	20
1,1-Dichloroethene	0.0499	0.0474	0.050	ND	100	95	37-124	5.19	20
cis-1,2-Dichloroethene	0.0475	0.0451	0.050	ND	95	90	47-123	5.19	20
trans-1,2-Dichloroethene	0.0489	0.0464	0.050	ND	98	93	31-131	5.39	20
1,2-Dichloropropane	0.0464	0.0440	0.050	ND	93	88	50-116	5.26	20
1,3-Dichloropropane	0.0381	0.0356	0.050	ND	76	71	52-115	7.02	20
2,2-Dichloropropane	0.0474	0.0449	0.050	ND	95	90	43-137	5.42	20

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Quality Control Report

Client:	AEI Consultants	**WorkOrder:**	1801278
Date Prepared:	1/4/18	**BatchID:**	151211
Date Analyzed:	1/5/18 - 1/8/18	**Extraction Method:**	SW5030B
Instrument:	GC18, GC38	**Analytical Method:**	SW8260B
Matrix:	Soil	**Unit:**	mg/kg
Project:	335476; Hayward, Loyola	**Sample ID:**	MB/LCS-151211 1801192-004AMS/MSD

QC Summary Report for SW8260B

Analyte	MS Result	MSD Result	SPK Val	SPKRef Val	MS %REC	MSD %REC	MS/MSD Limits	RPD	RPD Limit
1,1-Dichloropropene	0.0500	0.0473	0.050	ND	100	95	43-126	5.53	20
cis-1,3-Dichloropropene	0.0441	0.0410	0.050	ND	88	82	35-134	7.25	20
trans-1,3-Dichloropropene	0.0426	0.0398	0.050	ND	85	80	35-124	6.78	20
Diisopropyl ether (DIPE)	0.0450	0.0427	0.050	ND	90	85	49-116	5.39	20
Ethylbenzene	0.0475	0.0445	0.050	ND	95	89	49-137	6.61	20
Ethyl tert-butyl ether (ETBE)	0.0412	0.0390	0.050	ND	82	78	50-113	5.42	20
Freon 113	0.0426	0.0401	0.050	ND	85	80	28-114	5.95	20
Hexachlorobutadiene	0.0573	0.0527	0.050	ND	115	105	22-180	8.34	20
Hexachloroethane	0.0545	0.0505	0.050	ND	109	101	28-158	7.59	20
2-Hexanone	0.0290	0.0279	0.050	ND	58	56	31-102	3.81	20
Isopropylbenzene	0.0556	0.0521	0.050	ND	111	104	50-153	6.44	20
4-Isopropyl toluene	0.0616	0.0571	0.050	ND	123	114	41-171	7.61	20
Methyl-t-butyl ether (MTBE)	0.0414	0.0388	0.050	ND	83	78	48-110	6.49	20
Methylene chloride	0.0482	0.0459	0.050	ND	87	82	42-127	4.91	20
4-Methyl-2-pentanone (MIBK)	0.0329	0.0307	0.050	ND	66	61	24-114	6.88	20
Naphthalene	0.0196	0.0192	0.050	ND	39	38	19-69	1.84	20
n-Propyl benzene	0.0566	0.0530	0.050	ND	113	106	46-168	6.60	20
Styrene	0.0362	0.0342	0.050	ND	72	68	42-122	5.64	20
1,1,1,2-Tetrachloroethane	0.0412	0.0388	0.050	ND	82	78	52-121	6.14	20
1,1,2,2-Tetrachloroethane	0.0318	0.0306	0.050	ND	64	61	27-116	3.73	20
Tetrachloroethene	0.0456	0.0422	0.050	ND	91	84	37-149	7.75	20
Toluene	0.0442	0.0414	0.050	ND	88	83	52-124	6.63	20
1,2,3-Trichlorobenzene	0.0270	0.0263	0.050	ND	54	53	20-86	2.57	20
1,2,4-Trichlorobenzene	0.0344	0.0329	0.050	ND	69	66	24-107	4.56	20
1,1,1-Trichloroethane	0.0465	0.0438	0.050	ND	93	88	48-128	6.00	20
1,1,2-Trichloroethane	0.0369	0.0346	0.050	ND	74	69	51-110	6.43	20
Trichloroethene	0.0513	0.0482	0.050	ND	103	96	42-128	6.18	20
Trichlorofluoromethane	0.0386	0.0365	0.050	ND	77	73	31-121	5.64	20
1,2,3-Trichloropropane	0.0368	0.0351	0.050	ND	74	70	50-115	4.94	20
1,2,4-Trimethylbenzene	0.0552	0.0518	0.050	ND	110	104	48-151	6.27	20
1,3,5-Trimethylbenzene	0.0566	0.0523	0.050	ND	113	105	51-159	7.76	20
Vinyl Chloride	0.0489	0.0471	0.050	ND	98	94	11-136	3.76	20
Xylenes, Total	0.131	0.123	0.15	ND	88	82	38-141	6.56	20

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Quality Control Report

Client:	AEI Consultants	**WorkOrder:**	1801278
Date Prepared:	1/4/18	**BatchID:**	151211
Date Analyzed:	1/5/18 - 1/8/18	**Extraction Method:**	SW5030B
Instrument:	GC18, GC38	**Analytical Method:**	SW8260B
Matrix:	Soil	**Unit:**	mg/kg
Project:	335476; Hayward, Loyola	**Sample ID:**	MB/LCS-151211 1801192-004AMS/MSD

QC Summary Report for SW8260B

Analyte	MS Result	MSD Result	SPK Val	SPKRef Val	MS %REC	MSD %REC	MS/MSD Limits	RPD	RPD Limit
Surrogate Recovery									
Dibromofluoromethane	0.143	0.144	0.12		114	115	82-136	0.439	20
Toluene-d8	0.133	0.131	0.12		106	105	92-139	1.08	20
4-BFB	0.0147	0.0147	0.012		117	117	82-135	0	20
Benzene-d6	0.0904	0.0869	0.10		90	87	55-122	3.98	20
Ethylbenzene-d10	0.106	0.0990	0.10		106	99	58-141	6.84	20
1,2-DCB-d4	0.0782	0.0754	0.10		78	75	51-107	3.63	20

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Quality Control Report

Client:	AEI Consultants	**WorkOrder:**	1801278
Date Prepared:	1/9/18	**BatchID:**	151359
Date Analyzed:	1/9/18	**Extraction Method:**	SW5030B
Instrument:	GC18	**Analytical Method:**	SW8260B
Matrix:	Water	**Unit:**	µg/L
Project:	335476; Hayward, Loyola	**Sample ID:**	MB/LCS-151359

QC Summary Report for SW8260B

Analyte	MB Result	LCS Result	RL	SPK Val	MB SS %REC	LCS %REC	LCS Limits
Acetone	ND	166	10	200	-	83	47-122
tert-Amyl methyl ether (TAME)	ND	8.50	0.50	10	-	85	62-121
Benzene	ND	8.69	0.50	10	-	87	74-121
Bromobenzene	ND	8.36	0.50	10	-	84	63-127
Bromochloromethane	ND	8.98	0.50	10	-	90	70-126
Bromodichloromethane	ND	8.28	0.50	10	-	83	66-127
Bromoform	ND	9.06	0.50	10	-	91	60-119
Bromomethane	ND	13.0	0.50	10	-	130	32-155
2-Butanone (MEK)	ND	32.9	2.0	40	-	82	51-117
t-Butyl alcohol (TBA)	ND	29.3	2.0	40	-	73	41-122
n-Butyl benzene	ND	9.49	0.50	10	-	95	73-137
sec-Butyl benzene	ND	9.62	0.50	10	-	96	71-137
tert-Butyl benzene	ND	9.09	0.50	10	-	91	61-136
Carbon Disulfide	ND	8.62	0.50	10	-	86	61-139
Carbon Tetrachloride	ND	8.67	0.50	10	-	87	69-137
Chlorobenzene	ND	8.98	0.50	10	-	90	71-122
Chloroethane	ND	10.6	0.50	10	-	106	54-132
Chloroform	ND	8.70	0.50	10	-	87	73-122
Chloromethane	ND	10.2	0.50	10	-	102	48-136
2-Chlorotoluene	ND	9.76	0.50	10	-	98	65-134
4-Chlorotoluene	ND	8.78	0.50	10	-	88	65-130
Dibromochloromethane	ND	8.39	0.50	10	-	84	65-121
1,2-Dibromo-3-chloropropane	ND	2.64	0.20	4	-	66	41-132
1,2-Dibromoethane (EDB)	ND	8.06	0.50	10	-	81	67-125
Dibromomethane	ND	8.22	0.50	10	-	82	68-121
1,2-Dichlorobenzene	ND	8.57	0.50	10	-	86	69-128
1,3-Dichlorobenzene	ND	9.50	0.50	10	-	95	71-131
1,4-Dichlorobenzene	ND	8.89	0.50	10	-	89	70-128
Dichlorodifluoromethane	ND	10.5	0.50	10	-	105	21-158
1,1-Dichloroethane	ND	8.88	0.50	10	-	89	73-123
1,2-Dichloroethane (1,2-DCA)	ND	8.52	0.50	10	-	85	61-127
1,1-Dichloroethene	ND	8.73	0.50	10	-	87	68-130
cis-1,2-Dichloroethene	ND	8.70	0.50	10	-	87	72-123
trans-1,2-Dichloroethene	ND	9.18	0.50	10	-	92	64-138
1,2-Dichloropropane	ND	8.60	0.50	10	-	86	71-121
1,3-Dichloropropane	ND	8.52	0.50	10	-	85	69-120
2,2-Dichloropropane	ND	8.75	0.50	10	-	87	64-142

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Quality Control Report

Client:	AEI Consultants	**WorkOrder:**	1801278
Date Prepared:	1/9/18	**BatchID:**	151359
Date Analyzed:	1/9/18	**Extraction Method:**	SW5030B
Instrument:	GC18	**Analytical Method:**	SW8260B
Matrix:	Water	**Unit:**	µg/L
Project:	335476; Hayward, Loyola	**Sample ID:**	MB/LCS-151359

QC Summary Report for SW8260B

Analyte	MB Result	LCS Result	RL	SPK Val	MB SS %REC	LCS %REC	LCS Limits
1,1-Dichloropropene	ND	8.63	0.50	10	-	86	70-130
cis-1,3-Dichloropropene	ND	8.33	0.50	10	-	83	58-136
trans-1,3-Dichloropropene	ND	9.66	0.50	10	-	97	66-119
Diisopropyl ether (DIPE)	ND	9.76	0.50	10	-	98	66-123
Ethylbenzene	ND	8.87	0.50	10	-	89	71-125
Ethyl tert-butyl ether (ETBE)	ND	9.76	0.50	10	-	98	67-122
Freon 113	ND	8.76	0.50	10	-	88	68-132
Hexachlorobutadiene	ND	8.16	0.50	10	-	82	56-155
Hexachloroethane	ND	9.56	0.50	10	-	96	61-129
2-Hexanone	ND	8.35	0.50	10	-	84	51-115
Isopropylbenzene	ND	9.49	0.50	10	-	95	66-134
4-Isopropyl toluene	ND	9.15	0.50	10	-	91	70-136
Methyl-t-butyl ether (MTBE)	ND	9.48	0.50	10	-	95	64-118
Methylene chloride	ND	8.12	0.50	10	-	81	62-121
4-Methyl-2-pentanone (MIBK)	ND	8.22	0.50	10	-	82	51-115
Naphthalene	ND	7.20	0.50	10	-	72	55-137
n-Propyl benzene	ND	9.60	0.50	10	-	96	63-140
Styrene	ND	8.66	0.50	10	-	87	62-133
1,1,1,2-Tetrachloroethane	ND	8.75	0.50	10	-	88	69-128
1,1,2,2-Tetrachloroethane	ND	7.92	0.50	10	-	79	60-118
Tetrachloroethene	ND	8.61	0.50	10	-	86	63-136
Toluene	ND	8.58	0.50	10	-	86	67-124
1,2,3-Trichlorobenzene	ND	7.65	0.50	10	-	77	57-145
1,2,4-Trichlorobenzene	ND	8.06	0.50	10	-	81	60-144
1,1,1-Trichloroethane	ND	8.55	0.50	10	-	86	70-133
1,1,2-Trichloroethane	ND	8.18	0.50	10	-	82	65-125
Trichloroethene	ND	8.28	0.50	10	-	83	67-133
Trichlorofluoromethane	ND	8.92	0.50	10	-	89	59-145
1,2,3-Trichloropropane	ND	8.39	0.50	10	-	84	65-115
1,2,4-Trimethylbenzene	ND	9.07	0.50	10	-	91	67-136
1,3,5-Trimethylbenzene	ND	9.07	0.50	10	-	91	68-135
Vinyl Chloride	ND	11.3	0.50	10	-	113	53-146
Xylenes, Total	ND	27.4	0.50	30	-	91	68-128

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Quality Control Report

Client:	AEI Consultants	**WorkOrder:**	1801278
Date Prepared:	1/9/18	**BatchID:**	151359
Date Analyzed:	1/9/18	**Extraction Method:**	SW5030B
Instrument:	GC18	**Analytical Method:**	SW8260B
Matrix:	Water	**Unit:**	µg/L
Project:	335476; Hayward, Loyola	**Sample ID:**	MB/LCS-151359

QC Summary Report for SW8260B

Analyte	MB Result	LCS Result	RL	SPK Val	MB SS %REC	LCS %REC	LCS Limits
Surrogate Recovery							
Dibromofluoromethane	27.8	25.9		25	111	104	91-133
Toluene-d8	25.2	26.0		25	101	104	87-127
4-BFB	2.27	2.28		2.5	91	91	66-140

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Quality Control Report

Client:	AEI Consultants	**WorkOrder:**	1801278
Date Prepared:	1/10/18	**BatchID:**	151489
Date Analyzed:	1/10/18	**Extraction Method:**	SW5030B
Instrument:	GC18	**Analytical Method:**	SW8260B
Matrix:	Water	**Unit:**	µg/L
Project:	335476; Hayward, Loyola	**Sample ID:**	MB/LCS-151489 1801264-002BMS/MSD

