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RE: Soil and Ground-Water Investigation Report, Properties at 760 22nd Street and 2201 Brush Street, Oakland, California 94612

Christine Carr
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Dear Alameda County Environmental Health:

Please find attached for your review the following document:

Joanne Tornatore-
Pili
K.M. Tan

- Soil and Ground-Water Investigation Report, 760 22nd Street and 2201 Brush Street, Oakland, California 94612. (ACEH Document No. RO3153_SWI_R_2015-11-06)

Leslie Francis
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I declare, under penalty of perjury, that the information and/or recommendations contained in the attached document or report is true and correct to the best of my knowledge.

Rosalyn Tonai
Roy Ikeda

Please call me at (510) 287-5353 ext. 336 if you have any questions.

Ted Dang
Thai-An Ngo
Thomas Mishima

Sincerely,

Executive
Director

Joshua Simon

Carlos Castellanos
Director, Real Estate Development Department



SOIL AND GROUND-WATER INVESTIGATION REPORT

**PROPERTIES AT
760 22ND STREET AND 2201 BRUSH STREET
OAKLAND, CALIFORNIA 94612**

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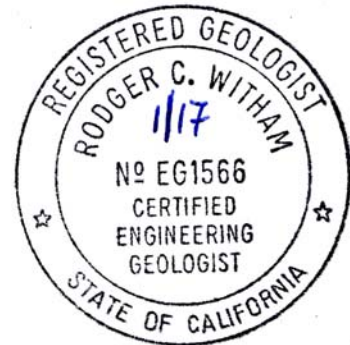
November 6, 2015



**SOIL AND GROUND-WATER INVESTIGATION REPORT
PROPERTIES
AT
760 22ND STREET AND 2201 BRUSH STREET
OAKLAND, CALIFORNIA 94612**

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1.0 INTRODUCTION

East Bay Asian Local Development Corporation (EBALDC) has requested that Essel Environmental Consulting (Essel) perform additional soil and ground-water environmental investigation on two adjacent properties located at 760 22nd Street and 2201 Brush Street in Oakland, California. This work was performed according to a Work Plan and an Addendum to Work Plan prepared by Essel in April (Essel, 2015a) and July (Essel, 2015b) 2015 and conditionally approved by Alameda County Environmental Health (ACEH) via electronic mail to EBALDC on September 4, 2015.

East Bay Asian Local Development Corporation submitted a request for case closure for the site on October 17, 2014. This request was related to former diesel and gasoline underground storage tanks (USTs) that were located on and adjacent to the 760 22nd Street property. The ACEH previously closed the UST case (associated with another address) on December 8, 1997, based on a continued commercial use of the property; however, EBALDC requested closure for the case with the intent of redeveloping the property for residential use. The ACEH asked that EBALDC perform the additional investigation to further assess the extent of petroleum hydrocarbons in soil, soil vapor, and ground water beneath the properties and enable ACEH to better evaluate EBALDC's request for closure under the State Water Resources Control Board's Low Threat Underground Storage Tank Case Closure Policy.

This report presents findings of the additional soil and ground-water investigation. Soil vapor sampling and analysis were also performed as part of the investigation. Section 1.0 of this report presents information on location, description, and background information about the properties; Section 2.0 describes the field and laboratory work performed for this investigation; and Section 3.0 presents the results of the field and laboratory work. Section 4.0 presents a discussion of the environmental data collected at the site in relation to criteria of the Low Threat Underground Storage Tank Case Closure Policy and Section 5.0 presents conclusions and recommendation with regard to a future course of action.

1.1 Site Location, Description, and Proposed Development

The two properties are located at the addresses of 760 22nd Street and 2201 Brush Street in Oakland, California and are located a short distance to the southwest of the intersection of West Grand Avenue, San Pablo Avenue, and an elevated Interstate Highway 980. The adjacent and

abutting properties are located on the west side of Brush Street between West Grand Avenue on the north and 22nd Street on the south. Plate 1 shows the locations of the properties and the features of the regional and local vicinities and Plate 2 shows the configuration of the two properties.

At present, a wood frame/metal siding shop building and two mobile office trailers occupy the northernmost property at 760 22nd Street. The shop contains a belowground concrete trench that was used for maintenance of large vehicles. At the time field work for this investigation was performed, this trench was covered with a wooden structure. The remaining portion of the property is paved with concrete and is used to park buses for an active business. The adjacent and abutting southern property at 2201 Brush Street is unpaved and also used to park buses.

East Bay Asian Local Development Corporation plans to redevelop the 760 22nd Street/2201 Brush Street properties with a multistory residential structure containing 59 residential living units. Available architectural plans show that the building will cover the entire property and will have four ground floor stairwells and three elevators. The development will include a podium garage with parking at ground level and two 3-high puzzle-lift parking structures, which will be constructed near the center of the property for below ground parking (total of 45 parking spaces). The puzzle-lift structures will extend to an approximate depth of 8 feet below the ground surface. The plans do not show any belowground portions of the stairwells or elevator shafts or any other belowground structures. Plate 2 shows the proposed building footprint and the locations of stairwells, elevators, and puzzle-lift parking structures relative to current site features.

1.2 Previous Work

Previous environmental work has included underground storage tank (UST) removal, Phase I Environmental Site Assessments (ESAs), and subsurface investigations related to the UST removal. These activities took place between 1986 and 2012, are described in more detail in previous documents (Essel, 2014), and described briefly below.

1.2.1 Underground Storage Tank Removal

Four USTs, associated with a Bekins Van & Storage (Bekins) warehouse located at 2227 San Pablo Avenue, were removed from the 760 22nd Street location and vicinity in 1986 (PES Environmental, Inc. [PES], 1997). Two of the tanks included a 7,000-gallon diesel UST that was located on the 760 22nd Street property and a 2,000-gallon gasoline UST that was located beneath the adjacent sidewalk. After tank removal, soil samples were collected beneath both ends of the diesel and gasoline USTs at depths of 12 to 13 feet below the ground surface and submitted for laboratory analysis. Concentrations of 80 to 250 milligrams per kilogram (mg/kg) total petroleum hydrocarbons as diesel (TPHd) were present in soil beneath the 7,000-gallon diesel UST and 1.8 and 70 mg/kg total petroleum hydrocarbons as gasoline (TPHg) were present in soil beneath the adjacent gasoline UST. Plate 2 shows the locations of the former gasoline and diesel USTs and Table 1 presents the results of the laboratory analyses of the soil samples.

1.2.2 Phase I Environmental Site Assessments

2005, 2007, and 2011

PES Environmental, Inc. (PES, 2005a, 2007, 2011a) performed Phase I ESAs of the subject properties in 2005, 2007, and 2011. In the reports of the assessments, PES variously describes the presence and removal of USTs, closure of the UST contamination case at the 760 22nd Street property, observing oil staining in the concrete trench of the shop building, and the presence of petroleum hydrocarbons in the soil and ground water at concentrations greater than residential cleanup goals. According to PES, these issues represented recognized environmental conditions in connection with the 760 22nd Street property.

1.2.3 Subsurface Investigations

PES (2005b) performed a subsurface soil and ground-water quality investigation at the 760 22nd Street property in September 2005 and additional subsurface soil investigation at the property in October 2011 (PES, 2011b). In 2005, borings B-1 through B-6 were advanced to depths of 12 to 16 feet below grade at locations near the former USTs and fuel dispenser, inside the shop building, and at the southern and northern ends of the property. Soil samples were collected from borings B-2, B-3, B-4, and B-5 at depths between 5 and 12 feet below the ground surface. Concentrations of 190 mg/kg TPHg and 230 mg/kg TPHd were detected in soil at 8 feet below the ground surface in boring B-4, located near the former fuel dispenser. Concentrations of TPHg and TPHd were less than 25 mg/kg or were not detected in the other soil samples. No benzene, toluene, ethylbenzene, total xylenes (BTEX) or methyl tertiary butyl ether (MTBE) was detected in the soil samples. Ground water was reportedly encountered at depths of 12 to 13 feet below the ground surface and grab ground-water samples were collected from borings B-1, B-2, B-5, and B-6. Total petroleum hydrocarbons as diesel were detected in the four borings at concentrations of 170 to 3,200 micrograms per liter ($\mu\text{g/L}$) and TPH as motor oil (TPHmo) was found at concentrations of 190 to 490 $\mu\text{g/L}$ in three of the four borings. No BTEX or MTBE was detected in ground-water samples, except for trace 0.61- $\mu\text{g/L}$ MTBE in boring B-1.

In 2011, borings SB1 through SB6 were advanced to depths of 10 to 11 feet below grade at locations from 10 to 15 feet west and south of borings B-2, B-3, and B-4, which were located near the former USTs and dispenser island. PES collected soil samples from the borings at various depths from 2 to 10 feet below the ground surface. No TPHg or BTEX was found in any soil sample and low levels of TPHd (1.2 to 12 mg/kg) were detected in 10 of the 17 soil samples analyzed. Plate 2 shows the locations of borings advanced by PES during the two subsurface investigations. Table 1 presents the results of laboratory analyses of the soil samples and Table 2 presents the results of laboratory analyses of the ground-water samples.

1.2.4 Geophysical Surveys

PES (2011b, 2012) conducted two geophysical surveys of the northeastern portion of the 760 22nd Street property in October 2011 and April 2012 to evaluate the presence of subsurface features related to the former fuel facilities. The results of these surveys detected various underground utility pipes, but did not find indications of additional USTs. A shallow triangular-shaped metallic anomaly was identified approximately 10 feet west of the former dispenser island.

1.3 Findings of Previous Work

The findings of the field and laboratory work performed during UST removal and the 2005 and 2011 subsurface investigations are described as follows.

1.3.1 Geology and Ground Water

PES Environmental, Inc. (PES, 2005; 2011) describes the sediments encountered in borings drilled at the Site as:

- 0 to 8 feet below the ground surface - black to dark greenish gray clay, sandy clay, silt;
- 8 to 12 feet below the ground surface – dark greenish gray to brown sand, clayey sand; and
- 12 to 16 feet below the ground surface - dark greenish-gray to brown clay.

Ground water was encountered at depths of 12 to 13 feet below the ground surface.

1.3.2 Distribution of Petroleum Hydrocarbons

Soil and ground-water samples collected during previous subsurface investigations at the 760 22nd Street property were variously analyzed for TPHg, TPHd, and TPHmo; BTEX; and MTBE. Laboratory analytical results showed that contaminants of concern appear to be only the gasoline- and diesel-range hydrocarbons (TPHg and TPHd) in soil and diesel- and motor-oil-range hydrocarbons (TPHd and TPHmo) in ground water. No BTEX was found in any soil or ground-water sample, no MTBE was detected in any soil sample, and MTBE was detected at a trace (less than 1 µg/L) concentration in one ground-water sample. The previous investigations were restricted to potential impact to soil above the ground-water surface and primarily to ground water away from the UST and dispenser island locations.

Soil

In soil, TPHg was found in samples collected at either end of the former gasoline UST located beneath the sidewalk next to the 760 22nd Street property and in two borings advanced near the former fuel dispenser located at the eastern edge of the property. Detected concentrations ranged from 1.6 to 190 mg/kg. Soil containing TPHg at a concentration greater than the applicable environmental screening level (ESL) for TPHg of 100 mg/kg was found to be vertically restricted to the depth interval between 4 and 10 feet below the ground surface in the vicinity of the fuel dispenser.

Concentrations of TPHd were found in a greater number of soil samples; however, most concentrations were significantly less than the most stringent ESL for TPHd, which is also 100 mg/kg. Higher concentrations of 250 and 220 mg/kg TPHd were found in 1986 at the northern end of the on-site 7,000-gallon diesel UST at respective depths of 12 and 13 feet below the ground surface and a concentration of 230 mg/kg TPHd, associated with the higher TPHg, was detected at the 8-foot depth next to the former fuel dispenser.

At the northern end of the former diesel UST, TPHd-impacted soil appears to be vertically restricted to a depth of 12 feet (the bottom of the former UST) and greater. The maximum depth of elevated impact is not known. The lateral extent above the ground-water surface is inferred to be relatively localized (within 10 to 15 feet of the former UST). At the location of the fuel dispenser, the vertical and lateral extent of TPHd above the ground water is likely approximately the same as for TPHg; that is, constrained within a vertical interval between 4 and 10 feet below the ground surface in the immediate vicinity of the fuel dispenser.

Ground Water

PES (2005b) collected ground-water samples from borings B-1, B-2, B-5, and B-6 during the 2005 subsurface investigation. Boring B-2 was advanced at the location of the former diesel UST and borings B-1, B-5, and B-6 were advanced at locations in the central and western portions of the site. The concentrations of TPHd detected in the four water samples and of TPHmo in three of the four water samples were greater than the applicable ground-water ESL of 100 µg/L. The highest concentration of TPHd (3,200 µg/L) was found at the former 7,000-gallon diesel UST location. The detected concentrations suggested that TPHd and TPHmo concentrations greater than the applicable ESLs might be present beneath the entire 760 22nd Street property, may extend southward to the abutting 2201 Brush Street property, and may extend a short distance to the west beneath the adjacent commercial and residential properties.

2.0 FIELD AND LABORATORY WORK

The results of previous subsurface investigations appeared to have largely defined the extent of petroleum hydrocarbons in the soil above the ground water surface related to releases from the former USTs and fuel dispenser. The extent of petroleum hydrocarbon impact to soil at and below the ground-water surface has not been evaluated, the extent of petroleum hydrocarbons in the ground water has not been fully delineated, and the presence of volatile contaminants in soil vapor has not been assessed. In addition, the presence of potential secondary source material (i.e., free-phase petroleum product or significantly contaminated soil) and other petroleum-related contaminants of concern, such as naphthalene, the fuel oxygenates (e.g., methyl tertiary butyl ether), and polynuclear aromatic hydrocarbons (PAHs) have not been evaluated. To adequately assess site closure, the ACEH requested that these areas of concern be addressed during the additional subsurface investigation.

In the work plan and addendum to work plan, Essel proposed to advance twelve on-site and two off-site borings into the ground water and variously analyze the samples for the range of petroleum and chlorinated hydrocarbon compounds. Essel also proposed to install two permanent soil vapor wells to assess subsurface vapor concentrations near the former UST and fuel dispenser locations. The following sections briefly describe the field and laboratory work performed. Detailed field procedures are included in Appendix A.

2.1 Pre-Field Activities

Pre-field activities included obtaining drilling and encroachment permits, surveying proposed boring locations for the presence of subsurface utilities, and preparing a health and safety plan (see Appendix A). Copies of a Water Resources Well Permit, two encroachment permits, and an obstruction permit are included in Appendix B.

Essel subcontracted with a utility locator to clear the proposed boring locations with respect to underground utilities. The utility locator used electromagnetic and ground-penetrating radar equipment to survey the boring locations on September 22, 2015. The GPR survey identified an anomaly at the proposed location of boring ECB-10 near the west-central edge of the site and this boring location was moved a short distance to the north. The anomaly was noted to start at a depth of 3 to 5 feet below the ground surface and was inferred by the GPR operator to be related to either a significant change in soil density or a void. During this survey, Essel also observed a nearby standpipe that appeared similar to a vent pipe associated with an underground storage tank.

2.2 Locations of Boring

Eleven on-site borings and two off-site borings were advanced around the perimeter of the two properties and along West Grand Avenue and 22nd Street generally to the west of the two properties. One on-site boring was advanced at a location inside the shop building and near the center of the site. The locations for borings ECB-1 through ECB-14 were selected as described below and depicted on Plate 2.

- Boring ECB-1 was advanced at a location inferred to be less than 10 feet to the north of the former northern end of the 7,000-gallon diesel UST to assess the extent of soil and ground-water impact to the north of the former UST. Three soil and one ground-water sample were collected for laboratory analysis.
- Boring ECB-2 was advanced in the northern portion of the former 7,000-gallon diesel UST excavation where the relatively elevated concentrations of diesel petroleum hydrocarbons were detected at 12 to 13 feet below the ground surface during the 1986 UST removal. This boring was advanced to assess potential secondary source material in the former tank pit and delineate the vertical extent of petroleum hydrocarbons in soil. Four soil and one ground-water sample were collected for laboratory analysis.
- Borings ECB-3 and ECB-4 were advanced at locations inferred to be within or very near the former gasoline UST excavation. The two borings were advanced to assess potential secondary source material in the former tank pit and delineate the vertical extent of petroleum hydrocarbons in soil. Four soil and one ground-water sample were collected from each boring for laboratory analysis.
- Boring ECB-5 was advanced adjacent to the former fuel dispenser and borings B-4 and SB1 that were advanced by PES. This boring was advanced to assess potential secondary source material beneath the dispenser and delineate the vertical extent of petroleum hydrocarbons in soil. Four soil and one ground-water sample were collected for laboratory analysis.
- Boring ECB-6 was advanced at the southeastern corner of the site to assess potential impact at the 2201 Brush Street property and the lateral extent of petroleum hydrocarbons in the ground water. One soil and one ground-water sample were collected for laboratory analysis.
- Boring ECB-7 was advanced at an angle of 30 degrees from the vertical inside the shop building to assess impact from former vehicle maintenance activities. The boring was advanced beneath a belowground vehicle maintenance trench reported to be in the shop.

This trench was covered by a shed; however, the location was marked by painted stripes used as guides to drive vehicles over the trench. Two soil and one ground-water sample were collected from this boring for laboratory analysis.

- Borings ECB-8 through ECB-12 were advanced at relatively evenly spaced locations along the western side of the 760 22nd Street property primarily to assess the downgradient extent of petroleum hydrocarbons in the ground water. Boring ECB-10 was advanced adjacent to the anomaly identified by the GPR survey. One soil and one ground-water sample were collected from borings ECB-8, ECB-9, ECB-11, and ECB-12 for laboratory analysis and two soil and one ground-water sample were collected from ECB-10 for laboratory analysis.
- Boring ECB-13 was advanced in the parking lane along the southwestern side of West Grand Avenue approximately 75 feet to the northwest of the site to assess the off-site downgradient extent of petroleum hydrocarbons in the ground water. One soil and one ground-water sample were collected from this boring for laboratory analysis.
- Boring ECB-14 was advanced along the northeastern side of 22nd Street, approximately 145 feet to the west-northwest of the site to also assess the off-site downgradient extent of petroleum hydrocarbons in the ground water. Two soil and one ground-water sample were collected from this boring for laboratory analysis.

In addition, two borings were advanced at locations next to boring ECB-2 in the former diesel UST excavation and next to boring ECB-5 at the former fuel dispenser. Permanent soil-vapor wells SV-1 and SV-2 were constructed in the borings to sample and analyze soil vapor at locations near the two primary source areas.

2.3 Drilling Borings and Sampling Soil and Ground Water

Field work to advance borings, collect soil and ground-water samples, and install vapor wells took place on September 24 and 25, 2015. PeneCore Drilling of Woodland, California (C-57 license number 906899) used a Geoprobe 7822DT, track-mounted, direct-push drill rig to advance borings ECB-1 through ECB-10, ECB-12 through ECB-14, and soil-vapor borings SV-1 and SV-2. A Geoprobe 420M limited access drill rig was used to advance boring ECB-11, which was placed behind the mobile trailer located in the southwestern portion of the site. Twelve vertical borings were advanced to a total depth of 20 feet below the ground surface and one vertical boring (ECB-11) was advanced to 17 feet below grade. Boring ECB-7 was advanced a distance of 24 feet at an angle of 30 degrees from vertical to reach a total vertical depth of 20.8 feet below grade. The borings for soil vapor wells SV-1 and SV-2 were each advanced to a depth of 10 feet below the ground surface.

Continuous soil cores were collected from the borings for description of sediments, screening for evidence of contaminants (photoionization detector readings, discoloration, odors), and selection of samples for laboratory analysis. As described above, from one to four soil samples were collected from each boring for laboratory analyses.

Ground-water samples were collected through temporary wells that were placed in the boreholes. Samples were collected from on-site borings ECB-3 and ECB-4 (advanced in or next to the former gasoline UST location) and off-site borings ECB-13 and ECB-14 on September 24, 2015 and from the remaining borings on September 25, 2015. Temporary wells placed in the boreholes for ECB-1, ECB-2, and ECB-5 set overnight to allow the ground-water surface to reach static

water level and for any free-phase product that might be present in the areas of the USTs and fuel dispenser to accumulate in the wells. Before sampling, the depth to any free-phase petroleum product and the depth to ground water were measured through the temporary casings using an electronic oil-water interface probe.

2.4 Installing Soil Vapor Wells and Sampling Soil Vapor

Permanent soil vapor wells SV-1 and SV-2 were installed to a depth of 10 feet below the ground surface on September 25, 2015 (see Appendix A). Soil cores collected from the two vapor-well boreholes showed that clay underlay the two locations from near the ground surface to approximately 9 feet below grade. Units of silt, silty sand, and clayey sand were found at 9 to 10 feet below grade and wells SV-1 and SV-2, consisting of stainless-steel filter screens connected to ¼-inch-diameter Teflon tubing, were placed at 9½ and 9¼ feet below the ground surface, respectively. The top of each tubing was capped with a valve to prevent atmospheric air from entering the probe hole and a 6-inch-diameter, steel well box was placed around each probe tubing and secured in place with concrete.

Subsurface conditions were allowed to equilibrate for a period of 2 weeks before wells SV-1 and SV-2 were purged and sampled on October 8, 2015. The soil-vapor probe purging and sampling system consisted of a 6-liter purging Summa canister; a 1-liter sampling Summa canister; and a manifold containing vacuum gauges, a flow controller, and moisture filter. Sampling procedures, described in Appendix A, were consistent with the final vapor intrusion guidance developed by the California Department of Toxic Substances Control (DTSC, 2011). At the completion of sampling, the Teflon tubing of each vapor probe was recapped and the wells boxes were closed. Future vapor sampling may be performed if necessary.

2.5 Laboratory Analyses

Thirty-one soil samples and 14 water samples were delivered to McCampbell Analytical, Inc. (McCampbell [Laboratory Certificate No. 1644]) in Pittsburg, California for analysis. McCampbell analyzed all soil and water samples for total petroleum hydrocarbons as gasoline (TPHg) using United States Environmental Protection Agency (USEPA) Method 8015Bm; total petroleum hydrocarbons as diesel (TPHd) and total petroleum hydrocarbons as motor oil (TPHmo) using USEPA Method 8015B; and VOCs using USEPA Method 8260B. Select soil and water samples were also analyzed for polynuclear aromatic hydrocarbons (PAHs) using USEPA Method 8270C-Selective Ion Monitoring (SIM).

The two soil-vapor samples were delivered to Eurofins-Air Toxics, Inc. laboratory (Certificate CA016) in Folsom, California for analysis for total petroleum hydrocarbons-gasoline range using USEPA Modified Method TO-3; for VOCs using USEPA Method TO-15; and for methane and the fixed gases oxygen, nitrogen, and carbon dioxide using American Society for Testing & Materials Method D-1946.

3.0 RESULTS OF INVESTIGATION

3.1 Geology and Ground Water

Unconsolidated sediments encountered in the borings include fill underlain by alternating and interbedded units of clay, silt, and sand. Fill, consisting of brownish-black to dusky yellowish-brown clay, silt or silty fine-grained sand, was observed from the base of the concrete to depths of approximately 2½ to 6 feet below the ground surface. This material is underlain by a relatively thick silty clay unit, which was observed from the base of the fill generally to depths of 9 to 12 feet below grade. Units of silt, clayey sand, silty sand, and sand (some units containing gravel), with subordinate interbeds of clay, are present beneath the silty clay to depths of 17½ to 19 feet below grade and silty clay was generally encountered in borings beneath the sand/silt zone to the maximum depth explored of 20.8 feet below the ground surface.

The sediments were observed to be various shades of yellowish-brown (pale to dark) with varying degrees of reddish-brown and yellowish-orange oxidation staining. A zone of medium bluish-gray discolored sediments (with associated petroleum odor) was observed in several borings. In the vicinity of the former USTs and fuel dispenser (borings ECB-1 through ECB-5), this discolored zone was observed between depths of 5 and 17 feet below the ground surface. Bluish-gray discolored soil was observed in western borings ECB-9 and ECB-10 in the depth interval between approximately 13 and 16 feet below the ground surface, which is across the ground-water surface. Gray, discolored appearing soil was observed in off-site western boring ECB-14 (22nd Street) at depths of 17½ to 18½ feet below grade (below the ground-water surface).

Depth to ground water was measured in the temporary wells installed in the 14 borings and varied from 20.19 feet below the ground surface in slant boring ECB-7, located in the central portion of the site, to 12.41 feet below the ground surface in off-site western boring ECB-14. Depth to water in most temporary wells averaged approximately 14¼ feet below grade. In general, the ground water was at greater depth in northern wells and at a shallower depth in the southern wells. No free-phase petroleum product was measured in any well using an oil-water interface probe.

Table 3 presents the ground-water data for borings ECB-1 through ECB-14. Appendix C (Figures C-1 through C-29) contains a Unified Soil Classification System key and logs of borings for ECB-1 through ECB-14, which include descriptions of sediments encountered, photoionization detector readings, depths at which soil samples were collected, and approximate depths to ground water in the borings.

3.2 Results of Laboratory Analyses

3.2.1 Soil

Borings ECB-1 through ECB-5 were advanced in the areas of the former gasoline and diesel USTs and the former fuel dispenser. Three to four soil samples were selected for laboratory analysis from each borings to assess the potential for secondary source contaminated soil to be present in the former tank excavations and to assess the vertical extent of contaminants through the zone of ground-water fluctuation (i.e., smear zone). The zone of bluish-gray discolored soil was most evident in these borings and samples of the discolored soil and soil beneath the discolored zone were collected for analysis to evaluate the vertical extent of contaminants.

Borings ECB-6 and ECB-8 through ECB-14 were advanced at perimeter locations to the south and west of the former USTs and dispenser and off-site along West Grand Avenue and 22nd Street. These borings were advanced primarily to assess the lateral extent of petroleum hydrocarbons in the ground water and one soil sample was collected at a depth just above the ground-water surface (13 feet below the ground surface) for laboratory analysis. Field evidence of petroleum-hydrocarbon impact was found at the ground-water surface in west-central boring ECB-10 (located near the geophysical anomaly) and in off-site western boring ECB-14, advanced along 22nd Street. A second soil sample was collected from these two borings to evaluate contaminant impact. Slant boring ECB-7 was advanced at the location of the vehicle maintenance trench in the shop building, where oil staining was observed in 2005, and two shallower soil samples were collected from this boring to assess impact from potential releases of petroleum contaminants, in particular, those related to motor oil or waste oil. The results of laboratory analyses are presented below.

Total Petroleum Hydrocarbons

Elevated concentrations (210 to 1,600 mg/kg) of TPHg, TPHd, and TPHmo were detected in three soil samples. Two of the soil samples were collected at and below the ground-water surface (13 to 16-foot-depth interval) in the former gasoline UST pit (borings ECB-3 and ECB-4) and one soil sample was collected at the ground-water surface (14½ feet below grade) in boring ECB-10, located near the geophysical anomaly at the west-central edge of the site. Moderately high concentrations of 130 and 95 mg/kg TPHg were detected at the 8- and 14½-foot depths, respectively, in boring ECB-5, located next to the former fuel dispenser. The laboratory results show notably higher concentrations of the diesel-range hydrocarbons at the former gasoline UST location; relatively higher concentrations of gasoline-range hydrocarbons at the former fuel dispenser; and a notably higher concentration of motor-oil-range petroleum hydrocarbons at western boring ECB-10.

Soil samples collected at depths above and below the above-described impacts either did not contain detectable concentrations or contained very low concentrations (1.1 to 5.4 mg/kg) of the three ranges of petroleum hydrocarbons. These included samples collected at depths of 4 and 4½ feet below grade in borings ECB-5 and ECB-2, respectively, and a sample collected at the 13-foot depth in off-site boring ECB-14. Several samples of discolored soil, collected from borings ECB-1 through ECB-4 and ECB-14 did not contain detectable concentrations in the three petroleum hydrocarbon ranges.

Volatile Organic Compounds and Polynuclear Aromatic Hydrocarbons

None of the 31 soil samples analyzed contained a detectable concentration of BTEX, MTBE, naphthalene, or any other petroleum- or solvent-related volatile organic compound. Soil samples collected within the depth intervals of 0 to 5 feet and 5 to 10 feet below the ground surface from borings ECB-2, ECB-3, ECB-5, and ECB-7 were analyzed for polynuclear aromatic hydrocarbons and none of the PAHs was detected in the eight samples analyzed.

Environmental Screening Levels

The San Francisco Bay Regional Water Quality Control Board (SFBRWQCB, 2013) has developed soil-screening levels (Environmental Screening Levels or ESLs) for potential health and environmental risks associated with a number of chemical contaminants. These screening

levels were developed for two land-use (residential and commercial/industrial) and two soil-depth (less than 10 feet and greater than 10 feet) categories, with further distinction as to whether or not the underlying ground water is a potential source of drinking water. The default final ESLs for individual chemicals are selected based on the most sensitive receptor, which in many cases is the protection of ground water or non-human receptors. The SFBRWQCB also includes ESLs that are based on human health risk.

Concentrations of TPHg, TPHd, and TPHmo detected in soil were compared to the available default ESLs. The most stringent ESLs are developed for a residential property for the two soil-depth categories and with ground water considered to be of existing or potential beneficial use. Three of the 31 soil samples analyzed contained TPHg, TPHd, or TPHmo at levels greater than the applicable residential ESL. These include TPHd at the ground-water surface in the former gasoline UST location; TPHg in the 8-foot-depth sample at the former fuel dispenser location; and TPHd and TPHmo at the ground water surface in boring ECB-10. Table 1 presents the laboratory analytical results for the soil samples along with the applicable ESLs. Plate 3 presents the distribution of organic compounds in soil at the site and Appendix D contains copies of the Chain-of-Custody forms and laboratory analytical report for the soil samples.

3.2.2 Ground Water

The 14 ground-water samples collected during this investigation were analyzed for TPHg, TPHd, TPHmo, and VOCs. Samples collected from borings ECB-2, ECB-3, ECB-5, ECB-7, ECB-8, ECB-10 and ECB-12 were also analyzed for PAHs.

Total Petroleum Hydrocarbons

Relatively high concentrations of TPHg, TPHd, and TPHmo were detected in water samples from borings ECB-2 through ECB-5, which were advanced in the former diesel and gasoline UST pits, next to the former fuel dispenser, and from west-central boring ECB-10. In the UST area, TPHg ranged from 330 to 1,200 µg/L, TPHd ranged from 3,100 to 24,000 µg/L, and TPHmo ranged from 780 to 7,300 µg/L. Lower concentrations of 430 µg/L TPHg and 100 µg/L TPHd were detected at the fuel dispenser location. At boring ECB-10, TPHg was detected at 98 µg/L, TPHd was detected at 3,100 µg/L, and TPHmo was found at a concentration of 17,000 µg/L.

A low concentration of 56 µg/L TPHd was found in off-site boring ECB-14 (22nd Street) and gasoline and motor oil petroleum hydrocarbons were not detected at this boring. No TPHg, TPHd, or TPHmo was detected in water samples from borings ECB-1, ECB-6, ECB-7, ECB-8, ECB-9, ECB-11, ECB-12, or ECB-13.

Volatile Organic Compounds

Few volatile petroleum hydrocarbon compounds were detected in the water samples. Benzene, toluene, and ethylbenzene were not detected in any sample and toluene was found at a trace 0.56-µg/L in the water sample from boring ECB-5. One fuel oxygenate, tert-butyl alcohol, was detected at 3.9 µg/L in the water sample from boring ECB-1, advanced to the north of the former diesel UST location. No MTBE, other fuel oxygenates, or naphthalene was detected in the 14 water samples. Other fuel constituents detected at trace (less than 1.0 µg/L) to low concentrations included n-butyl benzene, sec-butyl benzene, tert-butyl benzene, isopropylbenzene, n-propyl benzene, and 1,2,4-trimethylbenzene.

Non-chlorinated hydrocarbon solvents acetone, methyl ethyl ketone (MEK), 2-hexanone, methyl isobutyl ketone (MIBK), and 4-isopropyl toluene; the chlorinated hydrocarbons *cis*-1,2-dichloroethene and vinyl chloride; and the insecticide bromomethane were also detected in water samples. Acetone was detected at the highest concentrations (11 to 92 µg/L) in nine of the 14 water samples and MEK was detected most frequently (10 water samples) at concentrations of 2.2 to 11 µg/L.

Polynuclear Aromatic Hydrocarbons

Three PAH compounds were detected at trace to low levels in two water samples. Acenaphthene and phenanthrene were detected at 1.9 and 3.3 µg/L, respectively, in the water sample from boring ECB-3 (former gasoline UST pit) and a trace concentration of 0.57-µg/L 1-methylnaphthalene was found in the water sample from west-central boring ECB-10. Naphthalene was not detected in the 14 water samples.

Environmental Screening Levels

The SFBRWQCB has also developed ESLs for direct exposure to ground water (i.e., consumption) and to evaluate the potential risk for vapor intrusion from volatile compounds in the ground water. The concentrations of compounds detected in the ground water were compared to ESLs and to the California maximum contaminant levels (MCLs) for drinking water, where available.

The elevated concentrations of TPHg, TPHd, and TPHmo detected in borings ECB-2 through ECB-4 in the former UST area, ECB-5 at the former fuel dispenser, and ECB-10 at the west central edge of the site are substantially greater than the corresponding ESL of 100 µg/L for each of the three ranges of petroleum hydrocarbons. The 98 µg/L TPHg found at boring ECB-10 is slightly less than the ESL for TPHg. None of the detected concentrations of the VOCs or PAHs was at a concentration greater than a corresponding ESL or MCL, except for the trace concentration (0.67-µg/L) of vinyl chloride, which is slightly higher than the 0.5-µg/L MCL for this compound.

Total petroleum hydrocarbons as gasoline and TPHd are sufficiently volatile to present a potential vapor intrusion risk; however, no corresponding ESL has been developed for the ground water to indoor air risk pathway. The SFBRWQCB has developed ESLs for TPHg and TPHd in soil gas. Corresponding ESLs for the ground-water to indoor air pathway have been developed for acetone, MEK, MIBK, *cis*-1,2-dichloroethene, vinyl chloride, and naphthalene. Naphthalene was not detected in ground water beneath the site and none of the detected concentrations of the other compounds was greater than the applicable vapor intrusion ESL. The results of laboratory analyses of the water samples and available direct exposure and vapor intrusion screening levels are presented in Table 2. Plate 4 presents the distribution of the organic compounds in ground water and Appendix D contains copies of the Chain-of-Custody forms and laboratory analytical report for the 14 water samples.

3.2.3 Soil Vapor

Soil vapor samples collected at depths of 9½ and 9¼ feet below the ground surface at vapor wells SV-1 and SV-2, respectively, were analyzed for TPHg, VOCs, methane and the fixed gases oxygen, nitrogen, methane, and carbon dioxide. Laboratory analytical results show that total petroleum hydrocarbons-gasoline range; the aromatic gasoline constituents benzene,

ethylbenzene, and total xylenes; the fuel oxygenate MTBE; and other petroleum-related volatile compounds are present in soil vapor at SV-1 in the vicinity of the former USTs. Total petroleum hydrocarbons-gasoline range was found at a concentration of 64,000 micrograms per cubic meter ($\mu\text{g}/\text{m}^3$). Benzene, ethylbenzene, total xylenes, and MTBE were detected at 28, 39, 198, and 110 $\mu\text{g}/\text{m}^3$, respectively. Other detected VOCs that appear to be constituents of gasoline, include, hexane, heptane, cumene (isopropylbenzene), cyclohexane, 4-ethyltoluene, propylbenzene, 1,2,4-trimethylbenzene, 1,3,5-trimethylbenzene, and 2,2,4-trimethylpentane. These compounds were detected at concentrations ranging from 22 to 1,400 $\mu\text{g}/\text{m}^3$. Chlorinated solvents detected in the sample from SV-1 included *cis*-1,2-dichloroethene and vinyl chloride at concentrations of 110 and 31 $\mu\text{g}/\text{m}^3$, respectively. Naphthalene and the leak-test tracer gas isopropyl alcohol were not detected in this sample.

A significantly lower concentration (450 $\mu\text{g}/\text{m}^3$) of total petroleum hydrocarbons-gasoline range was detected in the soil vapor sample from SV-2, located next to the former fuel dispenser, and none of the above-listed or other petroleum constituents was detected. The chlorinated solvent tetrachloroethene was detected at 150 $\mu\text{g}/\text{m}^3$ and carbon disulfide and chloroform were detected at 15 and 34 $\mu\text{g}/\text{m}^3$, respectively. Benzene, naphthalene, and the tracer isopropyl alcohol were not detected.

Analytical results show relatively low oxygen content (1.6 percent) in soil vapor at the location of SV-1 and a notably higher oxygen content of 14 percent in soil vapor at the location of SV-2. Nitrogen, methane, and carbon dioxide were at higher levels in SV-1 (92, 0.013, and 6.1 percent, respectively) than in SV-2 (81, not detected, and 5.2 percent, respectively). The data would appear to suggest that subsurface conditions include both aerobic and anaerobic degradation of the hydrocarbons.

Environmental Screening Levels

The concentrations of the detected compounds were compared to available SFBRWQCB ESLs and soil gas screening numbers developed by the Office of Environmental Health Hazard Assessment (OEHHA, 2010) for evaluation of vapor intrusion risk. Except for vinyl chloride, none of the detected compounds was at a concentration greater than the corresponding ESL or soil gas screening number. The 31 $\mu\text{g}/\text{m}^3$ vinyl chloride was slightly greater than the applicable ESL of 16 $\mu\text{g}/\text{m}^3$ and soil gas screening number of 28 $\mu\text{g}/\text{m}^3$. Table 4 presents the results of analyses of the two soil gas samples and Appendix D contains a copy of the Chain-of-Custody form and the laboratory report.

4.0 LOW-THREAT UNDERGROUND STORAGE TANK CLOSURE POLICY

In letters dated March 2, and July 1, 2015, ACEH indicated that available data was not sufficient to meet the general and media specific criteria of the State Water Resources Control Board's Low Threat Underground Storage Tank Closure Policy and that additional information was required to adequately evaluate the UST case at the 760 22nd Street/2201 Brush Street site with respect to this policy. The following sections discuss the data generated during previous and the current soil and ground-water investigation as the data relate to the policy. Conceptual Site Model and Data Gap Tables presenting the below-described information are included in Appendix E.

4.1 General Criteria

Seven general criteria are discussed as follows.

4.1.1. The Unauthorized Release is Located Within the Service Area of a Public Water System.

East Bay Municipal Utility District provides the public water supply to businesses and residences in the site vicinity. Essel accessed the State Water Resources Control Board's GeoTracker Groundwater Ambient Monitoring and Assessment (GAMA) Program website, which provides the locations of ground-water-monitoring and ground-water-supply wells. The GAMA website shows that no ground-water-supply wells are located within ¼-mile (1,320 feet) of the Site. Three groups of environmental monitoring wells, related to leaking underground storage tank properties, are located at distances of 600 feet south-southwest, 900 feet west-northwest, and 1,350 feet south of the Site. Essel also submitted a request to the California Department of Water Resources (DWR) for records of water-supply wells located within 2,000 feet of the site. The DWR responded (via October 16, 2015 electronic mail) stating that the timeline for processing the records request would be at least one year (October 2016).

4.1.2 The Unauthorized Release Consists only of Petroleum

Soil, ground water, and soil vapor samples were analyzed for the full range of total petroleum hydrocarbons and VOCs. Selected samples collected from borings advanced in the UST, fuel dispenser, and vehicle maintenance trench areas were also analyzed for PAHs, which are constituents of diesel and motor oil. The results of laboratory analyses show that the contaminants present in soil, ground water, and soil vapor comprise primarily total petroleum hydrocarbons in the gasoline, diesel, and motor oil ranges and secondarily individual petroleum fuel constituents. Incidental concentrations of petroleum solvents, chlorinated solvents, and insecticide were detected in ground water and soil vapor.

4.1.3 The Unauthorized Release has been Stopped

Available historical records show that the 7,000-gallon on-site diesel UST and the 2,000-gallon off-site gasoline UST were removed in October 1986. The fuel dispenser and fuel piping were presumably removed at the same time.

4.1.4 Free Product Has Been Removed to the Maximum Extent Practicable

Essel used an electronic oil-water interface probe to check borings ECB-1 through ECB-14 for free-phase petroleum product on the ground water. No petroleum product was detected in any of the borings (see Table 1).

4.1.5 A Conceptual Site Model Has Been Developed

The Conceptual Site Model is presented in Table 5 in Appendix E.

4.1.6 Secondary Source Removal Has Been Addressed

A indicated above, free phase petroleum product was not found in any of the 14 borings and dissolved gasoline, diesel, and motor oil concentrations are not sufficiently elevated to suggest free product is present on the ground water. Moderately abundant to pervasive bluish-gray discolored soil (and associated petroleum odor) was observed between depths of approximately 5 and 17½ feet below the ground surface in borings ECB-1 through ECB-5 located at the former UST and fuel dispenser locations. The discoloration was particularly visible in the clay and silt. Except for the soil sample from the 8-foot depth in boring ECB-5, discolored soil samples collected from the depth interval of 4 to 10 feet below the ground surface in these five borings did not contain elevated levels of petroleum hydrocarbons. Although discolored, the shallower soil in the areas of the former USTs and fuel dispenser would not appear to be secondary source material.

The discolored soil was observed to extend below the ground-water surface (maximum depth of 17½ feet below grade) in borings ECB-1 through ECB-5 and elevated concentrations of TPHg, TPHd, and TPHmo were detected in soil samples collected at depths of 13 to 16 feet below grade. Secondary source petroleum-contaminated soil appears to be restricted to the 13- to 16-foot depths (just above and just below the ground-water surface) in the vicinity of the former USTs, and near the former fuel dispenser. This secondary source material has impacted ground water; however, the horizontal extent of ground-water impact appears to be local and not extend to the western edge of the site. Except for soil at the 8-foot depth in boring ECB-5, direct exposure to this secondary source soil is not likely. In addition, no volatile petroleum hydrocarbon compounds are present in the soil or ground water that would result in a vapor intrusion hazard or an outdoor air health risk.

Discolored soil (and petroleum odor) was observed in the depth interval of 14½ to 16½ feet below grade at the location of west-central boring ECB-10, near the geophysical anomaly noted during the utility locator survey. Elevated concentrations of TPHg, TPHd, and particularly TPHmo were detected in the soil sample collected at the 14½-foot depth and also in the ground-water sample from this boring. The extent of impact in the area of boring ECB-10 in both soil and ground water has not been delineated. The absence of BTEX, MTBE, and naphthalene in soil and ground-water samples from boring ECB-10 suggest no indoor or outdoor air impacts are likely.

4.1.7 Soil and Groundwater Have Been Tested for MTBE and Results Reported in Accordance with Health and Safety Code Section 25296.15.

During the current investigation, the 31 soil samples, 14 ground-water samples, and two soil vapor samples were analyzed for MTBE using USEPA 8260B. Methyl tertiary butyl ether was not detected in soil or ground water, but was detected at a concentration of 110 µg/m³ in the soil vapor sample from SV-1. This concentration is less than the applicable screening level for vapor intrusion risk. A trace concentration of MTBE was detected in a water sample from boring B-1, advanced at the northern edge of the site in 2005.

4.2 Media-Specific Criteria

4.2.1 Ground Water

To satisfy the media-specific criteria for ground water, a petroleum-contaminant plume must be stable or decreasing in areal extent and meet the stated characteristics of one of the five classes of petroleum-release sites described in the low-threat underground storage tank closure policy. Ground-water data at the site most closely satisfies the first listed class of site described in the policy document; that is:

- The contaminant plume is less than 100 feet in length;
- There is no free product; and
- The nearest existing water supply well and/or surface water body is greater than 250 feet from the defined plume boundary.

Laboratory analysis of ground-water samples collected by PES Environmental, Inc. in 2005 showed a concentration of 3,200 µg/L TPHd at the former diesel UST and concentrations of 170 to 530 µg/L TPHg, TPHd, and TPHmo at presumably downgradient boring locations (B-1, B-5, and B-6) in the north-central and south-central portions of the site. Laboratory analytical data from the current investigation show notably higher concentrations of TPHg, TPHd, and TPHmo at the locations of the former USTs, but no detectable concentrations of the three ranges of petroleum hydrocarbons beneath the shop building or along the southern and western (except ECB-10) edges of the site. The data indicate ground-water impacts at the UST and dispenser source areas have not migrated off the site. Furthermore, none of the more mobile petroleum hydrocarbon constituents (BTEX, MTBE, etc.) is present in the ground water.

Elevated concentrations of TPHmo and TPHd in ground water at ECB-10 indicate a separate source than detected at the UST and fuel dispenser locations. The lateral extent of this ground-water impact is defined by borings ECB-9 (north) and ECB-11 (south), which do not contain detectable petroleum hydrocarbons. The western extent of this impact is inferred to be relatively restricted, based on the predominant oil-range hydrocarbons detected, the restricted extent of the UST and fuel dispenser plumes, and the absence of more mobile petroleum hydrocarbon constituents.

Records available on the GeoTracker GAMA website do not show any water-supply wells within 250 feet of the Site. The closest surface water to the site is Lake Merritt, which is approximately 3,900 feet to the east.

4.2.2 Petroleum Vapor Intrusion to Indoor Air

Site-specific conditions at a petroleum release site must satisfy all characteristics and screening criteria of one of four scenarios (as applicable) presented in the low-threat UST closure policy document. The scenarios include: 1) unweathered non-aqueous phase liquid (LNAPL) in ground water; 2) unweathered LNAPL in soil; 3) dissolved phase benzene concentrations only in ground water; or 4) direct measurement of soil gas concentrations.

Soil, ground water, and soil vapor data obtained during the current investigation show the site satisfies both Scenarios 3 and 4. Under Scenario 3, assuming no bioattenuation zone (oxygen content less than 4 percent) is present, dissolved phase benzene concentrations in ground water that are less than 100 µg/L must be separated from the foundation of an existing or a future building a minimum of 5 vertical feet. Under Scenario 4, with no bioattenuation zone, soil gas concentrations of benzene and naphthalene must be less than the residential screening levels of 85 and 93 µg/m³, respectively. In both scenarios, the total concentration of TPHg and TPHd must be less than 100 mg/kg within the 5-foot bioattenuation zone. Site data show that no benzene is present in ground water, which is approximately 14 feet below the ground surface and that benzene (28 µg/m³) and naphthalene (not detected) are less than the applicable residential screening levels. None of the soil samples collected at depths less than 5 feet below grade during PES Environmental, Inc.'s 2011 investigation or the current investigation contained a combined TPHg+TPHd concentration greater than 100 mg/kg.

4.2.3 Direct Contact and Outdoor Air Exposure

Criteria for direct contact and outdoor air exposure meet low-threat policy requirements if concentrations of benzene, naphthalene, and PAHs in soil are less than or equal to the following respective concentrations.

- 2.3, 13, and 0.038 mg/kg in soil from 0 to 5 feet below the ground surface.
- 100, 1,500, and 7.5 mg/kg in soil from 5 to 10 feet below the ground surface.

Laboratory analytical results for samples collected in the UST, fuel dispenser, and vehicle maintenance trench areas show no detectable concentrations of benzene, naphthalene, or any PAH analyte. The site satisfies the low-threat UST closure criteria for direct contact and outdoor air exposure.

5.0 FINDINGS AND CONCLUSIONS

5.1 Findings

Following is a summary of the findings of the additional subsurface environmental investigation.

- Unconsolidated sediments encountered in borings include fill (clay, silt, and silty sand) from the ground surface to 2½ to 6 feet below the ground surface; a relatively thick unit of clay from the base of the fill to depths of 9 to 12 feet below the ground surface; units of silt, clayey to silty sand, and sand generally from 10 feet to depths of 17½ to 19 feet below grade; and clay from the base of the silt and sand zone to the maximum depth explored of 20.8 feet below the ground surface.
- A zone of medium bluish-gray discolored sediments (with associated petroleum odor) is present between 5 and 17 feet below the ground surface at the locations of the former USTs and fuel dispenser and is present between approximately 13 and 16 feet below grade at the locations of west central borings ECB-9 and ECB-10. Gray, discolored appearing soil was encountered in off-site boring ECB-14 at 17½ to 18½ feet below grade.

- Ground water was measured in the borings at depths of 12.41 to 20.19 feet below the ground surface, with generally a greater depth to ground water measured in the northern borings.
- Free phase petroleum product was not encountered on the ground water in the 14 on-site and off-site borings.
- In soil, relatively high concentrations of TPHg, TPHd, and TPHmo were found within a relatively narrow zone at and below the ground-water surface in borings ECB-3 and ECB-4, advanced at and near the former gasoline UST pit; at a depth of 8 feet below grade and at the ground-water surface in boring ECB-5, advanced at the former fuel dispenser; and at the ground-water surface in boring ECB-10, advanced near the west-central edge of the site. Boring ECB-10 was advanced near the location of a geophysical anomaly, inferred to represent a significant change in soil density or an underground void and an aboveground standpipe suggestive of a vent pipe for an underground storage tank. Four of 31 soil samples submitted for laboratory analysis contained TPHg, TPHd, or TPHmo at concentrations greater than the corresponding ESLs. No VOC or PAH compound was detected in the soil samples.
- In ground water, high concentrations of TPHg, TPHd, and TPHmo were found in the areas of high soil impact, namely the former UST area, the former fuel dispenser area, and at ECB-10. Concentrations of the three ranges of petroleum hydrocarbons were substantially greater than the applicable direct exposure ESL. Other than trace to low concentrations of xylenes and tert-butyl alcohol in two water samples, BTEX, MTBE and other fuel oxygenates, and naphthalene were not detected in water samples collected from the 14 borings. The non-chlorinated solvents acetone and MEK were detected in most water samples; however, were at concentrations well below applicable ESLs. For other VOCs, low concentrations of petroleum-related compounds and other non-chlorinated solvents were sporadically detected and the chlorinated solvents *cis*-1,2-dichloroethene and vinyl chloride were detected at trace levels in one water sample. The PAH compounds acenaphthene, phenanthrene, and 1-methylnaphthalene were detected at trace to low concentrations in two of the 14 water samples.
- The site appears to meet most of the general criteria of the low-threat UST closure policy in that the site and surrounding area are served by a municipal water supplier and water wells are not nearby the site, the unauthorized release consists of petroleum and has been stopped; no free-phase petroleum product is present on the ground water, and all media samples have been tested for MTBE and will be reported on submittal of this report.
 - Secondary source soil is present within a narrow vertical zone at the ground-water surface at the locations of the former USTs and fuel dispenser. The lateral extent of impacted soil in this northeastern portion of the site appears to be restricted to the areas of these former facilities and impacted ground water has not migrated off the site. The depth of the source material (13 to 16 feet below the ground surface) and the absence of health-risk indicator petroleum constituents in either soil or ground water indicate little potential for risks to human health or the environment.
 - Secondary source soil is also present in the vicinity of west-central boring ECB-10. The extent of soil and ground-water impact has not been defined in this area,

although both are considered to be localized based on the predominant oil-range hydrocarbons detected in both soil and ground water.

- The site appears to meet the media-specific criteria of the low-threat UST closure policy in that the petroleum hydrocarbon plume is less than 100 feet in length, contains no free-phase product, and is not near water-supply wells or surface water; soil vapor data indicate no vapor intrusion health risk is present; and soil data indicate no direct contact or outdoor air health risks are present.

5.2 Conclusions

Based on the findings of this limited subsurface investigation, Essel concludes the following.

- The notable concentrations of TPHg, TPHd, and TPHmo detected in soil and ground water beneath the site appear to be relatively localized in lateral and vertical extent to the areas of the former UST excavations, the former fuel dispenser, and the west-central edge of the site. Focused remedial actions may be warranted in one or more of these areas to reduce petroleum-hydrocarbon concentrations in the soil and ground water.
- Soil and ground water beneath the site and off-site to the west and west-northwest appear to be minimally impacted by petroleum-related VOCs and PAHs and non-petroleum VOCs, including in the areas of elevated levels of total petroleum hydrocarbons.
- The geophysical anomaly, standpipe, and notably higher concentrations of TPHmo relative to TPHg and TPHd at and near boring ECB-10 suggest the former presence or existing presence of an underground storage tank and this UST may have been used to store waste oil. Further investigation for the presence of a UST and the extent of contaminant impact this area is warranted.

Limitations to this investigation are included in Appendix F.

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TABLE 1
Concentrations of Organic Compounds in Soil Samples
Properties at 760 22nd Street and 2201 Brush Street, Oakland, California

Location	Date Sampled	Sample Designation	Sample Depth (feet)	Total Petroleum Hydrocarbons			BTEX	MTBE	Naphthalene	VOCs	PAHs
				Gasoline	Diesel	Motor Oil					
Underground Storage Tank Removal - 760 22nd Street and Adjacent Sidewalk											
2K Gasoline UST-north end	Oct-86	S-1	12	70	--	--	--	--	--	--	--
2K Gasoline UST-south end	Oct-86	S-3	12	1.8	--	--	--	--	--	--	--
7K Diesel UST-north end	Oct-86	S-5	12	--	250	--	--	--	--	--	--
7K Diesel UST-north end	Oct-86	S-8	13	--	220	--	--	--	--	--	--
7K Diesel UST-south end	Oct-86	S-2	12	--	80	--	--	--	--	--	--
2005 Subsurface Investigation (PES Environmental, Inc.)											
B-2	9/8/05	B-2-7.5	7½	<1.0	<1.0	<10	<0.005	<0.005	--	--	--
	9/8/05	B-2-12	12	<1.0	1.5	<10	<0.005	<0.005	--	--	--
B-3	9/8/05	B-3-5.0	5	<1.0	<1.0	<10	<0.005	<0.005	--	--	--
	9/8/05	B-3-11.5	11½	1.6	23	<10	<0.005	<0.005	--	--	--
B-4	9/8/05	B-4-8.0	8	190	230	<10	<0.025	<0.025	--	--	--
	9/8/05	B-4-12	12	6.6	23	<10	<0.005	<0.005	--	--	--
B-5	9/8/05	B-5-5.0	5	<1.0	<1.0	<10	<0.005	<0.005	--	--	--
	9/8/05	B-5-11.5	11½	<1.0	<1.0	<10	<0.005	<0.005	--	--	--
2011 Subsurface Investigation (PES Environmental, Inc.)											
SB1	10/20/11	SB1-4.0	4	<1.0	<1.0	--	<0.0050	--	--	--	--
	10/20/11	SB1-10.0	10	<1.0	<1.0	--	<0.0050	--	--	--	--
SB2	10/20/11	SB2-2.0	2	<1.0	1.7	--	<0.0050	--	--	--	--
	10/20/11	SB2-4.0	4	<1.0	4.3	--	<0.0050	--	--	--	--
	10/20/11	SB2-8.0	8	<1.0	<1.0	--	<0.0050	--	--	--	--
SB3	10/20/11	SB3-2.0	2	<1.0	3.1	--	<0.0050	--	--	--	--
	10/20/11	SB3-4.0	4	<1.0	<1.0	--	<0.0050	--	--	--	--
	10/20/11	SB3-8.0	8	<1.0	<1.0	--	<0.0050	--	--	--	--
SB4	10/20/11	SB4-2.0	2	<1.0	2.1	--	<0.0050	--	--	--	--
	10/20/11	SB4-4.0	4	<1.0	1.2	--	<0.0050	--	--	--	--
	10/20/11	SB4-8.0	8	<1.0	5.0	--	<0.0050	--	--	--	--
SB5	10/20/11	SB5-2.0	2	<1.0	1.9	--	<0.0050	--	--	--	--
	10/20/11	SB5-4.0	4	<1.0	<1.0	--	<0.0050	--	--	--	--
	10/20/11	SB5-8.0	8	<1.0	<1.0	--	<0.0050	--	--	--	--
SB6	10/20/11	SB6-2.0	2	<1.0	12	--	<0.0050	--	--	--	--
	10/20/11	SB6-4.0	4	<1.0	2.2	--	<0.0050	--	--	--	--
	10/20/11	SB6-8.0	8	<1.0	9.3	--	<0.0050	--	--	--	--
SFBRWQCB Environmental Screening Level (Residential)											
Soil less than 3 meters (10 feet) in depth				100	100	100	Var.	0.023	1.2	Var.	Var.
Soil greater than 3 meters (10 feet) in depth				500	110	500	Var.	0.023	1.2	Var.	Var.

TABLE 1
Concentrations of Organic Compounds in Soil Samples
Properties at 760 22nd Street and 2201 Brush Street, Oakland, California

Location	Date Sampled	Sample Designation	Sample Depth (feet)	Total Petroleum Hydrocarbons			BTEX	MTBE	Naphthalene	VOCs	PAHs
				Gasoline	Diesel	Motor Oil					
2015 Subsurface Investigation (Essel Environmental Consulting, Inc.)											
ECB-1	9/24/15	S-12½-ECB1	12½	<1.0	<1.0	<5.0	<0.0050	<0.0050	<0.0050	ND	--
	9/24/15	S-15-ECB1	15	<1.0	<1.0	<5.0	<0.0050	<0.0050	<0.0050	ND	--
	9/24/15	S-19½-ECB1	19½	<1.0	<1.0	<5.0	<0.0050	<0.0050	<0.0050	ND	--
ECB-2	9/24/15	S-4½-ECB2	4½	<1.0	<1.0	5.4	<0.0050	<0.0050	<0.0050	ND	<0.010
	9/24/15	S-9-ECB2	9	<1.0	<1.0	<5.0	<0.0050	<0.0050	<0.0050	ND	<0.010
	9/24/15	S-17-ECB2	17	<1.0	<1.0	<5.0	<0.0050	<0.0050	<0.0050	ND	--
	9/24/15	S-19½-ECB2	19½	<1.0	<1.0	<5.0	<0.0050	<0.0050	<0.0050	ND	--
ECB-3	9/24/15	S-4½-ECB3	4½	<1.0	1.1	<5.0	<0.0050	<0.0050	<0.0050	ND	<0.010
	9/24/15	S-9½-ECB3	9½	<1.0	<1.0	<5.0	<0.0050	<0.0050	<0.0050	ND	<0.010
	9/24/15	S-15½-ECB3	15½	200	930	310	<0.20	<0.20	<0.20	ND	--
	9/24/15	S-18½-ECB3	18½	<1.0	<1.0	<5.0	<0.0050	<0.0050	<0.0050	ND	--
ECB-4	9/24/15	S-4½-ECB4	4½	<1.0	<1.0	<5.0	<0.0050	<0.0050	<0.0050	ND	--
	9/24/15	S-9-ECB4	9	<1.0	<1.0	<5.0	<0.0050	<0.0050	<0.0050	ND	--
	9/24/15	S-13-ECB4	13	400	940	310	<0.50	<0.50	<0.50	ND	--
	9/24/15	S-17½-ECB4	17½	<1.0	1.3	<5.0	<0.0050	<0.0050	<0.0050	ND	--
ECB-5	9/24/15	S-4-ECB5	4	2.1	1.7	<5.0	<0.0050	<0.0050	<0.0050	ND	<0.010
	9/24/15	S-8-ECB5	8	130	12	<5.0	<0.10	<0.10	<0.10	ND	<0.010
	9/24/15	S-14½-ECB5	14½	95	3.9	<5.0	<0.10	<0.10	<0.10	ND	--
	9/24/15	S-18-ECB5	18	<1.0	<1.0	<5.0	<0.0050	<0.0050	<0.0050	ND	--
ECB-6	9/24/15	S-13-ECB6	13	<1.0	<1.0	<5.0	<0.0050	<0.0050	<0.0050	ND	--
ECB-7	9/25/15	S-4½-ECB7	4½	<1.0	<1.0	<5.0	<0.0050	<0.0050	<0.0050	ND	<0.010
	9/25/15	S-9½-ECB7	9½	<1.0	<1.0	<5.0	<0.0050	<0.0050	<0.0050	ND	<0.010
ECB-8	9/25/15	S-13-ECB8	13	<1.0	<1.0	<5.0	<0.0050	<0.0050	<0.0050	ND	--
ECB-9	9/25/15	S-13-ECB9	13	<1.0	<1.0	<5.0	<0.0050	<0.0050	<0.0050	ND	--
ECB-10	9/25/15	S-13-ECB10	13	<1.0	<1.0	<5.0	<0.0050	<0.0050	<0.0050	ND	--
	9/25/15	S-14½-ECB10	14½	360	210	1,600	<1.0	<1.0	<1.0	ND	--
ECB-11	9/24/15	S-13-ECB11	13	<1.0	<1.0	<5.0	<0.0050	<0.0050	<0.0050	ND	--
ECB-12	9/25/15	S-13-ECB12	13	<1.0	<1.0	<5.0	<0.0050	<0.0050	<0.0050	ND	--
ECB-13	9/24/15	S-13-ECB13	13	<1.0	<1.0	<5.0	<0.0050	<0.0050	<0.0050	ND	--
ECB-14	9/24/15	S-13-ECB14	13	<1.0	2.5	<5.0	<0.0050	<0.0050	<0.0050	ND	--
	9/24/15	S-18½-ECB14	18½	<1.0	<1.0	<5.0	<0.0050	<0.0050	<0.0050	ND	--
SFBRWQCB Environmental Screening Level (Residential)											
Soil less than 3 meters (10 feet) in depth				100	100	100	Var.	0.023	1.2	Var.	Var.
Soil greater than 3 meters (10 feet) in depth				500	110	500	Var.	0.023	1.2	Var.	Var.

Results are in milligrams per kilogram = parts per million.

Detectable concentrations are shaded gray. Detectable concentrations that are greater than the applicable and most stringent soil screening levels are shaded yellow.

-- = not analyzed

< = less than

ND = not detected at the laboratory reporting limits, varying from 0.0040 to 0.10 mg/Kg with no dilution to 0.80 to 20 mg/Kg for a dilution factor of 200.

BTEX = benzene, toluene, ethylbenzene, total xylenes

MTBE = methyl tertiary butyl ether

VOCs = volatile organic compounds

PAHs = polynuclear aromatic hydrocarbons

Var. = Varies by individual compound

SFBRWQCB = San Francisco Bay Regional Water Quality Control Board

Environmental screening levels for residential land use taken from SFBRWQCB Environmental Screening Levels, December 2013.

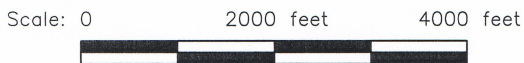
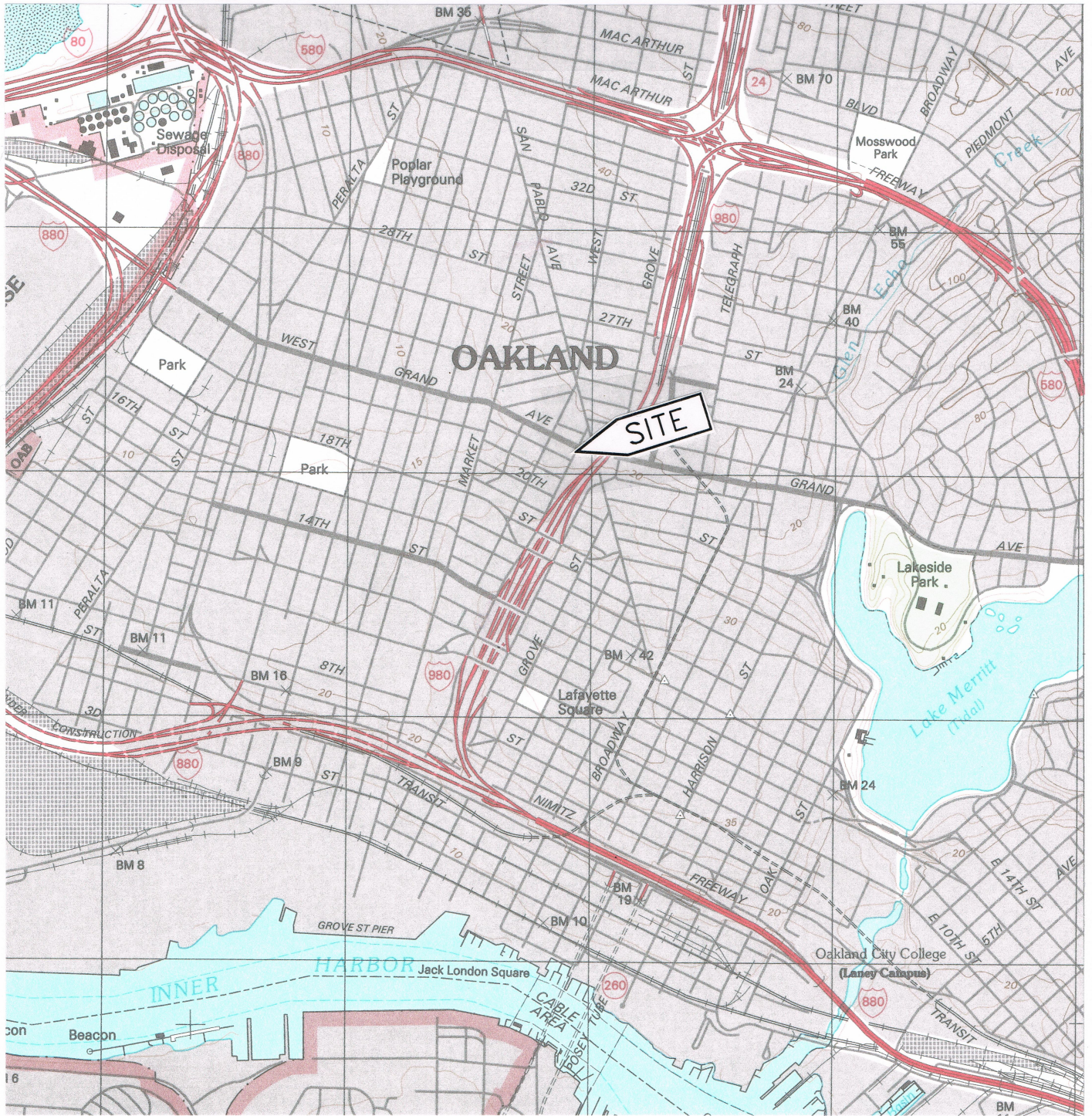
TABLE 3
Ground-Water Data
Properties at 760 22nd Street and 2201 Brush Street, Oakland, California

Boring	Date	Depth of Boring (feet below ground surface)	Depth to Water (feet below ground surface)	Free Phase Product (feet)
ECB-1	9/25/15	20	16.2	0.0
ECB-2	9/25/15	20	14.24	0.0
ECB-3	9/24/15	20	14.34	0.0
ECB-4	9/24/15	20	14.3	0.0
ECB-5	9/25/15	20	14.61	0.0
ECB-6	9/25/15	20	14.1	0.0
ECB-7	9/25/15	20.8	20.19	0.0
ECB-8	9/25/15	20	17.26	0.0
ECB-9	9/25/15	20	17.95	0.0
ECB-10	9/25/15	20	14.4	0.0
ECB-11	9/25/15	17	14.29	0.0
ECB-12	9/25/15	20	13.69	0.0
ECB-13	9/24/15	20	19.85	0.0
ECB-14	9/24/15	20	12.41	0.0

TABLE 4
Concentrations of Volatile Organic Compounds in Soil-Vapor Samples
Properties at 760 22nd Street and 2201 Brush Street, Oakland, California

Soil Probe	SV-1	SV-2	SFBRWQCB Screening Levels	OEHHA Soil Gas Numbers
Date	10/08/15	10/08/15		
Sample Number	SV-1	SV-2		
Depth of Sample (feet)	9.50	9.25	Residential	Residential
Analyte				
Benzene	28	<3.7	42	85
Ethylbenzene	39	<5.0	490	1,100
Toluene	<8.7	<4.3	160,000	320,000
m,p-xylene	130	<5.0	52,000	740,000
o-xylene	68	<5.0	52,000	740,000
Methyl tertiary butyl ether	110	<4.1	4,700	8,600
Naphthalene	<24	<12	36	93
Heptane	260	<4.7	--	--
Hexane	460	<4.0	--	--
Cumene (isopropylbenzene)	22	<5.6	--	--
Cyclohexane	240	<4.0	--	--
4-ethyltoluene	240	<5.6	--	--
Propylbenzene	83	<5.6	--	--
1,2,4-trimethylbenzene	280	<5.6	--	--
1,3,5-trimethylbenzene	79	<5.6	--	--
2,2,4-trimethylpentane	1,400	<5.4	--	--
cis-1,2-dichloroethene	110	<4.6	3,700	41,000
Tetrachloroethene	<16	150	210	470
Trichloroethene	<12	<6.2	300	1,300
Vinyl chloride	31	<2.9	16	28
2-propanol (isopropyl alcohol)	<23	<11	--	--
Carbon disulfide	<29	15	--	--
Chloroform	<11	34	230	--
TPH as gasoline	64,000	450	300,000	--
Oxygen (percent)	1.6	14	--	--
Nitrogen (percent)	92	81	--	--
Methane (percent)	0.013	<0.00023	--	--
Carbon Dioxide (percent)	6.1	5.2	--	--

Results for volatile organic compounds and screening levels and numbers are in micrograms per cubic meter.
Results for TPH as gasoline are in micrograms per cubic meter.
Soil gas numbers for volatile chemicals below buildings constructed with engineered fill below sub-slab gravel.
Detectable concentrations are shaded gray. Concentrations greater than applicable screening levels are shaded yellow.
< = less than the laboratory method detection limit shown.
-- = no value available.
TPH = total petroleum hydrocarbons
SFBRWQCB = San Francisco Bay Regional Water Quality Control Board
OEHHA = Office of Environmental Health Hazard Assessment



Source: USGS 7 1/2–Minute Quadrangle,
Oakland West, California 1993



PROJECT NO. 15166	DRAWN BY EC	REPORT DATE November 2015
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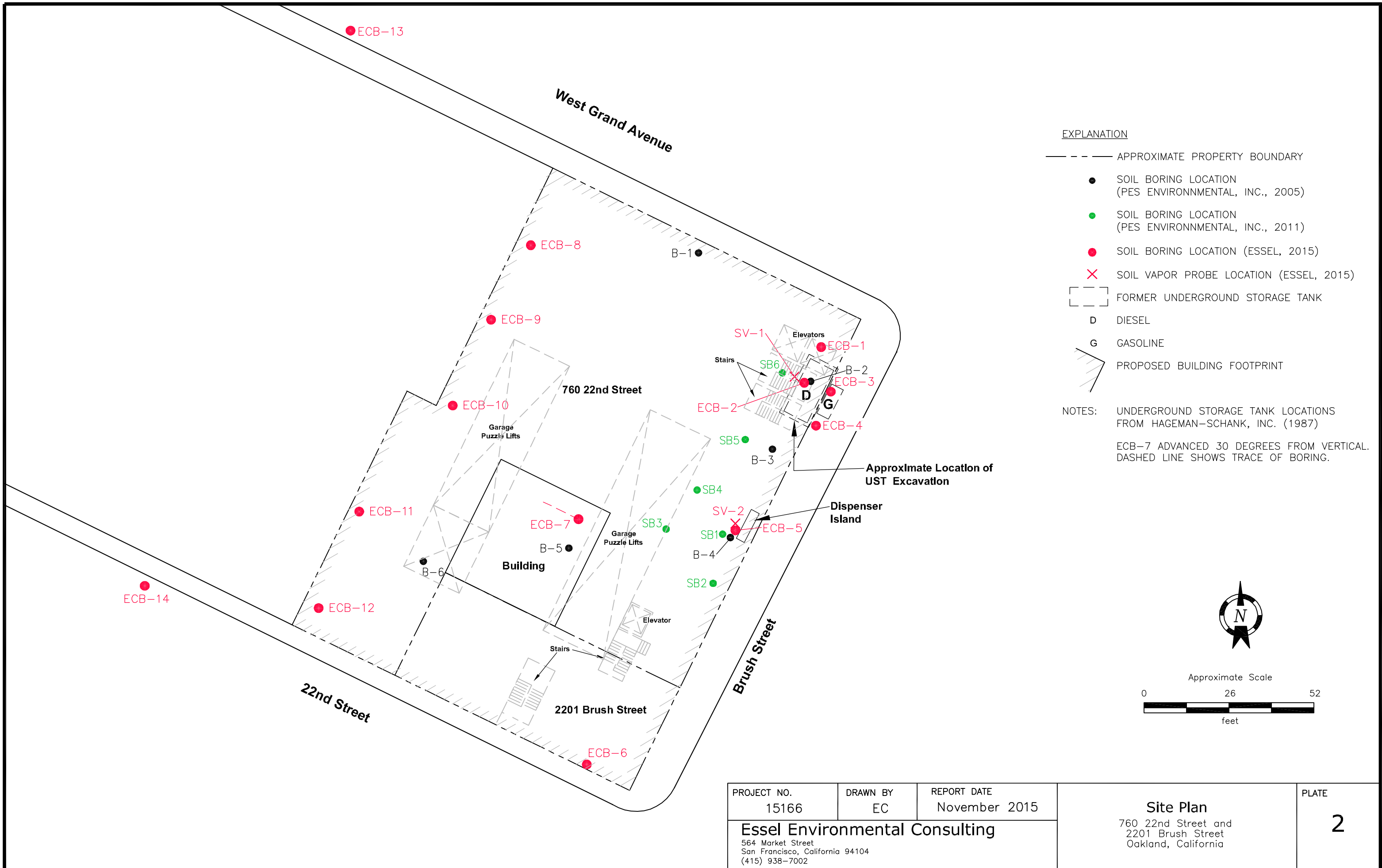
Essel Environmental Consulting
564 Market Street
San Francisco, California 94104
(415) 938-7002

Site Vicinity Map

760 22nd Street and
2201 Brush Street
Oakland, California

PLATE

1



DEPTH	13
TPHg	<1.0
TPHd	<1.0
TPHmo	<5.0
BTEX	<0.0050
MTBE	<0.0050
NAPHTHALENE	<0.0050
OTHER VOCs	ND
PAHs	NA

DEPTH	4½	9	17	19½
TPHg	<1.0	<1.0	<1.0	<1.0
TPHd	<1.0	<1.0	<1.0	<1.0
TPHmo	<5.0	<5.0	<5.0	<5.0
BTEX	<0.0050	<0.0050	<0.0050	<0.0050
MTBE	<0.0050	<0.0050	<0.0050	<0.0050
NAPHTHALENE	<0.0050	<0.0050	<0.0050	<0.0050
OTHER VOCs	ND	ND	ND	ND
PAHs	<0.010	<0.010	NA	NA

DEPTH	12½	15	19½
TPHg	<1.0	<1.0	<1.0
TPHd	<1.0	<1.0	<1.0
TPHmo	<5.0	<5.0	<5.0
BTEX	<0.0050	<0.0050	<0.0050
MTBE	<0.0050	<0.0050	<0.0050
NAPHTHALENE	<0.0050	<0.0050	<0.0050
OTHER VOCs	ND	ND	ND
PAHs	NA	NA	NA

DEPTH	13
TPHg	<1.0
TPHd	<1.0
TPHmo	<5.0
BTEX	<0.0050
MTBE	<0.0050
NAPHTHALENE	<0.0050
OTHER VOCs	ND
PAHs	NA

DEPTH	13
TPHg	<1.0
TPHd	<1.0
TPHmo	<5.0
BTEX	<0.0050
MTBE	<0.0050
NAPHTHALENE	<0.0050
OTHER VOCs	ND
PAHs	NA

DEPTH	13	14½
TPHg	<1.0	360
TPHd	<1.0	210
TPHmo	<5.0	1,600
BTEX	<0.0050	<1.0
MTBE	<0.0050	<1.0
NAPHTHALENE	<0.0050	<1.0
OTHER VOCs	ND	ND
PAHs	NA	NA

DEPTH	13
TPHg	<1.0
TPHd	<1.0
TPHmo	<5.0
BTEX	<0.0050
MTBE	<0.0050
NAPHTHALENE	<0.0050
OTHER VOCs	ND
PAHs	NA

DEPTH	4½	9½	15½	18½
TPHg	<1.0	<1.0	200	<1.0
TPHd	1.1	<1.0	930	<1.0
TPHmo	<5.0	<5.0	310	<5.0
BTEX	<0.0050	<0.0050	<0.20	<0.0050
MTBE	<0.0050	<0.0050	<0.20	<0.0050
NAPHTHALENE	<0.0050	<0.0050	<0.20	<0.0050
OTHER VOCs	ND	ND	ND	ND
PAHs	<0.010	<0.010	NA	NA

DEPTH	4½	9	13	17½
TPHg	<1.0	<1.0	400	<1.0
TPHd	<1.0	<1.0	940	1.3
TPHmo	<5.0	<5.0	310	<5.0
BTEX	<0.0050	<0.0050	<0.50	<0.0050
MTBE	<0.0050	<0.0050	<0.50	<0.0050
NAPHTHALENE	<0.0050	<0.0050	<0.50	<0.0050
OTHER VOCs	ND	ND	ND	ND
PAHs	NA	NA	NA	NA

DEPTH	4	8	14½	18
TPHg	2.1	130	95	<1.0
TPHd	1.7	12	3.9	<1.0
TPHmo	<5.0	<5.0	<5.0	<5.0
BTEX	<0.0050	<0.10	<0.10	<0.0050
MTBE	<0.0050	<0.10	<0.10	<0.0050
NAPHTHALENE	<0.0050	<0.10	<0.10	<0.0050
OTHER VOCs	ND	ND	ND	ND
PAHs	<0.010	<0.010	NA	NA

DEPTH	4½	9½
TPHg	<1.0	<1.0
TPHd	<1.0	<1.0
TPHmo	<5.0	<5.0
BTEX	<0.0050	<0.0050
MTBE	<0.0050	<0.0050
NAPHTHALENE	<0.0050	<0.0050
OTHER VOCs	ND	ND
PAHs	<0.010	<0.010

DEPTH	13	18½
TPHg	<1.0	<1.0
TPHd	2.5	<1.0
TPHmo	<5.0	<5.0
BTEX	<0.0050	<0.0050
MTBE	<0.0050	<0.0050
NAPHTHALENE	<0.0050	<0.0050
OTHER VOCs	ND	ND
PAHs	NA	NA

DEPTH	13
TPHg	<1.0
TPHd	<1.0
TPHmo	<5.0
BTEX	<0.0050
MTBE	<0.0050
NAPHTHALENE	<0.0050
OTHER VOCs	ND
PAHs	NA

DEPTH	13
TPHg	<1.0
TPHd	<1.0
TPHmo	<5.0
BTEX	<0.0050
MTBE	<0.0050
NAPHTHALENE	<0.0050
OTHER VOCs	ND
PAHs	NA

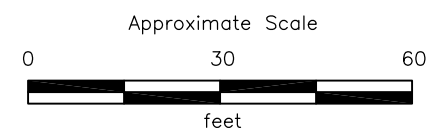
EXPLANATION

- APPROXIMATE PROPERTY BOUNDARY
- SOIL BORING LOCATION (PES ENVIRONMENTAL, INC., 2005)
- SOIL BORING LOCATION (PES ENVIRONMENTAL, INC., 2011)
- SOIL BORING LOCATION (ESSEL, 2015)
- ✗ SOIL VAPOR PROBE LOCATION (ESSEL, 2015)
- FORMER UNDERGROUND STORAGE TANK
- D DIESEL
- G GASOLINE
- ▨ PROPOSED BUILDING FOOTPRINT

CONCENTRATIONS ARE IN MILLIGRAMS PER KILOGRAM = PARTS PER MILLION

- DEPTH FEET BELOW GROUND SURFACE
- TPHg TOTAL PETROLEUM HYDROCARBONS AS GASOLINE
- TPHd TOTAL PETROLEUM HYDROCARBONS AS DIESEL
- TPHmo TOTAL PETROLEUM HYDROCARBONS AS MOTOR OIL
- BTEX BENZENE, TOLUENE, ETHYLBENZENE, TOTAL XYLENES
- MTBE METHYL TERTIARY BUTYL ETHER
- VOCs VOLATILE ORGANIC COMPOUNDS
- PAHs POLYNUCLEAR AROMATIC HYDROCARBONS
- ND NOT DETECTED
- NA NOT ANALYZED
- < LESS THAN

NOTES: UNDERGROUND STORAGE TANK LOCATIONS FROM HAGEMAN-SCHANK, INC. (1987)
 ECB-7 ADVANCED 30 DEGREES FROM VERTICAL.
 DASHED LINE SHOWS TRACE OF BORING.



PROJECT NO. 15166
 DRAWN BY EC
 REPORT DATE November 2015
Essel Environmental Consulting
 564 Market Street
 San Francisco, California 94104
 (415) 938-7002

Organic Compounds in Soil
 760 22nd Street and
 2201 Brush Street
 Oakland, California

PLATE
3

TPHg	<50
TPHd	<50
TPHmo	<250
BENZENE	<0.50
TOLUENE	<0.50
ETHYLBENZENE	<0.50
XYLENES	<0.50
MTBE	<0.50
NAPHTHALENE	<0.50

TPHg	330
TPHd	4,900
TPHmo	1,700
BENZENE	<0.50
TOLUENE	<0.50
ETHYLBENZENE	<0.50
XYLENES	<0.50
MTBE	<0.50
NAPHTHALENE	<0.50

TPHg	<50
TPHd	<50
TPHmo	<250
BENZENE	<0.50
TOLUENE	<0.50
ETHYLBENZENE	<0.50
XYLENES	<0.50
MTBE	<0.50
NAPHTHALENE	<0.50

TPHg	<50
TPHd	<50
TPHmo	<250
BENZENE	<0.50
TOLUENE	<0.50
ETHYLBENZENE	<0.50
XYLENES	<0.50
MTBE	<0.50
NAPHTHALENE	<0.50

TPHg	<50
TPHd	<50
TPHmo	<250
BENZENE	<0.50
TOLUENE	<0.50
ETHYLBENZENE	<0.50
XYLENES	<0.50
MTBE	<0.50
NAPHTHALENE	<0.50

TPHg	98
TPHd	3,100
TPHmo	17,000
BENZENE	<0.50
TOLUENE	<0.50
ETHYLBENZENE	<0.50
XYLENES	<0.50
MTBE	<0.50
NAPHTHALENE	<0.50

TPHg	<50
TPHd	<50
TPHmo	<250
BENZENE	<0.50
TOLUENE	<0.50
ETHYLBENZENE	<0.50
XYLENES	<0.50
MTBE	<0.50
NAPHTHALENE	<0.50

TPHg	710
TPHd	24,000
TPHmo	7,300
BENZENE	<0.50
TOLUENE	<0.50
ETHYLBENZENE	<0.50
XYLENES	<0.50
MTBE	<0.50
NAPHTHALENE	<0.50

TPHg	1,200
TPHd	3,100
TPHmo	780
BENZENE	<0.50
TOLUENE	<0.50
ETHYLBENZENE	<0.50
XYLENES	<0.50
MTBE	<0.50
NAPHTHALENE	<0.50

TPHg	430
TPHd	100
TPHmo	<250
BENZENE	<0.50
TOLUENE	<0.50
ETHYLBENZENE	<0.50
XYLENES	0.56
MTBE	<0.50
NAPHTHALENE	<0.50

TPHg	<50
TPHd	<50
TPHmo	<250
BENZENE	<0.50
TOLUENE	<0.50
ETHYLBENZENE	<0.50
XYLENES	<0.50
MTBE	<0.50
NAPHTHALENE	<0.50

TPHg	<50
TPHd	56
TPHmo	<250
BENZENE	<0.50
TOLUENE	<0.50
ETHYLBENZENE	<0.50
XYLENES	<0.50
MTBE	<0.50
NAPHTHALENE	<0.50

TPHg	<50
TPHd	<50
TPHmo	<250
BENZENE	<0.50
TOLUENE	<0.50
ETHYLBENZENE	<0.50
XYLENES	<0.50
MTBE	<0.50
NAPHTHALENE	<0.50

TPHg	<50
TPHd	<50
TPHmo	<250
BENZENE	<0.50
TOLUENE	<0.50
ETHYLBENZENE	<0.50
XYLENES	<0.50
MTBE	<0.50
NAPHTHALENE	<0.50

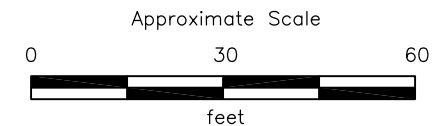
EXPLANATION

- APPROXIMATE PROPERTY BOUNDARY
- SOIL BORING LOCATION (PES ENVIRONMENTAL, INC., 2005)
- SOIL BORING LOCATION (PES ENVIRONMENTAL, INC., 2011)
- SOIL BORING LOCATION (ESSEL, 2015)
- ✕ SOIL VAPOR PROBE LOCATION (ESSEL, 2015)
- FORMER UNDERGROUND STORAGE TANK
- D DIESEL
- G GASOLINE
- ▨ PROPOSED BUILDING FOOTPRINT

CONCENTRATIONS ARE IN MICROGRAMS PER LITER = PARTS PER BILLION

- TPHg TOTAL PETROLEUM HYDROCARBONS AS GASOLINE
- TPHd TOTAL PETROLEUM HYDROCARBONS AS DIESEL
- TPHmo TOTAL PETROLEUM HYDROCARBONS AS MOTOR OIL
- MTBE METHYL TERTIARY BUTYL ETHER
- < LESS THAN

NOTES:
 UNDERGROUND STORAGE TANK LOCATIONS FROM HAGEMAN-SCHANK, INC. (1987)
 ECB-7 ADVANCED 30 DEGREES FROM VERTICAL.
 DASHED LINE SHOWS TRACE OF BORING.



PROJECT NO. 15166	DRAWN BY EC	REPORT DATE November 2015
Esse! Environmental Consulting 564 Market Street San Francisco, California 94104 (415) 938-7002		

**Organic Compounds in
Ground Water**
 760 22nd Street and
 2201 Brush Street
 Oakland, California

APPENDIX A

FIELD PROCEDURES

FIELD PROCEDURES

Permits and Utility Clearance

Essel submitted an application to advance the fourteen borings to the Alameda County Public Works Agency (ACPWA) and the ACPWA issued Water Resources Well Permit Number W2015-0868 on September 21, 2015. Essel also submitted two encroachment permit applications to the City of Oakland Planning and Building Department (City) to advance the two off-site borings. The City issued permit Number X1502122 for one boring on West Grand Avenue and Permit Number X1502123 for one boring on 22nd Street. In addition, the City issued obstruction permit OB1500946 to allow one parking space on West Grand Avenue and 22nd Street to be blocked for each boring. Copies of the approved drilling and encroachment permits are included in Appendix B.

Essel marked the proposed boring locations and notified Underground Services Alert of Northern California and Nevada on September 22, 2015 of the planned drilling activities. This notification occurred more than 48 hours before drilling began. Essel also subcontracted with West Coast Locators, Inc. (West Coast) of San Francisco, California to clear boring locations with respect to subsurface utilities. On September 22, 2015, West Coast used electromagnetic and ground-penetrating radar (GPR) equipment to identify potential subsurface utilities or other obstructions at the proposed boring locations. Some boring locations were adjusted as a result of the utility clearance work. The GPR survey identified an anomaly at the proposed location of boring ECB-10 near the west-central edge of the site and this boring location was moved. The anomaly was noted to start at a depth of 3 to 5 feet below the ground surface and was inferred by the GPR operator to be related to either a significant change in soil density or a void. During the survey, Essel also observed a nearby standpipe that appeared similar to a vent pipe associated with an underground storage tank.

Essel prepared a site-specific Health and Safety Plan (Plan) before conducting fieldwork and this Plan was available at the site during field activities. Essel and subcontractor personnel were apprised of potential on-site hazards during a field orientation meeting that was conducted before field work began.

Drilling Borings and Sampling Soil

Field work to advance borings, collect soil and ground-water samples, and install vapor wells took place on September 24 and 25, 2015. PeneCore Drilling of Woodland, California (C-57 license number 906899) used a Geoprobe 7822DT, track-mounted, direct-push drill rig to advance borings ECB-1 through ECB-10, ECB-12 through ECB-14, and soil-vapor borings SV-1 and SV-2. A Geoprobe 420M limited access drill rig was used to advance boring ECB-11, which was placed behind the mobile trailer located in the southwestern portion of the site. Thirteen vertical borings were advanced to a total depth of 20 feet below the ground surface. Boring ECB-7 was advanced a distance of 24 feet at an angle of 30 feet from vertical to reach a total vertical depth of 20.8 feet below grade. The borings for soil vapor wells SV-1 and SV-2 were each advanced to a depth of 10 feet below the ground surface. Drilling equipment was decontaminated (i.e., steam cleaned) between boring locations to avoid potential cross-contamination of samples.

Continuous soil cores were collected from the borings using a 2½-inch-outside-diameter, hollow steel rod fitted with a 1½-inch-outside-diameter by 4-foot-long, clear plastic sleeve. The plastic sleeve was removed from the core barrel after each sampling interval and replaced with a clean plastic sleeve for the next lower sampling interval. Soil cores contained in the plastic sleeves were

cut into 1- to 2-foot lengths for field screening for contaminants, identifying and describing sediments, and selecting samples for laboratory analysis. Samples retrieved from the borings were screened for potential contaminants using a photoionization detector, through visual observation of the soil for discoloration, and noting any odors in the soil.

As described above, Essel retained from one to four soil samples from each boring for laboratory analysis. A minimum 6-inch-long section of the plastic sleeve was cut at the selected sample depth and the ends of each sleeve were covered with Teflon sheets, sealed with plastic caps, and wrapped with duct tape. Each sample was then labeled and placed on ice in a cooler pending delivery to the laboratory. Essel prepared Chain-of-Custody forms for the soil samples and these forms accompanied the samples to the laboratory. Copies of the Chain-of-Custody forms are included in Appendix D.

Sampling Ground Water

Water samples were collected through ¾-inch-diameter polyvinyl chloride (PVC) casings that were placed in the boreholes. Before sampling, the depth to any free-phase petroleum product and the depth to ground water were measured through the temporary casings using an electronic oil-water interface probe. Water samples were collected through ¼-inch-diameter polyethylene tubing, which was inserted into the PVC casings and attached to a peristaltic pump. The water samples were placed into 40-milliliter clear glass vials containing hydrochloric acid as a preservative, 40-milliliter amber glass vials that contained no preserving solution, and 1-liter amber glass bottles that also contained no preserving solution. The sample containers were filled completely to eliminate air bubbles and were sealed with Teflon-lined caps, labeled, and placed on ice in a closed cooler. Essel completed Chain-of-Custody forms for the water samples and these forms accompanied the samples to the laboratory. Copies of the Chain-of-Custody forms are contained in Appendix D.

After drilling and sampling, each borehole was backfilled with neat cement slurry from the total depth to the ground surface. A representative of the ACPWA was present to observe backfilling of one borehole to confirm the procedure conformed to the requirements of the drilling permit. Essel provided the ACPWA with photographs of the remaining backfilled borings.

Installing Soil Vapor Wells and Sampling Soil Vapor

Permanent soil vapor wells SV-1 and SV-2 were installed on September 25, 2015. The two boreholes for SV-1 and SV-2 were advanced to a depth of 10 feet below grade. The vapor wells consist of a stainless-steel filter screen inserted into ¼-inch-diameter Teflon tubing. The filter screen was suspended at a depth of 9½ and 9¼ feet below grade in probe holes SV-1 and SV-2, respectively. These depths coincide with silt, silty sand, and clayey sand units that underlay the shallow clay observed in the soil cores from the two borings. The probes were completed by placing 6 inches of #3 Monterey sand below and from 3 to 6 inches of sand above the filter screen, placing 1 foot of dry granular bentonite above the sand, and placing granular bentonite in lifts to the ground surface. Each lift of bentonite was hydrated with clean water to provide an airtight seal above the sand and filter screens and around the tubing to a few inches below the ground surface. The top end of each tubing was capped with a valve to prevent atmospheric air from entering the probe hole. A 6-inch-diameter, steel well box was placed around each probe tubing and secured in place with concrete.

Subsurface conditions were allowed to equilibrate for a period of 2 weeks before soil vapor wells SV-1 and SV-2 were purged and sampled on October 8, 2015. The soil-vapor probe purging and sampling system consisted of a 6-liter purging Summa canister; a 1-liter sampling Summa canister; and a manifold containing vacuum gauges, a flow controller, and moisture filter. The laboratory evacuated each Summa canister to a negative pressure (i.e. vacuum) of approximately 30 inches of mercury. Before purging the soil vapor wells, Essel performed a shut-in test of each purging and sampling canister and connecting manifold assembly to check for potential leaks in the system. The shut-in test was performed for a period slightly longer than 1 minute and no loss in vacuum was observed. The 6-liter purge and 1-liter sampling Summa canisters along with the manifold assembly were then connected to the soil vapor probe tubing using additional Teflon tubing. Each soil vapor probe was purged one volume (tubing and void space around the sand grains) using the 6-liter Summa canister. A total of 400 milliliters of air was purged from each vapor probe.

After purging, the valve on the purging canister was closed and a box (i.e., shroud) was placed over all of the sampling assembly, except the sampling canister. A small open cup of isopropyl alcohol was placed inside the shroud to provide a tracer gas during sampling. The tracer was allowed to volatilize for a few minutes before the valve on the 1-liter sampling Summa canister was opened to collect each vapor sample. Soil-vapor samples were collected at a maximum controlled flow rate between 100 and 200 milliliters per minute. Sampling was completed when the vacuum gauges indicated that the negative pressure in the canisters was at 5 inches of mercury. At the completion of sampling, the valves on the sampling canisters were closed, the manifold assemblies were disconnected, and the canisters were packaged in boxes. Essel prepared a Chain-of-Custody form for the vapor samples and this form accompanied the samples to the laboratory.

At the completion of sampling, the Teflon tubing of each vapor probe was recapped and the wells boxes were closed. Future vapor sampling may be performed if necessary.

APPENDIX B

DRILLING AND ENCROACHMENT PERMITS

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: 09/21/2015 By jamesy

Permit Numbers: W2015-0868
Permits Valid from 09/24/2015 to 09/25/2015

Application Id: 1442515184199
Site Location: 760 22nd Street (APN 3-25-10) and 2201 Brush Street (APN 3-25-11) Single property. Consisting of two parcels.

City of Project Site: Alameda

Project Start Date: 09/24/2015
Assigned Inspector: Contact Balance Hydrologics, Inc at (510) 473-5663 or acwells@balancehydro.com

Completion Date: 09/25/2015

Applicant: Essel Environmental Consulting - Hugo Mendoza
351 California Street, Suite 615, San Francisco, CA 94104
Phone: 415-960-9528

Property Owner: E.B. A.L.D.C.
1825 San Pablo Avenue, Suite 200, Oakland, CA 94612
Phone: 510-287-5353

Client: ** same as Property Owner **
Contact: Hugo Mendoza
Phone: --
Cell: 415-960-9528

Receipt Number: WR2015-0462
Payer Name : Sagnik Lahiri

Total Due: \$265.00
Total Amount Paid: \$265.00
PAID IN FULL

Paid By: VISA

Works Requesting Permits:

Borehole(s) for Geo Probes-Sampling 24 to 72 hours only - 14 Boreholes
Driller: Penecore Drilling Inc. - Lic #: 906899 - Method: DP

Work Total: \$265.00

Specifications

Permit Number	Issued Dt	Expire Dt	# Boreholes	Hole Diam	Max Depth
W2015-0868	09/21/2015	12/23/2015	14	2.50 in.	15.00 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. Permittee, permittee's contractors, consultants or agents shall be responsible to assure that all material or waters

Alameda County Public Works Agency - Water Resources Well Permit

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.

6. 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.

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.



Permit No: X1502122

Parcel No: 003 002501000

Job Site: 760 22ND ST

Page 2 of 2

LICENSED CONTRACTOR'S DECLARATION

I hereby affirm under penalty of perjury that I am licensed under provisions of Chapter 9(commencing with Section 7000) of Division 3 of the Business and Professions Code, and my license is in full force and effect.

CONSTRUCTION LENDING AGENCY DECLARATION

I hereby affirm under penalty of perjury that there is a construction lending agency for the performance of the work for which this permit is issued (Section 8172, Civil Code).

Lender's Name _____

Branch Designation _____

Lender's Address _____

WORKERS' COMPENSATION DECLARATION

WARNING: FAILURE TO SECURE WORKERS' COMPENSATION COVERAGE IS UNLAWFUL, AND SHALL SUBJECT AN EMPLOYER TO CRIMINAL PENALTIES AND CIVIL FINES UP TO ONE HUNDRED THOUSAND DOLLARS (\$100,000), IN ADDITION TO THE COST OF COMPENSATION, DAMAGES AS PROVIDED FOR IN SECTION 3706 OF THE LABOR CODE, INTEREST, AND ATTORNEY'S FEES.