QC Summary Report for SW8260B

Analyte	MB Result	LCS Result	RL	SPK Val	MB SS %REC	LCS %REC	LCS Limits
Acetone	ND	183	10	200	-	91	47-122
tert-Amyl methyl ether (TAME)	ND	8.63	0.50	10	-	86	62-121
Benzene	ND	9.00	0.50	10	-	90	74-121
Bromobenzene	ND	8.10	0.50	10	-	81	63-127
Bromochloromethane	ND	9.36	0.50	10	-	94	70-126
Bromodichloromethane	ND	8.50	0.50	10	-	85	66-127
Bromoform	ND	9.01	0.50	10	-	90	60-119
Bromomethane	ND	14.6	0.50	10	-	147	32-155
2-Butanone (MEK)	ND	34.9	2.0	40	-	87	51-117
t-Butyl alcohol (TBA)	ND	31.5	2.0	40	-	79	41-122
n-Butyl benzene	ND	9.88	0.50	10	-	99	73-137
sec-Butyl benzene	ND	10.1	0.50	10	-	101	71-137
tert-Butyl benzene	ND	9.02	0.50	10	-	90	61-136
Carbon Disulfide	ND	8.85	0.50	10	-	88	61-139
Carbon Tetrachloride	ND	8.89	0.50	10	-	89	69-137
Chlorobenzene	ND	8.91	0.50	10	-	89	71-122
Chloroethane	ND	11.7	0.50	10	-	117	54-132
Chloroform	ND	9.10	0.50	10	-	91	73-122
Chloromethane	ND	10.9	0.50	10	-	109	48-136
2-Chlorotoluene	ND	9.70	0.50	10	-	97	65-134
4-Chlorotoluene	ND	8.71	0.50	10	-	87	65-130
Dibromochloromethane	ND	8.32	0.50	10	-	83	65-121
1,2-Dibromo-3-chloropropane	ND	2.49	0.20	4	-	62	41-132
1,2-Dibromoethane (EDB)	ND	8.06	0.50	10	-	81	67-125
Dibromomethane	ND	8.55	0.50	10	-	85	68-121
1,2-Dichlorobenzene	ND	8.74	0.50	10	-	87	69-128
1,3-Dichlorobenzene	ND	9.83	0.50	10	-	98	71-131
1,4-Dichlorobenzene	ND	9.06	0.50	10	-	91	70-128
Dichlorodifluoromethane	ND	10.9	0.50	10	-	109	21-158
1,1-Dichloroethane	ND	9.29	0.50	10	-	93	73-123
1,2-Dichloroethane (1,2-DCA)	ND	8.94	0.50	10	-	89	61-127
1,1-Dichloroethene	ND	9.02	0.50	10	-	90	68-130
cis-1,2-Dichloroethene	ND	9.04	0.50	10	-	90	72-123
trans-1,2-Dichloroethene	ND	9.63	0.50	10	-	96	64-138
1,2-Dichloropropane	ND	8.95	0.50	10	-	90	71-121
1,3-Dichloropropane	ND	8.44	0.50	10	-	84	69-120
2,2-Dichloropropane	ND	9.09	0.50	10	-	91	64-142

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Quality Control Report

Client:	AEI Consultants	**WorkOrder:**	1801278
Date Prepared:	1/10/18	**BatchID:**	151489
Date Analyzed:	1/10/18	**Extraction Method:**	SW5030B
Instrument:	GC18	**Analytical Method:**	SW8260B
Matrix:	Water	**Unit:**	µg/L
Project:	335476; Hayward, Loyola	**Sample ID:**	MB/LCS-151489 1801264-002BMS/MSD

QC Summary Report for SW8260B

Analyte	MB Result	LCS Result	RL	SPK Val	MB SS %REC	LCS %REC	LCS Limits
1,1-Dichloropropene	ND	8.85	0.50	10	-	89	70-130
cis-1,3-Dichloropropene	ND	8.35	0.50	10	-	83	58-136
trans-1,3-Dichloropropene	ND	9.67	0.50	10	-	97	66-119
Diisopropyl ether (DIPE)	ND	10.2	0.50	10	-	102	66-123
Ethylbenzene	ND	8.89	0.50	10	-	89	71-125
Ethyl tert-butyl ether (ETBE)	ND	10.0	0.50	10	-	101	67-122
Freon 113	ND	9.12	0.50	10	-	91	68-132
Hexachlorobutadiene	ND	9.08	0.50	10	-	91	56-155
Hexachloroethane	ND	9.38	0.50	10	-	94	61-129
2-Hexanone	ND	8.04	0.50	10	-	80	51-115
Isopropylbenzene	ND	9.07	0.50	10	-	91	66-134
4-Isopropyl toluene	ND	9.43	0.50	10	-	94	70-136
Methyl-t-butyl ether (MTBE)	ND	9.67	0.50	10	-	97	64-118
Methylene chloride	ND	8.53	0.50	10	-	85	62-121
4-Methyl-2-pentanone (MIBK)	ND	8.33	0.50	10	-	83	51-115
Naphthalene	ND	6.42	0.50	10	-	64	55-137
n-Propyl benzene	ND	9.60	0.50	10	-	96	63-140
Styrene	ND	8.56	0.50	10	-	86	62-133
1,1,1,2-Tetrachloroethane	ND	8.67	0.50	10	-	87	69-128
1,1,2,2-Tetrachloroethane	ND	7.53	0.50	10	-	75	60-118
Tetrachloroethene	ND	8.51	0.50	10	-	85	63-136
Toluene	ND	8.69	0.50	10	-	87	67-124
1,2,3-Trichlorobenzene	ND	7.55	0.50	10	-	75	57-145
1,2,4-Trichlorobenzene	ND	8.01	0.50	10	-	80	60-144
1,1,1-Trichloroethane	ND	8.79	0.50	10	-	88	70-133
1,1,2-Trichloroethane	ND	8.20	0.50	10	-	82	65-125
Trichloroethene	ND	8.41	0.50	10	-	84	67-133
Trichlorofluoromethane	ND	9.27	0.50	10	-	93	59-145
1,2,3-Trichloropropane	ND	8.06	0.50	10	-	81	65-115
1,2,4-Trimethylbenzene	ND	9.14	0.50	10	-	91	67-136
1,3,5-Trimethylbenzene	ND	9.06	0.50	10	-	91	68-135
Vinyl Chloride	ND	12.4	0.50	10	-	124	53-146
Xylenes, Total	ND	27.3	0.50	30	-	91	68-128

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Quality Control Report

Client:	AEI Consultants	**WorkOrder:**	1801278
Date Prepared:	1/10/18	**BatchID:**	151489
Date Analyzed:	1/10/18	**Extraction Method:**	SW5030B
Instrument:	GC18	**Analytical Method:**	SW8260B
Matrix:	Water	**Unit:**	µg/L
Project:	335476; Hayward, Loyola	**Sample ID:**	MB/LCS-151489 1801264-002BMS/MSD

QC Summary Report for SW8260B

Analyte	MB Result	LCS Result	RL	SPK Val	MB SS %REC	LCS %REC	LCS Limits
Surrogate Recovery							
Dibromofluoromethane	25.2	26.0		25	101	104	91-133
Toluene-d8	25.6	25.9		25	103	104	87-127
4-BFB	2.03	2.07		2.5	81	83	66-140

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Quality Control Report

Client:	AEI Consultants	**WorkOrder:**	1801278
Date Prepared:	1/10/18	**BatchID:**	151489
Date Analyzed:	1/10/18	**Extraction Method:**	SW5030B
Instrument:	GC18	**Analytical Method:**	SW8260B
Matrix:	Water	**Unit:**	µg/L
Project:	335476; Hayward, Loyola	**Sample ID:**	MB/LCS-151489 1801264-002BMS/MSD

QC Summary Report for SW8260B

Analyte	MS Result	MSD Result	SPK Val	SPKRef Val	MS %REC	MSD %REC	MS/MSD Limits	RPD	RPD Limit
Acetone	196	197	200	ND	93	94	56-141	0.636	20
tert-Amyl methyl ether (TAME)	7.89	8.03	10	ND	79	80	78-120	1.76	20
Benzene	7.94	8.11	10	ND	79,F1	81	81-118	2.11	20
Bromobenzene	6.85	6.97	10	ND	68,F1	70,F1	71-119	1.72	20
Bromochloromethane	8.04	8.28	10	ND	80	83	80-124	2.89	20
Bromodichloromethane	7.50	7.70	10	ND	75,F1	77,F1	78-124	2.57	20
Bromoform	7.69	7.85	10	ND	77	79	65-127	2.13	20
Bromomethane	12.5	13.6	10	ND	125	136	22-175	8.42	20
2-Butanone (MEK)	34.3	34.6	40	ND	86	86	50-152	0	20
t-Butyl alcohol (TBA)	29.2	28.9	40	ND	73	72	49-141	0.739	20
n-Butyl benzene	8.66	8.50	10	ND	87	85	77-127	1.85	20
sec-Butyl benzene	8.74	8.78	10	ND	86	86	74-123	0	20
tert-Butyl benzene	7.60	7.73	10	ND	76	77	68-122	1.68	20
Carbon Disulfide	7.61	7.69	10	ND	74	75	74-123	1.04	20
Carbon Tetrachloride	7.36	7.55	10	ND	72,F1	74,F1	78-124	2.58	20
Chlorobenzene	7.70	7.80	10	ND	77,F1	78,F1	79-116	1.30	20
Chloroethane	11.1	11.3	10	ND	111	113	56-134	2.42	20
Chloroform	7.96	8.19	10	ND	80,F1	82	82-119	2.80	20
Chloromethane	10.4	10.3	10	ND	104	103	39-147	0.713	20
2-Chlorotoluene	8.35	8.43	10	ND	84	84	69-124	0	20
4-Chlorotoluene	7.20	7.29	10	ND	72	73	71-121	1.22	20
Dibromochloromethane	6.96	7.20	10	ND	70,F1	72,F1	76-119	3.29	20
1,2-Dibromo-3-chloropropane	2.42	2.45	4	ND	60	61	48-138	1.51	20
1,2-Dibromoethane (EDB)	7.06	7.18	10	ND	71,F1	72,F1	81-122	1.58	20
Dibromomethane	7.74	7.86	10	ND	77,F1	79,F1	83-121	1.61	20
1,2-Dichlorobenzene	7.57	7.77	10	ND	76,F1	78	77-122	2.65	20
1,3-Dichlorobenzene	8.75	8.70	10	ND	87	87	76-125	0	20
1,4-Dichlorobenzene	7.75	7.91	10	ND	78	79	78-120	1.97	20
Dichlorodifluoromethane	10.2	10.1	10	ND	102	101	38-135	1.55	20
1,1-Dichloroethane	8.18	8.40	10	ND	82	84	80-120	2.60	20
1,2-Dichloroethane (1,2-DCA)	8.01	8.16	10	ND	80	82	78-122	1.92	20
1,1-Dichloroethene	7.72	7.88	10	ND	77	79	77-120	2.12	20
cis-1,2-Dichloroethene	7.96	8.13	10	ND	80	81	79-123	2.08	20
trans-1,2-Dichloroethene	8.49	8.56	10	ND	85	86	77-125	0.850	20
1,2-Dichloropropane	7.98	8.18	10	ND	80	82	80-121	2.42	20
1,3-Dichloropropane	7.46	7.56	10	ND	75,F1	76,F1	80-120	1.35	20
2,2-Dichloropropane	7.69	7.84	10	ND	77	78	70-132	1.96	20

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Quality Control Report

Client:	AEI Consultants	**WorkOrder:**	1801278
Date Prepared:	1/10/18	**BatchID:**	151489
Date Analyzed:	1/10/18	**Extraction Method:**	SW5030B
Instrument:	GC18	**Analytical Method:**	SW8260B
Matrix:	Water	**Unit:**	µg/L
Project:	335476; Hayward, Loyola	**Sample ID:**	MB/LCS-151489 1801264-002BMS/MSD

QC Summary Report for SW8260B

Analyte	MS Result	MSD Result	SPK Val	SPKRef Val	MS %REC	MSD %REC	MS/MSD Limits	RPD	RPD Limit
1,1-Dichloropropene	7.65	7.82	10	ND	76,F1	78	78-122	2.20	20
cis-1,3-Dichloropropene	7.17	7.32	10	ND	72,F1	73	73-121	2.16	20
trans-1,3-Dichloropropene	8.38	8.52	10	ND	84	85	77-116	1.73	20
Diisopropyl ether (DIPE)	9.48	9.72	10	ND	95	97	77-125	2.45	20
Ethylbenzene	7.74	7.76	10	ND	77	78	77-119	0.122	20
Ethyl tert-butyl ether (ETBE)	9.28	9.44	10	ND	93	94	81-122	1.74	20
Freon 113	7.90	8.05	10	ND	79	80	77-120	1.80	20
Hexachlorobutadiene	7.52	7.64	10	ND	75	76	57-141	1.58	20
Hexachloroethane	7.54	7.81	10	ND	75	78	26-168	3.51	20
2-Hexanone	7.53	7.63	10	ND	75	76	58-135	1.31	20
Isopropylbenzene	7.58	7.68	10	ND	76	77	74-120	1.29	20
4-Isopropyl toluene	8.08	8.14	10	ND	81	81	75-124	0	20
Methyl-t-butyl ether (MTBE)	9.06	9.19	10	ND	91	92	74-128	1.39	20
Methylene chloride	7.42	7.65	10	ND	74	77	55-130	3.11	20
4-Methyl-2-pentanone (MIBK)	7.68	7.61	10	ND	74	73	59-131	0.965	20
Naphthalene	6.66	6.00	10	ND	67	60,F1	65-136	10.5	20
n-Propyl benzene	8.19	8.20	10	ND	82	82	67-128	0	20
Styrene	7.55	7.49	10	ND	75	74	64-133	0.781	20
1,1,1,2-Tetrachloroethane	7.20	7.50	10	ND	72,F1	75,F1	78-122	3.97	20
1,1,2,2-Tetrachloroethane	6.98	7.15	10	ND	70,F1	71,F1	72-123	2.30	20
Tetrachloroethene	6.95	7.08	10	ND	70,F1	71,F1	72-123	1.87	20
Toluene	7.33	7.48	10	ND	72,F1	74	74-117	1.97	20
1,2,3-Trichlorobenzene	7.18	6.72	10	ND	72	67	61-141	6.54	20
1,2,4-Trichlorobenzene	7.49	7.01	10	ND	75	70	69-136	6.67	20
1,1,1-Trichloroethane	7.46	7.66	10	ND	75,F1	77,F1	78-122	2.56	20
1,1,2-Trichloroethane	7.15	7.33	10	ND	71,F1	73,F1	79-120	2.55	20
Trichloroethene	7.19	7.32	10	ND	72,F1	73,F1	76-122	1.70	20
Trichlorofluoromethane	7.91	7.98	10	ND	79	80	72-125	0.937	20
1,2,3-Trichloropropane	7.07	7.30	10	ND	71,F1	73	72-123	3.23	20
1,2,4-Trimethylbenzene	7.94	7.88	10	ND	79	79	74-123	0	20
1,3,5-Trimethylbenzene	7.76	7.84	10	ND	78	78	73-123	0	20
Vinyl Chloride	11.9	11.8	10	ND	119	118	57-134	0.986	20
Xylenes, Total	23.6	23.4	30	ND	79	78	76-119	0.819	20

(Cont.)