I hereby affirm under penalty of perjury one of the following declarations:

I have and will maintain a certificate of consent to self-insure for workers' compensation, issued by the Director of Industrial Relations as provided for by Section 3700 of the Labor Code, for the performance of the work for which this permit is issued.

I have and will maintain workers' compensation insurance, as required by Section 3700 of the Labor Code, for the performance of the work for which this permit is issued.

I certify that, in the performance of the work for which this permit is issued, I shall not employ any person in any manner so as to become subject to the workers' compensation laws of California, and agree that, if I should become subject to the workers' compensation provisions of Section 3700 of the Labor Code, I shall forthwith comply with those provisions.

RRP ACKNOWLEDGMENT

EPA's Lead Renovation, Repair and Painting Rule (RRP Rule) requires that firms performing renovation, repair, and painting projects that disturb lead-based paint in homes, child care facilities and pre-schools built before 1978 have their firm certified by EPA or use certified renovators who are trained by EPA-approved training providers and follow lead-safe work practices. As the contractor preparing to do work on a Pre-1978

building, I have read the explanation of the RRP Rule and will ensure that any paint disturbing work will be done by or supervised by an RRP certified individual(s). Failure to follow this rule may result in enforcement action by the EPA. For additional information on complying with lead safety requirements, contact the Alameda County Healthy Homes Department at (510) 567-8280 or 1-800-253-2372 or visit <http://www.achhd.org>.

HAZARDOUS MATERIALS DECLARATION

I hereby affirm that the intended occupancy WILL WILL NOT use, handle or store any hazardous, or acutely hazardous, materials. (Checking "WILL" acknowledges that Sections 25505, 25533, and 25534 of the Health and Safety Code, as well as filing instructions were made available to you).

I HEREBY CERTIFY THE FOLLOWING: That I have read this document; that the above information is correct; and that I have truthfully affirmed all applicable declarations contained in this document. I agree to comply with all city and county ordinances and state laws relating to building construction, and hereby authorize representatives of this city to enter upon the above-mentioned property for inspection purposes.

I hereby agree to save, defend, indemnify and keep harmless the City of Oakland and its officials, officers, employees, representatives, agents, and volunteers from all actions, claims, demands, litigation, or proceedings, including those for attorneys' fees, against the City in consequence of the granting of this permit or from the use or occupancy of the public right-of-way, public easement, or any sidewalk, street or sub-sidewalk or otherwise by virtue thereof, and will in all things strictly comply with the conditions under which this permit is granted I further certify that I am the owner of the property involved in this permit or that I am fully authorized by the owner to access the property and perform the work authorized by this permit.

Name _____

Signature _____

Contractor, or Contractor's Agent

Date _____

NOTICE: No activities related to the approved work, including storage/use of materials, is allowed within the public right-of-way without an encroachment permit. Dust control measures shall be used throughout all phases of construction.



Permit No: X1502123

Parcel No: 003 002501100

Job Site: 2201 BRUSH ST

Page 2 of 2

LICENSED CONTRACTOR'S DECLARATION

I hereby affirm under penalty of perjury that I am licensed under provisions of Chapter 9 (commencing with Section 7000) of Division 3 of the Business and Professions Code, and my license is in full force and effect.

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building, I have read the explanation of the RRP Rule and will ensure that any paint disturbing work will be done by or supervised by an RRP certified individual(s). Failure to follow this rule may result in enforcement action by the EPA. For additional information on complying with lead safety requirements, contact the Alameda County Healthy Homes Department at (510) 567-8280 or 1-800-253-2372 or visit <http://www.achhd.org>.

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I hereby affirm that the intended occupancy WILL WILL NOT use, handle or store any hazardous, or acutely hazardous, materials. (Checking "WILL" acknowledges that Sections 25505, 25533, and 25534 of the Health and Safety Code, as well as filing instructions were made available to you).

I HEREBY CERTIFY THE FOLLOWING: That I have read this document; that the above information is correct; and that I have truthfully affirmed all applicable declarations contained in this document. I agree to comply with all city and county ordinances and state laws relating to building construction, and hereby authorize representatives of this city to enter upon the above-mentioned property for inspection purposes.

I hereby agree to save, defend, indemnify and keep harmless the City of Oakland and its officials, officers, employees, representatives, agents, and volunteers from all actions, claims, demands, litigation, or proceedings, including those for attorneys' fees, against the City in consequence of the granting of this permit or from the use or occupancy of the public right-of-way, public easement, or any sidewalk, street or sub-sidewalk or otherwise by virtue thereof, and will in all things strictly comply with the conditions under which this permit is granted I further certify that I am the owner of the property involved in this permit or that I am fully authorized by the owner to access the property and perform the work authorized by this permit.

Name _____

Signature _____

Contractor, or Contractor's Agent

Date

NOTICE: No activities related to the approved work, including storage/use of materials, is allowed within the public right-of-way without an encroachment permit. Dust control measures shall be used throughout all phases of construction.

Permits for which no major inspection has been approved within 180 days shall expire by limitation. No refund more than 180 days after expiration or final.

JOB SITE



CITY OF OAKLAND

250 FRANK H. OGAWA PLAZA ▪ 2ND FLOOR ▪ OAKLAND, CA 94612

Planning and Building Department
www.oaklandnet.com

PH: 510-238-3891
FAX: 510-238-2263
TDD: 510-238-3254

Permit No: OB1500946 **Obstruction**
Job Site: 2201 BRUSH ST
Parcel No: 003 002501100
District:

Filed Date: 9/16/2015

Schedule Inspection by calling: 510-238-3444

Project Description: Block one non-metered space at each of these locations: 777 W Grand Ave & 768 22nd St adjacent to project re: Soil boring on 22nd St near Brush Street; see site plan.
Note: NO FEE per X1502122 & -2123.
If working within 25' feet of a monument you must comply with State Law 8771, contact the Inspector prior to starting excavation: minimum \$5,800.00 fine for non-compliance.
No impact on traffic lane (vehicular or pedestrian) allowed without approved Traffic Control Plan.
Contact: Hugo Mendoza, Essel Enviro, 415 960-9528.
Call PWA INSPECTION prior to start: 510-238-3651. 4th FLOOR.

Related Permits: X1502123

	<u>Name</u>	<u>Applicant</u>	<u>Address</u>	<u>Phone</u>	<u>License #</u>
Owner:	WEST GRAND & BRUSH LLC		1825 SAN PABLO AVE OAKLAND, CA		
Contractor-	T S A DRILLING INC	X	220 NORTH EAST ST WOODLAND, CA	(530) 661-3600	906899
Employee:					

PERMIT DETAILS: Building/Public Use/Activity/Obstructions	
Work Information	
Start Date: 09/24/2015	Obstruction Permit Type: Short Term (Max 14 Days)
End Date: 09/24/2015	Number of Meters (Metered Area):
	Length Of Obstruction (Unmetered Area):

TOTAL FEES TO BE PAID AT FILING: \$0.00

Plans Checked By _____ Date _____ Permit Issued By [Signature] Date 9.16
Finalized By _____ Date _____

APPENDIX C

LOGS OF BORINGS

UNIFIED SOIL CLASSIFICATION SYSTEM

MAJOR DIVISIONS	LTR	DESCRIPTION	MAJOR DIVISIONS	LTR	DESCRIPTION		
Coarse-grained soils	Gravel and gravelly soils	GW	Well-graded gravels or gravel-sand mixtures, little or no fines	Fine-grained soils	Sils and clays LL<50	ML	Inorganic silts and very fine sands, rock flour, silty or clayey fine sands or clayey silts with slight plasticity
		GP	Poorly-graded gravels or gravel-sand mixtures, little or no fines			CL	Inorganic clays of low to medium plasticity, gravelly clays, sandy clays, silty clays, lean clays
		GM	Silty gravels, gravel-sand-silt mixtures			OL	Organic silts and organic silt-clays of low plasticity
		GC	Clayey gravels, gravel-sand-clay mixtures			Sils and clays LL>50	MH
	Sand and sandy soils	SW	Well-graded sand or gravelly sands, little or no fines		CH		Inorganic clays of high plasticity, fat clays
		SP	Poorly-graded sands or gravelly sands, little or no fines		OH		Organic clays of medium to high plasticity, organic silts
		SM	Silty sands, sand-silt mixtures		Highly organic soils		PT
		SC	Clayey sands, sand-clay mixtures				



Depth through which sampler is driven



Relatively undisturbed sample retained for analysis



No sample recovered



Static water level observed in well



Initial water level observed in boring

PID

Photoionization Detector (readings in ppm)



Sand pack



Bentonite



Neat cement



Caved or backfilled native soil



Blank PVC



Machine-slotted PVC



Concrete

BLOWS REPRESENT THE NUMBER OF BLOWS OF A 140-POUND HAMMER FALLING 30 INCHES TO DRIVE THE SAMPLER THROUGH EACH 6 INCHES OF AN 18-INCH PENETRATION. THE INTERVAL LENGTH IS SHOWN WHERE LESS THAN 6 INCHES WAS PENETRATED WITH THE MAXIMUM 50 BLOWS.

DASHED LINES SEPARATING UNITS ON THE LOG REPRESENT APPROXIMATE BOUNDARIES ONLY. ACTUAL BOUNDARIES MAY BE GRADUAL. LOGS REPRESENT SUBSURFACE CONDITIONS AT THE BORING LOCATION AT THE TIME OF DRILLING ONLY.

NAMES AND NUMERICAL DESIGNATIONS OF COLORS ARE FROM THE ROCK-COLOR CHART (GEOLOGICAL SOCIETY OF AMERICA, 1984)

PERCENT BY WEIGHT DESIGNATION

TRACE	0-5 PERCENT
SOME	5-15 PERCENT
WITH	15-30 PERCENT
-Y (EX., SANDY)	30-45 PERCENT
AND	45-50 PERCENT

PROJECT NO.
15166

DRAWN BY
EC

REPORT DATE
November 2015

UNIFIED SOIL CLASSIFICATION SYSTEM AND SYMBOL KEY

760 22nd Street and
2201 Brush Street
Oakland, California

FIGURE

C-1

Essel Environmental Consulting

564 Market Street
San Francisco, California 94104
(415) 938-7002

Total depth of boring: 20 feet
 Diameter of boring: 2 1/2 inches
 Date drilled: 09/24/15
 Drilling Company: PeneCore Drilling
 Driller: Juan
 Drilling method: Direct push
 Sample diameter: 1 1/4 inches
 Field Geologist: Rodger Witham

Casing diameter: NA
 Casing material: NA
 Slot size: NA
 Sand size: NA
 Blank casing from NA to NA
 Perforated casing from NA to NA
 Annular seal from NA to NA
 Bentonite plug from NA to NA
 Sand pack from NA to NA

Depth	Sample No.	PID in PPM	USCS Code	Description	Well Const.
1				Concrete	▽▽▽▽
			CH	Silty clay (FILL), trace fine-grained sand, brownish-black (5YR 2/1), damp, high plasticity.	▽▽▽▽
2					▽▽▽▽
3			CH	Silty clay, trace fine- to coarse-grained sand, trace gravel, dusky yellowish-brown (10YR 2/2), pervasive medium bluish-gray (5B 5/1) discoloration, damp, high plasticity, petroleum odor.	▽▽▽▽
4		0.5			▽▽▽▽
5		1.1		Abundant white weathered sand and gravel at 4½ to 5 feet, no discoloration or petroleum odor.	▽▽▽▽
6		0.0		Moderate yellowish-brown (10YR 5/4) at 5 feet, moderately abundant medium bluish-gray (5B 5/1) discoloration, petroleum odor.	▽▽▽▽
7		0.0			▽▽▽▽
8		0.3	ML	Silt, moderate yellowish-brown (10YR 5/4), some medium bluish-gray (5B 5/1) discoloration, moist, low plasticity, petroleum odor.	▽▽▽▽
9		0.6	SM	Silty fine- to medium-grained sand, trace coarse-grained sand, trace gravel, moderate yellowish-brown (10YR 5/4), some dark yellowish-orange (10YR 6/6) and moderate reddish-brown (10R 4/6) staining, moist, no petroleum odor.	▽▽▽▽
			SW	Fine- to coarse-grained sand, dark yellowish-brown (10YR 4/2), with dark yellowish-orange (10YR 6/6) and moderate reddish-brown (10R 4/6) staining, moist.	▽▽▽▽
10		0.3			▽▽▽▽
		0.0			▽▽▽▽

PROJECT NO. 15166	DRAWN BY EC	REPORT DATE November 2015	LOG OF BORING ECB-1 760 22nd Street and 2201 Brush Street Oakland, California	FIGURE C-2
Essel Environmental Consulting 564 Market Street San Francisco, California 94104 (415) 938-7002				

Total depth of boring: 20 feet
 Diameter of boring: 2 1/2 inches
 Date drilled: 09/24/15
 Drilling Company: PeneCore Drilling
 Driller: Juan
 Drilling method: Direct push
 Sample diameter: 1 1/4 inches
 Field Geologist: Rodger Witham

Casing diameter: NA
 Casing material: NA
 Slot size: NA
 Sand size: NA
 Blank casing from NA to NA
 Perforated casing from NA to NA
 Annular seal from NA to NA
 Bentonite plug from NA to NA
 Sand pack from NA to NA

Depth	Sample No.	PID in PPM	USCS Code	Description	Well Const.
				Concrete	▽▽▽▽
1		0.0	ML	Silt (FILL), trace fine- to coarse-grained sand, trace gravel, brownish-black (5YR 2/1), some moderate reddish-brown (10R 4/6) staining as irregular stringers, damp, low plasticity.	▽▽▽▽
2		0.0	CH	Silty clay, trace fine- to coarse-grained sand, trace gravel, dark yellowish-brown (10YR 4/2), some dark yellowish-orange (10YR 6/6), dusky yellowish-brown (10YR 2/2), and moderate reddish-brown (10R 4/6) staining, damp, high plasticity. Moderate yellowish-brown (10YR 5/4) at 2 feet.	▽▽▽▽
3		0.0		Dark yellowish-brown (10YR 4/2) at 3 feet. Moderately abundant white weathered sand and gravel at 3 to 4 1/2 feet.	▽▽▽▽
4		0.0			▽▽▽▽
5	S-4 1/2- ECB2	0.0		Pervasive medium bluish-gray (5B 5/1) discoloration at 5 feet 1 inch, petroleum odor.	▽▽▽▽
6		0.4			▽▽▽▽
7		0.4			▽▽▽▽
8		0.3	CL	Silty clay, dark yellowish-brown (10YR 4/2), pervasive medium bluish-gray (5B 5/1) discoloration, moist, medium plasticity, petroleum odor.	▽▽▽▽
9	S-9- ECB2	0.3	ML	Silt, trace fine- to medium-grained sand, trace gravel, dark yellowish-brown (10YR 4/2), pervasive medium bluish-gray (5B 5/1) discoloration, moist, low plasticity, petroleum odor.	▽▽▽▽
			SW	Fine- to coarse-grained sand, some gravel, trace silt, dark yellowish-brown (10YR 4/2), moist.	▽▽▽▽
10		0.0	SP	Fine-grained sand, some medium- to coarse-grained sand, gravel, and silt, dark yellowish-brown (10YR 4/2), moist.	▽▽▽▽
		1.0			▽▽▽▽

PROJECT NO. 15166	DRAWN BY EC	REPORT DATE November 2015	LOG OF BORING ECB-2 760 22nd Street and 2201 Brush Street Oakland, California	FIGURE C-4
Essel Environmental Consulting 564 Market Street San Francisco, California 94104 (415) 938-7002				

Depth	Sample No.	PID in PPM	USCS Code	Description	Well Const.
12	S-17- ECB2	0.8	SP	Fine-grained sand, some medium- to coarse-grained sand, gravel, and silt, dark yellowish-brown (10YR 4/2), moist.	▽▽▽▽ ▽▽▽▽ ▽▽▽▽ ▽▽▽▽
			SM	Silty fine-grained sand, some medium- to coarse-grained sand, some gravel, dark yellowish-brown (10YR 4/2), pervasive medium bluish-gray (5B 5/1) discoloration, very moist, petroleum odor.	▽▽▽▽ ▽▽▽▽ ▽▽▽▽ ▽▽▽▽
0.6		CH	Silty clay, trace fine-grained sand, trace gravel, medium bluish-gray (5B 5/1) discolored, moist, high plasticity, petroleum odor.	▽▽▽▽ ▽▽▽▽ ▽▽▽▽ ▽▽▽▽	
		▼ ≡		▽▽▽▽ ▽▽▽▽ ▽▽▽▽ ▽▽▽▽	
13		27	SC	Clayey fine- to coarse-grained sand, some gravel, dark yellowish-brown (10YR 4/2), abundant medium bluish-gray (5B 5/1) discoloration, wet, petroleum odor.	▽▽▽▽ ▽▽▽▽ ▽▽▽▽ ▽▽▽▽
			SW	Fine- to coarse-grained sand, with gravel, some silt, dark yellowish-brown (10YR 4/2), no discoloration, wet, no petroleum odor.	▽▽▽▽ ▽▽▽▽ ▽▽▽▽ ▽▽▽▽
14		0.0	SP	Fine-grained sand, moderate yellowish-brown (10YR 5/4), abundant moderate reddish-brown (10R 4/6) staining, wet.	▽▽▽▽ ▽▽▽▽ ▽▽▽▽ ▽▽▽▽
			CH	Silty clay, trace fine- to medium-grained sand, trace gravel, dark yellowish-brown (10YR 4/2), some dark yellowish-orange (10YR 6/6) staining in patches, wet, high plasticity, no petroleum odor.	▽▽▽▽ ▽▽▽▽ ▽▽▽▽ ▽▽▽▽
15		1.2			▽▽▽▽ ▽▽▽▽ ▽▽▽▽ ▽▽▽▽
					▽▽▽▽ ▽▽▽▽ ▽▽▽▽ ▽▽▽▽
16	1.0			▽▽▽▽ ▽▽▽▽ ▽▽▽▽ ▽▽▽▽	
				▽▽▽▽ ▽▽▽▽ ▽▽▽▽ ▽▽▽▽	
17	1.0	SC	Clayey fine- to coarse-grained sand, some gravel, dark yellowish-brown (10YR 4/2), wet.	▽▽▽▽ ▽▽▽▽ ▽▽▽▽ ▽▽▽▽	
				▽▽▽▽ ▽▽▽▽ ▽▽▽▽ ▽▽▽▽	
18	0.8			▽▽▽▽ ▽▽▽▽ ▽▽▽▽ ▽▽▽▽	
				▽▽▽▽ ▽▽▽▽ ▽▽▽▽ ▽▽▽▽	
19	0.8			▽▽▽▽ ▽▽▽▽ ▽▽▽▽ ▽▽▽▽	
				▽▽▽▽ ▽▽▽▽ ▽▽▽▽ ▽▽▽▽	
20	0.8			▽▽▽▽ ▽▽▽▽ ▽▽▽▽ ▽▽▽▽	
				▽▽▽▽ ▽▽▽▽ ▽▽▽▽ ▽▽▽▽	
21					
22					
23					
24					
				Total depth = 20 feet. Ground water encountered at 14.24 feet.	

PROJECT NO. 15166	DRAWN BY EC	REPORT DATE November 2015	LOG OF BORING ECB-2 760 22nd Street and 2201 Brush Street Oakland, California	FIGURE
Essel Environmental Consulting 564 Market Street San Francisco, California 94104 (415) 938-7002				C-5

Total depth of boring: 20 feet
 Diameter of boring: 2 1/2 inches
 Date drilled: 09/24/15
 Drilling Company: PeneCore Drilling
 Driller: Juan
 Drilling method: Direct push
 Sample diameter: 1 1/4 inches
 Field Geologist: Rodger Witham

Casing diameter: NA
 Casing material: NA
 Slot size: NA
 Sand size: NA
 Blank casing from NA to NA
 Perforated casing from NA to NA
 Annular seal from NA to NA
 Bentonite plug from NA to NA
 Sand pack from NA to NA

Depth	Sample No.	PID in PPM	USCS Code	Description	Well Const.
				Concrete	▽▽▽▽
1		1.0	CH	Silty clay (FILL), trace fine- to medium-grained sand, trace gravel, dusky yellowish-brown (10YR 2/2), damp, high plasticity.	▽▽▽▽
2		1.4		Dark yellowish-brown (10YR 4/2) and dusky yellowish-brown (10YR 2/2) mottled at 1½ feet, some moderate reddish-brown (10R 4/6) and trace dark yellowish-orange (10YR 6/6) staining.	▽▽▽▽
3		1.0		Moderately abundant white weathered sand and gravel at 2 feet 9 inches to 3 feet 9 inches.	▽▽▽▽
4		1.0		Medium bluish-gray (5B 5/1) discoloration at 4½ feet.	▽▽▽▽
5	S-4½- ECB3	0.4		Thin weathered sand and gravel seams at 5 feet 3 inches and 5 feet 11 inches to 6 feet 1 inch.	▽▽▽▽
6		1.5	CH	Silty clay, trace fine- to coarse-grained sand, trace gravel, medium bluish-gray (5B 5/1) discoloration, damp, high plasticity, petroleum odor.	▽▽▽▽
7		1.4			▽▽▽▽
8		0.8	ML	Silt, trace fine-grained sand, moderate yellowish-brown (10YR 5/4), pervasive medium bluish-gray (5B 5/1) discoloration, moist, low plasticity, petroleum odor.	▽▽▽▽
9		0.9	SM	Silty fine-grained sand, trace medium- to coarse-grained sand, trace gravel, moderate yellowish-brown (10YR 5/4), abundant medium bluish-gray (5B 5/1) discoloration, moist, petroleum odor.	▽▽▽▽
		0.6	SP	Fine-grained sand, some medium- to coarse-grained sand, trace gravel, trace silt, dark yellowish-brown (10YR 4/2), moist.	▽▽▽▽
10	S-9½- ECB3	1.0	CL	Fine-grained sandy clay, trace medium- to coarse-grained sand, moderate yellowish-brown (10YR 5/4), pervasive medium bluish-gray (5B 5/1) discoloration, moist, medium plasticity, petroleum odor.	▽▽▽▽

PROJECT NO. 15166	DRAWN BY EC	REPORT DATE November 2015	LOG OF BORING ECB-3 760 22nd Street and 2201 Brush Street Oakland, California	FIGURE C-6
Essel Environmental Consulting 564 Market Street San Francisco, California 94104 (415) 938-7002				

Depth	Sample No.	PID in PPM	USCS Code	Description	Well Const.
12	S-15½- ECB3	2.3	CL	Fine-grained sandy clay, trace medium- to coarse-grained sand, moderate yellowish-brown (10YR 5/4), pervasive medium bluish-gray (5B 5/1) discoloration, moist, medium plasticity, petroleum odor.	▽▽▽▽ ▽▽▽▽ ▽▽▽▽ ▽▽▽▽
13			CH	Silty clay, trace fine- to coarse-grained sand, trace gravel, moderate yellowish-brown (10YR 5/4), pervasive medium bluish-gray (5B 5/1) discoloration, moist, high plasticity, petroleum odor.	▽▽▽▽ ▽▽▽▽ ▽▽▽▽ ▽▽▽▽
14	S-18½- ECB3	10.7	▼ ≡		▽▽▽▽ ▽▽▽▽ ▽▽▽▽ ▽▽▽▽
15			1.9		▽▽▽▽ ▽▽▽▽ ▽▽▽▽ ▽▽▽▽
16			91	SW	Gravelly fine- to coarse-grained sand, dark yellowish-brown (10YR 4/2), pervasive dusky blue (5PB 3/2) discoloration, wet, petroleum odor.
17		3.3	SC	Clayey fine-grained sand, trace medium-grained sand, trace gravel, moderate yellowish-brown (10YR 5/4), with dusky yellowish-brown (10YR 2/2) and dark yellowish-orange (10YR 6/6) staining, no discoloration, no petroleum odor.	▽▽▽▽ ▽▽▽▽ ▽▽▽▽ ▽▽▽▽
18		0.3	CH	Silty clay, trace fine- to coarse-grained sand, trace gravel, dark yellowish-brown (10YR 4/2), very moist, high plasticity.	▽▽▽▽ ▽▽▽▽ ▽▽▽▽ ▽▽▽▽
19		0.1	CG	Clayey fine- to coarse-grained sandy gravel, dark yellowish-brown (10YR 4/2), moderately abundant dark yellowish-orange (10YR 6/6) and dark reddish-brown (10R 3/4) staining, wet. Decrease clay content to trace at 19 feet to 19 feet 9 inches; increase clay content at 19 feet 9 inches to 20 feet.	▽▽▽▽ ▽▽▽▽ ▽▽▽▽ ▽▽▽▽
20		0.0		Total depth = 20 feet. Ground water encountered at 14.34 feet.	▽▽▽▽ ▽▽▽▽ ▽▽▽▽ ▽▽▽▽
21					
22					
23					
24					

PROJECT NO. 15166	DRAWN BY EC	REPORT DATE November 2015	LOG OF BORING ECB-3 760 22nd Street and 2201 Brush Street Oakland, California	FIGURE C-7
Essel Environmental Consulting 564 Market Street San Francisco, California 94104 (415) 938-7002				

Total depth of boring: 20 feet
 Diameter of boring: 2 1/2 inches
 Date drilled: 09/24/15
 Drilling Company: PeneCore Drilling
 Driller: Juan
 Drilling method: Direct push
 Sample diameter: 1 1/4 inches
 Field Geologist: Rodger Witham

Casing diameter: NA
 Casing material: NA
 Slot size: NA
 Sand size: NA
 Blank casing from NA to NA
 Perforated casing from NA to NA
 Annular seal from NA to NA
 Bentonite plug from NA to NA
 Sand pack from NA to NA

Depth	Sample No.	PID in PPM	USCS Code	Description	Well Const.
				Concrete	▽▽▽▽
1		0.0	CL/CH	Silty clay (FILL), trace fine- to coarse-grained sand, trace gravel, dusky yellowish-brown (10YR 2/2), dark yellowish-orange (10YR 6/6) and moderate reddish-brown (10R 4/6) staining at weathered sand grains and gravel clasts, damp, medium to high plasticity.	▽▽▽▽ ▽▽▽▽ ▽▽▽▽ ▽▽▽▽
2		0.0		Brownish black (5YR 2/1) at 2 feet 3 inches.	▽▽▽▽ ▽▽▽▽ ▽▽▽▽
3		0.0		Grayish black at 3 feet, trace dark yellowish-orange and moderate reddish-brown weathered grains and clasts.	▽▽▽▽ ▽▽▽▽ ▽▽▽▽
4		0.0			▽▽▽▽ ▽▽▽▽
5	S-4½- ECB4	0.0	CH	Silty clay, trace fine- to coarse-grained sand, trace gravel, pale yellowish-brown (10YR 6/2), abundant medium bluish-gray (5B 5/1) discoloration, damp, high plasticity, petroleum odor.	▽▽▽▽ ▽▽▽▽ ▽▽▽▽ ▽▽▽▽ ▽▽▽▽
6		0.8			▽▽▽▽ ▽▽▽▽ ▽▽▽▽
7		0.4			▽▽▽▽ ▽▽▽▽ ▽▽▽▽
8		0.5			▽▽▽▽ ▽▽▽▽ ▽▽▽▽
9	S-9- ECB4	0.4			▽▽▽▽ ▽▽▽▽ ▽▽▽▽
10		0.5	SM	Silty fine- to medium-grained sand, trace gravel, moderate brown (5YR 4/4), moist.	▽▽▽▽ ▽▽▽▽
			CL/CH	Silty clay, moderate yellowish-brown (10YR 5/4), abundant medium bluish-gray (5B 5/1) discoloration, moist, medium to high plasticity, petroleum odor.	▽▽▽▽ ▽▽▽▽
			ML	Silt, trace fine-grained sand, moderate yellowish-brown (10YR 5/4), abundant medium bluish-gray (5B 5/1) discoloration, moist, petroleum odor.	▽▽▽▽ ▽▽▽▽
		0.0			▽▽▽▽

PROJECT NO. 15166	DRAWN BY EC	REPORT DATE November 2015	LOG OF BORING ECB-4 760 22nd Street and 2201 Brush Street Oakland, California	FIGURE C-8
Essel Environmental Consulting 564 Market Street San Francisco, California 94104 (415) 938-7002				

Depth	Sample No.	PID in PPM	USCS Code	Description	Well Const.
12	S-14½- ECB5	0.4	CH	Silty clay, moderate yellowish-brown (10YR 5/4), pervasive medium bluish-gray (5B 5/1) discoloration at 11 feet, moist, petroleum odor.	▽▽▽▽ ▽▽▽▽ ▽▽▽▽ ▽▽▽▽
13		4.0		Moderately abundant medium bluish-gray (5B 5/1) discoloration as irregular stringers at 12 feet.	▽▽▽▽ ▽▽▽▽ ▽▽▽▽ ▽▽▽▽
14		8.8		Pervasive medium bluish-gray (5B 5/1) discoloration at 13 feet.	▽▽▽▽ ▽▽▽▽ ▽▽▽▽ ▽▽▽▽
15		2.0		Clayey fine-grained sand lens at 15 feet to 15 feet 2 inches.	▽▽▽▽ ▽▽▽▽ ▽▽▽▽ ▽▽▽▽
16	S-18- ECB5	0.3		Silty fine-grained sand lens at 16 feet 2 inches to 16 feet 6 inches, light olive gray (5Y 5/2), wet.	▽▽▽▽ ▽▽▽▽ ▽▽▽▽ ▽▽▽▽
17		0.0			▽▽▽▽ ▽▽▽▽ ▽▽▽▽ ▽▽▽▽
18		0.0	SC	Clayey fine- to coarse-grained sand, dark yellowish-brown (10YR 4/2), minor medium bluish-gray (5B 5/1) discoloration.	▽▽▽▽ ▽▽▽▽ ▽▽▽▽ ▽▽▽▽
19		0.0	SW	Fine- to coarse-grained sand, some gravel, trace clay, dark yellowish-brown (10YR 4/2), wet, no discoloration, no petroleum odor.	▽▽▽▽ ▽▽▽▽ ▽▽▽▽ ▽▽▽▽
20		0.0	SP	Fine-grained sand, pale yellowish-brown (10YR 6/2), with dark yellowish-orange (10YR 6/6) and moderate reddish-brown (10R 4/6) staining, wet, no petroleum odor.	▽▽▽▽ ▽▽▽▽ ▽▽▽▽ ▽▽▽▽
20		0.0	CH	Silty clay, trace fine- to coarse-grained sand, trace gravel, moderate yellowish-brown (10YR 5/4), with moderate reddish-brown (10R 4/6) irregular bands, wet, high plasticity, trace partly decomposed roots.	▽▽▽▽ ▽▽▽▽ ▽▽▽▽ ▽▽▽▽
20				Total depth = 20 feet. Ground water encountered at 14.61 feet.	
21					
22					
23					
24					

PROJECT NO. 15166	DRAWN BY EC	REPORT DATE November 2015	LOG OF BORING ECB-5 760 22nd Street and 2201 Brush Street Oakland, California	FIGURE C-11
Essel Environmental Consulting 564 Market Street San Francisco, California 94104 (415) 938-7002				

Depth	Sample No.	PID in PPM	USCS Code	Description	Well Const.	
12	S-13- ECB6	█	ML	Silt, some fine-grained sand, moderate yellowish-brown (10YR 5/4), very moist. Grades to:	▽▽▽▽ ▽▽▽▽ ▽▽▽▽ ▽▽▽▽ ▽▽▽▽	
13			CL/CH	Silty clay, trace fine-grained sand, trace gravel, moderate yellowish-brown (10YR 5/4), some dark yellowish-orange (10YR 6/6) staining, very moist, low plasticity grades to high plasticity.	▽▽▽▽ ▽▽▽▽ ▽▽▽▽ ▽▽▽▽ ▽▽▽▽	
14			▼ ≡			▽▽▽▽ ▽▽▽▽ ▽▽▽▽ ▽▽▽▽
15			SP	Fine-grained sand, some gravel, trace medium- and coarse-grained sand, trace silt, moderate yellowish-brown (10YR 5/4), wet.	▽▽▽▽ ▽▽▽▽ ▽▽▽▽	
16			ML	Silt, moderate yellowish-brown (10YR 5/4), low plasticity, wet, abundant dark yellowish-orange staining at 15 feet 3 inches to 15 feet 6 inches.	▽▽▽▽ ▽▽▽▽ ▽▽▽▽	
17			CH	Silty clay, trace fine-grained sand, dark yellowish-brown (10YR 4/2) with dark yellowish-orange (10YR 6/6) staining, trace black decomposed organic material, wet, high plasticity.	▽▽▽▽ ▽▽▽▽ ▽▽▽▽ ▽▽▽▽	
18			SM	Silty fine-grained sand, trace medium- to coarse-grained sand, dark yellowish-brown (10YR 4/2), wet.	▽▽▽▽ ▽▽▽▽ ▽▽▽▽ ▽▽▽▽	
19					Some gravel, medium dark gray (N4) at 19½ feet.	▽▽▽▽ ▽▽▽▽ ▽▽▽▽ ▽▽▽▽
20			CH	Silty clay, some gravel, dark yellowish-brown (10YR 4/2), wet, high plasticity.	▽▽▽▽ ▽▽▽▽	
21					Total depth = 20 feet. Ground water encountered at 14.1 feet.	
22						
23						
24						

PROJECT NO.
15166

DRAWN BY
EC

REPORT DATE
November 2015

LOG OF BORING ECB-6

FIGURE

Essel Environmental Consulting

564 Market Street
San Francisco, California 94104
(415) 938-7002

760 22nd Street and
2201 Brush Street
Oakland, California

C-13

Total depth of boring: 20.8 feet
 Diameter of boring: 2 1/2 inches
 Date drilled: 09/25/15
 Drilling Company: PeneCore Drilling
 Driller: Juan
 Drilling method: Direct push
 Sample diameter: 1 1/4 inches
 Field Geologist: Rodger Witham

Casing diameter: NA
 Casing material: NA
 Slot size: NA
 Sand size: NA
 Blank casing from NA to NA
 Perforated casing from NA to NA
 Annular seal from NA to NA
 Bentonite plug from NA to NA
 Sand pack from NA to NA

NOTE: Boring advanced at an angle of 30 degrees from vertical

Boring Length	Vertical Depth	Sample No.	PID	USCS Code	Description	Well Const.
					Concrete.	▽▽▽▽
1	1			SM	Silty fine-grained sand (FILL), dusky yellowish-brown (10YR 2/2), some dark yellowish-orange (10YR 6/6) staining in patches, damp.	▽▽▽▽
2	2			ML	Silt, trace clay, dusky yellowish-brown (10YR 2/2), trace dark yellowish-orange (10YR 6/6) and moderate reddish-brown (10R 4/6) staining as small patches and stringers, damp, low plasticity.	▽▽▽▽
3	3					▽▽▽▽
4	4			CH/CL	Silty clay, trace fine- to coarse-grained sand, trace gravel, dark yellowish-brown (10YR 4/2) with a medium dark gray (N4) cast, trace dark yellowish-orange (10YR 6/6) weathered sand grains and gravel clasts, damp, medium to high plasticity, some partly decomposed plant material.	▽▽▽▽
5	5	S-4½-ECB7		0.0	Dark yellowish-brown (10YR 4/2), variable abundance (trace to moderately abundant) of dark yellowish-orange (10YR 6/6), moderate reddish-brown (10R 4/6), and dusky yellowish-brown (10YR 2/2) staining.	▽▽▽▽
6	6			0.0	Moderate yellowish-brown (10YR 5/4)	▽▽▽▽
7	7			0.0		▽▽▽▽
8	8			0.0		▽▽▽▽
9	9			0.0		▽▽▽▽
10	10			0.0	Medium plasticity Silt lens at 9 feet 1 inch to 9 feet 6 inches	▽▽▽▽
11	11	S-9½-ECB7		0.0		▽▽▽▽
12	12			0.0	Silt lens at 10 feet 5 inches to 10 feet 8 inches	▽▽▽▽
13	13			0.0		▽▽▽▽

PROJECT NO. 15166	DRAWN BY EC	REPORT DATE November 2015	LOG OF BORING ECB-7 760 22nd Street and 2201 Brush Street Oakland, California	FIGURE C-14
Essel Environmental Consulting 564 Market Street San Francisco, California 94104 (415) 938-7002				

Boring Length	Vertical Depth	Sample No.	PID	USCS Code	Description	Well Const.
14			0.0	CH/CL	Silt lens, light gray (N7) at 12 feet 4 inches to 12 feet 9 inches	▽▽▽▽ ▽▽▽▽ ▽▽▽▽
15	13		0.0			▽▽▽▽ ▽▽▽▽ ▽▽▽▽
16	14		0.0	ML	Silt, medium light gray (N6), abundant dark yellowish-orange (10YR 6/6) staining, wet, low plasticity.	▽▽▽▽ ▽▽▽▽ ▽▽▽▽
17	15		0.0	SM	Silty fine-grained sand, trace medium- to coarse-grained sand, trace gravel, dark yellowish-brown (10YR 4/2)	▽▽▽▽ ▽▽▽▽ ▽▽▽▽
18	16		0.1	CH	Silty clay, trace fine- to coarse-grained sand, dark yellowish-brown (10YR 4/2) and moderate yellowish-brown (10YR 5/4) mottled, some medium bluish-gray (5B 5/1) discoloration, trace dark yellowish-orange (10YR 6/6) staining, wet, high plasticity.	▽▽▽▽ ▽▽▽▽ ▽▽▽▽
19	17		0.0	ML	Silt to fine-grained sandy silt, trace clay, pale yellowish-brown (10YR 6/2), moderately abundant dark yellowish-orange (10YR 6/6) staining, wet.	▽▽▽▽ ▽▽▽▽ ▽▽▽▽
20	18		0.0	SM	Silty fine-grained sand, trace coarse-grained sand, trace gravel, trace clay, moderate yellowish-brown (10YR 5/4), some dark yellowish-orange (10YR 6/6) staining, wet. Clayey at 16 feet 8 inches to 16 feet 10 inches.	▽▽▽▽ ▽▽▽▽ ▽▽▽▽
21	19					▽▽▽▽ ▽▽▽▽ ▽▽▽▽
22	20					▽▽▽▽ ▽▽▽▽ ▽▽▽▽
23	21			CH	Silty clay, some fine- to coarse-grained sand and gravel, dark yellowish-brown (10YR 4/2), trace dark yellowish-orange (10YR 6/6) staining, wet, high plasticity.	▽▽▽▽ ▽▽▽▽ ▽▽▽▽
24	21			▼ ≡		▽▽▽▽ ▽▽▽▽ ▽▽▽▽
25					Total length = 24 feet. Total vertical depth = 20.8 feet. Ground water encountered at 20.19 feet (vertical).	
26						
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29						
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31						

PROJECT NO.
15166

DRAWN BY
EC

REPORT DATE
November 2015

LOG OF BORING ECB-7

FIGURE

Essel Environmental Consulting

564 Market Street
San Francisco, California 94104
(415) 938-7002

760 22nd Street and
2201 Brush Street
Oakland, California

C-15

Depth	Sample No.	PID in PPM	USCS Code	Description	Well Const.
12	S-13- ECB8		SM	Silty fine-grained sand, trace medium-grained sand, light olive gray (5Y 5/2), moist.	▽▽▽▽ ▽▽▽▽ ▽▽▽▽ ▽▽▽▽ ▽▽▽▽ ▽▽▽▽ ▽▽▽▽ ▽▽▽▽ ▽▽▽▽ ▽▽▽▽
13			SW	Fine- to coarse-grained sand, some gravel, dark yellowish-brown (10YR 4/2), very moist.	▽▽▽▽ ▽▽▽▽ ▽▽▽▽ ▽▽▽▽ ▽▽▽▽ ▽▽▽▽ ▽▽▽▽ ▽▽▽▽ ▽▽▽▽ ▽▽▽▽
14			SM	Silty fine-grained sand, trace medium- to coarse-grained sand, trace gravel, light olive gray (5Y 5/2), very moist.	▽▽▽▽ ▽▽▽▽ ▽▽▽▽ ▽▽▽▽ ▽▽▽▽ ▽▽▽▽ ▽▽▽▽ ▽▽▽▽ ▽▽▽▽ ▽▽▽▽
15			SC	Clayey fine- to coarse-grained sand, some gravel, dark yellowish-brown (10YR 4/2), very moist.	▽▽▽▽ ▽▽▽▽ ▽▽▽▽ ▽▽▽▽ ▽▽▽▽ ▽▽▽▽ ▽▽▽▽ ▽▽▽▽ ▽▽▽▽ ▽▽▽▽
16			CL	Silty clay, trace fine- to coarse-grained sand, trace gravel, moderate yellowish-brown (10YR 5/4), moderately abundant dark yellowish-orange (10YR 6/6) and moderate reddish-brown (10R 4/6) staining, moist, medium plasticity.	▽▽▽▽ ▽▽▽▽ ▽▽▽▽ ▽▽▽▽ ▽▽▽▽ ▽▽▽▽ ▽▽▽▽ ▽▽▽▽ ▽▽▽▽ ▽▽▽▽
17			SC	Clayey fine- to coarse-grained sand, with gravel, dark yellowish-brown (10YR 4/2), wet. Silty clay lens at 17 feet 7 inches to 17 feet 9 inches.	▽▽▽▽ ▽▽▽▽ ▽▽▽▽ ▽▽▽▽ ▽▽▽▽ ▽▽▽▽ ▽▽▽▽ ▽▽▽▽ ▽▽▽▽ ▽▽▽▽
18			SM	Silty fine-grained sand, some medium- to coarse-grained sand and gravel, dark yellowish-brown (10YR 4/2), wet. With medium- to coarse-grained sand and gravel at 18 feet.	▽▽▽▽ ▽▽▽▽ ▽▽▽▽ ▽▽▽▽ ▽▽▽▽ ▽▽▽▽ ▽▽▽▽ ▽▽▽▽ ▽▽▽▽ ▽▽▽▽
19			CL	Silty clay, trace fine- to coarse-grained sand, moderate yellowish-brown (10YR 5/4), wet, medium plasticity.	▽▽▽▽ ▽▽▽▽ ▽▽▽▽ ▽▽▽▽ ▽▽▽▽ ▽▽▽▽ ▽▽▽▽ ▽▽▽▽ ▽▽▽▽ ▽▽▽▽
20			SM	Silty fine- to coarse-grained sand, with gravel, dark yellowish-brown (10YR 4/2), wet.	▽▽▽▽ ▽▽▽▽ ▽▽▽▽ ▽▽▽▽ ▽▽▽▽ ▽▽▽▽ ▽▽▽▽ ▽▽▽▽ ▽▽▽▽ ▽▽▽▽
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23					
24					

PROJECT NO. 15166	DRAWN BY EC	REPORT DATE November 2015	LOG OF BORING ECB-8 760 22nd Street and 2201 Brush Street Oakland, California	FIGURE C-17
Essel Environmental Consulting 564 Market Street San Francisco, California 94104 (415) 938-7002				

Total depth of boring: 20 feet
 Diameter of boring: 2 1/2 inches
 Date drilled: 09/25/15
 Drilling Company: PeneCore Drilling
 Driller: Juan
 Drilling method: Direct push
 Sample diameter: 1 1/4 inches
 Field Geologist: Rodger Witham

Casing diameter: NA
 Casing material: NA
 Slot size: NA
 Sand size: NA
 Blank casing from NA to NA
 Perforated casing from NA to NA
 Annular seal from NA to NA
 Bentonite plug from NA to NA
 Sand pack from NA to NA

Depth	Sample No.	PID in PPM	USCS Code	Description	Well Const.
				Concrete	▽▽▽▽
1			ML	Silt (FILL), trace fine- to coarse-grained sand, dusky yellowish-brown (10YR 2/2), some dark yellowish-orange (10YR 6/6) staining, damp, low plasticity.	▽▽▽▽
2		2.1			▽▽▽▽
3		2.1	CH	Silty clay (FILL), some fine- to medium-grained sand, dusky yellowish-brown (10YR 2/2), light olive gray (5Y 5/2), and medium bluish-gray (5B 5/1) mottled, damp, high plasticity.	▽▽▽▽
4		2.1	CH	Silty clay, trace gravel, light olive gray (5Y 5/2), some dark yellowish-orange (10YR 6/6) and dusky yellowish-brown (10YR 2/2) staining, damp, high plasticity.	▽▽▽▽
5		1.8			▽▽▽▽
6		2.0			▽▽▽▽
7		1.8			▽▽▽▽
8		2.3		Pale yellowish-brown (10YR 6/2) at 8 feet.	▽▽▽▽
9		2.2	SW	Fine- to coarse-grained sand, with gravel, trace silt, dark yellowish-brown (10YR 4/2), some dark yellowish-orange (10YR 6/6) and moderate reddish-brown (10R 4/6) staining, moist. Abundant dark yellowish-orange (10YR 6/6) and moderate reddish-brown (10R 4/6) staining at 9½ feet.	▽▽▽▽
10		3.0		Some dark yellowish-orange (10YR 6/6) and moderate reddish-brown (10R 4/6) staining at 10 feet.	▽▽▽▽
		0.2			▽▽▽▽

PROJECT NO. 15166	DRAWN BY EC	REPORT DATE November 2015	LOG OF BORING ECB-9 760 22nd Street and 2201 Brush Street Oakland, California	FIGURE C-18
Essel Environmental Consulting 564 Market Street San Francisco, California 94104 (415) 938-7002				

Depth	Sample No.	PID in PPM	USCS Code	Description	Well Const.			
12	S-13- ECB9		SW	Gravelly at 12 feet.				
13			1.0	ML		Silt, trace fine- to coarse-grained sand, moderate yellowish-brown (10YR 5/4), moderately abundant dark yellowish-orange (10YR 6/6) staining and irregular medium bluish-gray (5B 5/1) discoloration, moist, low plasticity.		
14			1.6	CH		Silty clay, trace fine- to coarse-grained sand, trace gravel, moderate yellowish-brown (10YR 5/4), some dark yellowish-orange (10YR 6/6) staining, very moist to wet, high plasticity.		
15			2.1	SM		Silty fine-grained sand, trace medium- to coarse-grained sand, trace gravel, moderate yellowish-brown (10YR 5/4), wet, grades to:		
16			0.7			1.5	CH	Silty clay, trace fine- to coarse-grained sand, trace gravel, dark yellowish-brown (10YR 4/2), some dark yellowish-orange (10YR 6/6) and moderate reddish-brown (10R 4/6) staining, wet, high plasticity.
17			0.6	SC		Clayey fine- to coarse-grained sand, some gravel, dark yellowish-brown (10YR 4/2), wet.		
18			0.7			Gravelly at 19 feet 8 inches.		
19			1.0			Total depth = 20 feet. Ground water encountered at 17.95 feet.		
20								
21								
22								
23								
24								

PROJECT NO.
15166

DRAWN BY
EC

REPORT DATE
November 2015

LOG OF BORING ECB-9

FIGURE

Essel Environmental Consulting

564 Market Street
San Francisco, California 94104
(415) 938-7002

760 22nd Street and
2201 Brush Street
Oakland, California

C-19

Depth	Sample No.	PID in PPM	USCS Code	Description	Well Const.
12	S-13- ECB10	0.2	CL	Fine-grained sandy clay, light olive-gray (5Y 5/2), moist, medium plasticity.	▽▽▽▽ ▽▽▽▽ ▽▽▽▽ ▽▽▽▽
			SM	Silty fine-grained sand, trace clay, trace medium- to coarse-grained sand, trace gravel, light olive gray (5Y 5/2), very moist.	▽▽▽▽ ▽▽▽▽ ▽▽▽▽ ▽▽▽▽
13	S-13- ECB10	0.2			▽▽▽▽ ▽▽▽▽ ▽▽▽▽ ▽▽▽▽
14		13.5			▽▽▽▽ ▽▽▽▽ ▽▽▽▽ ▽▽▽▽
15	S-14½- ECB10	36	SP	Fine-grained sand, trace coarse-grained sand, trace gravel, moderate yellowish-brown (10YR 5/4), moderately abundant dark yellowish-orange (10YR 6/6) and moderate reddish-brown (10R 4/6) staining, wet, petroleum odor. Medium bluish-gray (5B 5/1) discoloration at 14½ feet, petroleum odor.	▽▽▽▽ ▽▽▽▽ ▽▽▽▽ ▽▽▽▽
			SM	Silty fine-grained sand, light olive gray (5Y 5/2), wet. Grades to silt at 18 feet 4 inches.	▽▽▽▽ ▽▽▽▽ ▽▽▽▽ ▽▽▽▽
16		0.2			▽▽▽▽ ▽▽▽▽ ▽▽▽▽ ▽▽▽▽
17		0.3		Base of medium bluish-gray discoloration at 16½ feet, abundant moderate reddish-brown (10R 4/6) staining at 16½ feet to 16 feet 11 inches. Dusky yellowish-brown (10YR 2/2) at 16 feet 11 inches.	▽▽▽▽ ▽▽▽▽ ▽▽▽▽ ▽▽▽▽
					▽▽▽▽ ▽▽▽▽ ▽▽▽▽ ▽▽▽▽
18		0.2	SM	Silty fine-grained sand, light olive gray (5Y 5/2), wet. Grades to silt at 18 feet 4 inches.	▽▽▽▽ ▽▽▽▽ ▽▽▽▽ ▽▽▽▽
19		0.3	CH	Silty clay, trace fine- to coarse-grained sand, trace gravel, light olive gray (5Y 5/2), moderately abundant dark yellowish-orange (10YR 6/6) and dusky yellowish-brown (10YR 2/2) staining, wet, high plasticity.	▽▽▽▽ ▽▽▽▽ ▽▽▽▽ ▽▽▽▽
				Some medium- to coarse-grained sand and gravel at 19 feet 8 inches.	▽▽▽▽ ▽▽▽▽ ▽▽▽▽ ▽▽▽▽
20		0.2		Total depth = 20 feet. Ground water encountered at 14.4 feet.	▽▽▽▽ ▽▽▽▽ ▽▽▽▽ ▽▽▽▽
21					
22					
23					
24					

PROJECT NO. 15166	DRAWN BY EC	REPORT DATE November 2015	LOG OF BORING ECB-10 760 22nd Street and 2201 Brush Street Oakland, California	FIGURE C-21
Essel Environmental Consulting 564 Market Street San Francisco, California 94104 (415) 938-7002				

Total depth of boring: 17 feet
 Diameter of boring: 2 1/2 inches
 Date drilled: 09/24/15
 Drilling Company: PeneCore Drilling
 Driller: Juan
 Drilling method: Direct push
 Sample diameter: 1 1/4 inches
 Field Geologist: Rodger Witham

Casing diameter: NA
 Casing material: NA
 Slot size: NA
 Sand size: NA
 Blank casing from NA to NA
 Perforated casing from NA to NA
 Annular seal from NA to NA
 Bentonite plug from NA to NA
 Sand pack from NA to NA

Depth	Sample No.	PID in PPM	USCS Code	Description	Well Const.
				Concrete	▽▽▽▽
1					▽▽▽▽
2					▽▽▽▽
3					▽▽▽▽
4					▽▽▽▽
5			ML	Silt, trace fine-grained sand, moderate yellowish-brown (10YR 4/2) damp, low plasticity.	▽▽▽▽
6		0.0	CH	Silty clay, trace fine- to medium-grained sand, dark yellowish-brown (10YR 4/2), some dusky yellowish-brown (10YR 2/2) decomposed organic material, trace dark yellowish-orange (10YR 6/6) staining, damp, high plasticity.	▽▽▽▽
7		0.1			▽▽▽▽
8		0.9			▽▽▽▽
9		1.3			▽▽▽▽
10		0.0		Pale yellowish-brown (10YR 6/2) at 10 feet.	▽▽▽▽
		0.7			▽▽▽▽

PROJECT NO. 15166	DRAWN BY EC	REPORT DATE November 2015	LOG OF BORING ECB-11 760 22nd Street and 2201 Brush Street Oakland, California	FIGURE
Essel Environmental Consulting 564 Market Street San Francisco, California 94104 (415) 938-7002				C-22

Depth	Sample No.	PID in PPM	USCS Code	Description	Well Const.
12	S-13- ECB11	0.7	CH	Silty clay, trace fine- to medium-grained sand, dark yellowish-brown (10YR 4/2), some dark yellowish-orange (10YR 6/6) staining at 11 to 12½ feet, moist, high plasticity.	▽▽▽▽ ▽▽▽▽ ▽▽▽▽ ▽▽▽▽ ▽▽▽▽
13			SC/SM	Clayey fine-grained sand grades to silty fine-grained sand at 12 feet 10 inches, trace medium- to coarse-grained sand, dark yellowish-brown (10YR 4/2), very moist to wet.	▽▽▽▽ ▽▽▽▽ ▽▽▽▽ ▽▽▽▽ ▽▽▽▽
14			CH	Abundant dark reddish-brown (10R 3/4) staining at 13 feet 9 inches.	▽▽▽▽ ▽▽▽▽ ▽▽▽▽ ▽▽▽▽ ▽▽▽▽
15			SP/SC	Silty clay, trace fine-grained sand, trace gravel, light olive gray (5Y 5/2), some patches of moderate reddish-brown (10R 4/6) and dark yellowish-orange (10YR 6/6) staining, very moist, high plasticity.	▽▽▽▽ ▽▽▽▽ ▽▽▽▽ ▽▽▽▽ ▽▽▽▽
16			0.6	Fine-grained sand, some medium- to coarse-grained sand, trace gravel, moderate yellowish-brown (10YR 5/4), wet. Some clay at 15 feet.	▽▽▽▽ ▽▽▽▽ ▽▽▽▽ ▽▽▽▽ ▽▽▽▽
17	0.4	0.4	Clayey fine-grained sand at 16 feet 4 inches.	▽▽▽▽ ▽▽▽▽ ▽▽▽▽ ▽▽▽▽ ▽▽▽▽	
17	0.7	0.7	Abundant moderate reddish-brown (10R 4/6) staining at 16 feet 9 inches.	▽▽▽▽ ▽▽▽▽ ▽▽▽▽ ▽▽▽▽ ▽▽▽▽	
18				Total depth = 17 feet. Ground water encountered at 14.29 feet.	
19					
20					
21					
22					
23					
24					

PROJECT NO. 15166	DRAWN BY EC	REPORT DATE November 2015	LOG OF BORING ECB-11 760 22nd Street and 2201 Brush Street Oakland, California	FIGURE C-23
Essel Environmental Consulting 564 Market Street San Francisco, California 94104 (415) 938-7002				

Total depth of boring: 20 feet
 Diameter of boring: 2 1/2 inches
 Date drilled: 09/25/15
 Drilling Company: PeneCore Drilling
 Driller: Juan
 Drilling method: Direct push
 Sample diameter: 1 1/4 inches
 Field Geologist: Rodger Witham

Casing diameter: NA
 Casing material: NA
 Slot size: NA
 Sand size: NA
 Blank casing from NA to NA
 Perforated casing from NA to NA
 Annular seal from NA to NA
 Bentonite plug from NA to NA
 Sand pack from NA to NA

Depth	Sample No.	PID in PPM	USCS Code	Description	Well Const.
				Concrete	▽▽▽▽
1					▽▽▽▽
2					▽▽▽▽
3					▽▽▽▽
4					▽▽▽▽
5			CH	Silty clay, trace fine- to coarse-grained sand, pale yellowish-brown (10YR 6/2), some dusky yellowish-brown (10YR 2/2) and dark yellowish-orange (10YR 6/6) staining, damp, high plasticity.	▽▽▽▽
6		0.0		Moderate yellowish-brown (10YR 5/4) at 6 feet 2 inches.	▽▽▽▽
7		0.0			▽▽▽▽
8		0.0			▽▽▽▽
9		0.0			▽▽▽▽
10		0.2	ML	Clayey silt, moderate yellowish-brown (10YR 5/4), some dark yellowish-orange (10YR 6/6) staining, trace dusky yellowish-brown (10YR 2/2) decomposed plant material, moist, low plasticity.	▽▽▽▽
		0.3			▽▽▽▽

PROJECT NO. 15166	DRAWN BY EC	REPORT DATE November 2015	LOG OF BORING ECB-12 760 22nd Street and 2201 Brush Street Oakland, California	FIGURE C-24
Essel Environmental Consulting 564 Market Street San Francisco, California 94104 (415) 938-7002				

Depth	Sample No.	PID in PPM	USCS Code	Description	Well Const.	
12	S-13- ECB12		ML	Clayey silt, moderate yellowish-brown (10YR 5/4), some dark yellowish-orange (10YR 6/6) staining, trace dusky yellowish-brown (10YR 2/2) decomposed plant material, moist, low plasticity.	▽▽▽▽ ▽▽▽▽ ▽▽▽▽ ▽▽▽▽	
			0.3	CH	Silty clay, trace coarse-grained sand, pale yellowish-brown (10YR 6/2), moderately abundant dark yellowish-orange (10YR 6/6) staining, moist, high plasticity.	▽▽▽▽ ▽▽▽▽ ▽▽▽▽ ▽▽▽▽
13			0.2	ML ▼ ≡	Clayey silt, pale yellowish-brown (10YR 6/2), abundant dark yellowish-orange (10YR 6/6) staining, some dusky yellowish-brown (10YR 2/2) decomposed organic material, very moist, low plasticity.	▽▽▽▽ ▽▽▽▽ ▽▽▽▽ ▽▽▽▽
14			0.1	CL	Fine-grained sandy clay, light olive gray (5Y 5/2), very moist to wet, medium plasticity.	▽▽▽▽ ▽▽▽▽ ▽▽▽▽ ▽▽▽▽
15			0.4	SM	Silty fine-grained sand, trace coarse-grained sand, trace gravel, trace clay, dark yellowish-brown (10YR 4/2), wet.	▽▽▽▽ ▽▽▽▽ ▽▽▽▽ ▽▽▽▽
16			0.2	SP	Grades to: Fine-grained sand, trace silt, dark yellowish-brown (10YR 4/2), some dark yellowish-orange (10YR 6/6) staining, wet.	▽▽▽▽ ▽▽▽▽ ▽▽▽▽ ▽▽▽▽
17			0.2		Moderate reddish-brown (10R 4/6) staining at 17 feet 5 inches to 18 feet.	▽▽▽▽ ▽▽▽▽ ▽▽▽▽ ▽▽▽▽
18			0.2	SM	Silty fine-grained sand, pale yellowish-brown (10 YR 6/2), moderately abundant dark yellowish-orange (10YR 6/6) and moderate reddish-brown (10R 4/6) staining, wet.	▽▽▽▽ ▽▽▽▽ ▽▽▽▽ ▽▽▽▽
19			0.2	CH	Silty clay, trace fine- to coarse-grained sand, trace gravel, pale yellowish-brown (10YR 6/2), trace dark yellowish-orange (10YR 6/6) and moderate reddish-brown (10R 4/6) staining, wet, high plasticity.	▽▽▽▽ ▽▽▽▽ ▽▽▽▽ ▽▽▽▽
20			0.2		Abundant dark yellowish-orange (10YR 6/6) and moderate reddish-brown (10R 4/6) staining at 19½ feet to 19 feet 10 inches. Some medium- to coarse-grained sand and gravel at 19 feet 10 inches.	▽▽▽▽ ▽▽▽▽ ▽▽▽▽ ▽▽▽▽
20			Total depth = 20 feet. Ground water encountered at 13.69 feet.			
21						
22						
23						
24						

PROJECT NO. 15166	DRAWN BY EC	REPORT DATE November 2015	LOG OF BORING ECB-12 760 22nd Street and 2201 Brush Street Oakland, California	FIGURE
Essel Environmental Consulting 564 Market Street San Francisco, California 94104 (415) 938-7002				C-25

Total depth of boring: 20 feet
 Diameter of boring: 2 1/2 inches
 Date drilled: 09/24/15
 Drilling Company: PeneCore Drilling
 Driller: Juan
 Drilling method: Direct push
 Sample diameter: 1 1/4 inches
 Field Geologist: Rodger Witham

Casing diameter: NA
 Casing material: NA
 Slot size: NA
 Sand size: NA
 Blank casing from NA to NA
 Perforated casing from NA to NA
 Annular seal from NA to NA
 Bentonite plug from NA to NA
 Sand pack from NA to NA

Hand augered from 0 to 5 feet.

Depth	Sample No.	PID in PPM	USCS Code	Description	Well Const.
1				Concrete	▽▽▽▽
			SW	Gravelly fine- to coarse-grained sand (FILL), light gray-brown, damp, loose.	▽▽▽▽
2			SP	Fine-grained sand (FILL), some coarse-grained sand, some gravel, dark yellowish-brown (10YR 4/2), damp. Concrete at 2 feet to 2 feet 4 inches	▽▽▽▽
					▽▽▽▽
3			ML	Silt (FILL) with clay, dusky yellowish-brown (10YR 2/2) with dark yellowish-brown (10YR 4/2) mottling, damp, brick fragment at 4 feet.	▽▽▽▽
					▽▽▽▽
4				Moderate yellowish-brown (10YR 5/4) at 4 feet 2 inches.	▽▽▽▽
					▽▽▽▽
5			ML	Clayey silt, some fine-grained sand, pale yellowish-brown (10YR 6/2), damp, low plasticity.	▽▽▽▽
					▽▽▽▽
6		0.1	CH	Silty clay, trace fine- to coarse-grained sand, trace gravel, pale yellowish-brown (10YR 6/2), trace small patches and specks of dark yellowish-orange (10YR 6/6) and dusky yellowish-brown (10YR 2/2) staining, damp, high plasticity.	▽▽▽▽
					▽▽▽▽
7		0.5			▽▽▽▽
					▽▽▽▽
8		0.0		Some dark yellowish-orange (10YR 6/6) and dusky yellowish-brown (10YR 2/2; decomposed organic material) staining at 7 to 9 feet.	▽▽▽▽
					▽▽▽▽
9		0.0			▽▽▽▽
					▽▽▽▽
10		0.4		Slight increase in sand content, light olive gray (5Y 6/1), moderately abundant dark yellowish-orange (10YR 6/6) staining, no dusky yellowish-brown staining at 9 to 10 feet.	▽▽▽▽
				Fine-grained sandy clay at 10 feet to 11 feet 4 inches, moist.	▽▽▽▽
		0.0			▽▽▽▽

PROJECT NO. 15166	DRAWN BY EC	REPORT DATE November 2015	LOG OF BORING ECB-13 760 22nd Street and 2201 Brush Street Oakland, California	FIGURE C-26
Essel Environmental Consulting 564 Market Street San Francisco, California 94104 (415) 938-7002				

Depth	Sample No.	PID in PPM	USCS Code	Description	Well Const.		
12	S-13- ECB13	█	CH	Light olive gray (5Y 6/1) and dark yellowish-orange (10YR 6/6) mottled.	▽▽▽▽		
13			0.3		SM	Silty fine-grained sand, some medium- to coarse-grained sand and gravel, pale yellowish-brown (10YR 6/2), abundant dark yellowish-orange (10YR 6/6) staining, moist.	▽▽▽▽
14			0.2		CL	Silty clay, trace fine- to coarse-grained sand, trace gravel, pale yellowish-brown (10YR 6/2), some dark yellowish-orange (10YR 6/6) staining, moist, medium plasticity.	▽▽▽▽
15			0.0		SM	Silty fine-grained sand, some medium- to coarse-grained sand and gravel, moderate yellowish-brown (10YR 5/4), moderately abundant dark reddish-brown (10R 3/4) staining, moist. Clayey at 15½ to 15¾ feet.	▽▽▽▽
16			0.0		SC	Clayey fine- to coarse-grained sand, some gravel, moderate yellowish-brown (10YR 5/4), moderately abundant dark yellowish-orange (10YR 6/6) and moderate reddish-brown (10R 4/6) staining, moist.	▽▽▽▽
17			0.0			Fine- to coarse-grained sand lens at 17 feet 1 inch to 17 feet 7 inches, trace clay, wet.	▽▽▽▽
18			0.0			Pale yellowish-brown (10YR 6/2) at 17 feet 11 inches.	▽▽▽▽
19			0.0		SW	Gravelly fine- to coarse-grained sand, some silt and clay, dark yellowish-brown (10YR 4/2), wet.	▽▽▽▽
20			0.0		CH	Silty clay, trace fine- to coarse-grained sand, trace gravel, moderate yellowish-brown (10YR 5/4), very moist, high plasticity.	▽▽▽▽
20			0.0		▼ =		▽▽▽▽
20				Total depth = 20 feet. Ground water encountered at 19.85 feet.			
21							
22							
23							
24							

PROJECT NO. 15166	DRAWN BY EC	REPORT DATE November 2015	LOG OF BORING ECB-13 760 22nd Street and 2201 Brush Street Oakland, California	FIGURE C-27
Essel Environmental Consulting 564 Market Street San Francisco, California 94104 (415) 938-7002				

Total depth of boring: 20 feet
 Diameter of boring: 2 1/2 inches
 Date drilled: 09/24/15
 Drilling Company: PeneCore Drilling
 Driller: Juan
 Drilling method: Direct push
 Sample diameter: 1 1/4 inches
 Field Geologist: Rodger Witham

Casing diameter: NA
 Casing material: NA
 Slot size: NA
 Sand size: NA
 Blank casing from NA to NA
 Perforated casing from NA to NA
 Annular seal from NA to NA
 Bentonite plug from NA to NA
 Sand pack from NA to NA

Hand augered from 0 to 5 feet.

Depth	Sample No.	PID in PPM	USCS Code	Description	Well Const.
				Asphalt	▽▽▽▽
1					▽▽▽▽
2			CH	Silty clay, moderate yellowish-brown (10YR 5/4) with a grayish cast, dusky yellowish-brown (10YR 2/2) staining in small patches, damp, high plasticity.	▽▽▽▽
3				Dark yellowish-brown (10YR 4/2) at 3 feet, some medium bluish-gray (5B 5/1) discoloration at 3 to 5 feet.	▽▽▽▽
4					▽▽▽▽
5				Silty clay, trace fine- to coarse-grained sand, trace gravel, dark yellowish-brown (10YR 4/2) trace to some dark yellowish-orange (10YR 6/6) staining, trace white (N9) deposits (weathered grains and clasts), trace to some dusky yellowish-brown (10YR 2/2) small patches and specks of decomposed plant material, damp, high plasticity.	▽▽▽▽
6		0.0			▽▽▽▽
7		0.5			▽▽▽▽
8		0.3			▽▽▽▽
9		0.2			▽▽▽▽
10		0.0	SM/SC	Silty fine-grained sand, trace medium-grained sand, trace clay, moderate yellowish-brown (10YR 5/4), moist, grades to: Clayey fine-grained sand, trace medium- to coarse-grained sand, trace gravel, dark yellowish-brown (10YR 4/2), trace dark yellowish-orange (10YR 6/6) and dusky yellowish-brown (10YR 2/2) staining, moist.	▽▽▽▽
		0.0			▽▽▽▽

PROJECT NO. 15166	DRAWN BY EC	REPORT DATE November 2015	LOG OF BORING ECB-14 760 22nd Street and 2201 Brush Street Oakland, California	FIGURE C-28
Essel Environmental Consulting 564 Market Street San Francisco, California 94104 (415) 938-7002				

Depth	Sample No.	PID in PPM	USCS Code	Description	Well Const.
12	S-13- ECB14	0.0	SM/SC ▼	Silty clay lens at 11 feet 5 inches to 11 feet 9 inches.	▽▽▽▽ ▽▽▽▽ ▽▽▽▽ ▽▽▽▽
13		0.1		Silty sand at 13 feet 3 inches, pale yellowish-brown (10YR 6/2), wet.	▽▽▽▽ ▽▽▽▽ ▽▽▽▽
14		0.0		Clayey sand at 13 feet 9 inches, moderate yellowish-brown (10YR 5/4) and dusky yellowish-brown (10YR 2/2) variegated, trace dark yellowish-orange (10YR 6/6) and moderate reddish-brown (10R 4/6) staining, wet. Abundant moderate reddish-brown (10R 4/6) staining at 14 feet to 14 feet 4 inches. Silty sand at 14 feet 4 inches, moderate yellowish-brown, some dark yellowish-orange (10YR 6/6) staining, wet.	▽▽▽▽ ▽▽▽▽ ▽▽▽▽
15		0.0		Pale yellowish-brown (10YR 6/2) at 14 feet 8 inches.	▽▽▽▽ ▽▽▽▽ ▽▽▽▽
16		0.0			▽▽▽▽ ▽▽▽▽ ▽▽▽▽
17		0.0		Abundant moderate reddish-brown (10R 4/6) staining at 16 feet 8 inches to 17 feet 4 inches. Clayey fine-grained sand at 17 feet	▽▽▽▽ ▽▽▽▽ ▽▽▽▽
18		0.0	CH	Silty clay with fine- to coarse-grained sand and gravel, medium dark gray (N4) discolored, wet, high plasticity.	▽▽▽▽ ▽▽▽▽ ▽▽▽▽
19	S-18½- ECB14	0.0	SC	Clayey fine- to coarse-grained sand, with gravel, dark yellowish-brown (10YR 4/2), some dark yellowish-orange (10YR 6/6) staining, wet.	▽▽▽▽ ▽▽▽▽ ▽▽▽▽
20		0.0		Total depth = 20 feet. Ground water encountered at 12.41 feet.	▽▽▽▽ ▽▽▽▽ ▽▽▽▽
21					
22					
23					
24					

PROJECT NO.
15166

DRAWN BY
EC

REPORT DATE
November 2015

LOG OF BORING ECB-14

FIGURE

Essel Environmental Consulting

564 Market Street
San Francisco, California 94104
(415) 938-7002

760 22nd Street and
2201 Brush Street
Oakland, California

C-29

APPENDIX D

CHAIN-OF-CUSTODY FORMS AND LABORATORY ANALYTICAL REPORTS



McC Campbell Analytical, Inc.

"When Quality Counts"

Analytical Report

WorkOrder: 1509A61

Report Created for: Essel Environmental Consulting
564 Market Street
San Francisco, CA 94104

Project Contact: Nik Lahiri
Project P.O.:
Project Name: 15166; EBALDC

Project Received: 09/25/2015

Analytical Report reviewed & approved for release on 10/02/2015 by:

Angela Rydelius,
Laboratory Manager

The report shall not be reproduced except in full, without the written approval of the laboratory. The analytical results relate only to the items tested. Results reported conform to the most current NELAP standards, where applicable, unless otherwise stated in the case narrative.





Glossary of Terms & Qualifier Definitions

Client: Essel Environmental Consulting
Project: 15166; EBALDC
WorkOrder: 1509A61

Glossary Abbreviation

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)
DUP	Duplicate
EDL	Estimated Detection Limit
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.
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
TCLP	Toxicity Characteristic Leachate Procedure
TEQ	Toxicity Equivalents
WET (STLC)	Waste Extraction Test (Soluble Threshold Limit Concentration)



Glossary of Terms & Qualifier Definitions

Client: Essel Environmental Consulting
Project: 15166; EBALDC
WorkOrder: 1509A61

Analytical Qualifiers

S	spike recovery outside accepted recovery limits
a2	sample diluted due to cluttered chromatogram
a3	sample diluted due to high organic content.
c2	surrogate recovery outside of the control limits due to matrix interference.
c7	Surrogate value diluted out of range
d7	strongly aged gasoline or diesel range compounds are significant in the TPH(g) chromatogram
d9	no recognizable pattern
e1	unmodified or weakly modified diesel is significant
e2	diesel range compounds are significant; no recognizable pattern
e3	aged diesel is significant
e7	oil range compounds are significant
e8	kerosene/kerosene range/jet fuel range
e11/e8	stoddard solvent/mineral spirit (?); and/or kerosene/kerosene range/jet fuel range
e11	stoddard solvent/mineral spirit (?)



Analytical Report

Client: Essel Environmental Consulting
Date Received: 9/25/15 19:30
Date Prepared: 9/28/15
Project: 15166; EBALDC

WorkOrder: 1509A61
Extraction Method: SW5030B
Analytical Method: SW8260B
Unit: mg/kg

Volatile Organics by P&T and GC/MS (Basic Target List)

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
S-12½-ECB1	1509A61-001A	Soil	09/24/2015 08:45	GC18	110781

Analytes	Result	RL	DF	Date Analyzed
Acetone	ND	0.10	1	09/29/2015 16:49
tert-Amyl methyl ether (TAME)	ND	0.0050	1	09/29/2015 16:49
Benzene	ND	0.0050	1	09/29/2015 16:49
Bromobenzene	ND	0.0050	1	09/29/2015 16:49
Bromochloromethane	ND	0.0050	1	09/29/2015 16:49
Bromodichloromethane	ND	0.0050	1	09/29/2015 16:49
Bromoform	ND	0.0050	1	09/29/2015 16:49
Bromomethane	ND	0.0050	1	09/29/2015 16:49
2-Butanone (MEK)	ND	0.020	1	09/29/2015 16:49
t-Butyl alcohol (TBA)	ND	0.050	1	09/29/2015 16:49
n-Butyl benzene	ND	0.0050	1	09/29/2015 16:49
sec-Butyl benzene	ND	0.0050	1	09/29/2015 16:49
tert-Butyl benzene	ND	0.0050	1	09/29/2015 16:49
Carbon Disulfide	ND	0.0050	1	09/29/2015 16:49
Carbon Tetrachloride	ND	0.0050	1	09/29/2015 16:49
Chlorobenzene	ND	0.0050	1	09/29/2015 16:49
Chloroethane	ND	0.0050	1	09/29/2015 16:49
Chloroform	ND	0.0050	1	09/29/2015 16:49
Chloromethane	ND	0.0050	1	09/29/2015 16:49
2-Chlorotoluene	ND	0.0050	1	09/29/2015 16:49
4-Chlorotoluene	ND	0.0050	1	09/29/2015 16:49
Dibromochloromethane	ND	0.0050	1	09/29/2015 16:49
1,2-Dibromo-3-chloropropane	ND	0.0040	1	09/29/2015 16:49
1,2-Dibromoethane (EDB)	ND	0.0040	1	09/29/2015 16:49
Dibromomethane	ND	0.0050	1	09/29/2015 16:49
1,2-Dichlorobenzene	ND	0.0050	1	09/29/2015 16:49
1,3-Dichlorobenzene	ND	0.0050	1	09/29/2015 16:49
1,4-Dichlorobenzene	ND	0.0050	1	09/29/2015 16:49
Dichlorodifluoromethane	ND	0.0050	1	09/29/2015 16:49
1,1-Dichloroethane	ND	0.0050	1	09/29/2015 16:49
1,2-Dichloroethane (1,2-DCA)	ND	0.0040	1	09/29/2015 16:49
1,1-Dichloroethene	ND	0.0050	1	09/29/2015 16:49
cis-1,2-Dichloroethene	ND	0.0050	1	09/29/2015 16:49
trans-1,2-Dichloroethene	ND	0.0050	1	09/29/2015 16:49
1,2-Dichloropropane	ND	0.0050	1	09/29/2015 16:49
1,3-Dichloropropane	ND	0.0050	1	09/29/2015 16:49
2,2-Dichloropropane	ND	0.0050	1	09/29/2015 16:49

(Cont.)



Analytical Report

Client: Essel Environmental Consulting
Date Received: 9/25/15 19:30
Date Prepared: 9/28/15
Project: 15166; EBALDC

WorkOrder: 1509A61
Extraction Method: SW5030B
Analytical Method: SW8260B
Unit: mg/kg

Volatile Organics by P&T and GC/MS (Basic Target List)

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
S-12½-ECB1	1509A61-001A	Soil	09/24/2015 08:45	GC18	110781
Analytes	Result	RL	DF	Date Analyzed	
1,1-Dichloropropene	ND	0.0050	1	09/29/2015 16:49	
cis-1,3-Dichloropropene	ND	0.0050	1	09/29/2015 16:49	
trans-1,3-Dichloropropene	ND	0.0050	1	09/29/2015 16:49	
Diisopropyl ether (DIPE)	ND	0.0050	1	09/29/2015 16:49	
Ethylbenzene	ND	0.0050	1	09/29/2015 16:49	
Ethyl tert-butyl ether (ETBE)	ND	0.0050	1	09/29/2015 16:49	
Freon 113	ND	0.0050	1	09/29/2015 16:49	
Hexachlorobutadiene	ND	0.0050	1	09/29/2015 16:49	
Hexachloroethane	ND	0.0050	1	09/29/2015 16:49	
2-Hexanone	ND	0.0050	1	09/29/2015 16:49	
Isopropylbenzene	ND	0.0050	1	09/29/2015 16:49	
4-Isopropyl toluene	ND	0.0050	1	09/29/2015 16:49	
Methyl-t-butyl ether (MTBE)	ND	0.0050	1	09/29/2015 16:49	
Methylene chloride	ND	0.0050	1	09/29/2015 16:49	
4-Methyl-2-pentanone (MIBK)	ND	0.0050	1	09/29/2015 16:49	
Naphthalene	ND	0.0050	1	09/29/2015 16:49	
n-Propyl benzene	ND	0.0050	1	09/29/2015 16:49	
Styrene	ND	0.0050	1	09/29/2015 16:49	
1,1,1,2-Tetrachloroethane	ND	0.0050	1	09/29/2015 16:49	
1,1,2,2-Tetrachloroethane	ND	0.0050	1	09/29/2015 16:49	
Tetrachloroethene	ND	0.0050	1	09/29/2015 16:49	
Toluene	ND	0.0050	1	09/29/2015 16:49	
1,2,3-Trichlorobenzene	ND	0.0050	1	09/29/2015 16:49	
1,2,4-Trichlorobenzene	ND	0.0050	1	09/29/2015 16:49	
1,1,1-Trichloroethane	ND	0.0050	1	09/29/2015 16:49	
1,1,2-Trichloroethane	ND	0.0050	1	09/29/2015 16:49	
Trichloroethene	ND	0.0050	1	09/29/2015 16:49	
Trichlorofluoromethane	ND	0.0050	1	09/29/2015 16:49	
1,2,3-Trichloropropane	ND	0.0050	1	09/29/2015 16:49	
1,2,4-Trimethylbenzene	ND	0.0050	1	09/29/2015 16:49	
1,3,5-Trimethylbenzene	ND	0.0050	1	09/29/2015 16:49	
Vinyl Chloride	ND	0.0050	1	09/29/2015 16:49	
Xylenes, Total	ND	0.0050	1	09/29/2015 16:49	

(Cont.)



Analytical Report

Client: Essel Environmental Consulting
Date Received: 9/25/15 19:30
Date Prepared: 9/28/15
Project: 15166; EBALDC

WorkOrder: 1509A61
Extraction Method: SW5030B
Analytical Method: SW8260B
Unit: mg/kg

Volatile Organics by P&T and GC/MS (Basic Target List)

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
S-12½-ECB1	1509A61-001A	Soil	09/24/2015 08:45	GC18	110781

Analytes	Result	RL	DF	Date Analyzed
<u>Surrogates</u>	<u>REC (%)</u>		<u>Limits</u>	
Dibromofluoromethane	103	70-130		09/29/2015 16:49
Toluene-d8	84	70-130		09/29/2015 16:49
4-BFB	90	70-130		09/29/2015 16:49
Benzene-d6	126	60-140		09/29/2015 16:49
Ethylbenzene-d10	126	60-140		09/29/2015 16:49
1,2-DCB-d4	111	60-140		09/29/2015 16:49

Analyst(s): AK



Analytical Report

Client: Essel Environmental Consulting
Date Received: 9/25/15 19:30
Date Prepared: 9/28/15
Project: 15166; EBALDC

WorkOrder: 1509A61
Extraction Method: SW5030B
Analytical Method: SW8260B
Unit: mg/kg

Volatile Organics by P&T and GC/MS (Basic Target List)

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
S-19½-ECB1	1509A61-002A	Soil	09/24/2015 08:59	GC18	110781

Analytes	Result	RL	DF	Date Analyzed
Acetone	ND	0.10	1	09/29/2015 12:55
tert-Amyl methyl ether (TAME)	ND	0.0050	1	09/29/2015 12:55
Benzene	ND	0.0050	1	09/29/2015 12:55
Bromobenzene	ND	0.0050	1	09/29/2015 12:55
Bromochloromethane	ND	0.0050	1	09/29/2015 12:55
Bromodichloromethane	ND	0.0050	1	09/29/2015 12:55
Bromoform	ND	0.0050	1	09/29/2015 12:55
Bromomethane	ND	0.0050	1	09/29/2015 12:55
2-Butanone (MEK)	ND	0.020	1	09/29/2015 12:55
t-Butyl alcohol (TBA)	ND	0.050	1	09/29/2015 12:55
n-Butyl benzene	ND	0.0050	1	09/29/2015 12:55
sec-Butyl benzene	ND	0.0050	1	09/29/2015 12:55
tert-Butyl benzene	ND	0.0050	1	09/29/2015 12:55
Carbon Disulfide	ND	0.0050	1	09/29/2015 12:55
Carbon Tetrachloride	ND	0.0050	1	09/29/2015 12:55
Chlorobenzene	ND	0.0050	1	09/29/2015 12:55
Chloroethane	ND	0.0050	1	09/29/2015 12:55
Chloroform	ND	0.0050	1	09/29/2015 12:55
Chloromethane	ND	0.0050	1	09/29/2015 12:55
2-Chlorotoluene	ND	0.0050	1	09/29/2015 12:55
4-Chlorotoluene	ND	0.0050	1	09/29/2015 12:55
Dibromochloromethane	ND	0.0050	1	09/29/2015 12:55
1,2-Dibromo-3-chloropropane	ND	0.0040	1	09/29/2015 12:55
1,2-Dibromoethane (EDB)	ND	0.0040	1	09/29/2015 12:55
Dibromomethane	ND	0.0050	1	09/29/2015 12:55
1,2-Dichlorobenzene	ND	0.0050	1	09/29/2015 12:55
1,3-Dichlorobenzene	ND	0.0050	1	09/29/2015 12:55
1,4-Dichlorobenzene	ND	0.0050	1	09/29/2015 12:55
Dichlorodifluoromethane	ND	0.0050	1	09/29/2015 12:55
1,1-Dichloroethane	ND	0.0050	1	09/29/2015 12:55
1,2-Dichloroethane (1,2-DCA)	ND	0.0040	1	09/29/2015 12:55
1,1-Dichloroethene	ND	0.0050	1	09/29/2015 12:55
cis-1,2-Dichloroethene	ND	0.0050	1	09/29/2015 12:55
trans-1,2-Dichloroethene	ND	0.0050	1	09/29/2015 12:55
1,2-Dichloropropane	ND	0.0050	1	09/29/2015 12:55
1,3-Dichloropropane	ND	0.0050	1	09/29/2015 12:55
2,2-Dichloropropane	ND	0.0050	1	09/29/2015 12:55

(Cont.)



Analytical Report

Client: Essel Environmental Consulting
Date Received: 9/25/15 19:30
Date Prepared: 9/28/15
Project: 15166; EBALDC

WorkOrder: 1509A61
Extraction Method: SW5030B
Analytical Method: SW8260B
Unit: mg/kg

Volatile Organics by P&T and GC/MS (Basic Target List)

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
S-19½-ECB1	1509A61-002A	Soil	09/24/2015 08:59	GC18	110781
Analytes	Result	RL	DF	Date Analyzed	
1,1-Dichloropropene	ND	0.0050	1	09/29/2015 12:55	
cis-1,3-Dichloropropene	ND	0.0050	1	09/29/2015 12:55	
trans-1,3-Dichloropropene	ND	0.0050	1	09/29/2015 12:55	
Diisopropyl ether (DIPE)	ND	0.0050	1	09/29/2015 12:55	
Ethylbenzene	ND	0.0050	1	09/29/2015 12:55	
Ethyl tert-butyl ether (ETBE)	ND	0.0050	1	09/29/2015 12:55	
Freon 113	ND	0.0050	1	09/29/2015 12:55	
Hexachlorobutadiene	ND	0.0050	1	09/29/2015 12:55	
Hexachloroethane	ND	0.0050	1	09/29/2015 12:55	
2-Hexanone	ND	0.0050	1	09/29/2015 12:55	
Isopropylbenzene	ND	0.0050	1	09/29/2015 12:55	
4-Isopropyl toluene	ND	0.0050	1	09/29/2015 12:55	
Methyl-t-butyl ether (MTBE)	ND	0.0050	1	09/29/2015 12:55	
Methylene chloride	ND	0.0050	1	09/29/2015 12:55	
4-Methyl-2-pentanone (MIBK)	ND	0.0050	1	09/29/2015 12:55	
Naphthalene	ND	0.0050	1	09/29/2015 12:55	
n-Propyl benzene	ND	0.0050	1	09/29/2015 12:55	
Styrene	ND	0.0050	1	09/29/2015 12:55	
1,1,1,2-Tetrachloroethane	ND	0.0050	1	09/29/2015 12:55	
1,1,2,2-Tetrachloroethane	ND	0.0050	1	09/29/2015 12:55	
Tetrachloroethene	ND	0.0050	1	09/29/2015 12:55	
Toluene	ND	0.0050	1	09/29/2015 12:55	
1,2,3-Trichlorobenzene	ND	0.0050	1	09/29/2015 12:55	
1,2,4-Trichlorobenzene	ND	0.0050	1	09/29/2015 12:55	
1,1,1-Trichloroethane	ND	0.0050	1	09/29/2015 12:55	
1,1,2-Trichloroethane	ND	0.0050	1	09/29/2015 12:55	
Trichloroethene	ND	0.0050	1	09/29/2015 12:55	
Trichlorofluoromethane	ND	0.0050	1	09/29/2015 12:55	
1,2,3-Trichloropropane	ND	0.0050	1	09/29/2015 12:55	
1,2,4-Trimethylbenzene	ND	0.0050	1	09/29/2015 12:55	
1,3,5-Trimethylbenzene	ND	0.0050	1	09/29/2015 12:55	
Vinyl Chloride	ND	0.0050	1	09/29/2015 12:55	
Xylenes, Total	ND	0.0050	1	09/29/2015 12:55	

(Cont.)