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Quality Control Report

Client:	AEI Consultants	**WorkOrder:**	1801278
Date Prepared:	1/10/18	**BatchID:**	151489
Date Analyzed:	1/10/18	**Extraction Method:**	SW5030B
Instrument:	GC18	**Analytical Method:**	SW8260B
Matrix:	Water	**Unit:**	µg/L
Project:	335476; Hayward, Loyola	**Sample ID:**	MB/LCS-151489 1801264-002BMS/MSD

QC Summary Report for SW8260B

Analyte	MS Result	MSD Result	SPK Val	SPKRef Val	MS %REC	MSD %REC	MS/MSD Limits	RPD	RPD Limit
Surrogate Recovery									
Dibromofluoromethane	25.8	26.1	25		103	104	78-134	1.21	20
Toluene-d8	25.1	25.2	25		101	101	82-120	0	20
4-BFB	1.93	1.97	2.5		77	79	69-131	1.73	20

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Quality Control Report

Client:	AEI Consultants	**WorkOrder:**	1801278
Date Prepared:	1/5/18	**BatchID:**	151259
Date Analyzed:	1/8/18	**Extraction Method:**	SW3550B
Instrument:	GC9a	**Analytical Method:**	SW8015B
Matrix:	Soil	**Unit:**	mg/Kg
Project:	335476; Hayward, Loyola	**Sample ID:**	MB/LCS-151259 1801269-001AMS/MSD

QC Report for SW8015B w/out SG Clean-Up

Analyte	MB Result	LCS Result	RL	SPK Val	MB SS %REC	LCS %REC	LCS Limits
TPH-Diesel (C10-C23)	ND	39.8	1.0	40	-	100	75-128
TPH-Motor Oil (C18-C36)	ND	-	5.0	-	-	-	-
Surrogate Recovery							
C9	20.4	20.2		25	81	81	72-122

Analyte	MS Result	MSD Result	SPK Val	SPKRef Val	MS %REC	MSD %REC	MS/MSD Limits	RPD	RPD Limit
TPH-Diesel (C10-C23)	40.1	41.2	40	ND	100	103	71-134	2.70	30
Surrogate Recovery									
C9	20.4	20.7	25		82	83	78-126	1.24	30

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CHAIN-OF-CUSTODY RECORD

WorkOrder: 1801278 **ClientCode: AEL**

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

Report to:
Nina Abdollahian
AEI Consultants
2500 Camino Diablo, Ste.#200
Walnut Creek, CA 94597
(925) 283-6000 FAX: (925) 944-2895
Email: nabdollahian@aeiconsultants.com
cc/3rd Party:
PO: 146720
Project: 335476; Hayward,Loyola

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

Requested TAT: 5 days;
Date Received: **01/05/2018**
Date Logged: **01/05/2018**

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
1801278-002	SB-6-2.5	Soil	1/4/2018 08:49	☐	A		A									
1801278-003	SB-6-7.5	Soil	1/4/2018 08:46	☐	A		A									
1801278-007	SB-6	Water	1/4/2018 09:04	☐		A										
1801278-008	SB-5-2.5	Soil	1/4/2018 09:51	☐	A		A									
1801278-010	SB-5-7.5	Soil	1/4/2018 09:55	☐	A		A									
1801278-012	SB-5-W	Water	1/4/2018 09:35	☐		A										

Test Legend:

1	8260B_S	2	8260B_W	3	TPH(DMO)_S	4	
5		6		7		8	
9		10		11		12	

Prepared by: Kena Ponce

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: Nina Abdollahian
Contact's Email: nabdollahian@aeiconsultants.com

Project: 335476; Hayward,Loyola
Comments:

Work Order: 1801278
QC Level: LEVEL 2
Date Logged: 1/5/2018

☐ 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
1801278-001A	SG-5-3	Soil		1	Acetate Liner	☐	1/4/2018 8:28			☑	
1801278-002A	SB-6-2.5	Soil	SW8015B (Diesel & Motor Oil)	1	Acetate Liner	☐	1/4/2018 8:49	5 days		☐	
			SW8260B (VOCs)			☐		5 days		☐	
1801278-003A	SB-6-7.5	Soil	SW8015B (Diesel & Motor Oil)	1	Acetate Liner	☐	1/4/2018 8:46	5 days		☐	
			SW8260B (VOCs)			☐		5 days		☐	
1801278-004A	SB-6-9.5	Soil		1	Acetate Liner	☐	1/4/2018 8:56			☑	
1801278-005A	SB-6-11.5	Soil		1	Acetate Liner	☐	1/4/2018 8:51			☑	
1801278-006A	SB-6-15.5	Soil		1	Acetate Liner	☐	1/4/2018 9:03			☑	
1801278-007A	SB-6	Water	SW8260B (VOCs)	3	VOA w/ HCl	☐	1/4/2018 9:04	5 days	1%+	☐	
1801278-008A	SB-5-2.5	Soil	SW8015B (Diesel & Motor Oil)	1	Acetate Liner	☐	1/4/2018 9:51	5 days		☐	
			SW8260B (VOCs)			☐		5 days		☐	
1801278-009A	SB-5-5.5	Soil		1	Acetate Liner	☐	1/4/2018 9:59			☑	
1801278-010A	SB-5-7.5	Soil	SW8015B (Diesel & Motor Oil)	1	Acetate Liner	☐	1/4/2018 9:55	5 days		☐	
			SW8260B (VOCs)			☐		5 days		☐	
1801278-011A	SB-5-11.5	Soil		1	Acetate Liner	☐	1/4/2018 9:56			☑	
1801278-012A	SB-5-W	Water	SW8260B (VOCs)	3	VOA w/ HCl	☐	1/4/2018 9:35	5 days	1%+	☐	

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.

General COC

MAI Work Order # 1801278

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CHAIN OF CUSTODY RECORD

Turn Around Time: 1 Day Rush | 2 Day Rush | 3 Day Rush | STD ● | Quote #
J-Flag / MDL | ESL | Cleanup Approved | Bottle Order #
Delivery Format: PDF ● | GeoTracker EDF | EDD | Write On (DW) | EQuIS

Report To: Nina Abdollahian — Bill To: AEI Consultants
Company: AEI Consultants
Email: Nabdollahian@aeiconsultants.com
Alt Email: Tweise@aeiconsultants.com — Tele: 4085597600
Project Name: Hayward, Loyola — Project #:335476
Project Location: Hayward, CA — PO # 146720
Sampler Signature:

SAMPLE ID Location / Field Point	Sampling Date	Sampling Time	#Containers	Matrix	Preservative	VOCs US EPA 8260B	TPH-d, TPH-mo US EPA 8015B	HOLD
SG-5-3	1/4/18	828	1	S	1			●
SB-6-2.5	1/4/18	849	1	S	1	●	●	
SB-6-7.5	1/4/18	846	1	S	1	●	●	
SB-6-9.5	1/4/18	856	1	S	1			●
SB-6-11.5	1/4/18	851	1	S	1			●
SB-6-15.5	1/4/18	903	1	S	1			●
SB-6-W	1/4/18	904	3	GW	1,2	●		
SB-5-2.5	1/4/18	951	1	S	1	●	●	
SB-5-5.5	1/4/18	959	1	S	1			●
SB-5-7.5	1/4/18	955	1	S	1	●	●	

Analysis Requested

MAI clients MUST disclose any dangerous chemicals known to be present in their submitted samples in concentrations that may cause immediate harm or serious future health endangerment as a result of brief, gloved, open air, sample handling by MAI staff. Non-disclosure incurs an immediate $250 surcharge and the client is subject to full legal liability for harm suffered. Thank you for your understanding and for allowing us to work safely.

* If metals are requested for water samples and the water type (Matrix) is not specified on the chain of custody, MAI will default to metals by E200.8.

Please provide an adequate volume of sample. If the volume is not sufficient for a MS/MSD a LCS/LCSD will be prepared in its place and noted in the report.

Comments / Instructions

Relinquished By / Company Name	Date	Time	Received By / Company Name	Date	Time
	1/5/18	1719	Moises V.	1/5/18	1719
MV.	1/5/18	1425		1/5/18	1925

Matrix Code: DW=Drinking Water, GW=Ground Water, WW=Waste Water, SW=Seawater, S=Soil, SL=Sludge, A=Air, WP=Wipe, O=Other

Preservative Code: 1=4°C 2=HCl 3=H_2SO_4 4=HNO_3 5=NaOH 6=ZnOAc/NaOH 7=None

Temp 3.2 °C Initials

MAI Work Order # _____

6

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CHAIN OF CUSTODY RECORD

Turn Around Time:	1 Day Rush		2 Day Rush		3 Day Rush		STD	●	Quote #				
	J-Flag / MDL		ESL		Cleanup Approved				Bottle Order #				
Delivery Format:	PDF	●	GeoTracker EDF		EDD		Write On (DW)		EQuIS				

Report To: Nina Abdollahian Bill To: AEI Consultants

Company: AEI Consultants

Email: Nabdollahian@aeiconsultants.com

Alt Email: Tweise@aeiconsultants.com Tele: 4085597600

Project Name: Hayward, Loyola Project #:335476

Project Location: Hayward, CA PO # 146720

Sampler Signature:

SAMPLE ID Location / Field Point	Sampling Date	Sampling Time	#Containers	Matrix	Preservative	VOCs US EPA 8260B	TPH-d, TPH-mo US EPA 8015B	HOLD
SB-5-11.5	1/4/18	956	1	S	1			●
SB-5-W	1/4/18	935	3	GW	1,2	●		

Analysis Requested

MAI clients MUST disclose any dangerous chemicals known to be present in their submitted samples in concentrations that may cause immediate harm or serious future health endangerment as a result of brief, gloved, open air, sample handling by MAI staff. Non-disclosure incurs an immediate $250 surcharge and the client is subject to full legal liability for harm suffered. Thank you for your understanding and for allowing us to work safely.

* If metals are requested for water samples and the water type (Matrix) is not specified on the chain of custody, MAI will default to metals by E200.8.

Please provide an adequate volume of sample. If the volume is not sufficient for a MS/MSD a LCS/LCSD will be prepared in its place and noted in the report.

Comments / Instructions

Relinquished By / Company Name	Date	Time	Received By / Company Name	Date	Time
	1/5/18	1719	MOISES	1/5/18	1719
MOISES	1/5/18	1920		1/5/18	1920

Matrix Code: DW=Drinking Water, GW=Ground Water, WW=Waste Water, SW=Seawater, S=Soil, SL=Sludge, A=Air, WP=Wipe, O=Other

Preservative Code: 1=4°C 2=HCl 3=H_2SO_4 4=HNO_3 5=NaOH 6=ZnOAc/NaOH 7=None

Temp _____ °C Initials _____

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Sample Receipt Checklist

Client Name:	**AEI Consultants**	Date and Time Received	**1/5/2018 19:20**
Project:	**335476; Hayward,Loyola**	Date Logged:	**1/5/2018**
		Received by:	Kena Ponce
WorkOrder №:	**1801278** Matrix: Soil/Water	Logged by:	Kena Ponce
Carrier:	Moises Vasquez (contract courier)		

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: 3.2°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:

McCampbell Analytical, Inc.

"When Quality Counts"

Analytical Report

WorkOrder: 1801278 A

Report Created for: AEI Consultants

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

Project Contact: Nina Abdollahian
Project P.O.: 146720
Project: 335476; Hayward, Loyola

Project Received: 01/05/2018

Analytical Report reviewed & approved for release on 01/16/2018 by:

Jennifer Lagerbom
Project Manager

McCampbell Analytical, Inc.
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Glossary of Terms & Qualifier Definitions

Client: AEI Consultants
Project: 335476; Hayward, Loyola
WorkOrder: 1801278 A

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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Analytical Report

Client:	AEI Consultants	**WorkOrder:**	1801278
Date Received:	1/5/18 19:20	**Extraction Method:**	SW5030B
Date Prepared:	1/12/18	**Analytical Method:**	SW8021B/8015Bm
Project:	335476; Hayward, Loyola	**Unit:**	mg/Kg

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

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SB-6-2.5	1801278-002A	Soil	01/04/2018 08:49	GC19 01131810.D	151538

Analytes	Result	RL	DF	Date Analyzed
TPH(g) (C6-C12)	ND	1.0	1	01/13/2018 16:53
MTBE	---	0.050	1	01/13/2018 16:53
Benzene	---	0.0050	1	01/13/2018 16:53
Toluene	---	0.0050	1	01/13/2018 16:53
Ethylbenzene	---	0.0050	1	01/13/2018 16:53
Xylenes	---	0.0050	1	01/13/2018 16:53

Surrogates	REC (%)	Limits	
2-Fluorotoluene	98	62-126	01/13/2018 16:53

Analyst(s): IA

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SB-6-7.5	1801278-003A	Soil	01/04/2018 08:46	GC19 01131811.D	151538

Analytes	Result	RL	DF	Date Analyzed
TPH(g) (C6-C12)	ND	1.0	1	01/13/2018 17:23
MTBE	---	0.050	1	01/13/2018 17:23
Benzene	---	0.0050	1	01/13/2018 17:23
Toluene	---	0.0050	1	01/13/2018 17:23
Ethylbenzene	---	0.0050	1	01/13/2018 17:23
Xylenes	---	0.0050	1	01/13/2018 17:23

Surrogates	REC (%)	Limits	
2-Fluorotoluene	94	62-126	01/13/2018 17:23

Analyst(s): IA

(Cont.)

NELAP 4033ORELAP

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Analytical Report

Client:	AEI Consultants	**WorkOrder:**	1801278
Date Received:	1/5/18 19:20	**Extraction Method:**	SW5030B
Date Prepared:	1/12/18	**Analytical Method:**	SW8021B/8015Bm
Project:	335476; Hayward, Loyola	**Unit:**	mg/Kg

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

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SB-5-2.5	1801278-008A	Soil	01/04/2018 09:51	GC19 01131815.D	151538

Analytes	Result	RL	DF	Date Analyzed
TPH(g) (C6-C12)	ND	1.0	1	01/13/2018 19:24
MTBE	---	0.050	1	01/13/2018 19:24
Benzene	---	0.0050	1	01/13/2018 19:24
Toluene	---	0.0050	1	01/13/2018 19:24
Ethylbenzene	---	0.0050	1	01/13/2018 19:24
Xylenes	---	0.0050	1	01/13/2018 19:24

Surrogates	REC (%)	Limits	
2-Fluorotoluene	91	62-126	01/13/2018 19:24

Analyst(s): IA

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SB-5-7.5	1801278-010A	Soil	01/04/2018 09:55	GC19 01131816.D	151538

Analytes	Result	RL	DF	Date Analyzed
TPH(g) (C6-C12)	ND	1.0	1	01/13/2018 19:54
MTBE	---	0.050	1	01/13/2018 19:54
Benzene	---	0.0050	1	01/13/2018 19:54
Toluene	---	0.0050	1	01/13/2018 19:54
Ethylbenzene	---	0.0050	1	01/13/2018 19:54
Xylenes	---	0.0050	1	01/13/2018 19:54

Surrogates	REC (%)	Limits	
2-Fluorotoluene	97	62-126	01/13/2018 19:54

Analyst(s): IA

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Quality Control Report

Client:	AEI Consultants	**WorkOrder:**	1801278
Date Prepared:	1/11/18	**BatchID:**	151538
Date Analyzed:	1/12/18	**Extraction Method:**	SW5030B
Instrument:	GC19, GC7	**Analytical Method:**	SW8021B/8015Bm
Matrix:	Soil	**Unit:**	mg/Kg
Project:	335476; Hayward, Loyola	**Sample ID:**	MB/LCS-151538 1801633-003AMS/MSD