Analytical Report

Client: Essel Environmental Consulting
Date Received: 9/25/15 19:30
Date Prepared: 9/28/15
Project: 15166; EBALDC

WorkOrder: 1509A61
Extraction Method: SW5030B
Analytical Method: SW8260B
Unit: mg/kg

Volatile Organics by P&T and GC/MS (Basic Target List)

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
S-19½-ECB1	1509A61-002A	Soil	09/24/2015 08:59	GC18	110781

Analytes	Result	RL	DF	Date Analyzed
<u>Surrogates</u>	<u>REC (%)</u>		<u>Limits</u>	
Dibromofluoromethane	104	70-130		09/29/2015 12:55
Toluene-d8	86	70-130		09/29/2015 12:55
4-BFB	95	70-130		09/29/2015 12:55
Benzene-d6	126	60-140		09/29/2015 12:55
Ethylbenzene-d10	124	60-140		09/29/2015 12:55
1,2-DCB-d4	104	60-140		09/29/2015 12:55

Analyst(s): AK



Analytical Report

Client: Essel Environmental Consulting
Date Received: 9/25/15 19:30
Date Prepared: 9/28/15
Project: 15166; EBALDC

WorkOrder: 1509A61
Extraction Method: SW5030B
Analytical Method: SW8260B
Unit: mg/kg

Volatile Organics by P&T and GC/MS (Basic Target List)

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
S-15-ECB1	1509A61-003A	Soil	09/24/2015 08:55	GC18	110781
Analytes	Result	RL	DF	Date Analyzed	
Acetone	ND	0.10	1	09/29/2015 13:33	
tert-Amyl methyl ether (TAME)	ND	0.0050	1	09/29/2015 13:33	
Benzene	ND	0.0050	1	09/29/2015 13:33	
Bromobenzene	ND	0.0050	1	09/29/2015 13:33	
Bromochloromethane	ND	0.0050	1	09/29/2015 13:33	
Bromodichloromethane	ND	0.0050	1	09/29/2015 13:33	
Bromoform	ND	0.0050	1	09/29/2015 13:33	
Bromomethane	ND	0.0050	1	09/29/2015 13:33	
2-Butanone (MEK)	ND	0.020	1	09/29/2015 13:33	
t-Butyl alcohol (TBA)	ND	0.050	1	09/29/2015 13:33	
n-Butyl benzene	ND	0.0050	1	09/29/2015 13:33	
sec-Butyl benzene	ND	0.0050	1	09/29/2015 13:33	
tert-Butyl benzene	ND	0.0050	1	09/29/2015 13:33	
Carbon Disulfide	ND	0.0050	1	09/29/2015 13:33	
Carbon Tetrachloride	ND	0.0050	1	09/29/2015 13:33	
Chlorobenzene	ND	0.0050	1	09/29/2015 13:33	
Chloroethane	ND	0.0050	1	09/29/2015 13:33	
Chloroform	ND	0.0050	1	09/29/2015 13:33	
Chloromethane	ND	0.0050	1	09/29/2015 13:33	
2-Chlorotoluene	ND	0.0050	1	09/29/2015 13:33	
4-Chlorotoluene	ND	0.0050	1	09/29/2015 13:33	
Dibromochloromethane	ND	0.0050	1	09/29/2015 13:33	
1,2-Dibromo-3-chloropropane	ND	0.0040	1	09/29/2015 13:33	
1,2-Dibromoethane (EDB)	ND	0.0040	1	09/29/2015 13:33	
Dibromomethane	ND	0.0050	1	09/29/2015 13:33	
1,2-Dichlorobenzene	ND	0.0050	1	09/29/2015 13:33	
1,3-Dichlorobenzene	ND	0.0050	1	09/29/2015 13:33	
1,4-Dichlorobenzene	ND	0.0050	1	09/29/2015 13:33	
Dichlorodifluoromethane	ND	0.0050	1	09/29/2015 13:33	
1,1-Dichloroethane	ND	0.0050	1	09/29/2015 13:33	
1,2-Dichloroethane (1,2-DCA)	ND	0.0040	1	09/29/2015 13:33	
1,1-Dichloroethene	ND	0.0050	1	09/29/2015 13:33	
cis-1,2-Dichloroethene	ND	0.0050	1	09/29/2015 13:33	
trans-1,2-Dichloroethene	ND	0.0050	1	09/29/2015 13:33	
1,2-Dichloropropane	ND	0.0050	1	09/29/2015 13:33	
1,3-Dichloropropane	ND	0.0050	1	09/29/2015 13:33	
2,2-Dichloropropane	ND	0.0050	1	09/29/2015 13:33	

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Analytical Report

Client: Essel Environmental Consulting
Date Received: 9/25/15 19:30
Date Prepared: 9/28/15
Project: 15166; EBALDC

WorkOrder: 1509A61
Extraction Method: SW5030B
Analytical Method: SW8260B
Unit: mg/kg

Volatile Organics by P&T and GC/MS (Basic Target List)

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
S-15-ECB1	1509A61-003A	Soil	09/24/2015 08:55	GC18	110781
Analytes	Result	RL	DF	Date Analyzed	
1,1-Dichloropropene	ND	0.0050	1	09/29/2015 13:33	
cis-1,3-Dichloropropene	ND	0.0050	1	09/29/2015 13:33	
trans-1,3-Dichloropropene	ND	0.0050	1	09/29/2015 13:33	
Diisopropyl ether (DIPE)	ND	0.0050	1	09/29/2015 13:33	
Ethylbenzene	ND	0.0050	1	09/29/2015 13:33	
Ethyl tert-butyl ether (ETBE)	ND	0.0050	1	09/29/2015 13:33	
Freon 113	ND	0.0050	1	09/29/2015 13:33	
Hexachlorobutadiene	ND	0.0050	1	09/29/2015 13:33	
Hexachloroethane	ND	0.0050	1	09/29/2015 13:33	
2-Hexanone	ND	0.0050	1	09/29/2015 13:33	
Isopropylbenzene	ND	0.0050	1	09/29/2015 13:33	
4-Isopropyl toluene	ND	0.0050	1	09/29/2015 13:33	
Methyl-t-butyl ether (MTBE)	ND	0.0050	1	09/29/2015 13:33	
Methylene chloride	ND	0.0050	1	09/29/2015 13:33	
4-Methyl-2-pentanone (MIBK)	ND	0.0050	1	09/29/2015 13:33	
Naphthalene	ND	0.0050	1	09/29/2015 13:33	
n-Propyl benzene	ND	0.0050	1	09/29/2015 13:33	
Styrene	ND	0.0050	1	09/29/2015 13:33	
1,1,1,2-Tetrachloroethane	ND	0.0050	1	09/29/2015 13:33	
1,1,2,2-Tetrachloroethane	ND	0.0050	1	09/29/2015 13:33	
Tetrachloroethene	ND	0.0050	1	09/29/2015 13:33	
Toluene	ND	0.0050	1	09/29/2015 13:33	
1,2,3-Trichlorobenzene	ND	0.0050	1	09/29/2015 13:33	
1,2,4-Trichlorobenzene	ND	0.0050	1	09/29/2015 13:33	
1,1,1-Trichloroethane	ND	0.0050	1	09/29/2015 13:33	
1,1,2-Trichloroethane	ND	0.0050	1	09/29/2015 13:33	
Trichloroethene	ND	0.0050	1	09/29/2015 13:33	
Trichlorofluoromethane	ND	0.0050	1	09/29/2015 13:33	
1,2,3-Trichloropropane	ND	0.0050	1	09/29/2015 13:33	
1,2,4-Trimethylbenzene	ND	0.0050	1	09/29/2015 13:33	
1,3,5-Trimethylbenzene	ND	0.0050	1	09/29/2015 13:33	
Vinyl Chloride	ND	0.0050	1	09/29/2015 13:33	
Xylenes, Total	ND	0.0050	1	09/29/2015 13:33	

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Analytical Report

Client: Essel Environmental Consulting
Date Received: 9/25/15 19:30
Date Prepared: 9/28/15
Project: 15166; EBALDC

WorkOrder: 1509A61
Extraction Method: SW5030B
Analytical Method: SW8260B
Unit: mg/kg

Volatile Organics by P&T and GC/MS (Basic Target List)

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
S-15-ECB1	1509A61-003A	Soil	09/24/2015 08:55	GC18	110781

Analytes	Result	RL	DF	Date Analyzed
<u>Surrogates</u>	<u>REC (%)</u>	<u>Limits</u>		
Dibromofluoromethane	104	70-130		09/29/2015 13:33
Toluene-d8	87	70-130		09/29/2015 13:33
4-BFB	95	70-130		09/29/2015 13:33
Benzene-d6	130	60-140		09/29/2015 13:33
Ethylbenzene-d10	128	60-140		09/29/2015 13:33
1,2-DCB-d4	107	60-140		09/29/2015 13:33

Analyst(s): AK



Analytical Report

Client: Essel Environmental Consulting
Date Received: 9/25/15 19:30
Date Prepared: 9/28/15
Project: 15166; EBALDC

WorkOrder: 1509A61
Extraction Method: SW5030B
Analytical Method: SW8260B
Unit: mg/kg

Volatile Organics by P&T and GC/MS (Basic Target List)

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
S-4½-ECB2	1509A61-004A	Soil	09/24/2015 09:27	GC18	110781

Analytes	Result	RL	DF	Date Analyzed
Acetone	ND	0.10	1	09/29/2015 14:12
tert-Amyl methyl ether (TAME)	ND	0.0050	1	09/29/2015 14:12
Benzene	ND	0.0050	1	09/29/2015 14:12
Bromobenzene	ND	0.0050	1	09/29/2015 14:12
Bromochloromethane	ND	0.0050	1	09/29/2015 14:12
Bromodichloromethane	ND	0.0050	1	09/29/2015 14:12
Bromoform	ND	0.0050	1	09/29/2015 14:12
Bromomethane	ND	0.0050	1	09/29/2015 14:12
2-Butanone (MEK)	ND	0.020	1	09/29/2015 14:12
t-Butyl alcohol (TBA)	ND	0.050	1	09/29/2015 14:12
n-Butyl benzene	ND	0.0050	1	09/29/2015 14:12
sec-Butyl benzene	ND	0.0050	1	09/29/2015 14:12
tert-Butyl benzene	ND	0.0050	1	09/29/2015 14:12
Carbon Disulfide	ND	0.0050	1	09/29/2015 14:12
Carbon Tetrachloride	ND	0.0050	1	09/29/2015 14:12
Chlorobenzene	ND	0.0050	1	09/29/2015 14:12
Chloroethane	ND	0.0050	1	09/29/2015 14:12
Chloroform	ND	0.0050	1	09/29/2015 14:12
Chloromethane	ND	0.0050	1	09/29/2015 14:12
2-Chlorotoluene	ND	0.0050	1	09/29/2015 14:12
4-Chlorotoluene	ND	0.0050	1	09/29/2015 14:12
Dibromochloromethane	ND	0.0050	1	09/29/2015 14:12
1,2-Dibromo-3-chloropropane	ND	0.0040	1	09/29/2015 14:12
1,2-Dibromoethane (EDB)	ND	0.0040	1	09/29/2015 14:12
Dibromomethane	ND	0.0050	1	09/29/2015 14:12
1,2-Dichlorobenzene	ND	0.0050	1	09/29/2015 14:12
1,3-Dichlorobenzene	ND	0.0050	1	09/29/2015 14:12
1,4-Dichlorobenzene	ND	0.0050	1	09/29/2015 14:12
Dichlorodifluoromethane	ND	0.0050	1	09/29/2015 14:12
1,1-Dichloroethane	ND	0.0050	1	09/29/2015 14:12
1,2-Dichloroethane (1,2-DCA)	ND	0.0040	1	09/29/2015 14:12
1,1-Dichloroethene	ND	0.0050	1	09/29/2015 14:12
cis-1,2-Dichloroethene	ND	0.0050	1	09/29/2015 14:12
trans-1,2-Dichloroethene	ND	0.0050	1	09/29/2015 14:12
1,2-Dichloropropane	ND	0.0050	1	09/29/2015 14:12
1,3-Dichloropropane	ND	0.0050	1	09/29/2015 14:12
2,2-Dichloropropane	ND	0.0050	1	09/29/2015 14:12

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Analytical Report

Client: Essel Environmental Consulting
Date Received: 9/25/15 19:30
Date Prepared: 9/28/15
Project: 15166; EBALDC

WorkOrder: 1509A61
Extraction Method: SW5030B
Analytical Method: SW8260B
Unit: mg/kg

Volatile Organics by P&T and GC/MS (Basic Target List)

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
S-4½-ECB2	1509A61-004A	Soil	09/24/2015 09:27	GC18	110781
Analytes	Result	RL	DF	Date Analyzed	
1,1-Dichloropropene	ND	0.0050	1	09/29/2015 14:12	
cis-1,3-Dichloropropene	ND	0.0050	1	09/29/2015 14:12	
trans-1,3-Dichloropropene	ND	0.0050	1	09/29/2015 14:12	
Diisopropyl ether (DIPE)	ND	0.0050	1	09/29/2015 14:12	
Ethylbenzene	ND	0.0050	1	09/29/2015 14:12	
Ethyl tert-butyl ether (ETBE)	ND	0.0050	1	09/29/2015 14:12	
Freon 113	ND	0.0050	1	09/29/2015 14:12	
Hexachlorobutadiene	ND	0.0050	1	09/29/2015 14:12	
Hexachloroethane	ND	0.0050	1	09/29/2015 14:12	
2-Hexanone	ND	0.0050	1	09/29/2015 14:12	
Isopropylbenzene	ND	0.0050	1	09/29/2015 14:12	
4-Isopropyl toluene	ND	0.0050	1	09/29/2015 14:12	
Methyl-t-butyl ether (MTBE)	ND	0.0050	1	09/29/2015 14:12	
Methylene chloride	ND	0.0050	1	09/29/2015 14:12	
4-Methyl-2-pentanone (MIBK)	ND	0.0050	1	09/29/2015 14:12	
Naphthalene	ND	0.0050	1	09/29/2015 14:12	
n-Propyl benzene	ND	0.0050	1	09/29/2015 14:12	
Styrene	ND	0.0050	1	09/29/2015 14:12	
1,1,1,2-Tetrachloroethane	ND	0.0050	1	09/29/2015 14:12	
1,1,2,2-Tetrachloroethane	ND	0.0050	1	09/29/2015 14:12	
Tetrachloroethene	ND	0.0050	1	09/29/2015 14:12	
Toluene	ND	0.0050	1	09/29/2015 14:12	
1,2,3-Trichlorobenzene	ND	0.0050	1	09/29/2015 14:12	
1,2,4-Trichlorobenzene	ND	0.0050	1	09/29/2015 14:12	
1,1,1-Trichloroethane	ND	0.0050	1	09/29/2015 14:12	
1,1,2-Trichloroethane	ND	0.0050	1	09/29/2015 14:12	
Trichloroethene	ND	0.0050	1	09/29/2015 14:12	
Trichlorofluoromethane	ND	0.0050	1	09/29/2015 14:12	
1,2,3-Trichloropropane	ND	0.0050	1	09/29/2015 14:12	
1,2,4-Trimethylbenzene	ND	0.0050	1	09/29/2015 14:12	
1,3,5-Trimethylbenzene	ND	0.0050	1	09/29/2015 14:12	
Vinyl Chloride	ND	0.0050	1	09/29/2015 14:12	
Xylenes, Total	ND	0.0050	1	09/29/2015 14:12	

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Analytical Report

Client: Essel Environmental Consulting
Date Received: 9/25/15 19:30
Date Prepared: 9/28/15
Project: 15166; EBALDC

WorkOrder: 1509A61
Extraction Method: SW5030B
Analytical Method: SW8260B
Unit: mg/kg

Volatile Organics by P&T and GC/MS (Basic Target List)

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
S-4½-ECB2	1509A61-004A	Soil	09/24/2015 09:27	GC18	110781

Analytes	Result	RL	DF	Date Analyzed
<u>Surrogates</u>	<u>REC (%)</u>	<u>Limits</u>		
Dibromofluoromethane	105	70-130		09/29/2015 14:12
Toluene-d8	86	70-130		09/29/2015 14:12
4-BFB	96	70-130		09/29/2015 14:12
Benzene-d6	134	60-140		09/29/2015 14:12
Ethylbenzene-d10	129	60-140		09/29/2015 14:12
1,2-DCB-d4	111	60-140		09/29/2015 14:12

Analyst(s): AK



Analytical Report

Client: Essel Environmental Consulting
Date Received: 9/25/15 19:30
Date Prepared: 9/28/15
Project: 15166; EBALDC

WorkOrder: 1509A61
Extraction Method: SW5030B
Analytical Method: SW8260B
Unit: mg/kg

Volatile Organics by P&T and GC/MS (Basic Target List)

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
S-9-ECB2	1509A61-005A	Soil	09/24/2015 09:48	GC18	110781
Analytes	Result	RL	DF	Date Analyzed	
Acetone	ND	0.10	1	09/29/2015 14:51	
tert-Amyl methyl ether (TAME)	ND	0.0050	1	09/29/2015 14:51	
Benzene	ND	0.0050	1	09/29/2015 14:51	
Bromobenzene	ND	0.0050	1	09/29/2015 14:51	
Bromochloromethane	ND	0.0050	1	09/29/2015 14:51	
Bromodichloromethane	ND	0.0050	1	09/29/2015 14:51	
Bromoform	ND	0.0050	1	09/29/2015 14:51	
Bromomethane	ND	0.0050	1	09/29/2015 14:51	
2-Butanone (MEK)	ND	0.020	1	09/29/2015 14:51	
t-Butyl alcohol (TBA)	ND	0.050	1	09/29/2015 14:51	
n-Butyl benzene	ND	0.0050	1	09/29/2015 14:51	
sec-Butyl benzene	ND	0.0050	1	09/29/2015 14:51	
tert-Butyl benzene	ND	0.0050	1	09/29/2015 14:51	
Carbon Disulfide	ND	0.0050	1	09/29/2015 14:51	
Carbon Tetrachloride	ND	0.0050	1	09/29/2015 14:51	
Chlorobenzene	ND	0.0050	1	09/29/2015 14:51	
Chloroethane	ND	0.0050	1	09/29/2015 14:51	
Chloroform	ND	0.0050	1	09/29/2015 14:51	
Chloromethane	ND	0.0050	1	09/29/2015 14:51	
2-Chlorotoluene	ND	0.0050	1	09/29/2015 14:51	
4-Chlorotoluene	ND	0.0050	1	09/29/2015 14:51	
Dibromochloromethane	ND	0.0050	1	09/29/2015 14:51	
1,2-Dibromo-3-chloropropane	ND	0.0040	1	09/29/2015 14:51	
1,2-Dibromoethane (EDB)	ND	0.0040	1	09/29/2015 14:51	
Dibromomethane	ND	0.0050	1	09/29/2015 14:51	
1,2-Dichlorobenzene	ND	0.0050	1	09/29/2015 14:51	
1,3-Dichlorobenzene	ND	0.0050	1	09/29/2015 14:51	
1,4-Dichlorobenzene	ND	0.0050	1	09/29/2015 14:51	
Dichlorodifluoromethane	ND	0.0050	1	09/29/2015 14:51	
1,1-Dichloroethane	ND	0.0050	1	09/29/2015 14:51	
1,2-Dichloroethane (1,2-DCA)	ND	0.0040	1	09/29/2015 14:51	
1,1-Dichloroethene	ND	0.0050	1	09/29/2015 14:51	
cis-1,2-Dichloroethene	ND	0.0050	1	09/29/2015 14:51	
trans-1,2-Dichloroethene	ND	0.0050	1	09/29/2015 14:51	
1,2-Dichloropropane	ND	0.0050	1	09/29/2015 14:51	
1,3-Dichloropropane	ND	0.0050	1	09/29/2015 14:51	
2,2-Dichloropropane	ND	0.0050	1	09/29/2015 14:51	

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Analytical Report

Client: Essel Environmental Consulting
Date Received: 9/25/15 19:30
Date Prepared: 9/28/15
Project: 15166; EBALDC

WorkOrder: 1509A61
Extraction Method: SW5030B
Analytical Method: SW8260B
Unit: mg/kg

Volatile Organics by P&T and GC/MS (Basic Target List)

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
S-9-ECB2	1509A61-005A	Soil	09/24/2015 09:48	GC18	110781

Analytes	Result	RL	DF	Date Analyzed
1,1-Dichloropropene	ND	0.0050	1	09/29/2015 14:51
cis-1,3-Dichloropropene	ND	0.0050	1	09/29/2015 14:51
trans-1,3-Dichloropropene	ND	0.0050	1	09/29/2015 14:51
Diisopropyl ether (DIPE)	ND	0.0050	1	09/29/2015 14:51
Ethylbenzene	ND	0.0050	1	09/29/2015 14:51
Ethyl tert-butyl ether (ETBE)	ND	0.0050	1	09/29/2015 14:51
Freon 113	ND	0.0050	1	09/29/2015 14:51
Hexachlorobutadiene	ND	0.0050	1	09/29/2015 14:51
Hexachloroethane	ND	0.0050	1	09/29/2015 14:51
2-Hexanone	ND	0.0050	1	09/29/2015 14:51
Isopropylbenzene	ND	0.0050	1	09/29/2015 14:51
4-Isopropyl toluene	ND	0.0050	1	09/29/2015 14:51
Methyl-t-butyl ether (MTBE)	ND	0.0050	1	09/29/2015 14:51
Methylene chloride	ND	0.0050	1	09/29/2015 14:51
4-Methyl-2-pentanone (MIBK)	ND	0.0050	1	09/29/2015 14:51
Naphthalene	ND	0.0050	1	09/29/2015 14:51
n-Propyl benzene	ND	0.0050	1	09/29/2015 14:51
Styrene	ND	0.0050	1	09/29/2015 14:51
1,1,1,2-Tetrachloroethane	ND	0.0050	1	09/29/2015 14:51
1,1,2,2-Tetrachloroethane	ND	0.0050	1	09/29/2015 14:51
Tetrachloroethene	ND	0.0050	1	09/29/2015 14:51
Toluene	ND	0.0050	1	09/29/2015 14:51
1,2,3-Trichlorobenzene	ND	0.0050	1	09/29/2015 14:51
1,2,4-Trichlorobenzene	ND	0.0050	1	09/29/2015 14:51
1,1,1-Trichloroethane	ND	0.0050	1	09/29/2015 14:51
1,1,2-Trichloroethane	ND	0.0050	1	09/29/2015 14:51
Trichloroethene	ND	0.0050	1	09/29/2015 14:51
Trichlorofluoromethane	ND	0.0050	1	09/29/2015 14:51
1,2,3-Trichloropropane	ND	0.0050	1	09/29/2015 14:51
1,2,4-Trimethylbenzene	ND	0.0050	1	09/29/2015 14:51
1,3,5-Trimethylbenzene	ND	0.0050	1	09/29/2015 14:51
Vinyl Chloride	ND	0.0050	1	09/29/2015 14:51
Xylenes, Total	ND	0.0050	1	09/29/2015 14:51

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Analytical Report

Client: Essel Environmental Consulting
Date Received: 9/25/15 19:30
Date Prepared: 9/28/15
Project: 15166; EBALDC

WorkOrder: 1509A61
Extraction Method: SW5030B
Analytical Method: SW8260B
Unit: mg/kg

Volatile Organics by P&T and GC/MS (Basic Target List)

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
S-9-ECB2	1509A61-005A	Soil	09/24/2015 09:48	GC18	110781

Analytes	Result	RL	DF	Date Analyzed
<u>Surrogates</u>	<u>REC (%)</u>		<u>Limits</u>	
Dibromofluoromethane	105	70-130		09/29/2015 14:51
Toluene-d8	86	70-130		09/29/2015 14:51
4-BFB	93	70-130		09/29/2015 14:51
Benzene-d6	132	60-140		09/29/2015 14:51
Ethylbenzene-d10	129	60-140		09/29/2015 14:51
1,2-DCB-d4	109	60-140		09/29/2015 14:51

Analyst(s): AK



Analytical Report

Client: Essel Environmental Consulting
Date Received: 9/25/15 19:30
Date Prepared: 9/28/15
Project: 15166; EBALDC

WorkOrder: 1509A61
Extraction Method: SW5030B
Analytical Method: SW8260B
Unit: mg/kg

Volatile Organics by P&T and GC/MS (Basic Target List)

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
S-17-ECB2	1509A61-006A	Soil	09/24/2015 10:05	GC18	110781

Analytes	Result	RL	DF	Date Analyzed
Acetone	ND	0.10	1	09/29/2015 16:10
tert-Amyl methyl ether (TAME)	ND	0.0050	1	09/29/2015 16:10
Benzene	ND	0.0050	1	09/29/2015 16:10
Bromobenzene	ND	0.0050	1	09/29/2015 16:10
Bromochloromethane	ND	0.0050	1	09/29/2015 16:10
Bromodichloromethane	ND	0.0050	1	09/29/2015 16:10
Bromoform	ND	0.0050	1	09/29/2015 16:10
Bromomethane	ND	0.0050	1	09/29/2015 16:10
2-Butanone (MEK)	ND	0.020	1	09/29/2015 16:10
t-Butyl alcohol (TBA)	ND	0.050	1	09/29/2015 16:10
n-Butyl benzene	ND	0.0050	1	09/29/2015 16:10
sec-Butyl benzene	ND	0.0050	1	09/29/2015 16:10
tert-Butyl benzene	ND	0.0050	1	09/29/2015 16:10
Carbon Disulfide	ND	0.0050	1	09/29/2015 16:10
Carbon Tetrachloride	ND	0.0050	1	09/29/2015 16:10
Chlorobenzene	ND	0.0050	1	09/29/2015 16:10
Chloroethane	ND	0.0050	1	09/29/2015 16:10
Chloroform	ND	0.0050	1	09/29/2015 16:10
Chloromethane	ND	0.0050	1	09/29/2015 16:10
2-Chlorotoluene	ND	0.0050	1	09/29/2015 16:10
4-Chlorotoluene	ND	0.0050	1	09/29/2015 16:10
Dibromochloromethane	ND	0.0050	1	09/29/2015 16:10
1,2-Dibromo-3-chloropropane	ND	0.0040	1	09/29/2015 16:10
1,2-Dibromoethane (EDB)	ND	0.0040	1	09/29/2015 16:10
Dibromomethane	ND	0.0050	1	09/29/2015 16:10
1,2-Dichlorobenzene	ND	0.0050	1	09/29/2015 16:10
1,3-Dichlorobenzene	ND	0.0050	1	09/29/2015 16:10
1,4-Dichlorobenzene	ND	0.0050	1	09/29/2015 16:10
Dichlorodifluoromethane	ND	0.0050	1	09/29/2015 16:10
1,1-Dichloroethane	ND	0.0050	1	09/29/2015 16:10
1,2-Dichloroethane (1,2-DCA)	ND	0.0040	1	09/29/2015 16:10
1,1-Dichloroethene	ND	0.0050	1	09/29/2015 16:10
cis-1,2-Dichloroethene	ND	0.0050	1	09/29/2015 16:10
trans-1,2-Dichloroethene	ND	0.0050	1	09/29/2015 16:10
1,2-Dichloropropane	ND	0.0050	1	09/29/2015 16:10
1,3-Dichloropropane	ND	0.0050	1	09/29/2015 16:10
2,2-Dichloropropane	ND	0.0050	1	09/29/2015 16:10

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Analytical Report

Client: Essel Environmental Consulting
Date Received: 9/25/15 19:30
Date Prepared: 9/28/15
Project: 15166; EBALDC

WorkOrder: 1509A61
Extraction Method: SW5030B
Analytical Method: SW8260B
Unit: mg/kg

Volatile Organics by P&T and GC/MS (Basic Target List)

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
S-17-ECB2	1509A61-006A	Soil	09/24/2015 10:05	GC18	110781

Analytes	Result	RL	DF	Date Analyzed
1,1-Dichloropropene	ND	0.0050	1	09/29/2015 16:10
cis-1,3-Dichloropropene	ND	0.0050	1	09/29/2015 16:10
trans-1,3-Dichloropropene	ND	0.0050	1	09/29/2015 16:10
Diisopropyl ether (DIPE)	ND	0.0050	1	09/29/2015 16:10
Ethylbenzene	ND	0.0050	1	09/29/2015 16:10
Ethyl tert-butyl ether (ETBE)	ND	0.0050	1	09/29/2015 16:10
Freon 113	ND	0.0050	1	09/29/2015 16:10
Hexachlorobutadiene	ND	0.0050	1	09/29/2015 16:10
Hexachloroethane	ND	0.0050	1	09/29/2015 16:10
2-Hexanone	ND	0.0050	1	09/29/2015 16:10
Isopropylbenzene	ND	0.0050	1	09/29/2015 16:10
4-Isopropyl toluene	ND	0.0050	1	09/29/2015 16:10
Methyl-t-butyl ether (MTBE)	ND	0.0050	1	09/29/2015 16:10
Methylene chloride	ND	0.0050	1	09/29/2015 16:10
4-Methyl-2-pentanone (MIBK)	ND	0.0050	1	09/29/2015 16:10
Naphthalene	ND	0.0050	1	09/29/2015 16:10
n-Propyl benzene	ND	0.0050	1	09/29/2015 16:10
Styrene	ND	0.0050	1	09/29/2015 16:10
1,1,1,2-Tetrachloroethane	ND	0.0050	1	09/29/2015 16:10
1,1,2,2-Tetrachloroethane	ND	0.0050	1	09/29/2015 16:10
Tetrachloroethene	ND	0.0050	1	09/29/2015 16:10
Toluene	ND	0.0050	1	09/29/2015 16:10
1,2,3-Trichlorobenzene	ND	0.0050	1	09/29/2015 16:10
1,2,4-Trichlorobenzene	ND	0.0050	1	09/29/2015 16:10
1,1,1-Trichloroethane	ND	0.0050	1	09/29/2015 16:10
1,1,2-Trichloroethane	ND	0.0050	1	09/29/2015 16:10
Trichloroethene	ND	0.0050	1	09/29/2015 16:10
Trichlorofluoromethane	ND	0.0050	1	09/29/2015 16:10
1,2,3-Trichloropropane	ND	0.0050	1	09/29/2015 16:10
1,2,4-Trimethylbenzene	ND	0.0050	1	09/29/2015 16:10
1,3,5-Trimethylbenzene	ND	0.0050	1	09/29/2015 16:10
Vinyl Chloride	ND	0.0050	1	09/29/2015 16:10
Xylenes, Total	ND	0.0050	1	09/29/2015 16:10

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Analytical Report

Client: Essel Environmental Consulting
Date Received: 9/25/15 19:30
Date Prepared: 9/28/15
Project: 15166; EBALDC

WorkOrder: 1509A61
Extraction Method: SW5030B
Analytical Method: SW8260B
Unit: mg/kg

Volatile Organics by P&T and GC/MS (Basic Target List)

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
S-17-ECB2	1509A61-006A	Soil	09/24/2015 10:05	GC18	110781

Analytes	Result	RL	DF	Date Analyzed
<u>Surrogates</u>	<u>REC (%)</u>	<u>Limits</u>		
Dibromofluoromethane	111	70-130		09/29/2015 16:10
Toluene-d8	87	70-130		09/29/2015 16:10
4-BFB	90	70-130		09/29/2015 16:10
Benzene-d6	126	60-140		09/29/2015 16:10
Ethylbenzene-d10	124	60-140		09/29/2015 16:10
1,2-DCB-d4	111	60-140		09/29/2015 16:10

Analyst(s): AK



Analytical Report

Client: Essel Environmental Consulting
Date Received: 9/25/15 19:30
Date Prepared: 9/28/15
Project: 15166; EBALDC

WorkOrder: 1509A61
Extraction Method: SW5030B
Analytical Method: SW8260B
Unit: mg/kg

Volatile Organics by P&T and GC/MS (Basic Target List)

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
S-19½-ECB2	1509A61-007A	Soil	09/24/2015 10:07	GC18	110781
Analytes	Result	RL	DF	Date Analyzed	
Acetone	ND	0.10	1	09/29/2015 20:47	
tert-Amyl methyl ether (TAME)	ND	0.0050	1	09/29/2015 20:47	
Benzene	ND	0.0050	1	09/29/2015 20:47	
Bromobenzene	ND	0.0050	1	09/29/2015 20:47	
Bromochloromethane	ND	0.0050	1	09/29/2015 20:47	
Bromodichloromethane	ND	0.0050	1	09/29/2015 20:47	
Bromoform	ND	0.0050	1	09/29/2015 20:47	
Bromomethane	ND	0.0050	1	09/29/2015 20:47	
2-Butanone (MEK)	ND	0.020	1	09/29/2015 20:47	
t-Butyl alcohol (TBA)	ND	0.050	1	09/29/2015 20:47	
n-Butyl benzene	ND	0.0050	1	09/29/2015 20:47	
sec-Butyl benzene	ND	0.0050	1	09/29/2015 20:47	
tert-Butyl benzene	ND	0.0050	1	09/29/2015 20:47	
Carbon Disulfide	ND	0.0050	1	09/29/2015 20:47	
Carbon Tetrachloride	ND	0.0050	1	09/29/2015 20:47	
Chlorobenzene	ND	0.0050	1	09/29/2015 20:47	
Chloroethane	ND	0.0050	1	09/29/2015 20:47	
Chloroform	ND	0.0050	1	09/29/2015 20:47	
Chloromethane	ND	0.0050	1	09/29/2015 20:47	
2-Chlorotoluene	ND	0.0050	1	09/29/2015 20:47	
4-Chlorotoluene	ND	0.0050	1	09/29/2015 20:47	
Dibromochloromethane	ND	0.0050	1	09/29/2015 20:47	
1,2-Dibromo-3-chloropropane	ND	0.0040	1	09/29/2015 20:47	
1,2-Dibromoethane (EDB)	ND	0.0040	1	09/29/2015 20:47	
Dibromomethane	ND	0.0050	1	09/29/2015 20:47	
1,2-Dichlorobenzene	ND	0.0050	1	09/29/2015 20:47	
1,3-Dichlorobenzene	ND	0.0050	1	09/29/2015 20:47	
1,4-Dichlorobenzene	ND	0.0050	1	09/29/2015 20:47	
Dichlorodifluoromethane	ND	0.0050	1	09/29/2015 20:47	
1,1-Dichloroethane	ND	0.0050	1	09/29/2015 20:47	
1,2-Dichloroethane (1,2-DCA)	ND	0.0040	1	09/29/2015 20:47	
1,1-Dichloroethene	ND	0.0050	1	09/29/2015 20:47	
cis-1,2-Dichloroethene	ND	0.0050	1	09/29/2015 20:47	
trans-1,2-Dichloroethene	ND	0.0050	1	09/29/2015 20:47	
1,2-Dichloropropane	ND	0.0050	1	09/29/2015 20:47	
1,3-Dichloropropane	ND	0.0050	1	09/29/2015 20:47	
2,2-Dichloropropane	ND	0.0050	1	09/29/2015 20:47	

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Analytical Report

Client: Essel Environmental Consulting
Date Received: 9/25/15 19:30
Date Prepared: 9/28/15
Project: 15166; EBALDC

WorkOrder: 1509A61
Extraction Method: SW5030B
Analytical Method: SW8260B
Unit: mg/kg

Volatile Organics by P&T and GC/MS (Basic Target List)

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
S-19½-ECB2	1509A61-007A	Soil	09/24/2015 10:07	GC18	110781
Analytes	Result	RL	DF	Date Analyzed	
1,1-Dichloropropene	ND	0.0050	1	09/29/2015 20:47	
cis-1,3-Dichloropropene	ND	0.0050	1	09/29/2015 20:47	
trans-1,3-Dichloropropene	ND	0.0050	1	09/29/2015 20:47	
Diisopropyl ether (DIPE)	ND	0.0050	1	09/29/2015 20:47	
Ethylbenzene	ND	0.0050	1	09/29/2015 20:47	
Ethyl tert-butyl ether (ETBE)	ND	0.0050	1	09/29/2015 20:47	
Freon 113	ND	0.0050	1	09/29/2015 20:47	
Hexachlorobutadiene	ND	0.0050	1	09/29/2015 20:47	
Hexachloroethane	ND	0.0050	1	09/29/2015 20:47	
2-Hexanone	ND	0.0050	1	09/29/2015 20:47	
Isopropylbenzene	ND	0.0050	1	09/29/2015 20:47	
4-Isopropyl toluene	ND	0.0050	1	09/29/2015 20:47	
Methyl-t-butyl ether (MTBE)	ND	0.0050	1	09/29/2015 20:47	
Methylene chloride	ND	0.0050	1	09/29/2015 20:47	
4-Methyl-2-pentanone (MIBK)	ND	0.0050	1	09/29/2015 20:47	
Naphthalene	ND	0.0050	1	09/29/2015 20:47	
n-Propyl benzene	ND	0.0050	1	09/29/2015 20:47	
Styrene	ND	0.0050	1	09/29/2015 20:47	
1,1,1,2-Tetrachloroethane	ND	0.0050	1	09/29/2015 20:47	
1,1,2,2-Tetrachloroethane	ND	0.0050	1	09/29/2015 20:47	
Tetrachloroethene	ND	0.0050	1	09/29/2015 20:47	
Toluene	ND	0.0050	1	09/29/2015 20:47	
1,2,3-Trichlorobenzene	ND	0.0050	1	09/29/2015 20:47	
1,2,4-Trichlorobenzene	ND	0.0050	1	09/29/2015 20:47	
1,1,1-Trichloroethane	ND	0.0050	1	09/29/2015 20:47	
1,1,2-Trichloroethane	ND	0.0050	1	09/29/2015 20:47	
Trichloroethene	ND	0.0050	1	09/29/2015 20:47	
Trichlorofluoromethane	ND	0.0050	1	09/29/2015 20:47	
1,2,3-Trichloropropane	ND	0.0050	1	09/29/2015 20:47	
1,2,4-Trimethylbenzene	ND	0.0050	1	09/29/2015 20:47	
1,3,5-Trimethylbenzene	ND	0.0050	1	09/29/2015 20:47	
Vinyl Chloride	ND	0.0050	1	09/29/2015 20:47	
Xylenes, Total	ND	0.0050	1	09/29/2015 20:47	

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Analytical Report

Client: Essel Environmental Consulting
Date Received: 9/25/15 19:30
Date Prepared: 9/28/15
Project: 15166; EBALDC

WorkOrder: 1509A61
Extraction Method: SW5030B
Analytical Method: SW8260B
Unit: mg/kg

Volatile Organics by P&T and GC/MS (Basic Target List)

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
S-19½-ECB2	1509A61-007A	Soil	09/24/2015 10:07	GC18	110781

Analytes	Result	RL	DF	Date Analyzed
<u>Surrogates</u>	<u>REC (%)</u>		<u>Limits</u>	
Dibromofluoromethane	104	70-130		09/29/2015 20:47
Toluene-d8	87	70-130		09/29/2015 20:47
4-BFB	89	70-130		09/29/2015 20:47
Benzene-d6	118	60-140		09/29/2015 20:47
Ethylbenzene-d10	120	60-140		09/29/2015 20:47
1,2-DCB-d4	100	60-140		09/29/2015 20:47

Analyst(s): AK



Analytical Report

Client: Essel Environmental Consulting
Date Received: 9/25/15 19:30
Date Prepared: 9/28/15
Project: 15166; EBALDC

WorkOrder: 1509A61
Extraction Method: SW5030B
Analytical Method: SW8260B
Unit: mg/kg

Volatile Organics by P&T and GC/MS (Basic Target List)

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
S-4½-ECB3	1509A61-008A	Soil	09/24/2015 10:10	GC16	110781

Analytes	Result	RL	DF	Date Analyzed
Acetone	ND	0.10	1	09/29/2015 22:24
tert-Amyl methyl ether (TAME)	ND	0.0050	1	09/29/2015 22:24
Benzene	ND	0.0050	1	09/29/2015 22:24
Bromobenzene	ND	0.0050	1	09/29/2015 22:24
Bromochloromethane	ND	0.0050	1	09/29/2015 22:24
Bromodichloromethane	ND	0.0050	1	09/29/2015 22:24
Bromoform	ND	0.0050	1	09/29/2015 22:24
Bromomethane	ND	0.0050	1	09/29/2015 22:24
2-Butanone (MEK)	ND	0.020	1	09/29/2015 22:24
t-Butyl alcohol (TBA)	ND	0.050	1	09/29/2015 22:24
n-Butyl benzene	ND	0.0050	1	09/29/2015 22:24
sec-Butyl benzene	ND	0.0050	1	09/29/2015 22:24
tert-Butyl benzene	ND	0.0050	1	09/29/2015 22:24
Carbon Disulfide	ND	0.0050	1	09/29/2015 22:24
Carbon Tetrachloride	ND	0.0050	1	09/29/2015 22:24
Chlorobenzene	ND	0.0050	1	09/29/2015 22:24
Chloroethane	ND	0.0050	1	09/29/2015 22:24
Chloroform	ND	0.0050	1	09/29/2015 22:24
Chloromethane	ND	0.0050	1	09/29/2015 22:24
2-Chlorotoluene	ND	0.0050	1	09/29/2015 22:24
4-Chlorotoluene	ND	0.0050	1	09/29/2015 22:24
Dibromochloromethane	ND	0.0050	1	09/29/2015 22:24
1,2-Dibromo-3-chloropropane	ND	0.0040	1	09/29/2015 22:24
1,2-Dibromoethane (EDB)	ND	0.0040	1	09/29/2015 22:24
Dibromomethane	ND	0.0050	1	09/29/2015 22:24
1,2-Dichlorobenzene	ND	0.0050	1	09/29/2015 22:24
1,3-Dichlorobenzene	ND	0.0050	1	09/29/2015 22:24
1,4-Dichlorobenzene	ND	0.0050	1	09/29/2015 22:24
Dichlorodifluoromethane	ND	0.0050	1	09/29/2015 22:24
1,1-Dichloroethane	ND	0.0050	1	09/29/2015 22:24
1,2-Dichloroethane (1,2-DCA)	ND	0.0040	1	09/29/2015 22:24
1,1-Dichloroethene	ND	0.0050	1	09/29/2015 22:24
cis-1,2-Dichloroethene	ND	0.0050	1	09/29/2015 22:24
trans-1,2-Dichloroethene	ND	0.0050	1	09/29/2015 22:24
1,2-Dichloropropane	ND	0.0050	1	09/29/2015 22:24
1,3-Dichloropropane	ND	0.0050	1	09/29/2015 22:24
2,2-Dichloropropane	ND	0.0050	1	09/29/2015 22:24

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Analytical Report

Client: Essel Environmental Consulting
Date Received: 9/25/15 19:30
Date Prepared: 9/28/15
Project: 15166; EBALDC

WorkOrder: 1509A61
Extraction Method: SW5030B
Analytical Method: SW8260B
Unit: mg/kg

Volatile Organics by P&T and GC/MS (Basic Target List)

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
S-4½-ECB3	1509A61-008A	Soil	09/24/2015 10:10	GC16	110781
Analytes	Result	RL	DF	Date Analyzed	
1,1-Dichloropropene	ND	0.0050	1	09/29/2015 22:24	
cis-1,3-Dichloropropene	ND	0.0050	1	09/29/2015 22:24	
trans-1,3-Dichloropropene	ND	0.0050	1	09/29/2015 22:24	
Diisopropyl ether (DIPE)	ND	0.0050	1	09/29/2015 22:24	
Ethylbenzene	ND	0.0050	1	09/29/2015 22:24	
Ethyl tert-butyl ether (ETBE)	ND	0.0050	1	09/29/2015 22:24	
Freon 113	ND	0.0050	1	09/29/2015 22:24	
Hexachlorobutadiene	ND	0.0050	1	09/29/2015 22:24	
Hexachloroethane	ND	0.0050	1	09/29/2015 22:24	
2-Hexanone	ND	0.0050	1	09/29/2015 22:24	
Isopropylbenzene	ND	0.0050	1	09/29/2015 22:24	
4-Isopropyl toluene	ND	0.0050	1	09/29/2015 22:24	
Methyl-t-butyl ether (MTBE)	ND	0.0050	1	09/29/2015 22:24	
Methylene chloride	ND	0.0050	1	09/29/2015 22:24	
4-Methyl-2-pentanone (MIBK)	ND	0.0050	1	09/29/2015 22:24	
Naphthalene	ND	0.0050	1	09/29/2015 22:24	
n-Propyl benzene	ND	0.0050	1	09/29/2015 22:24	
Styrene	ND	0.0050	1	09/29/2015 22:24	
1,1,1,2-Tetrachloroethane	ND	0.0050	1	09/29/2015 22:24	
1,1,2,2-Tetrachloroethane	ND	0.0050	1	09/29/2015 22:24	
Tetrachloroethene	ND	0.0050	1	09/29/2015 22:24	
Toluene	ND	0.0050	1	09/29/2015 22:24	
1,2,3-Trichlorobenzene	ND	0.0050	1	09/29/2015 22:24	
1,2,4-Trichlorobenzene	ND	0.0050	1	09/29/2015 22:24	
1,1,1-Trichloroethane	ND	0.0050	1	09/29/2015 22:24	
1,1,2-Trichloroethane	ND	0.0050	1	09/29/2015 22:24	
Trichloroethene	ND	0.0050	1	09/29/2015 22:24	
Trichlorofluoromethane	ND	0.0050	1	09/29/2015 22:24	
1,2,3-Trichloropropane	ND	0.0050	1	09/29/2015 22:24	
1,2,4-Trimethylbenzene	ND	0.0050	1	09/29/2015 22:24	
1,3,5-Trimethylbenzene	ND	0.0050	1	09/29/2015 22:24	
Vinyl Chloride	ND	0.0050	1	09/29/2015 22:24	
Xylenes, Total	ND	0.0050	1	09/29/2015 22:24	

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Analytical Report

Client: Essel Environmental Consulting
Date Received: 9/25/15 19:30
Date Prepared: 9/28/15
Project: 15166; EBALDC

WorkOrder: 1509A61
Extraction Method: SW5030B
Analytical Method: SW8260B
Unit: mg/kg

Volatile Organics by P&T and GC/MS (Basic Target List)

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
S-4½-ECB3	1509A61-008A	Soil	09/24/2015 10:10	GC16	110781

Analytes	Result	RL	DF	Date Analyzed
<u>Surrogates</u>	<u>REC (%)</u>	<u>Limits</u>		
Dibromofluoromethane	93	70-130		09/29/2015 22:24
Toluene-d8	100	70-130		09/29/2015 22:24
4-BFB	101	70-130		09/29/2015 22:24
Benzene-d6	100	60-140		09/29/2015 22:24
Ethylbenzene-d10	116	60-140		09/29/2015 22:24
1,2-DCB-d4	78	60-140		09/29/2015 22:24

Analyst(s): AK



Analytical Report

Client: Essel Environmental Consulting
Date Received: 9/25/15 19:30
Date Prepared: 9/28/15
Project: 15166; EBALDC

WorkOrder: 1509A61
Extraction Method: SW5030B
Analytical Method: SW8260B
Unit: mg/kg

Volatile Organics by P&T and GC/MS (Basic Target List)

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
S-9½-ECB3	1509A61-009A	Soil	09/24/2015 10:35	GC18	110781
Analytes	Result	RL	DF	Date Analyzed	
Acetone	ND	0.10	1	09/29/2015 20:08	
tert-Amyl methyl ether (TAME)	ND	0.0050	1	09/29/2015 20:08	
Benzene	ND	0.0050	1	09/29/2015 20:08	
Bromobenzene	ND	0.0050	1	09/29/2015 20:08	
Bromochloromethane	ND	0.0050	1	09/29/2015 20:08	
Bromodichloromethane	ND	0.0050	1	09/29/2015 20:08	
Bromoform	ND	0.0050	1	09/29/2015 20:08	
Bromomethane	ND	0.0050	1	09/29/2015 20:08	
2-Butanone (MEK)	ND	0.020	1	09/29/2015 20:08	
t-Butyl alcohol (TBA)	ND	0.050	1	09/29/2015 20:08	
n-Butyl benzene	ND	0.0050	1	09/29/2015 20:08	
sec-Butyl benzene	ND	0.0050	1	09/29/2015 20:08	
tert-Butyl benzene	ND	0.0050	1	09/29/2015 20:08	
Carbon Disulfide	ND	0.0050	1	09/29/2015 20:08	
Carbon Tetrachloride	ND	0.0050	1	09/29/2015 20:08	
Chlorobenzene	ND	0.0050	1	09/29/2015 20:08	
Chloroethane	ND	0.0050	1	09/29/2015 20:08	
Chloroform	ND	0.0050	1	09/29/2015 20:08	
Chloromethane	ND	0.0050	1	09/29/2015 20:08	
2-Chlorotoluene	ND	0.0050	1	09/29/2015 20:08	
4-Chlorotoluene	ND	0.0050	1	09/29/2015 20:08	
Dibromochloromethane	ND	0.0050	1	09/29/2015 20:08	
1,2-Dibromo-3-chloropropane	ND	0.0040	1	09/29/2015 20:08	
1,2-Dibromoethane (EDB)	ND	0.0040	1	09/29/2015 20:08	
Dibromomethane	ND	0.0050	1	09/29/2015 20:08	
1,2-Dichlorobenzene	ND	0.0050	1	09/29/2015 20:08	
1,3-Dichlorobenzene	ND	0.0050	1	09/29/2015 20:08	
1,4-Dichlorobenzene	ND	0.0050	1	09/29/2015 20:08	
Dichlorodifluoromethane	ND	0.0050	1	09/29/2015 20:08	
1,1-Dichloroethane	ND	0.0050	1	09/29/2015 20:08	
1,2-Dichloroethane (1,2-DCA)	ND	0.0040	1	09/29/2015 20:08	
1,1-Dichloroethene	ND	0.0050	1	09/29/2015 20:08	
cis-1,2-Dichloroethene	ND	0.0050	1	09/29/2015 20:08	
trans-1,2-Dichloroethene	ND	0.0050	1	09/29/2015 20:08	
1,2-Dichloropropane	ND	0.0050	1	09/29/2015 20:08	
1,3-Dichloropropane	ND	0.0050	1	09/29/2015 20:08	
2,2-Dichloropropane	ND	0.0050	1	09/29/2015 20:08	

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Analytical Report

Client: Essel Environmental Consulting
Date Received: 9/25/15 19:30
Date Prepared: 9/28/15
Project: 15166; EBALDC

WorkOrder: 1509A61
Extraction Method: SW5030B
Analytical Method: SW8260B
Unit: mg/kg

Volatile Organics by P&T and GC/MS (Basic Target List)

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
S-9½-ECB3	1509A61-009A	Soil	09/24/2015 10:35	GC18	110781

Analytes	Result	RL	DF	Date Analyzed
1,1-Dichloropropene	ND	0.0050	1	09/29/2015 20:08
cis-1,3-Dichloropropene	ND	0.0050	1	09/29/2015 20:08
trans-1,3-Dichloropropene	ND	0.0050	1	09/29/2015 20:08
Diisopropyl ether (DIPE)	ND	0.0050	1	09/29/2015 20:08
Ethylbenzene	ND	0.0050	1	09/29/2015 20:08
Ethyl tert-butyl ether (ETBE)	ND	0.0050	1	09/29/2015 20:08
Freon 113	ND	0.0050	1	09/29/2015 20:08
Hexachlorobutadiene	ND	0.0050	1	09/29/2015 20:08
Hexachloroethane	ND	0.0050	1	09/29/2015 20:08
2-Hexanone	ND	0.0050	1	09/29/2015 20:08
Isopropylbenzene	ND	0.0050	1	09/29/2015 20:08
4-Isopropyl toluene	ND	0.0050	1	09/29/2015 20:08
Methyl-t-butyl ether (MTBE)	ND	0.0050	1	09/29/2015 20:08
Methylene chloride	ND	0.0050	1	09/29/2015 20:08
4-Methyl-2-pentanone (MIBK)	ND	0.0050	1	09/29/2015 20:08
Naphthalene	ND	0.0050	1	09/29/2015 20:08
n-Propyl benzene	ND	0.0050	1	09/29/2015 20:08
Styrene	ND	0.0050	1	09/29/2015 20:08
1,1,1,2-Tetrachloroethane	ND	0.0050	1	09/29/2015 20:08
1,1,2,2-Tetrachloroethane	ND	0.0050	1	09/29/2015 20:08
Tetrachloroethene	ND	0.0050	1	09/29/2015 20:08
Toluene	ND	0.0050	1	09/29/2015 20:08
1,2,3-Trichlorobenzene	ND	0.0050	1	09/29/2015 20:08
1,2,4-Trichlorobenzene	ND	0.0050	1	09/29/2015 20:08
1,1,1-Trichloroethane	ND	0.0050	1	09/29/2015 20:08
1,1,2-Trichloroethane	ND	0.0050	1	09/29/2015 20:08
Trichloroethene	ND	0.0050	1	09/29/2015 20:08
Trichlorofluoromethane	ND	0.0050	1	09/29/2015 20:08
1,2,3-Trichloropropane	ND	0.0050	1	09/29/2015 20:08
1,2,4-Trimethylbenzene	ND	0.0050	1	09/29/2015 20:08
1,3,5-Trimethylbenzene	ND	0.0050	1	09/29/2015 20:08
Vinyl Chloride	ND	0.0050	1	09/29/2015 20:08
Xylenes, Total	ND	0.0050	1	09/29/2015 20:08

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Analytical Report

Client: Essel Environmental Consulting
Date Received: 9/25/15 19:30
Date Prepared: 9/28/15
Project: 15166; EBALDC

WorkOrder: 1509A61
Extraction Method: SW5030B
Analytical Method: SW8260B
Unit: mg/kg

Volatile Organics by P&T and GC/MS (Basic Target List)

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
S-9½-ECB3	1509A61-009A	Soil	09/24/2015 10:35	GC18	110781

Analytes	Result	RL	DF	Date Analyzed
<u>Surrogates</u>	<u>REC (%)</u>	<u>Limits</u>		
Dibromofluoromethane	103	70-130		09/29/2015 20:08
Toluene-d8	86	70-130		09/29/2015 20:08
4-BFB	88	70-130		09/29/2015 20:08
Benzene-d6	124	60-140		09/29/2015 20:08
Ethylbenzene-d10	125	60-140		09/29/2015 20:08
1,2-DCB-d4	106	60-140		09/29/2015 20:08

Analyst(s): AK



Analytical Report

Client: Essel Environmental Consulting
Date Received: 9/25/15 19:30
Date Prepared: 9/28/15
Project: 15166; EBALDC

WorkOrder: 1509A61
Extraction Method: SW5030B
Analytical Method: SW8260B
Unit: mg/kg

Volatile Organics by P&T and GC/MS (Basic Target List)

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
S-15½-ECB3	1509A61-010A	Soil	09/24/2015 10:57	GC16	110781
Analytes	Result	RL	DF	Date Analyzed	
Acetone	ND	4.0	40	10/01/2015 16:23	
tert-Amyl methyl ether (TAME)	ND	0.20	40	10/01/2015 16:23	
Benzene	ND	0.20	40	10/01/2015 16:23	
Bromobenzene	ND	0.20	40	10/01/2015 16:23	
Bromochloromethane	ND	0.20	40	10/01/2015 16:23	
Bromodichloromethane	ND	0.20	40	10/01/2015 16:23	
Bromoform	ND	0.20	40	10/01/2015 16:23	
Bromomethane	ND	0.20	40	10/01/2015 16:23	
2-Butanone (MEK)	ND	0.80	40	10/01/2015 16:23	
t-Butyl alcohol (TBA)	ND	2.0	40	10/01/2015 16:23	
n-Butyl benzene	ND	0.20	40	10/01/2015 16:23	
sec-Butyl benzene	ND	0.20	40	10/01/2015 16:23	
tert-Butyl benzene	ND	0.20	40	10/01/2015 16:23	
Carbon Disulfide	ND	0.20	40	10/01/2015 16:23	
Carbon Tetrachloride	ND	0.20	40	10/01/2015 16:23	
Chlorobenzene	ND	0.20	40	10/01/2015 16:23	
Chloroethane	ND	0.20	40	10/01/2015 16:23	
Chloroform	ND	0.20	40	10/01/2015 16:23	
Chloromethane	ND	0.20	40	10/01/2015 16:23	
2-Chlorotoluene	ND	0.20	40	10/01/2015 16:23	
4-Chlorotoluene	ND	0.20	40	10/01/2015 16:23	
Dibromochloromethane	ND	0.20	40	10/01/2015 16:23	
1,2-Dibromo-3-chloropropane	ND	0.16	40	10/01/2015 16:23	
1,2-Dibromoethane (EDB)	ND	0.16	40	10/01/2015 16:23	
Dibromomethane	ND	0.20	40	10/01/2015 16:23	
1,2-Dichlorobenzene	ND	0.20	40	10/01/2015 16:23	
1,3-Dichlorobenzene	ND	0.20	40	10/01/2015 16:23	
1,4-Dichlorobenzene	ND	0.20	40	10/01/2015 16:23	
Dichlorodifluoromethane	ND	0.20	40	10/01/2015 16:23	
1,1-Dichloroethane	ND	0.20	40	10/01/2015 16:23	
1,2-Dichloroethane (1,2-DCA)	ND	0.16	40	10/01/2015 16:23	
1,1-Dichloroethene	ND	0.20	40	10/01/2015 16:23	
cis-1,2-Dichloroethene	ND	0.20	40	10/01/2015 16:23	
trans-1,2-Dichloroethene	ND	0.20	40	10/01/2015 16:23	
1,2-Dichloropropane	ND	0.20	40	10/01/2015 16:23	
1,3-Dichloropropane	ND	0.20	40	10/01/2015 16:23	
2,2-Dichloropropane	ND	0.20	40	10/01/2015 16:23	

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Analytical Report

Client: Essel Environmental Consulting
Date Received: 9/25/15 19:30
Date Prepared: 9/28/15
Project: 15166; EBALDC

WorkOrder: 1509A61
Extraction Method: SW5030B
Analytical Method: SW8260B
Unit: mg/kg

Volatile Organics by P&T and GC/MS (Basic Target List)

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
S-15½-ECB3	1509A61-010A	Soil	09/24/2015 10:57	GC16	110781
Analytes	Result	RL	DF	Date Analyzed	
1,1-Dichloropropene	ND	0.20	40	10/01/2015 16:23	
cis-1,3-Dichloropropene	ND	0.20	40	10/01/2015 16:23	
trans-1,3-Dichloropropene	ND	0.20	40	10/01/2015 16:23	
Diisopropyl ether (DIPE)	ND	0.20	40	10/01/2015 16:23	
Ethylbenzene	ND	0.20	40	10/01/2015 16:23	
Ethyl tert-butyl ether (ETBE)	ND	0.20	40	10/01/2015 16:23	
Freon 113	ND	0.20	40	10/01/2015 16:23	
Hexachlorobutadiene	ND	0.20	40	10/01/2015 16:23	
Hexachloroethane	ND	0.20	40	10/01/2015 16:23	
2-Hexanone	ND	0.20	40	10/01/2015 16:23	
Isopropylbenzene	ND	0.20	40	10/01/2015 16:23	
4-Isopropyl toluene	ND	0.20	40	10/01/2015 16:23	
Methyl-t-butyl ether (MTBE)	ND	0.20	40	10/01/2015 16:23	
Methylene chloride	ND	0.20	40	10/01/2015 16:23	
4-Methyl-2-pentanone (MIBK)	ND	0.20	40	10/01/2015 16:23	
Naphthalene	ND	0.20	40	10/01/2015 16:23	
n-Propyl benzene	ND	0.20	40	10/01/2015 16:23	
Styrene	ND	0.20	40	10/01/2015 16:23	
1,1,1,2-Tetrachloroethane	ND	0.20	40	10/01/2015 16:23	
1,1,2,2-Tetrachloroethane	ND	0.20	40	10/01/2015 16:23	
Tetrachloroethene	ND	0.20	40	10/01/2015 16:23	
Toluene	ND	0.20	40	10/01/2015 16:23	
1,2,3-Trichlorobenzene	ND	0.20	40	10/01/2015 16:23	
1,2,4-Trichlorobenzene	ND	0.20	40	10/01/2015 16:23	
1,1,1-Trichloroethane	ND	0.20	40	10/01/2015 16:23	
1,1,2-Trichloroethane	ND	0.20	40	10/01/2015 16:23	
Trichloroethene	ND	0.20	40	10/01/2015 16:23	
Trichlorofluoromethane	ND	0.20	40	10/01/2015 16:23	
1,2,3-Trichloropropane	ND	0.20	40	10/01/2015 16:23	
1,2,4-Trimethylbenzene	ND	0.20	40	10/01/2015 16:23	
1,3,5-Trimethylbenzene	ND	0.20	40	10/01/2015 16:23	
Vinyl Chloride	ND	0.20	40	10/01/2015 16:23	
Xylenes, Total	ND	0.20	40	10/01/2015 16:23	

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Analytical Report

Client: Essel Environmental Consulting
Date Received: 9/25/15 19:30
Date Prepared: 9/28/15
Project: 15166; EBALDC

WorkOrder: 1509A61
Extraction Method: SW5030B
Analytical Method: SW8260B
Unit: mg/kg

Volatile Organics by P&T and GC/MS (Basic Target List)

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
S-15½-ECB3	1509A61-010A	Soil	09/24/2015 10:57	GC16	110781

Analytes	Result	RL	DF	Date Analyzed
<u>Surrogates</u>	<u>REC (%)</u>		<u>Limits</u>	
Dibromofluoromethane	93	70-130		10/01/2015 16:23
Toluene-d8	91	70-130		10/01/2015 16:23
4-BFB	120	70-130		10/01/2015 16:23
Benzene-d6	96	60-140		10/01/2015 16:23
Ethylbenzene-d10	82	60-140		10/01/2015 16:23
1,2-DCB-d4	86	60-140		10/01/2015 16:23

Analyst(s): AK

Analytical Comments: a2,a3



Analytical Report

Client: Essel Environmental Consulting
Date Received: 9/25/15 19:30
Date Prepared: 9/28/15
Project: 15166; EBALDC

WorkOrder: 1509A61
Extraction Method: SW5030B
Analytical Method: SW8260B
Unit: mg/kg

Volatile Organics by P&T and GC/MS (Basic Target List)

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
S-18½-ECB3	1509A61-011A	Soil	09/24/2015 11:03	GC18	110781

Analytes	Result	RL	DF	Date Analyzed
Acetone	ND	0.10	1	09/30/2015 04:32
tert-Amyl methyl ether (TAME)	ND	0.0050	1	09/30/2015 04:32
Benzene	ND	0.0050	1	09/30/2015 04:32
Bromobenzene	ND	0.0050	1	09/30/2015 04:32
Bromochloromethane	ND	0.0050	1	09/30/2015 04:32
Bromodichloromethane	ND	0.0050	1	09/30/2015 04:32
Bromoform	ND	0.0050	1	09/30/2015 04:32
Bromomethane	ND	0.0050	1	09/30/2015 04:32
2-Butanone (MEK)	ND	0.020	1	09/30/2015 04:32
t-Butyl alcohol (TBA)	ND	0.050	1	09/30/2015 04:32
n-Butyl benzene	ND	0.0050	1	09/30/2015 04:32
sec-Butyl benzene	ND	0.0050	1	09/30/2015 04:32
tert-Butyl benzene	ND	0.0050	1	09/30/2015 04:32
Carbon Disulfide	ND	0.0050	1	09/30/2015 04:32
Carbon Tetrachloride	ND	0.0050	1	09/30/2015 04:32
Chlorobenzene	ND	0.0050	1	09/30/2015 04:32
Chloroethane	ND	0.0050	1	09/30/2015 04:32
Chloroform	ND	0.0050	1	09/30/2015 04:32
Chloromethane	ND	0.0050	1	09/30/2015 04:32
2-Chlorotoluene	ND	0.0050	1	09/30/2015 04:32
4-Chlorotoluene	ND	0.0050	1	09/30/2015 04:32
Dibromochloromethane	ND	0.0050	1	09/30/2015 04:32
1,2-Dibromo-3-chloropropane	ND	0.0040	1	09/30/2015 04:32
1,2-Dibromoethane (EDB)	ND	0.0040	1	09/30/2015 04:32
Dibromomethane	ND	0.0050	1	09/30/2015 04:32
1,2-Dichlorobenzene	ND	0.0050	1	09/30/2015 04:32
1,3-Dichlorobenzene	ND	0.0050	1	09/30/2015 04:32
1,4-Dichlorobenzene	ND	0.0050	1	09/30/2015 04:32
Dichlorodifluoromethane	ND	0.0050	1	09/30/2015 04:32
1,1-Dichloroethane	ND	0.0050	1	09/30/2015 04:32
1,2-Dichloroethane (1,2-DCA)	ND	0.0040	1	09/30/2015 04:32
1,1-Dichloroethene	ND	0.0050	1	09/30/2015 04:32
cis-1,2-Dichloroethene	ND	0.0050	1	09/30/2015 04:32
trans-1,2-Dichloroethene	ND	0.0050	1	09/30/2015 04:32
1,2-Dichloropropane	ND	0.0050	1	09/30/2015 04:32
1,3-Dichloropropane	ND	0.0050	1	09/30/2015 04:32
2,2-Dichloropropane	ND	0.0050	1	09/30/2015 04:32

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Analytical Report

Client: Essel Environmental Consulting
Date Received: 9/25/15 19:30
Date Prepared: 9/28/15
Project: 15166; EBALDC

WorkOrder: 1509A61
Extraction Method: SW5030B
Analytical Method: SW8260B
Unit: mg/kg

Volatile Organics by P&T and GC/MS (Basic Target List)

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
S-18½-ECB3	1509A61-011A	Soil	09/24/2015 11:03	GC18	110781
Analytes	Result	RL	DF	Date Analyzed	
1,1-Dichloropropene	ND	0.0050	1	09/30/2015 04:32	
cis-1,3-Dichloropropene	ND	0.0050	1	09/30/2015 04:32	
trans-1,3-Dichloropropene	ND	0.0050	1	09/30/2015 04:32	
Diisopropyl ether (DIPE)	ND	0.0050	1	09/30/2015 04:32	
Ethylbenzene	ND	0.0050	1	09/30/2015 04:32	
Ethyl tert-butyl ether (ETBE)	ND	0.0050	1	09/30/2015 04:32	
Freon 113	ND	0.0050	1	09/30/2015 04:32	
Hexachlorobutadiene	ND	0.0050	1	09/30/2015 04:32	
Hexachloroethane	ND	0.0050	1	09/30/2015 04:32	
2-Hexanone	ND	0.0050	1	09/30/2015 04:32	
Isopropylbenzene	ND	0.0050	1	09/30/2015 04:32	
4-Isopropyl toluene	ND	0.0050	1	09/30/2015 04:32	
Methyl-t-butyl ether (MTBE)	ND	0.0050	1	09/30/2015 04:32	
Methylene chloride	ND	0.0050	1	09/30/2015 04:32	
4-Methyl-2-pentanone (MIBK)	ND	0.0050	1	09/30/2015 04:32	
Naphthalene	ND	0.0050	1	09/30/2015 04:32	
n-Propyl benzene	ND	0.0050	1	09/30/2015 04:32	
Styrene	ND	0.0050	1	09/30/2015 04:32	
1,1,1,2-Tetrachloroethane	ND	0.0050	1	09/30/2015 04:32	
1,1,2,2-Tetrachloroethane	ND	0.0050	1	09/30/2015 04:32	
Tetrachloroethene	ND	0.0050	1	09/30/2015 04:32	
Toluene	ND	0.0050	1	09/30/2015 04:32	
1,2,3-Trichlorobenzene	ND	0.0050	1	09/30/2015 04:32	
1,2,4-Trichlorobenzene	ND	0.0050	1	09/30/2015 04:32	
1,1,1-Trichloroethane	ND	0.0050	1	09/30/2015 04:32	
1,1,2-Trichloroethane	ND	0.0050	1	09/30/2015 04:32	
Trichloroethene	ND	0.0050	1	09/30/2015 04:32	
Trichlorofluoromethane	ND	0.0050	1	09/30/2015 04:32	
1,2,3-Trichloropropane	ND	0.0050	1	09/30/2015 04:32	
1,2,4-Trimethylbenzene	ND	0.0050	1	09/30/2015 04:32	
1,3,5-Trimethylbenzene	ND	0.0050	1	09/30/2015 04:32	
Vinyl Chloride	ND	0.0050	1	09/30/2015 04:32	
Xylenes, Total	ND	0.0050	1	09/30/2015 04:32	

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Analytical Report

Client: Essel Environmental Consulting
Date Received: 9/25/15 19:30
Date Prepared: 9/28/15
Project: 15166; EBALDC

WorkOrder: 1509A61
Extraction Method: SW5030B
Analytical Method: SW8260B
Unit: mg/kg

Volatile Organics by P&T and GC/MS (Basic Target List)

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
S-18½-ECB3	1509A61-011A	Soil	09/24/2015 11:03	GC18	110781

Analytes	Result	RL	DF	Date Analyzed
<u>Surrogates</u>	<u>REC (%)</u>	<u>Limits</u>		
Dibromofluoromethane	102	70-130		09/30/2015 04:32
Toluene-d8	89	70-130		09/30/2015 04:32
4-BFB	91	70-130		09/30/2015 04:32
Benzene-d6	120	60-140		09/30/2015 04:32
Ethylbenzene-d10	122	60-140		09/30/2015 04:32
1,2-DCB-d4	102	60-140		09/30/2015 04:32

Analyst(s): AK



Analytical Report

Client: Essel Environmental Consulting
Date Received: 9/25/15 19:30
Date Prepared: 9/28/15
Project: 15166; EBALDC

WorkOrder: 1509A61
Extraction Method: SW5030B
Analytical Method: SW8260B
Unit: mg/kg

Volatile Organics by P&T and GC/MS (Basic Target List)

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
S-4½-ECB4	1509A61-012A	Soil	09/24/2015 10:55	GC18	110781
Analytes	Result	RL	DF	Date Analyzed	
Acetone	ND	0.10	1	09/29/2015 22:05	
tert-Amyl methyl ether (TAME)	ND	0.0050	1	09/29/2015 22:05	
Benzene	ND	0.0050	1	09/29/2015 22:05	
Bromobenzene	ND	0.0050	1	09/29/2015 22:05	
Bromochloromethane	ND	0.0050	1	09/29/2015 22:05	
Bromodichloromethane	ND	0.0050	1	09/29/2015 22:05	
Bromoform	ND	0.0050	1	09/29/2015 22:05	
Bromomethane	ND	0.0050	1	09/29/2015 22:05	
2-Butanone (MEK)	ND	0.020	1	09/29/2015 22:05	
t-Butyl alcohol (TBA)	ND	0.050	1	09/29/2015 22:05	
n-Butyl benzene	ND	0.0050	1	09/29/2015 22:05	
sec-Butyl benzene	ND	0.0050	1	09/29/2015 22:05	
tert-Butyl benzene	ND	0.0050	1	09/29/2015 22:05	
Carbon Disulfide	ND	0.0050	1	09/29/2015 22:05	
Carbon Tetrachloride	ND	0.0050	1	09/29/2015 22:05	
Chlorobenzene	ND	0.0050	1	09/29/2015 22:05	
Chloroethane	ND	0.0050	1	09/29/2015 22:05	
Chloroform	ND	0.0050	1	09/29/2015 22:05	
Chloromethane	ND	0.0050	1	09/29/2015 22:05	
2-Chlorotoluene	ND	0.0050	1	09/29/2015 22:05	
4-Chlorotoluene	ND	0.0050	1	09/29/2015 22:05	
Dibromochloromethane	ND	0.0050	1	09/29/2015 22:05	
1,2-Dibromo-3-chloropropane	ND	0.0040	1	09/29/2015 22:05	
1,2-Dibromoethane (EDB)	ND	0.0040	1	09/29/2015 22:05	
Dibromomethane	ND	0.0050	1	09/29/2015 22:05	
1,2-Dichlorobenzene	ND	0.0050	1	09/29/2015 22:05	
1,3-Dichlorobenzene	ND	0.0050	1	09/29/2015 22:05	
1,4-Dichlorobenzene	ND	0.0050	1	09/29/2015 22:05	
Dichlorodifluoromethane	ND	0.0050	1	09/29/2015 22:05	
1,1-Dichloroethane	ND	0.0050	1	09/29/2015 22:05	
1,2-Dichloroethane (1,2-DCA)	ND	0.0040	1	09/29/2015 22:05	
1,1-Dichloroethene	ND	0.0050	1	09/29/2015 22:05	
cis-1,2-Dichloroethene	ND	0.0050	1	09/29/2015 22:05	
trans-1,2-Dichloroethene	ND	0.0050	1	09/29/2015 22:05	
1,2-Dichloropropane	ND	0.0050	1	09/29/2015 22:05	
1,3-Dichloropropane	ND	0.0050	1	09/29/2015 22:05	
2,2-Dichloropropane	ND	0.0050	1	09/29/2015 22:05	

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Analytical Report

Client: Essel Environmental Consulting
Date Received: 9/25/15 19:30
Date Prepared: 9/28/15
Project: 15166; EBALDC

WorkOrder: 1509A61
Extraction Method: SW5030B
Analytical Method: SW8260B
Unit: mg/kg

Volatile Organics by P&T and GC/MS (Basic Target List)

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
S-4½-ECB4	1509A61-012A	Soil	09/24/2015 10:55	GC18	110781
Analytes	Result	RL	DF	Date Analyzed	
1,1-Dichloropropene	ND	0.0050	1	09/29/2015 22:05	
cis-1,3-Dichloropropene	ND	0.0050	1	09/29/2015 22:05	
trans-1,3-Dichloropropene	ND	0.0050	1	09/29/2015 22:05	
Diisopropyl ether (DIPE)	ND	0.0050	1	09/29/2015 22:05	
Ethylbenzene	ND	0.0050	1	09/29/2015 22:05	
Ethyl tert-butyl ether (ETBE)	ND	0.0050	1	09/29/2015 22:05	
Freon 113	ND	0.0050	1	09/29/2015 22:05	
Hexachlorobutadiene	ND	0.0050	1	09/29/2015 22:05	
Hexachloroethane	ND	0.0050	1	09/29/2015 22:05	
2-Hexanone	ND	0.0050	1	09/29/2015 22:05	
Isopropylbenzene	ND	0.0050	1	09/29/2015 22:05	
4-Isopropyl toluene	ND	0.0050	1	09/29/2015 22:05	
Methyl-t-butyl ether (MTBE)	ND	0.0050	1	09/29/2015 22:05	
Methylene chloride	ND	0.0050	1	09/29/2015 22:05	
4-Methyl-2-pentanone (MIBK)	ND	0.0050	1	09/29/2015 22:05	
Naphthalene	ND	0.0050	1	09/29/2015 22:05	
n-Propyl benzene	ND	0.0050	1	09/29/2015 22:05	
Styrene	ND	0.0050	1	09/29/2015 22:05	
1,1,1,2-Tetrachloroethane	ND	0.0050	1	09/29/2015 22:05	
1,1,2,2-Tetrachloroethane	ND	0.0050	1	09/29/2015 22:05	
Tetrachloroethene	ND	0.0050	1	09/29/2015 22:05	
Toluene	ND	0.0050	1	09/29/2015 22:05	
1,2,3-Trichlorobenzene	ND	0.0050	1	09/29/2015 22:05	
1,2,4-Trichlorobenzene	ND	0.0050	1	09/29/2015 22:05	
1,1,1-Trichloroethane	ND	0.0050	1	09/29/2015 22:05	
1,1,2-Trichloroethane	ND	0.0050	1	09/29/2015 22:05	
Trichloroethene	ND	0.0050	1	09/29/2015 22:05	
Trichlorofluoromethane	ND	0.0050	1	09/29/2015 22:05	
1,2,3-Trichloropropane	ND	0.0050	1	09/29/2015 22:05	
1,2,4-Trimethylbenzene	ND	0.0050	1	09/29/2015 22:05	
1,3,5-Trimethylbenzene	ND	0.0050	1	09/29/2015 22:05	
Vinyl Chloride	ND	0.0050	1	09/29/2015 22:05	
Xylenes, Total	ND	0.0050	1	09/29/2015 22:05	

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Analytical Report

Client: Essel Environmental Consulting
Date Received: 9/25/15 19:30
Date Prepared: 9/28/15
Project: 15166; EBALDC

WorkOrder: 1509A61
Extraction Method: SW5030B
Analytical Method: SW8260B
Unit: mg/kg

Volatile Organics by P&T and GC/MS (Basic Target List)

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
S-4½-ECB4	1509A61-012A	Soil	09/24/2015 10:55	GC18	110781

Analytes	Result	RL	DF	Date Analyzed
<u>Surrogates</u>	<u>REC (%)</u>		<u>Limits</u>	
Dibromofluoromethane	103	70-130		09/29/2015 22:05
Toluene-d8	86	70-130		09/29/2015 22:05
4-BFB	88	70-130		09/29/2015 22:05
Benzene-d6	123	60-140		09/29/2015 22:05
Ethylbenzene-d10	124	60-140		09/29/2015 22:05
1,2-DCB-d4	107	60-140		09/29/2015 22:05

Analyst(s): AK



Analytical Report

Client: Essel Environmental Consulting
Date Received: 9/25/15 19:30
Date Prepared: 9/28/15
Project: 15166; EBALDC

WorkOrder: 1509A61
Extraction Method: SW5030B
Analytical Method: SW8260B
Unit: mg/kg

Volatile Organics by P&T and GC/MS (Basic Target List)

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
S-9-ECB4	1509A61-013A	Soil	09/24/2015 11:01	GC16	110781

Analytes	Result	RL	DF	Date Analyzed
Acetone	ND	0.10	1	09/29/2015 23:07
tert-Amyl methyl ether (TAME)	ND	0.0050	1	09/29/2015 23:07
Benzene	ND	0.0050	1	09/29/2015 23:07
Bromobenzene	ND	0.0050	1	09/29/2015 23:07
Bromochloromethane	ND	0.0050	1	09/29/2015 23:07
Bromodichloromethane	ND	0.0050	1	09/29/2015 23:07
Bromoform	ND	0.0050	1	09/29/2015 23:07
Bromomethane	ND	0.0050	1	09/29/2015 23:07
2-Butanone (MEK)	ND	0.020	1	09/29/2015 23:07
t-Butyl alcohol (TBA)	ND	0.050	1	09/29/2015 23:07
n-Butyl benzene	ND	0.0050	1	09/29/2015 23:07
sec-Butyl benzene	ND	0.0050	1	09/29/2015 23:07
tert-Butyl benzene	ND	0.0050	1	09/29/2015 23:07
Carbon Disulfide	ND	0.0050	1	09/29/2015 23:07
Carbon Tetrachloride	ND	0.0050	1	09/29/2015 23:07
Chlorobenzene	ND	0.0050	1	09/29/2015 23:07
Chloroethane	ND	0.0050	1	09/29/2015 23:07
Chloroform	ND	0.0050	1	09/29/2015 23:07
Chloromethane	ND	0.0050	1	09/29/2015 23:07
2-Chlorotoluene	ND	0.0050	1	09/29/2015 23:07
4-Chlorotoluene	ND	0.0050	1	09/29/2015 23:07
Dibromochloromethane	ND	0.0050	1	09/29/2015 23:07
1,2-Dibromo-3-chloropropane	ND	0.0040	1	09/29/2015 23:07
1,2-Dibromoethane (EDB)	ND	0.0040	1	09/29/2015 23:07
Dibromomethane	ND	0.0050	1	09/29/2015 23:07
1,2-Dichlorobenzene	ND	0.0050	1	09/29/2015 23:07
1,3-Dichlorobenzene	ND	0.0050	1	09/29/2015 23:07
1,4-Dichlorobenzene	ND	0.0050	1	09/29/2015 23:07
Dichlorodifluoromethane	ND	0.0050	1	09/29/2015 23:07
1,1-Dichloroethane	ND	0.0050	1	09/29/2015 23:07
1,2-Dichloroethane (1,2-DCA)	ND	0.0040	1	09/29/2015 23:07
1,1-Dichloroethene	ND	0.0050	1	09/29/2015 23:07
cis-1,2-Dichloroethene	ND	0.0050	1	09/29/2015 23:07
trans-1,2-Dichloroethene	ND	0.0050	1	09/29/2015 23:07
1,2-Dichloropropane	ND	0.0050	1	09/29/2015 23:07
1,3-Dichloropropane	ND	0.0050	1	09/29/2015 23:07
2,2-Dichloropropane	ND	0.0050	1	09/29/2015 23:07

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Analytical Report

Client: Essel Environmental Consulting
Date Received: 9/25/15 19:30
Date Prepared: 9/28/15
Project: 15166; EBALDC

WorkOrder: 1509A61
Extraction Method: SW5030B
Analytical Method: SW8260B
Unit: mg/kg

Volatile Organics by P&T and GC/MS (Basic Target List)

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
S-9-ECB4	1509A61-013A	Soil	09/24/2015 11:01	GC16	110781

Analytes	Result	RL	DF	Date Analyzed
1,1-Dichloropropene	ND	0.0050	1	09/29/2015 23:07
cis-1,3-Dichloropropene	ND	0.0050	1	09/29/2015 23:07
trans-1,3-Dichloropropene	ND	0.0050	1	09/29/2015 23:07
Diisopropyl ether (DIPE)	ND	0.0050	1	09/29/2015 23:07
Ethylbenzene	ND	0.0050	1	09/29/2015 23:07
Ethyl tert-butyl ether (ETBE)	ND	0.0050	1	09/29/2015 23:07
Freon 113	ND	0.0050	1	09/29/2015 23:07
Hexachlorobutadiene	ND	0.0050	1	09/29/2015 23:07
Hexachloroethane	ND	0.0050	1	09/29/2015 23:07
2-Hexanone	ND	0.0050	1	09/29/2015 23:07
Isopropylbenzene	ND	0.0050	1	09/29/2015 23:07
4-Isopropyl toluene	ND	0.0050	1	09/29/2015 23:07
Methyl-t-butyl ether (MTBE)	ND	0.0050	1	09/29/2015 23:07
Methylene chloride	ND	0.0050	1	09/29/2015 23:07
4-Methyl-2-pentanone (MIBK)	ND	0.0050	1	09/29/2015 23:07
Naphthalene	ND	0.0050	1	09/29/2015 23:07
n-Propyl benzene	ND	0.0050	1	09/29/2015 23:07
Styrene	ND	0.0050	1	09/29/2015 23:07
1,1,1,2-Tetrachloroethane	ND	0.0050	1	09/29/2015 23:07
1,1,2,2-Tetrachloroethane	ND	0.0050	1	09/29/2015 23:07
Tetrachloroethene	ND	0.0050	1	09/29/2015 23:07
Toluene	ND	0.0050	1	09/29/2015 23:07
1,2,3-Trichlorobenzene	ND	0.0050	1	09/29/2015 23:07
1,2,4-Trichlorobenzene	ND	0.0050	1	09/29/2015 23:07
1,1,1-Trichloroethane	ND	0.0050	1	09/29/2015 23:07
1,1,2-Trichloroethane	ND	0.0050	1	09/29/2015 23:07
Trichloroethene	ND	0.0050	1	09/29/2015 23:07
Trichlorofluoromethane	ND	0.0050	1	09/29/2015 23:07
1,2,3-Trichloropropane	ND	0.0050	1	09/29/2015 23:07
1,2,4-Trimethylbenzene	ND	0.0050	1	09/29/2015 23:07
1,3,5-Trimethylbenzene	ND	0.0050	1	09/29/2015 23:07
Vinyl Chloride	ND	0.0050	1	09/29/2015 23:07
Xylenes, Total	ND	0.0050	1	09/29/2015 23:07

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Analytical Report

Client: Essel Environmental Consulting
Date Received: 9/25/15 19:30
Date Prepared: 9/28/15
Project: 15166; EBALDC

WorkOrder: 1509A61
Extraction Method: SW5030B
Analytical Method: SW8260B
Unit: mg/kg

Volatile Organics by P&T and GC/MS (Basic Target List)

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
S-9-ECB4	1509A61-013A	Soil	09/24/2015 11:01	GC16	110781

Analytes	Result	RL	DF	Date Analyzed
<u>Surrogates</u>	<u>REC (%)</u>	<u>Limits</u>		
Dibromofluoromethane	92	70-130		09/29/2015 23:07
Toluene-d8	99	70-130		09/29/2015 23:07
4-BFB	100	70-130		09/29/2015 23:07
Benzene-d6	96	60-140		09/29/2015 23:07
Ethylbenzene-d10	110	60-140		09/29/2015 23:07
1,2-DCB-d4	75	60-140		09/29/2015 23:07

Analyst(s): AK



Analytical Report

Client: Essel Environmental Consulting
Date Received: 9/25/15 19:30
Date Prepared: 9/28/15
Project: 15166; EBALDC

WorkOrder: 1509A61
Extraction Method: SW5030B
Analytical Method: SW8260B
Unit: mg/kg

Volatile Organics by P&T and GC/MS (Basic Target List)

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
S-13-ECB4	1509A61-014A	Soil	09/24/2015 11:10	GC28	110781
Analytes	Result	RL	DF	Date Analyzed	
Acetone	ND	10	100	10/01/2015 05:33	
tert-Amyl methyl ether (TAME)	ND	0.50	100	10/01/2015 05:33	
Benzene	ND	0.50	100	10/01/2015 05:33	
Bromobenzene	ND	0.50	100	10/01/2015 05:33	
Bromochloromethane	ND	0.50	100	10/01/2015 05:33	
Bromodichloromethane	ND	0.50	100	10/01/2015 05:33	
Bromoform	ND	0.50	100	10/01/2015 05:33	
Bromomethane	ND	0.50	100	10/01/2015 05:33	
2-Butanone (MEK)	ND	2.0	100	10/01/2015 05:33	
t-Butyl alcohol (TBA)	ND	5.0	100	10/01/2015 05:33	
n-Butyl benzene	ND	0.50	100	10/01/2015 05:33	
sec-Butyl benzene	ND	0.50	100	10/01/2015 05:33	
tert-Butyl benzene	ND	0.50	100	10/01/2015 05:33	
Carbon Disulfide	ND	0.50	100	10/01/2015 05:33	
Carbon Tetrachloride	ND	0.50	100	10/01/2015 05:33	
Chlorobenzene	ND	0.50	100	10/01/2015 05:33	
Chloroethane	ND	0.50	100	10/01/2015 05:33	
Chloroform	ND	0.50	100	10/01/2015 05:33	
Chloromethane	ND	0.50	100	10/01/2015 05:33	
2-Chlorotoluene	ND	0.50	100	10/01/2015 05:33	
4-Chlorotoluene	ND	0.50	100	10/01/2015 05:33	
Dibromochloromethane	ND	0.50	100	10/01/2015 05:33	
1,2-Dibromo-3-chloropropane	ND	0.40	100	10/01/2015 05:33	
1,2-Dibromoethane (EDB)	ND	0.40	100	10/01/2015 05:33	
Dibromomethane	ND	0.50	100	10/01/2015 05:33	
1,2-Dichlorobenzene	ND	0.50	100	10/01/2015 05:33	
1,3-Dichlorobenzene	ND	0.50	100	10/01/2015 05:33	
1,4-Dichlorobenzene	ND	0.50	100	10/01/2015 05:33	
Dichlorodifluoromethane	ND	0.50	100	10/01/2015 05:33	
1,1-Dichloroethane	ND	0.50	100	10/01/2015 05:33	
1,2-Dichloroethane (1,2-DCA)	ND	0.40	100	10/01/2015 05:33	
1,1-Dichloroethene	ND	0.50	100	10/01/2015 05:33	
cis-1,2-Dichloroethene	ND	0.50	100	10/01/2015 05:33	
trans-1,2-Dichloroethene	ND	0.50	100	10/01/2015 05:33	
1,2-Dichloropropane	ND	0.50	100	10/01/2015 05:33	
1,3-Dichloropropane	ND	0.50	100	10/01/2015 05:33	
2,2-Dichloropropane	ND	0.50	100	10/01/2015 05:33	

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Analytical Report

Client: Essel Environmental Consulting
Date Received: 9/25/15 19:30
Date Prepared: 9/28/15
Project: 15166; EBALDC

WorkOrder: 1509A61
Extraction Method: SW5030B
Analytical Method: SW8260B
Unit: mg/kg

Volatile Organics by P&T and GC/MS (Basic Target List)

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
S-13-ECB4	1509A61-014A	Soil	09/24/2015 11:10	GC28	110781
Analytes	Result	RL	DF	Date Analyzed	
1,1-Dichloropropene	ND	0.50	100	10/01/2015 05:33	
cis-1,3-Dichloropropene	ND	0.50	100	10/01/2015 05:33	
trans-1,3-Dichloropropene	ND	0.50	100	10/01/2015 05:33	
Diisopropyl ether (DIPE)	ND	0.50	100	10/01/2015 05:33	
Ethylbenzene	ND	0.50	100	10/01/2015 05:33	
Ethyl tert-butyl ether (ETBE)	ND	0.50	100	10/01/2015 05:33	
Freon 113	ND	0.50	100	10/01/2015 05:33	
Hexachlorobutadiene	ND	0.50	100	10/01/2015 05:33	
Hexachloroethane	ND	0.50	100	10/01/2015 05:33	
2-Hexanone	ND	0.50	100	10/01/2015 05:33	
Isopropylbenzene	ND	0.50	100	10/01/2015 05:33	
4-Isopropyl toluene	ND	0.50	100	10/01/2015 05:33	
Methyl-t-butyl ether (MTBE)	ND	0.50	100	10/01/2015 05:33	
Methylene chloride	ND	0.50	100	10/01/2015 05:33	
4-Methyl-2-pentanone (MIBK)	ND	0.50	100	10/01/2015 05:33	
Naphthalene	ND	0.50	100	10/01/2015 05:33	
n-Propyl benzene	ND	0.50	100	10/01/2015 05:33	
Styrene	ND	0.50	100	10/01/2015 05:33	
1,1,1,2-Tetrachloroethane	ND	0.50	100	10/01/2015 05:33	
1,1,2,2-Tetrachloroethane	ND	0.50	100	10/01/2015 05:33	
Tetrachloroethene	ND	0.50	100	10/01/2015 05:33	
Toluene	ND	0.50	100	10/01/2015 05:33	
1,2,3-Trichlorobenzene	ND	0.50	100	10/01/2015 05:33	
1,2,4-Trichlorobenzene	ND	0.50	100	10/01/2015 05:33	
1,1,1-Trichloroethane	ND	0.50	100	10/01/2015 05:33	
1,1,2-Trichloroethane	ND	0.50	100	10/01/2015 05:33	
Trichloroethene	ND	0.50	100	10/01/2015 05:33	
Trichlorofluoromethane	ND	0.50	100	10/01/2015 05:33	
1,2,3-Trichloropropane	ND	0.50	100	10/01/2015 05:33	
1,2,4-Trimethylbenzene	ND	0.50	100	10/01/2015 05:33	
1,3,5-Trimethylbenzene	ND	0.50	100	10/01/2015 05:33	
Vinyl Chloride	ND	0.50	100	10/01/2015 05:33	
Xylenes, Total	ND	0.50	100	10/01/2015 05:33	

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Analytical Report

Client: Essel Environmental Consulting
Date Received: 9/25/15 19:30
Date Prepared: 9/28/15
Project: 15166; EBALDC

WorkOrder: 1509A61
Extraction Method: SW5030B
Analytical Method: SW8260B
Unit: mg/kg

Volatile Organics by P&T and GC/MS (Basic Target List)

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
S-13-ECB4	1509A61-014A	Soil	09/24/2015 11:10	GC28	110781

Analytes	Result	RL	DF	Date Analyzed
<u>Surrogates</u>	<u>REC (%)</u>	<u>Qualifiers</u>	<u>Limits</u>	
Dibromofluoromethane	114		70-130	10/01/2015 05:33
Toluene-d8	97		70-130	10/01/2015 05:33
4-BFB	117		70-130	10/01/2015 05:33
Benzene-d6	90		60-140	10/01/2015 05:33
Ethylbenzene-d10	331	S	60-140	10/01/2015 05:33
1,2-DCB-d4	249	S	60-140	10/01/2015 05:33

Analyst(s): AK

Analytical Comments: c7,a2,a3



Analytical Report

Client: Essel Environmental Consulting
Date Received: 9/25/15 19:30
Date Prepared: 9/28/15
Project: 15166; EBALDC

WorkOrder: 1509A61
Extraction Method: SW5030B
Analytical Method: SW8260B
Unit: mg/kg

Volatile Organics by P&T and GC/MS (Basic Target List)

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
S-17½-ECB4	1509A61-015A	Soil	09/24/2015 11:12	GC18	110781
Analytes	Result	RL	DF	Date Analyzed	
Acetone	ND	0.10	1	09/29/2015 22:43	
tert-Amyl methyl ether (TAME)	ND	0.0050	1	09/29/2015 22:43	
Benzene	ND	0.0050	1	09/29/2015 22:43	
Bromobenzene	ND	0.0050	1	09/29/2015 22:43	
Bromochloromethane	ND	0.0050	1	09/29/2015 22:43	
Bromodichloromethane	ND	0.0050	1	09/29/2015 22:43	
Bromoform	ND	0.0050	1	09/29/2015 22:43	
Bromomethane	ND	0.0050	1	09/29/2015 22:43	
2-Butanone (MEK)	ND	0.020	1	09/29/2015 22:43	
t-Butyl alcohol (TBA)	ND	0.050	1	09/29/2015 22:43	
n-Butyl benzene	ND	0.0050	1	09/29/2015 22:43	
sec-Butyl benzene	ND	0.0050	1	09/29/2015 22:43	
tert-Butyl benzene	ND	0.0050	1	09/29/2015 22:43	
Carbon Disulfide	ND	0.0050	1	09/29/2015 22:43	
Carbon Tetrachloride	ND	0.0050	1	09/29/2015 22:43	
Chlorobenzene	ND	0.0050	1	09/29/2015 22:43	
Chloroethane	ND	0.0050	1	09/29/2015 22:43	
Chloroform	ND	0.0050	1	09/29/2015 22:43	
Chloromethane	ND	0.0050	1	09/29/2015 22:43	
2-Chlorotoluene	ND	0.0050	1	09/29/2015 22:43	
4-Chlorotoluene	ND	0.0050	1	09/29/2015 22:43	
Dibromochloromethane	ND	0.0050	1	09/29/2015 22:43	
1,2-Dibromo-3-chloropropane	ND	0.0040	1	09/29/2015 22:43	
1,2-Dibromoethane (EDB)	ND	0.0040	1	09/29/2015 22:43	
Dibromomethane	ND	0.0050	1	09/29/2015 22:43	
1,2-Dichlorobenzene	ND	0.0050	1	09/29/2015 22:43	
1,3-Dichlorobenzene	ND	0.0050	1	09/29/2015 22:43	
1,4-Dichlorobenzene	ND	0.0050	1	09/29/2015 22:43	
Dichlorodifluoromethane	ND	0.0050	1	09/29/2015 22:43	
1,1-Dichloroethane	ND	0.0050	1	09/29/2015 22:43	
1,2-Dichloroethane (1,2-DCA)	ND	0.0040	1	09/29/2015 22:43	
1,1-Dichloroethene	ND	0.0050	1	09/29/2015 22:43	
cis-1,2-Dichloroethene	ND	0.0050	1	09/29/2015 22:43	
trans-1,2-Dichloroethene	ND	0.0050	1	09/29/2015 22:43	
1,2-Dichloropropane	ND	0.0050	1	09/29/2015 22:43	
1,3-Dichloropropane	ND	0.0050	1	09/29/2015 22:43	
2,2-Dichloropropane	ND	0.0050	1	09/29/2015 22:43	

(Cont.)



Analytical Report

Client: Essel Environmental Consulting
Date Received: 9/25/15 19:30
Date Prepared: 9/28/15
Project: 15166; EBALDC

WorkOrder: 1509A61
Extraction Method: SW5030B
Analytical Method: SW8260B
Unit: mg/kg

Volatile Organics by P&T and GC/MS (Basic Target List)

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
S-17½-ECB4	1509A61-015A	Soil	09/24/2015 11:12	GC18	110781

Analytes	Result	RL	DF	Date Analyzed
1,1-Dichloropropene	ND	0.0050	1	09/29/2015 22:43
cis-1,3-Dichloropropene	ND	0.0050	1	09/29/2015 22:43
trans-1,3-Dichloropropene	ND	0.0050	1	09/29/2015 22:43
Diisopropyl ether (DIPE)	ND	0.0050	1	09/29/2015 22:43
Ethylbenzene	ND	0.0050	1	09/29/2015 22:43
Ethyl tert-butyl ether (ETBE)	ND	0.0050	1	09/29/2015 22:43
Freon 113	ND	0.0050	1	09/29/2015 22:43
Hexachlorobutadiene	ND	0.0050	1	09/29/2015 22:43
Hexachloroethane	ND	0.0050	1	09/29/2015 22:43
2-Hexanone	ND	0.0050	1	09/29/2015 22:43
Isopropylbenzene	ND	0.0050	1	09/29/2015 22:43
4-Isopropyl toluene	ND	0.0050	1	09/29/2015 22:43
Methyl-t-butyl ether (MTBE)	ND	0.0050	1	09/29/2015 22:43
Methylene chloride	ND	0.0050	1	09/29/2015 22:43
4-Methyl-2-pentanone (MIBK)	ND	0.0050	1	09/29/2015 22:43
Naphthalene	ND	0.0050	1	09/29/2015 22:43
n-Propyl benzene	ND	0.0050	1	09/29/2015 22:43
Styrene	ND	0.0050	1	09/29/2015 22:43
1,1,1,2-Tetrachloroethane	ND	0.0050	1	09/29/2015 22:43
1,1,2,2-Tetrachloroethane	ND	0.0050	1	09/29/2015 22:43
Tetrachloroethene	ND	0.0050	1	09/29/2015 22:43
Toluene	ND	0.0050	1	09/29/2015 22:43
1,2,3-Trichlorobenzene	ND	0.0050	1	09/29/2015 22:43
1,2,4-Trichlorobenzene	ND	0.0050	1	09/29/2015 22:43
1,1,1-Trichloroethane	ND	0.0050	1	09/29/2015 22:43
1,1,2-Trichloroethane	ND	0.0050	1	09/29/2015 22:43
Trichloroethene	ND	0.0050	1	09/29/2015 22:43
Trichlorofluoromethane	ND	0.0050	1	09/29/2015 22:43
1,2,3-Trichloropropane	ND	0.0050	1	09/29/2015 22:43
1,2,4-Trimethylbenzene	ND	0.0050	1	09/29/2015 22:43
1,3,5-Trimethylbenzene	ND	0.0050	1	09/29/2015 22:43
Vinyl Chloride	ND	0.0050	1	09/29/2015 22:43
Xylenes, Total	ND	0.0050	1	09/29/2015 22:43

(Cont.)