QC Summary Report for SW8021B/8015Bm

Analyte	MB Result	RL	SPK Val	MB SS %REC	MB SS Limits
TPH(g) (C6-C12)	ND	1.0	-	-	-
MTBE	ND	0.050	-	-	-
Benzene	ND	0.0050	-	-	-
Toluene	ND	0.0050	-	-	-
Ethylbenzene	ND	0.0050	-	-	-
Xylenes	ND	0.0050	-	-	-
Surrogate Recovery					
2-Fluorotoluene	0.108		0.10	108	75-134

Analyte	LCS Result	LCSD Result	SPK Val	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Limit
TPH(btex)	0.542	-	0.60	90	-	82-118	-	-
MTBE	0.0900	-	0.10	90	-	61-119	-	-
Benzene	0.100	-	0.10	100	-	77-128	-	-
Toluene	0.105	-	0.10	105	-	74-132	-	-
Ethylbenzene	0.102	-	0.10	102	-	84-127	-	-
Xylenes	0.323	-	0.30	108	-	86-129	-	-
Surrogate Recovery								
2-Fluorotoluene	0.101	-	0.10	101	-	75-134	-	-

Analyte	MS Result	MSD Result	SPK Val	SPKRef Val	MS %REC	MSD %REC	MS/MSD Limits	RPD	RPD Limit
TPH(btex)	0.570	0.548	0.60	ND	95	91	58-129	4.04	20
MTBE	0.0874	0.0963	0.10	ND	87	96	47-118	9.72	20
Benzene	0.0934	0.102	0.10	ND	93	102	55-129	8.72	20
Toluene	0.0954	0.104	0.10	ND	92	101	56-130	9.11	20
Ethylbenzene	0.0971	0.102	0.10	ND	97	102	63-129	5.19	20
Xylenes	0.300	0.303	0.30	ND	99	100	64-131	1.21	20
Surrogate Recovery									
2-Fluorotoluene	0.0822	0.0878	0.10		82	88	62-126	6.55	20

McCampbell Analytical, Inc.
1534 Willow Pass Rd
Pittsburg, CA 94565-1701
(925) 252-9262

CHAIN-OF-CUSTODY RECORD

WorkOrder: 1801278 A **ClientCode: AEL**

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

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

Email: nabdollahian@aeiconsultants.com
cc/3rd Party:
PO: 146720
Project: 335476; Hayward, Loyola

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

Requested TAT: 5 days;

Date Received: **01/05/2018**
Date Logged: **01/05/2018**
Date Add-On: **01/11/2018**

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
1801278-002	SB-6-2.5	Soil	1/4/2018 08:49	☐	A											
1801278-003	SB-6-7.5	Soil	1/4/2018 08:46	☐	A											
1801278-008	SB-5-2.5	Soil	1/4/2018 09:51	☐	A											
1801278-010	SB-5-7.5	Soil	1/4/2018 09:55	☐	A											

Test Legend:

1	G-MBTEX_S	2		3		4	
5		6		7		8	
9		10		11		12	

Prepared by: Kena Ponce

Add-On Prepared By: Jena Alfaro

Comments: TPH Gas added 1/11/18 STAT

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.

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
Client Contact: Nina Abdollahian
Contact's Email nabdollahian@aeiconsultants.com

Project: 335476; Hayward, Loyola
Comments: TPH Gas added 1/11/18 STAT

Work Order: 1801278
QC Level: LEVEL 2
Date Logged: 1/5/2018
Date Add-On: 1/11/2018

Lab ID	Client ID	Matrix	Test Name	Containers /Composites	Bottle & Preservative	Collection Date & Time	TAT	Sediment Content	Hold	SubOut
1801278-002A	SB-6-2.5	Soil	SW8021B/8015Bm (G/MBTEX)	1	Acetate Liner	1/4/2018 8:49	5 days		☐	
1801278-003A	SB-6-7.5	Soil	Multi-Range TPH(g,d,mo) by EPA 8015Bm	1	Acetate Liner	1/4/2018 8:46	5 days		☐	
1801278-008A	SB-5-2.5	Soil	Multi-Range TPH(g,d,mo) by EPA 8015Bm	1	Acetate Liner	1/4/2018 9:51	5 days		☐	
1801278-010A	SB-5-7.5	Soil	Multi-Range TPH(g,d,mo) by EPA 8015Bm	1	Acetate Liner	1/4/2018 9:55	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.

General COC

MAI Work Order # 1801278

McCAMPBELL ANALYTICAL, INC.

1534 Willow Pass Rd. Pittsburg, Ca. 94565-1701
Telephone: (877) 252-9262 / Fax: (925) 252-9269
www.mccampbell.com main@mccampbell.com

CHAIN OF CUSTODY RECORD

Turn Around Time: 1 Day Rush | 2 Day Rush | 3 Day Rush | STD ● | Quote #
J-Flag / MDL | ESL | Cleanup Approved | Bottle Order #
Delivery Format: PDF ● | GeoTracker EDF | EDD | Write On (DW) | EQuIS

Report To: Nina Abdollahian | Bill To: AEI Consultants
Company: AEI Consultants
Email: Nabdollahian@aeiconsultants.com
Alt Email: Tweise@aeiconsultants.com | Tele: 4085597600
Project Name: Hayward, Loyola | Project #:335476
Project Location: Hayward, CA | PO # 146720
Sampler Signature:

SAMPLE ID Location / Field Point	Sampling Date	Sampling Time	#Containers	Matrix	Preservative	VOCs US EPA 8260B	TPH-d, TPH-mo US EPA 8015B	HOLD	TPH Gas 1/11/18 ST
SG-5-3	1/4/18	828	1	S	1			●	
SB-6-2.5	1/4/18	849	1	S	1	●	●		X
SB-6-7.5	1/4/18	846	1	S	1	●	●		X
SB-6-9.5	1/4/18	856	1	S	1			●	
SB-6-11.5	1/4/18	851	1	S	1			●	
SB-6-15.5	1/4/18	903	1	S	1			●	
SB-6-W	1/4/18	904	3	GW	1,2	●			
SB-5-2.5	1/4/18	951	1	S	1	●	●		X
SB-5-5.5	1/4/18	959	1	S	1			●	
SB-5-7.5	1/4/18	955	1	S	1	●	●		X

MAI clients MUST disclose any dangerous chemicals known to be present in their submitted samples in concentrations that may cause immediate harm or serious future health endangerment as a result of brief, gloved, open air, sample handling by MAI staff. Non-disclosure incurs an immediate $250 surcharge and the client is subject to full legal liability for harm suffered. Thank you for your understanding and for allowing us to work safely.

* If metals are requested for water samples and the water type (Matrix) is not specified on the chain of custody, MAI will default to metals by E200.8.
Please provide an adequate volume of sample. If the volume is not sufficient for a MS/MSD a LCS/LCSD will be prepared in its place and noted in the report.

Comments / Instructions

Relinquished By / Company Name	Date	Time	Received By / Company Name	Date	Time
M.V.	1/5/18	1714	Moises V.	1/5/18	1714
	1/5/18	1425		1/5/18	1950

Matrix Code: DW=Drinking Water, GW=Ground Water, WW=Waste Water, SW=Seawater, S=Soil, SL=Sludge, A=Air, WP=Wipe, O=Other
Preservative Code: 1=4°C 2=HCl 3=H_2SO_4 4=HNO_3 5=NaOH 6=ZnOAc/NaOH 7=None

Temp 13.2 °C Initials

Page 1 of 2

ANALYTICAL REPORT

January 11, 2018

AEI Consultants - CA

Sample Delivery Group:	L961582
Samples Received:	01/06/2018
Project Number:	335476
Description:	Hayward, Loyola
Site:	27501 LOYOLA AVE HAYWARD CA
Report To:	Trent Weise 2500 Camino Diablo Walnut Creek, CA 94597

Entire Report Reviewed By:

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.

TABLE OF CONTENTS

SG-1 L961582-01 Air

Collected by: Nina Abdollahian | Collected date/time: 01/04/18 13:07 | Received date/time: 01/06/18 09:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC) by Method ASTM 1946	WG1060492	1	01/08/18 11:48	01/08/18 11:48	BG
Volatile Organic Compounds (MS) by Method TO-15	WG1060231	2	01/06/18 15:45	01/06/18 15:45	MBF

SG-2 L961582-02 Air

Collected by: Nina Abdollahian | Collected date/time: 01/04/18 12:37 | Received date/time: 01/06/18 09:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC) by Method ASTM 1946	WG1060492	1	01/08/18 11:55	01/08/18 11:55	BG
Volatile Organic Compounds (MS) by Method TO-15	WG1060231	2	01/06/18 16:31	01/06/18 16:31	MBF

SG-3 L961582-03 Air

Collected by: Nina Abdollahian | Collected date/time: 01/04/18 11:30 | Received date/time: 01/06/18 09:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC) by Method ASTM 1946	WG1060492	1	01/08/18 12:00	01/08/18 12:00	BG
Volatile Organic Compounds (MS) by Method TO-15	WG1060231	2	01/06/18 17:17	01/06/18 17:17	MBF

SG-4 L961582-04 Air

Collected by: Nina Abdollahian | Collected date/time: 01/04/18 12:03 | Received date/time: 01/06/18 09:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC) by Method ASTM 1946	WG1060492	1	01/08/18 12:06	01/08/18 12:06	BG
Volatile Organic Compounds (MS) by Method TO-15	WG1060231	2	01/06/18 18:03	01/06/18 18:03	MBF

SG-5 L961582-05 Air

Collected by: Nina Abdollahian | Collected date/time: 01/04/18 15:08 | Received date/time: 01/06/18 09:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC) by Method ASTM 1946	WG1060492	1	01/08/18 12:10	01/08/18 12:10	BG
Volatile Organic Compounds (MS) by Method TO-15	WG1060231	2	01/06/18 18:49	01/06/18 18:49	MBF

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	WG1060492

Volatile Organic Compounds (MS) by Method TO-15

Analyte	CAS #	Mol. Wt.	RDL1 ppbv	RDL2 ug/m3	Result ppbv	Result ug/m3	Qualifier	Dilution	Batch
Acetone	67-64-1	58.10	2.50	5.94	ND	ND		2	WG1060231
Allyl chloride	107-05-1	76.53	0.400	1.25	ND	ND		2	WG1060231
Benzene	71-43-2	78.10	0.400	1.28	ND	ND		2	WG1060231
Benzyl Chloride	100-44-7	127	0.400	2.08	ND	ND		2	WG1060231
Bromodichloromethane	75-27-4	164	0.400	2.68	ND	ND		2	WG1060231
Bromoform	75-25-2	253	1.20	12.4	ND	ND		2	WG1060231
Bromomethane	74-83-9	94.90	0.400	1.55	ND	ND		2	WG1060231
1,3-Butadiene	106-99-0	54.10	4.00	8.85	ND	ND		2	WG1060231
Carbon disulfide	75-15-0	76.10	0.400	1.24	ND	ND		2	WG1060231
Carbon tetrachloride	56-23-5	154	0.400	2.52	ND	ND		2	WG1060231
Chlorobenzene	108-90-7	113	0.400	1.85	ND	ND		2	WG1060231
Chloroethane	75-00-3	64.50	0.400	1.06	ND	ND		2	WG1060231
Chloroform	67-66-3	119	0.400	1.95	ND	ND		2	WG1060231
Chloromethane	74-87-3	50.50	0.400	0.826	ND	ND		2	WG1060231
2-Chlorotoluene	95-49-8	126	0.400	2.06	ND	ND		2	WG1060231
Cyclohexane	110-82-7	84.20	0.400	1.38	ND	ND		2	WG1060231
Dibromochloromethane	124-48-1	208	0.400	3.40	ND	ND		2	WG1060231
1,2-Dibromoethane	106-93-4	188	0.400	3.08	ND	ND		2	WG1060231
1,2-Dichlorobenzene	95-50-1	147	0.400	2.40	ND	ND		2	WG1060231
1,3-Dichlorobenzene	541-73-1	147	0.400	2.40	ND	ND		2	WG1060231
1,4-Dichlorobenzene	106-46-7	147	0.400	2.40	ND	ND		2	WG1060231
1,2-Dichloroethane	107-06-2	99	0.400	1.62	ND	ND		2	WG1060231
1,1-Dichloroethane	75-34-3	98	0.400	1.60	ND	ND		2	WG1060231
1,1-Dichloroethene	75-35-4	96.90	0.400	1.59	ND	ND		2	WG1060231
cis-1,2-Dichloroethene	156-59-2	96.90	0.400	1.59	ND	ND		2	WG1060231
trans-1,2-Dichloroethene	156-60-5	96.90	0.400	1.59	ND	ND		2	WG1060231
1,2-Dichloropropane	78-87-5	113	0.400	1.85	ND	ND		2	WG1060231
cis-1,3-Dichloropropene	10061-01-5	111	0.400	1.82	ND	ND		2	WG1060231
trans-1,3-Dichloropropene	10061-02-6	111	0.400	1.82	ND	ND		2	WG1060231
1,4-Dioxane	123-91-1	88.10	0.400	1.44	ND	ND		2	WG1060231
Ethanol	64-17-5	46.10	1.26	2.38	3.02	5.70		2	WG1060231
Ethylbenzene	100-41-4	106	0.400	1.73	ND	ND		2	WG1060231
4-Ethyltoluene	622-96-8	120	0.400	1.96	ND	ND		2	WG1060231
Trichlorofluoromethane	75-69-4	137.40	0.400	2.25	ND	ND		2	WG1060231
Dichlorodifluoromethane	75-71-8	120.92	0.400	1.98	ND	ND		2	WG1060231
1,1,2-Trichlorotrifluoroethane	76-13-1	187.40	0.400	3.07	ND	ND		2	WG1060231
1,2-Dichlorotetrafluoroethane	76-14-2	171	0.400	2.80	ND	ND		2	WG1060231
Heptane	142-82-5	100	0.400	1.64	ND	ND		2	WG1060231
Hexachloro-1,3-butadiene	87-68-3	261	1.26	13.5	ND	ND		2	WG1060231
n-Hexane	110-54-3	86.20	0.400	1.41	ND	ND		2	WG1060231
Isopropylbenzene	98-82-8	120.20	0.400	1.97	ND	ND		2	WG1060231
Methylene Chloride	75-09-2	84.90	0.400	1.39	ND	ND		2	WG1060231
Methyl Butyl Ketone	591-78-6	100	2.50	10.2	ND	ND		2	WG1060231
2-Butanone (MEK)	78-93-3	72.10	2.50	7.37	ND	ND		2	WG1060231
4-Methyl-2-pentanone (MIBK)	108-10-1	100.10	2.50	10.2	ND	ND		2	WG1060231
Methyl methacrylate	80-62-6	100.12	0.400	1.64	ND	ND		2	WG1060231
MTBE	1634-04-4	88.10	0.400	1.44	ND	ND		2	WG1060231
Naphthalene	91-20-3	128	1.26	6.60	ND	ND		2	WG1060231
2-Propanol	67-63-0	60.10	2.50	6.15	ND	ND		2	WG1060231
Propene	115-07-1	42.10	0.800	1.38	ND	ND		2	WG1060231