Analytical Report

Client: Essel Environmental Consulting
Date Received: 9/25/15 19:30
Date Prepared: 9/28/15
Project: 15166; EBALDC

WorkOrder: 1509A61
Extraction Method: SW5030B
Analytical Method: SW8260B
Unit: mg/kg

Volatile Organics by P&T and GC/MS (Basic Target List)

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
S-17½-ECB4	1509A61-015A	Soil	09/24/2015 11:12	GC18	110781

Analytes	Result	RL	DF	Date Analyzed
<u>Surrogates</u>	<u>REC (%)</u>	<u>Limits</u>		
Dibromofluoromethane	103	70-130		09/29/2015 22:43
Toluene-d8	87	70-130		09/29/2015 22:43
4-BFB	86	70-130		09/29/2015 22:43
Benzene-d6	125	60-140		09/29/2015 22:43
Ethylbenzene-d10	128	60-140		09/29/2015 22:43
1,2-DCB-d4	112	60-140		09/29/2015 22:43

Analyst(s): AK



Analytical Report

Client: Essel Environmental Consulting
Date Received: 9/25/15 19:30
Date Prepared: 9/28/15
Project: 15166; EBALDC

WorkOrder: 1509A61
Extraction Method: SW5030B
Analytical Method: SW8260B
Unit: mg/kg

Volatile Organics by P&T and GC/MS (Basic Target List)

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
S-4-ECB5	1509A61-016A	Soil	09/24/2015 14:44	GC18	110781
Analytes	Result	RL	DF	Date Analyzed	
Acetone	ND	0.10	1	09/29/2015 23:22	
tert-Amyl methyl ether (TAME)	ND	0.0050	1	09/29/2015 23:22	
Benzene	ND	0.0050	1	09/29/2015 23:22	
Bromobenzene	ND	0.0050	1	09/29/2015 23:22	
Bromochloromethane	ND	0.0050	1	09/29/2015 23:22	
Bromodichloromethane	ND	0.0050	1	09/29/2015 23:22	
Bromoform	ND	0.0050	1	09/29/2015 23:22	
Bromomethane	ND	0.0050	1	09/29/2015 23:22	
2-Butanone (MEK)	ND	0.020	1	09/29/2015 23:22	
t-Butyl alcohol (TBA)	ND	0.050	1	09/29/2015 23:22	
n-Butyl benzene	ND	0.0050	1	09/29/2015 23:22	
sec-Butyl benzene	ND	0.0050	1	09/29/2015 23:22	
tert-Butyl benzene	ND	0.0050	1	09/29/2015 23:22	
Carbon Disulfide	ND	0.0050	1	09/29/2015 23:22	
Carbon Tetrachloride	ND	0.0050	1	09/29/2015 23:22	
Chlorobenzene	ND	0.0050	1	09/29/2015 23:22	
Chloroethane	ND	0.0050	1	09/29/2015 23:22	
Chloroform	ND	0.0050	1	09/29/2015 23:22	
Chloromethane	ND	0.0050	1	09/29/2015 23:22	
2-Chlorotoluene	ND	0.0050	1	09/29/2015 23:22	
4-Chlorotoluene	ND	0.0050	1	09/29/2015 23:22	
Dibromochloromethane	ND	0.0050	1	09/29/2015 23:22	
1,2-Dibromo-3-chloropropane	ND	0.0040	1	09/29/2015 23:22	
1,2-Dibromoethane (EDB)	ND	0.0040	1	09/29/2015 23:22	
Dibromomethane	ND	0.0050	1	09/29/2015 23:22	
1,2-Dichlorobenzene	ND	0.0050	1	09/29/2015 23:22	
1,3-Dichlorobenzene	ND	0.0050	1	09/29/2015 23:22	
1,4-Dichlorobenzene	ND	0.0050	1	09/29/2015 23:22	
Dichlorodifluoromethane	ND	0.0050	1	09/29/2015 23:22	
1,1-Dichloroethane	ND	0.0050	1	09/29/2015 23:22	
1,2-Dichloroethane (1,2-DCA)	ND	0.0040	1	09/29/2015 23:22	
1,1-Dichloroethene	ND	0.0050	1	09/29/2015 23:22	
cis-1,2-Dichloroethene	ND	0.0050	1	09/29/2015 23:22	
trans-1,2-Dichloroethene	ND	0.0050	1	09/29/2015 23:22	
1,2-Dichloropropane	ND	0.0050	1	09/29/2015 23:22	
1,3-Dichloropropane	ND	0.0050	1	09/29/2015 23:22	
2,2-Dichloropropane	ND	0.0050	1	09/29/2015 23:22	

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Analytical Report

Client: Essel Environmental Consulting
Date Received: 9/25/15 19:30
Date Prepared: 9/28/15
Project: 15166; EBALDC

WorkOrder: 1509A61
Extraction Method: SW5030B
Analytical Method: SW8260B
Unit: mg/kg

Volatile Organics by P&T and GC/MS (Basic Target List)

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
S-4-ECB5	1509A61-016A	Soil	09/24/2015 14:44	GC18	110781

Analytes	Result	RL	DF	Date Analyzed
1,1-Dichloropropene	ND	0.0050	1	09/29/2015 23:22
cis-1,3-Dichloropropene	ND	0.0050	1	09/29/2015 23:22
trans-1,3-Dichloropropene	ND	0.0050	1	09/29/2015 23:22
Diisopropyl ether (DIPE)	ND	0.0050	1	09/29/2015 23:22
Ethylbenzene	ND	0.0050	1	09/29/2015 23:22
Ethyl tert-butyl ether (ETBE)	ND	0.0050	1	09/29/2015 23:22
Freon 113	ND	0.0050	1	09/29/2015 23:22
Hexachlorobutadiene	ND	0.0050	1	09/29/2015 23:22
Hexachloroethane	ND	0.0050	1	09/29/2015 23:22
2-Hexanone	ND	0.0050	1	09/29/2015 23:22
Isopropylbenzene	ND	0.0050	1	09/29/2015 23:22
4-Isopropyl toluene	ND	0.0050	1	09/29/2015 23:22
Methyl-t-butyl ether (MTBE)	ND	0.0050	1	09/29/2015 23:22
Methylene chloride	ND	0.0050	1	09/29/2015 23:22
4-Methyl-2-pentanone (MIBK)	ND	0.0050	1	09/29/2015 23:22
Naphthalene	ND	0.0050	1	09/29/2015 23:22
n-Propyl benzene	ND	0.0050	1	09/29/2015 23:22
Styrene	ND	0.0050	1	09/29/2015 23:22
1,1,1,2-Tetrachloroethane	ND	0.0050	1	09/29/2015 23:22
1,1,2,2-Tetrachloroethane	ND	0.0050	1	09/29/2015 23:22
Tetrachloroethene	ND	0.0050	1	09/29/2015 23:22
Toluene	ND	0.0050	1	09/29/2015 23:22
1,2,3-Trichlorobenzene	ND	0.0050	1	09/29/2015 23:22
1,2,4-Trichlorobenzene	ND	0.0050	1	09/29/2015 23:22
1,1,1-Trichloroethane	ND	0.0050	1	09/29/2015 23:22
1,1,2-Trichloroethane	ND	0.0050	1	09/29/2015 23:22
Trichloroethene	ND	0.0050	1	09/29/2015 23:22
Trichlorofluoromethane	ND	0.0050	1	09/29/2015 23:22
1,2,3-Trichloropropane	ND	0.0050	1	09/29/2015 23:22
1,2,4-Trimethylbenzene	ND	0.0050	1	09/29/2015 23:22
1,3,5-Trimethylbenzene	ND	0.0050	1	09/29/2015 23:22
Vinyl Chloride	ND	0.0050	1	09/29/2015 23:22
Xylenes, Total	ND	0.0050	1	09/29/2015 23:22

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Analytical Report

Client: Essel Environmental Consulting
Date Received: 9/25/15 19:30
Date Prepared: 9/28/15
Project: 15166; EBALDC

WorkOrder: 1509A61
Extraction Method: SW5030B
Analytical Method: SW8260B
Unit: mg/kg

Volatile Organics by P&T and GC/MS (Basic Target List)

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
S-4-ECB5	1509A61-016A	Soil	09/24/2015 14:44	GC18	110781

Analytes	Result	RL	DF	Date Analyzed
<u>Surrogates</u>	<u>REC (%)</u>	<u>Limits</u>		
Dibromofluoromethane	103	70-130		09/29/2015 23:22
Toluene-d8	87	70-130		09/29/2015 23:22
4-BFB	90	70-130		09/29/2015 23:22
Benzene-d6	120	60-140		09/29/2015 23:22
Ethylbenzene-d10	123	60-140		09/29/2015 23:22
1,2-DCB-d4	107	60-140		09/29/2015 23:22

Analyst(s): AK



Analytical Report

Client: Essel Environmental Consulting
Date Received: 9/25/15 19:30
Date Prepared: 9/28/15
Project: 15166; EBALDC

WorkOrder: 1509A61
Extraction Method: SW5030B
Analytical Method: SW8260B
Unit: mg/kg

Volatile Organics by P&T and GC/MS (Basic Target List)

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
S-8-ECB5	1509A61-017A	Soil	09/24/2015 14:53	GC28	110781
Analytes	Result	RL	DF	Date Analyzed	
Acetone	ND	2.0	20	10/01/2015 06:10	
tert-Amyl methyl ether (TAME)	ND	0.10	20	10/01/2015 06:10	
Benzene	ND	0.10	20	10/01/2015 06:10	
Bromobenzene	ND	0.10	20	10/01/2015 06:10	
Bromochloromethane	ND	0.10	20	10/01/2015 06:10	
Bromodichloromethane	ND	0.10	20	10/01/2015 06:10	
Bromoform	ND	0.10	20	10/01/2015 06:10	
Bromomethane	ND	0.10	20	10/01/2015 06:10	
2-Butanone (MEK)	ND	0.40	20	10/01/2015 06:10	
t-Butyl alcohol (TBA)	ND	1.0	20	10/01/2015 06:10	
n-Butyl benzene	ND	0.10	20	10/01/2015 06:10	
sec-Butyl benzene	ND	0.10	20	10/01/2015 06:10	
tert-Butyl benzene	ND	0.10	20	10/01/2015 06:10	
Carbon Disulfide	ND	0.10	20	10/01/2015 06:10	
Carbon Tetrachloride	ND	0.10	20	10/01/2015 06:10	
Chlorobenzene	ND	0.10	20	10/01/2015 06:10	
Chloroethane	ND	0.10	20	10/01/2015 06:10	
Chloroform	ND	0.10	20	10/01/2015 06:10	
Chloromethane	ND	0.10	20	10/01/2015 06:10	
2-Chlorotoluene	ND	0.10	20	10/01/2015 06:10	
4-Chlorotoluene	ND	0.10	20	10/01/2015 06:10	
Dibromochloromethane	ND	0.10	20	10/01/2015 06:10	
1,2-Dibromo-3-chloropropane	ND	0.080	20	10/01/2015 06:10	
1,2-Dibromoethane (EDB)	ND	0.080	20	10/01/2015 06:10	
Dibromomethane	ND	0.10	20	10/01/2015 06:10	
1,2-Dichlorobenzene	ND	0.10	20	10/01/2015 06:10	
1,3-Dichlorobenzene	ND	0.10	20	10/01/2015 06:10	
1,4-Dichlorobenzene	ND	0.10	20	10/01/2015 06:10	
Dichlorodifluoromethane	ND	0.10	20	10/01/2015 06:10	
1,1-Dichloroethane	ND	0.10	20	10/01/2015 06:10	
1,2-Dichloroethane (1,2-DCA)	ND	0.080	20	10/01/2015 06:10	
1,1-Dichloroethene	ND	0.10	20	10/01/2015 06:10	
cis-1,2-Dichloroethene	ND	0.10	20	10/01/2015 06:10	
trans-1,2-Dichloroethene	ND	0.10	20	10/01/2015 06:10	
1,2-Dichloropropane	ND	0.10	20	10/01/2015 06:10	
1,3-Dichloropropane	ND	0.10	20	10/01/2015 06:10	
2,2-Dichloropropane	ND	0.10	20	10/01/2015 06:10	

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Analytical Report

Client: Essel Environmental Consulting
Date Received: 9/25/15 19:30
Date Prepared: 9/28/15
Project: 15166; EBALDC

WorkOrder: 1509A61
Extraction Method: SW5030B
Analytical Method: SW8260B
Unit: mg/kg

Volatile Organics by P&T and GC/MS (Basic Target List)

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
S-8-ECB5	1509A61-017A	Soil	09/24/2015 14:53	GC28	110781
Analytes	Result	RL	DF	Date Analyzed	
1,1-Dichloropropene	ND	0.10	20	10/01/2015 06:10	
cis-1,3-Dichloropropene	ND	0.10	20	10/01/2015 06:10	
trans-1,3-Dichloropropene	ND	0.10	20	10/01/2015 06:10	
Diisopropyl ether (DIPE)	ND	0.10	20	10/01/2015 06:10	
Ethylbenzene	ND	0.10	20	10/01/2015 06:10	
Ethyl tert-butyl ether (ETBE)	ND	0.10	20	10/01/2015 06:10	
Freon 113	ND	0.10	20	10/01/2015 06:10	
Hexachlorobutadiene	ND	0.10	20	10/01/2015 06:10	
Hexachloroethane	ND	0.10	20	10/01/2015 06:10	
2-Hexanone	ND	0.10	20	10/01/2015 06:10	
Isopropylbenzene	ND	0.10	20	10/01/2015 06:10	
4-Isopropyl toluene	ND	0.10	20	10/01/2015 06:10	
Methyl-t-butyl ether (MTBE)	ND	0.10	20	10/01/2015 06:10	
Methylene chloride	ND	0.10	20	10/01/2015 06:10	
4-Methyl-2-pentanone (MIBK)	ND	0.10	20	10/01/2015 06:10	
Naphthalene	ND	0.10	20	10/01/2015 06:10	
n-Propyl benzene	ND	0.10	20	10/01/2015 06:10	
Styrene	ND	0.10	20	10/01/2015 06:10	
1,1,1,2-Tetrachloroethane	ND	0.10	20	10/01/2015 06:10	
1,1,2,2-Tetrachloroethane	ND	0.10	20	10/01/2015 06:10	
Tetrachloroethene	ND	0.10	20	10/01/2015 06:10	
Toluene	ND	0.10	20	10/01/2015 06:10	
1,2,3-Trichlorobenzene	ND	0.10	20	10/01/2015 06:10	
1,2,4-Trichlorobenzene	ND	0.10	20	10/01/2015 06:10	
1,1,1-Trichloroethane	ND	0.10	20	10/01/2015 06:10	
1,1,2-Trichloroethane	ND	0.10	20	10/01/2015 06:10	
Trichloroethene	ND	0.10	20	10/01/2015 06:10	
Trichlorofluoromethane	ND	0.10	20	10/01/2015 06:10	
1,2,3-Trichloropropane	ND	0.10	20	10/01/2015 06:10	
1,2,4-Trimethylbenzene	ND	0.10	20	10/01/2015 06:10	
1,3,5-Trimethylbenzene	ND	0.10	20	10/01/2015 06:10	
Vinyl Chloride	ND	0.10	20	10/01/2015 06:10	
Xylenes, Total	ND	0.10	20	10/01/2015 06:10	

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Analytical Report

Client: Essel Environmental Consulting
Date Received: 9/25/15 19:30
Date Prepared: 9/28/15
Project: 15166; EBALDC

WorkOrder: 1509A61
Extraction Method: SW5030B
Analytical Method: SW8260B
Unit: mg/kg

Volatile Organics by P&T and GC/MS (Basic Target List)

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
S-8-ECB5	1509A61-017A	Soil	09/24/2015 14:53	GC28	110781

Analytes	Result	RL	DF	Date Analyzed
<u>Surrogates</u>	<u>REC (%)</u>		<u>Limits</u>	
Dibromofluoromethane	114	70-130		10/01/2015 06:10
Toluene-d8	103	70-130		10/01/2015 06:10
4-BFB	114	70-130		10/01/2015 06:10
Benzene-d6	100	60-140		10/01/2015 06:10
Ethylbenzene-d10	139	60-140		10/01/2015 06:10
1,2-DCB-d4	125	60-140		10/01/2015 06:10

Analyst(s): AK

Analytical Comments: a2,a3



Analytical Report

Client: Essel Environmental Consulting
Date Received: 9/25/15 19:30
Date Prepared: 9/28/15
Project: 15166; EBALDC

WorkOrder: 1509A61
Extraction Method: SW5030B
Analytical Method: SW8260B
Unit: mg/kg

Volatile Organics by P&T and GC/MS (Basic Target List)

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
S-14½-ECB5	1509A61-018A	Soil	09/24/2015 15:07	GC16	110781

Analytes	Result	RL	DF	Date Analyzed
Acetone	ND	2.0	20	10/01/2015 17:07
tert-Amyl methyl ether (TAME)	ND	0.10	20	10/01/2015 17:07
Benzene	ND	0.10	20	10/01/2015 17:07
Bromobenzene	ND	0.10	20	10/01/2015 17:07
Bromochloromethane	ND	0.10	20	10/01/2015 17:07
Bromodichloromethane	ND	0.10	20	10/01/2015 17:07
Bromoform	ND	0.10	20	10/01/2015 17:07
Bromomethane	ND	0.10	20	10/01/2015 17:07
2-Butanone (MEK)	ND	0.40	20	10/01/2015 17:07
t-Butyl alcohol (TBA)	ND	1.0	20	10/01/2015 17:07
n-Butyl benzene	ND	0.10	20	10/01/2015 17:07
sec-Butyl benzene	ND	0.10	20	10/01/2015 17:07
tert-Butyl benzene	ND	0.10	20	10/01/2015 17:07
Carbon Disulfide	ND	0.10	20	10/01/2015 17:07
Carbon Tetrachloride	ND	0.10	20	10/01/2015 17:07
Chlorobenzene	ND	0.10	20	10/01/2015 17:07
Chloroethane	ND	0.10	20	10/01/2015 17:07
Chloroform	ND	0.10	20	10/01/2015 17:07
Chloromethane	ND	0.10	20	10/01/2015 17:07
2-Chlorotoluene	ND	0.10	20	10/01/2015 17:07
4-Chlorotoluene	ND	0.10	20	10/01/2015 17:07
Dibromochloromethane	ND	0.10	20	10/01/2015 17:07
1,2-Dibromo-3-chloropropane	ND	0.080	20	10/01/2015 17:07
1,2-Dibromoethane (EDB)	ND	0.080	20	10/01/2015 17:07
Dibromomethane	ND	0.10	20	10/01/2015 17:07
1,2-Dichlorobenzene	ND	0.10	20	10/01/2015 17:07
1,3-Dichlorobenzene	ND	0.10	20	10/01/2015 17:07
1,4-Dichlorobenzene	ND	0.10	20	10/01/2015 17:07
Dichlorodifluoromethane	ND	0.10	20	10/01/2015 17:07
1,1-Dichloroethane	ND	0.10	20	10/01/2015 17:07
1,2-Dichloroethane (1,2-DCA)	ND	0.080	20	10/01/2015 17:07
1,1-Dichloroethene	ND	0.10	20	10/01/2015 17:07
cis-1,2-Dichloroethene	ND	0.10	20	10/01/2015 17:07
trans-1,2-Dichloroethene	ND	0.10	20	10/01/2015 17:07
1,2-Dichloropropane	ND	0.10	20	10/01/2015 17:07
1,3-Dichloropropane	ND	0.10	20	10/01/2015 17:07
2,2-Dichloropropane	ND	0.10	20	10/01/2015 17:07

(Cont.)



Analytical Report

Client: Essel Environmental Consulting
Date Received: 9/25/15 19:30
Date Prepared: 9/28/15
Project: 15166; EBALDC

WorkOrder: 1509A61
Extraction Method: SW5030B
Analytical Method: SW8260B
Unit: mg/kg

Volatile Organics by P&T and GC/MS (Basic Target List)

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
S-14½-ECB5	1509A61-018A	Soil	09/24/2015 15:07	GC16	110781
Analytes	Result	RL	DF	Date Analyzed	
1,1-Dichloropropene	ND	0.10	20	10/01/2015 17:07	
cis-1,3-Dichloropropene	ND	0.10	20	10/01/2015 17:07	
trans-1,3-Dichloropropene	ND	0.10	20	10/01/2015 17:07	
Diisopropyl ether (DIPE)	ND	0.10	20	10/01/2015 17:07	
Ethylbenzene	ND	0.10	20	10/01/2015 17:07	
Ethyl tert-butyl ether (ETBE)	ND	0.10	20	10/01/2015 17:07	
Freon 113	ND	0.10	20	10/01/2015 17:07	
Hexachlorobutadiene	ND	0.10	20	10/01/2015 17:07	
Hexachloroethane	ND	0.10	20	10/01/2015 17:07	
2-Hexanone	ND	0.10	20	10/01/2015 17:07	
Isopropylbenzene	ND	0.10	20	10/01/2015 17:07	
4-Isopropyl toluene	ND	0.10	20	10/01/2015 17:07	
Methyl-t-butyl ether (MTBE)	ND	0.10	20	10/01/2015 17:07	
Methylene chloride	ND	0.10	20	10/01/2015 17:07	
4-Methyl-2-pentanone (MIBK)	ND	0.10	20	10/01/2015 17:07	
Naphthalene	ND	0.10	20	10/01/2015 17:07	
n-Propyl benzene	ND	0.10	20	10/01/2015 17:07	
Styrene	ND	0.10	20	10/01/2015 17:07	
1,1,1,2-Tetrachloroethane	ND	0.10	20	10/01/2015 17:07	
1,1,2,2-Tetrachloroethane	ND	0.10	20	10/01/2015 17:07	
Tetrachloroethene	ND	0.10	20	10/01/2015 17:07	
Toluene	ND	0.10	20	10/01/2015 17:07	
1,2,3-Trichlorobenzene	ND	0.10	20	10/01/2015 17:07	
1,2,4-Trichlorobenzene	ND	0.10	20	10/01/2015 17:07	
1,1,1-Trichloroethane	ND	0.10	20	10/01/2015 17:07	
1,1,2-Trichloroethane	ND	0.10	20	10/01/2015 17:07	
Trichloroethene	ND	0.10	20	10/01/2015 17:07	
Trichlorofluoromethane	ND	0.10	20	10/01/2015 17:07	
1,2,3-Trichloropropane	ND	0.10	20	10/01/2015 17:07	
1,2,4-Trimethylbenzene	ND	0.10	20	10/01/2015 17:07	
1,3,5-Trimethylbenzene	ND	0.10	20	10/01/2015 17:07	
Vinyl Chloride	ND	0.10	20	10/01/2015 17:07	
Xylenes, Total	ND	0.10	20	10/01/2015 17:07	

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Analytical Report

Client: Essel Environmental Consulting
Date Received: 9/25/15 19:30
Date Prepared: 9/28/15
Project: 15166; EBALDC

WorkOrder: 1509A61
Extraction Method: SW5030B
Analytical Method: SW8260B
Unit: mg/kg

Volatile Organics by P&T and GC/MS (Basic Target List)

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
S-14½-ECB5	1509A61-018A	Soil	09/24/2015 15:07	GC16	110781

Analytes	Result	RL	DF	Date Analyzed
<u>Surrogates</u>	<u>REC (%)</u>	<u>Qualifiers</u>	<u>Limits</u>	
Dibromofluoromethane	96		70-130	10/01/2015 17:07
Toluene-d8	91		70-130	10/01/2015 17:07
4-BFB	145	S	70-130	10/01/2015 17:07
Benzene-d6	108		60-140	10/01/2015 17:07
Ethylbenzene-d10	105		60-140	10/01/2015 17:07
1,2-DCB-d4	91		60-140	10/01/2015 17:07

Analyst(s): AK

Analytical Comments: c7,a2,a3



Analytical Report

Client: Essel Environmental Consulting
Date Received: 9/25/15 19:30
Date Prepared: 9/28/15
Project: 15166; EBALDC

WorkOrder: 1509A61
Extraction Method: SW5030B
Analytical Method: SW8260B
Unit: mg/kg

Volatile Organics by P&T and GC/MS (Basic Target List)

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
S-18-ECB5	1509A61-019A	Soil	09/24/2015 15:14	GC16	110781
Analytes	Result	RL	DF	Date Analyzed	
Acetone	ND	0.10	1	09/29/2015 11:33	
tert-Amyl methyl ether (TAME)	ND	0.0050	1	09/29/2015 11:33	
Benzene	ND	0.0050	1	09/29/2015 11:33	
Bromobenzene	ND	0.0050	1	09/29/2015 11:33	
Bromochloromethane	ND	0.0050	1	09/29/2015 11:33	
Bromodichloromethane	ND	0.0050	1	09/29/2015 11:33	
Bromoform	ND	0.0050	1	09/29/2015 11:33	
Bromomethane	ND	0.0050	1	09/29/2015 11:33	
2-Butanone (MEK)	ND	0.020	1	09/29/2015 11:33	
t-Butyl alcohol (TBA)	ND	0.050	1	09/29/2015 11:33	
n-Butyl benzene	ND	0.0050	1	09/29/2015 11:33	
sec-Butyl benzene	ND	0.0050	1	09/29/2015 11:33	
tert-Butyl benzene	ND	0.0050	1	09/29/2015 11:33	
Carbon Disulfide	ND	0.0050	1	09/29/2015 11:33	
Carbon Tetrachloride	ND	0.0050	1	09/29/2015 11:33	
Chlorobenzene	ND	0.0050	1	09/29/2015 11:33	
Chloroethane	ND	0.0050	1	09/29/2015 11:33	
Chloroform	ND	0.0050	1	09/29/2015 11:33	
Chloromethane	ND	0.0050	1	09/29/2015 11:33	
2-Chlorotoluene	ND	0.0050	1	09/29/2015 11:33	
4-Chlorotoluene	ND	0.0050	1	09/29/2015 11:33	
Dibromochloromethane	ND	0.0050	1	09/29/2015 11:33	
1,2-Dibromo-3-chloropropane	ND	0.0040	1	09/29/2015 11:33	
1,2-Dibromoethane (EDB)	ND	0.0040	1	09/29/2015 11:33	
Dibromomethane	ND	0.0050	1	09/29/2015 11:33	
1,2-Dichlorobenzene	ND	0.0050	1	09/29/2015 11:33	
1,3-Dichlorobenzene	ND	0.0050	1	09/29/2015 11:33	
1,4-Dichlorobenzene	ND	0.0050	1	09/29/2015 11:33	
Dichlorodifluoromethane	ND	0.0050	1	09/29/2015 11:33	
1,1-Dichloroethane	ND	0.0050	1	09/29/2015 11:33	
1,2-Dichloroethane (1,2-DCA)	ND	0.0040	1	09/29/2015 11:33	
1,1-Dichloroethene	ND	0.0050	1	09/29/2015 11:33	
cis-1,2-Dichloroethene	ND	0.0050	1	09/29/2015 11:33	
trans-1,2-Dichloroethene	ND	0.0050	1	09/29/2015 11:33	
1,2-Dichloropropane	ND	0.0050	1	09/29/2015 11:33	
1,3-Dichloropropane	ND	0.0050	1	09/29/2015 11:33	
2,2-Dichloropropane	ND	0.0050	1	09/29/2015 11:33	

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Analytical Report

Client: Essel Environmental Consulting
Date Received: 9/25/15 19:30
Date Prepared: 9/28/15
Project: 15166; EBALDC

WorkOrder: 1509A61
Extraction Method: SW5030B
Analytical Method: SW8260B
Unit: mg/kg

Volatile Organics by P&T and GC/MS (Basic Target List)

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
S-18-ECB5	1509A61-019A	Soil	09/24/2015 15:14	GC16	110781
Analytes	Result	RL	DF	Date Analyzed	
1,1-Dichloropropene	ND	0.0050	1	09/29/2015 11:33	
cis-1,3-Dichloropropene	ND	0.0050	1	09/29/2015 11:33	
trans-1,3-Dichloropropene	ND	0.0050	1	09/29/2015 11:33	
Diisopropyl ether (DIPE)	ND	0.0050	1	09/29/2015 11:33	
Ethylbenzene	ND	0.0050	1	09/29/2015 11:33	
Ethyl tert-butyl ether (ETBE)	ND	0.0050	1	09/29/2015 11:33	
Freon 113	ND	0.0050	1	09/29/2015 11:33	
Hexachlorobutadiene	ND	0.0050	1	09/29/2015 11:33	
Hexachloroethane	ND	0.0050	1	09/29/2015 11:33	
2-Hexanone	ND	0.0050	1	09/29/2015 11:33	
Isopropylbenzene	ND	0.0050	1	09/29/2015 11:33	
4-Isopropyl toluene	ND	0.0050	1	09/29/2015 11:33	
Methyl-t-butyl ether (MTBE)	ND	0.0050	1	09/29/2015 11:33	
Methylene chloride	ND	0.0050	1	09/29/2015 11:33	
4-Methyl-2-pentanone (MIBK)	ND	0.0050	1	09/29/2015 11:33	
Naphthalene	ND	0.0050	1	09/29/2015 11:33	
n-Propyl benzene	ND	0.0050	1	09/29/2015 11:33	
Styrene	ND	0.0050	1	09/29/2015 11:33	
1,1,1,2-Tetrachloroethane	ND	0.0050	1	09/29/2015 11:33	
1,1,2,2-Tetrachloroethane	ND	0.0050	1	09/29/2015 11:33	
Tetrachloroethene	ND	0.0050	1	09/29/2015 11:33	
Toluene	ND	0.0050	1	09/29/2015 11:33	
1,2,3-Trichlorobenzene	ND	0.0050	1	09/29/2015 11:33	
1,2,4-Trichlorobenzene	ND	0.0050	1	09/29/2015 11:33	
1,1,1-Trichloroethane	ND	0.0050	1	09/29/2015 11:33	
1,1,2-Trichloroethane	ND	0.0050	1	09/29/2015 11:33	
Trichloroethene	ND	0.0050	1	09/29/2015 11:33	
Trichlorofluoromethane	ND	0.0050	1	09/29/2015 11:33	
1,2,3-Trichloropropane	ND	0.0050	1	09/29/2015 11:33	
1,2,4-Trimethylbenzene	ND	0.0050	1	09/29/2015 11:33	
1,3,5-Trimethylbenzene	ND	0.0050	1	09/29/2015 11:33	
Vinyl Chloride	ND	0.0050	1	09/29/2015 11:33	
Xylenes, Total	ND	0.0050	1	09/29/2015 11:33	

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Analytical Report

Client: Essel Environmental Consulting
Date Received: 9/25/15 19:30
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Project: 15166; EBALDC

WorkOrder: 1509A61
Extraction Method: SW5030B
Analytical Method: SW8260B
Unit: mg/kg

Volatile Organics by P&T and GC/MS (Basic Target List)

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
S-18-ECB5	1509A61-019A	Soil	09/24/2015 15:14	GC16	110781

Analytes	Result	RL	DF	Date Analyzed
<u>Surrogates</u>	<u>REC (%)</u>		<u>Limits</u>	
Dibromofluoromethane	93	70-130		09/29/2015 11:33
Toluene-d8	98	70-130		09/29/2015 11:33
4-BFB	105	70-130		09/29/2015 11:33
Benzene-d6	96	60-140		09/29/2015 11:33
Ethylbenzene-d10	106	60-140		09/29/2015 11:33
1,2-DCB-d4	74	60-140		09/29/2015 11:33

Analyst(s): AK



Analytical Report

Client: Essel Environmental Consulting
Date Received: 9/25/15 19:30
Date Prepared: 9/28/15
Project: 15166; EBALDC

WorkOrder: 1509A61
Extraction Method: SW5030B
Analytical Method: SW8260B
Unit: mg/kg

Volatile Organics by P&T and GC/MS (Basic Target List)

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
S-13-ECB6	1509A61-020A	Soil	09/24/2015 17:38	GC16	110781
Analytes	Result	RL	DF	Date Analyzed	
Acetone	ND	0.10	1	09/30/2015 00:32	
tert-Amyl methyl ether (TAME)	ND	0.0050	1	09/30/2015 00:32	
Benzene	ND	0.0050	1	09/30/2015 00:32	
Bromobenzene	ND	0.0050	1	09/30/2015 00:32	
Bromochloromethane	ND	0.0050	1	09/30/2015 00:32	
Bromodichloromethane	ND	0.0050	1	09/30/2015 00:32	
Bromoform	ND	0.0050	1	09/30/2015 00:32	
Bromomethane	ND	0.0050	1	09/30/2015 00:32	
2-Butanone (MEK)	ND	0.020	1	09/30/2015 00:32	
t-Butyl alcohol (TBA)	ND	0.050	1	09/30/2015 00:32	
n-Butyl benzene	ND	0.0050	1	09/30/2015 00:32	
sec-Butyl benzene	ND	0.0050	1	09/30/2015 00:32	
tert-Butyl benzene	ND	0.0050	1	09/30/2015 00:32	
Carbon Disulfide	ND	0.0050	1	09/30/2015 00:32	
Carbon Tetrachloride	ND	0.0050	1	09/30/2015 00:32	
Chlorobenzene	ND	0.0050	1	09/30/2015 00:32	
Chloroethane	ND	0.0050	1	09/30/2015 00:32	
Chloroform	ND	0.0050	1	09/30/2015 00:32	
Chloromethane	ND	0.0050	1	09/30/2015 00:32	
2-Chlorotoluene	ND	0.0050	1	09/30/2015 00:32	
4-Chlorotoluene	ND	0.0050	1	09/30/2015 00:32	
Dibromochloromethane	ND	0.0050	1	09/30/2015 00:32	
1,2-Dibromo-3-chloropropane	ND	0.0040	1	09/30/2015 00:32	
1,2-Dibromoethane (EDB)	ND	0.0040	1	09/30/2015 00:32	
Dibromomethane	ND	0.0050	1	09/30/2015 00:32	
1,2-Dichlorobenzene	ND	0.0050	1	09/30/2015 00:32	
1,3-Dichlorobenzene	ND	0.0050	1	09/30/2015 00:32	
1,4-Dichlorobenzene	ND	0.0050	1	09/30/2015 00:32	
Dichlorodifluoromethane	ND	0.0050	1	09/30/2015 00:32	
1,1-Dichloroethane	ND	0.0050	1	09/30/2015 00:32	
1,2-Dichloroethane (1,2-DCA)	ND	0.0040	1	09/30/2015 00:32	
1,1-Dichloroethene	ND	0.0050	1	09/30/2015 00:32	
cis-1,2-Dichloroethene	ND	0.0050	1	09/30/2015 00:32	
trans-1,2-Dichloroethene	ND	0.0050	1	09/30/2015 00:32	
1,2-Dichloropropane	ND	0.0050	1	09/30/2015 00:32	
1,3-Dichloropropane	ND	0.0050	1	09/30/2015 00:32	
2,2-Dichloropropane	ND	0.0050	1	09/30/2015 00:32	

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Analytical Report

Client: Essel Environmental Consulting
Date Received: 9/25/15 19:30
Date Prepared: 9/28/15
Project: 15166; EBALDC

WorkOrder: 1509A61
Extraction Method: SW5030B
Analytical Method: SW8260B
Unit: mg/kg

Volatile Organics by P&T and GC/MS (Basic Target List)

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
S-13-ECB6	1509A61-020A	Soil	09/24/2015 17:38	GC16	110781
Analytes	Result	RL	DF	Date Analyzed	
1,1-Dichloropropene	ND	0.0050	1	09/30/2015 00:32	
cis-1,3-Dichloropropene	ND	0.0050	1	09/30/2015 00:32	
trans-1,3-Dichloropropene	ND	0.0050	1	09/30/2015 00:32	
Diisopropyl ether (DIPE)	ND	0.0050	1	09/30/2015 00:32	
Ethylbenzene	ND	0.0050	1	09/30/2015 00:32	
Ethyl tert-butyl ether (ETBE)	ND	0.0050	1	09/30/2015 00:32	
Freon 113	ND	0.0050	1	09/30/2015 00:32	
Hexachlorobutadiene	ND	0.0050	1	09/30/2015 00:32	
Hexachloroethane	ND	0.0050	1	09/30/2015 00:32	
2-Hexanone	ND	0.0050	1	09/30/2015 00:32	
Isopropylbenzene	ND	0.0050	1	09/30/2015 00:32	
4-Isopropyl toluene	ND	0.0050	1	09/30/2015 00:32	
Methyl-t-butyl ether (MTBE)	ND	0.0050	1	09/30/2015 00:32	
Methylene chloride	ND	0.0050	1	09/30/2015 00:32	
4-Methyl-2-pentanone (MIBK)	ND	0.0050	1	09/30/2015 00:32	
Naphthalene	ND	0.0050	1	09/30/2015 00:32	
n-Propyl benzene	ND	0.0050	1	09/30/2015 00:32	
Styrene	ND	0.0050	1	09/30/2015 00:32	
1,1,1,2-Tetrachloroethane	ND	0.0050	1	09/30/2015 00:32	
1,1,2,2-Tetrachloroethane	ND	0.0050	1	09/30/2015 00:32	
Tetrachloroethene	ND	0.0050	1	09/30/2015 00:32	
Toluene	ND	0.0050	1	09/30/2015 00:32	
1,2,3-Trichlorobenzene	ND	0.0050	1	09/30/2015 00:32	
1,2,4-Trichlorobenzene	ND	0.0050	1	09/30/2015 00:32	
1,1,1-Trichloroethane	ND	0.0050	1	09/30/2015 00:32	
1,1,2-Trichloroethane	ND	0.0050	1	09/30/2015 00:32	
Trichloroethene	ND	0.0050	1	09/30/2015 00:32	
Trichlorofluoromethane	ND	0.0050	1	09/30/2015 00:32	
1,2,3-Trichloropropane	ND	0.0050	1	09/30/2015 00:32	
1,2,4-Trimethylbenzene	ND	0.0050	1	09/30/2015 00:32	
1,3,5-Trimethylbenzene	ND	0.0050	1	09/30/2015 00:32	
Vinyl Chloride	ND	0.0050	1	09/30/2015 00:32	
Xylenes, Total	ND	0.0050	1	09/30/2015 00:32	

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Analytical Report

Client: Essel Environmental Consulting
Date Received: 9/25/15 19:30
Date Prepared: 9/28/15
Project: 15166; EBALDC

WorkOrder: 1509A61
Extraction Method: SW5030B
Analytical Method: SW8260B
Unit: mg/kg

Volatile Organics by P&T and GC/MS (Basic Target List)

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
S-13-ECB6	1509A61-020A	Soil	09/24/2015 17:38	GC16	110781

Analytes	Result	RL	DF	Date Analyzed
<u>Surrogates</u>	<u>REC (%)</u>	<u>Limits</u>		
Dibromofluoromethane	89	70-130		09/30/2015 00:32
Toluene-d8	99	70-130		09/30/2015 00:32
4-BFB	106	70-130		09/30/2015 00:32
Benzene-d6	98	60-140		09/30/2015 00:32
Ethylbenzene-d10	118	60-140		09/30/2015 00:32
1,2-DCB-d4	76	60-140		09/30/2015 00:32

Analyst(s): AK



Analytical Report

Client: Essel Environmental Consulting
Date Received: 9/25/15 19:30
Date Prepared: 9/28/15
Project: 15166; EBALDC

WorkOrder: 1509A61
Extraction Method: SW5030B
Analytical Method: SW8260B
Unit: mg/kg

Volatile Organics by P&T and GC/MS (Basic Target List)

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
S-13-ECB11	1509A61-021A	Soil	09/24/2015 11:45	GC16	110782

Analytes	Result	RL	DF	Date Analyzed
Acetone	ND	0.10	1	09/30/2015 01:15
tert-Amyl methyl ether (TAME)	ND	0.0050	1	09/30/2015 01:15
Benzene	ND	0.0050	1	09/30/2015 01:15
Bromobenzene	ND	0.0050	1	09/30/2015 01:15
Bromochloromethane	ND	0.0050	1	09/30/2015 01:15
Bromodichloromethane	ND	0.0050	1	09/30/2015 01:15
Bromoform	ND	0.0050	1	09/30/2015 01:15
Bromomethane	ND	0.0050	1	09/30/2015 01:15
2-Butanone (MEK)	ND	0.020	1	09/30/2015 01:15
t-Butyl alcohol (TBA)	ND	0.050	1	09/30/2015 01:15
n-Butyl benzene	ND	0.0050	1	09/30/2015 01:15
sec-Butyl benzene	ND	0.0050	1	09/30/2015 01:15
tert-Butyl benzene	ND	0.0050	1	09/30/2015 01:15
Carbon Disulfide	ND	0.0050	1	09/30/2015 01:15
Carbon Tetrachloride	ND	0.0050	1	09/30/2015 01:15
Chlorobenzene	ND	0.0050	1	09/30/2015 01:15
Chloroethane	ND	0.0050	1	09/30/2015 01:15
Chloroform	ND	0.0050	1	09/30/2015 01:15
Chloromethane	ND	0.0050	1	09/30/2015 01:15
2-Chlorotoluene	ND	0.0050	1	09/30/2015 01:15
4-Chlorotoluene	ND	0.0050	1	09/30/2015 01:15
Dibromochloromethane	ND	0.0050	1	09/30/2015 01:15
1,2-Dibromo-3-chloropropane	ND	0.0040	1	09/30/2015 01:15
1,2-Dibromoethane (EDB)	ND	0.0040	1	09/30/2015 01:15
Dibromomethane	ND	0.0050	1	09/30/2015 01:15
1,2-Dichlorobenzene	ND	0.0050	1	09/30/2015 01:15
1,3-Dichlorobenzene	ND	0.0050	1	09/30/2015 01:15
1,4-Dichlorobenzene	ND	0.0050	1	09/30/2015 01:15
Dichlorodifluoromethane	ND	0.0050	1	09/30/2015 01:15
1,1-Dichloroethane	ND	0.0050	1	09/30/2015 01:15
1,2-Dichloroethane (1,2-DCA)	ND	0.0040	1	09/30/2015 01:15
1,1-Dichloroethene	ND	0.0050	1	09/30/2015 01:15
cis-1,2-Dichloroethene	ND	0.0050	1	09/30/2015 01:15
trans-1,2-Dichloroethene	ND	0.0050	1	09/30/2015 01:15
1,2-Dichloropropane	ND	0.0050	1	09/30/2015 01:15
1,3-Dichloropropane	ND	0.0050	1	09/30/2015 01:15
2,2-Dichloropropane	ND	0.0050	1	09/30/2015 01:15

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Analytical Report

Client: Essel Environmental Consulting
Date Received: 9/25/15 19:30
Date Prepared: 9/28/15
Project: 15166; EBALDC

WorkOrder: 1509A61
Extraction Method: SW5030B
Analytical Method: SW8260B
Unit: mg/kg

Volatile Organics by P&T and GC/MS (Basic Target List)

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
S-13-ECB11	1509A61-021A	Soil	09/24/2015 11:45	GC16	110782
Analytes	Result	RL	DF	Date Analyzed	
1,1-Dichloropropene	ND	0.0050	1	09/30/2015 01:15	
cis-1,3-Dichloropropene	ND	0.0050	1	09/30/2015 01:15	
trans-1,3-Dichloropropene	ND	0.0050	1	09/30/2015 01:15	
Diisopropyl ether (DIPE)	ND	0.0050	1	09/30/2015 01:15	
Ethylbenzene	ND	0.0050	1	09/30/2015 01:15	
Ethyl tert-butyl ether (ETBE)	ND	0.0050	1	09/30/2015 01:15	
Freon 113	ND	0.0050	1	09/30/2015 01:15	
Hexachlorobutadiene	ND	0.0050	1	09/30/2015 01:15	
Hexachloroethane	ND	0.0050	1	09/30/2015 01:15	
2-Hexanone	ND	0.0050	1	09/30/2015 01:15	
Isopropylbenzene	ND	0.0050	1	09/30/2015 01:15	
4-Isopropyl toluene	ND	0.0050	1	09/30/2015 01:15	
Methyl-t-butyl ether (MTBE)	ND	0.0050	1	09/30/2015 01:15	
Methylene chloride	ND	0.0050	1	09/30/2015 01:15	
4-Methyl-2-pentanone (MIBK)	ND	0.0050	1	09/30/2015 01:15	
Naphthalene	ND	0.0050	1	09/30/2015 01:15	
n-Propyl benzene	ND	0.0050	1	09/30/2015 01:15	
Styrene	ND	0.0050	1	09/30/2015 01:15	
1,1,1,2-Tetrachloroethane	ND	0.0050	1	09/30/2015 01:15	
1,1,2,2-Tetrachloroethane	ND	0.0050	1	09/30/2015 01:15	
Tetrachloroethene	ND	0.0050	1	09/30/2015 01:15	
Toluene	ND	0.0050	1	09/30/2015 01:15	
1,2,3-Trichlorobenzene	ND	0.0050	1	09/30/2015 01:15	
1,2,4-Trichlorobenzene	ND	0.0050	1	09/30/2015 01:15	
1,1,1-Trichloroethane	ND	0.0050	1	09/30/2015 01:15	
1,1,2-Trichloroethane	ND	0.0050	1	09/30/2015 01:15	
Trichloroethene	ND	0.0050	1	09/30/2015 01:15	
Trichlorofluoromethane	ND	0.0050	1	09/30/2015 01:15	
1,2,3-Trichloropropane	ND	0.0050	1	09/30/2015 01:15	
1,2,4-Trimethylbenzene	ND	0.0050	1	09/30/2015 01:15	
1,3,5-Trimethylbenzene	ND	0.0050	1	09/30/2015 01:15	
Vinyl Chloride	ND	0.0050	1	09/30/2015 01:15	
Xylenes, Total	ND	0.0050	1	09/30/2015 01:15	

(Cont.)



Analytical Report

Client: Essel Environmental Consulting
Date Received: 9/25/15 19:30
Date Prepared: 9/28/15
Project: 15166; EBALDC

WorkOrder: 1509A61
Extraction Method: SW5030B
Analytical Method: SW8260B
Unit: mg/kg

Volatile Organics by P&T and GC/MS (Basic Target List)

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
S-13-ECB11	1509A61-021A	Soil	09/24/2015 11:45	GC16	110782

Analytes	Result	RL	DF	Date Analyzed
<u>Surrogates</u>	<u>REC (%)</u>		<u>Limits</u>	
Dibromofluoromethane	90	70-130		09/30/2015 01:15
Toluene-d8	100	70-130		09/30/2015 01:15
4-BFB	104	70-130		09/30/2015 01:15
Benzene-d6	98	60-140		09/30/2015 01:15
Ethylbenzene-d10	117	60-140		09/30/2015 01:15
1,2-DCB-d4	76	60-140		09/30/2015 01:15

Analyst(s): AK



Analytical Report

Client: Essel Environmental Consulting
Date Received: 9/25/15 19:30
Date Prepared: 9/28/15
Project: 15166; EBALDC

WorkOrder: 1509A61
Extraction Method: SW5030B
Analytical Method: SW8260B
Unit: mg/kg

Volatile Organics by P&T and GC/MS (Basic Target List)

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
S-13-ECB13	1509A61-022A	Soil	09/24/2015 13:14	GC18	110782

Analytes	Result	RL	DF	Date Analyzed
Acetone	ND	0.10	1	09/30/2015 02:36
tert-Amyl methyl ether (TAME)	ND	0.0050	1	09/30/2015 02:36
Benzene	ND	0.0050	1	09/30/2015 02:36
Bromobenzene	ND	0.0050	1	09/30/2015 02:36
Bromochloromethane	ND	0.0050	1	09/30/2015 02:36
Bromodichloromethane	ND	0.0050	1	09/30/2015 02:36
Bromoform	ND	0.0050	1	09/30/2015 02:36
Bromomethane	ND	0.0050	1	09/30/2015 02:36
2-Butanone (MEK)	ND	0.020	1	09/30/2015 02:36
t-Butyl alcohol (TBA)	ND	0.050	1	09/30/2015 02:36
n-Butyl benzene	ND	0.0050	1	09/30/2015 02:36
sec-Butyl benzene	ND	0.0050	1	09/30/2015 02:36
tert-Butyl benzene	ND	0.0050	1	09/30/2015 02:36
Carbon Disulfide	ND	0.0050	1	09/30/2015 02:36
Carbon Tetrachloride	ND	0.0050	1	09/30/2015 02:36
Chlorobenzene	ND	0.0050	1	09/30/2015 02:36
Chloroethane	ND	0.0050	1	09/30/2015 02:36
Chloroform	ND	0.0050	1	09/30/2015 02:36
Chloromethane	ND	0.0050	1	09/30/2015 02:36
2-Chlorotoluene	ND	0.0050	1	09/30/2015 02:36
4-Chlorotoluene	ND	0.0050	1	09/30/2015 02:36
Dibromochloromethane	ND	0.0050	1	09/30/2015 02:36
1,2-Dibromo-3-chloropropane	ND	0.0040	1	09/30/2015 02:36
1,2-Dibromoethane (EDB)	ND	0.0040	1	09/30/2015 02:36
Dibromomethane	ND	0.0050	1	09/30/2015 02:36
1,2-Dichlorobenzene	ND	0.0050	1	09/30/2015 02:36
1,3-Dichlorobenzene	ND	0.0050	1	09/30/2015 02:36
1,4-Dichlorobenzene	ND	0.0050	1	09/30/2015 02:36
Dichlorodifluoromethane	ND	0.0050	1	09/30/2015 02:36
1,1-Dichloroethane	ND	0.0050	1	09/30/2015 02:36
1,2-Dichloroethane (1,2-DCA)	ND	0.0040	1	09/30/2015 02:36
1,1-Dichloroethene	ND	0.0050	1	09/30/2015 02:36
cis-1,2-Dichloroethene	ND	0.0050	1	09/30/2015 02:36
trans-1,2-Dichloroethene	ND	0.0050	1	09/30/2015 02:36
1,2-Dichloropropane	ND	0.0050	1	09/30/2015 02:36
1,3-Dichloropropane	ND	0.0050	1	09/30/2015 02:36
2,2-Dichloropropane	ND	0.0050	1	09/30/2015 02:36

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Analytical Report

Client: Essel Environmental Consulting
Date Received: 9/25/15 19:30
Date Prepared: 9/28/15
Project: 15166; EBALDC

WorkOrder: 1509A61
Extraction Method: SW5030B
Analytical Method: SW8260B
Unit: mg/kg

Volatile Organics by P&T and GC/MS (Basic Target List)

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
S-13-ECB13	1509A61-022A	Soil	09/24/2015 13:14	GC18	110782
Analytes	Result	RL	DF	Date Analyzed	
1,1-Dichloropropene	ND	0.0050	1	09/30/2015 02:36	
cis-1,3-Dichloropropene	ND	0.0050	1	09/30/2015 02:36	
trans-1,3-Dichloropropene	ND	0.0050	1	09/30/2015 02:36	
Diisopropyl ether (DIPE)	ND	0.0050	1	09/30/2015 02:36	
Ethylbenzene	ND	0.0050	1	09/30/2015 02:36	
Ethyl tert-butyl ether (ETBE)	ND	0.0050	1	09/30/2015 02:36	
Freon 113	ND	0.0050	1	09/30/2015 02:36	
Hexachlorobutadiene	ND	0.0050	1	09/30/2015 02:36	
Hexachloroethane	ND	0.0050	1	09/30/2015 02:36	
2-Hexanone	ND	0.0050	1	09/30/2015 02:36	
Isopropylbenzene	ND	0.0050	1	09/30/2015 02:36	
4-Isopropyl toluene	ND	0.0050	1	09/30/2015 02:36	
Methyl-t-butyl ether (MTBE)	ND	0.0050	1	09/30/2015 02:36	
Methylene chloride	ND	0.0050	1	09/30/2015 02:36	
4-Methyl-2-pentanone (MIBK)	ND	0.0050	1	09/30/2015 02:36	
Naphthalene	ND	0.0050	1	09/30/2015 02:36	
n-Propyl benzene	ND	0.0050	1	09/30/2015 02:36	
Styrene	ND	0.0050	1	09/30/2015 02:36	
1,1,1,2-Tetrachloroethane	ND	0.0050	1	09/30/2015 02:36	
1,1,2,2-Tetrachloroethane	ND	0.0050	1	09/30/2015 02:36	
Tetrachloroethene	ND	0.0050	1	09/30/2015 02:36	
Toluene	ND	0.0050	1	09/30/2015 02:36	
1,2,3-Trichlorobenzene	ND	0.0050	1	09/30/2015 02:36	
1,2,4-Trichlorobenzene	ND	0.0050	1	09/30/2015 02:36	
1,1,1-Trichloroethane	ND	0.0050	1	09/30/2015 02:36	
1,1,2-Trichloroethane	ND	0.0050	1	09/30/2015 02:36	
Trichloroethene	ND	0.0050	1	09/30/2015 02:36	
Trichlorofluoromethane	ND	0.0050	1	09/30/2015 02:36	
1,2,3-Trichloropropane	ND	0.0050	1	09/30/2015 02:36	
1,2,4-Trimethylbenzene	ND	0.0050	1	09/30/2015 02:36	
1,3,5-Trimethylbenzene	ND	0.0050	1	09/30/2015 02:36	
Vinyl Chloride	ND	0.0050	1	09/30/2015 02:36	
Xylenes, Total	ND	0.0050	1	09/30/2015 02:36	

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Analytical Report

Client: Essel Environmental Consulting
Date Received: 9/25/15 19:30
Date Prepared: 9/28/15
Project: 15166; EBALDC

WorkOrder: 1509A61
Extraction Method: SW5030B
Analytical Method: SW8260B
Unit: mg/kg

Volatile Organics by P&T and GC/MS (Basic Target List)

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
S-13-ECB13	1509A61-022A	Soil	09/24/2015 13:14	GC18	110782

Analytes	Result	RL	DF	Date Analyzed
<u>Surrogates</u>	<u>REC (%)</u>	<u>Limits</u>		
Dibromofluoromethane	102	70-130		09/30/2015 02:36
Toluene-d8	87	70-130		09/30/2015 02:36
4-BFB	92	70-130		09/30/2015 02:36
Benzene-d6	119	60-140		09/30/2015 02:36
Ethylbenzene-d10	120	60-140		09/30/2015 02:36
1,2-DCB-d4	100	60-140		09/30/2015 02:36

Analyst(s): AK



Analytical Report

Client: Essel Environmental Consulting
Date Received: 9/25/15 19:30
Date Prepared: 9/28/15
Project: 15166; EBALDC

WorkOrder: 1509A61
Extraction Method: SW5030B
Analytical Method: SW8260B
Unit: mg/kg

Volatile Organics by P&T and GC/MS (Basic Target List)

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
S-13-ECB14	1509A61-023A	Soil	09/24/2015 14:13	GC18	110782
Analytes	Result	RL	DF	Date Analyzed	
Acetone	ND	0.10	1	09/30/2015 03:15	
tert-Amyl methyl ether (TAME)	ND	0.0050	1	09/30/2015 03:15	
Benzene	ND	0.0050	1	09/30/2015 03:15	
Bromobenzene	ND	0.0050	1	09/30/2015 03:15	
Bromochloromethane	ND	0.0050	1	09/30/2015 03:15	
Bromodichloromethane	ND	0.0050	1	09/30/2015 03:15	
Bromoform	ND	0.0050	1	09/30/2015 03:15	
Bromomethane	ND	0.0050	1	09/30/2015 03:15	
2-Butanone (MEK)	ND	0.020	1	09/30/2015 03:15	
t-Butyl alcohol (TBA)	ND	0.050	1	09/30/2015 03:15	
n-Butyl benzene	ND	0.0050	1	09/30/2015 03:15	
sec-Butyl benzene	ND	0.0050	1	09/30/2015 03:15	
tert-Butyl benzene	ND	0.0050	1	09/30/2015 03:15	
Carbon Disulfide	ND	0.0050	1	09/30/2015 03:15	
Carbon Tetrachloride	ND	0.0050	1	09/30/2015 03:15	
Chlorobenzene	ND	0.0050	1	09/30/2015 03:15	
Chloroethane	ND	0.0050	1	09/30/2015 03:15	
Chloroform	ND	0.0050	1	09/30/2015 03:15	
Chloromethane	ND	0.0050	1	09/30/2015 03:15	
2-Chlorotoluene	ND	0.0050	1	09/30/2015 03:15	
4-Chlorotoluene	ND	0.0050	1	09/30/2015 03:15	
Dibromochloromethane	ND	0.0050	1	09/30/2015 03:15	
1,2-Dibromo-3-chloropropane	ND	0.0040	1	09/30/2015 03:15	
1,2-Dibromoethane (EDB)	ND	0.0040	1	09/30/2015 03:15	
Dibromomethane	ND	0.0050	1	09/30/2015 03:15	
1,2-Dichlorobenzene	ND	0.0050	1	09/30/2015 03:15	
1,3-Dichlorobenzene	ND	0.0050	1	09/30/2015 03:15	
1,4-Dichlorobenzene	ND	0.0050	1	09/30/2015 03:15	
Dichlorodifluoromethane	ND	0.0050	1	09/30/2015 03:15	
1,1-Dichloroethane	ND	0.0050	1	09/30/2015 03:15	
1,2-Dichloroethane (1,2-DCA)	ND	0.0040	1	09/30/2015 03:15	
1,1-Dichloroethene	ND	0.0050	1	09/30/2015 03:15	
cis-1,2-Dichloroethene	ND	0.0050	1	09/30/2015 03:15	
trans-1,2-Dichloroethene	ND	0.0050	1	09/30/2015 03:15	
1,2-Dichloropropane	ND	0.0050	1	09/30/2015 03:15	
1,3-Dichloropropane	ND	0.0050	1	09/30/2015 03:15	
2,2-Dichloropropane	ND	0.0050	1	09/30/2015 03:15	

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Analytical Report

Client: Essel Environmental Consulting
Date Received: 9/25/15 19:30
Date Prepared: 9/28/15
Project: 15166; EBALDC

WorkOrder: 1509A61
Extraction Method: SW5030B
Analytical Method: SW8260B
Unit: mg/kg

Volatile Organics by P&T and GC/MS (Basic Target List)

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
S-13-ECB14	1509A61-023A	Soil	09/24/2015 14:13	GC18	110782
Analytes	Result	RL	DF	Date Analyzed	
1,1-Dichloropropene	ND	0.0050	1	09/30/2015 03:15	
cis-1,3-Dichloropropene	ND	0.0050	1	09/30/2015 03:15	
trans-1,3-Dichloropropene	ND	0.0050	1	09/30/2015 03:15	
Diisopropyl ether (DIPE)	ND	0.0050	1	09/30/2015 03:15	
Ethylbenzene	ND	0.0050	1	09/30/2015 03:15	
Ethyl tert-butyl ether (ETBE)	ND	0.0050	1	09/30/2015 03:15	
Freon 113	ND	0.0050	1	09/30/2015 03:15	
Hexachlorobutadiene	ND	0.0050	1	09/30/2015 03:15	
Hexachloroethane	ND	0.0050	1	09/30/2015 03:15	
2-Hexanone	ND	0.0050	1	09/30/2015 03:15	
Isopropylbenzene	ND	0.0050	1	09/30/2015 03:15	
4-Isopropyl toluene	ND	0.0050	1	09/30/2015 03:15	
Methyl-t-butyl ether (MTBE)	ND	0.0050	1	09/30/2015 03:15	
Methylene chloride	ND	0.0050	1	09/30/2015 03:15	
4-Methyl-2-pentanone (MIBK)	ND	0.0050	1	09/30/2015 03:15	
Naphthalene	ND	0.0050	1	09/30/2015 03:15	
n-Propyl benzene	ND	0.0050	1	09/30/2015 03:15	
Styrene	ND	0.0050	1	09/30/2015 03:15	
1,1,1,2-Tetrachloroethane	ND	0.0050	1	09/30/2015 03:15	
1,1,2,2-Tetrachloroethane	ND	0.0050	1	09/30/2015 03:15	
Tetrachloroethene	ND	0.0050	1	09/30/2015 03:15	
Toluene	ND	0.0050	1	09/30/2015 03:15	
1,2,3-Trichlorobenzene	ND	0.0050	1	09/30/2015 03:15	
1,2,4-Trichlorobenzene	ND	0.0050	1	09/30/2015 03:15	
1,1,1-Trichloroethane	ND	0.0050	1	09/30/2015 03:15	
1,1,2-Trichloroethane	ND	0.0050	1	09/30/2015 03:15	
Trichloroethene	ND	0.0050	1	09/30/2015 03:15	
Trichlorofluoromethane	ND	0.0050	1	09/30/2015 03:15	
1,2,3-Trichloropropane	ND	0.0050	1	09/30/2015 03:15	
1,2,4-Trimethylbenzene	ND	0.0050	1	09/30/2015 03:15	
1,3,5-Trimethylbenzene	ND	0.0050	1	09/30/2015 03:15	
Vinyl Chloride	ND	0.0050	1	09/30/2015 03:15	
Xylenes, Total	ND	0.0050	1	09/30/2015 03:15	

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Analytical Report

Client: Essel Environmental Consulting
Date Received: 9/25/15 19:30
Date Prepared: 9/28/15
Project: 15166; EBALDC

WorkOrder: 1509A61
Extraction Method: SW5030B
Analytical Method: SW8260B
Unit: mg/kg

Volatile Organics by P&T and GC/MS (Basic Target List)

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
S-13-ECB14	1509A61-023A	Soil	09/24/2015 14:13	GC18	110782

Analytes	Result	RL	DF	Date Analyzed
<u>Surrogates</u>	<u>REC (%)</u>	<u>Limits</u>		
Dibromofluoromethane	102	70-130		09/30/2015 03:15
Toluene-d8	89	70-130		09/30/2015 03:15
4-BFB	90	70-130		09/30/2015 03:15
Benzene-d6	124	60-140		09/30/2015 03:15
Ethylbenzene-d10	126	60-140		09/30/2015 03:15
1,2-DCB-d4	105	60-140		09/30/2015 03:15

Analyst(s): AK



Analytical Report

Client: Essel Environmental Consulting
Date Received: 9/25/15 19:30
Date Prepared: 9/28/15
Project: 15166; EBALDC

WorkOrder: 1509A61
Extraction Method: SW5030B
Analytical Method: SW8260B
Unit: mg/kg

Volatile Organics by P&T and GC/MS (Basic Target List)

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
S-18½-ECB14	1509A61-024A	Soil	09/24/2015 14:31	GC18	110782

Analytes	Result	RL	DF	Date Analyzed
Acetone	ND	0.10	1	09/30/2015 03:53
tert-Amyl methyl ether (TAME)	ND	0.0050	1	09/30/2015 03:53
Benzene	ND	0.0050	1	09/30/2015 03:53
Bromobenzene	ND	0.0050	1	09/30/2015 03:53
Bromochloromethane	ND	0.0050	1	09/30/2015 03:53
Bromodichloromethane	ND	0.0050	1	09/30/2015 03:53
Bromoform	ND	0.0050	1	09/30/2015 03:53
Bromomethane	ND	0.0050	1	09/30/2015 03:53
2-Butanone (MEK)	ND	0.020	1	09/30/2015 03:53
t-Butyl alcohol (TBA)	ND	0.050	1	09/30/2015 03:53
n-Butyl benzene	ND	0.0050	1	09/30/2015 03:53
sec-Butyl benzene	ND	0.0050	1	09/30/2015 03:53
tert-Butyl benzene	ND	0.0050	1	09/30/2015 03:53
Carbon Disulfide	ND	0.0050	1	09/30/2015 03:53
Carbon Tetrachloride	ND	0.0050	1	09/30/2015 03:53
Chlorobenzene	ND	0.0050	1	09/30/2015 03:53
Chloroethane	ND	0.0050	1	09/30/2015 03:53
Chloroform	ND	0.0050	1	09/30/2015 03:53
Chloromethane	ND	0.0050	1	09/30/2015 03:53
2-Chlorotoluene	ND	0.0050	1	09/30/2015 03:53
4-Chlorotoluene	ND	0.0050	1	09/30/2015 03:53
Dibromochloromethane	ND	0.0050	1	09/30/2015 03:53
1,2-Dibromo-3-chloropropane	ND	0.0040	1	09/30/2015 03:53
1,2-Dibromoethane (EDB)	ND	0.0040	1	09/30/2015 03:53
Dibromomethane	ND	0.0050	1	09/30/2015 03:53
1,2-Dichlorobenzene	ND	0.0050	1	09/30/2015 03:53
1,3-Dichlorobenzene	ND	0.0050	1	09/30/2015 03:53
1,4-Dichlorobenzene	ND	0.0050	1	09/30/2015 03:53
Dichlorodifluoromethane	ND	0.0050	1	09/30/2015 03:53
1,1-Dichloroethane	ND	0.0050	1	09/30/2015 03:53
1,2-Dichloroethane (1,2-DCA)	ND	0.0040	1	09/30/2015 03:53
1,1-Dichloroethene	ND	0.0050	1	09/30/2015 03:53
cis-1,2-Dichloroethene	ND	0.0050	1	09/30/2015 03:53
trans-1,2-Dichloroethene	ND	0.0050	1	09/30/2015 03:53
1,2-Dichloropropane	ND	0.0050	1	09/30/2015 03:53
1,3-Dichloropropane	ND	0.0050	1	09/30/2015 03:53
2,2-Dichloropropane	ND	0.0050	1	09/30/2015 03:53

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Analytical Report

Client: Essel Environmental Consulting
Date Received: 9/25/15 19:30
Date Prepared: 9/28/15
Project: 15166; EBALDC

WorkOrder: 1509A61
Extraction Method: SW5030B
Analytical Method: SW8260B
Unit: mg/kg

Volatile Organics by P&T and GC/MS (Basic Target List)

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
S-18½-ECB14	1509A61-024A	Soil	09/24/2015 14:31	GC18	110782
Analytes	Result	RL	DF	Date Analyzed	
1,1-Dichloropropene	ND	0.0050	1	09/30/2015 03:53	
cis-1,3-Dichloropropene	ND	0.0050	1	09/30/2015 03:53	
trans-1,3-Dichloropropene	ND	0.0050	1	09/30/2015 03:53	
Diisopropyl ether (DIPE)	ND	0.0050	1	09/30/2015 03:53	
Ethylbenzene	ND	0.0050	1	09/30/2015 03:53	
Ethyl tert-butyl ether (ETBE)	ND	0.0050	1	09/30/2015 03:53	
Freon 113	ND	0.0050	1	09/30/2015 03:53	
Hexachlorobutadiene	ND	0.0050	1	09/30/2015 03:53	
Hexachloroethane	ND	0.0050	1	09/30/2015 03:53	
2-Hexanone	ND	0.0050	1	09/30/2015 03:53	
Isopropylbenzene	ND	0.0050	1	09/30/2015 03:53	
4-Isopropyl toluene	ND	0.0050	1	09/30/2015 03:53	
Methyl-t-butyl ether (MTBE)	ND	0.0050	1	09/30/2015 03:53	
Methylene chloride	ND	0.0050	1	09/30/2015 03:53	
4-Methyl-2-pentanone (MIBK)	ND	0.0050	1	09/30/2015 03:53	
Naphthalene	ND	0.0050	1	09/30/2015 03:53	
n-Propyl benzene	ND	0.0050	1	09/30/2015 03:53	
Styrene	ND	0.0050	1	09/30/2015 03:53	
1,1,1,2-Tetrachloroethane	ND	0.0050	1	09/30/2015 03:53	
1,1,2,2-Tetrachloroethane	ND	0.0050	1	09/30/2015 03:53	
Tetrachloroethene	ND	0.0050	1	09/30/2015 03:53	
Toluene	ND	0.0050	1	09/30/2015 03:53	
1,2,3-Trichlorobenzene	ND	0.0050	1	09/30/2015 03:53	
1,2,4-Trichlorobenzene	ND	0.0050	1	09/30/2015 03:53	
1,1,1-Trichloroethane	ND	0.0050	1	09/30/2015 03:53	
1,1,2-Trichloroethane	ND	0.0050	1	09/30/2015 03:53	
Trichloroethene	ND	0.0050	1	09/30/2015 03:53	
Trichlorofluoromethane	ND	0.0050	1	09/30/2015 03:53	
1,2,3-Trichloropropane	ND	0.0050	1	09/30/2015 03:53	
1,2,4-Trimethylbenzene	ND	0.0050	1	09/30/2015 03:53	
1,3,5-Trimethylbenzene	ND	0.0050	1	09/30/2015 03:53	
Vinyl Chloride	ND	0.0050	1	09/30/2015 03:53	
Xylenes, Total	ND	0.0050	1	09/30/2015 03:53	

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Analytical Report

Client: Essel Environmental Consulting
Date Received: 9/25/15 19:30
Date Prepared: 9/28/15
Project: 15166; EBALDC

WorkOrder: 1509A61
Extraction Method: SW5030B
Analytical Method: SW8260B
Unit: mg/kg

Volatile Organics by P&T and GC/MS (Basic Target List)

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
S-18½-ECB14	1509A61-024A	Soil	09/24/2015 14:31	GC18	110782

Analytes	Result	RL	DF	Date Analyzed
<u>Surrogates</u>	<u>REC (%)</u>	<u>Limits</u>		
Dibromofluoromethane	102	70-130		09/30/2015 03:53
Toluene-d8	89	70-130		09/30/2015 03:53
4-BFB	91	70-130		09/30/2015 03:53
Benzene-d6	123	60-140		09/30/2015 03:53
Ethylbenzene-d10	124	60-140		09/30/2015 03:53
1,2-DCB-d4	99	60-140		09/30/2015 03:53

Analyst(s): AK



Analytical Report

Client: Essel Environmental Consulting
Date Received: 9/25/15 19:30
Date Prepared: 9/28/15
Project: 15166; EBALDC

WorkOrder: 1509A61
Extraction Method: SW5030B
Analytical Method: SW8260B
Unit: mg/kg

Volatile Organics by P&T and GC/MS (Basic Target List)

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
S-4½-ECB7	1509A61-025A	Soil	09/25/2015 11:13	GC16	110782
Analytes	Result	RL	DF	Date Analyzed	
Acetone	ND	0.10	1	09/30/2015 01:58	
tert-Amyl methyl ether (TAME)	ND	0.0050	1	09/30/2015 01:58	
Benzene	ND	0.0050	1	09/30/2015 01:58	
Bromobenzene	ND	0.0050	1	09/30/2015 01:58	
Bromochloromethane	ND	0.0050	1	09/30/2015 01:58	
Bromodichloromethane	ND	0.0050	1	09/30/2015 01:58	
Bromoform	ND	0.0050	1	09/30/2015 01:58	
Bromomethane	ND	0.0050	1	09/30/2015 01:58	
2-Butanone (MEK)	ND	0.020	1	09/30/2015 01:58	
t-Butyl alcohol (TBA)	ND	0.050	1	09/30/2015 01:58	
n-Butyl benzene	ND	0.0050	1	09/30/2015 01:58	
sec-Butyl benzene	ND	0.0050	1	09/30/2015 01:58	
tert-Butyl benzene	ND	0.0050	1	09/30/2015 01:58	
Carbon Disulfide	ND	0.0050	1	09/30/2015 01:58	
Carbon Tetrachloride	ND	0.0050	1	09/30/2015 01:58	
Chlorobenzene	ND	0.0050	1	09/30/2015 01:58	
Chloroethane	ND	0.0050	1	09/30/2015 01:58	
Chloroform	ND	0.0050	1	09/30/2015 01:58	
Chloromethane	ND	0.0050	1	09/30/2015 01:58	
2-Chlorotoluene	ND	0.0050	1	09/30/2015 01:58	
4-Chlorotoluene	ND	0.0050	1	09/30/2015 01:58	
Dibromochloromethane	ND	0.0050	1	09/30/2015 01:58	
1,2-Dibromo-3-chloropropane	ND	0.0040	1	09/30/2015 01:58	
1,2-Dibromoethane (EDB)	ND	0.0040	1	09/30/2015 01:58	
Dibromomethane	ND	0.0050	1	09/30/2015 01:58	
1,2-Dichlorobenzene	ND	0.0050	1	09/30/2015 01:58	
1,3-Dichlorobenzene	ND	0.0050	1	09/30/2015 01:58	
1,4-Dichlorobenzene	ND	0.0050	1	09/30/2015 01:58	
Dichlorodifluoromethane	ND	0.0050	1	09/30/2015 01:58	
1,1-Dichloroethane	ND	0.0050	1	09/30/2015 01:58	
1,2-Dichloroethane (1,2-DCA)	ND	0.0040	1	09/30/2015 01:58	
1,1-Dichloroethene	ND	0.0050	1	09/30/2015 01:58	
cis-1,2-Dichloroethene	ND	0.0050	1	09/30/2015 01:58	
trans-1,2-Dichloroethene	ND	0.0050	1	09/30/2015 01:58	
1,2-Dichloropropane	ND	0.0050	1	09/30/2015 01:58	
1,3-Dichloropropane	ND	0.0050	1	09/30/2015 01:58	
2,2-Dichloropropane	ND	0.0050	1	09/30/2015 01:58	

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Analytical Report

Client: Essel Environmental Consulting
Date Received: 9/25/15 19:30
Date Prepared: 9/28/15
Project: 15166; EBALDC

WorkOrder: 1509A61
Extraction Method: SW5030B
Analytical Method: SW8260B
Unit: mg/kg

Volatile Organics by P&T and GC/MS (Basic Target List)

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
S-4½-ECB7	1509A61-025A	Soil	09/25/2015 11:13	GC16	110782
Analytes	Result	RL	DF	Date Analyzed	
1,1-Dichloropropene	ND	0.0050	1	09/30/2015 01:58	
cis-1,3-Dichloropropene	ND	0.0050	1	09/30/2015 01:58	
trans-1,3-Dichloropropene	ND	0.0050	1	09/30/2015 01:58	
Diisopropyl ether (DIPE)	ND	0.0050	1	09/30/2015 01:58	
Ethylbenzene	ND	0.0050	1	09/30/2015 01:58	
Ethyl tert-butyl ether (ETBE)	ND	0.0050	1	09/30/2015 01:58	
Freon 113	ND	0.0050	1	09/30/2015 01:58	
Hexachlorobutadiene	ND	0.0050	1	09/30/2015 01:58	
Hexachloroethane	ND	0.0050	1	09/30/2015 01:58	
2-Hexanone	ND	0.0050	1	09/30/2015 01:58	
Isopropylbenzene	ND	0.0050	1	09/30/2015 01:58	
4-Isopropyl toluene	ND	0.0050	1	09/30/2015 01:58	
Methyl-t-butyl ether (MTBE)	ND	0.0050	1	09/30/2015 01:58	
Methylene chloride	ND	0.0050	1	09/30/2015 01:58	
4-Methyl-2-pentanone (MIBK)	ND	0.0050	1	09/30/2015 01:58	
Naphthalene	ND	0.0050	1	09/30/2015 01:58	
n-Propyl benzene	ND	0.0050	1	09/30/2015 01:58	
Styrene	ND	0.0050	1	09/30/2015 01:58	
1,1,1,2-Tetrachloroethane	ND	0.0050	1	09/30/2015 01:58	
1,1,2,2-Tetrachloroethane	ND	0.0050	1	09/30/2015 01:58	
Tetrachloroethene	ND	0.0050	1	09/30/2015 01:58	
Toluene	ND	0.0050	1	09/30/2015 01:58	
1,2,3-Trichlorobenzene	ND	0.0050	1	09/30/2015 01:58	
1,2,4-Trichlorobenzene	ND	0.0050	1	09/30/2015 01:58	
1,1,1-Trichloroethane	ND	0.0050	1	09/30/2015 01:58	
1,1,2-Trichloroethane	ND	0.0050	1	09/30/2015 01:58	
Trichloroethene	ND	0.0050	1	09/30/2015 01:58	
Trichlorofluoromethane	ND	0.0050	1	09/30/2015 01:58	
1,2,3-Trichloropropane	ND	0.0050	1	09/30/2015 01:58	
1,2,4-Trimethylbenzene	ND	0.0050	1	09/30/2015 01:58	
1,3,5-Trimethylbenzene	ND	0.0050	1	09/30/2015 01:58	
Vinyl Chloride	ND	0.0050	1	09/30/2015 01:58	
Xylenes, Total	ND	0.0050	1	09/30/2015 01:58	

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Analytical Report

Client: Essel Environmental Consulting
Date Received: 9/25/15 19:30
Date Prepared: 9/28/15
Project: 15166; EBALDC

WorkOrder: 1509A61
Extraction Method: SW5030B
Analytical Method: SW8260B
Unit: mg/kg

Volatile Organics by P&T and GC/MS (Basic Target List)

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
S-4½-ECB7	1509A61-025A	Soil	09/25/2015 11:13	GC16	110782

Analytes	Result	RL	DF	Date Analyzed
<u>Surrogates</u>	<u>REC (%)</u>	<u>Limits</u>		
Dibromofluoromethane	90	70-130		09/30/2015 01:58
Toluene-d8	100	70-130		09/30/2015 01:58
4-BFB	102	70-130		09/30/2015 01:58
Benzene-d6	100	60-140		09/30/2015 01:58
Ethylbenzene-d10	118	60-140		09/30/2015 01:58
1,2-DCB-d4	78	60-140		09/30/2015 01:58

Analyst(s): AK



Analytical Report

Client: Essel Environmental Consulting
Date Received: 9/25/15 19:30
Date Prepared: 9/28/15
Project: 15166; EBALDC

WorkOrder: 1509A61
Extraction Method: SW5030B
Analytical Method: SW8260B
Unit: mg/kg

Volatile Organics by P&T and GC/MS (Basic Target List)

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
S-9½-ECB7	1509A61-026A	Soil	09/25/2015 11:18	GC18	110782
Analytes	Result	RL	DF	Date Analyzed	
Acetone	ND	0.10	1	09/30/2015 00:39	
tert-Amyl methyl ether (TAME)	ND	0.0050	1	09/30/2015 00:39	
Benzene	ND	0.0050	1	09/30/2015 00:39	
Bromobenzene	ND	0.0050	1	09/30/2015 00:39	
Bromochloromethane	ND	0.0050	1	09/30/2015 00:39	
Bromodichloromethane	ND	0.0050	1	09/30/2015 00:39	
Bromoform	ND	0.0050	1	09/30/2015 00:39	
Bromomethane	ND	0.0050	1	09/30/2015 00:39	
2-Butanone (MEK)	ND	0.020	1	09/30/2015 00:39	
t-Butyl alcohol (TBA)	ND	0.050	1	09/30/2015 00:39	
n-Butyl benzene	ND	0.0050	1	09/30/2015 00:39	
sec-Butyl benzene	ND	0.0050	1	09/30/2015 00:39	
tert-Butyl benzene	ND	0.0050	1	09/30/2015 00:39	
Carbon Disulfide	ND	0.0050	1	09/30/2015 00:39	
Carbon Tetrachloride	ND	0.0050	1	09/30/2015 00:39	
Chlorobenzene	ND	0.0050	1	09/30/2015 00:39	
Chloroethane	ND	0.0050	1	09/30/2015 00:39	
Chloroform	ND	0.0050	1	09/30/2015 00:39	
Chloromethane	ND	0.0050	1	09/30/2015 00:39	
2-Chlorotoluene	ND	0.0050	1	09/30/2015 00:39	
4-Chlorotoluene	ND	0.0050	1	09/30/2015 00:39	
Dibromochloromethane	ND	0.0050	1	09/30/2015 00:39	
1,2-Dibromo-3-chloropropane	ND	0.0040	1	09/30/2015 00:39	
1,2-Dibromoethane (EDB)	ND	0.0040	1	09/30/2015 00:39	
Dibromomethane	ND	0.0050	1	09/30/2015 00:39	
1,2-Dichlorobenzene	ND	0.0050	1	09/30/2015 00:39	
1,3-Dichlorobenzene	ND	0.0050	1	09/30/2015 00:39	
1,4-Dichlorobenzene	ND	0.0050	1	09/30/2015 00:39	
Dichlorodifluoromethane	ND	0.0050	1	09/30/2015 00:39	
1,1-Dichloroethane	ND	0.0050	1	09/30/2015 00:39	
1,2-Dichloroethane (1,2-DCA)	ND	0.0040	1	09/30/2015 00:39	
1,1-Dichloroethene	ND	0.0050	1	09/30/2015 00:39	
cis-1,2-Dichloroethene	ND	0.0050	1	09/30/2015 00:39	
trans-1,2-Dichloroethene	ND	0.0050	1	09/30/2015 00:39	
1,2-Dichloropropane	ND	0.0050	1	09/30/2015 00:39	
1,3-Dichloropropane	ND	0.0050	1	09/30/2015 00:39	
2,2-Dichloropropane	ND	0.0050	1	09/30/2015 00:39	

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Analytical Report

Client: Essel Environmental Consulting
Date Received: 9/25/15 19:30
Date Prepared: 9/28/15
Project: 15166; EBALDC

WorkOrder: 1509A61
Extraction Method: SW5030B
Analytical Method: SW8260B
Unit: mg/kg

Volatile Organics by P&T and GC/MS (Basic Target List)

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
S-9½-ECB7	1509A61-026A	Soil	09/25/2015 11:18	GC18	110782
Analytes	Result	RL	DF	Date Analyzed	
1,1-Dichloropropene	ND	0.0050	1	09/30/2015 00:39	
cis-1,3-Dichloropropene	ND	0.0050	1	09/30/2015 00:39	
trans-1,3-Dichloropropene	ND	0.0050	1	09/30/2015 00:39	
Diisopropyl ether (DIPE)	ND	0.0050	1	09/30/2015 00:39	
Ethylbenzene	ND	0.0050	1	09/30/2015 00:39	
Ethyl tert-butyl ether (ETBE)	ND	0.0050	1	09/30/2015 00:39	
Freon 113	ND	0.0050	1	09/30/2015 00:39	
Hexachlorobutadiene	ND	0.0050	1	09/30/2015 00:39	
Hexachloroethane	ND	0.0050	1	09/30/2015 00:39	
2-Hexanone	ND	0.0050	1	09/30/2015 00:39	
Isopropylbenzene	ND	0.0050	1	09/30/2015 00:39	
4-Isopropyl toluene	ND	0.0050	1	09/30/2015 00:39	
Methyl-t-butyl ether (MTBE)	ND	0.0050	1	09/30/2015 00:39	
Methylene chloride	ND	0.0050	1	09/30/2015 00:39	
4-Methyl-2-pentanone (MIBK)	ND	0.0050	1	09/30/2015 00:39	
Naphthalene	ND	0.0050	1	09/30/2015 00:39	
n-Propyl benzene	ND	0.0050	1	09/30/2015 00:39	
Styrene	ND	0.0050	1	09/30/2015 00:39	
1,1,1,2-Tetrachloroethane	ND	0.0050	1	09/30/2015 00:39	
1,1,2,2-Tetrachloroethane	ND	0.0050	1	09/30/2015 00:39	
Tetrachloroethene	ND	0.0050	1	09/30/2015 00:39	
Toluene	ND	0.0050	1	09/30/2015 00:39	
1,2,3-Trichlorobenzene	ND	0.0050	1	09/30/2015 00:39	
1,2,4-Trichlorobenzene	ND	0.0050	1	09/30/2015 00:39	
1,1,1-Trichloroethane	ND	0.0050	1	09/30/2015 00:39	
1,1,2-Trichloroethane	ND	0.0050	1	09/30/2015 00:39	
Trichloroethene	ND	0.0050	1	09/30/2015 00:39	
Trichlorofluoromethane	ND	0.0050	1	09/30/2015 00:39	
1,2,3-Trichloropropane	ND	0.0050	1	09/30/2015 00:39	
1,2,4-Trimethylbenzene	ND	0.0050	1	09/30/2015 00:39	
1,3,5-Trimethylbenzene	ND	0.0050	1	09/30/2015 00:39	
Vinyl Chloride	ND	0.0050	1	09/30/2015 00:39	
Xylenes, Total	ND	0.0050	1	09/30/2015 00:39	

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Analytical Report

Client: Essel Environmental Consulting
Date Received: 9/25/15 19:30
Date Prepared: 9/28/15
Project: 15166; EBALDC

WorkOrder: 1509A61
Extraction Method: SW5030B
Analytical Method: SW8260B
Unit: mg/kg

Volatile Organics by P&T and GC/MS (Basic Target List)

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
S-9½-ECB7	1509A61-026A	Soil	09/25/2015 11:18	GC18	110782

Analytes	Result	RL	DF	Date Analyzed
<u>Surrogates</u>	<u>REC (%)</u>		<u>Limits</u>	
Dibromofluoromethane	102	70-130		09/30/2015 00:39
Toluene-d8	88	70-130		09/30/2015 00:39
4-BFB	88	70-130		09/30/2015 00:39
Benzene-d6	123	60-140		09/30/2015 00:39
Ethylbenzene-d10	125	60-140		09/30/2015 00:39
1,2-DCB-d4	104	60-140		09/30/2015 00:39

Analyst(s): AK



Analytical Report

Client: Essel Environmental Consulting
Date Received: 9/25/15 19:30
Date Prepared: 9/28/15
Project: 15166; EBALDC

WorkOrder: 1509A61
Extraction Method: SW5030B
Analytical Method: SW8260B
Unit: mg/kg

Volatile Organics by P&T and GC/MS (Basic Target List)

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
S-13-ECB8	1509A61-027A	Soil	09/25/2015 08:06	GC18	110782
Analytes	Result	RL	DF	Date Analyzed	
Acetone	ND	0.10	1	09/30/2015 01:19	
tert-Amyl methyl ether (TAME)	ND	0.0050	1	09/30/2015 01:19	
Benzene	ND	0.0050	1	09/30/2015 01:19	
Bromobenzene	ND	0.0050	1	09/30/2015 01:19	
Bromochloromethane	ND	0.0050	1	09/30/2015 01:19	
Bromodichloromethane	ND	0.0050	1	09/30/2015 01:19	
Bromoform	ND	0.0050	1	09/30/2015 01:19	
Bromomethane	ND	0.0050	1	09/30/2015 01:19	
2-Butanone (MEK)	ND	0.020	1	09/30/2015 01:19	
t-Butyl alcohol (TBA)	ND	0.050	1	09/30/2015 01:19	
n-Butyl benzene	ND	0.0050	1	09/30/2015 01:19	
sec-Butyl benzene	ND	0.0050	1	09/30/2015 01:19	
tert-Butyl benzene	ND	0.0050	1	09/30/2015 01:19	
Carbon Disulfide	ND	0.0050	1	09/30/2015 01:19	
Carbon Tetrachloride	ND	0.0050	1	09/30/2015 01:19	
Chlorobenzene	ND	0.0050	1	09/30/2015 01:19	
Chloroethane	ND	0.0050	1	09/30/2015 01:19	
Chloroform	ND	0.0050	1	09/30/2015 01:19	
Chloromethane	ND	0.0050	1	09/30/2015 01:19	
2-Chlorotoluene	ND	0.0050	1	09/30/2015 01:19	
4-Chlorotoluene	ND	0.0050	1	09/30/2015 01:19	
Dibromochloromethane	ND	0.0050	1	09/30/2015 01:19	
1,2-Dibromo-3-chloropropane	ND	0.0040	1	09/30/2015 01:19	
1,2-Dibromoethane (EDB)	ND	0.0040	1	09/30/2015 01:19	
Dibromomethane	ND	0.0050	1	09/30/2015 01:19	
1,2-Dichlorobenzene	ND	0.0050	1	09/30/2015 01:19	
1,3-Dichlorobenzene	ND	0.0050	1	09/30/2015 01:19	
1,4-Dichlorobenzene	ND	0.0050	1	09/30/2015 01:19	
Dichlorodifluoromethane	ND	0.0050	1	09/30/2015 01:19	
1,1-Dichloroethane	ND	0.0050	1	09/30/2015 01:19	
1,2-Dichloroethane (1,2-DCA)	ND	0.0040	1	09/30/2015 01:19	
1,1-Dichloroethene	ND	0.0050	1	09/30/2015 01:19	
cis-1,2-Dichloroethene	ND	0.0050	1	09/30/2015 01:19	
trans-1,2-Dichloroethene	ND	0.0050	1	09/30/2015 01:19	
1,2-Dichloropropane	ND	0.0050	1	09/30/2015 01:19	
1,3-Dichloropropane	ND	0.0050	1	09/30/2015 01:19	
2,2-Dichloropropane	ND	0.0050	1	09/30/2015 01:19	

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Analytical Report

Client: Essel Environmental Consulting
Date Received: 9/25/15 19:30
Date Prepared: 9/28/15
Project: 15166; EBALDC

WorkOrder: 1509A61
Extraction Method: SW5030B
Analytical Method: SW8260B
Unit: mg/kg

Volatile Organics by P&T and GC/MS (Basic Target List)

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
S-13-ECB8	1509A61-027A	Soil	09/25/2015 08:06	GC18	110782
Analytes	Result	RL	DF	Date Analyzed	
1,1-Dichloropropene	ND	0.0050	1	09/30/2015 01:19	
cis-1,3-Dichloropropene	ND	0.0050	1	09/30/2015 01:19	
trans-1,3-Dichloropropene	ND	0.0050	1	09/30/2015 01:19	
Diisopropyl ether (DIPE)	ND	0.0050	1	09/30/2015 01:19	
Ethylbenzene	ND	0.0050	1	09/30/2015 01:19	
Ethyl tert-butyl ether (ETBE)	ND	0.0050	1	09/30/2015 01:19	
Freon 113	ND	0.0050	1	09/30/2015 01:19	
Hexachlorobutadiene	ND	0.0050	1	09/30/2015 01:19	
Hexachloroethane	ND	0.0050	1	09/30/2015 01:19	
2-Hexanone	ND	0.0050	1	09/30/2015 01:19	
Isopropylbenzene	ND	0.0050	1	09/30/2015 01:19	
4-Isopropyl toluene	ND	0.0050	1	09/30/2015 01:19	
Methyl-t-butyl ether (MTBE)	ND	0.0050	1	09/30/2015 01:19	
Methylene chloride	ND	0.0050	1	09/30/2015 01:19	
4-Methyl-2-pentanone (MIBK)	ND	0.0050	1	09/30/2015 01:19	
Naphthalene	ND	0.0050	1	09/30/2015 01:19	
n-Propyl benzene	ND	0.0050	1	09/30/2015 01:19	
Styrene	ND	0.0050	1	09/30/2015 01:19	
1,1,1,2-Tetrachloroethane	ND	0.0050	1	09/30/2015 01:19	
1,1,2,2-Tetrachloroethane	ND	0.0050	1	09/30/2015 01:19	
Tetrachloroethene	ND	0.0050	1	09/30/2015 01:19	
Toluene	ND	0.0050	1	09/30/2015 01:19	
1,2,3-Trichlorobenzene	ND	0.0050	1	09/30/2015 01:19	
1,2,4-Trichlorobenzene	ND	0.0050	1	09/30/2015 01:19	
1,1,1-Trichloroethane	ND	0.0050	1	09/30/2015 01:19	
1,1,2-Trichloroethane	ND	0.0050	1	09/30/2015 01:19	
Trichloroethene	ND	0.0050	1	09/30/2015 01:19	
Trichlorofluoromethane	ND	0.0050	1	09/30/2015 01:19	
1,2,3-Trichloropropane	ND	0.0050	1	09/30/2015 01:19	
1,2,4-Trimethylbenzene	ND	0.0050	1	09/30/2015 01:19	
1,3,5-Trimethylbenzene	ND	0.0050	1	09/30/2015 01:19	
Vinyl Chloride	ND	0.0050	1	09/30/2015 01:19	
Xylenes, Total	ND	0.0050	1	09/30/2015 01:19	

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Analytical Report

Client: Essel Environmental Consulting
Date Received: 9/25/15 19:30
Date Prepared: 9/28/15
Project: 15166; EBALDC

WorkOrder: 1509A61
Extraction Method: SW5030B
Analytical Method: SW8260B
Unit: mg/kg

Volatile Organics by P&T and GC/MS (Basic Target List)

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
S-13-ECB8	1509A61-027A	Soil	09/25/2015 08:06	GC18	110782

Analytes	Result	RL	DF	Date Analyzed
<u>Surrogates</u>	<u>REC (%)</u>		<u>Limits</u>	
Dibromofluoromethane	102	70-130		09/30/2015 01:19
Toluene-d8	87	70-130		09/30/2015 01:19
4-BFB	90	70-130		09/30/2015 01:19
Benzene-d6	121	60-140		09/30/2015 01:19
Ethylbenzene-d10	122	60-140		09/30/2015 01:19
1,2-DCB-d4	102	60-140		09/30/2015 01:19

Analyst(s): AK



Analytical Report

Client: Essel Environmental Consulting
Date Received: 9/25/15 19:30
Date Prepared: 9/28/15
Project: 15166; EBALDC

WorkOrder: 1509A61
Extraction Method: SW5030B
Analytical Method: SW8260B
Unit: mg/kg

Volatile Organics by P&T and GC/MS (Basic Target List)

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
S-13-ECB9	1509A61-028A	Soil	09/25/2015 08:34	GC18	110782
Analytes	Result	RL	DF	Date Analyzed	
Acetone	ND	0.10	1	09/30/2015 01:58	
tert-Amyl methyl ether (TAME)	ND	0.0050	1	09/30/2015 01:58	
Benzene	ND	0.0050	1	09/30/2015 01:58	
Bromobenzene	ND	0.0050	1	09/30/2015 01:58	
Bromochloromethane	ND	0.0050	1	09/30/2015 01:58	
Bromodichloromethane	ND	0.0050	1	09/30/2015 01:58	
Bromoform	ND	0.0050	1	09/30/2015 01:58	
Bromomethane	ND	0.0050	1	09/30/2015 01:58	
2-Butanone (MEK)	ND	0.020	1	09/30/2015 01:58	
t-Butyl alcohol (TBA)	ND	0.050	1	09/30/2015 01:58	
n-Butyl benzene	ND	0.0050	1	09/30/2015 01:58	
sec-Butyl benzene	ND	0.0050	1	09/30/2015 01:58	
tert-Butyl benzene	ND	0.0050	1	09/30/2015 01:58	
Carbon Disulfide	ND	0.0050	1	09/30/2015 01:58	
Carbon Tetrachloride	ND	0.0050	1	09/30/2015 01:58	
Chlorobenzene	ND	0.0050	1	09/30/2015 01:58	
Chloroethane	ND	0.0050	1	09/30/2015 01:58	
Chloroform	ND	0.0050	1	09/30/2015 01:58	
Chloromethane	ND	0.0050	1	09/30/2015 01:58	
2-Chlorotoluene	ND	0.0050	1	09/30/2015 01:58	
4-Chlorotoluene	ND	0.0050	1	09/30/2015 01:58	
Dibromochloromethane	ND	0.0050	1	09/30/2015 01:58	
1,2-Dibromo-3-chloropropane	ND	0.0040	1	09/30/2015 01:58	
1,2-Dibromoethane (EDB)	ND	0.0040	1	09/30/2015 01:58	
Dibromomethane	ND	0.0050	1	09/30/2015 01:58	
1,2-Dichlorobenzene	ND	0.0050	1	09/30/2015 01:58	
1,3-Dichlorobenzene	ND	0.0050	1	09/30/2015 01:58	
1,4-Dichlorobenzene	ND	0.0050	1	09/30/2015 01:58	
Dichlorodifluoromethane	ND	0.0050	1	09/30/2015 01:58	
1,1-Dichloroethane	ND	0.0050	1	09/30/2015 01:58	
1,2-Dichloroethane (1,2-DCA)	ND	0.0040	1	09/30/2015 01:58	
1,1-Dichloroethene	ND	0.0050	1	09/30/2015 01:58	
cis-1,2-Dichloroethene	ND	0.0050	1	09/30/2015 01:58	
trans-1,2-Dichloroethene	ND	0.0050	1	09/30/2015 01:58	
1,2-Dichloropropane	ND	0.0050	1	09/30/2015 01:58	
1,3-Dichloropropane	ND	0.0050	1	09/30/2015 01:58	
2,2-Dichloropropane	ND	0.0050	1	09/30/2015 01:58	

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Analytical Report

Client: Essel Environmental Consulting
Date Received: 9/25/15 19:30
Date Prepared: 9/28/15
Project: 15166; EBALDC

WorkOrder: 1509A61
Extraction Method: SW5030B
Analytical Method: SW8260B
Unit: mg/kg

Volatile Organics by P&T and GC/MS (Basic Target List)

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
S-13-ECB9	1509A61-028A	Soil	09/25/2015 08:34	GC18	110782
Analytes	Result	RL	DF	Date Analyzed	
1,1-Dichloropropene	ND	0.0050	1	09/30/2015 01:58	
cis-1,3-Dichloropropene	ND	0.0050	1	09/30/2015 01:58	
trans-1,3-Dichloropropene	ND	0.0050	1	09/30/2015 01:58	
Diisopropyl ether (DIPE)	ND	0.0050	1	09/30/2015 01:58	
Ethylbenzene	ND	0.0050	1	09/30/2015 01:58	
Ethyl tert-butyl ether (ETBE)	ND	0.0050	1	09/30/2015 01:58	
Freon 113	ND	0.0050	1	09/30/2015 01:58	
Hexachlorobutadiene	ND	0.0050	1	09/30/2015 01:58	
Hexachloroethane	ND	0.0050	1	09/30/2015 01:58	
2-Hexanone	ND	0.0050	1	09/30/2015 01:58	
Isopropylbenzene	ND	0.0050	1	09/30/2015 01:58	
4-Isopropyl toluene	ND	0.0050	1	09/30/2015 01:58	
Methyl-t-butyl ether (MTBE)	ND	0.0050	1	09/30/2015 01:58	
Methylene chloride	ND	0.0050	1	09/30/2015 01:58	
4-Methyl-2-pentanone (MIBK)	ND	0.0050	1	09/30/2015 01:58	
Naphthalene	ND	0.0050	1	09/30/2015 01:58	
n-Propyl benzene	ND	0.0050	1	09/30/2015 01:58	
Styrene	ND	0.0050	1	09/30/2015 01:58	
1,1,1,2-Tetrachloroethane	ND	0.0050	1	09/30/2015 01:58	
1,1,2,2-Tetrachloroethane	ND	0.0050	1	09/30/2015 01:58	
Tetrachloroethene	ND	0.0050	1	09/30/2015 01:58	
Toluene	ND	0.0050	1	09/30/2015 01:58	
1,2,3-Trichlorobenzene	ND	0.0050	1	09/30/2015 01:58	
1,2,4-Trichlorobenzene	ND	0.0050	1	09/30/2015 01:58	
1,1,1-Trichloroethane	ND	0.0050	1	09/30/2015 01:58	
1,1,2-Trichloroethane	ND	0.0050	1	09/30/2015 01:58	
Trichloroethene	ND	0.0050	1	09/30/2015 01:58	
Trichlorofluoromethane	ND	0.0050	1	09/30/2015 01:58	
1,2,3-Trichloropropane	ND	0.0050	1	09/30/2015 01:58	
1,2,4-Trimethylbenzene	ND	0.0050	1	09/30/2015 01:58	
1,3,5-Trimethylbenzene	ND	0.0050	1	09/30/2015 01:58	
Vinyl Chloride	ND	0.0050	1	09/30/2015 01:58	
Xylenes, Total	ND	0.0050	1	09/30/2015 01:58	

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Analytical Report

Client: Essel Environmental Consulting
Date Received: 9/25/15 19:30
Date Prepared: 9/28/15
Project: 15166; EBALDC

WorkOrder: 1509A61
Extraction Method: SW5030B
Analytical Method: SW8260B
Unit: mg/kg

Volatile Organics by P&T and GC/MS (Basic Target List)

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
S-13-ECB9	1509A61-028A	Soil	09/25/2015 08:34	GC18	110782

Analytes	Result	RL	DF	Date Analyzed
<u>Surrogates</u>	<u>REC (%)</u>		<u>Limits</u>	
Dibromofluoromethane	102	70-130		09/30/2015 01:58
Toluene-d8	88	70-130		09/30/2015 01:58
4-BFB	91	70-130		09/30/2015 01:58
Benzene-d6	120	60-140		09/30/2015 01:58
Ethylbenzene-d10	122	60-140		09/30/2015 01:58
1,2-DCB-d4	103	60-140		09/30/2015 01:58

Analyst(s): AK



Analytical Report

Client: Essel Environmental Consulting
Date Received: 9/25/15 19:30
Date Prepared: 9/28/15
Project: 15166; EBALDC

WorkOrder: 1509A61
Extraction Method: SW5030B
Analytical Method: SW8260B
Unit: mg/kg

Volatile Organics by P&T and GC/MS (Basic Target List)

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
S-13-ECB10	1509A61-029A	Soil	09/25/2015 09:26	GC16	110782
Analytes	Result	RL	DF	Date Analyzed	
Acetone	ND	0.10	1	09/30/2015 02:40	
tert-Amyl methyl ether (TAME)	ND	0.0050	1	09/30/2015 02:40	
Benzene	ND	0.0050	1	09/30/2015 02:40	
Bromobenzene	ND	0.0050	1	09/30/2015 02:40	
Bromochloromethane	ND	0.0050	1	09/30/2015 02:40	
Bromodichloromethane	ND	0.0050	1	09/30/2015 02:40	
Bromoform	ND	0.0050	1	09/30/2015 02:40	
Bromomethane	ND	0.0050	1	09/30/2015 02:40	
2-Butanone (MEK)	ND	0.020	1	09/30/2015 02:40	
t-Butyl alcohol (TBA)	ND	0.050	1	09/30/2015 02:40	
n-Butyl benzene	ND	0.0050	1	09/30/2015 02:40	
sec-Butyl benzene	ND	0.0050	1	09/30/2015 02:40	
tert-Butyl benzene	ND	0.0050	1	09/30/2015 02:40	
Carbon Disulfide	ND	0.0050	1	09/30/2015 02:40	
Carbon Tetrachloride	ND	0.0050	1	09/30/2015 02:40	
Chlorobenzene	ND	0.0050	1	09/30/2015 02:40	
Chloroethane	ND	0.0050	1	09/30/2015 02:40	
Chloroform	ND	0.0050	1	09/30/2015 02:40	
Chloromethane	ND	0.0050	1	09/30/2015 02:40	
2-Chlorotoluene	ND	0.0050	1	09/30/2015 02:40	
4-Chlorotoluene	ND	0.0050	1	09/30/2015 02:40	
Dibromochloromethane	ND	0.0050	1	09/30/2015 02:40	
1,2-Dibromo-3-chloropropane	ND	0.0040	1	09/30/2015 02:40	
1,2-Dibromoethane (EDB)	ND	0.0040	1	09/30/2015 02:40	
Dibromomethane	ND	0.0050	1	09/30/2015 02:40	
1,2-Dichlorobenzene	ND	0.0050	1	09/30/2015 02:40	
1,3-Dichlorobenzene	ND	0.0050	1	09/30/2015 02:40	
1,4-Dichlorobenzene	ND	0.0050	1	09/30/2015 02:40	
Dichlorodifluoromethane	ND	0.0050	1	09/30/2015 02:40	
1,1-Dichloroethane	ND	0.0050	1	09/30/2015 02:40	
1,2-Dichloroethane (1,2-DCA)	ND	0.0040	1	09/30/2015 02:40	
1,1-Dichloroethene	ND	0.0050	1	09/30/2015 02:40	
cis-1,2-Dichloroethene	ND	0.0050	1	09/30/2015 02:40	
trans-1,2-Dichloroethene	ND	0.0050	1	09/30/2015 02:40	
1,2-Dichloropropane	ND	0.0050	1	09/30/2015 02:40	
1,3-Dichloropropane	ND	0.0050	1	09/30/2015 02:40	
2,2-Dichloropropane	ND	0.0050	1	09/30/2015 02:40	

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Analytical Report

Client: Essel Environmental Consulting
Date Received: 9/25/15 19:30
Date Prepared: 9/28/15
Project: 15166; EBALDC

WorkOrder: 1509A61
Extraction Method: SW5030B
Analytical Method: SW8260B
Unit: mg/kg

Volatile Organics by P&T and GC/MS (Basic Target List)

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
S-13-ECB10	1509A61-029A	Soil	09/25/2015 09:26	GC16	110782
Analytes	Result	RL	DF	Date Analyzed	
1,1-Dichloropropene	ND	0.0050	1	09/30/2015 02:40	
cis-1,3-Dichloropropene	ND	0.0050	1	09/30/2015 02:40	
trans-1,3-Dichloropropene	ND	0.0050	1	09/30/2015 02:40	
Diisopropyl ether (DIPE)	ND	0.0050	1	09/30/2015 02:40	
Ethylbenzene	ND	0.0050	1	09/30/2015 02:40	
Ethyl tert-butyl ether (ETBE)	ND	0.0050	1	09/30/2015 02:40	
Freon 113	ND	0.0050	1	09/30/2015 02:40	
Hexachlorobutadiene	ND	0.0050	1	09/30/2015 02:40	
Hexachloroethane	ND	0.0050	1	09/30/2015 02:40	
2-Hexanone	ND	0.0050	1	09/30/2015 02:40	
Isopropylbenzene	ND	0.0050	1	09/30/2015 02:40	
4-Isopropyl toluene	ND	0.0050	1	09/30/2015 02:40	
Methyl-t-butyl ether (MTBE)	ND	0.0050	1	09/30/2015 02:40	
Methylene chloride	ND	0.0050	1	09/30/2015 02:40	
4-Methyl-2-pentanone (MIBK)	ND	0.0050	1	09/30/2015 02:40	
Naphthalene	ND	0.0050	1	09/30/2015 02:40	
n-Propyl benzene	ND	0.0050	1	09/30/2015 02:40	
Styrene	ND	0.0050	1	09/30/2015 02:40	
1,1,1,2-Tetrachloroethane	ND	0.0050	1	09/30/2015 02:40	
1,1,2,2-Tetrachloroethane	ND	0.0050	1	09/30/2015 02:40	
Tetrachloroethene	ND	0.0050	1	09/30/2015 02:40	
Toluene	ND	0.0050	1	09/30/2015 02:40	
1,2,3-Trichlorobenzene	ND	0.0050	1	09/30/2015 02:40	
1,2,4-Trichlorobenzene	ND	0.0050	1	09/30/2015 02:40	
1,1,1-Trichloroethane	ND	0.0050	1	09/30/2015 02:40	
1,1,2-Trichloroethane	ND	0.0050	1	09/30/2015 02:40	
Trichloroethene	ND	0.0050	1	09/30/2015 02:40	
Trichlorofluoromethane	ND	0.0050	1	09/30/2015 02:40	
1,2,3-Trichloropropane	ND	0.0050	1	09/30/2015 02:40	
1,2,4-Trimethylbenzene	ND	0.0050	1	09/30/2015 02:40	
1,3,5-Trimethylbenzene	ND	0.0050	1	09/30/2015 02:40	
Vinyl Chloride	ND	0.0050	1	09/30/2015 02:40	
Xylenes, Total	ND	0.0050	1	09/30/2015 02:40	

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Analytical Report

Client: Essel Environmental Consulting
Date Received: 9/25/15 19:30
Date Prepared: 9/28/15
Project: 15166; EBALDC

WorkOrder: 1509A61
Extraction Method: SW5030B
Analytical Method: SW8260B
Unit: mg/kg

Volatile Organics by P&T and GC/MS (Basic Target List)

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
S-13-ECB10	1509A61-029A	Soil	09/25/2015 09:26	GC16	110782

Analytes	Result	RL	DF	Date Analyzed
<u>Surrogates</u>	<u>REC (%)</u>	<u>Limits</u>		
Dibromofluoromethane	90	70-130		09/30/2015 02:40
Toluene-d8	100	70-130		09/30/2015 02:40
4-BFB	102	70-130		09/30/2015 02:40
Benzene-d6	99	60-140		09/30/2015 02:40
Ethylbenzene-d10	119	60-140		09/30/2015 02:40
1,2-DCB-d4	76	60-140		09/30/2015 02:40

Analyst(s): AK



Analytical Report

Client: Essel Environmental Consulting
Date Received: 9/25/15 19:30
Date Prepared: 9/28/15
Project: 15166; EBALDC

WorkOrder: 1509A61
Extraction Method: SW5030B
Analytical Method: SW8260B
Unit: mg/kg

Volatile Organics by P&T and GC/MS (Basic Target List)

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
S-14½-ECB10	1509A61-030A	Soil	09/25/2015 09:29	GC18	110782
Analytes	Result	RL	DF	Date Analyzed	
Acetone	ND	20	200	09/29/2015 17:27	
tert-Amyl methyl ether (TAME)	ND	1.0	200	09/29/2015 17:27	
Benzene	ND	1.0	200	09/29/2015 17:27	
Bromobenzene	ND	1.0	200	09/29/2015 17:27	
Bromochloromethane	ND	1.0	200	09/29/2015 17:27	
Bromodichloromethane	ND	1.0	200	09/29/2015 17:27	
Bromoform	ND	1.0	200	09/29/2015 17:27	
Bromomethane	ND	1.0	200	09/29/2015 17:27	
2-Butanone (MEK)	ND	4.0	200	09/29/2015 17:27	
t-Butyl alcohol (TBA)	ND	10	200	09/29/2015 17:27	
n-Butyl benzene	ND	1.0	200	09/29/2015 17:27	
sec-Butyl benzene	ND	1.0	200	09/29/2015 17:27	
tert-Butyl benzene	ND	1.0	200	09/29/2015 17:27	
Carbon Disulfide	ND	1.0	200	09/29/2015 17:27	
Carbon Tetrachloride	ND	1.0	200	09/29/2015 17:27	
Chlorobenzene	ND	1.0	200	09/29/2015 17:27	
Chloroethane	ND	1.0	200	09/29/2015 17:27	
Chloroform	ND	1.0	200	09/29/2015 17:27	
Chloromethane	ND	1.0	200	09/29/2015 17:27	
2-Chlorotoluene	ND	1.0	200	09/29/2015 17:27	
4-Chlorotoluene	ND	1.0	200	09/29/2015 17:27	
Dibromochloromethane	ND	1.0	200	09/29/2015 17:27	
1,2-Dibromo-3-chloropropane	ND	0.80	200	09/29/2015 17:27	
1,2-Dibromoethane (EDB)	ND	0.80	200	09/29/2015 17:27	
Dibromomethane	ND	1.0	200	09/29/2015 17:27	
1,2-Dichlorobenzene	ND	1.0	200	09/29/2015 17:27	
1,3-Dichlorobenzene	ND	1.0	200	09/29/2015 17:27	
1,4-Dichlorobenzene	ND	1.0	200	09/29/2015 17:27	
Dichlorodifluoromethane	ND	1.0	200	09/29/2015 17:27	
1,1-Dichloroethane	ND	1.0	200	09/29/2015 17:27	
1,2-Dichloroethane (1,2-DCA)	ND	0.80	200	09/29/2015 17:27	
1,1-Dichloroethene	ND	1.0	200	09/29/2015 17:27	
cis-1,2-Dichloroethene	ND	1.0	200	09/29/2015 17:27	
trans-1,2-Dichloroethene	ND	1.0	200	09/29/2015 17:27	
1,2-Dichloropropane	ND	1.0	200	09/29/2015 17:27	
1,3-Dichloropropane	ND	1.0	200	09/29/2015 17:27	
2,2-Dichloropropane	ND	1.0	200	09/29/2015 17:27	

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Analytical Report

Client: Essel Environmental Consulting
Date Received: 9/25/15 19:30
Date Prepared: 9/28/15
Project: 15166; EBALDC

WorkOrder: 1509A61
Extraction Method: SW5030B
Analytical Method: SW8260B
Unit: mg/kg

Volatile Organics by P&T and GC/MS (Basic Target List)

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
S-14½-ECB10	1509A61-030A	Soil	09/25/2015 09:29	GC18	110782
Analytes	Result	RL	DF	Date Analyzed	
1,1-Dichloropropene	ND	1.0	200	09/29/2015 17:27	
cis-1,3-Dichloropropene	ND	1.0	200	09/29/2015 17:27	
trans-1,3-Dichloropropene	ND	1.0	200	09/29/2015 17:27	
Diisopropyl ether (DIPE)	ND	1.0	200	09/29/2015 17:27	
Ethylbenzene	ND	1.0	200	09/29/2015 17:27	
Ethyl tert-butyl ether (ETBE)	ND	1.0	200	09/29/2015 17:27	
Freon 113	ND	1.0	200	09/29/2015 17:27	
Hexachlorobutadiene	ND	1.0	200	09/29/2015 17:27	
Hexachloroethane	ND	1.0	200	09/29/2015 17:27	
2-Hexanone	ND	1.0	200	09/29/2015 17:27	
Isopropylbenzene	ND	1.0	200	09/29/2015 17:27	
4-Isopropyl toluene	ND	1.0	200	09/29/2015 17:27	
Methyl-t-butyl ether (MTBE)	ND	1.0	200	09/29/2015 17:27	
Methylene chloride	ND	1.0	200	09/29/2015 17:27	
4-Methyl-2-pentanone (MIBK)	ND	1.0	200	09/29/2015 17:27	
Naphthalene	ND	1.0	200	09/29/2015 17:27	
n-Propyl benzene	ND	1.0	200	09/29/2015 17:27	
Styrene	ND	1.0	200	09/29/2015 17:27	
1,1,1,2-Tetrachloroethane	ND	1.0	200	09/29/2015 17:27	
1,1,2,2-Tetrachloroethane	ND	1.0	200	09/29/2015 17:27	
Tetrachloroethene	ND	1.0	200	09/29/2015 17:27	
Toluene	ND	1.0	200	09/29/2015 17:27	
1,2,3-Trichlorobenzene	ND	1.0	200	09/29/2015 17:27	
1,2,4-Trichlorobenzene	ND	1.0	200	09/29/2015 17:27	
1,1,1-Trichloroethane	ND	1.0	200	09/29/2015 17:27	
1,1,2-Trichloroethane	ND	1.0	200	09/29/2015 17:27	
Trichloroethene	ND	1.0	200	09/29/2015 17:27	
Trichlorofluoromethane	ND	1.0	200	09/29/2015 17:27	
1,2,3-Trichloropropane	ND	1.0	200	09/29/2015 17:27	
1,2,4-Trimethylbenzene	ND	1.0	200	09/29/2015 17:27	
1,3,5-Trimethylbenzene	ND	1.0	200	09/29/2015 17:27	
Vinyl Chloride	ND	1.0	200	09/29/2015 17:27	
Xylenes, Total	ND	1.0	200	09/29/2015 17:27	

(Cont.)