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

Volatile Organic Compounds (MS) by Method TO-15

Analyte	CAS #	Mol. Wt.	RDL1 ppbv	RDL2 ug/m3	Result ppbv	Result ug/m3	Qualifier	Dilution	Batch
Styrene	100-42-5	104	0.400	1.70	ND	ND		2	WG1060231
1,1,2,2-Tetrachloroethane	79-34-5	168	0.400	2.75	ND	ND		2	WG1060231
Tetrachloroethylene	127-18-4	166	0.400	2.72	ND	ND		2	WG1060231
Tetrahydrofuran	109-99-9	72.10	0.400	1.18	ND	ND		2	WG1060231
Toluene	108-88-3	92.10	0.400	1.51	ND	ND		2	WG1060231
1,2,4-Trichlorobenzene	120-82-1	181	1.26	9.33	ND	ND		2	WG1060231
1,1,1-Trichloroethane	71-55-6	133	0.400	2.18	ND	ND		2	WG1060231
1,1,2-Trichloroethane	79-00-5	133	0.400	2.18	ND	ND		2	WG1060231
Trichloroethylene	79-01-6	131	0.400	2.14	1.25	6.72		2	WG1060231
1,2,4-Trimethylbenzene	95-63-6	120	0.400	1.96	ND	ND		2	WG1060231
1,3,5-Trimethylbenzene	108-67-8	120	0.400	1.96	ND	ND		2	WG1060231
2,2,4-Trimethylpentane	540-84-1	114.22	0.400	1.87	ND	ND		2	WG1060231
Vinyl chloride	75-01-4	62.50	0.400	1.02	ND	ND		2	WG1060231
Vinyl Bromide	593-60-2	106.95	0.400	1.75	ND	ND		2	WG1060231
Vinyl acetate	108-05-4	86.10	0.400	1.41	ND	ND		2	WG1060231
m&p-Xylene	1330-20-7	106	0.800	3.47	ND	ND		2	WG1060231
o-Xylene	95-47-6	106	0.400	1.73	ND	ND		2	WG1060231
1,1-Difluoroethane	75-37-6	66.05	0.400	1.08	0.556	1.50		2	WG1060231
(S) 1,4-Bromofluorobenzene	*460-00-4*	*175*	*60.0-140*		*96.6*				WG1060231

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	WG1060492

Volatile Organic Compounds (MS) by Method TO-15

Analyte	CAS #	Mol. Wt.	RDL1 ppbv	RDL2 ug/m3	Result ppbv	Result ug/m3	Qualifier	Dilution	Batch
Acetone	67-64-1	58.10	2.50	5.94	3.01	7.15		2	WG1060231
Allyl chloride	107-05-1	76.53	0.400	1.25	ND	ND		2	WG1060231
Benzene	71-43-2	78.10	0.400	1.28	ND	ND		2	WG1060231
Benzyl Chloride	100-44-7	127	0.400	2.08	ND	ND		2	WG1060231
Bromodichloromethane	75-27-4	164	0.400	2.68	ND	ND		2	WG1060231
Bromoform	75-25-2	253	1.20	12.4	ND	ND		2	WG1060231
Bromomethane	74-83-9	94.90	0.400	1.55	ND	ND		2	WG1060231
1,3-Butadiene	106-99-0	54.10	4.00	8.85	ND	ND		2	WG1060231
Carbon disulfide	75-15-0	76.10	0.400	1.24	ND	ND		2	WG1060231
Carbon tetrachloride	56-23-5	154	0.400	2.52	ND	ND		2	WG1060231
Chlorobenzene	108-90-7	113	0.400	1.85	ND	ND		2	WG1060231
Chloroethane	75-00-3	64.50	0.400	1.06	ND	ND		2	WG1060231
Chloroform	67-66-3	119	0.400	1.95	ND	ND		2	WG1060231
Chloromethane	74-87-3	50.50	0.400	0.826	ND	ND		2	WG1060231
2-Chlorotoluene	95-49-8	126	0.400	2.06	ND	ND		2	WG1060231
Cyclohexane	110-82-7	84.20	0.400	1.38	ND	ND		2	WG1060231
Dibromochloromethane	124-48-1	208	0.400	3.40	ND	ND		2	WG1060231
1,2-Dibromoethane	106-93-4	188	0.400	3.08	ND	ND		2	WG1060231
1,2-Dichlorobenzene	95-50-1	147	0.400	2.40	ND	ND		2	WG1060231
1,3-Dichlorobenzene	541-73-1	147	0.400	2.40	ND	ND		2	WG1060231
1,4-Dichlorobenzene	106-46-7	147	0.400	2.40	ND	ND		2	WG1060231
1,2-Dichloroethane	107-06-2	99	0.400	1.62	ND	ND		2	WG1060231
1,1-Dichloroethane	75-34-3	98	0.400	1.60	ND	ND		2	WG1060231
1,1-Dichloroethene	75-35-4	96.90	0.400	1.59	ND	ND		2	WG1060231
cis-1,2-Dichloroethene	156-59-2	96.90	0.400	1.59	ND	ND		2	WG1060231
trans-1,2-Dichloroethene	156-60-5	96.90	0.400	1.59	ND	ND		2	WG1060231
1,2-Dichloropropane	78-87-5	113	0.400	1.85	ND	ND		2	WG1060231
cis-1,3-Dichloropropene	10061-01-5	111	0.400	1.82	ND	ND		2	WG1060231
trans-1,3-Dichloropropene	10061-02-6	111	0.400	1.82	ND	ND		2	WG1060231
1,4-Dioxane	123-91-1	88.10	0.400	1.44	ND	ND		2	WG1060231
Ethanol	64-17-5	46.10	1.26	2.38	6.72	12.7		2	WG1060231
Ethylbenzene	100-41-4	106	0.400	1.73	ND	ND		2	WG1060231
4-Ethyltoluene	622-96-8	120	0.400	1.96	ND	ND		2	WG1060231
Trichlorofluoromethane	75-69-4	137.40	0.400	2.25	ND	ND		2	WG1060231
Dichlorodifluoromethane	75-71-8	120.92	0.400	1.98	ND	ND		2	WG1060231
1,1,2-Trichlorotrifluoroethane	76-13-1	187.40	0.400	3.07	ND	ND		2	WG1060231
1,2-Dichlorotetrafluoroethane	76-14-2	171	0.400	2.80	ND	ND		2	WG1060231
Heptane	142-82-5	100	0.400	1.64	ND	ND		2	WG1060231
Hexachloro-1,3-butadiene	87-68-3	261	1.26	13.5	ND	ND		2	WG1060231
n-Hexane	110-54-3	86.20	0.400	1.41	ND	ND		2	WG1060231
Isopropylbenzene	98-82-8	120.20	0.400	1.97	ND	ND		2	WG1060231
Methylene Chloride	75-09-2	84.90	0.400	1.39	ND	ND		2	WG1060231
Methyl Butyl Ketone	591-78-6	100	2.50	10.2	ND	ND		2	WG1060231
2-Butanone (MEK)	78-93-3	72.10	2.50	7.37	ND	ND		2	WG1060231
4-Methyl-2-pentanone (MIBK)	108-10-1	100.10	2.50	10.2	ND	ND		2	WG1060231
Methyl methacrylate	80-62-6	100.12	0.400	1.64	ND	ND		2	WG1060231
MTBE	1634-04-4	88.10	0.400	1.44	ND	ND		2	WG1060231
Naphthalene	91-20-3	128	1.26	6.60	ND	ND		2	WG1060231
2-Propanol	67-63-0	60.10	2.50	6.15	2.95	7.24		2	WG1060231
Propene	115-07-1	42.10	0.800	1.38	ND	ND		2	WG1060231

Volatile Organic Compounds (MS) by Method TO-15

Analyte	CAS #	Mol. Wt.	RDL1 ppbv	RDL2 ug/m3	Result ppbv	Result ug/m3	Qualifier	Dilution	Batch
Styrene	100-42-5	104	0.400	1.70	ND	ND		2	WG1060231
1,1,2,2-Tetrachloroethane	79-34-5	168	0.400	2.75	ND	ND		2	WG1060231
Tetrachloroethylene	127-18-4	166	0.400	2.72	ND	ND		2	WG1060231
Tetrahydrofuran	109-99-9	72.10	0.400	1.18	ND	ND		2	WG1060231
Toluene	108-88-3	92.10	0.400	1.51	ND	ND		2	WG1060231
1,2,4-Trichlorobenzene	120-82-1	181	1.26	9.33	ND	ND		2	WG1060231
1,1,1-Trichloroethane	71-55-6	133	0.400	2.18	ND	ND		2	WG1060231
1,1,2-Trichloroethane	79-00-5	133	0.400	2.18	ND	ND		2	WG1060231
Trichloroethylene	79-01-6	131	0.400	2.14	ND	ND		2	WG1060231
1,2,4-Trimethylbenzene	95-63-6	120	0.400	1.96	ND	ND		2	WG1060231
1,3,5-Trimethylbenzene	108-67-8	120	0.400	1.96	ND	ND		2	WG1060231
2,2,4-Trimethylpentane	540-84-1	114.22	0.400	1.87	ND	ND		2	WG1060231
Vinyl chloride	75-01-4	62.50	0.400	1.02	ND	ND		2	WG1060231
Vinyl Bromide	593-60-2	106.95	0.400	1.75	ND	ND		2	WG1060231
Vinyl acetate	108-05-4	86.10	0.400	1.41	ND	ND		2	WG1060231
m&p-Xylene	1330-20-7	106	0.800	3.47	ND	ND		2	WG1060231
o-Xylene	95-47-6	106	0.400	1.73	ND	ND		2	WG1060231
1,1-Difluoroethane	75-37-6	66.05	0.400	1.08	0.824	2.23		2	WG1060231
(S) 1,4-Bromofluorobenzene	*460-00-4*	*175*	*60.0-140*		*96.6*				WG1060231

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	WG1060492

Volatile Organic Compounds (MS) by Method TO-15

Analyte	CAS #	Mol. Wt.	RDL1 ppbv	RDL2 ug/m3	Result ppbv	Result ug/m3	Qualifier	Dilution	Batch
Acetone	67-64-1	58.10	2.50	5.94	3.34	7.94		2	WG1060231
Allyl chloride	107-05-1	76.53	0.400	1.25	ND	ND		2	WG1060231
Benzene	71-43-2	78.10	0.400	1.28	ND	ND		2	WG1060231
Benzyl Chloride	100-44-7	127	0.400	2.08	ND	ND		2	WG1060231
Bromodichloromethane	75-27-4	164	0.400	2.68	ND	ND		2	WG1060231
Bromoform	75-25-2	253	1.20	12.4	ND	ND		2	WG1060231
Bromomethane	74-83-9	94.90	0.400	1.55	ND	ND		2	WG1060231
1,3-Butadiene	106-99-0	54.10	4.00	8.85	ND	ND		2	WG1060231
Carbon disulfide	75-15-0	76.10	0.400	1.24	ND	ND		2	WG1060231
Carbon tetrachloride	56-23-5	154	0.400	2.52	ND	ND		2	WG1060231
Chlorobenzene	108-90-7	113	0.400	1.85	ND	ND		2	WG1060231
Chloroethane	75-00-3	64.50	0.400	1.06	ND	ND		2	WG1060231
Chloroform	67-66-3	119	0.400	1.95	ND	ND		2	WG1060231
Chloromethane	74-87-3	50.50	0.400	0.826	ND	ND		2	WG1060231
2-Chlorotoluene	95-49-8	126	0.400	2.06	ND	ND		2	WG1060231
Cyclohexane	110-82-7	84.20	0.400	1.38	ND	ND		2	WG1060231
Dibromochloromethane	124-48-1	208	0.400	3.40	ND	ND		2	WG1060231
1,2-Dibromoethane	106-93-4	188	0.400	3.08	ND	ND		2	WG1060231
1,2-Dichlorobenzene	95-50-1	147	0.400	2.40	ND	ND		2	WG1060231
1,3-Dichlorobenzene	541-73-1	147	0.400	2.40	ND	ND		2	WG1060231
1,4-Dichlorobenzene	106-46-7	147	0.400	2.40	ND	ND		2	WG1060231
1,2-Dichloroethane	107-06-2	99	0.400	1.62	ND	ND		2	WG1060231
1,1-Dichloroethane	75-34-3	98	0.400	1.60	ND	ND		2	WG1060231
1,1-Dichloroethene	75-35-4	96.90	0.400	1.59	ND	ND		2	WG1060231
cis-1,2-Dichloroethene	156-59-2	96.90	0.400	1.59	ND	ND		2	WG1060231
trans-1,2-Dichloroethene	156-60-5	96.90	0.400	1.59	ND	ND		2	WG1060231
1,2-Dichloropropane	78-87-5	113	0.400	1.85	ND	ND		2	WG1060231
cis-1,3-Dichloropropene	10061-01-5	111	0.400	1.82	ND	ND		2	WG1060231
trans-1,3-Dichloropropene	10061-02-6	111	0.400	1.82	ND	ND		2	WG1060231
1,4-Dioxane	123-91-1	88.10	0.400	1.44	ND	ND		2	WG1060231
Ethanol	64-17-5	46.10	1.26	2.38	2.86	5.39		2	WG1060231
Ethylbenzene	100-41-4	106	0.400	1.73	ND	ND		2	WG1060231
4-Ethyltoluene	622-96-8	120	0.400	1.96	ND	ND		2	WG1060231
Trichlorofluoromethane	75-69-4	137.40	0.400	2.25	ND	ND		2	WG1060231
Dichlorodifluoromethane	75-71-8	120.92	0.400	1.98	ND	ND		2	WG1060231
1,1,2-Trichlorotrifluoroethane	76-13-1	187.40	0.400	3.07	ND	ND		2	WG1060231
1,2-Dichlorotetrafluoroethane	76-14-2	171	0.400	2.80	ND	ND		2	WG1060231
Heptane	142-82-5	100	0.400	1.64	ND	ND		2	WG1060231
Hexachloro-1,3-butadiene	87-68-3	261	1.26	13.5	ND	ND		2	WG1060231
n-Hexane	110-54-3	86.20	0.400	1.41	ND	ND		2	WG1060231
Isopropylbenzene	98-82-8	120.20	0.400	1.97	ND	ND		2	WG1060231
Methylene Chloride	75-09-2	84.90	0.400	1.39	ND	ND		2	WG1060231
Methyl Butyl Ketone	591-78-6	100	2.50	10.2	ND	ND		2	WG1060231
2-Butanone (MEK)	78-93-3	72.10	2.50	7.37	ND	ND		2	WG1060231
4-Methyl-2-pentanone (MIBK)	108-10-1	100.10	2.50	10.2	ND	ND		2	WG1060231
Methyl methacrylate	80-62-6	100.12	0.400	1.64	ND	ND		2	WG1060231
MTBE	1634-04-4	88.10	0.400	1.44	ND	ND		2	WG1060231
Naphthalene	91-20-3	128	1.26	6.60	ND	ND		2	WG1060231
2-Propanol	67-63-0	60.10	2.50	6.15	ND	ND		2	WG1060231
Propene	115-07-1	42.10	0.800	1.38	ND	ND		2	WG1060231