Analytical Report

Client: Essel Environmental Consulting
Date Received: 9/25/15 19:30
Date Prepared: 9/28/15
Project: 15166; EBALDC

WorkOrder: 1509A61
Extraction Method: SW5030B
Analytical Method: SW8260B
Unit: mg/kg

Volatile Organics by P&T and GC/MS (Basic Target List)

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
S-14½-ECB10	1509A61-030A	Soil	09/25/2015 09:29	GC18	110782

Analytes	Result	Qualifiers	RL	DF	Date Analyzed
<u>Surrogates</u>	<u>REC (%)</u>	<u>Qualifiers</u>	<u>Limits</u>		
Dibromofluoromethane	107		70-130		09/29/2015 17:27
Toluene-d8	79		70-130		09/29/2015 17:27
4-BFB	90		70-130		09/29/2015 17:27
Benzene-d6	456	S	60-140		09/29/2015 17:27
Ethylbenzene-d10	359	S	60-140		09/29/2015 17:27
1,2-DCB-d4	596	S	60-140		09/29/2015 17:27

Analyst(s): AK

Analytical Comments: a3,c2



Analytical Report

Client: Essel Environmental Consulting
Date Received: 9/25/15 19:30
Date Prepared: 9/28/15
Project: 15166; EBALDC

WorkOrder: 1509A61
Extraction Method: SW5030B
Analytical Method: SW8260B
Unit: mg/kg

Volatile Organics by P&T and GC/MS (Basic Target List)

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
S-13-ECB12	1509A61-031A	Soil	09/25/2015 10:17	GC16	110782

Analytes	Result	RL	DF	Date Analyzed
Acetone	ND	0.10	1	09/30/2015 03:23
tert-Amyl methyl ether (TAME)	ND	0.0050	1	09/30/2015 03:23
Benzene	ND	0.0050	1	09/30/2015 03:23
Bromobenzene	ND	0.0050	1	09/30/2015 03:23
Bromochloromethane	ND	0.0050	1	09/30/2015 03:23
Bromodichloromethane	ND	0.0050	1	09/30/2015 03:23
Bromoform	ND	0.0050	1	09/30/2015 03:23
Bromomethane	ND	0.0050	1	09/30/2015 03:23
2-Butanone (MEK)	ND	0.020	1	09/30/2015 03:23
t-Butyl alcohol (TBA)	ND	0.050	1	09/30/2015 03:23
n-Butyl benzene	ND	0.0050	1	09/30/2015 03:23
sec-Butyl benzene	ND	0.0050	1	09/30/2015 03:23
tert-Butyl benzene	ND	0.0050	1	09/30/2015 03:23
Carbon Disulfide	ND	0.0050	1	09/30/2015 03:23
Carbon Tetrachloride	ND	0.0050	1	09/30/2015 03:23
Chlorobenzene	ND	0.0050	1	09/30/2015 03:23
Chloroethane	ND	0.0050	1	09/30/2015 03:23
Chloroform	ND	0.0050	1	09/30/2015 03:23
Chloromethane	ND	0.0050	1	09/30/2015 03:23
2-Chlorotoluene	ND	0.0050	1	09/30/2015 03:23
4-Chlorotoluene	ND	0.0050	1	09/30/2015 03:23
Dibromochloromethane	ND	0.0050	1	09/30/2015 03:23
1,2-Dibromo-3-chloropropane	ND	0.0040	1	09/30/2015 03:23
1,2-Dibromoethane (EDB)	ND	0.0040	1	09/30/2015 03:23
Dibromomethane	ND	0.0050	1	09/30/2015 03:23
1,2-Dichlorobenzene	ND	0.0050	1	09/30/2015 03:23
1,3-Dichlorobenzene	ND	0.0050	1	09/30/2015 03:23
1,4-Dichlorobenzene	ND	0.0050	1	09/30/2015 03:23
Dichlorodifluoromethane	ND	0.0050	1	09/30/2015 03:23
1,1-Dichloroethane	ND	0.0050	1	09/30/2015 03:23
1,2-Dichloroethane (1,2-DCA)	ND	0.0040	1	09/30/2015 03:23
1,1-Dichloroethene	ND	0.0050	1	09/30/2015 03:23
cis-1,2-Dichloroethene	ND	0.0050	1	09/30/2015 03:23
trans-1,2-Dichloroethene	ND	0.0050	1	09/30/2015 03:23
1,2-Dichloropropane	ND	0.0050	1	09/30/2015 03:23
1,3-Dichloropropane	ND	0.0050	1	09/30/2015 03:23
2,2-Dichloropropane	ND	0.0050	1	09/30/2015 03:23

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Analytical Report

Client: Essel Environmental Consulting
Date Received: 9/25/15 19:30
Date Prepared: 9/28/15
Project: 15166; EBALDC

WorkOrder: 1509A61
Extraction Method: SW5030B
Analytical Method: SW8260B
Unit: mg/kg

Volatile Organics by P&T and GC/MS (Basic Target List)

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
S-13-ECB12	1509A61-031A	Soil	09/25/2015 10:17	GC16	110782

Analytes	Result	RL	DF	Date Analyzed
1,1-Dichloropropene	ND	0.0050	1	09/30/2015 03:23
cis-1,3-Dichloropropene	ND	0.0050	1	09/30/2015 03:23
trans-1,3-Dichloropropene	ND	0.0050	1	09/30/2015 03:23
Diisopropyl ether (DIPE)	ND	0.0050	1	09/30/2015 03:23
Ethylbenzene	ND	0.0050	1	09/30/2015 03:23
Ethyl tert-butyl ether (ETBE)	ND	0.0050	1	09/30/2015 03:23
Freon 113	ND	0.0050	1	09/30/2015 03:23
Hexachlorobutadiene	ND	0.0050	1	09/30/2015 03:23
Hexachloroethane	ND	0.0050	1	09/30/2015 03:23
2-Hexanone	ND	0.0050	1	09/30/2015 03:23
Isopropylbenzene	ND	0.0050	1	09/30/2015 03:23
4-Isopropyl toluene	ND	0.0050	1	09/30/2015 03:23
Methyl-t-butyl ether (MTBE)	ND	0.0050	1	09/30/2015 03:23
Methylene chloride	ND	0.0050	1	09/30/2015 03:23
4-Methyl-2-pentanone (MIBK)	ND	0.0050	1	09/30/2015 03:23
Naphthalene	ND	0.0050	1	09/30/2015 03:23
n-Propyl benzene	ND	0.0050	1	09/30/2015 03:23
Styrene	ND	0.0050	1	09/30/2015 03:23
1,1,1,2-Tetrachloroethane	ND	0.0050	1	09/30/2015 03:23
1,1,2,2-Tetrachloroethane	ND	0.0050	1	09/30/2015 03:23
Tetrachloroethene	ND	0.0050	1	09/30/2015 03:23
Toluene	ND	0.0050	1	09/30/2015 03:23
1,2,3-Trichlorobenzene	ND	0.0050	1	09/30/2015 03:23
1,2,4-Trichlorobenzene	ND	0.0050	1	09/30/2015 03:23
1,1,1-Trichloroethane	ND	0.0050	1	09/30/2015 03:23
1,1,2-Trichloroethane	ND	0.0050	1	09/30/2015 03:23
Trichloroethene	ND	0.0050	1	09/30/2015 03:23
Trichlorofluoromethane	ND	0.0050	1	09/30/2015 03:23
1,2,3-Trichloropropane	ND	0.0050	1	09/30/2015 03:23
1,2,4-Trimethylbenzene	ND	0.0050	1	09/30/2015 03:23
1,3,5-Trimethylbenzene	ND	0.0050	1	09/30/2015 03:23
Vinyl Chloride	ND	0.0050	1	09/30/2015 03:23
Xylenes, Total	ND	0.0050	1	09/30/2015 03:23

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Analytical Report

Client: Essel Environmental Consulting
Date Received: 9/25/15 19:30
Date Prepared: 9/28/15
Project: 15166; EBALDC

WorkOrder: 1509A61
Extraction Method: SW5030B
Analytical Method: SW8260B
Unit: mg/kg

Volatile Organics by P&T and GC/MS (Basic Target List)

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
S-13-ECB12	1509A61-031A	Soil	09/25/2015 10:17	GC16	110782

Analytes	Result	RL	DF	Date Analyzed
<u>Surrogates</u>	<u>REC (%)</u>	<u>Limits</u>		
Dibromofluoromethane	90	70-130		09/30/2015 03:23
Toluene-d8	100	70-130		09/30/2015 03:23
4-BFB	102	70-130		09/30/2015 03:23
Benzene-d6	96	60-140		09/30/2015 03:23
Ethylbenzene-d10	107	60-140		09/30/2015 03:23
1,2-DCB-d4	76	60-140		09/30/2015 03:23

Analyst(s): AK



Analytical Report

Client: Essel Environmental Consulting
Date Received: 9/25/15 19:30
Date Prepared: 9/29/15
Project: 15166; EBALDC

WorkOrder: 1509A61
Extraction Method: SW3550B
Analytical Method: SW8270C-SIM
Unit: mg/kg

Polynuclear Aromatic Hydrocarbons (PAHs / PNAs) using SIM Mode by GC/MS

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
S-4½-ECB2	1509A61-004A	Soil	09/24/2015 09:27	GC35	110852

Analytes	Result	RL	DF	Date Analyzed
Acenaphthene	ND	0.010	1	09/29/2015 17:44
Acenaphthylene	ND	0.010	1	09/29/2015 17:44
Anthracene	ND	0.010	1	09/29/2015 17:44
Benzo (a) anthracene	ND	0.010	1	09/29/2015 17:44
Benzo (b) fluoranthene	ND	0.010	1	09/29/2015 17:44
Benzo (k) fluoranthene	ND	0.010	1	09/29/2015 17:44
Benzo (g,h,i) perylene	ND	0.010	1	09/29/2015 17:44
Benzo (a) pyrene	ND	0.010	1	09/29/2015 17:44
Chrysene	ND	0.010	1	09/29/2015 17:44
Dibenzo (a,h) anthracene	ND	0.010	1	09/29/2015 17:44
Fluoranthene	ND	0.010	1	09/29/2015 17:44
Fluorene	ND	0.010	1	09/29/2015 17:44
Indeno (1,2,3-cd) pyrene	ND	0.010	1	09/29/2015 17:44
1-Methylnaphthalene	ND	0.010	1	09/29/2015 17:44
2-Methylnaphthalene	ND	0.010	1	09/29/2015 17:44
Naphthalene	ND	0.010	1	09/29/2015 17:44
Phenanthrene	ND	0.010	1	09/29/2015 17:44
Pyrene	ND	0.010	1	09/29/2015 17:44
Surrogates	REC (%)	Limits		
1-Fluoronaphthalene	111	30-130		09/29/2015 17:44
2-Fluorobiphenyl	102	30-130		09/29/2015 17:44

Analyst(s): HK



Analytical Report

Client: Essel Environmental Consulting
Date Received: 9/25/15 19:30
Date Prepared: 9/29/15
Project: 15166; EBALDC

WorkOrder: 1509A61
Extraction Method: SW3550B
Analytical Method: SW8270C-SIM
Unit: mg/kg

Polynuclear Aromatic Hydrocarbons (PAHs / PNAs) using SIM Mode by GC/MS

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
S-9-ECB2	1509A61-005A	Soil	09/24/2015 09:48	GC35	110852

Analytes	Result	RL	DF	Date Analyzed
Acenaphthene	ND	0.010	1	09/29/2015 18:09
Acenaphthylene	ND	0.010	1	09/29/2015 18:09
Anthracene	ND	0.010	1	09/29/2015 18:09
Benzo (a) anthracene	ND	0.010	1	09/29/2015 18:09
Benzo (b) fluoranthene	ND	0.010	1	09/29/2015 18:09
Benzo (k) fluoranthene	ND	0.010	1	09/29/2015 18:09
Benzo (g,h,i) perylene	ND	0.010	1	09/29/2015 18:09
Benzo (a) pyrene	ND	0.010	1	09/29/2015 18:09
Chrysene	ND	0.010	1	09/29/2015 18:09
Dibenzo (a,h) anthracene	ND	0.010	1	09/29/2015 18:09
Fluoranthene	ND	0.010	1	09/29/2015 18:09
Fluorene	ND	0.010	1	09/29/2015 18:09
Indeno (1,2,3-cd) pyrene	ND	0.010	1	09/29/2015 18:09
1-Methylnaphthalene	ND	0.010	1	09/29/2015 18:09
2-Methylnaphthalene	ND	0.010	1	09/29/2015 18:09
Naphthalene	ND	0.010	1	09/29/2015 18:09
Phenanthrene	ND	0.010	1	09/29/2015 18:09
Pyrene	ND	0.010	1	09/29/2015 18:09
Surrogates	REC (%)	Limits		
1-Fluoronaphthalene	108	30-130		09/29/2015 18:09
2-Fluorobiphenyl	103	30-130		09/29/2015 18:09

Analyst(s): HK



Analytical Report

Client: Essel Environmental Consulting
Date Received: 9/25/15 19:30
Date Prepared: 9/29/15
Project: 15166; EBALDC

WorkOrder: 1509A61
Extraction Method: SW3550B
Analytical Method: SW8270C-SIM
Unit: mg/kg

Polynuclear Aromatic Hydrocarbons (PAHs / PNAs) using SIM Mode by GC/MS

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
S-4½-ECB3	1509A61-008A	Soil	09/24/2015 10:10	GC35	110852

Analytes	Result	RL	DF	Date Analyzed
Acenaphthene	ND	0.010	1	09/29/2015 18:34
Acenaphthylene	ND	0.010	1	09/29/2015 18:34
Anthracene	ND	0.010	1	09/29/2015 18:34
Benzo (a) anthracene	ND	0.010	1	09/29/2015 18:34
Benzo (b) fluoranthene	ND	0.010	1	09/29/2015 18:34
Benzo (k) fluoranthene	ND	0.010	1	09/29/2015 18:34
Benzo (g,h,i) perylene	ND	0.010	1	09/29/2015 18:34
Benzo (a) pyrene	ND	0.010	1	09/29/2015 18:34
Chrysene	ND	0.010	1	09/29/2015 18:34
Dibenzo (a,h) anthracene	ND	0.010	1	09/29/2015 18:34
Fluoranthene	ND	0.010	1	09/29/2015 18:34
Fluorene	ND	0.010	1	09/29/2015 18:34
Indeno (1,2,3-cd) pyrene	ND	0.010	1	09/29/2015 18:34
1-Methylnaphthalene	ND	0.010	1	09/29/2015 18:34
2-Methylnaphthalene	ND	0.010	1	09/29/2015 18:34
Naphthalene	ND	0.010	1	09/29/2015 18:34
Phenanthrene	ND	0.010	1	09/29/2015 18:34
Pyrene	ND	0.010	1	09/29/2015 18:34
Surrogates	REC (%)	Limits		
1-Fluoronaphthalene	106	30-130		09/29/2015 18:34
2-Fluorobiphenyl	104	30-130		09/29/2015 18:34

Analyst(s): HK



Analytical Report

Client: Essel Environmental Consulting
Date Received: 9/25/15 19:30
Date Prepared: 9/29/15
Project: 15166; EBALDC

WorkOrder: 1509A61
Extraction Method: SW3550B
Analytical Method: SW8270C-SIM
Unit: mg/kg

Polynuclear Aromatic Hydrocarbons (PAHs / PNAs) using SIM Mode by GC/MS

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
S-9½-ECB3	1509A61-009A	Soil	09/24/2015 10:35	GC35	110852

Analytes	Result	RL	DF	Date Analyzed
Acenaphthene	ND	0.010	1	09/29/2015 18:59
Acenaphthylene	ND	0.010	1	09/29/2015 18:59
Anthracene	ND	0.010	1	09/29/2015 18:59
Benzo (a) anthracene	ND	0.010	1	09/29/2015 18:59
Benzo (b) fluoranthene	ND	0.010	1	09/29/2015 18:59
Benzo (k) fluoranthene	ND	0.010	1	09/29/2015 18:59
Benzo (g,h,i) perylene	ND	0.010	1	09/29/2015 18:59
Benzo (a) pyrene	ND	0.010	1	09/29/2015 18:59
Chrysene	ND	0.010	1	09/29/2015 18:59
Dibenzo (a,h) anthracene	ND	0.010	1	09/29/2015 18:59
Fluoranthene	ND	0.010	1	09/29/2015 18:59
Fluorene	ND	0.010	1	09/29/2015 18:59
Indeno (1,2,3-cd) pyrene	ND	0.010	1	09/29/2015 18:59
1-Methylnaphthalene	ND	0.010	1	09/29/2015 18:59
2-Methylnaphthalene	ND	0.010	1	09/29/2015 18:59
Naphthalene	ND	0.010	1	09/29/2015 18:59
Phenanthrene	ND	0.010	1	09/29/2015 18:59
Pyrene	ND	0.010	1	09/29/2015 18:59
Surrogates	REC (%)	Limits		
1-Fluoronaphthalene	107	30-130		09/29/2015 18:59
2-Fluorobiphenyl	100	30-130		09/29/2015 18:59

Analyst(s): HK



Analytical Report

Client: Essel Environmental Consulting
Date Received: 9/25/15 19:30
Date Prepared: 9/29/15
Project: 15166; EBALDC

WorkOrder: 1509A61
Extraction Method: SW3550B
Analytical Method: SW8270C-SIM
Unit: mg/kg

Polynuclear Aromatic Hydrocarbons (PAHs / PNAs) using SIM Mode by GC/MS

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
S-4-ECB5	1509A61-016A	Soil	09/24/2015 14:44	GC35	110852

Analytes	Result	RL	DF	Date Analyzed
Acenaphthene	ND	0.010	1	09/29/2015 19:24
Acenaphthylene	ND	0.010	1	09/29/2015 19:24
Anthracene	ND	0.010	1	09/29/2015 19:24
Benzo (a) anthracene	ND	0.010	1	09/29/2015 19:24
Benzo (b) fluoranthene	ND	0.010	1	09/29/2015 19:24
Benzo (k) fluoranthene	ND	0.010	1	09/29/2015 19:24
Benzo (g,h,i) perylene	ND	0.010	1	09/29/2015 19:24
Benzo (a) pyrene	ND	0.010	1	09/29/2015 19:24
Chrysene	ND	0.010	1	09/29/2015 19:24
Dibenzo (a,h) anthracene	ND	0.010	1	09/29/2015 19:24
Fluoranthene	ND	0.010	1	09/29/2015 19:24
Fluorene	ND	0.010	1	09/29/2015 19:24
Indeno (1,2,3-cd) pyrene	ND	0.010	1	09/29/2015 19:24
1-Methylnaphthalene	ND	0.010	1	09/29/2015 19:24
2-Methylnaphthalene	ND	0.010	1	09/29/2015 19:24
Naphthalene	ND	0.010	1	09/29/2015 19:24
Phenanthrene	ND	0.010	1	09/29/2015 19:24
Pyrene	ND	0.010	1	09/29/2015 19:24
Surrogates	REC (%)	Limits		
1-Fluoronaphthalene	113	30-130		09/29/2015 19:24
2-Fluorobiphenyl	104	30-130		09/29/2015 19:24

Analyst(s): HK



Analytical Report

Client: Essel Environmental Consulting
Date Received: 9/25/15 19:30
Date Prepared: 9/29/15
Project: 15166; EBALDC

WorkOrder: 1509A61
Extraction Method: SW3550B
Analytical Method: SW8270C-SIM
Unit: mg/kg

Polynuclear Aromatic Hydrocarbons (PAHs / PNAs) using SIM Mode by GC/MS

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
S-8-ECB5	1509A61-017A	Soil	09/24/2015 14:53	GC35	110852

Analytes	Result	RL	DF	Date Analyzed
Acenaphthene	ND	0.010	1	09/29/2015 19:48
Acenaphthylene	ND	0.010	1	09/29/2015 19:48
Anthracene	ND	0.010	1	09/29/2015 19:48
Benzo (a) anthracene	ND	0.010	1	09/29/2015 19:48
Benzo (b) fluoranthene	ND	0.010	1	09/29/2015 19:48
Benzo (k) fluoranthene	ND	0.010	1	09/29/2015 19:48
Benzo (g,h,i) perylene	ND	0.010	1	09/29/2015 19:48
Benzo (a) pyrene	ND	0.010	1	09/29/2015 19:48
Chrysene	ND	0.010	1	09/29/2015 19:48
Dibenzo (a,h) anthracene	ND	0.010	1	09/29/2015 19:48
Fluoranthene	ND	0.010	1	09/29/2015 19:48
Fluorene	ND	0.010	1	09/29/2015 19:48
Indeno (1,2,3-cd) pyrene	ND	0.010	1	09/29/2015 19:48
1-Methylnaphthalene	ND	0.010	1	09/29/2015 19:48
2-Methylnaphthalene	ND	0.010	1	09/29/2015 19:48
Naphthalene	ND	0.010	1	09/29/2015 19:48
Phenanthrene	ND	0.010	1	09/29/2015 19:48
Pyrene	ND	0.010	1	09/29/2015 19:48
Surrogates	REC (%)	Limits		
1-Fluoronaphthalene	122	30-130		09/29/2015 19:48
2-Fluorobiphenyl	103	30-130		09/29/2015 19:48

Analyst(s): HK



Analytical Report

Client: Essel Environmental Consulting
Date Received: 9/25/15 19:30
Date Prepared: 9/29/15
Project: 15166; EBALDC

WorkOrder: 1509A61
Extraction Method: SW3550B
Analytical Method: SW8270C-SIM
Unit: mg/kg

Polynuclear Aromatic Hydrocarbons (PAHs / PNAs) using SIM Mode by GC/MS

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
S-4½-ECB7	1509A61-025A	Soil	09/25/2015 11:13	GC35	110852

Analytes	Result	RL	DF	Date Analyzed
Acenaphthene	ND	0.010	1	09/29/2015 16:28
Acenaphthylene	ND	0.010	1	09/29/2015 16:28
Anthracene	ND	0.010	1	09/29/2015 16:28
Benzo (a) anthracene	ND	0.010	1	09/29/2015 16:28
Benzo (b) fluoranthene	ND	0.010	1	09/29/2015 16:28
Benzo (k) fluoranthene	ND	0.010	1	09/29/2015 16:28
Benzo (g,h,i) perylene	ND	0.010	1	09/29/2015 16:28
Benzo (a) pyrene	ND	0.010	1	09/29/2015 16:28
Chrysene	ND	0.010	1	09/29/2015 16:28
Dibenzo (a,h) anthracene	ND	0.010	1	09/29/2015 16:28
Fluoranthene	ND	0.010	1	09/29/2015 16:28
Fluorene	ND	0.010	1	09/29/2015 16:28
Indeno (1,2,3-cd) pyrene	ND	0.010	1	09/29/2015 16:28
1-Methylnaphthalene	ND	0.010	1	09/29/2015 16:28
2-Methylnaphthalene	ND	0.010	1	09/29/2015 16:28
Naphthalene	ND	0.010	1	09/29/2015 16:28
Phenanthrene	ND	0.010	1	09/29/2015 16:28
Pyrene	ND	0.010	1	09/29/2015 16:28

Surrogates	REC (%)	Limits	Date Analyzed
1-Fluoronaphthalene	112	30-130	09/29/2015 16:28
2-Fluorobiphenyl	103	30-130	09/29/2015 16:28

Analyst(s): HK



Analytical Report

Client: Essel Environmental Consulting
Date Received: 9/25/15 19:30
Date Prepared: 9/29/15
Project: 15166; EBALDC

WorkOrder: 1509A61
Extraction Method: SW3550B
Analytical Method: SW8270C-SIM
Unit: mg/kg

Polynuclear Aromatic Hydrocarbons (PAHs / PNAs) using SIM Mode by GC/MS

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
S-9½-ECB7	1509A61-026A	Soil	09/25/2015 11:18	GC35	110852

Analytes	Result	RL	DF	Date Analyzed
Acenaphthene	ND	0.010	1	09/29/2015 20:13
Acenaphthylene	ND	0.010	1	09/29/2015 20:13
Anthracene	ND	0.010	1	09/29/2015 20:13
Benzo (a) anthracene	ND	0.010	1	09/29/2015 20:13
Benzo (b) fluoranthene	ND	0.010	1	09/29/2015 20:13
Benzo (k) fluoranthene	ND	0.010	1	09/29/2015 20:13
Benzo (g,h,i) perylene	ND	0.010	1	09/29/2015 20:13
Benzo (a) pyrene	ND	0.010	1	09/29/2015 20:13
Chrysene	ND	0.010	1	09/29/2015 20:13
Dibenzo (a,h) anthracene	ND	0.010	1	09/29/2015 20:13
Fluoranthene	ND	0.010	1	09/29/2015 20:13
Fluorene	ND	0.010	1	09/29/2015 20:13
Indeno (1,2,3-cd) pyrene	ND	0.010	1	09/29/2015 20:13
1-Methylnaphthalene	ND	0.010	1	09/29/2015 20:13
2-Methylnaphthalene	ND	0.010	1	09/29/2015 20:13
Naphthalene	ND	0.010	1	09/29/2015 20:13
Phenanthrene	ND	0.010	1	09/29/2015 20:13
Pyrene	ND	0.010	1	09/29/2015 20:13

Surrogates	REC (%)	Limits	Date Analyzed
1-Fluoronaphthalene	108	30-130	09/29/2015 20:13
2-Fluorobiphenyl	103	30-130	09/29/2015 20:13

Analyst(s): HK



Analytical Report

Client: Essel Environmental Consulting
Date Received: 9/25/15 19:30
Date Prepared: 9/28/15-9/29/15
Project: 15166; EBALDC

WorkOrder: 1509A61
Extraction Method: SW5030B
Analytical Method: SW8021B/8015Bm
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
S-12½-ECB1	1509A61-001A	Soil	09/24/2015 08:45	GC19	110776

Analytes	Result	RL	DF	Date Analyzed
TPH(g)	ND	1.0	1	09/28/2015 22:24
MTBE	---	0.050	1	09/28/2015 22:24
Benzene	---	0.0050	1	09/28/2015 22:24
Toluene	---	0.0050	1	09/28/2015 22:24
Ethylbenzene	---	0.0050	1	09/28/2015 22:24
Xylenes	---	0.0050	1	09/28/2015 22:24
<u>Surrogates</u>	<u>REC (%)</u>	<u>Limits</u>		
2-Fluorotoluene	116	70-130		09/28/2015 22:24

Analyst(s): IA

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
S-19½-ECB1	1509A61-002A	Soil	09/24/2015 08:59	GC19	110776

Analytes	Result	RL	DF	Date Analyzed
TPH(g)	ND	1.0	1	09/28/2015 21:53
MTBE	---	0.050	1	09/28/2015 21:53
Benzene	---	0.0050	1	09/28/2015 21:53
Toluene	---	0.0050	1	09/28/2015 21:53
Ethylbenzene	---	0.0050	1	09/28/2015 21:53
Xylenes	---	0.0050	1	09/28/2015 21:53
<u>Surrogates</u>	<u>REC (%)</u>	<u>Limits</u>		
2-Fluorotoluene	119	70-130		09/28/2015 21:53

Analyst(s): IA



Analytical Report

Client: Essel Environmental Consulting
Date Received: 9/25/15 19:30
Date Prepared: 9/28/15-9/29/15
Project: 15166; EBALDC

WorkOrder: 1509A61
Extraction Method: SW5030B
Analytical Method: SW8021B/8015Bm
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
S-15-ECB1	1509A61-003A	Soil	09/24/2015 08:55	GC19	110776

Analytes	Result	RL	DF	Date Analyzed
TPH(g)	ND	1.0	1	09/28/2015 20:53
MTBE	---	0.050	1	09/28/2015 20:53
Benzene	---	0.0050	1	09/28/2015 20:53
Toluene	---	0.0050	1	09/28/2015 20:53
Ethylbenzene	---	0.0050	1	09/28/2015 20:53
Xylenes	---	0.0050	1	09/28/2015 20:53
<u>Surrogates</u>	<u>REC (%)</u>	<u>Limits</u>		
2-Fluorotoluene	108	70-130		09/28/2015 20:53

Analyst(s): IA

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
S-4½-ECB2	1509A61-004A	Soil	09/24/2015 09:27	GC19	110776

Analytes	Result	RL	DF	Date Analyzed
TPH(g)	ND	1.0	1	09/28/2015 22:54
MTBE	---	0.050	1	09/28/2015 22:54
Benzene	---	0.0050	1	09/28/2015 22:54
Toluene	---	0.0050	1	09/28/2015 22:54
Ethylbenzene	---	0.0050	1	09/28/2015 22:54
Xylenes	---	0.0050	1	09/28/2015 22:54
<u>Surrogates</u>	<u>REC (%)</u>	<u>Limits</u>		
2-Fluorotoluene	124	70-130		09/28/2015 22:54

Analyst(s): IA

(Cont.)



Analytical Report

Client: Essel Environmental Consulting
Date Received: 9/25/15 19:30
Date Prepared: 9/28/15-9/29/15
Project: 15166; EBALDC

WorkOrder: 1509A61
Extraction Method: SW5030B
Analytical Method: SW8021B/8015Bm
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
S-9-ECB2	1509A61-005A	Soil	09/24/2015 09:48	GC19	110776

Analytes	Result	RL	DF	Date Analyzed
TPH(g)	ND	1.0	1	09/28/2015 23:54
MTBE	---	0.050	1	09/28/2015 23:54
Benzene	---	0.0050	1	09/28/2015 23:54
Toluene	---	0.0050	1	09/28/2015 23:54
Ethylbenzene	---	0.0050	1	09/28/2015 23:54
Xylenes	---	0.0050	1	09/28/2015 23:54
<u>Surrogates</u>	<u>REC (%)</u>	<u>Limits</u>		
2-Fluorotoluene	116	70-130		09/28/2015 23:54

Analyst(s): IA

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
S-17-ECB2	1509A61-006A	Soil	09/24/2015 10:05	GC19	110776

Analytes	Result	RL	DF	Date Analyzed
TPH(g)	ND	1.0	1	09/29/2015 00:24
MTBE	---	0.050	1	09/29/2015 00:24
Benzene	---	0.0050	1	09/29/2015 00:24
Toluene	---	0.0050	1	09/29/2015 00:24
Ethylbenzene	---	0.0050	1	09/29/2015 00:24
Xylenes	---	0.0050	1	09/29/2015 00:24
<u>Surrogates</u>	<u>REC (%)</u>	<u>Limits</u>		
2-Fluorotoluene	114	70-130		09/29/2015 00:24

Analyst(s): IA

(Cont.)



Analytical Report

Client: Essel Environmental Consulting
Date Received: 9/25/15 19:30
Date Prepared: 9/28/15-9/29/15
Project: 15166; EBALDC

WorkOrder: 1509A61
Extraction Method: SW5030B
Analytical Method: SW8021B/8015Bm
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
S-19½-ECB2	1509A61-007A	Soil	09/24/2015 10:07	GC19	110776

Analytes	Result	RL	DF	Date Analyzed
TPH(g)	ND	1.0	1	10/01/2015 02:16
MTBE	---	0.050	1	10/01/2015 02:16
Benzene	---	0.0050	1	10/01/2015 02:16
Toluene	---	0.0050	1	10/01/2015 02:16
Ethylbenzene	---	0.0050	1	10/01/2015 02:16
Xylenes	---	0.0050	1	10/01/2015 02:16
<u>Surrogates</u>	<u>REC (%)</u>	<u>Limits</u>		
2-Fluorotoluene	107	70-130		10/01/2015 02:16

Analyst(s): IA

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
S-4½-ECB3	1509A61-008A	Soil	09/24/2015 10:10	GC19	110776

Analytes	Result	RL	DF	Date Analyzed
TPH(g)	ND	1.0	1	09/29/2015 01:24
MTBE	---	0.050	1	09/29/2015 01:24
Benzene	---	0.0050	1	09/29/2015 01:24
Toluene	---	0.0050	1	09/29/2015 01:24
Ethylbenzene	---	0.0050	1	09/29/2015 01:24
Xylenes	---	0.0050	1	09/29/2015 01:24
<u>Surrogates</u>	<u>REC (%)</u>	<u>Limits</u>		
2-Fluorotoluene	120	70-130		09/29/2015 01:24

Analyst(s): IA

(Cont.)



Analytical Report

Client: Essel Environmental Consulting
Date Received: 9/25/15 19:30
Date Prepared: 9/28/15-9/29/15
Project: 15166; EBALDC

WorkOrder: 1509A61
Extraction Method: SW5030B
Analytical Method: SW8021B/8015Bm
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
S-9½-ECB3	1509A61-009A	Soil	09/24/2015 10:35	GC19	110776

Analytes	Result	RL	DF	Date Analyzed
TPH(g)	ND	1.0	1	09/29/2015 01:54
MTBE	---	0.050	1	09/29/2015 01:54
Benzene	---	0.0050	1	09/29/2015 01:54
Toluene	---	0.0050	1	09/29/2015 01:54
Ethylbenzene	---	0.0050	1	09/29/2015 01:54
Xylenes	---	0.0050	1	09/29/2015 01:54
<u>Surrogates</u>	<u>REC (%)</u>	<u>Limits</u>		
2-Fluorotoluene	115	70-130		09/29/2015 01:54

Analyst(s): IA

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
S-15½-ECB3	1509A61-010A	Soil	09/24/2015 10:57	GC19	110776

Analytes	Result	RL	DF	Date Analyzed
TPH(g)	200	5.0	5	09/29/2015 15:27
MTBE	---	0.25	5	09/29/2015 15:27
Benzene	---	0.025	5	09/29/2015 15:27
Toluene	---	0.025	5	09/29/2015 15:27
Ethylbenzene	---	0.025	5	09/29/2015 15:27
Xylenes	---	0.025	5	09/29/2015 15:27
<u>Surrogates</u>	<u>REC (%)</u>	<u>Limits</u>		
2-Fluorotoluene	86	70-130		09/29/2015 15:27

Analyst(s): IA

Analytical Comments: d7,d9



Analytical Report

Client: Essel Environmental Consulting
Date Received: 9/25/15 19:30
Date Prepared: 9/28/15-9/29/15
Project: 15166; EBALDC

WorkOrder: 1509A61
Extraction Method: SW5030B
Analytical Method: SW8021B/8015Bm
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
S-18½-ECB3	1509A61-011A	Soil	09/24/2015 11:03	GC19	110776

Analytes	Result	RL	DF	Date Analyzed
TPH(g)	ND	1.0	1	09/29/2015 02:25
MTBE	---	0.050	1	09/29/2015 02:25
Benzene	---	0.0050	1	09/29/2015 02:25
Toluene	---	0.0050	1	09/29/2015 02:25
Ethylbenzene	---	0.0050	1	09/29/2015 02:25
Xylenes	---	0.0050	1	09/29/2015 02:25
<u>Surrogates</u>	<u>REC (%)</u>	<u>Limits</u>		
2-Fluorotoluene	117	70-130		09/29/2015 02:25

Analyst(s): IA

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
S-4½-ECB4	1509A61-012A	Soil	09/24/2015 10:55	GC19	110776

Analytes	Result	RL	DF	Date Analyzed
TPH(g)	ND	1.0	1	10/01/2015 02:46
MTBE	---	0.050	1	10/01/2015 02:46
Benzene	---	0.0050	1	10/01/2015 02:46
Toluene	---	0.0050	1	10/01/2015 02:46
Ethylbenzene	---	0.0050	1	10/01/2015 02:46
Xylenes	---	0.0050	1	10/01/2015 02:46
<u>Surrogates</u>	<u>REC (%)</u>	<u>Limits</u>		
2-Fluorotoluene	105	70-130		10/01/2015 02:46

Analyst(s): IA

(Cont.)



Analytical Report

Client: Essel Environmental Consulting
Date Received: 9/25/15 19:30
Date Prepared: 9/28/15-9/29/15
Project: 15166; EBALDC

WorkOrder: 1509A61
Extraction Method: SW5030B
Analytical Method: SW8021B/8015Bm
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
S-9-ECB4	1509A61-013A	Soil	09/24/2015 11:01	GC19	110776

Analytes	Result	RL	DF	Date Analyzed
TPH(g)	ND	1.0	1	09/29/2015 04:25
MTBE	---	0.050	1	09/29/2015 04:25
Benzene	---	0.0050	1	09/29/2015 04:25
Toluene	---	0.0050	1	09/29/2015 04:25
Ethylbenzene	---	0.0050	1	09/29/2015 04:25
Xylenes	---	0.0050	1	09/29/2015 04:25
<u>Surrogates</u>	<u>REC (%)</u>	<u>Limits</u>		
2-Fluorotoluene	118	70-130		09/29/2015 04:25

Analyst(s): IA

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
S-13-ECB4	1509A61-014A	Soil	09/24/2015 11:10	GC19	110776

Analytes	Result	RL	DF	Date Analyzed
TPH(g)	400	20	20	09/29/2015 14:56
MTBE	---	1.0	20	09/29/2015 14:56
Benzene	---	0.10	20	09/29/2015 14:56
Toluene	---	0.10	20	09/29/2015 14:56
Ethylbenzene	---	0.10	20	09/29/2015 14:56
Xylenes	---	0.10	20	09/29/2015 14:56
<u>Surrogates</u>	<u>REC (%)</u>	<u>Limits</u>		
2-Fluorotoluene	81	70-130		09/29/2015 14:56

Analyst(s): IA

Analytical Comments: d7,d9



Analytical Report

Client: Essel Environmental Consulting
Date Received: 9/25/15 19:30
Date Prepared: 9/28/15-9/29/15
Project: 15166; EBALDC

WorkOrder: 1509A61
Extraction Method: SW5030B
Analytical Method: SW8021B/8015Bm
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
S-17½-ECB4	1509A61-015A	Soil	09/24/2015 11:12	GC19	110815

Analytes	Result	RL	DF	Date Analyzed
TPH(g)	ND	1.0	1	09/30/2015 03:40
MTBE	---	0.050	1	09/30/2015 03:40
Benzene	---	0.0050	1	09/30/2015 03:40
Toluene	---	0.0050	1	09/30/2015 03:40
Ethylbenzene	---	0.0050	1	09/30/2015 03:40
Xylenes	---	0.0050	1	09/30/2015 03:40
<u>Surrogates</u>	<u>REC (%)</u>	<u>Limits</u>		
2-Fluorotoluene	111	70-130		09/30/2015 03:40

Analyst(s): IA

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
S-4-ECB5	1509A61-016A	Soil	09/24/2015 14:44	GC19	110785

Analytes	Result	RL	DF	Date Analyzed
TPH(g)	2.1	1.0	1	10/01/2015 03:16
MTBE	---	0.050	1	10/01/2015 03:16
Benzene	---	0.0050	1	10/01/2015 03:16
Toluene	---	0.0050	1	10/01/2015 03:16
Ethylbenzene	---	0.0050	1	10/01/2015 03:16
Xylenes	---	0.0050	1	10/01/2015 03:16
<u>Surrogates</u>	<u>REC (%)</u>	<u>Limits</u>		
2-Fluorotoluene	100	70-130		10/01/2015 03:16

Analyst(s): IA

Analytical Comments: d7



Analytical Report

Client: Essel Environmental Consulting
Date Received: 9/25/15 19:30
Date Prepared: 9/28/15-9/29/15
Project: 15166; EBALDC

WorkOrder: 1509A61
Extraction Method: SW5030B
Analytical Method: SW8021B/8015Bm
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
S-8-ECB5	1509A61-017A	Soil	09/24/2015 14:53	GC7	110785

Analytes	Result	RL	DF	Date Analyzed
TPH(g)	130	10	10	09/30/2015 13:41
MTBE	---	0.50	10	09/30/2015 13:41
Benzene	---	0.050	10	09/30/2015 13:41
Toluene	---	0.050	10	09/30/2015 13:41
Ethylbenzene	---	0.050	10	09/30/2015 13:41
Xylenes	---	0.050	10	09/30/2015 13:41

Surrogates	REC (%)	Limits	Date Analyzed
2-Fluorotoluene	103	70-130	09/30/2015 13:41

Analyst(s): IA

Analytical Comments: d7,d9

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
S-14½-ECB5	1509A61-018A	Soil	09/24/2015 15:07	GC19	110785

Analytes	Result	RL	DF	Date Analyzed
TPH(g)	95	5.0	5	09/29/2015 17:00
MTBE	---	0.25	5	09/29/2015 17:00
Benzene	---	0.025	5	09/29/2015 17:00
Toluene	---	0.025	5	09/29/2015 17:00
Ethylbenzene	---	0.025	5	09/29/2015 17:00
Xylenes	---	0.025	5	09/29/2015 17:00

Surrogates	REC (%)	Limits	Date Analyzed
2-Fluorotoluene	97	70-130	09/29/2015 17:00

Analyst(s): IA

Analytical Comments: d7,d9

(Cont.)



Analytical Report

Client: Essel Environmental Consulting
Date Received: 9/25/15 19:30
Date Prepared: 9/28/15-9/29/15
Project: 15166; EBALDC

WorkOrder: 1509A61
Extraction Method: SW5030B
Analytical Method: SW8021B/8015Bm
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
S-18-ECB5	1509A61-019A	Soil	09/24/2015 15:14	GC19	110785

Analytes	Result	RL	DF	Date Analyzed
TPH(g)	ND	1.0	1	10/01/2015 03:47
MTBE	---	0.050	1	10/01/2015 03:47
Benzene	---	0.0050	1	10/01/2015 03:47
Toluene	---	0.0050	1	10/01/2015 03:47
Ethylbenzene	---	0.0050	1	10/01/2015 03:47
Xylenes	---	0.0050	1	10/01/2015 03:47
<u>Surrogates</u>	<u>REC (%)</u>	<u>Limits</u>		
2-Fluorotoluene	98	70-130		10/01/2015 03:47

Analyst(s): IA

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
S-13-ECB6	1509A61-020A	Soil	09/24/2015 17:38	GC19	110785

Analytes	Result	RL	DF	Date Analyzed
TPH(g)	ND	1.0	1	10/01/2015 04:17
MTBE	---	0.050	1	10/01/2015 04:17
Benzene	---	0.0050	1	10/01/2015 04:17
Toluene	---	0.0050	1	10/01/2015 04:17
Ethylbenzene	---	0.0050	1	10/01/2015 04:17
Xylenes	---	0.0050	1	10/01/2015 04:17
<u>Surrogates</u>	<u>REC (%)</u>	<u>Limits</u>		
2-Fluorotoluene	104	70-130		10/01/2015 04:17

Analyst(s): IA



Analytical Report

Client: Essel Environmental Consulting
Date Received: 9/25/15 19:30
Date Prepared: 9/28/15-9/29/15
Project: 15166; EBALDC

WorkOrder: 1509A61
Extraction Method: SW5030B
Analytical Method: SW8021B/8015Bm
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
S-13-ECB11	1509A61-021A	Soil	09/24/2015 11:45	GC19	110785

Analytes	Result	RL	DF	Date Analyzed
TPH(g)	ND	1.0	1	10/01/2015 04:48
MTBE	---	0.050	1	10/01/2015 04:48
Benzene	---	0.0050	1	10/01/2015 04:48
Toluene	---	0.0050	1	10/01/2015 04:48
Ethylbenzene	---	0.0050	1	10/01/2015 04:48
Xylenes	---	0.0050	1	10/01/2015 04:48
<u>Surrogates</u>	<u>REC (%)</u>	<u>Limits</u>		
2-Fluorotoluene	108	70-130		10/01/2015 04:48

Analyst(s): IA

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
S-13-ECB13	1509A61-022A	Soil	09/24/2015 13:14	GC19	110785

Analytes	Result	RL	DF	Date Analyzed
TPH(g)	ND	1.0	1	10/01/2015 05:18
MTBE	---	0.050	1	10/01/2015 05:18
Benzene	---	0.0050	1	10/01/2015 05:18
Toluene	---	0.0050	1	10/01/2015 05:18
Ethylbenzene	---	0.0050	1	10/01/2015 05:18
Xylenes	---	0.0050	1	10/01/2015 05:18
<u>Surrogates</u>	<u>REC (%)</u>	<u>Limits</u>		
2-Fluorotoluene	101	70-130		10/01/2015 05:18

Analyst(s): IA

(Cont.)



Analytical Report

Client: Essel Environmental Consulting
Date Received: 9/25/15 19:30
Date Prepared: 9/28/15-9/29/15
Project: 15166; EBALDC

WorkOrder: 1509A61
Extraction Method: SW5030B
Analytical Method: SW8021B/8015Bm
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
S-13-ECB14	1509A61-023A	Soil	09/24/2015 14:13	GC19	110785

Analytes	Result	RL	DF	Date Analyzed
TPH(g)	ND	1.0	1	10/01/2015 05:48
MTBE	---	0.050	1	10/01/2015 05:48
Benzene	---	0.0050	1	10/01/2015 05:48
Toluene	---	0.0050	1	10/01/2015 05:48
Ethylbenzene	---	0.0050	1	10/01/2015 05:48
Xylenes	---	0.0050	1	10/01/2015 05:48
<u>Surrogates</u>	<u>REC (%)</u>	<u>Limits</u>		
2-Fluorotoluene	107	70-130		10/01/2015 05:48

Analyst(s): IA

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
S-18½-ECB14	1509A61-024A	Soil	09/24/2015 14:31	GC19	110785

Analytes	Result	RL	DF	Date Analyzed
TPH(g)	ND	1.0	1	10/01/2015 07:50
MTBE	---	0.050	1	10/01/2015 07:50
Benzene	---	0.0050	1	10/01/2015 07:50
Toluene	---	0.0050	1	10/01/2015 07:50
Ethylbenzene	---	0.0050	1	10/01/2015 07:50
Xylenes	---	0.0050	1	10/01/2015 07:50
<u>Surrogates</u>	<u>REC (%)</u>	<u>Limits</u>		
2-Fluorotoluene	99	70-130		10/01/2015 07:50

Analyst(s): IA



Analytical Report

Client: Essel Environmental Consulting
Date Received: 9/25/15 19:30
Date Prepared: 9/28/15-9/29/15
Project: 15166; EBALDC

WorkOrder: 1509A61
Extraction Method: SW5030B
Analytical Method: SW8021B/8015Bm
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
S-4½-ECB7	1509A61-025A	Soil	09/25/2015 11:13	GC7	110785

Analytes	Result	RL	DF	Date Analyzed
TPH(g)	ND	1.0	1	09/30/2015 19:41
MTBE	---	0.050	1	09/30/2015 19:41
Benzene	---	0.0050	1	09/30/2015 19:41
Toluene	---	0.0050	1	09/30/2015 19:41
Ethylbenzene	---	0.0050	1	09/30/2015 19:41
Xylenes	---	0.0050	1	09/30/2015 19:41
<u>Surrogates</u>	<u>REC (%)</u>	<u>Limits</u>		
2-Fluorotoluene	105	70-130		09/30/2015 19:41

Analyst(s): IA

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
S-9½-ECB7	1509A61-026A	Soil	09/25/2015 11:18	GC7	110785

Analytes	Result	RL	DF	Date Analyzed
TPH(g)	ND	1.0	1	09/30/2015 20:11
MTBE	---	0.050	1	09/30/2015 20:11
Benzene	---	0.0050	1	09/30/2015 20:11
Toluene	---	0.0050	1	09/30/2015 20:11
Ethylbenzene	---	0.0050	1	09/30/2015 20:11
Xylenes	---	0.0050	1	09/30/2015 20:11
<u>Surrogates</u>	<u>REC (%)</u>	<u>Limits</u>		
2-Fluorotoluene	103	70-130		09/30/2015 20:11

Analyst(s): IA

(Cont.)



Analytical Report

Client: Essel Environmental Consulting
Date Received: 9/25/15 19:30
Date Prepared: 9/28/15-9/29/15
Project: 15166; EBALDC

WorkOrder: 1509A61
Extraction Method: SW5030B
Analytical Method: SW8021B/8015Bm
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
S-13-ECB8	1509A61-027A	Soil	09/25/2015 08:06	GC7	110785

Analytes	Result	RL	DF	Date Analyzed
TPH(g)	ND	1.0	1	09/30/2015 20:41
MTBE	---	0.050	1	09/30/2015 20:41
Benzene	---	0.0050	1	09/30/2015 20:41
Toluene	---	0.0050	1	09/30/2015 20:41
Ethylbenzene	---	0.0050	1	09/30/2015 20:41
Xylenes	---	0.0050	1	09/30/2015 20:41
<u>Surrogates</u>	<u>REC (%)</u>	<u>Limits</u>		
2-Fluorotoluene	105	70-130		09/30/2015 20:41

Analyst(s): IA

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
S-13-ECB9	1509A61-028A	Soil	09/25/2015 08:34	GC7	110785

Analytes	Result	RL	DF	Date Analyzed
TPH(g)	ND	1.0	1	09/30/2015 21:11
MTBE	---	0.050	1	09/30/2015 21:11
Benzene	---	0.0050	1	09/30/2015 21:11
Toluene	---	0.0050	1	09/30/2015 21:11
Ethylbenzene	---	0.0050	1	09/30/2015 21:11
Xylenes	---	0.0050	1	09/30/2015 21:11
<u>Surrogates</u>	<u>REC (%)</u>	<u>Limits</u>		
2-Fluorotoluene	104	70-130		09/30/2015 21:11

Analyst(s): IA

(Cont.)



Analytical Report

Client: Essel Environmental Consulting
Date Received: 9/25/15 19:30
Date Prepared: 9/28/15-9/29/15
Project: 15166; EBALDC

WorkOrder: 1509A61
Extraction Method: SW5030B
Analytical Method: SW8021B/8015Bm
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
S-13-ECB10	1509A61-029A	Soil	09/25/2015 09:26	GC19	110785

Analytes	Result	RL	DF	Date Analyzed
TPH(g)	ND	1.0	1	09/30/2015 18:38
MTBE	---	0.050	1	09/30/2015 18:38
Benzene	---	0.0050	1	09/30/2015 18:38
Toluene	---	0.0050	1	09/30/2015 18:38
Ethylbenzene	---	0.0050	1	09/30/2015 18:38
Xylenes	---	0.0050	1	09/30/2015 18:38
<u>Surrogates</u>	<u>REC (%)</u>	<u>Limits</u>		
2-Fluorotoluene	114	70-130		09/30/2015 18:38

Analyst(s): IA

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
S-14½-ECB10	1509A61-030A	Soil	09/25/2015 09:29	GC3	110785

Analytes	Result	RL	DF	Date Analyzed
TPH(g)	360	200	200	09/29/2015 16:22
MTBE	---	10	200	09/29/2015 16:22
Benzene	---	1.0	200	09/29/2015 16:22
Toluene	---	1.0	200	09/29/2015 16:22
Ethylbenzene	---	1.0	200	09/29/2015 16:22
Xylenes	---	1.0	200	09/29/2015 16:22
<u>Surrogates</u>	<u>REC (%)</u>	<u>Limits</u>		
2-Fluorotoluene	127	70-130		09/29/2015 16:22

Analyst(s): IA

Analytical Comments: d7



Analytical Report

Client: Essel Environmental Consulting
Date Received: 9/25/15 19:30
Date Prepared: 9/28/15-9/29/15
Project: 15166; EBALDC

WorkOrder: 1509A61
Extraction Method: SW5030B
Analytical Method: SW8021B/8015Bm
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
S-13-ECB12	1509A61-031A	Soil	09/25/2015 10:17	GC7	110785

Analytes	Result	RL	DF	Date Analyzed
TPH(g)	ND	1.0	1	09/30/2015 21:41
MTBE	---	0.050	1	09/30/2015 21:41
Benzene	---	0.0050	1	09/30/2015 21:41
Toluene	---	0.0050	1	09/30/2015 21:41
Ethylbenzene	---	0.0050	1	09/30/2015 21:41
Xylenes	---	0.0050	1	09/30/2015 21:41

Surrogates	REC (%)	Limits	Date Analyzed
2-Fluorotoluene	107	70-130	09/30/2015 21:41

Analyst(s): IA



Analytical Report

Client: Essel Environmental Consulting
Date Received: 9/25/15 19:30
Date Prepared: 9/28/15
Project: 15166; EBALDC

WorkOrder: 1509A61
Extraction Method: SW3550B/3630C
Analytical Method: SW8015B
Unit: mg/Kg

Total Extractable Petroleum Hydrocarbons with Silica Gel Clean-Up

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
S-12½-ECB1	1509A61-001A	Soil	09/24/2015 08:45	GC9b	110783
<u>Analytes</u>	<u>Result</u>		<u>RL</u>	<u>DF</u>	<u>Date Analyzed</u>
TPH-Diesel (C10-C23)	ND		1.0	1	09/30/2015 02:03
TPH-Motor Oil (C18-C36)	ND		5.0	1	09/30/2015 02:03
<u>Surrogates</u>	<u>REC (%)</u>		<u>Limits</u>		
C9	97		70-130		09/30/2015 02:03
Analyst(s): TK					

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
S-19½-ECB1	1509A61-002A	Soil	09/24/2015 08:59	GC6A	110783
<u>Analytes</u>	<u>Result</u>		<u>RL</u>	<u>DF</u>	<u>Date Analyzed</u>
TPH-Diesel (C10-C23)	ND		1.0	1	09/30/2015 01:34
TPH-Motor Oil (C18-C36)	ND		5.0	1	09/30/2015 01:34
<u>Surrogates</u>	<u>REC (%)</u>		<u>Limits</u>		
C9	85		70-130		09/30/2015 01:34
Analyst(s): TK					

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
S-15-ECB1	1509A61-003A	Soil	09/24/2015 08:55	GC9b	110783
<u>Analytes</u>	<u>Result</u>		<u>RL</u>	<u>DF</u>	<u>Date Analyzed</u>
TPH-Diesel (C10-C23)	ND		1.0	1	09/30/2015 03:14
TPH-Motor Oil (C18-C36)	ND		5.0	1	09/30/2015 03:14
<u>Surrogates</u>	<u>REC (%)</u>		<u>Limits</u>		
C9	97		70-130		09/30/2015 03:14
Analyst(s): TK					

(Cont.)



Analytical Report

Client: Essel Environmental Consulting
Date Received: 9/25/15 19:30
Date Prepared: 9/28/15
Project: 15166; EBALDC

WorkOrder: 1509A61
Extraction Method: SW3550B/3630C
Analytical Method: SW8015B
Unit: mg/Kg

Total Extractable Petroleum Hydrocarbons with Silica Gel Clean-Up

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
S-4½-ECB2	1509A61-004A	Soil	09/24/2015 09:27	GC9b	110783
<u>Analytes</u>	<u>Result</u>		<u>RL</u>	<u>DF</u>	<u>Date Analyzed</u>
TPH-Diesel (C10-C23)	ND		1.0	1	09/29/2015 22:31
TPH-Motor Oil (C18-C36)	5.4		5.0	1	09/29/2015 22:31
<u>Surrogates</u>	<u>REC (%)</u>		<u>Limits</u>		
C9	96		70-130		09/29/2015 22:31
<u>Analyst(s):</u> TK			<u>Analytical Comments:</u> e7		

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
S-9-ECB2	1509A61-005A	Soil	09/24/2015 09:48	GC6A	110783
<u>Analytes</u>	<u>Result</u>		<u>RL</u>	<u>DF</u>	<u>Date Analyzed</u>
TPH-Diesel (C10-C23)	ND		1.0	1	09/30/2015 07:31
TPH-Motor Oil (C18-C36)	ND		5.0	1	09/30/2015 07:31
<u>Surrogates</u>	<u>REC (%)</u>		<u>Limits</u>		
C9	84		70-130		09/30/2015 07:31
<u>Analyst(s):</u> TK					

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
S-17-ECB2	1509A61-006A	Soil	09/24/2015 10:05	GC6A	110783
<u>Analytes</u>	<u>Result</u>		<u>RL</u>	<u>DF</u>	<u>Date Analyzed</u>
TPH-Diesel (C10-C23)	ND		1.0	1	09/30/2015 09:54
TPH-Motor Oil (C18-C36)	ND		5.0	1	09/30/2015 09:54
<u>Surrogates</u>	<u>REC (%)</u>		<u>Limits</u>		
C9	91		70-130		09/30/2015 09:54
<u>Analyst(s):</u> TK					

(Cont.)



Analytical Report

Client: Essel Environmental Consulting
Date Received: 9/25/15 19:30
Date Prepared: 9/28/15
Project: 15166; EBALDC

WorkOrder: 1509A61
Extraction Method: SW3550B/3630C
Analytical Method: SW8015B
Unit: mg/Kg

Total Extractable Petroleum Hydrocarbons with Silica Gel Clean-Up

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
S-19½-ECB2	1509A61-007A	Soil	09/24/2015 10:07	GC6A	110783
<u>Analytes</u>	<u>Result</u>		<u>RL</u>	<u>DF</u>	<u>Date Analyzed</u>
TPH-Diesel (C10-C23)	ND		1.0	1	09/30/2015 11:06
TPH-Motor Oil (C18-C36)	ND		5.0	1	09/30/2015 11:06
<u>Surrogates</u>	<u>REC (%)</u>		<u>Limits</u>		
C9	90		70-130		09/30/2015 11:06
Analyst(s): TK					

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
S-4½-ECB3	1509A61-008A	Soil	09/24/2015 10:10	GC6A	110783
<u>Analytes</u>	<u>Result</u>		<u>RL</u>	<u>DF</u>	<u>Date Analyzed</u>
TPH-Diesel (C10-C23)	1.1		1.0	1	09/30/2015 13:35
TPH-Motor Oil (C18-C36)	ND		5.0	1	09/30/2015 13:35
<u>Surrogates</u>	<u>REC (%)</u>		<u>Limits</u>		
C9	100		70-130		09/30/2015 13:35
Analyst(s): TK		Analytical Comments: e2			

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
S-9½-ECB3	1509A61-009A	Soil	09/24/2015 10:35	GC9a	110783
<u>Analytes</u>	<u>Result</u>		<u>RL</u>	<u>DF</u>	<u>Date Analyzed</u>
TPH-Diesel (C10-C23)	ND		1.0	1	09/30/2015 02:03
TPH-Motor Oil (C18-C36)	ND		5.0	1	09/30/2015 02:03
<u>Surrogates</u>	<u>REC (%)</u>		<u>Limits</u>		
C9	101		70-130		09/30/2015 02:03
Analyst(s): TK					

(Cont.)



Analytical Report

Client: Essel Environmental Consulting
Date Received: 9/25/15 19:30
Date Prepared: 9/28/15
Project: 15166; EBALDC

WorkOrder: 1509A61
Extraction Method: SW3550B/3630C
Analytical Method: SW8015B
Unit: mg/Kg

Total Extractable Petroleum Hydrocarbons with Silica Gel Clean-Up

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
S-15½-ECB3	1509A61-010A	Soil	09/24/2015 10:57	GC6A	110783
<u>Analytes</u>	<u>Result</u>		<u>RL</u>	<u>DF</u>	<u>Date Analyzed</u>
TPH-Diesel (C10-C23)	930		10	10	09/30/2015 14:47
TPH-Motor Oil (C18-C36)	310		50	10	09/30/2015 14:47
<u>Surrogates</u>	<u>REC (%)</u>		<u>Limits</u>		
C9	95		70-130		09/30/2015 14:47
<u>Analyst(s):</u> TK			<u>Analytical Comments:</u> e3,e8		

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
S-18½-ECB3	1509A61-011A	Soil	09/24/2015 11:03	GC6A	110783
<u>Analytes</u>	<u>Result</u>		<u>RL</u>	<u>DF</u>	<u>Date Analyzed</u>
TPH-Diesel (C10-C23)	ND		1.0	1	09/30/2015 20:47
TPH-Motor Oil (C18-C36)	ND		5.0	1	09/30/2015 20:47
<u>Surrogates</u>	<u>REC (%)</u>		<u>Limits</u>		
C9	91		70-130		09/30/2015 20:47
<u>Analyst(s):</u> TK					

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
S-4½-ECB4	1509A61-012A	Soil	09/24/2015 10:55	GC9a	110783
<u>Analytes</u>	<u>Result</u>		<u>RL</u>	<u>DF</u>	<u>Date Analyzed</u>
TPH-Diesel (C10-C23)	ND		1.0	1	09/30/2015 06:47
TPH-Motor Oil (C18-C36)	ND		5.0	1	09/30/2015 06:47
<u>Surrogates</u>	<u>REC (%)</u>		<u>Limits</u>		
C9	102		70-130		09/30/2015 06:47
<u>Analyst(s):</u> TK					

(Cont.)



Analytical Report

Client: Essel Environmental Consulting
Date Received: 9/25/15 19:30
Date Prepared: 9/28/15
Project: 15166; EBALDC

WorkOrder: 1509A61
Extraction Method: SW3550B/3630C
Analytical Method: SW8015B
Unit: mg/Kg

Total Extractable Petroleum Hydrocarbons with Silica Gel Clean-Up

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
S-9-ECB4	1509A61-013A	Soil	09/24/2015 11:01	GC9a	110783
<u>Analytes</u>					
	<u>Result</u>		<u>RL</u>	<u>DF</u>	<u>Date Analyzed</u>
TPH-Diesel (C10-C23)	ND		1.0	1	09/30/2015 09:10
TPH-Motor Oil (C18-C36)	ND		5.0	1	09/30/2015 09:10
<u>Surrogates</u>					
	<u>REC (%)</u>		<u>Limits</u>		
C9	102		70-130		09/30/2015 09:10
Analyst(s): TK					

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
S-13-ECB4	1509A61-014A	Soil	09/24/2015 11:10	GC11B	110783
<u>Analytes</u>					
	<u>Result</u>		<u>RL</u>	<u>DF</u>	<u>Date Analyzed</u>
TPH-Diesel (C10-C23)	940		10	10	10/01/2015 11:43
TPH-Motor Oil (C18-C36)	310		50	10	10/01/2015 11:43
<u>Surrogates</u>					
	<u>REC (%)</u>		<u>Limits</u>		
C9	107		70-130		10/01/2015 11:43
Analyst(s): TK					

Analytical Comments: e1

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
S-17½-ECB4	1509A61-015A	Soil	09/24/2015 11:12	GC9b	110783
<u>Analytes</u>					
	<u>Result</u>		<u>RL</u>	<u>DF</u>	<u>Date Analyzed</u>
TPH-Diesel (C10-C23)	1.3		1.0	1	09/29/2015 23:42
TPH-Motor Oil (C18-C36)	ND		5.0	1	09/29/2015 23:42
<u>Surrogates</u>					
	<u>REC (%)</u>		<u>Limits</u>		
C9	94		70-130		09/29/2015 23:42
Analyst(s): TK					

Analytical Comments: e2

(Cont.)



Analytical Report

Client: Essel Environmental Consulting
Date Received: 9/25/15 19:30
Date Prepared: 9/28/15
Project: 15166; EBALDC

WorkOrder: 1509A61
Extraction Method: SW3550B/3630C
Analytical Method: SW8015B
Unit: mg/Kg

Total Extractable Petroleum Hydrocarbons with Silica Gel Clean-Up

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
S-4-ECB5	1509A61-016A	Soil	09/24/2015 14:44	GC9b	110783
<u>Analytes</u>	<u>Result</u>		<u>RL</u>	<u>DF</u>	<u>Date Analyzed</u>
TPH-Diesel (C10-C23)	1.7		1.0	1	09/30/2015 09:10
TPH-Motor Oil (C18-C36)	ND		5.0	1	09/30/2015 09:10
<u>Surrogates</u>	<u>REC (%)</u>		<u>Limits</u>		
C9	96		70-130		09/30/2015 09:10
Analyst(s): TK			Analytical Comments: e11/e8,e2		

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
S-8-ECB5	1509A61-017A	Soil	09/24/2015 14:53	GC9b	110783
<u>Analytes</u>	<u>Result</u>		<u>RL</u>	<u>DF</u>	<u>Date Analyzed</u>
TPH-Diesel (C10-C23)	12		1.0	1	09/30/2015 10:21
TPH-Motor Oil (C18-C36)	ND		5.0	1	09/30/2015 10:21
<u>Surrogates</u>	<u>REC (%)</u>		<u>Limits</u>		
C9	99		70-130		09/30/2015 10:21
Analyst(s): TK			Analytical Comments: e11		

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
S-14½-ECB5	1509A61-018A	Soil	09/24/2015 15:07	GC9a	110783
<u>Analytes</u>	<u>Result</u>		<u>RL</u>	<u>DF</u>	<u>Date Analyzed</u>
TPH-Diesel (C10-C23)	3.9		1.0	1	09/30/2015 13:55
TPH-Motor Oil (C18-C36)	ND		5.0	1	09/30/2015 13:55
<u>Surrogates</u>	<u>REC (%)</u>		<u>Limits</u>		
C9	104		70-130		09/30/2015 13:55
Analyst(s): TK			Analytical Comments: e11		

(Cont.)



Analytical Report

Client: Essel Environmental Consulting
Date Received: 9/25/15 19:30
Date Prepared: 9/28/15
Project: 15166; EBALDC

WorkOrder: 1509A61
Extraction Method: SW3550B/3630C
Analytical Method: SW8015B
Unit: mg/Kg

Total Extractable Petroleum Hydrocarbons with Silica Gel Clean-Up

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
S-18-ECB5	1509A61-019A	Soil	09/24/2015 15:14	GC9a	110783
<u>Analytes</u>	<u>Result</u>		<u>RL</u>	<u>DF</u>	<u>Date Analyzed</u>
TPH-Diesel (C10-C23)	ND		1.0	1	09/30/2015 15:07
TPH-Motor Oil (C18-C36)	ND		5.0	1	09/30/2015 15:07
<u>Surrogates</u>	<u>REC (%)</u>		<u>Limits</u>		
C9	102		70-130		09/30/2015 15:07
Analyst(s): TK					

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
S-13-ECB6	1509A61-020A	Soil	09/24/2015 17:38	GC9a	110783
<u>Analytes</u>	<u>Result</u>		<u>RL</u>	<u>DF</u>	<u>Date Analyzed</u>
TPH-Diesel (C10-C23)	ND		1.0	1	09/28/2015 22:14
TPH-Motor Oil (C18-C36)	ND		5.0	1	09/28/2015 22:14
<u>Surrogates</u>	<u>REC (%)</u>		<u>Limits</u>		
C9	104		70-130		09/28/2015 22:14
Analyst(s): TK					

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
S-13-ECB11	1509A61-021A	Soil	09/24/2015 11:45	GC9a	110784
<u>Analytes</u>	<u>Result</u>		<u>RL</u>	<u>DF</u>	<u>Date Analyzed</u>
TPH-Diesel (C10-C23)	ND		1.0	1	09/30/2015 16:18
TPH-Motor Oil (C18-C36)	ND		5.0	1	09/30/2015 16:18
<u>Surrogates</u>	<u>REC (%)</u>		<u>Limits</u>		
C9	104		70-130		09/30/2015 16:18
Analyst(s): TK					

(Cont.)



Analytical Report

Client: Essel Environmental Consulting
Date Received: 9/25/15 19:30
Date Prepared: 9/28/15
Project: 15166; EBALDC

WorkOrder: 1509A61
Extraction Method: SW3550B/3630C
Analytical Method: SW8015B
Unit: mg/Kg

Total Extractable Petroleum Hydrocarbons with Silica Gel Clean-Up

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
S-13-ECB13	1509A61-022A	Soil	09/24/2015 13:14	GC9a	110784

Analytes	Result	RL	DF	Date Analyzed
TPH-Diesel (C10-C23)	ND	1.0	1	09/30/2015 17:30
TPH-Motor Oil (C18-C36)	ND	5.0	1	09/30/2015 17:30

Surrogates	REC (%)	Limits	Date Analyzed
C9	103	70-130	09/30/2015 17:30

Analyst(s): TK

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
S-13-ECB14	1509A61-023A	Soil	09/24/2015 14:13	GC9a	110784

Analytes	Result	RL	DF	Date Analyzed
TPH-Diesel (C10-C23)	2.5	1.0	1	09/30/2015 18:42
TPH-Motor Oil (C18-C36)	ND	5.0	1	09/30/2015 18:42

Surrogates	REC (%)	Limits	Date Analyzed
C9	102	70-130	09/30/2015 18:42

Analyst(s): TK

Analytical Comments: e3

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
S-18½-ECB14	1509A61-024A	Soil	09/24/2015 14:31	GC9a	110784

Analytes	Result	RL	DF	Date Analyzed
TPH-Diesel (C10-C23)	ND	1.0	1	09/30/2015 19:53
TPH-Motor Oil (C18-C36)	ND	5.0	1	09/30/2015 19:53

Surrogates	REC (%)	Limits	Date Analyzed
C9	101	70-130	09/30/2015 19:53

Analyst(s): TK

(Cont.)



Analytical Report

Client: Essel Environmental Consulting
Date Received: 9/25/15 19:30
Date Prepared: 9/28/15
Project: 15166; EBALDC

WorkOrder: 1509A61
Extraction Method: SW3550B/3630C
Analytical Method: SW8015B
Unit: mg/Kg

Total Extractable Petroleum Hydrocarbons with Silica Gel Clean-Up

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
S-4½-ECB7	1509A61-025A	Soil	09/25/2015 11:13	GC9a	110784
<u>Analytes</u>	<u>Result</u>		<u>RL</u>	<u>DF</u>	<u>Date Analyzed</u>
TPH-Diesel (C10-C23)	ND		1.0	1	10/01/2015 12:30
TPH-Motor Oil (C18-C36)	ND		5.0	1	10/01/2015 12:30
<u>Surrogates</u>	<u>REC (%)</u>		<u>Limits</u>		
C9	111		70-130		10/01/2015 12:30
<u>Analyst(s):</u> TK					

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
S-9½-ECB7	1509A61-026A	Soil	09/25/2015 11:18	GC9a	110784
<u>Analytes</u>	<u>Result</u>		<u>RL</u>	<u>DF</u>	<u>Date Analyzed</u>
TPH-Diesel (C10-C23)	ND		1.0	1	10/01/2015 13:41
TPH-Motor Oil (C18-C36)	ND		5.0	1	10/01/2015 13:41
<u>Surrogates</u>	<u>REC (%)</u>		<u>Limits</u>		
C9	103		70-130		10/01/2015 13:41
<u>Analyst(s):</u> TK					

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
S-13-ECB8	1509A61-027A	Soil	09/25/2015 08:06	GC9a	110784
<u>Analytes</u>	<u>Result</u>		<u>RL</u>	<u>DF</u>	<u>Date Analyzed</u>
TPH-Diesel (C10-C23)	ND		1.0	1	10/01/2015 14:53
TPH-Motor Oil (C18-C36)	ND		5.0	1	10/01/2015 14:53
<u>Surrogates</u>	<u>REC (%)</u>		<u>Limits</u>		
C9	104		70-130		10/01/2015 14:53
<u>Analyst(s):</u> TK					

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Analytical Report

Client: Essel Environmental Consulting
Date Received: 9/25/15 19:30
Date Prepared: 9/28/15
Project: 15166; EBALDC

WorkOrder: 1509A61
Extraction Method: SW3550B/3630C
Analytical Method: SW8015B
Unit: mg/Kg

Total Extractable Petroleum Hydrocarbons with Silica Gel Clean-Up

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
S-13-ECB9	1509A61-028A	Soil	09/25/2015 08:34	GC9a	110784
<u>Analytes</u>	<u>Result</u>		<u>RL</u>	<u>DF</u>	<u>Date Analyzed</u>
TPH-Diesel (C10-C23)	ND		1.0	1	10/01/2015 16:05
TPH-Motor Oil (C18-C36)	ND		5.0	1	10/01/2015 16:05
<u>Surrogates</u>	<u>REC (%)</u>		<u>Limits</u>		
C9	104		70-130		10/01/2015 16:05
<u>Analyst(s):</u> TK					

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
S-13-ECB10	1509A61-029A	Soil	09/25/2015 09:26	GC11A	110784
<u>Analytes</u>	<u>Result</u>		<u>RL</u>	<u>DF</u>	<u>Date Analyzed</u>
TPH-Diesel (C10-C23)	ND		1.0	1	10/01/2015 11:43
TPH-Motor Oil (C18-C36)	ND		5.0	1	10/01/2015 11:43
<u>Surrogates</u>	<u>REC (%)</u>		<u>Limits</u>		
C9	102		70-130		10/01/2015 11:43
<u>Analyst(s):</u> TK					

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
S-14½-ECB10	1509A61-030A	Soil	09/25/2015 09:29	GC9b	110784
<u>Analytes</u>	<u>Result</u>		<u>RL</u>	<u>DF</u>	<u>Date Analyzed</u>
TPH-Diesel (C10-C23)	210		100	100	10/01/2015 12:30
TPH-Motor Oil (C18-C36)	1600		500	100	10/01/2015 12:30
<u>Surrogates</u>	<u>REC (%)</u>		<u>Limits</u>		
C9	94		70-130		10/01/2015 12:30
<u>Analyst(s):</u> TK			<u>Analytical Comments:</u> e7,e11		



Analytical Report

Client: Essel Environmental Consulting
Date Received: 9/25/15 19:30
Date Prepared: 9/28/15
Project: 15166; EBALDC

WorkOrder: 1509A61
Extraction Method: SW3550B/3630C
Analytical Method: SW8015B
Unit: mg/Kg

Total Extractable Petroleum Hydrocarbons with Silica Gel Clean-Up

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
S-13-ECB12	1509A61-031A	Soil	09/25/2015 10:17	GC9b	110784

Analytes	Result	RL	DF	Date Analyzed
TPH-Diesel (C10-C23)	ND	1.0	1	09/28/2015 22:14
TPH-Motor Oil (C18-C36)	ND	5.0	1	09/28/2015 22:14

Surrogates	REC (%)	Limits	Date Analyzed
C9	95	70-130	09/28/2015 22:14

Analyst(s): TK



Quality Control Report

Client: Essel Environmental Consulting
Date Prepared: 9/28/15
Date Analyzed: 9/28/15
Instrument: GC16
Matrix: Soil
Project: 15166; EBALDC

WorkOrder: 1509A61
BatchID: 110781
Extraction Method: SW5030B
Analytical Method: SW8260B
Unit: mg/Kg
Sample ID: MB/LCS-110781
 1509A61-019AMS/MSD

QC Summary Report for SW8260B

Analyte	MB Result	LCS Result	RL	SPK Val	MB SS %REC	LCS %REC	LCS Limits
Acetone	ND	-	0.10	-	-	-	-
tert-Amyl methyl ether (TAME)	ND	0.0487	0.0050	0.050	-	97	53-116
Benzene	ND	0.0566	0.0050	0.050	-	113	63-137
Bromobenzene	ND	-	0.0050	-	-	-	-
Bromochloromethane	ND	-	0.0050	-	-	-	-
Bromodichloromethane	ND	-	0.0050	-	-	-	-
Bromoform	ND	-	0.0050	-	-	-	-
Bromomethane	ND	-	0.0050	-	-	-	-
2-Butanone (MEK)	ND	-	0.020	-	-	-	-
t-Butyl alcohol (TBA)	ND	0.234	0.050	0.20	-	117	41-135
n-Butyl benzene	ND	-	0.0050	-	-	-	-
sec-Butyl benzene	ND	-	0.0050	-	-	-	-
tert-Butyl benzene	ND	-	0.0050	-	-	-	-
Carbon Disulfide	ND	-	0.0050	-	-	-	-
Carbon Tetrachloride	ND	-	0.0050	-	-	-	-
Chlorobenzene	ND	0.0480	0.0050	0.050	-	96	77-121
Chloroethane	ND	-	0.0050	-	-	-	-
Chloroform	ND	-	0.0050	-	-	-	-
Chloromethane	ND	-	0.0050	-	-	-	-
2-Chlorotoluene	ND	-	0.0050	-	-	-	-
4-Chlorotoluene	ND	-	0.0050	-	-	-	-
Dibromochloromethane	ND	-	0.0050	-	-	-	-
1,2-Dibromo-3-chloropropane	ND	-	0.0040	-	-	-	-
1,2-Dibromoethane (EDB)	ND	0.0473	0.0040	0.050	-	95	67-119
Dibromomethane	ND	-	0.0050	-	-	-	-
1,2-Dichlorobenzene	ND	-	0.0050	-	-	-	-
1,3-Dichlorobenzene	ND	-	0.0050	-	-	-	-
1,4-Dichlorobenzene	ND	-	0.0050	-	-	-	-
Dichlorodifluoromethane	ND	-	0.0050	-	-	-	-
1,1-Dichloroethane	ND	-	0.0050	-	-	-	-
1,2-Dichloroethane (1,2-DCA)	ND	0.0575	0.0040	0.050	-	115	58-135
1,1-Dichloroethene	ND	0.0511	0.0050	0.050	-	102	42-145
cis-1,2-Dichloroethene	ND	-	0.0050	-	-	-	-
trans-1,2-Dichloroethene	ND	-	0.0050	-	-	-	-
1,2-Dichloropropane	ND	-	0.0050	-	-	-	-
1,3-Dichloropropane	ND	-	0.0050	-	-	-	-
2,2-Dichloropropane	ND	-	0.0050	-	-	-	-
1,1-Dichloropropene	ND	-	0.0050	-	-	-	-

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Quality Control Report

Client: Essel Environmental Consulting
Date Prepared: 9/28/15
Date Analyzed: 9/28/15
Instrument: GC16
Matrix: Soil
Project: 15166; EBALDC

WorkOrder: 1509A61
BatchID: 110781
Extraction Method: SW5030B
Analytical Method: SW8260B
Unit: mg/Kg
Sample ID: MB/LCS-110781
 1509A61-019AMS/MSD

QC Summary Report for SW8260B

Analyte	MB Result	LCS Result	RL	SPK Val	MB SS %REC	LCS %REC	LCS Limits
cis-1,3-Dichloropropene	ND	-	0.0050	-	-	-	-
trans-1,3-Dichloropropene	ND	-	0.0050	-	-	-	-
Diisopropyl ether (DIPE)	ND	0.0552	0.0050	0.050	-	110	52-129
Ethylbenzene	ND	-	0.0050	-	-	-	-
Ethyl tert-butyl ether (ETBE)	ND	0.0532	0.0050	0.050	-	106	53-125
Freon 113	ND	-	0.0050	-	-	-	-
Hexachlorobutadiene	ND	-	0.0050	-	-	-	-
Hexachloroethane	ND	-	0.0050	-	-	-	-
2-Hexanone	ND	-	0.0050	-	-	-	-
Isopropylbenzene	ND	-	0.0050	-	-	-	-
4-Isopropyl toluene	ND	-	0.0050	-	-	-	-
Methyl-t-butyl ether (MTBE)	ND	0.0524	0.0050	0.050	-	105	58-122
Methylene chloride	ND	-	0.0050	-	-	-	-
4-Methyl-2-pentanone (MIBK)	ND	-	0.0050	-	-	-	-
Naphthalene	ND	-	0.0050	-	-	-	-
n-Propyl benzene	ND	-	0.0050	-	-	-	-
Styrene	ND	-	0.0050	-	-	-	-
1,1,1,2-Tetrachloroethane	ND	-	0.0050	-	-	-	-
1,1,2,2-Tetrachloroethane	ND	-	0.0050	-	-	-	-
Tetrachloroethene	ND	-	0.0050	-	-	-	-
Toluene	ND	0.0512	0.0050	0.050	-	102	76-130
1,2,3-Trichlorobenzene	ND	-	0.0050	-	-	-	-
1,2,4-Trichlorobenzene	ND	-	0.0050	-	-	-	-
1,1,1-Trichloroethane	ND	-	0.0050	-	-	-	-
1,1,2-Trichloroethane	ND	-	0.0050	-	-	-	-
Trichloroethene	ND	0.0492	0.0050	0.050	-	98	72-132
Trichlorofluoromethane	ND	-	0.0050	-	-	-	-
1,2,3-Trichloropropane	ND	-	0.0050	-	-	-	-
1,2,4-Trimethylbenzene	ND	-	0.0050	-	-	-	-
1,3,5-Trimethylbenzene	ND	-	0.0050	-	-	-	-
Vinyl Chloride	ND	-	0.0050	-	-	-	-
Xylenes, Total	ND	-	0.0050	-	-	-	-

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Quality Control Report

Client: Essel Environmental Consulting
Date Prepared: 9/28/15
Date Analyzed: 9/28/15
Instrument: GC16
Matrix: Soil
Project: 15166; EBALDC

WorkOrder: 1509A61
BatchID: 110781
Extraction Method: SW5030B
Analytical Method: SW8260B
Unit: mg/Kg
Sample ID: MB/LCS-110781
 1509A61-019AMS/MSD

QC Summary Report for SW8260B

Analyte	MB Result	LCS Result	RL	SPK Val	MB SS %REC	LCS %REC	LCS Limits
Surrogate Recovery							
Dibromofluoromethane	0.113	0.119		0.12	90	95	70-130
Toluene-d8	0.124	0.123		0.12	99	98	70-130
4-BFB	0.0126	0.0131		0.012	101	105	70-130
Benzene-d6	0.101	0.105		0.10	101	105	60-140
Ethylbenzene-d10	0.120	0.129		0.10	121	129	60-140
1,2-DCB-d4	0.0764	0.0822		0.10	76	82	60-140

Analyte	MS Result	MSD Result	SPK Val	SPKRef Val	MS %REC	MSD %REC	MS/MSD Limits	RPD	RPD Limit
tert-Amyl methyl ether (TAME)	0.0436	0.0425	0.050	ND	87	85	70-130	2.57	20
Benzene	0.0490	0.0493	0.050	ND	98	99	70-130	0.494	20
t-Butyl alcohol (TBA)	0.193	0.195	0.20	ND	97	97	70-130	0	20
Chlorobenzene	0.0419	0.0421	0.050	ND	84	84	70-130	0	20
1,2-Dibromoethane (EDB)	0.0415	0.0396	0.050	ND	83	79	70-130	4.69	20
1,2-Dichloroethane (1,2-DCA)	0.0501	0.0492	0.050	ND	100	98	70-130	1.71	20
1,1-Dichloroethene	0.0437	0.0448	0.050	ND	87	90	70-130	2.58	20
Diisopropyl ether (DIPE)	0.0486	0.0484	0.050	ND	97	97	70-130	0	20
Ethyl tert-butyl ether (ETBE)	0.0473	0.0467	0.050	ND	95	93	70-130	1.31	20
Methyl-t-butyl ether (MTBE)	0.0462	0.0456	0.050	ND	92	91	70-130	1.31	20
Toluene	0.0442	0.0432	0.050	ND	88	86	70-130	2.36	20
Trichloroethene	0.0425	0.0421	0.050	ND	85	84	70-130	1.15	20

Surrogate Recovery									
Dibromofluoromethane	0.118	0.117	0.12		95	93	70-130	1.52	20
Toluene-d8	0.120	0.119	0.12		96	95	70-130	1.17	20
4-BFB	0.0127	0.0118	0.012		102	95	70-130	6.90	20
Benzene-d6	0.0934	0.0958	0.10		93	96	60-140	2.60	20
Ethylbenzene-d10	0.106	0.113	0.10		106	113	60-140	5.80	20
1,2-DCB-d4	0.0751	0.0766	0.10		75	77	60-140	1.91	20

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Quality Control Report

Client: Essel Environmental Consulting
Date Prepared: 9/28/15
Date Analyzed: 9/28/15 - 9/29/15
Instrument: GC16
Matrix: Soil
Project: 15166; EBALDC

WorkOrder: 1509A61
BatchID: 110782
Extraction Method: SW5030B
Analytical Method: SW8260B
Unit: mg/Kg
Sample ID: MB/LCS-110782
 1509A61-030AMS/MSD

QC Summary Report for SW8260B

Analyte	MB Result	LCS Result	RL	SPK Val	MB SS %REC	LCS %REC	LCS Limits
Acetone	ND	-	0.10	-	-	-	-
tert-Amyl methyl ether (TAME)	ND	0.0486	0.0050	0.050	-	97	53-116
Benzene	ND	0.0560	0.0050	0.050	-	112	63-137
Bromobenzene	ND	-	0.0050	-	-	-	-
Bromochloromethane	ND	-	0.0050	-	-	-	-
Bromodichloromethane	ND	-	0.0050	-	-	-	-
Bromoform	ND	-	0.0050	-	-	-	-
Bromomethane	ND	-	0.0050	-	-	-	-
2-Butanone (MEK)	ND	-	0.020	-	-	-	-
t-Butyl alcohol (TBA)	ND	0.229	0.050	0.20	-	114	41-135
n-Butyl benzene	ND	-	0.0050	-	-	-	-
sec-Butyl benzene	ND	-	0.0050	-	-	-	-
tert-Butyl benzene	ND	-	0.0050	-	-	-	-
Carbon Disulfide	ND	-	0.0050	-	-	-	-
Carbon Tetrachloride	ND	-	0.0050	-	-	-	-
Chlorobenzene	ND	0.0475	0.0050	0.050	-	95	77-121
Chloroethane	ND	-	0.0050	-	-	-	-
Chloroform	ND	-	0.0050	-	-	-	-
Chloromethane	ND	-	0.0050	-	-	-	-
2-Chlorotoluene	ND	-	0.0050	-	-	-	-
4-Chlorotoluene	ND	-	0.0050	-	-	-	-
Dibromochloromethane	ND	-	0.0050	-	-	-	-
1,2-Dibromo-3-chloropropane	ND	-	0.0040	-	-	-	-
1,2-Dibromoethane (EDB)	ND	0.0475	0.0040	0.050	-	95	67-119
Dibromomethane	ND	-	0.0050	-	-	-	-
1,2-Dichlorobenzene	ND	-	0.0050	-	-	-	-
1,3-Dichlorobenzene	ND	-	0.0050	-	-	-	-
1,4-Dichlorobenzene	ND	-	0.0050	-	-	-	-
Dichlorodifluoromethane	ND	-	0.0050	-	-	-	-
1,1-Dichloroethane	ND	-	0.0050	-	-	-	-
1,2-Dichloroethane (1,2-DCA)	ND	0.0569	0.0040	0.050	-	114	58-135
1,1-Dichloroethene	ND	0.0515	0.0050	0.050	-	103	42-145
cis-1,2-Dichloroethene	ND	-	0.0050	-	-	-	-
trans-1,2-Dichloroethene	ND	-	0.0050	-	-	-	-
1,2-Dichloropropane	ND	-	0.0050	-	-	-	-
1,3-Dichloropropane	ND	-	0.0050	-	-	-	-
2,2-Dichloropropane	ND	-	0.0050	-	-	-	-
1,1-Dichloropropene	ND	-	0.0050	-	-	-	-

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Quality Control Report

Client: Essel Environmental Consulting
Date Prepared: 9/28/15
Date Analyzed: 9/28/15 - 9/29/15
Instrument: GC16
Matrix: Soil
Project: 15166; EBALDC

WorkOrder: 1509A61
BatchID: 110782
Extraction Method: SW5030B
Analytical Method: SW8260B
Unit: mg/Kg
Sample ID: MB/LCS-110782
 1509A61-030AMS/MSD

QC Summary Report for SW8260B

Analyte	MB Result	LCS Result	RL	SPK Val	MB SS %REC	LCS %REC	LCS Limits
cis-1,3-Dichloropropene	ND	-	0.0050	-	-	-	-
trans-1,3-Dichloropropene	ND	-	0.0050	-	-	-	-
Diisopropyl ether (DIPE)	ND	0.0546	0.0050	0.050	-	109	52-129
Ethylbenzene	ND	-	0.0050	-	-	-	-
Ethyl tert-butyl ether (ETBE)	ND	0.0530	0.0050	0.050	-	106	53-125
Freon 113	ND	-	0.0050	-	-	-	-
Hexachlorobutadiene	ND	-	0.0050	-	-	-	-
Hexachloroethane	ND	-	0.0050	-	-	-	-
2-Hexanone	ND	-	0.0050	-	-	-	-
Isopropylbenzene	ND	-	0.0050	-	-	-	-
4-Isopropyl toluene	ND	-	0.0050	-	-	-	-
Methyl-t-butyl ether (MTBE)	ND	0.0517	0.0050	0.050	-	103	58-122
Methylene chloride	ND	-	0.0050	-	-	-	-
4-Methyl-2-pentanone (MIBK)	ND	-	0.0050	-	-	-	-
Naphthalene	ND	-	0.0050	-	-	-	-
n-Propyl benzene	ND	-	0.0050	-	-	-	-
Styrene	ND	-	0.0050	-	-	-	-
1,1,1,2-Tetrachloroethane	ND	-	0.0050	-	-	-	-
1,1,2,2-Tetrachloroethane	ND	-	0.0050	-	-	-	-
Tetrachloroethene	ND	-	0.0050	-	-	-	-
Toluene	ND	0.0510	0.0050	0.050	-	102	76-130
1,2,3-Trichlorobenzene	ND	-	0.0050	-	-	-	-
1,2,4-Trichlorobenzene	ND	-	0.0050	-	-	-	-
1,1,1-Trichloroethane	ND	-	0.0050	-	-	-	-
1,1,2-Trichloroethane	ND	-	0.0050	-	-	-	-
Trichloroethene	ND	0.0488	0.0050	0.050	-	98	72-132
Trichlorofluoromethane	ND	-	0.0050	-	-	-	-
1,2,3-Trichloropropane	ND	-	0.0050	-	-	-	-
1,2,4-Trimethylbenzene	ND	-	0.0050	-	-	-	-
1,3,5-Trimethylbenzene	ND	-	0.0050	-	-	-	-
Vinyl Chloride	ND	-	0.0050	-	-	-	-
Xylenes, Total	ND	-	0.0050	-	-	-	-

(Cont.)



Quality Control Report

Client: Essel Environmental Consulting
Date Prepared: 9/28/15
Date Analyzed: 9/28/15 - 9/29/15
Instrument: GC16
Matrix: Soil
Project: 15166; EBALDC

WorkOrder: 1509A61
BatchID: 110782
Extraction Method: SW5030B
Analytical Method: SW8260B
Unit: mg/Kg
Sample ID: MB/LCS-110782
 1509A61-030AMS/MSD

QC Summary Report for SW8260B

Analyte	MB Result	LCS Result	RL	SPK Val	MB SS %REC	LCS %REC	LCS Limits
Surrogate Recovery							
Dibromofluoromethane	0.116	0.119		0.12	93	95	70-130
Toluene-d8	0.122	0.123		0.12	98	99	70-130
4-BFB	0.0135	0.0128		0.012	108	102	70-130
Benzene-d6	0.107	0.105		0.10	107	105	60-140
Ethylbenzene-d10	0.124	0.127		0.10	125	127	60-140
1,2-DCB-d4	0.0792	0.0822		0.10	79	82	60-140

Analyte	MS Result	MSD Result	SPK Val	SPKRef Val	MS %REC	MSD %REC	MS/MSD Limits	RPD	RPD Limit
tert-Amyl methyl ether (TAME)	NR	NR		ND<1	NR	NR	-	NR	
Benzene	NR	NR		ND<1	NR	NR	-	NR	
t-Butyl alcohol (TBA)	NR	NR		ND<10	NR	NR	-	NR	
Chlorobenzene	NR	NR		ND<1	NR	NR	-	NR	
1,2-Dibromoethane (EDB)	NR	NR		ND<0.8	NR	NR	-	NR	
1,2-Dichloroethane (1,2-DCA)	NR	NR		ND<0.8	NR	NR	-	NR	
1,1-Dichloroethene	NR	NR		ND<1	NR	NR	-	NR	
Diisopropyl ether (DIPE)	NR	NR		ND<1	NR	NR	-	NR	
Ethyl tert-butyl ether (ETBE)	NR	NR		ND<1	NR	NR	-	NR	
Methyl-t-butyl ether (MTBE)	NR	NR		ND<1	NR	NR	-	NR	
Toluene	NR	NR		ND<1	NR	NR	-	NR	
Trichloroethene	NR	NR		ND<1	NR	NR	-	NR	

Surrogate Recovery

Dibromofluoromethane	NR	NR			NR	NR	-	NR	
Toluene-d8	NR	NR			NR	NR	-	NR	
4-BFB	NR	NR			NR	NR	-	NR	
Benzene-d6	NR	NR			NR	NR	-	NR	
Ethylbenzene-d10	NR	NR			NR	NR	-	NR	
1,2-DCB-d4	NR	NR			NR	NR	-	NR	



Quality Control Report

Client: Essel Environmental Consulting
Date Prepared: 9/29/15
Date Analyzed: 9/29/15
Instrument: GC35
Matrix: Soil
Project: 15166; EBALDC

WorkOrder: 1509A61
BatchID: 110852
Extraction Method: SW3550B
Analytical Method: SW8270C-SIM
Unit: mg/kg
Sample ID: MB/LCS-110852
 1509A61-025AMS/MSD

QC Summary Report for SW8270C

Analyte	MB Result	LCS Result	RL	SPK Val	MB SS %REC	LCS %REC	LCS Limits
Acenaphthene	ND	-	0.010	-	-	-	-
Acenaphthylene	ND	-	0.010	-	-	-	-
Anthracene	ND	-	0.010	-	-	-	-
Benzo (a) anthracene	ND	-	0.010	-	-	-	-
Benzo (b) fluoranthene	ND	-	0.010	-	-	-	-
Benzo (k) fluoranthene	ND	-	0.010	-	-	-	-
Benzo (g,h,i) perylene	ND	-	0.010	-	-	-	-
Benzo (a) pyrene	ND	0.120	0.010	0.20	-	60	30-130
Chrysene	ND	0.139	0.010	0.20	-	70	30-130
Dibenzo (a,h) anthracene	ND	-	0.010	-	-	-	-
Fluoranthene	ND	-	0.010	-	-	-	-
Fluorene	ND	-	0.010	-	-	-	-
Indeno (1,2,3-cd) pyrene	ND	-	0.010	-	-	-	-
1-Methylnaphthalene	ND	0.159	0.010	0.20	-	80	30-130
2-Methylnaphthalene	ND	0.159	0.010	0.20	-	79	30-130
Naphthalene	ND	-	0.010	-	-	-	-
Phenanthrene	ND	0.154	0.010	0.20	-	77	30-130
Pyrene	ND	0.139	0.010	0.20	-	70	30-130

Surrogate Recovery

1-Fluoronaphthalene	0.508	0.497		0.50	102	99	30-130
2-Fluorobiphenyl	0.498	0.460		0.50	100	92	30-130

Analyte	MS Result	MSD Result	SPK Val	SPKRef Val	MS %REC	MSD %REC	MS/MSD Limits	RPD	RPD Limit
Benzo (a) pyrene	0.145	0.154	0.20	ND	73	77	30-130	6.03	30
Chrysene	0.153	0.163	0.20	ND	76	81	30-130	6.35	30
1-Methylnaphthalene	0.171	0.180	0.20	ND	85	90	30-130	5.19	30
2-Methylnaphthalene	0.174	0.182	0.20	ND	87	91	30-130	4.17	30
Phenanthrene	0.171	0.182	0.20	ND	86	91	30-130	6.32	30
Pyrene	0.155	0.169	0.20	ND	78	85	30-130	8.48	30

Surrogate Recovery

1-Fluoronaphthalene	0.539	0.568	0.50		108	114	30-130	5.23	30
2-Fluorobiphenyl	0.510	0.542	0.50		102	108	30-130	6.12	30



Quality Control Report

Client: Essel Environmental Consulting
Date Prepared: 9/28/15
Date Analyzed: 9/29/15
Instrument: GC3
Matrix: Soil
Project: 15166; EBALDC

WorkOrder: 1509A61
BatchID: 110776
Extraction Method: SW5030B
Analytical Method: SW8021B/8015Bm
Unit: mg/Kg
Sample ID: MB/LCS-110776
 1509A61-014AMS/MSD

QC Summary Report for SW8021B/8015Bm

Analyte	MB Result	LCS Result	RL	SPK Val	MB SS %REC	LCS %REC	LCS Limits
TPH(btex)	ND	0.652	0.40	0.60	-	109	70-130
MTBE	ND	0.113	0.050	0.10	-	113	70-130
Benzene	ND	0.105	0.0050	0.10	-	105	70-130
Toluene	ND	0.116	0.0050	0.10	-	116	70-130
Ethylbenzene	ND	0.118	0.0050	0.10	-	118	70-130
Xylenes	ND	0.377	0.0050	0.30	-	126	70-130

Surrogate Recovery

2-Fluorotoluene	0.106	0.104		0.10	106	104	70-130
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Analyte	MS Result	MSD Result	SPK Val	SPKRef Val	MS %REC	MSD %REC	MS/MSD Limits	RPD	RPD Limit
TPH(btex)	NR	NR		74	NR	NR	-	NR	
MTBE	NR	NR		ND<1	NR	NR	-	NR	
Benzene	NR	NR		ND<0.1	NR	NR	-	NR	
Toluene	NR	NR		ND<0.1	NR	NR	-	NR	
Ethylbenzene	NR	NR		0.4	NR	NR	-	NR	
Xylenes	NR	NR		1.5	NR	NR	-	NR	

Surrogate Recovery

2-Fluorotoluene	NR	NR			NR	NR	-	NR	
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(Cont.)



Quality Control Report

Client: Essel Environmental Consulting
Date Prepared: 9/28/15
Date Analyzed: 9/29/15
Instrument: GC7
Matrix: Soil
Project: 15166; EBALDC

WorkOrder: 1509A61
BatchID: 110785
Extraction Method: SW5030B
Analytical Method: SW8021B/8015Bm
Unit: mg/Kg
Sample ID: MB/LCS-110785
 1509A61-018AMS/MSD

QC Summary Report for SW8021B/8015Bm

Analyte	MB Result	LCS Result	RL	SPK Val	MB SS %REC	LCS %REC	LCS Limits
TPH(btex)	ND	0.468	0.40	0.60	-	78	70-130
MTBE	ND	0.112	0.050	0.10	-	112	70-130
Benzene	ND	0.112	0.0050	0.10	-	112	70-130
Toluene	ND	0.113	0.0050	0.10	-	113	70-130
Ethylbenzene	ND	0.120	0.0050	0.10	-	120	70-130
Xylenes	ND	0.364	0.0050	0.30	-	121	70-130

Surrogate Recovery

2-Fluorotoluene	0.115	0.117		0.10	115	117	70-130
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Analyte	MS Result	MSD Result	SPK Val	SPKRef Val	MS %REC	MSD %REC	MS/MSD Limits	RPD	RPD Limit
TPH(btex)	NR	NR		18	NR	NR	-	NR	
MTBE	NR	NR		ND<0.25	NR	NR	-	NR	
Benzene	NR	NR		ND<0.025	NR	NR	-	NR	
Toluene	NR	NR		ND<0.025	NR	NR	-	NR	
Ethylbenzene	NR	NR		0.07	NR	NR	-	NR	
Xylenes	NR	NR		0.19	NR	NR	-	NR	

Surrogate Recovery

2-Fluorotoluene	NR	NR			NR	NR	-	NR	
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(Cont.)



Quality Control Report

Client: Essel Environmental Consulting
Date Prepared: 9/28/15
Date Analyzed: 9/29/15
Instrument: GC7
Matrix: Soil
Project: 15166; EBALDC

WorkOrder: 1509A61
BatchID: 110815
Extraction Method: SW5030B
Analytical Method: SW8021B/8015Bm
Unit: mg/Kg
Sample ID: MB/LCS-110815
 1509A80-001AMS/MSD

QC Summary Report for SW8021B/8015Bm

Analyte	MB Result	LCS Result	RL	SPK Val	MB SS %REC	LCS %REC	LCS Limits
TPH(btex)	ND	0.483	0.40	0.60	-	81	70-130
MTBE	ND	0.100	0.050	0.10	-	100	70-130
Benzene	ND	0.108	0.0050	0.10	-	108	70-130
Toluene	ND	0.108	0.0050	0.10	-	109	70-130
Ethylbenzene	ND	0.118	0.0050	0.10	-	118	70-130
Xylenes	ND	0.357	0.0050	0.30	-	119	70-130

Surrogate Recovery

2-Fluorotoluene	0.113	0.110		0.10	113	110	70-130
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Analyte	MS Result	MSD Result	SPK Val	SPKRef Val	MS %REC	MSD %REC	MS/MSD Limits	RPD	RPD Limit
TPH(btex)	NR	NR		160	NR	NR	-	NR	
MTBE	NR	NR		ND<17	NR	NR	-	NR	
Benzene	NR	NR		ND<1.7	NR	NR	-	NR	
Toluene	NR	NR		ND<1.7	NR	NR	-	NR	
Ethylbenzene	NR	NR		2.6	NR	NR	-	NR	
Xylenes	NR	NR		22	NR	NR	-	NR	

Surrogate Recovery

2-Fluorotoluene	NR	NR			NR	NR	-	NR	
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Quality Control Report

Client: Essel Environmental Consulting
Date Prepared: 9/28/15
Date Analyzed: 9/28/15
Instrument: GC9a
Matrix: Soil
Project: 15166; EBALDC

WorkOrder: 1509A61
BatchID: 110783
Extraction Method: SW3550B/3630C
Analytical Method: SW8015B
Unit: mg/Kg
Sample ID: MB/LCS-110783
 1509A61-020AMS/MSD

QC Report for SW8015B with Silica Gel Clean-Up

Analyte	MB Result	LCS Result	RL	SPK Val	MB SS %REC	LCS %REC	LCS Limits
TPH-Diesel (C10-C23)	ND	36.3	1.0	40	-	91	70-130
TPH-Motor Oil (C18-C36)	ND	-	5.0	-	-	-	-
Surrogate Recovery							
C9	25.7	26.1		25	103	104	62-139

Analyte	MS Result	MSD Result	SPK Val	SPKRef Val	MS %REC	MSD %REC	MS/MSD Limits	RPD	RPD Limit
TPH-Diesel (C10-C23)	33.8	35.4	40	ND	84	88	70-130	4.63	30
Surrogate Recovery									
C9	25.4	25.6	25		102	102	70-130	0	30

(Cont.)



Quality Control Report

Client: Essel Environmental Consulting
Date Prepared: 9/28/15
Date Analyzed: 9/28/15
Instrument: GC9b
Matrix: Soil
Project: 15166; EBALDC

WorkOrder: 1509A61
BatchID: 110784
Extraction Method: SW3550B/3630C
Analytical Method: SW8015B
Unit: mg/Kg
Sample ID: MB/LCS-110784
 1509A61-031AMS/MSD

QC Report for SW8015B with Silica Gel Clean-Up

Analyte	MB Result	LCS Result	RL	SPK Val	MB SS %REC	LCS %REC	LCS Limits
TPH-Diesel (C10-C23)	ND	35.4	1.0	40	-	88	70-130
TPH-Motor Oil (C18-C36)	ND	-	5.0	-	-	-	-
Surrogate Recovery							
C9	22.6	24.0		25	90	96	62-139

Analyte	MS Result	MSD Result	SPK Val	SPKRef Val	MS %REC	MSD %REC	MS/MSD Limits	RPD	RPD Limit
TPH-Diesel (C10-C23)	35.1	35.6	40	ND	88	89	70-130	1.30	30
Surrogate Recovery									
C9	24.0	24.2	25		96	97	70-130	0.831	30

1534 Willow Pass Rd
Pittsburg, CA 94565-1701
(925) 252-9262

CHAIN-OF-CUSTODY RECORD

WorkOrder: 1509A61

ClientCode: ESL

WaterTrax WriteOn EDF Excel EQUIS Email HardCopy ThirdParty J-flag

Report to:
Nik Lahiri
Essel Environmental Consulting
564 Market Street
San Francisco, CA 94104
925-413-5511 FAX: 510-380-6610

Email: nlahiri@esseltek.com
cc/3rd Party:
PO:
ProjectNo: 15166; EBALDC

Bill to:
Nik Lahiri
Essel Environmental Consulting
564 Market Street
San Francisco, CA 94104
nlahiri@esseltek.com

Requested TAT: 5 days;

Date Received: 09/25/2015
Date Printed: 09/28/2015

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
1509A61-001	S-12½-ECB1	Soil	9/24/2015 8:45	<input type="checkbox"/>	A		A	A								
1509A61-002	S-19½-ECB1	Soil	9/24/2015 8:59	<input type="checkbox"/>	A		A	A								
1509A61-003	S-15-ECB1	Soil	9/24/2015 8:55	<input type="checkbox"/>	A		A	A								
1509A61-004	S-4½-ECB2	Soil	9/24/2015 9:27	<input type="checkbox"/>	A	A	A	A								
1509A61-005	S-9-ECB2	Soil	9/24/2015 9:48	<input type="checkbox"/>	A	A	A	A								
1509A61-006	S-17-ECB2	Soil	9/24/2015 10:05	<input type="checkbox"/>	A		A	A								
1509A61-007	S-19½-ECB2	Soil	9/24/2015 10:07	<input type="checkbox"/>	A		A	A								
1509A61-008	S-4½-ECB3	Soil	9/24/2015 10:10	<input type="checkbox"/>	A	A	A	A								
1509A61-009	S-9½-ECB3	Soil	9/24/2015 10:35	<input type="checkbox"/>	A	A	A	A								
1509A61-010	S-15½-ECB3	Soil	9/24/2015 10:57	<input type="checkbox"/>	A		A	A								
1509A61-011	S-18½-ECB3	Soil	9/24/2015 11:03	<input type="checkbox"/>	A		A	A								
1509A61-012	S-4½-ECB4	Soil	9/24/2015 10:55	<input type="checkbox"/>	A		A	A								
1509A61-013	S-9-ECB4	Soil	9/24/2015 11:01	<input type="checkbox"/>	A		A	A								
1509A61-014	S-13-ECB4	Soil	9/24/2015 11:10	<input type="checkbox"/>	A		A	A								
1509A61-015	S-17½-ECB4	Soil	9/24/2015 11:12	<input type="checkbox"/>	A		A	A								

Test Legend:

1	8260B_S	2	8270_PNA_S	3	G-MBTEX_S	4	TPH(DMO)WSG_S
5		6		7		8	
9		10		11		12	

The following SamplIDs: 001A, 002A, 003A, 004A, 005A, 006A, 007A, 008A, 009A, 010A, 011A, 012A, 013A, 014A, 015A, 016A, 017A, 018A, 019A, 020A, 021A, 022A, 023A, 024A, 025A, 026A, 027A, 028A, 029A, 030A, 031A contain testgroup.

Prepared by: Maria Venegas

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.



1534 Willow Pass Rd
Pittsburg, CA 94565-1701
(925) 252-9262

CHAIN-OF-CUSTODY RECORD

WorkOrder: 1509A61

ClientCode: ESL

WaterTrax WriteOn EDF Excel EQUIS Email HardCopy ThirdParty J-flag

Report to:
Nik Lahiri
Essel Environmental Consulting
564 Market Street
San Francisco, CA 94104
925-413-5511 FAX: 510-380-6610

Email: nlahiri@esseltek.com
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PO:
ProjectNo: 15166; EBALDC

Bill to:
Nik Lahiri
Essel Environmental Consulting
564 Market Street
San Francisco, CA 94104
nlahiri@esseltek.com

Requested TAT: 5 days;

Date Received: 09/25/2015
Date Printed: 09/28/2015

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
1509A61-016	S-4-ECB5	Soil	9/24/2015 14:44	<input type="checkbox"/>	A	A	A	A								
1509A61-017	S-8-ECB5	Soil	9/24/2015 14:53	<input type="checkbox"/>	A	A	A	A								
1509A61-018	S-14½-ECB5	Soil	9/24/2015 15:07	<input type="checkbox"/>	A		A	A								
1509A61-019	S-18-ECB5	Soil	9/24/2015 15:14	<input type="checkbox"/>	A		A	A								
1509A61-020	S-13-ECB6	Soil	9/24/2015 17:38	<input type="checkbox"/>	A		A	A								
1509A61-021	S-13-ECB11	Soil	9/24/2015 11:45	<input type="checkbox"/>	A		A	A								
1509A61-022	S-13-ECB13	Soil	9/24/2015 13:14	<input type="checkbox"/>	A		A	A								
1509A61-023	S-13-ECB14	Soil	9/24/2015 14:13	<input type="checkbox"/>	A		A	A								
1509A61-024	S-18½-ECB14	Soil	9/24/2015 14:31	<input type="checkbox"/>	A		A	A								
1509A61-025	S-4½-ECB7	Soil	9/25/2015 11:13	<input type="checkbox"/>	A	A	A	A								
1509A61-026	S-9½-ECB7	Soil	9/25/2015 11:18	<input type="checkbox"/>	A	A	A	A								
1509A61-027	S-13-ECB8	Soil	9/25/2015 8:06	<input type="checkbox"/>	A		A	A								
1509A61-028	S-13-ECB9	Soil	9/25/2015 8:34	<input type="checkbox"/>	A		A	A								
1509A61-029	S-13-ECB10	Soil	9/25/2015 9:26	<input type="checkbox"/>	A		A	A								
1509A61-030	S-14½-ECB10	Soil	9/25/2015 9:29	<input type="checkbox"/>	A		A	A								

Test Legend:

1	8260B_S	2	8270_PNA_S	3	G-MBTEX_S	4	TPH(DMO)WSG_S
5		6		7		8	
9		10		11		12	

The following SamplIDs: 001A, 002A, 003A, 004A, 005A, 006A, 007A, 008A, 009A, 010A, 011A, 012A, 013A, 014A, 015A, 016A, 017A, 018A, 019A, 020A, 021A, 022A, 023A, 024A, 025A, 026A, 027A, 028A, 029A, 030A, 031A contain testgroup.

Prepared by: Maria Venegas

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.



1534 Willow Pass Rd
Pittsburg, CA 94565-1701
(925) 252-9262

CHAIN-OF-CUSTODY RECORD

WorkOrder: 1509A61

ClientCode: ESL

WaterTrax
 WriteOn
 EDF
 Excel
 EQulS
 Email
 HardCopy
 ThirdParty
 J-flag

Report to:

Nik Lahiri
Essel Environmental Consulting
564 Market Street
San Francisco, CA 94104
925-413-5511 FAX: 510-380-6610

Email: nlahiri@esseltek.com
cc/3rd Party:
PO:
ProjectNo: 15166; EBALDC

Bill to:

Nik Lahiri
Essel Environmental Consulting
564 Market Street
San Francisco, CA 94104
nlahiri@esseltek.com

Requested TAT: 5 days;

Date Received: 09/25/2015

Date Printed: 09/28/2015

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	
1509A61-031	S-13-ECB12	Soil	9/25/2015 10:17	<input type="checkbox"/>	A		A	A									

Test Legend:

1	8260B_S	2	8270_PNA_S	3	G-MBTEx_S	4	TPH(DMO)WSG_S
5		6		7		8	
9		10		11		12	

The following SamplIDs: 001A, 002A, 003A, 004A, 005A, 006A, 007A, 008A, 009A, 010A, 011A, 012A, 013A, 014A, 015A, 016A, 017A, 018A, 019A, 020A, 021A, 022A, 023A, 024A, 025A, 026A, 027A, 028A, 029A, 030A, 031A contain testgroup.

Prepared by: Maria Venegas

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.



WORK ORDER SUMMARY

Client Name: ESSEL ENVIRONMENTAL CONSULTING

QC Level: LEVEL 2

Work Order: 1509A61

Project: 15166; EBALDC

Client Contact: Nik Lahiri

Date Received: 9/25/2015

Comments:

Contact's Email: nlahiri@esseltex.com

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
1509A61-001A	S-12½-ECB1	Soil	Multi-Range TPH(g,d,mo) w/ S.G. Clean-Up SW8260B (VOCs)	1	Acetate Liner	<input type="checkbox"/>	9/24/2015 8:45	5 days		<input type="checkbox"/>	
1509A61-002A	S-19½-ECB1	Soil	Multi-Range TPH(g,d,mo) w/ S.G. Clean-Up SW8260B (VOCs)	1	Acetate Liner	<input type="checkbox"/>	9/24/2015 8:59	5 days		<input type="checkbox"/>	
1509A61-003A	S-15-ECB1	Soil	Multi-Range TPH(g,d,mo) w/ S.G. Clean-Up SW8260B (VOCs)	1	Acetate Liner	<input type="checkbox"/>	9/24/2015 8:55	5 days		<input type="checkbox"/>	
1509A61-004A	S-4½-ECB2	Soil	Multi-Range TPH(g,d,mo) w/ S.G. Clean-Up SW8270C (PAHs/PNAs) SW8260B (VOCs)	1	Acetate Liner	<input type="checkbox"/>	9/24/2015 9:27	5 days		<input type="checkbox"/>	
1509A61-005A	S-9-ECB2	Soil	Multi-Range TPH(g,d,mo) w/ S.G. Clean-Up SW8270C (PAHs/PNAs) SW8260B (VOCs)	1	Acetate Liner	<input type="checkbox"/>	9/24/2015 9:48	5 days		<input type="checkbox"/>	
1509A61-006A	S-17-ECB2	Soil	Multi-Range TPH(g,d,mo) w/ S.G. Clean-Up SW8260B (VOCs)	1	Acetate Liner	<input type="checkbox"/>	9/24/2015 10:05	5 days		<input type="checkbox"/>	

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WORK ORDER SUMMARY

Client Name: ESSEL ENVIRONMENTAL CONSULTING

QC Level: LEVEL 2

Work Order: 1509A61

Project: 15166; EBALDC

Client Contact: Nik Lahiri

Date Received: 9/25/2015

Comments:

Contact's Email: nlahiri@esseltex.com

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
1509A61-007A	S-19½-ECB2	Soil	Multi-Range TPH(g,d,mo) w/ S.G. Clean-Up SW8260B (VOCs)	1	Acetate Liner	<input type="checkbox"/>	9/24/2015 10:07	5 days		<input type="checkbox"/>	
1509A61-008A	S-4½-ECB3	Soil	Multi-Range TPH(g,d,mo) w/ S.G. Clean-Up SW8270C (PAHs/PNAs) SW8260B (VOCs)	1	Acetate Liner	<input type="checkbox"/>	9/24/2015 10:10	5 days		<input type="checkbox"/>	
1509A61-009A	S-9½-ECB3	Soil	Multi-Range TPH(g,d,mo) w/ S.G. Clean-Up SW8270C (PAHs/PNAs) SW8260B (VOCs)	1	Acetate Liner	<input type="checkbox"/>	9/24/2015 10:35	5 days		<input type="checkbox"/>	
1509A61-010A	S-15½-ECB3	Soil	Multi-Range TPH(g,d,mo) w/ S.G. Clean-Up SW8260B (VOCs)	1	Acetate Liner	<input type="checkbox"/>	9/24/2015 10:57	5 days		<input type="checkbox"/>	
1509A61-011A	S-18½-ECB3	Soil	Multi-Range TPH(g,d,mo) w/ S.G. Clean-Up SW8260B (VOCs)	1	Acetate Liner	<input type="checkbox"/>	9/24/2015 11:03	5 days		<input type="checkbox"/>	
1509A61-012A	S-4½-ECB4	Soil	Multi-Range TPH(g,d,mo) w/ S.G. Clean-Up SW8260B (VOCs)	1	Acetate Liner	<input type="checkbox"/>	9/24/2015 10:55	5 days		<input type="checkbox"/>	

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Project: 15166; EBALDC

Client Contact: Nik Lahiri

Date Received: 9/25/2015

Comments:

Contact's Email: nlahiri@esseltex.com

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
1509A61-013A	S-9-ECB4	Soil	Multi-Range TPH(g,d,mo) w/ S.G. Clean-Up SW8260B (VOCs)	1	Acetate Liner	<input type="checkbox"/>	9/24/2015 11:01	5 days		<input type="checkbox"/>	
1509A61-014A	S-13-ECB4	Soil	Multi-Range TPH(g,d,mo) w/ S.G. Clean-Up SW8260B (VOCs)	1	Acetate Liner	<input type="checkbox"/>	9/24/2015 11:10	5 days		<input type="checkbox"/>	
1509A61-015A	S-17½-ECB4	Soil	Multi-Range TPH(g,d,mo) w/ S.G. Clean-Up SW8260B (VOCs)	1	Acetate Liner	<input type="checkbox"/>	9/24/2015 11:12	5 days		<input type="checkbox"/>	
1509A61-016A	S-4-ECB5	Soil	Multi-Range TPH(g,d,mo) w/ S.G. Clean-Up SW8270C (PAHs/PNAs) SW8260B (VOCs)	1	Acetate Liner	<input type="checkbox"/>	9/24/2015 14:44	5 days		<input type="checkbox"/>	
1509A61-017A	S-8-ECB5	Soil	Multi-Range TPH(g,d,mo) w/ S.G. Clean-Up SW8270C (PAHs/PNAs) SW8260B (VOCs)	1	Acetate Liner	<input type="checkbox"/>	9/24/2015 14:53	5 days		<input type="checkbox"/>	
1509A61-018A	S-14½-ECB5	Soil	Multi-Range TPH(g,d,mo) w/ S.G. Clean-Up SW8260B (VOCs)	1	Acetate Liner	<input type="checkbox"/>	9/24/2015 15:07	5 days		<input type="checkbox"/>	

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QC Level: LEVEL 2

Work Order: 1509A61

Project: 15166; EBALDC

Client Contact: Nik Lahiri

Date Received: 9/25/2015

Comments:

Contact's Email: nlahiri@esseltex.com

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
1509A61-019A	S-18-ECB5	Soil	Multi-Range TPH(g,d,mo) w/ S.G. Clean-Up SW8260B (VOCs)	1	Acetate Liner	<input type="checkbox"/>	9/24/2015 15:14	5 days		<input type="checkbox"/>	
1509A61-020A	S-13-ECB6	Soil	Multi-Range TPH(g,d,mo) w/ S.G. Clean-Up SW8260B (VOCs)	1	Acetate Liner	<input type="checkbox"/>	9/24/2015 17:38	5 days		<input type="checkbox"/>	
1509A61-021A	S-13-ECB11	Soil	Multi-Range TPH(g,d,mo) w/ S.G. Clean-Up SW8260B (VOCs)	1	Acetate Liner	<input type="checkbox"/>	9/24/2015 11:45	5 days		<input type="checkbox"/>	
1509A61-022A	S-13-ECB13	Soil	Multi-Range TPH(g,d,mo) w/ S.G. Clean-Up SW8260B (VOCs)	1	Acetate Liner	<input type="checkbox"/>	9/24/2015 13:14	5 days		<input type="checkbox"/>	
1509A61-023A	S-13-ECB14	Soil	Multi-Range TPH(g,d,mo) w/ S.G. Clean-Up SW8260B (VOCs)	1	Acetate Liner	<input type="checkbox"/>	9/24/2015 14:13	5 days		<input type="checkbox"/>	
1509A61-024A	S-18½-ECB14	Soil	Multi-Range TPH(g,d,mo) w/ S.G. Clean-Up SW8260B (VOCs)	1	Acetate Liner	<input type="checkbox"/>	9/24/2015 14:31	5 days		<input type="checkbox"/>	
1509A61-025A	S-4½-ECB7	Soil	Multi-Range TPH(g,d,mo) w/ S.G. Clean-Up SW8270C (PAHs/PNAs)	1	Acetate Liner	<input type="checkbox"/>	9/25/2015 11:13	5 days		<input type="checkbox"/>	

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QC Level: LEVEL 2

Work Order: 1509A61

Project: 15166; EBALDC

Client Contact: Nik Lahiri

Date Received: 9/25/2015

Comments:

Contact's Email: nlahiri@esseltex.com

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
1509A61-025A	S-4½-ECB7	Soil	SW8260B (VOCs)	1	Acetate Liner	<input type="checkbox"/>	9/25/2015 11:13	5 days		<input type="checkbox"/>	
1509A61-026A	S-9½-ECB7	Soil	Multi-Range TPH(g,d,mo) w/ S.G. Clean-Up SW8270C (PAHs/PNAs) SW8260B (VOCs)	1	Acetate Liner	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	9/25/2015 11:18	5 days 5 days 5 days		<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	
1509A61-027A	S-13-ECB8	Soil	Multi-Range TPH(g,d,mo) w/ S.G. Clean-Up SW8260B (VOCs)	1	Acetate Liner	<input type="checkbox"/> <input type="checkbox"/>	9/25/2015 8:06	5 days 5 days		<input type="checkbox"/> <input type="checkbox"/>	
1509A61-028A	S-13-ECB9	Soil	Multi-Range TPH(g,d,mo) w/ S.G. Clean-Up SW8260B (VOCs)	1	Acetate Liner	<input type="checkbox"/> <input type="checkbox"/>	9/25/2015 8:34	5 days 5 days		<input type="checkbox"/> <input type="checkbox"/>	
1509A61-029A	S-13-ECB10	Soil	Multi-Range TPH(g,d,mo) w/ S.G. Clean-Up SW8260B (VOCs)	1	Acetate Liner	<input type="checkbox"/> <input type="checkbox"/>	9/25/2015 9:26	5 days 5 days		<input type="checkbox"/> <input type="checkbox"/>	
1509A61-030A	S-14½-ECB10	Soil	Multi-Range TPH(g,d,mo) w/ S.G. Clean-Up SW8260B (VOCs)	1	Acetate Liner	<input type="checkbox"/> <input type="checkbox"/>	9/25/2015 9:29	5 days 5 days		<input type="checkbox"/> <input type="checkbox"/>	
1509A61-031A	S-13-ECB12	Soil	Multi-Range TPH(g,d,mo) w/ S.G. Clean-Up SW8260B (VOCs)	1	Acetate Liner	<input type="checkbox"/> <input type="checkbox"/>	9/25/2015 10:17	5 days 5 days		<input type="checkbox"/> <input type="checkbox"/>	

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McCAMPBELL ANALYTICAL, INC.

1534 WILLOW PASS ROAD
PITTSBURG, CA 94565-1701

1509A61

Website: www.mccampbell.com Email: main@mccampbell.com

Telephone: (877) 252-9262 Fax: (925) 252-9269

CHAIN OF CUSTODY RECORD

TURN AROUND TIME

RUSH 24 HR 48 HR 72 HR **5 DAY**

GeoTracker EDF PDF Excel Write On (DW)

Check if sample is effluent and "J" flag is required

Report To: Nik Lahiri Bill To: Samhita Lahiri
Company: Essel Technology Services, Inc
564 Market Street
San Francisco, California 94104 E-Mail: nlahiri@esseltek.com
Tele: (925) 413-5511 Fax: ()
Project #: 15166 Project Name: EBALDC
Project Location: West Grand Avenue and Brush Street, Oakland, California 94612
Sampler Signature: *Rodger C. Witham*

Analysis Request

Other Comments

SAMPLE ID	LOCATION/ Field Point Name	SAMPLING		# Containers	Type Containers	MATRIX					METHOD PRESERVED				BTEX & TPH as Gas (602 / 8021 + 8015) / MTBE TPH as Gasoline, Diesel, Motor Oil (8015) Total Petroleum Oil & Grease (1664 / 5520 E/B&F) Total Petroleum Hydrocarbons (418.1) EPA 502.2 / 601 / 8010 / 8021 (HVOCs) MTBE / BTEX ONLY (EPA 602 / 8021) EPA 505/608 / 8081 (CI Pesticides) EPA 608 / 8082 PCB's ONLY; Aroclors / Congeners EPA 507 / 8141 (NP Pesticides) EPA 515 / 8151 (Acidic CI Herbicides) EPA 524.2 / 624 / 8260 (VOCs) EPA 525.2 / 625 / 8270 (SVOCs) EPA 8270 SIM / 8310 (PAHs / PNAs) CAM 17 Metals (200.7 / 200.8 / 6010 / 6020) LUFT 5 Metals (200.7 / 200.8 / 6010 / 6020) Lead (200.7 / 200.8 / 6010 / 6020) Filter sample for DISSOLVED metals analysis	Other	Comments		
		Date	Time			Water	Soil	Air	Sludge	Other	ICE	HCL	HNO ₃	Other					
S-12 1/2 - ECB1		9/24/15	8:45am	1	P	X						X							Sikona gel cleanup before diesel and motor oil analyses
S-19 1/2 - ECB1		9/24/15	8:59am	1	P	X						X							
S-15 - ECB1		9/24/15	8:55am	1	P	X						X							
S-4 1/2 - ECB2		9/24/15	9:27am	1	P	X						X			X				
S-9 - ECB2		9/24/15	9:48am	1	P	X						X			X				
S-17 - ECB2		9/24/15	10:05am	1	P	X						X			X				
S-19 1/2 - ECB2		9/24/15	10:07am	1	P	X						X			X				
S-4 1/2 - ECB3		9/24/15	10:10am	1	P	X						X			X				
S-9 1/2 - ECB3		9/24/15	10:35am	1	P	X						X			X				
S-15 1/2 - ECB3		9/24/15	10:57am	1	P	X						X			X				
S-18 1/2 - ECB3		9/24/15	11:03am	1	P	X						X			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.

Relinquished By:	Date:	Time:	Received By:	ICE/t°	COMMENTS:
<i>Rodger C. Witham</i>	9/24/15	6:26pm	<i>[Signature]</i>	113 wet ice	
<i>[Signature]</i>	9/25/15	7:30pm	<i>[Signature]</i>		
Relinquished By:	Date:	Time:	Received By:	VOAS O&G METALS OTHER PRESERVATION	

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CHAIN OF CUSTODY RECORD

TURN AROUND TIME

RUSH 24 HR 48 HR 72 HR 5 DAY

GeoTracker EDF PDF Excel Write On (DW)

Check if sample is effluent and "J" flag is required

Report To: Nik Lahiri Bill To: Samhita Lahiri
Company: Essel Technology Services, Inc
564 Market Street
San Francisco, California 94104 E-Mail: nlahiri@esseltek.com
Tele: (925) 413-5511 Fax: ()
Project #: 15166 Project Name: EBALDC
Project Location: West Grand Avenue and Brush Street, Oakland, California 94612
Sampler Signature: *Pedro C. Witham*

Analysis Request

Other

Comments

SAMPLE ID	LOCATION/ Field Point Name	SAMPLING		# Containers	Type Containers	MATRIX					METHOD PRESERVED			
		Date	Time			Water	Soil	Air	Sludge	Other	ICE	HCL	HNO ₃	Other

BTEX & TPH as Gas (602 / 8021 + 8015) / MTBE	TPH as Gasoline, Diesel, Motor Oil (8015)	Total Petroleum Oil & Grease (1664 / 5520 E/B&F)	Total Petroleum Hydrocarbons (418.1)	EPA 502.2 / 601 / 8010 / 8021 (HVOCs)	MTBE / BTEX ONLY (EPA 602 / 8021)	EPA 505/608 / 8081 (CI Pesticides)	EPA 608 / 8082 PCB's ONLY; Aroclors / Congeners	EPA 507 / 8141 (NP Pesticides)	EPA 515 / 8151 (Acidic CI Herbicides)	EPA 524.2 / 624 / 8260 (VOCs)	EPA 525.2 / 625 / 8270 (SVOCs)	EPA 8270 SIM / 8310 (PAHs / PNAs)	CAM 17 Metals (200.7 / 200.8 / 6010 / 6020)	LUFT 5 Metals (200.7 / 200.8 / 6010 / 6020)	Lead (200.7 / 200.8 / 6010 / 6020)	Filter sample for DISSOLVED metals analysis
----------------------------------------------	-------------------------------------------	--------------------------------------------------	--------------------------------------	---------------------------------------	-----------------------------------	------------------------------------	-------------------------------------------------	--------------------------------	---------------------------------------	-------------------------------	--------------------------------	-----------------------------------	---------------------------------------------	---------------------------------------------	------------------------------------	---------------------------------------------

**Indicate here if these samples are potentially dangerous to handle:

S-4 1/2 - ECB4		9/24/15	10:55 a.m.	1	P	X					X						
S-9-ECB4		9/24/15	11:01 a.m.	1	P	X					X						
S-13-ECB4		9/24/15	11:10 a.m.	1	P	X					X						
S-17 1/2 - ECB4		9/24/15	11:12 a.m.	1	P	X					X						
S-4-ECB5		9/24/15	2:44 p.m.	1	P	X					X					X	
S-8-ECB5		9/24/15	2:53 p.m.	1	P	X					X					X	
S-14 1/2 - ECB5		9/24/15	3:07 p.m.	1	P	X					X						
S-18-ECB5		9/24/15	3:14 p.m.	1	P	X					X						
S-13-ECB6		9/24/15	5:38 p.m.	1	P	X					X						
S-13-ECB11		9/24/15	11:45 a.m.	1	P	X					X						
S-13-ECB13		9/24/15	1:14 p.m.	1	P	X					X						

						X											
						X											
						X											
						X											
						X							X				
						X											
						X											
						X											
						X											
						X											

Silica gel cleanup before diesel and motor oil analysis

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Relinquished By: <i>Pedro C. Witham</i>	Date: 9/26/15	Time: 6:26 p.m.	Received By: <i>[Signature]</i>
Relinquished By: <i>[Signature]</i>	Date: 9/25/15	Time: 7:30 p.m.	Received By: <i>[Signature]</i>
Relinquished By:	Date:	Time:	Received By:

ICE/°	GOOD CONDITION	HEAD SPACE ABSENT	DECHLORINATED IN LAB	APPROPRIATE CONTAINERS	PRESERVED IN LAB
VOAS	O&G	METALS	OTHER	PRESERVATION	
				pH<2	

McCAMPBELL ANALYTICAL, INC.

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CHAIN OF CUSTODY RECORD

TURN AROUND TIME

RUSH 24 HR 48 HR 72 HR **5 DAY**

GeoTracker EDF PDF Excel Write On (DW)

Check if sample is effluent and "J" flag is required

Report To: Nik Lahiri Bill To: Samhita Lahiri
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Tele: (925) 413-5511 Fax: ()
Project #: 15166 Project Name: EBALDC
Project Location: West Grand Avenue and Brush Street, Oakland, California 94612
Sampler Signature: *Lodger C. Wittmann*

Analysis Request

Other

Comments

SAMPLE ID	LOCATION/ Field Point Name	SAMPLING		# Containers	Type Containers	MATRIX					METHOD PRESERVED				BTEX & TPH as Gas (602 / 8021 + 8015) / MTBE	TPH as Gasoline, Diesel, Motor Oil (8015)	Total Petroleum Oil & Grease (1664 / 5520 E/B&F)	Total Petroleum Hydrocarbons (418.1)	EPA 502.2 / 601 / 8010 / 8021 (HVOCs)	MTBE / BTEX ONLY (EPA 602 / 8021)	EPA 505/608 / 8081 (CI Pesticides)	EPA 608 / 8082 PCB's ONLY; Aroclors / Congeners	EPA 507 / 8141 (NP Pesticides)	EPA 515 / 8151 (Acidic CI Herbicides)	EPA 524.2 / 624 / 8260 (VOCs)	EPA 525.2 / 625 / 8270 (SVOCs)	EPA 8270 SIMI / 8310 (PAHs / PNAs)	CAM 17 Metals (200.7 / 200.8 / 6010 / 6020)	LUFT 5 Metals (200.7 / 200.8 / 6010 / 6020)	Lead (200.7 / 200.8 / 6010 / 6020)	Filter sample for DISSOLVED metals analysis						
		Date	Time			Water	Soil	Air	Sludge	Other	ICE	HCL	HNO ₃	Other																							
S-4 1/2 - ECB7		9/25/15	11:13a.m.	1	P	X					X					X								X													
S-9 1/2 - ECB7		9/25/15	11:18a.m.	1	P	X					X					X								X													
S-13 ECB8		9/25/15	8:06a.m.	1	P	X					X					X							X														
S-13-ECB9		9/25/15	8:34a.m.	1	P	X					X					X							X														
S-13-ECB10		9/25/15	9:26a.m.	1	P	X					X					X							X														
S-14 1/2 - ECB10		9/25/15	9:29a.m.	1	P	X					X					X							X														
S-13-ECB12		9/25/15	10:17a.m.	1	P	X					X					X							X														

Silica gel cleanup before diesel/motor oil analysis.

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Relinquished By: <i>Lodger C. Wittmann</i>	Date: 9/25/15	Time: 6:26 p.m.	Received By: <i>[Signature]</i>	ICE/°	COMMENTS:
Relinquished By: <i>[Signature]</i>	Date: 9/25/15	Time: 7:30	Received By: <i>[Signature]</i>	GOOD CONDITION	
Relinquished By:	Date:	Time:	Received By:	HEAD SPACE ABSENT	
				DECHLORINATED IN LAB	
				APPROPRIATE CONTAINERS	
				PRESERVED IN LAB	
				VOAS O&G METALS OTHER	
				PRESERVATION pH<2	



Sample Receipt Checklist

Client Name: **Essel Environmental Consulting** Date and Time Received: **9/25/2015 7:30:00 PM**
 Project Name: **15166; EBALDC** LogIn Reviewed by: **Maria Venegas**
 WorkOrder No: **1509A61** Matrix: Soil Carrier: Client Drop-In

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

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
 Sample/Temp Blank temperature Temp: 1.3°C NA
 Water - VOA vials have zero headspace / no bubbles? Yes No NA
 Sample labels checked for correct preservation? Yes No
 pH acceptable upon receipt (Metal: <2; 522: <4; 218.7: >8)? Yes No NA
 Samples Received on Ice? Yes No

(Ice Type: WET ICE)

UCMR3 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

* NOTE: If the "No" box is checked, see comments below.

 Comments:



McC Campbell Analytical, Inc.

"When Quality Counts"

Analytical Report

WorkOrder: 1509A62

Report Created for: Essel Environmental Consulting
564 Market Street
San Francisco, CA 94104

Project Contact: Nik Lahiri
Project P.O.:
Project Name: 15166; EBALDC

Project Received: 09/25/2015

Analytical Report reviewed & approved for release on 10/05/2015 by:

Angela Rydelius,
Laboratory Manager

The report shall not be reproduced except in full, without the written approval of the laboratory. The analytical results relate only to the items tested. Results reported conform to the most current NELAP standards, where applicable, unless otherwise stated in the case narrative.





Glossary of Terms & Qualifier Definitions

Client: Essel Environmental Consulting
Project: 15166; EBALDC
WorkOrder: 1509A62

Glossary Abbreviation

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)
DUP	Duplicate
EDL	Estimated Detection Limit
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.
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
TCLP	Toxicity Characteristic Leachate Procedure
TEQ	Toxicity Equivalents
WET (STLC)	Waste Extraction Test (Soluble Threshold Limit Concentration)



Glossary of Terms & Qualifier Definitions

Client: Essel Environmental Consulting
Project: 15166; EBALDC
WorkOrder: 1509A62

Analytical Qualifiers

S	spike recovery outside accepted recovery limits
b1	aqueous sample that contains greater than ~1 vol. % sediment
c2	surrogate recovery outside of the control limits due to matrix interference.
c4	surrogate recovery outside of the control limits due to coelution with another peak(s) / cluttered chromatogram.
d7	strongly aged gasoline or diesel range compounds are significant in the TPH(g) chromatogram
d9	no recognizable pattern
e2	diesel range compounds are significant; no recognizable pattern
e3	aged diesel is significant
e4	gasoline range compounds are significant.
e7	oil range compounds are significant
e8	kerosene/kerosene range/jet fuel range
e11	stoddard solvent/mineral spirit (?)



Analytical Report

Client: Essel Environmental Consulting
Date Received: 9/25/15 19:30
Date Prepared: 10/1/15-10/3/15
Project: 15166; EBALDC

WorkOrder: 1509A62
Extraction Method: SW5030B
Analytical Method: SW8260B
Unit: µg/L

Volatile Organics by P&T and GC/MS (Basic Target List)

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
W-ECB3	1509A62-001B	Water	09/24/2015 16:35	GC28	111001

Analytes	Result	RL	DF	Date Analyzed
Acetone	18	10	1	10/01/2015 17:03
tert-Amyl methyl ether (TAME)	ND	0.50	1	10/01/2015 17:03
Benzene	ND	0.50	1	10/01/2015 17:03
Bromobenzene	ND	0.50	1	10/01/2015 17:03
Bromochloromethane	ND	0.50	1	10/01/2015 17:03
Bromodichloromethane	ND	0.50	1	10/01/2015 17:03
Bromoform	ND	0.50	1	10/01/2015 17:03
Bromomethane	ND	0.50	1	10/01/2015 17:03
2-Butanone (MEK)	ND	2.0	1	10/01/2015 17:03
t-Butyl alcohol (TBA)	ND	2.0	1	10/01/2015 17:03
n-Butyl benzene	0.91	0.50	1	10/01/2015 17:03
sec-Butyl benzene	1.4	0.50	1	10/01/2015 17:03
tert-Butyl benzene	ND	0.50	1	10/01/2015 17:03
Carbon Disulfide	ND	0.50	1	10/01/2015 17:03
Carbon Tetrachloride	ND	0.50	1	10/01/2015 17:03
Chlorobenzene	ND	0.50	1	10/01/2015 17:03
Chloroethane	ND	0.50	1	10/01/2015 17:03
Chloroform	ND	0.50	1	10/01/2015 17:03
Chloromethane	ND	0.50	1	10/01/2015 17:03
2-Chlorotoluene	ND	0.50	1	10/01/2015 17:03
4-Chlorotoluene	ND	0.50	1	10/01/2015 17:03
Dibromochloromethane	ND	0.50	1	10/01/2015 17:03
1,2-Dibromo-3-chloropropane	ND	0.20	1	10/01/2015 17:03
1,2-Dibromoethane (EDB)	ND	0.50	1	10/01/2015 17:03
Dibromomethane	ND	0.50	1	10/01/2015 17:03
1,2-Dichlorobenzene	ND	0.50	1	10/01/2015 17:03
1,3-Dichlorobenzene	ND	0.50	1	10/01/2015 17:03
1,4-Dichlorobenzene	ND	0.50	1	10/01/2015 17:03
Dichlorodifluoromethane	ND	0.50	1	10/01/2015 17:03
1,1-Dichloroethane	ND	0.50	1	10/01/2015 17:03
1,2-Dichloroethane (1,2-DCA)	ND	0.50	1	10/01/2015 17:03
1,1-Dichloroethene	ND	0.50	1	10/01/2015 17:03
cis-1,2-Dichloroethene	ND	0.50	1	10/01/2015 17:03
trans-1,2-Dichloroethene	ND	0.50	1	10/01/2015 17:03
1,2-Dichloropropane	ND	0.50	1	10/01/2015 17:03
1,3-Dichloropropane	ND	0.50	1	10/01/2015 17:03
2,2-Dichloropropane	ND	0.50	1	10/01/2015 17:03

(Cont.)



Analytical Report

Client: Essel Environmental Consulting
Date Received: 9/25/15 19:30
Date Prepared: 10/1/15-10/3/15
Project: 15166; EBALDC

WorkOrder: 1509A62
Extraction Method: SW5030B
Analytical Method: SW8260B
Unit: µg/L

Volatile Organics by P&T and GC/MS (Basic Target List)

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
W-ECB3	1509A62-001B	Water	09/24/2015 16:35	GC28	111001

Analytes	Result	RL	DF	Date Analyzed
1,1-Dichloropropene	ND	0.50	1	10/01/2015 17:03
cis-1,3-Dichloropropene	ND	0.50	1	10/01/2015 17:03
trans-1,3-Dichloropropene	ND	0.50	1	10/01/2015 17:03
Diisopropyl ether (DIPE)	ND	0.50	1	10/01/2015 17:03
Ethylbenzene	ND	0.50	1	10/01/2015 17:03
Ethyl tert-butyl ether (ETBE)	ND	0.50	1	10/01/2015 17:03
Freon 113	ND	0.50	1	10/01/2015 17:03
Hexachlorobutadiene	ND	0.50	1	10/01/2015 17:03
Hexachloroethane	ND	0.50	1	10/01/2015 17:03
2-Hexanone	ND	0.50	1	10/01/2015 17:03
Isopropylbenzene	ND	0.50	1	10/01/2015 17:03
4-Isopropyl toluene	ND	0.50	1	10/01/2015 17:03
Methyl-t-butyl ether (MTBE)	ND	0.50	1	10/01/2015 17:03
Methylene chloride	ND	0.50	1	10/01/2015 17:03
4-Methyl-2-pentanone (MIBK)	ND	0.50	1	10/01/2015 17:03
Naphthalene	ND	0.50	1	10/01/2015 17:03
n-Propyl benzene	0.67	0.50	1	10/01/2015 17:03
Styrene	ND	0.50	1	10/01/2015 17:03
1,1,1,2-Tetrachloroethane	ND	0.50	1	10/01/2015 17:03
1,1,2,2-Tetrachloroethane	ND	0.50	1	10/01/2015 17:03
Tetrachloroethene	ND	0.50	1	10/01/2015 17:03
Toluene	ND	0.50	1	10/01/2015 17:03
1,2,3-Trichlorobenzene	ND	0.50	1	10/01/2015 17:03
1,2,4-Trichlorobenzene	ND	0.50	1	10/01/2015 17:03
1,1,1-Trichloroethane	ND	0.50	1	10/01/2015 17:03
1,1,2-Trichloroethane	ND	0.50	1	10/01/2015 17:03
Trichloroethene	ND	0.50	1	10/01/2015 17:03
Trichlorofluoromethane	ND	0.50	1	10/01/2015 17:03
1,2,3-Trichloropropane	ND	0.50	1	10/01/2015 17:03
1,2,4-Trimethylbenzene	ND	0.50	1	10/01/2015 17:03
1,3,5-Trimethylbenzene	ND	0.50	1	10/01/2015 17:03
Vinyl Chloride	ND	0.50	1	10/01/2015 17:03
Xylenes, Total	ND	0.50	1	10/01/2015 17:03

(Cont.)



Analytical Report

Client: Essel Environmental Consulting
Date Received: 9/25/15 19:30
Date Prepared: 10/1/15-10/3/15
Project: 15166; EBALDC

WorkOrder: 1509A62
Extraction Method: SW5030B
Analytical Method: SW8260B
Unit: µg/L

Volatile Organics by P&T and GC/MS (Basic Target List)

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
W-ECB3	1509A62-001B	Water	09/24/2015 16:35	GC28	111001

Analytes	Result	Qualifiers	RL	DF	Date Analyzed
<u>Surrogates</u>	<u>REC (%)</u>	<u>Qualifiers</u>	<u>Limits</u>		
Dibromofluoromethane	110		70-130		10/01/2015 17:03
Toluene-d8	100		70-130		10/01/2015 17:03
4-BFB	136	S	70-130		10/01/2015 17:03

Analyst(s): MW

Analytical Comments: c4,b1



Analytical Report

Client: Essel Environmental Consulting
Date Received: 9/25/15 19:30
Date Prepared: 10/1/15-10/3/15
Project: 15166; EBALDC

WorkOrder: 1509A62
Extraction Method: SW5030B
Analytical Method: SW8260B
Unit: µg/L

Volatile Organics by P&T and GC/MS (Basic Target List)

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
W-ECB4	1509A62-002B	Water	09/24/2015 16:51	GC28	111001

Analytes	Result	RL	DF	Date Analyzed
Acetone	ND	10	1	10/01/2015 17:42
tert-Amyl methyl ether (TAME)	ND	0.50	1	10/01/2015 17:42
Benzene	ND	0.50	1	10/01/2015 17:42
Bromobenzene	ND	0.50	1	10/01/2015 17:42
Bromochloromethane	ND	0.50	1	10/01/2015 17:42
Bromodichloromethane	ND	0.50	1	10/01/2015 17:42
Bromoform	ND	0.50	1	10/01/2015 17:42
Bromomethane	ND	0.50	1	10/01/2015 17:42
2-Butanone (MEK)	ND	2.0	1	10/01/2015 17:42
t-Butyl alcohol (TBA)	ND	2.0	1	10/01/2015 17:42
n-Butyl benzene	1.4	0.50	1	10/01/2015 17:42
sec-Butyl benzene	2.0	0.50	1	10/01/2015 17:42
tert-Butyl benzene	0.71	0.50	1	10/01/2015 17:42
Carbon Disulfide	ND	0.50	1	10/01/2015 17:42
Carbon Tetrachloride	ND	0.50	1	10/01/2015 17:42
Chlorobenzene	ND	0.50	1	10/01/2015 17:42
Chloroethane	ND	0.50	1	10/01/2015 17:42
Chloroform	ND	0.50	1	10/01/2015 17:42
Chloromethane	ND	0.50	1	10/01/2015 17:42
2-Chlorotoluene	ND	0.50	1	10/01/2015 17:42
4-Chlorotoluene	ND	0.50	1	10/01/2015 17:42
Dibromochloromethane	ND	0.50	1	10/01/2015 17:42
1,2-Dibromo-3-chloropropane	ND	0.20	1	10/01/2015 17:42
1,2-Dibromoethane (EDB)	ND	0.50	1	10/01/2015 17:42
Dibromomethane	ND	0.50	1	10/01/2015 17:42
1,2-Dichlorobenzene	ND	0.50	1	10/01/2015 17:42
1,3-Dichlorobenzene	ND	0.50	1	10/01/2015 17:42
1,4-Dichlorobenzene	ND	0.50	1	10/01/2015 17:42
Dichlorodifluoromethane	ND	0.50	1	10/01/2015 17:42
1,1-Dichloroethane	ND	0.50	1	10/01/2015 17:42
1,2-Dichloroethane (1,2-DCA)	ND	0.50	1	10/01/2015 17:42
1,1-Dichloroethene	ND	0.50	1	10/01/2015 17:42
cis-1,2-Dichloroethene	1.0	0.50	1	10/01/2015 17:42
trans-1,2-Dichloroethene	ND	0.50	1	10/01/2015 17:42
1,2-Dichloropropane	ND	0.50	1	10/01/2015 17:42
1,3-Dichloropropane	ND	0.50	1	10/01/2015 17:42
2,2-Dichloropropane	ND	0.50	1	10/01/2015 17:42

(Cont.)



Analytical Report

Client: Essel Environmental Consulting
Date Received: 9/25/15 19:30
Date Prepared: 10/1/15-10/3/15
Project: 15166; EBALDC

WorkOrder: 1509A62
Extraction Method: SW5030B
Analytical Method: SW8260B
Unit: µg/L

Volatile Organics by P&T and GC/MS (Basic Target List)

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
W-ECB4	1509A62-002B	Water	09/24/2015 16:51	GC28	111001
Analytes	Result	RL	DF	Date Analyzed	
1,1-Dichloropropene	ND	0.50	1	10/01/2015 17:42	
cis-1,3-Dichloropropene	ND	0.50	1	10/01/2015 17:42	
trans-1,3-Dichloropropene	ND	0.50	1	10/01/2015 17:42	
Diisopropyl ether (DIPE)	ND	0.50	1	10/01/2015 17:42	
Ethylbenzene	ND	0.50	1	10/01/2015 17:42	
Ethyl tert-butyl ether (ETBE)	ND	0.50	1	10/01/2015 17:42	
Freon 113	ND	0.50	1	10/01/2015 17:42	
Hexachlorobutadiene	ND	0.50	1	10/01/2015 17:42	
Hexachloroethane	ND	0.50	1	10/01/2015 17:42	
2-Hexanone	ND	0.50	1	10/01/2015 17:42	
Isopropylbenzene	2.0	0.50	1	10/01/2015 17:42	
4-Isopropyl toluene	ND	0.50	1	10/01/2015 17:42	
Methyl-t-butyl ether (MTBE)	ND	0.50	1	10/01/2015 17:42	
Methylene chloride	ND	0.50	1	10/01/2015 17:42	
4-Methyl-2-pentanone (MIBK)	ND	0.50	1	10/01/2015 17:42	
Naphthalene	ND	0.50	1	10/01/2015 17:42	
n-Propyl benzene	1.8	0.50	1	10/01/2015 17:42	
Styrene	ND	0.50	1	10/01/2015 17:42	
1,1,1,2-Tetrachloroethane	ND	0.50	1	10/01/2015 17:42	
1,1,2,2-Tetrachloroethane	ND	0.50	1	10/01/2015 17:42	
Tetrachloroethene	ND	0.50	1	10/01/2015 17:42	
Toluene	ND	0.50	1	10/01/2015 17:42	
1,2,3-Trichlorobenzene	ND	0.50	1	10/01/2015 17:42	
1,2,4-Trichlorobenzene	ND	0.50	1	10/01/2015 17:42	
1,1,1-Trichloroethane	ND	0.50	1	10/01/2015 17:42	
1,1,2-Trichloroethane	ND	0.50	1	10/01/2015 17:42	
Trichloroethene	ND	0.50	1	10/01/2015 17:42	
Trichlorofluoromethane	ND	0.50	1	10/01/2015 17:42	
1,2,3-Trichloropropane	ND	0.50	1	10/01/2015 17:42	
1,2,4-Trimethylbenzene	ND	0.50	1	10/01/2015 17:42	
1,3,5-Trimethylbenzene	ND	0.50	1	10/01/2015 17:42	
Vinyl Chloride	0.67	0.50	1	10/01/2015 17:42	
Xylenes, Total	ND	0.50	1	10/01/2015 17:42	

(Cont.)



Analytical Report

Client: Essel Environmental Consulting
Date Received: 9/25/15 19:30
Date Prepared: 10/1/15-10/3/15
Project: 15166; EBALDC

WorkOrder: 1509A62
Extraction Method: SW5030B
Analytical Method: SW8260B
Unit: µg/L

Volatile Organics by P&T and GC/MS (Basic Target List)

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
W-ECB4	1509A62-002B	Water	09/24/2015 16:51	GC28	111001

Analytes	Result	Qualifiers	RL	DF	Date Analyzed
<u>Surrogates</u>	<u>REC (%)</u>	<u>Qualifiers</u>	<u>Limits</u>		
Dibromofluoromethane	131	S	70-130		10/01/2015 17:42
Toluene-d8	103		70-130		10/01/2015 17:42
4-BFB	142	S	70-130		10/01/2015 17:42

Analyst(s): MW

Analytical Comments: c4,b1



Analytical Report

Client: Essel Environmental Consulting
Date Received: 9/25/15 19:30
Date Prepared: 10/1/15-10/3/15
Project: 15166; EBALDC

WorkOrder: 1509A62
Extraction Method: SW5030B
Analytical Method: SW8260B
Unit: µg/L

Volatile Organics by P&T and GC/MS (Basic Target List)

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
W-ECB13	1509A62-003B	Water	09/24/2015 17:13	GC10	111091

Analytes	Result	RL	DF	Date Analyzed
Acetone	11	10	1	10/02/2015 18:45
tert-Amyl methyl ether (TAME)	ND	0.50	1	10/02/2015 18:45
Benzene	ND	0.50	1	10/02/2015 18:45
Bromobenzene	ND	0.50	1	10/02/2015 18:45
Bromochloromethane	ND	0.50	1	10/02/2015 18:45
Bromodichloromethane	ND	0.50	1	10/02/2015 18:45
Bromoform	ND	0.50	1	10/02/2015 18:45
Bromomethane	ND	0.50	1	10/02/2015 18:45
2-Butanone (MEK)	2.8	2.0	1	10/02/2015 18:45
t-Butyl alcohol (TBA)	ND	2.0	1	10/02/2015 18:45
n-Butyl benzene	ND	0.50	1	10/02/2015 18:45
sec-Butyl benzene	ND	0.50	1	10/02/2015 18:45
tert-Butyl benzene	ND	0.50	1	10/02/2015 18:45
Carbon Disulfide	ND	0.50	1	10/02/2015 18:45
Carbon Tetrachloride	ND	0.50	1	10/02/2015 18:45
Chlorobenzene	ND	0.50	1	10/02/2015 18:45
Chloroethane	ND	0.50	1	10/02/2015 18:45
Chloroform	ND	0.50	1	10/02/2015 18:45
Chloromethane	ND	0.50	1	10/02/2015 18:45
2-Chlorotoluene	ND	0.50	1	10/02/2015 18:45
4-Chlorotoluene	ND	0.50	1	10/02/2015 18:45
Dibromochloromethane	ND	0.50	1	10/02/2015 18:45
1,2-Dibromo-3-chloropropane	ND	0.20	1	10/02/2015 18:45
1,2-Dibromoethane (EDB)	ND	0.50	1	10/02/2015 18:45
Dibromomethane	ND	0.50	1	10/02/2015 18:45
1,2-Dichlorobenzene	ND	0.50	1	10/02/2015 18:45
1,3-Dichlorobenzene	ND	0.50	1	10/02/2015 18:45
1,4-Dichlorobenzene	ND	0.50	1	10/02/2015 18:45
Dichlorodifluoromethane	ND	0.50	1	10/02/2015 18:45
1,1-Dichloroethane	ND	0.50	1	10/02/2015 18:45
1,2-Dichloroethane (1,2-DCA)	ND	0.50	1	10/02/2015 18:45
1,1-Dichloroethene	ND	0.50	1	10/02/2015 18:45
cis-1,2-Dichloroethene	ND	0.50	1	10/02/2015 18:45
trans-1,2-Dichloroethene	ND	0.50	1	10/02/2015 18:45
1,2-Dichloropropane	ND	0.50	1	10/02/2015 18:45
1,3-Dichloropropane	ND	0.50	1	10/02/2015 18:45
2,2-Dichloropropane	ND	0.50	1	10/02/2015 18:45

(Cont.)



Analytical Report

Client: Essel Environmental Consulting
Date Received: 9/25/15 19:30
Date Prepared: 10/1/15-10/3/15
Project: 15166; EBALDC

WorkOrder: 1509A62
Extraction Method: SW5030B
Analytical Method: SW8260B
Unit: µg/L

Volatile Organics by P&T and GC/MS (Basic Target List)

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
W-ECB13	1509A62-003B	Water	09/24/2015 17:13	GC10	111091
Analytes	Result	RL	DF	Date Analyzed	
1,1-Dichloropropene	ND	0.50	1	10/02/2015 18:45	
cis-1,3-Dichloropropene	ND	0.50	1	10/02/2015 18:45	
trans-1,3-Dichloropropene	ND	0.50	1	10/02/2015 18:45	
Diisopropyl ether (DIPE)	ND	0.50	1	10/02/2015 18:45	
Ethylbenzene	ND	0.50	1	10/02/2015 18:45	
Ethyl tert-butyl ether (ETBE)	ND	0.50	1	10/02/2015 18:45	
Freon 113	ND	0.50	1	10/02/2015 18:45	
Hexachlorobutadiene	ND	0.50	1	10/02/2015 18:45	
Hexachloroethane	ND	0.50	1	10/02/2015 18:45	
2-Hexanone	ND	0.50	1	10/02/2015 18:45	
Isopropylbenzene	ND	0.50	1	10/02/2015 18:45	
4-Isopropyl toluene	ND	0.50	1	10/02/2015 18:45	
Methyl-t-butyl ether (MTBE)	ND	0.50	1	10/02/2015 18:45	
Methylene chloride	ND	0.50	1	10/02/2015 18:45	
4-Methyl-2-pentanone (MIBK)	ND	0.50	1	10/02/2015 18:45	
Naphthalene	ND	0.50	1	10/02/2015 18:45	
n-Propyl benzene	ND	0.50	1	10/02/2015 18:45	
Styrene	ND	0.50	1	10/02/2015 18:45	
1,1,1,2-Tetrachloroethane	ND	0.50	1	10/02/2015 18:45	
1,1,2,2-Tetrachloroethane	ND	0.50	1	10/02/2015 18:45	
Tetrachloroethene	ND	0.50	1	10/02/2015 18:45	
Toluene	ND	0.50	1	10/02/2015 18:45	
1,2,3-Trichlorobenzene	ND	0.50	1	10/02/2015 18:45	
1,2,4-Trichlorobenzene	ND	0.50	1	10/02/2015 18:45	
1,1,1-Trichloroethane	ND	0.50	1	10/02/2015 18:45	
1,1,2-Trichloroethane	ND	0.50	1	10/02/2015 18:45	
Trichloroethene	ND	0.50	1	10/02/2015 18:45	
Trichlorofluoromethane	ND	0.50	1	10/02/2015 18:45	
1,2,3-Trichloropropane	ND	0.50	1	10/02/2015 18:45	
1,2,4-Trimethylbenzene	ND	0.50	1	10/02/2015 18:45	
1,3,5-Trimethylbenzene	ND	0.50	1	10/02/2015 18:45	
Vinyl Chloride	ND	0.50	1	10/02/2015 18:45	
Xylenes, Total	ND	0.50	1	10/02/2015 18:45	

(Cont.)



Analytical Report

Client: Essel Environmental Consulting
Date Received: 9/25/15 19:30
Date Prepared: 10/1/15-10/3/15
Project: 15166; EBALDC

WorkOrder: 1509A62
Extraction Method: SW5030B
Analytical Method: SW8260B
Unit: µg/L

Volatile Organics by P&T and GC/MS (Basic Target List)

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
W-ECB13	1509A62-003B	Water	09/24/2015 17:13	GC10	111091

Analytes	Result	RL	DF	Date Analyzed
<u>Surrogates</u>	<u>REC (%)</u>	<u>Limits</u>		
Dibromofluoromethane	92	70-130		10/02/2015 18:45
Toluene-d8	84	70-130		10/02/2015 18:45
4-BFB	103	70-130		10/02/2015 18:45

Analyst(s): AK



Analytical Report

Client: Essel Environmental Consulting
Date Received: 9/25/15 19:30
Date Prepared: 10/1/15-10/3/15
Project: 15166; EBALDC

WorkOrder: 1509A62
Extraction Method: SW5030B
Analytical Method: SW8260B
Unit: µg/L

Volatile Organics by P&T and GC/MS (Basic Target List)

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
W-ECB14	1509A62-004B	Water	09/24/2015 17:01	GC10	111091

Analytes	Result	RL	DF	Date Analyzed
Acetone	ND	10	1	10/02/2015 19:26
tert-Amyl methyl ether (TAME)	ND	0.50	1	10/02/2015 19:26
Benzene	ND	0.50	1	10/02/2015 19:26
Bromobenzene	ND	0.50	1	10/02/2015 19:26
Bromochloromethane	ND	0.50	1	10/02/2015 19:26
Bromodichloromethane	ND	0.50	1	10/02/2015 19:26
Bromoform	ND	0.50	1	10/02/2015 19:26
Bromomethane	ND	0.50	1	10/02/2015 19:26
2-Butanone (MEK)	ND	2.0	1	10/02/2015 19:26
t-Butyl alcohol (TBA)	ND	2.0	1	10/02/2015 19:26
n-Butyl benzene	ND	0.50	1	10/02/2015 19:26
sec-Butyl benzene	ND	0.50	1	10/02/2015 19:26
tert-Butyl benzene	ND	0.50	1	10/02/2015 19:26
Carbon Disulfide	ND	0.50	1	10/02/2015 19:26
Carbon Tetrachloride	ND	0.50	1	10/02/2015 19:26
Chlorobenzene	ND	0.50	1	10/02/2015 19:26
Chloroethane	ND	0.50	1	10/02/2015 19:26
Chloroform	ND	0.50	1	10/02/2015 19:26
Chloromethane	ND	0.50	1	10/02/2015 19:26
2-Chlorotoluene	ND	0.50	1	10/02/2015 19:26
4-Chlorotoluene	ND	0.50	1	10/02/2015 19:26
Dibromochloromethane	ND	0.50	1	10/02/2015 19:26
1,2-Dibromo-3-chloropropane	ND	0.20	1	10/02/2015 19:26
1,2-Dibromoethane (EDB)	ND	0.50	1	10/02/2015 19:26
Dibromomethane	ND	0.50	1	10/02/2015 19:26
1,2-Dichlorobenzene	ND	0.50	1	10/02/2015 19:26
1,3-Dichlorobenzene	ND	0.50	1	10/02/2015 19:26
1,4-Dichlorobenzene	ND	0.50	1	10/02/2015 19:26
Dichlorodifluoromethane	ND	0.50	1	10/02/2015 19:26
1,1-Dichloroethane	ND	0.50	1	10/02/2015 19:26
1,2-Dichloroethane (1,2-DCA)	ND	0.50	1	10/02/2015 19:26
1,1-Dichloroethene	ND	0.50	1	10/02/2015 19:26
cis-1,2-Dichloroethene	ND	0.50	1	10/02/2015 19:26
trans-1,2-Dichloroethene	ND	0.50	1	10/02/2015 19:26
1,2-Dichloropropane	ND	0.50	1	10/02/2015 19:26
1,3-Dichloropropane	ND	0.50	1	10/02/2015 19:26
2,2-Dichloropropane	ND	0.50	1	10/02/2015 19:26

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Analytical Report

Client: Essel Environmental Consulting
Date Received: 9/25/15 19:30
Date Prepared: 10/1/15-10/3/15
Project: 15166; EBALDC

WorkOrder: 1509A62
Extraction Method: SW5030B
Analytical Method: SW8260B
Unit: µg/L

Volatile Organics by P&T and GC/MS (Basic Target List)

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
W-ECB14	1509A62-004B	Water	09/24/2015 17:01	GC10	111091
Analytes	Result	RL	DF	Date Analyzed	
1,1-Dichloropropene	ND	0.50	1	10/02/2015 19:26	
cis-1,3-Dichloropropene	ND	0.50	1	10/02/2015 19:26	
trans-1,3-Dichloropropene	ND	0.50	1	10/02/2015 19:26	
Diisopropyl ether (DIPE)	ND	0.50	1	10/02/2015 19:26	
Ethylbenzene	ND	0.50	1	10/02/2015 19:26	
Ethyl tert-butyl ether (ETBE)	ND	0.50	1	10/02/2015 19:26	
Freon 113	ND	0.50	1	10/02/2015 19:26	
Hexachlorobutadiene	ND	0.50	1	10/02/2015 19:26	
Hexachloroethane	ND	0.50	1	10/02/2015 19:26	
2-Hexanone	ND	0.50	1	10/02/2015 19:26	
Isopropylbenzene	ND	0.50	1	10/02/2015 19:26	
4-Isopropyl toluene	ND	0.50	1	10/02/2015 19:26	
Methyl-t-butyl ether (MTBE)	ND	0.50	1	10/02/2015 19:26	
Methylene chloride	ND	0.50	1	10/02/2015 19:26	
4-Methyl-2-pentanone (MIBK)	ND	0.50	1	10/02/2015 19:26	
Naphthalene	ND	0.50	1	10/02/2015 19:26	
n-Propyl benzene	ND	0.50	1	10/02/2015 19:26	
Styrene	ND	0.50	1	10/02/2015 19:26	
1,1,1,2-Tetrachloroethane	ND	0.50	1	10/02/2015 19:26	
1,1,2,2-Tetrachloroethane	ND	0.50	1	10/02/2015 19:26	
Tetrachloroethene	ND	0.50	1	10/02/2015 19:26	
Toluene	ND	0.50	1	10/02/2015 19:26	
1,2,3-Trichlorobenzene	ND	0.50	1	10/02/2015 19:26	
1,2,4-Trichlorobenzene	ND	0.50	1	10/02/2015 19:26	
1,1,1-Trichloroethane	ND	0.50	1	10/02/2015 19:26	
1,1,2-Trichloroethane	ND	0.50	1	10/02/2015 19:26	
Trichloroethene	ND	0.50	1	10/02/2015 19:26	
Trichlorofluoromethane	ND	0.50	1	10/02/2015 19:26	
1,2,3-Trichloropropane	ND	0.50	1	10/02/2015 19:26	
1,2,4-Trimethylbenzene	ND	0.50	1	10/02/2015 19:26	
1,3,5-Trimethylbenzene	ND	0.50	1	10/02/2015 19:26	
Vinyl Chloride	ND	0.50	1	10/02/2015 19:26	
Xylenes, Total	ND	0.50	1	10/02/2015 19:26	

(Cont.)



Analytical Report

Client: Essel Environmental Consulting
Date Received: 9/25/15 19:30
Date Prepared: 10/1/15-10/3/15
Project: 15166; EBALDC

WorkOrder: 1509A62
Extraction Method: SW5030B
Analytical Method: SW8260B
Unit: µg/L

Volatile Organics by P&T and GC/MS (Basic Target List)

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
W-ECB14	1509A62-004B	Water	09/24/2015 17:01	GC10	111091

Analytes	Result	RL	DF	Date Analyzed
<u>Surrogates</u>	<u>REC (%)</u>	<u>Limits</u>		
Dibromofluoromethane	92	70-130		10/02/2015 19:26
Toluene-d8	84	70-130		10/02/2015 19:26
4-BFB	104	70-130		10/02/2015 19:26

Analyst(s): AK

Analytical Comments: b1



Analytical Report

Client: Essel Environmental Consulting
Date Received: 9/25/15 19:30
Date Prepared: 10/1/15-10/3/15
Project: 15166; EBALDC

WorkOrder: 1509A62
Extraction Method: SW5030B
Analytical Method: SW8260B
Unit: µg/L

Volatile Organics by P&T and GC/MS (Basic Target List)

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
W-ECB1	1509A62-005B	Water	09/25/2015 14:08	GC10	111091

Analytes	Result	RL	DF	Date Analyzed
Acetone	92	10	1	10/02/2015 20:07
tert-Amyl methyl ether (TAME)	ND	0.50	1	10/02/2015 20:07
Benzene	ND	0.50	1	10/02/2015 20:07
Bromobenzene	ND	0.50	1	10/02/2015 20:07
Bromochloromethane	ND	0.50	1	10/02/2015 20:07
Bromodichloromethane	ND	0.50	1	10/02/2015 20:07
Bromoform	ND	0.50	1	10/02/2015 20:07
Bromomethane	ND	0.50	1	10/02/2015 20:07
2-Butanone (MEK)	11	2.0	1	10/02/2015 20:07
t-Butyl alcohol (TBA)	3.9	2.0	1	10/02/2015 20:07
n-Butyl benzene	ND	0.50	1	10/02/2015 20:07
sec-Butyl benzene	ND	0.50	1	10/02/2015 20:07
tert-Butyl benzene	ND	0.50	1	10/02/2015 20:07
Carbon Disulfide	ND	0.50	1	10/02/2015 20:07
Carbon Tetrachloride	ND	0.50	1	10/02/2015 20:07
Chlorobenzene	ND	0.50	1	10/02/2015 20:07
Chloroethane	ND	0.50	1	10/02/2015 20:07
Chloroform	ND	0.50	1	10/02/2015 20:07
Chloromethane	ND	0.50	1	10/02/2015 20:07
2-Chlorotoluene	ND	0.50	1	10/02/2015 20:07
4-Chlorotoluene	ND	0.50	1	10/02/2015 20:07
Dibromochloromethane	ND	0.50	1	10/02/2015 20:07
1,2-Dibromo-3-chloropropane	ND	0.20	1	10/02/2015 20:07
1,2-Dibromoethane (EDB)	ND	0.50	1	10/02/2015 20:07
Dibromomethane	ND	0.50	1	10/02/2015 20:07
1,2-Dichlorobenzene	ND	0.50	1	10/02/2015 20:07
1,3-Dichlorobenzene	ND	0.50	1	10/02/2015 20:07
1,4-Dichlorobenzene	ND	0.50	1	10/02/2015 20:07
Dichlorodifluoromethane	ND	0.50	1	10/02/2015 20:07
1,1-Dichloroethane	ND	0.50	1	10/02/2015 20:07
1,2-Dichloroethane (1,2-DCA)	ND	0.50	1	10/02/2015 20:07
1,1-Dichloroethene	ND	0.50	1	10/02/2015 20:07
cis-1,2-Dichloroethene	ND	0.50	1	10/02/2015 20:07
trans-1,2-Dichloroethene	ND	0.50	1	10/02/2015 20:07
1,2-Dichloropropane	ND	0.50	1	10/02/2015 20:07
1,3-Dichloropropane	ND	0.50	1	10/02/2015 20:07
2,2-Dichloropropane	ND	0.50	1	10/02/2015 20:07

(Cont.)



Analytical Report

Client: Essel Environmental Consulting
Date Received: 9/25/15 19:30
Date Prepared: 10/1/15-10/3/15
Project: 15166; EBALDC

WorkOrder: 1509A62
Extraction Method: SW5030B
Analytical Method: SW8260B
Unit: µg/L

Volatile Organics by P&T and GC/MS (Basic Target List)

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
W-ECB1	1509A62-005B	Water	09/25/2015 14:08	GC10	111091
Analytes	Result	RL	DF	Date Analyzed	
1,1-Dichloropropene	ND	0.50	1	10/02/2015 20:07	
cis-1,3-Dichloropropene	ND	0.50	1	10/02/2015 20:07	
trans-1,3-Dichloropropene	ND	0.50	1	10/02/2015 20:07	
Diisopropyl ether (DIPE)	ND	0.50	1	10/02/2015 20:07	
Ethylbenzene	ND	0.50	1	10/02/2015 20:07	
Ethyl tert-butyl ether (ETBE)	ND	0.50	1	10/02/2015 20:07	
Freon 113	ND	0.50	1	10/02/2015 20:07	
Hexachlorobutadiene	ND	0.50	1	10/02/2015 20:07	
Hexachloroethane	ND	0.50	1	10/02/2015 20:07	
2-Hexanone	2.0	0.50	1	10/02/2015 20:07	
Isopropylbenzene	ND	0.50	1	10/02/2015 20:07	
4-Isopropyl toluene	ND	0.50	1	10/02/2015 20:07	
Methyl-t-butyl ether (MTBE)	ND	0.50	1	10/02/2015 20:07	
Methylene chloride	ND	0.50	1	10/02/2015 20:07	
4-Methyl-2-pentanone (MIBK)	3.7	0.50	1	10/02/2015 20:07	
Naphthalene	ND	0.50	1	10/02/2015 20:07	
n-Propyl benzene	ND	0.50	1	10/02/2015 20:07	
Styrene	ND	0.50	1	10/02/2015 20:07	
1,1,1,2-Tetrachloroethane	ND	0.50	1	10/02/2015 20:07	
1,1,2,2-Tetrachloroethane	ND	0.50	1	10/02/2015 20:07	
Tetrachloroethene	ND	0.50	1	10/02/2015 20:07	
Toluene	ND	0.50	1	10/02/2015 20:07	
1,2,3-Trichlorobenzene	ND	0.50	1	10/02/2015 20:07	
1,2,4-Trichlorobenzene	ND	0.50	1	10/02/2015 20:07	
1,1,1-Trichloroethane	ND	0.50	1	10/02/2015 20:07	
1,1,2-Trichloroethane	ND	0.50	1	10/02/2015 20:07	
Trichloroethene	ND	0.50	1	10/02/2015 20:07	
Trichlorofluoromethane	ND	0.50	1	10/02/2015 20:07	
1,2,3-Trichloropropane	ND	0.50	1	10/02/2015 20:07	
1,2,4-Trimethylbenzene	ND	0.50	1	10/02/2015 20:07	
1,3,5-Trimethylbenzene	ND	0.50	1	10/02/2015 20:07	
Vinyl Chloride	ND	0.50	1	10/02/2015 20:07	
Xylenes, Total	ND	0.50	1	10/02/2015 20:07	

(Cont.)



Analytical Report

Client: Essel Environmental Consulting
Date Received: 9/25/15 19:30
Date Prepared: 10/1/15-10/3/15
Project: 15166; EBALDC

WorkOrder: 1509A62
Extraction Method: SW5030B
Analytical Method: SW8260B
Unit: µg/L

Volatile Organics by P&T and GC/MS (Basic Target List)

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
W-ECB1	1509A62-005B	Water	09/25/2015 14:08	GC10	111091

Analytes	Result	Qualifiers	RL	DF	Date Analyzed
<u>Surrogates</u>	<u>REC (%)</u>	<u>Qualifiers</u>	<u>Limits</u>		
Dibromofluoromethane	0	S	70-130		10/02/2015 20:07
Toluene-d8	84		70-130		10/02/2015 20:07
4-BFB	107		70-130		10/02/2015 20:07

Analyst(s): AK

Analytical Comments: c2



Analytical Report

Client: Essel Environmental Consulting
Date Received: 9/25/15 19:30
Date Prepared: 10/1/15-10/3/15
Project: 15166; EBALDC

WorkOrder: 1509A62
Extraction Method: SW5030B
Analytical Method: SW8260B
Unit: µg/L

Volatile Organics by P&T and GC/MS (Basic Target List)

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
W-ECB2	1509A62-006B	Water	09/25/2015 15:15	GC10	111091

Analytes	Result	RL	DF	Date Analyzed
Acetone	42	10	1	10/02/2015 20:48
tert-Amyl methyl ether (TAME)	ND	0.50	1	10/02/2015 20:48
Benzene	ND	0.50	1	10/02/2015 20:48
Bromobenzene	ND	0.50	1	10/02/2015 20:48
Bromochloromethane	ND	0.50	1	10/02/2015 20:48
Bromodichloromethane	ND	0.50	1	10/02/2015 20:48
Bromoform	ND	0.50	1	10/02/2015 20:48
Bromomethane	ND	0.50	1	10/02/2015 20:48
2-Butanone (MEK)	6.6	2.0	1	10/02/2015 20:48
t-Butyl alcohol (TBA)	ND	2.0	1	10/02/2015 20:48
n-Butyl benzene	ND	0.50	1	10/02/2015 20:48
sec-Butyl benzene	ND	0.50	1	10/02/2015 20:48
tert-Butyl benzene	ND	0.50	1	10/02/2015 20:48
Carbon Disulfide	ND	0.50	1	10/02/2015 20:48
Carbon Tetrachloride	ND	0.50	1	10/02/2015 20:48
Chlorobenzene	ND	0.50	1	10/02/2015 20:48
Chloroethane	ND	0.50	1	10/02/2015 20:48
Chloroform	ND	0.50	1	10/02/2015 20:48
Chloromethane	ND	0.50	1	10/02/2015 20:48
2-Chlorotoluene	ND	0.50	1	10/02/2015 20:48
4-Chlorotoluene	ND	0.50	1	10/02/2015 20:48
Dibromochloromethane	ND	0.50	1	10/02/2015 20:48
1,2-Dibromo-3-chloropropane	ND	0.20	1	10/02/2015 20:48
1,2-Dibromoethane (EDB)	ND	0.50	1	10/02/2015 20:48
Dibromomethane	ND	0.50	1	10/02/2015 20:48
1,2-Dichlorobenzene	ND	0.50	1	10/02/2015 20:48
1,3-Dichlorobenzene	ND	0.50	1	10/02/2015 20:48
1,4-Dichlorobenzene	ND	0.50	1	10/02/2015 20:48
Dichlorodifluoromethane	ND	0.50	1	10/02/2015 20:48
1,1-Dichloroethane	ND	0.50	1	10/02/2015 20:48
1,2-Dichloroethane (1,2-DCA)	ND	0.50	1	10/02/2015 20:48
1,1-Dichloroethene	ND	0.50	1	10/02/2015 20:48
cis-1,2-Dichloroethene	ND	0.50	1	10/02/2015 20:48
trans-1,2-Dichloroethene	ND	0.50	1	10/02/2015 20:48
1,2-Dichloropropane	ND	0.50	1	10/02/2015 20:48
1,3-Dichloropropane	ND	0.50	1	10/02/2015 20:48
2,2-Dichloropropane	ND	0.50	1	10/02/2015 20:48

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Analytical Report

Client: Essel Environmental Consulting
Date Received: 9/25/15 19:30
Date Prepared: 10/1/15-10/3/15
Project: 15166; EBALDC

WorkOrder: 1509A62
Extraction Method: SW5030B
Analytical Method: SW8260B
Unit: µg/L

Volatile Organics by P&T and GC/MS (Basic Target List)

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
W-ECB2	1509A62-006B	Water	09/25/2015 15:15	GC10	111091
Analytes	Result	RL	DF	Date Analyzed	
1,1-Dichloropropene	ND	0.50	1	10/02/2015 20:48	
cis-1,3-Dichloropropene	ND	0.50	1	10/02/2015 20:48	
trans-1,3-Dichloropropene	ND	0.50	1	10/02/2015 20:48	
Diisopropyl ether (DIPE)	ND	0.50	1	10/02/2015 20:48	
Ethylbenzene	ND	0.50	1	10/02/2015 20:48	
Ethyl tert-butyl ether (ETBE)	ND	0.50	1	10/02/2015 20:48	
Freon 113	ND	0.50	1	10/02/2015 20:48	
Hexachlorobutadiene	ND	0.50	1	10/02/2015 20:48	
Hexachloroethane	ND	0.50	1	10/02/2015 20:48	
2-Hexanone	ND	0.50	1	10/02/2015 20:48	
Isopropylbenzene	ND	0.50	1	10/02/2015 20:48	
4-Isopropyl toluene	ND	0.50	1	10/02/2015 20:48	
Methyl-t-butyl ether (MTBE)	ND	0.50	1	10/02/2015 20:48	
Methylene chloride	ND	0.50	1	10/02/2015 20:48	
4-Methyl-2-pentanone (MIBK)	0.78	0.50	1	10/02/2015 20:48	
Naphthalene	ND	0.50	1	10/02/2015 20:48	
n-Propyl benzene	ND	0.50	1	10/02/2015 20:48	
Styrene	ND	0.50	1	10/02/2015 20:48	
1,1,1,2-Tetrachloroethane	ND	0.50	1	10/02/2015 20:48	
1,1,2,2-Tetrachloroethane	ND	0.50	1	10/02/2015 20:48	
Tetrachloroethene	ND	0.50	1	10/02/2015 20:48	
Toluene	ND	0.50	1	10/02/2015 20:48	
1,2,3-Trichlorobenzene	ND	0.50	1	10/02/2015 20:48	
1,2,4-Trichlorobenzene	ND	0.50	1	10/02/2015 20:48	
1,1,1-Trichloroethane	ND	0.50	1	10/02/2015 20:48	
1,1,2-Trichloroethane	ND	0.50	1	10/02/2015 20:48	
Trichloroethene	ND	0.50	1	10/02/2015 20:48	
Trichlorofluoromethane	ND	0.50	1	10/02/2015 20:48	
1,2,3-Trichloropropane	ND	0.50	1	10/02/2015 20:48	
1,2,4-Trimethylbenzene	ND	0.50	1	10/02/2015 20:48	
1,3,5-Trimethylbenzene	ND	0.50	1	10/02/2015 20:48	
Vinyl Chloride	ND	0.50	1	10/02/2015 20:48	
Xylenes, Total	ND	0.50	1	10/02/2015 20:48	

(Cont.)