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

Volatile Organic Compounds (MS) by Method TO-15

Analyte	CAS #	Mol. Wt.	RDL1 ppbv	RDL2 ug/m3	Result ppbv	Result ug/m3	Qualifier	Dilution	Batch
Styrene	100-42-5	104	0.400	1.70	ND	ND		2	WG1060231
1,1,2,2-Tetrachloroethane	79-34-5	168	0.400	2.75	ND	ND		2	WG1060231
Tetrachloroethylene	127-18-4	166	0.400	2.72	ND	ND		2	WG1060231
Tetrahydrofuran	109-99-9	72.10	0.400	1.18	ND	ND		2	WG1060231
Toluene	108-88-3	92.10	0.400	1.51	ND	ND		2	WG1060231
1,2,4-Trichlorobenzene	120-82-1	181	1.26	9.33	ND	ND		2	WG1060231
1,1,1-Trichloroethane	71-55-6	133	0.400	2.18	ND	ND		2	WG1060231
1,1,2-Trichloroethane	79-00-5	133	0.400	2.18	ND	ND		2	WG1060231
Trichloroethylene	79-01-6	131	0.400	2.14	ND	ND		2	WG1060231
1,2,4-Trimethylbenzene	95-63-6	120	0.400	1.96	ND	ND		2	WG1060231
1,3,5-Trimethylbenzene	108-67-8	120	0.400	1.96	ND	ND		2	WG1060231
2,2,4-Trimethylpentane	540-84-1	114.22	0.400	1.87	ND	ND		2	WG1060231
Vinyl chloride	75-01-4	62.50	0.400	1.02	ND	ND		2	WG1060231
Vinyl Bromide	593-60-2	106.95	0.400	1.75	ND	ND		2	WG1060231
Vinyl acetate	108-05-4	86.10	0.400	1.41	ND	ND		2	WG1060231
m&p-Xylene	1330-20-7	106	0.800	3.47	ND	ND		2	WG1060231
o-Xylene	95-47-6	106	0.400	1.73	ND	ND		2	WG1060231
1,1-Difluoroethane	75-37-6	66.05	0.400	1.08	1.17	3.16		2	WG1060231
(S) 1,4-Bromofluorobenzene	*460-00-4*	*175*	*60.0-140*		*97.1*				WG1060231

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	WG1060492

Volatile Organic Compounds (MS) by Method TO-15

Analyte	CAS #	Mol. Wt.	RDL1 ppbv	RDL2 ug/m3	Result ppbv	Result ug/m3	Qualifier	Dilution	Batch
Acetone	67-64-1	58.10	2.50	5.94	ND	ND		2	WG1060231
Allyl chloride	107-05-1	76.53	0.400	1.25	ND	ND		2	WG1060231
Benzene	71-43-2	78.10	0.400	1.28	ND	ND		2	WG1060231
Benzyl Chloride	100-44-7	127	0.400	2.08	ND	ND		2	WG1060231
Bromodichloromethane	75-27-4	164	0.400	2.68	ND	ND		2	WG1060231
Bromoform	75-25-2	253	1.20	12.4	ND	ND		2	WG1060231
Bromomethane	74-83-9	94.90	0.400	1.55	ND	ND		2	WG1060231
1,3-Butadiene	106-99-0	54.10	4.00	8.85	ND	ND		2	WG1060231
Carbon disulfide	75-15-0	76.10	0.400	1.24	ND	ND		2	WG1060231
Carbon tetrachloride	56-23-5	154	0.400	2.52	ND	ND		2	WG1060231
Chlorobenzene	108-90-7	113	0.400	1.85	ND	ND		2	WG1060231
Chloroethane	75-00-3	64.50	0.400	1.06	ND	ND		2	WG1060231
Chloroform	67-66-3	119	0.400	1.95	ND	ND		2	WG1060231
Chloromethane	74-87-3	50.50	0.400	0.826	ND	ND		2	WG1060231
2-Chlorotoluene	95-49-8	126	0.400	2.06	ND	ND		2	WG1060231
Cyclohexane	110-82-7	84.20	0.400	1.38	ND	ND		2	WG1060231
Dibromochloromethane	124-48-1	208	0.400	3.40	ND	ND		2	WG1060231
1,2-Dibromoethane	106-93-4	188	0.400	3.08	ND	ND		2	WG1060231
1,2-Dichlorobenzene	95-50-1	147	0.400	2.40	ND	ND		2	WG1060231
1,3-Dichlorobenzene	541-73-1	147	0.400	2.40	ND	ND		2	WG1060231
1,4-Dichlorobenzene	106-46-7	147	0.400	2.40	ND	ND		2	WG1060231
1,2-Dichloroethane	107-06-2	99	0.400	1.62	ND	ND		2	WG1060231
1,1-Dichloroethane	75-34-3	98	0.400	1.60	ND	ND		2	WG1060231
1,1-Dichloroethene	75-35-4	96.90	0.400	1.59	ND	ND		2	WG1060231
cis-1,2-Dichloroethene	156-59-2	96.90	0.400	1.59	ND	ND		2	WG1060231
trans-1,2-Dichloroethene	156-60-5	96.90	0.400	1.59	ND	ND		2	WG1060231
1,2-Dichloropropane	78-87-5	113	0.400	1.85	ND	ND		2	WG1060231
cis-1,3-Dichloropropene	10061-01-5	111	0.400	1.82	ND	ND		2	WG1060231
trans-1,3-Dichloropropene	10061-02-6	111	0.400	1.82	ND	ND		2	WG1060231
1,4-Dioxane	123-91-1	88.10	0.400	1.44	ND	ND		2	WG1060231
Ethanol	64-17-5	46.10	1.26	2.38	1.93	3.63		2	WG1060231
Ethylbenzene	100-41-4	106	0.400	1.73	ND	ND		2	WG1060231
4-Ethyltoluene	622-96-8	120	0.400	1.96	ND	ND		2	WG1060231
Trichlorofluoromethane	75-69-4	137.40	0.400	2.25	ND	ND		2	WG1060231
Dichlorodifluoromethane	75-71-8	120.92	0.400	1.98	ND	ND		2	WG1060231
1,1,2-Trichlorotrifluoroethane	76-13-1	187.40	0.400	3.07	ND	ND		2	WG1060231
1,2-Dichlorotetrafluoroethane	76-14-2	171	0.400	2.80	ND	ND		2	WG1060231
Heptane	142-82-5	100	0.400	1.64	ND	ND		2	WG1060231
Hexachloro-1,3-butadiene	87-68-3	261	1.26	13.5	ND	ND		2	WG1060231
n-Hexane	110-54-3	86.20	0.400	1.41	ND	ND		2	WG1060231
Isopropylbenzene	98-82-8	120.20	0.400	1.97	ND	ND		2	WG1060231
Methylene Chloride	75-09-2	84.90	0.400	1.39	ND	ND		2	WG1060231
Methyl Butyl Ketone	591-78-6	100	2.50	10.2	ND	ND		2	WG1060231
2-Butanone (MEK)	78-93-3	72.10	2.50	7.37	ND	ND		2	WG1060231
4-Methyl-2-pentanone (MIBK)	108-10-1	100.10	2.50	10.2	ND	ND		2	WG1060231
Methyl methacrylate	80-62-6	100.12	0.400	1.64	ND	ND		2	WG1060231
MTBE	1634-04-4	88.10	0.400	1.44	ND	ND		2	WG1060231
Naphthalene	91-20-3	128	1.26	6.60	ND	ND		2	WG1060231
2-Propanol	67-63-0	60.10	2.50	6.15	ND	ND		2	WG1060231
Propene	115-07-1	42.10	0.800	1.38	ND	ND		2	WG1060231

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

Volatile Organic Compounds (MS) by Method TO-15

Analyte	CAS #	Mol. Wt.	RDL1 ppbv	RDL2 ug/m3	Result ppbv	Result ug/m3	Qualifier	Dilution	Batch
Styrene	100-42-5	104	0.400	1.70	ND	ND		2	WG1060231
1,1,2,2-Tetrachloroethane	79-34-5	168	0.400	2.75	ND	ND		2	WG1060231
Tetrachloroethylene	127-18-4	166	0.400	2.72	ND	ND		2	WG1060231
Tetrahydrofuran	109-99-9	72.10	0.400	1.18	ND	ND		2	WG1060231
Toluene	108-88-3	92.10	0.400	1.51	ND	ND		2	WG1060231
1,2,4-Trichlorobenzene	120-82-1	181	1.26	9.33	ND	ND		2	WG1060231
1,1,1-Trichloroethane	71-55-6	133	0.400	2.18	ND	ND		2	WG1060231
1,1,2-Trichloroethane	79-00-5	133	0.400	2.18	ND	ND		2	WG1060231
Trichloroethylene	79-01-6	131	0.400	2.14	ND	ND		2	WG1060231
1,2,4-Trimethylbenzene	95-63-6	120	0.400	1.96	ND	ND		2	WG1060231
1,3,5-Trimethylbenzene	108-67-8	120	0.400	1.96	ND	ND		2	WG1060231
2,2,4-Trimethylpentane	540-84-1	114.22	0.400	1.87	ND	ND		2	WG1060231
Vinyl chloride	75-01-4	62.50	0.400	1.02	ND	ND		2	WG1060231
Vinyl Bromide	593-60-2	106.95	0.400	1.75	ND	ND		2	WG1060231
Vinyl acetate	108-05-4	86.10	0.400	1.41	ND	ND		2	WG1060231
m&p-Xylene	1330-20-7	106	0.800	3.47	ND	ND		2	WG1060231
o-Xylene	95-47-6	106	0.400	1.73	ND	ND		2	WG1060231
1,1-Difluoroethane	75-37-6	66.05	0.400	1.08	0.683	1.85		2	WG1060231
(S) 1,4-Bromofluorobenzene	*460-00-4*	*175*	*60.0-140*		*97.1*				WG1060231

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	WG1060492

Volatile Organic Compounds (MS) by Method TO-15

Analyte	CAS #	Mol. Wt.	RDL1 ppbv	RDL2 ug/m3	Result ppbv	Result ug/m3	Qualifier	Dilution	Batch
Acetone	67-64-1	58.10	2.50	5.94	10.9	25.9		2	WG1060231
Allyl chloride	107-05-1	76.53	0.400	1.25	ND	ND		2	WG1060231
Benzene	71-43-2	78.10	0.400	1.28	1.25	4.01		2	WG1060231
Benzyl Chloride	100-44-7	127	0.400	2.08	ND	ND		2	WG1060231
Bromodichloromethane	75-27-4	164	0.400	2.68	ND	ND		2	WG1060231
Bromoform	75-25-2	253	1.20	12.4	ND	ND		2	WG1060231
Bromomethane	74-83-9	94.90	0.400	1.55	ND	ND		2	WG1060231
1,3-Butadiene	106-99-0	54.10	4.00	8.85	ND	ND		2	WG1060231
Carbon disulfide	75-15-0	76.10	0.400	1.24	ND	ND		2	WG1060231
Carbon tetrachloride	56-23-5	154	0.400	2.52	ND	ND		2	WG1060231
Chlorobenzene	108-90-7	113	0.400	1.85	ND	ND		2	WG1060231
Chloroethane	75-00-3	64.50	0.400	1.06	ND	ND		2	WG1060231
Chloroform	67-66-3	119	0.400	1.95	ND	ND		2	WG1060231
Chloromethane	74-87-3	50.50	0.400	0.826	ND	ND		2	WG1060231
2-Chlorotoluene	95-49-8	126	0.400	2.06	ND	ND		2	WG1060231
Cyclohexane	110-82-7	84.20	0.400	1.38	1.80	6.20		2	WG1060231
Dibromochloromethane	124-48-1	208	0.400	3.40	ND	ND		2	WG1060231
1,2-Dibromoethane	106-93-4	188	0.400	3.08	ND	ND		2	WG1060231
1,2-Dichlorobenzene	95-50-1	147	0.400	2.40	ND	ND		2	WG1060231
1,3-Dichlorobenzene	541-73-1	147	0.400	2.40	ND	ND		2	WG1060231
1,4-Dichlorobenzene	106-46-7	147	0.400	2.40	ND	ND		2	WG1060231
1,2-Dichloroethane	107-06-2	99	0.400	1.62	ND	ND		2	WG1060231
1,1-Dichloroethane	75-34-3	98	0.400	1.60	ND	ND		2	WG1060231
1,1-Dichloroethene	75-35-4	96.90	0.400	1.59	ND	ND		2	WG1060231
cis-1,2-Dichloroethene	156-59-2	96.90	0.400	1.59	ND	ND		2	WG1060231
trans-1,2-Dichloroethene	156-60-5	96.90	0.400	1.59	ND	ND		2	WG1060231
1,2-Dichloropropane	78-87-5	113	0.400	1.85	ND	ND		2	WG1060231
cis-1,3-Dichloropropene	10061-01-5	111	0.400	1.82	ND	ND		2	WG1060231
trans-1,3-Dichloropropene	10061-02-6	111	0.400	1.82	ND	ND		2	WG1060231
1,4-Dioxane	123-91-1	88.10	0.400	1.44	ND	ND		2	WG1060231
Ethanol	64-17-5	46.10	1.26	2.38	13.0	24.5		2	WG1060231
Ethylbenzene	100-41-4	106	0.400	1.73	1.67	7.22		2	WG1060231
4-Ethyltoluene	622-96-8	120	0.400	1.96	1.59	7.78		2	WG1060231
Trichlorofluoromethane	75-69-4	137.40	0.400	2.25	ND	ND		2	WG1060231
Dichlorodifluoromethane	75-71-8	120.92	0.400	1.98	ND	ND		2	WG1060231
1,1,2-Trichlorotrifluoroethane	76-13-1	187.40	0.400	3.07	ND	ND		2	WG1060231
1,2-Dichlorotetrafluoroethane	76-14-2	171	0.400	2.80	ND	ND		2	WG1060231
Heptane	142-82-5	100	0.400	1.64	1.49	6.11		2	WG1060231
Hexachloro-1,3-butadiene	87-68-3	261	1.26	13.5	ND	ND		2	WG1060231
n-Hexane	110-54-3	86.20	0.400	1.41	3.84	13.5		2	WG1060231
Isopropylbenzene	98-82-8	120.20	0.400	1.97	ND	ND		2	WG1060231
Methylene Chloride	75-09-2	84.90	0.400	1.39	ND	ND		2	WG1060231
Methyl Butyl Ketone	591-78-6	100	2.50	10.2	ND	ND		2	WG1060231
2-Butanone (MEK)	78-93-3	72.10	2.50	7.37	4.06	12.0		2	WG1060231
4-Methyl-2-pentanone (MIBK)	108-10-1	100.10	2.50	10.2	ND	ND		2	WG1060231
Methyl methacrylate	80-62-6	100.12	0.400	1.64	ND	ND		2	WG1060231
MTBE	1634-04-4	88.10	0.400	1.44	ND	ND		2	WG1060231
Naphthalene	91-20-3	128	1.26	6.60	ND	ND		2	WG1060231
2-Propanol	67-63-0	60.10	2.50	6.15	7.74	19.0		2	WG1060231
Propene	115-07-1	42.10	0.800	1.38	ND	ND		2	WG1060231