Analytical Report

Client: Essel Environmental Consulting
Date Received: 9/25/15 19:30
Date Prepared: 10/1/15-10/3/15
Project: 15166; EBALDC

WorkOrder: 1509A62
Extraction Method: SW5030B
Analytical Method: SW8260B
Unit: µg/L

Volatile Organics by P&T and GC/MS (Basic Target List)

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
W-ECB2	1509A62-006B	Water	09/25/2015 15:15	GC10	111091

Analytes	Result	RL	DF	Date Analyzed
<u>Surrogates</u>	<u>REC (%)</u>	<u>Limits</u>		
Dibromofluoromethane	91	70-130		10/02/2015 20:48
Toluene-d8	84	70-130		10/02/2015 20:48
4-BFB	101	70-130		10/02/2015 20:48

Analyst(s): AK

Analytical Comments: b1



Analytical Report

Client: Essel Environmental Consulting
Date Received: 9/25/15 19:30
Date Prepared: 10/1/15-10/3/15
Project: 15166; EBALDC

WorkOrder: 1509A62
Extraction Method: SW5030B
Analytical Method: SW8260B
Unit: µg/L

Volatile Organics by P&T and GC/MS (Basic Target List)

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
W-ECB5	1509A62-007B	Water	09/25/2015 17:02	GC10	111091

Analytes	Result	RL	DF	Date Analyzed
Acetone	12	10	1	10/03/2015 15:01
tert-Amyl methyl ether (TAME)	ND	0.50	1	10/03/2015 15:01
Benzene	ND	0.50	1	10/03/2015 15:01
Bromobenzene	ND	0.50	1	10/03/2015 15:01
Bromochloromethane	ND	0.50	1	10/03/2015 15:01
Bromodichloromethane	ND	0.50	1	10/03/2015 15:01
Bromoform	ND	0.50	1	10/03/2015 15:01
Bromomethane	ND	0.50	1	10/03/2015 15:01
2-Butanone (MEK)	3.6	2.0	1	10/03/2015 15:01
t-Butyl alcohol (TBA)	ND	2.0	1	10/03/2015 15:01
n-Butyl benzene	0.92	0.50	1	10/03/2015 15:01
sec-Butyl benzene	1.4	0.50	1	10/03/2015 15:01
tert-Butyl benzene	ND	0.50	1	10/03/2015 15:01
Carbon Disulfide	ND	0.50	1	10/03/2015 15:01
Carbon Tetrachloride	ND	0.50	1	10/03/2015 15:01
Chlorobenzene	ND	0.50	1	10/03/2015 15:01
Chloroethane	ND	0.50	1	10/03/2015 15:01
Chloroform	ND	0.50	1	10/03/2015 15:01
Chloromethane	ND	0.50	1	10/03/2015 15:01
2-Chlorotoluene	ND	0.50	1	10/03/2015 15:01
4-Chlorotoluene	ND	0.50	1	10/03/2015 15:01
Dibromochloromethane	ND	0.50	1	10/03/2015 15:01
1,2-Dibromo-3-chloropropane	ND	0.20	1	10/03/2015 15:01
1,2-Dibromoethane (EDB)	ND	0.50	1	10/03/2015 15:01
Dibromomethane	ND	0.50	1	10/03/2015 15:01
1,2-Dichlorobenzene	ND	0.50	1	10/03/2015 15:01
1,3-Dichlorobenzene	ND	0.50	1	10/03/2015 15:01
1,4-Dichlorobenzene	ND	0.50	1	10/03/2015 15:01
Dichlorodifluoromethane	ND	0.50	1	10/03/2015 15:01
1,1-Dichloroethane	ND	0.50	1	10/03/2015 15:01
1,2-Dichloroethane (1,2-DCA)	ND	0.50	1	10/03/2015 15:01
1,1-Dichloroethene	ND	0.50	1	10/03/2015 15:01
cis-1,2-Dichloroethene	ND	0.50	1	10/03/2015 15:01
trans-1,2-Dichloroethene	ND	0.50	1	10/03/2015 15:01
1,2-Dichloropropane	ND	0.50	1	10/03/2015 15:01
1,3-Dichloropropane	ND	0.50	1	10/03/2015 15:01
2,2-Dichloropropane	ND	0.50	1	10/03/2015 15:01

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Analytical Report

Client: Essel Environmental Consulting
Date Received: 9/25/15 19:30
Date Prepared: 10/1/15-10/3/15
Project: 15166; EBALDC

WorkOrder: 1509A62
Extraction Method: SW5030B
Analytical Method: SW8260B
Unit: µg/L

Volatile Organics by P&T and GC/MS (Basic Target List)

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
W-ECB5	1509A62-007B	Water	09/25/2015 17:02	GC10	111091

Analytes	Result	RL	DF	Date Analyzed
1,1-Dichloropropene	ND	0.50	1	10/03/2015 15:01
cis-1,3-Dichloropropene	ND	0.50	1	10/03/2015 15:01
trans-1,3-Dichloropropene	ND	0.50	1	10/03/2015 15:01
Diisopropyl ether (DIPE)	ND	0.50	1	10/03/2015 15:01
Ethylbenzene	ND	0.50	1	10/03/2015 15:01
Ethyl tert-butyl ether (ETBE)	ND	0.50	1	10/03/2015 15:01
Freon 113	ND	0.50	1	10/03/2015 15:01
Hexachlorobutadiene	ND	0.50	1	10/03/2015 15:01
Hexachloroethane	ND	0.50	1	10/03/2015 15:01
2-Hexanone	ND	0.50	1	10/03/2015 15:01
Isopropylbenzene	1.1	0.50	1	10/03/2015 15:01
4-Isopropyl toluene	ND	0.50	1	10/03/2015 15:01
Methyl-t-butyl ether (MTBE)	ND	0.50	1	10/03/2015 15:01
Methylene chloride	ND	0.50	1	10/03/2015 15:01
4-Methyl-2-pentanone (MIBK)	ND	0.50	1	10/03/2015 15:01
Naphthalene	ND	0.50	1	10/03/2015 15:01
n-Propyl benzene	1.3	0.50	1	10/03/2015 15:01
Styrene	ND	0.50	1	10/03/2015 15:01
1,1,1,2-Tetrachloroethane	ND	0.50	1	10/03/2015 15:01
1,1,2,2-Tetrachloroethane	ND	0.50	1	10/03/2015 15:01
Tetrachloroethene	ND	0.50	1	10/03/2015 15:01
Toluene	ND	0.50	1	10/03/2015 15:01
1,2,3-Trichlorobenzene	ND	0.50	1	10/03/2015 15:01
1,2,4-Trichlorobenzene	ND	0.50	1	10/03/2015 15:01
1,1,1-Trichloroethane	ND	0.50	1	10/03/2015 15:01
1,1,2-Trichloroethane	ND	0.50	1	10/03/2015 15:01
Trichloroethene	ND	0.50	1	10/03/2015 15:01
Trichlorofluoromethane	ND	0.50	1	10/03/2015 15:01
1,2,3-Trichloropropane	ND	0.50	1	10/03/2015 15:01
1,2,4-Trimethylbenzene	0.62	0.50	1	10/03/2015 15:01
1,3,5-Trimethylbenzene	ND	0.50	1	10/03/2015 15:01
Vinyl Chloride	ND	0.50	1	10/03/2015 15:01
Xylenes, Total	0.56	0.50	1	10/03/2015 15:01

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Analytical Report

Client: Essel Environmental Consulting
Date Received: 9/25/15 19:30
Date Prepared: 10/1/15-10/3/15
Project: 15166; EBALDC

WorkOrder: 1509A62
Extraction Method: SW5030B
Analytical Method: SW8260B
Unit: µg/L

Volatile Organics by P&T and GC/MS (Basic Target List)

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
W-ECB5	1509A62-007B	Water	09/25/2015 17:02	GC10	111091

Analytes	Result	RL	DF	Date Analyzed
<u>Surrogates</u>	<u>REC (%)</u>	<u>Limits</u>		
Dibromofluoromethane	89	70-130		10/03/2015 15:01
Toluene-d8	82	70-130		10/03/2015 15:01
4-BFB	112	70-130		10/03/2015 15:01

Analyst(s): AK

Analytical Comments: b1



Analytical Report

Client: Essel Environmental Consulting
Date Received: 9/25/15 19:30
Date Prepared: 10/1/15-10/3/15
Project: 15166; EBALDC

WorkOrder: 1509A62
Extraction Method: SW5030B
Analytical Method: SW8260B
Unit: µg/L

Volatile Organics by P&T and GC/MS (Basic Target List)

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
W-ECB6	1509A62-008B	Water	09/25/2015 15:34	GC10	111091

Analytes	Result	RL	DF	Date Analyzed
Acetone	ND	10	1	10/02/2015 23:05
tert-Amyl methyl ether (TAME)	ND	0.50	1	10/02/2015 23:05
Benzene	ND	0.50	1	10/02/2015 23:05
Bromobenzene	ND	0.50	1	10/02/2015 23:05
Bromochloromethane	ND	0.50	1	10/02/2015 23:05
Bromodichloromethane	ND	0.50	1	10/02/2015 23:05
Bromoform	ND	0.50	1	10/02/2015 23:05
Bromomethane	ND	0.50	1	10/02/2015 23:05
2-Butanone (MEK)	ND	2.0	1	10/02/2015 23:05
t-Butyl alcohol (TBA)	ND	2.0	1	10/02/2015 23:05
n-Butyl benzene	ND	0.50	1	10/02/2015 23:05
sec-Butyl benzene	ND	0.50	1	10/02/2015 23:05
tert-Butyl benzene	ND	0.50	1	10/02/2015 23:05
Carbon Disulfide	ND	0.50	1	10/02/2015 23:05
Carbon Tetrachloride	ND	0.50	1	10/02/2015 23:05
Chlorobenzene	ND	0.50	1	10/02/2015 23:05
Chloroethane	ND	0.50	1	10/02/2015 23:05
Chloroform	ND	0.50	1	10/02/2015 23:05
Chloromethane	ND	0.50	1	10/02/2015 23:05
2-Chlorotoluene	ND	0.50	1	10/02/2015 23:05
4-Chlorotoluene	ND	0.50	1	10/02/2015 23:05
Dibromochloromethane	ND	0.50	1	10/02/2015 23:05
1,2-Dibromo-3-chloropropane	ND	0.20	1	10/02/2015 23:05
1,2-Dibromoethane (EDB)	ND	0.50	1	10/02/2015 23:05
Dibromomethane	ND	0.50	1	10/02/2015 23:05
1,2-Dichlorobenzene	ND	0.50	1	10/02/2015 23:05
1,3-Dichlorobenzene	ND	0.50	1	10/02/2015 23:05
1,4-Dichlorobenzene	ND	0.50	1	10/02/2015 23:05
Dichlorodifluoromethane	ND	0.50	1	10/02/2015 23:05
1,1-Dichloroethane	ND	0.50	1	10/02/2015 23:05
1,2-Dichloroethane (1,2-DCA)	ND	0.50	1	10/02/2015 23:05
1,1-Dichloroethene	ND	0.50	1	10/02/2015 23:05
cis-1,2-Dichloroethene	ND	0.50	1	10/02/2015 23:05
trans-1,2-Dichloroethene	ND	0.50	1	10/02/2015 23:05
1,2-Dichloropropane	ND	0.50	1	10/02/2015 23:05
1,3-Dichloropropane	ND	0.50	1	10/02/2015 23:05
2,2-Dichloropropane	ND	0.50	1	10/02/2015 23:05

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Analytical Report

Client: Essel Environmental Consulting
Date Received: 9/25/15 19:30
Date Prepared: 10/1/15-10/3/15
Project: 15166; EBALDC

WorkOrder: 1509A62
Extraction Method: SW5030B
Analytical Method: SW8260B
Unit: µg/L

Volatile Organics by P&T and GC/MS (Basic Target List)

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
W-ECB6	1509A62-008B	Water	09/25/2015 15:34	GC10	111091
Analytes	Result	RL	DF	Date Analyzed	
1,1-Dichloropropene	ND	0.50	1	10/02/2015 23:05	
cis-1,3-Dichloropropene	ND	0.50	1	10/02/2015 23:05	
trans-1,3-Dichloropropene	ND	0.50	1	10/02/2015 23:05	
Diisopropyl ether (DIPE)	ND	0.50	1	10/02/2015 23:05	
Ethylbenzene	ND	0.50	1	10/02/2015 23:05	
Ethyl tert-butyl ether (ETBE)	ND	0.50	1	10/02/2015 23:05	
Freon 113	ND	0.50	1	10/02/2015 23:05	
Hexachlorobutadiene	ND	0.50	1	10/02/2015 23:05	
Hexachloroethane	ND	0.50	1	10/02/2015 23:05	
2-Hexanone	ND	0.50	1	10/02/2015 23:05	
Isopropylbenzene	ND	0.50	1	10/02/2015 23:05	
4-Isopropyl toluene	ND	0.50	1	10/02/2015 23:05	
Methyl-t-butyl ether (MTBE)	ND	0.50	1	10/02/2015 23:05	
Methylene chloride	ND	0.50	1	10/02/2015 23:05	
4-Methyl-2-pentanone (MIBK)	ND	0.50	1	10/02/2015 23:05	
Naphthalene	ND	0.50	1	10/02/2015 23:05	
n-Propyl benzene	ND	0.50	1	10/02/2015 23:05	
Styrene	ND	0.50	1	10/02/2015 23:05	
1,1,1,2-Tetrachloroethane	ND	0.50	1	10/02/2015 23:05	
1,1,2,2-Tetrachloroethane	ND	0.50	1	10/02/2015 23:05	
Tetrachloroethene	ND	0.50	1	10/02/2015 23:05	
Toluene	ND	0.50	1	10/02/2015 23:05	
1,2,3-Trichlorobenzene	ND	0.50	1	10/02/2015 23:05	
1,2,4-Trichlorobenzene	ND	0.50	1	10/02/2015 23:05	
1,1,1-Trichloroethane	ND	0.50	1	10/02/2015 23:05	
1,1,2-Trichloroethane	ND	0.50	1	10/02/2015 23:05	
Trichloroethene	ND	0.50	1	10/02/2015 23:05	
Trichlorofluoromethane	ND	0.50	1	10/02/2015 23:05	
1,2,3-Trichloropropane	ND	0.50	1	10/02/2015 23:05	
1,2,4-Trimethylbenzene	ND	0.50	1	10/02/2015 23:05	
1,3,5-Trimethylbenzene	ND	0.50	1	10/02/2015 23:05	
Vinyl Chloride	ND	0.50	1	10/02/2015 23:05	
Xylenes, Total	ND	0.50	1	10/02/2015 23:05	

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Analytical Report

Client: Essel Environmental Consulting
Date Received: 9/25/15 19:30
Date Prepared: 10/1/15-10/3/15
Project: 15166; EBALDC

WorkOrder: 1509A62
Extraction Method: SW5030B
Analytical Method: SW8260B
Unit: µg/L

Volatile Organics by P&T and GC/MS (Basic Target List)

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
W-ECB6	1509A62-008B	Water	09/25/2015 15:34	GC10	111091

Analytes	Result	RL	DF	Date Analyzed
<u>Surrogates</u>	<u>REC (%)</u>	<u>Limits</u>		
Dibromofluoromethane	90	70-130		10/02/2015 23:05
Toluene-d8	84	70-130		10/02/2015 23:05
4-BFB	101	70-130		10/02/2015 23:05

Analyst(s): AK

Analytical Comments: b1



Analytical Report

Client: Essel Environmental Consulting
Date Received: 9/25/15 19:30
Date Prepared: 10/1/15-10/3/15
Project: 15166; EBALDC

WorkOrder: 1509A62
Extraction Method: SW5030B
Analytical Method: SW8260B
Unit: µg/L

Volatile Organics by P&T and GC/MS (Basic Target List)

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
W-ECB7	1509A62-009B	Water	09/25/2015 17:16	GC16	111088

Analytes	Result	RL	DF	Date Analyzed
Acetone	14	10	1	10/03/2015 19:11
tert-Amyl methyl ether (TAME)	ND	0.50	1	10/03/2015 19:11
Benzene	ND	0.50	1	10/03/2015 19:11
Bromobenzene	ND	0.50	1	10/03/2015 19:11
Bromochloromethane	ND	0.50	1	10/03/2015 19:11
Bromodichloromethane	ND	0.50	1	10/03/2015 19:11
Bromoform	ND	0.50	1	10/03/2015 19:11
Bromomethane	0.59	0.50	1	10/03/2015 19:11
2-Butanone (MEK)	3.8	2.0	1	10/03/2015 19:11
t-Butyl alcohol (TBA)	ND	2.0	1	10/03/2015 19:11
n-Butyl benzene	ND	0.50	1	10/03/2015 19:11
sec-Butyl benzene	ND	0.50	1	10/03/2015 19:11
tert-Butyl benzene	ND	0.50	1	10/03/2015 19:11
Carbon Disulfide	ND	0.50	1	10/03/2015 19:11
Carbon Tetrachloride	ND	0.50	1	10/03/2015 19:11
Chlorobenzene	ND	0.50	1	10/03/2015 19:11
Chloroethane	ND	0.50	1	10/03/2015 19:11
Chloroform	ND	0.50	1	10/03/2015 19:11
Chloromethane	ND	0.50	1	10/03/2015 19:11
2-Chlorotoluene	ND	0.50	1	10/03/2015 19:11
4-Chlorotoluene	ND	0.50	1	10/03/2015 19:11
Dibromochloromethane	ND	0.50	1	10/03/2015 19:11
1,2-Dibromo-3-chloropropane	ND	0.20	1	10/03/2015 19:11
1,2-Dibromoethane (EDB)	ND	0.50	1	10/03/2015 19:11
Dibromomethane	ND	0.50	1	10/03/2015 19:11
1,2-Dichlorobenzene	ND	0.50	1	10/03/2015 19:11
1,3-Dichlorobenzene	ND	0.50	1	10/03/2015 19:11
1,4-Dichlorobenzene	ND	0.50	1	10/03/2015 19:11
Dichlorodifluoromethane	ND	0.50	1	10/03/2015 19:11
1,1-Dichloroethane	ND	0.50	1	10/03/2015 19:11
1,2-Dichloroethane (1,2-DCA)	ND	0.50	1	10/03/2015 19:11
1,1-Dichloroethene	ND	0.50	1	10/03/2015 19:11
cis-1,2-Dichloroethene	ND	0.50	1	10/03/2015 19:11
trans-1,2-Dichloroethene	ND	0.50	1	10/03/2015 19:11
1,2-Dichloropropane	ND	0.50	1	10/03/2015 19:11
1,3-Dichloropropane	ND	0.50	1	10/03/2015 19:11
2,2-Dichloropropane	ND	0.50	1	10/03/2015 19:11

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Analytical Report

Client: Essel Environmental Consulting
Date Received: 9/25/15 19:30
Date Prepared: 10/1/15-10/3/15
Project: 15166; EBALDC

WorkOrder: 1509A62
Extraction Method: SW5030B
Analytical Method: SW8260B
Unit: µg/L

Volatile Organics by P&T and GC/MS (Basic Target List)

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
W-ECB7	1509A62-009B	Water	09/25/2015 17:16	GC16	111088
Analytes	Result	RL	DF	Date Analyzed	
1,1-Dichloropropene	ND	0.50	1	10/03/2015 19:11	
cis-1,3-Dichloropropene	ND	0.50	1	10/03/2015 19:11	
trans-1,3-Dichloropropene	ND	0.50	1	10/03/2015 19:11	
Diisopropyl ether (DIPE)	ND	0.50	1	10/03/2015 19:11	
Ethylbenzene	ND	0.50	1	10/03/2015 19:11	
Ethyl tert-butyl ether (ETBE)	ND	0.50	1	10/03/2015 19:11	
Freon 113	ND	0.50	1	10/03/2015 19:11	
Hexachlorobutadiene	ND	0.50	1	10/03/2015 19:11	
Hexachloroethane	ND	0.50	1	10/03/2015 19:11	
2-Hexanone	ND	0.50	1	10/03/2015 19:11	
Isopropylbenzene	ND	0.50	1	10/03/2015 19:11	
4-Isopropyl toluene	ND	0.50	1	10/03/2015 19:11	
Methyl-t-butyl ether (MTBE)	ND	0.50	1	10/03/2015 19:11	
Methylene chloride	ND	0.50	1	10/03/2015 19:11	
4-Methyl-2-pentanone (MIBK)	ND	0.50	1	10/03/2015 19:11	
Naphthalene	ND	0.50	1	10/03/2015 19:11	
n-Propyl benzene	ND	0.50	1	10/03/2015 19:11	
Styrene	ND	0.50	1	10/03/2015 19:11	
1,1,1,2-Tetrachloroethane	ND	0.50	1	10/03/2015 19:11	
1,1,2,2-Tetrachloroethane	ND	0.50	1	10/03/2015 19:11	
Tetrachloroethene	ND	0.50	1	10/03/2015 19:11	
Toluene	ND	0.50	1	10/03/2015 19:11	
1,2,3-Trichlorobenzene	ND	0.50	1	10/03/2015 19:11	
1,2,4-Trichlorobenzene	ND	0.50	1	10/03/2015 19:11	
1,1,1-Trichloroethane	ND	0.50	1	10/03/2015 19:11	
1,1,2-Trichloroethane	ND	0.50	1	10/03/2015 19:11	
Trichloroethene	ND	0.50	1	10/03/2015 19:11	
Trichlorofluoromethane	ND	0.50	1	10/03/2015 19:11	
1,2,3-Trichloropropane	ND	0.50	1	10/03/2015 19:11	
1,2,4-Trimethylbenzene	ND	0.50	1	10/03/2015 19:11	
1,3,5-Trimethylbenzene	ND	0.50	1	10/03/2015 19:11	
Vinyl Chloride	ND	0.50	1	10/03/2015 19:11	
Xylenes, Total	ND	0.50	1	10/03/2015 19:11	

(Cont.)



Analytical Report

Client: Essel Environmental Consulting
Date Received: 9/25/15 19:30
Date Prepared: 10/1/15-10/3/15
Project: 15166; EBALDC

WorkOrder: 1509A62
Extraction Method: SW5030B
Analytical Method: SW8260B
Unit: µg/L

Volatile Organics by P&T and GC/MS (Basic Target List)

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
W-ECB7	1509A62-009B	Water	09/25/2015 17:16	GC16	111088

Analytes	Result	RL	DF	Date Analyzed
<u>Surrogates</u>	<u>REC (%)</u>	<u>Limits</u>		
Dibromofluoromethane	95	70-130		10/03/2015 19:11
Toluene-d8	90	70-130		10/03/2015 19:11
4-BFB	85	70-130		10/03/2015 19:11

Analyst(s): KF

Analytical Comments: b1



Analytical Report

Client: Essel Environmental Consulting
Date Received: 9/25/15 19:30
Date Prepared: 10/1/15-10/3/15
Project: 15166; EBALDC

WorkOrder: 1509A62
Extraction Method: SW5030B
Analytical Method: SW8260B
Unit: µg/L

Volatile Organics by P&T and GC/MS (Basic Target List)

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
W-ECB8	1509A62-010B	Water	09/25/2015 16:50	GC16	111088

Analytes	Result	RL	DF	Date Analyzed
Acetone	25	10	1	10/03/2015 19:54
tert-Amyl methyl ether (TAME)	ND	0.50	1	10/03/2015 19:54
Benzene	ND	0.50	1	10/03/2015 19:54
Bromobenzene	ND	0.50	1	10/03/2015 19:54
Bromochloromethane	ND	0.50	1	10/03/2015 19:54
Bromodichloromethane	ND	0.50	1	10/03/2015 19:54
Bromoform	ND	0.50	1	10/03/2015 19:54
Bromomethane	ND	0.50	1	10/03/2015 19:54
2-Butanone (MEK)	4.7	2.0	1	10/03/2015 19:54
t-Butyl alcohol (TBA)	ND	2.0	1	10/03/2015 19:54
n-Butyl benzene	ND	0.50	1	10/03/2015 19:54
sec-Butyl benzene	ND	0.50	1	10/03/2015 19:54
tert-Butyl benzene	ND	0.50	1	10/03/2015 19:54
Carbon Disulfide	ND	0.50	1	10/03/2015 19:54
Carbon Tetrachloride	ND	0.50	1	10/03/2015 19:54
Chlorobenzene	ND	0.50	1	10/03/2015 19:54
Chloroethane	ND	0.50	1	10/03/2015 19:54
Chloroform	ND	0.50	1	10/03/2015 19:54
Chloromethane	ND	0.50	1	10/03/2015 19:54
2-Chlorotoluene	ND	0.50	1	10/03/2015 19:54
4-Chlorotoluene	ND	0.50	1	10/03/2015 19:54
Dibromochloromethane	ND	0.50	1	10/03/2015 19:54
1,2-Dibromo-3-chloropropane	ND	0.20	1	10/03/2015 19:54
1,2-Dibromoethane (EDB)	ND	0.50	1	10/03/2015 19:54
Dibromomethane	ND	0.50	1	10/03/2015 19:54
1,2-Dichlorobenzene	ND	0.50	1	10/03/2015 19:54
1,3-Dichlorobenzene	ND	0.50	1	10/03/2015 19:54
1,4-Dichlorobenzene	ND	0.50	1	10/03/2015 19:54
Dichlorodifluoromethane	ND	0.50	1	10/03/2015 19:54
1,1-Dichloroethane	ND	0.50	1	10/03/2015 19:54
1,2-Dichloroethane (1,2-DCA)	ND	0.50	1	10/03/2015 19:54
1,1-Dichloroethene	ND	0.50	1	10/03/2015 19:54
cis-1,2-Dichloroethene	ND	0.50	1	10/03/2015 19:54
trans-1,2-Dichloroethene	ND	0.50	1	10/03/2015 19:54
1,2-Dichloropropane	ND	0.50	1	10/03/2015 19:54
1,3-Dichloropropane	ND	0.50	1	10/03/2015 19:54
2,2-Dichloropropane	ND	0.50	1	10/03/2015 19:54

(Cont.)



Analytical Report

Client: Essel Environmental Consulting
Date Received: 9/25/15 19:30
Date Prepared: 10/1/15-10/3/15
Project: 15166; EBALDC

WorkOrder: 1509A62
Extraction Method: SW5030B
Analytical Method: SW8260B
Unit: µg/L

Volatile Organics by P&T and GC/MS (Basic Target List)

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
W-ECB8	1509A62-010B	Water	09/25/2015 16:50	GC16	111088

Analytes	Result	RL	DF	Date Analyzed
1,1-Dichloropropene	ND	0.50	1	10/03/2015 19:54
cis-1,3-Dichloropropene	ND	0.50	1	10/03/2015 19:54
trans-1,3-Dichloropropene	ND	0.50	1	10/03/2015 19:54
Diisopropyl ether (DIPE)	ND	0.50	1	10/03/2015 19:54
Ethylbenzene	ND	0.50	1	10/03/2015 19:54
Ethyl tert-butyl ether (ETBE)	ND	0.50	1	10/03/2015 19:54
Freon 113	ND	0.50	1	10/03/2015 19:54
Hexachlorobutadiene	ND	0.50	1	10/03/2015 19:54
Hexachloroethane	ND	0.50	1	10/03/2015 19:54
2-Hexanone	ND	0.50	1	10/03/2015 19:54
Isopropylbenzene	ND	0.50	1	10/03/2015 19:54
4-Isopropyl toluene	ND	0.50	1	10/03/2015 19:54
Methyl-t-butyl ether (MTBE)	ND	0.50	1	10/03/2015 19:54
Methylene chloride	ND	0.50	1	10/03/2015 19:54
4-Methyl-2-pentanone (MIBK)	ND	0.50	1	10/03/2015 19:54
Naphthalene	ND	0.50	1	10/03/2015 19:54
n-Propyl benzene	ND	0.50	1	10/03/2015 19:54
Styrene	ND	0.50	1	10/03/2015 19:54
1,1,1,2-Tetrachloroethane	ND	0.50	1	10/03/2015 19:54
1,1,2,2-Tetrachloroethane	ND	0.50	1	10/03/2015 19:54
Tetrachloroethene	ND	0.50	1	10/03/2015 19:54
Toluene	ND	0.50	1	10/03/2015 19:54
1,2,3-Trichlorobenzene	ND	0.50	1	10/03/2015 19:54
1,2,4-Trichlorobenzene	ND	0.50	1	10/03/2015 19:54
1,1,1-Trichloroethane	ND	0.50	1	10/03/2015 19:54
1,1,2-Trichloroethane	ND	0.50	1	10/03/2015 19:54
Trichloroethene	ND	0.50	1	10/03/2015 19:54
Trichlorofluoromethane	ND	0.50	1	10/03/2015 19:54
1,2,3-Trichloropropane	ND	0.50	1	10/03/2015 19:54
1,2,4-Trimethylbenzene	ND	0.50	1	10/03/2015 19:54
1,3,5-Trimethylbenzene	ND	0.50	1	10/03/2015 19:54
Vinyl Chloride	ND	0.50	1	10/03/2015 19:54
Xylenes, Total	ND	0.50	1	10/03/2015 19:54

(Cont.)



Analytical Report

Client: Essel Environmental Consulting
Date Received: 9/25/15 19:30
Date Prepared: 10/1/15-10/3/15
Project: 15166; EBALDC

WorkOrder: 1509A62
Extraction Method: SW5030B
Analytical Method: SW8260B
Unit: µg/L

Volatile Organics by P&T and GC/MS (Basic Target List)

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
W-ECB8	1509A62-010B	Water	09/25/2015 16:50	GC16	111088

Analytes	Result	RL	DF	Date Analyzed
<u>Surrogates</u>	<u>REC (%)</u>	<u>Limits</u>		
Dibromofluoromethane	94	70-130		10/03/2015 19:54
Toluene-d8	91	70-130		10/03/2015 19:54
4-BFB	89	70-130		10/03/2015 19:54

Analyst(s): KF



Analytical Report

Client: Essel Environmental Consulting
Date Received: 9/25/15 19:30
Date Prepared: 10/1/15-10/3/15
Project: 15166; EBALDC

WorkOrder: 1509A62
Extraction Method: SW5030B
Analytical Method: SW8260B
Unit: µg/L

Volatile Organics by P&T and GC/MS (Basic Target List)

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
W-ECB9	1509A62-011B	Water	09/25/2015 16:40	GC16	111088

Analytes	Result	RL	DF	Date Analyzed
Acetone	27	10	1	10/03/2015 20:37
tert-Amyl methyl ether (TAME)	ND	0.50	1	10/03/2015 20:37
Benzene	ND	0.50	1	10/03/2015 20:37
Bromobenzene	ND	0.50	1	10/03/2015 20:37
Bromochloromethane	ND	0.50	1	10/03/2015 20:37
Bromodichloromethane	ND	0.50	1	10/03/2015 20:37
Bromoform	ND	0.50	1	10/03/2015 20:37
Bromomethane	ND	0.50	1	10/03/2015 20:37
2-Butanone (MEK)	4.9	2.0	1	10/03/2015 20:37
t-Butyl alcohol (TBA)	ND	2.0	1	10/03/2015 20:37
n-Butyl benzene	ND	0.50	1	10/03/2015 20:37
sec-Butyl benzene	ND	0.50	1	10/03/2015 20:37
tert-Butyl benzene	ND	0.50	1	10/03/2015 20:37
Carbon Disulfide	ND	0.50	1	10/03/2015 20:37
Carbon Tetrachloride	ND	0.50	1	10/03/2015 20:37
Chlorobenzene	ND	0.50	1	10/03/2015 20:37
Chloroethane	ND	0.50	1	10/03/2015 20:37
Chloroform	ND	0.50	1	10/03/2015 20:37
Chloromethane	ND	0.50	1	10/03/2015 20:37
2-Chlorotoluene	ND	0.50	1	10/03/2015 20:37
4-Chlorotoluene	ND	0.50	1	10/03/2015 20:37
Dibromochloromethane	ND	0.50	1	10/03/2015 20:37
1,2-Dibromo-3-chloropropane	ND	0.20	1	10/03/2015 20:37
1,2-Dibromoethane (EDB)	ND	0.50	1	10/03/2015 20:37
Dibromomethane	ND	0.50	1	10/03/2015 20:37
1,2-Dichlorobenzene	ND	0.50	1	10/03/2015 20:37
1,3-Dichlorobenzene	ND	0.50	1	10/03/2015 20:37
1,4-Dichlorobenzene	ND	0.50	1	10/03/2015 20:37
Dichlorodifluoromethane	ND	0.50	1	10/03/2015 20:37
1,1-Dichloroethane	ND	0.50	1	10/03/2015 20:37
1,2-Dichloroethane (1,2-DCA)	ND	0.50	1	10/03/2015 20:37
1,1-Dichloroethene	ND	0.50	1	10/03/2015 20:37
cis-1,2-Dichloroethene	ND	0.50	1	10/03/2015 20:37
trans-1,2-Dichloroethene	ND	0.50	1	10/03/2015 20:37
1,2-Dichloropropane	ND	0.50	1	10/03/2015 20:37
1,3-Dichloropropane	ND	0.50	1	10/03/2015 20:37
2,2-Dichloropropane	ND	0.50	1	10/03/2015 20:37

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Analytical Report

Client: Essel Environmental Consulting
Date Received: 9/25/15 19:30
Date Prepared: 10/1/15-10/3/15
Project: 15166; EBALDC

WorkOrder: 1509A62
Extraction Method: SW5030B
Analytical Method: SW8260B
Unit: µg/L

Volatile Organics by P&T and GC/MS (Basic Target List)

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
W-ECB9	1509A62-011B	Water	09/25/2015 16:40	GC16	111088

Analytes	Result	RL	DF	Date Analyzed
1,1-Dichloropropene	ND	0.50	1	10/03/2015 20:37
cis-1,3-Dichloropropene	ND	0.50	1	10/03/2015 20:37
trans-1,3-Dichloropropene	ND	0.50	1	10/03/2015 20:37
Diisopropyl ether (DIPE)	ND	0.50	1	10/03/2015 20:37
Ethylbenzene	ND	0.50	1	10/03/2015 20:37
Ethyl tert-butyl ether (ETBE)	ND	0.50	1	10/03/2015 20:37
Freon 113	ND	0.50	1	10/03/2015 20:37
Hexachlorobutadiene	ND	0.50	1	10/03/2015 20:37
Hexachloroethane	ND	0.50	1	10/03/2015 20:37
2-Hexanone	ND	0.50	1	10/03/2015 20:37
Isopropylbenzene	ND	0.50	1	10/03/2015 20:37
4-Isopropyl toluene	ND	0.50	1	10/03/2015 20:37
Methyl-t-butyl ether (MTBE)	ND	0.50	1	10/03/2015 20:37
Methylene chloride	ND	0.50	1	10/03/2015 20:37
4-Methyl-2-pentanone (MIBK)	ND	0.50	1	10/03/2015 20:37
Naphthalene	ND	0.50	1	10/03/2015 20:37
n-Propyl benzene	ND	0.50	1	10/03/2015 20:37
Styrene	ND	0.50	1	10/03/2015 20:37
1,1,1,2-Tetrachloroethane	ND	0.50	1	10/03/2015 20:37
1,1,2,2-Tetrachloroethane	ND	0.50	1	10/03/2015 20:37
Tetrachloroethene	ND	0.50	1	10/03/2015 20:37
Toluene	ND	0.50	1	10/03/2015 20:37
1,2,3-Trichlorobenzene	ND	0.50	1	10/03/2015 20:37
1,2,4-Trichlorobenzene	ND	0.50	1	10/03/2015 20:37
1,1,1-Trichloroethane	ND	0.50	1	10/03/2015 20:37
1,1,2-Trichloroethane	ND	0.50	1	10/03/2015 20:37
Trichloroethene	ND	0.50	1	10/03/2015 20:37
Trichlorofluoromethane	ND	0.50	1	10/03/2015 20:37
1,2,3-Trichloropropane	ND	0.50	1	10/03/2015 20:37
1,2,4-Trimethylbenzene	ND	0.50	1	10/03/2015 20:37
1,3,5-Trimethylbenzene	ND	0.50	1	10/03/2015 20:37
Vinyl Chloride	ND	0.50	1	10/03/2015 20:37
Xylenes, Total	ND	0.50	1	10/03/2015 20:37

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Analytical Report

Client: Essel Environmental Consulting
Date Received: 9/25/15 19:30
Date Prepared: 10/1/15-10/3/15
Project: 15166; EBALDC

WorkOrder: 1509A62
Extraction Method: SW5030B
Analytical Method: SW8260B
Unit: µg/L

Volatile Organics by P&T and GC/MS (Basic Target List)

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
W-ECB9	1509A62-011B	Water	09/25/2015 16:40	GC16	111088

Analytes	Result	RL	DF	Date Analyzed
<u>Surrogates</u>	<u>REC (%)</u>	<u>Limits</u>		
Dibromofluoromethane	95	70-130		10/03/2015 20:37
Toluene-d8	91	70-130		10/03/2015 20:37
4-BFB	85	70-130		10/03/2015 20:37

Analyst(s): KF



Analytical Report

Client: Essel Environmental Consulting
Date Received: 9/25/15 19:30
Date Prepared: 10/1/15-10/3/15
Project: 15166; EBALDC

WorkOrder: 1509A62
Extraction Method: SW5030B
Analytical Method: SW8260B
Unit: µg/L

Volatile Organics by P&T and GC/MS (Basic Target List)

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
W-ECB10	1509A62-012B	Water	09/25/2015 16:17	GC16	111088

Analytes	Result	RL	DF	Date Analyzed
Acetone	19	10	1	10/03/2015 21:19
tert-Amyl methyl ether (TAME)	ND	0.50	1	10/03/2015 21:19
Benzene	ND	0.50	1	10/03/2015 21:19
Bromobenzene	ND	0.50	1	10/03/2015 21:19
Bromochloromethane	ND	0.50	1	10/03/2015 21:19
Bromodichloromethane	ND	0.50	1	10/03/2015 21:19
Bromoform	ND	0.50	1	10/03/2015 21:19
Bromomethane	ND	0.50	1	10/03/2015 21:19
2-Butanone (MEK)	4.8	2.0	1	10/03/2015 21:19
t-Butyl alcohol (TBA)	ND	2.0	1	10/03/2015 21:19
n-Butyl benzene	ND	0.50	1	10/03/2015 21:19
sec-Butyl benzene	0.67	0.50	1	10/03/2015 21:19
tert-Butyl benzene	ND	0.50	1	10/03/2015 21:19
Carbon Disulfide	ND	0.50	1	10/03/2015 21:19
Carbon Tetrachloride	ND	0.50	1	10/03/2015 21:19
Chlorobenzene	ND	0.50	1	10/03/2015 21:19
Chloroethane	ND	0.50	1	10/03/2015 21:19
Chloroform	ND	0.50	1	10/03/2015 21:19
Chloromethane	ND	0.50	1	10/03/2015 21:19
2-Chlorotoluene	ND	0.50	1	10/03/2015 21:19
4-Chlorotoluene	ND	0.50	1	10/03/2015 21:19
Dibromochloromethane	ND	0.50	1	10/03/2015 21:19
1,2-Dibromo-3-chloropropane	ND	0.20	1	10/03/2015 21:19
1,2-Dibromoethane (EDB)	ND	0.50	1	10/03/2015 21:19
Dibromomethane	ND	0.50	1	10/03/2015 21:19
1,2-Dichlorobenzene	ND	0.50	1	10/03/2015 21:19
1,3-Dichlorobenzene	ND	0.50	1	10/03/2015 21:19
1,4-Dichlorobenzene	ND	0.50	1	10/03/2015 21:19
Dichlorodifluoromethane	ND	0.50	1	10/03/2015 21:19
1,1-Dichloroethane	ND	0.50	1	10/03/2015 21:19
1,2-Dichloroethane (1,2-DCA)	ND	0.50	1	10/03/2015 21:19
1,1-Dichloroethene	ND	0.50	1	10/03/2015 21:19
cis-1,2-Dichloroethene	ND	0.50	1	10/03/2015 21:19
trans-1,2-Dichloroethene	ND	0.50	1	10/03/2015 21:19
1,2-Dichloropropane	ND	0.50	1	10/03/2015 21:19
1,3-Dichloropropane	ND	0.50	1	10/03/2015 21:19
2,2-Dichloropropane	ND	0.50	1	10/03/2015 21:19

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Analytical Report

Client: Essel Environmental Consulting
Date Received: 9/25/15 19:30
Date Prepared: 10/1/15-10/3/15
Project: 15166; EBALDC

WorkOrder: 1509A62
Extraction Method: SW5030B
Analytical Method: SW8260B
Unit: µg/L

Volatile Organics by P&T and GC/MS (Basic Target List)

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
W-ECB10	1509A62-012B	Water	09/25/2015 16:17	GC16	111088

Analytes	Result	RL	DF	Date Analyzed
1,1-Dichloropropene	ND	0.50	1	10/03/2015 21:19
cis-1,3-Dichloropropene	ND	0.50	1	10/03/2015 21:19
trans-1,3-Dichloropropene	ND	0.50	1	10/03/2015 21:19
Diisopropyl ether (DIPE)	ND	0.50	1	10/03/2015 21:19
Ethylbenzene	ND	0.50	1	10/03/2015 21:19
Ethyl tert-butyl ether (ETBE)	ND	0.50	1	10/03/2015 21:19
Freon 113	ND	0.50	1	10/03/2015 21:19
Hexachlorobutadiene	ND	0.50	1	10/03/2015 21:19
Hexachloroethane	ND	0.50	1	10/03/2015 21:19
2-Hexanone	ND	0.50	1	10/03/2015 21:19
Isopropylbenzene	ND	0.50	1	10/03/2015 21:19
4-Isopropyl toluene	ND	0.50	1	10/03/2015 21:19
Methyl-t-butyl ether (MTBE)	ND	0.50	1	10/03/2015 21:19
Methylene chloride	ND	0.50	1	10/03/2015 21:19
4-Methyl-2-pentanone (MIBK)	0.99	0.50	1	10/03/2015 21:19
Naphthalene	ND	0.50	1	10/03/2015 21:19
n-Propyl benzene	ND	0.50	1	10/03/2015 21:19
Styrene	ND	0.50	1	10/03/2015 21:19
1,1,1,2-Tetrachloroethane	ND	0.50	1	10/03/2015 21:19
1,1,2,2-Tetrachloroethane	ND	0.50	1	10/03/2015 21:19
Tetrachloroethene	ND	0.50	1	10/03/2015 21:19
Toluene	ND	0.50	1	10/03/2015 21:19
1,2,3-Trichlorobenzene	ND	0.50	1	10/03/2015 21:19
1,2,4-Trichlorobenzene	ND	0.50	1	10/03/2015 21:19
1,1,1-Trichloroethane	ND	0.50	1	10/03/2015 21:19
1,1,2-Trichloroethane	ND	0.50	1	10/03/2015 21:19
Trichloroethene	ND	0.50	1	10/03/2015 21:19
Trichlorofluoromethane	ND	0.50	1	10/03/2015 21:19
1,2,3-Trichloropropane	ND	0.50	1	10/03/2015 21:19
1,2,4-Trimethylbenzene	ND	0.50	1	10/03/2015 21:19
1,3,5-Trimethylbenzene	ND	0.50	1	10/03/2015 21:19
Vinyl Chloride	ND	0.50	1	10/03/2015 21:19
Xylenes, Total	ND	0.50	1	10/03/2015 21:19

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Analytical Report

Client: Essel Environmental Consulting
Date Received: 9/25/15 19:30
Date Prepared: 10/1/15-10/3/15
Project: 15166; EBALDC

WorkOrder: 1509A62
Extraction Method: SW5030B
Analytical Method: SW8260B
Unit: µg/L

Volatile Organics by P&T and GC/MS (Basic Target List)

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
W-ECB10	1509A62-012B	Water	09/25/2015 16:17	GC16	111088

Analytes	Result	RL	DF	Date Analyzed
<u>Surrogates</u>	<u>REC (%)</u>	<u>Limits</u>		
Dibromofluoromethane	95	70-130		10/03/2015 21:19
Toluene-d8	90	70-130		10/03/2015 21:19
4-BFB	91	70-130		10/03/2015 21:19

Analyst(s): KF

Analytical Comments: b1



Analytical Report

Client: Essel Environmental Consulting
Date Received: 9/25/15 19:30
Date Prepared: 10/1/15-10/3/15
Project: 15166; EBALDC

WorkOrder: 1509A62
Extraction Method: SW5030B
Analytical Method: SW8260B
Unit: µg/L

Volatile Organics by P&T and GC/MS (Basic Target List)

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
W-ECB11	1509A62-013B	Water	09/25/2015 16:02	GC16	111088
Analytes	Result	RL	DF	Date Analyzed	
Acetone	ND	10	1	10/02/2015 22:23	
tert-Amyl methyl ether (TAME)	ND	0.50	1	10/02/2015 22:23	
Benzene	ND	0.50	1	10/02/2015 22:23	
Bromobenzene	ND	0.50	1	10/02/2015 22:23	
Bromochloromethane	ND	0.50	1	10/02/2015 22:23	
Bromodichloromethane	ND	0.50	1	10/02/2015 22:23	
Bromoform	ND	0.50	1	10/02/2015 22:23	
Bromomethane	0.67	0.50	1	10/02/2015 22:23	
2-Butanone (MEK)	2.6	2.0	1	10/02/2015 22:23	
t-Butyl alcohol (TBA)	ND	2.0	1	10/02/2015 22:23	
n-Butyl benzene	ND	0.50	1	10/02/2015 22:23	
sec-Butyl benzene	ND	0.50	1	10/02/2015 22:23	
tert-Butyl benzene	ND	0.50	1	10/02/2015 22:23	
Carbon Disulfide	ND	0.50	1	10/02/2015 22:23	
Carbon Tetrachloride	ND	0.50	1	10/02/2015 22:23	
Chlorobenzene	ND	0.50	1	10/02/2015 22:23	
Chloroethane	ND	0.50	1	10/02/2015 22:23	
Chloroform	ND	0.50	1	10/02/2015 22:23	
Chloromethane	ND	0.50	1	10/02/2015 22:23	
2-Chlorotoluene	ND	0.50	1	10/02/2015 22:23	
4-Chlorotoluene	ND	0.50	1	10/02/2015 22:23	
Dibromochloromethane	ND	0.50	1	10/02/2015 22:23	
1,2-Dibromo-3-chloropropane	ND	0.20	1	10/02/2015 22:23	
1,2-Dibromoethane (EDB)	ND	0.50	1	10/02/2015 22:23	
Dibromomethane	ND	0.50	1	10/02/2015 22:23	
1,2-Dichlorobenzene	ND	0.50	1	10/02/2015 22:23	
1,3-Dichlorobenzene	ND	0.50	1	10/02/2015 22:23	
1,4-Dichlorobenzene	ND	0.50	1	10/02/2015 22:23	
Dichlorodifluoromethane	ND	0.50	1	10/02/2015 22:23	
1,1-Dichloroethane	ND	0.50	1	10/02/2015 22:23	
1,2-Dichloroethane (1,2-DCA)	ND	0.50	1	10/02/2015 22:23	
1,1-Dichloroethene	ND	0.50	1	10/02/2015 22:23	
cis-1,2-Dichloroethene	ND	0.50	1	10/02/2015 22:23	
trans-1,2-Dichloroethene	ND	0.50	1	10/02/2015 22:23	
1,2-Dichloropropane	ND	0.50	1	10/02/2015 22:23	
1,3-Dichloropropane	ND	0.50	1	10/02/2015 22:23	
2,2-Dichloropropane	ND	0.50	1	10/02/2015 22:23	

(Cont.)



Analytical Report

Client: Essel Environmental Consulting
Date Received: 9/25/15 19:30
Date Prepared: 10/1/15-10/3/15
Project: 15166; EBALDC

WorkOrder: 1509A62
Extraction Method: SW5030B
Analytical Method: SW8260B
Unit: µg/L

Volatile Organics by P&T and GC/MS (Basic Target List)

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
W-ECB11	1509A62-013B	Water	09/25/2015 16:02	GC16	111088

Analytes	Result	RL	DF	Date Analyzed
1,1-Dichloropropene	ND	0.50	1	10/02/2015 22:23
cis-1,3-Dichloropropene	ND	0.50	1	10/02/2015 22:23
trans-1,3-Dichloropropene	ND	0.50	1	10/02/2015 22:23
Diisopropyl ether (DIPE)	ND	0.50	1	10/02/2015 22:23
Ethylbenzene	ND	0.50	1	10/02/2015 22:23
Ethyl tert-butyl ether (ETBE)	ND	0.50	1	10/02/2015 22:23
Freon 113	ND	0.50	1	10/02/2015 22:23
Hexachlorobutadiene	ND	0.50	1	10/02/2015 22:23
Hexachloroethane	ND	0.50	1	10/02/2015 22:23
2-Hexanone	ND	0.50	1	10/02/2015 22:23
Isopropylbenzene	ND	0.50	1	10/02/2015 22:23
4-Isopropyl toluene	ND	0.50	1	10/02/2015 22:23
Methyl-t-butyl ether (MTBE)	ND	0.50	1	10/02/2015 22:23
Methylene chloride	ND	0.50	1	10/02/2015 22:23
4-Methyl-2-pentanone (MIBK)	ND	0.50	1	10/02/2015 22:23
Naphthalene	ND	0.50	1	10/02/2015 22:23
n-Propyl benzene	ND	0.50	1	10/02/2015 22:23
Styrene	ND	0.50	1	10/02/2015 22:23
1,1,1,2-Tetrachloroethane	ND	0.50	1	10/02/2015 22:23
1,1,2,2-Tetrachloroethane	ND	0.50	1	10/02/2015 22:23
Tetrachloroethene	ND	0.50	1	10/02/2015 22:23
Toluene	ND	0.50	1	10/02/2015 22:23
1,2,3-Trichlorobenzene	ND	0.50	1	10/02/2015 22:23
1,2,4-Trichlorobenzene	ND	0.50	1	10/02/2015 22:23
1,1,1-Trichloroethane	ND	0.50	1	10/02/2015 22:23
1,1,2-Trichloroethane	ND	0.50	1	10/02/2015 22:23
Trichloroethene	ND	0.50	1	10/02/2015 22:23
Trichlorofluoromethane	ND	0.50	1	10/02/2015 22:23
1,2,3-Trichloropropane	ND	0.50	1	10/02/2015 22:23
1,2,4-Trimethylbenzene	ND	0.50	1	10/02/2015 22:23
1,3,5-Trimethylbenzene	ND	0.50	1	10/02/2015 22:23
Vinyl Chloride	ND	0.50	1	10/02/2015 22:23
Xylenes, Total	ND	0.50	1	10/02/2015 22:23

(Cont.)



Analytical Report

Client: Essel Environmental Consulting
Date Received: 9/25/15 19:30
Date Prepared: 10/1/15-10/3/15
Project: 15166; EBALDC

WorkOrder: 1509A62
Extraction Method: SW5030B
Analytical Method: SW8260B
Unit: µg/L

Volatile Organics by P&T and GC/MS (Basic Target List)

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
W-ECB11	1509A62-013B	Water	09/25/2015 16:02	GC16	111088

Analytes	Result	RL	DF	Date Analyzed
<u>Surrogates</u>	<u>REC (%)</u>	<u>Limits</u>		
Dibromofluoromethane	96	70-130		10/02/2015 22:23
Toluene-d8	94	70-130		10/02/2015 22:23
4-BFB	91	70-130		10/02/2015 22:23

Analyst(s): KF



Analytical Report

Client: Essel Environmental Consulting
Date Received: 9/25/15 19:30
Date Prepared: 10/1/15-10/3/15
Project: 15166; EBALDC

WorkOrder: 1509A62
Extraction Method: SW5030B
Analytical Method: SW8260B
Unit: µg/L

Volatile Organics by P&T and GC/MS (Basic Target List)

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
W-ECB12	1509A62-014B	Water	09/25/2015 15:54	GC16	111088

Analytes	Result	RL	DF	Date Analyzed
Acetone	ND	10	1	10/03/2015 22:02
tert-Amyl methyl ether (TAME)	ND	0.50	1	10/03/2015 22:02
Benzene	ND	0.50	1	10/03/2015 22:02
Bromobenzene	ND	0.50	1	10/03/2015 22:02
Bromochloromethane	ND	0.50	1	10/03/2015 22:02
Bromodichloromethane	ND	0.50	1	10/03/2015 22:02
Bromoform	ND	0.50	1	10/03/2015 22:02
Bromomethane	ND	0.50	1	10/03/2015 22:02
2-Butanone (MEK)	2.2	2.0	1	10/03/2015 22:02
t-Butyl alcohol (TBA)	ND	2.0	1	10/03/2015 22:02
n-Butyl benzene	ND	0.50	1	10/03/2015 22:02
sec-Butyl benzene	ND	0.50	1	10/03/2015 22:02
tert-Butyl benzene	ND	0.50	1	10/03/2015 22:02
Carbon Disulfide	ND	0.50	1	10/03/2015 22:02
Carbon Tetrachloride	ND	0.50	1	10/03/2015 22:02
Chlorobenzene	ND	0.50	1	10/03/2015 22:02
Chloroethane	ND	0.50	1	10/03/2015 22:02
Chloroform	ND	0.50	1	10/03/2015 22:02
Chloromethane	ND	0.50	1	10/03/2015 22:02
2-Chlorotoluene	ND	0.50	1	10/03/2015 22:02
4-Chlorotoluene	ND	0.50	1	10/03/2015 22:02
Dibromochloromethane	ND	0.50	1	10/03/2015 22:02
1,2-Dibromo-3-chloropropane	ND	0.20	1	10/03/2015 22:02
1,2-Dibromoethane (EDB)	ND	0.50	1	10/03/2015 22:02
Dibromomethane	ND	0.50	1	10/03/2015 22:02
1,2-Dichlorobenzene	ND	0.50	1	10/03/2015 22:02
1,3-Dichlorobenzene	ND	0.50	1	10/03/2015 22:02
1,4-Dichlorobenzene	ND	0.50	1	10/03/2015 22:02
Dichlorodifluoromethane	ND	0.50	1	10/03/2015 22:02
1,1-Dichloroethane	ND	0.50	1	10/03/2015 22:02
1,2-Dichloroethane (1,2-DCA)	ND	0.50	1	10/03/2015 22:02
1,1-Dichloroethene	ND	0.50	1	10/03/2015 22:02
cis-1,2-Dichloroethene	ND	0.50	1	10/03/2015 22:02
trans-1,2-Dichloroethene	ND	0.50	1	10/03/2015 22:02
1,2-Dichloropropane	ND	0.50	1	10/03/2015 22:02
1,3-Dichloropropane	ND	0.50	1	10/03/2015 22:02
2,2-Dichloropropane	ND	0.50	1	10/03/2015 22:02

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Analytical Report

Client: Essel Environmental Consulting
Date Received: 9/25/15 19:30
Date Prepared: 10/1/15-10/3/15
Project: 15166; EBALDC

WorkOrder: 1509A62
Extraction Method: SW5030B
Analytical Method: SW8260B
Unit: µg/L

Volatile Organics by P&T and GC/MS (Basic Target List)

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
W-ECB12	1509A62-014B	Water	09/25/2015 15:54	GC16	111088

Analytes	Result	RL	DF	Date Analyzed
1,1-Dichloropropene	ND	0.50	1	10/03/2015 22:02
cis-1,3-Dichloropropene	ND	0.50	1	10/03/2015 22:02
trans-1,3-Dichloropropene	ND	0.50	1	10/03/2015 22:02
Diisopropyl ether (DIPE)	ND	0.50	1	10/03/2015 22:02
Ethylbenzene	ND	0.50	1	10/03/2015 22:02
Ethyl tert-butyl ether (ETBE)	ND	0.50	1	10/03/2015 22:02
Freon 113	ND	0.50	1	10/03/2015 22:02
Hexachlorobutadiene	ND	0.50	1	10/03/2015 22:02
Hexachloroethane	ND	0.50	1	10/03/2015 22:02
2-Hexanone	ND	0.50	1	10/03/2015 22:02
Isopropylbenzene	ND	0.50	1	10/03/2015 22:02
4-Isopropyl toluene	0.99	0.50	1	10/03/2015 22:02
Methyl-t-butyl ether (MTBE)	ND	0.50	1	10/03/2015 22:02
Methylene chloride	ND	0.50	1	10/03/2015 22:02
4-Methyl-2-pentanone (MIBK)	ND	0.50	1	10/03/2015 22:02
Naphthalene	ND	0.50	1	10/03/2015 22:02
n-Propyl benzene	ND	0.50	1	10/03/2015 22:02
Styrene	ND	0.50	1	10/03/2015 22:02
1,1,1,2-Tetrachloroethane	ND	0.50	1	10/03/2015 22:02
1,1,2,2-Tetrachloroethane	ND	0.50	1	10/03/2015 22:02
Tetrachloroethene	ND	0.50	1	10/03/2015 22:02
Toluene	ND	0.50	1	10/03/2015 22:02
1,2,3-Trichlorobenzene	ND	0.50	1	10/03/2015 22:02
1,2,4-Trichlorobenzene	ND	0.50	1	10/03/2015 22:02
1,1,1-Trichloroethane	ND	0.50	1	10/03/2015 22:02
1,1,2-Trichloroethane	ND	0.50	1	10/03/2015 22:02
Trichloroethene	ND	0.50	1	10/03/2015 22:02
Trichlorofluoromethane	ND	0.50	1	10/03/2015 22:02
1,2,3-Trichloropropane	ND	0.50	1	10/03/2015 22:02
1,2,4-Trimethylbenzene	ND	0.50	1	10/03/2015 22:02
1,3,5-Trimethylbenzene	ND	0.50	1	10/03/2015 22:02
Vinyl Chloride	ND	0.50	1	10/03/2015 22:02
Xylenes, Total	ND	0.50	1	10/03/2015 22:02

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Analytical Report

Client: Essel Environmental Consulting
Date Received: 9/25/15 19:30
Date Prepared: 10/1/15-10/3/15
Project: 15166; EBALDC

WorkOrder: 1509A62
Extraction Method: SW5030B
Analytical Method: SW8260B
Unit: µg/L

Volatile Organics by P&T and GC/MS (Basic Target List)

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
W-ECB12	1509A62-014B	Water	09/25/2015 15:54	GC16	111088

Analytes	Result	RL	DF	Date Analyzed
<u>Surrogates</u>	<u>REC (%)</u>	<u>Limits</u>		
Dibromofluoromethane	95	70-130		10/03/2015 22:02
Toluene-d8	93	70-130		10/03/2015 22:02
4-BFB	91	70-130		10/03/2015 22:02

Analyst(s): KF



Analytical Report

Client: Essel Environmental Consulting
Date Received: 9/25/15 19:30
Date Prepared: 9/29/15
Project: 15166; EBALDC

WorkOrder: 1509A62
Extraction Method: SW3510C
Analytical Method: SW8270C-SIM
Unit: µg/L

Polynuclear Aromatic Hydrocarbons (PAHs / PNAs) using SIM Mode by GC/MS

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
W-ECB3	1509A62-001C	Water	09/24/2015 16:35	GC35	110857

Analytes	Result	RL	DF	Date Analyzed
Acenaphthene	1.9	0.50	1	09/29/2015 22:18
Acenaphthylene	ND	0.50	1	09/29/2015 22:18
Anthracene	ND	0.50	1	09/29/2015 22:18
Benzo (a) anthracene	ND	0.50	1	09/29/2015 22:18
Benzo (b) fluoranthene	ND	0.50	1	09/29/2015 22:18
Benzo (k) fluoranthene	ND	0.50	1	09/29/2015 22:18
Benzo (g,h,i) perylene	ND	0.50	1	09/29/2015 22:18
Benzo (a) pyrene	ND	0.50	1	09/29/2015 22:18
Chrysene	ND	0.50	1	09/29/2015 22:18
Dibenzo (a,h) anthracene	ND	0.50	1	09/29/2015 22:18
Fluoranthene	ND	0.50	1	09/29/2015 22:18
Fluorene	ND	0.50	1	09/29/2015 22:18
Indeno (1,2,3-cd) pyrene	ND	0.50	1	09/29/2015 22:18
1-Methylnaphthalene	ND	0.50	1	09/29/2015 22:18
2-Methylnaphthalene	ND	0.50	1	09/29/2015 22:18
Naphthalene	ND	0.50	1	09/29/2015 22:18
Phenanthrene	3.3	0.50	1	09/29/2015 22:18
Pyrene	ND	0.50	1	09/29/2015 22:18

Surrogates	REC (%)	Limits	Date Analyzed
1-Fluoronaphthalene	88	30-130	09/29/2015 22:18
2-Fluorobiphenyl	69	30-130	09/29/2015 22:18

Analyst(s): HK

Analytical Comments: b1



Analytical Report

Client: Essel Environmental Consulting
Date Received: 9/25/15 19:30
Date Prepared: 9/29/15
Project: 15166; EBALDC

WorkOrder: 1509A62
Extraction Method: SW3510C
Analytical Method: SW8270C-SIM
Unit: µg/L

Polynuclear Aromatic Hydrocarbons (PAHs / PNAs) using SIM Mode by GC/MS

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
W-ECB2	1509A62-006C	Water	09/25/2015 15:15	GC35	110857

Analytes	Result	RL	DF	Date Analyzed
Acenaphthene	ND	0.50	1	09/29/2015 22:42
Acenaphthylene	ND	0.50	1	09/29/2015 22:42
Anthracene	ND	0.50	1	09/29/2015 22:42
Benzo (a) anthracene	ND	0.50	1	09/29/2015 22:42
Benzo (b) fluoranthene	ND	0.50	1	09/29/2015 22:42
Benzo (k) fluoranthene	ND	0.50	1	09/29/2015 22:42
Benzo (g,h,i) perylene	ND	0.50	1	09/29/2015 22:42
Benzo (a) pyrene	ND	0.50	1	09/29/2015 22:42
Chrysene	ND	0.50	1	09/29/2015 22:42
Dibenzo (a,h) anthracene	ND	0.50	1	09/29/2015 22:42
Fluoranthene	ND	0.50	1	09/29/2015 22:42
Fluorene	ND	0.50	1	09/29/2015 22:42
Indeno (1,2,3-cd) pyrene	ND	0.50	1	09/29/2015 22:42
1-Methylnaphthalene	ND	0.50	1	09/29/2015 22:42
2-Methylnaphthalene	ND	0.50	1	09/29/2015 22:42
Naphthalene	ND	0.50	1	09/29/2015 22:42
Phenanthrene	ND	0.50	1	09/29/2015 22:42
Pyrene	ND	0.50	1	09/29/2015 22:42

Surrogates	REC (%)	Limits	Date Analyzed
1-Fluoronaphthalene	80	30-130	09/29/2015 22:42
2-Fluorobiphenyl	70	30-130	09/29/2015 22:42

Analyst(s): HK

Analytical Comments: b1



Analytical Report

Client: Essel Environmental Consulting
Date Received: 9/25/15 19:30
Date Prepared: 9/29/15
Project: 15166; EBALDC

WorkOrder: 1509A62
Extraction Method: SW3510C
Analytical Method: SW8270C-SIM
Unit: µg/L

Polynuclear Aromatic Hydrocarbons (PAHs / PNAs) using SIM Mode by GC/MS

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
W-ECB5	1509A62-007C	Water	09/25/2015 17:02	GC35	110857

Analytes	Result	RL	DF	Date Analyzed
Acenaphthene	ND	0.50	1	09/29/2015 23:07
Acenaphthylene	ND	0.50	1	09/29/2015 23:07
Anthracene	ND	0.50	1	09/29/2015 23:07
Benzo (a) anthracene	ND	0.50	1	09/29/2015 23:07
Benzo (b) fluoranthene	ND	0.50	1	09/29/2015 23:07
Benzo (k) fluoranthene	ND	0.50	1	09/29/2015 23:07
Benzo (g,h,i) perylene	ND	0.50	1	09/29/2015 23:07
Benzo (a) pyrene	ND	0.50	1	09/29/2015 23:07
Chrysene	ND	0.50	1	09/29/2015 23:07
Dibenzo (a,h) anthracene	ND	0.50	1	09/29/2015 23:07
Fluoranthene	ND	0.50	1	09/29/2015 23:07
Fluorene	ND	0.50	1	09/29/2015 23:07
Indeno (1,2,3-cd) pyrene	ND	0.50	1	09/29/2015 23:07
1-Methylnaphthalene	ND	0.50	1	09/29/2015 23:07
2-Methylnaphthalene	ND	0.50	1	09/29/2015 23:07
Naphthalene	ND	0.50	1	09/29/2015 23:07
Phenanthrene	ND	0.50	1	09/29/2015 23:07
Pyrene	ND	0.50	1	09/29/2015 23:07

Surrogates	REC (%)	Limits	Date Analyzed
1-Fluoronaphthalene	92	30-130	09/29/2015 23:07
2-Fluorobiphenyl	87	30-130	09/29/2015 23:07

Analyst(s): HK

Analytical Comments: b1



Analytical Report

Client: Essel Environmental Consulting
Date Received: 9/25/15 19:30
Date Prepared: 9/29/15
Project: 15166; EBALDC

WorkOrder: 1509A62
Extraction Method: SW3510C
Analytical Method: SW8270C-SIM
Unit: µg/L

Polynuclear Aromatic Hydrocarbons (PAHs / PNAs) using SIM Mode by GC/MS

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
W-ECB7	1509A62-009C	Water	09/25/2015 17:16	GC35	110857

Analytes	Result	RL	DF	Date Analyzed
Acenaphthene	ND	0.50	1	09/29/2015 23:32
Acenaphthylene	ND	0.50	1	09/29/2015 23:32
Anthracene	ND	0.50	1	09/29/2015 23:32
Benzo (a) anthracene	ND	0.50	1	09/29/2015 23:32
Benzo (b) fluoranthene	ND	0.50	1	09/29/2015 23:32
Benzo (k) fluoranthene	ND	0.50	1	09/29/2015 23:32
Benzo (g,h,i) perylene	ND	0.50	1	09/29/2015 23:32
Benzo (a) pyrene	ND	0.50	1	09/29/2015 23:32
Chrysene	ND	0.50	1	09/29/2015 23:32
Dibenzo (a,h) anthracene	ND	0.50	1	09/29/2015 23:32
Fluoranthene	ND	0.50	1	09/29/2015 23:32
Fluorene	ND	0.50	1	09/29/2015 23:32
Indeno (1,2,3-cd) pyrene	ND	0.50	1	09/29/2015 23:32
1-Methylnaphthalene	ND	0.50	1	09/29/2015 23:32
2-Methylnaphthalene	ND	0.50	1	09/29/2015 23:32
Naphthalene	ND	0.50	1	09/29/2015 23:32
Phenanthrene	ND	0.50	1	09/29/2015 23:32
Pyrene	ND	0.50	1	09/29/2015 23:32

Surrogates	REC (%)	Limits	Date Analyzed
1-Fluoronaphthalene	91	30-130	09/29/2015 23:32
2-Fluorobiphenyl	83	30-130	09/29/2015 23:32

Analyst(s): HK

Analytical Comments: b1



Analytical Report

Client: Essel Environmental Consulting
Date Received: 9/25/15 19:30
Date Prepared: 9/29/15
Project: 15166; EBALDC

WorkOrder: 1509A62
Extraction Method: SW3510C
Analytical Method: SW8270C-SIM
Unit: µg/L

Polynuclear Aromatic Hydrocarbons (PAHs / PNAs) using SIM Mode by GC/MS

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
W-ECB8	1509A62-010C	Water	09/25/2015 16:50	GC35	110857

Analytes	Result	RL	DF	Date Analyzed
Acenaphthene	ND	0.50	1	09/29/2015 23:57
Acenaphthylene	ND	0.50	1	09/29/2015 23:57
Anthracene	ND	0.50	1	09/29/2015 23:57
Benzo (a) anthracene	ND	0.50	1	09/29/2015 23:57
Benzo (b) fluoranthene	ND	0.50	1	09/29/2015 23:57
Benzo (k) fluoranthene	ND	0.50	1	09/29/2015 23:57
Benzo (g,h,i) perylene	ND	0.50	1	09/29/2015 23:57
Benzo (a) pyrene	ND	0.50	1	09/29/2015 23:57
Chrysene	ND	0.50	1	09/29/2015 23:57
Dibenzo (a,h) anthracene	ND	0.50	1	09/29/2015 23:57
Fluoranthene	ND	0.50	1	09/29/2015 23:57
Fluorene	ND	0.50	1	09/29/2015 23:57
Indeno (1,2,3-cd) pyrene	ND	0.50	1	09/29/2015 23:57
1-Methylnaphthalene	ND	0.50	1	09/29/2015 23:57
2-Methylnaphthalene	ND	0.50	1	09/29/2015 23:57
Naphthalene	ND	0.50	1	09/29/2015 23:57
Phenanthrene	ND	0.50	1	09/29/2015 23:57
Pyrene	ND	0.50	1	09/29/2015 23:57

Surrogates	REC (%)	Limits	Date Analyzed
1-Fluoronaphthalene	81	30-130	09/29/2015 23:57
2-Fluorobiphenyl	78	30-130	09/29/2015 23:57

Analyst(s): HK



Analytical Report

Client: Essel Environmental Consulting
Date Received: 9/25/15 19:30
Date Prepared: 9/29/15
Project: 15166; EBALDC

WorkOrder: 1509A62
Extraction Method: SW3510C
Analytical Method: SW8270C-SIM
Unit: µg/L

Polynuclear Aromatic Hydrocarbons (PAHs / PNAs) using SIM Mode by GC/MS

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
W-ECB10	1509A62-012C	Water	09/25/2015 16:17	GC35	110857

Analytes	Result	RL	DF	Date Analyzed
Acenaphthene	ND	0.50	1	09/30/2015 00:22
Acenaphthylene	ND	0.50	1	09/30/2015 00:22
Anthracene	ND	0.50	1	09/30/2015 00:22
Benzo (a) anthracene	ND	0.50	1	09/30/2015 00:22
Benzo (b) fluoranthene	ND	0.50	1	09/30/2015 00:22
Benzo (k) fluoranthene	ND	0.50	1	09/30/2015 00:22
Benzo (g,h,i) perylene	ND	0.50	1	09/30/2015 00:22
Benzo (a) pyrene	ND	0.50	1	09/30/2015 00:22
Chrysene	ND	0.50	1	09/30/2015 00:22
Dibenzo (a,h) anthracene	ND	0.50	1	09/30/2015 00:22
Fluoranthene	ND	0.50	1	09/30/2015 00:22
Fluorene	ND	0.50	1	09/30/2015 00:22
Indeno (1,2,3-cd) pyrene	ND	0.50	1	09/30/2015 00:22
1-Methylnaphthalene	0.57	0.50	1	09/30/2015 00:22
2-Methylnaphthalene	ND	0.50	1	09/30/2015 00:22
Naphthalene	ND	0.50	1	09/30/2015 00:22
Phenanthrene	ND	0.50	1	09/30/2015 00:22
Pyrene	ND	0.50	1	09/30/2015 00:22

Surrogates	REC (%)	Limits	Date Analyzed
1-Fluoronaphthalene	85	30-130	09/30/2015 00:22
2-Fluorobiphenyl	71	30-130	09/30/2015 00:22

Analyst(s): HK

Analytical Comments: b1



Analytical Report

Client: Essel Environmental Consulting
Date Received: 9/25/15 19:30
Date Prepared: 9/29/15
Project: 15166; EBALDC

WorkOrder: 1509A62
Extraction Method: SW3510C
Analytical Method: SW8270C-SIM
Unit: µg/L

Polynuclear Aromatic Hydrocarbons (PAHs / PNAs) using SIM Mode by GC/MS

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
W-ECB12	1509A62-014C	Water	09/25/2015 15:54	GC35	110857

Analytes	Result	RL	DF	Date Analyzed
Acenaphthene	ND	0.50	1	09/30/2015 00:46
Acenaphthylene	ND	0.50	1	09/30/2015 00:46
Anthracene	ND	0.50	1	09/30/2015 00:46
Benzo (a) anthracene	ND	0.50	1	09/30/2015 00:46
Benzo (b) fluoranthene	ND	0.50	1	09/30/2015 00:46
Benzo (k) fluoranthene	ND	0.50	1	09/30/2015 00:46
Benzo (g,h,i) perylene	ND	0.50	1	09/30/2015 00:46
Benzo (a) pyrene	ND	0.50	1	09/30/2015 00:46
Chrysene	ND	0.50	1	09/30/2015 00:46
Dibenzo (a,h) anthracene	ND	0.50	1	09/30/2015 00:46
Fluoranthene	ND	0.50	1	09/30/2015 00:46
Fluorene	ND	0.50	1	09/30/2015 00:46
Indeno (1,2,3-cd) pyrene	ND	0.50	1	09/30/2015 00:46
1-Methylnaphthalene	ND	0.50	1	09/30/2015 00:46
2-Methylnaphthalene	ND	0.50	1	09/30/2015 00:46
Naphthalene	ND	0.50	1	09/30/2015 00:46
Phenanthrene	ND	0.50	1	09/30/2015 00:46
Pyrene	ND	0.50	1	09/30/2015 00:46

Surrogates	REC (%)	Limits	Date Analyzed
1-Fluoronaphthalene	85	30-130	09/30/2015 00:46
2-Fluorobiphenyl	74	30-130	09/30/2015 00:46

Analyst(s): HK



Analytical Report

Client: Essel Environmental Consulting
Date Received: 9/25/15 19:30
Date Prepared: 9/29/15-10/2/15
Project: 15166; EBALDC

WorkOrder: 1509A62
Extraction Method: SW5030B
Analytical Method: SW8021B/8015Bm
Unit: µg/L

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

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
W-ECB3	1509A62-001A	Water	09/24/2015 16:35	GC3	111041

Analytes	Result	RL	DF	Date Analyzed
TPH(g)	710	100	2	10/02/2015 00:52
MTBE	---	10	2	10/02/2015 00:52
Benzene	---	1.0	2	10/02/2015 00:52
Toluene	---	1.0	2	10/02/2015 00:52
Ethylbenzene	---	1.0	2	10/02/2015 00:52
Xylenes	---	1.0	2	10/02/2015 00:52

Surrogates	REC (%)	Limits	Date Analyzed
aaa-TFT	111	70-130	10/02/2015 00:52

Analyst(s): IA **Analytical Comments:** d7,d9,b1

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
W-ECB4	1509A62-002A	Water	09/24/2015 16:51	GC3	110909

Analytes	Result	RL	DF	Date Analyzed
TPH(g)	1200	50	1	09/29/2015 23:26
MTBE	---	5.0	1	09/29/2015 23:26
Benzene	---	0.50	1	09/29/2015 23:26
Toluene	---	0.50	1	09/29/2015 23:26
Ethylbenzene	---	0.50	1	09/29/2015 23:26
Xylenes	---	0.50	1	09/29/2015 23:26

Surrogates	REC (%)	Qualifiers	Limits	Date Analyzed
aaa-TFT	131	S	70-130	09/29/2015 23:26

Analyst(s): IA **Analytical Comments:** d9,c4,b1



Analytical Report

Client: Essel Environmental Consulting
Date Received: 9/25/15 19:30
Date Prepared: 9/29/15-10/2/15
Project: 15166; EBALDC

WorkOrder: 1509A62
Extraction Method: SW5030B
Analytical Method: SW8021B/8015Bm
Unit: µg/L

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

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
W-ECB13	1509A62-003A	Water	09/24/2015 17:13	GC3	110909

Analytes	Result	RL	DF	Date Analyzed
TPH(g)	ND	50	1	09/29/2015 23:56
MTBE	---	5.0	1	09/29/2015 23:56
Benzene	---	0.50	1	09/29/2015 23:56
Toluene	---	0.50	1	09/29/2015 23:56
Ethylbenzene	---	0.50	1	09/29/2015 23:56
Xylenes	---	0.50	1	09/29/2015 23:56
<u>Surrogates</u>	<u>REC (%)</u>	<u>Limits</u>		
aaa-TFT	98	70-130		09/29/2015 23:56

Analyst(s): IA

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
W-ECB14	1509A62-004A	Water	09/24/2015 17:01	GC3	110909

Analytes	Result	RL	DF	Date Analyzed
TPH(g)	ND	50	1	09/30/2015 00:56
MTBE	---	5.0	1	09/30/2015 00:56
Benzene	---	0.50	1	09/30/2015 00:56
Toluene	---	0.50	1	09/30/2015 00:56
Ethylbenzene	---	0.50	1	09/30/2015 00:56
Xylenes	---	0.50	1	09/30/2015 00:56
<u>Surrogates</u>	<u>REC (%)</u>	<u>Limits</u>		
aaa-TFT	97	70-130		09/30/2015 00:56

Analyst(s): IA

Analytical Comments: b1



Analytical Report

Client: Essel Environmental Consulting
Date Received: 9/25/15 19:30
Date Prepared: 9/29/15-10/2/15
Project: 15166; EBALDC

WorkOrder: 1509A62
Extraction Method: SW5030B
Analytical Method: SW8021B/8015Bm
Unit: µg/L

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

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
W-ECB1	1509A62-005A	Water	09/25/2015 14:08	GC3	110909

Analytes	Result	RL	DF	Date Analyzed
TPH(g)	ND	50	1	09/30/2015 01:56
MTBE	---	5.0	1	09/30/2015 01:56
Benzene	---	0.50	1	09/30/2015 01:56
Toluene	---	0.50	1	09/30/2015 01:56
Ethylbenzene	---	0.50	1	09/30/2015 01:56
Xylenes	---	0.50	1	09/30/2015 01:56
<u>Surrogates</u>	<u>REC (%)</u>	<u>Limits</u>		
aaa-TFT	105	70-130		09/30/2015 01:56

Analyst(s): IA

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
W-ECB2	1509A62-006A	Water	09/25/2015 15:15	GC3	110909

Analytes	Result	RL	DF	Date Analyzed
TPH(g)	330	50	1	09/30/2015 02:25
MTBE	---	5.0	1	09/30/2015 02:25
Benzene	---	0.50	1	09/30/2015 02:25
Toluene	---	0.50	1	09/30/2015 02:25
Ethylbenzene	---	0.50	1	09/30/2015 02:25
Xylenes	---	0.50	1	09/30/2015 02:25
<u>Surrogates</u>	<u>REC (%)</u>	<u>Limits</u>		
aaa-TFT	89	70-130		09/30/2015 02:25

Analyst(s): IA

Analytical Comments: d7,b1



Analytical Report

Client: Essel Environmental Consulting
Date Received: 9/25/15 19:30
Date Prepared: 9/29/15-10/2/15
Project: 15166; EBALDC

WorkOrder: 1509A62
Extraction Method: SW5030B
Analytical Method: SW8021B/8015Bm
Unit: µg/L

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

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
W-ECB5	1509A62-007A	Water	09/25/2015 17:02	GC3	110909

Analytes	Result	RL	DF	Date Analyzed
TPH(g)	430	50	1	09/30/2015 02:55
MTBE	---	5.0	1	09/30/2015 02:55
Benzene	---	0.50	1	09/30/2015 02:55
Toluene	---	0.50	1	09/30/2015 02:55
Ethylbenzene	---	0.50	1	09/30/2015 02:55
Xylenes	---	0.50	1	09/30/2015 02:55

Surrogates	REC (%)	Limits	Date Analyzed
aaa-TFT	97	70-130	09/30/2015 02:55

Analyst(s): IA

Analytical Comments: d9,b1

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
W-ECB6	1509A62-008A	Water	09/25/2015 15:34	GC3	110979

Analytes	Result	RL	DF	Date Analyzed
TPH(g)	ND	50	1	09/30/2015 22:02
MTBE	---	5.0	1	09/30/2015 22:02
Benzene	---	0.50	1	09/30/2015 22:02
Toluene	---	0.50	1	09/30/2015 22:02
Ethylbenzene	---	0.50	1	09/30/2015 22:02
Xylenes	---	0.50	1	09/30/2015 22:02

Surrogates	REC (%)	Limits	Date Analyzed
aaa-TFT	95	70-130	09/30/2015 22:02

Analyst(s): IA

Analytical Comments: b1

(Cont.)



Analytical Report

Client: Essel Environmental Consulting
Date Received: 9/25/15 19:30
Date Prepared: 9/29/15-10/2/15
Project: 15166; EBALDC

WorkOrder: 1509A62
Extraction Method: SW5030B
Analytical Method: SW8021B/8015Bm
Unit: µg/L

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

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
W-ECB7	1509A62-009A	Water	09/25/2015 17:16	GC3	110979

Analytes	Result	RL	DF	Date Analyzed
TPH(g)	ND	50	1	09/30/2015 22:31
MTBE	---	5.0	1	09/30/2015 22:31
Benzene	---	0.50	1	09/30/2015 22:31
Toluene	---	0.50	1	09/30/2015 22:31
Ethylbenzene	---	0.50	1	09/30/2015 22:31
Xylenes	---	0.50	1	09/30/2015 22:31

Surrogates	REC (%)	Limits	Date Analyzed
aaa-TFT	88	70-130	09/30/2015 22:31

Analyst(s): IA

Analytical Comments: b1

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
W-ECB8	1509A62-010A	Water	09/25/2015 16:50	GC3	110979

Analytes	Result	RL	DF	Date Analyzed
TPH(g)	ND	50	1	09/30/2015 23:31
MTBE	---	5.0	1	09/30/2015 23:31
Benzene	---	0.50	1	09/30/2015 23:31
Toluene	---	0.50	1	09/30/2015 23:31
Ethylbenzene	---	0.50	1	09/30/2015 23:31
Xylenes	---	0.50	1	09/30/2015 23:31

Surrogates	REC (%)	Limits	Date Analyzed
aaa-TFT	101	70-130	09/30/2015 23:31

Analyst(s): IA

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Analytical Report

Client: Essel Environmental Consulting
Date Received: 9/25/15 19:30
Date Prepared: 9/29/15-10/2/15
Project: 15166; EBALDC

WorkOrder: 1509A62
Extraction Method: SW5030B
Analytical Method: SW8021B/8015Bm
Unit: µg/L

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

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
W-ECB9	1509A62-011A	Water	09/25/2015 16:40	GC3	110979

Analytes	Result	RL	DF	Date Analyzed
TPH(g)	ND	50	1	10/01/2015 00:01
MTBE	---	5.0	1	10/01/2015 00:01
Benzene	---	0.50	1	10/01/2015 00:01
Toluene	---	0.50	1	10/01/2015 00:01
Ethylbenzene	---	0.50	1	10/01/2015 00:01
Xylenes	---	0.50	1	10/01/2015 00:01
<u>Surrogates</u>	<u>REC (%)</u>	<u>Limits</u>		
aaa-TFT	106	70-130		10/01/2015 00:01

Analyst(s): IA

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
W-ECB10	1509A62-012A	Water	09/25/2015 16:17	GC3	110979

Analytes	Result	RL	DF	Date Analyzed
TPH(g)	98	50	1	10/01/2015 23:21
MTBE	---	5.0	1	10/01/2015 23:21
Benzene	---	0.50	1	10/01/2015 23:21
Toluene	---	0.50	1	10/01/2015 23:21
Ethylbenzene	---	0.50	1	10/01/2015 23:21
Xylenes	---	0.50	1	10/01/2015 23:21
<u>Surrogates</u>	<u>REC (%)</u>	<u>Limits</u>		
aaa-TFT	103	70-130		10/01/2015 23:21

Analyst(s): IA

Analytical Comments: d9,b1



Analytical Report

Client: Essel Environmental Consulting
Date Received: 9/25/15 19:30
Date Prepared: 9/29/15-10/2/15
Project: 15166; EBALDC

WorkOrder: 1509A62
Extraction Method: SW5030B
Analytical Method: SW8021B/8015Bm
Unit: µg/L

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

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
W-ECB11	1509A62-013A	Water	09/25/2015 16:02	GC3	110979

Analytes	Result	RL	DF	Date Analyzed
TPH(g)	ND	50	1	10/01/2015 01:01
MTBE	---	5.0	1	10/01/2015 01:01
Benzene	---	0.50	1	10/01/2015 01:01
Toluene	---	0.50	1	10/01/2015 01:01
Ethylbenzene	---	0.50	1	10/01/2015 01:01
Xylenes	---	0.50	1	10/01/2015 01:01
<u>Surrogates</u>	<u>REC (%)</u>	<u>Limits</u>		
aaa-TFT	97	70-130		10/01/2015 01:01

Analyst(s): IA

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
W-ECB12	1509A62-014A	Water	09/25/2015 15:54	GC3	110979

Analytes	Result	RL	DF	Date Analyzed
TPH(g)	ND	50	1	10/01/2015 01:31
MTBE	---	5.0	1	10/01/2015 01:31
Benzene	---	0.50	1	10/01/2015 01:31
Toluene	---	0.50	1	10/01/2015 01:31
Ethylbenzene	---	0.50	1	10/01/2015 01:31
Xylenes	---	0.50	1	10/01/2015 01:31
<u>Surrogates</u>	<u>REC (%)</u>	<u>Limits</u>		
aaa-TFT	96	70-130		10/01/2015 01:31

Analyst(s): IA



Analytical Report

Client: Essel Environmental Consulting
Date Received: 9/25/15 19:30
Date Prepared: 9/28/15
Project: 15166; EBALDC

WorkOrder: 1509A62
Extraction Method: SW3510C/3630C
Analytical Method: SW8015B
Unit: µg/L

Total Extractable Petroleum Hydrocarbons w/ SG Clean-Up

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
W-ECB3	1509A62-001A	Water	09/24/2015 16:35	GC2A	110792
<u>Analytes</u>	<u>Result</u>		<u>RL</u>	<u>DF</u>	<u>Date Analyzed</u>
TPH-Diesel (C10-C23)	24,000		500	10	09/29/2015 17:21
TPH-Motor Oil (C18-C36)	7300		2500	10	09/29/2015 17:21
<u>Surrogates</u>	<u>REC (%)</u>		<u>Limits</u>		
C9	102		70-130		09/29/2015 17:21
<u>Analyst(s):</u> TK			<u>Analytical Comments:</u> e3,e8,b1		

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
W-ECB4	1509A62-002A	Water	09/24/2015 16:51	GC2B	110792
<u>Analytes</u>	<u>Result</u>		<u>RL</u>	<u>DF</u>	<u>Date Analyzed</u>
TPH-Diesel (C10-C23)	3100		50	1	09/28/2015 21:22
TPH-Motor Oil (C18-C36)	780		250	1	09/28/2015 21:22
<u>Surrogates</u>	<u>REC (%)</u>		<u>Limits</u>		
C9	107		70-130		09/28/2015 21:22
<u>Analyst(s):</u> TK			<u>Analytical Comments:</u> e3,e8,e4,b1		

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
W-ECB13	1509A62-003A	Water	09/24/2015 17:13	GC2B	110792
<u>Analytes</u>	<u>Result</u>		<u>RL</u>	<u>DF</u>	<u>Date Analyzed</u>
TPH-Diesel (C10-C23)	ND		50	1	09/29/2015 01:06
TPH-Motor Oil (C18-C36)	ND		250	1	09/29/2015 01:06
<u>Surrogates</u>	<u>REC (%)</u>		<u>Limits</u>		
C9	105		70-130		09/29/2015 01:06
<u>Analyst(s):</u> TK					

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Analytical Report

Client: Essel Environmental Consulting
Date Received: 9/25/15 19:30
Date Prepared: 9/28/15
Project: 15166; EBALDC

WorkOrder: 1509A62
Extraction Method: SW3510C/3630C
Analytical Method: SW8015B
Unit: µg/L

Total Extractable Petroleum Hydrocarbons w/ SG Clean-Up

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
W-ECB14	1509A62-004A	Water	09/24/2015 17:01	GC2B	110792

Analytes	Result	RL	DF	Date Analyzed
TPH-Diesel (C10-C23)	56	50	1	09/29/2015 02:21
TPH-Motor Oil (C18-C36)	ND	250	1	09/29/2015 02:21
<u>Surrogates</u>	<u>REC (%)</u>	<u>Limits</u>		
C9	105	70-130		09/29/2015 02:21
<u>Analyst(s):</u> TK		<u>Analytical Comments:</u> e2,b1		

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
W-ECB1	1509A62-005A	Water	09/25/2015 14:08	GC2B	110792

Analytes	Result	RL	DF	Date Analyzed
TPH-Diesel (C10-C23)	ND	50	1	09/29/2015 04:50
TPH-Motor Oil (C18-C36)	ND	250	1	09/29/2015 04:50
<u>Surrogates</u>	<u>REC (%)</u>	<u>Limits</u>		
C9	104	70-130		09/29/2015 04:50
<u>Analyst(s):</u> TK				

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
W-ECB2	1509A62-006A	Water	09/25/2015 15:15	GC2B	110792

Analytes	Result	RL	DF	Date Analyzed
TPH-Diesel (C10-C23)	4900	50	1	09/29/2015 06:05
TPH-Motor Oil (C18-C36)	1700	250	1	09/29/2015 06:05
<u>Surrogates</u>	<u>REC (%)</u>	<u>Limits</u>		
C9	105	70-130		09/29/2015 06:05
<u>Analyst(s):</u> TK		<u>Analytical Comments:</u> e3,e8,b1		

(Cont.)



Analytical Report

Client: Essel Environmental Consulting
Date Received: 9/25/15 19:30
Date Prepared: 9/28/15
Project: 15166; EBALDC

WorkOrder: 1509A62
Extraction Method: SW3510C/3630C
Analytical Method: SW8015B
Unit: µg/L

Total Extractable Petroleum Hydrocarbons w/ SG Clean-Up

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
W-ECB5	1509A62-007A	Water	09/25/2015 17:02	GC2B	110792

Analytes	Result	RL	DF	Date Analyzed
TPH-Diesel (C10-C23)	100	50	1	09/29/2015 09:49
TPH-Motor Oil (C18-C36)	ND	250	1	09/29/2015 09:49
<u>Surrogates</u>	<u>REC (%)</u>	<u>Limits</u>		
C9	106	70-130		09/29/2015 09:49
<u>Analyst(s):</u> TK		<u>Analytical Comments:</u> e11,b1		

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
W-ECB6	1509A62-008A	Water	09/25/2015 15:34	GC2B	110792

Analytes	Result	RL	DF	Date Analyzed
TPH-Diesel (C10-C23)	ND	50	1	09/29/2015 08:34
TPH-Motor Oil (C18-C36)	ND	250	1	09/29/2015 08:34
<u>Surrogates</u>	<u>REC (%)</u>	<u>Limits</u>		
C9	105	70-130		09/29/2015 08:34
<u>Analyst(s):</u> TK		<u>Analytical Comments:</u> b1		

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
W-ECB7	1509A62-009A	Water	09/25/2015 17:16	GC2A	110792

Analytes	Result	RL	DF	Date Analyzed
TPH-Diesel (C10-C23)	ND	50	1	09/29/2015 01:06
TPH-Motor Oil (C18-C36)	ND	250	1	09/29/2015 01:06
<u>Surrogates</u>	<u>REC (%)</u>	<u>Limits</u>		
C9	103	70-130		09/29/2015 01:06
<u>Analyst(s):</u> TK		<u>Analytical Comments:</u> b1		

(Cont.)



Analytical Report

Client: Essel Environmental Consulting
Date Received: 9/25/15 19:30
Date Prepared: 9/28/15
Project: 15166; EBALDC

WorkOrder: 1509A62
Extraction Method: SW3510C/3630C
Analytical Method: SW8015B
Unit: µg/L

Total Extractable Petroleum Hydrocarbons w/ SG Clean-Up

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
W-ECB8	1509A62-010A	Water	09/25/2015 16:50	GC2A	110792

Analytes	Result	RL	DF	Date Analyzed
TPH-Diesel (C10-C23)	ND	50	1	09/29/2015 02:21
TPH-Motor Oil (C18-C36)	ND	250	1	09/29/2015 02:21

Surrogates	REC (%)	Limits	Date Analyzed
C9	102	70-130	09/29/2015 02:21

Analyst(s): TK

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
W-ECB9	1509A62-011A	Water	09/25/2015 16:40	GC2A	110792

Analytes	Result	RL	DF	Date Analyzed
TPH-Diesel (C10-C23)	ND	50	1	09/29/2015 04:50
TPH-Motor Oil (C18-C36)	ND	250	1	09/29/2015 04:50

Surrogates	REC (%)	Limits	Date Analyzed
C9	102	70-130	09/29/2015 04:50

Analyst(s): TK

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
W-ECB10	1509A62-012A	Water	09/25/2015 16:17	GC2A	110792

Analytes	Result	RL	DF	Date Analyzed
TPH-Diesel (C10-C23)	3100	2500	50	09/29/2015 06:05
TPH-Motor Oil (C18-C36)	17,000	12,000	50	09/29/2015 06:05

Surrogates	REC (%)	Limits	Date Analyzed
C9	105	70-130	09/29/2015 06:05

Analyst(s): TK

Analyst Comments: e7,e11,b1

(Cont.)



Analytical Report

Client: Essel Environmental Consulting
Date Received: 9/25/15 19:30
Date Prepared: 9/28/15
Project: 15166; EBALDC

WorkOrder: 1509A62
Extraction Method: SW3510C/3630C
Analytical Method: SW8015B
Unit: µg/L

Total Extractable Petroleum Hydrocarbons w/ SG Clean-Up

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
W-ECB11	1509A62-013A	Water	09/25/2015 16:02	GC2A	110792

Analytes	Result	RL	DF	Date Analyzed
TPH-Diesel (C10-C23)	ND	50	1	09/29/2015 08:34
TPH-Motor Oil (C18-C36)	ND	250	1	09/29/2015 08:34
Surrogates	REC (%)	Limits		
C9	103	70-130		09/29/2015 08:34

Analyst(s): TK

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
W-ECB12	1509A62-014A	Water	09/25/2015 15:54	GC2A	110792

Analytes	Result	RL	DF	Date Analyzed
TPH-Diesel (C10-C23)	ND	50	1	09/29/2015 09:49
TPH-Motor Oil (C18-C36)	ND	250	1	09/29/2015 09:49
Surrogates	REC (%)	Limits		
C9	102	70-130		09/29/2015 09:49

Analyst(s): TK



Quality Control Report

Client: Essel Environmental Consulting
Date Prepared: 10/1/15
Date Analyzed: 10/1/15
Instrument: GC28
Matrix: Water
Project: 15166; EBALDC

WorkOrder: 1509A62
BatchID: 111001
Extraction Method: SW5030B
Analytical Method: SW8260B
Unit: µg/L
Sample ID: MB/LCS-111001
 1509A43-001AMS/MSD

QC Summary Report for SW8260B

Analyte	MB Result	LCS Result	RL	SPK Val	MB SS %REC	LCS %REC	LCS Limits
Acetone	ND	-	10	-	-	-	-
tert-Amyl methyl ether (TAME)	ND	9.68	0.50	10	-	97	54-140
Benzene	ND	10.3	0.50	10	-	103	47-158
Bromobenzene	ND	-	0.50	-	-	-	-
Bromochloromethane	ND	-	0.50	-	-	-	-
Bromodichloromethane	ND	-	0.50	-	-	-	-
Bromoform	ND	-	0.50	-	-	-	-
Bromomethane	ND	-	0.50	-	-	-	-
2-Butanone (MEK)	ND	-	2.0	-	-	-	-
t-Butyl alcohol (TBA)	ND	36.5	2.0	40	-	91	42-140
n-Butyl benzene	ND	-	0.50	-	-	-	-
sec-Butyl benzene	ND	-	0.50	-	-	-	-
tert-Butyl benzene	ND	-	0.50	-	-	-	-
Carbon Disulfide	ND	-	0.50	-	-	-	-
Carbon Tetrachloride	ND	-	0.50	-	-	-	-
Chlorobenzene	ND	9.41	0.50	10	-	94	43-157
Chloroethane	ND	-	0.50	-	-	-	-
Chloroform	ND	-	0.50	-	-	-	-
Chloromethane	ND	-	0.50	-	-	-	-
2-Chlorotoluene	ND	-	0.50	-	-	-	-
4-Chlorotoluene	ND	-	0.50	-	-	-	-
Dibromochloromethane	ND	-	0.50	-	-	-	-
1,2-Dibromo-3-chloropropane	ND	-	0.20	-	-	-	-
1,2-Dibromoethane (EDB)	ND	9.09	0.50	10	-	91	44-155
Dibromomethane	ND	-	0.50	-	-	-	-
1,2-Dichlorobenzene	ND	-	0.50	-	-	-	-
1,3-Dichlorobenzene	ND	-	0.50	-	-	-	-
1,4-Dichlorobenzene	ND	-	0.50	-	-	-	-
Dichlorodifluoromethane	ND	-	0.50	-	-	-	-
1,1-Dichloroethane	ND	-	0.50	-	-	-	-
1,2-Dichloroethane (1,2-DCA)	ND	10.2	0.50	10	-	102	66-125
1,1-Dichloroethene	ND	10.2	0.50	10	-	102	47-149
cis-1,2-Dichloroethene	ND	-	0.50	-	-	-	-
trans-1,2-Dichloroethene	ND	-	0.50	-	-	-	-
1,2-Dichloropropane	ND	-	0.50	-	-	-	-
1,3-Dichloropropane	ND	-	0.50	-	-	-	-
2,2-Dichloropropane	ND	-	0.50	-	-	-	-
1,1-Dichloropropene	ND	-	0.50	-	-	-	-

(Cont.)



Quality Control Report

Client: Essel Environmental Consulting
Date Prepared: 10/1/15
Date Analyzed: 10/1/15
Instrument: GC28
Matrix: Water
Project: 15166; EBALDC

WorkOrder: 1509A62
BatchID: 111001
Extraction Method: SW5030B
Analytical Method: SW8260B
Unit: µg/L
Sample ID: MB/LCS-111001
 1509A43-001AMS/MSD

QC Summary Report for SW8260B

Analyte	MB Result	LCS Result	RL	SPK Val	MB SS %REC	LCS %REC	LCS Limits
cis-1,3-Dichloropropene	ND	-	0.50	-	-	-	-
trans-1,3-Dichloropropene	ND	-	0.50	-	-	-	-
Diisopropyl ether (DIPE)	ND	9.92	0.50	10	-	99	57-136
Ethylbenzene	ND	-	0.50	-	-	-	-
Ethyl tert-butyl ether (ETBE)	ND	9.42	0.50	10	-	94	55-137
Freon 113	ND	-	0.50	-	-	-	-
Hexachlorobutadiene	ND	-	0.50	-	-	-	-
Hexachloroethane	ND	-	0.50	-	-	-	-
2-Hexanone	ND	-	0.50	-	-	-	-
Isopropylbenzene	ND	-	0.50	-	-	-	-
4-Isopropyl toluene	ND	-	0.50	-	-	-	-
Methyl-t-butyl ether (MTBE)	ND	9.48	0.50	10	-	95	53-139
Methylene chloride	ND	-	0.50	-	-	-	-
4-Methyl-2-pentanone (MIBK)	ND	-	0.50	-	-	-	-
Naphthalene	ND	-	0.50	-	-	-	-
n-Propyl benzene	ND	-	0.50	-	-	-	-
Styrene	ND	-	0.50	-	-	-	-
1,1,1,2-Tetrachloroethane	ND	-	0.50	-	-	-	-
1,1,2,2-Tetrachloroethane	ND	-	0.50	-	-	-	-
Tetrachloroethene	ND	-	0.50	-	-	-	-
Toluene	ND	9.80	0.50	10	-	98	52-137
1,2,3-Trichlorobenzene	ND	-	0.50	-	-	-	-
1,2,4-Trichlorobenzene	ND	-	0.50	-	-	-	-
1,1,1-Trichloroethane	ND	-	0.50	-	-	-	-
1,1,2-Trichloroethane	ND	-	0.50	-	-	-	-
Trichloroethene	ND	10.2	0.50	10	-	102	43-157
Trichlorofluoromethane	ND	-	0.50	-	-	-	-
1,2,3-Trichloropropane	ND	-	0.50	-	-	-	-
1,2,4-Trimethylbenzene	ND	-	0.50	-	-	-	-
1,3,5-Trimethylbenzene	ND	-	0.50	-	-	-	-
Vinyl Chloride	ND	-	0.50	-	-	-	-
Xylenes, Total	ND	-	0.50	-	-	-	-

(Cont.)



Quality Control Report

Client: Essel Environmental Consulting
Date Prepared: 10/1/15
Date Analyzed: 10/1/15
Instrument: GC28
Matrix: Water
Project: 15166; EBALDC

WorkOrder: 1509A62
BatchID: 111001
Extraction Method: SW5030B
Analytical Method: SW8260B
Unit: µg/L
Sample ID: MB/LCS-111001
 1509A43-001AMS/MSD

QC Summary Report for SW8260B

Analyte	MB Result	LCS Result	RL	SPK Val	MB SS %REC	LCS %REC	LCS Limits
Surrogate Recovery							
Dibromofluoromethane	27.9	28.0		25	112	112	70-130
Toluene-d8	25.5	26.2		25	102	105	70-130
4-BFB	2.67	2.60		2.5	107	104	70-130

Analyte	MS Result	MSD Result	SPK Val	SPKRef Val	MS %REC	MSD %REC	MS/MSD Limits	RPD	RPD Limit
tert-Amyl methyl ether (TAME)	11.3	11.0	10	ND	113	111	69-139	2.13	20
Benzene	11.1	10.8	10	ND	111	108	69-141	2.27	20
t-Butyl alcohol (TBA)	49.6	50.1	40	2.8	117	118	41-152	1.01	20
Chlorobenzene	9.88	9.61	10	ND	99	96	77-120	2.75	20
1,2-Dibromoethane (EDB)	10.3	9.98	10	ND	103	100	76-135	2.96	20
1,2-Dichloroethane (1,2-DCA)	11.6	11.3	10	ND	116	113	73-139	2.56	20
1,1-Dichloroethene	10.8	10.7	10	ND	108	107	59-140	1.48	20
Diisopropyl ether (DIPE)	11.2	10.9	10	ND	112	109	72-140	3.12	20
Ethyl tert-butyl ether (ETBE)	10.8	10.5	10	ND	108	105	71-140	3.40	20
Methyl-t-butyl ether (MTBE)	11.4	11.1	10	ND	113	111	73-139	2.35	20
Toluene	10.4	10.2	10	ND	103	101	71-128	2.20	20
Trichloroethene	16.8	16.8	10	6.8	100	100	64-132	0	20
Surrogate Recovery									
Dibromofluoromethane	29.1	28.7	25		116	115	70-130	1.25	20
Toluene-d8	26.4	26.2	25		106	105	70-130	0.685	20
4-BFB	2.83	2.81	2.5		113	112	70-130	0.883	20



Quality Control Report

Client: Essel Environmental Consulting
Date Prepared: 9/29/15
Date Analyzed: 9/29/15
Instrument: GC35
Matrix: Water
Project: 15166; EBALDC

WorkOrder: 1509A62
BatchID: 110857
Extraction Method: SW3510C
Analytical Method: SW8270C-SIM
Unit: µg/L
Sample ID: MB/LCS-110857

QC Summary Report for SW8270C

Analyte	MB Result	LCS Result	RL	SPK Val	MB SS %REC	LCS %REC	LCS Limits
Acenaphthene	ND	-	0.50	-	-	-	-
Acenaphthylene	ND	-	0.50	-	-	-	-
Anthracene	ND	-	0.50	-	-	-	-
Benzo (a) anthracene	ND	-	0.50	-	-	-	-
Benzo (b) fluoranthene	ND	-	0.50	-	-	-	-
Benzo (k) fluoranthene	ND	-	0.50	-	-	-	-
Benzo (g,h,i) perylene	ND	-	0.50	-	-	-	-
Benzo (a) pyrene	ND	5.82	0.50	10	-	58	30-130
Chrysene	ND	6.76	0.50	10	-	68	30-130
Dibenzo (a,h) anthracene	ND	-	0.50	-	-	-	-
Fluoranthene	ND	-	0.50	-	-	-	-
Fluorene	ND	-	0.50	-	-	-	-
Indeno (1,2,3-cd) pyrene	ND	-	0.50	-	-	-	-
1-Methylnaphthalene	ND	7.61	0.50	10	-	76	30-130
2-Methylnaphthalene	ND	7.58	0.50	10	-	76	30-130
Naphthalene	ND	-	0.50	-	-	-	-
Phenanthrene	ND	7.57	0.50	10	-	76	30-130
Pyrene	ND	6.71	0.50	10	-	67	30-130
Surrogate Recovery							
1-Fluoronaphthalene	21.0	21.4		25	84	85	30-130
2-Fluorobiphenyl	20.7	20.2		25	83	81	30-130



Quality Control Report

Client: Essel Environmental Consulting
Date Prepared: 9/29/15
Date Analyzed: 9/29/15
Instrument: GC3
Matrix: Water
Project: 15166; EBALDC

WorkOrder: 1509A62
BatchID: 110909
Extraction Method: SW5030B
Analytical Method: SW8021B/8015Bm
Unit: µg/L
Sample ID: MB/LCS-110909
 1509A52-001AMS/MSD

QC Summary Report for SW8021B/8015Bm

Analyte	MB Result	LCS Result	RL	SPK Val	MB SS %REC	LCS %REC	LCS Limits
TPH(btex)	ND	55.7	40	60	-	93	70-130
MTBE	ND	11.0	5.0	10	-	110	70-130
Benzene	ND	9.78	0.50	10	-	98	70-130
Toluene	ND	11.0	0.50	10	-	110	70-130
Ethylbenzene	ND	11.1	0.50	10	-	111	70-130
Xylenes	ND	34.2	0.50	30	-	114	70-130

Surrogate Recovery

aaa-TFT	10.2	8.70		10	102	87	70-130
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Analyte	MS Result	MSD Result	SPK Val	SPKRef Val	MS %REC	MSD %REC	MS/MSD Limits	RPD	RPD Limit
TPH(btex)	53.6	53.8	60	ND	89	90	70-130	0.359	20
MTBE	9.19	9.45	10	ND	92	95	70-130	2.81	20
Benzene	9.27	8.96	10	ND	92	89	70-130	3.36	20
Toluene	11.5	10.6	10	ND	115	106	70-130	7.44	20
Ethylbenzene	11.8	12.0	10	ND	117	119	70-130	2.05	20
Xylenes	35.8	34.6	30	ND	120	115	70-130	3.67	20

Surrogate Recovery

aaa-TFT	8.29	8.11	10		83	81	70-130	2.13	20
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Quality Control Report

Client: Essel Environmental Consulting
Date Prepared: 9/30/15
Date Analyzed: 9/30/15
Instrument: GC3
Matrix: Water
Project: 15166; EBALDC

WorkOrder: 1509A62
BatchID: 110979
Extraction Method: SW5030B
Analytical Method: SW8021B/8015Bm
Unit: µg/L
Sample ID: MB/LCS-110979
 1509B61-001AMS/MSD

QC Summary Report for SW8021B/8015Bm

Analyte	MB Result	LCS Result	RL	SPK Val	MB SS %REC	LCS %REC	LCS Limits
TPH(btex)	ND	55.3	40	60	-	92	70-130
MTBE	ND	11.8	5.0	10	-	118	70-130
Benzene	ND	10.3	0.50	10	-	103	70-130
Toluene	ND	11.7	0.50	10	-	117	70-130
Ethylbenzene	ND	11.7	0.50	10	-	117	70-130
Xylenes	ND	35.3	0.50	30	-	118	70-130

Surrogate Recovery

aaa-TFT	9.25	8.61		10	92	86	70-130
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Analyte	MS Result	MSD Result	SPK Val	SPKRef Val	MS %REC	MSD %REC	MS/MSD Limits	RPD	RPD Limit
TPH(btex)	51.9	52.7	60	ND	86	88	70-130	1.54	20
MTBE	10.0	9.19	10	ND	100	92	70-130	8.57	20
Benzene	9.45	9.33	10	ND	94	93	70-130	1.24	20
Toluene	11.1	10.8	10	ND	111	108	70-130	2.99	20
Ethylbenzene	12.2	11.6	10	ND	121	116	70-130	4.35	20
Xylenes	36.2	35.2	30	ND	121	117	70-130	3.01	20

Surrogate Recovery

aaa-TFT	8.44	8.73	10		84	87	70-130	3.36	20
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Quality Control Report

Client: Essel Environmental Consulting
Date Prepared: 10/1/15
Date Analyzed: 10/1/15
Instrument: GC3
Matrix: Water
Project: 15166; EBALDC

WorkOrder: 1509A62
BatchID: 111041
Extraction Method: SW5030B
Analytical Method: SW8021B/8015Bm
Unit: µg/L
Sample ID: MB/LCS-111041
 1509A36-008AMS/MSD

QC Summary Report for SW8021B/8015Bm

Analyte	MB Result	LCS Result	RL	SPK Val	MB SS %REC	LCS %REC	LCS Limits
TPH(btex)	ND	61.5	40	60	-	102	70-130
MTBE	ND	12.2	5.0	10	-	118	70-130
Benzene	ND	10.8	0.50	10	-	108	70-130
Toluene	ND	11.0	0.50	10	-	110	70-130
Ethylbenzene	ND	11.0	0.50	10	-	110	70-130
Xylenes	ND	33.3	0.50	30	-	110	70-130

Surrogate Recovery

aaa-TFT	10.0	9.80		10	100	98	70-130
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Analyte	MS Result	MSD Result	SPK Val	SPKRef Val	MS %REC	MSD %REC	MS/MSD Limits	RPD	RPD Limit
TPH(btex)	52.4	52.8	60	ND	87	88	70-130	0.699	20
MTBE	8.14	8.33	10	ND	81	83	70-130	2.28	20
Benzene	8.59	8.67	10	ND	86	87	70-130	0.941	20
Toluene	9.49	9.59	10	ND	95	96	70-130	1.02	20
Ethylbenzene	9.85	9.96	10	ND	98	100	70-130	1.16	20
Xylenes	29.9	30.3	30	ND	100	101	70-130	1.18	20

Surrogate Recovery

aaa-TFT	9.72	9.63	10		97	96	70-130	0.929	20
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Quality Control Report

Client: Essel Environmental Consulting
Date Prepared: 9/28/15
Date Analyzed: 9/28/15 - 9/29/15
Instrument: GC9a
Matrix: Water
Project: 15166; EBALDC

WorkOrder: 1509A62
BatchID: 110792
Extraction Method: SW3510C/3630C
Analytical Method: SW8015B
Unit: µg/L
Sample ID: MB/LCS-110792

QC Report for SW8015B w/ SG Clean-Up

Analyte	MB Result	LCS Result	RL	SPK Val	MB SS %REC	LCS %REC	LCS Limits
TPH-Diesel (C10-C23)	ND	881	50	1000	-	88	59-151
TPH-Motor Oil (C18-C36)	ND	-	250	-	-	-	-
Surrogate Recovery							
C9	637	643		625	102	103	65-122

1534 Willow Pass Rd
Pittsburg, CA 94565-1701
(925) 252-9262

CHAIN-OF-CUSTODY RECORD

WorkOrder: 1509A62

ClientCode: ESL

WaterTrax WriteOn EDF Excel EQUIS Email HardCopy ThirdParty J-flag

Report to:
Nik Lahiri
Essel Environmental Consulting
564 Market Street
San Francisco, CA 94104
925-413-5511 FAX: 510-380-6610

Email: nlahiri@esseltek.com
cc/3rd Party:
PO:
ProjectNo: 15166; EBALDC

Bill to:
Nik Lahiri
Essel Environmental Consulting
564 Market Street
San Francisco, CA 94104
nlahiri@esseltek.com

Requested TAT: 5 days;

Date Received: 09/25/2015
Date Printed: 09/28/2015

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	
1509A62-001	W-ECB3	Water	9/24/2015 16:35	<input type="checkbox"/>	B	C	A	A									
1509A62-002	W-ECB4	Water	9/24/2015 16:51	<input type="checkbox"/>	B		A	A									
1509A62-003	W-ECB13	Water	9/24/2015 17:13	<input type="checkbox"/>	B		A	A									
1509A62-004	W-ECB14	Water	9/24/2015 17:01	<input type="checkbox"/>	B		A	A									
1509A62-005	W-ECB1	Water	9/25/2015 14:08	<input type="checkbox"/>	B		A	A									
1509A62-006	W-ECB2	Water	9/25/2015 15:15	<input type="checkbox"/>	B	C	A	A									
1509A62-007	W-ECB5	Water	9/25/2015 17:02	<input type="checkbox"/>	B	C	A	A									
1509A62-008	W-ECB6	Water	9/25/2015 15:34	<input type="checkbox"/>	B		A	A									
1509A62-009	W-ECB7	Water	9/25/2015 17:16	<input type="checkbox"/>	B	C	A	A									
1509A62-010	W-ECB8	Water	9/25/2015 16:50	<input type="checkbox"/>	B	C	A	A									
1509A62-011	W-ECB9	Water	9/25/2015 16:40	<input type="checkbox"/>	B		A	A									
1509A62-012	W-ECB10	Water	9/25/2015 16:17	<input type="checkbox"/>	B	C	A	A									
1509A62-013	W-ECB11	Water	9/25/2015 16:02	<input type="checkbox"/>	B		A	A									
1509A62-014	W-ECB12	Water	9/25/2015 15:54	<input type="checkbox"/>	B	C	A	A									

Test Legend:

1	8260B_W	2	8270_PNA_W	3	G-MBTX_W	4	TPH(DMO)WSG_W
5		6		7		8	
9		10		11		12	

The following SamplIDs: 001A, 002A, 003A, 004A, 005A, 006A, 007A, 008A, 009A, 010A, 011A, 012A, 013A, 014A contain testgroup.

Prepared by: Maria Venegas

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.



WORK ORDER SUMMARY

Client Name: ESSEL ENVIRONMENTAL CONSULTING

QC Level: LEVEL 2

Work Order: 1509A62

Project: 15166; EBALDC

Client Contact: Nik Lahiri

Date Received: 9/25/2015

Comments:

Contact's Email: nlahiri@esseltex.com

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
1509A62-001A	W-ECB3	Water	Multi-Range TPH(g,d,mo) w/ S.G. Clean-Up	6	2 VOAs w/HCL + 2-aVOAs (multi-range)	<input type="checkbox"/>	9/24/2015 16:35	5 days	50%+	<input type="checkbox"/>	
1509A62-001B	W-ECB3	Water	SW8260B (VOCs)	6	VOA w/ HCl	<input type="checkbox"/>	9/24/2015 16:35	5 days	50%+	<input type="checkbox"/>	
1509A62-001C	W-ECB3	Water	SW8270C (PAHs/PNAs)	1	1LA	<input type="checkbox"/>	9/24/2015 16:35	5 days	50%+	<input type="checkbox"/>	
1509A62-002A	W-ECB4	Water	Multi-Range TPH(g,d,mo) w/ S.G. Clean-Up	6	2 VOAs w/HCL + 2-aVOAs (multi-range)	<input type="checkbox"/>	9/24/2015 16:51	5 days	25%+	<input type="checkbox"/>	
1509A62-002B	W-ECB4	Water	SW8260B (VOCs)	6	VOA w/ HCl	<input type="checkbox"/>	9/24/2015 16:51	5 days	25%+	<input type="checkbox"/>	
1509A62-003A	W-ECB13	Water	Multi-Range TPH(g,d,mo) w/ S.G. Clean-Up	6	2 VOAs w/HCL + 2-aVOAs (multi-range)	<input type="checkbox"/>	9/24/2015 17:13	5 days	Present	<input type="checkbox"/>	
1509A62-003B	W-ECB13	Water	SW8260B (VOCs)	6	VOA w/ HCl	<input type="checkbox"/>	9/24/2015 17:13	5 days	Present	<input type="checkbox"/>	
1509A62-004A	W-ECB14	Water	Multi-Range TPH(g,d,mo) w/ S.G. Clean-Up	6	2 VOAs w/HCL + 2-aVOAs (multi-range)	<input type="checkbox"/>	9/24/2015 17:01	5 days	25%+	<input type="checkbox"/>	
1509A62-004B	W-ECB14	Water	SW8260B (VOCs)	6	VOA w/ HCl	<input type="checkbox"/>	9/24/2015 17:01	5 days	25%+	<input type="checkbox"/>	
1509A62-005A	W-ECB1	Water	Multi-Range TPH(g,d,mo) w/ S.G. Clean-Up	6	2 VOAs w/HCL + 2-aVOAs (multi-range)	<input type="checkbox"/>	9/25/2015 14:08	5 days	Present	<input type="checkbox"/>	
1509A62-005B	W-ECB1	Water	SW8260B (VOCs)	6	VOA w/ HCl	<input type="checkbox"/>	9/25/2015 14:08	5 days	Present	<input type="checkbox"/>	
1509A62-006A	W-ECB2	Water	Multi-Range TPH(g,d,mo) w/ S.G. Clean-Up	6	2 VOAs w/HCL + 2-aVOAs (multi-range)	<input type="checkbox"/>	9/25/2015 15:15	5 days	25%+	<input type="checkbox"/>	
1509A62-006B	W-ECB2	Water	SW8260B (VOCs)	6	VOA w/ HCl	<input type="checkbox"/>	9/25/2015 15:15	5 days	25%+	<input type="checkbox"/>	
1509A62-006C	W-ECB2	Water	SW8270C (PAHs/PNAs)	1	1LA	<input type="checkbox"/>	9/25/2015 15:15	5 days	25%+	<input type="checkbox"/>	

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.



WORK ORDER SUMMARY

Client Name: ESSEL ENVIRONMENTAL CONSULTING

QC Level: LEVEL 2

Work Order: 1509A62

Project: 15166; EBALDC

Client Contact: Nik Lahiri

Date Received: 9/25/2015

Comments:

Contact's Email: nlahiri@esseltex.com

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
1509A62-007A	W-ECB5	Water	Multi-Range TPH(g,d,mo) w/ S.G. Clean-Up	6	2 VOAs w/HCL + 2-aVOAs (multi-range)	<input type="checkbox"/>	9/25/2015 17:02	5 days	50%+	<input type="checkbox"/>	
1509A62-007B	W-ECB5	Water	SW8260B (VOCs)	6	VOA w/ HCL	<input type="checkbox"/>	9/25/2015 17:02	5 days	50%+	<input type="checkbox"/>	
1509A62-007C	W-ECB5	Water	SW8270C (PAHs/PNAs)	1	1LA	<input type="checkbox"/>	9/25/2015 17:02	5 days	50%+	<input type="checkbox"/>	
1509A62-008A	W-ECB6	Water	Multi-Range TPH(g,d,mo) w/ S.G. Clean-Up	6	2 VOAs w/HCL + 2-aVOAs (multi-range)	<input type="checkbox"/>	9/25/2015 15:34	5 days	25%+	<input type="checkbox"/>	
1509A62-008B	W-ECB6	Water	SW8260B (VOCs)	6	VOA w/ HCL	<input type="checkbox"/>	9/25/2015 15:34	5 days	25%+	<input type="checkbox"/>	
1509A62-009A	W-ECB7	Water	Multi-Range TPH(g,d,mo) w/ S.G. Clean-Up	6	2 VOAs w/HCL + 2-aVOAs (multi-range)	<input type="checkbox"/>	9/25/2015 17:16	5 days	5%+	<input type="checkbox"/>	
1509A62-009B	W-ECB7	Water	SW8260B (VOCs)	6	VOA w/ HCL	<input type="checkbox"/>	9/25/2015 17:16	5 days	5%+	<input type="checkbox"/>	
1509A62-009C	W-ECB7	Water	SW8270C (PAHs/PNAs)	1	1LA	<input type="checkbox"/>	9/25/2015 17:16	5 days	5%+	<input type="checkbox"/>	
1509A62-010A	W-ECB8	Water	Multi-Range TPH(g,d,mo) w/ S.G. Clean-Up	6	2 VOAs w/HCL + 2-aVOAs (multi-range)	<input type="checkbox"/>	9/25/2015 16:50	5 days	Present	<input type="checkbox"/>	
1509A62-010B	W-ECB8	Water	SW8260B (VOCs)	6	VOA w/ HCL	<input type="checkbox"/>	9/25/2015 16:50	5 days	Present	<input type="checkbox"/>	
1509A62-010C	W-ECB8	Water	SW8270C (PAHs/PNAs)	1	1LA	<input type="checkbox"/>	9/25/2015 16:50	5 days	Present	<input type="checkbox"/>	
1509A62-011A	W-ECB9	Water	Multi-Range TPH(g,d,mo) w/ S.G. Clean-Up	6	2 VOAs w/HCL + 2-aVOAs (multi-range)	<input type="checkbox"/>	9/25/2015 16:40	5 days	Present	<input type="checkbox"/>	
1509A62-011B	W-ECB9	Water	SW8260B (VOCs)	6	VOA w/ HCL	<input type="checkbox"/>	9/25/2015 16:40	5 days	Present	<input type="checkbox"/>	
1509A62-012A	W-ECB10	Water	Multi-Range TPH(g,d,mo) w/ S.G. Clean-Up	6	2 VOAs w/HCL + 2-aVOAs (multi-range)	<input type="checkbox"/>	9/25/2015 16:17	5 days	10%+	<input type="checkbox"/>	

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

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WORK ORDER SUMMARY

Client Name: ESSEL ENVIRONMENTAL CONSULTING

QC Level: LEVEL 2

Work Order: 1509A62

Project: 15166; EBALDC

Client Contact: Nik Lahiri

Date Received: 9/25/2015

Comments:

Contact's Email: nlahiri@esseltex.com

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
1509A62-012B	W-ECB10	Water	SW8260B (VOCs)	6	VOA w/ HCl	<input type="checkbox"/>	9/25/2015 16:17	5 days	10%+	<input type="checkbox"/>	
1509A62-012C	W-ECB10	Water	SW8270C (PAHs/PNAs)	1	1LA	<input type="checkbox"/>	9/25/2015 16:17	5 days	10%+	<input type="checkbox"/>	
1509A62-013A	W-ECB11	Water	Multi-Range TPH(g,d,mo) w/ S.G. Clean-Up	6	2 VOAs w/HCL + 2-aVOAs (multi-range)	<input type="checkbox"/>	9/25/2015 16:02	5 days	None	<input type="checkbox"/>	
1509A62-013B	W-ECB11	Water	SW8260B (VOCs)	6	VOA w/ HCl	<input type="checkbox"/>	9/25/2015 16:02	5 days	None	<input type="checkbox"/>	
1509A62-014A	W-ECB12	Water	Multi-Range TPH(g,d,mo) w/ S.G. Clean-Up	6	2 VOAs w/HCL + 2-aVOAs (multi-range)	<input type="checkbox"/>	9/25/2015 15:54	5 days	None	<input type="checkbox"/>	
1509A62-014B	W-ECB12	Water	SW8260B (VOCs)	6	VOA w/ HCl	<input type="checkbox"/>	9/25/2015 15:54	5 days	None	<input type="checkbox"/>	
1509A62-014C	W-ECB12	Water	SW8270C (PAHs/PNAs)	1	1LA	<input type="checkbox"/>	9/25/2015 15:54	5 days	None	<input type="checkbox"/>	

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.

McCAMPBELL ANALYTICAL, INC.

1534 WILLOW PASS ROAD
PITTSBURG, CA 94565-1701

1509A62

Website: www.mccampbell.com Email: main@mccampbell.com

Telephone: (877) 252-9262 Fax: (925) 252-9269

CHAIN OF CUSTODY RECORD

TURN AROUND TIME

RUSH 24 HR 48 HR 72 HR **5 DAY**

GeoTracker EDF PDF Excel Write On (DW)

Check if sample is effluent and "J" flag is required

Report To: Nik Lahiri Bill To: Samhita Lahiri
Company: Essel Technology Services, Inc
564 Market Street
San Francisco, California 94104 E-Mail: nlahiri@esseltek.com
Tele: (925) 413-5511 Fax: ()
Project #: 15166 Project Name: EBALDC
Project Location: West Grand Avenue and Brush Street, Oakland, California 94612
Sampler Signature: *Rodger C. Withers*

Analysis Request

Other

Comments

SAMPLE ID	LOCATION/ Field Point Name	SAMPLING		# Containers	Type Containers	MATRIX					METHOD PRESERVED				Filter sample for DISSOLVED metals analysis			
		Date	Time			Water	Soil	Air	Sludge	Other	ICE	HCL	HNO ₃	Other				
+50 W-ECB3		9/24/15	4:35pm	13	G	X					X	X						**Indicate here if these samples are potentially dangerous to handle: Silica gel cleanup before diesel and motor oil analysis
+25 W-ECB4		9/24/15	4:51pm	12	G	X					X	X						
+ W-ECB13		9/24/15	5:13pm	4	G	X					X	X						
+25 W-ECB14		9/24/15	5:01pm	12	G	X					X	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.

Relinquished By: *Rodger C. Withers* Date: 9/25/15 Time: 6:26pm Received By: _____
Relinquished By: _____ Date: 9/25/15 Time: 7:30pm Received By: _____
Relinquished By: _____ Date: _____ Time: _____ Received By: _____

COMMENTS:
ICE/t° _____
GOOD CONDITION _____
HEAD SPACE ABSENT _____
DECHLORINATED IN LAB _____
APPROPRIATE CONTAINERS _____
PRESERVED IN LAB _____
VOAS O&G METALS OTHER
PRESERVATION pH<2

1509A62

McCAMPBELL ANALYTICAL, INC.

1534 WILLOW PASS ROAD
PITTSBURG, CA 94565-1701

Website: www.mccampbell.com Email: main@mccampbell.com
Telephone: (877) 252-9262 Fax: (925) 252-9269

CHAIN OF CUSTODY RECORD

TURN AROUND TIME

RUSH 24 HR 48 HR 72 HR **5 DAY**

GeoTracker EDF PDF Excel Write On (DW)

Check if sample is effluent and "J" flag is required

Report To: Nik Lahiri Bill To: Samhita Lahiri
Company: Essel Technology Services, Inc
564 Market Street
San Francisco, California 94104 E-Mail: nlahiri@esseltek.com
Tele: (925) 413-5511 Fax: ()
Project #: 15166 Project Name: EBALDC
Project Location: West Grand Avenue and Brush Street, Oakland, California 94612
Sampler Signature: *Rodger C. Whitman*

Analysis Request

Other Comments

SAMPLE ID	LOCATION/ Field Point Name	SAMPLING		# Containers	Type Containers	MATRIX					METHOD PRESERVED				Filter sample for DISSOLVED metals analysis	Other	Comments
		Date	Time			Water	Soil	Air	Sludge	Other	ICE	HCL	HNO ₃	Other			
W-ECB1	/	9/25/15	2:08 p.m.	12	G	X					X	X					Silica gel cleanup before diesel and motor oil analysis
W-ECB2		9/25/15	3:15 p.m.	13	G	X					X	X					
W-ECB5		9/25/15	5:02 p.m.	13	G	X					X	X					
W-ECB6		9/25/15	3:34 p.m.	12	G	X					X	X					
W-ECB7		9/25/15	5:16 p.m.	13	G	X					X	X					
W-ECB8		9/25/15	4:50 p.m.	13	G	X					X	X					
W-ECB9		9/25/15	4:40 p.m.	12	G	X					X	X					
W-ECB10		9/25/15	4:17 p.m.	13	G	X					X	X					
W-ECB11		9/25/15	4:02 p.m.	12	G	X					X	X					
W-ECB12		9/25/15	3:54 p.m.	13	G	X					X	X					

+
+25
+50
+25
+5
+
+
+10

**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.

Relinquished By: <i>Rodger C. Whitman</i>	Date: 9/25/15	Time: 6:20 p.m.	Received By: <i>[Signature]</i>	ICE/1° _____ GOOD CONDITION _____ HEAD SPACE ABSENT _____ DECHLORINATED IN LAB _____ APPROPRIATE CONTAINERS _____ PRESERVED IN LAB _____ VOAS O&G METALS OTHER PRESERVATION pH<2	COMMENTS:
Relinquished By: <i>[Signature]</i>	Date: 9/25/15	Time: 7:30 p.m.	Received By: <i>[Signature]</i>		
Relinquished By:	Date:	Time:	Received By:		



Sample Receipt Checklist

Client Name: **Essel Environmental Consulting** Date and Time Received: **9/25/2015 7:30:00 PM**
 Project Name: **15166; EBALDC** Login Reviewed by: **Maria Venegas**
 WorkOrder No: **1509A62** Matrix: Water Carrier: Client Drop-In

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

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
 Sample/Temp Blank temperature Temp: 1.3°C NA
 Water - VOA vials have zero headspace / no bubbles? Yes No NA
 Sample labels checked for correct preservation? Yes No
 pH acceptable upon receipt (Metal: <2; 522: <4; 218.7: >8)? Yes No NA
 Samples Received on Ice? Yes No

(Ice Type: WET ICE)

UCMR3 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

* NOTE: If the "No" box is checked, see comments below.

 Comments:

10/22/2015

Jaime Warren
Essel Environmental Consultants
564 Market St.

San Francisco CA 94104

Project Name: W.Grand & Brush Subsurface Investigation

Project #: 15166

Workorder #: 1510198A

Dear Jaime Warren

The following report includes the data for the above referenced project for sample(s) received on 10/9/2015 at Air Toxics Ltd.

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

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

Regards,



Kyle Vagadori
Project Manager

WORK ORDER #: 1510198A

Work Order Summary

CLIENT:	Jaime Warren Essel Environmental Consultants 564 Market St. San Francisco, CA 94104	BILL TO:	Jaime Warren Essel Environmental Consultants 564 Market St. San Francisco, CA 94104
PHONE:	510-878-0389	P.O. #	15166
FAX:		PROJECT #	15166 W.Grand & Brush Subsurface
DATE RECEIVED:	10/09/2015	CONTACT:	Investigation Kyle Vagadori
DATE COMPLETED:	10/22/2015		

<u>FRACTION #</u>	<u>NAME</u>	<u>TEST</u>	<u>RECEIPT VAC./PRES.</u>	<u>FINAL PRESSURE</u>
01A	SV-1	TO-15	3.9 "Hg	14.7 psi
02A	SV-2	TO-15	3.7 "Hg	15 psi
03A	Lab Blank	TO-15	NA	NA
04A	CCV	TO-15	NA	NA
05A	LCS	TO-15	NA	NA
05AA	LCSD	TO-15	NA	NA

CERTIFIED BY: 

 Technical Director

DATE: 10/22/15

Certification numbers: AZ Licensure AZ0775, NJ NELAP - CA016, NY NELAP - 11291,
 TX NELAP - T104704343-14-7, UT NELAP CA009332014-5, VA NELAP - 460197, WA NELAP - C935
 Name of Accreditation Body: NELAP/ORELAP (Oregon Environmental Laboratory Accreditation Program)
 Accreditation number: CA300005, Effective date: 10/18/2014, Expiration date: 10/17/2015.

Eurofins Air Toxics Inc. certifies that the test results contained in this report meet all requirements of the NELAC standards

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

180 BLUE RAVINE ROAD, SUITE B FOLSOM, CA - 9563
 (916) 985-1000 . (800) 985-5955 . FAX (916) 985-1020

**LABORATORY NARRATIVE
EPA Method TO-15
Essel Environmental Consultants
Workorder# 1510198A**

Two 1 Liter Summa Canister samples were received on October 09, 2015. The laboratory performed analysis via EPA Method TO-15 using GC/MS in the full scan mode.

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

Receiving Notes

There were no receiving discrepancies.

Analytical Notes

Dilution was performed on sample SV-1 due to matrix interference.

All Quality Control Limit exceedances and affected sample results are noted by flags. Each flag is defined at the bottom of this Case Narrative and on each Sample Result Summary page.

Definition of Data Qualifying Flags

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

B - Compound present in laboratory blank greater than reporting limit (background subtraction not performed).

J - Estimated value.

E - Exceeds instrument calibration range.

S - Saturated peak.

Q - Exceeds quality control limits.

U - Compound analyzed for but not detected above the reporting limit, LOD, or MDL value. See data page for project specific U-flag definition.

UJ- Non-detected compound associated with low bias in the CCV

N - The identification is based on presumptive evidence.

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

a-File was requantified

b-File was quantified by a second column and detector

r1-File was requantified for the purpose of reissue

Summary of Detected Compounds

EPA METHOD TO-15 GC/MS FULL SCAN

Client Sample ID: SV-1

Lab ID#: 1510198A-01A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	2.3	12	5.9	31
Methyl tert-butyl ether	2.3	31	8.3	110
Hexane	2.3	130	8.1	460
cis-1,2-Dichloroethene	2.3	29	9.1	110
Cyclohexane	2.3	71	7.9	240
2,2,4-Trimethylpentane	2.3	310	11	1400
Benzene	2.3	8.7	7.3	28
Heptane	2.3	62	9.4	260
Ethyl Benzene	2.3	8.9	10	39
m,p-Xylene	2.3	30	10	130
o-Xylene	2.3	16	10	68
Cumene	2.3	4.5	11	22
Propylbenzene	2.3	17	11	83
4-Ethyltoluene	2.3	50	11	240
1,3,5-Trimethylbenzene	2.3	16	11	79
1,2,4-Trimethylbenzene	2.3	56	11	280

Client Sample ID: SV-2

Lab ID#: 1510198A-02A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Carbon Disulfide	4.6	4.8	14	15
Chloroform	1.2	6.9	5.6	34
Tetrachloroethene	1.2	22	7.8	150



Air Toxics

Client Sample ID: SV-1

Lab ID#: 1510198A-01A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	a101419	Date of Collection:	10/8/15 1:19:00 PM
Dil. Factor:	4.60	Date of Analysis:	10/14/15 11:27 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	2.3	Not Detected	11	Not Detected
Freon 114	2.3	Not Detected	16	Not Detected
Chloromethane	23	Not Detected	47	Not Detected
Vinyl Chloride	2.3	12	5.9	31
1,3-Butadiene	2.3	Not Detected	5.1	Not Detected
Bromomethane	23	Not Detected	89	Not Detected
Chloroethane	9.2	Not Detected	24	Not Detected
Freon 11	2.3	Not Detected	13	Not Detected
Ethanol	9.2	Not Detected	17	Not Detected
Freon 113	2.3	Not Detected	18	Not Detected
1,1-Dichloroethene	2.3	Not Detected	9.1	Not Detected
Acetone	23	Not Detected	55	Not Detected
2-Propanol	9.2	Not Detected	23	Not Detected
Carbon Disulfide	9.2	Not Detected	29	Not Detected
3-Chloropropene	9.2	Not Detected	29	Not Detected
Methylene Chloride	23	Not Detected	80	Not Detected
Methyl tert-butyl ether	2.3	31	8.3	110
trans-1,2-Dichloroethene	2.3	Not Detected	9.1	Not Detected
Hexane	2.3	130	8.1	460
1,1-Dichloroethane	2.3	Not Detected	9.3	Not Detected
2-Butanone (Methyl Ethyl Ketone)	9.2	Not Detected	27	Not Detected
cis-1,2-Dichloroethene	2.3	29	9.1	110
Tetrahydrofuran	2.3	Not Detected	6.8	Not Detected
Chloroform	2.3	Not Detected	11	Not Detected
1,1,1-Trichloroethane	2.3	Not Detected	12	Not Detected
Cyclohexane	2.3	71	7.9	240
Carbon Tetrachloride	2.3	Not Detected	14	Not Detected
2,2,4-Trimethylpentane	2.3	310	11	1400
Benzene	2.3	8.7	7.3	28
1,2-Dichloroethane	2.3	Not Detected	9.3	Not Detected
Heptane	2.3	62	9.4	260
Trichloroethene	2.3	Not Detected	12	Not Detected
1,2-Dichloropropane	2.3	Not Detected	11	Not Detected
1,4-Dioxane	9.2	Not Detected	33	Not Detected
Bromodichloromethane	2.3	Not Detected	15	Not Detected
cis-1,3-Dichloropropene	2.3	Not Detected	10	Not Detected
4-Methyl-2-pentanone	2.3	Not Detected	9.4	Not Detected
Toluene	2.3	Not Detected	8.7	Not Detected
trans-1,3-Dichloropropene	2.3	Not Detected	10	Not Detected
1,1,2-Trichloroethane	2.3	Not Detected	12	Not Detected
Tetrachloroethene	2.3	Not Detected	16	Not Detected
2-Hexanone	9.2	Not Detected	38	Not Detected



Client Sample ID: SV-1

Lab ID#: 1510198A-01A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	a101419	Date of Collection:	10/8/15 1:19:00 PM
Dil. Factor:	4.60	Date of Analysis:	10/14/15 11:27 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Dibromochloromethane	2.3	Not Detected	20	Not Detected
1,2-Dibromoethane (EDB)	2.3	Not Detected	18	Not Detected
Chlorobenzene	2.3	Not Detected	10	Not Detected
Ethyl Benzene	2.3	8.9	10	39
m,p-Xylene	2.3	30	10	130
o-Xylene	2.3	16	10	68
Styrene	2.3	Not Detected	9.8	Not Detected
Bromoform	2.3	Not Detected	24	Not Detected
Cumene	2.3	4.5	11	22
1,1,2,2-Tetrachloroethane	2.3	Not Detected	16	Not Detected
Propylbenzene	2.3	17	11	83
4-Ethyltoluene	2.3	50	11	240
1,3,5-Trimethylbenzene	2.3	16	11	79
1,2,4-Trimethylbenzene	2.3	56	11	280
1,3-Dichlorobenzene	2.3	Not Detected	14	Not Detected
1,4-Dichlorobenzene	2.3	Not Detected	14	Not Detected
alpha-Chlorotoluene	2.3	Not Detected	12	Not Detected
1,2-Dichlorobenzene	2.3	Not Detected	14	Not Detected
1,2,4-Trichlorobenzene	9.2	Not Detected UJ	68	Not Detected UJ
Hexachlorobutadiene	9.2	Not Detected	98	Not Detected
Naphthalene	4.6	Not Detected	24	Not Detected

UJ = Analyte associated with low bias in the CCV and/or LCS.

Container Type: 1 Liter Summa Canister

Surrogates	%Recovery	Method Limits
Toluene-d8	105	70-130
1,2-Dichloroethane-d4	100	70-130
4-Bromofluorobenzene	99	70-130



Air Toxics

Client Sample ID: SV-2

Lab ID#: 1510198A-02A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	a101420	Date of Collection:	10/8/15 2:02:00 PM
Dil. Factor:	2.30	Date of Analysis:	10/14/15 11:54 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	1.2	Not Detected	5.7	Not Detected
Freon 114	1.2	Not Detected	8.0	Not Detected
Chloromethane	12	Not Detected	24	Not Detected
Vinyl Chloride	1.2	Not Detected	2.9	Not Detected
1,3-Butadiene	1.2	Not Detected	2.5	Not Detected
Bromomethane	12	Not Detected	45	Not Detected
Chloroethane	4.6	Not Detected	12	Not Detected
Freon 11	1.2	Not Detected	6.5	Not Detected
Ethanol	4.6	Not Detected	8.7	Not Detected
Freon 113	1.2	Not Detected	8.8	Not Detected
1,1-Dichloroethene	1.2	Not Detected	4.6	Not Detected
Acetone	12	Not Detected	27	Not Detected
2-Propanol	4.6	Not Detected	11	Not Detected
Carbon Disulfide	4.6	4.8	14	15
3-Chloropropene	4.6	Not Detected	14	Not Detected
Methylene Chloride	12	Not Detected	40	Not Detected
Methyl tert-butyl ether	1.2	Not Detected	4.1	Not Detected
trans-1,2-Dichloroethene	1.2	Not Detected	4.6	Not Detected
Hexane	1.2	Not Detected	4.0	Not Detected
1,1-Dichloroethane	1.2	Not Detected	4.6	Not Detected
2-Butanone (Methyl Ethyl Ketone)	4.6	Not Detected	14	Not Detected
cis-1,2-Dichloroethene	1.2	Not Detected	4.6	Not Detected
Tetrahydrofuran	1.2	Not Detected	3.4	Not Detected
Chloroform	1.2	6.9	5.6	34
1,1,1-Trichloroethane	1.2	Not Detected	6.3	Not Detected
Cyclohexane	1.2	Not Detected	4.0	Not Detected
Carbon Tetrachloride	1.2	Not Detected	7.2	Not Detected
2,2,4-Trimethylpentane	1.2	Not Detected	5.4	Not Detected
Benzene	1.2	Not Detected	3.7	Not Detected
1,2-Dichloroethane	1.2	Not Detected	4.6	Not Detected
Heptane	1.2	Not Detected	4.7	Not Detected
Trichloroethene	1.2	Not Detected	6.2	Not Detected
1,2-Dichloropropane	1.2	Not Detected	5.3	Not Detected
1,4-Dioxane	4.6	Not Detected	16	Not Detected
Bromodichloromethane	1.2	Not Detected	7.7	Not Detected
cis-1,3-Dichloropropene	1.2	Not Detected	5.2	Not Detected
4-Methyl-2-pentanone	1.2	Not Detected	4.7	Not Detected
Toluene	1.2	Not Detected	4.3	Not Detected
trans-1,3-Dichloropropene	1.2	Not Detected	5.2	Not Detected
1,1,2-Trichloroethane	1.2	Not Detected	6.3	Not Detected
Tetrachloroethene	1.2	22	7.8	150
2-Hexanone	4.6	Not Detected	19	Not Detected



Client Sample ID: SV-2

Lab ID#: 1510198A-02A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	a101420	Date of Collection:	10/8/15 2:02:00 PM
Dil. Factor:	2.30	Date of Analysis:	10/14/15 11:54 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Dibromochloromethane	1.2	Not Detected	9.8	Not Detected
1,2-Dibromoethane (EDB)	1.2	Not Detected	8.8	Not Detected
Chlorobenzene	1.2	Not Detected	5.3	Not Detected
Ethyl Benzene	1.2	Not Detected	5.0	Not Detected
m,p-Xylene	1.2	Not Detected	5.0	Not Detected
o-Xylene	1.2	Not Detected	5.0	Not Detected
Styrene	1.2	Not Detected	4.9	Not Detected
Bromoform	1.2	Not Detected	12	Not Detected
Cumene	1.2	Not Detected	5.6	Not Detected
1,1,2,2-Tetrachloroethane	1.2	Not Detected	7.9	Not Detected
Propylbenzene	1.2	Not Detected	5.6	Not Detected
4-Ethyltoluene	1.2	Not Detected	5.6	Not Detected
1,3,5-Trimethylbenzene	1.2	Not Detected	5.6	Not Detected
1,2,4-Trimethylbenzene	1.2	Not Detected	5.6	Not Detected
1,3-Dichlorobenzene	1.2	Not Detected	6.9	Not Detected
1,4-Dichlorobenzene	1.2	Not Detected	6.9	Not Detected
alpha-Chlorotoluene	1.2	Not Detected	6.0	Not Detected
1,2-Dichlorobenzene	1.2	Not Detected	6.9	Not Detected
1,2,4-Trichlorobenzene	4.6	Not Detected UJ	34	Not Detected UJ
Hexachlorobutadiene	4.6	Not Detected	49	Not Detected
Naphthalene	2.3	Not Detected	12	Not Detected

UJ = Analyte associated with low bias in the CCV and/or LCS.

Container Type: 1 Liter Summa Canister

Surrogates	%Recovery	Method Limits
Toluene-d8	98	70-130
1,2-Dichloroethane-d4	100	70-130
4-Bromofluorobenzene	102	70-130



Air Toxics

Client Sample ID: Lab Blank

Lab ID#: 1510198A-03A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	a101408c	Date of Collection:	NA
Dil. Factor:	1.00	Date of Analysis:	10/14/15 01:22 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.50	Not Detected	2.5	Not Detected
Freon 114	0.50	Not Detected	3.5	Not Detected
Chloromethane	5.0	Not Detected	10	Not Detected
Vinyl Chloride	0.50	Not Detected	1.3	Not Detected
1,3-Butadiene	0.50	Not Detected	1.1	Not Detected
Bromomethane	5.0	Not Detected	19	Not Detected
Chloroethane	2.0	Not Detected	5.3	Not Detected
Freon 11	0.50	Not Detected	2.8	Not Detected
Ethanol	2.0	Not Detected	3.8	Not Detected
Freon 113	0.50	Not Detected	3.8	Not Detected
1,1-Dichloroethene	0.50	Not Detected	2.0	Not Detected
Acetone	5.0	Not Detected	12	Not Detected
2-Propanol	2.0	Not Detected	4.9	Not Detected
Carbon Disulfide	2.0	Not Detected	6.2	Not Detected
3-Chloropropene	2.0	Not Detected	6.3	Not Detected
Methylene Chloride	5.0	Not Detected	17	Not Detected
Methyl tert-butyl ether	0.50	Not Detected	1.8	Not Detected
trans-1,2-Dichloroethene	0.50	Not Detected	2.0	Not Detected
Hexane	0.50	Not Detected	1.8	Not Detected
1,1-Dichloroethane	0.50	Not Detected	2.0	Not Detected
2-Butanone (Methyl Ethyl Ketone)	2.0	Not Detected	5.9	Not Detected
cis-1,2-Dichloroethene	0.50	Not Detected	2.0	Not Detected
Tetrahydrofuran	0.50	Not Detected	1.5	Not Detected
Chloroform	0.50	Not Detected	2.4	Not Detected
1,1,1-Trichloroethane	0.50	Not Detected	2.7	Not Detected
Cyclohexane	0.50	Not Detected	1.7	Not Detected
Carbon Tetrachloride	0.50	Not Detected	3.1	Not Detected
2,2,4-Trimethylpentane	0.50	Not Detected	2.3	Not Detected
Benzene	0.50	Not Detected	1.6	Not Detected
1,2-Dichloroethane	0.50	Not Detected	2.0	Not Detected
Heptane	0.50	Not Detected	2.0	Not Detected
Trichloroethene	0.50	Not Detected	2.7	Not Detected
1,2-Dichloropropane	0.50	Not Detected	2.3	Not Detected
1,4-Dioxane	2.0	Not Detected	7.2	Not Detected
Bromodichloromethane	0.50	Not Detected	3.4	Not Detected
cis-1,3-Dichloropropene	0.50	Not Detected	2.3	Not Detected
4-Methyl-2-pentanone	0.50	Not Detected	2.0	Not Detected
Toluene	0.50	Not Detected	1.9	Not Detected
trans-1,3-Dichloropropene	0.50	Not Detected	2.3	Not Detected
1,1,2-Trichloroethane	0.50	Not Detected	2.7	Not Detected
Tetrachloroethene	0.50	Not Detected	3.4	Not Detected
2-Hexanone	2.0	Not Detected	8.2	Not Detected



Client Sample ID: Lab Blank

Lab ID#: 1510198A-03A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	a101408c	Date of Collection:	NA
Dil. Factor:	1.00	Date of Analysis:	10/14/15 01:22 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Dibromochloromethane	0.50	Not Detected	4.2	Not Detected
1,2-Dibromoethane (EDB)	0.50	Not Detected	3.8	Not Detected
Chlorobenzene	0.50	Not Detected	2.3	Not Detected
Ethyl Benzene	0.50	Not Detected	2.2	Not Detected
m,p-Xylene	0.50	Not Detected	2.2	Not Detected
o-Xylene	0.50	Not Detected	2.2	Not Detected
Styrene	0.50	Not Detected	2.1	Not Detected
Bromoform	0.50	Not Detected	5.2	Not Detected
Cumene	0.50	Not Detected	2.4	Not Detected
1,1,2,2-Tetrachloroethane	0.50	Not Detected	3.4	Not Detected
Propylbenzene	0.50	Not Detected	2.4	Not Detected
4-Ethyltoluene	0.50	Not Detected	2.4	Not Detected
1,3,5-Trimethylbenzene	0.50	Not Detected	2.4	Not Detected
1,2,4-Trimethylbenzene	0.50	Not Detected	2.4	Not Detected
1,3-Dichlorobenzene	0.50	Not Detected	3.0	Not Detected
1,4-Dichlorobenzene	0.50	Not Detected	3.0	Not Detected
alpha-Chlorotoluene	0.50	Not Detected	2.6	Not Detected
1,2-Dichlorobenzene	0.50	Not Detected	3.0	Not Detected
1,2,4-Trichlorobenzene	2.0	Not Detected UJ	15	Not Detected UJ
Hexachlorobutadiene	2.0	Not Detected	21	Not Detected
Naphthalene	1.0	Not Detected	5.2	Not Detected

UJ = Analyte associated with low bias in the CCV and/or LCS.

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
Toluene-d8	92	70-130
1,2-Dichloroethane-d4	99	70-130
4-Bromofluorobenzene	102	70-130



Air Toxics

Client Sample ID: CCV

Lab ID#: 1510198A-04A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	a101403	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 10/14/15 10:36 AM

Compound	%Recovery
Freon 12	88
Freon 114	89
Chloromethane	88
Vinyl Chloride	90
1,3-Butadiene	86
Bromomethane	87
Chloroethane	89
Freon 11	88
Ethanol	83
Freon 113	90
1,1-Dichloroethene	90
Acetone	91
2-Propanol	97
Carbon Disulfide	91
3-Chloropropene	91
Methylene Chloride	94
Methyl tert-butyl ether	92
trans-1,2-Dichloroethene	93
Hexane	93
1,1-Dichloroethane	91
2-Butanone (Methyl Ethyl Ketone)	100
cis-1,2-Dichloroethene	98
Tetrahydrofuran	92
Chloroform	94
1,1,1-Trichloroethane	89
Cyclohexane	89
Carbon Tetrachloride	90
2,2,4-Trimethylpentane	96
Benzene	91
1,2-Dichloroethane	92
Heptane	96
Trichloroethene	93
1,2-Dichloropropane	87
1,4-Dioxane	98
Bromodichloromethane	91
cis-1,3-Dichloropropene	96
4-Methyl-2-pentanone	92
Toluene	94
trans-1,3-Dichloropropene	95
1,1,2-Trichloroethane	92
Tetrachloroethene	92
2-Hexanone	99



Air Toxics

Client Sample ID: CCV

Lab ID#: 1510198A-04A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	a101403	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 10/14/15 10:36 AM

Compound	%Recovery
Dibromochloromethane	95
1,2-Dibromoethane (EDB)	99
Chlorobenzene	95
Ethyl Benzene	98
m,p-Xylene	99
o-Xylene	97
Styrene	104
Bromoform	93
Cumene	96
1,1,2,2-Tetrachloroethane	94
Propylbenzene	95
4-Ethyltoluene	98
1,3,5-Trimethylbenzene	101
1,2,4-Trimethylbenzene	105
1,3-Dichlorobenzene	96
1,4-Dichlorobenzene	92
alpha-Chlorotoluene	88
1,2-Dichlorobenzene	78
1,2,4-Trichlorobenzene	67 Q
Hexachlorobutadiene	70
Naphthalene	74

Q = Exceeds Quality Control limits.

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
Toluene-d8	103	70-130
1,2-Dichloroethane-d4	98	70-130
4-Bromofluorobenzene	93	70-130

Client Sample ID: LCS

Lab ID#: 1510198A-05A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	a101405	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 10/14/15 11:40 AM

Compound	%Recovery	Method Limits
Freon 12	108	70-130
Freon 114	112	70-130
Chloromethane	105	70-130
Vinyl Chloride	110	70-130
1,3-Butadiene	99	70-130
Bromomethane	98	70-130
Chloroethane	104	70-130
Freon 11	101	70-130
Ethanol	104	70-130
Freon 113	106	70-130
1,1-Dichloroethene	112	70-130
Acetone	109	70-130
2-Propanol	115	70-130
Carbon Disulfide	94	70-130
3-Chloropropene	105	70-130
Methylene Chloride	110	70-130
Methyl tert-butyl ether	108	70-130
trans-1,2-Dichloroethene	94	70-130
Hexane	111	70-130
1,1-Dichloroethane	111	70-130
2-Butanone (Methyl Ethyl Ketone)	114	70-130
cis-1,2-Dichloroethene	127	70-130
Tetrahydrofuran	107	70-130
Chloroform	111	70-130
1,1,1-Trichloroethane	107	70-130
Cyclohexane	106	70-130
Carbon Tetrachloride	109	70-130
2,2,4-Trimethylpentane	116	70-130
Benzene	115	70-130
1,2-Dichloroethane	117	70-130
Heptane	117	70-130
Trichloroethene	113	70-130
1,2-Dichloropropane	102	70-130
1,4-Dioxane	102	70-130
Bromodichloromethane	110	70-130
cis-1,3-Dichloropropene	98	70-130
4-Methyl-2-pentanone	104	70-130
Toluene	111	70-130
trans-1,3-Dichloropropene	107	70-130
1,1,2-Trichloroethane	107	70-130
Tetrachloroethene	103	70-130
2-Hexanone	110	70-130

Client Sample ID: LCS

Lab ID#: 1510198A-05A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	a101405	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 10/14/15 11:40 AM

Compound	%Recovery	Method Limits
Dibromochloromethane	112	70-130
1,2-Dibromoethane (EDB)	114	70-130
Chlorobenzene	111	70-130
Ethyl Benzene	114	70-130
m,p-Xylene	115	70-130
o-Xylene	117	70-130
Styrene	115	70-130
Bromoform	110	70-130
Cumene	112	70-130
1,1,2,2-Tetrachloroethane	111	70-130
Propylbenzene	114	70-130
4-Ethyltoluene	112	70-130
1,3,5-Trimethylbenzene	109	70-130
1,2,4-Trimethylbenzene	116	70-130
1,3-Dichlorobenzene	108	70-130
1,4-Dichlorobenzene	110	70-130
alpha-Chlorotoluene	118	70-130
1,2-Dichlorobenzene	114	70-130
1,2,4-Trichlorobenzene	97	70-130
Hexachlorobutadiene	96	70-130
Naphthalene	68	60-140

Container Type: NA - Not Applicable

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

Client Sample ID: LCS D

Lab ID#: 1510198A-05AA

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	a101406	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 10/14/15 12:17 PM

Compound	%Recovery	Method Limits
Freon 12	107	70-130
Freon 114	112	70-130
Chloromethane	102	70-130
Vinyl Chloride	110	70-130
1,3-Butadiene	100	70-130
Bromomethane	100	70-130
Chloroethane	107	70-130
Freon 11	102	70-130
Ethanol	100	70-130
Freon 113	98	70-130
1,1-Dichloroethene	107	70-130
Acetone	111	70-130
2-Propanol	112	70-130
Carbon Disulfide	89	70-130
3-Chloropropene	94	70-130
Methylene Chloride	112	70-130
Methyl tert-butyl ether	107	70-130
trans-1,2-Dichloroethene	95	70-130
Hexane	109	70-130
1,1-Dichloroethane	112	70-130
2-Butanone (Methyl Ethyl Ketone)	119	70-130
cis-1,2-Dichloroethene	124	70-130
Tetrahydrofuran	108	70-130
Chloroform	112	70-130
1,1,1-Trichloroethane	108	70-130
Cyclohexane	105	70-130
Carbon Tetrachloride	106	70-130
2,2,4-Trimethylpentane	117	70-130
Benzene	114	70-130
1,2-Dichloroethane	114	70-130
Heptane	114	70-130
Trichloroethene	112	70-130
1,2-Dichloropropane	105	70-130
1,4-Dioxane	118	70-130
Bromodichloromethane	116	70-130
cis-1,3-Dichloropropene	113	70-130
4-Methyl-2-pentanone	112	70-130
Toluene	113	70-130
trans-1,3-Dichloropropene	114	70-130
1,1,2-Trichloroethane	111	70-130
Tetrachloroethene	114	70-130
2-Hexanone	115	70-130

Client Sample ID: LCSD

Lab ID#: 1510198A-05AA

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	a101406	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 10/14/15 12:17 PM

Compound	%Recovery	Method Limits
Dibromochloromethane	118	70-130
1,2-Dibromoethane (EDB)	119	70-130
Chlorobenzene	111	70-130
Ethyl Benzene	114	70-130
m,p-Xylene	114	70-130
o-Xylene	117	70-130
Styrene	118	70-130
Bromoform	115	70-130
Cumene	117	70-130
1,1,2,2-Tetrachloroethane	110	70-130
Propylbenzene	118	70-130
4-Ethyltoluene	118	70-130
1,3,5-Trimethylbenzene	114	70-130
1,2,4-Trimethylbenzene	125	70-130
1,3-Dichlorobenzene	119	70-130
1,4-Dichlorobenzene	122	70-130
alpha-Chlorotoluene	129	70-130
1,2-Dichlorobenzene	124	70-130
1,2,4-Trichlorobenzene	107	70-130
Hexachlorobutadiene	105	70-130
Naphthalene	74	60-140

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
Toluene-d8	102	70-130
1,2-Dichloroethane-d4	94	70-130
4-Bromofluorobenzene	98	70-130

Sample Transportation Notice

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Page 1 of 1

Project Manager Nik Lahiri
 Collected by: (Print and Sign) Miguel Mendosa
 Company Essel Environmental Email hmendoza@essettek.com
 Address 351 California St City San Francisco State CA Zip 94104
 Phone (415) 960-9528 Fax _____

Project Info:	Turn Around Time:	<i>Lab Use Only</i>
P.O. # _____	<input checked="" type="checkbox"/> Normal	Pressurized by: _____
Project # <u>15166</u>	<input type="checkbox"/> Rush	Date: _____
Project Name <u>W. Grand & Brush Subsurface Investigation</u>	specify _____	Pressurization Gas: _____
		N ₂ He

Lab I.D.	Field Sample I.D. (Location)	Can #	Date of Collection	Time of Collection	Analyses Requested	Canister Pressure/Vacuum			
						Initial	Final	Receipt	Final (psi)
<u>OIA</u>	<u>SV-1</u>	<u>35653</u>	<u>10/08/15</u>	<u>1:19 pm</u>	<u>TPH-g (TO-3); VOCs (TO-15); CH₄, CO₂, N₂ & O₂</u>	<u>30.5" Hg</u>	<u>5.0" Hg</u>		
<u>OIA</u>	<u>SV-2</u>	<u>3397</u>	<u>10/08/15</u>	<u>2:02 pm</u>	<u>ASTM D-1946</u>	<u>29.75" Hg</u>	<u>5.0" Hg</u>		

Relinquished by: (signature) <u>[Signature]</u> Date/Time <u>10/08/15 5:15pm</u>	Received by: (signature) <u>[Signature]</u> Date/Time <u>10/9/15 10:20</u>	Notes: SAME ANALYSES FOR BOTH SAMPLES TPH-g (TO-3), VOCs (TO-15) & CH ₄ , CO ₂ , N ₂ & O ₂ (ASTM D-1946)
Relinquished by: (signature) _____ Date/Time _____	Received by: (signature) _____ Date/Time _____	
Relinquished by: (signature) _____ Date/Time _____	Received by: (signature) _____ Date/Time _____	

Lab Use Only	Shipper Name <u>Fedex</u>	Air Bill # _____	Temp (°C) <u>N/A</u>	Condition <u>Good</u>	Custody Seals Intact? <u>Yes</u> <u>No</u> <u>None</u>	Work Order # <u>1510198</u>
---------------------	---------------------------	------------------	----------------------	-----------------------	--------------------------------------------------------	-----------------------------

10/22/2015

Jaime Warren
Essel Environmental Consultants
564 Market St.

San Francisco CA 94104

Project Name: W.Grand & Brush Subsurface Investigation

Project #: 15166

Workorder #: 1510198B

Dear Jaime Warren

The following report includes the data for the above referenced project for sample(s) received on 10/9/2015 at Air Toxics Ltd.

The data and associated QC analyzed by Modified TO-3 are compliant with the project requirements or laboratory criteria with the exception of the deviations noted in the attached case narrative.

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

Regards,



Kyle Vagadori
Project Manager

WORK ORDER #: 1510198B

Work Order Summary

CLIENT:	Jaime Warren Essel Environmental Consultants 564 Market St. San Francisco, CA 94104	BILL TO:	Jaime Warren Essel Environmental Consultants 564 Market St. San Francisco, CA 94104
PHONE:	510-878-0389	P.O. #	15166
FAX:		PROJECT #	15166 W.Grand & Brush Subsurface
DATE RECEIVED:	10/09/2015	CONTACT:	Investigation Kyle Vagadori
DATE COMPLETED:	10/22/2015		

<u>FRACTION #</u>	<u>NAME</u>	<u>TEST</u>	<u>RECEIPT VAC./PRES.</u>	<u>FINAL PRESSURE</u>
01A	SV-1	Modified TO-3	3.9 "Hg	14.7 psi
02A	SV-2	Modified TO-3	3.7 "Hg	15 psi
03A	Lab Blank	Modified TO-3	NA	NA
04A	LCS	Modified TO-3	NA	NA

CERTIFIED BY: 

 Technical Director

DATE: 10/22/15

Certification numbers: AZ Licensure AZ0775, NJ NELAP - CA016, NY NELAP - 11291,
 TX NELAP - T104704343-14-7, UT NELAP CA009332014-5, VA NELAP - 460197, WA NELAP - C935
 Name of Accreditation Body: NELAP/ORELAP (Oregon Environmental Laboratory Accreditation Program)
 Accreditation number: CA300005, Effective date: 10/18/2014, Expiration date: 10/17/2015.

Eurofins Air Toxics Inc. certifies that the test results contained in this report meet all requirements of the NELAC standards

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LABORATORY NARRATIVE
Modified TO-3
Essel Environmental Consultants
Workorder# 1510198B

Two 1 Liter Summa Canister samples were received on October 09, 2015. The laboratory performed analysis for volatile organic compounds in air via modified EPA Method TO-3 using gas chromatography with flame ionization detection. The TPH results are calculated using the response of Gasoline. A molecular weight of 100 is used to convert the TPH ppmv result to ug/L. The method involves concentrating up to 200 mL of sample. The concentrated aliquot is then dry purged to remove water vapor prior to entering the chromatographic system.

Method modifications taken to run these samples are summarized in the table below. Specific project requirements may over-ride the ATL modifications.

<i>Requirement</i>	<i>TO-3</i>	<i>ATL Modifications</i>
Daily Calibration Standard Frequency	Prior to sample analysis and every 4 - 6 hrs	Prior to sample analysis and after the analytical batch ≤ 20 samples.
Initial Calibration Calculation	4-point calibration using a linear regression model	5-point calibration using average Response Factor
Initial Calibration Frequency	Weekly	When daily calibration standard recovery is outside 75 - 125 %, or upon significant changes to procedure or instrumentation
Moisture Control	Nafion system	Sorbent system
Minimum Detection Limit (MDL)	Calculated using the equation $DL = A + 3.3S$, where A is intercept of calibration line and S is the standard deviation of at least 3 reps of low level standard	40 CFR Pt. 136 App. B
Preparation of Standards	Levels achieved through dilution of gas mixture	Levels achieved through loading various volumes of the gas mixture

Receiving Notes

There were no receiving discrepancies.

Analytical Notes

The recovery of surrogate Fluorobenzene in sample SV-1 was outside control limits due to high level hydrocarbon matrix interference. Data is reported as qualified.

Definition of Data Qualifying Flags

Seven qualifiers may have been used on the data analysis sheets and indicate as follows:

- B - Compound present in laboratory blank greater than reporting limit.
- J - Estimated value.
- E - Exceeds instrument calibration range.
- S - Saturated peak.
- Q - Exceeds quality control limits.
- U - Compound analyzed for but not detected above the detection limit.
- M - Reported value may be biased due to apparent matrix interferences.

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

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

**Summary of Detected Compounds
MODIFIED EPA METHOD TO-3 GC/FID**

Client Sample ID: SV-1

Lab ID#: 1510198B-01A

Compound	Rpt. Limit (ppmv)	Rpt. Limit (ug/L)	Amount (ppmv)	Amount (ug/L)
TPH (Gasoline Range)	0.058	0.24	16	64

Client Sample ID: SV-2

Lab ID#: 1510198B-02A

Compound	Rpt. Limit (ppmv)	Rpt. Limit (ug/L)	Amount (ppmv)	Amount (ug/L)
TPH (Gasoline Range)	0.058	0.24	0.11	0.45



Air Toxics

Client Sample ID: SV-1

Lab ID#: 1510198B-01A

MODIFIED EPA METHOD TO-3 GC/FID

File Name:	d102205	Date of Collection:	10/8/15 1:19:00 PM
Dil. Factor:	2.30	Date of Analysis:	10/22/15 11:18 AM

Compound	Rpt. Limit (ppmv)	Rpt. Limit (ug/L)	Amount (ppmv)	Amount (ug/L)
TPH (Gasoline Range)	0.058	0.24	16	64

Q = Exceeds Quality Control limits, possibly due to matrix effects.

Container Type: 1 Liter Summa Canister

Surrogates	%Recovery	Method Limits
Fluorobenzene (FID)	169 Q	75-150



Air Toxics

Client Sample ID: SV-2

Lab ID#: 1510198B-02A

MODIFIED EPA METHOD TO-3 GC/FID

File Name:	d102204	Date of Collection:	10/8/15 2:02:00 PM
Dil. Factor:	2.30	Date of Analysis:	10/22/15 10:39 AM

Compound	Rpt. Limit (ppmv)	Rpt. Limit (ug/L)	Amount (ppmv)	Amount (ug/L)
TPH (Gasoline Range)	0.058	0.24	0.11	0.45

Container Type: 1 Liter Summa Canister

Surrogates	%Recovery	Method Limits
Fluorobenzene (FID)	92	75-150



Air Toxics

Client Sample ID: Lab Blank

Lab ID#: 1510198B-03A

MODIFIED EPA METHOD TO-3 GC/FID

File Name:	d102203	Date of Collection:	NA	
Dil. Factor:	1.00	Date of Analysis:	10/22/15 09:56 AM	

Compound	Rpt. Limit (ppmv)	Rpt. Limit (ug/L)	Amount (ppmv)	Amount (ug/L)
TPH (Gasoline Range)	0.025	0.10	Not Detected	Not Detected

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
Fluorobenzene (FID)	92	75-150



Air Toxics

Client Sample ID: LCS

Lab ID#: 1510198B-04A

MODIFIED EPA METHOD TO-3 GC/FID

File Name:	d102202	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 10/22/15 09:22 AM

Compound	%Recovery	Method Limits
TPH (Gasoline Range)	80	75-125

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
Fluorobenzene (FID)	95	75-150

Sample Transportation Notice

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FOLSOM, CA 95630-4719
(916) 985-1000 FAX (916) 985-1020

Page 1 of 1

Project Manager Nik Lahiri
 Collected by: (Print and Sign) Miguel Mendosa
 Company Essel Environmental Email hmendoza@essetek.com
 Address 351 California St City San Francisco State CA Zip 94104
 Phone (415) 960-9528 Fax _____

Project Info:		Turn Around Time:	<i>Lab Use Only</i>
P.O. # _____	<input checked="" type="checkbox"/> Normal <input type="checkbox"/> Rush		Pressurized by: _____
Project # <u>15166</u>	<u>W. Grand & Brush</u>		Date: _____
Project Name <u>Subsurface Investigation</u>	<i>specify</i>		Pressurization Gas: _____ N ₂ He

Lab I.D.	Field Sample I.D. (Location)	Can #	Date of Collection	Time of Collection	Analyses Requested	Canister Pressure/Vacuum			
						Initial	Final	Receipt	Final (psi)
<u>OIA</u>	<u>SV-1</u>	<u>35653</u>	<u>10/08/15</u>	<u>1:19 pm</u>	<u>TPH-g (TO-3); VOCs (TO-15); CH₄, CO₂, N₂ & O₂</u>	<u>30.5" Hg</u>	<u>5.0" Hg</u>		
<u>OIA</u>	<u>SV-2</u>	<u>3397</u>	<u>10/08/15</u>	<u>2:02 pm</u>	<u>ASTM D-1946</u>	<u>29.75" Hg</u>	<u>5.0" Hg</u>		

Relinquished by: (signature) <u>[Signature]</u> Date/Time <u>10/08/15 5:15pm</u>	Received by: (signature) <u>[Signature]</u> Date/Time <u>10/9/15 10:20</u>	Notes: SAME ANALYSES FOR BOTH SAMPLES TPH-g (TO-3), VOCs (TO-15) & CH ₄ , CO ₂ , N ₂ & O ₂ (ASTM D-1946)
Relinquished by: (signature) _____ Date/Time _____	Received by: (signature) _____ Date/Time _____	
Relinquished by: (signature) _____ Date/Time _____	Received by: (signature) _____ Date/Time _____	

Lab Use Only	Shipper Name	Air Bill #	Temp (°C)	Condition	Custody Seals Intact?	Work Order #
	<u>Fedex</u>		<u>N/A</u>	<u>Good</u>	Yes No <u>None</u>	<u>1510198</u>

10/22/2015

Jaime Warren
Essel Environmental Consultants
564 Market St.

San Francisco CA 94104

Project Name: W.Grand & Brush Subsurface Investigation

Project #: 15166

Workorder #: 1510198C

Dear Jaime Warren

The following report includes the data for the above referenced project for sample(s) received on 10/9/2015 at Air Toxics Ltd.

The data and associated QC analyzed by Modified ASTM D-1946 are compliant with the project requirements or laboratory criteria with the exception of the deviations noted in the attached case narrative.

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

Regards,



Kyle Vagadori
Project Manager

WORK ORDER #: 1510198C

Work Order Summary

CLIENT:	Jaime Warren Essel Environmental Consultants 564 Market St. San Francisco, CA 94104	BILL TO:	Jaime Warren Essel Environmental Consultants 564 Market St. San Francisco, CA 94104
PHONE:	510-878-0389	P.O. #	15166
FAX:		PROJECT #	15166 W.Grand & Brush Subsurface
DATE RECEIVED:	10/09/2015	CONTACT:	Investigation Kyle Vagadori
DATE COMPLETED:	10/22/2015		

<u>FRACTION #</u>	<u>NAME</u>	<u>TEST</u>	<u>RECEIPT VAC./PRES.</u>	<u>FINAL PRESSURE</u>
01A	SV-1	Modified ASTM D-1946	3.9 "Hg	14.7 psi
02A	SV-2	Modified ASTM D-1946	3.7 "Hg	15 psi
03A	Lab Blank	Modified ASTM D-1946	NA	NA
04A	LCS	Modified ASTM D-1946	NA	NA
04AA	LCSD	Modified ASTM D-1946	NA	NA

CERTIFIED BY: 
 Technical Director

DATE: 10/22/15

Certification numbers: AZ Licensure AZ0775, NJ NELAP - CA016, NY NELAP - 11291,
 TX NELAP - T104704343-14-7, UT NELAP CA009332014-5, VA NELAP - 460197, WA NELAP - C935
 Name of Accreditation Body: NELAP/ORELAP (Oregon Environmental Laboratory Accreditation Program)
 Accreditation number: CA300005, Effective date: 10/18/2014, Expiration date: 10/17/2015.

Eurofins Air Toxics Inc. certifies that the test results contained in this report meet all requirements of the NELAC standards

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LABORATORY NARRATIVE
Modified ASTM D-1946
Essel Environmental Consultants
Workorder# 1510198C

Two 1 Liter Summa Canister samples were received on October 09, 2015. The laboratory performed analysis via Modified ASTM Method D-1946 for Methane and fixed gases in air using GC/FID or GC/TCD. The method involves direct injection of 1.0 mL of sample.

On the analytical column employed for this analysis, Oxygen coelutes with Argon. The corresponding peak is quantitated as Oxygen.

Since Nitrogen is used to pressurize samples, the reported Nitrogen values are calculated by adding all the sample components and subtracting from 100%.

Method modifications taken to run these samples are summarized in the table below. Specific project requirements may over-ride the ATL modifications.

<i>Requirement</i>	<i>ASTM D-1946</i>	<i>ATL Modifications</i>
Calibration	A single point calibration is performed using a reference standard closely matching the composition of the unknown.	A minimum of 5-point calibration curve is performed. Quantitation is based on average Response Factor.
Reference Standard	The composition of any reference standard must be known to within 0.01 mol % for any component.	The standards used by ATL are blended to a $\geq 95\%$ accuracy.
Sample Injection Volume	Components whose concentrations are in excess of 5 % should not be analyzed by using sample volumes greater than 0.5 mL.	The sample container is connected directly to a fixed volume sample loop of 1.0 mL on the GC. Linear range is defined by the calibration curve. Bags are loaded by vacuum.
Normalization	Normalize the mole percent values by multiplying each value by 100 and dividing by the sum of the original values. The sum of the original values should not differ from 100% by more than 1.0%.	Results are not normalized. The sum of the reported values can differ from 100% by as much as 15%, either due to analytical variability or an unusual sample matrix.
Precision	Precision requirements established at each concentration level.	Duplicates should agree within 25% RPD for detections $> 5 X$'s the RL.

Receiving Notes

There were no receiving discrepancies.

Analytical Notes

There were no analytical discrepancies.

Definition of Data Qualifying Flags

Seven qualifiers may have been used on the data analysis sheets and indicate as follows:

B - Compound present in laboratory blank greater than reporting limit.

J - Estimated value.

E - Exceeds instrument calibration range.

S - Saturated peak.

Q - Exceeds quality control limits.

U - Compound analyzed for but not detected above the detection limit.

M - Reported value may be biased due to apparent matrix interferences.

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

a-File was requantified

b-File was quantified by a second column and detector

r1-File was requantified for the purpose of reissue

Summary of Detected Compounds
NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

Client Sample ID: SV-1

Lab ID#: 1510198C-01A

Compound	Rpt. Limit (%)	Amount (%)
Oxygen	0.23	1.6
Nitrogen	0.23	92
Methane	0.00023	0.013
Carbon Dioxide	0.023	6.1

Client Sample ID: SV-2

Lab ID#: 1510198C-02A

Compound	Rpt. Limit (%)	Amount (%)
Oxygen	0.23	14
Nitrogen	0.23	81
Carbon Dioxide	0.023	5.2



Air Toxics

Client Sample ID: SV-1

Lab ID#: 1510198C-01A

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	10101413	Date of Collection:	10/8/15 1:19:00 PM
Dil. Factor:	2.30	Date of Analysis:	10/14/15 02:04 PM

Compound	Rpt. Limit (%)	Amount (%)
Oxygen	0.23	1.6
Nitrogen	0.23	92
Methane	0.00023	0.013
Carbon Dioxide	0.023	6.1

Container Type: 1 Liter Summa Canister



Air Toxics

Client Sample ID: SV-2

Lab ID#: 1510198C-02A

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	10101414	Date of Collection:	10/8/15 2:02:00 PM
Dil. Factor:	2.30	Date of Analysis:	10/14/15 02:30 PM

Compound	Rpt. Limit (%)	Amount (%)
Oxygen	0.23	14
Nitrogen	0.23	81
Methane	0.00023	Not Detected
Carbon Dioxide	0.023	5.2

Container Type: 1 Liter Summa Canister



Air Toxics

Client Sample ID: Lab Blank

Lab ID#: 1510198C-03A

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	10101404	Date of Collection:	NA
Dil. Factor:	1.00	Date of Analysis:	10/14/15 09:10 AM

Compound	Rpt. Limit (%)	Amount (%)
Oxygen	0.10	Not Detected
Nitrogen	0.10	Not Detected
Methane	0.00010	Not Detected
Carbon Dioxide	0.010	Not Detected

Container Type: NA - Not Applicable



Air Toxics

Client Sample ID: LCS

Lab ID#: 1510198C-04A

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	10101402	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 10/14/15 07:58 AM

Compound	%Recovery	Method Limits
Oxygen	99	85-115
Nitrogen	92	85-115
Methane	106	85-115
Carbon Dioxide	98	85-115

Container Type: NA - Not Applicable



Air Toxics

Client Sample ID: LCSD

Lab ID#: 1510198C-04AA

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	10101415	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 10/14/15 02:55 PM

Compound	%Recovery	Method Limits
Oxygen	99	85-115
Nitrogen	92	85-115
Methane	106	85-115
Carbon Dioxide	99	85-115

Container Type: NA - Not Applicable

Sample Transportation Notice

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Page 1 of 1

Project Manager Nik Lahiri
 Collected by: (Print and Sign) Miguel Mendosa
 Company Essel Environmental Email hmendoza@essettek.com
 Address 351 California St City San Francisco State CA Zip 94104
 Phone (415) 960-9528 Fax _____

Project Info:		Turn Around Time:	<i>Lab Use Only</i>	
P.O. # _____	Project # <u>15166</u>		Pressurized by: _____	
Project Name <u>W. Grand & Brush Subsurface Investigation</u>		<input checked="" type="checkbox"/> Normal	Date: _____	
_____ specify _____		<input type="checkbox"/> Rush	Pressurization Gas: _____	
			N ₂ He	

Lab I.D.	Field Sample I.D. (Location)	Can #	Date of Collection	Time of Collection	Analyses Requested	Canister Pressure/Vacuum			
						Initial	Final	Receipt	Final (psi)
<u>OIA</u>	<u>SV-1</u>	<u>35653</u>	<u>10/08/15</u>	<u>1:19 pm</u>	<u>TPH-g (TO-3); VOCs (TO-15); CH₄, CO₂, N₂ & O₂</u>	<u>30.5" Hg</u>	<u>5.0" Hg</u>		
<u>OIA</u>	<u>SV-2</u>	<u>3397</u>	<u>10/08/15</u>	<u>2:02 pm</u>	<u>ASTM D-1946</u>	<u>29.75" Hg</u>	<u>5.0" Hg</u>		

Relinquished by: (signature) <u>[Signature]</u> Date/Time <u>10/08/15 5:15pm</u>	Received by: (signature) <u>[Signature]</u> Date/Time <u>10/9/15 10:20</u>	Notes: SAME ANALYSES FOR BOTH SAMPLES TPH-g (TO-3), VOCs (TO-15) & CH ₄ , CO ₂ , N ₂ & O ₂ (ASTM D-1946)
Relinquished by: (signature) _____ Date/Time _____	Received by: (signature) _____ Date/Time _____	
Relinquished by: (signature) _____ Date/Time _____	Received by: (signature) _____ Date/Time _____	

Lab Use Only	Shipper Name	Air Bill #	Temp (°C)	Condition	Custody Seals Intact?	Work Order #
	<u>Fedex</u>		<u>N/A</u>	<u>Good</u>	Yes No <u>None</u>	<u>1510198</u>

APPENDIX E

CONCEPTUAL SITE MODEL AND DATA GAP TABLES

Table 5
Conceptual Site Model

CSM Element	CSM Sub-Element	Description	Data Gap Item #	Resolution
Geology and Hydrogeology	Regional	<p>The Site is located on the East Bay Plain, which consists of a series of alluvial fans and dune sands that were deposited on a westward sloping bedrock surface. This bedrock is presumed to consist of rocks of the Jurassic to Cretaceous-age Franciscan complex. The alluvial fan and dune sand deposits that overlie the Franciscan complex rocks are Pleistocene to Holocene in age and, from oldest to youngest, include the Santa Clara, Alameda, and Temescal Formations. The early Pleistocene-age Santa Clara Formation contains semi-consolidated units of conglomerate, sandstone, siltstone, and claystone. The Alameda Formation, of Pleistocene to Holocene age, comprises lower unnamed units and several upper members that include the Yerba Buena mud (black, organic-rich clay); a sequence of alluvial fan and eolian deposits (sand, gravel, silt) referred to as the San Antonio/Merritt/Posey member, and the Young Bay mud (black, organic-rich clay). The Temescal Formation is early Holocene in age and is an alluvial deposit consisting of silt and clay. The total thickness of these Pleistocene to Holocene sediments in the general area is reported to range from 450 to 500 feet (California Regional Water Quality Control Board, San Francisco Bay Region [RWQCB], 1999).</p> <p>The RWQCB considers regional shallow ground-water-bearing units to be those that are above the Yerba Buena mud (i.e., San Antonio, Merritt, and Posey members of the Alameda Formation; Temescal Formation) and deeper regional ground water to be below the Yerba Buena mud (i.e., lower unnamed units of the Alameda Formation; Santa Clara Formation). The direction of ground-water flow in the area of the Site varies, but is generally westward, consistent with the surface topographic slope.</p>	None	NA

Table 5
Conceptual Site Model (Continued)

CSM Element	CSM Sub-Element	Description	Data Gap Item #	Resolution
Geology and Hydrogeology	Site	<p>Graymer (2000) shows surface sediments on the Site and to the south to be the Merritt sand, which is a fine-grained, very well sorted, well-drained eolian deposit, and surface sediments on adjacent West Grand Avenue and areas to the north to be Holocene-age alluvial fan and fluvial deposits, which are equivalent to the Temescal Formation. PES Environmental, Inc. (PES, 2005; 2011) describes the sediments encountered in borings drilled at the Site as:</p> <ul style="list-style-type: none"> • 0 to 8 feet - black to dark greenish gray clay, sandy clay, silt • 8 to 12 feet - dark greenish gray to brown sand, clayey sand • 12 to 16 feet - dark greenish-gray to brown clay • <p>Sediments encountered during the current (Essel, 2015) investigation are described as:</p> <ul style="list-style-type: none"> • Fill, consisting of brownish-black to dusky yellowish-brown clay, silt or silty fine-grained sand from the base of the concrete to depths of approximately 2½ to 6 feet below the ground surface. • Silty clay from the base of the fill generally to depths of 9 to 12 feet below grade. • Units of silt, clayey sand, silty sand, and sand (some units containing gravel), with subordinate interbeds of clay from the bottom of the silty clay to depths of 17½ to 19 feet below grade. • Silty clay was generally encountered in borings beneath the sand/silt zone to the maximum depth explored of 20.8 feet below the ground surface. <p>The sediments were observed to be various shades of yellowish-brown (pale to dark) with varying degrees of reddish-brown and yellowish-orange oxidation staining. A zone of medium bluish-gray</p>	None	NA

**Table 5
Conceptual Site Model (Continued)**

CSM Element	CSM Sub-Element	Description	Data Gap Item #	Resolution
		<p>discolored sediments (with associated petroleum odor) was observed between 5 and 17 feet below grade in borings (ECB-1 through ECB-5) advanced near the former USTs and fuel dispenser. Bluish-gray discolored soil was observed in western borings ECB-9 and ECB-10 in the depth interval between approximately 13 and 16 feet below the ground surface, which is across the ground-water surface. Gray, discolored appearing soil was observed in off-site western boring ECB-14 (22nd Street) at depths of 17½ to 18½ feet below grade (below the ground-water surface).</p> <p>PES encountered ground water in borings at the Site in 2005 at 12 to 13 feet below the ground surface. During the current investigation, ground water was measured in temporary wells at depths of 12.41 to 20.19 feet below the ground surface.</p> <p>Green Star Environmental (2011) reported a west-southwest to northwest direction of ground-water flow beneath the Oakland Bus Terminal, located approximately 600 feet southeast and upgradient of the Site. Broadbent & Associates, Inc. (2014) reported the direction of ground-water flow beneath an ARCO gasoline service station located approximately 900 feet west-northwest and downgradient from the site to be approximately toward the northwest. Ground-water flow beneath the Site is inferred to be between west-southwest and west-northwest.</p>		
Surface Water Bodies		Lake Merritt is located approximately 3,900 feet east-southeast and Oakland Inner Harbor is located approximately 6,700 feet south of the Site.	None	NA
Nearby Wells		The State Water Resources Control Board's GeoTracker GAMA website provides the locations of ground-water-monitoring and ground-water-supply wells. The GAMA website shows that no ground-water-supply wells are located within ¼-mile (1,320 feet) of the Site. Three groups of environmental monitoring wells, related	1. Confirmation of GAMA data through well records search at applicable local	See data gaps table. Well records search.

Table 5
Conceptual Site Model (Continued)

CSM Element	CSM Sub-Element	Description	Data Gap Item #	Resolution
		to leaking underground storage tank properties, are located at distances of 600 feet south-southwest, 900 feet west-northwest, and 1,350 feet south of the Site. A request for records of wells located within 2,000 feet of the site was submitted to the California Department of Water Resources (DWR). The DWR indicated a reply to the request would be returned in approximately 1 year.	agency.	
Release Source and Volume		<p>The release sources include:</p> <ul style="list-style-type: none"> • One 7,000-gallon diesel underground storage tank (UST) formerly located in the northeastern corner of the Site; • A fuel dispenser island located in the east-central portion of the Site; and • One 2,000-gallon gasoline UST formerly located off-Site beneath the sidewalk adjacent to the diesel UST. <p>The two USTs were removed in October 1986. No description of the conditions of the tanks or observations of the tank excavations is available. The volume of the release is not known.</p>	None	NA
LNAPL		An electronic oil-water interface probe was used to check the presence of LNAPL in on-site borings ECB-1 through ECB-12 and off-site borings ECB-13 and ECB-14. No LNAPL was detected in any boring using the interface probe and no LNAPL was observed during grab ground-water sampling of the 14 borings.	None	NA
Source Removal Activities		<p><u>Primary sources:</u> The USTs were removed in October 1986.</p> <p><u>Secondary sources:</u> No free-phase petroleum product was found on the ground water in borings ECB-1 through ECB-14.</p> <p>Elevated concentrations of TPHg, TPHd, and TPHmo were found in soil in borings ECB-3 and ECB-4 in the vicinity of the former gasoline UST. A moderate concentration of TPHg was detected in boring ECB-5, located near the former fuel dispenser. These higher concentrations are in the depth interval of 12 to 16 feet</p>	2. The extent of potential secondary source soil at boring ECB-10 is not closely delineated.	Advance additional borings in the vicinity of ECB-10 with analysis of soil and ground-water samples for TPH and VOCs, and analysis of select samples for PAHs.

Table 5
Conceptual Site Model (Continued)

CSM Element	CSM Sub-Element	Description	Data Gap Item #	Resolution
		<p>higher concentrations are in the depth interval of 13 to 16 feet below grade, which is at the ground-water surface, and are laterally restricted in the vicinities of the former USTs and dispenser. Based on depth to this impacted soil, the local impact to ground water, and the lack of health-risk indicator constituents (benzene, naphthalene, PAHs), secondary source soil at the former USTs and dispenser is not considered to be of risk to human health or the environment.</p> <p>Elevated concentrations of TPHg, TPHd, and particularly TPHmo were also found in the 13- to 16-foot-depth interval at west-central boring ECB-10, located near a possible UST. The extent of elevated TPH in soil at this boring is not fully delineated.</p>		
Contaminants of Concern		<p>Historical records indicate diesel and gasoline USTs were present at and adjacent to the site and that the present-day shop building was used for vehicle oil changes. Previous analyses of soil and ground-water samples were restricted to TPH, BTEX, and MTBE.</p> <p>Soil and ground-water samples from ECB-1 through ECB-14 were analyzed for the full range of petroleum hydrocarbons and VOCs. Selected soil and ground-water samples were also analyzed for PAHs. Elevated concentrations of TPHg, TPHd, and TPHmo were found in three of 31 soil samples and five of the 14 ground-water samples. No BTEX, MTBE or other fuel oxygenates and no PAHs (including naphthalene) were detected in any soil sample. A trace concentration (0.56 µg/L) of total xylenes and a low concentration (3.9 µg/L) of the fuel oxygenate tert-butyl alcohol (TBA) were each detected once in a water sample. The PAHs acenaphthene, phenanthrene, and 1-methylnaphthalene were each detected one time at trace to low concentrations in a water sample. Naphthalene, MTBE, and other fuel oxygenates (except TBA) were not detected in any water sample and, other than trace xylenes in the ground-water sample from boring ECB-5, BTEX was not detected in any ground-water sample.</p>	None. Laboratory analytical results show that the primary contaminants of concern are petroleum based and that other compounds present are related to incidental releases.	NA

**Table 5
Conceptual Site Model (Continued)**

CSM Element	CSM Sub-Element	Description	Data Gap Item #	Resolution
		<p>Other fuel constituents detected at trace (less than 1.0 µg/L) to low concentrations in water samples included n-butyl benzene, sec-butyl benzene, tert-butyl benzene, isopropylbenzene, n-propyl benzene, and 1,2,4-trimethylbenzene.</p> <p>Non-chlorinated hydrocarbon solvents acetone, methyl ethyl ketone (MEK), 2-hexanone, methyl isobutyl ketone (MIBK), and 4-isopropyl toluene; the chlorinated hydrocarbons <i>cis</i>-1,2-dichloroethene and vinyl chloride; and the insecticide bromomethane were also detected in water samples. Acetone was detected at the highest concentrations (11 to 92 µg/L) in nine of the 14 water samples and MEK was detected most frequently (10 water samples) at concentrations of 2.2 to 11 µg/L. Other compounds were sporadically detected in the water samples. Except for vinyl chloride, none of the compounds detected was at a concentration greater than applicable screening levels or maximum contaminant levels for drinking water.</p> <p>In soil gas, TPH-gasoline range, BTEX, MTBE, and other fuel constituents were detected in soil-vapor sample SV-1 collected at 9½ feet below grade near the USTs and none was at a concentration greater than applicable screening levels for vapor intrusion risk. A very low concentration of TPH-gasoline range was detected in soil-vapor sample SV-2, collected at 9¼ feet below grade at the former fuel dispenser. No other petroleum constituents were detected in sample SV-2. The chlorinated hydrocarbons <i>cis</i>-1,2-dichloroethene and vinyl chloride were detected in SV-1 and tetrachloroethene was detected in SV-2. Vinyl chloride was at a concentration slightly greater than the corresponding vapor intrusion screening level.</p>		
Petroleum Hydrocarbons in Soil		The results of subsurface investigations performed by PES in 2005 and 2011 found relatively localized concentrations of TPHg and TPHd in soil above the ground-water surface at levels greater than	2. The full extent of TPH in the vicinity of boring ECB-10 is	Advance additional borings in the vicinity of ECB-10

**Table 5
Conceptual Site Model (Continued)**

CSM Element	CSM Sub-Element	Description	Data Gap Item #	Resolution
		<p>applicable environmental screening levels (ESLs). The current investigation was performed to further delineate the extent of petroleum contaminants, particularly at and below the ground-water surface.</p> <p><u>TPHg</u>: Detectable levels of TPHg were found in the two soil samples collected from the gasoline UST pit in 1986 and in three of 25 soil samples collected from borings advanced in 2005 and 2011. Soil collected at a depth of 8 feet below the ground surface in boring B-4, advanced next to the former fuel island, was the only sample containing TPHg at a concentration (190 mg/kg) greater than the applicable ESL. During the current investigation, elevated levels of TPHg (200 to 400 mg/kg) were detected at and just below the ground-water surface (depth interval of 13 to 16 feet) in borings ECB-3 and ECB-4, advanced in or very near the former gasoline UST, and ECB-10 at the western edge of the site. Concentrations of 130 and 95 mg/kg TPHg were detected at the 8 and 14½ feet below grade in boring ECB-5, located next to the former fuel dispenser and previous boring B-4. A low 2.1 mg/kg TPHg was detected at the 4-foot depth in boring ECB-5. No TPHg was detected in any other soil sample tested.</p> <p><u>TPHd</u>: Concentrations of 250 and 220 milligrams per kilogram (mg/kg) TPHd were found in 1986 at the northern end of the on-site 7,000-gallon diesel UST at respective depths of 12 and 13 feet below the ground surface and 80 mg/kg TPHd was detected at 12 feet below grade beneath the southern end of the former UST. A concentration of 230 ppm TPHd, associated with the elevated TPHg, was also detected in the soil sample collected at the 8-foot depth in boring B-4, advanced next to the former fuel dispenser. This concentration dropped to 23 ppm at the 12-foot depth in boring B-4. In 2015, elevated concentrations of TPHd (200 to 940 mg/kg) were found in borings ECB-3, ECB-4, and ECB-10 within the depth interval of 13 to 16 feet below the ground surface. Low</p>	not defined.	with analysis of soil and ground-water samples for TPH and VOCs, and analysis of select samples for PAHs.

Table 5
Conceptual Site Model (Continued)

CSM Element	CSM Sub-Element	Description	Data Gap Item #	Resolution
		<p>concentrations, ranging from 1.1 to 12 mg/kg, were detected at other depths in borings ECB-3, ECB-4, ECB-5, and off-site boring ECB-14, and TPHd was not detected in other soil samples tested.</p> <p><u>TPHmo</u>: TPHmo was not been detected in soil samples during previous investigations, including two samples collected from boring B-5, advanced in the former oil changing building. In 2015, elevated concentrations of 310 and 1,600 mg/kg TPHmo were detected within the 13- to 16-foot-depth interval in borings ECB-3, ECB-4, and ECB-10. No TPHmo was detected in the two samples collected at 4½ and 9½ feet below grade from slant boring ECB-7, advanced beneath the vehicle maintenance trench and none was detected in other soil samples tested.</p> <p>The vertical extent of the three TPH ranges in the former UST and fuel dispenser areas is at 17½ feet below the ground surface. The lateral extent appears to be localized to the vicinities of the former USTs and dispenser. The vertical and lateral extent of TPHg, TPHd, and TPHmo is not defined at the location of boring ECB-10.</p> <p><u>Individual Constituents</u>: No BTEX has been detected in the total 56 soil samples and no MTBE has been detected in the total 39 soil samples collected during the previous and current investigations. During the current investigation, naphthalene was not detected in 31 soil samples analyzed for VOCs and eight soil samples analyzed for PAHs. Other fuel oxygenates and chlorinated volatile organic compounds also were not detected in the soil samples.</p>		

**Table 5
Conceptual Site Model (Continued)**

CSM Element	CSM Sub-Element	Description	Data Gap Item #	Resolution
Petroleum Hydrocarbons in Groundwater		<p>PES sampled ground water from borings B-1, B-2, B-5, and B-6 in 2005 and concentrations of TPHd and TPHmo were greater than current applicable ESLs. No TPHg or BTEX was detected in water samples and trace MTBE (0.61 ug/L) was found in one grab ground-water sample. Both TPHd and TPHmo were present across the site and, possibly may have migrated off-site to the northwest.</p> <p>Elevated levels of TPHg, TPHd, and TPHmo were detected in water samples collected from borings ECB-2 through ECB-5 (USTs and fuel dispenser) and west-central boring ECB-10. No TPHg, TPHd, or TPHmo was found in water samples from central boring ECB-7, perimeter borings ECB-6, ECB-8, ECB-9, ECB-11, and ECB-12, or off-site boring ECB-13. These results suggest the elevated levels detected in the areas of the former USTs and fuel dispenser have not migrated to the western edge of the site. Elevated TPHg, TPHd, and TPHmo in ground water at boring ECB--10 have not been delineated. Trace to low and sporadic concentrations of petroleum fuel constituents and PAHs were detected in water samples and minor concentrations of non-chlorinated solvents and chlorinated solvents indicated incidental releases of these contaminants occurred.</p>	2. The full extent of TPH in the vicinity of boring ECB-10 is not defined.	Advance additional borings in the vicinity of ECB-10 with analysis of soil and ground-water samples for TPH and VOCs, and analysis of select samples for PAHs.
Vapor Intrusion to Indoor Air		Detectable concentrations of TPH-gasoline range hydrocarbons, benzene, ethylbenzene, xylenes, MTBE and other petroleum fuel constituents were found in vapor well SV-1 located near the former USTs. A very low level of TPH-gasoline-range hydrocarbons and none of the above fuel constituents was found in the vapor sample from well SV-2. Naphthalene was not detected in either soil vapor sample. Except for vinyl chloride, none of the detected concentrations was greater than applicable screening levels for potential vapor intrusion risk. Vinyl chloride was detected at a concentration slightly greater than the applicable screening level.	None. No vapor intrusion risk appears to be present.	NA

**Table 5
Conceptual Site Model (Continued)**

CSM Element	CSM Sub-Element	Description	Data Gap Item #	Resolution
Direct Contact and Outdoor Air		<p>Soil samples collected within the 0- to 5-foot and 5- to 10-foot depth intervals have been analyzed for benzene. Benzene was not detected in 25 soil samples at a laboratory-reporting limit of 0.005 mg/kg.</p> <p>During the current investigation, soil samples collected within the above-described depth intervals in the UST, fuel dispenser, and vehicle maintenance trench areas were analyzed for benzene, naphthalene, and PAHs. Laboratory analytical results show no detectable concentrations of benzene, naphthalene, or any PAH analyte.</p>	None.	NA
Risk Evaluation		<p>Essel (2014) evaluated risk at the site with respect to a future residential use. Potential exposed populations would include on-site future construction workers, future residents, and future visitors; and off-site current and future office workers and residents at adjacent properties. Complete exposure pathways were direct contact with soil (absorption, ingestion) by construction workers, inhalation of volatile gasoline compounds (from soil) by construction workers and residents, and direct contact (absorption and ingestion) with ground water by construction workers. Other exposure pathways, including ingestion of ground water, were found to be incomplete. Ground water that is impacted by petroleum contaminants at the site is not used.</p> <p>Non-cancer risk was calculated for potential exposed populations, using applicable reference doses from the literature, default ingestion/inhalation rates from the United States Environmental Protection Agency, and the maximum historic concentrations detected in site soil and ground water. No health hazard is present for a future child resident (most sensitive receptor) or a future construction worker for the applicable exposure pathways. Potential cancer risk was not calculated because laboratory data were not available for carcinogenic indicator compounds.</p>		

Table 6
Data Gaps Summary and Proposed Investigation

Item	Data Gap Item #	Proposed Investigation	Rationale	Analyses
1	1. Confirm presence or absence of water-supply wells (sensitive receptors) within ¼-mile of the site.	Request available well records from Alameda County Public Works Agency. The California Department of Water Resources has a 1-year backlog of well records requests.	Confirm presence, absence, and status of water-supply wells that might potentially be affected by site contaminants.	None.
2	2. The extent of potential secondary source soil at boring ECB-10 is not closely delineated.	Advance additional borings in the vicinity of ECB-10 with analysis of soil and ground-water samples for TPH and VOCs, and analysis of select samples for PAHs.	Assess the potential presence of a suspect UST, based on the results of a utility locator geophysical survey and the presence of a nearby vent pipe.	TPHg, d, mo by USEPA 8015, VOCs by USEPA 8260; PAHs by USEPA 8270 SIM

APPENDIX F

LIMITATIONS

LIMITATIONS

The environmental investigation described in this report has been conducted in accordance with current regulatory guidance and the standards of environmental and geological practice performed in the general project area. No warranty, expressed or implied, is made regarding the professional opinions presented in the report.

Essel Environmental Consulting's descriptions, conclusions, and recommendations in the report, with respect to environmental conditions, are based on a limited number of sampling points and chemical analyses. Field observations made during the investigation and the samples collected and submitted for testing are considered to be representative of the area evaluated. Subsurface soil and ground-water conditions; however, may vary between and beyond sampling or observation points. Additional work, including further subsurface investigation, can reduce the inherent uncertainties associated with this type of investigation.

The interpretations and opinions contained in this report are based on the results of laboratory tests and analyses intended to detect the presence and concentration of specific chemical or physical constituents in samples collected from the subject site. Chemical testing was conducted by an analytical laboratory that is certified by the state of California to perform the analyses requested for this investigation. Essel Environmental Consulting is not associated with the laboratory that performed the analyses and claims no responsibility for any inaccuracy in laboratory results.

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