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

Volatile Organic Compounds (MS) by Method TO-15

Analyte	CAS #	Mol. Wt.	RDL1 ppbv	RDL2 ug/m3	Result ppbv	Result ug/m3	Qualifier	Dilution	Batch
Styrene	100-42-5	104	0.400	1.70	ND	ND		2	WG1060231
1,1,2,2-Tetrachloroethane	79-34-5	168	0.400	2.75	ND	ND		2	WG1060231
Tetrachloroethylene	127-18-4	166	0.400	2.72	ND	ND		2	WG1060231
Tetrahydrofuran	109-99-9	72.10	0.400	1.18	ND	ND		2	WG1060231
Toluene	108-88-3	92.10	0.400	1.51	9.23	34.8		2	WG1060231
1,2,4-Trichlorobenzene	120-82-1	181	1.26	9.33	ND	ND		2	WG1060231
1,1,1-Trichloroethane	71-55-6	133	0.400	2.18	ND	ND		2	WG1060231
1,1,2-Trichloroethane	79-00-5	133	0.400	2.18	ND	ND		2	WG1060231
Trichloroethylene	79-01-6	131	0.400	2.14	ND	ND		2	WG1060231
1,2,4-Trimethylbenzene	95-63-6	120	0.400	1.96	1.74	8.54		2	WG1060231
1,3,5-Trimethylbenzene	108-67-8	120	0.400	1.96	0.437	2.14		2	WG1060231
2,2,4-Trimethylpentane	540-84-1	114.22	0.400	1.87	4.97	23.2		2	WG1060231
Vinyl chloride	75-01-4	62.50	0.400	1.02	ND	ND		2	WG1060231
Vinyl Bromide	593-60-2	106.95	0.400	1.75	ND	ND		2	WG1060231
Vinyl acetate	108-05-4	86.10	0.400	1.41	ND	ND		2	WG1060231
m&p-Xylene	1330-20-7	106	0.800	3.47	5.49	23.8		2	WG1060231
o-Xylene	95-47-6	106	0.400	1.73	1.59	6.88		2	WG1060231
1,1-Difluoroethane	75-37-6	66.05	0.400	1.08	1.77	4.79		2	WG1060231
(S) 1,4-Bromofluorobenzene	*460-00-4*	*175*	*60.0-140*		*97.5*				WG1060231

Method Blank (MB)

(MB) R3278013-3 01/08/18 11:02

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) R3278013-1 01/08/18 10:54 • (LCSD) R3278013-2 01/08/18 10:58

Analyte	Spike Amount %	LCS Result %	LCSD Result %	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Helium	2.50	2.50	2.22	99.8	88.9	70.0-130			11.6	25

Method Blank (MB)

(MB) R3277808-3 01/06/18 11:29

Analyte	MB Result ppbv	MB Qualifier	MB MDL ppbv	MB RDL ppbv
Acetone	U		0.0569	1.25
Allyl Chloride	U		0.0546	0.200
Benzene	U		0.0460	0.200
Benzyl Chloride	U		0.0598	0.200
Bromodichloromethane	U		0.0436	0.200
Bromoform	U		0.0786	0.600
Bromomethane	U		0.0609	0.200
1,3-Butadiene	U		0.0563	2.00
Carbon disulfide	U		0.0544	0.200
Carbon tetrachloride	U		0.0585	0.200
Chlorobenzene	U		0.0601	0.200
Chloroethane	U		0.0489	0.200
Chloroform	U		0.0574	0.200
Chloromethane	U		0.0544	0.200
2-Chlorotoluene	U		0.0605	0.200
Cyclohexane	U		0.0534	0.200
Dibromochloromethane	U		0.0494	0.200
1,2-Dibromoethane	U		0.0185	0.200
1,2-Dichlorobenzene	U		0.0603	0.200
1,3-Dichlorobenzene	U		0.0597	0.200
1,4-Dichlorobenzene	U		0.0557	0.200
1,2-Dichloroethane	U		0.0616	0.200
1,1-Dichloroethane	U		0.0514	0.200
1,1-Dichloroethene	U		0.0490	0.200
cis-1,2-Dichloroethene	U		0.0389	0.200
trans-1,2-Dichloroethene	U		0.0464	0.200
1,2-Dichloropropane	U		0.0599	0.200
cis-1,3-Dichloropropene	U		0.0588	0.200
trans-1,3-Dichloropropene	U		0.0435	0.200
1,4-Dioxane	U		0.0554	0.200
Ethylbenzene	U		0.0506	0.200
4-Ethyltoluene	U		0.0666	0.200
Trichlorofluoromethane	U		0.0673	0.200
Dichlorodifluoromethane	U		0.0601	0.200
1,1,2-Trichlorotrifluoroethane	U		0.0687	0.200
1,2-Dichlorotetrafluoroethane	U		0.0458	0.200
Heptane	U		0.0626	0.200
Hexachloro-1,3-butadiene	U		0.0656	0.630
n-Hexane	U		0.0457	0.200
Isopropylbenzene	U		0.0563	0.200

Method Blank (MB)

(MB) R3277808-3 01/06/18 11:29

Analyte	MB Result ppbv	MB Qualifier	MB MDL ppbv	MB RDL ppbv
Methylene Chloride	0.0757	J	0.0465	0.200
Methyl Butyl Ketone	U		0.0682	1.25
2-Butanone (MEK)	U		0.0493	1.25
4-Methyl-2-pentanone (MIBK)	U		0.0650	1.25
Methyl Methacrylate	U		0.0773	0.200
MTBE	U		0.0505	0.200
Naphthalene	U		0.154	0.630
2-Propanol	U		0.0882	1.25
Propene	U		0.0932	0.400
Styrene	U		0.0465	0.200
1,1,2,2-Tetrachloroethane	U		0.0576	0.200
Tetrachloroethylene	U		0.0497	0.200
Tetrahydrofuran	U		0.0508	0.200
Toluene	U		0.0499	0.200
1,2,4-Trichlorobenzene	U		0.148	0.630
1,1,1-Trichloroethane	U		0.0665	0.200
1,1,2-Trichloroethane	U		0.0287	0.200
Trichloroethylene	U		0.0545	0.200
1,2,4-Trimethylbenzene	U		0.0483	0.200
1,3,5-Trimethylbenzene	U		0.0631	0.200
2,2,4-Trimethylpentane	U		0.0456	0.200
Vinyl chloride	U		0.0457	0.200
Vinyl Bromide	U		0.0727	0.200
Vinyl acetate	U		0.0639	0.200
m&p-Xylene	U		0.0946	0.400
o-Xylene	U		0.0633	0.200
Ethanol	U		0.0832	0.630
1,1-Difluoroethane	U		0.0256	0.200
(S) 1,4-Bromofluorobenzene	*96.2*			*60.0-140*

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

(LCS) R3277808-1 01/06/18 09:57 • (LCSD) R3277808-2 01/06/18 10:42

Analyte	Spike Amount ppbv	LCS Result ppbv	LCSD Result ppbv	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Ethanol	3.75	3.80	3.65	101	97.3	52.0-158			4.19	25
Propene	3.75	3.71	3.69	98.8	98.3	54.0-155			0.544	25
Dichlorodifluoromethane	3.75	3.39	3.27	90.3	87.1	69.0-143			3.53	25
1,2-Dichlorotetrafluoroethane	3.75	3.76	3.70	100	98.6	70.0-130			1.59	25

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

(LCS) R3277808-1 01/06/18 09:57 • (LCSD) R3277808-2 01/06/18 10:42

Analyte	Spike Amount ppbv	LCS Result ppbv	LCSD Result ppbv	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Chloromethane	3.75	3.24	3.17	86.4	84.5	70.0-130			2.25	25
Vinyl chloride	3.75	3.54	3.45	94.5	91.9	70.0-130			2.77	25
1,3-Butadiene	3.75	3.18	3.03	84.9	80.9	70.0-130			4.76	25
Bromomethane	3.75	3.30	3.18	88.1	84.7	70.0-130			3.90	25
Chloroethane	3.75	4.03	3.90	107	104	70.0-130			3.22	25
Trichlorofluoromethane	3.75	3.82	3.69	102	98.5	70.0-130			3.30	25
1,1,2-Trichlorotrifluoroethane	3.75	3.88	3.80	104	101	70.0-130			2.28	25
1,1-Dichloroethene	3.75	3.91	3.79	104	101	70.0-130			2.99	25
1,1-Dichloroethane	3.75	3.89	3.78	104	101	70.0-130			2.68	25
Acetone	3.75	3.94	3.81	105	102	70.0-130			3.42	25
2-Propanol	3.75	4.04	3.92	108	105	66.0-150			2.91	25
Carbon disulfide	3.75	3.94	3.84	105	103	70.0-130			2.33	25
Methylene Chloride	3.75	3.80	3.69	101	98.5	70.0-130			2.74	25
MTBE	3.75	3.92	3.82	105	102	70.0-130			2.64	25
trans-1,2-Dichloroethene	3.75	3.90	3.81	104	101	70.0-130			2.49	25
n-Hexane	3.75	3.94	3.86	105	103	70.0-130			2.13	25
Vinyl acetate	3.75	4.01	3.90	107	104	70.0-130			2.81	25
Methyl Ethyl Ketone	3.75	4.05	3.96	108	106	70.0-130			2.10	25
cis-1,2-Dichloroethene	3.75	3.91	3.82	104	102	70.0-130			2.50	25
Chloroform	3.75	3.82	3.73	102	99.5	70.0-130			2.26	25
Cyclohexane	3.75	3.90	3.83	104	102	70.0-130			1.77	25
1,1,1-Trichloroethane	3.75	3.77	3.71	101	98.8	70.0-130			1.73	25
Carbon tetrachloride	3.75	3.77	3.70	101	98.6	70.0-130			2.06	25
Benzene	3.75	3.89	3.79	104	101	70.0-130			2.61	25
1,2-Dichloroethane	3.75	3.72	3.64	99.2	97.0	70.0-130			2.31	25
Heptane	3.75	3.95	3.84	105	102	70.0-130			2.90	25
Trichloroethylene	3.75	3.79	3.72	101	99.1	70.0-130			2.06	25
1,2-Dichloropropane	3.75	3.96	3.76	106	100	70.0-130			5.10	25
1,4-Dioxane	3.75	4.00	3.88	107	104	70.0-152			2.99	25
Bromodichloromethane	3.75	3.83	3.72	102	99.3	70.0-130			2.84	25
cis-1,3-Dichloropropene	3.75	3.93	3.82	105	102	70.0-130			2.82	25
4-Methyl-2-pentanone (MIBK)	3.75	4.04	3.90	108	104	70.0-142			3.35	25
Toluene	3.75	3.90	3.81	104	102	70.0-130			2.38	25
trans-1,3-Dichloropropene	3.75	3.96	3.85	106	103	70.0-130			2.91	25
1,1,2-Trichloroethane	3.75	3.83	3.74	102	99.8	70.0-130			2.36	25
Tetrachloroethylene	3.75	3.81	3.73	102	99.4	70.0-130			2.25	25
Methyl Butyl Ketone	3.75	4.09	3.99	109	107	70.0-150			2.38	25
Dibromochloromethane	3.75	3.79	3.70	101	98.5	70.0-130			2.49	25
1,2-Dibromoethane	3.75	3.78	3.67	101	97.8	70.0-130			2.90	25
Chlorobenzene	3.75	3.71	3.60	99.0	96.1	70.0-130			3.04	25

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

(LCS) R3277808-1 01/06/18 09:57 • (LCSD) R3277808-2 01/06/18 10:42

Analyte	Spike Amount ppbv	LCS Result ppbv	LCSD Result ppbv	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Ethylbenzene	3.75	3.98	3.90	106	104	70.0-130			2.18	25
m&p-Xylene	7.50	7.89	7.72	105	103	70.0-130			2.09	25
o-Xylene	3.75	3.97	3.88	106	103	70.0-130			2.34	25
Styrene	3.75	4.14	4.04	110	108	70.0-130			2.40	25
Bromoform	3.75	4.08	4.01	109	107	70.0-130			1.79	25
1,1,2,2-Tetrachloroethane	3.75	3.99	3.90	106	104	70.0-130			2.37	25
4-Ethyltoluene	3.75	4.11	4.03	109	107	70.0-130			1.99	25
1,3,5-Trimethylbenzene	3.75	4.08	3.99	109	106	70.0-130			2.17	25
1,2,4-Trimethylbenzene	3.75	4.06	3.99	108	106	70.0-130			1.81	25
1,3-Dichlorobenzene	3.75	4.13	4.05	110	108	70.0-130			2.00	25
1,4-Dichlorobenzene	3.75	4.26	4.15	113	111	70.0-130			2.41	25
Benzyl Chloride	3.75	4.42	4.35	118	116	70.0-144			1.61	25
1,2-Dichlorobenzene	3.75	4.09	4.02	109	107	70.0-130			1.86	25
1,2,4-Trichlorobenzene	3.75	4.30	4.25	115	113	70.0-155			1.31	25
Hexachloro-1,3-butadiene	3.75	4.14	4.11	111	110	70.0-145			0.860	25
Naphthalene	3.75	4.45	4.38	119	117	70.0-155			1.61	25
Allyl Chloride	3.75	4.01	3.91	107	104	70.0-130			2.55	25
2-Chlorotoluene	3.75	4.03	3.94	108	105	70.0-130			2.36	25
Methyl Methacrylate	3.75	3.89	3.76	104	100	70.0-130			3.42	25
Tetrahydrofuran	3.75	3.96	3.83	106	102	70.0-140			3.31	25
2,2,4-Trimethylpentane	3.75	3.95	3.83	105	102	70.0-130			2.89	25
Vinyl Bromide	3.75	3.93	3.82	105	102	70.0-130			2.95	25
Isopropylbenzene	3.75	4.00	3.90	107	104	70.0-130			2.66	25
1,1-Difluoroethane	3.75	3.71	3.65	98.9	97.4	70.0-130			1.56	25
(S) 1,4-Bromofluorobenzene				*99.2*	*98.8*	*60.0-140*				

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
J	The identification of the analyte is acceptable; the reported value is an estimate.

ACCREDITATIONS & LOCATIONS

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

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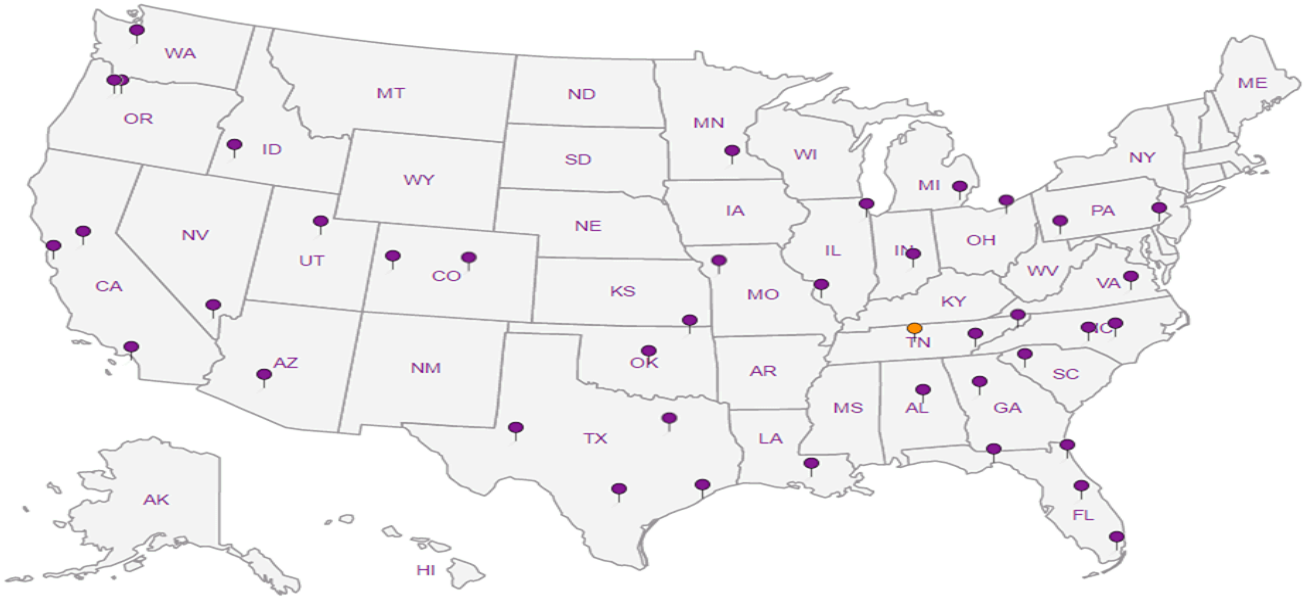

Company Name/Address:
AEI Consultants
3880 S. Bascom Ave
San Jose, CA 95124

Billing Information:
Same

Report to: Nina Abdollahian / Trent Weise

Email To: Tweise@aeiconsultants.com
nabdollahian@aeiconsultants.com

Project Description: HAYWARD, Loyola

City/State Collected: HAyward, California

Phone: 408 559 7600
Fax:

Client Project # 335476

Lab Project #

Collected by (print): Nina Abdollahian

Site/Facility ID #

P.O. # 147956

Collected by (signature):

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

Date Results Needed 1/12/18

Email? ___No X Yes
FAX? ___No ___Yes

Canister Pressure/Vacuum

Sample ID	Sample Description	Can #	Date	Time	Initial	Final	VOCs EPA TO-15	ASTM D1945			Rem./Contaminant	Sample # (lab only)
SG-1		6100	1/4/18	1307	29	5	X	X				-01
SG-2		5752	1/4/18	1237	28	5	X	X				-02
SG-3		5227	1/4/18	1130	25	5	X	X				-03
SG-4		7954	1/4/18	1203	29.5	5	X	X				-04
SG-5		7914	1/4/18	1508	26	5	X	X				-05

Analysis

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# 961582
M118
T
Acctnum: AEICONNCA
Template: T131093
Prelogin: P632152
TSR: Brian Ford
PB: BF 12/15/17
Shipped Via: Ground

Remarks:

Hold #

Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)
	1/5/18	1010	ESC
Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)
ESC	1/5/18	1600	SWA CARGO
Relinquished by : (Signature)	Date:	Time:	Received for lab by: (Signature)
			880

Samples returned via: ☐ UPS ☒ FedEx ☐ Courier ☐ ____
Temp: AmB °C Bottles Received: 5
Date: 11/6/18 Time: 930

Condition: (lab use only)
COC Seal Intact: ___Y ___N ___NA
pH Checked: NCF:

ESC LAB SCIENCES
Cooler Receipt Form

Client: AEICONWCCA	SDG#		
Cooler Received/Opened On: 01/6/18	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?			

ANALYTICAL REPORT

January 15, 2018

AEI Consultants - CA

Sample Delivery Group:	L962814
Samples Received:	01/06/2018
Project Number:	335476
Description:	Hayward, Loyola
Site:	27501 LOYOLA AVE HAYWARD CA
Report To:	Trent Weise 2500 Camino Diablo Walnut Creek, CA 94597

Entire Report Reviewed By:

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.

TABLE OF CONTENTS

SG-1 L962814-01 Air

Collected by	Collected date/time	Received date/time
Nina Abdollahian	01/04/18 13:07	01/06/18 09:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC) by Method 8015M	WG1062381	1	01/12/18 12:39	01/12/18 12:39	BG
Organic Compounds (GC) by Method D1946	WG1062205	1	01/12/18 09:08	01/12/18 09:08	BG

SG-2 L962814-02 Air

Collected by	Collected date/time	Received date/time
Nina Abdollahian	01/04/18 12:37	01/06/18 09:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC) by Method 8015M	WG1062381	1	01/12/18 12:42	01/12/18 12:42	BG
Organic Compounds (GC) by Method D1946	WG1062205	1	01/12/18 09:14	01/12/18 09:14	BG

SG-3 L962814-03 Air

Collected by	Collected date/time	Received date/time
Nina Abdollahian	01/04/18 11:30	01/06/18 09:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC) by Method 8015M	WG1062381	1	01/12/18 12:44	01/12/18 12:44	BG
Organic Compounds (GC) by Method D1946	WG1062205	1	01/12/18 09:20	01/12/18 09:20	BG

SG-4 L962814-04 Air

Collected by	Collected date/time	Received date/time
Nina Abdollahian	01/04/18 12:03	01/06/18 09:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC) by Method 8015M	WG1062381	1	01/12/18 12:46	01/12/18 12:46	BG
Organic Compounds (GC) by Method D1946	WG1062205	1	01/12/18 09:27	01/12/18 09:27	BG

SG-5 L962814-05 Air

Collected by	Collected date/time	Received date/time
Nina Abdollahian	01/04/18 15:08	01/06/18 09:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC) by Method 8015M	WG1062381	1	01/12/18 12:50	01/12/18 12:50	BG
Organic Compounds (GC) by Method D1946	WG1062205	1	01/12/18 09:41	01/12/18 09:41	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 8015M

Analyte	CAS #	Mol. Wt.	RDL1 ppmv	RDL2 mg/m3	Result ppmv	Result mg/m3	Qualifier	Dilution	Batch
Methane	74-82-8	16	10.0	6.54	ND	ND		1	WG1062381

Organic Compounds (GC) by Method D1946

Analyte	CAS #	Mol. Wt.	RDL %	Result %	Qualifier	Dilution	Batch
Oxygen	7782-44-7	32	2.00	17.0		1	WG1062205
Carbon Dioxide	124-38-9	44.01	0.500	0.693		1	WG1062205

Volatile Organic Compounds (GC) by Method 8015M

Analyte	CAS #	Mol. Wt.	RDL1 ppmv	RDL2 mg/m3	Result ppmv	Result mg/m3	Qualifier	Dilution	Batch
Methane	74-82-8	16	10.0	6.54	ND	ND		1	WG1062381

Organic Compounds (GC) by Method D1946

Analyte	CAS #	Mol. Wt.	RDL %	Result %	Qualifier	Dilution	Batch
Oxygen	7782-44-7	32	2.00	17.3		1	WG1062205
Carbon Dioxide	124-38-9	44.01	0.500	ND		1	WG1062205

Volatile Organic Compounds (GC) by Method 8015M

Analyte	CAS #	Mol. Wt.	RDL1 ppmv	RDL2 mg/m3	Result ppmv	Result mg/m3	Qualifier	Dilution	Batch
Methane	74-82-8	16	10.0	6.54	ND	ND		1	WG1062381

Organic Compounds (GC) by Method D1946

Analyte	CAS #	Mol. Wt.	RDL %	Result %	Qualifier	Dilution	Batch
Oxygen	7782-44-7	32	2.00	17.1		1	WG1062205
Carbon Dioxide	124-38-9	44.01	0.500	ND		1	WG1062205

Volatile Organic Compounds (GC) by Method 8015M

Analyte	CAS #	Mol. Wt.	RDL1 ppmv	RDL2 mg/m3	Result ppmv	Result mg/m3	Qualifier	Dilution	Batch
Methane	74-82-8	16	10.0	6.54	ND	ND		1	WG1062381

Organic Compounds (GC) by Method D1946

Analyte	CAS #	Mol. Wt.	RDL %	Result %	Qualifier	Dilution	Batch
Oxygen	7782-44-7	32	2.00	16.8		1	WG1062205
Carbon Dioxide	124-38-9	44.01	0.500	0.734		1	WG1062205

Volatile Organic Compounds (GC) by Method 8015M

Analyte	CAS #	Mol. Wt.	RDL1 ppmv	RDL2 mg/m3	Result ppmv	Result mg/m3	Qualifier	Dilution	Batch
Methane	74-82-8	16	10.0	6.54	15.6	10.2		1	WG1062381

Organic Compounds (GC) by Method D1946

Analyte	CAS #	Mol. Wt.	RDL %	Result %	Qualifier	Dilution	Batch
Oxygen	7782-44-7	32	2.00	17.1		1	WG1062205
Carbon Dioxide	124-38-9	44.01	0.500	ND		1	WG1062205

Method Blank (MB)

(MB) R3279021-3 01/12/18 12:28

Analyte	MB Result ppmv	MB Qualifier	MB MDL ppmv	MB RDL ppmv
Methane	U		1.85	10.0

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

(LCS) R3279021-1 01/12/18 12:18 • (LCSD) R3279021-2 01/12/18 12:21

Analyte	Spike Amount ppmv	LCS Result ppmv	LCSD Result ppmv	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Methane	500	500	501	100	100	77.0-115			0.265	20

Method Blank (MB)

(MB) R3278961-3 01/12/18 08:42

Analyte	MB Result %	MB Qualifier	MB MDL %	MB RDL %
Oxygen	1.31	J	0.225	2.00
Carbon Dioxide	U		0.121	0.500

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

(LCS) R3278961-1 01/12/18 08:28 • (LCSD) R3278961-2 01/12/18 08:35

Analyte	Spike Amount %	LCS Result %	LCSD Result %	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Oxygen	2.50	2.79	2.79	112	112	70.0-130			0.0737	20
Carbon Dioxide	2.50	2.57	2.49	103	99.6	70.0-130			3.01	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.
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
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
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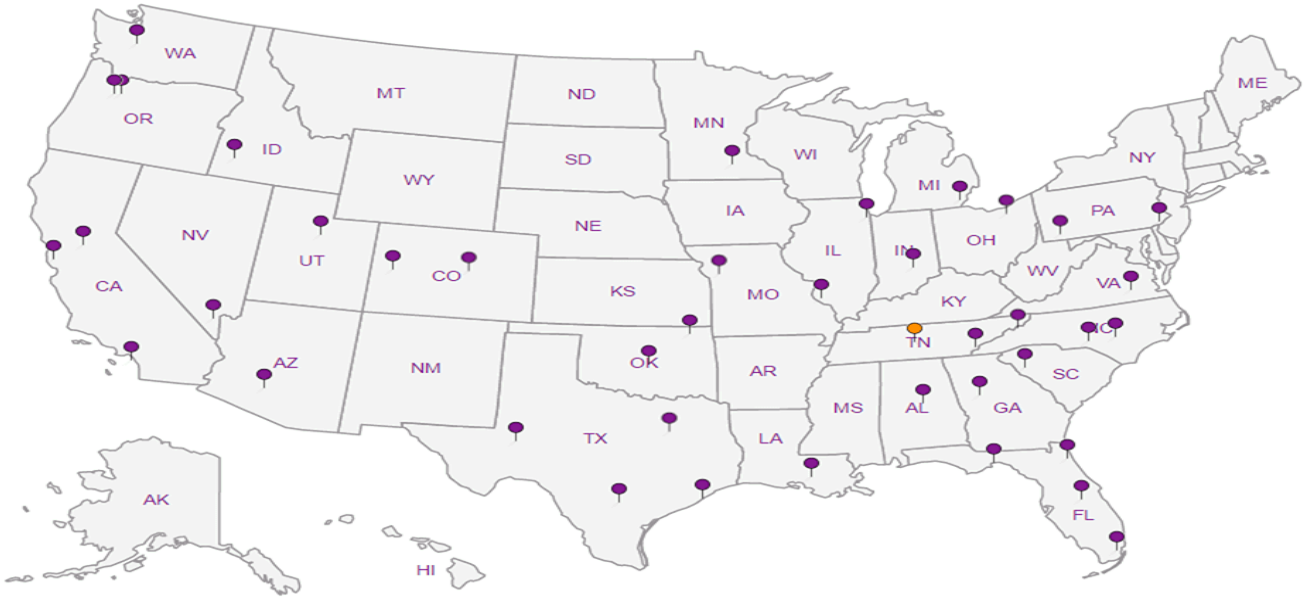

ESC LAB SCIENCES — Chain of Custody Page ___ of ___

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

Company Name/Address:	AEI consultants, 3880 S. Bascom Ave, San Jose, CA 95124
Billing Information:	Same
Report to:	Nina Abdallahian / Trent Weise
Email To:	Tweise@aeiconsultants.com; nabdallahian@aeiconsultants.com
Project Description:	HAYWARD, Loyola
City/State Collected:	Hayward, California
Phone:	408 559 7600
Fax:	
Client Project #:	335476
Lab Project #:	
Collected by (print):	Nina Abdallahian
Site/Facility ID #:	
P.O. #:	147956
Collected by (signature):	[signature]
Rush? (Lab MUST Be Notified)	___ Same Day 200%; ___ Next Day 100%; ___ Two Day 50%; ___ Three Day 25%
Date Results Needed:	1/12/18
Email?	___ No X Yes
FAX?	___ No ___ Yes

L# 961592 (struck) M118 962814

Acctnum:	AEICONHCCA
Template:	T131093
Prelogin:	P632152
TSR:	Brian Ford
PB:	BF 12/15/17
Shipped Via:	Ground

Analysis: VOCs EPA TO-15; ASTM D1945

Sample ID	Sample Description	Can #	Date	Time	Canister Pressure/Vacuum Initial	Final	VOCs EPA TO-15	ASTM D1945	Rem./Contaminant	Sample # (lab only)
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SG-2		5752	1/4/18	1237	28	5	X	X		-02
SG-3		5227	1/4/18	1130	25	5	X	X		-03
SG-4		7954	1/4/18	1203	29.5	5	X	X		-04
SG-5		7914	1/4/18	1508	26	5	X	X		-05

Remarks:

Hold #

Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)	
[signature]	1/5/18	1010	[signature] ESC	Samples returned via: ☐ UPS ☒ FedEx ☐ Courier ☐ ___
[signature] ESC	1/5/18	1600	SWA CARGO	Temp: AMB °C Bottles Received: 5
			Received for lab by: (Signature) [signature] 880	Date: 1/6/18 Time: 930

Condition: (lab use only)

COC Seal Intact: ___ Y ___ N ✓ NA

pH Checked: NCF:

Matt Shacklock

From: Brian Ford
Sent: Thursday, January 11, 2018 4:52 PM
To: Login; Sample Storage; Air; Brian Ford
Subject: L961582 *AEICONWCCA* re-log

Please re-log all samples for EEM and FIXGASPC as EX due 01/18.

Thanks,

Brian Ford
Technical Service Representative
ESC Lab Sciences-a subsidiary of Pace Analytical
12065 Lebanon Road | Mt. Juliet, TN 37122
615.773.9772
bford@esclabsciences.com | www.esclabsciences.com